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State Water Resources Control Board

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**Commission on
State Mandates**

VIA DROP BOX

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*CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD, SAN DIEGO
REGION, ORDER NO. R9-2009-0002, 10-TC-11*

COUNTY OF ORANGE, ORANGE COUNTY FLOOD CONTROL DISTRICT,
CITIES OF DANA POINT, LAGUNA HILLS, LAGUNA NIGUEL, LAKE FOREST,
MISSION VIEJO, AND SAN JUAN CAPISTRANO, CO-CLAIMANTS

**COMMENTS OF STATE WATER RESOURCES CONTROL BOARD AND
CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD, SAN DIEGO
REGION, ON TEST CLAIM 10-TC-11**

Dear Ms. Halsey:

The State Water Resources Control Board (State Water Board) and the San Diego Regional Water Quality Control Board (San Diego Water Board) jointly file this opposition to Test Claim 10-TC-11. This Test Claim arises from a single federal permit that was issued by the San Diego Water Board as Order No. R9-2009-0002, Waste Discharge Requirements for Discharges of Urban Runoff from the Municipal Separate Storm Sewer Systems (MS4s) Draining the Watersheds of the County of Orange, the Incorporated Cities of Orange County and the Orange County Flood Control District Within the San Diego Region (National Pollutant Discharge Elimination System (NPDES) Permit No. CAS0108740), adopted December 16, 2009 (2009 Permit or Permit). The Test Claim filed with the Commission on State Mandates (Commission) seeks reimbursement of at least \$23 million in estimated costs of implementing multiple requirements in the 2009 Permit during the five year permit term.

FELICIA MARCUS, CHAIR | THOMAS HOWARD, EXECUTIVE DIRECTOR

I. INTRODUCTION

The San Diego Water Board issued this NPDES Permit pursuant to requirements in the federal Clean Water Act (CWA),¹ its implementing regulations, and guidance from the United States Environmental Protection Agency (U.S. EPA). The State Water Board and San Diego Water Board have been authorized by the U.S. EPA to issue NPDES permits—which are mandated by the CWA—in lieu of issuance of these permits by U.S. EPA. The 2009 Permit regulates the discharge of storm water runoff from the municipal separate storm sewer systems (MS4s) of incorporated cities within southern Orange County, County of Orange and Orange County Flood Control District within southern Orange County (Copermittees) to waters in the San Diego Region. Pursuant to the Clean Water Act, this Permit also regulates the discharges of non-storm water *into* the Copermittees' MS4s² and includes numeric effluent limitations to ensure that applicable wasteload allocations (WLAs) established in federally approved Total Maximum Daily Loads (TMDLs) are achieved over time.³

The federal Clean Water Act mandates that local agencies must apply for and receive permits regulating discharges of pollutants from their MS4s to waters of the United States. Local agencies are generally issued a single system-wide MS4 permit for each inter-connected municipal storm sewer system.⁴ As required by federal statute and regulations, the 2009 Permit contains numerous requirements for the Copermittees to take actions, known as Best Management Practices (BMPs), to reduce the flow of pollutants into waters in the San Diego Region. This Test Claim, filed by six cities, the County and Orange County Flood Control District (collectively Claimants), seeks reimbursement by the State of California for expenses they incur in implementing 11 sets of provisions in the 2009 Permit, ranging from reporting requirements to effectively prohibiting illicit non-storm water discharges to the MS4s.⁵

In order to obtain reimbursement, the Claimants must show as a threshold matter that the identified provisions constitute a new program or higher level of service.⁶ They must prove either that (1) the program must carry out a governmental function of providing services to the public, or (2) the requirements, to implement a state policy, impose unique requirements on local governments and do not apply generally to all residents and entities in the state.⁷ The Claimants are not entitled to subvention if they proposed the permit provisions, if the costs are imposed as a result of federal mandates rather than state mandates, or if any additional costs beyond a federal mandate are *de*

¹ Federal Water Pollution Control Act [FWPCA; 33 U.S.C.A. §§ 1251 et seq.] The federal Act is referred to herein by its popular name, the Clean Water Act (CWA) and the code sections used are those for the CWA.

² CWA § 402(p)(3)(B)(ii).

³ CWA § 303(d).

⁴ CWA § 402(p)(3)(B)(i).

⁵ The specific challenged provisions are discussed in more detail in section IV.C.

⁶ Cal. Const. Art. XIII B, § 6, subd. (a).

⁷ Cal. Const., Art. XIII B, § 6, subd. (a).

minimis. Finally, they must establish that they are required to use tax monies to pay for permit implementation of permit provisions.⁸

As explained in detail below, the Claimants are not entitled to subvention of costs for the provisions challenged through their Test Claim. The challenged provisions do not meet the threshold requirement of imposing new programs or higher levels of service on the Copermittees in the first instance. In providing the Copermittees a more flexible approach to how they choose to implement their efforts to control pollutants in storm water discharges,⁹ the provisions neither impose new programs nor higher levels of service where existing programs exist; rather they generally afford Copermittees flexibility in the activities they implement as long as they are effective in achieving existing federal standards applicable to the permit.¹⁰

Even assuming the Commission concludes to the contrary that some of the 2009 Permit provisions impose a new program or higher level of service on local government, other applicable exceptions in mandates law apply to preclude reimbursement. First, in large part, the provisions were proposed by the cities and County themselves in their 2006 permit application or Report of Waste Discharge (ROWD).¹¹ Second, the provisions are subject to the exception in state mandates law that subvention is not required when the provisions are imposed by a federal rather than state mandate.¹² Finally, reimbursement is not required where the local agency may impose fees to recover its costs, instead of raising taxes. The Copermittees have the necessary fee authority to fund the challenged permit requirements and have not demonstrated that they are required to raise taxes to fund the challenged activities.

Whether the challenged provisions in a 2001 Los Angeles Regional Water Board MS4 Permit (Los Angeles Permit) exceed federal law was addressed by the Supreme Court in its recent decision in *Department of Finance et al. v. Commission on State Mandates* (Decision No. S214855), issued August 29, 2016. That decision is not yet final, and the Supreme Court has given itself until November 27, 2016, to modify the opinion or grant rehearing.¹³ If the Supreme Court does not modify its decision and the decision becomes final in its present form, it would uphold the Commission's underlying determination in that case that the challenged provisions were state and not federal

⁸ See Cal. Gov. Code § 17556.

⁹ As Copermittees' historic monitoring data shows continued and persistent exceedances of water quality objectives in most watersheds, the shift to watershed approach is expected to advance reductions in threats to public health from high levels of bacteria in storm and non-storm water discharges resulting all too familiar beach closure notices. (2009 Permit, Fact Sheet, p. 9.)

¹⁰ Below, the Water Boards identify other mandates exemption arguments such as fee authority and new program/higher level of service standards that have been raised but not yet resolved in the courts.

¹¹ See, e.g., 2009 Permit, Fact Sheet, p. 92.

¹² Even if the Commission were to find some provisions require activities exceeding a federal mandate, reimbursement is not required for any costs for programs exceeding a federal mandate because they are *de minimis*. (Cal. Gov. Code § 17556, subd. (c).)

¹³ The Water Boards and Department of Finance filed a petition for rehearing of the Supreme Court's decision on September 13, 2016. The Supreme Court extended its time through November 27, 2016, to consider granting rehearing or modification of the decision. If the Supreme Court modifies its decision, the Water Boards will request the opportunity supplement these comments.

mandates. In the 4-3 decision, the Supreme Court found that because California voluntarily obtained authority to implement the Clean Water Act municipal storm water permitting program in California¹⁴ and because the Los Angeles Water Board exercised discretion in incorporating specific permit requirements into the MS4 permit,¹⁵ the challenged requirements are state rather than federal mandates.

Because the Commission may not rely on the decision in reviewing this Test Claim to determine subvention claims unless it becomes final without modification, the Water Boards' response in large part assumes that mandates law in the municipal storm water context remains unsettled and advances arguments accordingly. Moreover, the decision does not provide the Commission with any guidance for addressing other significant and recurring mandates questions such as what constitutes a new program or higher level of service or what constitutes fee authority in the context of municipal storm water permitting.¹⁶ Therefore, in reviewing the Test Claim, the Commission is still required to evaluate each and every challenged provision to determine whether it is mandated by federal law or is nonreimbursable subject to some other mandates exception or threshold determination.

Even if the Supreme Court's decision becomes final without modification, the analysis it sets forth will not be dispositive of the challenges raised in the Orange County Test Claim because of critical distinctions between the 2001 Los Angeles Permit and 2009 Orange County Permit. Absent from the 2009 Permit are proscriptive provisions similar to the Los Angeles Permit's trash receptacle placement requirements or the types of street-sweeping and conveyance system cleaning frequencies in the San Diego Water Board's 2007 San Diego permit challenged in Test Claim 07-TC-09. Instead, the San Diego Water Board's 2009 Orange County Permit marked a shift away from such proscriptive requirements toward a flexible watershed management approach, providing the Copermitees with significant flexibility in achieving the federal standards, consistent with the Copermitees' 2006 application for permit renewal in its ROWD.¹⁷

Additional, critical facts distinguish the 2009 Permit from the 2001 Los Angeles Permit that was the subject of the Supreme Court's recent decision. The Supreme Court's decision found that in issuing the Los Angeles Permit, the Los Angeles Water Board

¹⁴ Decision No. S214855, Slip. Op., pp. 20-21.

¹⁵ *Id.*, at pp. 26-27.

¹⁶ The Supreme Court decision, though not yet final, would remand unresolved arguments to the lower courts court. (Decision No. S214855, Slip. Op., p. 27.) See Writ Petition challenging the Los Angeles Test Claim matter and related Water Boards and Department of Finance briefs in the trial court, court of appeal and Supreme Court that reflect what issues remain unresolved. Similarly, the trial court's determination adverse to the Commission in another storm water mandates matter, San Diego Regional Water Board, Test Claim 07-TC-09 (Sacramento Superior Court, Case No. 34-2010-80000604, on appeal to the Third District Court of Appeal), would remand other critical mandates issues including arguments concerning what constitutes a new program or higher level of service and how to evaluate whether local governments have authority to raise fees to fund the programs. See Water Board and Department of Finance Briefs in the trial and appellate courts for discussion of unresolved issues.

¹⁷ 2009 Permit, Fact Sheet, Background, p. 10.

relied upon both state and federal law.¹⁸ In contrast, the San Diego Water Board explicitly disavowed any reliance on state law.¹⁹

Further, the Los Angeles Water Board made no finding that the permit requirements were necessary to implement the federal maximum extent practicable standard.²⁰ Instead, the Los Angeles Water Board had only found that the permit was consistent with or within the federal standard. Here, though, the San Diego Water Board made an explicit finding that the permit requirements were required to meet the federal standard.²¹ Even under the Supreme Court's analysis in the recent Los Angeles matter, deference to the Board's expertise in reaching such a finding is appropriate where a Regional Water Board finds that the permit conditions are the only means to achieve the standard.²²

II. FEDERAL REGULATORY BACKGROUND FOR MS4 PERMITS

The Water Boards contend that the challenged provisions impose neither new programs nor higher levels of service on local governments. Should the Commission disagree after evaluating each of the provisions, the principal question at issue in this Test Claim is whether the San Diego Water Board included provisions in the 2009 Permit that are not required by federal law. In order to understand the federal mandate that required the 2009 Permit, some background of the federal law and of MS4s is necessary.

A. Regulatory Overview

In 1972, the federal Clean Water Act was extensively amended to implement a permitting system for all discharges of pollutants from "point sources" to waters of the United States.²³ The permits are issued pursuant to the national pollutant discharge elimination system, and are known as "NPDES permits." The 1972 amendments

¹⁸ Decision No. S214855, Slip. Op., pp. 21-22 ("In issuing the Permit, the Regional Board was implementing both state and federal law and was authorized to include conditions more exacting than federal law required. [Citation Omitted.]").

¹⁹ In discussing statutory and regulatory underpinnings of the 2009 Permit, in Finding E-6, the San Diego Water Board's explicitly found that the provisions in the Permit are necessary to meet the federal maximum extent practicable standard. The San Diego Water Board also found that "[t]he authority exercised under this Order is not reserved state authority under the Clean Water Act's savings clause [citation . . .], but instead, is part of a federal mandate to develop pollutant reduction requirements for municipal separate storm sewer systems. To this extent, it is entirely federal authority that forms the legal basis to establish the permit provisions. [citations]." (2009 Permit, Finding E-6, Fact Sheet, p. 10.)

²⁰ Decision No. S214855, Slip. Op., p.22.

²¹ See, *ante* fn.20. While General Finding A.1 of the 2009 Permit contains the San Diego Water Board's generic finding that the permit is also based on state law (for such matters as adoption and review process, reliance on approved water quality control plans, etc.), the specific permit requirements are controlled by the more specific finding on federal law contained in the Legal Authorities section of the Permit (Finding E-6). The more specific authorities control over the general statement in Finding A.1.

²² The Supreme Court stated: "Had the Regional Board found, when imposing the disputed permit conditions, that those conditions were the only means by which the maximum extent practicable standard could be implemented, deference to the board's expertise in reaching that finding would be appropriate. The board's legal authority to administer the CWA and its technical experience in water quality control would call on sister agencies as well as courts to defer to that finding." (Decision No. S214855, Slip Op., p. 22.)

²³ CWA §§ 301 and 402.

allowed U.S. EPA to authorize states to issue these permits.²⁴ California was the first state in the nation to obtain such authorization. In order to obtain this authorization, the California Legislature amended the Water Code, finding that the state should implement the federal law in order to avoid direct regulation by the federal government.²⁵ The California legislature mandated that California's permit program must ensure consistency with federal law.²⁶

The Water Boards are the state agencies charged with implementing the federal program.²⁷ The State Water Board's regulations incorporate the U.S. EPA regulations for implementing the federal permit program.²⁸ Therefore, both the CWA and U.S. EPA regulations are applicable to the permit program in California.²⁹ In California, permits to allow discharges into state waters are termed "waste discharge requirements."³⁰ When issuing permits for discharges to waters of the United States, the term "waste discharge requirements" is equivalent to the term "permit" in the CWA.³¹ Thus, waste discharge requirements that the Water Boards issue for discharges to waters of the United States are NPDES permits under federal law. When the San Diego Water Board, a state agency, adopts an NPDES permit in lieu of U.S. EPA, it must adopt as stringent a permit as the federal agency would have.³²

The Clean Water Act prohibits the discharge of pollutants from point sources to waters of the United States, except in compliance with an NPDES permit.³³ In 1973, U.S. EPA issued regulations that exempted certain types of discharges it determined were administratively infeasible to regulate, including storm water runoff. The reason that such regulation is difficult, as will be more fully explained below, is that storm water runoff generally is not subjected to any treatment. Instead, it simply runs off urban streets, into gutters and drainage ways, and flows directly into streams, lakes, and the ocean.³⁴ This exemption was overruled in *Natural Resources Defense Council v. Costle* (1977) 568 F.2d 1369, which held that the exemption was illegal, and ordered U.S. EPA to require NPDES permits for storm water runoff. In *Costle*, the court suggested innovative methods for permitting, including using general permits for numerous sources

²⁴ CWA § 402(b).

²⁵ Wat. Code, § 13370 *et seq.*, adding Chapter 5.5 to the Porter-Cologne Water Quality Control Act.

²⁶ Wat. Code, § 13372.

²⁷ Wat. Code, § 13370.

²⁸ Cal. Code Regs., tit. 23, § 2235.2.

²⁹ The permits *may* also include additional state requirements. (Cal. Code Regs., tit. 23, § 2235.3; *City of Burbank v. State Water Resources Control Bd.* (2005) 35 Cal.4th 613.)

³⁰ Wat. Code, § 13263.

³¹ Wat. Code, § 13374.

³² CWA § 402(b).

³³ CWA § 301(a). In general, "navigable waters" or "waters of the United States," includes all surface waters, such as rivers, lakes, bays and the ocean. (CWA § 502.)

³⁴ The chief traditional categories of discharges subject to NPDES permits are industrial process wastewater and sanitary sewer effluent. Both of these discharges are typically processed in a treatment plant before they are discharges to surface waters.

and issuing permits that “proscribe industry practices that aggravate the problem of point source Pollution.”³⁵ Where permits proscribe actions that dischargers must implement, these requirements are commonly called “best management practices” (BMPs).

Despite the *Costle* decision, U.S. EPA had not adopted regulations implementing a permitting program for storm water runoff by 1987. That year, Congress amended the CWA, specifically requiring storm water permits for industrial and municipal storm water runoff.³⁶ The amendments require NPDES permits for “[a] discharge from a municipal separate storm sewer system [MS4] serving a population of 250,000 or more.”³⁷ The CWA contains three provisions specific to permits for MS4s: (1) Permits may be issued on a system- or jurisdiction-wide basis; (2) Permits must include a requirement to effectively prohibit non-storm water discharges into storm sewers; and (3) Permits must require controls to reduce the discharge of pollutants to the maximum extent practicable (MEP).³⁸ In describing the controls that permits must include, the statute states that the controls shall include: “management practices, control techniques and system, design and engineering methods, and such other provisions as the [permit writer] determines appropriate for the control of such pollutants.”³⁹ Thus, the federal law mandates that permits issued to MS4s must require management practices⁴⁰ that will result in reducing pollutants to the MEP. The state is required, by federal law, to select the BMPs.⁴¹

In 1990, U.S. EPA adopted regulations to implement section 402(p).⁴² In the Code of Federal Regulations (CFR), U.S. EPA defines which entities need to apply for permits and also specifies the information they must include in permit applications. The regulations define “industrial activity” to include numerous categories of manufacturing, construction, and other typically private enterprises.⁴³ The regulations define MS4s as storm sewer systems operated by numerous public agencies, including cities, counties, states, and the federal government.⁴⁴ While both industrial activities and MS4s must obtain permits, the requirements in the industrial permits must be more stringent than in MS4 permits.⁴⁵ Large and Medium MS4s may obtain an individual systemwide MS4 permit.⁴⁶ As a practical matter, most large and medium MS4s in California have chosen

³⁵ *Costle, supra*, at 1380.

³⁶ CWA § 402(p).

³⁷ CWA § 402(p)(2)(C). U.S. EPA defines municipal separate storm sewer systems (MS4s) that serve a population over 250,000 as “large” MS4s.

³⁸ CWA § 402(p)(3)(B).

³⁹ *Id.*

⁴⁰ These are commonly referred to as “best management practices,” or “BMPs.”

⁴¹ *NRDC v. USEPA* (9th Cir. 1992) 966 F.2d 1292.

⁴² Vol. 55, Federal Register (Fed.Reg.) 47990 and following.

⁴³ 40 CFR § 122.26(b)(14).

⁴⁴ 40 CFR § 122.26(b)(8).

⁴⁵ *Defenders of Wildlife v. Browner* (9th Cir. 1999) 191 F.3d 1159. The differences between municipal and industrial permits are complicated, but are relevant to the question whether this permit addresses a uniquely governmental program, and are therefore discussed in more detail below.

⁴⁶ CWA § 402(p)(3)(B)(i).

to be regulated as Copermittees under area-wide MS4 permits. Because many MS4 systems are connected, this allows Copermittees to take advantage of economies of scale and achieve cost-savings that would not be present with individual regulation of each city or county.

In order to obtain coverage under an NPDES permit, as required by the CWA, entities seeking coverage file an application with the permitting authority and the permitting authority holds a public hearing on contested permits.⁴⁷ U.S. EPA regulations specify the information that applicants for MS4 permits must include in their applications.⁴⁸ For large and medium MS4s, the application requirements are extensive.⁴⁹ Some of the federal application requirements relevant to the Test Claim are: management programs including procedures to control pollution resulting from construction activities (40 C.F.R. § 122.26(d)(1)(v)); legal authority to control the contribution of pollutants associated with industrial activity (*id.*, § 122.26(d)(2)(i)(A)); legal authority to “[c]ontrol through interagency agreements among co-applicants the contribution of pollutants from one portion of the municipal system to another portion of the municipal system” (*id.*, § 122.26(d)(2)(i)(D)); legal authority to “[p]rohibit through ordinance, order or similar means, illicit discharges to the municipal separate storm sewer” (*id.*, § 122.26(d)(2)(i)(B)); legal authority to “[c]ontrol through ordinance, order or similar means, the discharge to a municipal separate storm sewer of spills, dumping or disposal of materials other than storm water” (*id.*, § 122.26(d)(2)(i)(C)); and a description of maintenance activities and a maintenance schedule for structural controls (*id.*, §§ 122.26(d)(2)(iv)(A)(1)).) The management programs must address oversight of discharges into the system from the general population, and from industrial and construction activities within its jurisdiction, and also maintenance and control activities by the permittees.

B. Legal Standards for MS4 Permit Provisions

The Clean Water Act does not provide a specific set of permit terms that the permitting agency must include in each MS4 permit. Rather, the NPDES regulations require a permitting agency to exercise discretion to choose specific controls, generally best management practices, to meet a legal standard.

The applicable legal standards that permitting authorities must meet when issuing MS4 permits are set forth in Clean Water Act sections 402(p)(3)(B)(ii) and (iii) and require that MS4 permits:

(ii) shall include a requirement to effectively prohibit non-stormwater discharges into the storm sewers, and

(iii) shall require controls to reduce the discharge of pollutants to the maximum extent practicable, including management practices, control

⁴⁷ CWA § 402(b)(3).

⁴⁸ 40 CFR § 122.26(a)(4). The U.S. EPA regulations have varied requirements depending on the size of the population served by the MS4. A “large” MS4 serves a population of 250,000 or more. Orange County and the other local governments regulated by this permit far exceed the minimum population for a large MS4.

⁴⁹ 40 CFR § 122.26(d).

techniques and system design and engineering methods, and such other provisions as the Administrator or the State determines appropriate for the control of such pollutants.

Federal and state permit writers must comply with these legal standards.⁵⁰

U.S. EPA regulations specify the information that applicants for MS4 permits must include in their applications. For the large and medium MS4s, the application requirements are extensive. Applications:

shall include a comprehensive planning process which involves public participation and where necessary intergovernmental coordination, to reduce the discharge of pollutants to the maximum extent practicable using management practices, control techniques and system, design and engineering methods, and such other provisions which are appropriate. The program shall also include a description of staff and equipment available to implement the program. Separate proposed programs may be submitted by each coapplicant. Proposed programs may impose controls on a systemwide basis, a watershed basis, a jurisdiction basis, or on individual outfalls. Proposed programs will be considered by the Director when developing permit conditions to reduce pollutants in discharges to the maximum extent practicable.⁵¹

The federal regulations also require, among other elements, that a proposed management program shall include “[a] description of structural and source control measures to reduce pollutants from runoff from commercial and residential areas that are discharged from the municipal storm sewer system that are to be implemented during the life of the permit, accompanied with an estimate of the expected reduction of pollutant loads and a proposed schedule for implementing such controls.”⁵²

For municipalities that operate MS4s, BMPs require the municipalities take actions that will lessen the incidence of pollutants *entering* storm drains by regulating the *behavior and practices* of the municipalities, their residents, and their businesses. U.S. EPA has issued regulations and guidance documents that discuss the types of BMPs that must be included in storm water permits in order to reduce the discharge of pollutants in storm water to the “maximum extent practicable.” Thus, the federal law mandates that permits issued to MS4s must require management practices that will result in reducing pollutants to the MEP. The state is required, by federal law, to select the BMPs.⁵³

⁵⁰ CWA § 402(b).

⁵¹ 40 CFR § 122.26(d)(2)(iv).

⁵² *Id.*, § 122.26(d)(2)(iv)(A).

⁵³ *NRDC v. USEPA* (9th Cir. 1992) 966 F.2d 1292; *Environmental Defense Center v. USEPA* (9th Cir. 2003) 344 F.3d 832, 855; *City of Rancho Cucamonga v. Regional Water Quality Control Bd., Santa Ana Region* (2006) 135 Cal.App.4th 1377, 1389.

1. The MEP Standard

The MEP standard is akin to a technology-based standard and was first established in the Clean Water Act in 1987. The fundamental requirement that municipalities reduce pollutants in MS4s to the MEP remains a cornerstone of the mandate imposed on municipalities by the federal Clean Water Act and implementing NPDES regulations. Meeting the MEP standard is generally a result of emphasizing pollution prevention and structural and treatment methods serving as additional lines of defense. The MEP approach is an ever evolving, flexible and advancing concept, which considers technical and economic feasibility. As knowledge about controlling urban runoff continues to evolve, so too do the actions that must be taken to comply with the standard. This is consistent with the U.S. EPA's guidance that successive permits for the same MS4 must become more refined and detailed. The MEP standard is discussed in more detail below as relevant to challenged permit provisions.

2. Federal Mandate to Effectively Prohibit Non-Storm Water Discharges

Wholly separate from the MEP standard but equally significant is the Clean Water Act requirement that MS4 permittees effectively prohibit non-storm water discharges to their MS4s. Under Clean Water Act section 402(p)(3)(B)(ii), permitting agencies must ensure that permits for MS4 discharges include requirements necessary to "effectively prohibit non-stormwater discharges into the storm sewers." U.S. EPA has defined "storm water" to mean "stormwater runoff, snow melt runoff and surface runoff and drainage. Non-storm water discharges are generally considered dry weather discharges.⁵⁴ In general, the requirement to "effectively prohibit" non-storm water discharges requires either prohibiting the flows to the MS4's system or ensuring that operators of such non-storm water systems obtain NPDES permits for those discharges.⁵⁵ MS4 operators meet this requirement by implementing a program to detect and remove illicit discharges, or by requiring a discharger to obtain a separate NPDES permit for the non-stormwater discharge into the storm sewer.⁵⁶ While U.S. EPA has exempted specified categories of non-storm water discharges from this prohibition, the same regulation provides that the exemption no longer applies to a category that a municipality has identified as a pollutant source.⁵⁷

3. Implementation of Federal TMDL Requirements

Claimants challenge certain provisions in the 2009 Permit that are necessary to implement wasteload allocations (WLAs) adopted by the San Diego Water Board as part of U.S. EPA approved TMDLs. The Clean Water Act requires states to adopt TMDLs for surface waters in which federal water quality standards are not being attained. A TMDL, which must be approved by U.S. EPA, establishes the amount of certain pollutants a

⁵⁴ See also, State Water Board Order No. 2015-0175 (2012 Los Angeles MS4 Permit), pp.62-63, confirming that non-storm water discharges to the MS4s under the Clean Water Act are not subject to the MEP standard applicable to storm water discharges.

⁵⁵ 55 Fed. Reg. 47990 at 47995.

⁵⁶ 40 CFR § 122.26(d)(2)(iv)(B).

⁵⁷ *Id.*

water body may receive and still achieve federal water quality standards.⁵⁸ For point source dischargers, including MS4 dischargers, the TMDL will determine wasteload allocations to limit pollutant discharges to the impaired receiving water. Federal law specifically requires the permit writers such as the San Diego Water Board to implement TMDLs by including effluent limitations in NPDES permits that are “consistent with the assumptions and requirements of any available wasteload allocations.”⁵⁹ Inclusion of numeric effluent limitations in the 2009 Permit for this purpose was specifically endorsed by U.S. EPA in comments on the Permit.⁶⁰

III. ORANGE COUNTY MS4 PERMIT DEVELOPMENT

A. History of Orange County MS4 Permits

In 1990, pursuant to the CWA amendments of 1987, the San Diego Water Board issued the first municipal storm water permit to the County of Orange and other copermittees. In August 1996, and again in February 2002, the San Diego Water Board renewed the permit. The Permit that is the subject of this test claim is the fourth such permit. It was adopted December 16, 2009 and replaced Order No. R9-2002-0001, following a three year development process.⁶¹

The 2009 Permit built upon the 2002 permit in which Copermittees began more widely conducting inspections, managing storm water quality from new development, implementing BMPs for existing development and performing comprehensive water quality monitoring and assessment of storm water program effectiveness.⁶² In part because of persistent exceedances of federal water quality objectives in most watersheds, the 2009 Permit increased the emphasis on storm water discharge management on a watershed basis, consistent with the Copermittees 2006 Report of Waste Discharge.⁶³ The San Diego Water Board noted that “[a]ddressing storm water on a watershed scale focuses on water quality results by emphasizing receiving waters within the watershed.”⁶⁴ The Permit also recognized the importance of continuing jurisdictional program implementation efforts. All of the permit requirements have the goal of improving water quality and achieving compliance with the CWA.

During the permit development process, the Claimants insisted that the draft permit would, if adopted, impose unfunded mandates in excess of federal law. The San Diego Water Board considered the comments but disagreed, instead finding, based on information in the record, that it “is entirely federal authority that forms the legal basis to

⁵⁸ See CWA, §§ 303(d) and 307.

⁵⁹ 40 CFR § 122.44(d)(1)(vii)(B).

⁶⁰ Comments of U.S. EPA, May 14, 2009, p. 4; Oral Testimony of John Kemmerer, Associate Director for Water, Region 9, U.S. EPA, Nov. 18, 2009 (Tr., p. 97).

⁶¹ NPDES permits generally expire after 5 years, and must be reissued thereafter.

⁶² 2009 Permit Fact Sheet, Background, p. 9.

⁶³ *Id.*, p. 10.

⁶⁴ *Ibid.*

establish the [2009] permit provisions.⁶⁵ The San Diego Water Board expressly found that none of the permit provisions is based on reserved state authority.⁶⁶ Despite the San Diego Water Board's findings in the 2009 Permit to the contrary, in petitions for review of the 2009 Permit filed with the State Water Board, Claimants renewed their allegations that the Permit's provisions exceed federal requirements and request that the State Water Board require the San Diego Water Board to identify provisions in the Permit that are based on state rather than federal law.⁶⁷ Petitioners have, to date, elected not to pursue resolution of these claims through the administrative review process.⁶⁸

B. Copermittees' 2009 Permit Application (Report of Waste Discharge)

On July 21, 2006, the County of Orange, on behalf of all permittees, submitted a Report of Waste Discharge (ROWD) containing the Copermittees' collective reapplication for renewal of their 2002 MS4 permit and including their proposals for modification or continuation of permit elements. Essentially, the ROWD sets forth the Copermittees' recommendations for BMPs that should be included in the Permit. It contains a discussion of issues and concepts the Copermittees identified as key factors to improve their management programs, which have general applicability across multiple program elements. As will be explained more fully below in the discussion of the specific challenged permit provisions, the ROWD reflects the Copermittees' acknowledgment and expectation that the 2009 Permit would build and improve upon the 2002 Permit. The ROWD shows that the Copermittees proposed concepts that were incorporated into and form the basis of the provisions for which they now seek reimbursement. The permit the San Diego Water Board ultimately adopted after multiple stakeholder meetings and hearings held over a three year period was based on the ROWD, significant input from stakeholders, including Copermittees, and revisions and additions necessary to soundly support the Board's determination that the 2009 Permit is based exclusively on federal law.

IV. STATE MANDATES LAW

A. Overview

Article XIII B, Section 6, of the California Constitution requires subvention of funds to reimburse local governments for state-mandated programs in specified situations. There are several exceptions and limitations to the subvention requirements that provide bases for the Commission to determine that the Test Claim is not subject to subvention. Article XIII B, Section 6 provides, "Whenever the Legislature or any state agency mandates a new program or higher level of service on any local government, the State shall provide a subvention of funds to reimburse that local government for the costs of the program or

⁶⁵ 2009 Permit, Finding E.6., Fact Sheet, p. 91.

⁶⁶ *Id.*, see also *Burbank v. State Water Resources Control Bd.* (2005) 35 Cal.4th 613, 627-628.

⁶⁷ See Petitions for Review, SWRCB/OCC File No. A-2073(a)-(j) available at http://www.swrcb.ca.gov/public_notices/petitions/water_quality.

⁶⁸ See, e.g., abeyance extension letters dated May 28, 2015, from State Water Board to Cities of San Juan Capistrano, Dana Point, Laguna Hills and San Clemente regarding SWRCB/OCC File No. A-2073.

increased level of service.” Implementing statutes clarify that no subvention of funds is required if: (1) the mandate imposes a requirement that is mandated by a federal law or regulation and results in costs mandated by the federal government, unless the statute or executive order mandates costs that exceed the mandate in that federal law or regulation (Govt. Code, § 17556, subd. (c)); or (2) the local agency proposed the mandate (*id.*, subd. (a)); or (3) the local agency has the authority to levy service charges, fees, or assessments sufficient to pay (*id.*, subd. (d)).

Numerous judicial decisions have further defined limitations on the requirements for subvention of funds. Specifically, subvention is only required if expenditure of tax monies is required, and not if the costs can be reallocated or paid for with fees.⁶⁹ In addition, reimbursement to local agencies is required only for the costs involved in carrying out functions peculiar to government, not for expenses incurred by local agencies as an incidental impact of laws that apply generally to all state residents and entities. Laws of general application are not entitled to subvention.⁷⁰ The fact that a requirement may single out local governments is not dispositive; where local agencies are required to perform the same functions as private industry, no subvention is required.⁷¹

Claimants contend that the 2009 Permit imposes many new programs and activities not required by the 2002 Permit and that all of the activities for which they seek reimbursement exceed federal law requirements. They also assert they cannot assess a fee to recover the costs of the mandated activities. The Test Claim challenges multiple provisions and sub-provisions in the Permit. Because many of the responses apply to all of the challenged provisions, the Water Boards have endeavored to avoid repetition. Individualized responses are provided below where necessary.

B. General Responses to Test Claim

As a threshold matter, the Test Claim provisions do not impose new programs or higher levels of service within the context of mandates law. Even if the Commission finds that some of the challenged provisions do impose a new program or higher level of service, as explained below, the challenged provisions are nonreimbursable because of applicable exceptions. The Claimants, as well as other Copermitees, proposed many of the challenged permit requirements in their ROWD in which they sought to renew permit coverage for discharges of pollutants under the NPDES program. The San Diego Water Board found that all of the challenged provisions were adopted exclusively under federal law and are necessary to implement federal law. Therefore none of the costs are for activities exceeding federal requirements. Claimants are not *required* to use taxes to pay for the costs for the programs. They can be paid for by levying fees especially enacted

⁶⁹ *County of Los Angeles v. Commission on State Mandates* (2003) 110 Cal.App.4th 1176; *Redevelopment Agency v. Commission on State Mandates* (1997) 55 Cal.App.4th 976.

⁷⁰ *County of Los Angeles v. State of California* (1987) 43 Cal.3d 46.

⁷¹ *City of Richmond v. Commission on State Mandates* (1998) 64 Cal.App.4th 1190.

for storm water programs.⁷² The local agencies have not established that tax monies are required.⁷³

Additionally, compliance with NPDES permits, and specifically with storm water permits, is required by private industry as well as state and federal government agencies. Local government is not singled out. And, in fact, the requirements for industrial entities are more stringent than for local government dischargers. Finally, if the Commission does determine that a portion of the activities exceed federal law requirements and would otherwise qualify for subvention, the costs are *de minimis* and therefore not reimbursable.

1. *The Challenged Provisions Do Not Impose New Programs or Higher Levels of Existing Service*⁷⁴

The Claimants seek to distinguish the 2009 Permit from the 2002 Permit in an effort to demonstrate that the Permit imposes new programs or requirements to provide higher levels of service. As a general matter, the Claimants have not established that the challenged provisions impose a new program or higher level of service. Many of the provisions are very similar to those in the 2002 permit and other activities, even if not previously required, are already being carried out by some of the Copermittees. Further, as explained below, federal law requires permitting authorities to include in MS4 permits controls to reduce the discharge of pollutant in storm water to the MEP and further requires that MS4 permits include other appropriate provisions. This standard has not changed since first established in the Clean Water Act. The fundamental requirement that municipalities reduce pollutants in MS4s to the MEP remains the

⁷² The Claimants generally state that they are unaware of authority to raise fees or impose surcharges to fund the modifications to their Permit. The claimants refer to limitations on assessing fees and surcharges under California law. The referenced law concerns only the percent of voters who must approve the assessment. In fact, the City of Los Angeles and more recently the City of San Clemente, have successfully adopted such an assessment. The Cities of Palo Alto and Santa Cruz also have voter-approved programs. Thus, the municipalities have not shown they are *required* to rely on using tax money to fund challenged activities.

⁷³ As mentioned in the Introduction, what constitutes fee authority in the context of municipal storm water permits, particularly with consideration of Proposition 218, remains unresolved. In their petition for writ of mandate in *State of California, Department of Finance, et al., v. Commission on State Mandates*, Sacramento County Superior Court, Case No. 34-2010-80000604, the Water Boards and Department of Finance challenged the Commission's conclusion in the underlying Statement of Decision in 07-TC-09 that the requirement for voter approval as prerequisite to raising fees precluded finding that a local agency has fee authority to pay for some permit-related activities. Likewise, Claimants in a cross-petition for writ in the same matter challenged the sufficiency of the evidence supporting the Commission's underlying determination that local agencies have authority to fund hydromodification and low impact development programs through their land development programs. These issues remain unresolved by the trial court which remanded the matters to the Commission after determining that the Commission applied the wrong legal standard to determine whether the permit provisions were federal mandates. Claimants there appealed the trial court decision to the Third District Court of Appeal.

⁷⁴ What constitutes a new program or higher level of service in the context of municipal storm water permits remains unresolved. The issue was raised in the Water Boards' and Department of Finance's Petition for Writ of Mandate referenced above. The trial court did not resolve the issue because the court determined the Commission had applied the wrong legal standard and remanded the matter. Even if the Supreme Court decision becomes final without modification, these issues will not be resolved immediately.

cornerstone of the mandate imposed upon municipalities by the federal Clean Water Act and implementing NPDES regulations.

The Permit, like its predecessors, implements the federal standard of reducing pollutants from the MS4 to the MEP. What *has* changed in successive permits is the focus of provisions included in the permit to define what constitutes MEP. Where the Copermittees have recommended a BMP and the San Diego Water Board has crafted expectations associated with the BMP, the program itself is not new and no higher level of service is being mandated nor provided by the copermittees. That the level of specificity may have changed over time is consistent with U.S. EPA's guidance that successive permits for the same MS4 must become more refined and detailed as needed.

The EPA also expects stormwater permits to follow an iterative process whereby each successive permit becomes more refined, detailed, and expanded as needed, based on experience under the previous permit. See, 55 Fed. Reg. 47990, 48052 ("EPA anticipates that storm water management programs will evolve and mature over time."); 64 Fed. Reg. 68722, 68754; Dec. 8, 1999) ("EPA envisions application of the MEP standard as an iterative process.") Interim Permitting Approach for Water Quality-Based Effluent Limitations in Stormwater Permits (Sept. 1, 1996) ("The interim permitting approach uses BMPs in first-round storm water permits, and expanded or better-tailored BMPs in subsequent permits, where necessary, to provide for the attainment of water quality standards.")⁷⁵

Therefore, expanded or better-tailored provisions determined to be necessary to achieve the federal MEP standard do not result in imposition of a new program or requirement to perform a higher level of service for the public.

Moreover, the 2009 Permit, like its predecessors, retains the wholly separate Clean Water Act requirement that local agencies effectively prohibit non-storm water discharges into their storm sewers. Specifically, the Clean Water Act provides that permits for discharges from municipal storm sewers "shall include a requirement to effectively prohibit non-storm water discharges into the storm sewers."⁷⁶ Permit provisions crafted to compel Copermittee compliance with this federal mandate do not constitute imposition of a new program or require that Copermittees perform a higher level of service.

Likewise, incorporation of effluent limitations necessary to achieve wasteload allocations established in a U.S. EPA approved TMDL were not carried over from the 2002 permit but were anticipated by the Copermittees and were incorporated as soon as feasible upon federal approval, to comply with federal requirements that NPDES permits contain effluent limitations consistent with assumptions of any applicable wasteload

⁷⁵ See Letter from U.S. EPA, Alexis Strauss, to State Water Board, April 10, 2008, concerning Los Angeles County Copermittee Test Claims Nos. 03-TC-04, 03-TC-19, 03-TC-20, and 03-TC-21.

⁷⁶ CWA § 402(p)(3)(B)(ii).

allocations.⁷⁷ In any case, the 2009 Permit, like its predecessor, prohibits the discharge of pollutants that cause or contribute to an exceedance of water quality standards in the receiving waters.⁷⁸ Incorporation of effluent limitations to implement TMDL requirements does not impose a new program or a higher level of service for an existing program where the limitations are necessary to compel Copermittee compliance with the long-standing federal prohibition.

2. The Programs Are Federal Mandates that Apply Directly to Local Governments; the State Has Not Shifted the Burden; and the Mandates Do Not Exceed Federal Law

As indicated above, the Claimants' chief argument regarding provisions imposing non-storm water, TMDL, land development, and varied reporting and assessment requirements is that the federal law does not specify these particular requirements and therefore, they exceed federal law. If the Commission disagrees with the Water Boards that none of the challenged provisions imposes a new program or higher level of service, the Commission should reject the Test Claim because, as the San Diego Water Board found, the provisions are mandated exclusively by federal law. The San Diego Water Board disclaimed any reliance on the Porter-Cologne Act. In order to evaluate Claimants' contentions that the provisions exceed federal law, some more detailed discussion of the storm water permitting framework established in the Clean Water Act and by U.S. EPA is necessary.

The federal law specifically requires that permits be issued to the local governments that operate MS4s and that permits must require programs and actions that will result in reducing the pollutants that discharge from the MS4 to waters of the United States to the maximum extent practicable. An MS4 permit is a federal mandate on the local governments. It is the local governments that must apply for and obtain a permit. If the Water Boards had not been authorized to issue the permit in lieu of U.S. EPA, the MS4 discharges would be prohibited unless U.S. EPA itself issued a similar permit directly to the local governments. As explained in more detail below, U.S. EPA supported the 2009 Permit, and specifically endorsed many of the provisions challenged in the Test Claim.⁷⁹ U.S. EPA's comments interpreting the federal CWA program should be afforded great deference.

U.S. EPA has issued regulations and guidance documents that discuss the types of BMPs that must be included in storm water permits in order to reduce the discharge of pollutants in storm water to the "maximum extent practicable." Pursuant to the CWA and federal regulations, the Permit contains numerous requirements for the Copermittees to take actions (implement BMPs) to reduce the flow of pollutants to waters of the Region. For municipalities, federal law requires that they take actions that will lessen the incidence of pollutants entering storm drains. The CWA requires municipalities to control discharges from MS4s to the MEP.

⁷⁷ 40 CFR § 122.44(d)(1)(vii)(B).

⁷⁸ 2009 Permit, p. 18, § A.1.

⁷⁹ U.S. EPA Comment Letters, May 14, 2009, June 18, 2009; Testimony of John Kemmerer, Associate Director of Water Division, U.S. EPA, Region 9, Nov. 18, 2009 (Tr., pp. 92-97).

Therefore, in issuing the permit provisions necessary to comply with federal law, the San Diego Water Board exercised its duty under federal law. The fact that the San Diego Water Board exercised its discretion, as required by federal law, to impose requirements that comply with MEP does not support the conclusion that the provisions are unfunded state mandates. As the Ninth Circuit Court of Appeals held in *Natural Resources Defense Council v. U.S. EPA* (9th Cir. 1992) 996 F.2d 1292, "Congress did not mandate a minimum standards approach."⁸⁰ Rather, Congress mandated that the San Diego Water Board exercise discretion in determining appropriate provisions designed to control pollutants.⁸¹ Therefore the exercise of some discretion implementing this federal program does not mean that the 2009 Permit exceeds federal law. This is the case even if the Supreme Court decision becomes final without modification, as the San Diego Water Board found that the challenged provisions are based exclusively on federal law and are necessary to meet the federal standards.

The Claimants rely primarily on *Long Beach Unified School District v. State of California* (1990) 225 Cal.App.3d 155, 173, to argue that having the authority to impose a requirement does not equate to a federal mandate to exercise that authority. This argument is not compelling here where federal law specifically requires that the Water Boards (1) prescribe permit conditions that meet the MEP standard, (2) mandate compliance with non-storm water prohibitions, and (3) incorporate effluent limitations to compel compliance with wasteload allocations established in federally approved TMDLs.⁸²

The Court of Appeal in *Rancho Cucamonga v. Regional Water Quality Control Bd., Santa Ana Region*, succinctly addressed the federal mandate on the regional water boards to prescribe requirements that meet the federal MEP standard:⁸³

In creating a permit system for dischargers from municipal storm sewers, Congress intended to implement actual programs. (*Natural Resources Defense Council, Inc. v. Costle* (D.C.Cir.1977) 568 F.2d 1369, 1375.) The Clean Water Act authorizes the imposition of permit conditions, including: "management practices, control techniques and system, design and engineering methods, and such other provisions as the Administrator or the State determines appropriate for the control of such pollutants." (33 U.S.C. § 1342, subd. (p)(3)(B)(iii).) The Act authorizes states to issue permits with conditions necessary to carry out its provisions. (33 U.S.C. § 1342, subd. (a)(1).) The permitting agency has discretion to decide what practices, techniques, methods and other provisions are appropriate and

⁸⁰ *NRDC v. U.S. EPA*, *supra*, at 1308.

⁸¹ *Id.*

⁸² CWA § 402(p)(3)(B)(iii). The separate federal mandates to effectively prohibit non-storm water discharges into the MS4s (CWA, sec. 402(p)(3)(B)(ii)) and to achieve wasteload allocations established in Total Maximum Daily Loads (CWA, sec. 303(d) and implementing regulations, 40 CFR 122.44(d)) are addressed in the context of specific challenged provisions, below.

⁸³ *City of Rancho Cucamonga v. Regional Water Quality Control Bd., Santa Ana Region*, *supra*, 135 Cal.App.4th 1377.

necessary to control the discharge of pollutants. (*NRDC v. EPA* (9th Cir.1992) 966 F.2d 1292, 1308.) That is what the Regional Board has created in the 2002 permit.⁸⁴

As in *Rancho Cucamonga*, the 2009 Permit comprises requirements to implement BMPs to meet the MEP standard. The federal law mandates that permits issued to MS4s must require management practices that will result in reducing pollutants to the MEP. Similarly, the San Diego Water Board exercised its duty under federal law and adopted the 2009 Permit provisions requiring compliance with non-storm water discharge prohibitions and TMDL requirements.

3. *Unlike the Los Angeles Permit Mandates Decision and Other Test Claims Involving Municipal Storm Water Permits, this Permit Included Specific Findings that the Permit Relied Exclusively on Federal Authority and Laws.*

Unlike the Santa Ana Board's permit in *Rancho Cucamonga*, and unlike prior Regional Water Board permits already considered by the Commission in Test Claims,⁸⁵ here the San Diego Water Board explicitly found based on the record that the Permit is based exclusively on federal law requirements and disclaimed reliance on state law for these provisions. Under these circumstances and in contrast to the 2001 Los Angeles Permit as considered by the Supreme Court, the fact that the San Diego Water Board exercised its discretion to impose requirements that it determined were necessary to implement a federal program does not mean that the Permit exceeds federal law.

Claimants assert generally that "requirements in NPDES permits issued by the State and Regional Boards frequently exceed the requirements of federal law."⁸⁶ Claimants are correct that under California law, NPDES permits *may* exceed the requirements of federal law, as recognized by the Supreme Court in its 2005 *City of Burbank* decision.⁸⁷ The Water Boards do not dispute Claimants' recitation of the holding of *Burbank*, Claimants' generalized references to State Water Board and regional water board decisions and even its characterization of the Court of Appeal's decision *Building Industry Association of San Diego County v State Water Resources Control Board*, (2004) 124 Cal.App.4th 866, concerning the existence of broader state law authority. However, Claimants' assertions that the San Diego Water Board exercised exclusive state law authority in issuing the 2009 Permit are incorrect in light of Finding E-6.

This Order implements federally mandated requirements under federal Clean Water Act section 402, subdivision (p)(3)(B) The authority exercised under this Order is not reserved state authority under the Clean Water Act's savings clause (cf. *Burbank v. State Water Resources Control Bd.* (2005) 35 Cal.4th 613, 627-628 [relying on 33 U.S.C. § 1370,

⁸⁴ *Rancho Cucamonga, supra*, at 1389.

⁸⁵ See, 2001 Los Angeles Permit, considered in Test Claims 03-TC-04, 03-TC-19, 03-TC-20 and 03-TC-21 and the 2007 San Diego Region Permit considered in Test Claim 07-TC-09.

⁸⁶ Test Claim, Narrative, Section 5, p. 4.

⁸⁷ *City of Burbank v. State Water Resources Control Board* (2005) 35 Cal.4th 613.

which allows a state to develop requirements which are not 'less stringent' than federal requirements]), but instead, is part of a federal mandate to develop pollutant reduction requirements for municipal separate storm sewer systems. To this extent, *it is entirely federal authority that forms the legal basis to establish the permit provisions.* (See, *City of Rancho Cucamonga v. Regional Water Quality Control Bd.- Santa Ana Region* (2006) 135 Cal.App.4th 1377, 1389; *Building Industry Ass'n of San Diego County v. State Water Resources Control Bd.* (2004) 124 Cal.App.4th 866, 882-883.)⁸⁸

Upon evaluation of each of the challenged provisions in light of the San Diego Water Board's Permit determinations, and specifically Finding E-6, the Commission should afford appropriate deference to the San Diego Water Board's expertise in crafting its findings upon which permit provisions are based and conclude that the provisions are part of a federal and not state mandate.

4. *The Permit Provisions Do Not Impose Requirements Unique to Local Agencies and Are Not Mandates Peculiar to Government*

None of the challenged provisions is subject to reimbursement because the Permit is not imposed uniquely upon local government. Reimbursement to local agencies is required only for the costs involved in carrying out functions peculiar to government, not for expenses incurred by local agencies as an incidental impact of laws that apply generally to all state residents and entities. Laws of general application are not entitled to subvention.⁸⁹ The fact that a requirement may single out local governments is not dispositive; where local agencies are required to perform the same functions as private industry, no subvention is required.⁹⁰ Compliance with NPDES permits, and specifically with storm water permits, is required by private industry also. In fact, the requirements for industrial and construction entities are more stringent than for government dischargers. In addition, the government requirements apply to all governmental entities that operate MS4s, including state and federal facilities; local government is not singled out.

The NPDES permit program, and the storm water requirements specifically, are not peculiar to local government. Industrial and construction facilities must also obtain NPDES storm water permits. These permits, however, are more stringent than municipal permits because the federal law requires that they meet more stringent technology-based standards and that they attain strict compliance with water quality standards in receiving waters.⁹¹ It is the municipalities who operate MS4s and who discharge pollutants to surface waters. It is the municipalities who must obtain permits and comply with those permits. Similarly, industrial dischargers who discharge storm water runoff to waters of the United States must also obtain and comply with permits. The state is not the discharger (except in those situations where state agencies operate

⁸⁸ 2009 Permit, Finding E.6. and Fact Sheet Discussion, p. 91 (emphasis added).

⁸⁹ *County of Los Angeles v. State of California* (1987) 43 Cal.3d 46.

⁹⁰ *City of Richmond v. Commission on State Mandates* (1998) 64 Cal.App.4th 1190.

⁹¹ *Defenders of Wildlife v. Browner, supra*, 191 F.3d. 1159.

MS4s, such as the Department of Transportation, where they are themselves subject to permits).⁹²

5. The Local Governments have the Authority to Fund the Provisions and are not Required to Use Tax Monies; Any Additional Costs Beyond a Federal Mandate Would Be De Minimis

The County and cities need not spend tax monies to comply with the Permit. All of the municipalities have the ability to charge fees to cover development program costs.⁹³ In addition, the Copermittees can impose the cost of compliance with hydromodification, low impact development and retrofitting obligations, on developers who impact the hydrograph and water resources.⁹⁴ For some other categories of provisions, there may be limitations concerning the percent of voters or property owners who must approve assessments under California law, cities can and do adopt fees from their residents and businesses that fund their storm water programs. For example, the City of Los Angeles, and more recently, the cities of San Clemente, Santa Cruz and Palo Alto, adopted fee ordinances based on property assessments for implementation of their programs.. Thus, the Copermittees are not precluded from establishing or raising fees. Whether circumstances make it impractical to assess fees is not relevant to the inquiry.⁹⁵ The cities and the County have failed to show that they *must* use tax monies to pay for these requirements.

The Water Boards note that the Commission and all parties may benefit from future judicial guidance on fee authority questions with respect to development-based permit provisions and applicability of Proposition 218 in the municipal storm water context. In its Final Statement of Decision in 07-TC-09, the Commission concluded that hydromodification management and low impact development provisions in the 2007 San Diego County Permit were nonreimbursable because the Copermittees have the ability to impose fees on the development community.⁹⁶ The Water Boards disagree with the Commission's underlying determination that the relevant requirements were imposed by state law. The Water Boards do agree with the Commission, however, that the provisions are nonreimbursable because the Copermittees have adequate fee authority for the activities and the same result applies here.⁹⁷ The Water Boards challenged the Commission's separate determination that Copermittees lack fee authority if voters must

⁹² The State Water Board issues a separate permit to the Department of Transportation, for both its municipal activities (roads and freeways) and its industrial facilities (construction and maintenance yards). The permit is available at <http://www.waterboards.ca.gov/stormwtr/docs/caltrans/caltranspmt.pdf>.

⁹³ For a general overview of funding mechanisms that have been employed by municipalities, see Report on Storm Water Management Utility Survey, Black and Veatch, 2005.

⁹⁴ In its Final Statement of Decision in 07-TC-09 issued March 30, 2010, the Commission found that the Copermittees have authority to fund these programs. As discussed above, the Claimants there cross-petitioned, seeking a writ of mandate overturning the Commission's determination. The trial court has not resolved these important issues.

⁹⁵ See, *Connell v. Superior Court*, (1997) 59 Cal.App.4th 382, 400-01.

⁹⁶ Final Statement of Decision, San Diego Region Permit, 07-TC-09, March 30, 2010, pp. 102-105.

⁹⁷ Claimants' filed a cross-petition challenging the Commission's fee authority determination with regard to challenged land development provisions.

approve an increase in fees⁹⁸ and maintain that the Copermitees have the requisite fee authority within the meaning of Government Code section 17556, subdivision (c), even if a proposal to raise fees must be considered by the electorate.⁹⁹ These contested issues have not yet been resolved in pending litigation.

Any “additional” costs that could conceivably be considered additional to the federal mandate would be *de minimis* and would not require payment from tax monies. While the Claimants estimate the costs to implement the challenged provisions at more than \$23 million over the Permit’s term, the 2009 Permit largely continues and refines the requirements of the 2002 permit. Indeed, urban runoff management programs have been in place in southern Orange County for over 20 years so increased costs are expected to be modest.¹⁰⁰ Therefore, true program cost resulting from MS4 permit requirements is some fraction of reported costs. To the extent only a portion of the provisions is found to exceed federal law, the cost will be *de minimis*.

C. Specific Responses to Challenged Provisions:

The test claim focuses on eleven general permit provisions, most with multiple sub-requirements, corresponding to the 2009 Permit, as follows:

1. *Non-Storm Water Discharges (Directives B)*

Claimants contend that the 2009 Permit’s removal of three previously exempted categories of non-storm water discharges—irrigation water discharges comprising irrigation water, landscape irrigation and lawn watering --is not required by federal law. Claimants misinterpret the applicable federal requirement and disregard factual information in the record that supports removal of these discharge categories from the list of exempted non-storm water discharges. The San Diego Water Board’s determination to remove these categories was based exclusively on federal law requirements.¹⁰¹

As discussed above, the Clean Water Act requires that MS4 permittees effectively prohibit non-storm water discharges to the MS4.¹⁰² Non-storm water discharges are not subject to the MEP standard applicable to storm water discharges. Federal MS4 permit application requirements specify that an applicant must demonstrate adequate legal authority to “[p]rohibit through ordinance, order or similar means, illicit discharges to the municipal separate storm sewer;” and “[c]ontrol through ordinance, order or similar means the discharge to a municipal separate storm sewer of spills, dumping or disposal

⁹⁸ Petition for Writ of Administrative Mandamus, Sacramento Superior Court, Case No. 34-2010-80000604, p. 11, ¶ 31.

⁹⁹ As noted above, the trial court has not resolved these issues, instead remanding the matter to the Commission to apply a different legal analysis in determining whether the permit was a federal mandate. See Writ of Mandate, *Department of Finance v. Commission on State Mandates*, Case No. 34-80000604, p. 16, on appeal to the Third District Court of Appeal.

¹⁰⁰ 2009 Permit Fact Sheet Background, p. 11.

¹⁰¹ See 2009 Permit, Finding E.6., Fact Sheet, p. 91.

¹⁰² CWA § 402(p)(3)(ii).

of materials other than storm water.”¹⁰³ The regulations define the term “illicit discharges” as: “any discharge to a municipal separate storm sewer that is not composed entirely of storm water except discharges pursuant to an NPDES permit (other than the NPDES permit for discharges from the municipal separate storm sewer) and discharges resulting from fire-fighting activities.”¹⁰⁴ In other words, since illicit discharges are not authorized by the Clean Water Act, they must be prohibited.

Implementing federal regulations do, however, identify a number of categories of non-storm water discharges that need not be treated as illicit unless a municipality has identified the category as a source of pollution. These include categories of discharges such as from foundation drains, springs, crawl space pump water, air conditioning condensation, residential car washing and dechlorinated swimming pool discharges.¹⁰⁵ Where, as here, a municipality has identified previously exempt categories of non-storm water discharge as sources of pollutants, the categories represent illicit discharges and must be prohibited in compliance with the CWA.¹⁰⁶

Claimants argue that removal of the exemptions for irrigation waters in Directive B.2. of the 2009 Permit exceeds federal law in part because the applicable federal regulations only require categories of discharges be addressed if the municipality, and not the regulating entity, identifies the category as a source of pollutants to the MS4s. In fact, the 2009 Permit reflects, however, that the municipalities identified landscape irrigation, irrigation water and lawn watering as significant dry weather, non-storm water contributors of pollutants to MS4s during the permit development process. For example, as discussed in the Permit, through its Drainage Area Reconnaissance and Urban Characterization study, the County of Orange determined that “analytical data strongly indicates that irrigation overspray and drainage constitutes a very substantial source and conveyance mechanism for fecal indicator bacteria into Aliso Creek, and suggests that reduction measures for this source of urban runoff could provide meaningful reduction in bacteria loading to the stream”¹⁰⁷ In a Unified Annual Progress Report Program Effectiveness Assessment for the 2006-2007 reporting period, Copermittees state that “high levels of orthophosphate concentration are most likely the result of fertilizer runoff or reclaimed water runoff.”¹⁰⁸ In a late 2007 Watershed Action Plan Annual Report for the 2006-2007 reporting period, numerous Copermittees in their Watershed Action Strategy Table for Fecal Indicator Bacteria indicate they:

[s]upport programs to reduce or eliminate the discharge of anthropogenic dry weather nuisance flow throughout the [...] watershed. Dry weather

¹⁰³ 40 CFR § 122.26(d)(2)(i)(B) and (C).

¹⁰⁴ *Id.* § 122.26(b)(2).

¹⁰⁵ *Id.* § 122.26(d)(2)(iv)(B)(i).

¹⁰⁶ CWA § 402(p)(3)(B)(ii).

¹⁰⁷ 2009 Permit, Dir. B, Fact Sheet, pp. 106-107, discussing Drainage Area Reconnaissance and Urban Runoff Characterization study, 401 Water Quality Certification 02C-055.

¹⁰⁸ *Id.*, discussing November 15, 2007, Unified Annual Progress Report Program Effectiveness Assessment for 2006-2007.

flow is the transport medium for bacteria and other 303(d) constituents of concern.

Additionally, they state that:

conditions in the MS4 contribute to high seasonal bacteria propagation in pipe during warm weather. *Landscape irrigation is a major contributor to dry weather flow, both as surface runoff due to over-irrigation and overspray onto pavements; and as subsurface seepage that finds its way into the MS4.*¹⁰⁹

In 2006, Copermittees received grant funding from the State Water Board for the SmartTimer/Edgescape Evaluation Program (SEEP). The project targeted irrigation runoff by retrofitting existing development and documenting conservation and runoff improvements. The grant application specifically identified over-irrigation as a source of pollutants in the MS4s as follows: "Irrigation runoff contributes flow & pollutant loads to creeks and beaches that are 303(d) listed for bacteria indicators;" and "Regional program managers agree that the reduction and/or elimination of irrigation-related urban flows and associated pollutant loads may be key to successful attainment of water quality and beneficial use goals as outlined in the San Diego Basin Plan and Bacteria TMDL over the long term." The identification of over-irrigation as a source of pollutants is reinforced in the project descriptions and objectives:

Elevated dry-weather storm drain flows, composed primarily in the South Orange County Region of landscape irrigation water wasted as runoff, carry pollutants that impair recreational use and aquatic habitats all along Southern California's urbanized coastline. Storm drain systems carry the wasted water, along with landscape derived pollutants such as bacteria, nutrients and pesticides, to local creeks and the ocean. Given the local Mediterranean climate, excessive perennial dry season stream flows are an unnatural hydrologic pattern, causing species shifts in local riparian communities and warm, unseasonal contaminated freshwater plumes in the near-shore marine environment.

The municipalities' identification of these categories as contributors of pollutants into the MS4s was considered by the San Diego Water Board in deciding to remove them from the list of exempt non-storm water discharges and requiring that they be addressed as illicit discharges pursuant to CWA section 402(p)(3)(B)(ii). The record also suggests pollution in irrigation waters is ubiquitous and would be extremely difficult to isolate and address on a site by site basis. Therefore, requiring Claimants to address only individual sites, rather than the categories of irrigation waters, as they suggest, would not satisfy the federal requirements. U.S. EPA endorsed the removal of these three categories from the regulatory list of exempted non-storm water discharges.¹¹⁰ For these reasons, the Commission should give significant weight to the San Diego Water Board's conclusion that these provisions are required by federal law.

¹⁰⁹ *Id.*, discussing Watershed Action Plan Annual Report(s) for 2006-2007 reporting period, November 15, 2007 (emphasis added).

¹¹⁰ See U.S. EPA Comment Letter, June 18, 2009, p. 1.

If the Commission nonetheless finds that the removal of these exempt categories was not required by federal law, other mandates exceptions apply to make the provision inapplicable. The change to the 2009 Permit reflects the operation of federal law based on information provided by the Claimants themselves. The requirement to address illicit discharges is not new. When the municipality has provided information showing that a category of discharge is a source of pollutants, the requirement to address the category similar to other illicit discharges does not impose a new program or higher level of service. Finally, as discussed above in General Responses, the Copermittees have not demonstrated that they lack fee authority to fund the programs to address over-irrigation. For all these reasons, the Commission should find that removal of these previously exempted irrigation water categories from Directive B.2. is not a state mandate subject to subvention.

2. *Total Maximum Daily Load and Water Quality Effluent Limitation (Directive I)*

Claimants challenge Directive I in the 2009 Permit that requires that Copermittees meet interim and final waste load allocations for discharges of indicator bacteria in non-storm water and storm water discharges to Baby Beach in Dana Point Harbor as an unfunded state mandate.¹¹¹ Claimants also challenge associated monitoring and reporting requirements as unfunded state mandates.

The San Diego Water Board based the inclusion of these TMDL provisions exclusively on federal law. Directive I provides in part: "The wasteload allocations (WLAs) of fully approved and adopted TMDLs are incorporated as Water Quality Based Effluent Limitations on a pollutant by pollutant, watershed by watershed basis. Early TMDL requirements, including monitoring, may be required and inserted into this Order pursuant to Finding E.10." Directive I also provides that Copermittees shall implement BMPs to achieve the interim and final wasteload allocations and shall conduct necessary monitoring and reporting.

Finding E.11, in part, forms the basis for Directive I. In this finding, the San Diego Water Board specified:

This Order incorporates only those MS4 Waste Load Allocations (WLAs) developed in TMDLs that have been adopted by the Regional Water Board and have been approved by the State Board, Office of Administrative Law and U.S. EPA. Approved TMDL WLAs are to be addressed using water quality-based effluent limitations (WQBELs) calculated as numeric limitations (either in the receiving waters and/or at the point of MS4 discharge). In most cases, the numeric limitation must be achieved to ensure the adequacy of the BMP program. Waste load allocations for storm water and non-storm water discharges have been included within this Order only if the TMDL as received all necessary approvals. This Order establishes WQBELs and conditions consistent

¹¹¹ U.S. EPA approved the TMDL in 2008.

with the requirements and assumptions of the WLAs in the TMDLs as required by 40 CFR 122.44(d)(1)(vii)(B).

As explained above in General Responses, section 303(d) of the CWA requires the development and adoption of TMDLs for impaired waterbodies on the 303(d) List. Once the TMDL is approved by U.S.EPA, any NPDES permit, including MS4 permits, must include effluent limits “consistent with the assumptions and requirements of any available wasteload allocations.” Therefore, the federal regulations provide an alternative and independent federal authority for the TMDL-derived effluent limitations. Based on this independent federal authority, the San Diego Water Board specifically found: “[T]he provisions of this Order to implement total maximum daily loads (TMDLs) are federal mandates. The federal Clean Water Act requires TMDLs to be developed for water bodies that do not meet federal water quality standards. (33 U.S.C. sec. 1313(d).) Once U.S. Environmental Protection Agency or a state develops a TMDL, federal law requires that permits must contain effluent limitations consistent with the assumptions of any applicable wasteload allocation. (40 C.F.R. sec. 122.44(d)(1)(vii)(B).)”¹¹²

The 2009 Permit provisions incorporating Wasteload Allocations Reductions, Final Allocations and Numeric Targets come directly from the adopted TMDL. This is in compliance with the requirement that all NPDES permit are consistent with the assumptions and requirements of Waste Load Allocations in adopted and applicable TMDLs.¹¹³

Early federal guidance¹¹⁴ states that when adequate information exists, storm water permits are to incorporate numeric water quality based effluent limitations. In most cases, the numeric target(s) of a TMDL are a component of the WQBELs. When the numeric target is based on one or more numeric WQOs, the numeric WQOs and underlying assumptions and requirements will be used in the WQBELs as numeric effluent limitations by the end of the TMDL compliance schedule, unless additional information is required.

U.S. EPA fully supports this approach, as evident by their 2009 comment letters on the draft permit. In anticipation of inclusion of the Baby Beach TMDL requirements, U.S. EPA wrote: “We are also pleased by the apparent intent of the Regional Board indicated in Finding E.12 and Section I of the draft permit to express permit effluent limits, when necessary to ensure consistency with applicable WLAs, as numeric limits. *Numeric limits provide greater assurance of consistency with WLAs than the alternative of BMPs*, which are sometimes used, given the uncertainty in the performance of many of the BMPs commonly used for storm water pollution control.”¹¹⁵ Although subsequent to adoption of the 2009 Permit, U.S. EPA has made similar comments endorsing numeric

¹¹² 2009 Permit, Finding 6.

¹¹³ 40 CFR § (d)(1)(vii)(B).

¹¹⁴ USEPA, *Interim Permitting Approach for Water Quality-Based Effluent Limitations in Storm Water Permits*, 61 FR 43761, August 26, 1996.

¹¹⁵ Comments of U.S. EPA, May 14, 2009, p. 4. See also Comments of June 9, 2009 and September 28, 2009.

effluent limitations in TMDLs in multiple other MS4 permit proceedings, remarking that the use of numeric effluent limitations is capable of improving clarity and enforceability.¹¹⁶

While released the year after the 2009 Permit was adopted, the same approach is forth in recent U.S. EPA memoranda to regulatory agencies and the public articulating the sound reasons that support its preference for the use of numeric effluent limitations as the means of assuring WLAs are achieved.¹¹⁷ In 2010, U.S. EPA released an updated memorandum on how to incorporate WLAs into MS4 permits.¹¹⁸ This memorandum represents U.S. EPA's most recent guidance on the subject and is important for several reasons. First, it directly addresses Claimants' argument that numeric effluent limits in MS4 permits are beyond what federal law requires. U.S. EPA's 2010 Memorandum, which applies to all permitting agencies, recommends "that, where feasible, the NPDES permitting authority exercise its discretion to include numeric effluent limitations as necessary to meet water quality standards."¹¹⁹ Even more directly on point, the memorandum recommends that where the TMDL includes WLAs for stormwater sources that provide numeric pollutant load or numeric surrogate parameter objectives, "the WLA should, where feasible, be translated into numeric [water quality based effluent limitations] in the applicable stormwater permits."¹²⁰ U.S. EPA's recommendations should be accorded considerable deference.

Second, U.S. EPA's 2010 Memorandum underscores the evolving nature of the CWA's legal standard for MS4 permits, as discussed above. The 2010 Memorandum, which updated aspects of a 2002 U.S. EPA memorandum on the same subject, expressly acknowledges the need for revised strategies and recommended permit provisions to better reflect current practices and trends in permits. The background section of the 2010 Memorandum provides, in part:

Since 2002, States and EPA have obtained considerable experience in developing TMDLs and WLAs that address stormwater sources. The technical capacity to monitor stormwater and its impacts on water quality has increased . . . Better information on the effectiveness of stormwater controls to reduce pollutant loadings and address water quality impairments is now available. In many parts of the country, permitting agencies have issued several rounds of permits for Phase I municipal separate storm sewer systems (MS4s), Phase II MS4s, and stormwater discharges with industrial activity, including stormwater from construction

¹¹⁶ See Letter to Los Angeles Water Board on Draft MS4 Permit for Los Angeles County (July 23, 2012); Letter to San Diego Water Board on Draft San Diego Region MS4 Permit (January 11, 2013); Letter to Los Angeles Water Board on Draft MS4 Permit for Long Beach (January 15, 2014); and Letter to Santa Ana Water Board on Draft North Orange County Permit (June 20, 2014.)

¹¹⁷ U.S. EPA Letters dated November 22, 2002, November 12, 2010 and March 17, 2011.

¹¹⁸ U.S. EPA 2010 Memorandum. Although formally issued after the San Diego Water Board issued the 2009 Permit, the recommendations contained in the memorandum reflected "current practices and trends in permits and WLAs for stormwater discharges." (p. 2).

¹¹⁹ *Ibid.*

¹²⁰ *Id.*, at p. 3.

activities. Notwithstanding these developments, stormwater discharges remain a significant cause of water quality impairment in many places, *highlighting a continuing need for more useful WLAs and better NPDES permit provisions to restore impaired waters to their beneficial uses.*¹²¹

The “more useful and better NPDES permit provisions to restore impaired waters to their beneficial uses” include the use of numeric effluent limitations for WLAs in applicable storm water permits. Thus, while the legal standard mandated by section 402(p)(3)(B)(iii) has not changed, the nature of what constitutes compliance in the view of the federal government has.

In a follow-up memorandum released March 17, 2011, U.S. EPA invited comments on the 2010 memorandum, but did not modify the guidance provided in the earlier document. In fact, U.S. EPA again reinforced the evolving nature of storm water permitting:

The 2002 memorandum stated that EPA expected that numeric effluent limitations for stormwater discharges would rarely be used. The guidance provided in the 2010 memorandum recognizes developments over the past eight years and reflects current use of numeric limitations in stormwater permits. EPA has found that the use of numeric effluent limitations no longer is a novel or unique approach to stormwater permitting. As such, the 2010 memorandum reflects EPA’s view that there has been an incremental evolution of the stormwater permits program and the TMDL program that has been occurring since 2002, such that numeric effluent limitations are no longer as rare as they were in 2002.¹²²

Claimants argue that *Divers’ Environmental Conservation Organization v. State Water Resources Control Board* (2006) 145 Cal.App.4th 246 and *Tualatin River Keepers et al. v. Oregon Department of Environmental Quality* (2010) 235 Ore.App. 132, dictate that the Board cannot demonstrate that numeric effluent limits are required by federal law in this case. In *Divers’*, decided a decade ago, the court of appeal gave great consideration to U.S. EPA’s then-expressed preference for incorporating WLAs through BMPs rather than by imposing technology based or water quality based numeric effluent limitations.¹²³ In *Tualatin*, as the Claimants acknowledge, the Oregon Court of Appeal was not asked to determine whether under any circumstances numeric effluent limitations could be required by federal law. In *Tualatin*, the permits at issue did not include numeric wasteload allocations from a TMDL.

As evidenced by the comment letters on the 2009 Permit and other MS4 permits, and as articulated in U.S. EPA’s more recent memoranda on the topic, U.S. EPA recognizes the “incremental evolution of the stormwater permits program and TMDL program that has been occurring since 2002, such that numeric effluent limitations are no longer as rare

¹²¹ *Id.*, at pp. 1-2 (emphasis added).

¹²² U.S. EPA Memorandum, March 17, 2011, p. 1.

¹²³ Test Claim, Section 5, Narrative, p. 18, citing *Divers’ Environmental*, *supra*, 145 Cal.App.4th at 256.

as they were in 2002.” U.S. EPA’s views on what is necessary to implement federal law have evolved significantly as municipal storm water permits have evolved and improved.

Particularly when viewed in light of U.S. EPA guidance, neither of these cases undermines the San Diego Water Board’s determination that incorporation of numeric effluent limitations in the 2009 Permit was necessary to implement federal law. In any case, both BMP-based effluent limitations and numeric effluent limitations require implementation of WLAs to achieve water quality standards, as required by federal law. For these reasons, and consistent with the Board’s findings that the permit provisions are exclusively based on federal law, the Commission should find that the TMDL directives in the 2009 Permit are necessary federal mandates necessary to implement federal requirements.

Even if the Commission disagrees that federal law mandates the challenged provisions, they are not reimbursable because other recognized mandates exceptions apply. The Copermittees recognized that TMDLs would be incorporated into their successor MS4 permit in their ROWD.¹²⁴ For example, Copermittees stated recognized that “[w]ith the increased emphasis on TMDL implementation in the Fourth Term Permits, the Permittees will focus on the five watershed areas of San Juan Hydrologic Area within Orange County and continue to develop the DAMP/WAPs into TMDL implementation plans.”¹²⁵ The prior permit, as well as proposals in the Copermittees’ 2006 ROWD, demonstrate that the Permit’s TMDL requirements are not new programs or higher levels of service. The 2002 Permit recognized:

Several TMDLs are being developed in the San Diego Region for impaired water bodies that receive Copermittees’ discharge. Once these TMDLs are approved by the SDRWQCB and USEPA, Copermittees’ discharge of urban runoff into an impaired water body will be subject to load allocations established by the TMDLs. This Order may be revised by the Regional Board to implement the TMDL waste load allocations for specific water bodies within the Orange County watersheds.¹²⁶

Similarly, in the 2006 ROWD, the Copermittees acknowledged and laid the groundwork toward developing TMDL implementation plans:

At the time of their preparation it was assumed that the DAMP/WAPs would ultimately evolve into TMDL implementation plans. Indeed, the anticipated development of the Beaches and Creeks Pathogen Indicator Bacteria TMDL established pathogen indicator bacteria as the priority constituent of concern in each of the six south Orange County watersheds for which DAMP/WAPs were prepared. One consequence of this common focus was the convening of WAP committees to address the same constituent of concern. While this situation suggests a need for a regional consolidation of committees within the Orange County portion of

¹²⁴ See ROWD, § 12.2.1, p. 12-2, § 12.3, p. 12-11 and § 12.3, p. 12-12.

¹²⁵ ROWD, § 12.3, p. 12-12.

¹²⁶ 2002 Permit, Order No. R9-2002-0001, Finding 37, p. 7.

San Juan Hydrologic Unit, it is recognized that the TMDL's separate load allocations will likely require coordinated action and cost sharing on a hydrologic area or hydrologic sub-area basis.¹²⁷

Finally, as discussed in the General Responses, above, the Claimants have fee authority to implement these permit provisions. They have not demonstrated they must use tax monies to pay for compliance with these provisions. For these reasons, Directive I and related sub-provisions are not state mandates subject to subvention.

3. *Non-Storm Water Dry Weather Numeric Action Levels (Directives C and F)*

The Claimants challenge as unfunded state mandates 2009 Permit provisions that require monitoring, reporting and appropriate responses when non-storm water dry weather action levels (NALs) are exceeded. Therefore, as discussed above, the 2009 Permit carries forward and implements the CWA's requirement that each Copermittee effectively prohibit all types of unauthorized non-storm water discharges into its MS4.¹²⁸ The Permit includes action levels for pollutants in non-storm water discharges from the MS4 designed to ensure that the requirement is complied with. The Order establishes action levels based on applicable water quality objectives from the Basin Plan and other water quality control plans¹²⁹ and describes actions that the Copermittees must take when they observe exceedances of the action levels. The determination to include action levels resulted from evaluation of available information leading to the conclusion that Copermittee reliance on existing BMPs for almost 20 years had yet to result in compliance with applicable water quality standards. U.S. EPA has long-ago noted:

Conveyances which continue to accept other "non-storm water" discharges (e.g. discharges without an NPDES permit) with the exceptions noted above (*exempted discharges that are not a source of pollutants*) do not meet the definition of municipal separate storm sewer and are not subject to 402(p)(3)(B) of the CWA unless such discharges are issued separate NPDES permits. Instead, conveyances which continue to accept non-storm water discharges which have not been issued separate NPDES permits are subject to sections 301 and 402 of the CWA.¹³⁰

Except in compliance with specific sections of the CWA, including section 402, the CWA prohibits any discharge of pollutants to waters of the United States.¹³¹ NALs are designed to assist Copermittees to comply with the existing federal law. In commenting on the 2013 Regional MS4 Permit, U.S. EPA endorsed the 2009 Permit NALs, saying "we still believe the clarity and enforceability of the permit would be enhanced by adding

¹²⁷ ROWD, § 12.3, p. 12-11.

¹²⁸ CWA § 402(p)(3)(B)(ii).

¹²⁹ See e.g., Basin Plan and Water Quality Control Plan for Ocean Waters of California (Ocean Plan).

¹³⁰ 55 Fed. Reg. 47990, 48037.

¹³¹ CWA § 301(a).

clearer provisions for acting upon action level exceedences to the permit similar to the Board's 2009 permit for Orange County."¹³² U.S. EPA expanded on the importance and value of action levels in similar comments to the Santa Ana Water Board in 2014,

[T]he Permit should be revised to include action levels as part of the permits monitoring and reporting program. . . . The goal of including both non-stormwater and stormwater action levels is to guide implementation efforts and measure progress towards the protection of water quality and [designated] beneficial uses of the state from adverse impacts caused or contributed to by MS4 discharges.¹³³

Without monitoring and reporting requirements, the Copermittees will be no closer to controlling sources of non-storm water pollution, as the CWA requires. For these reasons, and consistent with the Board's findings that the permit provisions are exclusively based on federal law, the NALs and implementing provisions in the 2009 Permit are necessary to meet federal requirements. The Commission should give significant weight to the Board's determinations.

As described above, the federal standard has been in place for decades. The NALs provisions are designed to help achieve compliance with the federal standard, not to implement a new program or higher level of service. And like the 2009 Permit, the prior permit contained dry-weather monitoring and follow-up requirements. In addition, the challenged provisions are not reimbursable because other mandates exceptions apply. The NALs are based on water quality exceedance information provided by the Copermittees. Finally, Copermittees can raise fees or otherwise fund the NALs provisions. They are not required to use tax monies to implement these provisions. For all of these reasons, the Commission should find the challenged provisions are not state mandates subject to subvention.

4. *Implementation of Storm Water Action Levels (Directive D)*

Claimants challenge the 2009 Permit requirement to implement Storm Water Action Levels (SALs) as exceeding federal law. Directive D requires the Copermittees to "implement a timely, comprehensive, cost-effective storm water pollution control program to reduce the discharge of pollutants in storm water from the permitted areas so as not to exceed the SALs. Exceedance of SALs may indicate inadequacy of programmatic measures and BMPs required in this Order."¹³⁴

As in prior permits, Copermittees are required to comply with water quality standards and to control pollutants in storm water discharges to the MEP. They remain required "through timely implementation of control measures and other actions to reduce pollutants in storm water discharges."¹³⁵ Contrary to Claimants' assertions, SALs, like NALs, do not exceed the requirements of federal law, but instead are required in this

¹³² U.S. EPA Comment Letter on Draft San Diego Regional MS4 Permit, January 11, 2013, p. 5.

¹³³ U.S. EPA Comment Letter to Santa Ana Water Board (June 20, 2014), p. 2.

¹³⁴ 2009 Permit, Finding D.1.h, p. 7.

¹³⁵ 2009 Permit, Directive A.3.a, p. 18.

case to help the Copermittees control of pollutants in storm water to the maximum extent practicable (MEP), the federal standard established in CWA section 402(p)(3)(B)(iii).

Claimants assert that SALs are similar to “strict’ numeric effluent limits” because they are “tied to achieving compliance with specific numeric limits.”¹³⁶ The Water Boards disagree. Exceedances of SALs are not violations of the 2009 Permit. Instead, the purpose of SALs is to aid the Copermittees in evaluating implemented programs and the effectiveness of BMPs in reducing pollutants in storm water discharges to the MEP. The 2009 Permit states “SALs are a measurable criteria which quantifies the performance of BMPs for a particular watershed or subwatershed that discharges storm water MS4 effluent from that particular discharge point. Thus, Copermittees can utilize SAL results to determine the effectiveness of BMPs on the effluent from a particular area of the MS4.”¹³⁷ The San Diego Water Board also found SALs necessary as follows:

Copermittees have been accorded 19 years to research, develop, and deploy BMPs that are capable of reducing storm water discharges from the MS4 to levels represented in SALs. Storm Water Action Levels are set at such a level that any exceedance of a SAL will clearly indicate BMPs being implemented are insufficient to protect the Beneficial Uses of waters of the State. Copermittee[] shall utilize the exceedance information as a high priority consideration when adjusting and executing annual work plans, as required by this Permit.¹³⁸

In contrast to Claimants’ assertions, inclusion of SALs is required by federal law. This conclusion is reinforced by the Board’s determination in Finding E.6 that the 2009 Permit is based exclusively on federal law. Use of action levels is wholly consistent with U.S. EPA Guidance.¹³⁹ And with specific reference to the 2009 Permit, U.S. EPA “fully support[s] inclusion of stormwater action levels (SALs) in the permit. These requirements help to clarify MEP.”¹⁴⁰ U.S. EPA also offered oral testimony at the adoption hearing supporting incorporation of SALs¹⁴¹ and recommended to the Santa Ana Water Board that it also incorporate SALs (as well as NALs) in an northern Orange County permit.¹⁴² For these reasons, the Commission should give significant weight to the San Diego Water Board’s conclusion that these provisions are required by federal law.

¹³⁶ Test Claim, Narrative, Section 5, p. 30.

¹³⁷ 2009 Permit, Finding D.1.h., Fact Sheet, p. 64.

¹³⁸ *Ibid.*

¹³⁹ 61 Fed. Reg. 41698, Interim Permitting Approach for Water Quality-Based Effluent Limitations in Storm Water Permits.

¹⁴⁰ U.S. EPA Comment Letter on 2009 Permit, September 28, 2009, p. 3.

¹⁴¹ See Oral Testimony of John Kemmerer, Nov. 18, 2009 (Tr., p. 97).

¹⁴² U.S. EPA letter to Santa Ana Water Board, June 20, 2014. (“[T]he Permit should be revised to include action levels as part of the permits monitoring and reporting program. . . . The goal of including both non-stormwater and stormwater action levels is to guide implementation efforts and measure progress towards the protection of water quality and [designated] beneficial uses of the state from adverse impacts caused or contributed to by MS4 discharges.”)

If the Commission finds that the provisions exceed federal law, they are nonetheless nonreimbursable because other mandates exceptions also apply. SALs are necessary to achieve the decades-old federal standard applicable to municipal storm water discharges. The requirement is consistent with federal application requirements that copermitees submit with their application package a "comprehensive planning process . . . to reduce the discharge of pollutants to the maximum extent practicable using management practices, control techniques and system, design and engineering methods, and such other provisions which are appropriate."¹⁴³ For these reasons, SALs provisions do not constitute a new or higher level of service. Moreover, as discussed in General Responses, above, Claimants can raise fees to pay for the implementation of these provisions. They are not required to spend tax monies on these provisions. For all these reasons, the Commission should find the provisions are not state mandates subject to subvention.

5. *Low Impact Development and Hydromodification Requirements (Directives F.1.(d) and F.1.(h))*

Claimants generally challenge the 2009 Permit implementation requirements for hydromodification management and low impact development (LID) best management practices for Priority Development Projects. The challenged provisions are federal and not state mandates because they implement the federal MEP standard and, as determined by the San Diego Water Board after considering the law and facts in the record, are based exclusively on federal law.¹⁴⁴

As with most other challenged provisions, the hydromodification and LID provisions are designed to comply with the MEP standard applicable to storm water discharges. As specified in CWA section 402(p)(3)(B)(iii), permits for discharges from municipal storm sewers "shall require controls to reduce the discharge of pollutants to the maximum extent practicable, including management practices, control techniques and system, design and engineering methods, and such other provisions as the Administrator or the State determines appropriate for the control of such pollutants."¹⁴⁵ Applicable regulations required that applicants propose management programs "to reduce the discharge of pollutants to the maximum extent practicable using management practices, control techniques and system, design and engineering methods, and such other provisions which are appropriate" and further require municipalities to "implement controls to reduce pollutants in storm water runoff from new development and significant redevelopment."¹⁴⁶

Findings in Section D of the 2009 Permit elaborate on the water quality problems caused by land development and urbanization and emphasize the need for controls such as hydromodification and LID provisions in meeting the MEP standard.

¹⁴³ 40 CFR § 122.26(d)(2)(iv).

¹⁴⁴ 2009 Permit, Finding E.6. See discussion above in Introduction and General Responses.

¹⁴⁵ CWA 402(p)(3)(B)(iii).

¹⁴⁶ 40 CFR § 122.26(d)(2)(iv)(2).

The increased volume, velocity, frequency and discharge duration of storm water runoff from developed areas has the potential to greatly accelerate downstream erosion, impair stream habitat in natural drainages, and negatively impact beneficial uses. Development and urbanization increase pollutant loads in storm water runoff and the volume of storm water runoff. Impervious surfaces can neither absorb water nor remove pollutants and thus lose the purification and infiltration provided by natural vegetated soil. Hydromodification measures for discharges to hardened channels are needed for the future restoration of the hardened channels to their natural state, thereby restoring the chemical, physical, and biological integrity and Beneficial Uses of local receiving waters.¹⁴⁷

LID BMPs are necessary to address related water quality problems:

Use of Low-Impact Development (LID) site design BMPs at new development, redevelopment and retrofit projects can be an effective means for minimizing the impact of storm water runoff discharges from the development projects on receiving waters. LID is a site design strategy with a goal of maintaining or replicating the pre-development hydrologic regime through the use of design techniques. LID site design BMPs help preserve and restore the natural hydrologic cycle of the site, allowing for filtration and infiltration which can greatly reduce the volume, peak flow rate, velocity, and pollutant loads of storm water runoff. Current runoff management, knowledge, practices and technology have resulted in the use of LID BMPs as an acceptable means of meeting the storm water MEP standard.¹⁴⁸

Consistent with U.S. EPA guidance recognizing the importance of addressing hydromodification and LID in MS4 permits,¹⁴⁹ the federal agency's extensive comments during the permit development and issuance process endorse inclusion of these controls. U.S. EPA wrote: "We are pleased to see the draft permit continues to include requirements related to hydromodification, and that clear, measurable requirements are included to address the issue. We believe the requirements are fully supported in the fact sheet and are consistent with the requirements of other recent MS4 permits in California."¹⁵⁰

Likewise with regard to LID, "[U.S. EPA] Region 9 is seeking clear, measurable, and enforceable LID requirements in MS4 permits. The LID requirements of the latest draft are quite similar to the requirements in the North Orange County MS4 permit adopted in May 2009, with Region 9's support, by the Santa Ana Regional Board (SARB). We

¹⁴⁷ 2009 Permit, Finding D.2.g., p. 9.

¹⁴⁸ 2009 Permit, Finding D.2.c., pp. 8-9.

¹⁴⁹ See 2009 Permit, Fact Sheet discussion, pp. 65-68; see also *Managing Runoff to Protect Natural Streams* (Stein, E. and Zaleski, S. (Dec. 2005), and *National Management Measures to Control Nonpoint Source Pollution from Hydromodification* (U.S. EPA, Office of Water, July 2007).

¹⁵⁰ U.S. EPA Comment Letter, September 28, 2009, p. 4.

believe the SDRB's draft permit would be consistent with our objectives for LID implementation with a few minor revisions discussed below"¹⁵¹ In earlier comments, U.S. EPA stated: "We believe the draft permit should be revised to more clearly incorporate numeric criteria for LID implementation. This has been a priority of ours in our review of draft MS4 permits across the State including the recently-reissued permit for Ventura County and for the North Orange County permit."¹⁵²

During the public hearing in November 2009, U.S. EPA's John Kemmerer testified:

[W]e believe that the permit being proposed for adoption today is among the best of the renewed permits across the State of California and there are several specific aspects that I want to highlight and commend in the permit. First are the low-impact development provisions. And these really are clear, measurable and enforceful [sic] requirements consistent with the basic approach that are taken by the Santa Ana board for the northern portion of Orange County. . . . Both permits require the use of these [sic] LID to retain a specified volume of stormwater, the volume is the same in both permits based on the definition of the capture volume. And we really see this as consistent with both the Orange County permit and other permits that are being adopted around the State. And I really believe that these provisions provide a valuable framework for reducing pollution at the source and ensuring – in order to protect water quality. You've heard a lot of other benefits about L.I.D for groundwater conservation. And for reducing our reliance on importing water from Northern California. *I guess I can't really overemphasize the importance of incorporating these L.I.D. provisions in the permit.*¹⁵³

As stated previously, U.S. EPA's views on what federal law requires is entitled to considerable deference. And its views are fully consistent with the reasons considered by the San Diego Water Board when it determined that these provisions are based exclusively on federal law.

In addition, the authority to regulate flow under the federal Clean Water Act in order to protect water quality standards has been confirmed by the United States Supreme Court in *PUD No. 1 v. Washington Department of Ecology*, 511 U.S. 700 (1994). Further the restrictions on effluent flows are supported by U.S. EPA in the Preamble to the Phase II federal storm water regulations, which states: "[i]n many cases, consideration of the increased flow rate, velocity, and energy of storm water discharges must be taken into consideration in order to reduce the discharge of pollutants, to meet water quality standards, and to prevent the degradation of receiving streams."¹⁵⁴

In 2008, the State of Washington, Washington Pollution Control Hearings Board (PCHB) issued a decision addressing a Phase I MS4 permit that included provisions to promote,

¹⁵¹ Id., pp. 1-2.

¹⁵² U.S. EPA Comment Letter, May 14, 2009, p. 2.

¹⁵³ Kemmerer Testimony, Nov. 18, 2009, (Hrg. Tr., pp. 94-95).

¹⁵⁴ See Vol. 64 Fed. Reg. 68761.

but not require, implementation of LID.¹⁵⁵ The PCHB considered LID and found that the permit failed to satisfy the federal MEP standard and Washington state law because it only included provisions to promote LID, but did not require LID at the parcel and subdivision level.¹⁵⁶ The PCHB decision lends further support for the Board's determination to include LID provisions to implement the MEP standard. The Commission should find that the challenged provisions are federal mandates.

Even if the Commission were to find that the HMP and LID provisions are not required by or exceed federal law, other mandates exemptions apply to preclude reimbursement. As documented by the San Diego Water Board, the Copermitees themselves recognized the need to improve management of hydromodification and "proposed in their ROWD to revise the Model WQMP to incorporate additional information from ongoing hydromodification studies"¹⁵⁷ that were being conducted.¹⁵⁸ Their recommendations helped form the basis for the hydromodification findings which flesh out prior requirements.

Section F.1.h. (Hydromodification) expands and clarifies current requirements for control of MS4 discharges to limit hydromodification effects caused by changes in runoff resulting from development and urbanization. The requirements are based on findings and recommendations of the Orange County Storm Water Program, the Stormwater Monitoring Coalition (SMC), and the Storm Water Panel on Numeric Effluent Limits (Numeric Effluent Panel). Added specificity is needed due to the current lack of a clear standard for controlling hydromodification resulting from development. More specific requirements are also warranted because hydromodification is increasingly recognized as a major factor affecting water quality and beneficial uses, and the Copermitees have proposed only vague and voluntary modifications to the Model WQMP. The Order is intended to ensure the intent of the proposed modifications is incorporated into each Copermitees' SSMP.¹⁵⁹

Similarly for LID controls, the Copermitees proposed in their ROWD to improve the processes of selecting site design BMPs.¹⁶⁰ Many of the site design BMPs are consistent with the guidelines in the 2002 Order and programs developed by the Copermitees during that permit term.¹⁶¹ In addition, the requirements build on but do

¹⁵⁵ State of Washington, Pollution Control Hearing Board, Findings of Fact, Conclusions of Law and Order, Puget Soundkeeper Alliance, et al. v. State of Washington, Department of Ecology, PCHB Nos. 07-21, et al, August 7, 2008.

¹⁵⁶ *Id.*, Conclusion of Law No. 17, p. 58.

¹⁵⁷ 2009 Permit, Dir. F.1.h, Fact Sheet, pp. 135-138.

¹⁵⁸ See e.g., ROWD, § 7.2.3, p. 7-3 and § 7.3.3, pp. 7-6 and 7-7.

¹⁵⁹ 2009 Permit, Dir. F.1.h, Fact Sheet, pp. 135-138.

¹⁶⁰ See ROWD, § 7.3.1, p. 7-5, "Develop recommendations (through cooperative Stormwater Monitoring Coalition Project) for incorporation of LID techniques into resource and water quality protection requirements."

¹⁶¹ 2009 Permit, Dir. F.1.d, Fact Sheet, pp. 128-132

not impose new programs. Moreover, they do not impose higher levels of service as the requirements remain focused on achieving compliance with the unchanged federal mandate to which the Copermittees are subject – reducing pollutants in storm water runoff to the MEP.

Finally, as discussed above in the Introduction and General Responses, the Claimants have not established that they are required to use tax monies to fund these provisions because they may impose development related fees. For all these reasons, the challenged provisions are not state mandates subject to subvention.

6. *Annual Assessment of Effectiveness of Jurisdictional Runoff Management Program (Directive J)*

Claimants challenge several permit provisions which they characterize as requiring development of a new system for assessing the effectiveness of storm water programs and requiring annual reporting to the San Diego Water Board. Claimants cite the application requirements for MS4 permits as they apply to assessments of controls as a basis for asserting that the challenged provisions could not be federal mandates. The Water Boards disagree with Claimants' contentions.

The challenged requirements implement federal and not state law. As discussed above, the 2009 Permit specifies requirements necessary for the Copermittees to reduce the discharge of pollutants in storm water runoff to the federal maximum extent practicable standard. Reducing the discharge of storm water pollutants to the MEP requires the Copermittees to assess each program component and revise activities, control measures, BMPs and measurable goals as necessary to meet MEP. Accordingly, Copermittee's runoff management programs such as the Jurisdictional Runoff Management Program (JURMP) must be continually assessed and modified to incorporate improved programs, control measures, and BMPs in order to achieve the evolving MEP standard.

In its 2009 Permit, the San Diego Water Board determined that the annual reporting requirements are necessary to meet federal requirements to evaluate the effectiveness and compliance of the Copermittees' programs.¹⁶² The Board's findings are consistent with U.S. EPA's following guidance: "the interim permitting approach uses best management practices (BMPs) in first-round storm water permits, and expanded or better-tailored BMPs in subsequent permits, where necessary, to provide for attainment of water quality standards."¹⁶³

As part of the JURMP effectiveness assessments, Section J.1 of the Order requires that the effectiveness strategy of the programs be designed around classes of objectives and that the results be used to direct program modifications required in Order J.2. The section is consistent with the Copermittees' plan to improve the efficacy of the assessment process. Section J.3. requires reporting to demonstrate whether

¹⁶² See 2009 Permit, Finding D.1.a. and Fact Sheet, pp. 50-52.

¹⁶³ USEPA, *Interim Permitting Approach for Water Quality-Based Effluent Limitations in Storm Water Permits*, 61 FR 43761, August 26, 1996.

Copermittees have appropriately responded to their effectiveness assessments. Collectively, the program effectiveness requirements provide the Copermittees with the framework for improving their BMPs to achieve compliance with the MEP standard. Therefore, these requirements are integral to and not in excess of the federal standard.

As articulated in responses to comments on the draft permit, the San Diego Water Board considers the challenged annual effectiveness assessment requirements crucial to the achievement of the MEP standard:¹⁶⁴

The Jurisdictional work plan closes the loop on implementation, monitoring, and effectiveness assessment. The work plan is the strategy by which the effectiveness assessment is used to prioritize the implementation of the Copermittee's storm water program. The work plan requirement in the JRMP section has been added to ensure Copermittees are allocating resources and efforts to address priority problems and pollutants identified in the watershed analysis. This section has been added to ensure Copermittees use the annual assessment to adjust and tailor their JRMP programs. The work plan is specifically designed for the Copermittees to prioritize their limited resources on water quality problems and on efforts that improve water quality. By planning and adapting, the Copermittees will be able to use their resources more effectively and not waste time and effort on actions that do not improve water quality.¹⁶⁵

For these reasons, the Commission should give significant weight to the San Diego Water Board's conclusion, based on the record, that the challenged provisions are required by federal law.

If the Commission concludes that the provisions nonetheless exceed federal law, they are not reimbursable because other exceptions to mandates law apply. The approach to effectiveness assessment reporting requirements does not amount to a new program or higher level of service. The 2002 Permit contained annual assessment reporting requirements with implementation schedules upon determination by the Copermittees or the San Diego Water Board that MS4 discharges were causing or contributing to water quality exceedences. The 2002 Permit provided, in part, "As part of its individual Jurisdictional URMP Annual Report, each Copermittee shall include an assessment of the effectiveness of its Jurisdictional URMP using the direct and indirect assessment measurements and methods developed in its long-term assessment strategy."¹⁶⁶ Incorporation of the 2009 Permit's annual reporting requirements does not amount to a new program or higher level of service when reporting is already conducted and when

¹⁶⁴ 2009 Permit, Responses to Comments IV, Response to Comment 145, p. 96 (July 1, 2009), "The Regional Board considers annual assessments of individual programs crucial to the implementation of effective programs. For instance, without such assessments, the Copermittees would be challenged to properly implement the iterative process of the Receiving Waters Limitation language. Annual assessments should be based on an evaluation of the findings of the individual program's components and water quality data."

¹⁶⁵ 2009 Permit, Responses to Comments V, Comment 386, p. 163 (Nov. 18, 2009).

¹⁶⁶ Order R9-2002-0001, Directive F.8, p. 43.

reporting is essential to implementation of successively improved BMPs in an effort to meet the long-standing federal MEP standard.

Moreover, Copermitees noted in their ROWD that “[o]ver the course of the Third term Permits a number of BMP evaluations have been undertaken. The recommendations arising from these studies are presented as ROWD commitments or DAMP modifications in the subsequent sections of this ROWD as appropriate.”¹⁶⁷ Copermitees early on recognized the importance of assessment as a tool in their ROWD. For example:

Assessment is the part of the planning cycle that involves either initial investigation of the environmental conditions that are being addressed by the management program or, in subsequent iterations of the planning cycle, re-assessment to determine program effectiveness (i.e. if the actions being implemented are contributing to programmatic goals). It encompasses programmatic (including technology evaluations) and environmental enhancements and is itself an evolving area of stormwater management.¹⁶⁸

Finally, the Claimants have not established that they are required to use tax monies to pay for implementation of these provisions. Accordingly any costs to implement these provisions are not state mandated costs, and, should the Commission find that these requirements exceed federal requirements, the costs are *de minimis* and therefore not reimbursable. For all these reasons, the challenged provisions are not state mandates subject to subvention.

7. *Public Meeting Requirements for Watershed Workplans
(Directives G.6. and K.1.b.(4)(n))*

Claimants challenge provisions in the 2009 Permit that require annual public meetings during development of storm water management programs, require preparation of a watershed workplan and specify that Copermitees must hold an annual workplan review meeting open to the public. The challenged provisions are federal, not state, mandates. Runoff management programs are at the heart of the federal MS4 program and the 2009 Permit’s implementation of such provisions is an integral component. By assuring public participation in the development of runoff management programs, the requirements ensure consideration of “all stakeholder interests and a variety of creative solutions are considered.”¹⁶⁹ The provisions are entirely consistent with the applicable federal regulations that require Copermitees to develop and implement a proposed management program that “shall include a comprehensive planning process which

¹⁶⁷ ROWD, § 3.3.3., BMP Assessment.

¹⁶⁸ ROWD, § 3.2.2, p. 3-2. See also, proposals for programmatic enhancements, *id.*, and recognition of the need to modify the program to stay current due to rapidly evolving knowledge of storm water quality. *Id.*, § 3.3, pp. 3-6-3-7.

¹⁶⁹ 2009 Permit, Finding D.3.g and Fact Sheet, p. 79.

involves public participation and where necessary intergovernmental coordination, to reduce the discharge of pollutants to the maximum extent practicable¹⁷⁰

In its Phase II Storm Water Regulations, U.S. EPA also recognized that “early and frequent public involvement can shorten implementation schedules and broaden public support for a program.”¹⁷¹ The requirements to incorporate public participation do not transform the permit provisions into state mandates when, as discussed above, the San Diego Water Board has found they are exclusively based on federal law and are necessary to further the likelihood that Copermittees will achieve compliance with the federal MEP standard in implementing their MS4 programs.

Even if the Commission finds that the challenged requirements exceed federal law, any costs to implement these requirements are not reimbursable because other mandates exceptions apply. First, public participation requirements are not new programs nor a higher level of service. In the 2002 permit, Copermittees were also required to implement “a watershed-specific public participation mechanism within each watershed. A required component of the watershed-specific public participation shall be a minimum 30-day public review of the Watershed Workplan. Opportunity for the public to review and comment on the Watershed Workplan must occur before the workplan is implemented.”¹⁷² To the extent any of these requirements is found to exceed federal law, the costs are *de minimis* and therefore not reimbursable. Finally, as discussed above in General Responses, the Copermittees may assess fees to fund these provisions. They have not demonstrated that they are required to use tax monies. For all the above reasons, these provisions are not state mandates subject to subvention.

8. *Reporting Requirements for Activities and Individual Jurisdictional Urban Runoff Management Program Report (Directives F.1.d.(7)(i), F.3.a.(4)(c), K.3a.(3) and Attachment D.)*

Claimants challenge Permit provisions requiring annual reports evaluating the effectiveness and compliance with the Copermittees’ programs. Claimants acknowledge that federal regulations contain requirements for Annual Reports but challenge some of the specific required components as unfunded mandates. For example, Claimants challenge the requirement to include an inventory of all of Permittees’ flood control devices in Directive F.3.a.(4).(c). With regard to Flood Control Structures which must be inventoried, the San Diego Water Board found that it was necessary to modify the permit requirement to better meet the federal regulations and guidance. Federal regulations specify that Copermittees must include in their application a “description of procedures to assure that flood management projects assess the impacts on the water quality of receiving water bodies and that existing flood control devices have been evaluated to determine if retrofitting the device to provide additional pollutant removal from storm water is feasible.”¹⁷³

¹⁷⁰ 40 CFR § 122.26(d)(2)(iv).

¹⁷¹ See 2009 Permit, Finding D.3.g., Fact Sheet, p. 79.

¹⁷² Order No. R9-2002-0001, Dir. G.5, Fact Sheet Discussion.

¹⁷³ 40 CFR § 122.26(d)(2)(iv)(A)(4).

The Board found the requirement to inventory flood control devices is necessary under federal law because “[r]etrofitting flood control devices can reduce storm water pollutants and improve water quality[,]”¹⁷⁴ thereby improving the likelihood of achieving compliance with the MEP standard. This requirement is also consistent with U.S. EPA’s expectations regarding flood control. “USEPA supports utilizing BMPs for pollution reduction in flood management projects, stating that ‘The proposed management program must demonstrate that flood management projects take into account the effects on the water quality of receiving water bodies. . . . Opportunities for pollutant reduction should be considered.’”¹⁷⁵ The Board recognized the importance of having information about flood control devices available for evaluation: “The federal regulations call for flood management projects to assess the impacts on the water quality of receiving waters. In order to conduct such an assessment, the Copermittees will have to evaluate and identify those flood control devices that are causing or contributing to a condition of pollution. In order to evaluate the feasibility of retrofitting such projects, Copermittees must first identify proposed measures to reduce or eliminate the structure’s effect on water quality.”¹⁷⁶ In addition, federal reporting regulations already require annual reporting on the “status of implementing” controls and require Copermittees to provide a “summary of data . . . accumulated throughout the reporting year.” Inventories, frequency, locations of inspections, and additional information required under Directive K.3.a.(3) and Attachment D are “data . . . accumulated throughout the reporting year” that provide the required status of implementation controls.¹⁷⁷

Reporting requirements in Directive K focus on results and responses to effectiveness assessments conducted by the Copermittees. The information is essential for the Board to determine whether, and how effectively, municipalities adapt and improve their programs based on report findings. The San Diego Water Board determined, based on the permit record, that the annual reporting requirements, like other challenged provisions, are necessary to meet federal requirements. For these reasons, the Commission should give significant weight to the San Diego Water Board’s finding that the provisions are based exclusively on federal and are therefore a federal mandate.

Even if the Commission finds that some of the challenged provisions exceed federal law, they are not reimbursable because other mandates exceptions apply. Inclusion of additional information that the Copermittees should already have in otherwise required reports does not rise to the level of the state imposing a new program or higher level of service. And the 2002 permit required inclusion of flood management projects and flood control devices, for, at a minimum high priority municipal areas.¹⁷⁸ It also required each Copermittee to evaluate feasibility of retrofitting existing structural flood control devices and retrofit where needed. In any event, any additional costs associated with the requirements are *de minimis*.¹⁷⁹ Finally, the Copermittees have authority to impose fees

¹⁷⁴ 2009 Permit, Dir. F.3.a.(4), Fact Sheet, p. 146.

¹⁷⁵ *Id.*

¹⁷⁶ 2009 Permit, Responses to Comments V, comment 344, page 138 (Nov. 18, 2009).

¹⁷⁷ 40 CFR § 122.26(a)(1)(v).

¹⁷⁸ 2002 Permit, Directive F.3.a.(3)(b).

¹⁷⁹ *Id.*, at F.3.a.(4)(b).

for these requirements. They have not demonstrated that they must use tax monies to do so. For all of these reasons, the Commission should find these challenged provisions are not state mandates subject to subvention.

9. *Use of Geographic Information Systems (GIS) for MS4 Mapping (Directive F.4.b.)*

Claimants challenge requirements mandating the use of Geographical Information Systems (GIS) for mapping Copermittees' MS4s. Claimants are correct that the prior permit expressed a preference for, but did not require, use of GIS to fulfill the mapping requirements. However, the federal regulations recognize that accurate mapping is essential to successful implementation of Copermittee illicit discharge detection and prevention programs, among other purposes. The requirement to use GIS in mapping is consistent with federal law which specifies that the "Administrator shall prescribe conditions for such permits to assure compliance with the requirements of paragraph (1) of this subsection, including conditions on data and information collection, reporting, and such other requirements as he deems appropriate."¹⁸⁰ Federal storm water regulations also anticipate that MS4 owners and operators will have maps of their storm sewer systems, including field screening points, major outfalls and drainage system maps.¹⁸¹ "A grid system consisting of perpendicular north-south and east-west lines spaced ¼ mile apart shall be overlaid on a map of the municipal storm sewer system, creating a series of cells."¹⁸²

Use of GIS for mapping is a condition imposed on data and information collection which the Board has determined is necessary to assure compliance with the regulatory requirements to identify field screening points for analyzing illicit connections and dumping, in furtherance of the Clean Water Act's requirement that Copermittees effectively prohibit unauthorized non-storm water discharges.¹⁸³ The Commission should give significant weight to the San Diego Water Board's determination that the challenged provisions are based exclusively on federal law and therefore are federal mandates.

Even if the Commission finds that the requirement exceeds federal law, costs associated with implementation of the provisions are not reimbursable because other mandates exceptions apply. The 2002 Orange County permit required:

An accurate map of the watersheds of the San Juan Creek Watershed Management Area in Orange County (preferably in Geographical Information System [GIS] format) that identifies all receiving waters (including the Pacific Ocean); all Clean Water Act section 303(d) impaired receiving waters (including the Pacific Ocean); existing and planned land uses; MS4s, major highways; jurisdictional boundaries; and inventoried

¹⁸⁰ CWA § 402(a)(2).

¹⁸¹ 40 CFR § 122.26(d)(1)(iv)(D).

¹⁸² *Id.* § 122.26.(d)(1)(iv)(D)(1).

¹⁸³ CFR § 122.26(a)(1)(v); see also CWA §402(p)(3)(B)(ii).

commercial, construction, industrial, municipal sites, and residential areas.¹⁸⁴

In their 2006 ROWD, Copermittees indicated that GIS-mapping had already been undertaken and was expected to be completed for the entire County by the end of 2006. Copermittees noted the benefits of GIS mapping that would, "for the first time, establish definitive watershed and sub-watershed boundaries for Orange County."¹⁸⁵ Similarly they indicated that use of GIS mapping was well underway in southern Orange County:

[D]uring 2003-04, a countywide evaluation was initiated using a GIS-based model to identify opportunities within the existing storm drain infrastructure for configuring/reconfiguring storm drains or channel segments in order to improve water quality and maintain the designated beneficial uses (see DAMP Appendix E). This effort was continued in 2005-06 with further use of the GIS-based model.¹⁸⁶

The Copermittees clearly anticipated and proposed continued use of GIS into the next permit cycle. Therefore, the requirement to use GIS does not impose a new program or higher level of service. Any costs that are found to exceed those needed to implement the federal mandate are *de minimis*. In any case, Copermittees have fee authority to fund the use of GIS for mapping purposes. They have not established that the use of tax monies is required. For all these reasons, the challenged provisions are not state mandates subject to subvention.

10. *Retrofitting Program for Existing Development (Directive F.3.d.)*

Claimants challenge provisions regarding development and implementation of a retrofitting program for existing developments. The federal authority for retrofitting existing development, as with other land development and redevelopment requirements in the 2009 Permit, rests in the Clean Water Act's MEP standard to meet water quality standards and its prohibition on unauthorized non-storm water discharges. As the San Diego Water Board recognized:

Retrofitting existing development with storm water treatment controls, including LID, is necessary to address storm water discharges from existing development that may cause or contribute to a condition of pollution or a violation of water quality standards. Although SSMP BMPs are required for redevelopment, the current rate of redevelopment will not address water quality problems in a timely manner. Cooperation with private landowners is necessary to effectively identify, implement and maintain retrofit projects for the preservation, restoration, and enhancement of water quality.¹⁸⁷

¹⁸⁴ 2002 Permit, Directive J.2.a.

¹⁸⁵ ROWD, § 3.2.2, p. 3-4.

¹⁸⁶ *Ibid.*

¹⁸⁷ 2009 Permit, Finding D.3.h and Fact Sheet, p. 80.

The Clean Water Act's MEP standard is in part based on the Copermittees' capabilities considering current management, knowledge, practices and technology. These provisions, as with hydromodification management and LID provisions discussed above, seeks to reduce impacts from storm flows to the MEP.

Existing BMPs are not sufficient, as evidenced by 303(d) listings and exceedances of Water Quality Objectives from the Copermittees monitoring reports. More advanced BMPs, including the retrofitting of existing development with LID, are part of the iterative process. Previous permits limited the requirement of treatment control BMPs to new development and redevelopment. Based on the current rate of redevelopment compared to existing BMPs, the use of LID only on new and redevelopment will not adequately address current water quality problems, including downstream hydromodification. Retrofitting existing development is practicable for a municipality through a systematic evaluation, prioritization and implementation plan focused on impaired water bodies, pollutants of concern, areas of downstream hydromodification, feasibility and effective communication and cooperation with private property owners.¹⁸⁸

The retrofitting requirements are representative of a widespread practice across the United States. Successful retrofitting programs have been implemented in such diverse locations as Seattle, Washington; Portland Oregon, Santa Monica, California; Kansas City, Kansas; and Montgomery County, MD.¹⁸⁹ It is also worth noting that U.S. EPA has imposed permit provisions establishing retrofitting requirements in its 2011 MS4 Permit issued to the District of Columbia.¹⁹⁰ Directive F.3.d. sets forth specific requirements for the retrofit process, which, when appropriately applied, further compliance with federal maximum extent practicable standard. The provisions require Copermittees to cooperate with and encourage private property owners to retrofit existing development using LID or other means. As described in the San Diego Water Board's responses to comments on the draft 2009 Permit:

[T]he Tentative Order's requirements for retrofitting existing development is practicable for a municipality through a systematic evaluation, prioritization and implementation plan focused on impaired water bodies, pollutants of concern, areas of downstream hydromodification, feasibility and effective communication and cooperation with private property owners. The Tentative Order's requirement realized the legal limitations that the Copermittees have in requiring retrofitting on privately held land. Therefore, the Tentative Order requires the Copermittees to cooperate with private landowners in implementing retrofitting opportunities.¹⁹¹

¹⁸⁸ 2009 Permit, Dir. F.3.d. and Fact Sheet, p. 154.

¹⁸⁹ See 2009 Permit, Finding D.3.i.

¹⁹⁰ NPDES Permit No. DC0000221, *Authorization to Discharge Under the National Pollutant Elimination System Municipal Separate Storm Sewer System Permit* (October 7, 2011).

¹⁹¹ 2009 Permit, Responses to Comments V, Comment 291, p. 98.

U.S. EPA endorsed the 2009 Permit's retrofitting provisions: "[T]hese retrofits, where they're feasible and practicable will likely be necessary if we are going to restore water quality impacted by municipal storm water."¹⁹² For these reasons, and based on the San Diego Water Board's finding that the permit is exclusively based on federal law, the Commission should find that the provisions relating to retrofitting of existing development are federal and not state mandates.

If the Commission finds the provisions exceed federal law, they are nevertheless not reimbursable because Copermittees may raise fees to fund the provisions and are not required to raise tax monies to implement the provisions. Please see discussion of fee authority in General Responses and in Specific Response 5., above. For these reasons, the challenged provisions are not state mandates subject to subvention.

11. *Best Management Practices Maintenance Tracking (Directive F.1.f)*

Claimants challenge the permit provision requiring Copermittees to track their best management practices (BMP) maintenance requirements. Contrary to Claimants' assertion, the requirement implements and is necessary to meet federal law. The BMP maintenance tracking requirement is integral to the successful implementation of runoff management programs that must be continually assessed, modified and improved upon, in order to achieve the evolving federal MEP standard.¹⁹³ As discussed above, the Clean Water Act provides that permits for MS4s "shall require controls to reduce the discharge of pollutants to the maximum extent practicable, including management practices, . . ."¹⁹⁴ Applicable federal regulations require Copermittees to implement controls to reduce pollutants in storm water runoff from new development and significant redevelopment, construction, and commercial, industrial and municipal land uses or activities. Prevention of illicit discharges is also required.¹⁹⁵ They also require that MS4 operators submit reports that include, among other things, "[t]he status of implementing the components of the storm water management program that are established as permit conditions."¹⁹⁶ BMPs are integral to these federal law requirements. The San Diego Water Board explained the applicable Clean Water Act requirements, in part, as follows:

Under CWA section 402(p), municipalities are required to reduce the discharge of storm water pollutants from their MS4s to the maximum extent practicable (MEP). MEP is the critical technology-based performance standard that municipalities must attain. The MEP standard is an ever-evolving, flexible, and advancing concept, which considers technical and economic feasibility. As knowledge about controlling storm water runoff continues to evolve, so does that which constitutes MEP. Reducing the discharge of storm water pollutants to the MEP requires

¹⁹² Kemmerer Testimony, Nov. 18, 2009 (Tr. p. 95.)

¹⁹³ 2009 Permit, Finding D.1.a.

¹⁹⁴ CWA § 402(p)(3)(B)(iii).

¹⁹⁵ 40 CFR § 122.26(d)(2)(iv)(A)-(D).

¹⁹⁶ *Id.*, § 122.26(a)(1)(v)(1).

Copermittees to assess each program component and revise activities, control measures, best management practices (BMPs), and measurable goals, as necessary to meet MEP. . . . To achieve the MEP standard, municipalities must employ whatever BMPs are technically feasible (i.e., are likely to be effective) and are not cost prohibitive.¹⁹⁷

Maintenance tracking is essential to improving the effectiveness of BMP requirements, as recognized in response to 2005 audit findings and U.S. EPA recommendations. 2005 audits were performed by Tetra Tech, Inc., and "found that the cities are not tracking post-construction BMPs." The final audit report recommended (Section 2.1.2) that each city should develop a system to verify implementation and track post-construction BMPs to ensure adequate maintenance."¹⁹⁸

Tracking inspections of BMPs is an approach consistent with U.S. EPA guidance:

Creating an inventory of post-construction structural stormwater control measures, including tracking of specific information, will first enable Permittees to know what control measures they are responsible for. Without this information, the permittee will not be protecting water quality to their full potential since inspections, maintenance, and follow-up changes cannot be performed. Tracking information such as latitude/longitude, maintenance and inspection requirements and follow-up will allow the permittee to be able to better allocate their resources for those activities that are immediately necessary¹⁹⁹

U.S. EPA further recommends:

Permit writers should clearly specify requirements for inspections. Inspecting and properly maintaining structural stormwater controls to ensure they are working as designed is just as important as installing them in the first place. By having specific requirements, Permittees will be reminded that they must allocate resources to ensure control measures are properly maintained and functioning.²⁰⁰

For the above reasons, together with the San Diego Water Board's finding that the provisions in the permit are based exclusively on federal law, the Commission should find that these provisions are required by federal law.

If the Commission nonetheless finds that the provisions exceed federal law, the provisions are not reimbursable because other mandates exceptions apply. In their 2007 Drainage Area Management Program under the 2002 Permit, the Copermittees already proposed to verify 90 percent of WQMPs [water quality management programs] (including structural and nonstructural BMPs) by inspection, self-certification, survey or

¹⁹⁷ 2009 Permit, Finding D.1.a. and Fact Sheet, pp. 50-52.

¹⁹⁸ 2009 Permit, Responses to Comments IV, Comment/Response No. 27 (July 1, 2009).

¹⁹⁹ MS4 Permit Improvement Guide, pp. 64-66.

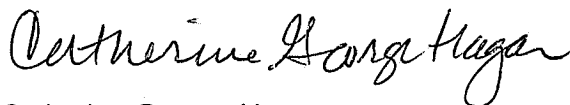
²⁰⁰ *Id.* at pp. 63-64.

other means.²⁰¹ The requirement to track BMPs already being implemented does not amount to imposition of a new program or higher level of service imposed by the state. Finally, Copermittees have authority to raise fees to pay for the BMP maintenance tracking. They are not required to use tax monies to pay for these costs. Any costs that are found to exceed those needed to implement the federal mandate are *de minimis*. For these reasons, the Commission should find that the challenged provisions are not state mandates subject to subvention.

V. CONCLUSION

For all of the reasons set forth above, the Test Claim must be dismissed. As found by the San Diego Water Board, the 2009 Permit in its entirety is based exclusively on federal requirements. It reflects the federally mandated standard of reducing pollutants to the maximum extent practicable; it also reflects the wholly separate Clean Water Act requirements to prohibit discharges of unauthorized non-storm water and to incorporate the assumptions and requirements consistent with any available wasteload allocations from TMDLs. Unlike in the Los Angeles Permit, found by the Supreme Court to be based on both state and federal authority, the San Diego Water Board explicitly disavowed any reliance on state law in adopting the challenged provisions. Accordingly, the Commission should defer to the San Diego Water Board's conclusions that the permit is a federal mandate. For these reasons, and because other applicable exceptions under mandates law also apply, the challenged provisions do not warrant subvention.

I certify and declare under penalty of perjury under the laws of the State of California that the foregoing is true and correct to the best of my personal knowledge.



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Attachments

cc: Service List via Commission Drop Box

²⁰¹ 2009 Permit, Dir. F.1.f. and Fact Sheet, p. 135.

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¹To avoid duplication, most materials referenced in the Test Claim are not included as attachments. In addition, some additional materials are not included as permitted in the Commission's regulations. (Cal. Code Regs., tit. 2, § 1183.2)

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² The hearing transcripts from November 18, 2009 and December 16, 2009, will be included in the administrative record for the 2009 Permit.

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ATTACHMENT 1



KeyCite Yellow Flag - Negative Treatment

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33 U.S.C.A. § **1311**

§ **1311**. Effluent limitations

[Currentness](#)

(a) Illegality of pollutant discharges except in compliance with law

Except as in compliance with this section and [sections 1312, 1316, 1317, 1328, 1342, and 1344](#) of this title, the discharge of any pollutant by any person shall be unlawful.

(b) Timetable for achievement of objectives

In order to carry out the objective of this chapter there shall be achieved--

(1)(A) not later than July 1, 1977, effluent limitations for point sources, other than publicly owned treatment works, (i) which shall require the application of the best practicable control technology currently available as defined by the Administrator pursuant to [section 1314\(b\)](#) of this title, or (ii) in the case of a discharge into a publicly owned treatment works which meets the requirements of subparagraph (B) of this paragraph, which shall require compliance with any applicable pretreatment requirements and any requirements under [section 1317](#) of this title; and

(B) for publicly owned treatment works in existence on July 1, 1977, or approved pursuant to [section 1283](#) of this title prior to June 30, 1974 (for which construction must be completed within four years of approval), effluent limitations based upon secondary treatment as defined by the Administrator pursuant to [section 1314\(d\)\(1\)](#) of this title; or,

(C) not later than July 1, 1977, any more stringent limitation, including those necessary to meet water quality standards, treatment standards, or schedules of compliance, established pursuant to any State law or regulations (under authority preserved by [section 1370](#) of this title) or any other Federal law or regulation, or required to implement any applicable water quality standard established pursuant to this chapter.

(2)(A) for pollutants identified in subparagraphs (C), (D), and (F) of this paragraph, effluent limitations for categories and classes of point sources, other than publicly owned treatment works, which (i) shall require application of the best available technology economically achievable for such category or class, which will result in reasonable further progress toward the national goal of eliminating the discharge of all pollutants, as determined in accordance with regulations issued by the Administrator pursuant to [section 1314\(b\)\(2\)](#) of this title, which such effluent limitations shall require the elimination of discharges of all pollutants if the Administrator finds, on the basis of information available to him (including information developed pursuant to [section 1325](#) of this title), that such elimination is technologically

and economically achievable for a category or class of point sources as determined in accordance with regulations issued by the Administrator pursuant to [section 1314\(b\)\(2\)](#) of this title, or (ii) in the case of the introduction of a pollutant into a publicly owned treatment works which meets the requirements of subparagraph (B) of this paragraph, shall require compliance with any applicable pretreatment requirements and any other requirement under [section 1317](#) of this title;

(B) Repealed. [Pub.L. 97-117, § 21\(b\)](#), Dec. 29, 1981, 95 Stat. 1632.

(C) with respect to all toxic pollutants referred to in table 1 of Committee Print Numbered 95-30 of the Committee on Public Works and Transportation of the House of Representatives compliance with effluent limitations in accordance with subparagraph (A) of this paragraph as expeditiously as practicable but in no case later than three years after the date such limitations are promulgated under [section 1314\(b\)](#) of this title, and in no case later than March 31, 1989;

(D) for all toxic pollutants listed under [paragraph \(1\) of subsection \(a\) of section 1317](#) of this title which are not referred to in subparagraph (C) of this paragraph compliance with effluent limitations in accordance with subparagraph (A) of this paragraph as expeditiously as practicable, but in no case later than three years after the date such limitations are promulgated under [section 1314\(b\)](#) of this title, and in no case later than March 31, 1989;

(E) as expeditiously as practicable but in no case later than three years after the date such limitations are promulgated under [section 1314\(b\)](#) of this title, and in no case later than March 31, 1989, compliance with effluent limitations for categories and classes of point sources, other than publicly owned treatment works, which in the case of pollutants identified pursuant to [section 1314\(a\)\(4\)](#) of this title shall require application of the best conventional pollutant control technology as determined in accordance with regulations issued by the Administrator pursuant to [section 1314\(b\)\(4\)](#) of this title; and

(F) for all pollutants (other than those subject to subparagraphs (C), (D), or (E) of this paragraph) compliance with effluent limitations in accordance with subparagraph (A) of this paragraph as expeditiously as practicable but in no case later than 3 years after the date such limitations are established, and in no case later than March 31, 1989.

(3)(A) for effluent limitations under paragraph (1)(A)(i) of this subsection promulgated after January 1, 1982, and requiring a level of control substantially greater or based on fundamentally different control technology than under permits for an industrial category issued before such date, compliance as expeditiously as practicable but in no case later than three years after the date such limitations are promulgated under [section 1314\(b\)](#) of this title, and in no case later than March 31, 1989; and

(B) for any effluent limitation in accordance with paragraph (1)(A)(i), (2)(A)(i), or (2)(E) of this subsection established only on the basis of [section 1342\(a\)\(1\)](#) of this title in a permit issued after February 4, 1987, compliance as expeditiously as practicable but in no case later than three years after the date such limitations are established, and in no case later than March 31, 1989.

(c) Modification of timetable

The Administrator may modify the requirements of subsection (b)(2)(A) of this section with respect to any point source for which a permit application is filed after July 1, 1977, upon a showing by the owner or operator of such point source satisfactory to the Administrator that such modified requirements (1) will represent the maximum use of technology within the economic capability of the owner or operator; and (2) will result in reasonable further progress toward the elimination of the discharge of pollutants.

(d) Review and revision of effluent limitations

Any effluent limitation required by paragraph (2) of subsection (b) of this section shall be reviewed at least every five years and, if appropriate, revised pursuant to the procedure established under such paragraph.

(e) All point discharge source application of effluent limitations

Effluent limitations established pursuant to this section or [section 1312](#) of this title shall be applied to all point sources of discharge of pollutants in accordance with the provisions of this chapter.

(f) Illegality of discharge of radiological, chemical, or biological warfare agents, high-level radioactive waste, or medical waste

Notwithstanding any other provisions of this chapter it shall be unlawful to discharge any radiological, chemical, or biological warfare agent, any high-level radioactive waste, or any medical waste, into the navigable waters.

(g) Modifications for certain nonconventional pollutants

(1) General authority

The Administrator, with the concurrence of the State, may modify the requirements of subsection (b)(2)(A) of this section with respect to the discharge from any point source of ammonia, chlorine, color, iron, and total phenols (4AAP) (when determined by the Administrator to be a pollutant covered by subsection (b)(2)(F) of this section) and any other pollutant which the Administrator lists under paragraph (4) of this subsection.

(2) Requirements for granting modifications

A modification under this subsection shall be granted only upon a showing by the owner or operator of a point source satisfactory to the Administrator that--

(A) such modified requirements will result at a minimum in compliance with the requirements of subsection (b)(1)(A) or (C) of this section, whichever is applicable;

(B) such modified requirements will not result in any additional requirements on any other point or nonpoint source; and

(C) such modification will not interfere with the attainment or maintenance of that water quality which shall assure protection of public water supplies, and the protection and propagation of a balanced population of shellfish, fish, and wildlife, and allow recreational activities, in and on the water and such modification will not result in the discharge of pollutants in quantities which may reasonably be anticipated to pose an unacceptable risk to human health or the environment because of bioaccumulation, persistency in the environment, acute toxicity, chronic toxicity (including carcinogenicity, mutagenicity or teratogenicity), or synergistic propensities.

(3) Limitation on authority to apply for subsection (c) modification

If an owner or operator of a point source applies for a modification under this subsection with respect to the discharge of any pollutant, such owner or operator shall be eligible to apply for modification under subsection (c) of this section with respect to such pollutant only during the same time period as he is eligible to apply for a modification under this subsection.

(4) Procedures for listing additional pollutants

(A) General authority

Upon petition of any person, the Administrator may add any pollutant to the list of pollutants for which modification under this section is authorized (except for pollutants identified pursuant to [section 1314\(a\)\(4\)](#) of this title, toxic pollutants subject to [section 1317\(a\)](#) of this title, and the thermal component of discharges) in accordance with the provisions of this paragraph.

(B) Requirements for listing

(i) Sufficient information

The person petitioning for listing of an additional pollutant under this subsection shall submit to the Administrator sufficient information to make the determinations required by this subparagraph.

(ii) Toxic criteria determination

The Administrator shall determine whether or not the pollutant meets the criteria for listing as a toxic pollutant under [section 1317\(a\)](#) of this title.

(iii) Listing as toxic pollutant

If the Administrator determines that the pollutant meets the criteria for listing as a toxic pollutant under [section 1317\(a\)](#) of this title, the Administrator shall list the pollutant as a toxic pollutant under [section 1317\(a\)](#) of this title.

(iv) Nonconventional criteria determination

If the Administrator determines that the pollutant does not meet the criteria for listing as a toxic pollutant under such section and determines that adequate test methods and sufficient data are available to make the determinations required by paragraph (2) of this subsection with respect to the pollutant, the Administrator shall add the pollutant to the list of pollutants specified in paragraph (1) of this subsection for which modifications are authorized under this subsection.

(C) Requirements for filing of petitions

A petition for listing of a pollutant under this paragraph--

(i) must be filed not later than 270 days after the date of promulgation of an applicable effluent guideline under [section 1314](#) of this title;

(ii) may be filed before promulgation of such guideline; and

(iii) may be filed with an application for a modification under paragraph (1) with respect to the discharge of such pollutant.

(D) Deadline for approval of petition

A decision to add a pollutant to the list of pollutants for which modifications under this subsection are authorized must be made within 270 days after the date of promulgation of an applicable effluent guideline under [section 1314](#) of this title.

(E) Burden of proof

The burden of proof for making the determinations under subparagraph (B) shall be on the petitioner.

(5) Removal of pollutants

The Administrator may remove any pollutant from the list of pollutants for which modifications are authorized under this subsection if the Administrator determines that adequate test methods and sufficient data are no longer available for determining whether or not modifications may be granted with respect to such pollutant under paragraph (2) of this subsection.

(h) Modification of secondary treatment requirements

The Administrator, with the concurrence of the State, may issue a permit under [section 1342](#) of this title which modifies the requirements of subsection (b)(1)(B) of this section with respect to the discharge of any pollutant from a publicly owned treatment works into marine waters, if the applicant demonstrates to the satisfaction of the Administrator that--

(1) there is an applicable water quality standard specific to the pollutant for which the modification is requested, which has been identified under [section 1314\(a\)\(6\)](#) of this title;

- (2) the discharge of pollutants in accordance with such modified requirements will not interfere, alone or in combination with pollutants from other sources, with the attainment or maintenance of that water quality which assures protection of public water supplies and the protection and propagation of a balanced, indigenous population of shellfish, fish, and wildlife, and allows recreational activities, in and on the water;
- (3) the applicant has established a system for monitoring the impact of such discharge on a representative sample of aquatic biota, to the extent practicable, and the scope of such monitoring is limited to include only those scientific investigations which are necessary to study the effects of the proposed discharge;
- (4) such modified requirements will not result in any additional requirements on any other point or nonpoint source;
- (5) all applicable pretreatment requirements for sources introducing waste into such treatment works will be enforced;
- (6) in the case of any treatment works serving a population of 50,000 or more, with respect to any toxic pollutant introduced into such works by an industrial discharger for which pollutant there is no applicable pretreatment requirement in effect, sources introducing waste into such works are in compliance with all applicable pretreatment requirements, the applicant will enforce such requirements, and the applicant has in effect a pretreatment program which, in combination with the treatment of discharges from such works, removes the same amount of such pollutant as would be removed if such works were to apply secondary treatment to discharges and if such works had no pretreatment program with respect to such pollutant;
- (7) to the extent practicable, the applicant has established a schedule of activities designed to eliminate the entrance of toxic pollutants from nonindustrial sources into such treatment works;
- (8) there will be no new or substantially increased discharges from the point source of the pollutant to which the modification applies above that volume of discharge specified in the permit;
- (9) the applicant at the time such modification becomes effective will be discharging effluent which has received at least primary or equivalent treatment and which meets the criteria established under [section 1314\(a\)\(1\)](#) of this title after initial mixing in the waters surrounding or adjacent to the point at which such effluent is discharged.

For the purposes of this subsection the phrase “the discharge of any pollutant into marine waters” refers to a discharge into deep waters of the territorial sea or the waters of the contiguous zone, or into saline estuarine waters where there is strong tidal movement and other hydrological and geological characteristics which the Administrator determines necessary to allow compliance with paragraph (2) of this subsection, and [section 1251\(a\)\(2\)](#) of this title. For the purposes of paragraph (9), “primary or equivalent treatment” means treatment by screening, sedimentation, and skimming adequate to remove at least 30 percent of the biological oxygen demanding material and of the suspended solids in the treatment works influent, and disinfection, where appropriate. A municipality which applies secondary treatment shall be eligible to receive a permit pursuant to this subsection which modifies the requirements of subsection (b)(1)(B) of this section with respect to the discharge of any pollutant from any treatment works owned by such municipality into marine waters. No permit issued under this subsection shall authorize the discharge of sewage sludge into marine waters. In order for a permit to be issued under this subsection for the discharge of a pollutant into marine waters, such

marine waters must exhibit characteristics assuring that water providing dilution does not contain significant amounts of previously discharged effluent from such treatment works. No permit issued under this subsection shall authorize the discharge of any pollutant into saline estuarine waters which at the time of application do not support a balanced indigenous population of shellfish, fish and wildlife, or allow recreation in and on the waters or which exhibit ambient water quality below applicable water quality standards adopted for the protection of public water supplies, shellfish, fish and wildlife or recreational activities or such other standards necessary to assure support and protection of such uses. The prohibition contained in the preceding sentence shall apply without regard to the presence or absence of a causal relationship between such characteristics and the applicant's current or proposed discharge. Notwithstanding any other provisions of this subsection, no permit may be issued under this subsection for discharge of a pollutant into the New York Bight Apex consisting of the ocean waters of the Atlantic Ocean westward of 73 degrees 30 minutes west longitude and northward of 40 degrees 10 minutes north latitude.

(i) Municipal time extensions

(1) Where construction is required in order for a planned or existing publicly owned treatment works to achieve limitations under subsection (b)(1)(B) or (b)(1)(C) of this section, but **(A)** construction cannot be completed within the time required in such subsection, or **(B)** the United States has failed to make financial assistance under this chapter available in time to achieve such limitations by the time specified in such subsection, the owner or operator of such treatment works may request the Administrator (or if appropriate the State) to issue a permit pursuant to [section 1342](#) of this title or to modify a permit issued pursuant to that section to extend such time for compliance. Any such request shall be filed with the Administrator (or if appropriate the State) within 180 days after February 4, 1987. The Administrator (or if appropriate the State) may grant such request and issue or modify such a permit, which shall contain a schedule of compliance for the publicly owned treatment works based on the earliest date by which such financial assistance will be available from the United States and construction can be completed, but in no event later than July 1, 1988, and shall contain such other terms and conditions, including those necessary to carry out [subsections \(b\) through \(g\) of section 1281](#) of this title, [section 1317](#) of this title, and such interim effluent limitations applicable to that treatment works as the Administrator determines are necessary to carry out the provisions of this chapter.

(2)(A) Where a point source (other than a publicly owned treatment works) will not achieve the requirements of subsections (b)(1)(A) and (b)(1)(C) of this section and--

(i) if a permit issued prior to July 1, 1977, to such point source is based upon a discharge into a publicly owned treatment works; or

(ii) if such point source (other than a publicly owned treatment works) had before July 1, 1977, a contract (enforceable against such point source) to discharge into a publicly owned treatment works; or

(iii) if either an application made before July 1, 1977, for a construction grant under this chapter for a publicly owned treatment works, or engineering or architectural plans or working drawings made before July 1, 1977, for a publicly owned treatment works, show that such point source was to discharge into such publicly owned treatment works,

and such publicly owned treatment works is presently unable to accept such discharge without construction, and in the case of a discharge to an existing publicly owned treatment works, such treatment works has an extension pursuant to paragraph (1) of this subsection, the owner or operator of such point source may request the Administrator (or if appropriate the State) to issue or modify such a permit pursuant to such [section 1342](#) of this title to extend such time

for compliance. Any such request shall be filed with the Administrator (or if appropriate the State) within 180 days after December 27, 1977, or the filing of a request by the appropriate publicly owned treatment works under paragraph (1) of this subsection, whichever is later. If the Administrator (or if appropriate the State) finds that the owner or operator of such point source has acted in good faith, he may grant such request and issue or modify such a permit, which shall contain a schedule of compliance for the point source to achieve the requirements of subsections (b)(1)(A) and (C) of this section and shall contain such other terms and conditions, including pretreatment and interim effluent limitations and water conservation requirements applicable to that point source, as the Administrator determines are necessary to carry out the provisions of this chapter.

(B) No time modification granted by the Administrator (or if appropriate the State) pursuant to paragraph (2)(A) of this subsection shall extend beyond the earliest date practicable for compliance or beyond the date of any extension granted to the appropriate publicly owned treatment works pursuant to paragraph (1) of this subsection, but in no event shall it extend beyond July 1, 1988; and no such time modification shall be granted unless (i) the publicly owned treatment works will be in operation and available to the point source before July 1, 1988, and will meet the requirements of subsections (b)(1)(B) and (C) of this section after receiving the discharge from that point source; and (ii) the point source and the publicly owned treatment works have entered into an enforceable contract requiring the point source to discharge into the publicly owned treatment works, the owner or operator of such point source to pay the costs required under [section 1284](#) of this title, and the publicly owned treatment works to accept the discharge from the point source; and (iii) the permit for such point source requires that point source to meet all requirements under [section 1317\(a\)](#) and (b) of this title during the period of such time modification.

(j) Modification procedures

(1) Any application filed under this section for a modification of the provisions of--

(A) subsection (b)(1)(B) of this section under subsection (h) of this section shall be filed not later than ¹ the 365th day which begins after December 29, 1981, except that a publicly owned treatment works which prior to December 31, 1982, had a contractual arrangement to use a portion of the capacity of an ocean outfall operated by another publicly owned treatment works which has applied for or received modification under subsection (h) of this section, may apply for a modification of subsection (h) of this section in its own right not later than 30 days after February 4, 1987, and except as provided in paragraph (5);

(B) subsection (b)(2)(A) of this section as it applies to pollutants identified in subsection (b)(2)(F) of this section shall be filed not later than 270 days after the date of promulgation of an applicable effluent guideline under [section 1314](#) of this title or not later than 270 days after December 27, 1977, whichever is later.

(2) Subject to paragraph (3) of this section, any application for a modification filed under subsection (g) of this section shall not operate to stay any requirement under this chapter, unless in the judgment of the Administrator such a stay or the modification sought will not result in the discharge of pollutants in quantities which may reasonably be anticipated to pose an unacceptable risk to human health or the environment because of bioaccumulation, persistency in the environment, acute toxicity, chronic toxicity (including carcinogenicity, mutagenicity, or teratogenicity), or synergistic propensities, and that there is a substantial likelihood that the applicant will succeed on the merits of such application. In the case of an application filed under subsection (g) of this section, the Administrator may condition any stay granted under this paragraph on requiring the filing of a bond or other appropriate security to assure timely compliance with the requirements from which a modification is sought.

(3) Compliance requirements under subsection (g)

(A) Effect of filing

An application for a modification under subsection (g) of this section and a petition for listing of a pollutant as a pollutant for which modifications are authorized under such subsection shall not stay the requirement that the person seeking such modification or listing comply with effluent limitations under this chapter for all pollutants not the subject of such application or petition.

(B) Effect of disapproval

Disapproval of an application for a modification under subsection (g) of this section shall not stay the requirement that the person seeking such modification comply with all applicable effluent limitations under this chapter.

(4) Deadline for subsection (g) decision

An application for a modification with respect to a pollutant filed under subsection (g) of this section must be approved or disapproved not later than 365 days after the date of such filing; except that in any case in which a petition for listing such pollutant as a pollutant for which modifications are authorized under such subsection is approved, such application must be approved or disapproved not later than 365 days after the date of approval of such petition.

(5) Extension of application deadline

(A) In general

In the 180-day period beginning on October 31, 1994, the city of San Diego, California, may apply for a modification pursuant to subsection (h) of this section of the requirements of subsection (b)(1)(B) of this section with respect to biological oxygen demand and total suspended solids in the effluent discharged into marine waters.

(B) Application

An application under this paragraph shall include a commitment by the applicant to implement a waste water reclamation program that, at a minimum, will--

- (i) achieve a system capacity of 45,000,000 gallons of reclaimed waste water per day by January 1, 2010; and
- (ii) result in a reduction in the quantity of suspended solids discharged by the applicant into the marine environment during the period of the modification.

(C) Additional conditions

The Administrator may not grant a modification pursuant to an application submitted under this paragraph unless the Administrator determines that such modification will result in removal of not less than 58 percent of the biological oxygen demand (on an annual average) and not less than 80 percent of total suspended solids (on a monthly average) in the discharge to which the application applies.

(D) Preliminary decision deadline

The Administrator shall announce a preliminary decision on an application submitted under this paragraph not later than 1 year after the date the application is submitted.

(k) Innovative technology

In the case of any facility subject to a permit under [section 1342](#) of this title which proposes to comply with the requirements of subsection (b)(2)(A) or (b)(2)(E) of this section by replacing existing production capacity with an innovative production process which will result in an effluent reduction significantly greater than that required by the limitation otherwise applicable to such facility and moves toward the national goal of eliminating the discharge of all pollutants, or with the installation of an innovative control technique that has a substantial likelihood for enabling the facility to comply with the applicable effluent limitation by achieving a significantly greater effluent reduction than that required by the applicable effluent limitation and moves toward the national goal of eliminating the discharge of all pollutants, or by achieving the required reduction with an innovative system that has the potential for significantly lower costs than the systems which have been determined by the Administrator to be economically achievable, the Administrator (or the State with an approved program under [section 1342](#) of this title, in consultation with the Administrator) may establish a date for compliance under subsection (b)(2)(A) or (b)(2)(E) of this section no later than two years after the date for compliance with such effluent limitation which would otherwise be applicable under such subsection, if it is also determined that such innovative system has the potential for industrywide application.

(l) Toxic pollutants

Other than as provided in subsection (n) of this section, the Administrator may not modify any requirement of this section as it applies to any specific pollutant which is on the toxic pollutant list under [section 1317\(a\)\(1\)](#) of this title.

(m) Modification of effluent limitation requirements for point sources

(1) The Administrator, with the concurrence of the State, may issue a permit under [section 1342](#) of this title which modifies the requirements of subsections (b)(1)(A) and (b)(2)(E) of this section, and of [section 1343](#) of this title, with respect to effluent limitations to the extent such limitations relate to biochemical oxygen demand and pH from discharges by an industrial discharger in such State into deep waters of the territorial seas, if the applicant demonstrates and the Administrator finds that--

(A) the facility for which modification is sought is covered at the time of the enactment of this subsection by National Pollutant Discharge Elimination System permit number CA0005894 or CA0005282;

- (B) the energy and environmental costs of meeting such requirements of subsections (b)(1)(A) and (b)(2)(E) of this section and [section 1343](#) of this title exceed by an unreasonable amount the benefits to be obtained, including the objectives of this chapter;
- (C) the applicant has established a system for monitoring the impact of such discharges on a representative sample of aquatic biota;
- (D) such modified requirements will not result in any additional requirements on any other point or nonpoint source;
- (E) there will be no new or substantially increased discharges from the point source of the pollutant to which the modification applies above that volume of discharge specified in the permit;
- (F) the discharge is into waters where there is strong tidal movement and other hydrological and geological characteristics which are necessary to allow compliance with this subsection and [section 1251\(a\)\(2\)](#) of this title;
- (G) the applicant accepts as a condition to the permit a contractual² obligation to use funds in the amount required (but not less than \$250,000 per year for ten years) for research and development of water pollution control technology, including but not limited to closed cycle technology;
- (H) the facts and circumstances present a unique situation which, if relief is granted, will not establish a precedent or the relaxation of the requirements of this chapter applicable to similarly situated discharges; and
- (I) no owner or operator of a facility comparable to that of the applicant situated in the United States has demonstrated that it would be put at a competitive disadvantage to the applicant (or the parent company or any subsidiary thereof) as a result of the issuance of a permit under this subsection.
- (2) The effluent limitations established under a permit issued under paragraph (1) shall be sufficient to implement the applicable State water quality standards, to assure the protection of public water supplies and protection and propagation of a balanced, indigenous population of shellfish, fish, fauna, wildlife, and other aquatic organisms, and to allow recreational activities in and on the water. In setting such limitations, the Administrator shall take into account any seasonal variations and the need for an adequate margin of safety, considering the lack of essential knowledge concerning the relationship between effluent limitations and water quality and the lack of essential knowledge of the effects of discharges on beneficial uses of the receiving waters.
- (3) A permit under this subsection may be issued for a period not to exceed five years, and such a permit may be renewed for one additional period not to exceed five years upon a demonstration by the applicant and a finding by the Administrator at the time of application for any such renewal that the provisions of this subsection are met.
- (4) The Administrator may terminate a permit issued under this subsection if the Administrator determines that there has been a decline in ambient water quality of the receiving waters during the period of the permit even if a direct cause and effect relationship cannot be shown: *Provided*, That if the effluent from a source with a permit issued under this

subsection is contributing to a decline in ambient water quality of the receiving waters, the Administrator shall terminate such permit.

(n) Fundamentally different factors

(1) General rule

The Administrator, with the concurrence of the State, may establish an alternative requirement under subsection (b)(2) of this section or [section 1317\(b\)](#) of this title for a facility that modifies the requirements of national effluent limitation guidelines or categorical pretreatment standards that would otherwise be applicable to such facility, if the owner or operator of such facility demonstrates to the satisfaction of the Administrator that--

(A) the facility is fundamentally different with respect to the factors (other than cost) specified in [section 1314\(b\)](#) or [1314\(g\)](#) of this title and considered by the Administrator in establishing such national effluent limitation guidelines or categorical pretreatment standards;

(B) the application--

(i) is based solely on information and supporting data submitted to the Administrator during the rulemaking for establishment of the applicable national effluent limitation guidelines or categorical pretreatment standard specifically raising the factors that are fundamentally different for such facility; or

(ii) is based on information and supporting data referred to in clause (i) and information and supporting data the applicant did not have a reasonable opportunity to submit during such rulemaking;

(C) the alternative requirement is no less stringent than justified by the fundamental difference; and

(D) the alternative requirement will not result in a non-water quality environmental impact which is markedly more adverse than the impact considered by the Administrator in establishing such national effluent limitation guideline or categorical pretreatment standard.

(2) Time limit for applications

An application for an alternative requirement which modifies the requirements of an effluent limitation or pretreatment standard under this subsection must be submitted to the Administrator within 180 days after the date on which such limitation or standard is established or revised, as the case may be.

(3) Time limit for decision

The Administrator shall approve or deny by final agency action an application submitted under this subsection within 180 days after the date such application is filed with the Administrator.

(4) Submission of information

The Administrator may allow an applicant under this subsection to submit information and supporting data until the earlier of the date the application is approved or denied or the last day that the Administrator has to approve or deny such application.

(5) Treatment of pending applications

For the purposes of this subsection, an application for an alternative requirement based on fundamentally different factors which is pending on February 4, 1987, shall be treated as having been submitted to the Administrator on the 180th day following February 4, 1987. The applicant may amend the application to take into account the provisions of this subsection.

(6) Effect of submission of application

An application for an alternative requirement under this subsection shall not stay the applicant's obligation to comply with the effluent limitation guideline or categorical pretreatment standard which is the subject of the application.

(7) Effect of denial

If an application for an alternative requirement which modifies the requirements of an effluent limitation or pretreatment standard under this subsection is denied by the Administrator, the applicant must comply with such limitation or standard as established or revised, as the case may be.

(8) Reports

By January 1, 1997, and January 1 of every odd-numbered year thereafter, the Administrator shall submit to the Committee on Environment and Public Works of the Senate and the Committee on Transportation and Infrastructure of the House of Representatives a report on the status of applications for alternative requirements which modify the requirements of effluent limitations under section [1311](#) or [1314](#) of this title or any national categorical pretreatment standard under [section 1317\(b\)](#) of this title filed before, on, or after February 4, 1987.

(o) Application fees

The Administrator shall prescribe and collect from each applicant fees reflecting the reasonable administrative costs incurred in reviewing and processing applications for modifications submitted to the Administrator pursuant to subsections (c), (g), (i), (k), (m), and (n) of this section, [section 1314\(d\)\(4\)](#) of this title, and [section 1326\(a\)](#) of this title. All amounts collected by the Administrator under this subsection shall be deposited into a special fund of the Treasury entitled "Water Permits and Related Services" which shall thereafter be available for appropriation to carry out activities of the Environmental Protection Agency for which such fees were collected.

(p) Modified permit for coal remining operations

(1) In general

Subject to paragraphs (2) through (4) of this subsection, the Administrator, or the State in any case which the State has an approved permit program under [section 1342\(b\)](#) of this title, may issue a permit under [section 1342](#) of this title which modifies the requirements of subsection (b)(2)(A) of this section with respect to the pH level of any pre-existing discharge, and with respect to pre-existing discharges of iron and manganese from the remined area of any coal remining operation or with respect to the pH level or level of iron or manganese in any pre-existing discharge affected by the remining operation. Such modified requirements shall apply the best available technology economically achievable on a case-by-case basis, using best professional judgment, to set specific numerical effluent limitations in each permit.

(2) Limitations

The Administrator or the State may only issue a permit pursuant to paragraph (1) if the applicant demonstrates to the satisfaction of the Administrator or the State, as the case may be, that the coal remining operation will result in the potential for improved water quality from the remining operation but in no event shall such a permit allow the pH level of any discharge, and in no event shall such a permit allow the discharges of iron and manganese, to exceed the levels being discharged from the remined area before the coal remining operation begins. No discharge from, or affected by, the remining operation shall exceed State water quality standards established under [section 1313](#) of this title.

(3) Definitions

For purposes of this subsection--

(A) Coal remining operation

The term “coal remining operation” means a coal mining operation which begins after February 4, 1987 at a site on which coal mining was conducted before August 3, 1977.

(B) Remined area

The term “remined area” means only that area of any coal remining operation on which coal mining was conducted before August 3, 1977.

(C) Pre-existing discharge

The term “pre-existing discharge” means any discharge at the time of permit application under this subsection.

(4) Applicability of strip mining laws

Nothing in this subsection shall affect the application of the Surface Mining Control and Reclamation Act of 1977 [[30 U.S.C.A. § 1201 et seq.](#)] to any coal remining operation, including the application of such Act to suspended solids.

CREDIT(S)

(June 30, 1948, c. 758, Title III, § 301, as added Oct. 18, 1972, Pub.L. 92-500, § 2, 86 Stat. 844; amended Dec. 27, 1977, Pub.L. 95-217, §§ 42-47, 53(c), 91 Stat. 1582-1586, 1590; Dec. 29, 1981, Pub.L. 97-117, §§ 21, 22(a)-(d), 95 Stat. 1631, 1632; Jan. 8, 1983, Pub.L. 97-440, 96 Stat. 2289; Feb. 4, 1987, Pub.L. 100-4, Title III, §§ 301(a) to (e), 302(a) to (d), 303(a), (b)(1), (c) to (f), 304(a), 305, 306(a), (b), 307, 101 Stat. 29-37; Nov. 18, 1988, Pub.L. 100-688, Title III, § 3202(b), 102 Stat. 4154; Oct. 31, 1994, Pub.L. 103-431, § 2, 108 Stat. 4396; Dec. 21, 1995, Pub.L. 104-66, Title II, § 2021(b), 109 Stat. 727.)

RESEARCH REFERENCES

ALR Library

53 ALR, Fed. 481, Criminal Proceedings, Under § 309(C)(1, 3) of the Federal Water Pollution Control Act (33 U.S.C.A. § 1319(C)(1, 3)), Based on Violation of § 301(A) of the Act (33 U.S.C.A. § 1311(A)), Prohibiting Discharge...

Forms

Federal Procedural Forms § 51:37, Complaint in District Court--To Enjoin Discharge of Dredged or Fill Materials Without Permit--Imposition of Civil Penalty [33 U.S.C.A. §§ 1311, 1319, 1365; Fed. R. Civ. P. 8(A), 65].

Federal Procedural Forms § 51:50, Allegation in Complaint--Unauthorized Discharges of Fill Material Into Wetlands [33 U.S.C.A. §§ 1311, 1344].

Federal Procedural Forms § 50:214.50, Complaint in District Court--For Order Requiring Repeal of 40 C.F.R. § 122.3(H) as Ultra Vires to the Clean Water Act [40 C.F.R. § 122.3; 33 U.S.C.A. §§ 1251, 1311, 1342, 1362; 5 U.S.C.A. §§ 551...

Relevant Notes of Decisions (4)

[View all 328](#)

Notes of Decisions listed below contain your search terms.

Best available technology economically achievable

Pursuant to Federal Water Pollution Control Act Amendments of 1972, § 301(b)(2)(F), 33 U.S.C.A. § 1311(b)(2) (F), requiring that Environmental Protection Agency promulgate best available technology economically achievable-based effluent limitation guidelines applicable to nonconventional pollutants not later than July 1, 1987, Agency was authorized to impose best available technology economically achievable limitation on nonconventional pollutants until such guidelines were promulgated. [American Petroleum Institute v. E.P.A., C.A.5 1986, 787 F.2d 965. Environmental Law](#) 🔑 186

Injunction

The 1981 amendments to Clean Water Act, which extended time which publicly owned water treatment works had to comply with Act [Federal Water Pollution Control Act Amendments of 1972, § 301(i), as amended, 33 U.S.C.A. § 1311(i)], applied only to public works whose funding was reduced pursuant to 1981 amendments or which could not comply with Act due to changed circumstances beyond their control so that municipality which did not come within either category, and which continued to discharge pollutants into stream beyond expiration date of permits, was properly enjoined for violating Act. [Franklin Tp. Sewerage Authority v. Middlesex County Utilities Authority, C.A.3 \(N.J.\) 1986, 787 F.2d 117, certiorari denied 107 S.Ct. 109, 479 U.S. 828, 93 L.Ed.2d 57. Environmental Law](#) 🔑 700

Review of Administrator's action

Total maximum daily loads (TMDLs) for pollutants established by the Environmental Protection Agency (EPA) under section 1313 of the Clean Water Act (CWA) did not constitute effluent limitations or other limitations “under section 1311” and, thus, the Court of Appeals lacked subject-matter jurisdiction for direct review of EPA's approval and establishment of the TMDLs. [Friends of Earth v. U.S. E.P.A., C.A.D.C.2003, 333 F.3d 184, 357 U.S.App.D.C. 63,](#)

transferred to 346 F.Supp.2d 182, reversed and remanded 446 F.3d 140, 371 U.S.App.D.C. 1, certiorari denied 127 S.Ct. 1121, 549 U.S. 1175, 166 L.Ed.2d 907. Environmental Law 🔑 186; Environmental Law 🔑 192; Federal Courts 🔑 3908

Determination of the Administrator of the Environmental Protection Agency that § 301(g) of the Clean Water Act [33 U.S.C.A. § 1311(g)] does not authorize modification of categorical-pretreatment standards was not unreasonable. *Koppers Co., Inc. v. U.S. E.P.A.*, C.A.3 1985, 767 F.2d 57. Environmental Law 🔑 682

Footnotes


1 So in original. Probably should be “than”.

2 So in original. Probably should be “contractual”.

33 U.S.C.A. § 1311, 33 USCA § 1311

Current through P.L. 114-222. Also includes P.L. 114-224, 114-226, and 114-227.

ATTACHMENT 2

 KeyCite Yellow Flag - Negative Treatment
Proposed Legislation

[United States Code Annotated](#)
[Title 33. Navigation and Navigable Waters \(Refs & Annos\)](#)
[Chapter 26. Water Pollution Prevention and Control \(Refs & Annos\)](#)
[Subchapter III. Standards and Enforcement \(Refs & Annos\)](#)

33 U.S.C.A. § 1313

§ 1313. Water quality standards and implementation plans

Effective: October 10, 2000

[Currentness](#)

(a) Existing water quality standards

(1) In order to carry out the purpose of this chapter, any water quality standard applicable to interstate waters which was adopted by any State and submitted to, and approved by, or is a waiting approval by, the Administrator pursuant to this Act as in effect immediately prior to October 18, 1972, shall remain in effect unless the Administrator determined that such standard is not consistent with the applicable requirements of this Act as in effect immediately prior to October 18, 1972. If the Administrator makes such a determination he shall, within three months after October 18, 1972, notify the State and specify the changes needed to meet such requirements. If such changes are not adopted by the State within ninety days after the date of such notification, the Administrator shall promulgate such changes in accordance with subsection (b) of this section.

(2) Any State which, before October 18, 1972, has adopted, pursuant to its own law, water quality standards applicable to intrastate waters shall submit such standards to the Administrator within thirty days after October 18, 1972. Each such standard shall remain in effect, in the same manner and to the same extent as any other water quality standard established under this chapter unless the Administrator determines that such standard is inconsistent with the applicable requirements of this Act as in effect immediately prior to October 18, 1972. If the Administrator makes such a determination he shall not later than the one hundred and twentieth day after the date of submission of such standards, notify the State and specify the changes needed to meet such requirements. If such changes are not adopted by the State within ninety days after such notification, the Administrator shall promulgate such changes in accordance with subsection (b) of this section.

(3)(A) Any State which prior to October 18, 1972, has not adopted pursuant to its own laws water quality standards applicable to intrastate waters shall, not later than one hundred and eighty days after October 18, 1972, adopt and submit such standards to the Administrator.

(B) If the Administrator determines that any such standards are consistent with the applicable requirements of this Act as in effect immediately prior to October 18, 1972, he shall approve such standards.

(C) If the Administrator determines that any such standards are not consistent with the applicable requirements of this Act as in effect immediately prior to October 18, 1972, he shall, not later than the ninetieth day after the date of

submission of such standards, notify the State and specify the changes to meet such requirements. If such changes are not adopted by the State within ninety days after the date of notification, the Administrator shall promulgate such standards pursuant to subsection (b) of this section.

(b) Proposed regulations

(1) The Administrator shall promptly prepare and publish proposed regulations setting forth water quality standards for a State in accordance with the applicable requirements of this Act as in effect immediately prior to October 18, 1972, if--

(A) the State fails to submit water quality standards within the times prescribed in subsection (a) of this section.

(B) a water quality standard submitted by such State under subsection (a) of this section is determined by the Administrator not to be consistent with the applicable requirements of subsection (a) of this section.

(2) The Administrator shall promulgate any water quality standard published in a proposed regulation not later than one hundred and ninety days after the date he publishes any such proposed standard, unless prior to such promulgation, such State has adopted a water quality standard which the Administrator determines to be in accordance with subsection (a) of this section.

(c) Review; revised standards; publication

(1) The Governor of a State or the State water pollution control agency of such State shall from time to time (but at least once each three year period beginning with October 18, 1972) hold public hearings for the purpose of reviewing applicable water quality standards and, as appropriate, modifying and adopting standards. Results of such review shall be made available to the Administrator.

(2)(A) Whenever the State revises or adopts a new standard, such revised or new standard shall be submitted to the Administrator. Such revised or new water quality standard shall consist of the designated uses of the navigable waters involved and the water quality criteria for such waters based upon such uses. Such standards shall be such as to protect the public health or welfare, enhance the quality of water and serve the purposes of this chapter. Such standards shall be established taking into consideration their use and value for public water supplies, propagation of fish and wildlife, recreational purposes, and agricultural, industrial, and other purposes, and also taking into consideration their use and value for navigation.

(B) Whenever a State reviews water quality standards pursuant to paragraph (1) of this subsection, or revises or adopts new standards pursuant to this paragraph, such State shall adopt criteria for all toxic pollutants listed pursuant to [section 1317\(a\)\(1\)](#) of this title for which criteria have been published under [section 1314\(a\)](#) of this title, the discharge or presence of which in the affected waters could reasonably be expected to interfere with those designated uses adopted by the State, as necessary to support such designated uses. Such criteria shall be specific numerical criteria for such toxic pollutants. Where such numerical criteria are not available, whenever a State reviews water quality standards pursuant to paragraph (1), or revises or adopts new standards pursuant to this paragraph, such State shall adopt criteria based on biological monitoring or assessment methods consistent with information published pursuant to [section 1314\(a\)\(8\)](#) of this title.

Nothing in this section shall be construed to limit or delay the use of effluent limitations or other permit conditions based on or involving biological monitoring or assessment methods or previously adopted numerical criteria.

(3) If the Administrator, within sixty days after the date of submission of the revised or new standard, determines that such standard meets the requirements of this chapter, such standard shall thereafter be the water quality standard for the applicable waters of that State. If the Administrator determines that any such revised or new standard is not consistent with the applicable requirements of this chapter, he shall not later than the ninetieth day after the date of submission of such standard notify the State and specify the changes to meet such requirements. If such changes are not adopted by the State within ninety days after the date of notification, the Administrator shall promulgate such standard pursuant to paragraph (4) of this subsection.

(4) The Administrator shall promptly prepare and publish proposed regulations setting forth a revised or new water quality standard for the navigable waters involved--

(A) if a revised or new water quality standard submitted by such State under paragraph (3) of this subsection for such waters is determined by the Administrator not to be consistent with the applicable requirements of this chapter, or

(B) in any case where the Administrator determines that a revised or new standard is necessary to meet the requirements of this chapter.

The Administrator shall promulgate any revised or new standard under this paragraph not later than ninety days after he publishes such proposed standards, unless prior to such promulgation, such State has adopted a revised or new water quality standard which the Administrator determines to be in accordance with this chapter.

(d) Identification of areas with insufficient controls; maximum daily load; certain effluent limitations revision

(1)(A) Each State shall identify those waters within its boundaries for which the effluent limitations required by [section 1311\(b\)\(1\)\(A\)](#) and [section 1311\(b\)\(1\)\(B\)](#) of this title are not stringent enough to implement any water quality standard applicable to such waters. The State shall establish a priority ranking for such waters, taking into account the severity of the pollution and the uses to be made of such waters.

(B) Each State shall identify those waters or parts thereof within its boundaries for which controls on thermal discharges under [section 1311](#) of this title are not stringent enough to assure protection and propagation of a balanced indigenous population of shellfish, fish, and wildlife.

(C) Each State shall establish for the waters identified in paragraph (1)(A) of this subsection, and in accordance with the priority ranking, the total maximum daily load, for those pollutants which the Administrator identifies under [section 1314\(a\)\(2\)](#) of this title as suitable for such calculation. Such load shall be established at a level necessary to implement the applicable water quality standards with seasonal variations and a margin of safety which takes into account any lack of knowledge concerning the relationship between effluent limitations and water quality.

(D) Each State shall estimate for the waters identified in paragraph (1)(B) of this subsection the total maximum daily thermal load required to assure protection and propagation of a balanced, indigenous population of shellfish, fish, and

wildlife. Such estimates shall take into account the normal water temperatures, flow rates, seasonal variations, existing sources of heat input, and the dissipative capacity of the identified waters or parts thereof. Such estimates shall include a calculation of the maximum heat input that can be made into each such part and shall include a margin of safety which takes into account any lack of knowledge concerning the development of thermal water quality criteria for such protection and propagation in the identified waters or parts thereof.

(2) Each State shall submit to the Administrator from time to time, with the first such submission not later than one hundred and eighty days after the date of publication of the first identification of pollutants under [section 1314\(a\)\(2\)\(D\)](#) of this title, for his approval the waters identified and the loads established under paragraphs (1)(A), (1)(B), (1)(C), and (1)(D) of this subsection. The Administrator shall either approve or disapprove such identification and load not later than thirty days after the date of submission. If the Administrator approves such identification and load, such State shall incorporate them into its current plan under subsection (e) of this section. If the Administrator disapproves such identification and load, he shall not later than thirty days after the date of such disapproval identify such waters in such State and establish such loads for such waters as he determines necessary to implement the water quality standards applicable to such waters and upon such identification and establishment the State shall incorporate them into its current plan under subsection (e) of this section.

(3) For the specific purpose of developing information, each State shall identify all waters within its boundaries which it has not identified under paragraph (1)(A) and (1)(B) of this subsection and estimate for such waters the total maximum daily load with seasonal variations and margins of safety, for those pollutants which the Administrator identifies under [section 1314\(a\)\(2\)](#) of this title as suitable for such calculation and for thermal discharges, at a level that would assure protection and propagation of a balanced indigenous population of fish, shellfish, and wildlife.

(4) Limitations on revision of certain effluent limitations

(A) Standard not attained

For waters identified under paragraph (1)(A) where the applicable water quality standard has not yet been attained, any effluent limitation based on a total maximum daily load or other waste load allocation established under this section may be revised only if (i) the cumulative effect of all such revised effluent limitations based on such total maximum daily load or waste load allocation will assure the attainment of such water quality standard, or (ii) the designated use which is not being attained is removed in accordance with regulations established under this section.

(B) Standard attained

For waters identified under paragraph (1)(A) where the quality of such waters equals or exceeds levels necessary to protect the designated use for such waters or otherwise required by applicable water quality standards, any effluent limitation based on a total maximum daily load or other waste load allocation established under this section, or any water quality standard established under this section, or any other permitting standard may be revised only if such revision is subject to and consistent with the antidegradation policy established under this section.

(e) Continuing planning process

(1) Each State shall have a continuing planning process approved under paragraph (2) of this subsection which is consistent with this chapter.

(2) Each State shall submit not later than 120 days after October 18, 1972, to the Administrator for his approval a proposed continuing planning process which is consistent with this chapter. Not later than thirty days after the date of submission of such a process the Administrator shall either approve or disapprove such process. The Administrator shall from time to time review each State's approved planning process for the purpose of insuring that such planning process is at all times consistent with this chapter. The Administrator shall not approve any State permit program under subchapter IV of this chapter for any State which does not have an approved continuing planning process under this section.

(3) The Administrator shall approve any continuing planning process submitted to him under this section which will result in plans for all navigable waters within such State, which include, but are not limited to, the following:

(A) effluent limitations and schedules of compliance at least as stringent as those required by [section 1311\(b\)\(1\)](#), [section 1311\(b\)\(2\)](#), [section 1316](#), and [section 1317](#) of this title, and at least as stringent as any requirements contained in any applicable water quality standard in effect under authority of this section;

(B) the incorporation of all elements of any applicable area-wide waste management plans under [section 1288](#) of this title, and applicable basin plans under [section 1289](#) of this title;

(C) total maximum daily load for pollutants in accordance with subsection (d) of this section;

(D) procedures for revision;

(E) adequate authority for intergovernmental cooperation;

(F) adequate implementation, including schedules of compliance, for revised or new water quality standards, under subsection (c) of this section;

(G) controls over the disposition of all residual waste from any water treatment processing;

(H) an inventory and ranking, in order of priority, of needs for construction of waste treatment works required to meet the applicable requirements of [sections 1311](#) and [1312](#) of this title.

(f) Earlier compliance

Nothing in this section shall be construed to affect any effluent limitation, or schedule of compliance required by any State to be implemented prior to the dates set forth in [sections 1311\(b\)\(1\)](#) and [1311\(b\)\(2\)](#) of this title nor to preclude any State from requiring compliance with any effluent limitation or schedule of compliance at dates earlier than such dates.

(g) Heat standards

Water quality standards relating to heat shall be consistent with the requirements of [section 1326](#) of this title.

(h) Thermal water quality standards

For the purposes of this chapter the term “water quality standards” includes thermal water quality standards.

(i) Coastal recreation water quality criteria

(1) Adoption by States

(A) Initial criteria and standards

Not later than 42 months after October 10, 2000, each State having coastal recreation waters shall adopt and submit to the Administrator water quality criteria and standards for the coastal recreation waters of the State for those pathogens and pathogen indicators for which the Administrator has published criteria under [section 1314\(a\)](#) of this title.

(B) New or revised criteria and standards

Not later than 36 months after the date of publication by the Administrator of new or revised water quality criteria under [section 1314\(a\)\(9\)](#) of this title, each State having coastal recreation waters shall adopt and submit to the Administrator new or revised water quality standards for the coastal recreation waters of the State for all pathogens and pathogen indicators to which the new or revised water quality criteria are applicable.

(2) Failure of States to adopt

(A) In general

If a State fails to adopt water quality criteria and standards in accordance with paragraph (1)(A) that are as protective of human health as the criteria for pathogens and pathogen indicators for coastal recreation waters published by the Administrator, the Administrator shall promptly propose regulations for the State setting forth revised or new water quality standards for pathogens and pathogen indicators described in paragraph (1)(A) for coastal recreation waters of the State.

(B) Exception

If the Administrator proposes regulations for a State described in subparagraph (A) under subsection (c)(4)(B) of this section, the Administrator shall publish any revised or new standard under this subsection not later than 42 months after October 10, 2000.

(3) Applicability

Except as expressly provided by this subsection, the requirements and procedures of subsection (c) of this section apply to this subsection, including the requirement in subsection (c)(2)(A) of this section that the criteria protect public health and welfare.

CREDIT(S)

(June 30, 1948, c. 758, Title III, § 303, as added Oct. 18, 1972, Pub.L. 92-500, § 2, 86 Stat. 846; amended Feb. 4, 1987, Pub.L. 100-4, Title III, § 308(d), Title IV, § 404(b), 101 Stat. 39, 68; Oct. 10, 2000, Pub.L. 106-284, § 2, 114 Stat. 870.)

Relevant Notes of Decisions (1)

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Notes of Decisions listed below contain your search terms.

Judicial review

Total maximum daily loads (TMDLs) for pollutants established by the Environmental Protection Agency (EPA) under section 1313 of the Clean Water Act (CWA) did not constitute effluent limitations or other limitations “under section **1311**” and, thus, the Court of Appeals lacked subject-matter jurisdiction for direct review of EPA's approval and establishment of the TMDLs. *Friends of Earth v. U.S. E.P.A.*, C.A.D.C.2003, 333 F.3d 184, 357 U.S.App.D.C. 63, transferred to 346 F.Supp.2d 182, reversed and remanded 446 F.3d 140, 371 U.S.App.D.C. 1, certiorari denied 127 S.Ct. 1121, 549 U.S. 1175, 166 L.Ed.2d 907. [Environmental Law 🔑 186](#); [Environmental Law 🔑 192](#); [Federal Courts 🔑 3908](#)

33 U.S.C.A. § 1313, 33 USCA § 1313

Current through P.L. 114-222. Also includes P.L. 114-224, 114-226, and 114-227.

ATTACHMENT 3

United States Code Annotated

Title 33. Navigation and Navigable Waters (Refs & Annos)

Chapter 26. Water Pollution Prevention and Control (Refs & Annos)

Subchapter III. Standards and Enforcement (Refs & Annos)

33 U.S.C.A. § 1317

§ 1317. Toxic and pretreatment effluent standards

Currentness

(a) Toxic pollutant list; revision; hearing; promulgation of standards; effective date; consultation

(1) On and after December 27, 1977, the list of toxic pollutants or combination of pollutants subject to this chapter shall consist of those toxic pollutants listed in table 1 of Committee Print Numbered 95-30 of the Committee on Public Works and Transportation of the House of Representatives, and the Administrator shall publish, not later than the thirtieth day after December 27, 1977, that list. From time to time thereafter, the Administrator may revise such list and the Administrator is authorized to add to or remove from such list any pollutant. The Administrator in publishing any revised list, including the addition or removal of any pollutant from such list, shall take into account toxicity of the pollutant, its persistence, degradability, the usual or potential presence of the affected organisms in any waters, the importance of the affected organisms, and the nature and extent of the effect of the toxic pollutant on such organisms. A determination of the Administrator under this paragraph shall be final except that if, on judicial review, such determination was based on arbitrary and capricious action of the Administrator, the Administrator shall make a redetermination.

(2) Each toxic pollutant listed in accordance with paragraph (1) of this subsection shall be subject to effluent limitations resulting from the application of the best available technology economically achievable for the applicable category or class of point sources established in accordance with [sections 1311\(b\)\(2\)\(A\)](#) and [1314\(b\)\(2\)](#) of this title. The Administrator, in his discretion, may publish in the Federal Register a proposed effluent standard (which may include a prohibition) establishing requirements for a toxic pollutant which, if an effluent limitation is applicable to a class or category of point sources, shall be applicable to such category or class only if such standard imposes more stringent requirements. Such published effluent standard (or prohibition) shall take into account the toxicity of the pollutant, its persistence, degradability, the usual or potential presence of the affected organisms in any waters, the importance of the affected organisms and the nature and extent of the effect of the toxic pollutant on such organisms, and the extent to which effective control is being or may be achieved under other regulatory authority. The Administrator shall allow a period of not less than sixty days following publication of any such proposed effluent standard (or prohibition) for written comment by interested persons on such proposed standard. In addition, if within thirty days of publication of any such proposed effluent standard (or prohibition) any interested person so requests, the Administrator shall hold a public hearing in connection therewith. Such a public hearing shall provide an opportunity for oral and written presentations, such cross-examination as the Administrator determines is appropriate on disputed issues of material fact, and the transcription of a verbatim record which shall be available to the public. After consideration of such comments and any information and material presented at any public hearing held on such proposed standard or prohibition, the Administrator shall promulgate such standard (or prohibition) with such modification as the Administrator finds are justified. Such promulgation by the Administrator shall be made within two hundred and seventy days after publication of proposed standard (or prohibition). Such standard (or prohibition) shall be final except that if, on judicial review, such standard was not based on substantial evidence, the Administrator shall promulgate a revised standard. Effluent limitations shall be established in accordance with [sections 1311\(b\)\(2\)\(A\)](#) and [1314\(b\)\(2\)](#) of this title for every toxic pollutant referred to in table 1 of Committee Print Numbered 95-30 of the Committee on Public Works and

Transportation of the House of Representatives as soon as practicable after December 27, 1977, but no later than July 1, 1980. Such effluent limitations or effluent standards (or prohibitions) shall be established for every other toxic pollutant listed under paragraph (1) of this subsection as soon as practicable after it is so listed.

(3) Each such effluent standard (or prohibition) shall be reviewed and, if appropriate, revised at least every three years.

(4) Any effluent standard promulgated under this section shall be at that level which the Administrator determines provides an ample margin of safety.

(5) When proposing or promulgating any effluent standard (or prohibition) under this section, the Administrator shall designate the category or categories of sources to which the effluent standard (or prohibition) shall apply. Any disposal of dredged material may be included in such a category of sources after consultation with the Secretary of the Army.

(6) Any effluent standard (or prohibition) established pursuant to this section shall take effect on such date or dates as specified in the order promulgating such standard, but in no case, more than one year from the date of such promulgation. If the Administrator determines that compliance within one year from the date of promulgation is technologically infeasible for a category of sources, the Administrator may establish the effective date of the effluent standard (or prohibition) for such category at the earliest date upon which compliance can be feasibly attained by sources within such category, but in no event more than three years after the date of such promulgation.

(7) Prior to publishing any regulations pursuant to this section the Administrator shall, to the maximum extent practicable within the time provided, consult with appropriate advisory committees, States, independent experts, and Federal departments and agencies.

(b) Pretreatment standards; hearing; promulgation; compliance period; revision; application to State and local laws

(1) The Administrator shall, within one hundred and eighty days after October 18, 1972, and from time to time thereafter, publish proposed regulations establishing pretreatment standards for introduction of pollutants into treatment works (as defined in [section 1292](#) of this title) which are publicly owned for those pollutants which are determined not to be susceptible to treatment by such treatment works or which would interfere with the operation of such treatment works. Not later than ninety days after such publication, and after opportunity for public hearing, the Administrator shall promulgate such pretreatment standards. Pretreatment standards under this subsection shall specify a time for compliance not to exceed three years from the date of promulgation and shall be established to prevent the discharge of any pollutant through treatment works (as defined in [section 1292](#) of this title) which are publicly owned, which pollutant interferes with, passes through, or otherwise is incompatible with such works. If, in the case of any toxic pollutant under subsection (a) of this section introduced by a source into a publicly owned treatment works, the treatment by such works removes all or any part of such toxic pollutant and the discharge from such works does not violate that effluent limitation or standard which would be applicable to such toxic pollutant if it were discharged by such source other than through a publicly owned treatment works, and does not prevent sludge use or disposal by such works in accordance with [section 1345](#) of this title, then the pretreatment requirements for the sources actually discharging such toxic pollutant into such publicly owned treatment works may be revised by the owner or operator of such works to reflect the removal of such toxic pollutant by such works.

(2) The Administrator shall, from time to time, as control technology, processes, operating methods, or other alternatives change, revise such standards following the procedure established by this subsection for promulgation of such standards.

(3) When proposing or promulgating any pretreatment standard under this section, the Administrator shall designate the category or categories of sources to which such standard shall apply.

(4) Nothing in this subsection shall affect any pretreatment requirement established by any State or local law not in conflict with any pretreatment standard established under this subsection.

(c) New sources of pollutants into publicly owned treatment works

In order to insure that any source introducing pollutants into a publicly owned treatment works, which source would be a new source subject to [section 1316](#) of this title if it were to discharge pollutants, will not cause a violation of the effluent limitations established for any such treatment works, the Administrator shall promulgate pretreatment standards for the category of such sources simultaneously with the promulgation of standards of performance under [section 1316](#) of this title for the equivalent category of new sources. Such pretreatment standards shall prevent the discharge of any pollutant into such treatment works, which pollutant may interfere with, pass through, or otherwise be incompatible with such works.

(d) Operation in violation of standards unlawful

After the effective date of any effluent standard or prohibition or pretreatment standard promulgated under this section, it shall be unlawful for any owner or operator of any source to operate any source in violation of any such effluent standard or prohibition or pretreatment standard.

(e) Compliance date extension for innovative pretreatment systems

In the case of any existing facility that proposes to comply with the pretreatment standards of subsection (b) of this section by applying an innovative system that meets the requirements of [section 1311\(k\)](#) of this title, the owner or operator of the publicly owned treatment works receiving the treated effluent from such facility may extend the date for compliance with the applicable pretreatment standard established under this section for a period not to exceed 2 years--

(1) if the Administrator determines that the innovative system has the potential for industrywide application, and

(2) if the Administrator (or the State in consultation with the Administrator, in any case in which the State has a pretreatment program approved by the Administrator)--

(A) determines that the proposed extension will not cause the publicly owned treatment works to be in violation of its permit under [section 1342](#) of this title or of [section 1345](#) of this title or to contribute to such a violation, and

(B) concurs with the proposed extension.

CREDIT(S)

(June 30, 1948, c. 758, Title III, § 307, as added Oct. 18, 1972, Pub.L. 92-500, § 2, 86 Stat. 856; amended Dec. 27, 1977, Pub.L. 95-217, §§ 53(a), (b), 54(a), 91 Stat. 1589-1591; Feb. 4, 1987, Pub.L. 100-4, Title III, § 309(a), 101 Stat. 41.)

[Notes of Decisions \(46\)](#)

33 U.S.C.A. § 1317, 33 USCA § 1317

Current through P.L. 114-229.

End of Document

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ATTACHMENT 4



KeyCite Yellow Flag - Negative Treatment

Proposed Legislation

[United States Code Annotated](#)

[Title 33. Navigation and Navigable Waters \(Refs & Annos\)](#)

[Chapter 26. Water Pollution Prevention and Control \(Refs & Annos\)](#)

[Subchapter IV. Permits and Licenses \(Refs & Annos\)](#)

33 U.S.C.A. § 1342

§ 1342. National pollutant discharge elimination system

Effective: February 7, 2014

[Currentness](#)

(a) Permits for discharge of pollutants

(1) Except as provided in [sections 1328](#) and [1344](#) of this title, the Administrator may, after opportunity for public hearing, issue a permit for the discharge of any pollutant, or combination of pollutants, notwithstanding [section 1311\(a\)](#) of this title, upon condition that such discharge will meet either (A) all applicable requirements under [sections 1311](#), [1312](#), [1316](#), [1317](#), [1318](#), and [1343](#) of this title, or (B) prior to the taking of necessary implementing actions relating to all such requirements, such conditions as the Administrator determines are necessary to carry out the provisions of this chapter.

(2) The Administrator shall prescribe conditions for such permits to assure compliance with the requirements of paragraph (1) of this subsection, including conditions on data and information collection, reporting, and such other requirements as he deems appropriate.

(3) The permit program of the Administrator under paragraph (1) of this subsection, and permits issued thereunder, shall be subject to the same terms, conditions, and requirements as apply to a State permit program and permits issued thereunder under subsection (b) of this section.

(4) All permits for discharges into the navigable waters issued pursuant to [section 407](#) of this title shall be deemed to be permits issued under this subchapter, and permits issued under this subchapter shall be deemed to be permits issued under [section 407](#) of this title, and shall continue in force and effect for their term unless revoked, modified, or suspended in accordance with the provisions of this chapter.

(5) No permit for a discharge into the navigable waters shall be issued under [section 407](#) of this title after October 18, 1972. Each application for a permit under [section 407](#) of this title, pending on October 18, 1972, shall be deemed to be an application for a permit under this section. The Administrator shall authorize a State, which he determines has the capability of administering a permit program which will carry out the objective of this chapter to issue permits for discharges into the navigable waters within the jurisdiction of such State. The Administrator may exercise the authority granted him by the preceding sentence only during the period which begins on October 18, 1972, and ends either on the ninetieth day after the date of the first promulgation of guidelines required by [section 1314\(i\)\(2\)](#) of this title, or the date of approval by the Administrator of a permit program for such State under subsection (b) of this section, whichever date first occurs, and no such authorization to a State shall extend beyond the last day of such period. Each such permit shall

be subject to such conditions as the Administrator determines are necessary to carry out the provisions of this chapter. No such permit shall issue if the Administrator objects to such issuance.

(b) State permit programs

At any time after the promulgation of the guidelines required by [subsection \(i\)\(2\) of section 1314](#) of this title, the Governor of each State desiring to administer its own permit program for discharges into navigable waters within its jurisdiction may submit to the Administrator a full and complete description of the program it proposes to establish and administer under State law or under an interstate compact. In addition, such State shall submit a statement from the attorney general (or the attorney for those State water pollution control agencies which have independent legal counsel), or from the chief legal officer in the case of an interstate agency, that the laws of such State, or the interstate compact, as the case may be, provide adequate authority to carry out the described program. The Administrator shall approve each such submitted program unless he determines that adequate authority does not exist:

(1) To issue permits which--

(A) apply, and insure compliance with, any applicable requirements of [sections 1311](#), [1312](#), [1316](#), [1317](#), and [1343](#) of this title;

(B) are for fixed terms not exceeding five years; and

(C) can be terminated or modified for cause including, but not limited to, the following:

(i) violation of any condition of the permit;

(ii) obtaining a permit by misrepresentation, or failure to disclose fully all relevant facts;

(iii) change in any condition that requires either a temporary or permanent reduction or elimination of the permitted discharge;

(D) control the disposal of pollutants into wells;

(2)(A) To issue permits which apply, and insure compliance with, all applicable requirements of [section 1318](#) of this title; or

(B) To inspect, monitor, enter, and require reports to at least the same extent as required in [section 1318](#) of this title;

(3) To insure that the public, and any other State the waters of which may be affected, receive notice of each application for a permit and to provide an opportunity for public hearing before a ruling on each such application;

- (4) To insure that the Administrator receives notice of each application (including a copy thereof) for a permit;
- (5) To insure that any State (other than the permitting State), whose waters may be affected by the issuance of a permit may submit written recommendations to the permitting State (and the Administrator) with respect to any permit application and, if any part of such written recommendations are not accepted by the permitting State, that the permitting State will notify such affected State (and the Administrator) in writing of its failure to so accept such recommendations together with its reasons for so doing;
- (6) To insure that no permit will be issued if, in the judgment of the Secretary of the Army acting through the Chief of Engineers, after consultation with the Secretary of the department in which the Coast Guard is operating, anchorage and navigation of any of the navigable waters would be substantially impaired thereby;
- (7) To abate violations of the permit or the permit program, including civil and criminal penalties and other ways and means of enforcement;
- (8) To insure that any permit for a discharge from a publicly owned treatment works includes conditions to require the identification in terms of character and volume of pollutants of any significant source introducing pollutants subject to pretreatment standards under [section 1317\(b\)](#) of this title into such works and a program to assure compliance with such pretreatment standards by each such source, in addition to adequate notice to the permitting agency of (A) new introductions into such works of pollutants from any source which would be a new source as defined in [section 1316](#) of this title if such source were discharging pollutants, (B) new introductions of pollutants into such works from a source which would be subject to [section 1311](#) of this title if it were discharging such pollutants, or (C) a substantial change in volume or character of pollutants being introduced into such works by a source introducing pollutants into such works at the time of issuance of the permit. Such notice shall include information on the quality and quantity of effluent to be introduced into such treatment works and any anticipated impact of such change in the quantity or quality of effluent to be discharged from such publicly owned treatment works; and
- (9) To insure that any industrial user of any publicly owned treatment works will comply with [sections 1284\(b\), 1317,](#) and [1318](#) of this title.

(c) Suspension of Federal program upon submission of State program; withdrawal of approval of State program; return of State program to Administrator

- (1) Not later than ninety days after the date on which a State has submitted a program (or revision thereof) pursuant to subsection (b) of this section, the Administrator shall suspend the issuance of permits under subsection (a) of this section as to those discharges subject to such program unless he determines that the State permit program does not meet the requirements of subsection (b) of this section or does not conform to the guidelines issued under [section 1314\(i\)\(2\)](#) of this title. If the Administrator so determines, he shall notify the State of any revisions or modifications necessary to conform to such requirements or guidelines.
- (2) Any State permit program under this section shall at all times be in accordance with this section and guidelines promulgated pursuant to [section 1314\(i\)\(2\)](#) of this title.

(3) Whenever the Administrator determines after public hearing that a State is not administering a program approved under this section in accordance with requirements of this section, he shall so notify the State and, if appropriate corrective action is not taken within a reasonable time, not to exceed ninety days, the Administrator shall withdraw approval of such program. The Administrator shall not withdraw approval of any such program unless he shall first have notified the State, and made public, in writing, the reasons for such withdrawal.

(4) Limitations on partial permit program returns and withdrawals

A State may return to the Administrator administration, and the Administrator may withdraw under paragraph (3) of this subsection approval, of--

(A) a State partial permit program approved under subsection (n)(3) of this section only if the entire permit program being administered by the State department or agency at the time is returned or withdrawn; and

(B) a State partial permit program approved under subsection (n)(4) of this section only if an entire phased component of the permit program being administered by the State at the time is returned or withdrawn.

(d) Notification of Administrator

(1) Each State shall transmit to the Administrator a copy of each permit application received by such State and provide notice to the Administrator of every action related to the consideration of such permit application, including each permit proposed to be issued by such State.

(2) No permit shall issue (A) if the Administrator within ninety days of the date of his notification under subsection (b)(5) of this section objects in writing to the issuance of such permit, or (B) if the Administrator within ninety days of the date of transmittal of the proposed permit by the State objects in writing to the issuance of such permit as being outside the guidelines and requirements of this chapter. Whenever the Administrator objects to the issuance of a permit under this paragraph such written objection shall contain a statement of the reasons for such objection and the effluent limitations and conditions which such permit would include if it were issued by the Administrator.

(3) The Administrator may, as to any permit application, waive paragraph (2) of this subsection.

(4) In any case where, after December 27, 1977, the Administrator, pursuant to paragraph (2) of this subsection, objects to the issuance of a permit, on request of the State, a public hearing shall be held by the Administrator on such objection. If the State does not resubmit such permit revised to meet such objection within 30 days after completion of the hearing, or, if no hearing is requested within 90 days after the date of such objection, the Administrator may issue the permit pursuant to subsection (a) of this section for such source in accordance with the guidelines and requirements of this chapter.

(e) Waiver of notification requirement

In accordance with guidelines promulgated pursuant to [subsection \(i\)\(2\) of section 1314](#) of this title, the Administrator is authorized to waive the requirements of subsection (d) of this section at the time he approves a program pursuant to

subsection (b) of this section for any category (including any class, type, or size within such category) of point sources within the State submitting such program.

(f) Point source categories

The Administrator shall promulgate regulations establishing categories of point sources which he determines shall not be subject to the requirements of subsection (d) of this section in any State with a program approved pursuant to subsection (b) of this section. The Administrator may distinguish among classes, types, and sizes within any category of point sources.

(g) Other regulations for safe transportation, handling, carriage, storage, and stowage of pollutants

Any permit issued under this section for the discharge of pollutants into the navigable waters from a vessel or other floating craft shall be subject to any applicable regulations promulgated by the Secretary of the department in which the Coast Guard is operating, establishing specifications for safe transportation, handling, carriage, storage, and stowage of pollutants.

(h) Violation of permit conditions; restriction or prohibition upon introduction of pollutant by source not previously utilizing treatment works

In the event any condition of a permit for discharges from a treatment works (as defined in [section 1292](#) of this title) which is publicly owned is violated, a State with a program approved under subsection (b) of this section or the Administrator, where no State program is approved or where the Administrator determines pursuant to [section 1319\(a\)](#) of this title that a State with an approved program has not commenced appropriate enforcement action with respect to such permit, may proceed in a court of competent jurisdiction to restrict or prohibit the introduction of any pollutant into such treatment works by a source not utilizing such treatment works prior to the finding that such condition was violated.

(i) Federal enforcement not limited

Nothing in this section shall be construed to limit the authority of the Administrator to take action pursuant to [section 1319](#) of this title.

(j) Public information

A copy of each permit application and each permit issued under this section shall be available to the public. Such permit application or permit, or portion thereof, shall further be available on request for the purpose of reproduction.

(k) Compliance with permits

Compliance with a permit issued pursuant to this section shall be deemed compliance, for purposes of [sections 1319](#) and [1365](#) of this title, with [sections 1311](#), [1312](#), [1316](#), [1317](#), and [1343](#) of this title, except any standard imposed under [section 1317](#) of this title for a toxic pollutant injurious to human health. Until December 31, 1974, in any case where a permit for discharge has been applied for pursuant to this section, but final administrative disposition of such application has not been made, such discharge shall not be a violation of (1) [section 1311](#), [1316](#), or [1342](#) of this title, or (2) [section 407](#) of this title, unless the Administrator or other plaintiff proves that final administrative disposition of such application

has not been made because of the failure of the applicant to furnish information reasonably required or requested in order to process the application. For the 180-day period beginning on October 18, 1972, in the case of any point source discharging any pollutant or combination of pollutants immediately prior to such date which source is not subject to [section 407](#) of this title, the discharge by such source shall not be a violation of this chapter if such a source applies for a permit for discharge pursuant to this section within such 180-day period.

(l) Limitation on permit requirement

(1) Agricultural return flows

The Administrator shall not require a permit under this section for discharges composed entirely of return flows from irrigated agriculture, nor shall the Administrator directly or indirectly, require any State to require such a permit.

(2) Stormwater runoff from oil, gas, and mining operations

The Administrator shall not require a permit under this section, nor shall the Administrator directly or indirectly require any State to require a permit, for discharges of stormwater runoff from mining operations or oil and gas exploration, production, processing, or treatment operations or transmission facilities, composed entirely of flows which are from conveyances or systems of conveyances (including but not limited to pipes, conduits, ditches, and channels) used for collecting and conveying precipitation runoff and which are not contaminated by contact with, or do not come into contact with, any overburden, raw material, intermediate products, finished product, byproduct, or waste products located on the site of such operations.

(3) Silvicultural activities

(A) NPDES permit requirements for silvicultural activities

The Administrator shall not require a permit under this section nor directly or indirectly require any State to require a permit under this section for a discharge from runoff resulting from the conduct of the following silviculture activities conducted in accordance with standard industry practice: nursery operations, site preparation, reforestation and subsequent cultural treatment, thinning, prescribed burning, pest and fire control, harvesting operations, surface drainage, or road construction and maintenance.

(B) Other requirements

Nothing in this paragraph exempts a discharge from silvicultural activity from any permitting requirement under [section 1344](#) of this title, existing permitting requirements under section 1342 of this title, or from any other federal law.

(C) The authorization provided in Section ¹ 1365(a) of this title does not apply to any non-permitting program established under 1342(p)(6) ² of this title for the silviculture activities listed in 1342(l)(3)(A) ³ of this title, or to any other limitations that might be deemed to apply to the silviculture activities listed in 1342(l)(3)(A) ³ of this title.

(m) Additional pretreatment of conventional pollutants not required

To the extent a treatment works (as defined in [section 1292](#) of this title) which is publicly owned is not meeting the requirements of a permit issued under this section for such treatment works as a result of inadequate design or operation of such treatment works, the Administrator, in issuing a permit under this section, shall not require pretreatment by a person introducing conventional pollutants identified pursuant to [section 1314\(a\)\(4\)](#) of this title into such treatment works other than pretreatment required to assure compliance with pretreatment standards under subsection (b)(8) of this section and [section 1317\(b\)\(1\)](#) of this title. Nothing in this subsection shall affect the Administrator's authority under [sections 1317](#) and [1319](#) of this title, affect State and local authority under [sections 1317\(b\)\(4\)](#) and [1370](#) of this title, relieve such treatment works of its obligations to meet requirements established under this chapter, or otherwise preclude such works from pursuing whatever feasible options are available to meet its responsibility to comply with its permit under this section.

(n) Partial permit program

(1) State submission

The Governor of a State may submit under subsection (b) of this section a permit program for a portion of the discharges into the navigable waters in such State.

(2) Minimum coverage

A partial permit program under this subsection shall cover, at a minimum, administration of a major category of the discharges into the navigable waters of the State or a major component of the permit program required by subsection (b) of this section.

(3) Approval of major category partial permit programs

The Administrator may approve a partial permit program covering administration of a major category of discharges under this subsection if--

(A) such program represents a complete permit program and covers all of the discharges under the jurisdiction of a department or agency of the State; and

(B) the Administrator determines that the partial program represents a significant and identifiable part of the State program required by subsection (b) of this section.

(4) Approval of major component partial permit programs

The Administrator may approve under this subsection a partial and phased permit program covering administration of a major component (including discharge categories) of a State permit program required by subsection (b) of this section if--

(A) the Administrator determines that the partial program represents a significant and identifiable part of the State program required by subsection (b) of this section; and

(B) the State submits, and the Administrator approves, a plan for the State to assume administration by phases of the remainder of the State program required by subsection (b) of this section by a specified date not more than 5 years after submission of the partial program under this subsection and agrees to make all reasonable efforts to assume such administration by such date.

(o) Anti-backsliding

(1) General prohibition

In the case of effluent limitations established on the basis of subsection (a)(1)(B) of this section, a permit may not be renewed, reissued, or modified on the basis of effluent guidelines promulgated under [section 1314\(b\)](#) of this title subsequent to the original issuance of such permit, to contain effluent limitations which are less stringent than the comparable effluent limitations in the previous permit. In the case of effluent limitations established on the basis of [section 1311\(b\)\(1\)\(C\)](#) or [section 1313\(d\)](#) or (e) of this title, a permit may not be renewed, reissued, or modified to contain effluent limitations which are less stringent than the comparable effluent limitations in the previous permit except in compliance with [section 1313\(d\)\(4\)](#) of this title.

(2) Exceptions

A permit with respect to which paragraph (1) applies may be renewed, reissued, or modified to contain a less stringent effluent limitation applicable to a pollutant if--

(A) material and substantial alterations or additions to the permitted facility occurred after permit issuance which justify the application of a less stringent effluent limitation;

(B)(i) information is available which was not available at the time of permit issuance (other than revised regulations, guidance, or test methods) and which would have justified the application of a less stringent effluent limitation at the time of permit issuance; or

(ii) the Administrator determines that technical mistakes or mistaken interpretations of law were made in issuing the permit under subsection (a)(1)(B) of this section;

(C) a less stringent effluent limitation is necessary because of events over which the permittee has no control and for which there is no reasonably available remedy;

(D) the permittee has received a permit modification under [section 1311\(c\)](#), [1311\(g\)](#), [1311\(h\)](#), [1311\(i\)](#), [1311\(k\)](#), [1311\(n\)](#), or [1326\(a\)](#) of this title; or

(E) the permittee has installed the treatment facilities required to meet the effluent limitations in the previous permit and has properly operated and maintained the facilities but has nevertheless been unable to achieve the previous effluent limitations, in which case the limitations in the reviewed, reissued, or modified permit may reflect the level of pollutant control actually achieved (but shall not be less stringent than required by effluent guidelines in effect at the time of permit renewal, reissuance, or modification).

Subparagraph (B) shall not apply to any revised waste load allocations or any alternative grounds for translating water quality standards into effluent limitations, except where the cumulative effect of such revised allocations results in a decrease in the amount of pollutants discharged into the concerned waters, and such revised allocations are not the result of a discharger eliminating or substantially reducing its discharge of pollutants due to complying with the requirements of this chapter or for reasons otherwise unrelated to water quality.

(3) Limitations

In no event may a permit with respect to which paragraph (1) applies be renewed, reissued, or modified to contain an effluent limitation which is less stringent than required by effluent guidelines in effect at the time the permit is renewed, reissued, or modified. In no event may such a permit to discharge into waters be renewed, reissued, or modified to contain a less stringent effluent limitation if the implementation of such limitation would result in a violation of a water quality standard under [section 1313](#) of this title applicable to such waters.

(p) Municipal and industrial stormwater discharges

(1) General rule

Prior to October 1, 1994, the Administrator or the State (in the case of a permit program approved under this section) shall not require a permit under this section for discharges composed entirely of stormwater.

(2) Exceptions

Paragraph (1) shall not apply with respect to the following stormwater discharges:

(A) A discharge with respect to which a permit has been issued under this section before February 4, 1987.

(B) A discharge associated with industrial activity.

(C) A discharge from a municipal separate storm sewer system serving a population of 250,000 or more.

(D) A discharge from a municipal separate storm sewer system serving a population of 100,000 or more but less than 250,000.

(E) A discharge for which the Administrator or the State, as the case may be, determines that the stormwater discharge contributes to a violation of a water quality standard or is a significant contributor of pollutants to waters of the United States.

(3) Permit requirements

(A) Industrial discharges

Permits for discharges associated with industrial activity shall meet all applicable provisions of this section and [section 1311](#) of this title.

(B) Municipal discharge

Permits for discharges from municipal storm sewers--

(i) may be issued on a system- or jurisdiction-wide basis;

(ii) shall include a requirement to effectively prohibit non-stormwater discharges into the storm sewers; and

(iii) shall require controls to reduce the discharge of pollutants to the maximum extent practicable, including management practices, control techniques and system, design and engineering methods, and such other provisions as the Administrator or the State determines appropriate for the control of such pollutants.

(4) Permit application requirements

(A) Industrial and large municipal discharges

Not later than 2 years after February 4, 1987, the Administrator shall establish regulations setting forth the permit application requirements for stormwater discharges described in paragraphs (2)(B) and (2)(C). Applications for permits for such discharges shall be filed no later than 3 years after February 4, 1987. Not later than 4 years after February 4, 1987, the Administrator or the State, as the case may be, shall issue or deny each such permit. Any such permit shall provide for compliance as expeditiously as practicable, but in no event later than 3 years after the date of issuance of such permit.

(B) Other municipal discharges

Not later than 4 years after February 4, 1987, the Administrator shall establish regulations setting forth the permit application requirements for stormwater discharges described in paragraph (2)(D). Applications for permits for such discharges shall be filed no later than 5 years after February 4, 1987. Not later than 6 years after February 4, 1987, the Administrator or the State, as the case may be, shall issue or deny each such permit. Any such permit shall provide for compliance as expeditiously as practicable, but in no event later than 3 years after the date of issuance of such permit.

(5) Studies

The Administrator, in consultation with the States, shall conduct a study for the purposes of--

(A) identifying those stormwater discharges or classes of stormwater discharges for which permits are not required pursuant to paragraphs (1) and (2) of this subsection;

(B) determining, to the maximum extent practicable, the nature and extent of pollutants in such discharges; and

(C) establishing procedures and methods to control stormwater discharges to the extent necessary to mitigate impacts on water quality.

Not later than October 1, 1988, the Administrator shall submit to Congress a report on the results of the study described in subparagraphs (A) and (B). Not later than October 1, 1989, the Administrator shall submit to Congress a report on the results of the study described in subparagraph (C).

(6) Regulations

Not later than October 1, 1993, the Administrator, in consultation with State and local officials, shall issue regulations (based on the results of the studies conducted under paragraph (5)) which designate stormwater discharges, other than those discharges described in paragraph (2), to be regulated to protect water quality and shall establish a comprehensive program to regulate such designated sources. The program shall, at a minimum, (A) establish priorities, (B) establish requirements for State stormwater management programs, and (C) establish expeditious deadlines. The program may include performance standards, guidelines, guidance, and management practices and treatment requirements, as appropriate.

(q) Combined sewer overflows

(1) Requirement for permits, orders, and decrees

Each permit, order, or decree issued pursuant to this chapter after December 21, 2000 for a discharge from a municipal combined storm and sanitary sewer shall conform to the Combined Sewer Overflow Control Policy signed by the Administrator on April 11, 1994 (in this subsection referred to as the “CSO control policy”).

(2) Water quality and designated use review guidance

Not later than July 31, 2001, and after providing notice and opportunity for public comment, the Administrator shall issue guidance to facilitate the conduct of water quality and designated use reviews for municipal combined sewer overflow receiving waters.

(3) Report

Not later than September 1, 2001, the Administrator shall transmit to Congress a report on the progress made by the Environmental Protection Agency, States, and municipalities in implementing and enforcing the CSO control policy.

(r) Discharges incidental to the normal operation of recreational vessels

No permit shall be required under this chapter by the Administrator (or a State, in the case of a permit program approved under subsection (b)) for the discharge of any graywater, bilge water, cooling water, weather deck runoff, oil water separator effluent, or effluent from properly functioning marine engines, or any other discharge that is incidental to the normal operation of a vessel, if the discharge is from a recreational vessel.

CREDIT(S)

(June 30, 1948, c. 758, Title IV, § 402, as added Pub.L. 92-500, § 2, Oct. 18, 1972, 86 Stat. 880; amended [Pub.L. 95-217](#), §§ 33(c), 50, 54(c)(1), 65, 66, Dec. 27, 1977, 91 Stat. 1577, 1588, 1591, 1599, 1600; [Pub.L. 100-4, Title IV, §§ 401 to 404\(a\)](#), (c), formerly (d), 405, Feb. 4, 1987, 101 Stat. 65 to 67, 69; [Pub.L. 102-580, Title III, § 364](#), Oct. 31, 1992, 106 Stat. 4862; [Pub.L. 104-66, Title II, § 2021\(e\)\(2\)](#), Dec. 21, 1995, 109 Stat. 727; [Pub.L. 106-554](#), § 1(a)(4) [Div. B, Title I, § 112(a)], Dec. 21, 2000, 114 Stat. 2763, 2763A-224; [Pub.L. 110-288](#), § 2, July 29, 2008, 122 Stat. 2650; [Pub.L. 113-79, Title XII, § 12313](#), Feb. 7, 2014, 128 Stat. 992.)

CROSS REFERENCES

Illegality of pollutant discharges except in compliance with this section, see [33 USCA § 1311](#).

RESEARCH REFERENCES

ALR Library

[53 ALR, Fed. 481](#), Criminal Proceedings, Under § 309(C)(1, 3) of the Federal Water Pollution Control Act ([33 U.S.C.A. § 1319\(C\)\(1, 3\)](#)), Based on Violation of § 301(A) of the Act ([33 U.S.C.A. § 1311\(A\)](#)), Prohibiting Discharge...

Forms

[Federal Procedural Forms § 50:214.50](#), Complaint in District Court--For Order Requiring Repeal of [40 C.F.R. § 122.3\(H\)](#) as Ultra Vires to the Clean Water Act [[40 C.F.R. § 122.3](#); [33 U.S.C.A. §§ 1251, 1311](#), 1342, 1362; [5 U.S.C.A. §§ 551...](#)]

Relevant Notes of Decisions (2)

[View all 240](#)

Notes of Decisions listed below contain your search terms.

FEDERAL PERMITS

Discretion of Administrator, federal permits

Use of word “may” in this section providing that the Administrator may issue permit for discharge of any pollutant means only that the Administrator has the discretion either to issue permit or to leave pollutant discharger subject to total proscription of section [1311](#) of this title making discharge of any pollutant by any person unlawful except as provided in section [1311](#) of this title. [Natural Resources Defense Council, Inc. v. Costle, C.A.D.C.1977, 568 F.2d 1369, 186 U.S.App.D.C. 147. Environmental Law 🔑 196](#)

Form and content of permit, federal permits

This chapter merely requires that point of discharge permits be in compliance with section [1311](#) of this title and as a result the use of area or general permits is allowed. [Natural Resources Defense Council, Inc. v. Costle, C.A.D.C.1977, 568 F.2d 1369, 186 U.S.App.D.C. 147. Environmental Law 🔑 196](#)

Footnotes

1 So in original. Probably should not be capitalized.

2 So in original. Probably should read “section 1342(p)(6)”.

3 So in original. Probably should read “section 1342(l)(3)(A)”.


33 U.S.C.A. § 1342, 33 USCA § 1342

Current through P.L. 114-222. Also includes P.L. 114-224, 114-226, and 114-227.

End of Document

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ATTACHMENT 5

 KeyCite Yellow Flag - Negative Treatment
Proposed Legislation

[United States Code Annotated](#)
[Title 33. Navigation and Navigable Waters \(Refs & Annos\)](#)
[Chapter 29. Deepwater Ports \(Refs & Annos\)](#)

33 U.S.C.A. § 1502

§ 1502. Definitions

Effective: December 20, 2012

[Currentness](#)

As used in this chapter, unless the context otherwise requires, the term--

- (1) “adjacent coastal State” means any coastal State which (A) would be directly connected by pipeline to a deepwater port, as proposed in an application; (B) would be located within 15 miles of any such proposed deepwater port; or (C) is designated by the Secretary in accordance with [section 1508\(a\)\(2\)](#) of this title;
- (2) “affiliate” means any entity owned or controlled by, any person who owns or controls, or any entity which is under common ownership or control with an applicant, licensee, or any person required to be disclosed pursuant to [section 1504\(c\)\(2\)\(A\) or \(B\)](#) of this title;
- (3) “application” means an application submitted under this chapter for a license for the ownership, construction, and operation of a deepwater port;
- (4) “citizen of the United States” means any person who is a United States citizen by law, birth, or naturalization, any State, any agency of a State or a group of States, or any corporation, partnership, or association organized under the laws of any State which has as its president or other executive officer and as its chairman of the board of directors, or holder of a similar office, a person who is a United States citizen by law, birth or naturalization and which has no more of its directors who are not United States citizens by law, birth or naturalization than constitute a minority of the number required for a quorum necessary to conduct the business of the board;
- (5) “coastal environment” means the navigable waters (including the lands therein and thereunder) and the adjacent shorelines including ¹ waters therein and thereunder). The term includes transitional and intertidal areas, bays, lagoons, salt marshes, estuaries, and beaches; the fish, wildlife and other living resources thereof; and the recreational and scenic values of such lands, waters and resources;
- (6) “coastal State” means any State of the United States in or bordering on the Atlantic, Pacific, or Arctic Oceans, or the Gulf of Mexico;

(7) “construction” means the supervising, inspection, actual building, and all other activities incidental to the building, repairing, or expanding of a deepwater port or any of its components, including, but not limited to, pile driving and bulkheading, and alterations, modifications, or additions to the deepwater port;

(8) “control” means the power, directly or indirectly, to determine the policy, business practices, or decisionmaking process of another person, whether by stock or other ownership interest, by representation on a board of directors or similar body, by contract or other agreement with stockholders or others, or otherwise;

(9) “deepwater port”--

(A) means any fixed or floating manmade structure other than a vessel, or any group of such structures, that are located beyond State seaward boundaries and that are used or intended for use as a port or terminal for the transportation, storage, or further handling of oil or natural gas for transportation to or from any State, except as otherwise provided in [section 1522](#) of this title, and for other uses not inconsistent with the purposes of this chapter, including transportation of oil or natural gas from the United States outer continental shelf;

(B) includes all components and equipment, including pipelines, pumping stations, service platforms, buoys, mooring lines, and similar facilities to the extent they are located seaward of the high water mark;

(C) in the case of a structure used or intended for such use with respect to natural gas, includes all components and equipment, including pipelines, pumping or compressor stations, service platforms, buoys, mooring lines, and similar facilities that are proposed or approved for construction and operation as part of a deepwater port, to the extent that they are located seaward of the high water mark and do not include interconnecting facilities; and

(D) shall be considered a “new source” for purposes of the Clean Air Act ([42 U.S.C. 7401 et seq.](#)), and the Federal Water Pollution Control Act ([33 U.S.C. 1251 et seq.](#));

(10) “Governor” means the Governor of a State or the person designated by State law to exercise the powers granted to the Governor pursuant to this chapter;

(11) “licensee” means a citizen of the United States holding a valid license for the ownership, construction, and operation of a deepwater port that was issued, transferred, or renewed pursuant to this chapter;

(12) “marine environment” includes the coastal environment, waters of the contiguous zone, and waters of the high seas; the fish, wildlife, and other living resources of such waters; and the recreational and scenic values of such waters and resources;

(13) “natural gas” means either natural gas unmixed, or any mixture of natural or artificial gas, including compressed or liquefied natural gas, natural gas liquids, liquefied petroleum gas, and condensate recovered from natural gas;

(14) “oil” means petroleum, crude oil, and any substance refined from petroleum or crude oil;

(15) “person” includes an individual, a public or private corporation, a partnership or other association, or a government entity;

(16) “safety zone” means the safety zone established around a deepwater port as determined by the Secretary in accordance with [section 1509\(d\)](#) of this title;

(17) “Secretary” means the Secretary of Transportation;

(18) “State” includes each of the States of the United States, the District of Columbia, the Commonwealth of Puerto Rico, and the territories and possessions of the United States; and

(19) “vessel” means every description of watercraft or other artificial contrivance used as a means of transportation on or through the water.

CREDIT(S)

([Pub.L. 93-627](#), § 3, Jan. 3, 1975, 88 Stat. 2127; [Pub.L. 98-419](#), § 2(a), Sept. 25, 1984, 98 Stat. 1607; [Pub.L. 104-324](#), Title V, § 503, Oct. 19, 1996, 110 Stat. 3926; [Pub.L. 107-295](#), Title I, § 106(b), Nov. 25, 2002, 116 Stat. 2086; [Pub.L. 109-58](#), Title III, § 321(b), Aug. 8, 2005, 119 Stat. 694; [Pub.L. 112-213](#), Title III, § 312, Dec. 20, 2012, 126 Stat. 1569.)

[Notes of Decisions \(1\)](#)

Footnotes

¹ So in original. Probably should be preceded by an opening parenthesis.

33 U.S.C.A. § 1502, 33 USCA § 1502

Current through P.L. 114-222. Also includes P.L. 114-224, 114-226, and 114-227.

ATTACHMENT 6



KeyCite Yellow Flag - Negative Treatment

Unconstitutional or Preempted Prior Version Held Invalid [Natural Resources Defense Council v. U.S. E.P.A.](#), 9th Cir., May 23, 2008

[Code of Federal Regulations](#)

[Title 40. Protection of Environment](#)

[Chapter I. Environmental Protection Agency \(Refs & Annos\)](#)

[Subchapter D. Water Programs](#)

[Part 122. EPA Administered Permit Programs: The National Pollutant Discharge Elimination System \(Refs & Annos\)](#)

[Subpart B. Permit Application and Special NPDES Program Requirements](#)

40 C.F.R. § 122.26

§ 122.26 Storm water discharges (applicable to State NPDES programs, see § 123.25).

Effective: December 21, 2015

[Currentness](#)

<For statute(s) affecting validity, see: The Clean Water Act, [33 USCA § 1251 et seq.](#)>

(a) Permit requirement.

(1) Prior to October 1, 1994, discharges composed entirely of storm water shall not be required to obtain a NPDES permit except:

(i) A discharge with respect to which a permit has been issued prior to February 4, 1987;

(ii) A discharge associated with industrial activity (see § 122.26(a)(4));

(iii) A discharge from a large municipal separate storm sewer system;

(iv) A discharge from a medium municipal separate storm sewer system;

(v) A discharge which the Director, or in States with approved NPDES programs, either the Director or the EPA Regional Administrator, determines to contribute to a violation of a water quality standard or is a significant contributor of pollutants to waters of the United States. This designation may include a discharge from any conveyance or system of conveyances used for collecting and conveying storm water runoff or a system of discharges from municipal separate storm sewers, except for those discharges from conveyances which do not require a permit under paragraph (a)(2) of this section or agricultural storm water runoff which is exempted from the definition of point source at [§ 122.2](#).

The Director may designate discharges from municipal separate storm sewers on a system-wide or jurisdiction-wide basis. In making this determination the Director may consider the following factors:

- (A) The location of the discharge with respect to waters of the United States as defined at [40 CFR 122.2](#).
- (B) The size of the discharge;
- (C) The quantity and nature of the pollutants discharged to waters of the United States; and
- (D) Other relevant factors.

(2) The Director may not require a permit for discharges of storm water runoff from the following:

(i) Mining operations composed entirely of flows which are from conveyances or systems of conveyances (including but not limited to pipes, conduits, ditches, and channels) used for collecting and conveying precipitation runoff and which are not contaminated by contact with or that have not come into contact with, any overburden, raw material, intermediate products, finished product, byproduct, or waste products located on the site of such operations, except in accordance with paragraph (c)(1)(iv) of this section.

(ii) All field activities or operations associated with oil and gas exploration, production, processing, or treatment operations or transmission facilities, including activities necessary to prepare a site for drilling and for the movement and placement of drilling equipment, whether or not such field activities or operations may be considered to be construction activities, except in accordance with paragraph (c)(1)(iii) of this section. Discharges of sediment from construction activities associated with oil and gas exploration, production, processing, or treatment operations or transmission facilities are not subject to the provisions of paragraph (c)(1)(iii)(C) of this section.

Note to paragraph (a)(2)(ii): EPA encourages operators of oil and gas field activities or operations to implement and maintain Best Management Practices (BMPs) to minimize discharges of pollutants, including sediment, in storm water both during and after construction activities to help ensure protection of surface water quality during storm events. Appropriate controls would be those suitable to the site conditions and consistent with generally accepted engineering design criteria and manufacturer specifications. Selection of BMPs could also be affected by seasonal or climate conditions.

(3) Large and medium municipal separate storm sewer systems.

(i) Permits must be obtained for all discharges from large and medium municipal separate storm sewer systems.

(ii) The Director may either issue one system-wide permit covering all discharges from municipal separate storm sewers within a large or medium municipal storm sewer system or issue distinct permits for appropriate categories of discharges within a large or medium municipal separate storm sewer system including, but not limited to: all discharges owned or operated by the same municipality; located within the same jurisdiction; all discharges within a system that discharge to the same watershed; discharges within a system that are similar in nature; or for individual discharges from municipal separate storm sewers within the system.

(iii) The operator of a discharge from a municipal separate storm sewer which is part of a large or medium municipal separate storm sewer system must either:

(A) Participate in a permit application (to be a permittee or a co-permittee) with one or more other operators of discharges from the large or medium municipal storm sewer system which covers all, or a portion of all, discharges from the municipal separate storm sewer system;

(B) Submit a distinct permit application which only covers discharges from the municipal separate storm sewers for which the operator is responsible; or

(C) A regional authority may be responsible for submitting a permit application under the following guidelines:

(1) The regional authority together with co-applicants shall have authority over a storm water management program that is in existence, or shall be in existence at the time part 1 of the application is due;

(2) The permit applicant or co-applicants shall establish their ability to make a timely submission of part 1 and part 2 of the municipal application;

(3) Each of the operators of municipal separate storm sewers within the systems described in paragraphs (b)(4)(i), (ii), and (iii) or (b)(7)(i), (ii), and (iii) of this section, that are under the purview of the designated regional authority, shall comply with the application requirements of paragraph (d) of this section.

(iv) One permit application may be submitted for all or a portion of all municipal separate storm sewers within adjacent or interconnected large or medium municipal separate storm sewer systems. The Director may issue one system-wide permit covering all, or a portion of all municipal separate storm sewers in adjacent or interconnected large or medium municipal separate storm sewer systems.

(v) Permits for all or a portion of all discharges from large or medium municipal separate storm sewer systems that are issued on a system-wide, jurisdiction-wide, watershed or other basis may specify different conditions relating to different discharges covered by the permit, including different management programs for different drainage areas which contribute storm water to the system.

(vi) Co-permittees need only comply with permit conditions relating to discharges from the municipal separate storm sewers for which they are operators.

(4) Discharges through large and medium municipal separate storm sewer systems. In addition to meeting the requirements of paragraph (c) of this section, an operator of a storm water discharge associated with industrial activity which discharges through a large or medium municipal separate storm sewer system shall submit, to the operator of the municipal separate storm sewer system receiving the discharge no later than May 15, 1991, or 180 days prior to commencing such discharge: the name of the facility; a contact person and phone number; the

location of the discharge; a description, including Standard Industrial Classification, which best reflects the principal products or services provided by each facility; and any existing NPDES permit number.

(5) Other municipal separate storm sewers. The Director may issue permits for municipal separate storm sewers that are designated under paragraph (a)(1)(v) of this section on a system-wide basis, jurisdiction-wide basis, watershed basis or other appropriate basis, or may issue permits for individual discharges.

(6) Non-municipal separate storm sewers. For storm water discharges associated with industrial activity from point sources which discharge through a non-municipal or non-publicly owned separate storm sewer system, the Director, in his discretion, may issue: a single NPDES permit, with each discharger a co-permittee to a permit issued to the operator of the portion of the system that discharges into waters of the United States; or, individual permits to each discharger of storm water associated with industrial activity through the non-municipal conveyance system.

(i) All storm water discharges associated with industrial activity that discharge through a storm water discharge system that is not a municipal separate storm sewer must be covered by an individual permit, or a permit issued to the operator of the portion of the system that discharges to waters of the United States, with each discharger to the non-municipal conveyance a co-permittee to that permit.

(ii) Where there is more than one operator of a single system of such conveyances, all operators of storm water discharges associated with industrial activity must submit applications.

(iii) Any permit covering more than one operator shall identify the effluent limitations, or other permit conditions, if any, that apply to each operator.

(7) Combined sewer systems. Conveyances that discharge storm water runoff combined with municipal sewage are point sources that must obtain NPDES permits in accordance with the procedures of § 122.21 and are not subject to the provisions of this section.

(8) Whether a discharge from a municipal separate storm sewer is or is not subject to regulation under this section shall have no bearing on whether the owner or operator of the discharge is eligible for funding under title II, title III or title VI of the Clean Water Act. See 40 CFR part 35, subpart I, appendix A(b)H.2.j.

(9)(i) On and after October 1, 1994, for discharges composed entirely of storm water, that are not required by paragraph (a)(1) of this section to obtain a permit, operators shall be required to obtain a NPDES permit only if:

(A) The discharge is from a small MS4 required to be regulated pursuant to § 122.32;

(B) The discharge is a storm water discharge associated with small construction activity pursuant to paragraph (b)(15) of this section;

(C) The Director, or in States with approved NPDES programs either the Director or the EPA Regional Administrator, determines that storm water controls are needed for the discharge based on wasteload allocations that are part of “total maximum daily loads” (TMDLs) that address the pollutant(s) of concern; or

(D) The Director, or in States with approved NPDES programs either the Director or the EPA Regional Administrator, determines that the discharge, or category of discharges within a geographic area, contributes to a violation of a water quality standard or is a significant contributor of pollutants to waters of the United States.

(ii) Operators of small MS4s designated pursuant to paragraphs (a)(9)(i)(A), (a)(9)(i)(C), and (a)(9)(i)(D) of this section shall seek coverage under an NPDES permit in accordance with §§ 122.33 through 122.35. Operators of non-municipal sources designated pursuant to paragraphs (a)(9)(i)(B), (a)(9)(i)(C), and (a)(9)(i)(D) of this section shall seek coverage under an NPDES permit in accordance with paragraph (c)(1) of this section.

(iii) Operators of storm water discharges designated pursuant to paragraphs (a)(9)(i)(C) and (a)(9)(i)(D) of this section shall apply to the Director for a permit within 180 days of receipt of notice, unless permission for a later date is granted by the Director (see § 124.52(c) of this chapter).

(b) Definitions.

(1) Co-permittee means a permittee to a NPDES permit that is only responsible for permit conditions relating to the discharge for which it is operator.

(2) Illicit discharge means any discharge to a municipal separate storm sewer that is not composed entirely of storm water except discharges pursuant to a NPDES permit (other than the NPDES permit for discharges from the municipal separate storm sewer) and discharges resulting from fire fighting activities.

(3) Incorporated place means the District of Columbia, or a city, town, township, or village that is incorporated under the laws of the State in which it is located.

(4) Large municipal separate storm sewer system means all municipal separate storm sewers that are either:

(i) Located in an incorporated place with a population of 250,000 or more as determined by the 1990 Decennial Census by the Bureau of the Census (Appendix F of this part); or

(ii) Located in the counties listed in appendix H, except municipal separate storm sewers that are located in the incorporated places, townships or towns within such counties; or

(iii) Owned or operated by a municipality other than those described in paragraph (b)(4)(i) or (ii) of this section and that are designated by the Director as part of the large or medium municipal separate storm sewer system due to the interrelationship between the discharges of the designated storm sewer and the discharges from municipal

separate storm sewers described under paragraph (b)(4)(i) or (ii) of this section. In making this determination the Director may consider the following factors:

(A) Physical interconnections between the municipal separate storm sewers;

(B) The location of discharges from the designated municipal separate storm sewer relative to discharges from municipal separate storm sewers described in paragraph (b)(4)(i) of this section;

(C) The quantity and nature of pollutants discharged to waters of the United States;

(D) The nature of the receiving waters; and

(E) Other relevant factors; or

(iv) The Director may, upon petition, designate as a large municipal separate storm sewer system, municipal separate storm sewers located within the boundaries of a region defined by a storm water management regional authority based on a jurisdictional, watershed, or other appropriate basis that includes one or more of the systems described in paragraph (b)(4)(i), (ii), (iii) of this section.

(5) Major municipal separate storm sewer outfall (or “major outfall”) means a municipal separate storm sewer outfall that discharges from a single pipe with an inside diameter of 36 inches or more or its equivalent (discharge from a single conveyance other than circular pipe which is associated with a drainage area of more than 50 acres); or for municipal separate storm sewers that receive storm water from lands zoned for industrial activity (based on comprehensive zoning plans or the equivalent), an outfall that discharges from a single pipe with an inside diameter of 12 inches or more or from its equivalent (discharge from other than a circular pipe associated with a drainage area of 2 acres or more).

(6) Major outfall means a major municipal separate storm sewer outfall.

(7) Medium municipal separate storm sewer system means all municipal separate storm sewers that are either:

(i) Located in an incorporated place with a population of 100,000 or more but less than 250,000, as determined by the 1990 Decennial Census by the Bureau of the Census (appendix G of this part); or

(ii) Located in the counties listed in appendix I, except municipal separate storm sewers that are located in the incorporated places, townships or towns within such counties; or

(iii) Owned or operated by a municipality other than those described in paragraph (b)(7)(i) or (ii) of this section and that are designated by the Director as part of the large or medium municipal separate storm sewer system due to the interrelationship between the discharges of the designated storm sewer and the discharges from municipal

separate storm sewers described under paragraph (b)(7)(i) or (ii) of this section. In making this determination the Director may consider the following factors:

(A) Physical interconnections between the municipal separate storm sewers;

(B) The location of discharges from the designated municipal separate storm sewer relative to discharges from municipal separate storm sewers described in paragraph (b)(7)(i) of this section;

(C) The quantity and nature of pollutants discharged to waters of the United States;

(D) The nature of the receiving waters; or

(E) Other relevant factors; or

(iv) The Director may, upon petition, designate as a medium municipal separate storm sewer system, municipal separate storm sewers located within the boundaries of a region defined by a storm water management regional authority based on a jurisdictional, watershed, or other appropriate basis that includes one or more of the systems described in paragraphs (b)(7) (i), (ii), (iii) of this section.

(8) Municipal separate storm sewer means a conveyance or system of conveyances (including roads with drainage systems, municipal streets, catch basins, curbs, gutters, ditches, man-made channels, or storm drains):

(i) Owned or operated by a State, city, town, borough, county, parish, district, association, or other public body (created by or pursuant to State law) having jurisdiction over disposal of sewage, industrial wastes, storm water, or other wastes, including special districts under State law such as a sewer district, flood control district or drainage district, or similar entity, or an Indian tribe or an authorized Indian tribal organization, or a designated and approved management agency under section 208 of the CWA that discharges to waters of the United States;

(ii) Designed or used for collecting or conveying storm water;

(iii) Which is not a combined sewer; and

(iv) Which is not part of a Publicly Owned Treatment Works (POTW) as defined at [40 CFR 122.2](#).

(9) Outfall means a point source as defined by [40 CFR 122.2](#) at the point where a municipal separate storm sewer discharges to waters of the United States and does not include open conveyances connecting two municipal separate storm sewers, or pipes, tunnels or other conveyances which connect segments of the same stream or other waters of the United States and are used to convey waters of the United States.

(10) Overburden means any material of any nature, consolidated or unconsolidated, that overlies a mineral deposit, excluding topsoil or similar naturally-occurring surface materials that are not disturbed by mining operations.

(11) Runoff coefficient means the fraction of total rainfall that will appear at a conveyance as runoff.

(12) Significant materials includes, but is not limited to: raw materials; fuels; materials such as solvents, detergents, and plastic pellets; finished materials such as metallic products; raw materials used in food processing or production; hazardous substances designated under section 101(14) of CERCLA; any chemical the facility is required to report pursuant to section 313 of title III of SARA; fertilizers; pesticides; and waste products such as ashes, slag and sludge that have the potential to be released with storm water discharges.

(13) Storm water means storm water runoff, snow melt runoff, and surface runoff and drainage.

(14) Storm water discharge associated with industrial activity means the discharge from any conveyance that is used for collecting and conveying storm water and that is directly related to manufacturing, processing or raw materials storage areas at an industrial plant. The term does not include discharges from facilities or activities excluded from the NPDES program under this part 122. For the categories of industries identified in this section, the term includes, but is not limited to, storm water discharges from industrial plant yards; immediate access roads and rail lines used or traveled by carriers of raw materials, manufactured products, waste material, or by-products used or created by the facility; material handling sites; refuse sites; sites used for the application or disposal of process waste waters (as defined at part 401 of this chapter); sites used for the storage and maintenance of material handling equipment; sites used for residual treatment, storage, or disposal; shipping and receiving areas; manufacturing buildings; storage areas (including tank farms) for raw materials, and intermediate and final products; and areas where industrial activity has taken place in the past and significant materials remain and are exposed to storm water. For the purposes of this paragraph, material handling activities include storage, loading and unloading, transportation, or conveyance of any raw material, intermediate product, final product, by-product or waste product. The term excludes areas located on plant lands separate from the plant's industrial activities, such as office buildings and accompanying parking lots as long as the drainage from the excluded areas is not mixed with storm water drained from the above described areas. Industrial facilities (including industrial facilities that are federally, State, or municipally owned or operated that meet the description of the facilities listed in paragraphs (b)(14)(i) through (xi) of this section) include those facilities designated under the provisions of paragraph (a)(1)(v) of this section. The following categories of facilities are considered to be engaging in "industrial activity" for purposes of paragraph (b)(14):

(i) Facilities subject to storm water effluent limitations guidelines, new source performance standards, or toxic pollutant effluent standards under 40 CFR subchapter N (except facilities with toxic pollutant effluent standards which are exempted under category (xi) in paragraph (b)(14) of this section);

(ii) Facilities classified within Standard Industrial Classification 24, Industry Group 241 that are rock crushing, gravel washing, log sorting, or log storage facilities operated in connection with silvicultural activities defined in [40 CFR 122.27\(b\)\(2\)-\(3\)](#) and Industry Groups 242 through 249; 26 (except 265 and 267), 28 (except 283), 29, 311, 32 (except 323), 33, 3441, 373; (not included are all other types of silviculture facilities);

(iii) Facilities classified as Standard Industrial Classifications 10 through 14 (mineral industry) including active or inactive mining operations (except for areas of coal mining operations no longer meeting the definition of a reclamation area under 40 CFR 434.11(1) because the performance bond issued to the facility by the appropriate SMCRA authority has been released, or except for areas of non-coal mining operations which have been released from applicable State or Federal reclamation requirements after December 17, 1990) and oil and gas exploration, production, processing, or treatment operations, or transmission facilities that discharge storm water contaminated by contact with or that has come into contact with, any overburden, raw material, intermediate products, finished products, byproducts or waste products located on the site of such operations; (inactive mining operations are mining sites that are not being actively mined, but which have an identifiable owner/operator; inactive mining sites do not include sites where mining claims are being maintained prior to disturbances associated with the extraction, beneficiation, or processing of mined materials, nor sites where minimal activities are undertaken for the sole purpose of maintaining a mining claim);

(iv) Hazardous waste treatment, storage, or disposal facilities, including those that are operating under interim status or a permit under subtitle C of RCRA;

(v) Landfills, land application sites, and open dumps that receive or have received any industrial wastes (waste that is received from any of the facilities described under this subsection) including those that are subject to regulation under subtitle D of RCRA;

(vi) Facilities involved in the recycling of materials, including metal scrapyards, battery reclaimers, salvage yards, and automobile junkyards, including but limited to those classified as Standard Industrial Classification 5015 and 5093;

(vii) Steam electric power generating facilities, including coal handling sites;

(viii) Transportation facilities classified as Standard Industrial Classifications 40, 41, 42 (except 4221–25), 43, 44, 45, and 5171 which have vehicle maintenance shops, equipment cleaning operations, or airport deicing operations. Only those portions of the facility that are either involved in vehicle maintenance (including vehicle rehabilitation, mechanical repairs, painting, fueling, and lubrication), equipment cleaning operations, airport deicing operations, or which are otherwise identified under paragraphs (b)(14) (i)–(vii) or (ix)–(xi) of this section are associated with industrial activity;

(ix) Treatment works treating domestic sewage or any other sewage sludge or wastewater treatment device or system, used in the storage treatment, recycling, and reclamation of municipal or domestic sewage, including land dedicated to the disposal of sewage sludge that are located within the confines of the facility, with a design flow of 1.0 mgd or more, or required to have an approved pretreatment program under 40 CFR part 403. Not included are farm lands, domestic gardens or lands used for sludge management where sludge is beneficially reused and which are not physically located in the confines of the facility, or areas that are in compliance with section 405 of the CWA;

(x) Construction activity including clearing, grading and excavation, except operations that result in the disturbance of less than five acres of total land area. Construction activity also includes the disturbance of less than five acres

of total land area that is a part of a larger common plan of development or sale if the larger common plan will ultimately disturb five acres or more;

(xi) Facilities under Standard Industrial Classifications 20, 21, 22, 23, 2434, 25, 265, 267, 27, 283, 285, 30, 31 (except 311), 323, 34 (except 3441), 35, 36, 37 (except 373), 38, 39, and 4221–25;

(15) Storm water discharge associated with small construction activity means the discharge of storm water from:

(i) Construction activities including clearing, grading, and excavating that result in land disturbance of equal to or greater than one acre and less than five acres. Small construction activity also includes the disturbance of less than one acre of total land area that is part of a larger common plan of development or sale if the larger common plan will ultimately disturb equal to or greater than one and less than five acres. Small construction activity does not include routine maintenance that is performed to maintain the original line and grade, hydraulic capacity, or original purpose of the facility. The Director may waive the otherwise applicable requirements in a general permit for a storm water discharge from construction activities that disturb less than five acres where:

(A) The value of the rainfall erosivity factor (“R” in the Revised Universal Soil Loss Equation) is less than five during the period of construction activity. The rainfall erosivity factor is determined in accordance with Chapter 2 of Agriculture Handbook Number 703, Predicting Soil Erosion by Water: A Guide to Conservation Planning with the Revised Universal Soil Loss Equation (RUSLE), pages 21–64, dated January 1997. The Director of the Federal Register approves this incorporation by reference in accordance with 5 U.S.C. 552(a) and 1 CFR part 51. Copies may be obtained at EPA’s Water Docket, 1200 Pennsylvania Avenue NW, Washington, DC 20460. For information on the availability of this material at National Archives and Records Administration, call 202–741–6030, or go to: http://www.archives.gov/federal_register/code_of_federal_regulations/ibr_locations.html. An operator must certify to the Director that the construction activity will take place during a period when the value of the rainfall erosivity factor is less than five; or

(B) Storm water controls are not needed based on a “total maximum daily load” (TMDL) approved or established by EPA that addresses the pollutant(s) of concern or, for non-impaired waters that do not require TMDLs, an equivalent analysis that determines allocations for small construction sites for the pollutant(s) of concern or that determines that such allocations are not needed to protect water quality based on consideration of existing in-stream concentrations, expected growth in pollutant contributions from all sources, and a margin of safety. For the purpose of this paragraph, the pollutant(s) of concern include sediment or a parameter that addresses sediment (such as total suspended solids, turbidity or siltation) and any other pollutant that has been identified as a cause of impairment of any water body that will receive a discharge from the construction activity. The operator must certify to the Director that the construction activity will take place, and storm water discharges will occur, within the drainage area addressed by the TMDL or equivalent analysis.

(C) As of December 21, 2020 all certifications submitted in compliance with paragraphs (b)(15)(i)(A) and (B) of this section must be submitted electronically by the owner or operator to the Director or initial recipient, as defined in 40 CFR 127.2(b), in compliance with this section and 40 CFR part 3 (including, in all cases, subpart D to part 3), § 122.22, and 40 CFR part 127. Part 127 is not intended to undo existing requirements

for electronic reporting. Prior to this date, and independent of part 127, owners or operators may be required to report electronically if specified by a particular permit or if required to do so by state law.

(ii) Any other construction activity designated by the Director, or in States with approved NPDES programs either the Director or the EPA Regional Administrator, based on the potential for contribution to a violation of a water quality standard or for significant contribution of pollutants to waters of the United States.

Exhibit 1 to § 122.26(b)(15).—Summary of Coverage of “Storm Water Discharges Associated with Small Construction Activity” Under the NPDES Storm Water Program

Automatic Designation: Required Nationwide Coverage	<ul style="list-style-type: none"> · Construction activities that result in a land disturbance of equal to or greater than one acre and less than five acres. · Construction activities disturbing less than one acre if part of a larger common plan of development or sale with a planned disturbance of equal to or greater than one acre and less than five acres. (see § 122.26(b)(15)(i).)
Potential Designation: Optional Evaluation and Designation by the NPDES Permitting Authority or EPA Regional Administrator.	<ul style="list-style-type: none"> · Construction activities that result in a land disturbance of less than one acre based on the potential for contribution to a violation of a water quality standard or for significant contribution of pollutants. (see § 122.26(b)(15)(ii).)
Potential Waiver: Waiver from Requirements as Determined by the NPDES Permitting Authority.	<p>Any automatically designated construction activity where the operator certifies: (1) A rainfall erosivity factor of less than five, or (2) That the activity will occur within an area where controls are not needed based on a TMDL or, for non-impaired waters that do not require a TMDL, an equivalent analysis for the pollutant(s) of concern. (see § 122.26(b)(15)(i).)</p>

(16) Small municipal separate storm sewer system means all separate storm sewers that are:

(i) Owned or operated by the United States, a State, city, town, borough, county, parish, district, association, or other public body (created by or pursuant to State law) having jurisdiction over disposal of sewage, industrial wastes, storm water, or other wastes, including special districts under State law such as a sewer district, flood control district or drainage district, or similar entity, or an Indian tribe or an authorized Indian tribal organization, or a designated and approved management agency under section 208 of the CWA that discharges to waters of the United States.

(ii) Not defined as “large” or “medium” municipal separate storm sewer systems pursuant to paragraphs (b)(4) and (b)(7) of this section, or designated under paragraph (a)(1)(v) of this section.

(iii) This term includes systems similar to separate storm sewer systems in municipalities, such as systems at military bases, large hospital or prison complexes, and highways and other thoroughfares. The term does not include separate storm sewers in very discrete areas, such as individual buildings.

(17) Small MS4 means a small municipal separate storm sewer system.

(18) Municipal separate storm sewer system means all separate storm sewers that are defined as “large” or “medium” or “small” municipal separate storm sewer systems pursuant to paragraphs (b)(4), (b)(7), and (b)(16) of this section, or designated under paragraph (a)(1)(v) of this section.

(19) MS4 means a municipal separate storm sewer system.

(20) Uncontrolled sanitary landfill means a landfill or open dump, whether in operation or closed, that does not meet the requirements for runoff or runoff controls established pursuant to subtitle D of the Solid Waste Disposal Act.

(c) Application requirements for storm water discharges associated with industrial activity and storm water discharges associated with small construction activity—

(1) Individual application. Dischargers of storm water associated with industrial activity and with small construction activity are required to apply for an individual permit or seek coverage under a promulgated storm water general permit. Facilities that are required to obtain an individual permit or any discharge of storm water which the Director is evaluating for designation (see 124.52(c) of this chapter) under paragraph (a)(1)(v) of this section and is not a municipal storm sewer, shall submit an NPDES application in accordance with the requirements of § 122.21 as modified and supplemented by the provisions of this paragraph.

(i) Except as provided in § 122.26(c)(1)(ii)–(iv), the operator of a storm water discharge associated with industrial activity subject to this section shall provide:

(A) A site map showing topography (or indicating the outline of drainage areas served by the outfall(s) covered in the application if a topographic map is unavailable) of the facility including: each of its drainage and discharge structures; the drainage area of each storm water outfall; paved areas and buildings within the drainage area of each storm water outfall, each past or present area used for outdoor storage or disposal of significant materials, each existing structural control measure to reduce pollutants in storm water runoff, materials loading and access areas, areas where pesticides, herbicides, soil conditioners and fertilizers are applied, each of its hazardous waste treatment, storage or disposal facilities (including each area not required to have a RCRA permit which is used for accumulating hazardous waste under 40 CFR 262.34); each well where fluids from the facility are injected underground; springs, and other surface water bodies which receive storm water discharges from the facility;

(B) An estimate of the area of impervious surfaces (including paved areas and building roofs) and the total area drained by each outfall (within a mile radius of the facility) and a narrative description of the following: Significant materials that in the three years prior to the submittal of this application have been treated, stored

or disposed in a manner to allow exposure to storm water; method of treatment, storage or disposal of such materials; materials management practices employed, in the three years prior to the submittal of this application, to minimize contact by these materials with storm water runoff; materials loading and access areas; the location, manner and frequency in which pesticides, herbicides, soil conditioners and fertilizers are applied; the location and a description of existing structural and non-structural control measures to reduce pollutants in storm water runoff; and a description of the treatment the storm water receives, including the ultimate disposal of any solid or fluid wastes other than by discharge;

(C) A certification that all outfalls that should contain storm water discharges associated with industrial activity have been tested or evaluated for the presence of non-storm water discharges which are not covered by a NPDES permit; tests for such non-storm water discharges may include smoke tests, fluorometric dye tests, analysis of accurate schematics, as well as other appropriate tests. The certification shall include a description of the method used, the date of any testing, and the on-site drainage points that were directly observed during a test;

(D) Existing information regarding significant leaks or spills of toxic or hazardous pollutants at the facility that have taken place within the three years prior to the submittal of this application;

(E) Quantitative data based on samples collected during storm events and collected in accordance with § 122.21 of this part from all outfalls containing a storm water discharge associated with industrial activity for the following parameters:

(1) Any pollutant limited in an effluent guideline to which the facility is subject;

(2) Any pollutant listed in the facility's NPDES permit for its process wastewater (if the facility is operating under an existing NPDES permit);

(3) Oil and grease, pH, BOD5, COD, TSS, total phosphorus, total Kjeldahl nitrogen, and nitrate plus nitrite nitrogen;

(4) Any information on the discharge required under § 122.21(g)(7)(vi) and (vii);

(5) Flow measurements or estimates of the flow rate, and the total amount of discharge for the storm event(s) sampled, and the method of flow measurement or estimation; and

(6) The date and duration (in hours) of the storm event(s) sampled, rainfall measurements or estimates of the storm event (in inches) which generated the sampled runoff and the duration between the storm event sampled and the end of the previous measurable (greater than 0.1 inch rainfall) storm event (in hours);

(F) Operators of a discharge which is composed entirely of storm water are exempt from the requirements of § 122.21(g)(2), (g)(3), (g)(4), (g)(5), (g)(7)(iii), (g)(7)(iv), (g)(7)(v), and (g)(7)(viii); and

(G) Operators of new sources or new discharges (as defined in § 122.2 of this part) which are composed in part or entirely of storm water must include estimates for the pollutants or parameters listed in paragraph (c)(1)(i)(E) of this section instead of actual sampling data, along with the source of each estimate. Operators of new sources or new discharges composed in part or entirely of storm water must provide quantitative data for the parameters listed in paragraph (c)(1)(i)(E) of this section within two years after commencement of discharge, unless such data has already been reported under the monitoring requirements of the NPDES permit for the discharge. Operators of a new source or new discharge which is composed entirely of storm water are exempt from the requirements of § 122.21 (k)(3)(ii), (k)(3)(iii), and (k)(5).

(ii) An operator of an existing or new storm water discharge that is associated with industrial activity solely under paragraph (b)(14)(x) of this section or is associated with small construction activity solely under paragraph (b)(15) of this section, is exempt from the requirements of § 122.21(g) and paragraph (c)(1)(i) of this section. Such operator shall provide a narrative description of:

(A) The location (including a map) and the nature of the construction activity;

(B) The total area of the site and the area of the site that is expected to undergo excavation during the life of the permit;

(C) Proposed measures, including best management practices, to control pollutants in storm water discharges during construction, including a brief description of applicable State and local erosion and sediment control requirements;

(D) Proposed measures to control pollutants in storm water discharges that will occur after construction operations have been completed, including a brief description of applicable State or local erosion and sediment control requirements;

(E) An estimate of the runoff coefficient of the site and the increase in impervious area after the construction addressed in the permit application is completed, the nature of fill material and existing data describing the soil or the quality of the discharge; and

(F) The name of the receiving water.

(iii) The operator of an existing or new discharge composed entirely of storm water from an oil or gas exploration, production, processing, or treatment operation, or transmission facility is not required to submit a permit application in accordance with paragraph (c)(1)(i) of this section, unless the facility:

(A) Has had a discharge of storm water resulting in the discharge of a reportable quantity for which notification is or was required pursuant to 40 CFR 117.21 or 40 CFR 302.6 at anytime since November 16, 1987; or

(B) Has had a discharge of storm water resulting in the discharge of a reportable quantity for which notification is or was required pursuant to [40 CFR 110.6](#) at any time since November 16, 1987; or

(C) Contributes to a violation of a water quality standard.

(iv) The operator of an existing or new discharge composed entirely of storm water from a mining operation is not required to submit a permit application unless the discharge has come into contact with, any overburden, raw material, intermediate products, finished product, byproduct or waste products located on the site of such operations.

(v) Applicants shall provide such other information the Director may reasonably require under [§ 122.21\(g\)\(13\)](#) of this part to determine whether to issue a permit and may require any facility subject to paragraph (c)(1)(ii) of this section to comply with paragraph (c)(1)(i) of this section.

(2) [Reserved]

(d) Application requirements for large and medium municipal separate storm sewer discharges. The operator of a discharge from a large or medium municipal separate storm sewer or a municipal separate storm sewer that is designated by the Director under paragraph (a)(1)(v) of this section, may submit a jurisdiction-wide or system-wide permit application. Where more than one public entity owns or operates a municipal separate storm sewer within a geographic area (including adjacent or interconnected municipal separate storm sewer systems), such operators may be a coapplicant to the same application. Permit applications for discharges from large and medium municipal storm sewers or municipal storm sewers designated under paragraph (a)(1)(v) of this section shall include;

(1) Part 1. Part 1 of the application shall consist of;

(i) General information. The applicants' name, address, telephone number of contact person, ownership status and status as a State or local government entity.

(ii) Legal authority. A description of existing legal authority to control discharges to the municipal separate storm sewer system. When existing legal authority is not sufficient to meet the criteria provided in paragraph (d)(2)(i) of this section, the description shall list additional authorities as will be necessary to meet the criteria and shall include a schedule and commitment to seek such additional authority that will be needed to meet the criteria.

(iii) Source identification.

(A) A description of the historic use of ordinances, guidance or other controls which limited the discharge of non-storm water discharges to any Publicly Owned Treatment Works serving the same area as the municipal separate storm sewer system.

(B) A USGS 7.5 minute topographic map (or equivalent topographic map with a scale between 1:10,000 and 1:24,000 if cost effective) extending one mile beyond the service boundaries of the municipal storm sewer system covered by the permit application. The following information shall be provided:

- (1) The location of known municipal storm sewer system outfalls discharging to waters of the United States;
- (2) A description of the land use activities (e.g. divisions indicating undeveloped, residential, commercial, agricultural and industrial uses) accompanied with estimates of population densities and projected growth for a ten year period within the drainage area served by the separate storm sewer. For each land use type, an estimate of an average runoff coefficient shall be provided;
- (3) The location and a description of the activities of the facility of each currently operating or closed municipal landfill or other treatment, storage or disposal facility for municipal waste;
- (4) The location and the permit number of any known discharge to the municipal storm sewer that has been issued a NPDES permit;
- (5) The location of major structural controls for storm water discharge (retention basins, detention basins, major infiltration devices, etc.); and
- (6) The identification of publicly owned parks, recreational areas, and other open lands.

(iv) Discharge characterization.

(A) Monthly mean rain and snow fall estimates (or summary of weather bureau data) and the monthly average number of storm events.

(B) Existing quantitative data describing the volume and quality of discharges from the municipal storm sewer, including a description of the outfalls sampled, sampling procedures and analytical methods used.

(C) A list of water bodies that receive discharges from the municipal separate storm sewer system, including downstream segments, lakes and estuaries, where pollutants from the system discharges may accumulate and cause water degradation and a brief description of known water quality impacts. At a minimum, the description of impacts shall include a description of whether the water bodies receiving such discharges have been:

- (1) Assessed and reported in [section 305\(b\)](#) reports submitted by the State, the basis for the assessment (evaluated or monitored), a summary of designated use support and attainment of Clean Water Act (CWA) goals (fishable and swimmable waters), and causes of nonsupport of designated uses;

- (2) Listed under [section 304\(l\)\(1\)\(A\)\(i\)](#), section 304(l)(1)(A)(ii), or section 304(l)(1)(B) of the CWA that is not expected to meet water quality standards or water quality goals;
- (3) Listed in State Nonpoint Source Assessments required by section 319(a) of the CWA that, without additional action to control nonpoint sources of pollution, cannot reasonably be expected to attain or maintain water quality standards due to storm sewers, construction, highway maintenance and runoff from municipal landfills and municipal sludge adding significant pollution (or contributing to a violation of water quality standards);
- (4) Identified and classified according to eutrophic condition of publicly owned lakes listed in State reports required under section 314(a) of the CWA (include the following: A description of those publicly owned lakes for which uses are known to be impaired; a description of procedures, processes and methods to control the discharge of pollutants from municipal separate storm sewers into such lakes; and a description of methods and procedures to restore the quality of such lakes);
- (5) Areas of concern of the Great Lakes identified by the International Joint Commission;
- (6) Designated estuaries under the National Estuary Program under section 320 of the CWA;
- (7) Recognized by the applicant as highly valued or sensitive waters;
- (8) Defined by the State or U.S. Fish and Wildlife Services's National Wetlands Inventory as wetlands; and
- (9) Found to have pollutants in bottom sediments, fish tissue or biosurvey data.

(D) Field screening. Results of a field screening analysis for illicit connections and illegal dumping for either selected field screening points or major outfalls covered in the permit application. At a minimum, a screening analysis shall include a narrative description, for either each field screening point or major outfall, of visual observations made during dry weather periods. If any flow is observed, two grab samples shall be collected during a 24 hour period with a minimum period of four hours between samples. For all such samples, a narrative description of the color, odor, turbidity, the presence of an oil sheen or surface scum as well as any other relevant observations regarding the potential presence of non-storm water discharges or illegal dumping shall be provided. In addition, a narrative description of the results of a field analysis using suitable methods to estimate pH, total chlorine, total copper, total phenol, and detergents (or surfactants) shall be provided along with a description of the flow rate. Where the field analysis does not involve analytical methods approved under 40 CFR part 136, the applicant shall provide a description of the method used including the name of the manufacturer of the test method along with the range and accuracy of the test. Field screening points shall be either major outfalls or other outfall points (or any other point of access such as manholes) randomly located throughout the storm sewer system by placing a grid over a drainage system map and identifying those cells of the grid which contain a segment of the storm sewer system or major outfall. The field screening points shall be established using the following guidelines and criteria:

(1) A grid system consisting of perpendicular north-south and east-west lines spaced ¼ mile apart shall be overlaid on a map of the municipal storm sewer system, creating a series of cells;

(2) All cells that contain a segment of the storm sewer system shall be identified; one field screening point shall be selected in each cell; major outfalls may be used as field screening points;

(3) Field screening points should be located downstream of any sources of suspected illegal or illicit activity;

(4) Field screening points shall be located to the degree practicable at the farthest manhole or other accessible location downstream in the system, within each cell; however, safety of personnel and accessibility of the location should be considered in making this determination;

(5) Hydrological conditions; total drainage area of the site; population density of the site; traffic density; age of the structures or buildings in the area; history of the area; and land use types;

(6) For medium municipal separate storm sewer systems, no more than 250 cells need to have identified field screening points; in large municipal separate storm sewer systems, no more than 500 cells need to have identified field screening points; cells established by the grid that contain no storm sewer segments will be eliminated from consideration; if fewer than 250 cells in medium municipal sewers are created, and fewer than 500 in large systems are created by the overlay on the municipal sewer map, then all those cells which contain a segment of the sewer system shall be subject to field screening (unless access to the separate storm sewer system is impossible); and

(7) Large or medium municipal separate storm sewer systems which are unable to utilize the procedures described in paragraphs (d)(1)(iv)(D) (1) through (6) of this section, because a sufficiently detailed map of the separate storm sewer systems is unavailable, shall field screen no more than 500 or 250 major outfalls respectively (or all major outfalls in the system, if less); in such circumstances, the applicant shall establish a grid system consisting of north-south and east-west lines spaced ¼ mile apart as an overlay to the boundaries of the municipal storm sewer system, thereby creating a series of cells; the applicant will then select major outfalls in as many cells as possible until at least 500 major outfalls (large municipalities) or 250 major outfalls (medium municipalities) are selected; a field screening analysis shall be undertaken at these major outfalls.

(E) Characterization plan. Information and a proposed program to meet the requirements of paragraph (d)(2)(iii) of this section. Such description shall include: the location of outfalls or field screening points appropriate for representative data collection under paragraph (d)(2)(iii)(A) of this section, a description of why the outfall or field screening point is representative, the seasons during which sampling is intended, a description of the sampling equipment. The proposed location of outfalls or field screening points for such sampling should reflect water quality concerns (see paragraph (d)(1)(iv)(C) of this section) to the extent practicable.

(v) Management programs.

(A) A description of the existing management programs to control pollutants from the municipal separate storm sewer system. The description shall provide information on existing structural and source controls, including operation and maintenance measures for structural controls, that are currently being implemented. Such controls may include, but are not limited to: Procedures to control pollution resulting from construction activities; floodplain management controls; wetland protection measures; best management practices for new subdivisions; and emergency spill response programs. The description may address controls established under State law as well as local requirements.

(B) A description of the existing program to identify illicit connections to the municipal storm sewer system. The description should include inspection procedures and methods for detecting and preventing illicit discharges, and describe areas where this program has been implemented.

(vi) Fiscal resources.

(A) A description of the financial resources currently available to the municipality to complete part 2 of the permit application. A description of the municipality's budget for existing storm water programs, including an overview of the municipality's financial resources and budget, including overall indebtedness and assets, and sources of funds for storm water programs.

(2) Part 2. Part 2 of the application shall consist of:

(i) Adequate legal authority. A demonstration that the applicant can operate pursuant to legal authority established by statute, ordinance or series of contracts which authorizes or enables the applicant at a minimum to:

(A) Control through ordinance, permit, contract, order or similar means, the contribution of pollutants to the municipal storm sewer by storm water discharges associated with industrial activity and the quality of storm water discharged from sites of industrial activity;

(B) Prohibit through ordinance, order or similar means, illicit discharges to the municipal separate storm sewer;

(C) Control through ordinance, order or similar means the discharge to a municipal separate storm sewer of spills, dumping or disposal of materials other than storm water;

(D) Control through interagency agreements among coapplicants the contribution of pollutants from one portion of the municipal system to another portion of the municipal system;

(E) Require compliance with conditions in ordinances, permits, contracts or orders; and

(F) Carry out all inspection, surveillance and monitoring procedures necessary to determine compliance and noncompliance with permit conditions including the prohibition on illicit discharges to the municipal separate storm sewer.

(ii) Source identification. The location of any major outfall that discharges to waters of the United States that was not reported under paragraph (d)(1)(iii)(B)(1) of this section. Provide an inventory, organized by watershed of the name and address, and a description (such as SIC codes) which best reflects the principal products or services provided by each facility which may discharge, to the municipal separate storm sewer, storm water associated with industrial activity;

(iii) Characterization data. When “quantitative data” for a pollutant are required under paragraph (d)(2)(iii)(A)(3) of this section, the applicant must collect a sample of effluent in accordance with 40 CFR 122.21(g)(7) and analyze it for the pollutant in accordance with analytical methods approved under part 136 of this chapter. When no analytical method is approved the applicant may use any suitable method but must provide a description of the method. The applicant must provide information characterizing the quality and quantity of discharges covered in the permit application, including:

(A) Quantitative data from representative outfalls designated by the Director (based on information received in part 1 of the application, the Director shall designate between five and ten outfalls or field screening points as representative of the commercial, residential and industrial land use activities of the drainage area contributing to the system or, where there are less than five outfalls covered in the application, the Director shall designate all outfalls) developed as follows:

(1) For each outfall or field screening point designated under this subparagraph, samples shall be collected of storm water discharges from three storm events occurring at least one month apart in accordance with the requirements at § 122.21(g)(7) (the Director may allow exemptions to sampling three storm events when climatic conditions create good cause for such exemptions);

(2) A narrative description shall be provided of the date and duration of the storm event(s) sampled, rainfall estimates of the storm event which generated the sampled discharge and the duration between the storm event sampled and the end of the previous measurable (greater than 0.1 inch rainfall) storm event;

(3) For samples collected and described under paragraphs (d)(2)(iii)(A)(1) and (A)(2) of this section, quantitative data shall be provided for: the organic pollutants listed in Table II; the pollutants listed in Table III (toxic metals, cyanide, and total phenols) of appendix D of 40 CFR part 122, and for the following pollutants:

Total suspended solids (TSS)

Total dissolved solids (TDS)

COD

BOD₅

Oil and grease

Fecal coliform

Fecal streptococcus

pH

Total Kjeldahl nitrogen

Nitrate plus nitrite

Dissolved phosphorus

Total ammonia plus organic nitrogen

Total phosphorus

(4) Additional limited quantitative data required by the Director for determining permit conditions (the Director may require that quantitative data shall be provided for additional parameters, and may establish sampling conditions such as the location, season of sample collection, form of precipitation (snow melt, rainfall) and other parameters necessary to insure representativeness);

(B) Estimates of the annual pollutant load of the cumulative discharges to waters of the United States from all identified municipal outfalls and the event mean concentration of the cumulative discharges to waters of the United States from all identified municipal outfalls during a storm event (as described under § 122.21(c)(7)) for BOD₅, COD, TSS, dissolved solids, total nitrogen, total ammonia plus organic nitrogen, total phosphorus, dissolved phosphorus, cadmium, copper, lead, and zinc. Estimates shall be accompanied by a description of the procedures for estimating constituent loads and concentrations, including any modelling, data analysis, and calculation methods;

(C) A proposed schedule to provide estimates for each major outfall identified in either paragraph (d)(2)(ii) or (d)(1)(iii)(B)(1) of this section of the seasonal pollutant load and of the event mean concentration of a representative storm for any constituent detected in any sample required under paragraph (d)(2)(iii)(A) of this section; and

(D) A proposed monitoring program for representative data collection for the term of the permit that describes the location of outfalls or field screening points to be sampled (or the location of instream stations), why the location is representative, the frequency of sampling, parameters to be sampled, and a description of sampling equipment.

(iv) Proposed management program. A proposed management program covers the duration of the permit. It shall include a comprehensive planning process which involves public participation and where necessary intergovernmental coordination, to reduce the discharge of pollutants to the maximum extent practicable using management practices, control techniques and system, design and engineering methods, and such other provisions which are appropriate. The program shall also include a description of staff and equipment available to implement the program. Separate proposed programs may be submitted by each coapplicant. Proposed programs may impose controls on a systemwide basis, a watershed basis, a jurisdiction basis, or on individual outfalls. Proposed programs will be considered by the Director when developing permit conditions to reduce pollutants in discharges to the

maximum extent practicable. Proposed management programs shall describe priorities for implementing controls. Such programs shall be based on:

(A) A description of structural and source control measures to reduce pollutants from runoff from commercial and residential areas that are discharged from the municipal storm sewer system that are to be implemented during the life of the permit, accompanied with an estimate of the expected reduction of pollutant loads and a proposed schedule for implementing such controls. At a minimum, the description shall include:

(1) A description of maintenance activities and a maintenance schedule for structural controls to reduce pollutants (including floatables) in discharges from municipal separate storm sewers;

(2) A description of planning procedures including a comprehensive master plan to develop, implement and enforce controls to reduce the discharge of pollutants from municipal separate storm sewers which receive discharges from areas of new development and significant redevelopment. Such plan shall address controls to reduce pollutants in discharges from municipal separate storm sewers after construction is completed. (Controls to reduce pollutants in discharges from municipal separate storm sewers containing construction site runoff are addressed in paragraph (d)(2)(iv)(D) of this section;

(3) A description of practices for operating and maintaining public streets, roads and highways and procedures for reducing the impact on receiving waters of discharges from municipal storm sewer systems, including pollutants discharged as a result of deicing activities;

(4) A description of procedures to assure that flood management projects assess the impacts on the water quality of receiving water bodies and that existing structural flood control devices have been evaluated to determine if retrofitting the device to provide additional pollutant removal from storm water is feasible;

(5) A description of a program to monitor pollutants in runoff from operating or closed municipal landfills or other treatment, storage or disposal facilities for municipal waste, which shall identify priorities and procedures for inspections and establishing and implementing control measures for such discharges (this program can be coordinated with the program developed under paragraph (d)(2)(iv)(C) of this section); and

(6) A description of a program to reduce to the maximum extent practicable, pollutants in discharges from municipal separate storm sewers associated with the application of pesticides, herbicides and fertilizer which will include, as appropriate, controls such as educational activities, permits, certifications and other measures for commercial applicators and distributors, and controls for application in public right-of-ways and at municipal facilities.

(B) A description of a program, including a schedule, to detect and remove (or require the discharger to the municipal separate storm sewer to obtain a separate NPDES permit for) illicit discharges and improper disposal into the storm sewer. The proposed program shall include:

(1) A description of a program, including inspections, to implement and enforce an ordinance, orders or similar means to prevent illicit discharges to the municipal separate storm sewer system; this program description shall address all types of illicit discharges, however the following category of non-storm water discharges or flows shall be addressed where such discharges are identified by the municipality as sources of pollutants to waters of the United States: water line flushing, landscape irrigation, diverted stream flows, rising ground waters, uncontaminated ground water infiltration (as defined at 40 CFR 35.2005(20)) to separate storm sewers, uncontaminated pumped ground water, discharges from potable water sources, foundation drains, air conditioning condensation, irrigation water, springs, water from crawl space pumps, footing drains, lawn watering, individual residential car washing, flows from riparian habitats and wetlands, dechlorinated swimming pool discharges, and street wash water (program descriptions shall address discharges or flows from fire fighting only where such discharges or flows are identified as significant sources of pollutants to waters of the United States);

(2) A description of procedures to conduct on-going field screening activities during the life of the permit, including areas or locations that will be evaluated by such field screens;

(3) A description of procedures to be followed to investigate portions of the separate storm sewer system that, based on the results of the field screen, or other appropriate information, indicate a reasonable potential of containing illicit discharges or other sources of non-storm water (such procedures may include: sampling procedures for constituents such as fecal coliform, fecal streptococcus, surfactants (MBAS), residual chlorine, fluorides and potassium; testing with fluorometric dyes; or conducting in storm sewer inspections where safety and other considerations allow. Such description shall include the location of storm sewers that have been identified for such evaluation);

(4) A description of procedures to prevent, contain, and respond to spills that may discharge into the municipal separate storm sewer;

(5) A description of a program to promote, publicize, and facilitate public reporting of the presence of illicit discharges or water quality impacts associated with discharges from municipal separate storm sewers;

(6) A description of educational activities, public information activities, and other appropriate activities to facilitate the proper management and disposal of used oil and toxic materials; and

(7) A description of controls to limit infiltration of seepage from municipal sanitary sewers to municipal separate storm sewer systems where necessary;

(C) A description of a program to monitor and control pollutants in storm water discharges to municipal systems from municipal landfills, hazardous waste treatment, disposal and recovery facilities, industrial facilities that are subject to section 313 of title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA), and industrial facilities that the municipal permit applicant determines are contributing a substantial pollutant loading to the municipal storm sewer system. The program shall:

(1) Identify priorities and procedures for inspections and establishing and implementing control measures for such discharges;

(2) Describe a monitoring program for storm water discharges associated with the industrial facilities identified in paragraph (d)(2)(iv)(C) of this section, to be implemented during the term of the permit, including the submission of quantitative data on the following constituents: any pollutants limited in effluent guidelines subcategories, where applicable; any pollutant listed in an existing NPDES permit for a facility; oil and grease, COD, pH, BOD₅, TSS, total phosphorus, total Kjeldahl nitrogen, nitrate plus nitrite nitrogen, and any information on discharges required under § 122.21(g)(7)(vi) and (vii).

(D) A description of a program to implement and maintain structural and non-structural best management practices to reduce pollutants in storm water runoff from construction sites to the municipal storm sewer system, which shall include:

(1) A description of procedures for site planning which incorporate consideration of potential water quality impacts;

(2) A description of requirements for nonstructural and structural best management practices;

(3) A description of procedures for identifying priorities for inspecting sites and enforcing control measures which consider the nature of the construction activity, topography, and the characteristics of soils and receiving water quality; and

(4) A description of appropriate educational and training measures for construction site operators.

(v) Assessment of controls. Estimated reductions in loadings of pollutants from discharges of municipal storm sewer constituents from municipal storm sewer systems expected as the result of the municipal storm water quality management program. The assessment shall also identify known impacts of storm water controls on ground water.

(vi) Fiscal analysis. For each fiscal year to be covered by the permit, a fiscal analysis of the necessary capital and operation and maintenance expenditures necessary to accomplish the activities of the programs under paragraphs (d)(2) (iii) and (iv) of this section. Such analysis shall include a description of the source of funds that are proposed to meet the necessary expenditures, including legal restrictions on the use of such funds.

(vii) Where more than one legal entity submits an application, the application shall contain a description of the roles and responsibilities of each legal entity and procedures to ensure effective coordination.

(viii) Where requirements under paragraph (d)(1)(iv)(E), (d)(2)(ii), (d)(2)(iii)(B) and (d)(2)(iv) of this section are not practicable or are not applicable, the Director may exclude any operator of a discharge from a municipal separate storm sewer which is designated under paragraph (a)(1)(v), (b)(4)(ii) or (b)(7)(ii) of this section from such requirements. The Director shall not exclude the operator of a discharge from a municipal separate storm sewer

identified in appendix F, G, H or I of part 122, from any of the permit application requirements under this paragraph except where authorized under this section.

(e) Application deadlines. Any operator of a point source required to obtain a permit under this section that does not have an effective NPDES permit authorizing discharges from its storm water outfalls shall submit an application in accordance with the following deadlines:

(1) Storm water discharges associated with industrial activity.

(i) Except as provided in paragraph (e)(1)(ii) of this section, for any storm water discharge associated with industrial activity identified in paragraphs (b)(14)(i) through (xi) of this section, that is not part of a group application as described in paragraph (c)(2) of this section or that is not authorized by a storm water general permit, a permit application made pursuant to paragraph (c) of this section must be submitted to the Director by October 1, 1992;

(ii) For any storm water discharge associated with industrial activity from a facility that is owned or operated by a municipality with a population of less than 100,000 that is not authorized by a general or individual permit, other than an airport, powerplant, or uncontrolled sanitary landfill, the permit application must be submitted to the Director by March 10, 2003.

(2) For any group application submitted in accordance with paragraph (c)(2) of this section:

(i) Part 1.

(A) Except as provided in paragraph (e)(2)(i)(B) of this section, part 1 of the application shall be submitted to the Director, Office of Wastewater Enforcement and Compliance by September 30, 1991;

(B) Any municipality with a population of less than 250,000 shall not be required to submit a part 1 application before May 18, 1992.

(C) For any storm water discharge associated with industrial activity from a facility that is owned or operated by a municipality with a population of less than 100,000 other than an airport, powerplant, or uncontrolled sanitary landfill, permit applications requirements are reserved.

(ii) Based on information in the part 1 application, the Director will approve or deny the members in the group application within 60 days after receiving part 1 of the group application.

(iii) Part 2.

(A) Except as provided in paragraph (e)(2)(iii)(B) of this section, part 2 of the application shall be submitted to the Director, Office of Wastewater Enforcement and Compliance by October 1, 1992;

(B) Any municipality with a population of less than 250,000 shall not be required to submit a part 1 application before May 17, 1993.

(C) For any storm water discharge associated with industrial activity from a facility that is owned or operated by a municipality with a population of less than 100,000 other than an airport, powerplant, or uncontrolled sanitary landfill, permit applications requirements are reserved.

(iv) Rejected facilities.

(A) Except as provided in paragraph (e)(2)(iv)(B) of this section, facilities that are rejected as members of the group shall submit an individual application (or obtain coverage under an applicable general permit) no later than 12 months after the date of receipt of the notice of rejection or October 1, 1992, whichever comes first.

(B) Facilities that are owned or operated by a municipality and that are rejected as members of part 1 group application shall submit an individual application no later than 180 days after the date of receipt of the notice of rejection or October 1, 1992, whichever is later.

(v) A facility listed under paragraph (b)(14) (i)–(xi) of this section may add on to a group application submitted in accordance with paragraph (e)(2)(i) of this section at the discretion of the Office of Water Enforcement and Permits, and only upon a showing of good cause by the facility and the group applicant; the request for the addition of the facility shall be made no later than February 18, 1992; the addition of the facility shall not cause the percentage of the facilities that are required to submit quantitative data to be less than 10%, unless there are over 100 facilities in the group that are submitting quantitative data; approval to become part of group application must be obtained from the group or the trade association representing the individual facilities.

(3) For any discharge from a large municipal separate storm sewer system;

(i) Part 1 of the application shall be submitted to the Director by November 18, 1991;

(ii) Based on information received in the part 1 application the Director will approve or deny a sampling plan under paragraph (d)(1)(iv)(E) of this section within 90 days after receiving the part 1 application;

(iii) Part 2 of the application shall be submitted to the Director by November 16, 1992.

(4) For any discharge from a medium municipal separate storm sewer system;

(i) Part 1 of the application shall be submitted to the Director by May 18, 1992.

(ii) Based on information received in the part 1 application the Director will approve or deny a sampling plan under paragraph (d)(1)(iv)(E) of this section within 90 days after receiving the part 1 application.

(iii) Part 2 of the application shall be submitted to the Director by May 17, 1993.

(5) A permit application shall be submitted to the Director within 180 days of notice, unless permission for a later date is granted by the Director (see § 124.52(c) of this chapter), for:

(i) A storm water discharge that the Director, or in States with approved NPDES programs, either the Director or the EPA Regional Administrator, determines that the discharge contributes to a violation of a water quality standard or is a significant contributor of pollutants to waters of the United States (see paragraphs (a)(1)(v) and (b)(15)(ii) of this section);

(ii) A storm water discharge subject to paragraph (c)(1)(v) of this section.

(6) Facilities with existing NPDES permits for storm water discharges associated with industrial activity shall maintain existing permits. Facilities with permits for storm water discharges associated with industrial activity which expire on or after May 18, 1992 shall submit a new application in accordance with the requirements of 40 CFR 122.21 and 40 CFR 122.26(c) (Form 1, Form 2F, and other applicable Forms) 180 days before the expiration of such permits.

(7) The Director shall issue or deny permits for discharges composed entirely of storm water under this section in accordance with the following schedule:

(i)(A) Except as provided in paragraph (e)(7)(i)(B) of this section, the Director shall issue or deny permits for storm water discharges associated with industrial activity no later than October 1, 1993, or, for new sources or existing sources which fail to submit a complete permit application by October 1, 1992, one year after receipt of a complete permit application;

(B) For any municipality with a population of less than 250,000 which submits a timely Part I group application under paragraph (e)(2)(i)(B) of this section, the Director shall issue or deny permits for storm water discharges associated with industrial activity no later than May 17, 1994, or, for any such municipality which fails to submit a complete Part II group permit application by May 17, 1993, one year after receipt of a complete permit application;

(ii) The Director shall issue or deny permits for large municipal separate storm sewer systems no later than November 16, 1993, or, for new sources or existing sources which fail to submit a complete permit application by November 16, 1992, one year after receipt of a complete permit application;

(iii) The Director shall issue or deny permits for medium municipal separate storm sewer systems no later than May 17, 1994, or, for new sources or existing sources which fail to submit a complete permit application by May 17, 1993, one year after receipt of a complete permit application.

(8) For any storm water discharge associated with small construction activities identified in paragraph (b)(15)(i) of this section, see § 122.21(c)(1). Discharges from these sources require permit authorization by March 10, 2003, unless designated for coverage before then.

(9) For any discharge from a regulated small MS4, the permit application made under § 122.33 must be submitted to the Director by:

(i) March 10, 2003 if designated under § 122.32(a)(1) unless your MS4 serves a jurisdiction with a population under 10,000 and the NPDES permitting authority has established a phasing schedule under § 123.35(d)(3) (see § 122.33(c)(1)); or

(ii) Within 180 days of notice, unless the NPDES permitting authority grants a later date, if designated under § 122.32(a)(2) (see § 122.33(c)(2)).

(f) Petitions.

(1) Any operator of a municipal separate storm sewer system may petition the Director to require a separate NPDES permit (or a permit issued under an approved NPDES State program) for any discharge into the municipal separate storm sewer system.

(2) Any person may petition the Director to require a NPDES permit for a discharge which is composed entirely of storm water which contributes to a violation of a water quality standard or is a significant contributor of pollutants to waters of the United States.

(3) The owner or operator of a municipal separate storm sewer system may petition the Director to reduce the Census estimates of the population served by such separate system to account for storm water discharged to combined sewers as defined by 40 CFR 35.2005(b)(11) that is treated in a publicly owned treatment works. In municipalities in which combined sewers are operated, the Census estimates of population may be reduced proportional to the fraction, based on estimated lengths, of the length of combined sewers over the sum of the length of combined sewers and municipal separate storm sewers where an applicant has submitted the NPDES permit number associated with each discharge point and a map indicating areas served by combined sewers and the location of any combined sewer overflow discharge point.

(4) Any person may petition the Director for the designation of a large, medium, or small municipal separate storm sewer system as defined by paragraph (b)(4)(iv), (b)(7)(iv), or (b)(16) of this section.

(5) The Director shall make a final determination on any petition received under this section within 90 days after receiving the petition with the exception of petitions to designate a small MS4 in which case the Director shall make a final determination on the petition within 180 days after its receipt.

(g) Conditional exclusion for “no exposure” of industrial activities and materials to storm water. Discharges composed entirely of storm water are not storm water discharges associated with industrial activity if there is “no exposure” of industrial materials and activities to rain, snow, snowmelt and/or runoff, and the discharger satisfies the conditions in paragraphs (g)(1) through (g)(4) of this section. “No exposure” means that all industrial materials and activities are protected by a storm resistant shelter to prevent exposure to rain, snow, snowmelt, and/or runoff. Industrial materials or activities include, but are not limited to, material handling equipment or activities, industrial machinery, raw materials, intermediate products, by-products, final products, or waste products. Material handling activities include the storage, loading and unloading, transportation, or conveyance of any raw material, intermediate product, final product or waste product.

(1) Qualification. To qualify for this exclusion, the operator of the discharge must:

(i) Provide a storm resistant shelter to protect industrial materials and activities from exposure to rain, snow, snow melt, and runoff;

(ii) Complete and sign (according to § 122.22) a certification that there are no discharges of storm water contaminated by exposure to industrial materials and activities from the entire facility, except as provided in paragraph (g)(2) of this section;

(iii) Submit the signed certification to the NPDES permitting authority once every five years. As of December 21, 2020 all certifications submitted in compliance with this section must be submitted electronically by the owner or operator to the Director or initial recipient, as defined in 40 CFR 127.2(b), in compliance with this section and 40 CFR part 3 (including, in all cases, subpart D to part 3), § 122.22, and 40 CFR part 127. Part 127 is not intended to undo existing requirements for electronic reporting. Prior to this date, and independent of part 127, owners or operators may be required to report electronically if specified by a particular permit or if required to do so by state law.

(iv) Allow the Director to inspect the facility to determine compliance with the “no exposure” conditions;

(v) Allow the Director to make any “no exposure” inspection reports available to the public upon request; and

(vi) For facilities that discharge through an MS4, upon request, submit a copy of the certification of “no exposure” to the MS4 operator, as well as allow inspection and public reporting by the MS4 operator.

(2) Industrial materials and activities not requiring storm resistant shelter. To qualify for this exclusion, storm resistant shelter is not required for:

(i) Drums, barrels, tanks, and similar containers that are tightly sealed, provided those containers are not deteriorated and do not leak (“Sealed” means banded or otherwise secured and without operational taps or valves);

(ii) Adequately maintained vehicles used in material handling; and

(iii) Final products, other than products that would be mobilized in storm water discharge (e.g., rock salt).

(3) Limitations.

(i) Storm water discharges from construction activities identified in paragraphs (b)(14)(x) and (b)(15) are not eligible for this conditional exclusion.

(ii) This conditional exclusion from the requirement for an NPDES permit is available on a facility-wide basis only, not for individual outfalls. If a facility has some discharges of storm water that would otherwise be “no exposure” discharges, individual permit requirements should be adjusted accordingly.

(iii) If circumstances change and industrial materials or activities become exposed to rain, snow, snow melt, and/or runoff, the conditions for this exclusion no longer apply. In such cases, the discharge becomes subject to enforcement for un-permitted discharge. Any conditionally exempt discharger who anticipates changes in circumstances should apply for and obtain permit authorization prior to the change of circumstances.

(iv) Notwithstanding the provisions of this paragraph, the NPDES permitting authority retains the authority to require permit authorization (and deny this exclusion) upon making a determination that the discharge causes, has a reasonable potential to cause, or contributes to an instream excursion above an applicable water quality standard, including designated uses.

(4) Certification. The no exposure certification must require the submission of the following information, at a minimum, to aid the NPDES permitting authority in determining if the facility qualifies for the no exposure exclusion:

(i) The legal name, address and phone number of the discharger (see [§ 122.21\(b\)](#));

(ii) The facility name and address, the county name and the latitude and longitude where the facility is located;

(iii) The certification must indicate that none of the following materials or activities are, or will be in the foreseeable future, exposed to precipitation:

(A) Using, storing or cleaning industrial machinery or equipment, and areas where residuals from using, storing or cleaning industrial machinery or equipment remain and are exposed to storm water;

(B) Materials or residuals on the ground or in storm water inlets from spills/leaks;

- (C) Materials or products from past industrial activity;
- (D) Material handling equipment (except adequately maintained vehicles);
- (E) Materials or products during loading/unloading or transporting activities;
- (F) Materials or products stored outdoors (except final products intended for outside use, e.g., new cars, where exposure to storm water does not result in the discharge of pollutants);
- (G) Materials contained in open, deteriorated or leaking storage drums, barrels, tanks, and similar containers;
- (H) Materials or products handled/stored on roads or railways owned or maintained by the discharger;
- (I) Waste material (except waste in covered, non-leaking containers, e.g., dumpsters);
- (J) Application or disposal of process wastewater (unless otherwise permitted); and
- (K) Particulate matter or visible deposits of residuals from roof stacks/vents not otherwise regulated, i.e., under an air quality control permit, and evident in the storm water outflow;

(iv) All “no exposure” certifications must include the following certification statement, and be signed in accordance with the signatory requirements of § 122.22: “I certify under penalty of law that I have read and understand the eligibility requirements for claiming a condition of “no exposure” and obtaining an exclusion from NPDES storm water permitting; and that there are no discharges of storm water contaminated by exposure to industrial activities or materials from the industrial facility identified in this document (except as allowed under paragraph (g)(2)) of this section. I understand that I am obligated to submit a no exposure certification form once every five years to the NPDES permitting authority and, if requested, to the operator of the local MS4 into which this facility discharges (where applicable). I understand that I must allow the NPDES permitting authority, or MS4 operator where the discharge is into the local MS4, to perform inspections to confirm the condition of no exposure and to make such inspection reports publicly available upon request. I understand that I must obtain coverage under an NPDES permit prior to any point source discharge of storm water from the facility. I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based upon my inquiry of the person or persons who manage the system, or those persons directly involved in gathering the information, the information submitted is to the best of my knowledge and belief true, accurate and complete. I am aware there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.”

Credits

[54 FR 255, Jan. 4, 1989; 55 FR 48063, Nov. 16, 1990; 56 FR 12100, March 21, 1991; 56 FR 56554, Nov. 5, 1991; 57 FR 11412, April 2, 1992; 57 FR 60447, Dec. 18, 1992; 60 FR 17956, April 7, 1995; 60 FR 40235, Aug. 7, 1995; 64 FR 68838,

Dec. 8, 1999; [65 FR 30907](#), May 15, 2000; [68 FR 11329](#), March 10, 2003; [70 FR 11563](#), March 9, 2005; [71 FR 33639](#), June 12, 2006; [77 FR 72974](#), Dec. 7, 2012; [80 FR 64096](#), Oct. 22, 2015]

SOURCE: [45 FR 33418](#), May 19, 1980, as amended at [48 FR 14153](#), Apr. 1, 1983, unless otherwise noted.

AUTHORITY: The Clean Water Act, [33 U.S.C. 1251 et seq.](#)


[Notes of Decisions \(73\)](#)

Current through October 6, 2016; [81 FR 69658](#).

End of Document

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ATTACHMENT 7

 KeyCite Yellow Flag - Negative Treatment
Proposed Regulation

Code of Federal Regulations
Title 40. Protection of Environment
Chapter I. Environmental Protection Agency (Refs & Annos)
Subchapter D. Water Programs
Part 122. EPA Administered Permit Programs: The National Pollutant Discharge Elimination System
(Refs & Annos)
Subpart C. Permit Conditions

40 C.F.R. § 122.44

§ 122.44 Establishing limitations, standards, and other permit conditions (applicable to State NPDES programs, see § 123.25).

Effective: December 21, 2015

[Currentness](#)

In addition to the conditions established under [§ 122.43\(a\)](#), each NPDES permit shall include conditions meeting the following requirements when applicable.

(a)(1) Technology-based effluent limitations and standards based on: effluent limitations and standards promulgated under section 301 of the CWA, or new source performance standards promulgated under [section 306](#) of CWA, on case-by-case effluent limitations determined under [section 402\(a\)\(1\)](#) of CWA, or a combination of the three, in accordance with [§ 125.3](#) of this chapter. For new sources or new dischargers, these technology based limitations and standards are subject to the provisions of [§ 122.29\(d\)](#) (protection period).

(2) Monitoring waivers for certain guideline-listed pollutants.

(i) The Director may authorize a discharger subject to technology-based effluent limitations guidelines and standards in an NPDES permit to forego sampling of a pollutant found at 40 CFR Subchapter N of this chapter if the discharger has demonstrated through sampling and other technical factors that the pollutant is not present in the discharge or is present only at background levels from intake water and without any increase in the pollutant due to activities of the discharger.

(ii) This waiver is good only for the term of the permit and is not available during the term of the first permit issued to a discharger.

(iii) Any request for this waiver must be submitted when applying for a reissued permit or modification of a reissued permit. The request must demonstrate through sampling or other technical information, including information generated during an earlier permit term that the pollutant is not present in the discharge or is present only at background levels from intake water and without any increase in the pollutant due to activities of the discharger.

(iv) Any grant of the monitoring waiver must be included in the permit as an express permit condition and the reasons supporting the grant must be documented in the permit's fact sheet or statement of basis.

(v) This provision does not supersede certification processes and requirements already established in existing effluent limitations guidelines and standards.

(b)(1) Other effluent limitations and standards under [sections 301, 302, 303, 307, 318](#), and 405 of CWA. If any applicable toxic effluent standard or prohibition (including any schedule of compliance specified in such effluent standard or prohibition) is promulgated under [section 307\(a\)](#) of CWA for a toxic pollutant and that standard or prohibition is more stringent than any limitation on the pollutant in the permit, the Director shall institute proceedings under these regulations to modify or revoke and reissue the permit to conform to the toxic effluent standard or prohibition. See also [§ 122.41\(a\)](#).

(2) Standards for sewage sludge use or disposal under section 405(d) of the CWA unless those standards have been included in a permit issued under the appropriate provisions of subtitle C of the Solid Waste Disposal Act, Part C of Safe Drinking Water Act, the Marine Protection, Research, and Sanctuaries Act of 1972, or the Clean Air Act, or under State permit programs approved by the Administrator. When there are no applicable standards for sewage sludge use or disposal, the permit may include requirements developed on a case-by-case basis to protect public health and the environment from any adverse effects which may occur from toxic pollutants in sewage sludge. If any applicable standard for sewage sludge use or disposal is promulgated under section 405(d) of the CWA and that standard is more stringent than any limitation on the pollutant or practice in the permit, the Director may initiate proceedings under these regulations to modify or revoke and reissue the permit to conform to the standard for sewage sludge use or disposal.

(3) Requirements applicable to cooling water intake structures under section 316(b) of the CWA, in accordance with part 125, subparts I, J, and N of this chapter.

(c) Reopener clause: For any permit issued to a treatment works treating domestic sewage (including “sludge-only facilities”), the Director shall include a reopener clause to incorporate any applicable standard for sewage sludge use or disposal promulgated under section 405(d) of the CWA. The Director may promptly modify or revoke and reissue any permit containing the reopener clause required by this paragraph if the standard for sewage sludge use or disposal is more stringent than any requirements for sludge use or disposal in the permit, or controls a pollutant or practice not limited in the permit.

(d) Water quality standards and State requirements: any requirements in addition to or more stringent than promulgated effluent limitations guidelines or standards under [sections 301, 304, 306, 307, 318](#), and 405 of CWA necessary to:

(1) Achieve water quality standards established under section 303 of the CWA, including State narrative criteria for water quality.

(i) Limitations must control all pollutants or pollutant parameters (either conventional, nonconventional, or toxic pollutants) which the Director determines are or may be discharged at a level which will cause, have the reasonable

potential to cause, or contribute to an excursion above any State water quality standard, including State narrative criteria for water quality.

(ii) When determining whether a discharge causes, has the reasonable potential to cause, or contributes to an in-stream excursion above a narrative or numeric criteria within a State water quality standard, the permitting authority shall use procedures which account for existing controls on point and nonpoint sources of pollution, the variability of the pollutant or pollutant parameter in the effluent, the sensitivity of the species to toxicity testing (when evaluating whole effluent toxicity), and where appropriate, the dilution of the effluent in the receiving water.

(iii) When the permitting authority determines, using the procedures in paragraph (d)(1)(ii) of this section, that a discharge causes, has the reasonable potential to cause, or contributes to an in-stream excursion above the allowable ambient concentration of a State numeric criteria within a State water quality standard for an individual pollutant, the permit must contain effluent limits for that pollutant.

(iv) When the permitting authority determines, using the procedures in paragraph (d)(1)(ii) of this section, that a discharge causes, has the reasonable potential to cause, or contributes to an in-stream excursion above the numeric criterion for whole effluent toxicity, the permit must contain effluent limits for whole effluent toxicity.

(v) Except as provided in this subparagraph, when the permitting authority determines, using the procedures in paragraph (d)(1)(ii) of this section, toxicity testing data, or other information, that a discharge causes, has the reasonable potential to cause, or contributes to an in-stream excursion above a narrative criterion within an applicable State water quality standard, the permit must contain effluent limits for whole effluent toxicity. Limits on whole effluent toxicity are not necessary where the permitting authority demonstrates in the fact sheet or statement of basis of the NPDES permit, using the procedures in paragraph (d)(1)(ii) of this section, that chemical-specific limits for the effluent are sufficient to attain and maintain applicable numeric and narrative State water quality standards.

(vi) Where a State has not established a water quality criterion for a specific chemical pollutant that is present in an effluent at a concentration that causes, has the reasonable potential to cause, or contributes to an excursion above a narrative criterion within an applicable State water quality standard, the permitting authority must establish effluent limits using one or more of the following options:

(A) Establish effluent limits using a calculated numeric water quality criterion for the pollutant which the permitting authority demonstrates will attain and maintain applicable narrative water quality criteria and will fully protect the designated use. Such a criterion may be derived using a proposed State criterion, or an explicit State policy or regulation interpreting its narrative water quality criterion, supplemented with other relevant information which may include: EPA's Water Quality Standards Handbook, October 1983, risk assessment data, exposure data, information about the pollutant from the Food and Drug Administration, and current EPA criteria documents; or

(B) Establish effluent limits on a case-by-case basis, using EPA's water quality criteria, published under section 304(a) of the CWA, supplemented where necessary by other relevant information; or

(C) Establish effluent limitations on an indicator parameter for the pollutant of concern, provided:

(1) The permit identifies which pollutants are intended to be controlled by the use of the effluent limitation;

(2) The fact sheet required by § 124.56 sets forth the basis for the limit, including a finding that compliance with the effluent limit on the indicator parameter will result in controls on the pollutant of concern which are sufficient to attain and maintain applicable water quality standards;

(3) The permit requires all effluent and ambient monitoring necessary to show that during the term of the permit the limit on the indicator parameter continues to attain and maintain applicable water quality standards; and

(4) The permit contains a reopener clause allowing the permitting authority to modify or revoke and reissue the permit if the limits on the indicator parameter no longer attain and maintain applicable water quality standards.

(vii) When developing water quality-based effluent limits under this paragraph the permitting authority shall ensure that:

(A) The level of water quality to be achieved by limits on point sources established under this paragraph is derived from, and complies with all applicable water quality standards; and

(B) Effluent limits developed to protect a narrative water quality criterion, a numeric water quality criterion, or both, are consistent with the assumptions and requirements of any available wasteload allocation for the discharge prepared by the State and approved by EPA pursuant to 40 CFR 130.7.

(2) Attain or maintain a specified water quality through water quality related effluent limits established under section 302 of CWA;

(3) Conform to the conditions to a State certification under section 401 of the CWA that meets the requirements of § 124.53 when EPA is the permitting authority. If a State certification is stayed by a court of competent jurisdiction or an appropriate State board or agency, EPA shall notify the State that the Agency will deem certification waived unless a finally effective State certification is received within sixty days from the date of the notice. If the State does not forward a finally effective certification within the sixty day period, EPA shall include conditions in the permit that may be necessary to meet EPA's obligation under section 301(b)(1)(C) of the CWA;

(4) Conform to applicable water quality requirements under section 401(a)(2) of CWA when the discharge affects a State other than the certifying State;

(5) Incorporate any more stringent limitations, treatment standards, or schedule of compliance requirements established under Federal or State law or regulations in accordance with section 301(b)(1)(C) of CWA;

(6) Ensure consistency with the requirements of a Water Quality Management plan approved by EPA under [section 208\(b\)](#) of CWA;

(7) Incorporate section 403(c) criteria under part 125, subpart M, for ocean discharges;

(8) Incorporate alternative effluent limitations or standards where warranted by “fundamentally different factors,” under 40 CFR part 125, subpart D;

(9) Incorporate any other appropriate requirements, conditions, or limitations (other than effluent limitations) into a new source permit to the extent allowed by the National Environmental Policy Act, [42 U.S.C. 4321 et seq.](#) and section 511 of the CWA, when EPA is the permit issuing authority. (See [§ 122.29\(c\)](#)).

(e) Technology-based controls for toxic pollutants. Limitations established under paragraphs (a), (b), or (d) of this section, to control pollutants meeting the criteria listed in paragraph (e)(1) of this section. Limitations will be established in accordance with paragraph (e)(2) of this section. An explanation of the development of these limitations shall be included in the fact sheet under [§ 124.56\(b\)\(1\)\(i\)](#).

(1) Limitations must control all toxic pollutants which the Director determines (based on information reported in a permit application under [§ 122.21\(g\)\(7\)](#) or in a notification under [§ 122.42\(a\)\(1\)](#) or on other information) are or may be discharged at a level greater than the level which can be achieved by the technology-based treatment requirements appropriate to the permittee under [§ 125.3\(c\)](#) of this chapter; or

(2) The requirement that the limitations control the pollutants meeting the criteria of paragraph (e)(1) of this section will be satisfied by:

(i) Limitations on those pollutants; or

(ii) Limitations on other pollutants which, in the judgment of the Director, will provide treatment of the pollutants under paragraph (e)(1) of this section to the levels required by [§ 125.3\(c\)](#).

(f) Notification level. A “notification level” which exceeds the notification level of [§ 122.42\(a\)\(1\)\(i\), \(ii\) or \(iii\)](#), upon a petition from the permittee or on the Director's initiative. This new notification level may not exceed the level which can be achieved by the technology-based treatment requirements appropriate to the permittee under [§ 125.3\(c\)](#).

(g) Twenty-four hour reporting. Pollutants for which the permittee must report violations of maximum daily discharge limitations under [§ 122.41\(1\)\(6\)\(ii\)\(C\)](#) (24-hour reporting) shall be listed in the permit. This list shall include any toxic pollutant or hazardous substance, or any pollutant specifically identified as the method to control a toxic pollutant or hazardous substance.

(h) Durations for permits, as set forth in [§ 122.46](#).

(i) Monitoring requirements. In addition to § 122.48, the following monitoring requirements:

(1) To assure compliance with permit limitations, requirements to monitor:

(i) The mass (or other measurement specified in the permit) for each pollutant limited in the permit;

(ii) The volume of effluent discharged from each outfall;

(iii) Other measurements as appropriate including pollutants in internal waste streams under § 122.45(i); pollutants in intake water for net limitations under § 122.45(f); frequency, rate of discharge, etc., for noncontinuous discharges under § 122.45(e); pollutants subject to notification requirements under § 122.42(a); and pollutants in sewage sludge or other monitoring as specified in 40 CFR part 503; or as determined to be necessary on a case-by-case basis pursuant to section 405(d)(4) of the CWA.

(iv) According to sufficiently sensitive test procedures (i.e., methods) approved under 40 CFR part 136 for the analysis of pollutants or pollutant parameters or required under 40 CFR chapter I, subchapter N or O.

(A) For the purposes of this paragraph, a method is “sufficiently sensitive” when:

(1) The method minimum level (ML) is at or below the level of the effluent limit established in the permit for the measured pollutant or pollutant parameter; or

(2) The method has the lowest ML of the analytical methods approved under 40 CFR part 136 or required under 40 CFR chapter I, subchapter N or O for the measured pollutant or pollutant parameter.

Note to paragraph (i)(1)(iv)(A): Consistent with 40 CFR part 136, applicants or permittees have the option of providing matrix or sample specific minimum levels rather than the published levels. Further, where an applicant or permittee can demonstrate that, despite a good faith effort to use a method that would otherwise meet the definition of “sufficiently sensitive”, the analytical results are not consistent with the QA/QC specifications for that method, then the Director may determine that the method is not performing adequately and the Director should select a different method from the remaining EPA–approved methods that is sufficiently sensitive consistent with 40 CFR 122.44(i)(1)(iv)(A). Where no other EPA–approved methods exist, the Director should select a method consistent with 40 CFR 122.44(i)(1)(iv)(B).

(B) In the case of pollutants or pollutant parameters for which there are no approved methods under 40 CFR part 136 or methods are not otherwise required under 40 CFR chapter I, subchapter N or O, monitoring shall be conducted according to a test procedure specified in the permit for such pollutants or pollutant parameters.

(2) Except as provided in paragraphs (i)(4) and (5) of this section, requirements to report monitoring results shall be established on a case-by-case basis with a frequency dependent on the nature and effect of the discharge, but in no case less than once a year. For sewage sludge use or disposal practices, requirements to monitor and report results shall be established on a case-by-case basis with a frequency dependent on the nature and effect of the sewage sludge use or disposal practice; minimally this shall be as specified in 40 CFR part 503 (where applicable), but in no case less than once a year. All results must be electronically reported in compliance with 40 CFR part 3 (including, in all cases, subpart D to part 3), § 122.22, and 40 CFR part 127.

(3) Requirements to report monitoring results for storm water discharges associated with industrial activity which are subject to an effluent limitation guideline shall be established on a case-by-case basis with a frequency dependent on the nature and effect of the discharge, but in no case less than once a year.

(4) Requirements to report monitoring results for storm water discharges associated with industrial activity (other than those addressed in paragraph (i)(3) of this section) shall be established on a case-by-case basis with a frequency dependent on the nature and effect of the discharge. At a minimum, a permit for such a discharge must require:

(i) The discharger to conduct an annual inspection of the facility site to identify areas contributing to a storm water discharge associated with industrial activity and evaluate whether measures to reduce pollutant loadings identified in a storm water pollution prevention plan are adequate and properly implemented in accordance with the terms of the permit or whether additional control measures are needed;

(ii) The discharger to maintain for a period of three years a record summarizing the results of the inspection and a certification that the facility is in compliance with the plan and the permit, and identifying any incidents of non-compliance;

(iii) Such report and certification be signed in accordance with § 122.22; and

(iv) Permits for storm water discharges associated with industrial activity from inactive mining operations may, where annual inspections are impracticable, require certification once every three years by a Registered Professional Engineer that the facility is in compliance with the permit, or alternative requirements.

(5) Permits which do not require the submittal of monitoring result reports at least annually shall require that the permittee report all instances of noncompliance not reported under § 122.41(l) (1), (4), (5), and (6) at least annually.

(j) Pretreatment program for POTWs. Requirements for POTWs to:

(1) Identify, in terms of character and volume of pollutants, any Significant Industrial Users discharging into the POTW subject to Pretreatment Standards under section 307(b) of CWA and 40 CFR part 403.

(2)(i) Submit a local program when required by and in accordance with 40 CFR part 403 to assure compliance with pretreatment standards to the extent applicable under section 307(b). The local program shall be incorporated into

the permit as described in 40 CFR part 403. The program must require all indirect dischargers to the POTW to comply with the reporting requirements of 40 CFR part 403.

(ii) Provide a written technical evaluation of the need to revise local limits under 40 CFR 403.5(c)(1), following permit issuance or reissuance.

(3) For POTWs which are “sludge-only facilities,” a requirement to develop a pretreatment program under 40 CFR part 403 when the Director determines that a pretreatment program is necessary to assure compliance with Section 405(d) of the CWA.

(k) Best management practices (BMPs) to control or abate the discharge of pollutants when:

(1) Authorized under section 304(e) of the CWA for the control of toxic pollutants and hazardous substances from ancillary industrial activities;

(2) Authorized under section 402(p) of the CWA for the control of storm water discharges;

(3) Numeric effluent limitations are infeasible; or

(4) The practices are reasonably necessary to achieve effluent limitations and standards or to carry out the purposes and intent of the CWA.

Note to paragraph (k)(4): Additional technical information on BMPs and the elements of BMPs is contained in the following documents: Guidance Manual for Developing Best Management Practices (BMPs), October 1993, EPA No. 833/B-93-004, NTIS No. PB 94-178324, ERIC No. W498); Storm Water Management for Construction Activities: Developing Pollution Prevention Plans and Best Management Practices, September 1992, EPA No. 832/R-92-005, NTIS No. PB 92-235951, ERIC No. N482); Storm Water Management for Construction Activities, Developing Pollution Prevention Plans and Best Management Practices: Summary Guidance, EPA No. 833/R-92-001, NTIS No. PB 93-223550; ERIC No. W139; Storm Water Management for Industrial Activities, Developing Pollution Prevention Plans and Best Management Practices, September 1992; EPA 832/R-92-006, NTIS No. PB 92-235969, ERIC No. N477; Storm Water Management for Industrial Activities, Developing Pollution Prevention Plans and Best Management Practices: Summary Guidance, EPA 833/R-92-002, NTIS No. PB 94-133782; ERIC No. W492. Copies of those documents (or directions on how to obtain them) can be obtained by contacting either the Office of Water Resource Center (using the EPA document number as a reference) at (202) 260-7786; or the Educational Resources Information Center (ERIC) (using the ERIC number as a reference) at (800) 276-0462. Updates of these documents or additional BMP documents may also be available. A list of EPA BMP guidance documents is available on the OWM Home Page at <http://www.epa.gov/owm>. In addition, States may have BMP guidance documents.

These EPA guidance documents are listed here only for informational purposes; they are not binding and EPA does not intend that these guidance documents have any mandatory, regulatory effect by virtue of their listing in this note.

(l) Reissued permits.

(1) Except as provided in paragraph (1)(2) of this section when a permit is renewed or reissued, interim effluent limitations, standards or conditions must be at least as stringent as the final effluent limitations, standards, or conditions in the previous permit (unless the circumstances on which the previous permit was based have materially and substantially changed since the time the permit was issued and would constitute cause for permit modification or revocation and reissuance under § 122.62.)

(2) In the case of effluent limitations established on the basis of Section 402(a)(1)(B) of the CWA, a permit may not be renewed, reissued, or modified on the basis of effluent guidelines promulgated under section 304(b) subsequent to the original issuance of such permit, to contain effluent limitations which are less stringent than the comparable effluent limitations in the previous permit.

(i) Exceptions—A permit with respect to which paragraph (1)(2) of this section applies may be renewed, reissued, or modified to contain a less stringent effluent limitation applicable to a pollutant, if—

(A) Material and substantial alterations or additions to the permitted facility occurred after permit issuance which justify the application of a less stringent effluent limitation;

(B)(1) Information is available which was not available at the time of permit issuance (other than revised regulations, guidance, or test methods) and which would have justified the application of a less stringent effluent limitation at the time of permit issuance; or

(2) The Administrator determines that technical mistakes or mistaken interpretations of law were made in issuing the permit under section 402(a)(1)(b);

(C) A less stringent effluent limitation is necessary because of events over which the permittee has no control and for which there is no reasonably available remedy;

(D) The permittee has received a permit modification under section 301(c), 301(g), 301(h), 301(i), 301(k), 301(n), or 316(a); or

(E) The permittee has installed the treatment facilities required to meet the effluent limitations in the previous permit and has properly operated and maintained the facilities but has nevertheless been unable to achieve the previous effluent limitations, in which case the limitations in the reviewed, reissued, or modified permit may reflect the level of pollutant control actually achieved (but shall not be less stringent than required by effluent guidelines in effect at the time of permit renewal, reissuance, or modification).

(ii) Limitations. In no event may a permit with respect to which paragraph (1)(2) of this section applies be renewed, reissued, or modified to contain an effluent limitation which is less stringent than required by effluent guidelines in effect at the time the permit is renewed, reissued, or modified. In no event may such a permit to discharge into waters be renewed, issued, or modified to contain a less stringent effluent limitation if the implementation of such limitation would result in a violation of a water quality standard under section 303 applicable to such waters.

(m) Privately owned treatment works. For a privately owned treatment works, any conditions expressly applicable to any user, as a limited copermitee, that may be necessary in the permit issued to the treatment works to ensure compliance with applicable requirements under this part. Alternatively, the Director may issue separate permits to the treatment works and to its users, or may require a separate permit application from any user. The Director's decision to issue a permit with no conditions applicable to any user, to impose conditions on one or more users, to issue separate permits, or to require separate applications, and the basis for that decision, shall be stated in the fact sheet for the draft permit for the treatment works.

(n) Grants. Any conditions imposed in grants made by the Administrator to POTWs under [sections 201](#) and [204](#) of CWA which are reasonably necessary for the achievement of effluent limitations under [section 301](#) of CWA.

(o) Sewage sludge. Requirements under section 405 of CWA governing the disposal of sewage sludge from publicly owned treatment works or any other treatment works treating domestic sewage for any use for which regulations have been established, in accordance with any applicable regulations.

(p) Coast Guard. When a permit is issued to a facility that may operate at certain times as a means of transportation over water, a condition that the discharge shall comply with any applicable regulations promulgated by the Secretary of the department in which the Coast Guard is operating, that establish specifications for safe transportation, handling, carriage, and storage of pollutants.

(q) Navigation. Any conditions that the Secretary of the Army considers necessary to ensure that navigation and anchorage will not be substantially impaired, in accordance with [§ 124.59](#) of this chapter.

(r) Great Lakes. When a permit is issued to a facility that discharges into the Great Lakes System (as defined in [40 CFR 132.2](#)), conditions promulgated by the State, Tribe, or EPA pursuant to 40 CFR part 132.

(s) Qualifying State, Tribal, or local programs.

(1) For storm water discharges associated with small construction activity identified in [§ 122.26\(b\)\(15\)](#), the Director may include permit conditions that incorporate qualifying State, Tribal, or local erosion and sediment control program requirements by reference. Where a qualifying State, Tribal, or local program does not include one or more of the elements in this paragraph (s)(1), then the Director must include those elements as conditions in the permit. A qualifying State, Tribal, or local erosion and sediment control program is one that includes:

(i) Requirements for construction site operators to implement appropriate erosion and sediment control best management practices;

(ii) Requirements for construction site operators to control waste such as discarded building materials, concrete truck washout, chemicals, litter, and sanitary waste at the construction site that may cause adverse impacts to water quality;

(iii) Requirements for construction site operators to develop and implement a storm water pollution prevention plan. (A storm water pollution prevention plan includes site descriptions, descriptions of appropriate control measures, copies of approved State, Tribal or local requirements, maintenance procedures, inspection procedures, and identification of non-storm water discharges); and

(iv) Requirements to submit a site plan for review that incorporates consideration of potential water quality impacts.

(2) For storm water discharges from construction activity identified in § 122.26(b)(14)(x), the Director may include permit conditions that incorporate qualifying State, Tribal, or local erosion and sediment control program requirements by reference. A qualifying State, Tribal or local erosion and sediment control program is one that includes the elements listed in paragraph (s)(1) of this section and any additional requirements necessary to achieve the applicable technology-based standards of “best available technology” and “best conventional technology” based on the best professional judgment of the permit writer.

Credits

[[49 FR 31842](#), Aug. 8, 1984; [49 FR 38049](#), Sept. 26, 1984; [50 FR 6940](#), Feb. 19, 1985; [50 FR 7912](#), Feb. 27, 1985; [54 FR 256](#), Jan. 4, 1989; [54 FR 18783](#), May 2, 1989; [54 FR 23895](#), [23896](#), June 2, 1989; [57 FR 11413](#), April 2, 1992; [57 FR 33049](#), July 24, 1992; [58 FR 18016](#), April 7, 1993; [60 FR 15386](#), March 23, 1995; [64 FR 42469](#), Aug. 4, 1999; [64 FR 43426](#), Aug. 10, 1999; [64 FR 68847](#), Dec. 8, 1999; [65 FR 30908](#), May 15, 2000; [65 FR 43661](#), July 13, 2000; [66 FR 53048](#), Oct. 18, 2001; [66 FR 65337](#), Dec. 18, 2001; [68 FR 13608](#), March 19, 2003; [69 FR 41682](#), July 9, 2004; [70 FR 60191](#), Oct. 14, 2005; [71 FR 35040](#), June 16, 2006; [72 FR 11212](#), March 12, 2007; [79 FR 49013](#), Aug. 19, 2014; [79 FR 56275](#), Sept. 19, 2014; [80 FR 64098](#), Oct. 22, 2015]

SOURCE: [45 FR 33418](#), May 19, 1980, as amended at [48 FR 14153](#), Apr. 1, 1983, unless otherwise noted.

AUTHORITY: The Clean Water Act, [33 U.S.C. 1251 et seq.](#)

[Notes of Decisions \(155\)](#)

Current through October 6, 2016; [81 FR 69658](#).

ATTACHMENT 8

55 FR 47990-01, 1990 WL 348331(F.R.)
RULES and REGULATIONS
ENVIRONMENTAL PROTECTION AGENCY
40 CFR Parts 122, 123, and 124
[FRL-3834-7]
RIN 2040-AA79

National Pollutant Discharge Elimination System Permit Application Regulations for Storm Water Discharges

Friday, November 16, 1990

AGENCY: Environmental Protection Agency (EPA).

ACTION: Final rule.

SUMMARY: Today's final rule begins to implement section 402(p) of the Clean Water Act (CWA) (added by section 405 of the Water Quality Act of 1987 (WQA)), which requires the Environmental Protection Agency (EPA) to establish regulations setting forth National Pollutant Discharge Elimination System (NPDES) permit application requirements for: storm water discharges associated with industrial activity; discharges from a municipal separate storm sewer system serving a population of 250,000 or more; and discharges from municipal separate storm sewer systems serving a population of 100,000 or more, but less than 250,000.

Today's rule also clarifies the requirements of section 401 of the WQA, which amended CWA section 402(1)(2) to provide that NPDES permits shall not be required for discharges of storm water runoff from mining operations or oil and gas exploration, production, processing, or treatment operations or transmission facilities, composed entirely of flows which are from conveyances (including but not limited to pipes, conduits, ditches, and channels) used for collecting and conveying precipitation runoff and which are not contaminated by contact with, or do not come into contact with, any overburden, raw material, intermediate product, finished product, byproduct, or waste product located on the site of such operations. This rule sets forth NPDES permit application requirements addressing storm water discharges associated with industrial activity and storm water discharges from large and medium municipal separate storm sewer systems.

DATES: This final rule becomes effective December 17, 1990. In accordance with [40 CFR 23.2](#), this rule shall be considered final for purposes of judicial review on November 30, 1990, at 1 p.m. eastern daylight time. The public record is located at EPA Headquarters, EPA Public Information Reference Unit, room 2402, 401 M Street SW., Washington DC 20460. A reasonable fee may be charged for copying.

FOR FURTHER INFORMATION CONTACT: For further information on the rule contact: Thomas J. Seaton, Kevin Weiss, or Michael Mitchell Office of Water Enforcement and Permits (EN-336), United States Environmental Protection Agency, 401 M Street SW., Washington, DC 20460, (202) 475-9518.

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SUPPLEMENTARY INFORMATION:

I. Background and Water Quality Concerns

The 1972 amendments to the Federal Water Pollution Control Act (referred to as the Clean Water Act or CWA), prohibit the discharge of any pollutant to navigable waters from a point source unless the discharge is authorized by an NPDES permit. Efforts to improve water quality under the NPDES program traditionally and primarily focused on reducing pollutants in discharges of industrial process wastewater and municipal sewage. This program emphasis developed for a number of reasons. At the onset of the program in 1972, many sources of industrial process wastewater and municipal sewage were not adequately controlled and represented pressing environmental problems. In addition, sewage outfalls and industrial process discharges were easily identified as responsible for poor, often drastically degraded, water quality conditions. However, as pollution control measures were initially *47991 developed for these discharges, it became evident that more diffuse sources (occurring over a wide area) of water pollution, such as agricultural and urban runoff were also major causes of water quality problems. Some diffuse sources of water pollution, such as agricultural storm water discharges and irrigation return flows, are statutorily exempted from the NPDES program.

Since enactment of the 1972 amendments to the CWA, considering the rise of economic activity and population, significant progress in controlling water pollution has been made, particularly with regard to industrial process wastewater and municipal sewage. Expenditures by EPA, the States, and local governments to construct and upgrade sewage treatment facilities have substantially increased the population served by higher levels of treatment. Backlogs of expired permits for industrial process wastewater discharges have been reduced. Continued improvements are expected for these discharges as the NPDES program continues to place increasing emphasis on water quality-based pollution controls, especially for toxic pollutants.

Although assessments of water quality are difficult to perform and verify, several national assessments of water quality are available. For the purpose of these assessments, urban runoff was considered to be a diffuse source or nonpoint source pollution. From a legal standpoint, however, most urban runoff is discharged through conveyances such as separate storm sewers or other conveyances which are point sources under the CWA. These discharges are subject to the NPDES program. The "National Water Quality Inventory, 1988 Report to Congress" provides a general assessment of water quality based on biennial reports submitted by the States under section 305(b) of the CWA. In preparing the section 305(b) Reports, the States were asked to indicate the fraction of the States' waters that were assessed, as well as the fraction of the States' waters that were fully supporting, partly supporting, or not supporting designated uses.

The Report indicates that of the rivers, lakes, and estuaries that were assessed by States (approximately one-fifth of stream miles, one-third of lake acres and one-half of estuarine waters), roughly 70% to 75% are supporting the uses for which they are designated. For waters with use impairments, States were asked to determine impacts due to diffuse sources (agricultural and urban runoff and other sources), municipal sewage, industrial process wastewaters, combined sewer overflows, and natural and other sources, then combine impacts to arrive at estimates of the relative percentage of State waters affected by each source. In this manner, the relative importance of the various sources of pollution that are causing use impairments was assessed and weighted national averages were calculated. Based on 37 States that provided information on sources of pollution, industrial process wastewaters were cited as the cause of nonsupport for 7.5% of rivers and streams, 10% of lakes, and 6% of estuaries. Municipal sewage was the cause of nonsupport for 13% of rivers and streams, 5% lakes, 48% estuaries, 41% of the Great Lake shoreline, and 11% of coastal waters. The Assessment concluded that pollution from diffuse sources, such as runoff from agricultural, urban areas, construction sites, land disposal and resource extraction, is cited by the States as the leading cause of water quality impairment. These sources appear to be increasingly important contributors of use impairment as discharges of industrial process wastewaters and municipal sewage plants come under increased control and as intensified data collection efforts provide additional information. Some examples of diffuse sources cited as causing use impairment are: for rivers and streams, 9% from separate storm sewers, 6% from construction and 13% from resource extraction; for lakes, 28% from separate storm sewers and 26% from land disposal; for the Great Lakes shoreline, 10% from separate storm sewers, 34% from resource extraction, and 82% from land disposal; for estuaries, 28% from separate storm sewers and 27% from land disposal; and for coastal areas, 20% from separate storm sewers and 29% from land disposal.

The States conducted a more comprehensive study of diffuse pollution sources under the sponsorship of the Association of State and Interstate Water Pollution Control Administrators (ASIWPCA) and EPA. The study resulted in the report "America's Clean Water—The States' Nonpoint Source Assessment, 1985" which indicated that 38 States reported urban runoff as a major cause of beneficial use impairment. In addition, 21 States reported construction site runoff as a major cause of use impairment.

To provide a better understanding of the nature of urban runoff from commercial and residential areas, from 1978 through 1983, EPA provided funding and guidance to the Nationwide Urban Runoff Program (NURP). The NURP included 28 projects across the Nation, conducted separately at the local level but centrally reviewed, coordinated, and guided.

One focus of the NURP was to characterize the water quality of discharges from separate storm sewers which drain residential, commercial, and light industrial (industrial parks) sites. The majority of samples collected in the study were analyzed for eight conventional pollutants and three metals. Data collected under the NURP indicated that on an annual loading basis, suspended solids in discharges from separate storm sewers draining runoff from residential, commercial and light industrial areas are around an order of magnitude greater than solids in discharges from municipal secondary sewage treatment plants. In addition, the study indicated that annual loadings of chemical oxygen demand (COD) are comparable in magnitude to effluent from secondary sewage treatment plants. When analyzing annual loadings associated with urban runoff, it is important to recognize that discharges of urban runoff are highly intermittent, and that the short-term loadings associated with individual events will be high and may have shockloading effects on receiving water, such as low dissolved oxygen levels. NURP data also showed that fecal coliform counts in urban runoff are typically in the tens to hundreds of thousands per 100 ml of runoff during warm weather conditions, although the study suggested that fecal coliform may not be the most appropriate indicator organism for identifying potential health risks in storm water runoff. Although NURP did not evaluate oil and grease, other studies have demonstrated that urban runoff is an extremely important source of oil pollution to receiving waters, with hydrocarbon levels in urban runoff typically being reported at a range of 2 to 15 mg/l. These hydrocarbons tend to accumulate in bottom sediments where they may persist for long periods of time and exert adverse impacts on benthic organisms.

A portion of the NURP study involved monitoring 120 priority pollutants in storm water discharges from lands used for residential, commercial and light industrial activities. Seventy-seven priority pollutants were detected in samples of storm water discharges from residential, commercial and light industrial lands taken during the NURP study, including 14 inorganic and 63 organic pollutants. Table A-1 shows the priority pollutants which were detected in at least ten percent of the discharge samples which were sampled for priority pollutants.

Table A-1.— Priority Pollutants Detected in at Least 10% of NURP Samples

[In percent]

	Frequency of detection
Metals and inorganics:	
Antimony	13
Arsenic	52
Beryllium	12
Cadmium	48
Chromium	58
Copper	91
Cyanides	23
Lead	94
Nickel	43
Selenium	11
Zinc	94
Pesticides:	
Alpha-hexachlorocyclohexane	20
Alpha-endosulfan	19
Chlordane	17
Lindane	15
Halogenated aliphatics:	
Methane, dichloro-	11
Phenols and cresols:	
Phenol	14
Phenol, pentachloro-	19

Phenol, 4-nitro	10
Phthalate esters:	
Phthalate, bis(2-ethylhexyl)	22
Polycyclic aromatic hydrocarbons:	
Chrysene	10
Fluoranthene	16
Phenanthrene	12
Pyrene	15

*47992 The NURP data also showed a significant number of these samples exceeded various EPA freshwater water quality criteria.

The NURP study provides insight on what can be considered background levels of pollutants for urban runoff, as the study focused primarily on monitoring runoff from residential, commercial and light industrial areas. However, NURP concluded that the quality of urban runoff can be adversely impacted by several sources of pollutants that were not directly evaluated in the study and are generally not reflected in the NURP data, including illicit connections, construction site runoff, industrial site runoff and illegal dumping.

Other studies have shown that many storm sewers contain illicit discharges of non-storm water and that large amounts of wastes, particularly used oils, are improperly disposed in storm sewers. Removal of these discharges present opportunities for dramatic improvements in the quality of storm water discharges. Storm water discharges from industrial facilities may contain toxics and conventional pollutants when material management practices allow exposure to storm water, in addition to wastes from illicit connections and improperly disposed wastes.

In some municipalities, illicit connections of sanitary, commercial and industrial discharges to storm sewer systems have had a significant impact on the water quality of receiving waters. Although the NURP study did not emphasize the identification of illicit connections to storm sewers (other than to assure that monitoring sites used in the study were free from sanitary sewage contamination), the study concluded that illicit connections can result in high bacterial counts and dangers to public health. The study also noted that removing such discharges presented opportunities for dramatic improvements in the quality of urban storm water discharges.

Studies have shown that illicit connections to storm sewers can create severe, wide-spread contamination problems. For example, the Huron River Pollution Abatement Program inspected 660 businesses, homes and other buildings located in Washtenaw County, Michigan and identified 14% of the buildings as having improper storm drain connections. Illicit discharges were detected at a higher rate of 60% for automobile related businesses, including service stations, automobile dealerships, car washes, body shops and light industrial facilities. While some of the problems discovered in this study were the result of improper plumbing or illegal connections, a majority were approved connections at the time they were built.

Intensive construction activities may result in severe localized impacts on water quality because of high unit loads of pollutants, primarily sediments. Construction sites can also generate other pollutants such as phosphorus and nitrogen from fertilizer, pesticides, petroleum products, construction chemicals and solid wastes. These materials can be toxic to aquatic organisms and degrade water for drinking and water-contact recreation. Sediment loadings rates from construction sites are typically 10 to 20 times that of agricultural lands, with runoff rates as high as 100 times that of agricultural lands, and typically 1,000 to 2,000 times that of forest lands. Even a small amount of construction may

have a significant negative impact on water quality in localized areas. Over a short period of time, construction sites can contribute more sediment to streams than was previously deposited over several decades.

II. Water Quality Act of 1987

The WQA contains three provisions which specifically address storm water discharges. The central WQA provision governing storm water discharges is [section 405](#), which adds section 402(p) to the CWA. Section 402(p)(1) provides that EPA or NPDES States cannot require a permit for certain storm water discharges until October 1, 1992, except: for storm water discharges listed under section 402(p)(2). Section 402(p)(2) lists five types of storm water discharges which are required to obtain a permit prior to October 1, 1992:

- (A) A discharge with respect to which a permit has been issued prior to February 4, 1987;
- (B) A discharge associated with industrial activity;
- (C) A discharge from a municipal separate storm sewer system serving a population of 250,000 or more;
- (D) A discharge from a municipal separate storm sewer system serving a population of 100,000 or more, but less than 250,000; or
- (E) A discharge for which the Administrator or the State, as the case may be, determines that the storm water discharge contributes to a violation of a water quality standard or is a significant contributor of pollutants to the waters of the United States.

Section 402(p)(4)(A) requires EPA to promulgate final regulations governing storm water permit application requirements for storm water discharges associated with industrial activity and discharges from large municipal separate storm sewer systems (systems serving a population of 250,000 or more), “no later than two years” after the date of enactment (i.e., no later than February 4, 1989). Section 402(p)(4)(B) also requires EPA to promulgate final regulations governing storm water permit application requirements for discharges from medium municipal separate storm sewer systems (systems serving a population of 100,000 or more but less than 250,000) “no later than four years” after enactment (i.e., no later than February 4, 1991).

In addition, section 402(p)(4) provides that permit applications for storm water discharges associated with industrial activity and discharges from large municipal separate storm sewer systems “shall be filed no later than three years” after the date of enactment of the WQA (i.e., no later than February 4, 1990). Permit applications for discharges from medium municipal systems must be filed “no later than five years” after enactment (i.e., no later than February 4, 1992).

The WQA clarified and amended the requirements for permits for storm water discharges in the new CWA section 402(p)(3). The Act clarified that permits for discharges associated with industrial activity must meet all of the applicable provisions of section 402 and section 301 ***47993** including technology and water quality based standards. However, the new Act makes significant changes to the permit standards for discharges from municipal storm sewers. Section 402(p)(3)(B) provides that permits for such discharges:

- (i) May be issued on a system- or jurisdiction-wide basis;
- (ii) Shall include a requirement to effectively prohibit non-storm water discharges into the storm sewers; and
- (iii) Shall require controls to reduce the discharge of pollutants to the maximum extent practicable, including management practices, control techniques and system, design and engineering methods, and such other provisions as the Administrator or the State determines appropriate for the control of such pollutants.

These changes are discussed in more detail later in today's rule.

The EPA, in consultation with the States, is required to conduct two studies on storm water discharges that are in the class of discharges for which EPA and NPDES States cannot require permits prior to October 1, 1992. The first study will identify those storm water discharges or classes of storm water discharges for which permits are not required prior to October 1, 1992, and determine, to the maximum extent practicable, the nature and extent of pollutants in such discharges. The second study is for the purpose of establishing procedures and methods to control storm water discharges to the extent necessary to mitigate impacts on water quality. Based on the two studies the EPA, in consultation with State and local officials, is required to issue regulations no later than October 1, 1992, which designate additional storm water discharges to be regulated to protect water quality and establish a comprehensive program to regulate such designated sources. This program must, at a minimum, (A) Establish priorities, (B) establish requirements for State storm water management programs, and (C) establish expeditious deadlines. The program may include performance standards, guidelines, guidance, and management practices and treatment requirements, as appropriate.

Section 401 of the WQA amends section 402(1)(2) of the CWA to provide that the EPA shall not require a permit for discharges of storm water runoff from mining operations or oil and gas exploration, production, processing, or treatment operations or transmission facilities if the storm water discharge is not contaminated by contact with, or does not come into contact with, any overburden, raw material, intermediate product, finished product, byproduct, or waste product located on the site of such operations.

Section 503 of the WQA amends section 502(14) of the CWA to exclude agricultural storm water discharges from the definition of point source.

III. Remand of 1984 Regulations

On December 4, 1987, the United States Court of Appeals for the District of Columbia Circuit vacated [40 CFR 122.26](#), (as promulgated on September 26, 1984, [49 FR 37998](#), September 26, 1984), and remanded the regulations to EPA for further rulemaking (NRDC v. EPA, No. 80-1607). EPA had requested the remand because of significant changes made by the storm water provisions of the WQA. The effect of the decision was to invalidate the storm water discharge regulations then found at [§ 122.26](#).

Storm water discharges which had been issued an NPDES permit prior to February 4, 1987, were not affected by the Court remand or the February 12, 1988, rule implementing the court order ([53 FR 4157](#)). (See section 402(p)(2)(A) of the CWA.) Similarly, the remand did not affect the authority of EPA or an NPDES State to require a permit for any storm water discharge (except an agricultural storm water discharge) designated under section 402(p)(2)(E) of the CWA. The notice of the remand clarified that such designated discharges meet the regulatory definition of point source found at [40 CFR 122.2](#) and that EPA or an NPDES State can rely on the statutory authority and require the filing of an application (Form 1 and Form 2C) for an NPDES permit with respect to such discharges on a case-by-case basis.

IV. Codification Rule and Case-by-Case Designations

Codification Rule

On January 4, 1989, ([54 FR 255](#)), EPA published a final rule which codified numerous provisions of the WQA into EPA regulations. The codification rule included several provisions dealing with storm water discharges. The codification rule promulgated the language found at section 402(p) (1) and (2) of the amended Clean Water Act at [40 CFR 122.26\(a\)\(1\)](#). In addition, the codification rule promulgated the language of Section 503 of the WQA which exempted agricultural storm water discharges from the definition of point source at [40 CFR 122.2](#), and section 401 of the WQA addressing uncontaminated storm water discharges from mining or oil and gas operations at [40 CFR 122.26\(a\)\(2\)](#).

EPA also codified the statutory authority of section 402(p)(2)(E) of the CWA for the Administrator or the State Director, as the case may be, to designate storm water discharges for a permit on a case-by-case basis at [40 CFR 122.26\(a\)\(1\)\(v\)](#).

Case by Case Designations

Section 402(p)(2)(E) of the CWA authorizes case-by-case designations of storm water discharges for immediate permitting if the Administrator or the State Director determines that the storm water discharge contributes to a violation of a water quality standard or is a significant contributor of pollutants to waters of the United States.

In determining that a storm water discharge contributes to a violation of a water quality standard or is a significant contributor of pollutants to waters of the United States for the purpose of a designation under section 402(p)(2)(E), the legislative history for the provision provides that “EPA or the State should use any available water quality or sampling data to determine whether the latter two criteria (contributes to a violation of a water quality standard or is a significant contributor of pollutants to waters of the United States) are met, and should require additional sampling as necessary to determine whether or not these criteria are met.” Conference Report, Cong. Rec. S16443 (daily ed. October 16, 1986). In accordance with this legislative history, today's rule promulgates permit application requirements for certain storm water discharges, including discharges designated on a case-by-case basis. EPA will consider a number of factors when determining whether a storm water discharge is a significant contributor of pollution to the waters of the United States. These factors include: the location of the discharge with respect to waters of the United States; the size of the discharge; the quantity and nature of the pollutants reaching waters of the United States; and any other relevant factors. Today's rule incorporates these factors at [40 CFR 122.26\(a\)\(1\)\(v\)](#).

Under today's rule, case-by-case designations are made under regulatory procedures found at [40 CFR 124.52](#). The procedures at [40 CFR 124.52](#) require that whenever the Director decides that an individual permit is required, the Director shall notify the discharger in writing that the discharge requires a permit and the reasons for the decision. In addition, an application form is sent with the notice. [Section 124.52](#) provides a 60 day period from the date of notice for submitting a permit application. Although this 60 day period may be appropriate for many designated storm water discharges, site specific factors may dictate that the Director provide *47994 additional time for submitting a permit application. For example, due to the complexities associated with designation of a municipal separate storm sewer system for a system- or jurisdiction-wide permit, the Director may provide the applicant with additional time to submit relevant information or may require that information be submitted in several phases.

V. Consent Decree of October 20, 1989

On April 20, 1989, EPA was served notice of intent to sue by Kathy Williams et al, because of the Agency's failure to promulgate final storm regulations on February 4, 1989, pursuant to Section 402(p)(4) of the CWA. A suit was filed by the same party on July 20, 1989, alleging the same cause of action, to wit: the Agency's failure to promulgate regulations under section 402(p)(4) of the CWA. On October 20, 1989, EPA entered into a consent decree with Kathy Williams et al, wherein the Federal District Court, District of Oregon, Southern Division, decreed that the Agency promulgate final regulations for storm water discharges identified in sections 402(p)(2) (B) and (C) of the CWA no later than July 20, 1990. Kathy Williams et al., v. William K. Reilly, Administrator, et al., No. 89-6265-E (D-Ore.) In July 1990, the consent decree was amended to provide for a promulgation date of October 31. Today's rule is promulgated in compliance with the terms of the consent decree as amended.

VI. Today's Final Rule and Response to Comments

A. Overview

Section 405 of the WQA alters the regulatory approach to control pollutants in storm water discharges by adopting a phased and tiered approach. The new provision phases in permit application requirements, permit issuance deadlines and compliance with permit conditions for different categories of storm water discharges. The approach is tiered in that storm water discharges associated with industrial activity must comply with sections 301 and 402 of the CWA (requiring control of the discharge of pollutants that utilize the Best Available Technology (BAT) and the Best Conventional Pollutant Control Technology (BCT) and where necessary, water quality-based controls), but permits for discharges from municipal separate storm sewer systems must require controls to reduce the discharge of pollutants to the maximum extent practicable, and where necessary water quality-based controls, and must include a requirement to effectively prohibit non-storm water discharges into the storm sewers. Furthermore, EPA in consultation with State and local officials must develop a comprehensive program to designate and regulate other storm water discharges to protect water quality.

This final regulation establishes requirements for the storm water permit application process. It also sets forth the required components of municipal storm water quality management plans, as well as a preliminary permitting strategy for industrial activities. In implementing these regulations, EPA and the States will strive to achieve environmental results in a cost effective manner by placing high priority on pollution prevention activities, and by targeting activities based on reducing risk from particularly harmful pollutants and/or from discharges to high value waters. EPA and the States will also work with applicants to avoid cross media transfers of storm water contaminants, especially through injection to shallow wells in the Class V Underground Injection Control Program.

In addition, EPA recognizes that problems associated with storm water, combined sewer overflows (CSOs) and infiltration and inflow (I&I) are all inter-related even though they are treated somewhat differently under the law. EPA believes that it is important to begin linking these programs and activities and, because of the potential cost to local governments, to investigate the use of innovative, non-traditional approaches to reducing or preventing contamination of storm water.

The application process for developing municipal storm water management plans provides an ideal opportunity between steps 1 and 2 for considering the full range of nontraditional, preventive approaches, including municipalities, public awareness/education programs, use of vegetation and/or land conservancy practices, alternative paving materials, creative ways to eliminate I&I and illegal hook-ups, and potentials for water reuse. EPA has already announced its plans to present an award for the best creative, cost effective approaches to storm water and CSOs beginning in 1991.

This rulemaking establishes permit application requirements for classes of storm water discharges that were specifically identified in section 402(p)(2). These priority storm water discharges include storm water discharges associated with industrial activity and discharges from a municipal separate storm sewer serving a population of 100,000 or more.

This rulemaking was developed after careful consideration of 450 sets of comments, comprising over 3200 pages, that were received from a variety of industries, trade associations, municipalities, State and Federal Agencies, environmental groups, and private citizens. These comments were received during a 90-day comment period which extended from December 7, 1988, to March 7, 1989. EPA received several requests for an extension of the comment period from 30-days up to 90-days. Many arguments were advanced for an extension including: the extent and complexity of the proposal, the existence of other concurrent EPA proposals, and the need for technical evaluations of the proposal. EPA considered these comments as they were received, but declined to extend the comment period beyond 90 days. The standard comment period on proposals normally range from 30 to 60 days. In light of the statutory deadline of February 4, 1989, additional time for the comment period beyond what was already a substantially lengthened comment period would have been inappropriate. The number and extent of the comments received on this proposal indicated that interested parties had substantially adequate time to review and comment on the regulation. Furthermore, the public was invited to attend six public meetings in Washington DC, Chicago, Dallas, Oakland, Jacksonville, and Boston to present questions and comments. EPA is convinced that substantial and adequate public participation was sought and received by the Agency.

Numerous commenters have also requested that the rule be repropose due to the extent of the proposal and the number of options and issues upon which the Agency requested comments. EPA has decided against a reproposal. The December 7, 1988, notice of proposed rulemaking was extremely detailed and thoroughly identified major issues in such a manner as to allow the public clear opportunities to comment. The comments that were received were extensive, and many provided valuable information and ideas that have been incorporated into the regulation. Accordingly, the Agency is confident it has produced a workable and rational approach to the initial regulation of storm water discharges and a regulation that reflects the experience and knowledge of the public as provided in the comments, and which was developed in accordance with the *47995 procedural requirements of the Administrative Procedures Act (APA). EPA believes that while the number of issues raised by the proposal was extensive, the number of detailed comments indicates that the public was able to understand the issues in order to comment adequately. Thus, a reproposal is unnecessary.

B. Definition of Storm Water

The December 7, 1988, notice requested comment on defining storm water as storm water runoff, surface runoff, street wash waters related to street cleaning or maintenance, infiltration (other than infiltration contaminated by seepage from sanitary sewers or by other discharges) and drainage related to storm events or snow melt. This definition is consistent with the regulatory definition of “storm sewer” at [40 CFR 35.2005\(b\)\(47\)](#) which is used in the context of grants for construction of treatment works. This definition aids in distinguishing separate storm water sewers from sanitary sewers, combined sewers, process discharge outfalls and non-storm water, non-process discharge outfalls.

The definition of “storm water” has an important bearing on the NPDES permitting scheme under the CWA. The following discusses the interrelationship of NPDES permitting requirements for storm water discharges addressed by this rule and NPDES permitting requirements for other non-storm water discharges which may be discharged via the storm sewer as a storm water discharge. Today's rule addresses permit application requirements for storm water discharges associated with industrial activity and for discharges from municipal separate storm sewer systems serving a population of 100,000 or more. Storm water discharges associated with industrial activity are to be covered by permits which contain technology-based controls based on BAT/BCT considerations or water quality-based controls, if necessary. A permit for storm water discharges from an industrial facility may also cover other non-storm water discharges from the facility. Today's rule establishes individual (Form 1 and Form 2F) and group application requirements for storm water discharges associated with industrial activity. In addition, EPA or authorized NPDES States with authorized general permit programs may issue general permits which establish alternative application or notification requirements for storm water discharges covered by the general permit(s). Where a storm water discharge associated with industrial activity is mixed with a non-storm water discharge, both discharges must be covered by an NPDES permit (this can be in the same permit or with multiple permits). Permit application requirements for these “combination” discharges are discussed later in today's notice.

Today's rule also addresses permit application requirements for discharges from municipal separate storm sewer systems serving a population of 100,000 or more. Under today's rule, appropriate municipal owners or operators of these systems must obtain NPDES permits for discharges from these systems. These permits are to establish controls to the maximum extent practicable (MEP), effectively prohibit non-storm water discharges to the municipal separate storm sewer system and, where necessary, contain applicable water quality-based controls. Where non-storm water discharges or storm water discharges associated with industrial activity discharge through a municipal separate storm sewer system (including systems serving a population of 100,000 or more as well as other systems), which ultimately discharges to a waters of the United States, such discharges through a municipal storm sewer need to be covered by an NPDES permit that is independent of the permit issued for discharges from the municipal separate storm sewer system. Today's rule defines the term “illicit discharge” to describe any discharge through a municipal separate storm sewer that is not composed entirely of storm water and that is not covered by an NPDES permit. Such illicit discharges are not authorized under the CWA. Section 402(p)(3)(B) of the CWA requires that permits for discharges from municipal separate storm sewers require the municipality to “effectively prohibit” non-storm water discharges from the municipal separate storm sewer. As discussed

in more detail below, today's rule begins to implement the "effective prohibition" by requiring municipal operators of municipal separate storm sewer systems serving a population of 100,000 or more to submit a description of a program to detect and control certain non-storm water discharges to their municipal system. Ultimately, such non-storm water discharges through a municipal separate storm sewer must either be removed from the system or become subject to an NPDES permit (other than the permit for the discharge from the municipal separate storm sewer). For reasons discussed in more detail below, in general, municipalities will not be held responsible for prohibiting some specific components of discharges or flows listed below through their municipal separate storm sewer system, even though such components may be considered non-storm water discharges, unless such discharges are specifically identified on a case-by-case basis as needing to be addressed. However, operators of such non-storm water discharges need to obtain NPDES permits for these discharges under the present framework of the CWA (rather than the municipal operator of the municipal separate storm sewer system). (Note that section 516 of the Water Quality Act of 1987 requires EPA to conduct a study of de minimis discharges of pollutants to waters of the United States and to determine the most effective and appropriate methods of regulating any such discharges.)

EPA received numerous comments on the proposed regulatory definition of storm water, many of which proposed exclusions or additions to the definition. Several commenters suggested that the definition should include or not include detention and retention reservoir releases, water line flushing, fire hydrant flushing, runoff from fire fighting, swimming pool drainage and discharge, landscape irrigation, diverted stream flows, uncontaminated pumped ground water, rising ground waters, discharges from potable water sources, uncontaminated waters from cooling towers, foundation drains, non-contact cooling water (such as HVAC or heating, ventilation and air conditioning condensation water that POTWs require to be discharged to separate storm sewers rather than sanitary sewers), irrigation water, springs, roof drains, water from crawl space pumps, footing drains, lawn watering, individual car washing, flows from riparian habitats and wetlands. Most of these comments were made with regard to the concern that these were commonly occurring discharges which did not pose significant environmental problems. It was also noted that, unless these flows are classified as storm water, permits would be required for these discharges.

In response to the comments which requested EPA to define the term "storm water" broadly to include a number of classes of discharges which are not in any way related to precipitation events, EPA believes that this rulemaking is not an appropriate forum for addressing the appropriate regulation under the NPDES program of such non-storm water discharges, even though some classes of non-storm water discharges may typically contain only minimal amounts of pollutants. Congress did not intend that the term storm water be used to describe any discharge that has a de minimis amount of pollutants, nor did it intend for section 402(p) to be used to ***47996** provide a moratorium from permitting other non-storm water discharges. Consequently, the final definition of storm water has not been expanded from what was proposed. However, as discussed in more detail later in today's notice, municipal operators of municipal separate storm sewer systems will generally not be held responsible for "effectively prohibiting" limited classes of these discharges through their municipal separate storm sewer systems.

The proposed rule included infiltration in the definition of storm water. In this context one commenter suggested that the term infiltration be defined. Infiltration is defined at [40 CFR 35.2005\(b\)\(20\)](#) as water other than wastewater that enters a sewer system (including sewer service connections and foundation drains) from the ground through such means as defective pipes, pipe joints, connections or manholes. Infiltration does not include, and is distinguished from, inflow. Another commenter urged that ground water infiltration not be classified as storm water because the chemical characteristics and contaminants of ground water will differ from surface storm water because of a longer contact period with materials in the soil and because ground water quality will not reflect current practices at the site. In today's rule, the definition of storm water excludes infiltration since pollutants in these flows will depend on a large number of factors, including interactions with soil and past land use practices at a given site. Further infiltration flows can be contaminated by sources that are not related to precipitation events, such as seepage from sanitary sewers. Accordingly the final regulatory language does not include infiltration in the definition of storm water. Such flows may be subject to

appropriate permit conditions in industrial permits. As discussed in more detail below, municipal management programs must address infiltration where identified as a source of pollutants to waters of the United States.

One commenter questioned the status of discharges from detention and retention basins used to collect storm water. This regulation covers discharges of storm water associated with industrial activity and discharges from municipal separate storm sewer systems serving a population of 100,000 or more into waters of the United States. Therefore, discharges from basins that are part of a conveyance system for a storm water discharge associated with industrial activity or part of a municipal separate storm sewer system serving a population of 100,000 or more are covered by this regulation. Flows which are channeled into basins and which do not discharge into waters of the United States are not addressed by today's rule.

Several commenters requested that the term illicit connection be replaced with a term that does not connote illegal discharges or activity, because many discharges of non-storm water to municipal separate storm sewer systems occurred prior to the establishment of the NPDES program and in accordance with local or State requirements at the time of the connection. EPA disagrees that there should be a change in this terminology. The fact that these connections were at one time legal does not confer such status now. The CWA prohibits the point source discharge of non-storm water not subject to an NPDES permit through municipal separate storm sewers to waters of the United States. Thus, classifying such discharges as illicit properly identifies such discharges as being illegal.

A commenter wanted clarification of the terms "other discharges" and "drainage" that are used in the definition of "storm water." As noted above, today's rule clarifies that infiltration is not considered storm water. Thus the portion of the definition of storm water that refers to "other discharges" has also been removed. However, the term drainage has been retained. "Drainage" does not take on any meaning other than the flow of runoff into a conveyance, as the word is commonly understood.

One commenter stated that irrigation flows combined with storm water discharges should be excluded from consideration in the storm water program. The Agency would note that irrigation return flows are excluded from regulation under the NPDES program. Section 402(l)(1) states that the Administrator or the State shall not require permits for discharges composed entirely of return flows from irrigated agriculture. The legislative history of the 1977 Clean Water Act, which enacted this language, states that the word "entirely" was intended to limit the exception to only those flows which do not contain additional discharges from activities unrelated to crop production. Congressional Record Vol. 123 (1977), pg. 4360, [Senate Report No. 95-370](#). Accordingly, a storm water discharge component, from an industrial facility for example, included in such "joint" discharges may be regulated pursuant to an NPDES permit either at the point at which the storm water flow enters or joins the irrigation flow, or where the combined flow enters waters of the United States or a municipal separate storm sewer.

Some commenters expressed concern about including street wash waters as storm water. One commenter argued including street wash waters in the definition of storm water should not be construed to eliminate the need for management practices relating to construction activities where sediment may simply wash into storm drains. EPA agrees with these points and the concerns that storm sewers may receive material that pose environmental problems if street wash waters are included in the definition. Accordingly, such discharges are no longer in the definition as proposed, and must be addressed by municipal management programs as part of the prohibition on non-storm water discharges through municipal separate storm sewer systems.

Several commenters requested that the terms discharge and point source, in the context of permits for storm water discharge, be clarified. Several commenters stated that the EPA should clarify that storm water discharge does not include "sheet flow" off of an industrial facility. EPA interprets this as request for clarification on the status of the terms "point source" and "discharge" under these regulations. In response, this rulemaking only covers storm water discharges from point sources. A point source is defined at [40 CFR 122.2](#) as "any discernible, confined, and discrete conveyance, including

but not limited to, any pipe, ditch, channel, tunnel, conduit, well, discrete fissure, container, rolling stock, concentrated animal feeding operation, landfill leachate collection system, vessel or other floating craft from which pollutants are or may be discharged. This term does not include return flows from irrigated agriculture or agricultural storm water runoff.” EPA agrees with one commenter that this definition is adequate for defining what discharges of storm water are covered by this rulemaking. EPA notes that this definition would encompass municipal separate storm sewers. In view of this comprehensive definition of point source, EPA need clarify in this rulemaking only that a storm water discharge subject to NPDES regulation does not include storm water that enters the waters of the United States via means other than a “point source.” As further discussed below, storm water from an industrial facility which enters and is subsequently discharged through a municipal separate storm sewer is a “discharge associated with industrial *47997 activity” which must be covered by an individual or general permit pursuant to today's rule.

EPA would also note that individual facilities have the burden of determining whether a permit application should be submitted to address a point source discharge. Those unsure of the classification of storm water flow from a facility, should file permit applications addressing the flow, or prior to submitting the application consult permitting authorities for clarification.

One commenter stated that “point source” for this rulemaking should be defined, for the purposes of achieving better water quality, as those areas where “discharges leave the municipal [separate storm sewer] system.” EPA notes in response that “point source” as currently defined will address such discharges, while keeping the definition of discharge and point source within the framework of the NPDES program, and without adding potentially confusing and ambiguous additional definitions to the regulation. If this comment is asserting that the term point source should not include discharges from sources through the municipal system, EPA disagrees. As discussed in detail below, discharges through municipal separate storm sewer systems which are not connected to an operable treatment works are discharges subject to NPDES permit requirements at (40 CFR 122.3(c)), and may properly be deemed point sources.

One industry argued that the definition of “point source” should be modified for storm water discharges so as to exclude discharges from land that is not artificially graded and which has a propensity to form channels where precipitation runs off. EPA intends to embrace the broadest possible definition of point source consistent with the legislative intent of the CWA and court interpretations to include any identifiable conveyance from which pollutants might enter the waters of the United States. In most court cases interpreting the term “point source”, the term has been interpreted broadly. For example, the holding in [Sierra Club v. Abston Construction Co., Inc., 620 F.2d 41 \(5th Cir. 1980\)](#) indicates that changing the surface of land or establishing grading patterns on land will result in a point source where the runoff from the site is ultimately discharged to waters of the United States:

Simple erosion over the material surface, resulting in the discharge of water and other materials into navigable waters, does not constitute a point source discharge, absent some effort to change the surface, to direct the water flow or otherwise impede its progress * * * Gravity flow, resulting in a discharge into a navigable body of water, may be part of a point source discharge if the (discharger) at least initially collected or channeled the water and other materials. A point source of pollution may also be present where (dischargers) design spoil piles from discarded overburden such that, during periods of precipitation, erosion of spoil pile walls results in discharges into a navigable body of water by means of ditches, gullies and similar conveyances, even if the (dischargers) have done nothing beyond the mere collection of rock and other materials * * * Nothing in the Act relieves (dischargers) from liability simply because the operators did not actually construct those conveyances, so long as they are reasonably likely to be the means by which pollutants are ultimately deposited into a navigable body of water. Conveyances of pollution formed either as a result of natural erosion or by material means, and which constitute a component of a * * * drainage system, may fit the statutory definition and thereby subject the operators to liability under the Act.” [620 F.2d at 45](#) (emphasis added).

Under this approach, point source discharges of storm water result from structures which increase the imperviousness of the ground which acts to collect runoff, with runoff being conveyed along the resulting drainage or grading patterns.

The entire thrust of today's regulation is to control pollutants that enter receiving water from storm water conveyances. It is these conveyances that will carry the largest volume of water and higher levels of pollutants. The storm water permit application process and permit conditions will address circumstances and discharges peculiar to individual facilities.

One industry commented that the definition of waters of the State under some State NPDES programs included municipal storm sewer systems. The commenter was concerned that certain industrial facilities discharging through municipal storm sewers in these states would be required to obtain an NPDES permit, despite EPA's proposal not to require permits from such facilities generally. In response, EPA notes that section 510 of the CWA, approved States are able to have stricter requirements in their NPDES program. In approved NPDES States, the definition of waters of the State controls with regard to what constitutes a discharge to a water body. However, EPA believes that this will have little impact, since, as discussed below, all industrial dischargers, including those discharging through municipal separate storm sewer systems, will be subject to general or individual NPDES permits, regardless of any additional State requirements.

One municipality commented that neither the term "point source" nor "discharge" should be used in conjunction with industrial releases into urban storm water systems because that gives the impression that such systems are navigable waters. EPA disagrees that any confusion should result from the use of these terms in this context. In this rulemaking, EPA always addresses such discharges as "discharges through municipal separate storm sewer systems" as opposed to "discharges to waters of the United States." Nonetheless, such industrial discharges through municipal storm sewer systems are subject to the requirements of today's rule, as discussed elsewhere.

One commenter desired clarification with regard to what constituted an outfall, and if an outfall could be a pipe that connected two storm water conveyances. This rulemaking defines outfall as a point of discharge into the waters of the United States, and not a conveyance which connects to Sections of municipal separate storm sewer. In response to another comment, this rulemaking only addresses discharges to waters of United States, consequently discharges to ground waters are not covered by this rulemaking (unless there is a hydrological connection between the ground water and a nearby surface water body. See, e.g., [Exxon Coro. v. Train](#), 554 F.2d 1310, 1312 n.1 (5th Cir. 1977); [McClellan Ecological Seepage Situation v. Weinberger](#), 707 F.Supp. 1182, 1195-96 (E.D. Cal. 1988)).

In the WQA and other places, the term "storm water" is presented as a single word. Numerous comments were received by EPA as to the appropriate spelling. Many of these comments recommended that two words for storm water is appropriate. EPA has decided to use an approach consistent with the Government Printing Office's approved form where storm water appears as two words.

C. Responsibility for Storm Water Discharges Associated With Industrial Activity Through Municipal Separate Storm Sewers

The December 7, 1988, notice of proposed rulemaking requested comments on the appropriate permitting scheme for storm water discharges associated with industrial activity through municipal separate storm sewers. EPA proposed a permitting scheme that would define the requirement to obtain coverage under an NPDES permit for a storm water discharge associated with industrial activity through a municipal separate storm sewer in terms of the classification of the municipal separate storm sewer. EPA proposed holding municipal operators of large or medium ***47998** municipal separate storm sewer systems primarily responsible for applying for and obtaining an NPDES permit covering system discharges as well as storm water discharges (including storm water discharges associated with industrial activity) through the system. Under the proposed approach, operators of storm water discharges associated with industrial activity which discharge through a large or medium municipal separate storm sewer system would generally not be required to obtain permit coverage for their discharge (unless designated as a significant contributor of pollution pursuant to section 402(p)(2)(E)) provided the municipality was notified of: The name, location and type of facility and a certification that the discharge has been tested (if feasible) for non-storm water (including the results of any testing). The notification

procedure also required the operator of the storm water discharge associated with industrial activity to determine that: The discharge is composed entirely of storm water; the discharge does not contain hazardous substances in excess of reporting quantities; and the facility is in compliance with applicable provisions of the NPDES permit issued to the municipality for storm water.

In the proposal, EPA also requested comments on whether a decision on regulatory requirements for storm water discharges associated with industrial activity through other municipal separate storm sewer systems (generally those serving a population of less than 100,000) should be postponed until completion of two studies of storm water discharges required under section 402(p)(5) of the CWA.

EPA favored these approaches because they appeared to reduce the potential administrative burden associated with preparing and processing the thousands of permit applications associated with the rulemaking and provide EPA additional flexibility in developing permitting requirements for storm water discharges associated with industrial activity. EPA also expressed its belief, based upon an analysis of ordinances controlling construction site runoff in place in certain cities, that municipalities generally possessed legal authority sufficient to control contributions of industrial storm water pollutants to their separate storm sewers to the degree necessary to implement the proposed rule. EPA commented that municipal controls on industrial sources implemented to comply with an NPDES permit issued to the municipality would likely result in a level of storm water pollution control very similar to that put directly on the industrial source through its own NPDES permit. This was to be accomplished by requiring municipal permittees, to the maximum extent practicable, to require industrial facilities in the municipality to develop and implement storm water controls based on a consideration of the same or similar factors as those used to make BAT/BCT determinations. (See [40 CFR 125.3 \(d\)\(2\)](#) and [\(d\)\(3\)](#)).

The great majority of commenters on the December 7, 1988, notice addressed this aspect of the proposal. Based on consideration of the comments received on the notice, EPA has decided that it is appropriate to revise the approach in its proposed rule to require direct permit coverage for all storm water discharges associated with industrial activity, including those that discharge through municipal separate storm sewers. In response to this decision, EPA has continued to analyze the appropriate manner to respond to the large number of storm water discharges subject to this rulemaking. The development of EPA's policy regarding permitting these discharges is discussed in more detail in the section VI.D of today's preamble.

EPA notes that the status of discharges associated with industrial activity which pass through a municipal separate storm sewer system under section 402(p) raises difficult legal and policy questions. EPA believes that treating these discharges under permits separate from those issued to the municipality will most fully address both the legal and policy concerns raised in public comment.

Certain commenters supported EPA's proposal. Some commenters claimed that EPA lacked any authority to permit industrial discharges which were not discharged immediately to waters of the U.S. Other commenters agreed with EPA's statements in the proposal that its approach would result in a more manageable administrative burden for EPA and the NPDES states. However, numerous comments also were received which provided various arguments in support of revising the proposed approach. These comments addressed several areas including the definition of discharge under the CWA, the requirements and associated statutory time frames of section 402(p), as well as the resource and enforcement constraints of municipalities. EPA is persuaded by these comments and has modified its approach accordingly. The key comments on this issue are discussed below.

EPA disagrees with commenters who suggested that EPA lacks authority to permit separately industrial discharges through municipal sewers. The CWA prohibits the discharge of a pollutant except pursuant to an NPDES permit. Section 502(12)(A) of the CWA defines the "discharge of a pollutant" as "any addition of any pollutant to navigable waters from any point source." [FN1] There is no qualification in the statutory language regarding the source of the pollutants being

discharged. Thus, pollutants from a remote location which are discharged through a point source conveyance controlled by a different entity (such as a municipal storm sewer) are nonetheless discharges for which a permit is required.

EPA's regulatory definition of the term "discharge" reflects this broad construction. EPA defines the term to include

additions of pollutants into waters of the United States from: surface runoff which is collected or channelled by man; discharges through pipes, sewers, or other conveyances owned by a State, municipality, or other person which does not lead to a treatment works; and discharges through pipes, sewers, or other conveyances, leading into privately owned treatment works.

[40 CFR § 122.2 \(1989\)](#) (emphasis added). The only exception to this general rule is the one contemplated by section 307(b) of the CWA, i.e., the introduction of pollutants into publicly-owned treatment works. EPA treats these as "indirect discharges," subject not to NPDES requirements, but to pretreatment standards under [section 307\(b\)](#).

In light of its construction of the term discharge, EPA has consistently maintained that a person who sends pollutants from a remote location through a point source into a water of the U.S. may be held liable for the unpermitted discharge of that pollutant. Thus, EPA asserts the authority to require a permit either from the operator of the point source conveyance, (such as a municipal storm sewer or a privately-owned treatment works), or from any person causing pollutants to be present in that conveyance and discharged through the point source, or both. See Decision of the General Counsel (of EPA) No. 43 ("In re Friendswood Development Co.") (June 11, 1976) (operator of privately owned treatment work and dischargers to it are both subject to NPDES permit requirements). See also, [40 CFR 122.3\(g\), 122.44\(m\) *47999](#) (NPDES permit writer has discretion to permit contributors to a privately owned treatment works as direct dischargers). In other words, where pollutants are added by one person to a conveyance owned/operated by another person, and that conveyance discharges those pollutants through a point source, EPA may permit either person or both to ensure that the discharge is properly controlled. Pollutants from industrial sites discharged through a storm sewer to a point source are appropriately treated in this fashion.

Furthermore, EPA believes that storm water from an industrial plant which is discharged through a municipal storm sewer is a "discharge associated with industrial activity." Today's rule, as in the proposal, defines discharges associated with industrial activity solely in terms of the origin of the storm water runoff. There is no distinction for how the storm water reaches the waters of the U.S. In other words, pollutants in storm water from an industrial plant which are discharged are "associated with industrial activity," regardless of whether the industrial facility operates the conveyance discharging the storm water (or whether the storm water is ultimately discharged through a municipal storm sewer). Indeed, there is no distinction in the "industrial" nature of these two types of discharges. The pollutants of concern in an industrial storm water discharge are present when the storm water leaves the facility, either through an industrial or municipal storm water conveyance. EPA has no data to suggest that the pollutants in industrial storm water entering a municipal storm sewer are any different than those in storm water discharged immediately to a water of the U.S. Thus, industrial storm water in a municipal sewer is properly classified as "associated with industrial activity." Although EPA proposed not to cover these discharges by separate permit, the Agency believes that it is clearly not precluded from doing so.

Many comments also supported the proposed approach, noting that holding municipalities primarily responsible for obtaining a permit which covers industrial storm water discharges through municipal systems would reduce the administrative burden associated with preparing and processing thousands of permit applications—permit applications that would be submitted if each industrial discharger through a large or medium municipal separate storm sewer system had to apply individually (or as part of a group application).

EPA appreciates these concerns. Yet EPA also recognizes that there are also significant problems with putting the burden of controlling these sources on the municipalities (except for designated discharges) which must be balanced with the

concerns about the permit application burden on industries. The industrial permitting strategy discussed in section VI.D below attempts to achieve this balance.

EPA also does not believe that the administrative burden will be nearly as significant as originally thought, for several reasons. First, as discussed in section VI.F.2 below and in response to significant public comment, EPA has significantly narrowed the scope of the definition of “associated with industrial activity” to focus in on those facilities which are most commonly considered “industrial” and thought to have the potential for the highest levels of pollutants in their storm water discharges. EPA believes this is a more appropriate way to ensure a manageable scope for the industrial storm water program in light of the statutory language of section 402(p), since it does not attempt to arbitrarily distinguish industrial facilities on the basis of the ownership of the conveyance through which a facility discharges its storm water. Second, EPA's industrial permitting strategy discussed in section VI.D is designed around aggressive use of general permits to cover the vast majority of industrial sources. These general permits will require industrial facilities to develop storm water control plans and practices similar to those that would have been required by the municipality. Yet, general permits will eliminate the need for thousands of individual or group permit applications, greatly reducing the burden on both industry EPA/States. Finally, even under the proposal, EPA believes that a large number of industrial dischargers would have been appropriate for designation for individual permitting under section 402(p)(2)(E), with the attendant individual application requirements. Today's approach will actually decrease the overall burden on these facilities; rather than filing an individual permit application upon designation, these facilities will generally be covered by a general permit.

By contrast, several commenters asserted that not only does EPA have the authority to cover these discharges by separate permit, it is required to by the language of section 402(p). As discussed above, storm water from an industrial plant which passes through a municipal storm sewer to a point source and is discharged to waters of the U.S. is a “discharge associated with industrial activity.” Therefore, it is subject to the appropriate requirements of section 402(p). The operator of the discharge (or the industrial facility where the storm water originates) must apply for a permit within three years of the 1987 amendments (i.e., Feb. 4, 1990); [FN2] EPA must issue a permit by one year later (Feb. 4, 1991); and the permit must require compliance within three years of permit issuance. That permit must ensure that the discharge is in compliance with all appropriate provisions of sections 301 and 402. Commenters asserted that EPA's proposal would violate these two requirements of the law. First, the statute requires all industrial storm water discharges to obtain a permit in the first round of permitting (i.e., February 4, 1990). However, Congress established a different framework to address discharges from small municipal separate storm sewer systems. Section 402(p) requires EPA to complete two studies of storm water discharges, and based on those studies, promulgate additional regulations, including requirements for state storm water management programs by October 1, 1992. EPA is prohibited from issuing permits for storm water discharges from small municipal systems until October 1, 1992 unless the discharge is designated under section 402(p)(2)(E). Thus, industrial storm water discharges from these systems would not be covered by a permit until later than contemplated by statute. Second, permits for municipal storm sewer systems require controls on storm water discharges “to the maximum extent practicable,” as opposed to the BAT/BCT requirements of [section 301\(b\)\(2\)](#). Yet, all industrial storm water discharges must comply with [section 301\(b\)\(2\)](#). Thus, covering industrial storm water under a municipal storm water permit will not ensure the legally-required level of control of industrial storm water discharges.

In addition to comments on the requirements of section 402(p), EPA received several comments questioning whether EPA's proposal to cover industrial pollutants in municipal separate storm sewers solely in the permit issued to the municipality would ensure adequate control of these pollutants due to both inadequate *48000 resources and enforcement. Some municipalities stated that the burdens of this responsibility would be too great with regard to source identification and general administration of the program. These commenters claimed they lacked the necessary technical and regulatory expertise to regulate such sources. Commenters also noted that additional resources to control these sources would be difficult to obtain given the restrictions on local taxation in many states and the fact that EPA will not be providing funding to local governments to implement their storm water programs.

Municipalities also expressed concerns regarding enforcement of EPA's proposed approach. Some municipalities remarked that they did not have appropriate legal authority to address these discharges. Several commenters also stated that requiring municipalities to be responsible for addressing storm water discharges associated with industrial activity through their municipal system would result in unequal treatment of industries nationwide because of different municipal requirements and enforcement procedures. Several municipal entities expressed concern with regard to their responsibility and liability for pollutants discharged to their municipal storm sewer system, and further asserted that it was unfair to require municipalities to bear the full cost of controlling such pollutants. Other municipalities suggested that overall municipal storm water control would be impaired, since municipalities would spend a disproportionate amount of resources trying to control industrial discharges through their sewers, rather than addressing other storm water problems. In a related vein, certain commenters suggested that, where industrial storm water was a significant problem in a municipal sewer, EPA's proposed approach would hamper enforcement at the federal/state level, since all enforcement measures could be directed only at the municipality, rather than at the most direct source of that problem.

In response to all of these concerns, EPA has decided to require storm water discharges associated with industrial activity which discharge through municipal separate storm sewers to obtain separate individual or general NPDES permits. EPA believes that this change will adequately address all of the key concerns raised by commenters.

The Agency was particularly influenced by concerns that many municipalities lacked the authority under state law to address industrial storm water practices. EPA had assumed that since several cities regulate construction site activities, that they could regulate other industrial operations in a similar manner. Several commenters suggested otherwise. In light of these concerns, EPA agrees with certain commenters that municipal controls on industrial facilities, in lieu of federal control, might not comply with section 402(p)(3)(A) for those facilities.^[FN3] This calls into question whether EPA's proposed approach would have reasonably implemented Congressional intent to address industrial storm water early and stringently in the permitting process.

EPA also agrees with those commenters who argued that municipal controls on industrial storm water sources were not directly analogous to the pretreatment program under [section 307\(b\)](#), as EPA suggested in the preamble to the proposal. The authority of cities to control the type and volume of industrial pollutants into a POTW is generally unquestioned under the laws of most states, since sewage and industrial waste treatment is a service provided by the municipality. Thus, EPA has greater confidence that cities can and will adopt effective pretreatment programs. By contrast, many cities are limited in the types of controls they can impose on flows into storm sewers; cities are more often limited to regulations on quantity of industrial flows to prevent flooding the system. So too, the pretreatment program allows for federal enforcement of local pretreatment requirements. Enforcement against direct dischargers (including dischargers through municipal storm sewers) is possible only when the municipal requirements are contained in an NPDES permit.

Although today's rule will require industrial discharges through municipal storm sewers to be covered by separate permit, EPA still believes that municipal operators of large and medium municipal systems have an important role in source identification and the development of pollutant controls for industries that discharge storm water through municipal separate storm sewer systems is appropriate. Under the CWA, large and medium municipalities are responsible for reducing pollutants in discharges from municipal separate storm sewers to the maximum extent practicable. Because storm water from industrial facilities may be a major contributor of pollutants to municipal separate storm sewer systems, municipalities are obligated to develop controls for storm water discharges associated with industrial activity through their system in their storm water management program. (See section VI.H.7. of today's preamble.) The CWA provides that permits for municipal separate storm sewers shall require municipalities to reduce pollutants to the maximum extent practicable. Permits issued to municipalities for discharges from municipal separate storm sewers will reflect terms, specified controls, and programs that achieve that goal. As with all NPDES permits, responsibility and liability is determined by the discharger's compliance with the terms of the permit. A municipality's responsibility for industrial storm water discharged through their system is governed by the terms of the permit issued. If an industrial source discharges storm water through a municipal separate storm sewer in violation of requirements incorporated into a permit

for the industrial facility's discharge, that industrial operator of the discharge may be subject to an enforcement action instituted by the Director of the NPDES program.

Today's rule also requires operators of storm water discharges associated with industrial activity through large and medium municipal systems to provide municipal entities of the name, location, and type of facility that is discharging to the municipal system. This information will provide municipalities with a base of information from which management plans can be devised and implemented. This requirement is in addition to any requirements contained in the industrial facility's permit. As in the proposal, the notification process will assist cities in development of their industrial control programs.

EPA intends for the NPDES program, through requirements in permits for storm water discharges associated with industrial activity, to work in concert with municipalities in the industrial component of their storm water management program efforts. EPA believes that permitting of municipal storm sewer systems and the industrial discharges through them will act in a complementary manner to fully control the pollutants in those sewer systems. This will fully implement the intent of ***48001** Congress to control industrial as well as large and medium municipal storm water discharges as expeditiously and effectively as possible. This approach will also address the concerns of municipalities that they lack sufficient authority and resources to control all industrial contributions to their storm sewers and will be liable for discharges outside of their control.

The permit application requirements for large and medium municipal separate storm sewer systems, discussed in more detail later in today's preamble, address the responsibilities of the municipal operators of these systems to identify and control pollutants in storm water discharges associated with industrial activity. Permit applications for large and medium municipal separate storm sewer systems are to identify the location of facilities which discharge storm water associated with industrial activity to the municipal system (see section VI.H.7. of the preamble). In addition, municipal applicants will provide a description of a proposed management program to reduce, to the maximum extent practicable, pollutants from storm water discharges associated with industrial activity which discharge to the municipal system (see section VI.H.7.c of this preamble). EPA notes that each municipal program will be tailored to the conditions in that city. Differences in regional weather patterns, hydrology, water quality standards, and storm sewer systems themselves dictate that storm water management practices will vary to some degree in each municipality. Accordingly, similar industrial storm water discharges may be treated differently in terms of the requirements imposed by the municipality, depending on the municipal program. Nonetheless, any individual or general permit issued to the industrial facility must comply with section 402(p)(3)(A) of the CWA.

EPA intends to provide assistance and guidance to municipalities and permitting authorities for developing storm water management programs that achieve permit requirements. EPA intends to issue a guidance document addressing municipal permit applications in the near term.

Controls developed in management plans for municipal system permits may take a variety of forms. Where necessary, municipal permittees can pursue local remedies to develop measures to reduce pollutants or halt storm water discharges with high levels of pollutants through municipal storm sewer systems. Some local entities have already implemented ordinances or laws that are designed to reduce the discharge of pollutants to municipal separate storm sewers, while other municipalities have developed a variety of techniques to control pollutants in storm water. Alternatively, where appropriate, municipal permittees may develop end-of-pipe controls to control pollutants in these discharges such as regional wet detention ponds or diverting flow to publicly owned treatment works. Finally, municipal applicants may bring individual storm water discharges, which cannot be adequately controlled by the municipal permittees or general permit coverage, to the attention of the permitting authority. Then, at the Director's discretion, appropriate additional controls can be required in the permit for the facility generating the targeted storm water discharge.

One commenter suggested that municipal operators of municipal separate storm sewers should have control over all storm water discharges from a facility that discharges both through the municipal system and to waters of the United States. In response, under this regulatory and statutory scheme, industries that discharge storm water directly into the waters of the United States, through municipal separate storm sewer systems, or both are required to obtain permit coverage for their discharges. However, municipalities are not precluded from exercising control over such facilities through their own municipal authorities.

It is important to note that EPA has established effluent guideline limitations for storm water discharges for nine subcategories of industrial dischargers (Cement Manufacturing (40 CFR part 411), Feedlots (40 CFR part 412), Fertilizer Manufacturing (40 CFR part 418), Petroleum Refining (40 CFR part 419), Phosphate Manufacturing (40 CFR part 422), Steam Electric (40 CFR part 423), Coal Mining (40 CFR part 434), Ore Mining and Dressing (40 CFR part 440) and Asphalt (40 CFR part 441)). Most of the existing facilities in these subcategories already have individual permits for their storm water discharges. Under today's rule, facilities with existing NPDES permits for storm water discharges through a municipal storm sewer will be required to maintain these permits and apply for an individual permit, under [§ 122.26\(c\)](#), when existing permits expire. EPA received numerous comments supporting this decision because requiring facilities that have existing permits to comply with today's requirements immediately would be inefficient and not serve improved water quality.

Sections 402(p) (1) and (2) of the CWA provide that discharges from municipal separate storm sewer systems serving a population of less than 100,000 are not required to obtain a permit prior to October 1, 1992, unless designated on a case-by-case basis under section 402(p)(2)(E). However, as discussed above, storm water discharges associated with industrial activity through such municipal systems are not excluded. Thus, under today's rule, all storm water discharges associated with industrial activity that discharge through municipal separate storm sewer systems are required to obtain NPDES permit coverage, including those which discharge through systems serving populations less than 100,000. EPA believes requiring permits will address the legal concerns raised by commenters regarding these sources. In addition, it will allow for control of these significant sources of pollution while EPA continues to study under section 402(p)(6) whether to require the development of municipal storm water management plans in these municipalities. If these municipalities do ultimately obtain NPDES permits for their municipal separate storm sewer systems, early permitting of the industrial contributions may aid those cities in their storm water management efforts.

In the December 7, 1988, proposal, EPA recognized that storm water discharges associated with industrial activity from Federal facilities through municipal separate storm sewer systems may pose unique legal and administrative situations. EPA received numerous comments on this issue, with most of these comments coming from cities and counties. The comments reflected a general concern with respect to a municipality's ability to control Federal storm water discharges through municipal separate storm sewer systems. Most municipalities stated that they do not have the legal authority to adequately enforce against problem storm water discharges from Federal facilities and that these facilities should be required to obtain separate storm water permits. Some commenters stated that they have no Constitutional authority to regulate Federal facilities or establish regulation for such facilities. Some commenters indicated that Federal facilities could not be inspected, monitored, or subjected to enforcement for national security and other jurisdictional reasons. Some commenters argued that without clearly stated legal authority for the municipality, such dischargers should be required to obtain permits. One ***48002** municipality pointed out that Federal facilities within city limits are exempted from their Erosion and Sediment Control Act and that permits for these facilities should be required.

Under today's rule, Federal facilities which discharge storm water associated with industrial activity through municipal separate storm sewer systems will be required to obtain NPDES permit coverage under Federal or State law. EPA believes this will cure the legal authority problems at the local level raised by the commenters. EPA notes that this requirement is consistent with section 313(a) of the CWA.

D. Preliminary Permitting Strategy for Storm Water Discharges Associated With Industrial Activity

Many of the comments received on the December 7, 1988, proposal focused on the difficulties that EPA Regions and authorized NPDES States, with their finite resources, will have in implementing an effective permitting program for the large number of storm water discharges associated with industrial activity. Many commenters noted that problems with implementing permit programs are caused not only by the large number of industrial facilities subject to the program, but by the difficulties associated with identifying appropriate technologies for controlling storm water at various sites and the differences in the nature and extent of storm water discharges from different types of industrial facilities.

EPA recognizes these concerns; and based on a consideration of comments from authorized NPDES States, municipalities, industrial facilities and environmental groups on the permitting framework and permit application requirements for storm water discharges associated with industrial activity, EPA is in the process of developing a preliminary strategy for permitting storm water discharges associated with industrial activity. In developing this strategy, EPA recognizes that the CWA provides flexibility in the manner in which NPDES permits are issued.[FN4] EPA intends to use this flexibility in designing a workable and reasonable permitting system. In accordance with these considerations, EPA intends to publish in the near future a discussion of its preliminary permitting strategy for implementing the NPDES storm water program.

The preliminary strategy is intended to establish a framework for developing permitting priorities, and includes a four tier set of priorities for issuing permits to be implemented over time:

- Tier I—baseline permitting: One or more general permits will be developed to initially cover the majority of storm water discharges associated with industrial activity;
- Tier II—watershed permitting: Facilities within watersheds shown to be adversely impacted by storm water discharges associated with industrial activity will be targeted for permitting.
- Tier III—industry specific permitting: Specific industry categories will be targeted for individual or industry-specific permits; and
- Tier IV—facility specific permitting: A variety of factors will be used to target specific facilities for individual permits.

Tier I—Baseline Permitting

EPA intends to issue general permits that initially cover the majority of storm water discharges associated with industrial activity in States without authorized NPDES programs. These permits will also serve as models for States with authorized NPDES programs.

The consolidation of many sources under one permit will greatly reduce the otherwise overwhelming administrative burden associated with permitting storm water discharges associated with industrial activity. This approach has a number of additional advantages, including:

- Requirements will be established for discharges covered by the permit;
- Facilities whose discharges are covered by the permit will have an opportunity for substantial compliance with the CWA;
- The public, including municipal operators of municipal separate storm sewers which may receive storm water discharges associated with industrial activity, will have access under section 308(b) of the CWA to monitoring data and certain other information developed by the permittee;

- EPA will have the opportunity to begin to collect and review data on storm water discharges from priority industries, thereby supporting the development of subsequent permitting activities;
- Applicable requirements of municipal storm water management programs established in permits for discharges from municipal separate storm sewer systems will be enforceable directly against non-complying industrial facilities that generate the discharges;
- The public will be given an opportunity to comment on permitting activities;
- The baseline permits will provide a basis for bringing selected enforcement actions by eliminating many issues which might otherwise arise in an enforcement proceeding; and
- Finally, the baseline permits will provide a focus for public comment on the development of subsequent phases of the permitting strategy for storm water discharges, including the development of priorities for State storm water management programs developed under section 402(p)(6) of the CWA.

Initially, the coverage of the baseline permits will be broad, but the coverage is intended to shrink as other permits are issued for storm water discharges associated with industrial activities pursuant to Tier II through IV activities.

2. Tier II—Watershed Permitting

Facilities within watersheds shown to be adversely impacted by storm water discharges associated with industrial activity will be targeted for individual and general permitting. This process can be initiated by identifying receiving waters (or segments of receiving waters) where storm water discharges associated with industrial activity have been identified as a source of use impairment or are suspected to be contributing to use impairment.

3. Tier III—Industry Specific Permitting

Specific industry categories will be targeted for individual or industry-specific general permits. These permits will allow permitting authorities to focus attention and resources on industry categories of particular concern and/or industry categories where tailored requirements are appropriate. EPA will work with the States to coordinate the development of model permits for selected classes of industrial storm water discharges. EPA is also working to identify priority industrial categories in the two reports to Congress required under section 402(p)(5) of the CWA. In addition, group applications that are received can be used to develop model permits for the appropriate industries.

***48003 4. Tier IV—Facility Specific Permitting**

Individual permits will be appropriate for some storm water discharges in addition to those identified under Tier II and III activities. Individual permits should be issued where warranted by: the pollution potential of the discharge; the need for individual control mechanisms; and in cases where reduced administrative burdens exist. For example, individual NPDES permits for facilities with process discharges should be expanded during the normal process of permit reissuance to cover storm water discharges from the facility.

5. Relationship of Strategy to Permit Applications Requirements

The preliminary long-term permitting strategy described above identifies several permit schemes that EPA anticipates will be used in addressing storm water discharges associated with industrial activity. One issue that arises with this strategy is determining the appropriate information needed to develop and issue permits for these discharges. The NPDES regulatory scheme provides three major options for obtaining permit coverage for storm water discharges associated

with industrial activity: (1) Individual permit applications; (2) group applications; and (3) case-by-case requirements developed for general permit coverage.

a. Individual permit application requirements. Today's notice establishes requirements for individual permit applications for storm water discharges associated with industrial activity. These application requirements are applicable for all storm water discharges associated with industrial activity, except where the operator of the discharge is participating in a group application or a general permit is issued to cover the discharge and the general permit provides alternative means to obtain permit coverage. Information in individual applications is intended to be used in developing the site-specific conditions generally associated with individual permits.

Individual permit applications are expected to play an important role in all tiers of the Strategy, even where general permits are used. Although general permits may provide for notification requirements that operate in lieu of the requirement to submit individual permit applications, the individual permit applications may be needed under several circumstances. Examples include: where a general permit requires the submission of a permit application as the notice of intent to be covered by the permit; where the owner or operator authorized by a general permit requests to be excluded from the coverage of the general permit by applying for a permit (see [40 CFR 122.28\(b\)\(2\)\(iii\)](#) for EPA issued general permits); and where the Director requires an owner or operator authorized by a general permit to apply for an individual permit (see [40 CFR 122.28\(b\)\(2\)\(ii\)](#) for EPA issued general permits).

b. Group applications. Today's rule also promulgates requirements for group applications for storm water discharges associated with industrial activity. These applications provide participants of groups with sufficiently similar storm water discharges an alternative mechanism for applying for permit coverage.

The group application requirements are primarily intended to provide information for developing industry specific general permits. (Group applications can also be used to issue individual permits in authorized NPDES States without general permit authority or where otherwise appropriate). As such, group application requirements correlate well with the Tier III permitting activities identified in the long-term permitting Strategy.

c. Case-by-case requirements. [40 CFR 122.21\(a\)](#) excludes persons covered by general permits from requirements to submit individual permit applications. Further, the general permit regulations at [40 CFR 122.28](#) do not address the issue of how a potential permittee is to apply to be covered under a general permit. Rather, conditions for notification of intent (NOI) to be covered by the general permit are established in the permits on a case-by-case basis, and operate in lieu of permit application requirements. Requirements for submitting NOIs to be covered by a general permit can range from full applications (this would be Form 1 and Form 2F for most discharges composed entirely of storm water discharges associated with industrial activity), to no notice. EPA recommends that the NOI requirements established in a general permit for storm water discharges associated with industrial activity be commensurate with the needs of the permit writer in establishing the permit and the permit program. The baseline general permit described in Tier I is intended to support the development of controls for storm water discharges associated with industrial activity that can be supported by the limited resources of the permitting Agency. In this regard, the burdens of receiving and reviewing NOIs from the large number of facilities covered by the permit should also be considered when developing NOI requirements. In addition, NOI requirements should be developed in conjunction with permit conditions establishing reporting requirements during the term of the permit.

NOI requirements in general permits can establish a mechanism which can be used to establish a clear accounting of the number of permittees covered by the general permit, the nature of operations at the facility generating the discharge, their identity and location. The NOI can be used as an initial screening tool to determine discharges where individual permits are appropriate. Also, the NOI can be used to identify classes of discharges appropriate for more specific general permits, as well as provide information needed to notify such dischargers of the issuance of a more specific general permit. In addition, the NOI can provide for the identification of the permittee to provide a basis for enforcement and

compliance monitoring strategies. EPA will further address this issue in the context of specific general permits it plans to issue in the near future.

Today's rule requires that individual permit applications for storm water discharges associated with industrial activity be submitted within one year from the date of publication of this notice. EPA is considering issuing general permits for the majority of storm water discharges associated with industrial activity in those States and territories that do not have authorized State NPDES programs (MA, ME, NH, FL, LA, TX, OK, NM, SD, AZ, AK, ID, District of Columbia, the Commonwealth of Puerto Rico, Guam, American Samoa, the Commonwealth of the Northern Mariana Islands, and the Trust Territory of the Pacific Islands) before that date to enable industrial dischargers of storm water to ascertain whether they are eligible for coverage under a general permit (and subject to any alternative notification requirements established by the general permit in lieu of the individual permit application requirements of today's rule) or whether they must submit an individual permit application (or participate in a group application) before the regulatory deadlines for submitting these applications passes. Storm water application deadlines are discussed in further detail below.

E. Storm Water Discharge Sampling

Storm water discharges are intermittent by their nature, and pollutant concentrations in storm water discharges will be highly variable. Not only will variability arise between given events, but the flow and pollutant concentrations of such discharges will vary with time during an event. This variability raises two technical problems: how best to characterize the discharge associated with a single storm event; and how best to characterize the variability between discharges of different events that may be caused by seasonal changes and changes in material management practices, for example.

Prior to today's rulemaking, [40 CFR 122.21\(g\)\(7\)](#) required that applicants for NPDES permits submit quantitative data based on one grab sample taken every hour of the discharge for the first four hours of discharge. EPA has modified this requirement such that, instead of collecting and analyzing four grab samples individually, applicants for permits addressing storm water discharges associated with industrial activity will provide data as indicators of two sets of conditions: data collected during the first 30 minutes of discharge and flow-weighted average storm event concentrations. Large and medium municipalities will provide data on flow-weighted average storm event concentrations only.

Data describing pollutants in a grab sample taken during the first few minutes of the discharge can often be used as a screen for non-storm water discharges to separate storm sewers because such pollutants may be flushed out of the system during the initial portion of the discharge. In addition, data from the first few minutes of a discharge are useful because much of the traditional structural technology used to control storm water discharges, including detention and retention devices, may only provide controls for the first portion of the discharge, with relatively little or no control for the remainder of the discharge. Data from the first portion of the discharge will give an indication of the potential usefulness of these techniques to reduce pollutants in storm water discharges. Also, such discharges may be primarily responsible for pollutant shocks to the ecosystem in receiving waters.

Studies such as NURP have shown that flow-weighted average concentrations of storm water discharges are useful for estimating pollutant loads and for evaluating certain concentration-based water quality impacts. The use of flow-weighted composite samples are also consistent with comments raised by various industry representatives during previous Agency rulemakings that continuous monitoring of discharges from storm events is necessary to adequately characterize such discharges.

EPA requested comment on the feasibility of the proposed modification of sampling procedures at [§ 122.21\(g\)\(7\)](#) and the ability to characterize pollutants in storm water discharges with an average concentration from the first portion of the discharge compared to collecting and separately analyzing four grab samples. It was proposed that an event composite sample be collected, as well as a grab sample collected during the first 20 minutes of runoff. Comments were solicited

as to whether or not this sampling method would provide better definition of the storm load for runoff characterization than would the requirement to collect and separately analyze four grab samples.

Many commenters questioned the ability to obtain a 20 minute sample in the absence of automatic samplers. Some believed that pollutants measured by such a sample can be accounted for in the event composite sample. Others argued that this is an unwarranted sampling effort if municipal storm water management plans are to be geared to achieving annual pollutant load reductions. Many commenters advised that problems accessing sampling stations and mobilizing sampling crews, particularly after working hours, made sampling during the first 20 minutes impractical. These comments were made particularly with respect to municipalities, where the geographical areas could encompass several hundred square miles. Several alternatives were suggested including: the collection of a sample in the first hour, and representative grab sampling in the next three hours, one per hour; or perform time proportioned sampling for up to four hours.

Because of the logistical problems associated with collecting samples during the first few minutes of discharge from municipal systems, EPA will only require such sampling from industrial facilities. Municipal systems will be spread out over many square miles with sampling locations potentially several miles from public works departments or other responsible government agencies. Reaching such locations in order to obtain samples during the first few minutes of a storm event may prove impossible. For essentially the same reasons, the requirement has been modified to encompass the first 30 minutes of the discharge, instead of 20 minutes, for industrial discharges. The rule also clarifies that the sample should be taken during the first 30 minutes or as soon thereafter as practicable. Where appropriate, characterization of this portion of the discharge from selected outfalls or sampling points may be a condition to permits issued to municipalities. With regard to protocols for the collection of sample aliquots for flow-weighted composite samples, § 122.21(g)(7) provides that municipal applicants may collect flow-weighted composite samples using different protocols with respect to the time duration between the collection of sample aliquots, subject to the approval of the Director or Regional Administrator. In other words, the period may be extended from 15 minutes to 20 or 25 minutes between sample aliquots, or decreased from 15 to 10 or 5 minutes.

Other comments raised issues that apply both to the impact of runoff characterization and the first discharge representation. These primarily pertained to regions that have well defined wet and dry seasons. Comments questioned whether or not it is fair to assume that the initial storm or two of a wet season, which will have very high pollutant concentrations, are actually representative of the runoff concentrations for the area.

In response, EPA believes that it is important to represent the first part of the discharge either separately or as a part of the event composite samples. This loading is made up primarily of the mass of unattached fine particulates and readily soluble surface load that accumulates between storms. This load washes off of the basin's directly connected paved surfaces when the runoff velocities reach the level required for entrainment of the particulate load into the surface flow. It should be noted that for very fine particulates and solubles, this can occur very soon after the storm begins and much sooner than the peak flow. The first few minutes of discharge represents a shock load to the receiving water, in terms of concentration of pollutants, because for many constituents the highest concentrations of the event will occur during this initial period. Due to the need to properly quantify this load, it is not necessary to represent the first discharge from the upper reaches of the outfall's tributary area. In runoff characterization basins, the assumption is that the land use in the basin is homogeneous, or nearly so, and that the first discharge from the lower reaches for all intents and purposes is representative of the entire basin. If a sample is taken during the first 30 minutes of the runoff, it will be composed primarily of first discharge. If the sample is taken at the outfall an hour into the event, it may contain discharge from the remote portions of the basin. It will not be representative of the discharge because it will also contain later washoff from the lower reaches of the basin, resulting in a low estimation of the first discharge load of most constituents. Conversely, larger suspended particulates that normally are not present in first discharge due to inadequate velocities will appear in this later sampling scenario because of the influence of higher runoff rates in the lower basin. Many commonly used management practices are designed based on their ability to treat a volume of water defined by the first discharge

phenomenon. It is important to characterize the first discharge load because most management practices effectively treat only, or primarily, this load.

It should be noted that first discharge runoff is sometimes contaminated by non-storm water related pollutants. In many urban catchments, contaminants that result from illicit connections and illegal dumping may be stored in the system until “flushed” during the initial storm period. This does not negate the need for information on the characteristic first discharge load, but does indicate that the first phase field screen results for illicit connections should be used to help define those outfalls where this problem might exist.

Several methods can be used to develop an event average concentration. Either automatic or manual sampling techniques can be used that sample the entire hydrograph, or at least the first four hours of it, that will result in several discrete samples and associated flow rates that represent the various flow regimes of an event. These procedures have the potential for providing either an event average concentration, an event mean concentration, or discrete definition of the washoff process. Automatic sampling procedures are also available that collect a single composite sample, either on a time-proportioned or flow proportioned basis.

When discrete samples are collected, an event average composite sample can be produced by the manual composite of the discrete samples in equal volumes. Laboratory analysis of time proportioned composite samples will directly yield the event average concentration. Mathematical averaging of discrete sample analysis results will yield an event average concentration.

When discrete samples are collected, a flow-weighted composite sample can be produced based on the discharge record. This is done by manually flow proportioning the volumes of the individual samples. Laboratory analysis of flow weighted composite samples will directly yield an event mean concentration. Mathematical integration of the change in concentrations and mass flux of the discharge for discrete sample data can produce an event mean concentration. This procedure was used during the NURP program.

EPA wishes to emphasize that the reason for sampling the type of storm event identified in [§ 122.21\(g\)\(7\)](#) is to provide information that represents local conditions that will be used to create sound storm water management plans. Based on the method to be used to generate system-wide estimates of pollutant loads, either method, discrete or event average concentrations, may be preferable to the other. If simulation models will be used to generate loading estimates, analysis of discrete samples will be more valuable so that calibration of water quality and hydrology may be performed. On the other hand, simple estimation methods based on event average or event mean concentrations may not justify the additional cost of discrete sample analysis.

EPA believes that the first discharge loading should be represented in the permit application from industrial facilities and, if appropriate, permitting authorities may require the same in the discharge characterization component of permits issued to municipalities. The first discharge load should also be represented as part of an event composite sample. This requirement will assist industries in the development of effective storm water management plans.

EPA requested comments on the appropriateness of the proposed rules and of proposed amendments to the rules regarding discharge sampling. Comments were received which addressed the appropriateness of imposing uniform national guidelines. Several commenters are concerned that uniform national guidelines may not be appropriate due to the geographic variations in meteorology, topography, and pollutant sources. While some assert that a uniform guideline will provide consistency of the sample results, others prefer a program based on regional or State guidelines that more specifically address their situation.

Several commenters, addressing industrial permit application requirements, preferred that the owner/operator be allowed to set an individual sampling protocol with approval of the permit writer. Some commenters were concerned that

one event may not be sufficient to characterize runoff from a basin as this may result in gross over-estimation or underestimation of the pollutant loads. Others indicated confusion with regard to sampling procedures, lab analysis procedures, and the purpose of the program.

In response, today's regulations establish certain minimum requirements. Municipalities and industries may vary from these requirements to the extent that their implementation is at least as stringent as outlined in today's rule. EPA views today's rule as a means to provide assurance as to the quality of the data collected; and to this end, it is important that the minimum level of sampling required be well defined.

In response to EPA's proposal that the first discharge be included in "representative" storm sampling, several commenters made their concerns known about the possible equipment necessary to meet this requirement. Several commenters are concerned that in order to get a first discharge sample, automatic sampling equipment will be required. Concerns related to the need for this equipment surfaced in the comments frequently; most advised that the equipment is expensive and that the demand on sampling equipment will be too large for suppliers and manufacturers to meet. Although equipment can be leased, some commenters maintained that not enough rental equipment is available to make this a viable option in many instances.

EPA is not promoting or requiring the use of automated equipment to satisfy the sampling requirements. A community may find that in the long run it would be more convenient to have such equipment since sampling is required not only during preparation of the application, but also may be required during the term of the permit to assure that the program goals are being met. Discharge measurement is necessary in order for the sample data to have any meaning. If unattended automatic sampling is to be performed, then unattended flow measurement will be required too.

EPA realizes that equipment availability is a legitimate concern. However, there is no practical recommendation that can be made relative to the availability of equipment. If automatic sampling equipment is not available, manual sampling is an appropriate alternative.

F. Storm Water Discharges Associated With Industrial Activity

1. Permit Applicability

a. Storm water discharges associated with industrial activity to waters of the United States. Under today's rule dischargers of storm water associated ***48006** with industrial activity are required to apply for an NPDES permit. Permits are to be applied for in one of three ways depending on the type of facility: Through the individual permit application process; through the group application process; or through a notice of intent to be covered by general permit.

Storm water discharges associated with the industrial activities identified under [§ 122.26\(b\)\(14\)](#) of today's rule may avail themselves of general permits that EPA intends to propose and promulgate in the near future. The general permit will be available to be promulgated in each non-NPDES State, following State certification, and as a model for use by NPDES States with general permit authority. It is envisioned that these general permits will provide baseline storm water management practices. For certain categories of industries, specific management practices will be prescribed in addition to the baseline management practices. As information on specific types of industrial activities is developed, other, more industry-specific general permits will be developed.

Today's rule requires facilities with existing NPDES permits for storm water discharges to apply for individual permits under the individual permit application requirements found at [122.26\(c\)](#) 180 days before their current permit expires. Facilities not eligible for coverage under a general permit are required to file an individual or group permit application in accordance with today's rule. The general permits to be proposed and promulgated will indicate what facilities are eligible for coverage by the general permit.

b. Storm water discharges through municipal storm sewers. As discussed above, many operators of storm water discharges associated with industrial activity are not required to apply for an individual permit or participate in a group application under § 122.26(c) of today's rule if covered by a general permit. Under the December 7, 1988, proposal, dischargers through large and medium municipal separate storm sewer systems were not required, as a general rule, to apply for an individual permit or as a group applicant. Today's rule is a departure from that proposal. Today's rule requires all dischargers through municipal separate storm sewer systems to apply for an individual permit, apply as part of a group application, or seek coverage under a promulgated general permit for storm water discharges associated with industrial activity.

Municipal operators of large and medium municipal separate storm sewer systems are responsible for obtaining system-wide or area permits for their system's discharges. These permits are expected to require that controls be placed on storm water discharges associated with industrial activity which discharge through the municipal system. It is anticipated that general or individual permits covering industrial storm water dischargers to these municipal separate storm sewer systems will require industries to comply with the terms of the permit issued to the municipality, as well other terms specific to the permittee.

c. Storm water discharges through non-municipal storm sewers. Under today's rulemaking all operators of storm water discharges associated with industrial activity that discharge into a privately or Federally owned storm water conveyance (a storm water conveyance that is not a municipal separate storm sewer) will be required to be covered by an NPDES permit (e.g. an individual permit, general permit, or as a co-permittee to a permit issued to the operator of the portion of the system that directly discharges to waters of the United States). This is a departure from the "either/or" approach that EPA requested comments on in the December 7, 1988, notice. The "either/or" approach would have allowed either the system discharges to be covered by a permit issued to the owner/operator of the system segment that discharged to waters of the United States, or by an individual permit issued to each contributor to the non-municipal conveyance.

EPA requested comments on the advantages and disadvantages of retaining the "either/or" approach for non-municipal storm sewers. An abundance of comment was received by EPA on this particular part of the program. A number of industrial commenters and a smaller number of municipalities favored retaining the "either/or" approach as proposed, while most municipal entities, one industry, and one trade association favored requiring permits for each discharger.

Two commenters stated that private owners of conveyances may not have the legal authority to implement controls on discharges through their system and would not want to be held responsible for such controls. EPA agrees that this is a potential problem. Therefore, today's rule will require permit coverage for each storm water discharge associated with industrial activity.

One commenter supported the concept of requiring all the facilities that discharge to a non-municipal conveyance to be co-permittees. EPA agrees that this type of permitting scheme, along with other permit schemes such as area or general permits, is appropriate for discharges from non-municipal sewers, as long as each storm water discharge through the system is associated with industrial activity and thus currently subject to NPDES permit coverage.

One State agency commented that in the interest of uniformity, all industries that discharge to non-municipal conveyances should be required to conform to the application requirements. One industry stated that the rules must provide a way for the last discharger before the waters of the U.S. to require permits for facilities discharging into the upper portions of the system. EPA agrees with these comments. Today's rule provides that each discharger may be covered under individual permits, as co-permittees to a single permit, or by general permit rather than holding the last discharger to the waters of the United States solely responsible.

In response to one commenter, the term "non-municipal" has been clarified to explain that the term refers to non-publicly owned or Federally-owned storm sewer systems.

Some commenters supporting the approach as proposed, noted that industrial storm water dischargers into such systems can take advantage of the group application process. EPA agrees that in appropriate circumstances, such as when industrial facilities discharging storm water to the same system are sufficiently similar, group applications can be used for discharges to non-municipal conveyances. However, EPA believes that it would be inappropriate to approve group applications for those facilities whose only similarity is that they discharge storm water into the same private conveyance system. The efficacy of the group application procedures is predicated on the similarity of operations and other factors. The fact that several industries discharge storm water to the same non-municipal sewer system alone may not make these discharges sufficiently similar for group application approval.

One commenter suggested that EPA has not established any deadlines for submission of permit applications for storm water discharges associated with industrial activity through non-municipal separate storm sewer systems. EPA wants to clarify that industrial storm water dischargers into privately owned or Federally owned storm water conveyances are required to apply for permits in the same time frame as individual or group applicants (or as otherwise provided for in a general permit).

***48007** One commenter stated that the operator of the conveyance that accepts discharges into its system has control and police power over those that discharge into the system by virtue of the ability to restrict discharges into the system. This commenter stated that these facilities should be the entity required to obtain the permit in all cases. Assuming that this statement is true in all respects, the larger problem is that one's theoretical ability to restrict discharges is not necessarily tied to the reality of enforcing those restrictions or even detecting problem discharges when they exist. In a similar vein one commenter urged that a private operator will not be in any worse a position than a municipal entity to determine who is the source of pollution up-stream. EPA agrees that from a hydrological standpoint this may be true. However, from the standpoint of detection resources, police powers, enforcement remedies, and other facets of municipal power that may be brought to bear upon problem dischargers, private systems are in a far more precarious position with respect to controlling discharges from other private sources.

In light of the comments received, EPA has decided that the either/or approach as proposed is inappropriate. Operators of non-municipal systems will generally be in a poorer position to gain knowledge of pollutants in storm water discharges and to impose controls on storm water discharges from other facilities than will municipal system operators. In addition, best management practices and other site-specific controls are often most appropriate for reducing pollutants in storm water discharges associated with industrial activity and can often only be effectively addressed in a regulatory scheme that holds each industrial facility operator directly responsible. The either/or approach as proposed is not conducive to establishing these types of practices unless each discharger is discharging under a permit. Also, some non-municipal operators of storm water conveyances, which receive storm water runoff from industrial facilities, may not be generating storm water discharges associated with industrial activity themselves and, therefore, they would otherwise not need to obtain a permit prior to October 1, 1992, unless specifically designated under section 402(p)(2)(E). Accordingly, EPA disagrees with comments that dischargers to non-municipal conveyances should have the flexibility to be covered by their permit or covered by the permit issued to the operator of the outfall to waters to the United States.

2. Scope of "Associated with Industrial Activity"

The September 26, 1984, final regulation divided those discharges that met the regulatory definition of storm water point source into two groups. The term Group I storm water discharges was defined in an attempt to identify those storm water discharges which had a higher potential to contribute significantly to environmental impacts. Group I included those discharges that contained storm water drained from an industrial plant or plant associated areas. Other storm water discharges (such as those from parking lots and administrative buildings) located on lands used for industrial activity were classified as Group II discharges. The regulations defined the term "plant associated areas" by listing several examples of areas that would be associated with industrial activities. However, the resulting definition led to confusion among the regulated community regarding the distinctions between the Group I and Group II classifications.

In amending the CWA in 1987, Congress did not explicitly adopt EPA's regulatory classification of Group I and Group II discharges. Rather, Congress required EPA to address "storm water discharges associated with industrial activity" in the first round of storm water permitting. In light of the adoption of the term "associated with industrial activity" in the CWA, and the ongoing confusion surrounding the previous regulatory definition, EPA has eliminated the regulatory terms "Group I storm water discharge" and "Group II storm water discharge" pursuant to the December 7, 1987, Court remand and has not revived it. In addition, today's notice promulgates a definition of the term "storm water discharge associated with industrial activity" at [§ 122.26\(b\)\(14\)](#) and clarified the scope of the term.

In describing the scope of the term "associated with industrial activity", several members of Congress explained in the legislative history that the term applied if a discharge was "directly related to manufacturing, processing or raw materials storage areas at an industrial plant." (Vol. 132 Cong. Rec. H10932, H10936 (daily ed. October 15, 1986); Vol. 133 Cong. Rec. H176 (daily ed. January 8, 1987)). Several commenters cited this language in arguing for a more expansive or less expansive definition of "associated with industrial activity." EPA believes that the legislative history supports the decision to exclude from the definition of industrial activity, at [§ 122.26\(b\)\(14\)](#) of today's rule, those facilities that are generally classified under the Office of Management and Budget Standard Industrial Classifications (SIC) as wholesale, retail, service, or commercial activities.

Two commenters recommended that all commercial enterprises should be required to obtain a permit under this regulation. Another commenter recommended that all the facilities listed in the December 7, 1988, proposal, including those listed in paragraphs (xi) through (xvi) on page 49432 of the December 7, 1988, proposal, should be included. EPA disagrees since the intent of Congress was to establish a phased and tiered approach to storm water permits, and that only those facilities having discharges associated with industrial activity should be included initially. The studies to be conducted pursuant to section 402(p)(5) will examine sources of pollutants associated with commercial, retail, and other light business activity. If appropriate, additional regulations addressing these sources can be developed under section 402(p)(6) of the CWA. As further discussed below, EPA believes that the facilities identified in paragraphs (xi) through (xvi) are more properly characterized as commercial or retail facilities, rather than industrial facilities.

Today's rule clarifies the regulatory definition of "associated with industrial activity" by adopting the language used in the legislative history and supplementing it with a description of various types of areas that are directly related to an industrial process (e.g., industrial plant yards, immediate access roads and rail lines, drainage ponds, material handling sites, sites used for the application or disposal of process waters, sites used for the storage and maintenance of material handling equipment, and known sites that are presently or have been used in the past for residual treatment, storage or disposal). The agency has also incorporated some of the suggestions offered by the public in comments.

Three commenters suggested that the permit application should focus only on storm water with the potential to come into contact with industrial-related pollutant sources, rather than focusing on how plant areas are utilized. These commenters suggested that facilities that are wholly enclosed or have their operations entirely protected from the elements should not be subject to permit requirements under today's rule. EPA agrees that these comments have merit with regard to certain types of facilities. Today's rule defines the term "storm water discharge associated with ~~48008~~ industrial activity" to include storm water discharges from facilities identified in today's rule at [40 CFR 122.21\(b\)\(14\)\(xi\)](#) (facilities classified as Standard Industrial Classifications 20, 21, 22, 23, 2434, 25, 265, 267, 27, 283, 285, 30, 31 (except 311), 323, 34 (except 3441), 35, 36, 37 (except 373), 38, 39, 4221-25) only if:

areas where material handling equipment or activities, raw materials, intermediate products, final products, waste materials, by-products, or industrial machinery at these facilities are exposed to storm water. Such areas include: material handling sites; refuse sites; sites used for the application or disposal of process waste waters (as defined at [40 CFR 401](#)); sites used for the storage and maintenance of material handling equipment; sites used for residual treatment; storage or disposal; shipping and receiving areas; manufacturing buildings; material storage areas for raw materials,

and intermediate and finished products; and areas where industrial activity has taken place in the past and significant materials remain and are exposed to storm water.

The critical distinction between the facilities identified at [40 CFR 122.26\(b\)\(14\)\(xi\)](#) and the facilities identified at [40 CFR 122.26\(b\)\(14\)\(i\)-\(x\)](#) is that the former are not classified as having “storm water discharges associated with industrial activity” unless certain materials or activities are exposed to storm water. Storm water discharges from the latter set of facilities are considered to be “associated with industrial activity” regardless of the actual exposure of these same materials or activities to storm water.

EPA believes this distinction is appropriate because, when considered as a class, most of the activity at the facilities in [§ 122.26\(b\)\(14\)\(xi\)](#) is undertaken in buildings; emissions from stacks will be minimal or non-existent; the use of unhusd manufacturing and heavy industrial equipment will be minimal; outside material storage, disposal or handling generally will not be a part of the manufacturing process; and generating significant dust or particulates would be atypical. As such, these industries are more akin or comparable to businesses, such as retail, commercial, or service industries, which Congress did not contemplate regulating before October 1, 1992, and storm water discharges from these facilities are not “associated with industrial activity.” Thus, these industries will be required to obtain a permit under today's rule only when the manufacturing processes undertaken at such facilities would result in storm water contact with industrial materials associated with the facility.

Industrial categories in [§ 122.26\(b\)\(14\)\(xi\)](#) all tend to engage in production activities in the manner described in the paragraph above. Facilities under SIC 20 process foods including meats, dairy food, fruit, and flour. Facilities classified under SIC 21 make cigarettes, cigars, chewing tobacco and related products. Under SIC 22, facilities produce yarn, etc., and/or dye and finish fabrics. Facilities under SIC 23 are in the business of producing clothing by cutting and sewing purchased woven or knitted textile products. Facilities under SIC 2434 and 25 are establishments engaged in furniture making. SIC 265 and 267 address facilities that manufacture paper board products. Facilities under SIC 27 perform services such as bookbinding, plate making, and printing. Facilities under SIC 283 manufacture pharmaceuticals and facilities under 285 manufacture paints, varnishes, lacquers, enamels, and allied products. Under SIC 30 establishments manufacture products from plastics and rubber. Those facilities under SIC 31 (except 311), 323, 34 (except 3441), 35, 36, and 37 (except 373) manufacture industrial and commercial metal products, machinery, equipment, computers, electrical equipment, and transportation equipment, and glass products made of purchased glass. Facilities under SIC 38 manufacture scientific and electrical instruments and optical equipment. Those under SIC 39 manufacture a variety of items such as jewelry, silverware, musical instruments, dolls, toys, and athletic goods. SIC 4221-25 are warehousing and storage activities.

In contrast, the facilities identified by SIC 24 (except and 2434), 26 (except 265 and 267), 28 (except 283 and 285), 29, 311, 32 (except 323), 33, 3441, 373 when taken as a group, are expected to have one or many of the following activities, processes occurring on-site: storing raw materials, intermediate products, final products, by-products, waste products, or chemicals outside; smelting; refining; producing significant emissions from stacks or air exhaust systems; loading or unloading chemical or hazardous substances; the use of unhusd manufacturing and heavy industrial equipment; and generating significant dust or particulates. Accordingly, these are classes of facilities which can be viewed as generating storm water discharges associated with industrial activity requiring a permit. Establishments identified under SIC 24 (except 2434) are engaged in operating sawmills, planing mills and other mills engaged in producing lumber and wood basic materials. SIC 26 facilities are paper mills. Under SIC 28, facilities produce basic chemical products by predominantly chemical processes. SIC 29 describes facilities that are engaged in the petroleum industry. Under SIC 311, facilities are engaged in tanning, currying, and finishing hides and skins. Such processes use chemicals such as sulfuric acid and sodium dichromate, and detergents, and a variety of raw and intermediate materials. SIC 32 manufacture glass, clay, stone and concrete products form raw materials in the form quarried and mined stone, clay, and sand. SIC 33 identifies facilities that smelt, refine ferrous and nonferrous metals from ore, pig or scrap, and manufacturing related products. SIC 3441 identifies facilities manufacturing fabricated structural metal. Facilities under SIC 373 engage in ship

building and repairing. The permit application requirements for storm water discharges from facilities in these categories are unchanged from the proposal.

Today's rule clarifies that the requirement to apply for a permit applies to storm water discharges from plant areas that are no longer used for industrial activities (if significant materials remain and are exposed to storm water) as well as areas that are currently being used for industrial activities. EPA would also clarify that all discharges from these areas including those that discharge through municipal separate storm sewers are addressed by this rulemaking.

One commenter questioned the use of the word "or" instead of the word "and" to describe storm water "which is located at an industrial plant 'or' directly related to manufacturing, processing, or raw material storage areas at an industrial plant." The comment expressed the concern that discharges from areas not located at an industrial plant would be subject to permitting by this language and questioned whether this was EPA's intent. EPA agrees that this is a potential source of confusion and has modified this language to reflect the conjunctive instead of the alternative. This change has been made to provide consistency in the rule whereby some areas at industrial plants, such as administrative parking lots which do not have storm water discharges commingled with discharges from manufacturing areas, are not included under this rulemaking.

Two commenters wanted clarification of the term "or process water," in the definition of discharge associated with industrial activity at § 122.26(b)(14). This rulemaking replaces this term with the term "process waste water" which is defined at 40 CFR part 401.

***48009** One commenter took issue with the decision to include drainage ponds, refuse sites, sites for residual treatment, storage, or disposal, as areas associated with industrial activity, because it was the commenter's view that such areas are unconnected with industrial activity. EPA disagrees with this comment. If refuse and other sites are used in conjunction with manufacturing or the by-products of manufacturing they are clearly associated with industrial activity. As noted above, Congress intended to include discharges directly related to manufacturing and processing at industrial plants. EPA is convinced that wastes, refuse, and residuals are the direct result or consequence of manufacturing and processing and, when located or stored at the plant that produces them, are directly related to manufacturing and processing at that plant. Storm water drainage from such areas, especially those areas exposed to the elements (e.g. rainfall) has a high potential for containing pollutants from materials that were used in the manufacturing process at that facility. One commenter supported the inclusion of these areas since many toxins degrade very slowly and the mere passage of time will not eliminate their effects. EPA agrees and finalizes this part of the definition as proposed. One commenter requested clarification of the term "residual" as used in this context. Residual can generally be defined to include material that is remaining subsequent to completion of an industrial process. One commenter noted that the current owner of a facility may not know what areas or sites at a facility were used in this manner in the past. EPA has clarified the definition of discharge associated with industrial activity to include areas where industrial activity has taken place in the past and significant materials remain and are exposed to storm water. The Agency believes that the current owner will be in a position to establish these facts.

One commenter suggested including material shipping and receiving areas, waste storage and processing areas, manufacturing buildings, storage areas for raw materials, supplies, intermediates, and finished products, and material handling facilities as additional areas "associated with industrial activity." EPA agrees that this would add clarification to the definition, and has incorporated these areas into the definition at § 122.26(b)(14).

One commenter stated that the language "point source located at an industrial plant" would include outfalls located at the facility that are not owned or operated by the facility, but which are municipal storm sewers on easements granted to a municipality for the conveyance of storm water. EPA agrees that if the industry does not operate the point source then that facility is not required to obtain a permit for that discharge. A point source is a conveyance that discharges pollutants into the waters of the United States. If a facility does not operate that point source, then it would be the

responsibility of the municipality to cover it under a permit issued to them. However, if contaminated storm water associated with industrial activity were introduced into that conveyance by that facility, the facility would be subject to permit application requirements as is all industrial storm water discharged through municipal sewers.

EPA disagrees with several comments that road drainage or railroad drainage within a facility should not be covered by the definition. Access roads and rail lines (even those not used for loading and unloading) are areas that are likely to accumulate extraneous material from raw materials, intermediate products and finished products that are used or transported within, or to and from, the facility. These areas will also be repositories for pollutants such as oil and grease from machinery or vehicles using these areas. As such they are related to the industrial activity at facilities. However, the language describing these areas of industrial activity has been clarified to include those access roads and rail lines that are “used or traveled by carriers of raw materials, manufactured products, waste material, or by-products used or created by the facility.” For the same reasons haul roads (roads dedicated to transportation of industrial products at facilities) and similar extensions are required to be addressed in permit applications. Two industries stated that haul roads and similar extensions should be covered by permits by rule. EPA is not considering the use of a permit by rule mechanism under this regulation, however this issue will be addressed in the section 402(p)(5) reports to Congress and in general permits to be proposed and promulgated in the near future. EPA would note however that facilities with similar operations and storm water concerns that desire to limit administrative burdens associated with permit applications and obtaining permits may want to avail themselves of the group application and/or general permits.

In response to comments, EPA would also like to clarify that it intends the language “immediate access roads” (including haul roads) to refer to roads which are exclusively or primarily dedicated for use by the industrial facility. EPA does not expect facilities to submit permit applications for discharges from public access roads such as state, county, or federal roads such as highways or BLM roads which happen to be used by the facility. Also, some access roads are used to transport bulk samples of raw materials or products (such as prospecting samples from potential mines) in small-scale prior to industrial production. EPA does not intend to require permit applications for access roads to operations which are not yet industrial activities.

EPA does agree with comments made by several industries that undeveloped areas, or areas that do not encompass those described above, should generally not be addressed in the permit application, or a storm water permit, as long as the storm water discharge from these areas is segregated from the storm water discharge associated with the industrial activity at the facility.

Numerous commenters stated that maintenance facilities, if covered, should not be included in the definition. EPA disagrees with this comment. Maintenance facilities will invariably have points of access and egress, and frequently will have outside areas where parts are stored or disposed of. Such areas are locations where oil, grease, solvents and other materials associated with maintenance activities will accumulate. In response to one commenter, such areas are only regulated in the context of those facilities enumerated in the definition at [§ 122.26\(b\)\(14\)](#), and not similar areas of retail or commercial facilities.

Another commenter requested that “storage areas” be more clearly defined. EPA disagrees that this term needs further clarification in the context of this section of the rule. However, in response to one comment, tank farms at industrial facilities are included. Tank farms are in existence to store products and materials created or used by the facility. Accordingly they are directly related to manufacturing processes.

Regarding storage areas, one commenter stated that the regulations should emphasize that only facilities that are not totally enclosed are required to submit permit applications. EPA does not agree with this interpretation since use of the generic term storage area indicates no exceptions for certain physical characteristics. Thus discharges from enclosed storage areas are also covered by today's rule (except as discussed above). EPA also disagrees with one ***48010** comment asserting that small outside storage areas of finished products at industrial facilities should be excluded under the

definition of associated with industrial activity. EPA believes that such areas are areas associated with industrial activity which Congress intended to be regulated under the CWA. As noted above, the legislative history refers to storage areas, without reference to whether they are covered or uncovered, or of a certain size.

The same language, in the legislative history cited above, was careful to state that the term “associated with industrial activity” does not include storm water “discharges associated with parking lots and administrative and employee buildings.” To accommodate legislative intent, segregated storm water discharges from these areas will not be required to obtain a permit prior to October 1, 1992. Many commenters stated that this was an appropriate method in which to limit the scope of “associated with industrial activity.” However, if a storm water discharge from a parking lot at an industrial facility is mixed with a storm water discharge “associated with industrial activity,” the combined discharge is subject to permit application requirements for storm water discharges associated with industrial activity. EPA disagrees with some commenters who urged that office buildings and administrative parking lots should be covered if they are located at the plant site. EPA agrees with one commenter that inclusion of storm water discharge from these areas would be overstepping Congressional intent unless such are commingled with storm water discharges from the plant site. Several commenters requested that language be incorporated into the rule which establishes that storm water discharges from parking lots and administrative areas not be included in the definition of associated with industrial activity. EPA agrees and has retained language used in the proposal which addresses this distinction.

Storm water discharges from parking lots and administrative buildings along with other discharges from industrial lands that do not meet the regulatory definition of “associated with industrial activity” and that are segregated from such discharges may be required to obtain an NPDES permit prior to October 1, 1992, under certain conditions. For example, large parking facilities, due to their impervious nature may generate large amounts of runoff which may contain significant amounts of oil and grease and heavy metals which may have adverse impacts on receiving waters. The Administrator or NPDES State has the authority under section 402(p)(2)(E) of the amended CWA to require a permit prior to October 1, 1992, by designating storm water discharges such as those from parking lots that are significant contributors of pollutants or contribute to a water quality standard violation. EPA will address storm water discharges from lands used for industrial activity which do not meet the regulatory definition of “associated with industrial activity” in the section 402(p)(5) study to determine the appropriate manner to regulate such discharges.

Several commenters requested clarification that the definition does not include sheet flow or discharged storm water from upstream adjacent facilities that enters the land or comingles with discharge from a facility submitting a permit application. EPA wishes to clarify that operators of facilities are generally responsible for its discharge in its entirety regardless of the initial source of discharge. However, where an upstream source can be identified and permitted, the liability of a downstream facility for other storm water entering that facility may be minimized. Facilities in such circumstances may be required to develop management practices or other run-on/run-off controls, which segregates or otherwise prevents outside runoff from comingling with its storm water discharge. Some commenters expressed concern about other pollutants which may arrive on a facility's premises from rainfall. This comment was made in reference to runoff with a high or low pH. If an applicant has reason to believe that pollutants in its storm water discharge are from such sources, then that needs to be addressed in the permit application and brought to the attention of the permitting authority, which can draft appropriate permit conditions to reflect these circumstances.

EPA requested comments on clarifying the types of facilities that involve industrial activities and generate storm water. EPA preferred basing the clarification, in part, on the use of Standard Industrial Classification (SIC) codes, which have been suggested in comments to prior storm water rulemakings because they are commonly used and accepted and would provide definitions of facilities involved in industrial activity. Several commenters supported the use by EPA of Standard Industrial Classifications for the same reasons identified by EPA as a generally used and understood form of classification. It was also noted that using such a classification would allow targeting for special notification and educational mailings. Three municipalities and three State authorities commented that SICs were appropriate and endorsed their use as a sound basis for determining which industries are covered.

One municipality questioned how SIC classifications will be assigned to particular industries. SICs have descriptions of the type of industrial activity that is engaged in by facilities. Industries will need to assess for themselves whether they are covered by a listed SIC and submit an application accordingly. Another commenter questioned if Federal facilities that do not have an SIC code identification are required to file a permit application. Federal facilities will be required to submit a permit application if they are engaged in an industrial activity that is described under § 122.26(b)(14). The definition of industrial activity incorporates language that requires Federal facilities to submit permit applications in such circumstances. The language has been further clarified to include State and municipal facilities.

EPA requested comments on the scope of the definition (types of facilities addressed) as well as the clarity of regulation. EPA identified the following types of facilities in the proposed regulation as those facilities that would be required to obtain permits for storm water discharges associated with industrial activity:

(i) Facilities subject to storm water effluent limitations guidelines, new source performance standards, or toxic pollutant effluent standards under 40 CFR subchapter N (except facilities with toxic pollutant effluent standards which are also identified under category (xi) of this paragraph). One commenter (a municipality) agreed with EPA that these industries should be addressed in this rulemaking. No other comments were received on this category. EPA agrees with this comment since these facilities are those that Congress has required EPA to examine and regulate under the CWA with respect to process water discharges. The industries in these categories have generally been identified by EPA as the most significant dischargers of process wastewaters in the country. As such, these facilities are likely to have storm water discharges associated with industrial activity for which permit applications should be required.

One commenter stated that because oil and gas producers are subject to effluent guidelines, EPA is disregarding the intent of Congress to exclude *48011 facilities pursuant to section 402(1). EPA disagrees with this comment. EPA is not prohibited from requiring permit applications from industries with storm water discharge associated with industrial activity. EPA is prohibited only from requiring a permit for oil and gas exploration, production, processing, or treatment operations, or transmission facilities that discharge storm water that is not contaminated by contact with or has not come into contact with, any overburden, raw material, intermediate products, finished products, byproducts or waste products located on the site of such operations such discharges. In keeping with this requirement, EPA is requiring permit applications from oil and gas exploration, production, processing, or treatment operations, or transmission facilities that fall into a class of dischargers as described in § 122.26(c)(iii).

(ii) Facilities classified as Standard Industrial Classifications 24 (except 2434), 26 (except 265 and 267), 28 (except 283 and 285), 29, 311, 32 (except 323), 33, 3411, 373 and (xi). Facilities classified as Standard Industrial Classifications 20, 21, 22, 23, 2434, 25, 265, 267, 27, 283, 285, 30, 31 (except 311), 323, 34 (except 3441), 35, 36, 37 (except 373), 38, 39, 4221-25. One large municipality and one industry agreed with EPA that facilities covered by these SICs should be covered by this rulemaking. Many commenters, however, took exception to including all or some of these industries. However as noted elsewhere these facilities are appropriate for permit applications.

One commenter stated that within certain SICs industries, such as textile manufacturers use few chemicals and that there is little chance of pollutants in their storm water discharge. EPA agrees that some industries in this category are less likely than others to have storm water discharges that pose significant risks to receiving water quality. However, there are many other activities that are undertaken at these facilities that may result in polluted storm water. Further, the CWA is clear in its mandate to require permit applications for discharges associated with industrial activity. Excluding any of the facilities under these categories, except where the facility manufacturing plant more closely resembles a commercial or retail outlet would be contrary to Congressional intent.

One State questioned the inclusion of facilities identified in SIC codes 20-39 because of their temporary and transient nature or ownership. Agency disagrees that simply because a facility may transfer ownership that storm water quality

concerns should be ignored. If constant ownership was a condition precedent to applying for and obtaining a permit, few if any facilities would be subject to this rulemaking.

One State estimated that the proposed definition would lead to permits for 18,000 facilities in its State. Consequently this commenter recommended that the facilities under SIC 20-39 should be limited to those facilities that have to report under section 313 of title III, Superfund Amendments and Reauthorization Act. However, as noted by another commenter, limiting permit requirements to these facilities would be contrary to Congressional intent. While use of chemicals at a facility may be a source of pollution in storm water discharges, other every day activities at an industrial site and associated pollutants such as oil and grease, also contribute to the discharge of pollutants that are to be addressed by the CWA and these regulations. While the number of permit applications may number in the thousands, EPA intends for group applications and general permits to be employed to reduce the administrative burdens as greatly as possible.

Two commenters felt the permit applications should be limited to all entities under SIC 20-39. EPA disagrees that all the industrial activities that need to be addressed fall within these SICs. Discharges from facilities under paragraphs (i) through (xi) such as POTWs, transportation facilities, and hazardous waste facilities, are of an industrial nature and clearly were intended to be addressed before October 1, 1992.

Two commenters stated that SIC 241 should be excluded in that logging is a transitory operation which may occur on a site for only 2-3 weeks once in a 20-30 year period. It was perceived that delays in obtaining permits for such operations could create problems in harvest schedule and mill demand. This commenter stated that runoff from such operations should be controlled by BMPs in effect for such industries and that such a permit would not be practical and would be cost prohibitive.

EPA agrees with the commenter that this provision needs clarification. The existing regulations at [40 CFR 122.27](#) currently define the scope of the NPDES program with regard to silvicultural activities. [40 CFR 122.27\(b\)\(1\)](#) defines the term “silvicultural point source” to mean any discrete conveyance related to rock crushing, gravel washing, log sorting, or log storage facilities which are operated in connection with silvicultural activities and from which pollutants are discharged into waters of the United States. [Section 122.27\(b\)\(1\)](#) also excludes certain sources. The definition of discharge associated with industrial activity does not include activities or facilities that are currently exempt from permitting under NPDES. EPA does not intend to change the scope of [40 CFR 122.27](#) in this rulemaking. Accordingly, the definition of “storm water discharge associated with industrial activity” does not include sources that may be included under SIC 24, but which are excluded under [40 CFR 122.27](#). Further, EPA intends to examine the scope of the NPDES silvicultural regulations at [40 CFR 122.27](#) as it relates to storm water discharges in the course of two studies of storm water discharges required under section 402(p)(5) of the CWA.

In response to one comment, EPA intends that the list of applicable SICs will define and identify what industrial facilities are required to apply. Facilities that warehouse finished products under the same code at a different facility from the site of manufacturing are not required to file a permit application, unless otherwise covered by this rulemaking.

(iii) Facilities classified as Standard Industrial Classifications 10 through 14 (mineral industry) including active or inactive mining operations (except for areas of coal mining operations no longer meeting the definition of a reclamation area under [40 CFR 434.11\(i\)](#) because the performance bond issued to the facility by the appropriate SMCRA authority has been released, or except for areas of non-coal mining operations which have been released from applicable State or Federal reclamation requirements after December 17, 1990 and oil and gas exploration, production, processing, or treatment operations, or transmission facilities that discharge storm water contaminated by contact with or that has come into contact with, any overburden, raw material, intermediate products, finished products, byproducts or waste products located on the site of such operations. Several commenters urged that Congress intended to require permits or permit applications only for the manufacturing sector of the oil and gas industry (or those activities that designated in SIC 20 through 39). EPA disagrees with this argument. The fact that Congress used the language cited above and

not the appropriate the SIC definition explicitly does not indicate that a broader definition or less exclusive definition was contemplated. According to these comments, all storm water discharges from oil and gas *48012 exploration and production facilities would be exempt from regulation. However, EPA is convinced that a facility that is engaged in finding and extracting crude oil and natural gas from subsurface formations, separating the oil and gas from formation water, and preparing that crude oil for transportation to a refinery for manufacturing and processing into refined products, will have discharges directly relating to the processing or raw material storage at an industrial plant and are therefore discharges associated with industrial activity.

For further clarification EPA is intending to focus only on those facilities that are in SIC 10-14. Furthermore, in response to several comments, this rulemaking will require permit applications for storm water discharges from currently inactive petroleum related facilities within SIC codes 10-14, if discharges from such facilities meet the requirements as described in section VI.F.7.a. and § 122.26(c)(1)(iii). Inactive facilities will have storm water associated with industrial activity irrespective of whether the activity is ongoing. Congress drew no distinction between active and inactive facilities in the statute or in the legislative history.

(iv) Hazardous waste treatment, storage, or disposal facilities that are operating under interim status or a permit under Subtitle C of the Resource, Conservation and Recovery Act. One commenter believed that all RCRA and Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) facilities should be specifically identified using SIC codes for further clarification. EPA considers this to be unnecessarily redundant, since the RCRA/CERCLA identification is sufficient.

Several industries asserted that storm water discharge from landfills, dumps, and land application sites, properly closed or otherwise subject to corrective or remedial actions under RCRA, should not be included in the definition. One commenter noted that the runoff from these areas is like runoff from undeveloped areas. One commenter also concluded that landfills, dumps, and land application sites should also be excluded if they are properly maintained under RCRA.

One commenter also rejected the idea of requiring permits from all active and inactive landfills and open dumps that have received any industrial wastes, and subtitle C facilities. This commenter felt that these facilities were already adequately covered under RCRA.

Two industry commenters felt that it would be redundant to have hazardous waste facilities regulated by RCRA and the NPDES storm water program. One felt this was especially so if there are current pretreatment standards.

The Agency disagrees that all activities that may contribute to storm water discharges at RCRA subtitle C facilities are being fully controlled and that requiring NPDES permits for storm water discharges at RCRA subtitle C facilities is redundant. First, the vast majority of permitted hazardous waste management facilities are industrial facilities involved in the manufacture or processing of products for distribution in commerce. Their hazardous waste management activities are incidental to the production-related activities. While RCRA subtitle C regulations impose controls in storm water runoff from hazardous waste management units and require cleanup of releases of hazardous wastes, they generally do not control non-systematic spills or process. These releases, from the process itself or the storage of raw materials or finished products are a potential source of storm water contamination. In addition, RCRA subtitle C (except via corrective action authority) does not address management of “non hazardous” industrial wastes, which nevertheless could also potentially contaminate storm water runoff.

Second, at commercial hazardous waste management facilities, the RCRA subtitle C permitting requirements and management standards do not control all releases of potentially toxic materials. For example, some permitted commercial treatment facilities may store and use chemicals in the treatment of RCRA hazardous wastes. Releases of these treatment chemicals from storage areas are a potential source of storm water contamination.

Finally, many RCRA subtitle C facilities have inactive Solid Waste Management Units (SWMU's) on the facility property. These SWMU's may contain areas on the land surface that are contaminated with hazardous constituents. RCRA requires that hazardous waste management facilities must investigate these areas of potential contamination, and then perform corrective action to remediate any SWMU's that are of concern. However, the corrective action process at these facilities will not be completed for a number of years due to the complexity of the cleanup decisions, and due to the fact that many hazardous waste management facilities do not yet have RCRA permits. Until corrective action has been completed at all such subtitle C facilities, SWMU's are a potential source of storm water contamination that should be addressed under the NPDES program. Finally, under section 1004(27) of RCRA, all point source discharges, including those at RCRA regulated facilities, are to be regulated by the NPDES program. Thus, there is no concern of regulatory overlap, and to the extent that the storm water regulations are effectively implemented, it will help address these units in a way that alleviates the need for expensive corrective action in the future.

(v) Landfills, land application sites, and open dumps that receive or have received industrial wastes and that are subject to regulation under subtitle D of RCRA. EPA received numerous comments supporting the regulation of municipal landfills which receive industrial waste and are subject to regulation under subtitle D of RCRA. EPA agrees with these comments. These industries have significant potential for storm water discharges that can adversely affect receiving water.

Two States argued that landfills should be addressed under the non-point source program. EPA disagrees that the non-point source program is sufficient for addressing these facilities. Further, addressing a class of facilities under the non-point source program does not exempt storm water discharges from these facilities from regulation under NPDES. The CWA requires EPA to promulgate regulations for controlling point source discharges of storm water from industrial facilities. Point sources from landfills consisting of storm water are such discharges requiring an NPDES permit. Several commenters argued that these discharges are adequately addressed by RCRA and that regulating them under this storm water rule would be redundant. However, as discussed above, RCRA expressly does not regulate point source discharges subject to NPDES permits. Given the nature of these facilities and of the material stored or disposed, EPA believes storm water permits are necessary. Similarly EPA rejects the comment that storm water discharges from these facilities are already adequately regulated by State authority. Congress has mandated that storm water discharges associated with industrial activity have an NPDES permit.

One commenter wanted EPA to define by size what landfills are covered. In response, it is the intent of these regulations to require permit applications from all landfills that receive industrial waste. Storm water discharges from such facilities are addressed because of the nature of the material with which the storm water comes in contact. The size of facility ***48013** will not dictate what type of waste is exposed to the elements.

One commenter requested that the definition of industrial wastes be clarified. For the purpose of this rule, industrial waste consists of materials delivered to the landfill for disposal and whose origin is any of the facilities described under [§ 122.26\(b\)\(14\)](#) of this regulation.

(vi) Facilities involved in the recycling of materials, including metal scrapyards, battery reclaimers, salvage yards, and automobile junkyards, including but limited to those classified as Standard Industrial Classification 5015 and 5093. One commenter suggested that the recycling of materials such as paper, glass, plastics, etc., should not be classified as an industrial activity. EPA disagrees that such facilities should be excluded on that basis. These facilities may be considered industrial, as are facilities that manufacture such products absent recycling.

Other facilities exhibit traits that indicate industrial activity. In junkyards, the condition of materials and junked vehicles and the activities occurring on the yard frequently result in significant losses of fluids, which are sources of toxic metals, oil and grease and polychlorinated aromatic hydrocarbons. Weathering of plated and non-plated metal surfaces may result in contributions of toxic metals to storm water. Clearly such facilities cannot be classified as commercial or retail.

One municipality felt that “significant recycling” should be defined or clarified. EPA agrees that the proposed language is ambiguous. It has been clarified to require permit applications from facilities involved in the recycling of materials, including metal scrapyards, battery reclaimers, salvage yards, and automobile junkyards, including but limited to those classified as Standard Industrial Classification 5015 and 5093. These SIC codes describe facilities engaged in dismantling, breaking up, sorting, and wholesale distribution of motor vehicles and parts and a variety of other materials. The Agency believes these SIC codes clarify the term significant recycling.

One municipality stated that regulation of these facilities under NPDES would be duplicative if they are publicly owned facilities. One State expressed the view that automobile junkyards, salvage yards could not legitimately be considered industrial activity. As noted above, EPA disagrees with these comments. Facilities that are actively engaged in the storage and recycling of products including metals, oil, rubber, and synthetics are in the business of storing and recycling materials associated with or once used in industrial activity. These activities are not commercial or retail because they are engaged in the dismantling of motors for distribution in wholesale or retail, and the assembling, breaking up, sorting, and wholesale distribution of scrap and waste materials, which EPA views as industrial activity. Further, being a publicly owned facility does not confer non-industrial status.

(vii) Steam electric power generating facilities, including coal handling sites, and onsite and offsite ancillary transformer storage areas. Most of the comments were against requiring permit applications for onsite and offsite ancillary transformer facilities. One commenter stated that these transformers did not leak in storage and if there were leakage problems in handling transformers, such leaks were subject to Federal and State spill clean-up procedures. The same commenter suggested that if EPA required applications from such facilities that it exclude those that have regular inspections, management practices in place, or those that store 50 transformers at any one time.

EPA agrees that such facilities should not be covered by today's rule. As one commenter noted, the Toxic Substances Control Act (TSCA) addresses pollutants associated with transformers that may enter receiving water through storm water discharges. EPA has examined regulations under TSCA and agrees that regulation of storm water discharges from these facilities should be the subject of the studies being performed under section 402(p)(5), rather than regulations established by today's rule. Under TSCA, transformers are required to be stored in a manner that prevents rain water from reaching the stored PCBs or PCB items. [40 CFR 761.65\(b\)\(1\)\(i\)](#). EPA considers transformer storage to be more akin to retail or other light commercial activities, where items are inventoried in buildings for prolonged periods for use or sale at some point in the future, and where there is no ongoing manufacturing or other industrial activity within the structure.

One commenter stated that this category of industries should be loosened so that all steam electric facilities are addressed—oil fired and nuclear. EPA believes that the language as proposed broadly defines the type of industrial activity addressed without specifying each mode of steam electric production. One commenter noted that the EPA has no authority under the CWA ([Train v. CIPR, Inc., 426 U.S. 1 \(1976\)](#)) to regulate the discharge of source, special nuclear and by-product materials which are regulated under the Atomic Energy Act. EPA agrees permit applications may not address those aspects of such facilities, however the facility in its entirety may not necessarily be exempt. A permit application will be appropriate for discharges from non-exempt categories.

(viii) Transportation facilities classified as Standard Industrial Classifications 40, 41, 42 (except 4221-25), 43, 44, 45, and 5171 which have vehicle maintenance shops, material handling facilities, equipment cleaning operations or airport deicing operations. Only those portions of the facility that are either involved in vehicle maintenance (including vehicle rehabilitation, mechanical repairs, painting, fueling, and lubrication), equipment cleaning operations, or which are identified in another subcategory of facilities under EPA's definition of storm water discharges associated with industrial activity. One commenter requested clarification of the terms “vehicle maintenance.” Vehicle maintenance refers to the rehabilitation, mechanical repairing, painting, fueling, and lubricating of instrumentalities of transportation located at the described facilities. EPA is declining to write this definition into the regulation however since “vehicle maintenance” should not cause confusion as a descriptive term. One commenter wanted railroad tracks where rail cars are set aside

for minor repairs excluded from regulation. In response, if the activity involves any of the above activities then a permit application is required. Train yards where repairs are undertaken are associated with industrial activity. Train yards generally have trains which, in and of themselves, can be classified as heavy industrial equipment. Trains, concentrated in train yards, are diesel fueled, lubricated, and repaired in volumes that connote industrial activity, rather than retail or commercial activity.

One commenter argued that if gasoline stations are not considered for permitting, then all transportation facilities should be exempt. EPA disagrees with the thrust of this comment. Transportation facilities such as bus depots, train yards, taxi stations, and airports are generally larger than individual repair shops, and generally engage in heavier more expansive forms of industrial activity. In keeping with Congressional intent to cover all industrial facilities, permit applications from such facilities are appropriate. In contrast, EPA views gas stations as retail commercial facilities not covered ***48014** by this regulation. It should be noted that SIC classifies gas stations as retail.

(ix) POTW lands used for land application treatment technology/sludge disposal, handling or processing areas, and chemical handling and storage areas. One commenter wanted more clarification of the term POTW lands. Another commenter requested clarification of the terms sludge disposal, sludge handling areas, and sludge processing areas. One State recommended that a broader term than POTW should be used. EPA notes that on May 2, 1989, it promulgated NPDES Sewage Sludge Permit Regulations; State Sludge Management Program Requirements at 40 CFR part 501. This regulation identified those facilities that are subject to section 405(f) of the CWA as “treatment works treating domestic sewage.”

In response to the above comments, EPA has decided to use this language to define what facilities are required to apply for a storm water permit. Under this rulemaking “treatment works treating domestic sewage,” or any other sewage sludge or wastewater treatment device or system used in the storage treatment, recycling, and reclamation of municipal or domestic sewage, including land dedicated to the disposal of sewage sludge, with a design flow of 1.0 mgd or more, or facilities required to have an approved pretreatment program under 40 CFR part 403, will be required to apply for a storm water permit. However, permit applications will not be required to address land where sludge is beneficially reused such as farm lands and home gardens or lands used for sludge management that are not physically located within the confines (offsite facility) of the facility or where sludge is beneficially reused in compliance with section 405 of the Clean Water Act (proposed rules were published on February 6, 1989, at [54 FR 5746](#)). EPA believes that such activity is not “industrial” since it is agricultural or domestic application (non-industrial) unconnected to the facility generating the material.

EPA received many comments on the necessity and appropriateness of requiring permit applications for storm water discharges from POTW lands. It was anticipated by numerous commenters that the above cited sludge regulations would adequately address storm water discharges from lands where sludge is applied. However, the sewage sludge regulations do not directly address NPDES permit requirements for storm water discharges from POTW lands and related areas to the extent required by today's rulemaking; the regulations cover only permits for use or disposal of sludge. Also, the regulations proposed on February 4, 1989, cover primarily the technical standards for the composition of sewage sludge which is to be used or disposed. They do not include detailed permitting requirements for discharges of storm water from lands where sludge has been applied to the land. To that extent, EPA is not persuaded by these commenters that POTWs and POTW lands should be excluded from these storm water permit application requirements.

Two commenters noted that some States already regulate sludge use or disposal activities substantially and that EPA should refrain from further regulation. EPA disagrees that this is a basis for excluding facilities from Federal requirements. Notwithstanding regulations in existence under State law, EPA is required by the CWA to promulgate regulations for permit application for storm water associated with industrial activity. Under the NPDES program, States are able to promulgate more rigorous requirements. However a minimum level of control is required under Federal law. One commenter also indicated that a State's sludge land application sites must follow a well defined plan to ensure there

is no sludge related runoff. Notwithstanding that a State may require storm water controls for sludge land applications, as noted above, EPA is required to promulgate regulations requiring permit applications from appropriate facilities. EPA views facilities such as waste treatment plants that engage in on-site sludge composting, storage of chemicals such as ferric chloride, alum, polymers, and chlorine, and which may experience spills and bubbleovers are suitable candidates for storm water permits. Facilities using such materials are not characteristic of commercial or retail activities. Use and storage of chemicals and the production of material such as sludge, with attendant heavy metals and organics, is activity that is industrial in nature. The size and scope of activities at the facility will determine the extent to which such activities are undertaken and such materials used and produced at the facility. Accordingly, EPA believes limiting the facilities covered under this category to those of 1.0 mgd and those covered under the industrial pretreatment program is appropriate.

To the extent that permit applicants are already required to employ certain management practices regarding storm water, these may be incorporated into permits and permit conditions issued by Federal and State permitting authorities. EPA has selected facilities identified under 40 CFR part 501 (i.e. those with a design flow of 1.0 mgd or more or those required to have an approved pretreatment program) since these facilities will have largest contribution of industrial process discharges. Sludge from such facilities will contain higher concentrations of heavy metal and organic pollutants.

One commenter stated that sludge disposal is a public activity that should be addressed in a public facility's storm water management program under a municipal storm water management program. EPA disagrees. Industrial facilities, whether publicly owned or not, are required to apply for and obtain permits when they are designated as industrial activity.

Another comment stated that a permit should not be required for facilities that collect all runoff on site and treat it at the same POTW. EPA believes that a permit application should be required from such facilities. However, the above practice can be incorporated as a permit condition for such a facility. One commenter stated storm water from sludge and chemical handling areas can be routed through the headworks of the POTW. The agency agrees that this may be an appropriate management practice for POTWs as long as other NPDES regulatory requirements are fulfilled with regard to POTWs.

(x) Construction activities, including clearing, grading and excavation activities except operations that result in the disturbance of less than five acre total land area which are not part of a larger common plan of development or sale. EPA addresses whether these facilities should be covered by today's rule in section VI.F.8.

The December 7, 1988, proposal also requested comments on including the following other categories of discharges in the definition of industrial activities: (xii) Automotive repair shops classified as Standard Industrial Classification 751 or 753; (xiii) Gasoline service stations classified as Standard Industrial Code 5541; (xiv) Lands other than POTW lands (offsite facilities) used for sludge management; (xv) Lumber and building materials retail facilities classified as Standard Industrial Classification 5211; (xvi) Landfills, land application sites, and open dumps that do not receive industrial wastes and that are subject to regulation under subtitle D of RCRA; (xvii) Facilities classified as Standard Industrial Classification 46 (pipelines, except natural gas), and 492 (gas production and distribution); (xviii) Major electrical powerline corridors.

***48015** EPA received numerous comments on whether to require permit applications for these particular facilities. The December 7, 1988, proposal reflected EPA's intent not to require permits for these facilities, but rather to address these facilities in the two studies required by CWA sections 402(p) (5) and (6). After reviewing the comments on this issue, EPA believes that these facilities should be addressed under these sections of the CWA. Most of these facilities are classified as light commercial and retail business establishments, agricultural, facilities where residential or domestic waste is received, or land use activities where there is no manufacturing. It should be noted that although EPA is not requiring the facilities identified as categories (xii) to (xviii), in the December 7, 1988, proposal to apply for a permit application under this rulemaking, such facilities may be designated under section 402(p)(2)(E) of the CWA.

Three commenters recommended that EPA clarify that non-exempt Department of Energy and Department of Defense facilities should be covered by the storm water regulation. The regulation clearly states that Federal Facilities that are engaged in industrial activity (i.e. those activities in § 122.26(b)(14)(i)-(xi)) are required to submit permit applications. Those applying for permits covering Federal facilities should consult the Standard Industrial Classifications for further clarification.

One commenter questioned how EPA intended to regulate municipal facilities engaged in industrial activities. Municipal facilities that are engaged in the type of industrial activity described above and which discharge into waters of the United States or municipal separate storm sewer systems are required to apply for permits. These facilities will be covered in the same manner as other industrial facilities. The fact that they are municipally owned does not in any way exclude them from needing permit applications under this rulemaking.

One commenter suggested exempting those facilities that have total annual sales less than five million dollars or occupy less than five acres of land. Another commenter thought that all minor permittees should be exempt. EPA believes that the quality of storm water and the extent to which discharges impact receiving water is not necessarily related to the size of the facility or the dollar value of its business. What is important in this regard, is the extent to which steps are taken at facilities to curb the quantity and type of material that may pollute storm water discharges from these facilities. Therefore EPA has not excluded facilities from permitting on such a basis. This same commenter stated that the proposed rules should not address facilities with multiple functions (industrial and retail). EPA disagrees. If a facility engages in activity that is defined in paragraphs (i) through (xi) above, it is required to apply for a permit regardless of the fact that it also has a retail element. Such facilities need only submit a permit application for the industrial portion of the facility (as long as storm water from the non-industrial portion is segregated, as discussed above). This commenter also felt that more studies needed to be undertaken to determine the best way to regulate industries. EPA agrees that storm water problems need further study and for that reason EPA has devoted substantial manpower and resources to complete comprehensive studies under section 402(p)(5), while also addressing industrial sources that need immediate attention under this rulemaking.

One commenter requested that EPA give examples of storm water discharges from each of the facilities that have been designated for submitting permit applications. Agency believes that this is unnecessary and impractical since every facility, regardless of the type of industry, will have different terrain, hydrology, weather patterns, management practices and control techniques. However, EPA intends to issue guidance on filing permit applications for storm water discharges from industrial facilities which details how an industry goes about filing an industrial permit and dealing with storm water discharges.

Today's rulemaking for storm water discharges associated with industrial activity at § 122.26(c)(1)(i) includes special conditions for storm water discharges originating from mining operations, oil or gas operations (§ 122.26(c)(1)(iii)), and from the construction operations listed above (§ 122.26(c)(1)(ii)). These requirements are discussed in more detail in section VI.F.7 and section VI.F.9 of today's notice.

3. Individual Application Requirements

Today's rule establishes individual and group permit application requirements for storm water discharges associated with industrial activity. These requirements will address facilities precluded from coverage under the general permits to be proposed and promulgated by EPA in the near future. EPA considers it necessary to obtain the information required in individual permit applications from certain facilities because of the nature of their industrial activity and because of existing institutional mechanisms for issuing and tracking NPDES permits. Furthermore, some States will not have general permitting authority. Facilities located in such States will be required to submit individual applications or participate in a group application. The following response to comments received on these requirements pertains to these facilities.

Under the September 26, 1984, regulation operators of Group I storm water discharges were required to submit NPDES Form 1 and Form 2C permit applications. In response to post-regulation comments received on that rule, EPA proposed new permit application requirements (March 7, 1985, (50 FR 9362) and August 12, 1985, (50 FR 32548)) which would have decreased the analytical sampling requirements of the Form 2C and provided procedures for group applications. Passage of the WQA in 1987 gave the EPA additional time to consider the appropriate permit application requirements for storm water discharges. On December 7, 1988, application requirements were proposed and numerous comments were received. Based upon these comments, modifications and refinements have been made to the industrial storm water permit application.

Some commenters expressed the view that the permit application requirements are too burdensome, require too much paperwork, are of dubious utility, and focus too greatly on the collection of quantitative data. EPA disagrees. In comparison to prior approaches for permitting storm water discharges and other existing permitting programs, EPA has streamlined the permit application process, limited the quantitative data requirements, and required narrative information that will be used to determine permit conditions that relate to the quality of storm water discharge. To the extent that EPA needs non-quantitative information to develop appropriate permit conditions, EPA disagrees with the view of some commenters that the information required is excessive. In response to comments on earlier rulemakings and a comment received on the December 7, 1988, proposal (stressing that the emphasis should be on site management, rather than monitoring, sampling, and reporting) EPA has shifted the emphasis of the permit application requirements for storm water discharges associated with industrial activity from the existing requirements for collection of ***48016** quantitative data (sampling data) in Form 2C towards collection of less quantitative data supplemented by additional information needed for evaluation of the nature of the storm water discharges.

The permit application requirements proposed for storm water discharges reduce the amount of quantitative data required in the permit application and exempt discharges which contain entirely storm water (i.e. contain no other discharge that, without the storm water component, would require an NPDES permit), from certain reporting requirements of Form 2C. The proposed modifications also would exempt applicants for discharges which contain entirely storm water from several non-quantitative information collection provisions currently required in the Form 2C. The proposed modifications would rely more on descriptive information for assessing impacts of the storm water discharge. One commenter proposed that information that the applicant has submitted for other permits be incorporated by reference into the storm water permit application. EPA disagrees that incorporation by reference is appropriate. The permitting authority will need to have this information readily available for evaluating permit application and permit conditions. Furthermore, EPA feels that the applicant is in the best position to provide the information and verify its accuracy. However, if the applicant has such information and it accurately reflects current circumstances, then the applicant can rely on the information for meeting the information requirements of the application. Another commenter suggested that EPA should only require the information in § 122.26(c)(1)(A) and (B) (i.e., the requirement for a topographic map indicating drainage areas and estimate of impervious areas and material management practices). As explained in greater detail below, EPA is convinced that some quantitative data and the other narrative requirements are necessary for developing appropriate permit conditions.

Form 2F addressing permit applications for storm water discharges associated with industrial activity is included in today's final rule. A complete permit application for discharges composed entirely of storm water, will be comprised of Form 2F and Form 1. Operators of discharges which are composed of both storm water and non-storm water will submit, where required, a Form 1, an entire Form 2C (or Form 2D) and Form 2F when applying. In this case, the applicant will provide quantitative data describing the discharge during a storm event in Form 2F and quantitative data describing the discharge during non-storm events in Form 2C. Non-quantitative information reported in the Form 2C will not have to be reported again in the Form 2F.

Under today's rule, Form 2F for storm water discharges associated with industrial activity would not require the submittal of all of the quantitative information required in Form 2C, but would require that quantitative data be submitted for:

- Any pollutant limited in an effluent guideline for an industrial applicant's subcategory;
- Any pollutant listed in the facility's NPDES permit for its process wastewater;
- Oil and grease, TSS, COD, pH, BOD5, total phosphorus, total Kjeldahl nitrogen; nitrate plus nitrite nitrogen; and
- Any information on the discharge required under 40 CFR 122.21(g)(7) (iii) and (iv).

In order to characterize the discharge(s) sampled, applicants need to submit information regarding the storm event(s) that generated the sampled discharge, including the date(s) the sample was taken, flow measurements or estimates of the duration of the storm event(s) sampled, rainfall measurements or estimates from the storm event(s) which generated the sampled runoff, and the duration between the storm event sampled and the end of the previous storm event. Information regarding the storm event(s) sampled is necessary to evaluate whether the discharge(s) sampled was generally representative of other discharges expected to occur during storm events and to characterize the amount and nature of runoff discharges from the site.

One commenter stated that the quantitative information should be limited to those pollutants that are expected to be known to the applicant. EPA believes this would be inappropriate since there will be no way of determining initially whether these pollutants are present despite the expectations of the applicant. Once the data is provided, permits can be drafted which address specific pollutants. This rulemaking requires that the applicant test for oil and grease, COD, pH, BOD5, TSS, total Kjeldahl nitrogen, nitrate plus nitrite nitrogen and total phosphorus. Oil and grease and TSS are a common component of storm water and can have serious impacts on receiving waters. Oxygen demand (COD and BOD5) will help the permitting authority evaluate the oxygen depletion potential of the discharge. BOD5 is the most commonly used indicator of potential oxygen demand. COD is considered a more inclusive indicator of oxygen demand, especially where metals interfere with the BOD5 test. The pH will provide the permitting authority with important information on the potential availability of metals to the receiving flora, fauna and sediment. Total Kjeldahl nitrogen, nitrate plus nitrite nitrogen and total phosphorus are measures of nutrients which can impact water quality. Because this data is useful in developing appropriate permit conditions, EPA disagrees with the argument made by one commenter that quantitative data requirements should be a permit condition and not part of the application process.

In the proposed rule, the Agency used total nitrogen as a parameter. This has been changed to total Kjeldahl nitrogen and nitrate plus nitrite nitrogen for clarity.

Today's rule defines sampling at industrial sites in terms of sampling for those parameters that have effluent limits in existing NPDES permits, as well as for any other conventional or nonconventional parameter that might be expected to be found at the outfall. Comments on the appropriateness of the defined parameters were solicited by the proposal. Numerous commenters maintained that either the parameter list be made industry specific, or that pollutant categories not detected in the initial screen be exempted from further testing. Some suggested that only conventional pollutants, inorganics, and metals be sampled unless reason for others is found.

In terms of specific water quality parameters, it was recommended that surfactants not be tested for unless foam is visible. One commenter also suggested that fecal coliform sampling is inappropriate for industrial permits applications. One commenter favored testing for TOC instead of VOC. In response, VOC has been eliminated from the list of parameters because it will not yield specific usable data. VOC is not specifically required in any sampling in today's rule, except where priority pollutant scans are required.

Some recommended that procedures be modified to facilitate quicker, less expensive lab analyses. Concern was also raised that industry might be required to collect its own rainfall data if there is no nearby observation station. Some commenters stated that EPA should not allow automatic sampling for either biological or oil and grease sampling due to the potential for contamination in sampling equipment.

***48017** In response, EPA believes that the sampling requirements for industry in today's rule are reasonable and not burdensome. These requirements address parameters that have effluent limits in existing NPDES permits, as well as for any other conventional or nonconventional parameter that might be expected to be found at the applicants outfall. Under this procedure both industry-specific and site-specific contaminants are already identified in the existing permit. Whether all these parameters need to be made a part of any discharge characterization plans, under the terms of the permit, will be a case-by-case determination for the permitting authority. EPA maintains that the test for surfactants (if in effluent guidelines or in the facility's NPDES permit for process water) is justifiable even when a foam is not obvious at the outfall. The presence of detergents in storm water may be indicated by foam, but the absence of foam does not indicate that detergents are not present.

EPA requested comments on fecal coliform as a parameter. Fecal coliform was included on the list as an indicator of the presence of sanitary sewage. In large concentrations, fecal coliform may be an effective indicator of sanitary sewage as opposed to other animal wastes. EPA believes that sanitary cross connections will also be found at industrial facilities. Furthermore, the test for fecal coliform is an inexpensive test and its inclusion or exclusion should make little impact financially on the individual application costs. Sampling for volatile organic carbon shall be accomplished when required, as it is an appropriate indicator of industrial solvents and organic wastes.

In response to comments, EPA acknowledges that there are certain pollutants that are capable of leaving residues in automatic sampling devices that will potentially contaminate subsequent samples. In these cases, such as for biological monitoring, if such a problem is perceived to exist and it is expected that the contaminant will render the subsequent samples unusable, manual grab samples may be needed. This would include grab samples for pH, temperature, cyanide, total phenols, residual chlorine, oil and grease, fecal coliform, and fecal streptococcus. EPA is not disallowing the use of automatic sampling because of possible contamination, as this type of sampling may be the best method for obtaining the necessary samples from a selected storm events.

In addition to the conventional pollutants listed above, this final rule requires applicants, when appropriate, to sample other pollutants based on a consideration of site-specific factors. These parameters account for pollutants associated with materials used for production and maintenance, finished products, waste products and non-process materials such as fertilizers and pesticides that may be present at a facility. Applicants must sample for any pollutant limited in an effluent guideline applicable to the facility or limited in the facility's NPDES permit. These pollutants will generally be associated with the facility's manufacturing process or wastes. Other process and non-process related pollutants, will be addressed by complying with the requirements of [40 CFR 122.21\(g\)\(7\)\(iii\)](#) and [\(iv\)](#).

[Section 122.21\(g\)\(7\)\(iii\)](#) requires applicants to indicate whether they know or have reason to believe that any pollutant listed in Table IV (conventional and nonconventional pollutants) of appendix D to 40 CFR part 122 is discharged. If such a pollutant is either directly limited or indirectly limited by the terms of the applicant's existing NPDES permit through limitations on an indicator parameter, the applicant must report quantitative data. For pollutants that are not contained in an effluent limitations guideline, the applicant must either report quantitative data or describe the reasons the pollutant is expected to be discharged. With regard to pollutants listed in Table II (organic pollutants) or Table III (metals, cyanide and total phenol) of appendix D, the applicant must indicate whether they know or have reason to believe such pollutants are discharged from each outfall and, if they are discharged in amounts greater than 10 parts per billion (ppb), the applicant must report quantitative data. An applicant qualifying as a small business under [40 CFR 122.21\(g\)\(8\)](#), (e.g., coal mines with a probable total annual production of less than 100,000 tons per year or, for all other

applicants, gross total annual sales averaging less than \$100,000 per year (in second quarter 1980 dollars)), is not required to analyze for pollutants listed in Table II of appendix D (the organic toxic pollutants).

Section 122.21(g)(7)(iv) requires applicants to indicate whether they know or have reason to believe that any pollutant in Table V of appendix D to 40 CFR part 122 (certain hazardous substances) is discharged. For every pollutant expected to be discharged, the applicant must briefly describe the reasons the pollutant is expected to be discharged and report any existing quantitative data it has for the pollutant.

When collecting data for permit applications, applicants may make use of 40 CFR 122.21(g)(7), which provides that “when an applicant has two or more outfalls with substantially identical effluents, the Director may allow the applicant to test only one outfall and report that the quantitative data also applies to the substantially identical outfalls.” Where the facility has availed itself of this provision, an explanation of why the untested outfalls are “substantially identical” to tested outfalls must be provided in the application. Where the amount of flow associated with the outfalls with substantially identical effluent differs, measurements or estimates of the total flow of each of the outfalls must be provided. Several commenters stated that the time and expense associated with sampling and analysis would be saved if the applicant was able to pick substantially identical outfalls without prior approval of the permitting authority. EPA disagrees that this would be an appropriate devolution of authority to the permit applicant. The permitting authority needs to ensure that these outfalls have been grouped according to appropriate criteria (for example do the outfalls serve similar drainage areas at the facility). Furthermore, EPA is not requiring that the permit applicant engage in sampling to demonstrate that the outfalls are indeed substantially identical, because that would of course defeat the purpose of § 122.21(g)(7). The procedure for establishing identical outfalls is not that onerous and provides a means for industry to save substantially on time and resources for sampling.

EPA proposed and requested comment on a requirement that the facility must sample a storm event that is typical for the area in terms of duration and severity. The storm event must be greater than 0.1 inches and must be at least 96 hours from the previously measurable (greater than 0.1 inch rainfall) storm event. In general, variance of the parameters (such as the duration of the event and the total rainfall of the event) should not exceed 50 percent from the parameters of the average rainfall event in that area. EPA also requested comments on addressing snow melt events under this definition.

Commenters stated that: median or average rainfall is not an acceptable approach; the minimum depth and duration of rainfall must be specified; the allowable 50% variation is questionable; the total depth of the storm is irrelevant; and the storm should be viewed based on the average intensity of the storm. One commenter *48018 suggested that using the median rainfall event would be a better approach than the average rainfall event.

Others insisted that “representative” or typical storms do not exist in semi-arid climates and that representative rainfall must be site-specific (regional) and seasonal. Several commenters contended that the requirement for 96 dry hours between events is not acceptable, with 48 and 72 hours identified as possible alternatives.

One commenter believed that a typical standard design storm, such as the 1-year, 24-hour, or 10-year, 1-hour, would be preferable. Another commenter felt that the storm event should be based on the rainfall required to generate a minimum discharge level. One commenter questioned whether the storm is to be sampled at all sites simultaneously.

To clarify its decision on what storm event should be sampled, EPA notes that its selection of the storm event considers both regional and seasonal variation of precipitation. This is evidenced in the rule with regard to sites in the municipal application (three events sampled), and in the requirements for industrial group applications (a minimum of two applicants, or one applicant in groups of less than 10, to be represented in each precipitation zone (see section VI.F.4 below).

The definition of a 0.1 inch minimum was determined by NURP and other studies to be the minimum rainfall depth capable of producing the rainfall/runoff characteristics necessary to generate a sufficient volume of runoff for meaningful sample analysis. EPA believes by requiring the average storm to be used as the basis for sampling that depth, duration, and therefore average rainfall intensity are being regionally defined. The Agency has also added the option of using the median rainfall event instead of the average. The potential for monitoring events that may not meet this specification should be minimized by allowing the proposed 50 percent variation in rainfall depth and/or duration from event statistics. However, the 50 percent variation need only be met when possible. Further, there is flexibility in the rule where the Director may allow or establish site specific requirements such as the minimum duration between the previous measurable storm event and the storm event sampled, the amount of precipitation from the storm event to be sampled, and the form of precipitation sampled (snowmelt or rainfall). If data is obtained from a rain event that does not meet the criteria above, the Director has the discretion to accept the data as valid.

The December 7, 1988, proposal called for a 96-hour period between events of measurable rainfall, here defined as 0.1 inch, which provided a four day minimum for the accumulation of pollutants on the surface of the outfalls' tributary areas. The key word in the definition is "measurable", which means that the 96-hour period did not necessarily have to be dry, only that no cleansing rainfall (i.e. 0.1 inch rain event) has occurred. However, after reviewing comments on this issue EPA has decided to change the period to 72 hours. Many commenters indicated that 96 hours is too restrictive and that securing a sample under such circumstances would be unnecessarily difficult. EPA agrees that the quality or representativeness of the sample would not be adversely affected by this change.

EPA does not agree with comments that the requirement of a particular "design" storm would be appropriate. Many commenters have expressed concern that they might sample an event not meeting the requirements for industrial group applications as defined. Because there is no way to know with sufficient certainty beforehand that an upcoming event will approximate a one-year, twenty-four hour storm, many events would be unnecessarily sampled before this event is realized.

EPA does not intend that a municipality or industry be required to sample all required outfalls for a single storm. This would represent a unmanageable investment in equipment and manpower. In some areas, it may be necessary to sample multiple sites for a single event due to the irregularity of rainfall, but not all sites.

EPA described parameters for selecting storm events for sampling of municipal and industrial outfalls in the December 7, 1988, proposal. EPA has received several comments regarding the problems that rainfall measurement in general presents. A recurring comment relative to reporting rainfall, and in verifying that the storm itself is representative, deals with the spatial distribution of rainfall. The rainfall measured at an airport does not always represent rainfall at the site, particularly in summer months when thunderstorms are prevalent. One commenter stated that it would be easier to base the selected storm on either a minimum discharge, or on a discharge duration other than on the total precipitation, because these parameters are easily measured at the site and are not dependent on the airport gauges receiving the same rainfall as the site. A few commenters questioned how to determine typical storm characteristics. One commenter advised that NOAA rainfall reporting stations provide data that represent only daily rainfall totals, not storm event data. One commenter pointed out that the time frame of the sampling requirement does not consider that a particular region may be in the midst of a multi-year drought cycle, and that what little rainfall occurs may have uncharacteristically high levels of pollutants.

The type of rain event sampled is an important parameter in any attempt to characterize system-wide loads based on the sampling results. Rainfall gauges that report only event total depth will provide the information necessary to characterize most events, provided that a reasonable estimate of the event duration can be made. If simulation models are to be used in estimating system-wide loads, rainfall measurement based on time and depth of rainfall will be needed. If the recording stations are not believed to accurately reflect this distribution, then the data will need to be collected by the applicant at a location central to the tributary area of the outfall.

The rainfall data collected by NOAA are in most cases available in the form of hourly rainfall depths. This information can be analyzed to develop characteristic storm depths and durations. In some cases, this information has already been analyzed for many long term reporting stations by various municipalities, states, and universities. The results of these investigations should be available to the applicants.

EPA realizes that prolonged rainless periods occur for both semi-arid areas and areas experiencing droughts and that the first storm after a prolonged dry period may well not be representative of "normal" runoff conditions. In order for the appropriate system-wide characterization of loads to be made, data must be collected. With regard to the municipal permit application, today's rule states that runoff characterization data will be collected during three events at from five to ten sites. The rule gives the Director the flexibility of modifying these requirements.

EPA has defined the parameters for selecting the storm event to be sampled such that at the discretion of the Director, seasonal, including winter, sampling might be required. EPA has received several comments regarding the problems that snowmelt sampling may present. Several commenters are ***48019** opposed to monitoring of snowmelt events. The reasons cited include equipment problems and the unreasonableness of expecting this sampling, because of temperatures and the time required for personnel to be waiting for events. A few comments addressed the issues of snow pack depth, ambient temperature, and solar radiation levels, and that the snow pack may filter suspended solids or refreeze such that final melting is uncharacteristically over-polluted relative to normal conditions. Another commenter contended that it is impossible to manage the melting process and therefore unreasonable to expect controls to be implemented relative to snowmelt. In essence, it is contended that there is no first discharge unless the snow pack depth is low and melts quickly.

A few commenters favor monitoring snowmelt, for precisely the same reason that most oppose it: that the runoff from snowmelt is the most polluted runoff generated in some areas on an annual basis. Where this is the case, sampling snowmelt should be undertaken in order to accurately assess impacts to receiving streams. EPA is confident that in areas where automated sampling cannot be relied upon, grab sampling can probably be performed because the nature of the snowmelt process tends to make the timing of samples less of a problem when compared to typical rainfall events. EPA disagrees that management practices, either at industrial facilities or with regard to municipalities, cannot address snowmelt. Some areas may need to reassess their salt application procedures. In addition retention and detention devices may address snowmelt, as well as erosion controls at construction sites. Thus, obtaining samples of snowmelt is appropriate to allow development of such permit conditions.

Today's rule also modifies the Form 2C requirements by exempting applicants from the requirements at [§ 122.21\(g\)\(2\)](#) (line drawings), (g)(4) (intermittent flows), (g)(7) (i), (ii), and (v) (various sampling requirements to characterize discharges) if the discharge covered by the application is composed entirely of storm water. Permit applications for discharges containing storm water associated with industrial activity would require applicants to provide other non-quantitative information which will aid permit writers to identify which storm water discharges are associated with industrial activity and to characterize the nature of the discharge.

Numerous comments were received regarding the requirement to submit a topographic map and site drainage map. Many of these comments offered alternatives to EPA's proposal. Two commenters suggested that a simple sketch of the site would be sufficient. Two commenters stated that one or the other should be adequate. One commenter believed that the drainage map was a good idea, but that the topographic map should be optional. Several commenters submitted that a topographic map was sufficient and that only SPCC plans or SARA submittals should supplement that. Another commenter argued that information relating to the location of the nearest surface water or drinking wells would be sufficient. Other commenters believed that a drainage map alone would indicate all relevant site specific information. Numerous commenters expressed concern that the drainage area map would be too detailed and that one which depicts the general direction of flow should be sufficient. Clarification was requested on whether the final rule would require

the location of any drinking water wells. One commenter stated that a U.S.G.S. 7.5 quadrangle map will not illustrate drainage systems in all cases, and that therefore the requirement should be optional.

Several commenters agreed with EPA's proposal. One commenter maintained that drainage maps should be required from developments greater than three acres and from all individual applicants. Several commenters agreed with EPA's proposal that both maps should be provided, with arrows indicating site drainage and entering and leaving points. It was advised that drainage maps are useful in locating sources of storm water contamination, and it is useful to identify areas and activities which require source controls or remedial action. One commenter recommended that the map should extend far enough offsite to demonstrate how the privately owned system connects to the publicly owned system.

After considering the merits of all the comments and the reasons supporting EPA's proposal, EPA is convinced that a topographic map and a site drainage map are necessary components of the industrial application. Existing permit application regulations at [40 CFR 122.21\(f\)\(7\)](#) require all permit applicants to submit as part of Form 1 a topographic map extending one mile beyond the property boundaries of the source depicting: the facility and each intake and discharge structure; each hazardous waste treatment, storage, or disposal facility; each well where fluids from the facility are injected underground; and those wells, springs, other surface water bodies, and drinking water wells listed in the map area in public records or otherwise known to the applicant within one-quarter mile of the facility property boundary. (See [47 FR 15304](#), April 8, 1982.) However, as indicated by the comments the information provided under [§ 122.21\(f\)\(7\)](#) is generally not sufficient by itself for evaluating the nature of storm water discharges associated with industrial activity.

As stated in comments, a drainage map can provide more important site specific information for evaluating the nature of the storm water discharge in comparison to existing requirements, which require a larger map with only general information. The volume of a storm water discharge and the pollutants associated with it will depend on the configuration and activities occurring at the industrial site. One commenter suggested that it would be appropriate to submit an aerial photograph of the site with all the topographic and drainage information superimposed on the photograph. EPA agrees that this may be an appropriate method of providing this information. EPA is not requiring a specific format for submitting this information.

EPA is also requiring that a narrative description be submitted to accompany the drainage map. The narrative will provide a description of on-site features including: existing structures (buildings which cover materials and other material covers; dikes; diversion ditches, etc.) and non-structural controls (employee training, visual inspections, preventive maintenance, and housekeeping measures) that are used to prevent or minimize the potential for release of toxic and hazardous pollutants; a description of significant materials that are currently or in the past have been treated, stored or disposed outside; and the method of treatment, storage or disposal used. The narrative will also include: a description of activities at materials loading and unloading areas; the location, manner and frequency in which pesticides, herbicides, soil conditioners and fertilizers are applied; a description of the soil; and a description of the areas which are predominately responsible for first flush runoff. This requirement is unchanged from the proposal.

Some commenters believed that information on pesticides, herbicides, and fertilizers and similar products is irrelevant, incidental to the facility's production activities, and should not be ***48020** addressed by this rulemaking. EPA disagrees. As these materials are applied outside and hence subject to storm events, they are significant sources of pollutants in storm water discharges whether applied in residential or industrial settings. By providing this information in the permit application the permit writer will be able to determine whether such activity is associated with industrial activity and the subject of appropriate permit conditions. Nominal or incidental application of these materials at industrial facilities and non-detects in sampling of storm water discharges for the permit application will result, in most cases, in these materials not being addressed specifically in storm water permits.

Today's rule also requires that permit applicants for storm water discharges associated with industrial activity certify that all of the outfalls covered in the permit application have been tested or evaluated for non-storm water discharges

which are not covered by an NPDES permit. (The applicant need not test for nonstorm water if the certification of the plant storm water discharges can be evaluated through the use of schematics or other adequate method). Section 405 of the WQA added section 402(p)(3)(B)(ii) to the CWA to require that permits for municipal separate storm sewers effectively prohibit non-storm water discharges to the storm sewer system. As discussed in part VI.F.7.b of today's preamble, untreated non-storm water discharges to storm sewers can create severe, wide-spread contamination problems and removing such discharges presents opportunities for dramatic improvements in the quality of such discharges. Although section 402(p)(3)(B)(ii) specifically addresses municipal separate storm sewers, EPA believes that illicit non-storm water discharges are as likely to be mixed with storm water at a facility that discharges directly to the waters of the United States as it is at a facility that discharges to a municipal storm sewer. Accordingly, EPA feels that it is appropriate to consider potential non-storm water discharges in permit applications for storm water discharges associated with industrial activity. The certification requirement would not apply to outfalls where storm water is intentionally mixed with process waste water streams which are already identified in and covered by a permit.

This rulemaking requires applicants for individual permits to submit known information regarding the history of significant spills at the facility. Several commenters indicated that the extent to which this information is required should be modified. One commenter stated that the requirement should be limited to those spills that resulted in a complaint or enforcement action. EPA disagrees. EPA believes that significant spills at a facility should generally include releases of oil or hazardous substances in excess of reportable quantities under section 311 of the Clean Water Act (see [40 CFR 110.10](#) and [40 CFR 117.21](#)) or section 102 of CERCLA (see [40 CFR 302.4](#)). Such a requirement is consistent with these regulations and the perception that such spills are significant enough to mandate the reporting of their occurrence. Some commenters stated that industries have already submitted this information in other contexts and should not be required to have to do it again. For the same reason another commenter felt that submittal of this information represents a waste of manpower and resources. EPA disagrees that requiring this information is unduly burdensome. If this information has already been provided for another purpose it follows that it is readily available to the industrial applicant. Thus, the burden of providing this information cannot be considered undue. Furthermore, the permit authority will need to have this available in order to determine which drainage areas are likely to generate storm water discharges associated with industrial activity, evaluate pollutants of concern, and develop appropriate permit conditions. However, to keep this information requirement within reasonable limits and limited to information already available to individual facilities, EPA has declined to expand the reporting requirements to spills of other materials, such as food as one commenter has suggested. However, EPA has decided to add raw materials used in food processing or production to the list of significant materials. Materials such as these may find their way into storm water discharges in such quantities that serious water quality impacts occur. These materials may find their way into storm water from transportation vehicles carrying materials into the facility, loading docks, processing areas, storage areas, and disposal sites.

One commenter urged that any information requested should be limited to a period of three years, which is the general NPDES records retention requirement under [40 CFR 122.21\(p\)](#) and [40 CFR 112.7\(d\)\(8\)](#). EPA agrees with this comment and has limited historical information requirements to the 3 years prior to the date the application is submitted. In this manner this regulation will be consistent with records keeping practices under the NPDES and Oil Spill Prevention programs, except sludge programs.

The December 7, 1988, proposal required the applicant to submit a description of each past or present area used for outdoor storage or disposal of significant materials. One commenter felt that the definition of significant material was too imprecise. EPA disagrees that the language should be made more precise by delineating every conceivable material that may add pollutants to storm water. Rather the definition is broad, to encourage permit applicants to list those materials that have the potential to cause water quality impacts. Stating what materials are addressed in meticulous detail may result in potentially harmful materials remaining unconsidered in permits. However, EPA has decided to add "fertilizers, pesticides, and raw materials used in the production or processing of food" to the definition in response to the comment of one State authority that such materials need to be accounted for due to their potential danger to storm water discharge quality. This same commenter recommended that "hazardous chemicals" should be added. EPA agrees,

and will delineate those chemicals as “hazardous substances” which are designated under section 101(14) of CERCLA. Further clarification has been added by requiring the listing of any chemical the facility is required to report pursuant to section 313 of title III of SARA.

Another commenter felt that EPA should not require information of past storage of significant materials. EPA agrees that this proposed requirement is overbroad and has limited the time frame to those materials that were stored in areas 3 years or fewer from the date of the permit application. The 3-year limit is consistent with other Agency reporting requirements as discussed above.

One commenter questioned EPA's proposal not to provide for a waiver from the requirement to submit quantitative data if the applicant can demonstrate that it is unnecessary for permit issuance. Another commenter said that a waiver is inappropriate. EPA believes relevant quantitative data are essential to the process, but in this rulemaking the number of pollutants that must be sampled and analyzed is reduced compared to previous regulations. The proposed requirements for quantitative data are limited to pollutants that are appropriate for given *48021 site-specific operations, thereby making a waiver unnecessary.

Although the concept of a waiver is attractive because of the perceived potential reduction in burdens for applicants, EPA believes that because the storm water discharge testing requirements have already been streamlined, a waiver would not in practice provide significant reductions in burden for either applicants or permit issuing authorities. Requirements to provide and verify data demonstrating that a waiver is appropriate for a storm water discharge may prove to be more of a burden to the applicant and the permitting authorities. Establishing such a waiver procedure would be administratively complex and time-consuming for both EPA and the applicants, without any justifiable benefit. Therefore, this rulemaking does not include a waiver provision.

In response to one commenter, EPA wishes to emphasize that if a facility has zero storm water discharge because it is discharging to a detention pond only, a permit application is not required. Only those discharges to the waters of the United States or municipal systems need submit notifications, individual or group permit applications, or notices of intent where applicable. However, if the detention pond overflows or the discharger anticipates that it may overflow, then a permit application should be submitted.

Two commenters agreed with EPA's proposed requirement to have a description of past and present material management practices and controls. EPA believes that this is important information directly relating to the quality of storm water that can be expected at a particular facility and this requirement is retained in today's rule. However, as with other historical information requirements, EPA is limiting past practices to those that occurred within three years of the date that the application is submitted. One commenter argued that past practices should not be considered unless there is evidence that past practices cause current storm water quality problems. EPA anticipates that the information submitted by the applicant will be used to make this determination and that appropriate permit conditions can be developed accordingly.

One commenter requested clarification on the certification requirement that the data and information in the application is true and complete to the best of the certifying officer's knowledge. This is a fundamental and integral part of all NPDES permit applications. It essentially requires the signatory to assure the permit writer, based upon his or her personal knowledge, that the information has been submitted without a negligent, reckless, or purposeful misrepresentation. EPA intends to interpret this requirement in the same manner for storm water applications as other applications.

4. Group Applications

Today's final rule provides some industries with the option of participating in a group application, in lieu of submitting individual permits. There are several reasons for the group application. First, the group application procedure provides adequate information for issuing permits for certain classes of storm water discharges associated with industrial activity.

Second, numerous commenters supported the concept of the group application as a way to reduce the costs and administrative burdens associated with storm water permit applications. Third, group applications will reduce the burden on the regulated community by requiring the submission of quantitative data from only selected members of the group. Fourth, the group application process will reduce the burden on the permit issuing authority by consolidating information for reviewing permit applications and for developing general permits suited to certain industrial groups. Where general permits are not appropriate or cannot be issued, a group application can be used to develop model individual permits, which can significantly reduce the burden of preparing individual permits.

As noted above in today's preamble, EPA intends to promulgate a general permit that will cover many types of industrial activity. Industrial dischargers eligible for such permits will generally be required to seek coverage by submittal of a notice of intent. Facilities that are ineligible for coverage under the general permit will be required to submit an individual permit application or submit a group application. The group application process promulgated today will serve as an important component to implement Tier III of EPA's industrial storm water permitting strategy discussed above. The general permit which EPA intends to promulgate in the near future shall set forth what types of facilities are eligible for coverage.

Some commenters criticized the group application procedure as an abdication of EPA's responsibility to effectively deal with pollutants in storm water discharges. One commenter stated that every facility subject to these regulations should be required to submit quantitative data. In response EPA believes, as do numerous commenters, that the group application procedure is a legitimate and effective way of dealing with a large volume of currently uncontrolled discharges. The only difference between the group application procedure and issuing individual permits based on individual applications is that the quantitative data requirements from individual facilities will be less if certain procedures are followed. EPA is convinced that marked improvements in the process of issuing permits will be achieved when these procedures are followed. Where the storm water discharge from a particular facility is identified as posing a special environmental risk, it can be required to submit individual applications and therefore separate quantitative data. It should also be noted that submittal of a group application does not exempt a facility from submitting quantitative data on its storm water discharge during the term of the permit.

The final rule refines and clarifies some of the requirements of the group application approach set forth in the December 7, 1988 proposal. Several commenters requested that EPA add a provision which would allow a facility that becomes subject to the regulations to "add on" to a group application after that group application has already been submitted. One commenter indicated that some trade associations are prohibited from engaging in an activity which would not apply to all its members, and that an "add on" provision was needed in the event such a prohibition was invoked. Another commenter noted that where a group is particularly large, for example one that consists of several thousand members, that it would be a logistical feat to ensure that all facilities eligible as members of the group are properly identified and listed on the application within the 120 day deadline for submitting part 1A of the application.

EPA believes that a group applicant should have a limited ability to add facilities to the group after part 1A has been submitted and that a provision which allows a group or group representative an unbridled ability to "add on" is impractical for a number of reasons. First, 10% of the facilities must submit quantitative data. Adding facilities after the group has been formed and approved would change the number of facilities that have to submit quantitative data on behalf of the group. This would result in an unwarranted administrative burden on the reviewing authority, which is in the position of having to examine the quantitative data and determine the appropriateness of group members (and those that are ***48022** required to submit quantitative data) within 2 months of receiving part 1 of the group application. Further, during the permit application process permitting authorities will be developing permit conditions for an identified and pre-determined group of facilities. Allowing potentially significant numbers of permit applicants to suddenly inject themselves into a group application could unnecessarily hamper or disrupt the timely development of general and model permits. In addition, if a facility were "added on" the number of facilities having to submit quantitative

data may drop below 10%. Thus the facility desiring to “add on” may be put in the position of having to submit the quantitative data themselves, which would clearly defeat the purpose of being a part of the group application.

Nevertheless, EPA has added a provision to 122.26(e) which enables facilities to add on to a group application at the discretion of the EPA's Office of Water Enforcement and Permits, and upon a showing of good cause by the group applicant. For the reasons noted above, EPA anticipates this provision will be invoked only in limited cases where good cause is shown. Facilities not properly identified in the group application, and which cannot meet the good cause test will be required to submit individual permit applications. EPA will advise such facilities within 30 days of receiving the request as to whether the facility may add on.

However, the “add on” facility must meet the following requirements: The application for the additional facility is made within 15 months of the final rule; and the addition of the facility does not reduce the percentage of the facilities that are required to submit quantitative data to below 10% unless there are over 100 facilities that are submitting quantitative data. Approval to become part of a group application is obtained from the group or the trade association and is certified by a representative of the group; approval for adding on to a group is obtained from the Office of Water Enforcement and Permits.

Several commenters stated that the application requirements for groups are so burdensome that the advantages of the process are undermined. These concerns are addressed in greater detail below. Among the requirements which commenters objected are the requirements to list every group member's company by name and address. EPA is convinced that a condition precedent to approving a group application is at least identifying the members of the group. Without such information it would be impossible to determine if all the facilities are sufficiently similar. EPA disagrees that industries will be dissuaded from using the group application process because the advantages of the process are undermined. Although commenters perceived many burdens associated with individual permit applications, by far the most significant burden identified by the comments is the requirement for obtaining and submitting quantitative data. The group application significantly reduces this burden by requiring only 10% of the facilities to submit quantitative data if the number in the group is over 100. If the number in the group is over 1000, then only 100 of the facilities need submit quantitative information. If group applicants develop cost sharing procedures to reduce the financial and administrative burdens of submitting quantitative data, it is evident that utilizing the group application could save industries as much as 90% on the most economically burdensome aspect of the application.

Several commenters perceived that the group application procedure did not offer them significant savings because under the proposal their particular industry would only be required to test for COD, BOD₅, pH, TSS, oil and grease, nitrogen, and phosphorous. These commenters stated that sampling for these pollutants is not particularly expensive. EPA believes that even if a group is required only to submit minimal quantitative data on particular pollutants, substantial savings can accrue to a particular industry if the group has many members. This is particularly true when the number of outfalls to be sampled, the information on storm events, and flow measurements are factored into the cost analysis. An additional benefit for members of the group as well as for permit issuing agencies is that the process of developing a permit, including drafting and responding to public comments on the permit, is consolidated by the group application process. Accordingly, it is less resource intensive for the group to work with permit issuance authorities to develop well founded permit conditions.

One commenter raised a concern about the situation where one of the facilities that is designated for submitting quantitative data drops out of the group. If this happened, then another facility would have to submit quantitative data. In response, EPA notes that one approach would be for the group to have one or two more facilities submit quantitative data than needed to avoid problems from such a departure or to account for new additions to the group. Certainly this issue goes directly to the facility selection process which is a critical component of the group application; the facilities need to be carefully selected and reviewed by the group to prevent such difficulties.

Several comments indicated a confusion over what facilities are eligible to take advantage of the group application procedure. Any industry or facility that is required to submit a storm water permit application under these regulations is eligible to participate in a group application. However, whether a facility can obtain a storm water permit under a group application procedure will depend upon whether that facility is a member of the same effluent guideline subcategory, or is sufficiently similar to other members of the group to be appropriate for a general permit or individual permit issued pursuant to the group application. Accordingly, group applications are not limited to national trade associations. The agency believes that the language in § 122.26(c)(2) adequately addresses these concerns. The process does not prohibit a particular company with multiple facilities from filing a group application as long as those facilities are sufficiently similar.

One commenter expressed concern that a single company would not be able to take advantage of the group application benefits unless the company had more than ten facilities. Under such circumstances the company would have to become integrated with a larger group of facilities owned by other companies in order to take advantage of the benefits afforded by the group application procedure. In response, the Agency is providing for a group application of between four and ten members, however at least half the facilities must submit data. One commenter stated that the number of facilities required to submit quantitative data should be determined on a case by case basis. EPA believes that 10 percent for groups with over ten members will be easiest to implement for both industry and EPA, and will ensure that adequate representative quantitative data are obtained so that meaningful determinations of facility similarity can be made and appropriate permit conditions in general or model permits can be developed.

Another commenter suggested that one facility with a multitude of storm water discharge points should be able to use the group permit application to reduce the amount of quantitative data *48023 that it is required to submit. This is an accurate observation but only to the extent that the facility combines with several other facilities to form a group, in which case only 10% of the facilities need submit quantitative data. The group application procedure in today's rule is designed for use by multiple facilities only. However, if an individual facility has 10 outfalls with ten substantially identical effluents the discharger may petition the Director to sample only one of the outfalls, with that data applying to the remaining outfalls. See § 122.21(g)(7). Thus, existing authority already allows for a “group-like” process for sampling a subset of storm water outfalls at a single facility.

Concern was expressed that the spill reporting requirement from each facility in part 1B would preclude any group from demonstrating that the facilities sampled are “representative,” because the incidence of past spills is very site-specific. EPA notes that since it has dropped the part 1B requirements for other reasons discussed below, this comment is now moot.

Numerous commenters noted that if a facility is part of a group application and is subsequently rejected as a group applicant, such an entity would not have a full year to submit an individual permit application. EPA agrees that this is a significant concern. Accordingly, those facilities that apply as a member of a group application will be afforded a full year from the time they are notified of their rejection as a member of the group to file an individual application. EPA notes that it intends to act on group application requests within 60 days of receipt; thus this approach will only provide facilities that are rejected from a group application a short extension of the deadline for other individual applications.

One commenter complained that the cost of defending a group's choice of representative facilities may exceed the cost of submitting an individual permit application, thereby reducing the incentive to apply as group. The agency anticipates that the selection process will be one open to negotiation between the affected parties and one that will end in a mutually satisfactory group of facilities. It is the intent of EPA to reduce the costs of submitting a permit application as much as possible, while providing adequate information to support permitting activities.

Another commenter argued that the use of model permits will create a disincentive for participating in a group because model permits may be used by the permit issuing authority to issue individual permits for discharges from similar facilities

that did not participate in the group application. EPA does not agree. The benefit of applying as a group applicant is to take advantage of reduced representative quantitative data requirements. This incentive will exist regardless of whether or how model permits are used. Further, technology transfer can occur during the development of permits based on individual applications as well as those based on group applications.

One commenter suggested moving some of the facility specific information requirements of part 1 of the group application to part 2 of the group application in order to provide more incentive to apply as a group. EPA has considered this and believes such a change would be inappropriate. Part 1 information will be used to make an informed decision about whether individual facilities are appropriate as group members and appropriate for submitting representative quantitative data. Furthermore, information burdens from providing site specific factors in part 1 is relatively minimal, and the information requirements in the proposed part 1B application have been eliminated.

One commenter suggested that trade associations develop model permits since they have the most knowledge about the characteristics of the industries they represent. As noted above, EPA expects that the industries and trade associations will have input, through the permit application process, as to how permit conditions for storm water discharges are developed. While the applicant can submit proposed permit conditions with any type of application, EPA however cannot delegate the drafting of model permits to the permittees. EPA is developing and publishing guidance in conjunction with this rulemaking for developing permit conditions.

One commenter suggested that new dischargers should be able to take advantage of general permits developed pursuant to group applications. As with other general permits, EPA anticipates that such discharges will be able to fall within the scope of a general permit based on a group application where appropriate.

One commenter stated that the group application does not benefit municipalities since there is no requirement for industrial discharges through municipal sewers to apply for a permit. As noted in a previous discussion, industrial discharges through municipal sewers must be covered by an NPDES permit. Such facilities may avail themselves of the group application procedure. Also, municipalities are not precluded from developing a group application procedure under their management plan for industries that discharge into their municipal system, in order to streamline developing controls for such industries.

One industry wanted clarification that facilities located within a municipality would be eligible to participate in a group application. All industrial activities required to submit an individual permit are entitled to submit as part of group application, except those with existing NPDES permits covering storm water. Those facilities that discharge through a municipal separate storm sewer systems required to submit an individual application (because they do not fall within a general permit) are not precluded from using the group application procedure if appropriate.

Other municipalities expressed confusion over the industrial group application concept. The following responds to these comments. First, municipalities are not eligible for participation in a group application because the group application process is designed for industrial activities. Sampling requirements for municipal permit applications are already limited to a small subset of the outfalls from the system, as discussed below. Furthermore, permits for municipal separate storm sewer systems will be issued on a system-wide or jurisdiction-wide basis, rather than individually for each outfall. Thus, today's regulation already incorporates a "grouplike" permit application process for municipalities. Furthermore, it is highly unlikely that various municipal storm sewer systems would be "substantially similar" enough to justify group treatment in the same way as industrial facilities. In response to another comment, this regulation does not directly give the municipality enforcement power over members of an industrial group who may be discharging through its system. Only the permitting authority and private citizens and organizations (including the municipality acting in such a capacity) will have enforcement power over members of the group once permits are issued to those members.

One commenter believed that the States with authorized NPDES programs rather than EPA should establish permit terms for permits based on group applications. In response to this comment, EPA wishes to clarify its role in the group application process. Group applications will be submitted to EPA headquarters where they will be reviewed and summarized. The *48024 summaries of the group application will be distributed to authorized NPDES States. EPA wishes to emphasize that NPDES States are not bound by draft model permits developed by EPA. States may adopt model permits for use in their particular area, making adjustments for local water quality standards and other regional characteristics. Where general permit coverage is believed to be inappropriate, facilities may be required to apply for individual permits. One commenter objected to the group application procedure because it is not consistent with existing Federal permitting procedures, which will lead to confusion in the regulated community. The agency disagrees with this assessment. The group application is a departure from established NPDES program procedures. However, the comments, when viewed in their entirety, reflect widespread support from the regulated community for a group application procedure. Further, the comments reflect that those affected by this rulemaking understand the components of the group application and the procedures under which permits will be obtained pursuant to the group application.

One commenter expressed concern regarding how BAT limits for groups of similar industries will be developed. Technology based limits will be developed based on the information received from the group applicants. If the group applicants possess similar characteristics in terms of their discharge, BAT/BCT limitations and controls will be developed accordingly for those members of the group. If the discharge characteristics are not similar then applying industries are not appropriate for the group.

One commenter has suggested that the proposed group application is too complex with regard to the part 1A, part 1B, and part 2 group application requirements and that EPA should repropose these provisions. As discussed below, EPA has simplified the industrial group application requirements by eliminating the part 1B application. Thus, reproposal is unnecessary.

One commenter criticized the group application concept as not achieving any type of reduction in administrative burden for NPDES States. EPA disagrees with this assessment. If industries take advantage of the group application procedure, EPA will have an opportunity to review information describing a large number of dischargers in an organized manner. EPA will perform much of the initial review and analysis of the group application, and provide NPDES States with summaries of the applications thereby reducing the burden on the States. Furthermore, the procedure encourages a potentially large number of facilities to be covered by a general permit, which will clearly reduce the administrative burden of issuing individual permits.

The final rule establishes a regulatory procedure whereby a representative entity, such as a trade association, may submit a group application to the Office of Water Enforcement and Permits (OWEP) at EPA headquarters, in which quantitative data from certain representative members of a group of industrial facilities is supplied. Information received in the group application will be used by EPA headquarters to develop models for individual permits or general permits. These model permits are not issued permits, but rather they will be used by EPA Regions and the NPDES States to issue individual or general permits for participating facilities in the State. In developing such permits, the Region or NPDES State will, where necessary, adapt the model permits to take into account the hydrological conditions and receiving water quality in their area. One commenter expressed the view that having this procedure managed by EPA headquarters would cause delays and it should be delegated to the States and Regions. EPA disagrees that delay will ensue using this procedure. Furthermore, consistency in development of model and general permits can be achieved if application review is coordinated at EPA headquarters.

a. Facilities Covered. Under this rule the group application is submitted for only the facilities specifically listed in the application and not necessarily for an entire industry. The facilities in the group application selected to do sampling must be representative of the group, not necessarily of the industry.

Facilities that are sufficiently similar to those covered in a general permit (issued pursuant to a group application) that commence discharging after the general permit has been issued, must refer to the provisions of that general permit to determine if they are eligible for coverage. Facilities that have already been issued an individual permit for storm water discharges will not be eligible for participation in a group application. Several commenters believed that this restriction is inequitable since they have experienced the administrative burden of submitting a permit application. EPA disagrees. Industries that have already obtained a permit for storm water discharges have developed a storm water management program, engaged in the collection of quantitative data, and possess familiarity and experience with submitting storm water permit applications. The Agency sees no point to instituting an entirely new permit application process for facilities that have storm water permits issued individually. It makes little sense for these industries to be involved with submitting another permit application before their current permit expires.

As noted above, once a general permit has been issued to a group of dischargers, a new facility may request that they be covered by the general permit. The permitting authority can then examine the request in light of the general permit applicability requirements and determine whether the facility is suitable or not.

b. Scope of Group Applications. Numerous comments were received on how facilities should be evaluated as members of a group application. Several commenters stated that effluent limitation guideline subcategories are not relevant to pollutants found in storm water, but rather to the facility's everyday activities, and therefore similarity should be based on each facility's discharge or the similarity of pollutants expected to be found in a facility's discharge. Other commenters felt that similarity of operations at facilities should be the criteria. Others, believed that an examination of the facility's impact on storm water quality should be the applied criteria. Other commenters suggested that EPA provide more guidance as to how broadly groups can be defined and that a failure to do so would discourage facilities from going to the trouble and expense of entering into the group application process. Some commenters were concerned that facilities would be rejected as a group because of variations in processes and process wastewater characteristics.

EPA does not agree that effluent limitation guideline subcategories are inappropriate as a method for determining group applications. EPA guideline subcategories are functional classifications, breaking down facilities into groups, for purposes of setting effluent limitations guidelines. The use of EPA subcategories will save time for both applicants and permitting authorities in determining whether a particular group is appropriate for a group application. Furthermore, EPA believes that this method of grouping provides adequate guidance for determining what facilities are grouped together. Establishing groups on the extent to which a facility's discharge ~~*48025~~ affects storm water quality would not provide applicants with sufficient guidance as to the appropriateness of individual industries for group applications and would not provide information needed to draft appropriate model permit conditions for potentially different types of industries, industrial processes, and material management practices.

However, EPA recognizes that the subcategory designations may not always be available or an effective methodology for grouping applicants. Also, there are situations where processes that are subject to different subcategories are combined. EPA agrees that the group application option should be flexible enough to allow groups to be created where subcategories are too rigid or otherwise inappropriate for developing group applications or where facilities are integrated or overlap into other subcategories. For these reasons, this rulemaking does not limit the submission to EPA subcategories alone, but rather allows groups to be formed where facilities are similar enough to be appropriate for general permit coverage.

In determining whether a group is appropriate for general permit coverage, EPA intends that the group applicant use the factors set forth in [40 CFR 122.28\(a\)\(2\)\(ii\)](#), the current regulations governing general permits, as a guide. If facilities all involve the same or similar types of operations, discharge the same types of wastes, have the same effluent limitation and same or similar monitoring requirements, where applicable, they would probably be appropriate for a group application. To that extent, facilities that attempt to form groups where the constituent makeup of its process wastewater is dissimilar may run the risk of not being accepted for purposes of a group application.

Some commenters expressed the view that categories formed using general permit factors are too broad or that the language is too vague. One commenter expressed the view that the standard is too subjective and that permit writers will be evaluating the similarity of discharge too subjectively, while other commenters felt that the criteria should be broad and flexible. Other commenters stated that the effluent guideline subcategory or general permit coverage factors are not related to storm water discharges, because much of the criteria are based upon what is occurring inside the plant, rather than activities outside of the plant. EPA believes that these criteria are reasonable for defining the scope of a group application. EPA disagrees that the procedure, which is adequate for the issuance of general permits, is inadequate for the development of a group application. EPA believes that the activities inside a facility will generally correspond to activities outside of the plant that are exposed to storm events, including stack emissions, material storage, and waste products. Furthermore, if facilities are able to demonstrate their storm water discharge has similar characteristics, that is one element in the analysis needed for establishing that the group is appropriate. EPA disagrees that the criteria are too vague. If facilities are concerned that general permit criteria is insufficient guidance, then subcategories under 40 CFR subchapter N should be used. EPA believes that the program will function best if flexibility for creating groups is maintained.

If a NPDES approved State feels that a tighter grouping of applicants is appropriate individual permit applications can be requested from those permit applicants. One commenter indicated that it was not clear whether the group application procedure could be used for all NPDES requirements. EPA would clarify that the group application is designed only to cover storm water discharges from the industrial facilities identified in [§ 122.26\(b\)\(14\)](#).

As noted above, EPA wishes to clarify that facilities with existing individual NPDES permits for storm water are not eligible to participate in the group application process. From an administrative standpoint EPA is not prepared to create an entirely different mechanism for permitting industries which already have such permits.

c. Group Application Requirements. The group application, as proposed, included the following requirements in three separate parts. Part 1A of a group application included: (A) Identification of the participants in the group application by name and location; (B) a narrative description summarizing the industrial activities of participants; (C) a list of significant materials stored outside by participants; and (D) identification of 10 percent of the dischargers participating in the group application for submitting quantitative data. A proposed part 1B of the group application included the following information from each participant in the group application: (A) A site map showing topography (or indicating the outline of drainage areas served by the outfall(s) and related information; (B) an estimate of the area of impervious surfaces (including paved areas and building roofs) and the total area drained by each outfall and a narrative description of significant materials; (C) a certification that all outfalls that should contain storm water discharges associated with industrial activity have been tested for the presence of non-storm water discharges; (D) existing information regarding significant leaks or spills of toxic or hazardous pollutants at the facility; (E) a narrative description of industrial activities at the facility that are different from or that are in addition to the activities described under part 1A; and (F) a list of all constituents that are addressed in a NPDES permit issued to the facility for any of non-storm water discharge. Part 2 of a group application required quantitative data from 10 percent of the facilities identified.

Some commenters felt that spill histories, drainage maps, material management practices, and information on significant materials stored outside are too burdensome or meaningless for evaluating similarity of discharges among group applicants. Several commenters stated that such requirements where the group may consist of several thousand facilities were impractical and would not assist EPA in developing model permits. Many commenters insisted that the requirements imposed in part 1B would effectively discourage use of the group application procedure. EPA agrees in large part with these comments. After reevaluating the components of part 1B, and the entire rationale for instituting the group application procedure, EPA has decided to excise part 1B from the requirements, and rely on part 1A and part 2 for developing appropriate permit condition. Where appropriate, EPA may require facilities to submit the information, formerly in part 1B, during the term of the permit. In other cases, EPA will establish which facilities must submit individual permit applications where more site specific permits are appropriate.

Under the revised part 1 and part 2, EPA will receive information pertaining to the types of industrial activity engaged in by the group, materials used by the facilities, and representative quantitative data. EPA can use such information to develop management practices that address pollutants in storm water discharges from such facilities. For most facilities, general good housekeeping or management practices will eliminate pollutants in storm water. Such requirements can be further refined by determining the nature of a group's industrial activity and by obtaining information on material used at the facility and representative quantitative data from a *48026 percentage of the facilities. Thus, EPA is confident that model permits and general permits can be developed from the information to be submitted under part 1 and part 2.

One commenter felt that more guidance on what makes a facility representative for sampling as part of a group is needed. In response, the Agency believes the rule as currently drafted provides adequate notice.

Another commenter asked how much sampling needed to be done and how much monitoring will transpire over the life of the permit for members of a group. This will vary from permit to permit and will be determined in permit proceedings. This rulemaking only covers the quantitative data that is to be submitted in the context of the group permit application.

One commenter indicated that because of the amount of diversity in the operations of a particular industry, obtaining a sample that could be considered representative would be extremely difficult. EPA recognizes that obtaining representative quantitative data through the group application process will prove to be difficult; however, EPA has sought to minimize these perceived problems. Under the group application concept, industries must be sufficiently similar to qualify. Industries which have significantly different operations from the rest of the group that affects the quality of their storm water discharge may be required to obtain an individual permit. Use of the nine precipitation zones will enable the data in the permit application to be more easily analyzed and patterns observed on the basis of hydrology and other regional factors. How EPA will evaluate the representativeness of the sample is discussed below.

Several commenters asked why the precipitation zone of group members is relevant to the application. The need to identify precipitation zones arises because the amount of rainfall is likely to have a significant impact on the quality of the receiving water. According to an EPA study (Methodology for Analysis of Detention Basins for Control of Urban Runoff Quality; Office of Water, Nonpoint Source Branch, Sept. 1986) the United States can be divided into nine general precipitation zones. These zones are characterized by differences in precipitation volume, precipitation intensity, precipitation duration, and precipitation intervals. Industrial facilities that seek general permits via the group application option may show significantly different loading rates as a result of these regional precipitation differences. As an example, precipitation in Seattle, Washington, located in Zone 7, approaches the mean annual storm intensity of .024 inches/hour with a mean annual storm duration of 20 hours for that Zone. In contrast, precipitation in Atlanta, Georgia, located in Zone 3 approaches the mean annual storm intensity of .102 inches/hour and a mean storm duration of 6.2 hours for that Zone. Atlanta, receives on the average four times more precipitation per hour with storms lasting one-third as long. As a result of these differences, if identical facilities within a group application were situated in each of these areas, their storm water discharges would likely exhibit different pollutant characteristics. Accordingly, data should be submitted from facilities in each zone.

One commenter felt that the EPA should abandon or modify its rainfall zone concept, because storm water quality will depend more on what materials are used at the facility than rainfall. EPA disagrees. Because storm water loading rates may differ significantly as a result of regional precipitation differences, it is necessary that for each precipitation zone containing representatives of a group application, the group must provide samples from some of those representatives. In comments to previous rulemakings it was argued that the amount of rainfall will affect the degree of impact a storm water discharge may have on the receiving stream.

One commenter stated that the precipitation zones illustrated in appendix E of the proposed rulemaking do not adequately reflect regional differences in precipitation and that in some cases the zones cut through cities where there

are concentrations of industries without differences in their precipitation patterns. The rainfall zone map is a general guide to determining what areas of the country need to be addressed when determining representative rainfall events and quantitative data. When dealing with rainfall on a national scale, it is near impossible to make generalized statements with a great deal of accuracy. In the case of rainfall zones, rainfall patterns may be similar for facilities in close proximity to each other but none the less in different rainfall zones. In response, EPA has created these zones to reflect regional rainfall patterns as accurately as possible. Because of the variable nature of rainfall such circumstances are sure to arise. However, in order to obtain a degree of representativeness EPA is convinced that the use of these rainfall zones as described is appropriate for the submittal of group applications and the quantitative data therein.

The second and third requirements of part 1 of the group application instruct the applicant to describe the industrial activity (processes) and the significant materials used by the group. For the significant materials listed, the applicant is to discuss the materials management practices employed by members of the group. For example, the applicant should identify whether such materials are commonly covered, contained, or enclosed, and whether storm water runoff from materials storage areas is collected in settling ponds prior to discharge or diverted away from such areas to minimize the likelihood of contamination. Also, the approximate percentage of facilities in the group with no practices in place to minimize materials stored outside is to be identified.

EPA considers that the processes and materials used at a particular facility may have a bearing on the quality of the storm water. Thus, if there are different processes and materials used by members of the group, the application must identify those facilities utilizing the different processes and materials, with an explanation as to why these facilities should still be considered similar.

One commenter felt that a facility should be able to describe in its permit application the possibility of individual materials entering receiving waters. EPA supports the applicant adding site specific information which will assist the permit writer making an informed decision about the nature of the facility, the quality of its storm water discharge, and appropriate permit conditions.

The fourth element of part 1 of the group application is a commitment to submit quantitative data from ten percent of the facilities listed. EPA proposed that there must be a minimum of ten and a maximum of one hundred facilities within a group that submit data. Comments reflected some dissatisfaction with this requirement. Some commenters asserted that ten percent was too high a number and would discourage group applications, while one commenter suggested a lesser percentage would be appropriate where the group can certify that facilities are representative. One commenter suggested that EPA have the discretion to allow for a smaller percentage. Several commenters argued that EPA should be satisfied with fewer than ten percent because EPA often relies on data from less than ten percent of the plants in a subcategory when promulgating effluent guidelines and that EPA should rely on data collection goals *48027 with affected groups as was done in the 1985 storm water proposal. Other commenters pointed out that an anomalous situation could arise where the group was small and facilities were scattered throughout the precipitation zones. For example, if a group consisted of 20 members where a minimum of ten facilities had to submit samples, and two or more members were in each precipitation zone; a total of 18 facilities (90% of the group) would have to submit quantitative data. EPA believes that there must be a sufficient number of facilities submitting data for any patterns and trends to be detectable. However, in light of these comments EPA has decided to modify the language in § 122.26(c) to allow 1 discharger in each precipitation zone to submit quantitative data where 10 or fewer of the group members are located in a particular precipitation zone. EPA believes, however, that one hundred facilities would in most cases be sufficient to characterize the nature of the runoff and thus 100 should remain the maximum. If the data are insufficient, EPA has the authority to request more sampling under section 308 of the CWA.

One commenter suggested that the ten facility cutoff was unreasonable, and that instead of cutting off the group at ten, allow a smaller number in the group and allow the facilities to sample ten percent of their outfalls instead. EPA agrees, in part, and will allow groups of between four and ten to submit a group application. However, the ten percent rule would

not be effective in such cases. Therefore, at least half the facilities in a group of four to ten will be required to provide quantitative data from at least one outfall, with each precipitation zone represented by at least one facility.

For any group application, in addition to selecting a sufficient number of facilities from each precipitation zone, facilities selected to do the sampling should be representative of the group as a whole in terms of those characteristics identifying the group which were described in the narrative, i.e., number and range of facilities, types of processes used, and any other relevant factors. If there is some variation in the processes used by the group (40 percent of the group of food processors are canners and 60 percent are canners and freezers, for example), the different processes are to be represented. Also, samples are to be provided from facilities utilizing the materials management practices identified, including those facilities which use no materials management practices. The representation of these different factors, to the extent feasible, is to be roughly equivalent to their proportion in the group.

EPA wishes to emphasize that the provision that ten percent of the facilities need to submit quantitative data only applies to the permit application process. The general or individual permit itself may require quantitative data from each facility.

Submittal of Part 2 of the Group Application. As with part 1, part 2 of the Group Application would be submitted to the Office of Water Enforcement and Permits, in Washington, DC. If the information is incomplete, or simply is found to be an inadequate basis for establishing model permit limits, EPA has the authority under section 308 of the Clean Water Act to require that more information be submitted, which may include sampling from facilities that were part of the group application but did not provide data with the initial submission. If the group application is used by a Region or NPDES State to issue a general permit, the general permit should specify procedures for additional coverage under the permit.

If a part 2 is unacceptable or insufficient, EPA has the option to request additional information or to require that the facilities that participated in the group application submit complete individual applications (e.g. facilities that have submitted Form 1 with the group application may be required to submit Form 2F, or facilities which have submitted complete Form 1 and Form 2F information in the group application generally would not have to submit additional information).

Once the group applications are reviewed and accepted, EPA will use the information to establish draft permit terms and conditions for models for individual and general permits. NPDES approved States and EPA regional offices will continue to be the permit-issuing authority for storm water discharges. The NPDES approved States accepting the group application approach and the EPA Regions may then take the model permits and adapt them for their particular area, making adjustments for local water quality standards and other localized characteristics, and making determinations as to the need for an individual storm water permit where general permit coverage is felt to be inappropriate. Permits would be proposed by the Region or NPDES approved State in accordance with current regulations for public comment before becoming final. In NPDES States without general permit authority, or where an individual permit is deemed appropriate, the model permit can serve as the basis for issuing an individual permit.

The group application is an NPDES permit application just like any other and, as such, would be handled through normal permitting procedures, subject to the regulatory provisions applicable to permit issuance. Incomplete or otherwise inadequate submissions would be handled in the same manner as any other inadequate permit application. The permit issuing authority would retain the right to require submission of Form 1, Form 2C and Form 2F from any individual discharger it designates.

Some commenters offered other procedures for developing a group application procedure; however, these were frequently entirely different approaches or so novel that a reproposal would be required. One commenter suggested that those industries that are identified as being likely to pollute should be required to submit quantitative data. Numerous commenters contended that a generic approach for meeting the required information requirements for group applications would allow EPA to develop adequate general permits. EPA does not view these approaches as appropriate.

5. Group Application: Applicability in NPDES States

Many commenters expressed concern about how the group application procedure will work within the framework of an NPDES approved State. The relationship between EPA and the States that are authorized to administer the NPDES program, including implementation of the storm water program, is a complicated aspect of this rulemaking. Approved States (there are 38 States and one territory so approved) must have requirements that are at least as stringent as the Federal program; they may be more stringent if they choose. Authority to issue general permits is optional with NPDES States.

EPA has determined that ten percent of the facilities must provide quantitative data in the permit application as noted above. Furthermore, these applications are submitted to EPA headquarters. Consequently States, whether NPDES approved or not, are not in a position to reject or modify this requirement. Such States may determine the amount of sampling to be done pursuant to permit conditions. If they choose to issue general permits they may include such authority in their NPDES program and, *48028 upon approval of the program by EPA, may then issue general permits. Within the context of the NPDES provisions of the CWA, if States do not have general permitting authority, then general permits are not available in those States.

In response to one comment, EPA does not have authority to issue general or individual permits to facilities in NPDES approved states. Today's rule provides a means for affected industries to be covered by general permits developed via the group application procedure as well as from general permits developed independently of the group application process. Accordingly, today's rule anticipates that most NPDES States will seek general permit issuance authority to implement the storm water program in the most efficient and economical way. Without general permit issuance authority NPDES States will be required to issue individual permits covering storm water discharges to potentially thousands of industrial facilities.

One commenter recommended that States with approved NPDES programs should be involved in determining what industries are representative for submitting quantitative data. EPA recognizes that States will have an interest in this determination and may possess insight as to the appropriateness of using some facilities. However, EPA may be managing hundreds of group applications and approving or disapproving them as expeditiously as possible. EPA believes that involving the States in this already administratively complex and time consuming undertaking would be counterproductive. In any event, NPDES approved States are not bound by the determinations of EPA as to the appropriateness of groups or the issuance of permits based on model permits or individual permits. However, States will be encouraged to use model permits that are developed by EPA. EPA will endeavor to design general and model permits that are effective while also adaptable to the concerns of different States. Again, States are able to develop more stringent standards where they deem it to be appropriate. There are currently seventeen States that have authority to issue general permits: Arkansas, Colorado, Illinois, Kentucky, Minnesota, Missouri, Montana, New Jersey, North Dakota, Oregon, Rhode Island, Utah, Washington, West Virginia and Wisconsin. As suggested in the comments, EPA is encouraging more States to develop general permit issuing authority in order to facilitate the permitting process.

One commenter advised that the rules should state that a NPDES approved State may accept a group application or require additional information. EPA has decided not to explicitly state this in the rule. However, this comment does raise some points that need to be addressed. Because the group application option is a modification of existing NPDES permit application requirements, the State is free to adopt this option, but is not required to. If the State chooses to adopt the group application and it does not have general permit authority, the group application can be used to issue individual permits. If an approved NPDES State chooses to not issue permits based on the group application, facilities that discharge storm water associated with industrial activity that are located in that State must submit individual applications to the State permitting authority. Before submitting a group application, facilities should ascertain from the State permitting authority whether that State intends to issue permits based upon a group application approved by EPA for the purpose of developing general permits. For facilities that discharge storm water associated with industrial

activity which are named in a group application, the Director may require an individual facility to submit an individual application where he or she determines that general permit coverage would be inappropriate for the particular facility.

One commenter stressed that EPA should streamline the procedure for States desiring to obtain general permit coverage. EPA has, over the last year, streamlined this procedure and encourages States to take advantage of this procedure. EPA recommends that States consider obtaining general permit authority as a means to efficiently issue permits for storm water discharges. These States should contact the Office of Water Enforcement and Permits at EPA Headquarters as soon as possible.

6. Group Application: Procedural Concerns

One commenter claimed that the proposed group application process and procedures violated federal law. This commenter claimed that EPA was abrogating its responsibility by allowing a trade association to design a data collection plan in lieu of completing an NPDES application form designed by EPA, thus violating the Federal Advisory Committee Act. The commenter stated that EPA would be improperly influenced by special interests if trade associations were able to design their own storm water data gathering plans. The commenter further asserted that any decisions by EPA on the content of specific group applications would be rulemakings and thus subject to the provisions of the Administrative Procedure Act.

EPA disagrees with the comment that the group application violates the Federal Advisory Committee Act (FACA). FACA governs only those groups that are established or “utilized” by an agency for the purpose of obtaining “advice” or “recommendations.” The group application option does not solicit or involve any “advice” or “recommendations.” It simply allows submission of data by certain members of a group in accordance with specific regulatory criteria for determining which facilities are “representative” of a group. As such, the group application is merely a submission in accordance and in compliance with specific regulatory requirements and does not contain discretionary uncircumscribed “advice” or “recommendations” as to which facilities are representative of a group.

Thus, the determination of which facilities should submit testing data in accordance with regulatory criteria is little different from many other regulatory requirements where an applicant must submit information in accordance with certain criteria. For example, under [40 CFR 122.21](#) all outfalls must be tested except where two or more have “substantially identical” effluents. Similarly, quantitative data for certain pollutants are to be provided where the applicant knows or “has reason to believe” such pollutants are discharged. Both of these provisions allow the applicant to exercise discretion in making certain judgments but such action is circumscribed by regulatory standards. EPA further has authority to require these facilities to submit individual applications. In none of these instances are “recommendations” or “advice” involved. EPA also notes that it is questionable whether, in providing for group applications, it is “soliciting” advice or recommendations from groups or that such groups are being “utilized” by EPA as a “preferred source” of advice. See [48 FR 19324 \(April 28, 1983\)](#). Furthermore, this data collection effort may be supplemented by EPA if, after review of the data, EPA determines additional data is necessary for permit issuance. Other information gathering may act as a check on the group applications received.

EPA also does not agree with this commenter's claim that the group application scheme represents an ***48029** impermissible delegation of the Administrator's function in violation of the CWA regarding data gathering. The Administrator has the broadest discretion in determining what information is needed for permit development as well as the manner in which such information will be collected. The CWA does not require every discharger required to obtain a permit to file an application. Nor does the CWA require that the Administrator obtain data on which a permit is to be based through a formal application process (see [40 CFR 122.21](#)). For years “applications” have not been required from dischargers covered by general permits. EPA currently obtains much information beyond that provided in applications pursuant to section 308 of the CWA. This is especially true with respect to general permit and effluent limitations guidelines development. The group application option is simply another means of data gathering. The Administrator may always collect more data should he determine it necessary upon review of a groups' data submission. And, he may

obtain such additional data by whatever means permissible under the Statute that he deems appropriate. Thus, it can hardly be said that by this initial data gathering effort the Administrator has delegated his data gathering responsibilities. In addition, since groups are required to select "representative" facilities, etc., in accordance with specific regulatory requirements established by the Administrator and because EPA will scrutinize part 1 of the group applications and either accept or reject the group as appropriate for a group application, no impermissible delegation has occurred. EPA will make an independent determination of the acceptability of a group application in view of the information required to be submitted by the group applicant, other information available to EPA (such as information on industrial subcategories obtained in developing effluent limitations guidelines as well as individual storm water applications received as a result of today's rule) and any further information EPA may request to supplement part 1 pursuant to section 308 of the CWA. Moreover, any concerns that a general permit may be based upon biased data can be dealt with in the public permit issuance process.

Finally, EPA also does not agree that the group application option violates the Administrative Procedures Act. Again, the group application scheme is simply a data gathering device. EPA could very well have determined to gather data informally via specific requests pursuant to section 308 of the CWA. In fact, general permit and effluent limitations guideline development proceed along these lines. It would make little sense if the latter informal data gathering process were somehow illegal simply because it is set forth in a rule that allows applicants some relief upon certain showings. In this respect, several of EPA's existing regulations similarly allow an applicant to be relieved from certain data submission requirements upon appropriate demonstrations. For example, testing for certain pollutants and or certain outfalls may be waived under certain circumstances. Most importantly, the operative action of concern that impacts on the public is individual or general permit issuance based upon data obtained. As previously stated, ample opportunity for public participation is provided in the permit issuance proceeding.

7. Permit Applicability and Applications for Oil and Gas and Mining Operations

Oil, gas and mining facilities are among those industrial sites that are likely to discharge storm water runoff that is contaminated by process wastes, toxic pollutants, hazardous substances, or oil and grease. Such contamination can include disturbed soils and process wastes containing heavy metals or suspended or dissolved solids, salts, surfactants, or solvents used or produced in oil and gas operations. Because they have the potential for serious water quality impacts, Congress recognized, throughout the development of the storm water provisions of the Water Quality Act of 1987, the need to control storm water discharges from oil, gas, and mining operations, as well as those associated with other industrial activities.

However, Congress also recognized that there are numerous situations in the mining and oil and gas industries where storm water is channeled around plants and operations through a series of ditches and other structural devices in order to prevent pollution of the storm water by harmful contaminants. From the standpoint of resource drain on both EPA as the permitting agency and potential permit applicants, the conclusion was that operators that use good management practices and make expenditures to prevent contamination must not be burdened with the requirement to obtain a permit. Hence, section 402(1)(2) creates a statutory exemption from storm water permitting requirements for uncontaminated runoff from these facilities.

To implement section 402(1)(2), EPA intends to require permits for contaminated storm water discharges from oil, gas and mining operations. Storm water discharges that are not contaminated by contact with any overburden, raw material, intermediate products, finished product, byproduct or waste products located on the site of such operations will not be required to obtain a storm water discharge permit.

The regulated discharge associated with industrial activity is the discharge from any conveyance used for collecting and conveying storm water located at an industrial plant or directly related to manufacturing, processing or raw materials storage areas at an industrial plant. Industrial plants include facilities classified as Standard Industrial Classifications (SIC) 10 through 14 (the mining industry), including oil and gas exploration, production, processing, and treatment

operations, as well as transmission facilities. See [40 CFR 122.26\(b\)\(14\)\(iii\)](#). This also includes plant areas that are no longer used for such activities, as well as areas that are currently being used for industrial processes.

a. Oil and Gas Operations. In determining whether storm water discharges from oil and gas facilities are “contaminated”, the legislative history reflects that the EPA should consider whether oil, grease, or hazardous materials are present in storm water runoff from the sites described above in excess of reportable quantities (RQs) under section 311 of the Clean Water Act or section 102 of the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA). [Vol. 132 Cong. Rec. H10574 (daily ed. October 15, 1986) Conference Report].

Many of the comments received by EPA regarding this exemption focused on the concern that EPA's test for requiring a permit is and would subject an unnecessarily large number of oil and gas facilities to permit application requirements. Specific comments made in support of this concern are addressed below.

A primary issue raised by commenters centered on how to determine when a storm water discharge from an oil or gas facility is “contaminated”, and therefore subject to the permitting program under section 402 of the CWA. Many of the comments received from industry representatives objected to the Agency's intent as expressed in the proposal to use past discharges as a trigger for submitting permit applications.

The proposed rule provided that the notification requirements for releases in excess of RQs established under the CWA and CERCLA would serve as a ***48030** basis for triggering the submittal of permit applications for storm water discharges from oil and gas facilities. As described in the proposal, oil and gas operations that have been required to notify authorities of the release of either oil or a hazardous substance via a storm water route would be required to submit a permit application. In other words, any facility required to provide notification of the release of an RQ of oil or a hazardous substance in storm water in the past would be required to apply for a storm water permit under the current rule. In addition, any facility required to provide notification regarding a release occurring from the effective date of today's rule forward would be required to apply for a storm water permit.

Commenters maintained that the use of historical discharges to require permit applications is inconsistent with the language and intent of section 402(1)(2) of the CWA, and relevant legislative history, both of which focus on present contamination. Requiring storm water permits based solely on the occurrence of past contaminated discharges, even where no present contamination is evident, would go beyond the statutory requirement that EPA not issue a permit absent a finding present contamination. Commenters also noted that the proposal did not take into account the fact that past problems leading to such releases may have been corrected, and that requiring an NPDES permit may no longer be necessary. The result of such a requirement, commenters maintained, would be an excessive number of unnecessary permit applications being submitted, at significant cost and minimal benefit to both regulated facilities and regulating authorities.

Commenters also indicated that using the release of reportable quantities of oil, grease or hazardous substances as a permit trigger would identify discharges of an isolated nature, rather than the continuous discharges, which should be the focus of the NPDES permit program under section 402. Such an approach, commenters maintained, is inconsistent with existing regulations under section 311 of the CWA, and would result in permit applications from facilities that are more appropriately regulated under section 311.

Despite these criticisms, many commenters recognized that the Agency is left with the task of determining when discharges from oil and gas facilities are contaminated, in order to regulate them under section 402(1)(2). It was suggested by numerous commenters that the EPA adopt an approach similar to that used under section 311 of the CWA for Spill Prevention Control and Countermeasure (SPCC) Plans. Under SPCC, facilities that are likely to discharge oil into waters of the United States are required to maintain a SPCC plan. In the event the facility has a spill of 1,000 gallons or 2 or more reportable quantities of oil in a 12 month period, the facility is required to submit its SPCC plan to the Agency.

The triggering events proposed by the commenters for storm water permits for oil and gas operations are six reportable sheens or discharges of hazardous substances (other than oil) in excess of section 311 or section 102 reportable quantities via a storm water point source route over any thirty-six month period. It was suggested that if this threshold is reached, an operator would then file a permit application (or join a group application) based upon the presumption that its current storm water discharges are contaminated.

In response to these comments, the Agency believes that past releases that are reportable quantities can be a valid indicator of the potential for present contamination of discharges. The legislative history as cited above supports this conclusion. EPA would note that the existence of a RQ release would serve only as a triggering mechanism for a permit application. Under the proposed rule, evidence of past contamination would merely require submission of a permit application and would not be used as conclusive evidence of current contamination. The determination as to whether a permit would be actually required due to current contaminated discharge would be made by the permitting authority after reviewing the permit application. The fact of a past RQ release does not necessarily imply a conclusive finding of contamination, only that sufficient potential for contamination exists to warrant a permit application or the collection of other further information. Today's rule does not change the proposed approach in this respect. Thus, EPA does not believe that today's rule exceeds the authority of section 402(1)(2).

EPA believes that there is no legal impediment to using past RQ discharges as a trigger for requiring a storm water permit application. EPA notes that, as mentioned above, even those commenters who objected to the proposed test on legal authority grounds merely offered an alternate test that requires more releases to have occurred within a shorter period of time before a permit application is required.

Therefore, the only disagreement that remains is over what constitutes a reasonable test that will identify facilities with the potential for storm water contamination. EPA notes that neither the statute nor the legislative history provides any guidance on this question. Furthermore, EPA disagrees with the commenters who suggested that 6 releases in the past 3 years or 2 releases in the past year are necessarily more valid measures of the potential for current contamination than EPA's proposed test. There is no statistical or other basis for preferring one test to the other. However, EPA does agree with those commenters that suggest that a single release in the distant past may not accurately reflect current conditions and the current potential for contamination.

EPA has therefore amended today's rule to provide that only oil and gas facilities which have had a release of an RQ of oil or hazardous substances in storm water in the past three years will be required to submit a permit application. EPA believes that limiting the permit trigger to events of the past three years will address commenters' concerns regarding the use of "stale history" in determining whether an application is required. EPA notes that the three year cutoff is consistent with the requirement for industrial facilities to report significant leaks or spills at the facility in their storm water permit applications. See [40 CFR 122.26\(c\)\(1\)\(i\)\(D\)](#).

Commenters asserted that EPA and the States must have some reasonable basis for concluding that a storm water discharge is contaminated before requiring permit applications or permits. Commenters believed that [§ 122.26\(c\)\(1\)\(iii\)\(B\)](#) as proposed implied that the Agency's authority in this respect is unrestricted. In response, EPA may collect such data by whatever appropriate means the statute allows, in order to obtain information that a permit is required. Usually, the most practical tool for doing so is the permit application itself. However, if necessary to supplement the information made available to the Agency, EPA has broad authority to obtain information necessary to determine whether or not a permit is required, under section 308 of the Clean Water Act. Given the plain language of the CWA and the Congressional intent as manifested in the legislative history, the Agency is convinced that the approach described above is appropriate. Yet, as further discussed below, EPA has also deleted as redundant [§ 122.26\(c\)\(1\)\(iii\)\(B\)](#).

Regarding the types of facilities included in the storm water regulation, a number of commenters suggested that the Agency has misconstrued the meaning of facilities "associated with *48031 industrial activity", and has proposed an

overly broad definition of such facilities in the oil and gas industry. Specifically, commenters suggested that only the manufacturing sector of the oil and gas industry should be subject to storm water permit application requirements, and that exploration and production activities, gas stations, terminals, and bulk plants should all be exempted from storm water permitting requirements. Commenters maintain that this broad interpretation would subject many oil and gas facilities to the storm water permit requirements, when these were not intended by Congress to be so regulated. As a second point related to this issue, some commenters felt that transmission facilities were not intended to be regulated under the storm water provisions, and should be exempted from permit requirements. This would be consistent, it was argued, with legislative history which concluded that transmission facilities do not significantly contribute to the contamination of water.

The Agency disagrees that these facilities do not fall under the storm water permitting requirements as envisioned by Congress. SIC 13, which is relied upon by EPA to identify these oil and gas operations, describes oil and gas extraction industries as including facilities related to crude oil and natural gas, natural gas liquids, drilling oil and gas wells, oil and gas exploration and field services. Moreover, legislative history as it applies to industrial activities, and thus to oil and gas (mining) operations, expressly includes exploration, production, processing, transmission, and treatment operations within the purview of storm water permitting requirements and exemptions. EPA's intent is for storm water permit requirements (and the exemption at hand) to apply to the activities listed above (exploration, production, processing, treatment, and transmission) as they relate to the categories listed in SIC 13.

Commenters requested clarification from the Agency that storm water discharges from oil and gas facilities require a permit or the filing of a permit application only when they are contaminated at the point of discharge into waters of the United States. Commenters noted that large amounts of potentially contaminated stormwater may not enter waters of the United States, or may enter at a point once the discharge is no longer "contaminated". In these cases, it should be clear that no permit or permit application is required.

EPA agrees that oil and gas exploration, production, processing, or treatment operations or transmission facilities must only obtain a storm water permit when a discharge to waters of the U.S. (including those discharges through municipal separate storm sewers) is contaminated. A permit application will be required when any discharge in the past three years or henceforth meets the test discussed above.

Under the proposed rule, the Agency stated at [§ 122.26\(c\)\(1\)\(iii\)\(B\)](#) that the Director may require on a case-by-case basis the operator of an existing or new storm water discharge from an oil or gas exploration, production, processing, or treatment operation, or transmission facility to submit an individual permit application. The Agency has removed this section since CWA section 402(1)(2), as codified in [122.26\(c\)\(1\)\(iii\)\(A\)](#), adequately addresses every situation where a permit should be required for these facilities.

b. Use of Reportable Quantities to Determine if a Storm Water Discharge from an Oil or Gas Operation is Contaminated. Section 311(b)(5) of the CWA requires reporting of certain discharges of oil or a hazardous substance into waters of the United States (see 44 FR 50766 (August 29, 1979)). Section 304(b)(4) of the Act requires that notification levels for oil and hazardous substances be set at quantities which may be harmful to the public health or welfare of the United States, including but not limited to fish, shellfish, wildlife, and public or private property, shorelines and beaches. Facilities which discharge oil or a hazardous substance in quantities equal to or in excess of an RQ, with certain exceptions, are required to notify the National Response Center (NRC).

Section 102 of CERCLA extended the reporting requirement for releases equal to or exceeding an RQ of a hazardous substance by adding chemicals to the list of hazardous substances, and by extending the reporting requirement (with certain exceptions) to any releases to the environment, not just those to waters of the United States.

Pursuant to section 311 of the CWA, EPA determined reportable quantities for discharges by correlating aquatic animal toxicity ranges with 5 reporting quantities, i.e., 1-, 10-, 100-, 1000-, and 5000- pounds per 24 hour period levels. Reportable quantity adjustments made under CERCLA rely on a different methodology. The strategy for adjusting reportable quantities begins with an evaluation of the intrinsic physical, chemical, and toxicological properties of each designated hazardous substance. The intrinsic properties examined, called “primary criteria,” are aquatic toxicity, mammalian toxicity (oral, dermal, and inhalation), ignitability, reactivity, and chronic toxicity. In addition, substances that were identified as potential carcinogens have been evaluated for their relative activity as potential carcinogens. Each intrinsic property is ranked on a five-tier scale, associating a specific range of values on each scale with a particular reportable quantity value. After the primary criteria reportable quantities are assigned, the hazardous substances are further evaluated for their susceptibility to certain extrinsic degradation processes (secondary criteria). Secondary criteria consider whether a substance degrades relatively rapidly to a less harmful compound, and can be used to raise the primary criteria reportable quantity one level.

Also pursuant to section 311, EPA has developed a reportable quantity for oil and associated reporting requirements at 40 CFR part 110. These requirements, known as the oil sheen regulation, define the RQ for oil to be the amount of oil that violates applicable water quality standards or causes a film or sheen upon or discoloration of the surface of the water or adjoining shorelines or causes a sludge or emulsion to be deposited.

Reportable quantities developed under the CWA and CERCLA were not developed as effluent guideline limitations which establish allowable limits for pollutant discharges to surface waters. Rather, a major purpose of the notification requirements is to alert government officials to releases of hazardous substances that may require rapid response to protect public health, welfare, and the environment. Notification based on reportable quantities serves as a trigger for informing the government of a release so that the need for response can be evaluated and any necessary response undertaken in a timely fashion. The reportable quantities do not themselves represent any determination that releases of a particular quantity are actually harmful to public health, welfare, or the environment.

EPA requested comment on the use of RQs for determining contamination in discharges from oil and gas facilities. As noted above numerous commenters supported the concept of using reportable quantities under certain circumstances. Comments on the measurement of oil sheens for the purpose of triggering a permit application were divided. Some commented that it is much too stringent because the amount of oil creating a *48032 sheen may be a relatively small amount. Others viewed the test as a quick, easy, practical method that has been effective in the past.

In relying on the reporting requirements associated with releases in excess of RQs for oil or hazardous substances to trigger the submittal of permit applications for oil and gas operations, the Agency believes that the use of the reporting requirements for oil will be particularly useful. The Agency believes that the release of oil to a storm water discharge in amounts that cause an oil sheen is a good indicator of the potential for water quality impacts from storm water releases from oil and gas operations. In addition, given the extremely high number of such operations (the Agency estimates that there are over 750,000 oil wells alone in the United States), relying on the oil sheen test to determine if storm water discharges from such sites are “contaminated” will be a far easier test for operators to determine whether to file a storm water permit application than a test based on sampling. The detection of a sheen does not require sophisticated instrumentation since a sheen is easily perceived by visual observation. EPA agrees with those comments calling the oil sheen test an appropriate measure for triggering a storm water permit application. In adopting this approach, EPA recognizes, as pointed out by many commenters that an oil sheen can be created with a relatively small amount of oil.

One commenter suggested that contamination must be caused by contact with on-site material before being subject to permit application requirements. The Agency agrees with this comment. Those facilities that have had releases in excess of reportable quantities will generally have contamination from contact with on-site material as described in the CWA. Thus, use of the RQ test is an appropriate trigger. As discussed above, determination of whether contamination is present to warrant issuance of a permit will be made in the context of the permit proceeding.

One commenter believed that the use of RQs is inappropriate because “the statute intended to exempt only oil and gas runoff that is not contaminated at all.” The Agency wishes to clarify that reportable quantities are being used to determine what facilities need to file permit applications and to describe what is meant by the term “contaminated.” The Director may require a permit for any discharges of storm water runoff contaminated by contact with any overburden, raw material, intermediate product, finished product, by product or waste product at the site of such operations. The use of RQs is solely a mechanism for identifying the facilities most likely to need a storm water permit consistent with the legislative history of section 402(l)(2).

c. Mining Operations. The December 7, 1988 proposal would establish background levels as the standard used to define when a storm water discharge from a mining operation is contaminated. When a storm water discharge from a mining site was found to contain pollutants at levels that exceed background levels, the owner or operator of the site was required to submit a permit application for that operation. The proposal was founded upon language in the legislative history stating that the determination of whether storm water is contaminated by contact with overburden, raw material, intermediate product, finished product, byproduct, or waste products “shall take into consideration whether these materials are present in such stormwater runoff . . . above natural background levels”. [Vol. 132 Cong. Rec. H10574 (daily ed. Oct. 15, 1986) Conference Report].

Comments received on this component of the rule suggested that background levels of pollutants would be very difficult to calculate due to the complex topography frequently encountered in alpine mining regions. For example, if a mine is located in a mountain valley surrounded on all sides by hills, the site will have innumerable slopes feeding flow towards it. Under such circumstances, determining how the background level is set would prove impractical. Commenters indicated that it is very difficult to measure or determine background levels at sites where mining has occurred for prolonged periods. In many instances, data on original background levels may not be available due to long-term site activity. As a result, any background level established will vary based on the type and level of previous activity. In addition, mining sites typically have background levels that are naturally distinct from the surrounding areas. This is due to the geologic characteristics that makes them valuable as mining sites to begin with. This also makes it difficult to establish accurate background levels.

Because of these concerns EPA has decided to drop the use of background levels as a measure for determining whether a permit application is required. Accordingly, a permit application will be required when discharges of storm water runoff from mining operations come into contact with any overburden, raw material, intermediate product, finished product, byproduct, or waste product located on the site. Similar to the RQ test for oil and gas operations, EPA intends to use the “contact” test solely as a permit application trigger. The determination of whether a mining operation's runoff is contaminated will be made in the context of the permit issuance proceedings.

If the owner or operator determines that no storm water runoff comes into contact with overburden, raw material, intermediate product, finished product, byproduct, or waste products, then there is no obligation to file a permit application. This framework is consistent with the statutory provisions of section 402(l)(2) and is intended to encourage each mining site to adopt the best possible management controls to prevent such contact.

Several commenters stated that EPA's use of total pollutant loadings for determining permit applicability is not consistent with the general framework of the NPDES program. Their concern is that such evaluation criteria depart from how the NPDES program has been administered in the past, based on concentration limits. In addition, commenters requested that EPA clarify that information on mass loading will be used for determining the need for a permit only. Since the analysis of natural background levels as a basis for a permit application has been dropped from this rulemaking, these issues are moot.

Commenters noted that the proposed rule did not specify what impact this rulemaking has on the storm water exemptions in [40 CFR 440.131](#). The commenters recommended not changing any of these provisions. Some commenters indicated that mining facilities that have NPDES permits should not be subject to additional permitting under the storm water rule. EPA does not intend that today's rule have any effect on the conditional exemptions in [40 CFR 440.131](#). Where a facility has an overflow or excess discharge of process-related effluent due to stormwater runoff, the conditional exemptions in [40 CFR 440.131](#) remain available.

Several commenters note that the term overburden, as used in the context of the proposed storm water rule, is not defined and recommended that this term should be defined to delineate the scope of the regulation. EPA agrees that the term overburden should be defined to help properly define the scope the storm water rule. In today's rule, the term ***48033** overburden has been clarified to mean any material of any nature overlying a mineral deposit that is removed to gain access to that deposit, excluding topsoil or similar naturally-occurring surface materials that are not disturbed by mining operations. This definition is patterned after the overburden definition in SMCRA, and is designed to exclude undisturbed lands from permit coverage as industrial activity. However, the definition provided in this regulation may be revised at a later date, to achieve consistency with the promulgation of RCRA Subtitle D mining waste regulations in the future.

Numerous commenters raised issues pertaining to the inclusion of inactive mining areas as subject to the stormwater rule. Some commenters indicated that including inactive mine operations in the rule would create an unreasonable hardship on the industry. EPA has included inactive mining areas in today's rule because some mining sites represent a significant source of contaminated stormwater runoff. EPA has clarified that inactive mining sites are those that are no longer being actively mined, but which have an identifiable owner/operator. The rule also clarifies that active and inactive mining sites do not include sites where mining claims are being maintained prior to disturbances associated with the extraction, beneficiation, or processing of mined materials, nor sites where minimal activities required for the sole purpose of maintaining the mining claim are undertaken. The Agency would clarify that claims on land where there has been past extraction, beneficiation, or processing of mining materials, but there is currently no active mining are considered inactive sites. However, in such cases the exclusion discussed above for uncontaminated discharges will still apply.

EPA's definition of active and inactive mining operations also excludes those areas which have been reclaimed under SMCRA or, for non-coal mining operations, under similar applicable State or Federal laws. EPA believes that, as a general matter, areas which have undergone reclamation pursuant to such laws have concluded all industrial activity in such a way as to minimize contact with overburden, mine products, etc. EPA and NPDES States, of course, retain the authority to designate particular reclaimed areas for permit coverage under section 402(p)(2)(E).

The proposed rule had included an exemption for areas which have been reclaimed under SMCRA, although the language of the proposed rule inadvertently identified the wrong universe of coal mining areas. The final rule language has been revised to clarify that areas which have been reclaimed under SMCRA (and thus are no longer subject to 40 CFR part 434 subpart E) are not subject to today's rule. Today's rule thus is consistent with the coal mining effluent guideline in its treatment of areas reclaimed under SMCRA.

In response to comments, EPA has also expanded this concept to exclude from coverage as industrial activity non-coal mines which are released from similar State or Federal reclamation requirements on or after the effective date of this rule. EPA believes it is appropriate, however, to require permit coverage for contaminated runoff from inactive non-coal mines which may have been subject to reclamation regulations, but which have been released from those requirements prior to today's rule. EPA does not have sufficient evidence to suggest that each State's previous reclamation rules and/or Federal requirements, if applicable, were necessarily effective in controlling future storm water contamination.

8. Application Requirements for Construction Activities

As discussed above, EPA has included storm water discharges from activities involving construction operations that result in the disturbance of five acres total land in the regulatory definition of storm water discharges associated with industrial activity.

This is a departure from the proposed rule which required permit applications for discharges from activities involving construction operations that result in the disturbance of less than one acre total land area and (which are not part of a larger common plan of development or sale; or operations that are for single family residential projects, including duplexes, triplexes, or quadruplexes, that result in the disturbance of less than five acre total land areas and which are not part of a larger common plan of development or sale). The reasons for this change are noted below.

Many commenters representing municipalities, States, and industry requested that clearing, grading, and excavation activities not be included in the definition of storm water discharges associated with industrial activity. It was suggested that EPA delay including construction activities until after the studies mandated in section 402(p)(5) of the CWA are completed. Other commenters felt that NPDES permits are not appropriate for construction discharges due to their short term, intermediate and seasonal nature. Another commenter felt that only the construction activities on the sites of the industrial facilities identified in the other subsections of the definition of “associated with industrial activity” should be included.

EPA believes that storm water permits are appropriate for the construction industry for several reasons. Construction activity at a high level of intensity is comparable to other activity that is traditionally viewed as industrial, such as natural resource extraction. Construction that disturbs large tracts of land will involve the use of heavy equipment such as bulldozers, cranes, and dump trucks. Construction activity frequently employs dynamite and/or other equipment to eliminate trees, bedrock, rockwork, and to fill or level land. Such activities also engage in the installation of haul roads, drainage systems, and holding ponds that are typical of the industrial activity identified in § 122.26(b)(14)(i-x). EPA cannot reasonably place such activity in the same category as light commercial or retail business.

Further, the runoff generated while construction activities are occurring has potential for serious water quality impacts and reflects an activity that is industrial in nature. Where construction activities are intensive, the localized impacts of water quality may be severe because of high unit loads of pollutants, primarily sediments. Construction sites can also generate other pollutants such as phosphorus, nitrogen and nutrients from fertilizer, pesticides, petroleum products, construction chemicals and solid wastes. These materials can be toxic to aquatic organisms and degrade water for drinking and water-contact recreation. Sediment runoff rates from construction sites are typically 10 to 20 times that of agricultural lands, with runoff rates as high as 100 times that of agricultural lands, and 1,000 to 2,000 times that of forest lands. Even small construction sites may have a significant negative impact on water quality in localized areas. Over a short period of time, construction sites can contribute more sediment to streams than was previously deposited over several decades.

EPA is convinced that because of the impacts of construction discharges that are directly to waters of the United States, such discharges should be addressed by permits issued by Federal or NPDES State permitting authorities. It is evident from numerous studies and reports submitted under section 319 of the CWA that discharges from construction sites continue to be a major source of water quality problems and water quality standard violations. ***48034** Accordingly EPA is compelled to address these source under these regulations and thereby regulate these sources under a nationally consistent program with an appropriate level of enforcement and oversight.

Techniques to prevent or control pollutants in storm water discharges from construction are well developed and understood. A primary control technique is good site planning. A combination of nonstructural and structural best management practices are typically used on construction sites. Relatively inexpensive nonstructural vegetative controls, such as seeding and mulching, are effective control techniques. In some cases, more expensive structural controls may be necessary, such as detention basins or diversions. The most efficient controls result when a comprehensive storm water

management system is in place. Another reason that EPA has decided to address this class of discharges is that it is part of the Agency's recent emphasis on pollution prevention. Studies such as NURP indicate that it is much more cost effective to develop measures to prevent or reduce pollutants in storm water during new development than it is to correct these problems later on. Many of these prevention and control practices, which can take the form of grading patterns as well as other controls, generally remain in place after the construction activities are completed.

a. Permit Application Requirements. In today's rulemaking, EPA has set forth distinct permit application requirements for these construction activities, at § 122.26(c)(1)(ii), to be used where general permits to be developed and promulgated by EPA are inapplicable. Such facilities will be required to provide a map indicating the site's location and the name of the receiving water and a narrative description of:

- The nature of the construction activity;
- The total area of the site and the area of the site that is expected to undergo excavation during the life of the permit;
- Proposed measures, including best management practices, to control pollutants in storm water discharges during construction, including a description of applicable Federal requirements and State or local erosion and sediment control requirements;
- Proposed measures to control pollutants in storm water discharges that will occur after construction operations have been completed, including a description of applicable State or local requirements, and
- An estimate of the runoff coefficient (fraction of total rainfall that will appear as runoff) of the site and the increase in impervious area after the construction addressed in the permit application is completed, a description of the nature of fill material and existing data describing the soil or the quality of the discharge.

Permit application requirements for construction activities do not include the submission of quantitative data. EPA believes that the changing nature of construction activities at a site to be covered by the permit application requirements generally would not be adequately described by quantitative data. The comments received by EPA support this determination. One State commented that a program they instituted has been based on quantitative data for the past 10 years and has proven to be very awkward, even unworkable.

Twenty commenters responded to the issue of appropriate construction site application deadlines including: Three towns (<100,000 population); one medium municipality; one large municipality; one agency associated with a large municipality; three agencies associated counties; three agencies associated with States; two industries; five industrial associations; and one private organization representing industry. The commenters primarily focused on actual deadlines and permitting authority response time.

Applicants for permits to discharge storm water into the waters of the United States from a construction site would normally be required to submit permits in the same time frame as new sources and new discharges. This rulemaking requires permit applications from such sources to be submitted at least 180 days prior to the date on which the discharge is to commence. Four commenters agreed with the application deadline of 180 days prior to commencement of discharge. Three commenters felt it would be difficult to apply 180 days prior to when the discharge was to begin. Three commenters recommended shortening the time period to 90 days. Numerous other commenters were concerned over delays during the permitting authority's review of the permit application. The commenters requested that a maximum response time be set in the regulation. Suggested maximum response times were 90 and 30 days.

In response to these comments, EPA has changed the application deadline for construction permits from at least 180 days prior to discharge to at least 90 days prior to the date when construction is to commence. This change reflects EPA's

recognition of the nature of construction operations in that developers/builders may not be aware of projects 180 days before they are scheduled to begin.

Numerous commenters expressed concern over who should be responsible for applying for the permit. Two commenters felt the owner should be responsible so that construction bid documents can include the storm water management requirements and to avoid confusion among multiple subcontractors. One commenter thought that either the owner/developer, or general contractor should be responsible. Another commenter suggested that the designer should obtain the permit which would allow all necessary erosion controls to be part of the project plan. Several commenters requested that the responsibility simply be more clearly defined.

In response to these comments, EPA would clarify that the operator will generally be responsible for submitting the permit application. Under existing regulations at § 122.21(b), when a facility is owned by one person but operated by another, then it is the duty of the operator to apply for the permit. Due to the temporary nature of construction activities, EPA believes that the operator is the most appropriate person to be responsible for both short and long term best management practices included on the site. EPA considers the term “operator” to include a general contractor, who would generally be familiar enough with the site to prepare the application or to ensure that the site would be in compliance with the permit requirements. General contractors, in many cases, will often be on site coordinating the operation among his/her staff and any subcontractors. Furthermore, the operator/general contractor would be much more familiar with construction site operations than the owner and should be involved in the site planning from its initial stages. The application requirements in today's rule are designed to provide flexibility in developing controls to reduce pollutants in storm water discharges from construction sites. A significant aspect to this is the role of State and local authorities in control of construction storm water discharges. Sixty-three commenters addressed the question of what the role of State and local authorities should be. Most of these commenters supported local government control of construction discharges and that qualified State programs should satisfy Federal requirements.

Many commenters representing municipalities, States, and industry, felt that local government should have full control over construction storm water ***48035** discharges, either under existing programs or those required by their municipal permit. EPA agrees with these comments as far as discharges through municipal storm sewers are concerned. EPA is requiring municipalities that are required to submit municipal permit applications under this regulation to describe their program for controlling storm water discharges from construction activities into their separate storm sewers. It is envisioned that municipalities will have primary responsibility over these discharges through NPDES municipal storm water permits. However, EPA also plans to cover such discharges under general permits to be promulgated in the near future.

In response to several comments that the regulation should provide flexibility for qualified State programs to satisfy Federal requirements, the application requirements recognize that many States have implemented erosion and sediment control programs. The permit application requires a brief description of these programs. This is intended to ensure consistency between NPDES permit requirements and other State controls. Permit applicants will be in the best position to pass on this site-specific information to the permitting authority. States or Federal NPDES authorities will have the ability to exercise authority over these discharges as will other State and local authorities responsible for construction. EPA envisions NPDES permitting efforts will be coordinated with any existing programs.

The proposed rule requested comments on appropriate measures to reduce pollutants in construction site runoff. Numerous commenters representing municipalities, States, and industry responded. Some commenters recommended specific best management practices (BMPs) whereas others suggested ways in which the measures should be incorporated into the program. One commenter suggested that EPA establish design and performance standards for appropriate BMPs. One State commenter recommended requiring a schedule or sequence for use of BMPs. A municipality suggested developing guidance on erosion control at construction sites and disseminating the guidance to educate contractors and

construction workers in proper erosion control techniques. The Agency is continuing to review these recommendations for the purposes of permit development and issuance.

Another commenter suggested that further research be done to determine the effectiveness of particular BMPs in reducing pollutants in construction site runoff. EPA agrees that more research and studies can be undertaken to develop methodologies for more effective storm water controls and will continue to look at these concerns pursuant to section 402(p)(5) studies. However, EPA is convinced that enough information, technology, and proven BMP's are available to address these discharges in this regulation.

Specific BMPs suggested by the commenters include: wheel washing; locked exit roadways, street cleaning methods which exclude sheet washing; clearing and grading codes; construction standards; riparian corridors; solids retention basins; soil erosion barriers; selected excavation; adequate collection systems; vegetate disturbed areas; proper application of fertilizers; proper equipment storage; use of straw bales and filter fabrics; and use of diversions to reduce effective length of slopes. EPA is continuing to evaluate these suggestions for developing appropriate permit conditions for construction activity.

b. Administrative Burdens. Many commenters representing municipalities, States, and industry commented on the administrative burdens of individually permitting each construction site discharging to waters of the United States. The extensive use of general permits for storm water discharges from construction activities that are subject to NPDES requirements is anticipated to minimize administrative delays associated with permit issuance. Many commenters strongly endorsed extensive use of general permits. In addition the Agency will provide as much assistance as possible for developing appropriate permit conditions.

Many commenters responded to the use of acreage limits in determining which construction sites are required to submit a permit application, including several cities, counties and States. Some commenters generally supported the use of an acre limit. Many commenters suggested increasing the acreage limit. Several suggested using a five acre limit for both residential and nonresidential development. Others suggested greater acreage as the cutoff. Two commenters concurred with the proposed limit of one acre/five acres and one commenter suggested lowering the residential limit to one acre.

Other factors were suggested as a means to create a cutoff for requiring permit applications. Several commenters suggested exempting construction that would be completed with a certain time frame, such as construction of less than 12 months. EPA believes that this is inappropriate because some construction can be intensive and expansive, but nonetheless take place over a short period of time, such as a parking lot. One commenter suggested basing the limit on the quantity of soil moved, i.e., cubic yards. In response, this approach would not be particularly helpful since removal of soil will not necessarily relate to the amount of land surface disturbed and exposed to the elements. Another commenter suggested that where there is single family detached housing construction that should trigger applications as well as the proposed acreage limit. This would not be appropriate since EPA is attempting to focus only on those construction activities that resemble industrial activity. After considering these and similar comments EPA has limited the definition of "storm water discharge associated with industrial activity" by exempting from the definition those construction operations that result in the disturbance of less than five acres of total land area which are not part of a larger common plan of development or sale. In considering the appropriate scope of the definition of storm water discharge associated with industrial activity as it relates to construction activities, EPA recognized that a wide variety of factors can affect the water quality impacts associated with construction site runoff, including the quality of receiving waters, the size of the area disturbed, soil conditions, seasonal rainfall patterns, the slope of area disturbed, and the intensity of construction activities. These factors will be considered by the permit writer when issuing the permit. However, as noted above, EPA views such site-specific factors to be too difficult to define in a regulatory framework that is national in scope. For example, attempting to adjust permit application triggers based upon a myriad of regional rainfall patterns is not a practical solution. However, permit conditions adjusted for specific geographical areas may be appropriate.

Under the December 7, 1988, proposal the definition of industrial activity exempted: construction operations that resulted in the disturbance of less than one acre total land area which was not part of a larger common plan of development or sale; or operations for single family residential projects, including duplexes, triplexes, or quadruplexes, that result in the disturbance of less than five acre total land areas which were not part of a larger common plan of development or sale. EPA distinguished between single family residential development and *48036 other commercial development because other commercial development is more likely to occur in more densely developed areas. Also, it was reasoned that other commercial development provides a more complete opportunity to develop controls that remain in place after the construction activity is completed, since continued maintenance after the permit has expired, is more feasible.

However, EPA has decided to depart from the proposal and use an unqualified five acre area in today's final rule. This limit has been selected, in part, because of administrative concerns. EPA recognizes that State and local sediment and erosion controls may address construction activities disturbing less five acres for residential development; the five acre limit in today's rule is not intended to supersede more stringent State or local sediment and erosion controls. In light of the comments, EPA is convinced that the acreage limit is appropriate for identifying sites that are amount to industrial activity. Several comments suggested higher acreage limits without giving a supporting rationale except administrative concerns. Several commenters agreed that the five acre limit is suitable, but again without specifying why they agreed. EPA is convinced, however, that the acreage limits as finalized in today's rule reflect an earth disturbance and/or removal effort that is industrial in magnitude. Disturbances on large tracts of land will employ more heavy machinery and industrial equipment for removing vegetation and bedrock.

For construction facilities that are not included in the definition of storm water discharge associated with industrial activity, EPA will consider the appropriate procedures and methods to reduce pollutants in construction site runoff under the studies authorized by section 402(p)(5) of the CWA. EPA will also consider under section 402(p)(5) appropriate procedures and methods during post-construction for maintaining structural controls developed pursuant to NPDES permits issued for storm water discharges associated with industrial activity from construction sites.

Numerous commenters requested clarification as to whether permits for storm water discharges from construction activities at an industrial facility are required. EPA is requiring permits for all storm water discharges from construction activities where the land disturbed meets the requirements established in § 122.26(b)(14)(x) and which discharge into waters of the United States. The location of the construction activity or the ultimate land use at the site does not factor into the analysis.

G. Municipal Separate Storm Sewer Systems

1. Municipal Separate Storm Sewers

Today's rule defines "municipal separate storm sewer" at § 122.26(b)(8) to include any conveyance or system of conveyances that is owned or operated by a State or local government entity and is designed for collecting and conveying storm water which is not part of a Publicly Owned Treatment Works (POTW) as defined at 40 CFR 122.2. It is important to note that today's permit application requirements for discharges from municipal separate storm sewer systems serving a population of 100,000 or more do not apply to discharges from combined sewers (systems designed as both a sanitary sewer and a storm sewer). For purposes of calculating whether a municipal separate storm sewer system meets the large or medium population criteria, a municipality may petition to have the population served by a combined sewer deducted from the total population. Section 122.26(f) of today's rule describes this procedure.

EPA requested comments on whether different language for the definition of municipal separate storm sewer would clarify responsibility under the NPDES permit system. Comments were also requested on whether the definition needed to be clarified by explicitly stating that municipal streets and roads with drainage systems (curb and gutter, ditches, etc.) are part of the municipal storm sewer system, and that the owners or operators of such roads are responsible for

such discharges. Numerous comments were received by EPA on this issue. Some commenters questioned whether road culverts and road ditches were municipal separate storm sewers, while others specifically recommended that further clarifying language should be added so that owners and operators of roads and streets understand that they are covered by this regulation. In light of these comments, EPA has clarified that municipal streets, catch basins, curbs, gutters, ditches, man-made channels, or storm drains that discharge into the waters of the United States are municipal separate storm sewers. One commenter asked if “other wastes” in the proposed definition of municipal separate storm sewer (40 CFR 122.26 (b)(8)(i)) included storm water. In response, EPA has added “storm water” to this definition in order to clarify that the rule addresses such systems.

EPA requested comments on whether legal classifications such as “storm sewers that are not private (e.g. public, district or joint district sewers)” would provide a clearer definition of municipal separate storm sewer than an owner or operator criterion, especially for the purpose of determining responsibility under the NPDES program. Most commenters agreed that the owner/operator concept, and the additional language noted above, is sufficient for this purpose. EPA also requested comments on to what extent the owner/operator concept should apply to municipal governments with land-use authority over lands which contribute storm water runoff to the municipal storm sewer system, and how the responsibility should be clarified. In response to comments on this point, EPA has addressed these concerns in the context of clarifying what municipal entities are responsible for applying for a permit covering storm water discharges from municipal systems in section VI.H. below.

One commenter expressed a desire for clarification as to whether conveyances that were once used for the conveyance of storm water, but are no longer used in that manner, are covered by the definition. EPA emphasizes that this rulemaking only addresses conveyances that are part of a separate storm sewer system that discharges storm water into waters of the United States.

One commenter stated that if EPA intends to regulate roadside collection systems then EPA must repropose since these were not considered by the public. EPA disagrees with this comment since one of the options specifically addressed the inclusion of roadside drainage systems and roads in the definition of municipal separate storm sewer system. In addition, the public recognized the issue in comments on the proposal. EPA would note that several commenters specifically endorsed EPA's inclusion of these conveyances.

2. Effective Prohibition on Non-Storm Water Discharges

Section 402(p)(3)(B)(ii) of the amended CWA requires that permits for discharges from municipal storm sewers shall include a requirement to effectively prohibit non-storm water discharges into the storm sewers. Based on the legislative history of section 405 of the WQA, EPA does not interpret the effective prohibition on non-storm water discharges to municipal separate storm sewers to apply to discharges that are not composed entirely of storm water, as long as such discharge has been issued a separate NPDES permit. Rather, *48037 an “effective prohibition” would require separate NPDES permits for non-storm water discharges to municipal storm sewers. In many cases in the past, applicants for NPDES permits for process wastewaters and other non-storm water discharges have been granted approval to discharge into municipal separate storm sewers, provided that the permit conditions for the discharge are met at the point where the discharge enters into the separate storm sewer. Permits for such discharges must meet applicable technology-based and water-quality based requirements of Sections 402 and 301 of the CWA. If the permit for a non-storm water discharge to a municipal separate storm sewer contains water-quality based limitations, then such limitations should generally be based on meeting applicable water quality standards at the boundary of a State established mixing zone (for States with mixing zones) located in the receiving waters of the United States.

All options will be considered when an applicant applies for a NPDES permit for a non-storm water discharge to a municipal separate storm sewer. In some cases, permits will be denied for discharges to storm sewers that are causing water quality problems in receiving waters. However, not all discharges present such problems; and in these cases EPA or State permit writers may allow such discharges to municipal separate storm sewers within appropriate permit limits.

Today's rule has two permit application requirements that are designed to begin implementation of the effective prohibition. The first requirement discussed in VI.H.6.a., below, addresses a screening analysis which is intended to provide sufficient information to develop priorities for a program to detect and remove illicit discharges. The second provision, discussed in VI.H.7.b., requires municipal applicants to develop a recommended site-specific management plan to detect and remove illicit discharges (or ensure they are covered by an NPDES permit) and to control improper disposal to municipal separate storm sewer systems.

Several commenters suggested that either the definition of "storm water" should include some additional classes of nonprecipitation sources, or that municipalities should not be held responsible for "effectively prohibiting" some classes of nonstorm water discharges into their municipal storm sewers. The various types of discharges addressed by these comments include detention and retention reservoir releases, water line flushing, fire hydrant flushing, runoff from fire fighting, swimming pool drainage and discharge, landscape irrigation, diverted stream flows, uncontaminated pumped ground water, rising ground water, discharges from potable water sources, uncontaminated waters from cooling towers, foundation drains, non-contact cooling water (such as heating, ventilation, air conditioning (HVAC) water that POTWs require to be discharged to separate storm sewers rather than sanitary sewers), irrigation water, springs, roofdrains, water from crawl space pumps, footing drains, lawn watering, individual car washing, flows from riparian habitats and wetlands. Most of these comments were made with regard to the concern that these were commonly occurring discharges which did not pose significant environmental problems.

EPA disagrees that the above described flows will not pose, in every case, significant environmental problems. At the same time, it is unlikely Congress intended to require municipalities to effectively prohibit individual car washing or discharges resulting from efforts to extinguish a building fire and other seemingly innocent flows that are characteristic of human existence in urban environments and which discharge to municipal separate storm sewers. It should be noted that the legislative history is essentially silent on this point. Accordingly, EPA is clarifying that section 402(p)(3)(B) of the CWA (which requires permits for municipal separate storm sewers to 'effectively' prohibit non-storm water discharges) does not require permits for municipalities to prohibit certain discharges or flows of nonstorm water to waters of the United States through municipal separate storm sewers in all cases. Accordingly, [§ 122.26\(d\)\(2\)\(iv\)\(B\)\(1\)](#) states that the proposed management program shall include: "A description of a program, including inspections, to implement and enforce an ordinance, orders or similar means to prevent illicit discharges to the municipal separate storm sewer system; the program description shall address the following categories of non-storm water discharges or flows only where such discharges are identified by the municipality as sources of pollutants to waters of the United States: Water line flushing, landscape irrigation, diverted stream flows, rising ground waters, uncontaminated ground water infiltration (as defined at [40 CFR 35.2005\(20\)](#)) to separate storm sewers, uncontaminated pumped ground water discharges from potable water sources, foundation drains, air conditioning condensation, irrigation water, springs, water from crawl space pumps, footing drains, lawn watering, individual residential car washing, flows from riparian habitats and wetlands, dechlorinated swimming pool discharges, and street wash waters. Program descriptions shall address discharges from fire fighting only where such discharges or flows are identified as significant sources of pollutants to waters of the United States."

However, the Director may include permit conditions that either require municipalities to prohibit or otherwise control any of these types of discharges where appropriate. In the case of fire fighting it is not the intention of these rules to prohibit in any circumstances the protection of life and public or private property through the use of water or other fire retardants that flow into separate storm sewers. However, there may be instances where specified management practices are appropriate where these flows do occur (controlled blazes are one example).

Conveyances which continue to accept other "non-storm water" discharges (e.g. discharges without an NPDES permit) with the exceptions noted above do not meet the definition of municipal separate storm sewer and are not subject to section 402(p)(3)(B) of the CWA unless the non-storm water discharges are issued separate NPDES permits. Instead,

conveyances which continue to accept non-storm water discharges which have not been issued separate NPDES permits are subject to sections 301 and 402 of the CWA. For example, combined sewers which convey storm water and sanitary sewage are not separate storm sewers and must comply with permit application requirements at [40 CFR 122.21](#) as well as other regulatory criteria for combined sewers.

3. Site-Specific Storm Water Quality Management Programs for Municipal Systems

Section 402(p)(3)(iii) of the CWA mandates that permits for discharges from municipal separate storm sewers shall require controls to reduce the discharge of pollutants to the maximum extent practicable (MEP), including management practices, control techniques and systems, design and engineering methods, and such other provisions as the Director determines appropriate for the control of such pollutants.

When enacting this provision, Congress was aware of the difficulties in regulating discharges from municipal ***48038** separate storm sewers solely through traditional end-of-pipe treatment and intended for EPA and NPDES States to develop permit requirements that were much broader in nature than requirements which are traditionally found in NPDES permits for industrial process discharges or POTWs. The legislative history indicates, municipal storm sewer system “permits will not necessarily be like industrial discharge permits. Often, an end-of-the-pipe treatment technology is not appropriate for this type of discharge.” [Vol. 132 Cong. Rec. S16425 (daily ed. Oct. 16, 1986)].

A shift towards comprehensive storm water quality management programs to reduce the discharge of pollutants from municipal separate storm sewer systems is appropriate for a number of reasons. First, discharges from municipal storm sewers are highly intermittent, and are usually characterized by very high flows occurring over relatively short time intervals. For this reason, municipal storm sewer systems are usually designed with an extremely high number of outfalls within a given municipality to reduce potential flooding. Traditional end-of-pipe controls are limited by the materials management problems that arise with high volume, intermittent flows occurring at a large number of outfalls. Second, the nature and extent of pollutants in discharges from municipal systems will depend on the activities occurring on the lands which contribute runoff to the system. Municipal separate storm sewers tend to discharge runoff drained from lands used for a wide variety of activities. Given the material management problems associated with end-of-pipe controls, management programs that are directed at pollutant sources are often more practical than relying solely on end-of-pipe controls.

In past rulemakings, much of the criticism of the concept of subjecting discharges from municipal separate storm sewers to the NPDES permit program focused on the perception that the rigid regulatory program applied to industrial process waters and effluents from publicly owned treatment works was not appropriate for the site-specific nature of the sources which are responsible for the discharge of pollutants from municipal storm sewers.

The water quality impacts of discharges from municipal separate storm sewer systems depend on a wide range of factors including: The magnitude and duration of rainfall events, the time period between events, soil conditions, the fraction of land that is impervious to rainfall, land use activities, the presence of illicit connections, and the ratio of the storm water discharge to receiving water flow. In enacting section 405 of the WQA, Congress recognized that permit requirements for municipal separate storm sewer systems should be developed in a flexible manner to allow site-specific permit conditions to reflect the wide range of impacts that can be associated with these discharges. The legislative history accompanying the provision explained that “[p]ermits for discharges from municipal separate stormwater systems * * * must include a requirement to effectively prohibit non-stormwater discharges into storm sewers and controls to reduce the discharge of pollutants to the maximum extent practicable, * * * These controls may be different in different permits. All types of controls listed in subsection [(p)(3)(C)] are not required to be incorporated into each permit” [Vol. 132 Cong. Rec. H10576 (daily ed. October 15, 1986) Conference Report]. Consistent with the intent of Congress, this rule sets out permit application requirements that are sufficiently flexible to allow the development of site-specific permit conditions.

Several commenters agreed with this approach. One municipality recommended that there be as much flexibility as possible so that the permitting authority can work with each municipality in developing meaningful long-term goals with plans for improving storm water quality. This commenter noted that too many specific regulations that apply nationwide do not take into consideration the climatic and governmental differences within the States. EPA agrees that as much flexibility as possible should be incorporated into the program. However, flexibility should not be built into the program to such an extent that all municipalities do not face essentially the same responsibilities and commitment for achieving the goals of the CWA. EPA believes that these final regulations build in substantial flexibility in designing programs that meet particular needs, without abandoning a nationally consistent structure designed to create storm water control programs.

4. Large and Medium Municipal Storm Sewer Systems

During the 1987 reauthorization of the CWA, Congress established a framework for EPA to implement a permit program for municipal separate storm sewers and establishing phased deadlines for its implementation. The amended CWA establishes priorities for EPA to develop permit application requirements and issue permits for discharges from three classes of municipal separate storm sewer systems. The CWA requires that NPDES permits be issued for discharges from large municipal separate storm sewer systems (systems serving a population of more than 250,000) by no later than February 4, 1991. Permits for discharges from medium municipal separate storm sewer systems (systems serving a population of more than 100,000, but less than 250,000) must be issued by February 4, 1992. After October 1, 1992, the requirements of sections 301 and 402 of the CWA are restored for all other discharges from municipal separate storm sewers.

The priorities established in the Act are based on the size of the population served by the system. Municipal operators of these systems are generally thought to be more capable of initiating storm water programs and discharges from municipal separate storm sewers serving larger populations are thought to present a higher potential for contributing to adverse water quality impacts. NURP and other studies have verified that the event mean concentration of pollutants in urban runoff from residential and commercial areas remains relatively constant from one area to another, indicating that pollutant loads from urban runoff strongly depend on the total area and imperviousness of developed land, which in turn is related to population.

The term “municipal separate storm sewer system” is not defined by the Act. By not defining the term, Congress intended to provide EPA discretion to define the scope of municipal systems consistent with the objectives of developing site-specific management programs in NPDES permits. EPA considered two key issues in defining the scope of municipal separate storm sewer system: (1) What is a reasonable definition of the term “system,” and (2) how to determine the number of people “served” by a storm sewer system. EPA found these two issues to be intertwined. Different approaches to defining the scope of a system allowed for greater or lesser certainty in determining the population served by the system.

In the December 7, 1988, proposal, EPA described seven options for defining “municipal separate storm sewer system.” In developing these options the EPA considered:

- The inter-jurisdiction complexities associated with municipal governments;
- The fact that many municipal storm water management programs have traditionally focused on water quantity ***48039** concerns, and have not evaluated water quality impacts of system discharges or developed measures to reduce pollutants in such discharges;
- The advantages of developing system-wide storm water management programs for municipal systems;
- The geographic basis necessary for planning of comprehensive management programs to reduce pollutants in discharges from municipal separate storm sewers to the maximum extent practicable;

- The geographic basis necessary to provide flexibility to target controls on areas where water quality impacts associated with discharges from municipal systems are the greatest and to provide an opportunity to develop cost effective controls;
- The need to establish a reasonable number of permits for municipal systems during the initial phases of program development that will provide an adequate basis for a storm water quality management program for over 13,000 municipalities after the October 1, 1992 general prohibition on storm water permits expires; and
- Congressional intent to allow the development of jurisdiction-wide, comprehensive storm water management programs with priorities given to the most heavily populated areas of the country.

a. Overview of Proposed Options and Comments. The December 7, 1988, proposal requested comment on seven options for defining large and medium municipal separate storm sewer system. With the addition of a watershed-based approach suggested by certain commenters, eight options or approaches were addressed by the over 200 commenters on this issue: Option 1—systems owned or operated by incorporated places augmented by integrated discharges; Option 2—systems owned or operated by incorporated places augmented with significant other municipal discharges; Option 3—systems owned or operated by counties; Option 4—systems owned and operated by States or State departments of transportation; Option 5—systems within the boundaries of an incorporated place; Option 6—systems within the boundaries of counties; Option 7—systems in census designated urbanized areas; and Option 8—systems defined by watershed boundaries.

Generally, these options can be classified into two categories. The first category of options, Options 1, 2 and 3, define municipal systems in terms of the municipal entity which owns or operates storm sewers within municipal boundaries of the requisite population. The second category of options would define municipal systems on a geographic basis. Under Options 4, 5, 6, 7 and 8 all municipal separate storm sewers within the specified geographic area would be part of the municipal system, regardless of which municipal entity owns or operates the storm sewer. EPA did not propose to define the scope of a municipal separate storm sewer system in engineering terms because of practical problems determining the boundaries of and the populations served by “systems” defined in such a manner. In addition an engineering approach based on physical interconnections of storm sewer pipes by itself does not provide a rational basis for developing a storm water program to improve water quality where a large number of individual storm water catchments are found within a municipality.

In the December 7, 1988, proposal, EPA favored those options that relied primarily on the municipal entity which owns or operates or otherwise has jurisdiction over storm sewers. These options were preferred because it was anticipated that the administrative complexities of developing the permit programs would be reduced by decreasing the number of affected municipal entities. However, most commenters were not satisfied that such an approach would reduce administrative burdens or complexities.

The diversity of arguments and rationales offered in comments justifying the selection of particular option, or combinations thereof, were generally a function of geographic, climatic, and institutional differences around the country. As such, there was little substantive agreement with how this program should be implemented as far as defining large and medium municipal separate storm sewer systems. Of all the options, Option 1 generally received the most favorable comment. However, the overwhelming majority of comments suggested different options or other alternatives. Having reviewed the comments at length, EPA is convinced that the definition of municipal separate storm sewers should possess elements of several of the options enumerated above and a mechanism that enables States or EPA Regions to define a system that best suits their various political and geographical conditions.

The following comments were the most pervasive, and represent those issues and concerns of greatest importance to the public: (1) The approach chosen initially must be realistic and achievable administratively; (2) the definition must be flexible enough to accommodate development of the program on a watershed basis, and incorporate elements of existing

programs and frameworks and regional differences in climate, geography, and political institutions; (3) permittees must have legal authority and control over land use; (4) discharges from State highways, identified as a significant source of runoff and pollutants, should be included in the program and combined in some manner with one or more of the other options; (5) the definition should address how the inclusion of interrelated discharges into the municipal separate storm sewer system are timed, decided upon, dealt with, etc.; (6) any approach must address the major sources of pollutants; (7) development of co-permittee management plans must be coordinated or developed on a regional basis and in the same time frame—fragmented or balkanized programs must be avoided; (8) municipalities should be regulated as equitably as possible; (9) flood control districts should be addressed as a system or part of a system; (10) the definition must conform to the legal requirements of the Clean Water Act; and (11) the definition should limit the number of co-permittees as much as possible.

b. Definition of large and medium municipal separate storm sewer system. A combination of the options outlined in the 1988 proposal would address most of these concerns, while achieving a realistic and environmentally beneficial storm water program. Accordingly, EPA has adopted the following definition of large and medium municipal separate storm sewer systems. Large and medium separate storm sewer systems are municipal separate storm sewers that:

(i) Are located in an incorporated place with a population of 100,000 or more or 250,000 or more as determined by the latest Decennial Census by the Bureau of Census (see appendices F and G of part 122 for a list of these places based on the 1980 Census);

(ii) Are located within counties having areas that are designated as urbanized areas by latest decennial Bureau of Census estimates and where the population of such areas exceeds 100,000, after the population in the incorporated places, townships or towns within such counties is excluded (see appendices H and I for a listing of these counties based on the 1980 census) (incorporated places, towns, and townships within these counties are excluded from permit application requirements unless they fall under paragraph (i) or are designated under paragraph (iii)); or (iii) are owned or *48040 operated by a municipality other than those described in paragraph (i) or (ii) that are designated by the Director as part of the large or medium municipal separate storm sewer system due to the interrelationship between the discharges of the designated storm sewer and the discharges from municipal separate storm sewers described under paragraphs (i) or (ii). In making this determination the Director may consider the following factors:

(A) Physical interconnections between the municipal separate storm sewers;

(B) The location of discharges from the designated municipal separate storm sewer relative to discharges from municipal separate storm sewers described in subparagraph (i);

(C) The quantity and nature of pollutants discharged to waters of the United States;

(D) The nature of the receiving waters; or

(E) Other relevant factors.

(iv) The Director may, upon petition, designate as a system, any municipal separate storm sewers located within the boundaries of a region defined by a storm water management regional authority based on a jurisdictional, watershed, or other appropriate basis that includes one or more of the systems described in paragraphs (i), (ii), and (iii).

Under today's rule at § 122.26(a)(3)(iii) the regional authority shall be responsible for submitting a permit application under the following guidelines: The regional authority together with co-applicants shall have authority over a storm water management program that is in existence, or shall be in existence at the time part 1 of the application is due; the permit applicant or co-applicants shall establish their ability to make a timely submission of part 1 and part 2 of the

municipal application; each of the operators of municipal separate storm systems described in paragraphs 122.26(b)(4)(i), (ii), and (iii) and (7)(i), (ii), and (iii), that are under the purview of the designated regional authority, shall comply with the application requirements of § 122.26(d).

As noted above, the finalized definition of large and medium municipal separate storm sewer system is combination of the approaches as proposed. (In the following discussion “paragraph (i)” refers to §§ 122.26 (b)(4)(i) and (b)(7)(i); “paragraph (ii)” refers to §§ 122.26(b)(4)(ii) and (b)(7)(ii); “paragraph (iii)” refers to §§ 122.26 (b)(4)(iii) and (b)(7)(iii); and “paragraph (iv)” refers to §§ 122.26 (b)(4)(iv) and (b)(7)(iv)). Paragraph (i) originates from proposed Option 5 (boundaries of incorporated places); paragraph (ii) originates from Option 6 (boundaries of counties) and Option 7 (urbanized areas); paragraph (iii) originates from Options 1 and 5; and paragraph (iv) is an outgrowth of comments on all options, especially Option 4 (State owned systems/State highways) and Option 8 (watersheds).

This definition creates a system by virtue of the fact that storm sewers within defined geographical and political areas, and the owner/operators of separate storm sewers in those areas, are addressed or required to obtain permits. Although within these systems, different segments and discharges of storm water conveyances may be owned or operated by different public entities, EPA is convinced by comments that discharges from such conveyances are interrelated to such an extent that all of these conveyances may be properly considered a “system.” These comments are identified and discussed in greater detail below.

c. Response to comments. Many commenters urged that the approach taken must be administratively achievable. Option 5 of the proposal (boundaries of incorporated places), which can be equated to paragraphs (i) and (iii) above, was identified by several commenters as the most workable of all the options. Many commenters stated that Option 1 (systems owned or operated by incorporated places) was inappropriate because of special districts and other owners of systems within the incorporated area; and although EPA proposed a designation provision for interrelated discharges in Option 1, commenters advised that it would be impossible to identify these systems, account for their discharges, and exclude or include them in a timely manner if Option 1 was selected (Option 1 only addresses those systems owned or operated by the incorporated place). The final rule would obviate these concerns, since all the publicly owned sewers within the boundaries of the municipality will be required to be covered by a permit.

Other commenters noted that cities sometimes have storm water conveyances owned or operated by numerous entities. One municipality commented that these problems could be more easily resolved using a unified permit/district wide approach, which the final approach outlined above can accomplish. One county stated that Option 1 of the proposal would result in a permanent balkanization of stormwater programs and that a regional approach focusing on the entire system should be established. Another municipality recommended that all the systems of conveyances within the incorporated city boundaries be issued a permit. In rejecting Option 1 of the proposal, one municipality stated that program inefficiencies would result from implementing a piecemeal program in a contiguous urban environment with different owners and operators. One State conveyed similar concerns. Using a geographical approach, as described in paragraph (i) of the final definition, will best address all of these concerns.

One commenter criticized proposed Option 1 as being contrary to the legal requirements of the WQA, and a further example of EPA's continuing attempt to minimize the scope of a national storm water program. It was noted that the legislative history regarding requirements for large and medium municipal separate storm sewer systems in section 402(p) of the CWA generally does not reference incorporated cities or towns. As a result, the commenter recommended that the term “municipal” in municipal separate storm sewer system refer to separate storm sewers operated by municipal entities meeting the definition of “municipality” in section 502 of the CWA and that the scope of the term “municipal separate storm sewer system” be defined as broadly as possible. This approach would result in defining large and medium municipal separate storm sewer systems to include all municipal separate storm sewers within the 410 counties with a population of 100,000 or more. EPA has adopted the commenter's recommendation to extend the scope of the program to the extent that today's rule covers all municipal separate storm sewers within certain areas rather than only those

operated by an incorporated place. EPA disagrees however that it must define the term “system” to include sewers within any municipal boundary of sufficient population with reference to section 502(4). By not providing explicit definitions, section 402(p)(3)(B) of the CWA gives EPA discretion to define how municipal separate storm sewer systems are defined. There is no indication in the language of the CWA or the legislative history that Congress intended that the scope of “municipality” and the scope of “municipal separate storm sewer system” to be identical, particularly since the latter term is not defined in the statute. Furthermore, for the reasons discussed elsewhere in this section, EPA believes that today's definition is a reasonable accommodation of the many conflicting concerns surrounding the proper way to delineate the extent of a *48041 municipal separate storm sewer system serving over 100,000 people.

Several commenters concluded that EPA should be flexible enough to allow the permitting authority broad discretion to establish system wide permits, with flood control districts and/or counties acting as co-permittees with the various incorporated cities within the district boundaries. Commenters expressed concern that Option 1 would not allow for such flexibility.

Arguments that were advanced by commenters in support of proposed Option 1 are equally applicable to paragraph (i), above. Like proposed Option 1, the approach outlined above targets major cities. However, it also has the advantage of addressing municipal separate storm sewer systems which may be interrelated to those owned by the city, a benefit recognized by one municipality that endorsed the selection of proposed Option 5. This will also give the permitting authority more discretion to establish co-permittee relationships.

Paragraph (ii) of the final definition also uses a geographical approach to the definition of municipal storm sewer systems to include municipal storm sewers within urbanized counties. Thus, it closely resembles Option 7 of the proposal. The counties identified in paragraph (ii) have, based on the 1980 Census, a population of 100,000 or more in urbanized,[FN5] unincorporated portions of the county. In the unincorporated areas of these counties (or in the 20 States where the Census recognizes minor civil divisions, unincorporated county areas outside of towns or townships), the county is the primary local government entity. In these cases, the county performs many of the same functions as incorporated cities with a population of 100,000, and is generally expected to have the necessary legal and land use authority in these areas to begin to implement storm water management programs. Due to the urbanized nature of their population, discharges from the municipal separate storm sewers in these counties will have many similarities to discharges from municipal systems in incorporated cities with a population of 100,000 or more. Addressing these counties in this fashion will not adversely affect small municipalities (incorporated places, towns and townships) within the county, as municipal separate storm sewers that are located in the small incorporated places, townships or towns within these counties are not automatically included as part of the system.

EPA has focused on the unincorporated areas because permit applications cannot be required from systems that serve a population less than 100,000, unless designated. EPA received the comment that if the sewers in incorporated places within such counties were included as part of the system for that county, there would be the potential for systems serving a population less than 100,000 to be improperly subject to permit requirements. EPA agrees with the comment, except that EPA reserves the authority to designate sewers in small incorporated places as part of the system subject to permitting, pursuant to paragraph (iii) of the final definition. Incorporated areas within the identified counties will be required to file permit applications if the population served by the municipal separate storm sewer system is 100,000 or more.

As one commenter noted, the counties addressed by the definition will generally be areas of high growth with a growing tax base that can finance a storm water management program. Numerous counties affected by paragraph (ii) commented on the proposal. Several of these indicated a preference for the county government as the permittee. Others indicated that their county had the ability to perform the functions of the permit applicant and permittee. One county brought to EPA's attention that the county had laid plans for a storm water utility scheduled to be in operation in 1989. Several of the counties supported the use of watersheds, or flexible regional approaches, as the basis for the definition of municipal separate storm sewer systems. The modified definition should satisfy these concerns.

EPA recognizes that some of the counties addressed by today's rule have, in addition to areas with high unincorporated urbanized populations, areas that are essentially rural or uninhabited and may not be the subject of planned development. While permits issued for these municipal systems will cover municipal system discharges in unincorporated portions of the county, it is the intent of EPA that management plans and other components of the programs focus on the urbanized and developing areas of the county. Undeveloped lands of the county are not expected to have many, if any, municipal separate storm sewers.

Paragraphs (i) and (ii) above will help resolve the problems associated with permittees not having adequate land use controls, the legal authority to implement controls, and the ownership of the conveyances. This factor was mentioned by numerous commenters on the proposed options, especially county governments. Under paragraphs (i) and (ii), all publicly owned separate storm sewers within the appropriate municipal boundaries will be defined as part of the municipal system. In many cases, a number of municipal operators of these storm sewers will be responsible for discharges from these systems. Since a number of co-permittees may be addressed in the permits for these discharges, problems associated with the ability to control pollutants that are contributed from interrelated discharges will be minimized. State highways or flood control districts, which may have no land use authority in incorporated cities, will be co-permittees with the city which does possess land use authority. EPA envisions that permit conditions for these systems will be written to establish duties that are commensurate with the legal authorities of a co-permittee. For example, under a permit, a flood control district may be responsible for the maintenance of drainage channels that they have jurisdiction over, while a city is responsible for implementing a sediment and erosion ordinance for construction sites which relates to discharges to the drainage channel. Confusion over ownership of conveyances or systems, at least for the purposes of determining whether they require a permit, will be minimized since all conveyances will be covered. Similarly, under paragraph (ii), the affected counties are expected to have the necessary legal and land use authority to implement programs and controls in unincorporated, urbanized areas because the county government is the primary political or governing entity in these geographical areas.

Many commenters from all levels of State and local government expressed concern about controlling pollutants from State highways. Paragraphs (i) and (ii) will result in discharges from separate storm sewers serving State highways and other highways through storm sewers that are located within incorporated places with the appropriate population or highways in unincorporated portions of specified counties being included as part of the large or medium municipal separate storm sewer system, since all municipal separate storm sewers within the boundaries of these political entities are included. Paragraph (iv) can facilitate ***48042** the submission of a permit application for storm sewers operated as part of an entire State highway system. Paragraph (iv) would allow an entire system in a geographical region under the purview of a State agency (such as a State Department of Transportation) to be designated, where all the permit application requirements and requirements established under § 122.26(a)(iii)(C) can be met.

Paragraphs (i) and (ii) can effectively deal with many of the major sources of pollutants. One municipality noted that Option 5 (paragraph (i)) would require all systems in the incorporated boundaries to obtain permits and institute control measures, rather than just the few owned or operated by incorporated cities. Another municipality noted that this approach could deal with many of the regional variations in sources of pollution. Many commenters, including environmental groups, believed that proposed Option 3 (systems owned or operated by counties), Option 6 (systems within the boundaries of counties), and Option 7 (system in urbanized areas) were good approaches because more sources of pollution would be addressed. It was also maintained that Options 3, 6 and 7 could incorporate watershed planning which, in the view of some commenters, is the only effective way to address pollutants in storm water.

Commenters noted that addressing counties and urbanized areas would focus attention on developing areas which would otherwise be left out in the initial phases of permitting. One commenter noted that most new development in large urbanized areas occurs outside of core cities (incorporated cities with a population of 100,000 or more). Newly developing

areas provide opportunities for installing pollutant controls cost effectively. EPA agrees with these comments and notes that paragraph (ii) addresses a significant number of counties with highly developed or developing areas.

However, EPA is convinced that addressing all counties or urbanized areas in the initial phases of the storm water program is ill-advised. Commenters noted that some counties have inappropriate or nonexistent governmental structures, and that a program that addressed all counties in the country with a population of 100,000 or more would be unmanageable, because too many municipal entities nationwide would be involved in the program initially. Commenters advised that defining municipal storm sewer systems solely in terms of the boundaries of census urbanized areas (Option 7) would result in systems which did not correspond to jurisdictions that are in a position to implement a storm water programs. Thus, EPA has modified Option 7 and combined it with Option 6 to create paragraph (ii) above.

Paragraph (iii) incorporates a designation authority such that municipalities that own or operate discharges from separate storm sewers systems other than those described in paragraph (i) or (ii) may be designated by the Director as part of the large or medium municipal separate storm sewer system due to the interrelationship between the other discharges of the designated storm sewer and the discharges from the large or medium municipal separate storm sewers. In making this determination the physical interconnections between the municipal separate storm sewers, the location of discharges from the designated municipal separate storm sewer relative to discharges from large or medium municipal separate storm sewers, the quantity and nature of pollutants discharged to waters of the United States, the nature of the receiving waters, or other relevant factors may be considered.

Comments indicated that the designation authority as proposed and described above should be retained. One State noted that this approach gives the most flexibility in making the case-by-case designations, while also delineating in sufficient detail what criteria are used to make the determination. This commenter was concerned about being able to regulate many of the interrelated discharges from counties surrounding incorporated cities.

Paragraph (iv) of the final definition allows the permitting authority, upon petition, to designate as a medium or large municipal separate storm sewer system, municipal separate storm sewers located within the boundaries of a region defined by a storm water management regional authority based on a jurisdictional, watershed, or other appropriate basis that includes one or more of the systems described in paragraphs (i), (ii), (iii).

Paragraph (iv) was added to the final definitions to respond to a variety of concerns of commenters. One of the prime concerns of commenters was that the definition of large and medium municipal separate storm sewer systems must be flexible enough to accommodate: Programs on a watershed basis, existing storm water programs and frameworks and regional differences in climate, geography, and political institutions. Some States were particularly expressive regarding this concern. One State maintained that an inflexible program could totally disrupt ongoing State efforts. Other commenters urged that the regulation encourage the establishment of regional storm water authorities or other mechanisms that can deal with storm water quality on a watershed basis. One State proposed defining the municipal separate storm sewer system to include all municipal separate storm sewers within a core incorporated place of 100,000 or more, and all surrounding incorporated places within the State defined watershed. One of the State water districts advised that the regulations should be flexible enough to allow regional water quality boards to apply the regulations geographically. One national association expressed concern that existing institutional arrangements for flood control and drainage would be ignored, while another warned against fostering a proliferation of inconsistent patchwork programs based on arbitrary definitions and jurisdictions which bear no relationship to water quality.

EPA is convinced that the mechanism described in paragraph (iv) provides a means whereby the mechanisms and concepts identified above can be utilized or created in appropriate circumstances. In addition, § 122.26(f)(4) provides a means for State or local government agencies to petition the Director for the designation of regional authorities responsible for a portion of the storm water program. For example, some States or counties may currently or in the near future have regional storm water management authorities that have the ability to apply for permits under today's

rule and carry out the terms of the permit. Some of these authorities may encompass within their jurisdiction large or medium municipal separate storm sewer systems as defined in today's rule. EPA wishes to encourage such entities to assume the role as permittee under today's rule. That is the purpose of paragraph (iv). Such authorities may petition the Director to assume such a role.

Many commenters expressed the view that municipal management plans must be coordinated or developed among co-permittees on a regional basis and in the same timeframe. Paragraphs (i), (iii) and (iv) would bring in all appropriate municipal entities with jurisdiction over a specified geographical area in the same timeframe. Several commenters, including one State, noted proposed Option 1 would lead to fragmented, ill-coordinated programs. Paragraphs (i), (iii), and (iv) do not suffer this drawback *48043 to the same extent since all the municipal separate storm sewers are addressed within the incorporated place, instead of only those owned or operated by the incorporated place.

Equal treatment of municipalities within a watershed or other specified area was a major subject of comment. Many commenters urged that a degree of fairness could be achieved by requiring permit applications, and the concomitant expenditure of municipal dollars and resources, from all municipalities within an entire urban area that contributes to storm water pollution, rather than from a discrete system within an arbitrary political boundary. Paragraph (i), especially when coupled with paragraphs (ii), (iii), and (iv), can best accomplish a more equitable approach, because all owners and operators of municipal separate storm sewers within a system have responsibilities. In addition, some of the areas outside the incorporated city limits which are engaged in expansive urban or suburban development will be brought into the program. Paragraph (iv) will provide a means for State or regional authorities to use existing or emerging mechanisms to set up storm water management programs, and would require multiple agencies either to become regional co-permittees or to be subject to a regional permit.

Paragraphs (i), (ii), (iii), and (iv) could also require flood control districts to be co-permittees, which was a major concern of counties and numerous cities. One municipality stated that the inclusion of flood control districts would greatly reduce the administrative burden required to prepare a single inter-city discharge agreement and would establish a common legal authority to implement the program. Numerous county agencies believed it imperative that flood control districts be brought into a system-wide permit strategy.

Paragraphs (i) and (iii) may not accommodate the concern of several commenters that the number of co-permittees be kept to a minimum. The fact that all the municipal separate storm sewers within the boundaries of the appropriate incorporated places will be addressed dictates that some permits will have several co-permittees. This is a major concern since it goes directly to achieving an effective initial storm water program. There is concern about being able to bring all the co-permittees together under intra-municipal agreements or contracts within regulatory deadlines. This problem would be resolved in the short term by selecting Option 1. However, Option 1 may still require inter-municipal agreements because of the designation authority under § 122.26 (b)(4)(ii) and (b)(7)(ii) of the proposal. In addition, such inter-jurisdictional problems will arise after October 1, 1992 when the moratorium on requiring NPDES permits for discharges from other municipal separate storm sewers ends. Under the permitting goals established by the CWA, multi-jurisdictional storm water programs and agreements cannot be avoided. Despite interest in limiting the number of co-permittees, EPA decided not to adopt Option 1 for the reasons already stated.

Section 402(p)(3)(B)(i) of the amended CWA provides that permits for municipal discharges from municipal storm sewers may be issued on a system-wide or jurisdiction-wide basis. This provision is an important mechanism for developing the comprehensive storm water management programs envisioned by the Act.

Under the permit application requirements of today's rule, if the appropriate co-applicants are identified, one permit application may be submitted for a large or medium municipal separate storm sewer system (see section VI.G.4 above). System-wide permit applications can in turn be used to issue system-wide permits which could cover all discharges in the system.

Where several municipal entities are responsible for obtaining a permit for various discharges within a single system, EPA will encourage system-wide permit applications involving the several municipal entities for a number of reasons. The system-wide approach not only provides an appropriate basis for planning activities and coordinating development, but also provides municipal entities participating in a system-wide application the means to spread the resource burden of monitoring, evaluating water quality impacts, and developing and implementing controls.

The system-wide approach provided in today's rule recognizes differences between individual municipalities with responsibilities for discharges from the municipal system. Today's application rule requires information to be submitted that enables the permit issuing authorities to develop tailored programs for each permittee with responsibility for certain components, segments, or portions of the municipal separate storm sewer system. The permit application requirements allow individual municipal entities, participating in system-wide applications, to submit site specific information regarding storm water quality management programs to reduce pollutants in system discharges as a whole, or from specific points within the system.

In some cases, it may be undesirable for all municipal entities with storm water responsibility within a municipal system to be co-permittees under one system-wide permit. The permit application requirements in today's rule allow individual municipal entities within the system to submit permit applications and obtain a permit for that portion of the storm sewer system for which they are responsible. Thus, several permits may be issued to cover various subdivisions of a single municipal system.

In summary, EPA believes that the definition of municipal storm sewer system adopted in today's rule has several distinct advantages that were identified in comments:

- The definition adopts features of several options;
- The definition targets areas that have the necessary police powers and land use authority to implement the program;
- The definition can utilize watersheds or accommodate existing administrative frameworks and storm water programs;
- The definition provides that all systems within a geographical area including highways and flood control districts will be covered, thereby avoiding fragmented and ill-coordinated programs;
- The definition has flexible designation authority; and
- The definition addresses major sources of pollutants without being overly broad.

H. Permit Application Requirements for Large and Medium Municipal Systems

1. Implementing the Permit Program

Given the differing nature of discharges from municipal separate storm sewer systems in different parts of the country and the varying water quality impacts of municipal storm sewer discharges on receiving waters, today's permit application requirements are designed to lead to the development of site-specific storm water management programs. In order to effectively implement this goal, EPA intends to retain the overall structure of the municipal permit application as proposed in the December 7, 1988, proposal.

2. Structure of the Permit Application

EPA proposed a two-part permit application designed to meet the goal of ***48044** developing site-specific storm water quality management programs in NPDES permits. In response to a request for comments on this aspect of the proposal, numerous comments were received. After reviewing these comments, EPA has decided to retain the two-part permit application. Many commenters agreed that the approach as proposed is appropriate for phasing in and developing site specific storm water management programs. One large municipality strongly endorsed the two-part application, stating that it would facilitate the identification of water quality problem areas and the development of priorities for control measures, thereby allowing for more cost-effective program development. Two State agencies expressed the same view, and noted that the two-part approach is reasonable and well structured for efficient development of programs. One large municipality noted it would allow the permit authority and the permit applicant the time needed to gain the knowledge and data to develop site-specific permits. A medium municipality expressed similar views.

Numerous commenters submitted endorsements of a proposal offered by one of the national municipal associations. This approach responded to EPA's request for comments on alternatives to a two-part application process. These comments recommended having permit applicants submit information regarding their existing legal authority, prepare source identification information, describe existing management plans, provide discharge characterization information based on existing data, and prepare a monitoring, characterization and illicit discharge and removal plan in a one-part application. The remaining requirements such as: implementing plans to remove illicit connections, obtaining legal authority, monitoring and characterization, plans for structural controls, preparation of control assessments, preparation of fiscal analysis, and management plan implementation would be part of the permit and take place during the compliance period of the permit. It was argued that this would result in a more orderly development of stormwater management programs while allowing for quick implementation of efforts to eliminate illicit discharges and initiate some BMPs.

After careful review and consideration of these comments, EPA is convinced that this approach would not meet the goals and requirements of section 402 of the Clean Water Act. Section 402(p)(3)(B) of the CWA requires that permits effectively prohibit non-storm water discharges into storm sewers and incorporate controls that reduce the discharge of pollutants to the maximum extent practicable, including management practices, control techniques, and system design and engineering methods. The above comments suggesting an alternative for achieving this goal are not entirely compatible with these requirements. In light of the language in the statute, permit conditions should do more than plan for controls during the term of the permit. A strong effort to have the necessary police powers and controls based on pollutant data should be undertaken before permits are issued. In short, the one-part application described by these comments would result in permits that would focus too much on preparation and not enough on implementing controls for pollutants.

In comparison, EPA's approach requires municipalities to submit a two-part application over a two year period. Part one of the application would require information regarding existing programs and the means available to the municipality to control pollutants in its storm water discharges. In addition, part one would require field screening of major outfalls to detect illicit connections. Part two of the permit application would require a limited amount of representative quantitative data and a description of proposed storm water management plans. The purpose of the two-part application process is to develop information, in a reasonable time frame, that would build successful municipal storm water management programs and allow the permit writer to make informed decisions with regard to developing permit conditions. This will include initiating efforts to effectively prohibit non-storm water discharges into storm sewers, and initially implementing controls that reduce the discharge of pollutants to the maximum extent practicable, including management practices and control techniques during the term of the permit. Such an approach clearly meets the statutory mandate of section 402(p)(3)(B).

a. **Part 1 Application.** Part 1 of the permit application is intended to provide an adequate basis for identifying sources of pollutants to the municipal storm sewer system, to preliminarily identify discharges of storm water that are appropriate for individual permits, and to formulate a strategy for characterizing the discharges from municipal separate storm sewer

systems. Several commenters supported retaining these components of the application process. The components of part 1 of the permit application include:

- General information regarding the permit applicant or co-applicants (§ 122.26(d)(1)(i));
- A description of the existing legal authority of the applicant(s) to control pollutants in storm water discharges and a plan to augment legal authority where necessary (§ 122.26(d)(1)(ii));
- Source identification information including: a topographic map, description of the historic use of ordinances or other controls which limited the discharge of non-storm water discharges to municipal separate storm sewer systems, the location of known municipal separate storm sewer outfalls, projected growth, location of structural controls, and location of waste disposal facilities (§ 122.26(d)(1)(iii));
- Information characterizing the nature of system discharges including existing quantitative data, the results of a field screening analysis to detect illicit discharges and illegal dumping to the municipal system, an identification of receiving waters with known water quality impacts associated with storm water discharges, a proposed plan to characterize discharges from the municipal storm sewer system by estimating pollutant loads and the concentration of representative discharges, and a plan to obtain representative data (§ 122.26(d)(1)(iv)); and
- A description of existing structural and non-structural controls to reduce the discharge of pollutants from the municipal storm sewer (§ 122.26(d)(1)(v)).

One commenter disagreed that source identification should be made part of the permit application process beyond the identification of major municipal storm sewer outfalls. In reply, EPA is convinced that the other elements of the source identification are critical for identifying sources of pollutants and creating a base of knowledge from which informed decisions about permit conditions and further data requirements can be determined. One county stated that it already had engaged in extensive monitoring and modeling of watersheds and that its programs should be substituted for EPA's. In response, EPA anticipates that information collected under various State, county or city programs that matches the information requirements in this rulemaking may be used by the applicants in submissions under this rulemaking where the requirements of the rule are met. However, because of the divergence in data collection techniques and information collected by *48045 these programs, EPA disagrees that it would be appropriate to accept a substitution in its entirety without tailoring such a program to today's specific information requirements. One municipality noted that municipal systems are not well documented and responsibility for them is in question. In response, EPA notes that the source identification procedure is designed, in part, to address such shortcomings.

Several municipalities suggested that legal authority could be demonstrated by providing EPA with copies of appropriate local ordinances to demonstrate their legal authority and a statement from the city attorney. EPA agrees that these methods are appropriate for making this demonstration.

Several commenters noted that there was adequate existing municipal legal authority to carry out the program requirements or such authority could be obtained by the municipality. Other commenters stated that municipalities possess some authority over certain activities but may not have authority over discharges from roads and construction. Numerous commenters, however, claimed that certain municipalities had no existing legal authority to carry out the permit requirements and that obtaining all the necessary legal authority could take several years due to cumbersome legislative and political processes. In response, part 1 of the permit application will establish a schedule for the development of legal authority that will be needed to accomplish the goals of the permit application and permits. Some municipalities will have more advanced storm water programs with appropriate legal authority or the ability to establish necessary ordinances. Providing an appropriate schedule will not present difficulties in these circumstances. EPA also notes that the definitions of large and medium municipal separate storm sewer systems finalized in today's rule will

in many cases result in a number of co-applicants participating in a system wide application. It is anticipated that the development of adequate inter-jurisdictional agreements specifying the various responsibilities of the co-permittees may in some cases be very complex, thereby justifying the development of a schedule to complete the task. For example, clarifying the authority over discharges from roads may present difficulties where a number of municipal entities operate different roads in a given jurisdiction. In other limited cases, the MEP standard for municipal permits may translate into permit conditions that extend the schedule for obtaining necessary legal authority into the term of the permit. These situations will be evaluated on a case-by-case basis by permit issuing authorities.

Numerous commenters supported the field screening analysis as proposed. Comments from three municipalities noted that it would be a cost effective means of identifying problem areas. One municipality noted that illicit connections can be reliably detected by the screening method proposed. In view of these comments EPA has decided to retain this portion of the regulation. However many commenters expressed concern over how the proposed approach would work given the particular circumstances under which some municipal storm water systems are arranged. Several commenters questioned the effectiveness of dry weather monitoring for several reasons, including the shallow depth of some cities' water tables. Accordingly, an alternative approach may be utilized by the municipal permittee, and this is discussed later in section VI.H.3.

Some comments suggested that if any field screening is required that it be done during the term of the permit. EPA believes that field screening should not be done during the term of the permit exclusively. Unless a field screening is accomplished during the permit application phase there will be scant knowledge, if any, upon which illicit connection programs can be established for the term of the permits. EPA views field screening during the application process as an appropriate means of beginning to meet the CWA's requirement of effectively prohibiting non-storm water discharges into municipal separate storm sewers.

The submittal of part 1 of the permit application will allow EPA, or approved NPDES States, to adjust part 2 permit application requirements to assure flexibility for submitting information under part 2, given the site specific characteristics of each municipal storm sewer system.

EPA agrees with the concerns of commenters regarding the estimate of the reduction of pollutant loads from existing management programs. EPA agrees that sufficient data may not be available to establish meaningful estimates. Therefore this component of the proposed part 1 is not a requirement of today's rule.

b. Part 2 Application. Part 2 of the proposed permit application is designed to supplement information found in part 1 and to provide municipalities with the opportunity of proposing a comprehensive program of structural and non-structural control measures that will control the discharge of pollutants, to the maximum extent practicable, from municipal storm sewers. The components of the proposed part 2 of the permit application included:

- A demonstration that the legal authority of the permit applicant satisfies regulatory criteria (§ 122.26(d)(2)(i));
- Supplementation of the source identification information submitted in part 1 of the application to assure the identification of all major outfalls and land use activities (§ 122.26(d)(2)(ii));
- Information to characterize discharges from the municipal system;
- A proposed management program to control the discharge of pollutants to the maximum extent practicable, from municipal storm sewers (§ 122.26(d)(2)(iv));
- Assessment of the performance of proposed controls (§ 122.26(d)(2)(v));

- A financial analysis estimating the cost of implementing the proposed management programs along with identifying sources of revenue § 122.26(d)(2)(vi);
- A description of the roles and responsibilities of co-applicants (§ 122.26(d)(2)(vii)).

One municipality agreed that the assessment of the performance of controls was a critical component of establishing a viable program and one that could be accomplished within the time frame of the permit application deadlines. One commenter suggested that the applicant describe what financial resources are currently available. In response, EPA will require applicants to describe the municipality's existing budget for storm water programs in part 1 of the permit application requirements. This information will be useful to evaluate the municipality's ability to prepare and implement management plans. In response to other comments, this information will also include an overview of the municipality's financial resources and a description of the municipality's budget, including overall indebtedness and assets.

EPA has retained the financial analysis in this portion of the rule on the advice of two municipal commenters, who agreed that this was an important component of establishing a viable program and one that could be accomplished within the time frame of the permit application deadlines. Another commenter noted that this requirement is appropriate to justify a municipality's proposed management plan.

***48046 3. Major Outfalls**

In past rulemakings, a controversial issue has been the appropriate sampling requirements for municipal separate storm sewer systems. Earlier storm water rulemakings have been based primarily on the principle that all discharges to waters of the United States from municipal separate storm sewers located in urban areas must be covered by an individual permit. This approach requires that individual permit applications contain quantitative data to be submitted for all such discharges. This approach was criticized because of a potentially unmanageable number of outfalls in some municipal separate storm sewer systems. Most incorporated cities with a population of 100,000 or more do not know the exact number of outfalls from their municipal systems; but based on the comments, the number ranges from 500 to 8,000 or more.

In light of the increased flexibility provided by the WQA and the development of EPA's system-wide approach for regulating municipal separate storm sewer discharges, today's rule will not require submittal of individual permit applications with quantitative data for each outfall of a municipal system. Rather today's rule will encourage system-wide permit applications to provide information suitable for developing effective storm water management programs. Under this approach, not all outfalls of the municipal system will be sampled, but rather more specific and accurate models for estimating pollutant loads and discharge concentrations will be used. The use of these models will require the identification of sources which are responsible for discharging pollutants into municipal separate storm sewers and will not require as much data to calibrate due to the source-specific nature of the model. A number of standard and localized models have been developed for estimating pollutant loads from storm water discharges.

Several commenters support the use of models for developing management plans and estimating pollutant loadings and concentrations. EPA encourages their use where applicable to particular systems.

By adopting an approach that incorporates source identification measures, the amount of quantitative data required to characterize discharges from the municipal system will be reduced because of the increased accuracy of the site-specific models which can be used. Consistent with a system-wide permit application approach, EPA proposed to focus source identification measures on "major outfalls." The proposed definition of major outfalls includes any municipal separate storm sewer outfall that discharges from a pipe with a diameter of more than 36 inches or its equivalent (discharges from a drainage area of more than 50 acres), or for municipal separate storm sewers that receive storm water from lands zoned for industrial activities, an outfall that discharges from a pipe with a diameter of more than 12 inches or its equivalent (discharges from a drainage area of 2 acres or more).

Numerous entities offered comments on this definition. Several commenters concurred with this proposed definition. One commenter maintained that the data collected at such outfalls would be sufficient to estimate pollutant loads as well as concentrations using well calibrated models. Another municipality stated that 50 acres was an excellent approximation for the average drainage area served by a 36-inch storm sewer. Two States and one county supported the definition as proposed. One large municipal entity supported the definition, stating that screening major outfalls could be accomplished with available staff over a three month period. In light of these comments, EPA has decided to retain, in part, the definition as proposed.

Numerous commenters suggested alternative definitions or otherwise disagreed with the proposed definition. Most of these comments expressed concern about the number of outfalls that would have to be tested or screened if the definition was retained. For this reason EPA has decided to limit the total number of major outfalls or equivalent sampling points that have to be tested to 250 or 500 for medium or large systems respectively. This change is discussed in further detail below.

The following are examples of comments that opposed the definition of a “major outfall” as proposed. Several commenters stated that, in the southwest, 6 to 12 foot outfalls are the norm, and that smaller outfalls should not be addressed unless there is a compelling reason to suspect illicit connections. One commenter suggested a size of 54 inches and 50 acres, while another commenter suggested that 48 inches would be appropriate. One commenter suggested that the diameter for industrial pipes should be 18 inches, while another commenter suggested that 50 acres should be the only criterion.

One commenter noted that pipe size will vary according to rainfall patterns and that a single approach would not work universally. This comment, and other similar points of view as noted herein, convinces that Agency that a more flexible approach is needed to identify field screening and sampling locations. However, EPA is also convinced that a universal standard is necessary for purposes of identifying drainage areas within the municipal system and discrete areas of land use that are drained by certain sized outfalls. This information is critical since these conveyances, and lands they drain, are sources of pollutants to waters of the United States from municipal systems and are properly the subject of appropriate permit conditions.

Many commenters suggested placing a limit on the number of major outfalls addressed during the field screening phase of the permit application. Two municipalities stated that the proposed definition of major outfalls in terms to the pipe diameter was too small and that too many outfalls would be covered. One municipality stated that under the proposed definition, it would have over 4700 “major outfalls,” a number viewed as being unacceptably large. Several municipalities argued that they would be penalized for over-design of their storm drain system. One municipality stated field screening of outfalls should be limited to 200 for medium cities and 500 for large cities. Some commenters suggested EPA set a percentage of major outfalls for screening, because all pipes in some municipalities meet the definition of major outfall. One commenter suggested that a sliding scale be used to determine the number of outfalls tested: those with 50 test all, those with 100-200 test 50%, etc. Other commenters suggested a flat percentage of outfalls or flat number such as 100.

4. Field Screening Program

EPA also received several comments in response to the proposed field screening methodology. Among the major concerns were: End of pipe sampling may not be practical and the more appropriate and accessible location is likely to be the nearest upstream manhole; the type of discharge should be the criterion for selecting sampling points as opposed to pipe size; a system wide evaluation is more appropriate than checking each outfall; within some systems, major outfalls or pipe size will not reflect discharges from suspect or old land use areas; efforts should be focused on locations where illicit connections are expected; sites should be determined by looking at sites within drainage basin areas based on land use within those basins; land use and hydrology of the watershed should be the criteria for selecting points; *48047 screening should be performed at locations that will allow for the location of upstream discharges; the focus should be

exclusively on drainage areas rather than pipe size, since pipe size will vary with slope; a prescribed percentage of total flow may be more appropriate; state water quality standards should be utilized along with focusing on actual quality in the reaches of a stream.

EPA is convinced by these comments that today's rule should allow applicants to either field screen all major outfalls as proposed (first procedure) or use a second procedure to provide for the strategic location of sampling points to pinpoint illicit connections. EPA agrees with comments that the size of the outfall will not always reflect the chance of uncovering illicit connections or discharges, and that field screening points should be easily accessible.

This second procedure is as follows: field screening points and/or outfalls are randomly located throughout the storm sewer system by placing a grid over a drainage system map and identifying those cells of the grid which contain a major outfall or segment of the storm sewer system. The grid shall be established using the following guidelines and criteria:

(1) A grid system consisting of perpendicular north-south and east-west lines spaced 1/4 mile apart shall be overlaid on a map of the municipal storm sewer system, creating a series of cells;

(2) All cells that contain a segment of the storm sewer system shall be identified; one field screening point shall be selected in each cell; major outfalls may be used as field screening points;

(3) Field screening points or major outfalls should be located downstream of any sources of suspected illegal or illicit activity;

(4) Field screening points shall be located to the degree practicable at the farthest manhole or other accessible location downstream in the system, within each cell; however, safety of personnel and accessibility of the location should be considered in making this determination;

(5) The assessment and selection of cells shall use the following criteria: Hydrological conditions; total drainage area of the site; population density of the site; traffic density; age of the structures or buildings in the area; history of the area; land use types;

(6) For medium municipal separate storm sewer systems, no more than 250 cells need have identified field screening points; in large municipal separate storm sewer systems, no more than 500 cells need to have identified field screening points for detecting illicit connections; cells established by the grid that contain no storm sewer segments will be eliminated from consideration; if fewer than 250 cells in medium municipal sewers are created, and fewer than 500 in large systems are created by the overlay on the municipal sewer map, then all those cells which contain a segment of the sewer system shall be subject to field screening (unless access to the separate storm sewer system is impossible);

(7) Large or medium municipal separate storm sewer systems which are unable to utilize the procedures described in paragraphs (1) through (6) above, because a sufficiently detailed map of the separate storm sewer systems is unavailable, shall field screen at least 250 or 500 major outfalls respectively using the following method: the applicant shall establish a grid system consisting of north-south and east-west lines spaced 1/4 mile apart overlaid on a map of the boundaries of a large or medium municipal entity described at § 122.26(b), thereby creating a series of cells; major outfalls in as many different cells as possible shall be selected until 500 major outfalls (large municipalities) or 250 major outfalls (medium municipalities) are selected; a field screening analysis shall be undertaken at these major outfalls.

The methodology outlined above is in response to public comments which indicated that the field screening and sampling of major outfalls as proposed would lead to insurmountable logistical problems in some municipal systems. EPA believes that the above is an effective approach to pinpointing suspected problem points along a given trunkline or segment of separate storm sewer system. Jurisdictions with no extensive or previous history of monitoring, or lack of an intensive

monitoring program can utilize the methods described in establishing a program. Furthermore, the approach will allow for the prioritization of outfalls, sampling points, or areas within the municipality where there are suspected illicit connections or discharges, or other circumstances creating higher concentrations and loadings of pollutants.

Paragraph (7) enables municipalities to select major outfalls without regard to the municipal sewer system map that is required for using the procedure described in paragraphs (1) through (6). However, the applicant must still select outfalls within the cells created by overlaying a 1/4 mile grid over a map of the boundaries of the large or medium municipal entity defined under § 122.26(b), and select major outfalls within as many of those cells as possible, up to 500 (large municipal systems) or 250 (medium municipal systems). In this manner, as many different areas and land uses within the municipal system will be covered by the field screening component of the municipal application.

In order to keep the costs of the program within the anticipated limits of the proposed regulation, the number of outfalls or sampling locations using the grid system is to be limited to 500 for large municipal separate storm sewer systems and 250 for medium municipal separate storm sewer systems.

In response to several comments, EPA has clarified the definition of major outfalls with regard to the words, “pipe with an inside diameter of 36 inches or more or its equivalent” and “a pipe with an inside diameter of 12 inches or more or its equivalent.” This definition has been modified to specify that single pipes or single conveyances with the appropriate diameter or equivalent are covered.

EPA's proposal required municipal permit applicants to submit a fiscal analysis of expenditures that will be required in order to implement the proposed management plans required in part 2 of the application. The description of fiscal resources should include a description of the source of the funds. Some commenters felt that a fiscal analysis should only be required during the term of the permit. In response, EPA believes that during the two years of permit application development, the permit applicant should be in a position to submit information on the ability and means for financing storm water management programs during the term of the permit. EPA views this information as an important means of evaluating the scope of program and whether the permittee will be devoting adequate resources to implementing the program before that program is mapped out in the permit itself.

5. Source Identification

The identification of sources which contribute pollutants to municipal separate storm sewers is a critical step in characterizing the nature and extent of pollutants in discharges and in developing appropriate control measures. Source identification can be useful for providing an analysis of pollutant source contribution and for identifying the relationship between pollutant sources and receiving water quality problems. In cases where end-of-pipe controls alone are not practicable, it is essential to identify the source of pollutants into the municipal storm ***48048** sewer systems to support a targeted approach to control pollutant sources.

The relative contribution of pollutants from various sources will be highly site-specific. The first step in developing a targeted approach for controlling pollutants in discharges from municipal storm sewer systems is identifying the various sources in each drainage basin that will contribute pollutants to the municipal storm sewer system.

This rulemaking phases in the source identification requirements of the permit program by establishing minimum objectives in part 1 of the application and by requiring applicants to submit a source identification plan in part 2 of the application to provide additional information during the term of the permit. The minimum source identification requirements of part 1 of the application have been designed to provide sufficient information to provide an initial characterization of pollutants in the discharges from the municipal storm sewer system. EPA realizes that with many large, complex municipal storm sewer systems, it may be difficult to identify all outfalls during the permit application process. Accordingly, EPA is requiring that known outfalls be reported in part 1 of the application. Part 1 of the application will also include: A description of procedures and a proposed program to identify additional major outfalls;

the identification of the drainage area associated with known outfalls; a description of major land use classifications in each drainage area, descriptions of soils, the location of industrial facilities, open dumps, landfills or RCRA hazardous waste facilities which discharge storm water to the municipal storm sewer system; and ten year projections of population growth and development activities (population data and development projections will be useful for future predictions of loadings to receiving waters from municipal storm sewer systems, and capacities required for treatment systems). In general, population projections should reflect various scenarios of development (high, medium, low relative to recent trends).

Part 2 of the application will supplement the information reported in part 1 of the application so that, at a minimum, all major outfalls are identified.

Under today's rule, municipal or public entities responsible for applying for and obtaining an NPDES permit will be required to identify the location of an open dump, sanitary landfill, municipal incinerator or hazardous waste treatment, storage, and disposal facility under RCRA which may discharge storm water to the system as well as all facilities which discharge storm water associated with industrial activity into a large or medium municipal separate storm sewer system.

Requiring these source identification measures is supported by the legislative history of section 405 of the WQA, which instructs that “[i]n writing any permit for a municipal separate storm sewer, EPA or the State should pay particular attention to the nature and uses of the drainage area and the location of any industrial facility, open dump, landfill, or hazardous waste treatment, storage, or disposal facility which may contribute pollutants to the discharge.” (emphasis added) [Vol 133 Cong. Rec. S752 (daily ed. Jan. 14, 1987)].

One municipality questioned the purpose of the topographic map and commented that the scale of the topographic map is too large to indicate any of the required outfall, drainage, industrial or structural control information. In response, the purpose of the topographic map is to identify receiving waters, major storm water sewer lines that contribute discharges to these waters, and potential sources of storm water pollution. EPA disagrees that a USGS 7.5 scale map is inappropriate for identifying these features within a municipal system. The scale afforded by such a map provides sufficient detail to allow specified delineation of outfalls, while not requiring an overly burdensome map in terms of size. Numerous commenters noted the value of source identification information and generally supported submitting this information in the permit application.

Many commenters questioned the value of the source identification information for the purpose of characterizing pollutant loads and concentrations. Conversely, one commenter opined that the requirement would provide sufficient information to estimate pollutant loadings from each outfall using loading models to estimate loadings by watershed. In response, the source identification information serves several purposes. It is the first step for identifying potential sources of pollutants from which more in depth analysis can be accomplished, under the discharge characterization component of the application. Also, where appropriate, it may be used in conjunction with models to estimate loadings and concentrations. EPA has also taken note of the many comments that question or dismiss the concept of determining pollutant loads and concentrations solely from source identification. Accordingly, EPA is convinced that at least some of the sampling requirements as proposed are necessary to facilitate more accurate system specific estimates of pollutant concentrations and loadings. These are discussed below, in the discharge characterization section.

One commenter suggested that aerial photos be submitted in lieu of topographic maps. EPA agrees that an aerial photograph of the appropriate scale that communicates the same information as a topographic map may be substituted. Today's final rule reflects this flexibility.

The source identification component of the municipal application also requires that municipal applicants identify the industrial activity within the drainage area associated with each major outfall. One commenter stated that where multiple storm sewers outfalls discharge to a stream reach, municipalities should be allowed to delineate a single sewer-shed for

identifying sources of industrial activity. In response, the rule does not delimit an applicant's ability to identify industries in groups according to a common series of storm sewer outfalls, if that is an easier or more appropriate methodology for that particular applicant. However, EPA would view this as appropriate only where the land use is of one type, such as industrial. Where land use is mixed within the drainage area associated with each major outfall, such differences need to be identified.

In response to comments, to the extent that EPA is requesting that applicants identify the types of industrial facilities operating within the municipality, the municipality is free to use Standard Industrial Classification (SIC) or other systems which identify the principal products or services of the facility. One commenter disagreed with EPA's decision to require a list of water bodies that are listed under CWA sections 304(1), 319(a), 314(a), and 320, because the States already have this information and that requesting it from permittees could result in "omissions, misunderstandings, and mistakes." EPA believes that these waters should be identified in the application so that appropriate permit conditions can be developed that address storm water discharges that are adversely affecting such waters. EPA believes that having this information immediately at the disposal of the municipality and the permit writer will speed the process and alert the municipality of storm water discharges to listed water bodies and potentially polluted storm water discharges to those waters.

***48049 6. Characterization of Discharges**

The characterization plan and data collection required in today's rule as elements of Part-one and Part-two of the municipal permit application is comprised of several major components:

- A screening analysis to provide information to develop a program for detecting and controlling illicit connections and illegal dumping to the municipal separate storm sewer system;
- Initial quantitative data to allow the development of a representative sampling program to be incorporated as a permit condition;
- System-wide estimates of annual pollutant loadings and the mean concentration of pollutants in storm water discharges, and a schedule to provide estimates during the term of the permit for each major outfall of the seasonal pollutant loadings and the event mean concentration of pollutants in storm water discharges; and
- An identification of receiving waters with known water quality impacts associated with storm water discharges.

Several commenters noted the importance of developing and targeting management programs based on discharge characterization data and monitoring. Numerous other commenters stressed the importance of a program to identify and eliminate illicit connections and improper disposal. EPA agrees that discharge characterization is an important component of developing management programs. Most of the discharge characterization components of the municipal application procedure have been retained as proposed. However some changes and clarifications have been made, and these are noted below.

a. Screening analysis for illicit discharges (part 1 of application). Illicit discharges (non-storm water discharges without a NPDES permit), and illegal dumping to municipal separate storm sewer systems occur in a relatively haphazard manner. Due to the unpredictability of such discharges, today's permit applications require a field analysis for the development of priorities for detecting and controlling such discharges. A field screening approach will provide a means of detecting high levels of pollutants in dry weather flows, which is one indicator of illicit connections. Results of a field test of such discharges will provide further information about the nature of the discharge to determine if further investigation is warranted. Visual observation of dry weather flows has been shown to be one the most effective means for tracking down illicit connections and improper disposal.

As discussed in greater detail in section VI.H.7.b of today's preamble, EPA is proposing to require that municipal applicants submit a comprehensive plan to develop a program to detect and control illicit connections and illegal dumping. In order to develop appropriate priorities for these programs, applicants shall submit the results of a screening analysis to be performed on major outfalls or "field screening points" in the systems to detect the presence of illicit hookups and illegal dumping. The results of the screening analysis, referred to as the field screen, would be reported in part 1 of the permit application.

Under the requirements for a field screen, the applicant or co-applicants will submit a description of observations of dry weather discharges from major outfalls or "field screening points" identified in part 1 of the application. At a minimum, the field screen would include a description of visual observations made during a dry weather period. If any flow is observed during a dry weather period, two grab samples will be collected during a 24 hour period with a minimum period of four hours between samples. For all such samples, a description of the color, odor, turbidity, the presence of an oil sheen or surface scum as well as any other relevant observation regarding the potential presence of non-storm water discharges or illegal dumping would be provided. In addition, the applicant should provide the results of a field screen which includes on-site estimates of pH, total chlorine, total copper, total phenol, detergents (or surfacants) along with a description of the flow. EPA is not requiring analytical methods approved under 40 CFR part 136 be used exclusively in the field screen. Rather, the use of inexpensive field sampling techniques such as the use of colorimetric detection methods is anticipated. Where the field screen does not involve analytical methods approved under 40 CFR part 136, the applicant is required to provide a description of the method used which includes the name of the manufacturer of the test method, including the range and accuracy of the test. Appropriate field techniques for a field screen of dry weather discharges are discussed in EPA guidance for municipal storm water discharge permit applications.

It should be clarified that data from the field screen is generally not appropriate for comprehensive evaluation of water quality impacts, or estimating pollutant loadings. Rather, the information from the field screen in part 1 of the application will be used along with other information, such as the age of development and degree of industrial activity in the drainage basin, to identify areas or outfalls which are appropriate targets for management programs and for investigations directed at identifying and controlling non-storm water discharges to separate storm sewers during the term of the permit.

In the December 7, 1988, proposal, EPA proposed a second phase of the screening analysis requiring that wet-weather and dry-weather samples be collected and analyzed in accordance with analytical methods approved under 40 CFR part 136 from designated major outfalls for a larger set of pollutants identified with illicit connections. Comments essentially viewed this proposal as too ambitious for the permit application. One commenter recommended that this procedure could best be accomplished during the term of the permit. Some comments maintained that the collection of analytical samples as a follow up to an initial field screen analysis was not the most cost-effective, practicable or efficient method for pinpointing illicit connections. EPA recognizes that several municipal programs to detect and control illicit connections and other non-storm water discharges have been successfully developed and implemented without the use of extensive analytical sampling (for example, programs in Fort Worth, TX and Washtenaw County, MI). After identifying and analyzing the comments on this aspect of the proposal EPA has withdrawn this element of the proposal from today's rule. EPA believes that a follow-up phase to the initial field screening is more appropriate during the term of the permit. Thus, EPA has dropped the field screening requirement proposed for Part 2 of the application.

b. Representative data (Part 2 of application). The NURP study showed that pollutant concentrations in urban runoff can exhibit significant variation. Pollutant concentrations in such discharges vary during storm events and from storm event to storm event. Given the complex, variable nature of storm water discharges from municipal systems, EPA favors a permit scheme where the collection of representative data is primarily a task that will be accomplished through monitoring programs during the term of the permit. Permit writers have the necessary flexibility to develop monitoring requirements that more accurately reflect the true nature of highly variable and complex discharges.

***48050** Today's rule provides for an initial assessment of the quality of discharges from municipal separate storm sewers based primarily on source identification measures and existing information received in the permit application. This information will be used to begin to characterize system discharges. The analysis developed under this approach will not rely solely on sampling data collected during the application process, but will also incorporate existing data bases such as the one developed under the NURP study. Today's rule requires that some quantitative data will be collected to ensure the system discharges can be appropriately represented by the various existing data bases and to provide a basis for developing a monitoring plan to be implemented as a permit condition.

Today's rule requires that quantitative data be submitted for discharges from selected storm events at between 5 and 10 outfalls or field screening points. The municipality will recommend and the Director will then designate the outfalls or field screening points as representative of the commercial, residential and industrial land use activities of the drainage area contributing to the system, on the basis of information received in part 1 of the application. The applicant will be required to collect samples of a storm discharge from three storm events occurring one month apart for each designated outfall or field screening point. This is a modification to the December 7, 1988, proposal wherein only one of the 5 to 10 outfalls was to be sampled during three storm events, and the remaining sampled only once. This requirement may be modified by the Director if the type and frequency of storm events require different sampling. The Director may require samples of discharges to be collected during snow melts or during specified seasons. The Director may also require additional testing during a single event if it is unlikely that there will be three storm events suitable for sampling during the year. Furthermore, the Director may allow exemptions to the three storm event requirement when climatic conditions create good cause for such exemptions; for example, arid regions or areas experiencing drought conditions during the period when applications are developed could be exempted.

EPA has added requirements to sample more storm events in response to comments that the sampling procedure proposed would not necessarily yield representative data. Commenters indicated that: rain events of different intensity may yield different levels and types of pollutants; a rain event after a dry spell of several months will not be representative when compared to rain events occurring closer together, due to the build up of constituents; one sample may reflect short term effects such as improper disposal rather than long term effects; and that rain events are generally too variable to rely on the limited sampling as proposed. Clearly the data collected from sampling storm water discharges has a tendency to vary greatly. The more sampling that is accomplished, the greater extent to which this variability may be accounted for and appropriate management programs developed.

In selecting the amount of data to be collected during the permit application process, EPA has attempted to balance the usefulness of this data against the economic and logistical constraints in actually obtaining it. In some cases the data obtained will support initial loading and concentration estimates obtained using various modeling techniques, from which appropriate permit conditions can be developed. Data obtained may be supplemented with further data collection during the term of the permit.

EPA believes that the requirement that selected major municipal outfalls or "field screening points" be sampled for more than one event will provide verification that the characterization of discharge is valid. Where an ongoing sampling program is defined for the term of the permit, samples taken during the first few years of this period can be used to verify the application results. If a municipality or an industry questions the conclusions drawn from the characterization sampling, it may at its discretion choose to perform additional sampling to either confirm or dispel these concerns.

All samples collected will be analyzed for all pollutants listed in Table II, (organic pollutants), and Table III, (toxic metals, cyanide and total phenol) of appendix D of 40 CFR part 122, and for the pollutants listed in Table M-1 below:

Table M-1

Total suspended solids (TSS)

Total dissolved solids.

COD	BOD ⁵ .
Oil and grease	Fecal coliform.
Fecal streptococcus	pH.
Dissolved phosphorus	
Total ammonia plus organic nitrogen	Total phosphorus.
Total Kjeldahl nitrogen	Nitrate plus nitrite.

A portion of the NURP program involved monitoring 120 priority pollutants in storm water discharges from lands used for residential, commercial and light industrial activities. The NURP program excluded testing for asbestos and dioxin. Results for seven other organic priority pollutants were not considered valid due to changes in, or constraints on test methods. Seventy-seven priority pollutants were detected in samples of storm water discharges from lands used for residential, commercial and light industries taken during the NURP study, including 14 inorganic and 63 organic pollutants. Table M-2 shows the priority pollutants which were detected in at least ten percent of the discharge samples which were sampled for priority pollutants.

Table M-2.—Priority Pollutants Detected in at Least 10% of NURP Samples

[In percent]

Metals and inorganics	Frequency of detection
Antimony	13
Arsenic	52
Beryllium	12
Cadmium	48
Chromium	58
Copper	91
Cyanides	23
Lead	94
Nickel	43
Selenium	11
Zinc	94
Pesticides:	
Alpha-hexachlorocyclohexane	20
Alpha-endosulfan	19

Chlordane	17
Lindane	15
Halogenated aliphatics:	
Methane, dichloro-	11
Phenols and cresols:	
Phenol	14
Phenol, pentachloro-	19
Phenol, 4-nitro	10
Phthalate esters:	
Phthalate, bis(2-ethylhexyl)	22
Polycyclic aromatic hydrocarbons:	
Chrysene	10
Fluoranthene	16
Phenanthrene	12
Pyrene	15

The NURP data also showed a significant number of these samples exceeded various freshwater water quality criteria. The exceedence of water quality criteria does not necessarily imply that an actual violation of standards will exist in the receiving water body in question. Rather, the enumeration of exceedences serves as a screening function to identify those constituents whose presence in urban storm water runoff may warrant high priority for further evaluation.

Members of this group represent all of the major organic chemical fractions *48051 found in Table II of appendix D of 40 CFR part 122 (volatiles, acid compounds, base/neutrals, pesticides). Today's rule requires testing for all organic constituents in Table II rather than limiting the sampling requirements to the 24 toxic constituents found in the NURP study because they will provide a better description of the discharge at essentially the same cost. (The cost of analyzing samples for organic chemicals strongly depends on the number of major organic chemical fractions tested). The NURP study focused on characterizing storm water discharges from lands used for residential, commercial and light industrial activities. In general, the NURP study did not focus on other sources of pollutants to municipal separate storm sewer systems and, therefore, does not reflect all potential pollutants that may be present in discharges from municipal separate storm sewer systems.

The sampling requirements for the permit application address a limited number of sampling locations but require analysis for a wide range of pollutants. Sampling for a wide range of pollutants as a permit application requirement should provide permit writers with appropriate data to target more specific pollutants when developing requirements for a monitoring program during the term of the permit.

Numerous commenters stated that monitoring for all priority pollutants seemed excessive. However, EPA is convinced that it is more appropriate for permit conditions to focus on and prioritize particular pollutant problems after data covering a broad spectrum of pollutants are developed. As noted above, NURP identified 77 priority pollutants in urban runoff, but only from residential, commercial, and light industrial (e.g. industrial parks) areas. One municipal

entity stated that this approach is a reasonable and realistic means of providing some useful baseline data, while others recommended sampling a variety of parameters that are included in Tables M-1 and M-2. Another municipal entity stated that characterization of outfall discharge quality during storm events is necessary as a means of targeting source control activities.

EPA is working with the United States Geological Survey (USGS) to evaluate the availability of USGS technical assistance to municipalities through cooperative funding programs to aid in collecting representative quantitative data of storm water discharges from municipal systems.

USGS data collection programs with municipalities typically include storm water discharge samples obtained at various times during a storm hydrograph event. Various USGS field procedures can be used to obtain discharge data for pipes, culverts, etc., typically found in urban areas. Pollutant models can be calibrated with data and long-term rainfall records to simulate the quality of system discharges and compared to other storm water models.

In addition, EPA recognizes that many municipalities have participated in studies, such as NURP, that involve sampling of urban runoff as well as other components of discharges from municipal separate storm sewer systems. All existing storm water sampling data along with relevant water quality data, sediment data, fish tissue data or biosurvey data taken over the last ten years is considered relevant and, under today's rule, must be submitted with part 1 of the application. Sampling data that is submitted must be accompanied with a narrative description of the drainage area served by the outfall monitored, a description of the sampling and quality control program, and the location of receiving water monitoring.

EPA requested comments on the use of existing data, such as that generated under the NURP study, to satisfy the requirement of providing representative sampling data. Commenters did not agree on the value of NURP results as an indicator of representative data. Several commenters expressed the view that existing data could be used to satisfy in whole or in part the representative sampling requirements of the storm water permit application. However, commenters generally did not offer suggested criteria that could be used to verify the validity of existing data. One commenter believed that intensive sampling over a period of ten years in 12 basins, when combined with NURP data, would be adequate.

One commenter supported the use of data, such as that obtained from the NURP study, to target sampling programs. EPA supports such a methodology and has retained this portion of the proposed discharge characterization component. EPA received strong support from an environmental group for retaining this information requirement in part 1 of the application.

In light of these comments EPA believes it is appropriate to retain the representative sampling requirements without resorting to the use of existing data exclusively. Because of the inherent variability in reliability and applicability of existing data, EPA is convinced that a nationally consistent methodology for collecting data is appropriate. This data can then be used in conjunction with other existing data and models to develop appropriate site specific management programs and more generalized management program strategies. Where existing data and data collected under today's rule varies or does not match, further sampling under the term of the permit will be accomplished to more accurately assess the discharge of pollutants.

c. Loading and Concentration Estimates (part 2 of application). The assessment of the water quality impacts of discharges from municipal separate storm sewer systems on receiving waters requires the analysis of both pollutant loadings and concentrations of pollutants in discharges.

The loading and concentration estimates in today's rule will be used to evaluate two types of water quality impacts: (1) Short-term impacts; and (2) long-term impacts. Specifically, the regulation requires estimates of the annual pollutant load of the cumulative discharges to waters of the United States from municipal outfalls and the event mean concentration of

the cumulative discharges to waters of the United States municipal outfalls during a storm event for BOD₅, COD, TSS, dissolved solids, total nitrogen, total ammonia plus organic nitrogen, total phosphorus, dissolved phosphorus, cadmium, copper, lead, and zinc. Estimates shall be accompanied by a description of the procedures for estimating constituent loads and concentrations, including any modelling, data analysis, and calculation methods. Municipalities have options in the use of methodologies, including those presented in NURP for calculating loads.

Short term impacts from discharges from municipal separate storm sewers involve changes in water quality that occur during and shortly after storm events. Examples of short-term impacts that can lead to impairments include periodic dissolved oxygen depression due to the oxidation of contaminants, high bacteria levels, fish kills, acute effects of toxic pollutants, contact recreation impairments and loss of submerged macrophytes. Characterization of instream pollutant concentrations based on estimated pollutant concentrations in system discharges are important for evaluating these types of impacts.

Long-term water quality impacts from discharges from municipal separate storm sewers may be caused by contaminants associated with suspended solids that settle in receiving water sediments and by nutrients which enter receiving water systems with long *48052 retention times. Pollutant loading data are important for evaluation of impairments such as loss of storage capacity in streams, estuaries, reservoirs, lakes and bays, lake eutrophication caused by high nutrient loadings, and destruction of benthic habitat. Other examples of the long-term water quality impacts include depressed dissolved oxygen caused by the oxidation of organics in bottom sediments and biological accumulation of toxics as a result of uptake by organisms in the food chain. An estimate of annual pollutant loading associated with discharges from municipal storm water sewer systems is necessary to evaluate the magnitude and severity of the environmental impacts of such discharges and to evaluate the effectiveness of controls which are imposed at a later time.

Municipal storm water sewer systems generally handle runoff from large drainage areas and the sources of pollution are usually very diffuse. The concentrations of many pollutants in discharges from these systems are often low relative to many industrial process and POTW discharges. The water quality impacts of low concentration pollution discharges tend to be cumulative and need to be evaluated in terms of aggregate loadings as well as pollutant concentrations. A site-specific loading analysis can be used to evaluate the relative contribution of various pollutant sources.

7. Storm Water Quality Management Plans

Today's rule facilitates the development of site-specific permit conditions by requiring large and medium municipal permit applicants to submit, along with other information, a description of existing structural and non-structural prevention and control measures on discharges of pollutants from municipal storm sewers in part I of the permit application. [Section 122.26\(d\)\(2\)\(iv\)](#) requires the applicant to identify in part 2 of the application, to the degree necessary to meet the MEP standard, additional prevention or control measures which will be implemented during the life of the permit. Although, in many cases, it will not be possible to identify all prevention and control measures that are appropriate as permit conditions, EPA believes that the process of identifying components of a comprehensive prevention and/or control program should begin early and that applicants should be given the opportunity to identify and propose the components of the program that they believe are appropriate for first preventing or controlling discharges of pollutants.

As noted earlier, EPA recognizes that problems associated with storm water, combined sewer overflows (CSOs) and infiltration and inflow (I&I) are all inter-related even though they are treated somewhat differently under the law. EPA believes that it is important to begin linking these programs and activities and, because of the potential cost to local governments, to investigate the use of innovative, nontraditional approaches to reducing or preventing contamination of storm water. The application process for developing municipal storm water management plans provides an ideal opportunity between steps 1 and 2 for considering the full range of nontraditional, preventive approaches.

The permit application requirements in today's rule require the applicant or co-applicants to develop management programs for four types of pollutant sources which discharge to large and medium municipal storm sewer systems. Discharges from large and medium municipal storm sewer systems are usually expected to be composed primarily of: (1) Runoff from commercial and residential areas; (2) storm water runoff from industrial areas; (3) runoff from construction sites; and (4) non-storm water discharges. Part 2 of the permit application has been designed to allow the applicant the opportunity to propose MEP control measures for each of these components of the discharge. Discharges from some municipal systems may also contain pollutants from other sources, such as runoff from land disposal activities (leaking septic tanks, landfills and land application of sewage sludge). Where other sources, such as land disposal, contribute significant amounts of pollutants to a municipal storm sewer system, appropriate control measures should be included on a site-specific basis. Proposed management programs will then be evaluated in the development of permit conditions.

There is some overlap in the manner in which these pollutant sources are characterized and their sources identified. For instance, improper disposal of oil into storm drains is often associated with do-it-yourself automobile oil changes in residential areas, or improper application or over-use of herbicides and pesticides in residential areas can also occur in industrial areas. Also, some control measures will reduce pollutant loads for multiple components of the municipal storm sewer discharge. These measures should be identified under all appropriate places in the application; as discussed below, however, double counting of pollutant removal must be avoided when the total assessment of control measures is performed.

Although many land use programs have multiple purposes, including the reduction of pollutants in discharges from municipal separate storm sewer systems, the proposed management programs in today's rule are intended to address only those controls which can be implemented by the permit applicant or co-applicants. EPA cannot abrogate its responsibilities under the CWA to implement the NPDES permit program by relying on pollution control programs that are outside the NPDES program. For example, municipal permit management programs may not rely exclusively on erosion or sediment control laws for implementing that portion of management programs that address discharges from construction sites, unless such laws implement NPDES permit program requirements entirely and that such implementation is a part of the permit.

EPA anticipates that storm water management programs will evolve and mature over time. The permits for discharges from municipal separate storm sewer systems will be written to reflect changing conditions that result from program development and implementation and corresponding improvements in water quality. The proposed permit applications will require applicants to provide a description of the range of control measures considered for implementation during the term of the permit. Flexibility in developing permit conditions will be encouraged by providing applicants an opportunity to identify in the permit application priority controls appropriate for the initial implementation of management programs. Many commenters endorsed the flexible site-specific storm water program approach as proposed as a method for addressing regional water quality control programs in a cost effective manner. To this extent, EPA agrees with one municipality that management programs should focus on more serious problems and sources of pollutants identified in the municipal system. However, EPA believes that to implement section 402(p)(3), comprehensive storm water management programs which address a number of major sources of pollutants to a system are necessary. Municipal programs should not be focused solely on a single source of pollution, such as illicit connections.

One commenter maintained that management program development ***48053** should be flexible enough to allow for consideration of what is attainable based on the area's climate, vegetation, hydrology, and land uses. EPA agrees with this comment. Some strategies for reducing pollutants in the northeast will not be practical in the southwest, such as management programs for deicing activities. The permit application process will determine what strategies are appropriate in different locations.

Several commenters supported addressing storm water pollutant problems through management practices or programs rather than end of pipe controls or treatment. EPA agrees with this comment to the extent that storm water management

practices are a general theme of this rulemaking with regard to municipal permits. However, there will be cases where such discharges are best addressed through technology such as retention, detention or infiltration ponds.

One commenter reacted unfavorably to the flexible site-specific management plan approach stating that there is no hard criteria upon which to judge the adequacy of programs. Another commenter felt that there should be a BAT standard for municipal permits. Another commenter stated that the rule should contain specific BMPs that the permittee must comply with. EPA disagrees with these comments. The Clean Water Act requires municipalities to apply for permits that will reduce pollutants in discharges to the maximum extent practicable and sets out the types of controls that are contemplated to deal with storm water discharges from municipalities. The language of CWA section 402(p)(3) contemplates that, because of the fundamentally different characteristics of many municipalities, municipalities will have permits tailored to meet particular geographical, hydrological, and climatic conditions. Management practices and programs may be incorporated into the terms of the permit where appropriate. Permit conditions, which require that storm water management programs be developed and implemented or require specific practices, are enforceable in accordance with the terms of the permit. EPA disagrees with the notion that this regulation, which addressed permit application requirements, should create mandatory permit requirements which may have no legitimate application to a particular municipality. The whole point of the permit scheme for these discharges is to avoid inflexibility in the types and levels of control. Further, to the degree that such mandatory requirements may be appropriate, these requirements should be established under the authority of section 402(p)(6) of the CWA and not in this rulemaking, which addresses permit application requirements.

Some commenters suggested that management programs should be developed as part of the permit conditions and not as part of the permit application. EPA agrees that management programs and their ongoing development should be part of the permit term. However, EPA is convinced, and many commenters agree, that the permit application should contain information on what the permittee has done to date and what it proposes and plans to do during the permit term based upon its discharge characterization and source identification data. This is a reasonable and logical approach and one that meets the intent and letter of section 402(p)(3) of the CWA. As stated above, this would be an appropriate method for implementing storm water management programs that should mature and evolve over time.

Applicants will propose priorities based on a consideration of appropriate controls including, but not limited to, consideration of controls that address: reducing pollutants to municipal separate storm sewer system discharges that are associated with storm water from commercial and residential areas (§ 122.26(d)(2)(iv)(A)); illicit discharges and illegal disposal (§ 122.26(d)(2)(iv)(B)); storm water from industrial areas (§ 122.26(d)(2)(iv)(C)); and runoff from construction sites (§ 122.26(d)(2)(iv)(D)). Permits for different municipalities will place different emphasis on controlling various components of discharges from municipal storm sewers. For example, the potential for cross-connections (such as municipal sewage or industrial process wastewater discharges to a municipal separate storm sewer) is generally expected to be greater in municipalities with older developed areas. On the other hand, municipalities with larger areas of new development will have a greater opportunity to focus controls to reduce pollutants in storm water generated by the area after it is developed, discharges from construction sites, and other planning activities.

EPA requested comments on the process and methods for developing appropriate priorities in management programs proposed in applications and how the development of these priorities can be coordinated with controls on other discharges to ensure the achievement of water quality standards and the goals of the CWA.

Discharges from diffuse sources in residential areas was recognized by several commenters as a significant source of pollutants. Accordingly, these elements of the management plans have been retained. In conjunction with the importance of developing programs for illicit connections, numerous commenters stated that education programs are a priority. Another commenter emphasized that ordinances prohibiting such discharges and their enforcement is a crucial means of a successful program in this regard. EPA agrees with these comments and consequently will retain those portions

of management program development that include a description of a program for educational activities such as public information for the proper disposal of oil and toxic materials and the use of herbicides, pesticides and fertilizers.

Some commenters noted that discharge characterization is necessary for development of appropriate management plans. EPA agrees with these comments and has retained the discharge characterization components in this rulemaking. However, EPA disagrees that the results of all discharge characterization procedures (i.e., part 1 and part 2) are necessary to describe and propose a program as required in part 2 of the application. The application of various models is available to permit applicants, where needed, to develop appropriate management programs. All available site specific discharge characterization data should be available to the permit writer to draft appropriate conditions for the term of the permit.

One commenter noted that an important aspect of developing management plans is establishing the necessary legal authority to improve water quality. EPA agrees with this comment and has retained those aspects of the regulation which call for development and attainment of adequate legal authority in both parts of the municipal application.

One commenter stated that programs should address previously identified water quality problems in other programs that are required by section 304(1) of the CWA. EPA agrees that identified water quality problems need to be addressed by management programs, and the municipal permit application will call for an identification of these waters. However, EPA does not endorse addressing these waters to the exclusion of all others within the boundaries of the municipal separate storm sewer system. Some waters may experience substantial degradation after rain events and still not be listed under ***48054 section 304(1)**. Further, water quality impacts in listed waters may not be related to storm water discharges, while other non-listed waters do have water quality impacts from storm water discharges. Similarly, EPA agrees with one commenter that it may be desirable to focus attention and resources on certain problem watersheds within a municipality, and controls may be imposed and programs prioritized on that basis. However, such a focus should not be to the exclusion of other waters and watersheds that have water quality problems (although less troublesome) traceable to storm water discharges. The CWA requires that permits address discharges to waters of the United States, not just waters previously targeted under special programs.

Some commenters expressed concern that the permit application requires the design of management programs before knowing what will be in the permits. EPA disagrees with the thrust of this comment, that is that the order of requirements is inappropriate. The permit applicant will have two years to develop proposed plans which can be considered by permit writers in the development of the permit. Based upon a consideration of the management program proposed by the municipality and other relevant information, permits can be tailored for individual programs. One commenter stated that the cornerstone of management programs are inspection and enforcement programs. EPA agrees that these two elements are important components. Without inspection and enforcement mechanisms the programs will undoubtedly falter. Accordingly these requirements in the description of management programs in the permit application have been retained. In a similar vein, one commenter emphasized the importance of developing legal authority, financial capability, and administrative infrastructure. EPA agrees with this comment and has retained those aspects of the regulation that call for a description of applicants plans and resources in these areas.

One commenter stressed that control of discharges into the municipal system from industries is an important goal of municipal storm water management programs. EPA agrees with this comment and has retained the proposed description of management programs to address discharges from industrial sources. Other commenters identified industries as the principal contributors of pollutants to municipal separate storm sewer systems.

In addition, EPA will continue to evaluate procedures and methods to control storm water discharges to the extent necessary to mitigate impacts on water quality in the studies required under section 402(p)(5) of the CWA. One purpose of these studies will be to evaluate the costs and water quality benefits associated with implementing these procedures and methods. This evaluation will address a number of factors which impact the implementation costs associated with these programs, such as the extent to which similar municipal ordinances are currently being implemented, the degree to which

existing municipal programs (such as flood management programs or construction site inspections) can be expanded to address water quality concerns, the resource intensiveness of the control, and whether the control program will involve public or private expenditures. This information, along with information gained during permit implementation will aid in the dynamic long-term development of municipal storm water management programs.

a. Measures to reduce pollutants in runoff from commercial and residential areas. The NURP program evaluated runoff from lands primarily dedicated to residential and commercial activities. The areas evaluated in the study reflect some other activities, such as light industry, which are commonly dispersed among residential and commercial areas. The NURP study selected sampling locations that were thought to be relatively free of illicit discharges and storm water from heavy industrial sites including storm water runoff from heavy construction sites. Of course, in a study such as NURP it was impossible to totally isolate various contributions to the runoff. In developing the permit application requirements in today's rule EPA has, in general, relied on the NURP definition of urban runoff—runoff from lands used for residential, commercial and light industrial activities.

NURP and numerous other studies have shown that runoff from residential and commercial areas washes a number of pollutants into receiving waters. Of equal importance is the volume of storm water runoff leaving urban areas during storm events. Large intermittent volumes of runoff can destroy aquatic habitat. As the percentage of paved surfaces increases, the volume and rate of runoff and the corresponding pollutant loads also increase. Thus, the amount of storm water runoff from commercial and residential areas and the pollutant loadings associated with storm water runoff increases as development progresses; and they remain at an elevated level for the lifetime of the development.

Proposed § 122.26(d)(2)(iv)(A) requires municipal storm sewer system applicants to provide in part 2 of the application a description of a proposed management program that will describe priorities for implementing management programs based on a consideration of appropriate controls including:

- A description of maintenance activities and a maintenance schedule for structural controls;
- A description of planning procedures including a comprehensive master plan to control after construction is completed, the discharge of pollutants from municipal separate storm sewers which receive discharges from new development and significant redevelopment after construction is completed (in response to comment this contemplates an engineering policy and procedure strategy with long term planning);
- A description of practices for operating and maintaining public highways and procedures for reducing the impact on receiving waters of such discharges from municipal storm sewer system;
- A description of procedures to assure that flood management projects assess the impacts on the water quality of receiving water bodies; and
- A description of a program to reduce to the maximum extent practicable, pollutants in discharges from municipal separate storm sewers associated with the application of pesticides, herbicides and fertilizer which will include, as appropriate, controls such as educational activities and other measures for commercial applicators and distributors, and controls for application in public right-of-ways and at municipal facilities.

Water quality problems caused by municipal storm sewer discharges will generally be most acute in heavily developed areas. Prevention measures may be desirable and cost effective. However, structural control measures may also be effective, although opportunities for implementing these measures may be limited in previously developed areas. Commonly used structural technologies include a wide variety of treatment techniques, including first flush diversion systems, detention/infiltration basins, retention basins, extended detention basins, infiltration trenches, porous

pavement, oil/grit separators, grass swales, and swirl concentrators. A major problem associated with sound storm water management is the need for operating ***48055** and maintaining the system for its expected life.

The unavailability of land in highly developed areas often makes the use of structural controls infeasible for modifying many existing systems. Non-structural practices can play a more important role. Non-structural practices can include erosion control, streambank management techniques, street cleaning operations, vegetation/lawn maintenance controls, debris removal, road salt application management and public awareness programs.

As noted above, the first component of the proposed program to reduce pollutants in storm water from commercial and residential areas which discharge to municipal storm sewer systems is to describe maintenance activities and schedule. The second component of the proposed program to reduce pollutants in storm water from commercial and residential areas which discharge to municipal storm sewer systems provides that applicants describe the planning procedures and a comprehensive master plan that will assure that increases of pollutant loading associated with newly developed areas are, to the maximum extent practicable, limited. These measures should address storm water from commercial and residential areas which discharge to the municipal storm sewer that occur after the construction phase of development is completed. Controls for construction activities are addressed later in today's rule. One commenter noted the feasibility of developing management plans for newly developing areas. EPA agrees with this comment and has retained that portion of the regulation that deals with a description of controls for areas of new development. Similarly, one municipality stressed the importance and achievability of addressing storm water discharges from construction sites.

As urban development occurs, the volume of storm water and its rate of discharge increases. These increases are caused when pavement and structures cover soils and destroy vegetation which otherwise would slow and absorb runoff. Development also accelerates erosion through alteration of the land surface. Areas that are in the process of development offer the greatest potential for utilizing the full range of structural and non-structural best management practices. If these measures are to provide controls to reduce pollutant discharges after the area has been developed, comprehensive planning must be used to incorporate these measures as the area is in the process of developing. These measures offer an important opportunity to limit increases in pollutant loads.

The third component of [§ 122.26\(d\)\(2\)\(iv\)\(A\)](#) provides a description of practices for operating and maintaining public roads and highways and procedures for reducing the impact on receiving waters of discharges from municipal storm sewer systems. General guidelines recommended for managing highway storm water runoff include litter control, pesticide/herbicide use management, reducing direct discharges, reducing runoff velocity, grassed channels, curb elimination, catchbasin maintenance, appropriate streetcleaning, establishing and maintaining vegetation, development of management controls for salt storage facilities, education and calibration practices for deicing application, infiltration practices, and detention/retention practices.

The fourth component of [§ 122.26\(d\)\(2\)\(iv\)\(A\)](#) provides that applicants identify procedures that enable flood management agencies to consider the impact of flood management projects on the water quality of receiving streams. A well-developed storm water management program can reduce the amount of pollutants in storm water discharges as well as benefit flood control objectives. As discussed above, increased development can increase both the quantity of runoff from commercial and residential areas and the pollutant load associated with such discharges. Disturbing the land cover, altering natural drainage patterns, and increasing impervious area all increase the quantity and rate of runoff, thereby increasing both erosion and flooding potential. An integrated planning approach helps planners make the best decisions to benefit both flood control and water quality objectives.

The fifth component of [§ 122.26\(d\)\(2\)\(iv\)\(A\)](#) would provide that municipal applicants submit a description of a program to reduce, to the maximum extent practicable, pollutants in discharges from municipal separate storm sewers associated with the application of pesticides, herbicides and fertilizer. Such a program may include controls such as educational activities and other measures for commercial applicators and distributors and controls for application in public rights-

of-way and at municipal facilities. Discharges of these materials to municipal storm sewer systems can be controlled by proper application of these materials. Some commenters noted that insecticides used in residential areas are a probable source of pollutants in storm water discharges from residential areas, as well as salting and other de-icing activities. In response to this comment, part of a community management plan may include controls or education programs to limit the impacts of these sources of pollutants. One commenter noted that many communities already have household toxic disposal programs. Where appropriate these can be incorporated into municipal management programs.

Some commenters suggested substituting the management program description for residential and commercial areas with a simple identification of applicable management practices. EPA agrees that identification of appropriate management practices is a critical component of a program description for these areas. In essence, this is what the program description is designed to achieve. However, for the reasons discussed in greater detail above, EPA is convinced that an appropriate program must address all of the components of the management program for residential and commercial areas that are outlined in today's rule. Further, for the purposes of writing a permit with enforceable conditions, the application should identify a schedule to implement management practices. The applicant should be able to estimate the reduction in pollutant loads as a result of the development of certain management practices and programs (§ 122.26(d)(2)(v)). A program may also include public education programs, which are not necessarily viewed as traditional BMPs.

b. Measures for illicit discharges and improper disposal. The CWA requires that NPDES permits for discharges from municipal storm sewers “shall include a requirement to effectively prohibit non-stormwater discharges into the storm sewers.” In today's rule, EPA will begin to implement this statutory mandate by focusing on two types of discharges to large and medium municipal separate storm sewer systems. See § 122.26(d)(1)(iv)(D) and (d)(2)(iv)(B). One type of non-storm water discharges are illicit discharges which are plumbed into the system or that result from leakage of sanitary sewage system. The other class of non-storm water discharges result from the improper disposal of materials such as used oil and other toxic materials.

Illicit discharges. In some municipalities, illicit connections of sanitary, commercial and industrial discharges to storm sewer systems have had a significant impact on the water quality of receiving waters. Although the *48056 NURP study did not emphasize identifying illicit connections to storm sewers other than to assure that monitoring sites used in the study were free from sanitary sewage contamination, the study concluded that illicit connections can result in high bacterial counts and dangers to public health. The study also noted that removing such discharges presented opportunities for dramatic improvements in the quality of urban storm water discharges.

Other studies have shown that illicit connections to storm sewers can create severe, wide-spread contamination problems. For example, the Huron River Pollution Abatement Program inspected 660 businesses, homes and other buildings located in Washtenaw County, Michigan and identified 14% of the buildings as having improper storm drain connections. Illicit discharges were detected at a higher rate of 60% for automobile related businesses, including service stations, automobile dealerships, car washes, body shops and light industrial facilities. While some of the problems discovered in this study were the result of improper plumbing or illegal connections, a majority were approved connections at the time they were built. Many commenters emphasized the identification and elimination of illicit connections as a priority, including leakage from sanitary sewers. EPA agrees with these comments and intends to retain this portion of the program without modification.

A wide variety of technologies exist for detecting illicit discharges. The effectiveness of these measures largely depends upon the site-specific design of the system. Under today's rule, permit applicants would develop a description of a proposed management program, including priorities for implementing the program and a schedule to implement a program to identify illicit discharges to the municipal storm sewer system. This rulemaking will require the initial priorities for analyzing various portions of the system and the appropriate detection techniques to be used.

Improper disposal. The permit application requirements for municipal storm sewer systems include a requirement that the municipal permit applicant describe a program to assist and facilitate in the proper management of used oil and toxic materials. Improper management of used oil can lead to discharges to municipal storm sewers that in turn may have a significant impact on receiving water bodies. EPA estimates that, annually, 267 million gallons of used oil, including 135 million gallons of used oil from do-it-yourself automobile oil changes, are disposed of improperly. An additional 70 million gallons of used oil, most coming from service stations and repair shops, are used for road oiling. Many commenters emphasized the elimination of discharges composed of improperly disposed of oil and toxic material. One commenter identified motor oil as the major source of oil contamination and that EPA needs to encourage proper disposal of used oil. Several other commenters emphasized the importance of recycling programs for oil. EPA agrees with these comments and intends to retain this portion of the program without modification. One commenter identified public awareness and timely reporting of illegal dumping as critical components of this portion of the program. EPA agrees with this comment and intends for management programs to deal with this problem.

c. Measures to reduce pollutants in storm water discharges through municipal separate storm sewers from municipal landfills, hazardous waste treatment, disposal and recovery facilities that are subject to section 313 of title III of SARA. As discussed in section VI.C of today's preamble, industrial facilities that discharge storm water through a large or medium municipal separate storm sewer system are required to apply for a permit under [§ 122.26\(c\)](#) or seek coverage under a promulgated general permit. Today's rule also requires the municipal storm sewer permittee to describe a program to address industrial dischargers that are covered under the municipal storm sewer permit. Today's rule requires the municipal applicant to identify such discharges (see source identification requirements under [§ 122.26\(d\)\(2\)\(ii\)](#)), provide a description of a program to monitor pollutants in runoff from certain industrial facilities that discharge to the municipal separate storm sewer system, identify priorities and procedures for inspections, and establish and implement control measures for such discharges. Should a municipality suspect that an individual discharger is discharging pollutants in storm water above acceptable limits, and the owner/operator of the system has no authority over the discharge, the municipality should contact the NPDES permitting authority for appropriate action. Two example of possible action are: if the facility already has an individual permit, the permit may be reopened and further controls imposed; or if the facility is covered by a promulgated general permit, then an individual site-specific permit application may be required.

In the December 7, 1988, proposal, EPA requested comments concerning what storm water discharges from industrial facilities through municipal systems should be monitored. One of the proposed approaches was to require data on portions of the municipal system which receive storm water from facilities which are listed in the proposed regulatory definition at [§ 122.26\(b\)\(14\)](#) of "storm water discharge associated with industrial activity" (with the exception of construction activities and uncontaminated storm water from oil and gas operations) which discharge through the municipal system. However, given the large number of facilities meeting this definition that discharge through municipal systems, a monitoring program that requires the submission of quantitative data regarding portions of the municipal systems receiving storm water from such facilities may not be practicable. Such a requirement could, for some systems, potentially become the most resource intensive requirements in the municipal permit. Therefore, EPA proposed various ways to develop appropriate targeting for monitoring programs.

EPA requested comments on a requirement that, at a minimum, monitoring programs address discharges from municipal separate storm sewer outfalls that contain storm water discharges from municipal landfills, hazardous waste treatment, disposal and recovery facilities, and runoff from industrial facilities that are subject to section 313 of title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). Section 313 of title III requires that operators or certain facilities that manufacture, import, process, or otherwise use certain toxic chemicals report annually their releases of those chemicals to any environmental media. Section 313(b) of title III specifies that a facility is covered for the purposes of reporting if it meets all of the following criteria:

- The facility has ten or more full-time employees;

- The facility is in Standard Industrial Classification (SIC) codes 20 through 39;
- The facility manufactured (including quantities imported), processed, or otherwise used a listed chemical in amounts that exceed certain threshold quantities during the calendar year for which reporting is required.

Listed chemicals include 329 toxic chemicals listed at [40 CFR 372.45](#). After 1989, the threshold quantities of listed chemicals that the facility must manufacture, import or process (in order to trigger the submission of a release ***48057** report) is 25,000 pounds per year. The threshold for a use other than manufacturing, importing or processing of listed toxic chemicals is 10,000 pounds per year. EPA promulgated a final regulation clarifying these reporting requirements on February 16, 1988, ([53 FR 4500](#)).

EPA received numerous comments regarding limiting the types of facilities that are initially subject to monitoring and municipal management programs. Numerous municipalities agreed that focusing on the above facilities is an appropriate means for setting priorities for the development of control measures to eliminate or reduce pollutants associated with industrial facilities. Commenters agreed that the potential for toxic materials in discharges is high because of the high volume of such materials at these facilities and that information regarding discharges and material management practices will be available through section 313 of SARA. One commenter noted that building on an established program will contribute to establishing an effective storm water program. Accordingly, EPA has specified at [§ 122.26\(d\)\(2\)\(ii\)\(C\)](#) that the municipal applicant must describe a program that identifies priorities and procedures for inspections and establishing and implementing control measures for these facilities.

Several commenters suggested that these facilities should not be singled out because the presence of the threshold amounts of SARA 313 chemicals does not indicate that significant quantities of those chemicals are likely to enter the facility's storm water runoff. Instead it was suggested that municipalities should monitor storm sewers as a whole to determine what chemicals are present and therefore what facilities are responsible. EPA disagrees with these comments. The object of these requirements is initially to set priorities for monitoring requirements. Then, if the situation requires, controls can be developed and instituted. If a facility is a member of this class of facilities and does not discharge excessive quantities of SARA 313 chemicals, then it may not be subjected to further monitoring and controls. As noted above, the selection of facilities is only a means of setting priorities for facilities for the development of municipal plans.

EPA agrees, however, that there will be other facilities that are significant sources of pollutants and should be addressed by municipalities as soon as possible under management programs. Accordingly, those industrial facilities that the municipal permit applicant determines to be contributing a substantial pollutant loading to the municipal storm sewer system shall be addressed in this portion of the municipal management program.

EPA also requested comments on monitoring programs for municipal discharges including the submission of quantitative data on the following constituents;

- Any pollutants limited in an effluent guidelines for the industry subcategories, where applicable;
- Any pollutant listed in a discharging facility's NPDES permits for process wastewater, where applicable;
- Oil and grease, pH, BOD5, COD, TSS, total phosphorus, total Kjeldahl nitrogen, and nitrate plus nitrite nitrogen;
- Any information on discharges required under [40 CFR 122.21\(g\)\(7\)\(iii\)](#) and (iv).

These are the same constituents that are to be addressed in individual permit applicants for storm water discharges associated with industrial activity.

Several industries and municipalities submitted comments on this issue. Some commenters agreed that these are appropriate parameters. Some commenters advised that the ability of municipalities to implement this aspect of the program depended on industries submitting this data. Several industries provided comments suggesting that the approach should allow the permittee flexibility in determining which parameters are chosen because of the burdens of monitoring and the complexity of materials and flows in municipal systems.

In light of these comments, EPA has retained § 122.26(d)(2)(iv)(C) as proposed requiring municipalities to describe a monitoring program which utilizes the above parameters. Monitoring for these parameters provides consistency with the individual application requirements for industries, provides uniformity in municipal applications, and will narrow the parameters to conform to the types of industries discharging into the municipal systems. Monitoring programs may consist of programs undertaken by the municipality exclusively or requirements imposed on industry by the municipality, or a combination of approaches. Appropriate procedures are discussed in municipal permit application guidance.

EPA requested comments on appropriate means for municipalities to determine what facilities are contributing pollutants to municipal systems. Many commenters responded with numerous methodologies. Some of these have been addressed in guidance. Municipalities will have options in selecting the most appropriate methodology given their circumstances as described in their permit applications.

EPA initially favors establishing monitoring requirements to be applied to those outfalls that directly discharge to waters of the United States. EPA received one comment from a municipality with regard to this issue which agreed that this was the most logical approach. Monitoring of outfalls close to the point of discharge to waters of the United States is generally preferable when attempting to identify priorities for developing pollutant control programs. However, under certain circumstances, it may be preferable to monitor at the point where the runoff from the industrial facility discharges to the municipal system. For example, if many facilities discharge substantially similar storm water to a municipal system it may be more practicable to monitor discharges from representative facilities in order to characterize pollutants in the discharge.

As noted by numerous industries, if municipal characterization plans reveal problems from certain industrial dischargers, then such facilities may be required to provide further data from their own monitoring. As noted above, EPA envisions that this data could then be used to develop appropriate control practices or techniques and/or require individual permit applications if a general permit covering the facility proves inadequate.

Comments were also solicited as to whether end-of-pipe treatment generally was more appropriate than source controls for storm water from industrial facilities which discharge to municipal systems. Many commenters, including both municipalities and industries, stated that source controls are the only practical and feasible means of controlling pollutants in storm water runoff, and specifically opposed the concept of end-of-pipe treatment or other controls. Some commenters maintained that, from an economic and environmental standpoint, end-of-pipe treatment may be the only effective means. One advised that the prompt cleanup of spills, controlled wash down of process areas, covering of material loading areas, storm water runoff diversion, covered storage areas, detention basins or other such mechanisms would prevent storm water from mixing with pollutants and possibly discharging them into receiving waters. Another noted that in the urban areas, there is little potential for treatment; consequently, it would seem ***48058** that controls and/or retrofitting existing facilities would be necessary when violations are found and that citizens will be better served by source controls appropriate to the individual problem.

EPA agrees with these comments to the extent that source controls and management programs are the general thrust of these regulations. However, in some situations end-of-pipe treatment, such as holding ponds, may be the only reasonable alternative. EPA disagrees with one industrial commenter that the municipalities should be almost entirely responsible for treating municipal discharges at the end of-the-pipe without reliance on source controls by industrial dischargers. Municipal programs may require controls on industrial sources with demonstrated storm water discharge problems. One

industrial association noted that its member companies already have incentive to properly handle their materials and facilities because of other environmental programs with spill and erosion controls.

Numerous commenters stated that the program addressing industrial dischargers through municipal systems needs to be clearly defined in order to eliminate, as much as possible, potential conflicts between the system operator and dischargers. EPA has provided a framework for development of management plans to control pollutants from these particular sources. However, because of the differences in municipal systems and hydrology nationwide, EPA is not convinced that program specificity is an appropriate approach. The concept of the management program is to provide flexibility to the permit applicants to develop regional site specific control programs.

One commenter suggested that required controls should be limited to a facility's proportional contribution (based on concentration) of pollutants. EPA disagrees. Most facilities discharging through a municipal separate storm sewer will need to be covered by a general or individual permit. These permits will control the introduction of pollutants from that facility through the municipal storm sewer to the waters of the U.S. Any additional controls placed on the facility by the municipality will be at the discretion of the municipality. EPA is not requiring municipalities to adopt a particular level of controls on industrial facilities as suggested by the commenter.

One commenter questioned how dischargers that discharged both into the waters of the United States and through a municipal system will be addressed and whether there is a potential for inconsistent requirements. Industries that discharge storm water associated with industrial activity into the waters of the United States are required to be covered by individual permits or general permits for such discharges. Dischargers of storm water associated with industrial activity through municipal separate storm sewer systems will be subject to municipal management programs that address such discharges as well as to an individual or general NPDES permit for those discharges. EPA does not believe there is a significant risk of inconsistent requirements, since each industrial facility must meet BAT/BCT-level controls in its NPDES permit. EPA doubts that municipalities will impose much more stringent controls.

Many commenters stated that if cities and municipalities are to be responsible for industrial storm water discharges through their system, then municipalities should have authority to make determinations as to what industries should be regulated, how they are regulated, and when enforcement actions are undertaken. In response, EPA notes that the proposal has been changed and that municipalities will not be solely responsible for industries discharging through their system. Nonetheless, municipalities will be required to meet the terms of their permits related to industrial dischargers. Municipalities may undertake programs that go beyond the threshold requirements of the permit. Some municipal entities stated that municipal permittees should be able to require permit applications from industries in the same manner that EPA does and also require permits. In response, if operators of large and medium municipal separate storm sewer systems wish to employ such a program, then this portion of the management program may incorporate such practices.

d. Measures to reduce pollutants in runoff from construction sites into municipal systems. Section VI.F.8 of today's rule discusses EPA's proposal to define the term "storm water discharge associated with industrial activity" to include runoff from construction sites, including preconstruction activities except operations that result in the disturbance of less than 5 acres total land area which are not part of a larger common plan of development or sale. Under today's rule, facilities that discharge runoff from construction sites that meet this definition will be required to submit permit applications unless they are to be covered by another individual or general NPDES permit. Permit application requirements for such discharges are at [40 CFR 122.26\(c\)\(1\)\(ii\)](#).

[Section 122.26\(d\)\(2\)\(iv\)\(D\)](#) of today's rule requires applicants for a permit for large or medium municipal separate storm sewer systems to submit a description of a proposed management program to control pollutants in construction site runoff that discharges to municipal systems. Under this provision, municipal applicants will submit a description of a program for implementing and maintaining structural and non-structural best management practices for controlling storm water runoff at construction sites. The program will address procedures for site planning, enforceable requirements

for nonstructural and structural best management practices, procedures for inspecting sites and enforcing control measures, and educational and training measures. Generally, construction site ordinances are effective when they are implemented. However, in many areas, even though ordinances exist, they have limited effectiveness because they are not adequately implemented. Maintaining best management practices also presents problems. Retention and infiltration basins fill up and silt fences may break or be overtopped. Weak inspection and enforcement point to the need for more emphasis on training and education to complement regulatory programs. Permits issued to municipalities will address these concerns.

8. Assessment of Controls

EPA proposed that municipal applicants provide an initial assessment of the effectiveness of the control method for structural or non-structural controls which have been proposed in the management program. Some commenters stated that the assessment of controls should be left to the term of the permit because the effectiveness of controls will be hard to establish. EPA believes that an initial estimate or assessment is needed because the performance of appropriate management controls is highly dependent on site-specific factors. The assessment will be used in conjunction with the development of pollutant loading and concentration estimates (see VI.H.6.c) and the evaluation of water quality benefits associated with implementing controls. Such assessments do not have to be verified with quantitative data, but can be based on accepted engineering design practices. Further more precise assessments based upon quantitative data can be undertaken during the term of the permit.

***48059 I. Annual Reports**

As discussed earlier in today's preamble, EPA has provided for proposed flexible permit application requirements to facilitate the development of site-specific programs to control the discharge of pollutants from large and medium municipal separate storm sewer systems. Many municipalities are in the early stages of the complex task of developing a program suitable for controlling pollutants in discharges under a NPDES permit, while other municipalities have relatively sophisticated programs in place. In order to ensure that such site-specific programs are developed in a timely manner, EPA proposed to require permittees of municipal separate storm sewer systems to submit status reports every year which reflect the development of their control programs.

The reports will be used by the permitting authority to aid in evaluating compliance with permit conditions and where necessary, modify permit conditions to address changed conditions. EPA requested comments on the appropriate content of the annual reports. Based on these comments EPA has added the following in these reports: an analysis of data, including monitoring data, that is accumulated throughout the year; new outfalls or discharges; annual expenditures; identification of water quality improvements or degradation on watershed basis; budget for year following each annual report; and administrative information including enforcement activities, inspections, and public education programs. EPA views this information as important for evaluating the municipal program. Annual monitoring data and identified water quality improvements are important for evaluating the success of management programs in reducing pollutants. If new outfalls come into existence during the term of the permit, these may be sources of pollutants and appropriate permit conditions will be developed. Annual reports should reflect the level of enforcement activity and inspections undertaken to ensure that the legal authority developed by the municipality is properly exercised. Many of the management programs depend upon an ongoing high level of public education. Accordingly, the undertaking of these programs on an annual basis should be documented.

J. Application Deadlines

The CWA provided a statutory time frame for implementing the storm water permit application process and issuance and compliance with permits.

The CWA requires EPA to promulgate permit application requirements for storm water discharges associated with industrial activity and for large municipal separate storm sewer systems by “no later than two years” after the date of enactment (i.e. no later than February 4, 1989). In conjunction with this requirement, the Act requires that permit applications for these classes of discharges be submitted within one year after the statutory date by which EPA is to promulgate permit application requirements by providing that such applications “shall be filed no later than three years” after the date of enactment of the WQA (i.e., no later than February 4, 1990).

The CWA also requires EPA to promulgate final regulations governing storm water permit application requirements for discharges from municipal separate storm sewer systems serving a population of 100,000 or more but less than 250,000 by “no later than four years” after enactment (i.e. no later than February 4, 1991). Permit applications for medium municipal separate storm sewer systems “shall be filed no later than five years” after the date of enactment of the CWA (i.e., no later than February 4, 1992). The CWA did not establish the time period between designation and permit application submittal for case-by-case designations under section 402(p)(2)(E).

Comments on earlier rulemakings involving storm water application deadlines have established that applicants need adequate time to obtain “representative” storm water samples. Many commenters have indicated that at least one full year is needed to obtain such samples. This is because many discharges are located in areas where testing during dry seasons or winter would not be feasible. The intermittent and unpredictable nature of storm water discharges can result in difficult and time-consuming data gathering. Moreover, some operators of municipal separate storm sewer systems have many storm water discharges associated with industrial activity, which can require considerable time to identify, analyze, and submit applications. This creates a tremendous practical problem for the extremely high number of unpermitted storm water discharges. The public's interest in a sound storm water program and the development of a useful storm water data base is best served by establishing an application deadline which will allow sufficient time to gather, analyze, and prepare meaningful applications. Based on a consideration of these factors, EPA proposed that individual permit applications for storm water discharges associated with industrial activity, which currently are not covered by a permit and that are required to obtain a permit, be submitted one year after the final rule is promulgated.

EPA received numerous comments from industries on the one year requirement for submitting applications. Several commenters supported the proposed deadline as realistic, while others believed more time was needed to meet the information and quantitative requirement.

EPA rejects the assertion by some commenters that a year is too short a period of time to obtain the required quantitative data. Today's rule generally requires applications for storm water discharges associated with industrial activity to be submitted on or before November 18, 1991. Operators of storm water discharges associated with industrial activity which discharge through a municipal separate storm sewer are subject to the same application deadline as other storm water discharges associated with industrial activity. Since final regulation at [§ 122.21\(g\)\(7\)](#) provides considerable latitude for selecting rain events for quantitative data, EPA is convinced that in most cases data can be obtained during the one year time frame. If data cannot be collected during the one year time frame because of anomalous weather (e.g. drought conditions), then permitting authorities may grant additional time for submitting that data on a case-by-case basis. See [§ 122.21\(g\)\(7\)](#).

Operators of storm water discharges which are currently covered by a permit will not be required to submit a permit application until their existing permit expires. In recognition of the time required to collect storm water discharge data, EPA will allow facilities which currently have a NPDES permit for a storm water discharge and which must reapply for permit renewal during the first year following promulgation of today's permit application requirements the option of applying in accordance with existing Form 1 and Form 2C requirements (in lieu of applying in accordance with the revised application requirements).

As discussed in section VI.D.4 and section VI.F.6 of today's preamble, EPA has established a two part permit application both for both group applications for sufficiently similar facilities that discharge storm water associated with industrial activity and for operators of large or medium municipal separate storm sewer systems. The deadlines for submitting *48060 permit applications in today's rule provide adequate time for: (1) Applicants to prepare Part 1 of the application; (2) EPA or an approved State to adequately review applications; and (3) applicants to prepare the contents of the part 2 application.

Part 1 of the group application for storm water discharges associated with industrial activity must be submitted within 120 days from the publication of these final permit application regulations. This time is necessary to form groups and for individual members of the group to prepare the non-quantitative information required in part 1 of the application. Part 1 of the group application will be submitted to EPA Headquarters in Washington, DC and reviewed within 60 days after being received. Part 2 of the application would then be submitted within one year after the part 1 application is approved. It should be noted that many facilities located in States in which general permits can be issued, will be eligible for coverage by a storm water general permit to be promulgated in the near future. Such facilities may either seek coverage under such general permits or participate in the group application.

Several comments were received by EPA that indicated that a period of 120 days was too short a period for groups to be formed. EPA disagrees with these comments. The information that EPA is requiring to be submitted by the group or group representative is information that is generally available such as the location of the facility, its industrial activity, and material management practices. EPA believes that 120 days is sufficient to gather and submit this information along with an identification of 10% of the facilities which will submit quantitative data. To ameliorate any difficulties for applicants, EPA has provided a means for late facilities to "add on" where appropriate, on a case-by-case basis, as discussed in section VI.F.4. above.

Several comments were received with regard to the requirement that new dischargers submit an application at least 180 days before the date on which the discharge is to commence. One commenter noted that it will be difficult for a facility to know when a storm water discharge is to commence since precipitation and runoff cannot be predicted to any degree of accuracy. In response, new dischargers must apply for a storm water permit application 180 days before that facility commences manufacturing, processing, or raw material storage operations which may result in the discharge of pollutants from storm water runoff, and 90 days for new construction sites.

For large municipal separate storm sewer systems (systems serving a population of more than 250,000), EPA proposed that part 1 of the permit application be submitted within one year of the date of the final regulations, with approval or disapproval by the permit issuing authority of the provisions of the part 1 permit application within 90 days after receiving part 1 of the application. The Part 2 portion of the application was to be submitted within two years of the date of promulgation.

For medium municipal separate storm sewer systems (systems serving a population of more than 100,000, but less than 250,000), EPA proposed that permit applications would be required nine months after the date of the final rule, with approval or disapproval of the provisions of the part 1 permit application within 90 days after receiving the part 1 application. The part 2 portion of the application would then be submitted no later than one year after the part 1 application has been approved.

Numerous comments were received by EPA from municipalities on these proposed deadlines. Many of these comments reflect the sentiment that the deadlines are too tight and that the required information would not be available for submission within the required time frame. Some commenters suggested deadlines that would add over three years to the permit application process. Other commenters suggested a revamped application process and a shorter deadline of 18 months. Some commenters explained that additional time would be needed to obtain adequate legal authority, while another stated that an inventory of outfalls required more time. One commenter maintained that intergovernmental

agreements will require more time to prepare, and others expressed the view that more time was needed for the review of part 1 of the application by permitting authorities. Others felt more time was needed for collecting data, or hiring additional staff to accomplish the work. Most of these commenters did not provide specific details regarding what would be an appropriate amount of time and why.

After reviewing these comments EPA has decided to modify some of the deadlines as proposed. EPA is convinced that to properly achieve the goals of the CWA, the permit application requirements as discussed in previous sections are appropriate; but that the deadlines for medium municipal separate storm sewer systems should be adjusted so that the program's goals can be properly accomplished. After reviewing comments, EPA believes that medium municipalities will have fewer resources and existing institutional arrangements than large cities and therefore more time should be granted to these cities for submitting parts 1 and 2 of the application.

Accordingly EPA will require large municipal systems to submit part 1 of the permit application no later than November 18, 1991. Part 1 will be reviewed and approved or disapproved by the Director within 90 days. Part 2 of the application will then be submitted November 16, 1992. Medium municipal systems will submit part 1 of the application on May 18, 1992. Approval or disapproval by the Director will be accomplished within 90 days. Part 2 of the application will be submitted by May 17, 1993. These deadlines will give large systems two years to complete the application process, and medium systems 2 years and 6 months to submit applications. EPA is convinced that the permit application schedule is warranted and should provide adequate time to prepare the application.

In establishing these regulatory deadlines EPA is fully aware that they are not synchronized with the statutory deadlines as established by Congress. One commenter argued that the deadlines as proposed were contrary to the deadlines established by Congress and that EPA had no authority to extend these deadlines. (For large municipal separate storm sewer systems and storm water discharges associated with industrial activity, Congress established a deadline of February 4, 1990, for submission of permit applications; for medium municipal separate storm sewer systems, the deadline is February 4, 1992.) In response, this regulation provides certain deadlines for meeting the substantive requirements of this rulemaking—requirements which EPA is convinced are necessary for the development of enforceable and sound storm water permits. EPA believes it is important to give applicants sufficient time to reasonably comply with the permit application requirements set out today. EPA will therefore accept applications for storm water discharge permits up to the dates specified in today's rule. By establishing these regulatory deadlines, however, EPA is not attempting to waive or revoke the statutory deadlines established in Section 402(p) of the CWA and does not assert the authority to do so. The statutory permit application deadlines ***48061** continue to be enforceable requirements.

EPA was not able to promulgate the final application regulations for storm water discharges before the February 4, 1990, deadline for industrial and large municipal dischargers despite its best efforts. Further, as noted above, EPA is not able to waive the statutory deadline. Dischargers concerned with complying with the statutory deadline should submit a permit application as required under this rulemaking as expeditiously as possible.

Operators of storm water discharges that are not specifically required to file a permit application under today's rule may be required to obtain a permit for their discharge on the basis of a case-by-case designation by the Administrator or the NPDES State.

The Administrator or NPDES State may also designate storm water discharges (except agricultural storm water discharges), that contribute to a violation of a water quality standard or that are significant contributors of pollutants to waters of the United States for a permit. Prior to a case-by-case determination that an individual permit is required for a storm water discharge, the Administrator or NPDES State may require the operator of the discharge to submit a permit application. [40 CFR 124.52\(c\)](#) requires the operator of designated storm water discharges to submit a permit application within 60 days of notice, unless permission for a later date is granted. The 60-day deadline is consistent with the procedures for designating other discharges for a NPDES permit on a case-by-case basis found at [40 CFR 124.52](#).

The 60-day deadline recognizes that case-by-case designations often require an expedited response, however, flexibility exists to allow for case-by-case extensions.

The December 7, 1988, proposal also proposed Part 504 State Storm Water Management Programs. The Agency has not included this component in today's rule. The Agency believes this program element is appropriate for addressing in regulations promulgated under section 402(p)(6) of the CWA.

VII. Economic Impact

EPA has prepared an Information Collection Request for the purpose of estimating the information collection burden imposed on Federal, State and local governments and industry for revisions to NPDES permit application requirements for storm water discharges codified in 40 CFR part 122. EPA is promulgating these revisions in response to Section 402(p)(4) of the Clean Water Act, as amended by the Water Quality Act of 1987 (WQA). The revisions would apply to: Storm water discharges associated with industrial activity; discharges from municipal separate storm sewer systems serving a population of 250,000 or more and discharges from municipal separate storm sewer systems serving a population of 100,000 or more, but less than 250,000.

The estimated annual cost of applying for NPDES permits for discharges from municipal separate storm sewer systems is \$4.2 million. EPA estimates that an average permit application for a large municipality will cost \$76,681 and require 4,534 hours to prepare. The average application for a medium municipality will cost \$49,249 (2,912 hours) to prepare. The annual respondent cost for NPDES permit applications, notices of intent, and notifications for facilities with discharges associated with industrial activity is estimated to be \$9.5 million (271,248 hours). EPA estimates that the average preparation cost of an individual industrial permit application would be \$1,007 (28.6 hours). Average Group application will cost \$74.00 per facility (2.1 hours). The average cost of the notification and notice of intent to be covered by general permit is \$17.00 (0.5 hours).

The annual cost to the Federal Government and approved States for administration of the program is estimated to be \$588,603. The total cost for municipalities, industry, and State and Federal authorities is estimated to be \$14.5 million annually.

In general, the cost estimates provided in the ICR focus primarily on the costs associated with developing, submitting and reviewing the permit applications associated with today's rule. EPA will continue to evaluate procedures and methods to control storm water discharges to the extent necessary to mitigate impacts on water quality in the studies required under section 402(p)(5) of the CWA. [Executive Order 12291](#) requires EPA and other agencies to perform regulatory analyses of major regulations. Major rules are those which impose a cost on the economy of \$100 million or more annually or have certain other economic impacts. Today's proposed amendments would generally make the NPDES permit application regulations more flexible and less burdensome for the regulated community. These regulations do not, satisfy any of the criteria specified in section 1(b) of the Executive Order and, as such, do not constitute a major rule. This regulation was submitted to the Office of Management and Budget (OMB) for review.

VIII. Paperwork Reduction Act

The information collection requirements in this rule have been submitted for approval to the Office of Management and Budget (OMB) under provision of the Paperwork Reduction Act, [44 U.S.C. 3501](#) et seq. and have been assigned OMB control number 2040-0086.

Public reporting burden for permit applications for storm water discharges associated with industrial activity (other than from construction facilities) is estimated to average 28.6 hours per individual permit application, 0.5 hours per notice of intent to be covered by general permit, and 2.1 hours per group applicant. The public reporting burden for permit applications for storm water discharges associated with industrial activity from construction activities submitting

individual applications is estimated to average 4.5 hours per response. The public reporting burden for facilities which discharge storm water associated with industrial activity to municipal separate storm sewers serving a population over 100,000 to notify the operator of the municipal separate storm sewer system is estimated to average 0.5 hours per response.

The reporting burden for system-wide permit applications for discharges from municipal separate storm sewer systems serving a population of 250,000 or more is estimated to average 4,534 hours per response. The reporting burden for system-wide permit applications for discharges from municipal separate storm sewer systems serving a population of 100,000 or more, but less than 250,000 is estimated to average 2,912 hours per response. Estimates of reporting burden include time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information.

IX. Regulatory Flexibility Act

Under the Regulatory Flexibility Act, 5 U.S.C. 601 et seq., EPA is required to prepare a Regulatory Flexibility Analysis to assess the impact of rules on small entities. No Regulatory Flexibility Analysis is required, however, where the head of the agency certifies that the rule will not have a significant economic impact on a substantial number of small entities.

Today's amendments to the regulations would generally make the NPDES permit applications regulations more flexible and less burdensome for permittees. Accordingly, I hereby ***48062** certify, pursuant to [5 U.S.C. 605\(b\)](#), that these amendments do not, have a significant impact on a substantial number of small entities.

List of Subjects in 40 CFR Parts 122, 123, and 124

Administrative practice and procedure, Environmental protection, Reporting and recordkeeping requirements, Water pollution control.

Authority: Clean Water Act, [33 U.S.C. 1251](#) et seq.

Dated: October 31, 1990.

William K. Reilly,

Administrator.

For the reasons stated in the preamble, parts 122, 123, and 124 of title 40 of the Code of Federal Regulations are amended as follows:

PART 122—EPA ADMINISTERED PERMIT PROGRAMS; THE NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM

Subpart B—Permit Application and Special NPDES Program Requirements

1. The authority citation for part 122 continues to read as follows:

Authority: Clean Water Act, [33 U.S.C. 1251](#) et seq.

2. Section 122.1 is amended by revising paragraph (b)(2)(iv) to read as follows:

§ 122.1 Purpose and scope.

* * * * *

(b) * * *

(2) * * *

(iv) Discharges of storm water as set forth in § 122.26; and

* * * * *

3. Section 122.21 is amended by revising paragraph (c)(1), by removing the last sentence of paragraph (f)(7), by removing paragraph (f)(9), by adding two sentences at the end of paragraph (g)(3), by revising paragraph (g)(7) introductory text, by removing and reserving paragraph (g)(10) and by revising the introductory text of paragraph (k) to read as follows:

§ 122.21 Application for a permit (applicable to State programs, see § 123.25).

* * * * *

(c) Time to apply. (1) Any person proposing a new discharge, shall submit an application at least 180 days before the date on which the discharge is to commence, unless permission for a later date has been granted by the Director. Facilities proposing a new discharge of storm water associated with industrial activity shall submit an application 180 days before that facility commences industrial activity which may result in a discharge of storm water associated with that industrial activity. Facilities described under § 122.26(b)(14)(x) shall submit applications at least 90 days before the date on which construction is to commence. Different submittal dates may be required under the terms of applicable general permits. Persons proposing a new discharge are encouraged to submit their applications well in advance of the 90 or 180 day requirements to avoid delay. See also paragraph (k) of this section and § 122.26 (c)(1)(i)(G) and (c)(1)(ii).

* * * * *

(g) * * *

(3) * * * The average flow of point sources composed of storm water may be estimated. The basis for the rainfall event and the method of estimation must be indicated.

* * * * *

(7) Effluent characteristics. Information on the discharge of pollutants specified in this paragraph (except information on storm water discharges which is to be provided as specified in § 122.26). When “quantitative data” for a pollutant are required, the applicant must collect a sample of effluent and analyze it for the pollutant in accordance with analytical methods approved under 40 CFR part 136. When no analytical method is approved the applicant may use any suitable method but must provide a description of the method. When an applicant has two or more outfalls with substantially identical effluents, the Director may allow the applicant to test only one outfall and report that the quantitative data also apply to the substantially identical outfalls. The requirements in paragraphs (g)(7) (iii) and (iv) of this section that an applicant must provide quantitative data for certain pollutants known or believed to be present do not apply to pollutants present in a discharge solely as the result of their presence in intake water; however, an applicant must report such pollutants as present. Grab samples must be used for pH, temperature, cyanide, total phenols, residual chlorine, oil and grease, fecal coliform and fecal streptococcus. For all other pollutants, 24-hour composite samples must be used. However, a minimum of one grab sample may be taken for effluents from holding ponds or other impoundments with a retention period greater than 24 hours. In addition, for discharges other than storm water discharges, the Director may waive composite sampling for any outfall for which the applicant demonstrates that the use of an automatic sampler is infeasible and that the minimum of four (4) grab samples will be a representative sample of the effluent being discharged. For storm water discharges, all samples shall be collected from the discharge resulting from a storm event that is greater than 0.1 inch and at least 72 hours from the previously measurable (greater than 0.1 inch rainfall) storm event. Where feasible, the variance in the duration of the event and the total rainfall of the event should not exceed 50 percent from the average or median rainfall event in that area. For all applicants, a flow-weighted composite shall be taken for either the entire discharge or for the first three hours of the discharge. The flow-weighted composite sample for a storm water

discharge may be taken with a continuous sampler or as a combination of a minimum of three sample aliquots taken in each hour of discharge for the entire discharge or for the first three hours of the discharge, with each aliquot being separated by a minimum period of fifteen minutes (applicants submitting permit applications for storm water discharges under § 122.26(d) may collect flow weighted composite samples using different protocols with respect to the time duration between the collection of sample aliquots, subject to the approval of the Director). However, a minimum of one grab sample may be taken for storm water discharges from holding ponds or other impoundments with a retention period greater than 24 hours. For a flow-weighted composite sample, only one analysis of the composite of aliquots is required. For storm water discharge samples taken from discharges associated with industrial activities, quantitative data must be reported for the grab sample taken during the first thirty minutes (or as soon thereafter as practicable) of the discharge for all pollutants specified in § 122.26(c)(1). For all storm water permit applicants taking flow-weighted composites, quantitative data must be reported for all pollutants specified in § 122.26 except pH, temperature, cyanide, total phenols, residual chlorine, oil and grease, fecal coliform, and fecal streptococcus. The Director may allow or establish appropriate site-specific sampling procedures or requirements, including sampling locations, the season in which the sampling takes place, the minimum duration between the previous measurable storm event and the storm event sampled, the minimum or maximum level of precipitation required for an appropriate storm event, the form of precipitation sampled (snow melt or rain fall), protocols for collecting samples under 40 CFR part 136, and additional time for submitting data on a *48063 case-by-case basis. An applicant is expected to “know or have reason to believe” that a pollutant is present in an effluent based on an evaluation of the expected use, production, or storage of the pollutant, or on any previous analyses for the pollutant. (For example, any pesticide manufactured by a facility may be expected to be present in contaminated storm water runoff from the facility.)

* * * * *

(k) Application requirements for new sources and new discharges. New manufacturing, commercial, mining and silvicultural dischargers applying for NPDES permits (except for new discharges of facilities subject to the requirements of paragraph (h) of this section or new discharges of storm water associated with industrial activity which are subject to the requirements of § 122.26(c)(1) and this section (except as provided by § 122.26(c)(1)(ii)) shall provide the following information to the Director, using the application forms provided by the Director:

* * * * *

4. Section 122.22(b) introductory text is revised to read as follows:

§ 122.22 Signatories to permit applications and reports (applicable to State programs, see § 123.25).

* * * * *

(b) All reports required by permits, and other information requested by the Director shall be signed by a person described in paragraph (a) of this section, or by a duly authorized representative of that person. A person is a duly authorized representative only if:

* * * * *

5. Section 122.26 is revised to read as follows:

§ 122.26 Storm water discharges (applicable to State NPDES programs, see § 123.25).

(a) Permit requirement. (1) Prior to October 1, 1992, discharges composed entirely of storm water shall not be required to obtain a NPDES permit except:

(i) A discharge with respect to which a permit has been issued prior to February 4, 1987;

(ii) A discharge associated with industrial activity (see § 122.26(a)(4));

(iii) A discharge from a large municipal separate storm sewer system;

(iv) A discharge from a medium municipal separate storm sewer system;

(v) A discharge which the Director, or in States with approved NPDES programs, either the Director or the EPA Regional Administrator, determines to contribute to a violation of a water quality standard or is a significant contributor of pollutants to waters of the United States. This designation may include a discharge from any conveyance or system of conveyances used for collecting and conveying storm water runoff or a system of discharges from municipal separate storm sewers, except for those discharges from conveyances which do not require a permit under paragraph (a)(2) of this section or agricultural storm water runoff which is exempted from the definition of point source at § 122.2.

The Director may designate discharges from municipal separate storm sewers on a system-wide or jurisdiction-wide basis. In making this determination the Director may consider the following factors:

(A) The location of the discharge with respect to waters of the United States as defined at 40 CFR 122.2.

(B) The size of the discharge;

(C) The quantity and nature of the pollutants discharged to waters of the United States; and

(D) Other relevant factors.

(2) The Director may not require a permit for discharges of storm water runoff from mining operations or oil and gas exploration, production, processing or treatment operations or transmission facilities, composed entirely of flows which are from conveyances or systems of conveyances (including but not limited to pipes, conduits, ditches, and channels) used for collecting and conveying precipitation runoff and which are not contaminated by contact with or that has not come into contact with, any overburden, raw material, intermediate products, finished product, byproduct or waste products located on the site of such operations.

(3) Large and medium municipal separate storm sewer systems. (i) Permits must be obtained for all discharges from large and medium municipal separate storm sewer systems.

(ii) The Director may either issue one system-wide permit covering all discharges from municipal separate storm sewers within a large or medium municipal storm sewer system or issue distinct permits for appropriate categories of discharges within a large or medium municipal separate storm sewer system including, but not limited to: all discharges owned or operated by the same municipality; located within the same jurisdiction; all discharges within a system that discharge to the same watershed; discharges within a system that are similar in nature; or for individual discharges from municipal separate storm sewers within the system.

(iii) The operator of a discharge from a municipal separate storm sewer which is part of a large or medium municipal separate storm sewer system must either:

(A) Participate in a permit application (to be a permittee or a co-permittee) with one or more other operators of discharges from the large or medium municipal storm sewer system which covers all, or a portion of all, discharges from the municipal separate storm sewer system;

(B) Submit a distinct permit application which only covers discharges from the municipal separate storm sewers for which the operator is responsible; or

(C) A regional authority may be responsible for submitting a permit application under the following guidelines:

(1) The regional authority together with co-applicants shall have authority over a storm water management program that is in existence, or shall be in existence at the time part 1 of the application is due;

(2) The permit applicant or co-applicants shall establish their ability to make a timely submission of part 1 and part 2 of the municipal application;

(3) Each of the operators of municipal separate storm sewers within the systems described in paragraphs (b)(4) (i), (ii), and (iii) or (b)(7) (i), (ii), and (iii) of this section, that are under the purview of the designated regional authority, shall comply with the application requirements of paragraph (d) of this section.

(iv) One permit application may be submitted for all or a portion of all municipal separate storm sewers within adjacent or interconnected large or medium municipal separate storm sewer systems. The Director may issue one system-wide permit covering all, or a portion of all municipal separate storm sewers in adjacent or interconnected large or medium municipal separate storm sewer systems.

(v) Permits for all or a portion of all discharges from large or medium municipal separate storm sewer systems that are issued on a system-wide, jurisdiction-wide, watershed or other basis may specify different conditions relating to different discharges covered by the permit, including different management programs for different drainage areas which contribute storm water to the system.

(vi) Co-permittees need only comply with permit conditions relating to discharges from the municipal separate storm sewers for which they are operators.

***48064** (4) Discharges through large and medium municipal separate storm sewer systems. In addition to meeting the requirements of paragraph (c) of this section, an operator of a storm water discharge associated with industrial activity which discharges through a large or medium municipal separate storm sewer system shall submit, to the operator of the municipal separate storm sewer system receiving the discharge no later than May 15, 1991, or 180 days prior to commencing such discharge: the name of the facility; a contact person and phone number; the location of the discharge; a description, including Standard Industrial Classification, which best reflects the principal products or services provided by each facility; and any existing NPDES permit number.

(5) Other municipal separate storm sewers. The Director may issue permits for municipal separate storm sewers that are designated under paragraph (a)(1)(v) of this section on a system-wide basis, jurisdiction-wide basis, watershed basis or other appropriate basis, or may issue permits for individual discharges.

(6) Non-municipal separate storm sewers. For storm water discharges associated with industrial activity from point sources which discharge through a non-municipal or non-publicly owned separate storm sewer system, the Director, in his discretion, may issue: a single NPDES permit, with each discharger a co-permittee to a permit issued to the operator of the portion of the system that discharges into waters of the United States; or, individual permits to each discharger of storm water associated with industrial activity through the non-municipal conveyance system.

(i) All storm water discharges associated with industrial activity that discharge through a storm water discharge system that is not a municipal separate storm sewer must be covered by an individual permit, or a permit issued to the operator of the portion of the system that discharges to waters of the United States, with each discharger to the non-municipal conveyance a co-permittee to that permit.

(ii) Where there is more than one operator of a single system of such conveyances, all operators of storm water discharges associated with industrial activity must submit applications.

(iii) Any permit covering more than one operator shall identify the effluent limitations, or other permit conditions, if any, that apply to each operator.

(7) Combined sewer systems. Conveyances that discharge storm water runoff combined with municipal sewage are point sources that must obtain NPDES permits in accordance with the procedures of § 122.21 and are not subject to the provisions of this section.

(8) Whether a discharge from a municipal separate storm sewer is or is not subject to regulation under this section shall have no bearing on whether the owner or operator of the discharge is eligible for funding under title II, title III or title VI of the Clean Water Act. See 40 CFR part 35, subpart I, appendix A(b)H.2.j.

(b) Definitions. (1) Co-permittee means a permittee to a NPDES permit that is only responsible for permit conditions relating to the discharge for which it is operator.

(2) Illicit discharge means any discharge to a municipal separate storm sewer that is not composed entirely of storm water except discharges pursuant to a NPDES permit (other than the NPDES permit for discharges from the municipal separate storm sewer) and discharges resulting from fire fighting activities.

(3) Incorporated place means the District of Columbia, or a city, town, township, or village that is incorporated under the laws of the State in which it is located.

(4) Large municipal separate storm sewer system means all municipal separate storm sewers that are either:

(i) Located in an incorporated place with a population of 250,000 or more as determined by the latest Decennial Census by the Bureau of Census (appendix F); or

(ii) Located in the counties listed in appendix H, except municipal separate storm sewers that are located in the incorporated places, townships or towns within such counties; or

(iii) Owned or operated by a municipality other than those described in paragraph (b)(4) (i) or (ii) of this section and that are designated by the Director as part of the large or medium municipal separate storm sewer system due to the interrelationship between the discharges of the designated storm sewer and the discharges from municipal separate storm sewers described under paragraph (b)(4) (i) or (ii) of this section. In making this determination the Director may consider the following factors:

(A) Physical interconnections between the municipal separate storm sewers;

(B) The location of discharges from the designated municipal separate storm sewer relative to discharges from municipal separate storm sewers described in paragraph (b)(4)(i) of this section;

(C) The quantity and nature of pollutants discharged to waters of the United States;

(D) The nature of the receiving waters; and

(E) Other relevant factors; or

(iv) The Director may, upon petition, designate as a large municipal separate storm sewer system, municipal separate storm sewers located within the boundaries of a region defined by a storm water management regional authority based on a jurisdictional, watershed, or other appropriate basis that includes one or more of the systems described in paragraph (b)(4) (i), (ii), (iii) of this section.

(5) Major municipal separate storm sewer outfall (or “major outfall”) means a municipal separate storm sewer outfall that discharges from a single pipe with an inside diameter of 36 inches or more or its equivalent (discharge from a single conveyance other than circular pipe which is associated with a drainage area of more than 50 acres); or for municipal separate storm sewers that receive storm water from lands zoned for industrial activity (based on comprehensive zoning plans or the equivalent), an outfall that discharges from a single pipe with an inside diameter of 12 inches or more or from its equivalent (discharge from other than a circular pipe associated with a drainage area of 2 acres or more).

(6) Major outfall means a major municipal separate storm sewer outfall.

(7) Medium municipal separate storm sewer system means all municipal separate storm sewers that are either:

(i) Located in an incorporated place with a population of 100,000 or more but less than 250,000, as determined by the latest Decennial Census by the Bureau of Census (appendix G); or

(ii) Located in the counties listed in appendix I, except municipal separate storm sewers that are located in the incorporated places, townships or towns within such counties; or

(iii) Owned or operated by a municipality other than those described in paragraph (b)(4) (i) or (ii) of this section and that are designated by the Director as part of the large or medium municipal separate storm sewer system due to the interrelationship between the discharges of the designated storm sewer and the discharges from municipal separate storm sewers described under paragraph (b)(4) (i) or (ii) of this section. In making this determination the Director may consider the following factors:

*48065 (A) Physical interconnections between the municipal separate storm sewers;

(B) The location of discharges from the designated municipal separate storm sewer relative to discharges from municipal separate storm sewers described in paragraph (b)(7)(i) of this section;

(C) The quantity and nature of pollutants discharged to waters of the United States;

(D) The nature of the receiving waters; or

(E) Other relevant factors; or

(iv) The Director may, upon petition, designate as a medium municipal separate storm sewer system, municipal separate storm sewers located within the boundaries of a region defined by a storm water management regional authority based on a jurisdictional, watershed, or other appropriate basis that includes one or more of the systems described in paragraphs (b)(7) (i), (ii), (iii) of this section.

(8) Municipal separate storm sewer means a conveyance or system of conveyances (including roads with drainage systems, municipal streets, catch basins, curbs, gutters, ditches, man-made channels, or storm drains):

(i) Owned or operated by a State, city, town, borough, county, parish, district, association, or other public body (created by or pursuant to State law) having jurisdiction over disposal of sewage, industrial wastes, storm water, or other wastes, including special districts under State law such as a sewer district, flood control district or drainage district, or similar entity, or an Indian tribe or an authorized Indian tribal organization, or a designated and approved management agency under section 208 of the CWA that discharges to waters of the United States;

(ii) Designed or used for collecting or conveying storm water;

(iii) Which is not a combined sewer; and

(iv) Which is not part of a Publicly Owned Treatment Works (POTW) as defined at [40 CFR 122.2](#).

(9) Outfall means a point source as defined by [40 CFR 122.2](#) at the point where a municipal separate storm sewer discharges to waters of the United States and does not include open conveyances connecting two municipal separate storm sewers, or pipes, tunnels or other conveyances which connect segments of the same stream or other waters of the United States and are used to convey waters of the United States.

(10) Overburden means any material of any nature, consolidated or unconsolidated, that overlies a mineral deposit, excluding topsoil or similar naturally-occurring surface materials that are not disturbed by mining operations.

(11) Runoff coefficient means the fraction of total rainfall that will appear at a conveyance as runoff.

(12) Significant materials includes, but is not limited to: raw materials; fuels; materials such as solvents, detergents, and plastic pellets; finished materials such as metallic products; raw materials used in food processing or production; hazardous substances designated under section 101(14) of CERCLA; any chemical the facility is required to report pursuant to section 313 of title III of SARA; fertilizers; pesticides; and waste products such as ashes, slag and sludge that have the potential to be released with storm water discharges.

(13) Storm water means storm water runoff, snow melt runoff, and surface runoff and drainage.

(14) Storm water discharge associated with industrial activity means the discharge from any conveyance which is used for collecting and conveying storm water and which is directly related to manufacturing, processing or raw materials storage areas at an industrial plant. The term does not include discharges from facilities or activities excluded from the NPDES program under 40 CFR part 122. For the categories of industries identified in paragraphs (b)(14) (i) through (x) of this section, the term includes, but is not limited to, storm water discharges from industrial plant yards; immediate access roads and rail lines used or traveled by carriers of raw materials, manufactured products, waste material, or by-products used or created by the facility; material handling sites; refuse sites; sites used for the application or disposal of process waste waters (as defined at 40 CFR part 401); sites used for the storage and maintenance of material handling equipment; sites used for residual treatment, storage, or disposal; shipping and receiving areas; manufacturing buildings; storage areas (including tank farms) for raw materials, and intermediate and finished products; and areas where industrial activity has taken place in the past and significant materials remain and are exposed to storm water. For the categories of industries identified in paragraph (b)(14)(xi) of this section, the term includes only storm water discharges from all the areas (except access roads and rail lines) that are listed in the previous sentence where material handling equipment or activities, raw materials, intermediate products, final products, waste materials, by-products, or industrial machinery are exposed to storm water. For the purposes of this paragraph, material handling activities include the storage, loading and unloading, transportation, or conveyance of any raw material, intermediate product, finished product, by-product or waste product. The term excludes areas located on plant lands separate from the plant's industrial activities, such as office buildings and accompanying parking lots as long as the drainage from the excluded areas is not mixed with storm water drained from the above described areas. Industrial facilities (including industrial facilities that are Federally, State, or municipally owned or operated that meet the description of the facilities listed in this paragraph (b)(14)(i)-(xi) of this section) include those facilities designated under the provisions of paragraph (a)(1)(v) of this section. The following categories of facilities are considered to be engaging in "industrial activity" for purposes of this subsection:

(i) Facilities subject to storm water effluent limitations guidelines, new source performance standards, or toxic pollutant effluent standards under 40 CFR subchapter N (except facilities with toxic pollutant effluent standards which are exempted under category (xi) in paragraph (b)(14) of this section);

(ii) Facilities classified as Standard Industrial Classifications 24 (except 2434), 26 (except 265 and 267), 28 (except 283), 29, 31I, 32 (except 323), 33, 344I, 373;

(iii) Facilities classified as Standard Industrial Classifications 10 through 14 (mineral industry) including active or inactive mining operations (except for areas of coal mining operations no longer meeting the definition of a reclamation area under 40 CFR 434.11(1) because the performance bond issued to the facility by the appropriate SMCRA authority has been released, or except for areas of non-coal mining operations which have been released from applicable State or Federal reclamation requirements after December 17, 1990) and oil and gas exploration, production, processing, or treatment operations, or transmission facilities that discharge storm water contaminated by contact with or that has come into contact with, any overburden, raw material, intermediate products, finished products, byproducts or waste products located on the site of such operations; (inactive mining operations are mining sites that are not being actively mined, but which have an identifiable owner/operator; inactive mining sites do not include sites where mining claims are being maintained prior to disturbances associated with the extraction, beneficiation, or processing of mined ***48066** materials, nor sites where minimal activities are undertaken for the sole purpose of maintaining a mining claim);

(iv) Hazardous waste treatment, storage, or disposal facilities, including those that are operating under interim status or a permit under subtitle C of RCRA;

(v) Landfills, land application sites, and open dumps that receive or have received any industrial wastes (waste that is received from any of the facilities described under this subsection) including those that are subject to regulation under subtitle D of RCRA;

(vi) Facilities involved in the recycling of materials, including metal scrapyards, battery reclaimers, salvage yards, and automobile junkyards, including but limited to those classified as Standard Industrial Classification 5015 and 5093;

(vii) Steam electric power generating facilities, including coal handling sites;

(viii) Transportation facilities classified as Standard Industrial Classifications 40, 41, 42 (except 4221-25), 43, 44, 45, and 5171 which have vehicle maintenance shops, equipment cleaning operations, or airport deicing operations. Only those portions of the facility that are either involved in vehicle maintenance (including vehicle rehabilitation, mechanical repairs, painting, fueling, and lubrication), equipment cleaning operations, airport deicing operations, or which are otherwise identified under paragraphs (b)(14) (i)-(vii) or (ix)-(xi) of this section are associated with industrial activity;

(ix) Treatment works treating domestic sewage or any other sewage sludge or wastewater treatment device or system, used in the storage treatment, recycling, and reclamation of municipal or domestic sewage, including land dedicated to the disposal of sewage sludge that are located within the confines of the facility, with a design flow of 1.0 mgd or more, or required to have an approved pretreatment program under 40 CFR part 403. Not included are farm lands, domestic gardens or lands used for sludge management where sludge is beneficially reused and which are not physically located in the confines of the facility, or areas that are in compliance with section 405 of the CWA;

(x) Construction activity including clearing, grading and excavation activities except: operations that result in the disturbance of less than five acres of total land area which are not part of a larger common plan of development or sale;

(xi) Facilities under Standard Industrial Classifications 20, 21, 22, 23, 2434, 25, 265, 267, 27, 283, 285, 30, 31 (except 311), 323, 34 (except 3441), 35, 36, 37 (except 373), 38, 39, 4221-25, (and which are not otherwise included within categories (ii)-(x));

(c) Application requirements for storm water discharges associated with industrial activity—(1) Individual application. Dischargers of storm water associated with industrial activity are required to apply for an individual permit, apply for a permit through a group application, or seek coverage under a promulgated storm water general permit. Facilities that are required to obtain an individual permit, or any discharge of storm water which the Director is evaluating for designation (see [40 CFR 124.52\(c\)](#)) under paragraph (a)(1)(v) of this section and is not a municipal separate storm sewer, and which is not part of a group application described under paragraph (c)(2) of this section, shall submit an NPDES application in accordance with the requirements of [§ 122.21](#) as modified and supplemented by the provisions of the remainder of this paragraph. Applicants for discharges composed entirely of storm water shall submit Form 1 and Form 2F. Applicants for discharges composed of storm water and non-storm water shall submit Form 1, Form 2C, and Form 2F. Applicants for new sources or new discharges (as defined in [§ 122.2](#) of this part) composed of storm water and non-storm water shall submit Form 1, Form 2D, and Form 2F.

(i) Except as provided in [§ 122.26\(c\)\(1\)\(ii\)-\(iv\)](#), the operator of a storm water discharge associated with industrial activity subject to this section shall provide:

(A) A site map showing topography (or indicating the outline of drainage areas served by the outfall(s) covered in the application if a topographic map is unavailable) of the facility including: each of its drainage and discharge structures; the drainage area of each storm water outfall; paved areas and buildings within the drainage area of each storm water outfall, each past or present area used for outdoor storage or disposal of significant materials, each existing structural control measure to reduce pollutants in storm water runoff, materials loading and access areas, areas where pesticides, herbicides, soil conditioners and fertilizers are applied, each of its hazardous waste treatment, storage or disposal facilities (including each area not required to have a RCRA permit which is used for accumulating hazardous waste under [40 CFR 262.34](#)); each well where fluids from the facility are injected underground; springs, and other surface water bodies which receive storm water discharges from the facility;

(B) An estimate of the area of impervious surfaces (including paved areas and building roofs) and the total area drained by each outfall (within a mile radius of the facility) and a narrative description of the following: Significant materials that in the three years prior to the submittal of this application have been treated, stored or disposed in a manner to allow exposure to storm water; method of treatment, storage or disposal of such materials; materials management practices employed, in the three years prior to the submittal of this application, to minimize contact by these materials with storm water runoff; materials loading and access areas; the location, manner and frequency in which pesticides, herbicides, soil conditioners and fertilizers are applied; the location and a description of existing structural and non-structural control measures to reduce pollutants in storm water runoff; and a description of the treatment the storm water receives, including the ultimate disposal of any solid or fluid wastes other than by discharge;

(C) A certification that all outfalls that should contain storm water discharges associated with industrial activity have been tested or evaluated for the presence of non-storm water discharges which are not covered by a NPDES permit; tests for such non-storm water discharges may include smoke tests, fluorometric dye tests, analysis of accurate schematics, as well as other appropriate tests. The certification shall include a description of the method used, the date of any testing, and the on-site drainage points that were directly observed during a test;

(D) Existing information regarding significant leaks or spills of toxic or hazardous pollutants at the facility that have taken place within the three years prior to the submittal of this application;

(E) Quantitative data based on samples collected during storm events and collected in accordance with [§ 122.21](#) of this part from all outfalls containing a storm water discharge associated with industrial activity for the following parameters:

(1) Any pollutant limited in an effluent guideline to which the facility is subject;

(2) Any pollutant listed in the facility's NPDES permit for its process wastewater (if the facility is operating under an existing NPDES permit);

(3) Oil and grease, pH, BOD5, COD, TSS, total phosphorus, total Kjeldahl nitrogen, and nitrate plus nitrite nitrogen;

(4) Any information on the discharge required under paragraph § 122.21(g)(7)(iii) and (iv) of this part;

*48067 (5) Flow measurements or estimates of the flow rate, and the total amount of discharge for the storm event(s) sampled, and the method of flow measurement or estimation; and

(6) The date and duration (in hours) of the storm event(s) sampled, rainfall measurements or estimates of the storm event (in inches) which generated the sampled runoff and the duration between the storm event sampled and the end of the previous measurable (greater than 0.1 inch rainfall) storm event (in hours);

(F) Operators of a discharge which is composed entirely of storm water are exempt from the requirements of § 122.21(g)(2), (g)(3), (g)(4), (g)(5), (g)(7)(i), (g)(7)(ii), and (g)(7)(v); and

(G) Operators of new sources or new discharges (as defined in § 122.2 of this part) which are composed in part or entirely of storm water must include estimates for the pollutants or parameters listed in paragraph (c)(1)(i)(E) of this section instead of actual sampling data, along with the source of each estimate. Operators of new sources or new discharges composed in part or entirely of storm water must provide quantitative data for the parameters listed in paragraph (c)(1)(i)(E) of this section within two years after commencement of discharge, unless such data has already been reported under the monitoring requirements of the NPDES permit for the discharge. Operators of a new source or new discharge which is composed entirely of storm water are exempt from the requirements of § 122.21(k)(3)(ii), (k)(3)(iii), and (k)(5).

(ii) The operator of an existing or new storm water discharge that is associated with industrial activity solely under paragraph (b)(14)(x) of this section, is exempt from the requirements of § 122.21(g) and paragraph (c)(1)(i) of this section. Such operator shall provide a narrative description of:

(A) The location (including a map) and the nature of the construction activity;

(B) The total area of the site and the area of the site that is expected to undergo excavation during the life of the permit;

(C) Proposed measures, including best management practices, to control pollutants in storm water discharges during construction, including a brief description of applicable State and local erosion and sediment control requirements;

(D) Proposed measures to control pollutants in storm water discharges that will occur after construction operations have been completed, including a brief description of applicable State or local erosion and sediment control requirements;

(E) An estimate of the runoff coefficient of the site and the increase in impervious area after the construction addressed in the permit application is completed, the nature of fill material and existing data describing the soil or the quality of the discharge; and

(F) The name of the receiving water.

(iii) The operator of an existing or new discharge composed entirely of storm water from an oil or gas exploration, production, processing, or treatment operation, or transmission facility is not required to submit a permit application in accordance with paragraph (c)(1)(i) of this section, unless the facility:

(A) Has had a discharge of storm water resulting in the discharge of a reportable quantity for which notification is or was required pursuant to [40 CFR 117.21](#) or [40 CFR 302.6](#) at anytime since November 16, 1987; or

(B) Has had a discharge of storm water resulting in the discharge of a reportable quantity for which notification is or was required pursuant to [40 CFR 110.6](#) at any time since November 16, 1987; or

(C) Contributes to a violation of a water quality standard.

(iv) The operator of an existing or new discharge composed entirely of storm water from a mining operation is not required to submit a permit application unless the discharge has come into contact with, any overburden, raw material, intermediate products, finished product, byproduct or waste products located on the site of such operations.

(v) Applicants shall provide such other information the Director may reasonably require under [§ 122.21\(g\)\(13\)](#) of this part to determine whether to issue a permit and may require any facility subject to paragraph (c)(1)(ii) of this section to comply with paragraph (c)(1)(i) of this section.

(2) Group application for discharges associated with industrial activity. In lieu of individual applications or notice of intent to be covered by a general permit for storm water discharges associated with industrial activity, a group application may be filed by an entity representing a group of applicants (except facilities that have existing individual NPDES permits for storm water) that are part of the same subcategory (see 40 CFR subchapter N, part 405 to 471) or, where such grouping is inapplicable, are sufficiently similar as to be appropriate for general permit coverage under [§ 122.28](#) of this part. The part 1 application shall be submitted to the Office of Water Enforcement and Permits, U.S. EPA, 401 M Street, SW., Washington, DC 20460 (EN-336) for approval. Once a part 1 application is approved, group applicants are to submit Part 2 of the group application to the Office of Water Enforcement and Permits. A group application shall consist of:

(i) Part 1. Part 1 of a group application shall:

(A) Identify the participants in the group application by name and location. Facilities participating in the group application shall be listed in nine subdivisions, based on the facility location relative to the nine precipitation zones indicated in appendix E to this part.

(B) Include a narrative description summarizing the industrial activities of participants of the group application and explaining why the participants, as a whole, are sufficiently similar to be covered by a general permit;

(C) Include a list of significant materials stored exposed to precipitation by participants in the group application and materials management practices employed to diminish contact by these materials with precipitation and storm water runoff;

(D) Identify ten percent of the dischargers participating in the group application (with a minimum of 10 dischargers, and either a minimum of two dischargers from each precipitation zone indicated in appendix E of this part in which ten or more members of the group are located, or one discharger from each precipitation zone indicated in appendix E of this part in which nine or fewer members of the group are located) from which quantitative data will be submitted in part 2. If more than 1,000 facilities are identified in a group application, no more than 100 dischargers must submit quantitative data in Part 2. Groups of between four and ten dischargers may be formed. However, in groups of between four and ten, at least half the facilities must submit quantitative data, and at least one facility in each precipitation zone in which members of the group are located must submit data. A description of why the facilities selected to perform sampling and analysis are representative of the group as a whole in terms of the information provided in paragraph (c)(1)(i)(B) and (i)(C) of this section, shall accompany this section. Different factors impacting the nature of the storm water

discharges, such as processes used and material management, shall be represented, to the extent feasible, in a manner roughly equivalent to their proportion in the group.

(ii) Part 2. Part 2 of a group application shall contain quantitative *48068 data (NPDES Form 2F), as modified by paragraph (c)(1) of this section, so that when part 1 and part 2 of the group application are taken together, a complete NPDES application (Form 1, Form 2C, and Form 2F) can be evaluated for each discharger identified in paragraph (c)(2)(i)(D) of this section.

(d) Application requirements for large and medium municipal separate storm sewer discharges. The operator of a discharge from a large or medium municipal separate storm sewer or a municipal separate storm sewer that is designated by the Director under paragraph (a)(1)(v) of this section, may submit a jurisdiction-wide or system-wide permit application. Where more than one public entity owns or operates a municipal separate storm sewer within a geographic area (including adjacent or interconnected municipal separate storm sewer systems), such operators may be a coapplicant to the same application. Permit applications for discharges from large and medium municipal storm sewers or municipal storm sewers designated under paragraph (a)(1)(v) of this section shall include;

(1) Part 1. Part 1 of the application shall consist of;

(i) General information. The applicants' name, address, telephone number of contact person, ownership status and status as a State or local government entity.

(ii) Legal authority. A description of existing legal authority to control discharges to the municipal separate storm sewer system. When existing legal authority is not sufficient to meet the criteria provided in paragraph (d)(2)(i) of this section, the description shall list additional authorities as will be necessary to meet the criteria and shall include a schedule and commitment to seek such additional authority that will be needed to meet the criteria.

(iii) Source identification. (A) A description of the historic use of ordinances, guidance or other controls which limited the discharge of non-storm water discharges to any Publicly Owned Treatment Works serving the same area as the municipal separate storm sewer system.

(B) A USGS 7.5 minute topographic map (or equivalent topographic map with a scale between 1:10,000 and 1:24,000 if cost effective) extending one mile beyond the service boundaries of the municipal storm sewer system covered by the permit application. The following information shall be provided:

(1) The location of known municipal storm sewer system outfalls discharging to waters of the United States;

(2) A description of the land use activities (e.g. divisions indicating undeveloped, residential, commercial, agricultural and industrial uses) accompanied with estimates of population densities and projected growth for a ten year period within the drainage area served by the separate storm sewer. For each land use type, an estimate of an average runoff coefficient shall be provided;

(3) The location and a description of the activities of the facility of each currently operating or closed municipal landfill or other treatment, storage or disposal facility for municipal waste;

(4) The location and the permit number of any known discharge to the municipal storm sewer that has been issued a NPDES permit;

(5) The location of major structural controls for storm water discharge (retention basins, detention basins, major infiltration devices, etc.); and

(6) The identification of publicly owned parks, recreational areas, and other open lands.

(iv) Discharge characterization. (A) Monthly mean rain and snow fall estimates (or summary of weather bureau data) and the monthly average number of storm events.

(B) Existing quantitative data describing the volume and quality of discharges from the municipal storm sewer, including a description of the outfalls sampled, sampling procedures and analytical methods used.

(C) A list of water bodies that receive discharges from the municipal separate storm sewer system, including downstream segments, lakes and estuaries, where pollutants from the system discharges may accumulate and cause water degradation and a brief description of known water quality impacts. At a minimum, the description of impacts shall include a description of whether the water bodies receiving such discharges have been:

(1) Assessed and reported in section 305(b) reports submitted by the State, the basis for the assessment (evaluated or monitored), a summary of designated use support and attainment of Clean Water Act (CWA) goals (fishable and swimmable waters), and causes of nonsupport of designated uses;

(2) Listed under section 304(l)(1)(A)(i), section 304(l)(1)(A)(ii), or section 304(l)(1)(B) of the CWA that is not expected to meet water quality standards or water quality goals;

(3) Listed in State Nonpoint Source Assessments required by section 319(a) of the CWA that, without additional action to control nonpoint sources of pollution, cannot reasonably be expected to attain or maintain water quality standards due to storm sewers, construction, highway maintenance and runoff from municipal landfills and municipal sludge adding significant pollution (or contributing to a violation of water quality standards);

(4) Identified and classified according to eutrophic condition of publicly owned lakes listed in State reports required under section 314(a) of the CWA (include the following: A description of those publicly owned lakes for which uses are known to be impaired; a description of procedures, processes and methods to control the discharge of pollutants from municipal separate storm sewers into such lakes; and a description of methods and procedures to restore the quality of such lakes);

(5) Areas of concern of the Great Lakes identified by the International Joint Commission;

(6) Designated estuaries under the National Estuary Program under section 320 of the CWA;

(7) Recognized by the applicant as highly valued or sensitive waters;

(8) Defined by the State or U.S. Fish and Wildlife Services's National Wetlands Inventory as wetlands; and

(9) Found to have pollutants in bottom sediments, fish tissue or biosurvey data.

(D) Field screening. Results of a field screening analysis for illicit connections and illegal dumping for either selected field screening points or major outfalls covered in the permit application. At a minimum, a screening analysis shall include a narrative description, for either each field screening point or major outfall, of visual observations made during dry weather periods. If any flow is observed, two grab samples shall be collected during a 24 hour period with a minimum period of four hours between samples. For all such samples, a narrative description of the color, odor, turbidity, the presence of an oil sheen or surface scum as well as any other relevant observations regarding the potential presence of non-storm water discharges or illegal dumping shall be provided. In addition, a narrative description of the results of a field

analysis using suitable methods to estimate pH, total chlorine, total copper, total phenol, and detergents (or surfactants) shall be provided along with a description of the flow rate. Where the field analysis does not involve analytical methods approved under 40 CFR part 136, the applicant shall provide a description of the method used including the name of the manufacturer of the test method along with the range and accuracy of the test. Field screening points shall be either major outfalls or other outfall points (or ***48069** any other point of access such as manholes) randomly located throughout the storm sewer system by placing a grid over a drainage system map and identifying those cells of the grid which contain a segment of the storm sewer system or major outfall. The field screening points shall be established using the following guidelines and criteria:

(1) A grid system consisting of perpendicular north-south and east-west lines spaced $\frac{1}{4}$ mile apart shall be overlaid on a map of the municipal storm sewer system, creating a series of cells;

(2) All cells that contain a segment of the storm sewer system shall be identified; one field screening point shall be selected in each cell; major outfalls may be used as field screening points;

(3) Field screening points should be located downstream of any sources of suspected illegal or illicit activity;

(4) Field screening points shall be located to the degree practicable at the farthest manhole or other accessible location downstream in the system, within each cell; however, safety of personnel and accessibility of the location should be considered in making this determination;

(5) Hydrological conditions; total drainage area of the site; population density of the site; traffic density; age of the structures or buildings in the area; history of the area; and land use types;

(6) For medium municipal separate storm sewer systems, no more than 250 cells need to have identified field screening points; in large municipal separate storm sewer systems, no more than 500 cells need to have identified field screening points; cells established by the grid that contain no storm sewer segments will be eliminated from consideration; if fewer than 250 cells in medium municipal sewers are created, and fewer than 500 in large systems are created by the overlay on the municipal sewer map, then all those cells which contain a segment of the sewer system shall be subject to field screening (unless access to the separate storm sewer system is impossible); and

(7) Large or medium municipal separate storm sewer systems which are unable to utilize the procedures described in paragraphs (d)(1)(iv)(D) (1) through (6) of this section, because a sufficiently detailed map of the separate storm sewer systems is unavailable, shall field screen no more than 500 or 250 major outfalls respectively (or all major outfalls in the system, if less); in such circumstances, the applicant shall establish a grid system consisting of north-south and east-west lines spaced $\frac{1}{4}$ mile apart as an overlay to the boundaries of the municipal storm sewer system, thereby creating a series of cells; the applicant will then select major outfalls in as many cells as possible until at least 500 major outfalls (large municipalities) or 250 major outfalls (medium municipalities) are selected; a field screening analysis shall be undertaken at these major outfalls.

(E) Characterization plan. Information and a proposed program to meet the requirements of paragraph (d)(2)(iii) of this section. Such description shall include: the location of outfalls or field screening points appropriate for representative data collection under paragraph (d)(2)(iii)(A) of this section, a description of why the outfall or field screening point is representative, the seasons during which sampling is intended, a description of the sampling equipment. The proposed location of outfalls or field screening points for such sampling should reflect water quality concerns (see paragraph (d)(1)(iv)(C) of this section) to the extent practicable.

(v) Management programs. (A) A description of the existing management programs to control pollutants from the municipal separate storm sewer system. The description shall provide information on existing structural and source

controls, including operation and maintenance measures for structural controls, that are currently being implemented. Such controls may include, but are not limited to: Procedures to control pollution resulting from construction activities; floodplain management controls; wetland protection measures; best management practices for new subdivisions; and emergency spill response programs. The description may address controls established under State law as well as local requirements.

(B) A description of the existing program to identify illicit connections to the municipal storm sewer system. The description should include inspection procedures and methods for detecting and preventing illicit discharges, and describe areas where this program has been implemented.

(vi) Fiscal resources. (A) A description of the financial resources currently available to the municipality to complete part 2 of the permit application. A description of the municipality's budget for existing storm water programs, including an overview of the municipality's financial resources and budget, including overall indebtedness and assets, and sources of funds for storm water programs.

(2) Part 2. Part 2 of the application shall consist of:

(i) Adequate legal authority. A demonstration that the applicant can operate pursuant to legal authority established by statute, ordinance or series of contracts which authorizes or enables the applicant at a minimum to:

(A) Control through ordinance, permit, contract, order or similar means, the contribution of pollutants to the municipal storm sewer by storm water discharges associated with industrial activity and the quality of storm water discharged from sites of industrial activity;

(B) Prohibit through ordinance, order or similar means, illicit discharges to the municipal separate storm sewer;

(C) Control through ordinance, order or similar means the discharge to a municipal separate storm sewer of spills, dumping or disposal of materials other than storm water;

(D) Control through interagency agreements among coapplicants the contribution of pollutants from one portion of the municipal system to another portion of the municipal system;

(E) Require compliance with conditions in ordinances, permits, contracts or orders; and

(F) Carry out all inspection, surveillance and monitoring procedures necessary to determine compliance and noncompliance with permit conditions including the prohibition on illicit discharges to the municipal separate storm sewer.

(ii) Source identification. The location of any major outfall that discharges to waters of the United States that was not reported under paragraph (d)(1)(iii)(B)(1) of this section. Provide an inventory, organized by watershed of the name and address, and a description (such as SIC codes) which best reflects the principal products or services provided by each facility which may discharge, to the municipal separate storm sewer, storm water associated with industrial activity;

(iii) Characterization data. When "quantitative data" for a pollutant are required under paragraph (d)(a)(iii)(A)(3) of this paragraph, the applicant must collect a sample of effluent in accordance with [40 CFR 122.21\(g\)\(7\)](#) and analyze it for the pollutant in accordance with analytical methods approved under 40 CFR part 136. When no analytical method is approved the applicant may use any suitable method but must provide a description of the method. The applicant must provide information characterizing the quality and quantity of discharges covered in the permit application, including:

(A) Quantitative data from representative outfalls designated by the Director (based on information received ***48070** in part 1 of the application, the Director shall designate between five and ten outfalls or field screening points as representative of the commercial, residential and industrial land use activities of the drainage area contributing to the system or, where there are less than five outfalls covered in the application, the Director shall designate all outfalls) developed as follows:

(1) For each outfall or field screening point designated under this subparagraph, samples shall be collected of storm water discharges from three storm events occurring at least one month apart in accordance with the requirements at § 122.21(g)(7) (the Director may allow exemptions to sampling three storm events when climatic conditions create good cause for such exemptions);

(2) A narrative description shall be provided of the date and duration of the storm event(s) sampled, rainfall estimates of the storm event which generated the sampled discharge and the duration between the storm event sampled and the end of the previous measurable (greater than 0.1 inch rainfall) storm event;

(3) For samples collected and described under paragraphs (d)(2)(iii) (A)(1) and (A)(2) of this section, quantitative data shall be provided for: the organic pollutants listed in Table II; the pollutants listed in Table III (toxic metals, cyanide, and total phenols) of appendix D of 40 CFR part 122, and for the following pollutants:

Total suspended solids (TSS)

Total dissolved solids (TDS)

COD

BOD5

Oil and grease

Fecal coliform

Fecal streptococcus

pH

Total Kjeldahl nitrogen

Nitrate plus nitrite

Dissolved phosphorus

Total ammonia plus organic nitrogen

Total phosphorus

(4) Additional limited quantitative data required by the Director for determining permit conditions (the Director may require that quantitative data shall be provided for additional parameters, and may establish sampling conditions such as the location, season of sample collection, form of precipitation (snow melt, rainfall) and other parameters necessary to insure representativeness);

(B) Estimates of the annual pollutant load of the cumulative discharges to waters of the United States from all identified municipal outfalls and the event mean concentration of the cumulative discharges to waters of the United States from all identified municipal outfalls during a storm event (as described under § 122.21(c)(7)) for BOD5 , COD, TSS, dissolved

solids, total nitrogen, total ammonia plus organic nitrogen, total phosphorus, dissolved phosphorus, cadmium, copper, lead, and zinc. Estimates shall be accompanied by a description of the procedures for estimating constituent loads and concentrations, including any modelling, data analysis, and calculation methods;

(C) A proposed schedule to provide estimates for each major outfall identified in either paragraph (d)(2)(ii) or (d)(1)(iii)(B)(1) of this section of the seasonal pollutant load and of the event mean concentration of a representative storm for any constituent detected in any sample required under paragraph (d)(2)(iii)(A) of this section; and

(D) A proposed monitoring program for representative data collection for the term of the permit that describes the location of outfalls or field screening points to be sampled (or the location of instream stations), why the location is representative, the frequency of sampling, parameters to be sampled, and a description of sampling equipment.

(iv) Proposed management program. A proposed management program covers the duration of the permit. It shall include a comprehensive planning process which involves public participation and where necessary intergovernmental coordination, to reduce the discharge of pollutants to the maximum extent practicable using management practices, control techniques and system, design and engineering methods, and such other provisions which are appropriate. The program shall also include a description of staff and equipment available to implement the program. Separate proposed programs may be submitted by each coapplicant. Proposed programs may impose controls on a systemwide basis, a watershed basis, a jurisdiction basis, or on individual outfalls. Proposed programs will be considered by the Director when developing permit conditions to reduce pollutants in discharges to the maximum extent practicable. Proposed management programs shall describe priorities for implementing controls. Such programs shall be based on:

(A) A description of structural and source control measures to reduce pollutants from runoff from commercial and residential areas that are discharged from the municipal storm sewer system that are to be implemented during the life of the permit, accompanied with an estimate of the expected reduction of pollutant loads and a proposed schedule for implementing such controls. At a minimum, the description shall include:

(1) A description of maintenance activities and a maintenance schedule for structural controls to reduce pollutants (including floatables) in discharges from municipal separate storm sewers;

(2) A description of planning procedures including a comprehensive master plan to develop, implement and enforce controls to reduce the discharge of pollutants from municipal separate storm sewers which receive discharges from areas of new development and significant redevelopment. Such plan shall address controls to reduce pollutants in discharges from municipal separate storm sewers after construction is completed. (Controls to reduce pollutants in discharges from municipal separate storm sewers containing construction site runoff are addressed in paragraph (d)(2)(iv)(D) of this section;

(3) A description of practices for operating and maintaining public streets, roads and highways and procedures for reducing the impact on receiving waters of discharges from municipal storm sewer systems, including pollutants discharged as a result of deicing activities;

(4) A description of procedures to assure that flood management projects assess the impacts on the water quality of receiving water bodies and that existing structural flood control devices have been evaluated to determine if retrofitting the device to provide additional pollutant removal from storm water is feasible;

(5) A description of a program to monitor pollutants in runoff from operating or closed municipal landfills or other treatment, storage or disposal facilities for municipal waste, which shall identify priorities and procedures for inspections and establishing and implementing control measures for such discharges (this program can be coordinated with the program developed under paragraph (d)(2)(iv)(C) of this section); and

(6) A description of a program to reduce to the maximum extent practicable, pollutants in discharges from municipal separate storm sewers associated with the application of pesticides, herbicides and fertilizer which will include, as appropriate, controls such as educational activities, permits, certifications and other measures for commercial applicators and distributors, and controls for application in public right-of-ways and at municipal facilities.

***48071** (B) A description of a program, including a schedule, to detect and remove (or require the discharger to the municipal separate storm sewer to obtain a separate NPDES permit for) illicit discharges and improper disposal into the storm sewer. The proposed program shall include:

(1) A description of a program, including inspections, to implement and enforce an ordinance, orders or similar means to prevent illicit discharges to the municipal separate storm sewer system; this program description shall address all types of illicit discharges, however the following category of non-storm water discharges or flows shall be addressed where such discharges are identified by the municipality as sources of pollutants to waters of the United States: water line flushing, landscape irrigation, diverted stream flows, rising ground waters, uncontaminated ground water infiltration (as defined at [40 CFR 35.2005\(20\)](#)) to separate storm sewers, uncontaminated pumped ground water, discharges from potable water sources, foundation drains, air conditioning condensation, irrigation water, springs, water from crawl space pumps, footing drains, lawn watering, individual residential car washing, flows from riparian habitats and wetlands, dechlorinated swimming pool discharges, and street wash water (program descriptions shall address discharges or flows from fire fighting only where such discharges or flows are identified as significant sources of pollutants to waters of the United States);

(2) A description of procedures to conduct on-going field screening activities during the life of the permit, including areas or locations that will be evaluated by such field screens;

(3) A description of procedures to be followed to investigate portions of the separate storm sewer system that, based on the results of the field screen, or other appropriate information, indicate a reasonable potential of containing illicit discharges or other sources of non-storm water (such procedures may include: sampling procedures for constituents such as fecal coliform, fecal streptococcus, surfactants (MBAS), residual chlorine, fluorides and potassium; testing with fluorometric dyes; or conducting in storm sewer inspections where safety and other considerations allow. Such description shall include the location of storm sewers that have been identified for such evaluation);

(4) A description of procedures to prevent, contain, and respond to spills that may discharge into the municipal separate storm sewer;

(5) A description of a program to promote, publicize, and facilitate public reporting of the presence of illicit discharges or water quality impacts associated with discharges from municipal separate storm sewers;

(6) A description of educational activities, public information activities, and other appropriate activities to facilitate the proper management and disposal of used oil and toxic materials; and

(7) A description of controls to limit infiltration of seepage from municipal sanitary sewers to municipal separate storm sewer systems where necessary;

(C) A description of a program to monitor and control pollutants in storm water discharges to municipal systems from municipal landfills, hazardous waste treatment, disposal and recovery facilities, industrial facilities that are subject to section 313 of title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA), and industrial facilities that the municipal permit applicant determines are contributing a substantial pollutant loading to the municipal storm sewer system. The program shall:

(1) Identify priorities and procedures for inspections and establishing and implementing control measures for such discharges;

(2) Describe a monitoring program for storm water discharges associated with the industrial facilities identified in paragraph (d)(2)(iv)(C) of this section, to be implemented during the term of the permit, including the submission of quantitative data on the following constituents: any pollutants limited in effluent guidelines subcategories, where applicable; any pollutant listed in an existing NPDES permit for a facility; oil and grease, COD, pH, BOD₅, TSS, total phosphorus, total Kjeldahl nitrogen, nitrate plus nitrite nitrogen, and any information on discharges required under [40 CFR 122.21\(g\)\(7\)\(iii\)](#) and (iv).

(D) A description of a program to implement and maintain structural and non-structural best management practices to reduce pollutants in storm water runoff from construction sites to the municipal storm sewer system, which shall include:

(1) A description of procedures for site planning which incorporate consideration of potential water quality impacts;

(2) A description of requirements for nonstructural and structural best management practices;

(3) A description of procedures for identifying priorities for inspecting sites and enforcing control measures which consider the nature of the construction activity, topography, and the characteristics of soils and receiving water quality; and

(4) A description of appropriate educational and training measures for construction site operators.

(v) Assessment of controls. Estimated reductions in loadings of pollutants from discharges of municipal storm sewer constituents from municipal storm sewer systems expected as the result of the municipal storm water quality management program. The assessment shall also identify known impacts of storm water controls on ground water.

(vi) Fiscal analysis. For each fiscal year to be covered by the permit, a fiscal analysis of the necessary capital and operation and maintenance expenditures necessary to accomplish the activities of the programs under paragraphs (d)(2) (iii) and (iv) of this section. Such analysis shall include a description of the source of funds that are proposed to meet the necessary expenditures, including legal restrictions on the use of such funds.

(vii) Where more than one legal entity submits an application, the application shall contain a description of the roles and responsibilities of each legal entity and procedures to ensure effective coordination.

(viii) Where requirements under paragraph (d)(1)(iv)(E), (d)(2)(ii), (d)(2)(iii)(B) and (d)(2)(iv) of this section are not practicable or are not applicable, the Director may exclude any operator of a discharge from a municipal separate storm sewer which is designated under paragraph (a)(1)(v), (b)(4)(ii) or (b)(7)(ii) of this section from such requirements. The Director shall not exclude the operator of a discharge from a municipal separate storm sewer identified in appendix F, G, H or I of part 122, from any of the permit application requirements under this paragraph except where authorized under this section.

(e) Application deadlines. Any operator of a point source required to obtain a permit under paragraph (a)(1) of this section that does not have an effective NPDES permit covering its storm water outfalls shall submit an application in accordance with the following deadlines:

(1) For any storm water discharge associated with industrial activity identified in paragraph (b)(14) (i)-(xi) of this section, that is not part of a group application as described in paragraph (c)(2) of this section or which is not covered under a

promulgated storm water general permit, a permit application made pursuant to paragraph (c) of this section shall be submitted to the Director by November 18, 1991;

***48072** (2) For any group application submitted in accordance with paragraph (c)(2) of this section:

(i) Part 1 of the application shall be submitted to the Director, Office of Water Enforcement and Permits by March 18, 1991;

(ii) Based on information in the part 1 application, the Director will approve or deny the members in the group application within 60 days after receiving part 1 of the group application.

(iii) Part 2 of the application shall be submitted to the Director, Office of Water Enforcement and Permits no later than 12 months after the date of approval of the part 1 application.

(iv) Facilities that are rejected as members of a group by the permitting authority shall have 12 months to file an individual permit application from the date they receive notification of their rejection.

(v) A facility listed under paragraph (b)(14) (i)-(xi) of this section may add on to a group application submitted in accordance with paragraph (e)(2)(i) of this section at the discretion of the Office of Water Enforcement and Permits, and only upon a showing of good cause by the facility and the group applicant; the request for the addition of the facility shall be made no later than February 18, 1992; the addition of the facility shall not cause the percentage of the facilities that are required to submit quantitative data to be less than 10%, unless there are over 100 facilities in the group that are submitting quantitative data; approval to become part of group application must be obtained from the group or the trade association representing the individual facilities.

(3) For any discharge from a large municipal separate storm sewer system;

(i) Part 1 of the application shall be submitted to the Director by November 18, 1991;

(ii) Based on information received in the part 1 application the Director will approve or deny a sampling plan under paragraph (d)(1)(iv)(E) of this section within 90 days after receiving the part 1 application;

(iii) Part 2 of the application shall be submitted to the Director by November 16, 1992.

(4) For any discharge from a medium municipal separate storm sewer system;

(i) Part 1 of the application shall be submitted to the Director by May 18, 1992.

(ii) Based on information received in the part 1 application the Director will approve or deny a sampling plan under paragraph (d)(1)(iv)(E) of this section within 90 days after receiving the part 1 application.

(iii) Part 2 of the application shall be submitted to the Director by May 17, 1993.

(5) A permit application shall be submitted to the Director within 60 days of notice, unless permission for a later date is granted by the Director (see [40 CFR 124.52\(c\)](#)), for:

(i) A storm water discharge which the Director, or in States with approved NPDES programs, either the Director or the EPA Regional Administrator, determines that the discharge contributes to a violation of a water quality standard or is a significant contributor of pollutants to waters of the United States (see paragraph (a)(1)(v) of this section);

(ii) A storm water discharge subject to paragraph (c)(1)(v) of this section.

(6) Facilities with existing NPDES permits for storm water discharges associated with industrial activity shall maintain existing permits. New applications shall be submitted in accordance with the requirements of [40 CFR 122.21](#) and [40 CFR 122.26\(c\)](#) 180 days before the expiration of such permits. Facilities with expired permits or permits due to expire before May 18, 1992, shall submit applications in accordance with the deadline set forth under paragraph (e)(1) of this section.

(f) Petitions. (1) Any operator of a municipal separate storm sewer system may petition the Director to require a separate NPDES permit (or a permit issued under an approved NPDES State program) for any discharge into the municipal separate storm sewer system.

(2) Any person may petition the Director to require a NPDES permit for a discharge which is composed entirely of storm water which contributes to a violation of a water quality standard or is a significant contributor of pollutants to waters of the United States.

(3) The owner or operator of a municipal separate storm sewer system may petition the Director to reduce the Census estimates of the population served by such separate system to account for storm water discharged to combined sewers as defined by [40 CFR 35.2005\(b\)\(11\)](#) that is treated in a publicly owned treatment works. In municipalities in which combined sewers are operated, the Census estimates of population may be reduced proportional to the fraction, based on estimated lengths, of the length of combined sewers over the sum of the length of combined sewers and municipal separate storm sewers where an applicant has submitted the NPDES permit number associated with each discharge point and a map indicating areas served by combined sewers and the location of any combined sewer overflow discharge point.

(4) Any person may petition the Director for the designation of a large or medium municipal separate storm sewer system as defined by paragraphs (b)(4)(iv) or (b)(7)(iv) of this section.

(5) The Director shall make a final determination on any petition received under this section within 90 days after receiving the petition.

6. [Section 122.28\(b\)\(2\)\(i\)](#) is revised to read as follows:

§ 122.28 General permits (applicable to State NPDES programs, see § 123.25).

* * * * *

(b) * * *

(2) Requiring an individual permit. (i) The Director may require any discharger authorized by a general permit to apply for and obtain an individual NPDES permit. Any interested person may petition the Director to take action under this paragraph. Cases where an individual NPDES permit may be required include the following:

(A) The discharger or “treatment works treating domestic sewage” is not in compliance with the conditions of the general NPDES permit;

(B) A change has occurred in the availability of demonstrated technology or practices for the control or abatement of pollutants applicable to the point source or treatment works treating domestic sewage;

(C) Effluent limitation guidelines are promulgated for point sources covered by the general NPDES permit;

(D) A Water Quality Management plan containing requirements applicable to such point sources is approved;

(E) Circumstances have changed since the time of the request to be covered so that the discharger is no longer appropriately controlled under the general permit, or either a temporary or permanent reduction or elimination of the authorized discharge is necessary;

(F) Standards for sewage sludge use or disposal have been promulgated for the sludge use and disposal practice covered by the general NPDES permit; or

(G) The discharge(s) is a significant contributor of pollutants. In making this determination, the Director may consider the following factors:

(1) The location of the discharge with respect to waters of the United States;

(2) The size of the discharge;

(3) The quantity and nature of the pollutants discharged to waters of the United States; and

(4) Other relevant factors;

* * * * *

*48073 7. Section 122.42 is amended by adding paragraph (c) to read as follows:

§ 122.42 Additional conditions applicable to specified categories of NPDES permits (applicable to State NPDES programs, see § 123.25).

* * * * *

(c) Municipal separate storm sewer systems. The operator of a large or medium municipal separate storm sewer system or a municipal separate storm sewer that has been designated by the Director under § 122.26(a)(1)(v) of this part must submit an annual report by the anniversary of the date of the issuance of the permit for such system. The report shall include:

(1) The status of implementing the components of the storm water management program that are established as permit conditions;

(2) Proposed changes to the storm water management programs that are established as permit condition. Such proposed changes shall be consistent with § 122.26(d)(2)(iii) of this part; and

(3) Revisions, if necessary, to the assessment of controls and the fiscal analysis reported in the permit application under § 122.26(d)(2)(iv) and (d)(2)(v) of this part;

(4) A summary of data, including monitoring data, that is accumulated throughout the reporting year;

(5) Annual expenditures and budget for year following each annual report;

(6) A summary describing the number and nature of enforcement actions, inspections, and public education programs;

(7) Identification of water quality improvements or degradation;

7a. Part 122 is amended by adding appendices E through I as follows:

Appendix E to Part 122—Rainfall Zones of the United States

insert illustration 416A

Not Shown: Alaska (Zone 7); Hawaii (Zone 7); Northern Mariana Islands (Zone 7); Guam (Zone 7); American Samoa (Zone 7); Trust Territory of the Pacific Islands (Zone 7); Puerto Rico (Zone 3) Virgin Islands (Zone 3).

Source: Methodology for Analysis of Detention Basins for Control of Urban Runoff Quality, prepared for U.S. Environmental Protection Agency, Office of Water, Nonpoint Source Division, Washington, DC, 1986.

Appendix F to Part 122—Incorporated Places With Populations Greater Than 250,000 According to Latest Decennial Census by Bureau of Census.

State	Incorporated place
Alabama	Birmingham.
Arizona	Phoenix. Tucson.
California	Long Beach. Los Angeles. Oakland. Sacramento. San Diego. San Francisco. San Jose.
Colorado	Denver.
District of Columbia	
Florida	Jacksonville. Miami. Tampa.
Georgia	Atlanta.
Illinois	Chicago.
Indiana	Indianapolis.
Kansas	Wichita.
Kentucky	Louisville.

Louisiana	New Orleans.
Maryland	Baltimore.
Massachusetts	Boston.
Michigan	Detroit.
Minnesota	Minneapolis
	St. Paul.
Missouri	Kansas City.
	St. Louis.
Nebraska	Omaha.
New Jersey	Newark.
New Mexico	Albuquerque.
New York	Buffalo.
	Bronx Borough.
	Brooklyn Borough.
	Manhattan Borough.
	Queens Borough.
	Staten Island Borough.
North Carolina	Charlotte.
Ohio	Cincinnati.
	Cleveland.
	Columbus.
	Toledo.
Oklahoma	Oklahoma City.
	Tulsa.
Oregon	Portland.
Pennsylvania	Philadelphia.
	Pittsburgh.
Tennessee	Memphis.
	Nashville/Davidson.

Texas	Austin.
	Dallas.
	El Paso.
	Fort Worth.
	Houston.
	San Antonio.
Virginia	Norfolk.
	Virginia Beach.
Washington	Seattle.
Wisconsin	Milwaukee.

***48074 Appendix G to Part 122—Incorporated Places With Populations Greater Than 100,000 and Less Than 250,000 According to Latest Decennial Census by Bureau of Census**

State	Incorporated place
Alabama	Huntsville.
	Mobile.
	Montgomery.
Alaska	Anchorage.
Arizona	Mesa.
	Tempe.
Arkansas	Little Rock.
California	Anaheim.
	Bakersfield.
	Berkeley.
	Concord.
	Fremont.
	Fresno.
	Fullerton.
	Garden Grove.
	Glendale.

	Huntington Beach.
	Modesto.
	Oxnard.
	Pasadena.
	Riverside.
	San Bernadino.
	Santa Ana.
	Stockton.
	Sunnyvale.
	Torrance.
Colorado	Aurora.
	Colorado Springs.
	Lakewood.
	Pueblo.
Connecticut	Bridgeport.
	Hartford.
	New Haven.
	Stamford.
	Waterbury.
Florida	Fort Lauderdale.
	Hialeah.
	Hollywood.
	Orlando.
	St. Petersburg.
Georgia	Columbus.
	Macon.
	Savannah.
Idaho	Boise City.
Illinois	Peoria.

	Rockford.
Indiana	Evansville.
	Fort Wayne.
	Gary.
	South Bend.
Iowa	Cedar Rapids.
	Davenport.
	Des Moines.
Kansas	Kansas City.
	Topeka.
Kentucky	Lexington-Fayette.
Louisiana	Baton Rouge.
	Shreveport.
Massachusetts	Springfield.
	Worcester.
Michigan	Ann Arbor.
	Flint.
	Grand Rapids.
	Lansing.
	Livonia.
	Sterling Heights.
	Warren.
Mississippi	Jackson.
Missouri	Independence.
	Springfield.
Nebraska	Lincoln.
Nevada	Las Vegas.
	Reno.
New Jersey	Elizabeth.

	Jersey City.
	Paterson.
New York	Albany.
	Rochester.
	Syracuse.
	Yonkers.
North Carolina	Durham.
	Greensboro.
	Raleigh.
	Winston-Salem.
Ohio	Akron.
	Dayton.
	Youngstown.
Oregon	Eugene.
Pennsylvania	Allentown.
	Erie.
Rhode Island	Providence.
South Carolina	Columbia.
Tennessee	Chattanooga.
	Knoxville.
Texas	Amarillo.
	Arlington.
	Beaumont.
	Corpus Christi.
	Garland.
	Irving.
	Lubbock.
	Pasadena.
	Waco.

Utah	Salt Lake City.
Virginia	Alexandria.
	Chesapeake.
	Hampton.
	Newport News.
	Portsmouth.
	Richmond.
	Roanoke.
Washington	Spokane.
	Tacoma.
Wisconsin	Madison.

Appendix H to Part 122— Counties with Unincorporated Urbanized Areas With a Population of 250,000 or More According to the Latest Decennial Census by the Bureau of Census

State	County	Unincorporated urbanized population
California	Los Angeles	912,664
	Sacramento	449,056
	San Diego	304,758
Delaware	New Castle	257,184
Florida	Dade	781,949
Georgia	DeKalb	386,379
Hawaii	Honolulu	688,178
Maryland	Anne Arundel	271,458
	Baltimore	601,308
	Montgomery	447,993
	Prince George's	450,188
Texas	Harris	409,601
Utah	Salt Lake	304,632
Virginia	Fairfax	527,178
Washington	King	336,800

**Appendix I to Part 122—Counties With Unincorporated Urbanized Areas Greater Than 100,000, But Less Than 250,000
According to the Latest Decennial Census by the Bureau of Census**

State	County	Unincorporated urbanized population
Alabama	Jefferson	102,917
Arizona	Pima	111,479
California	Alameda	187,474
	Contra Costa	158,452
	Kern	117,231
	Orange	210,693
	Riverside	115,719
	San Bernardino	148,644
Florida	Broward	159,370
	Escambia	147,892
	Hillsborough	238,292
	Orange	245,325
	Palm Beach	167,089
	Pinellas	194,389
	Polk	104,150
Georgia	Sarasota	110,009
	Clayton	100,742
	Cobb	204,121
Kentucky	Richmond	118,529
	Jefferson	224,958
	Jefferson	140,836
Louisiana	Jefferson	140,836
North Carolina	Cumberland	142,727
Nevada	Clark	201,775
Oregon	Multnomah	141,100
	Washington	109,348
South Carolina	Greenville	135,398

	Richland	124,684
Virginia	Arlington	152,599
	Henrico	161,204
	Chesterfield	108,348
Washington	Snohomish	103,493
	Pierce	196,113

PART 123—STATE PROGRAM REQUIREMENTS

8. The authority citation for part 123 continues to read as follows:

*48075 Authority: Clean Water Act, 33 U.S.C. 1251 et seq.

9. Section 123.25 is amended by revising paragraph (a)(9) to read as follows:

§ 123.25 Requirements for permitting.

(a) * * *

(9) § 122.26—(Storm water discharges);

* * * * *

PART 124—PROCEDURES FOR DECISIONMAKING

10. The authority citation for part 124 continues to read as follows:

Authority: Resource Conservation and Recovery Act, 42 U.S.C. 6901 et seq.; Safe Drinking Water Act, 42 U.S.C. 300f et seq.; Clean Water Act, 33 U.S.C. 1251 et seq.; and Clean Air Act, 42 U.S.C. 1857 et seq.

11. Section 124.52 is revised to read as follows:

§ 124.52 Permits required on a case-by-case basis.

(a) Various sections of part 122, subpart B allow the Director to determine, on a case-by-case basis, that certain concentrated animal feeding operations (§ 122.23), concentrated aquatic animal production facilities (§ 122.24), storm water discharges (§ 122.26), and certain other facilities covered by general permits (§ 122.28) that do not generally require an individual permit may be required to obtain an individual permit because of their contributions to water pollution.

(b) Whenever the Regional Administrator decides that an individual permit is required under this section, except as provided in paragraph (c) of this section, the Regional Administrator shall notify the discharger in writing of that decision and the reasons for it, and shall send an application form with the notice. The discharger must apply for a permit under § 122.21 within 60 days of notice, unless permission for a later date is granted by the Regional Administrator. The question whether the designation was proper will remain open for consideration during the public comment period under § 124.11 or § 124.118 and in any subsequent hearing.

(c) Prior to a case-by-case determination that an individual permit is required for a storm water discharge under this section (see 40 CFR 122.26 (a)(1)(v) and (c)(1)(v)), the Regional Administrator may require the discharger to submit

a permit application or other information regarding the discharge under section 308 of the CWA. In requiring such information, the Regional Administrator shall notify the discharger in writing and shall send an application form with the notice. The discharger must apply for a permit under § 122.26 within 60 days of notice, unless permission for a later date is granted by the Regional Administrator. The question whether the initial designation was proper will remain open for consideration during the public comment period under § 124.11 or § 124.118 and in any subsequent hearing.

Note: The following form will not appear in the Code of Federal Regulations.

BILLING CODE 6560-50-M

[FR Doc. 90-26315 Filed 11-9-90; 12:17 pm]

Footnotes

- 1 Indeed, the DC Circuit has held, in the storm water context, that EPA may not exempt any point source discharges of pollutants from the requirement to obtain an NPDES permit. *NRDC v. Costle*, 569 F.2d 1369, 1377 (DC Cir. 1977).
- 2 It should be noted that EPA did not promulgate the required storm water regulations by February, 1989, as contemplated by section 402(p)(4)(A). As discussed below, today's rule generally requires industrial storm water discharges to file a permit application in one year.
- 3 EPA notes that the legal issue raised by commenters regarding whether industrial storm water would be controlled to BAT if covered by a municipal permit at the MEP level is primarily a theoretical issue. As explained above, the proposal assumed that cities would establish controls on industry very similar to those established in an NPDES permit using best professional judgment. EPA's key concern, rather, is whether cities can, in fact, establish such controls. Thus, today's final rule should not appreciably change the requirements to be imposed on industrial sources, only how those requirements are enforced.
- 4 The courts in *NRDC v. Train*, 396 F.Supp. 1393 (D.D.C. 1975) aff'd, *NRDC v. Costle*, 568 F.2d 1369 (DC Cir. 1977), have acknowledged the administrative burden placed on the Agency by requiring individual permits for a large number of storm water discharges. These courts have recognized EPA's discretion to use certain administrative devices, such as area permits or general permits to help manage its workload. In addition, the courts have recognized flexibility in the type of permit conditions that are established, including requirements for best management practices.
- 5 The Bureau of Census defines urbanized areas to provide a description of high-density development. Urbanized areas are comprised of a central city (or cities) with a surrounding closely settled area. The population of the entire urbanized area must be greater than 50,000 persons, and the closely settled area outside of the city, the urban fringe, must generally have a population density greater than 1,000 persons per square mile (just over 1.5 persons per acre) to be included.

End of Document

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ATTACHMENT 9

61 FR 41698-01, 1996 WL 446384(F.R.)
RULES and REGULATIONS
ENVIRONMENTAL PROTECTION AGENCY
40 CFR Part 122
[FRL-5533-7]

Interpretative Policy Memorandum on Reapplication
Requirements for Municipal Separate Storm Sewer Systems

Friday, August 9, 1996

*41698 AGENCY: Environmental Protection Agency (EPA).

ACTION: Policy statement; interpretation.

SUMMARY: By today's notice EPA announces federal policy, signed by Robert Perciasepe, Assistant Administrator for Water, on May 17, 1996, regarding application requirements for renewal or reissuance of National Pollutant Discharge Elimination System (NPDES) permits for municipal separate storm sewer systems (MS4s). Today's action responds to requests from municipalities and NPDES permit writers for clarification about regulations which do not appear to address reapplication requirements, i.e., permit reissuance. Today's notice explains that MS4 permit applicants and NPDES permit writers have considerable discretion to customize appropriate and streamlined reapplication requirements on a case-by-case basis, specifically, by using the fourth year annual report as the principal reapplication document.

EFFECTIVE DATE: This policy is effective May 17, 1996.

FOR FURTHER INFORMATION CONTACT: Marilyn Fonseca, Office of Wastewater Management, MC-4203, U.S. Environmental Protection Agency, 401 M Street SW., Washington, DC 20460, (202)-260-0592, e-mail: Fonseca.Marilyn(A)epamail.epa.gov

SUPPLEMENTARY INFORMATION: The text of this policy is as follows:

Municipal Separate Storm Sewer System Permit Reapplication Policy

The 1987 amendments to the Clean Water Act added Section 402(p) which directed the Environmental Protection Agency to establish regulations governing storm water discharges under the National Pollutant Discharge Elimination System (NPDES) program. Early in the program, Congress specifically required NPDES permits for municipal separate storm sewer systems (MS4s) serving populations over 100,000. In response, EPA promulgated regulations in 1990 that established permit application requirements for MS4s that serve populations over 100,000. MS4 permits have since been drafted and finalized for many municipal systems. A number of MS4 permits are due to expire and must be reissued.

EPA is providing this policy memorandum to outline permit reapplication requirements for regulated MS4s. There are three components to EPA's reapplication policy. First, EPA is not requiring that the process used for part 1 and 2 of the initial permit application be repeated in full. Second, EPA has identified basic information that should be included in every reapplication package. Finally, EPA is seeking to improve existing MS4 storm water management programs by using information and experience municipalities have gained during the previous permit term.

Is a Permit Reapplication Necessary?

Yes. The requirement that all point source discharges authorized by a NPDES permit must reapply is well established at [40 CFR 122.41\(b\)](#) and [122.46\(a\)](#):

Duty to reapply. If the permittee wishes to continue an activity regulated by this permit after the expiration date of this permit, the permittee must apply for and obtain a new permit.

Duration of permits. NPDES permits shall be effective for a fixed term not to exceed 5 years.

The reapplication requirement is also found at [40 CFR 122.21\(d\)](#):

Duty to reapply. . . . All other permittees with currently effective permits shall submit a new application 180 days before the existing permit expires.

Therefore, all regulated Phase I MS4s need to participate in a permit reapplication process.

Where a complete reapplication package has been submitted as directed by the permit authority, conditions of an expired MS4 permit will continue until the effective date of a new permit, as stated in [40 CFR 122.6\(a\)](#) and [\(b\)](#):

(a) EPA permits. When EPA is the permit-issuing authority, the conditions of an expired permit continue in force . . . until the effective date of a new permit . . . and (b) Effect. Permits continued under this section remain fully effective and enforceable.

Are Initial MS4 Permit Application Requirements Applicable To Permit Reapplication?

No. The scope of the initial permit application requirements was comprehensive and regulated MS4s invested considerable resources to develop these applications. The initial applications have laid the foundation for the long-term implementation of MS4 storm water management programs. EPA believes reapplications should focus on maintenance and improvement of these programs.

The MS4 permit application requirements at [40 CFR 122.26\(d\)\(1\)](#) and [\(2\)](#) apply to the first round permit applications required of large and medium MS4s. The permit application deadline regulations in [40 CFR 122.26\(e\) \(3\) & \(4\)](#) clearly reflect the “one time” nature of the Part I & II application requirements for large and medium MS4s. EPA has not promulgated regulations applicable to reapplication for MS4s. Requirements to demonstrate adequate legal authority, perform source identification (e.g., identify major outfalls and facility inventory), characterize data, and develop a storm water management program should have been addressed in the initial application phase. Therefore, to request the same information again, where it has already been provided and has not changed, would be needlessly redundant. Thus, as a practical matter, most first-time permit application requirements are unnecessary for purposes of second round MS4 permit application.

What Basic Information Must Be Submitted for an MS4 Permit Reapplication?

EPA is committed to allowing permitting authorities to develop flexible reapplication requirements that are site-specific. In the absence of reapplication regulations specific to MS4s, minimum reapplication requirements are drawn from the generic NPDES permit application regulations at [40 CFR 122.21\(f\)](#). EPA regulations suggest the following basic information be included as part of any permit reapplication:

—name and mailing address(es) of the permittee(s) that operate the MS4, and

—names and titles of the primary administrative and technical contacts for the municipal permittee(s).

In addition, in the reapplication, municipalities should identify any proposed changes or improvements to the storm water management program and monitoring activities for the upcoming five year term of the permit, if those proposed changes have not already been submitted pursuant to [40 CFR 122.42\(c\)](#). [A requirement to submit proposed changes to the storm water management program is specified in the annual reporting requirements in [40 CFR 122.42\(c\)\(2\)](#).] EPA encourages permitting authorities to make use of the fourth year annual report as the basic permit reapplication package.

***41699** Changes to the storm water management program may be justified due to the availability of new information on the relative magnitude of a problem or new data on water quality impacts of the storm water discharges. Municipalities may also propose to de-emphasize some program components and strengthen others, based on the experience gained under the first permit. Proposed elimination of a program component might be justified upon permit renewal; for example, when a component is no longer a problem area (i.e., all detention basins have been retrofitted) or when a different water quality program would serve the same goals.

The components of the original storm water management program which are found to be effective should be continued and made an ongoing part of the proposed new storm water management program. Such components may include:

- continued emphasis on public education programs, particularly programs on proper disposal of waste oil and household hazardous waste and pesticide application;
- continued, if not greater, emphasis on addressing impacts of new development/construction;
- proper storm design criteria for all new developments;
- retrofitting and/or upgrading of the existing storm sewer system according to a priority system;
- more frequent maintenance of storm sewer systems and storm water treatment systems;
- coordination with adjacent MS4s on monitoring or other efforts; and
- using a watershed approach to storm water management.

The accumulated annual report information as outlined in [40 CFR 122.42\(c\)](#) should be evaluated and, to the extent applicable, be incorporated by reference into the reapplication package.

To reiterate, MS4s may use the fourth year annual report, which emphasizes proposed changes to the storm water management program, with the additional required basic information, as the MS4 permit reapplication. Changes to the storm water management program should be jointly developed by the permitting authority and the permit applicant. In this regard, we urge permit issuance authorities and permittees to work together to assure that the permit reapplication is complete and addresses all appropriate issues. The permitting agency may request additional technical information be submitted in the reapplication. NPDES permitting authorities, therefore, can exercise their information gathering authority under CWA Section 308, or analogous State provisions to complete the permit reapplication on a case-by case basis, as appropriate.

What Additional Information Should Be Considered for a Reapplication?

EPA also recommends the following information be provided by reapplicants to the permitting authority, as outlined in [40 CFR 122.26\(d\)\(1\)\(iv\)\(C\)](#):

- identification of any previously unidentified water bodies that receive discharges from the MS4, and
- a summary of any known water quality impacts on the newly identified receiving waters (based on best available data).

In addition, EPA recommends the following information be provided to the permitting authority as well:

—a description of changes in co-applicants since issuance of initial MS4 permit, and

—identification number of the existing NPDES MS4 permit.

Further, EPA encourages permitting authorities to work with permittees to determine if storm water monitoring efforts are appropriate and useful. For example, during the previous permit term, municipalities may have found that their monitoring program was not fully successful in characterizing the nature and extent of storm water problems. Reapplication is an appropriate time for MS4s to evaluate their monitoring program and propose changes to make the program more appropriate and useful. To accomplish this, municipalities may wish to consider using monitoring techniques other than end-of-the pipe chemical-specific monitoring, including habitat assessments, bioassessments and/or other biological methods.

Permitting authorities should incorporate any such new information, together with assembled materials from the initial application and the existing permit, to form the administrative record for any reissued MS4 permits. Such administrative records should be made publicly available as part of the process to reissue the permit.

Dated: June 28, 1996.

Michael B. Cook,

Director, Office of Wastewater Management.

[FR Doc. 96-20228 Filed 8-8-96; 8:45 am]

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ATTACHMENT 10

64 FR 68722-01, 1999 WL 1111032(F.R.)
RULES and REGULATIONS
ENVIRONMENTAL PROTECTION AGENCY
40 CFR Parts 9, 122 , 123, and 124
[FRL—6470-8]
RIN 2040-AC82

National Pollutant Discharge Elimination System—Regulations for Revision
of the Water Pollution Control Program Addressing Storm Water Discharges

Wednesday, December 8, 1999

***68722** AGENCY: Environmental Protection Agency (EPA).

ACTION: Final rule.

SUMMARY: Today's regulations (Phase II) expand the existing National Pollutant Discharge Elimination System (NPDES) storm water program (Phase I) to address storm water discharges from small municipal separate storm sewer systems (MS4s) (those serving less than 100,000 persons) and construction sites that disturb one to five acres. Although these sources are automatically designated by today's rule, the rule allows for the exclusion of certain sources from the national program based on a demonstration of the lack of impact on water quality, as well as the inclusion of others based on a higher likelihood of localized adverse impact on water quality. Today's regulations also exclude from the NPDES program storm water discharges from industrial facilities that have “no exposure” of industrial activities or materials to storm water. Finally, today's rule extends from August 7, 2001 until March 10, 2003 the deadline by which certain industrial facilities owned by small MS4s must obtain coverage under an NPDES permit. This rule establishes a cost-effective, flexible approach for reducing environmental harm by storm water discharges from many point sources of storm water that are currently unregulated.

EPA believes that the implementation of the six minimum measures identified for small MS4s should significantly reduce pollutants in urban storm water compared to existing levels in a cost-effective manner. Similarly, EPA believes that implementation of Best Management Practices (BMP) controls at small construction sites will also result in a significant reduction in pollutant discharges and an improvement in surface water quality. EPA believes this rule will result in monetized financial, recreational and health benefits, as well as benefits that EPA has been unable to monetize. Expected benefits include reduced scouring and erosion of streambeds, improved aesthetic quality of waters, reduced eutrophication of aquatic systems, benefit to wildlife and endangered and threatened species, tourism benefits, biodiversity benefits and reduced costs for siting reservoirs. In addition, the costs of industrial storm water controls will decrease due to the exclusion of storm water discharges from facilities where there is “no exposure” of storm water to industrial activities and materials.

DATES: This regulation is effective on February 7, 2000. The incorporation by reference of the rainfall erosivity factor publication listed in the rule is approved by the Director of the Federal Register as of February 7, 2000. For judicial review purposes, this final rule is promulgated as of 1:00 p.m. Eastern Standard Time, on December 22, 1999 as provided in [40 CFR 23.2](#).

ADDRESSES: The complete administrative record for the final rule and the ICR have been established under docket numbers W-97-12 (rule) and W-97-15 (ICR), and includes supporting documentation as well as printed, paper versions of electronic comments. Copies of information in the record are available upon request. A reasonable fee may be charged for copying. The record is available for inspection and copying from 9 a.m. to 4 p.m., Monday through Friday, excluding

legal holidays, at the Water Docket, EPA, East Tower Basement, 401 M Street, SW, Washington, DC. For access to docket materials, please call 202/260-3027 to schedule an appointment.

FOR FURTHER INFORMATION CONTACT: George Utting, Office of Wastewater Management, Environmental Protection Agency, Mail Code 4203, 401 M Street, SW, Washington, DC 20460; (202) 260-5816; sw2@epa.gov.

SUPPLEMENTARY INFORMATION: Entities potentially regulated by this action include:

Category	Examples of regulated entities
Federal, State, Tribal, and Local Governments	Operators of small separate storm sewer systems, industrial facilities that discharge storm water associated with industrial activity or construction activity disturbing 1 to 5 acres.
Industry	Operators of industrial facilities that discharge storm water associated with industrial activity.
Construction Activity	Operators of construction activity disturbing 1 to 5 acres.

This table is not intended to be exhaustive, but rather provides a guide for readers regarding entities likely to be regulated by this action. This table lists the types of entities that EPA is now aware could potentially be regulated by this action. Other types of entities not listed in the table could also be regulated. To determine whether your facility or company is regulated by this action, you should carefully examine the applicability criteria in §§122.26(b), 122.31, 122.32, and 123.35 of the final rule. If you have questions regarding the applicability of this action to a particular entity, consult the person listed in the preceding FOR FURTHER INFORMATION CONTACT section.

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I. Congressional Review Act

I. Background

A. Proposed Rule and Pre-Proposal Outreach

On January 9, 1998 ([63 FR 1536](#)), EPA proposed to expand the National Pollutant Discharge Elimination System (NPDES) storm water program to include storm water discharges from municipal separate storm sewer systems (MS4s) and construction sites that were smaller than those previously included in the program. The proposal also addressed industrial sources that have “no exposure” of industrial activities and materials to storm water. Today, EPA is promulgating a final rule to implement most of the proposed revisions with minor changes based on public comments received on the proposal. Today's final rule also extends the deadline by which certain industrial facilities operated by municipalities of less than 100,000 population must be covered by a NPDES permit; the deadline is changed from August 7, 2001 until March 10, 2003.

In 1972, Congress amended the Federal Water Pollution Control Act (commonly referred to as the Clean Water Act (CWA)) to prohibit the discharge of any pollutant to waters of the United States from a point source unless the discharge is authorized by an NPDES permit. The NPDES program is a program designed to track point sources and require the implementation of the controls necessary to minimize the discharge of pollutants. Initial efforts to improve water quality under the NPDES program primarily focused on reducing pollutants in industrial process wastewater and municipal sewage. These discharge sources were easily identified as responsible for poor, often drastically degraded, water quality conditions.

As pollution control measures for industrial process wastewater and municipal sewage were implemented and refined, it became increasingly evident that more diffuse sources of water pollution were also significant causes of water quality impairment. Specifically, storm water runoff draining large surface areas, such as agricultural and urban land, was found to be a major cause of water quality impairment, including the nonattainment of designated beneficial uses.

In 1987, Congress amended the CWA to require implementation, in two phases, of a comprehensive national program for addressing storm water discharges. The first phase of the program, commonly referred to as “Phase I,” was promulgated on November 16, 1990 ([55 FR 47990](#)). Phase I requires NPDES permits for storm water discharge from a large number of priority sources including municipal separate storm sewer systems (“MS4s”) generally serving populations of 100,000 or more and several categories of industrial activity, including construction sites that disturb five or more acres of land.

Today's rule, which is the second phase of the storm water program, expands the existing program to include discharges of storm water from smaller municipalities in urbanized areas and from construction sites that disturb between one and five acres of land. Today's rule allows certain sources to be excluded from the national program based on a demonstrable lack of impact on water quality. The rule also allows other sources not automatically regulated on a national basis to be designated for inclusion based on increased likelihood for localized adverse impact on water quality. *68724 Today's rule also conditionally excludes storm water discharges from industrial facilities that have “no exposure” of industrial

activities or materials to storm water. Today's rule and the effort that led to its development are commonly referred to as "Phase II." On August 7, 1995, EPA promulgated a final rule that required facilities to be regulated under Phase II to apply for a NPDES permit by August 7, 2001, unless the NPDES permitting authority designates them as requiring a permit by an earlier date. (60 FR 40230). That rule is referred to as "the Interim Phase II Rule." Today's rule replaces the Interim Phase II rule.

EPA performed extensive outreach and worked with a variety of stakeholders prior to proposing today's rule. On September 9, 1992, EPA published a notice requesting information and public comment on how to prepare regulations under CWA section 402(p)(6) (see 57 FR 41344). The notice identified three sets of issues associated with developing new NPDES storm water regulations: (1) How should EPA identify unregulated sources of storm water to protect water quality, (2) what types of control strategies should EPA develop for these sources, and (3) what are appropriate deadlines for implementing new requirements. The notice recognized that potential sources for coverage under the section 402(p)(6) regulations would fall into two main categories: municipal separate storm sewer systems and individual (commercial and residential) sources. EPA received more than 130 comments on the September 9, 1992, notice. For further discussion of the comments received, see *Storm Water Discharges Potentially Addressed by Phase II of the National Pollutant Discharge Elimination System: Report to Congress* (EPA, 1995a), pp. 1-21 to 1-22, and Appendix J (which provides a detailed summary of the comments received as they relate to the specific issues raised in the notice).

In early 1993, the Rensselaerville Institute and EPA held public and expert meetings to assist in developing and analyzing options for identifying unregulated sources and possible controls. The report on the 1993 meetings identified two options that were favored by the various groups that participated. One option was a program that allowed States to select sources to be controlled in a manner consistent with criteria developed by EPA. A second option was a tiered approach under which EPA would select high priority sources for control by NPDES permits and States would select other sources for control under a State water quality program other than the NPDES program. For additional details see the "Report on the EPA Storm Water Management Program (Rensselaerville Study)," Appendix I of *Storm Water Discharges Potentially Addressed by Phase II of the National Pollutant Discharge Elimination System: Report to Congress* (EPA, 1995a).

EPA also conducted outreach with representatives of small entities in conjunction with the convening of a Small Business Advocacy Review Panel under the Small Business Regulatory Enforcement Fairness Act (SBREFA). This process is discussed in section IV.E of today's preamble. For additional background see the discussion in the preamble to the proposal for today's rule.

To assist EPA by providing advice and recommendations regarding the urban municipal wet weather water pollution control program, EPA established the Urban Wet Weather Flows Federal Advisory Committee (hereinafter, "FACA Committee") under the Federal Advisory Committee Act (FACA). The Office of Management and Budget approved the charter for the FACA Committee on March 10, 1995. The FACA Committee provided a forum for identifying and addressing issues associated with water quality impacts from storm water sources.

The FACA Committee established two subcommittees: the Storm Water Phase II FACA Subcommittee and the Sanitary Sewer Overflows (SSOs) FACA Subcommittee. Consistent with the requirements of FACA, the membership of both the FACA Committee and the subcommittees was balanced among EPA's various outside stakeholder interests, including representatives from municipalities, States, Indian Tribes, EPA, industrial and commercial sectors, agriculture, and environmental and public interest groups.

The Storm Water Phase II FACA Subcommittee ("Subcommittee") met fourteen times between September 1995 and June 1998. The 32 Subcommittee members discussed possible regulatory frameworks at these meetings as well as during numerous other meetings and conference calls. Members of the FACA Committee provided views regarding the development of the "no exposure" provision and other provisions in drafts of the Phase II rule. EPA provided

Subcommittee members with four successive drafts of the proposed rule and preamble, outlines of the rule, summaries of the written comments received on each draft, and documents identifying the changes made to each draft. In the course of providing input to the Committee, individual Subcommittee members provided significant input and advice that EPA considered in the context of public comments received. Ultimately, the Subcommittee did not provide a written report back to the FACA Committee, and the FACA Committee did not provide written advice and recommendations to EPA. The Agency, therefore, did not rely on group recommendations in developing today's rule, but does consider the process to have resulted in important public outreach.

B. Water Quality Concerns/Environmental Impact Studies and Assessments

Storm water runoff from lands modified by human activities can harm surface water resources and, in turn, cause or contribute to an exceedance of water quality standards by changing natural hydrologic patterns, accelerating stream flows, destroying aquatic habitat, and elevating pollutant concentrations and loadings. Such runoff may contain or mobilize high levels of contaminants, such as sediment, suspended solids, nutrients (phosphorous and nitrogen), heavy metals and other toxic pollutants, pathogens, toxins, oxygen-demanding substances (organic material), and floatables (U.S. EPA. 1992. Environmental Impacts of Storm Water Discharges: A National Profile. EPA 841-R-92-001. Office of Water. Washington, DC). After a rain, storm water runoff carries these pollutants into nearby streams, rivers, lakes, estuaries, wetlands, and oceans. The highest concentrations of these contaminants often are contained in “first flush” discharges, which occur during the first major storm after an extended dry period (Schueler, T.R. 1994. “First Flush of Stormwater Pollutants Investigated in Texas.” Note 28. Watershed Protection Techniques 1(2)). Individually and combined, these pollutants impair water quality, threatening designated beneficial uses and causing habitat alteration or destruction.

Uncontrolled storm water discharges from areas of urban development and construction activity negatively impact receiving waters by changing the physical, biological, and chemical composition of the water, resulting in an unhealthy environment for aquatic organisms, wildlife, and humans. The following sections discuss the studies and data that address and support this finding.

Although water quality problems also can occur from agricultural storm water discharges and return flows from irrigated agriculture, this area of *68725 concern is statutorily exempted from regulation as a point source under the Clean Water Act and is not discussed here. (See CWA section 502(14)). Other storm water sources not specifically identified in the regulations may be of concern in certain areas and can be addressed on a case-by-case (or category-by-category) basis through the NPDES designation authority preserved by CWA section 402(p)(2)(6), as well as today's rule.

1. Urban Development

Urbanization alters the natural infiltration capability of the land and generates a host of pollutants that are associated with the activities of dense populations, thus causing an increase in storm water runoff volumes and pollutant loadings in storm water discharged to receiving waterbodies (U.S. EPA, 1992). Urban development increases the amount of impervious surface in a watershed as farmland, forests, and meadowlands with natural infiltration characteristics are converted into buildings with rooftops, driveways, sidewalks, roads, and parking lots with virtually no ability to absorb storm water. Storm water and snow-melt runoff wash over these impervious areas, picking up pollutants along the way while gaining speed and volume because of their inability to disperse and filter into the ground. What results are storm water flows that are higher in volume, pollutants, and temperature than the flows in less impervious areas, which have more natural vegetation and soil to filter the runoff (U.S. EPA, 1997. Urbanization and Streams: Studies of Hydrologic Impacts. EPA 841-R-97-009. Office of Water. Washington, DC).

Studies reveal that the level of imperviousness in an area strongly correlates with the quality of the nearby receiving waters. For example, a study in the Puget Sound lowland ecoregion found that when the level of basin development exceeded 5 percent of the total impervious area, the biological integrity and physical habitat conditions that are necessary

to support natural biological diversity and complexity declined precipitously (May, C.W., E.B. Welch, R.R. Horner, J.R. Karr, and B.W. May. 1997. *Quality Indices for Urbanization Effects in Puget Sound Lowland Streams*, Technical Report No. 154. University of Washington Water Resources Series). Research conducted in numerous geographical areas, concentrating on various variables and employing widely different methods, has revealed a similar conclusion: stream degradation occurs at relatively low levels of imperviousness, such as 10 to 20 percent (even as low as 5 to 10 percent according to the findings of the Washington study referenced above) (Schueler, T.R. 1994. "The Importance of Imperviousness." *Watershed Protection Techniques* 1(3); May, C., R.R. Horner, J.R. Karr, B.W. Mar, and E.B. Welch. 1997. "Effects Of Urbanization On Small Streams In The Puget Sound Lowland Ecoregion." *Watershed Protection Techniques* 2(4); Yoder, C.O., R.J. Miltner, and D. White. 1999. "Assessing the Status of Aquatic Life Designated Uses in Urban and Suburban Watersheds." In *Proceedings: National Conference on Retrofits Opportunities in Urban Environments*. EPA 625-R-99-002, Washington, DC; Yoder, C.O and R.J. Miltner. 1999. "Assessing Biological Quality and Limitations to Biological Potential in Urban and Suburban Watersheds in Ohio." In *Comprehensive Stormwater & Aquatic Ecosystem Management Conference Papers*, Auckland, New Zealand). Furthermore, research has indicated that few, if any, urban streams can support diverse benthic communities at imperviousness levels of 25 percent or more. An area of medium density single family homes can be anywhere from 25 percent to nearly 60 percent impervious, depending on the design of the streets and parking (Schueler, 1994).

In addition to impervious areas, urban development creates new pollution sources as population density increases and brings with it proportionately higher levels of car emissions, car maintenance wastes, pet waste, litter, pesticides, and household hazardous wastes, which may be washed into receiving waters by storm water or dumped directly into storm drains designed to discharge to receiving waters. More people in less space results in a greater concentration of pollutants that can be mobilized by, or disposed into, storm water discharges from municipal separate storm sewer systems. A modeling system developed for the Chesapeake Bay indicated that contamination of the Bay and its tributaries from runoff is comparable to, if not greater than, contamination from industrial and sewage sources (Cohn-Lee, R. and D. Cameron. 1992. "Urban Stormwater Runoff Contamination of the Chesapeake Bay: Sources and Mitigation." *The Environmental Professional*, Vol. 14).

a. Large-Scale Studies and Assessments

In support of today's regulatory designation of MS4s in urbanized areas, the Agency relied on broad-based assessments of urban storm water runoff and related water quality impacts, as well as more site-specific studies. The first national assessment of urban runoff characteristics was completed for the Nationwide Urban Runoff Program (NURP) study (U.S. EPA. 1983. *Results of the Nationwide Urban Runoff Program, Volume 1—Final Report*. Office of Water. Washington, D.C.). The NURP study is the largest nationwide evaluation of storm water discharges, which includes adverse impacts and sources, undertaken to date.

EPA conducted the NURP study to facilitate understanding of the nature of urban runoff from residential, commercial, and industrial areas. One objective of the study was to characterize the water quality of discharges from separate storm sewer systems that drain residential, commercial, and light industrial (industrial parks) sites. Storm water samples from 81 residential and commercial properties in 22 urban/suburban areas nationwide were collected and analyzed during the 5-year period between 1978 and 1983. The majority of samples collected in the study were analyzed for eight conventional pollutants and three heavy metals.

Data collected under the NURP study indicated that discharges from separate storm sewer systems draining runoff from residential, commercial, and light industrial areas carried more than 10 times the annual loadings of total suspended solids (TSS) than discharges from municipal sewage treatment plants that provide secondary treatment. The NURP study also indicated that runoff from residential and commercial areas carried somewhat higher annual loadings of chemical oxygen demand (COD), total lead, and total copper than effluent from secondary treatment plants. Study findings showed that fecal coliform counts in urban runoff typically range from tens to hundreds of thousands per hundred milliliters of runoff during warm weather conditions, with the median for all sites being around 21,000/100

ml. This is generally consistent with studies that found that fecal coliform mean values range from 1,600 coliform fecal units (CFU)/100 ml to 250,000 cfu/100 ml (Makepeace, D.K., D.W. Smith, and S.J. Stanley. 1995. "Urban Storm Water Quality: Summary of Contaminant Data." *Critical Reviews in Environmental Science and Technology* 25(2):93-139). Makepeace, et al., summarized ranges of contaminants from storm water, including physical contaminants such as total solids (76—36,200 mg/L) and copper (up to 1.41 mg/L); organic chemicals; organic compounds, such as oil and grease (up to 110 mg/L); and microorganisms. *68726

Monitoring data summarized in the NURP study provided important information about urban runoff from residential, commercial, and light industrial areas. The study concluded that the quality of urban runoff can be affected adversely by several sources of pollution that were not directly evaluated in the study, including illicit discharges, construction site runoff, and illegal dumping. Data from the NURP study were analyzed further in the U.S. Geological Survey (USGS) Urban Storm Water Data Base for 22 Metropolitan Areas Throughout the United States study (Driver, N.E., M.H. Mustard, R.B. Rhinesmith, and R.F. Middleburg. 1985. U.S. Geological Survey Urban Storm Water Data Base for 22 Metropolitan Areas Throughout the United States. Report No. 85-337 USGS. Lakewood, CO). The USGS report summarized additional monitoring data compiled during the mid-1980s, covering 717 storm events at 99 sites in 22 metropolitan areas and documented problems associated with metals and sediment concentrations in urban storm water runoff. More recent reports have confirmed the pollutant concentration data collected in the NURP study (Marsalek, J. 1990. "Evaluation of Pollutant Loads from Urban Nonpoint Sources." *Wat. Sci. Tech.* 22(10/11):23-30; Makepeace, et al., 1995).

Commenters argued that the NURP study does not support EPA's contention that urban activities significantly jeopardize attainment of water quality standards. One commenter argued that the NURP study and the 1985 USGS study are seriously out of date. Because they were issued 10 years or more before the implementation of the current storm water permit program, the data in those reports do not reflect conditions that exist after implementation of permits issued by authorized States and EPA for storm water from construction sites, large municipalities, and industrial activities.

In response, EPA notes that it is not relying solely on the NURP study to describe current water quality impairment. Rather, EPA is citing NURP as a source of data on typical pollutant concentrations in urban runoff. Recent studies have not found significantly different pollutant concentrations in urban runoff when compared to the original NURP data (see Makepeace, et al., 1995; Marsalek, 1990; and Pitt, et al., 1995).

America's Clean Water—the States' Nonpoint Source Assessment (Association of State and Interstate Water Pollution Control Administrators (ASIWPCA). 1985. *America's Clean Water—The States' Nonpoint Source Assessment*. Prepared in cooperation with the U.S. EPA, Office of Water, Washington, DC), a comprehensive study of diffuse pollution sources conducted under the sponsorship of the Association of State and Interstate Water Pollution Control Administrators (ASIWPCA) and EPA revealed that 38 States reported urban runoff as a major cause of designated beneficial use impairment and 21 States reported storm water runoff from construction sites as a major cause of beneficial use impairment. In addition, the 1996 305(b) Report (U.S. EPA. 1998. *The National Water Quality Inventory, 1996 Report to Congress*. EPA 841-R-97-008. Office of Water. Washington, DC), provides a national assessment of water quality based on biennial reports submitted by the States as required under CWA section 305(b) of the CWA. In the CWA 305(b) reports, States, Tribes, and Territories assess their individual water quality control programs by examining the attainment or nonattainment of the designated uses assigned to their rivers, lakes, estuaries, wetlands, and ocean shores. A designated use is the legally applicable use specified in a water quality standard for a watershed, waterbody, or segment of a waterbody. The designated use is the desirable use that the water quality should support. Examples of designated uses include drinking water supply, primary contact recreation (swimming), and aquatic life support. Each CWA 305(b) report indicates the assessed fraction of a State's waters that are fully supporting, partially supporting, or not supporting designated beneficial uses.

In their reports, States, Tribes, and Territories first identified and then assigned the sources of water quality impairment for each impaired waterbody using the following categories: industrial, municipal sewage, combined sewer overflows, urban runoff/storm sewers, agricultural, silvicultural, construction, resource extraction, land disposal, hydrologic modification, and habitat modification. The 1996 Inventory, based on a compilation of 60 individual 305(b) reports submitted by States, Tribes, and Territories, assessed the following percentages of total waters nationwide: 19 percent of river and stream miles; 40 percent of lake, pond, and reservoir acres; 72 percent of estuary square miles; and 6 percent of ocean shoreline waters. The 1996 Inventory indicated that approximately 40 percent of the Nation's assessed rivers, lakes, and estuaries are impaired. Waterbodies deemed as "impaired" are either partially supporting designated uses or not supporting designated uses.

The 1996 Inventory also found urban runoff/discharges from storm sewers to be a major source of water quality impairment nationwide. Urban runoff/storm sewers were found to be a source of pollution in 13 percent of impaired rivers; 21 percent of impaired lakes, ponds, and reservoirs; and 45 percent of impaired estuaries (second only to industrial discharges). In addition, urban runoff was found to be the leading cause of ocean impairment for those ocean miles surveyed.

In addition, a recent USGS study of urban watersheds across the United States has revealed a link between urban development and contamination of local waterbodies. The study found the highest levels of organic contaminants, known as polycyclic aromatic hydrocarbons (PAHs) (products of combustion of wood, grass, and fossil fuels), in the reservoirs of urbanized watersheds (U.S. Geological Survey (USGS). 1998. Research Reveals Link Between Development and Contamination in Urban Watersheds. USGS news release. USGS National Water-Quality Assessment Program).

Urban storm water also can contribute significant amounts of toxicants to receiving waters. Pitt, et. al. (1993), found heavy metal concentrations in the majority of samples analyzed. Industrial or commercial areas were likely to be the most significant pollutant source areas (Pitt, R., R. Field, M. Lator, M. Brown 1993. "Urban stormwater toxic pollutants: assessment, sources, and treatability" *Water Environment Research*, 67(3):260-75).

b. Local and Watershed-Based Studies

In addition to the large-scale nationwide studies and assessments, a number of local and watershed-based studies from across the country have documented the detrimental effects of urban storm water runoff on water quality. A study of urban streams in Milwaukee County, Wisconsin, found local streams to be highly degraded due primarily to urban runoff, while three studies in the Atlanta, Georgia, region were characterized as being "the first documentation in the Southeast of the strong negative relationship between urbanization and stream quality that has been observed in other ecoregions" (Masterson, J. and R. Bannerman. 1994. "Impacts of Storm Water Runoff on Urban Streams in Milwaukee County, Wisconsin." Paper presented at National Symposium on Water Quality: American Water Resources Association; Schueler, T.R. 1997. "Fish Dynamics in Urban Streams Near Atlanta, Georgia." *68727 Technical Note 94. *Watershed Protection Techniques* 2(4)). Several other studies, including those performed in Arizona (Maricopa County), California (San Jose's Coyote Creek), Massachusetts (Green River), Virginia (Tuckahoe Creek), and Washington (Puget Sound lowland ecoregion), all had the same finding: runoff from urban areas greatly impair stream ecology and the health of aquatic life; the more heavily developed the area, the more detrimental the effects (Lopes, T. and K. Fossum. 1995. "Selected Chemical Characteristics and Acute Toxicity of Urban Stormwater, Streamflow, and Bed Material, Maricopa County, Arizona." *Water Resources Investigations Report* 95-4074. USGS; Pitt, R. 1995. "Effects of Urban Runoff on Aquatic Biota." In *Handbook of Ecotoxicology*; Pratt, J. and R. Coler. 1979. "Ecological Effects of Urban Stormwater Runoff on Benthic Macroinvertebrates Inhabiting the Green River, Massachusetts." *Completion Report Project No. A-094*. Water Resources Research Center. University of Massachusetts at Amherst.; Schueler, T.R. 1997. "Historical Change in a Warmwater Fish Community in an Urbanizing Watershed." Technical Note 93. *Watershed Protection Techniques* 2(4); May, C., R. Horner, J. Karr, B. Mar, and E. Welch. 1997. "Effects Of Urbanization On Small Streams In The Puget Sound Lowland Ecoregion." *Watershed Protection Techniques* 2(4)).

Pitt and others also described the receiving water effects on aquatic organisms associated with urban runoff (Pitt, R.E. 1995. "Biological Effects of Urban Runoff Discharges" In *Stormwater Runoff and Receiving Systems: Impact, Monitoring, and Assessment*, ed. E.E Herricks, Lewis Publishers; Crunkilton, R., J. Kleist, D. Bierman, J. Ramcheck, and W. DeVita. 1999. "Importance of Toxicity as a Factor Controlling the Distribution of Aquatic Organisms in an Urban Stream." In *Comprehensive Stormwater & Aquatic Ecosystem Management Conference Papers*. Auckland, New Zealand).

In Wisconsin, runoff samples were collected from streets, parking lots, roofs, driveways, and lawns. Source areas were broken up into residential, commercial, and industrial. Geometric mean concentration data for residential areas included total solids of about 500-800 mg/L from streets and 600 mg/L from lawns. Fecal coliform data from residential areas ranged from 34,000 to 92,000 cfu/100 mL for streets and driveways. Contaminant concentration data from commercial and industrial source areas were lower for total solids and fecal coliform, but higher for total zinc (Bannerman, R.T., D.W. Owens, R.B. Dods, and N.J. Hornewer. 1993. "Sources of Pollutants in Wisconsin Stormwater." *Wat. Sci. Tech.* 28(3-5):241-59).

Bannerman, et al. also found that streets contribute higher loads of pollutants to urban storm water than any other residential development source. Two small urban residential watersheds were evaluated to determine that lawns and streets are the largest sources of total and dissolved phosphorus in the basins (Waschbusch, R.J., W.R. Selbig, and R.T. Bannerman. 1999. "Sources of Phosphorus in Stormwater and Street Dirt from Two Urban Residential Basins In Madison, Wisconsin, 1994-95." *Water Resources Investigations Report 99-4021*. U.S. Geological Survey). A number of other studies have indicated that urban roadways often contain significant quantities of metal elements and solids (Sansalone, J.J. and S.G. Buchberger. 1997. "Partitioning and First Flush of Metals in Urban Roadway Storm Water." *ASCE Journal of Environmental Engineering* 123(2); Sansalone, J.J., J.M. Koran, J.A. Smithson, and S.G. Buchberger. 1998. "Physical Characteristics of Urban Roadway Solids Transported During Rain Events" *ASCE Journal of Environmental Engineering* 124(5); Klein, L.A., M. Lang, N. Nash, and S.L. Kirschner. 1974. "Sources of Metals in New York City Wastewater" *J. Water Pollution Control Federation* 46(12):2653-62; Barrett, M.E, R.D. Zuber, E.R. Collins, J.F. Malina, R.J. Charbeneau, and G.H Ward., 1993. "A Review and Evaluation of Literature Pertaining to the Quantity and Control of Pollution from Highway Runoff and Construction." *Research Report 1943-1*. Center for Transportation Research, University of Texas, Austin).

c. Beach Closings/Advisories

Urban wet weather flows have been recognized as the primary sources of estuarine pollution in coastal communities. Urban storm water runoff, sanitary sewer overflows, and combined sewer overflows have become the largest causes of beach closings in the United States in the past three years. Storm water discharges from urban areas not only pose a threat to the ecological environment, they also can substantially affect human health. A survey of coastal and Great Lakes communities reports that in 1998, more than 1,500 beach closings and advisories were associated with storm water runoff (Natural Resources Defense Council. 1999. "A Guide to Water Quality at Vacation Beaches" New York, NY). Other reports also document public health, shellfish bed, and habitat impacts from storm water runoff, including more than 823 beach closings/advisories issued in 1995 and more than 407 beach closing/advisories issued in 1996 due to urban runoff (Natural Resources Defense Council. 1996. *Testing the Waters Volume VI: Who Knows What You're Getting Into*. New York, NY; NRDC. 1997. *Testing the Waters Volume VII: How Does Your Vacation Beach Rate*. New York, NY; Morton, T. 1997. *Draining to the Ocean: The Effects of Stormwater Pollution on Coastal Waters*. American Oceans Campaign, Santa Monica, CA). The Epidemiological Study of Possible Adverse Health Effects of Swimming in Santa Monica Bay (Haile, R.W., et. al. 1996. "An Epidemiological Study of Possible Adverse Health Effects of Swimming in Santa Monica Bay." Final Report prepared for the Santa Monica Bay Restoration Project) concluded that there is a 57 percent higher rate of illness in swimmers who swim adjacent to storm drains than in swimmers who swim more than 400 yards away from storm drains. This and other studies document a relationship between gastrointestinal illness in swimmers and water quality, the latter of which can be heavily compromised by polluted storm water discharges.

2. Non-Storm Water Discharges Through Municipal Storm Sewers

Studies have shown that discharges from MS4s often include wastes and wastewater from non-storm water sources. Federal regulations (§122.26(b)(2)) define an illicit discharge as “* * * any discharge to an MS4 that is not composed entirely of storm water * * *,” with some exceptions. These discharges are “illicit” because municipal storm sewer systems are not designed to accept, process, or discharge such wastes. Sources of illicit discharges include, but are not limited to: sanitary wastewater; effluent from septic tanks; car wash, laundry, and other industrial wastewaters; improper disposal of auto and household toxics, such as used motor oil and pesticides; and spills from roadway and other accidents.

Illicit discharges enter the system through either direct connections (e.g., wastewater piping either mistakenly or deliberately connected to the storm drains) or indirect connections (e.g., infiltration into the MS4 from cracked sanitary systems, spills collected by drain outlets, and paint or used oil dumped directly into a drain). The result is untreated discharges that contribute high levels of pollutants, *68728 including heavy metals, toxics, oil and grease, solvents, nutrients, viruses and bacteria into receiving waterbodies. The NURP study, discussed earlier, found that pollutant levels from illicit discharges were high enough to significantly degrade receiving water quality and threaten aquatic, wildlife, and human health. The study noted particular problems with illicit discharges of sanitary wastes, which can be directly linked to high bacterial counts in receiving waters and can be dangerous to public health.

Because illicit discharges to MS4s can create severe widespread contamination and water quality problems, several municipalities and urban counties performed studies to identify and eliminate such discharges. In Michigan, the Ann Arbor and Ypsilanti water quality projects inspected 660 businesses, homes, and other buildings and identified 14 percent of the buildings as having improper storm sewer drain connections. The program assessment revealed that, on average, 60 percent of automobile-related businesses, including service stations, automobile dealerships, car washes, body shops, and light industrial facilities, had illicit connections to storm sewer drains. The program assessment also showed that a majority of the illicit discharges to the storm sewer system resulted from improper plumbing and connections, which had been approved by the municipality when installed (Washtenaw County Statutory Drainage Board. 1987. Huron River Pollution Abatement Program).

In addition, an inspection of urban storm water outfalls draining into Inner Grays, Washington, indicated that 32 percent of these outfalls had dry weather flows. Of these flows, 21 percent were determined to have pollutant levels higher than the pollutant levels expected in typical urban storm water runoff characterized in the NURP study (U.S. EPA. 1993. Investigation of Inappropriate Pollutant Entries Into Storm Drainage Systems—A User's Guide. EPA 600/R-92/238. Office of Research and Development. Washington, DC). That same document reports a study in Toronto, Canada, that found that 59 percent of outfalls from the MS4 had dry-weather flows. Chemical tests revealed that 14 percent of these dry-weather flows were determined to be grossly polluted.

Inflows from aging sanitary sewer collection systems are one of the most serious illicit discharge-related problems. Sanitary sewer systems frequently develop leaks and cracks, resulting in discharges of pollutants to receiving waters through separate storm sewers. These pollutants include sanitary waste and materials from sewer main construction (e.g., asbestos cement, brick, cast iron, vitrified clay). Municipalities have long recognized the reverse problem of storm water infiltration into sanitary sewer collection systems; this type of infiltration often disrupts the operation of the municipal sewage treatment plant.

The improper disposal of materials is another illicit discharge-related problem that can result in contaminated discharges from separate storm sewer systems in two ways. First, materials may be disposed of directly in a catch basin or other storm water conveyance. Second, materials disposed of on the ground may either drain directly to a storm sewer or be washed into a storm sewer during a storm event. Improper disposal of materials to street catch basins and other storm sewer inlets often occurs when people mistakenly believe that disposal to such areas is an environmentally sound practice. Part of the confusion may occur because some areas are served by combined sewer systems, which are part of the sanitary sewer collection system, and people assume that materials discharged to a catch basin will reach a municipal

sewage treatment plant. Materials that are commonly disposed of improperly include used motor oil; household toxic materials; radiator fluids; and litter, such as disposable cups, cans, and fast-food packages. EPA believes that there has been increasing success in addressing these problems through initiatives such as storm drain stenciling and recycling programs, including household hazardous waste special collection days.

Programs that reduce illicit discharges to separate storm sewers have improved water quality in several municipalities. For example, Michigan's Huron River Pollution Abatement Program found the elimination of illicit connections caused a measurable improvement in the water quality of the Washtenaw County storm sewers and the Huron River (Washtenaw County Statutory Drainage Board, 1987). In addition, an illicit detection and remediation program in Houston, Texas, has significantly improved the water quality of Buffalo Bayou. Houston estimated that illicit flows from 132 sources had a flow rate as high as 500 gal/min. Sources of the illicit discharges included broken and plugged sanitary sewer lines, illicit connections from sanitary lines to storm sewer lines, and floor drain connections (Glanton, T., M.T. Garrett, and B. Goloby. 1992. *The Illicit Connection: Is It the Problem?* *Wat. Env. Tech.* 4(9):63-8).

3. Construction Site Runoff

Storm water discharges generated during construction activities can cause an array of physical, chemical, and biological water quality impacts. Specifically, the biological, chemical, and physical integrity of the waters may become severely compromised. Water quality impairment results, in part, because a number of pollutants are preferentially absorbed onto mineral or organic particles found in fine sediment. The interconnected process of erosion (detachment of the soil particles), sediment transport, and delivery is the primary pathway for introducing key pollutants, such as nutrients (particularly phosphorus), metals, and organic compounds into aquatic systems (Novotny, V. and G. Chesters. 1989. "Delivery of Sediment and Pollutants from Nonpoint Sources: A Water Quality Perspective." *Journal of Soil and Water Conservation*, 44(6):568-76). Estimates indicate that 80 percent of the phosphorus and 73 percent of the Kjeldahl nitrogen in streams is associated with eroded sediment (U.S. Department of Agriculture. 1989. "The Second RCA Appraisal, Soil, Water and Related Resources on Nonfederal Land in the United States, Analysis of Condition and Trends." Cited in Fennessey, L.A.J., and A.R. Jarrett. 1994. "The Dirt in a Hole: a Review of Sedimentation Basins for Urban Areas and Construction Sites." *Journal of Soil and Water Conservation*, 49(4):317-23).

In watersheds experiencing intensive construction activity, the localized impacts of water quality may be severe because of high pollutant loads, primarily sediments. Siltation is the largest cause of impaired water quality in rivers and the third largest cause of impaired water quality in lakes (U.S. EPA, 1998). The 1996 305(b) report also found that construction site discharges were a source of pollution in: 6 percent of impaired rivers; 11 percent of impaired lakes, ponds, and reservoirs; and 11 percent of impaired estuaries. Introduction of coarse sediment (coarse sand or larger) or a large amount of fine sediment is also a concern because of the potential of filling lakes and reservoirs (along with the associated remediation costs for dredging), as well as clogging stream channels (e.g., Paterson, R.G., M.I. Luger, E.J. Burby, E.J. Kaiser, H.R. Malcolm, and A.C. Beard. 1993. "Costs and Benefits of Urban Erosion and Sediment Control: North Carolina Experience." *Environmental Management* 17(2):167-78). Large inputs of coarse sediment into *68729 stream channels initially will reduce stream depth and minimize habitat complexity by filling in pools (U.S. EPA. 1991. *Monitoring Guidelines to Evaluate Effects of Forestry Activities on Streams in the Pacific Northwest and Alaska*. EPA 910/9-91-001. Seattle, WA). In addition, studies have shown that stream reaches affected by construction activities often extend well downstream of the construction site. For example, between 4.8 and 5.6 kilometers of stream below construction sites in the Patuxent River watershed were observed to be impacted by sediment inputs (Fox, H.L. 1974. "Effects of Urbanization on the Patuxent River, with Special Emphasis on Sediment Transport, Storage, and Migration." Ph.D. dissertation. Johns Hopkins University, Baltimore, MD. As Cited in Klein, R.D. 1979. "Urbanization and Stream Quality Impairment." *Water Resources Bulletin* 15(4): 948-63).

A primary concern at most construction sites is the erosion and transport process related to fine sediment because rain splash, rills (i.e., a channel small enough to be removed by normal agricultural practices and typically less than 1-foot deep), and sheetwash encourage the detachment and transport of this material to waterbodies (Storm Water Quality

Task Force. 1993. California Storm Water Best Management Practice Handbooks—Construction Activity. Oakland, CA: Blue Print Service). Construction sites also can generate other pollutants associated with onsite wastes, such as sanitary wastes or concrete truck washout.

Although streams and rivers naturally carry sediment loads, erosion from construction sites and runoff from developed areas can elevate these loads to levels well above those in undisturbed watersheds. It is generally acknowledged that erosion rates from construction sites are much greater than from almost any other land use (Novotny, V. and H. Olem. 1994. *Water Quality: Prevention, Identification, and Management of Diffuse Pollution*. New York: Van Nostrand Reinhold). Results from both field studies and erosion models indicate that erosion rates from construction sites are typically an order of magnitude larger than row crops and several orders of magnitude greater than rates from well-vegetated areas, such as forests or pastures (USDA. 1970. "Controlling Erosion on Construction Sites." *Agriculture Information Bulletin*, Washington, DC; Meyer, L.D., W.H. Wischmeier, and W.H. Daniel. 1971. "Erosion, Runoff and Revegetation of Denuded Construction Sites." *Transactions of the ASAE* 14(1):138-41; Owen, O.S. 1975. *Natural Resource Conservation*. New York: MacMillan. As cited in Paterson, et al., 1993).

A recent review of the efficiency of sediment basins indicated that inflows from 12 construction sites had a mean TSS concentration of about 4,500 mg/L (Brown, W.E. 1997. "The Limits of Settling." Technical Note No. 83. *Watershed Protection Techniques* 2(3)). In Virginia, suspended sediment concentrations from housing construction sites were measured at 500-3,000 mg/L, or about 40 times larger than the concentrations from already-developed urban areas (Kuo, C.Y. 1976. "Evaluation of Sediment Yields Due to Urban Development." [Bulletin No. 98](#). Virginia Water Resources Research Center, Virginia Polytechnic Institute and State University, Blacksburg, VA).

Similar impacts from storm water runoff have been reported in a number of other studies. For example, Daniel, et al., monitored three residential construction sites in southeastern Wisconsin and determined that annual sediment yields were more than 19 times the yields from agricultural areas (Daniel, T.C., D. McGuire, D. Stoffel, and B. Miller. 1979. "Sediment and Nutrient Yield from Residential Construction Sites" *Journal of Environmental Quality* 8(3):304-08). Daniel, et al., identified total storm runoff, followed by peak storm runoff, as the most influential factors controlling the sediment loadings from residential construction sites. Daniel, et al., also found that suspended sediment concentrations were 15,000-20,000 mg/L in moderate events and up to 60,000 mg/L in larger events.

Wolman and Schick (Wolman, M.G. and A.P. Schick. 1967. "Effects of Construction on Fluvial Sediment, Urban and Suburban Areas of Maryland." *Water Resources Research* 3(2): 451-64) studied the impacts of development on fluvial systems in Maryland and determined that sediment yields in areas undergoing construction were 1.5 to 75 times greater than detected in natural or agricultural catchments. The authors summarize the potential impacts of construction on sediment yields by stating that "the equivalent of many decades of natural or even agricultural erosion may take place during a single year from areas cleared for construction" (Wolman and Schick, 1967).

A number of studies have examined the effects of road construction on erosion rates and sediment yields. A highway construction project in West Virginia disturbed only 4.2 percent of a 4.72-square-mile basin, but resulted in a three-fold increase in suspended sediment yields (Downs, S.C. and D.H. Appel. 1986. *Progress Report on the Effects of Highway Construction on Suspended-Sediment Discharge in the Coal River and Trace Fork, West Virginia, 1975-81*. USGS Water Resources Investigations Report 84-4275. Charlestown, WV). During the largest storm event, it was estimated that 80 percent of the sediment in the stream originated from the construction site. As is often the case, the increase in suspended sediment load could not be detected further downstream, where the drainage area was more than 50 times larger (269 square miles).

Another study evaluated the effect of 290 acres of highway construction on watersheds ranging in size from 5 to 38 square miles. Suspended sediment loads in the smallest watershed increased by 250 percent, and the estimated sediment yield from the construction area was 37 tons/acre during a 2-year period (Hainly, R.A. 1980. *The Effects of*

Highway Construction on Sediment Discharge into Blockhouse Creek and Stream Valley Run, Pennsylvania. USGS Water Resources Investigations Report 80-68. Harrisburg, PA). A more recent study in Hawaii showed that highway construction increased suspended sediment loads by 56 to 76 percent in three small (1 to 4 square mile) basins (Hill, B.R. 1996. Streamflow and Suspended-Sediment Loads Before and During Highway Construction, North Halawa, Haiku, and Kamooalii Drainage Basins, Oahu, Hawaii, 1983-91. USGS Water Resources Investigations Report 96-4259. Honolulu, HI). A 1970 study determined that sediment yields from construction areas can be as much as 500 times the levels detected in rural areas (National Association of Counties Research Foundation. 1970. Urban Soil Erosion and Sediment Control. Water Pollution Control Research Series, Program #15030 DTL. Federal Water Quality Administration, U.S. Department of Interior. Washington, DC)

Yorke and Herb (Yorke, T.H., and W.J. Herb. 1978. Effects of Urbanization on Streamflow and Sediment Transport in the Rock Creek and Anacostia River Basins, Montgomery County, Maryland, 1962-74. USGS Professional Paper 1003, Washington, DC) evaluated nine subbasins in the Maryland portion of the Anacostia watershed for more than a decade in an effort to define the impacts of changing land use/land cover on sediment in runoff. Average annual suspended sediment yields for construction sites ranged from 7 to 100 tons/acre. Storm water discharges from construction sites that occur when the land area is disturbed (and prior to *68730 surface stabilization) can significantly impact designated uses. Examples of designated uses include public water supply, recreation, and propagation of fish and wildlife. The siltation process described previously can threaten all three designated uses by (1) depositing high concentrations of pollutants in public water supplies; (2) decreasing the depth of a waterbody, which can reduce the volume of a reservoir or result in limited use of a water body by boaters, swimmers, and other recreational enthusiasts; and (3) directly impairing the habitat of fish and other aquatic species, which can limit their ability to reproduce.

Excess sediment can cause a number of other problems for waterbodies. It is associated with increased turbidity and reduced light penetration in the water column, as well as more long-term effects associated with habitat destruction and increased difficulty in filtering drinking water. Numerous studies have examined the effect that excess sediment has on aquatic ecosystems. For example, sediment from road construction activity in Northern Virginia reduced aquatic insect and fish communities by up to 85 percent and 40 percent, respectively (Reed, J.R. 1997. "Stream Community Responses to Road Construction Sediments." [Bulletin No. 97](#). Virginia Water Resources Research Center, Virginia Polytechnic Institute, Blacksburg, VA. As cited in Klein, R.D. 1990. A Survey of Quality of Erosion and Sediment Control and Storm Water Management in the Chesapeake Bay Watershed. Annapolis, MD: Chesapeake Bay Foundation). Other studies have shown that fine sediment (fine sand or smaller) adversely affects aquatic ecosystems by reducing light penetration, impeding sight-feeding, smothering benthic organisms, abrading gills and other sensitive structures, reducing habitat by clogging interstitial spaces within a streambed, and reducing the intergravel dissolved oxygen by reducing the permeability of the bed material (Everest, F.H., J.C. Beschta, K.V. Scrivener, J.R. Koski, J.R. Sedell, and C.J. Cederholm. 1987. "Fine Sediment and Salmonid Production: A Paradox." *Streamside Management: Forestry and Fishery Interactions*, Contract No. 57, Institute of Forest Resources, University of Washington, Seattle, WA). For example, 4.8 and 5.6 kilometers of stream below construction sites in the Patuxent River watershed in Maryland were found to have fine sediment amounts 15 times greater than normal (Fox, 1974. As cited in Klein, 1979). Benthic organisms in the streambed can be smothered by sediment deposits, causing changes in aquatic flora and fauna, such as fish species composition (Wolman and Schick, 1967). In addition, the primary cause of coral reef degradation in coastal areas is attributed to land disturbances and dredging activities due to urban development (Rogers, C.S. 1990. "Responses of Coral Reefs and Reef Organizations to Sedimentation." *Marine Ecology Progress Series*, 62:185-202).

EPA believes that the water quality impact from small construction sites is as high as or higher than the impact from larger sites on a per acre basis. The concentration of pollutants in the runoff from smaller sites is similar to the concentrations in the runoff from larger sites. The proportion of sediment that makes it from the construction site to surface waters is likely the same for larger and smaller construction sites in urban areas because the runoff from either site is usually delivered directly to the storm drain network where there is no opportunity for the sediment to be filtered out.

The expected contribution of total sediment yields from small sites depends, in part, on the extent to which erosion and sedimentation controls are being applied. Because current storm water regulations are more likely to require erosion and sedimentation controls on larger sites in urban areas, smaller construction sites that lack such programs are likely to contribute a disproportionate amount of the total sediment from construction activities (MacDonald, L.H. 1997. Technical Justification for Regulating Construction Sites 1-5 Acres in Size. Unpublished report submitted to U.S. EPA, Washington, DC). Smaller construction sites are less likely to have an effective plan to control erosion and sedimentation, are less likely to properly implement and maintain their plans, and are less likely to be inspected (Brown, W. and D. Caraco. 1997. Controlling Storm Water Runoff Discharges from Small Construction Sites: A National Review. Submitted to Office of Wastewater Management, U.S. EPA, Washington, DC., by the Center for Watershed Protection, Silver Spring, MD). The proportion of sediment that makes it from the construction site to surface waters is likely the same for larger and smaller construction sites in urban areas because the runoff from either site is usually delivered directly to the storm drain network, where there is no opportunity for the sediment to be filtered out.

To confirm its belief that sediment yields from small sites are as high as or higher than the 20 to 150 tons/acre/year measured from larger sites, EPA gave a grant to the Dane County, Wisconsin Land Conservation Department, in cooperation with the USGS, to evaluate sediment runoff from two small construction sites. The first was a 0.34 acre residential lot and the second was a 1.72 acre commercial office development. Runoff from the sites was channeled to a single discharge point for monitoring. Each site was monitored before, during, and after construction.

The Dane County study found that total solids concentrations from these small sites are similar to total solids concentrations from larger construction sites. Results show that for both of the study sites, total solids and suspended solids concentrations were significantly higher during construction than either before or after construction. For example, preconstruction total solids concentrations averaged 642 mg/L during the period when ryegrass was established, active construction total solids concentrations averaged 2,788 mg/L, and post-construction total solids concentrations averaged 132 mg/L (on a pollutant load basis, this equaled 7.4 lbs preconstruction, 35 lbs during construction, and 0.6 lbs post-construction for total solids). While this site was not properly stabilized before construction, after construction was complete and the site was stabilized, post-construction concentrations were more than 20 times less than during construction. The results were even more dramatic for the commercial site. The commercial site had one preconstruction event, which resulted in total solids concentrations of 138 mg/L, while active construction averaged more than 15,000 mg/L and post-construction averaged only 200 mg/L (on a pollutant load basis, this equaled 0.3 lbs preconstruction, 490 lbs during construction, and 13.4 lbs post-construction for total solids). The active construction period resulted in more than 75 times more sediment than either before or after construction (Owens, D.W., P. Jopke, D.W. Hall, J. Balousek and A. Roa. 1999. "Soil Erosion from Small Construction Sites." Draft USGS Fact Sheet. USGS and Dane County Land Conservation Department, WI). The total solids concentrations from these small sites in Wisconsin are similar to total solids concentrations from larger construction sites. For example, a study evaluating the effects of highway construction in West Virginia found that a small storm produced a sediment concentration of 7,520 mg/L (Downs and Appel, 1986).

One important aspect of small construction sites is the number of small sites relative to larger construction sites *68731 and total land area within the watershed. Brown and Caraco surveyed 219 local jurisdictions to assess erosion and sediment control (ESC) programs. Seventy respondents provided data on the number of ESC permits for construction sites smaller than 5 acres. In 27 cases (38 percent of the respondents), more than three-quarters of the permits were for sites smaller than 5 acres; in another 18 cases (26 percent), more than half of the permits were for sites smaller than 5 acres.

In addition, data on the total acreage disturbed by smaller construction sites have been collected recently in two States (MacDonald, 1997). The most recent and complete data set is the listing of the disturbed area for each of the 3,831 construction sites permitted in North Carolina for 1994-1995 and 1995-1996. Nearly 61 percent of the sites that were 1 acre or larger were between 1.0 and 4.9 acres in size. This proportion was consistent between years. Data showed that this range of sites accounted for 18 percent of the total area disturbed by construction. The values showed very little

variation between the 2 years of data. The total disturbed area for all sites over this 2-year period was nearly 33,000 acres, or about 0.1 percent of the total area of North Carolina.

EPA estimates that construction sites disturbing greater than 5 acres disturb 2.1-million acres of land (78.1 percent of the total) while sites disturbing between 1 and 5 acres of land disturb 0.5-million acres of land (19.4 percent). The remaining sites on less than 1 acres of land disturb 0.07-million acres of land (only 2.5 percent of the total). Given the high erosion rates associated with most construction sites, small construction sites can be a significant source of water quality impairment, particularly in small watersheds that are undergoing rapid development. Exempting sites under 1 acre will exclude only about 2.5 percent of acreage from program coverage, but will exclude a far higher number of sites, approximately 25 percent.

Several studies have determined that the most effective construction runoff control programs rely on local plan review and field enforcement (Paterson, R. G. 1994. "Construction Practices: the Good, the Bad, and the Ugly." *Watershed Protection Techniques* 1(3)). In his review, Paterson suggests that, given the critical importance of field implementation of erosion and sediment control programs and the apparent shortcomings that exist, much more focus should be given to plan implementation.

Several commenters disputed the data presented in the proposed rule for storm water discharges from smaller construction sites. One commenter stated that EPA has not adequately explained the basis for permitting construction activity down to 1 disturbed acre. Another commenter stated that EPA did not present sufficient data on water quality impacts from construction sites disturbing less than 5 acres.

EPA believes that the data presented above sufficiently support nationwide designation of storm water discharges from construction activity disturbing more than 1 acre. Based on total disturbed land area within a watershed, the cumulative effects of numerous small construction sites can have impacts similar to those of larger sites in a particular area. In addition, waivers for storm water discharges from smaller construction activity will exclude sites not expected to impair water quality. EPA will continue to collect water quality data on construction site storm water runoff.

C. Statutory Background

In 1972, Congress enacted the CWA to prohibit the discharge of any pollutant to waters of the United States from a point source unless the discharge is authorized by an NPDES permit. Congress added CWA section 402(p) in 1987 to require implementation of a comprehensive program for addressing storm water discharges. Section 402(p)(1) required EPA or NPDES-authorized States or Tribes to issue NPDES permits for the following five classes of storm water discharges composed entirely of storm water ("storm water discharges") specifically listed under section 402(p)(2):

- (A) a discharge subject to an NPDES permit before February 4, 1987
- (B) a discharge associated with industrial activity
- (C) a discharge from a municipal separate storm sewer system serving a population of 250,000 or more
- (D) a discharge from a municipal separate storm sewer system serving a population of 100,000 or more but less than 250,000
- (E) a discharge that an NPDES permitting authority determines to be contributing to a violation of a water quality standard or a significant contributor of pollutants to the waters of the United States.

Section 402(p)(3)(A) requires storm water discharges associated with industrial activity to meet all applicable provisions of section 402 and section 301 of the CWA, including technology-based requirements and any more stringent

requirements necessary to meet water quality standards. Section 402(p)(3)(B) establishes NPDES permit standards for discharges from municipal separate storm sewer systems, or MS4s. NPDES permits for discharges from MS4s (1) may be issued on a system or jurisdiction-wide basis, (2) must include a requirement to effectively prohibit non-storm water discharges into the storm sewers, and (3) must require controls to reduce pollutant discharges to the maximum extent practicable, including best management practices, and other provisions as the Administrator or the States determine to be appropriate for the control of such pollutants. At this time, EPA determines that water quality-based controls, implemented through the iterative processes described today are appropriate for the control of such pollutants and will result in reasonable further progress towards attainment of water quality standards. See sections II.L and II.H.3 of the preamble.

In CWA section 402(p)(4), Congress established statutory deadlines for the initial steps in implementing the NPDES program for storm water discharges. This section required development of NPDES permit application regulations, submission of NPDES permit applications, issuance of NPDES permits for sources identified in section 402(p)(2), and compliance with NPDES permit conditions. In addition, this section required industrial facilities and large MS4s to submit NPDES permit applications for storm water discharges by February 4, 1990. Medium MS4s were to submit NPDES permit applications by February 4, 1992. EPA and authorized NPDES States were prohibited from requiring an NPDES permit for any other storm water discharges until October 1, 1994.

Section 402(p)(5) required EPA to conduct certain studies and submit a report to Congress. This requirement is discussed in the following section.

Section 402(p)(6) requires EPA, in consultation with States and local officials, to issue regulations for the designation of additional storm water discharges to be regulated to protect water quality. It also requires EPA to extend the existing storm water program to regulate newly designated sources. At a minimum, the extension must establish (1) priorities, (2) requirements for State storm water management programs, and (3) expeditious deadlines. Section 402(p)(6) specifies that the program may include performance standards, guidelines, guidance, and management practices and treatment requirements, as *68732 appropriate. Today's rule implements this section.

D. EPA's Reports to Congress

Under CWA section 402(p)(5), EPA, in consultation with the States, was required to conduct a study. The study was to identify unregulated sources of storm water discharges, determine the nature and extent of pollutants in such discharges, and establish procedures and methods to mitigate the impacts of such discharges on water quality. Section 402(p)(5) also required EPA to report the results of the first two components of that study to Congress by October 1, 1988, and the final report by October 1, 1989.

In March 1995, EPA submitted to Congress a report that reviewed and analyzed the nature of storm water discharges from municipal and industrial facilities that were not already regulated under the initial NPDES regulations for storm water (U.S. Environmental Protection Agency, Office of Water. 1995. Storm Water Discharges Potentially Addressed by Phase II of the National Pollutant Discharge Elimination System Storm Water Program: Report to Congress. Washington, D.C. EPA 833-K-94-002) ("Report"). The Report also analyzed associated pollutant loadings and water quality impacts from these unregulated sources. Based on identification of unregulated municipal sources and analysis of information on impacts of storm water discharges from municipal sources, the Report recommended that the NPDES program for storm water focus on the 405 "urbanized areas" identified by the Bureau of the Census. The Report further found that a number of discharges from unregulated industrial facilities warranted further investigation to determine the need for regulation. It classified these unregulated industrial discharges in two groups: Group A and Group B. Group A comprised sources that may be considered a high priority for inclusion in the NPDES program for storm water because discharges from these sources are similar or identical to already regulated sources. These "look alike" storm water discharge sources were not covered in the initial NPDES regulations for storm water due to the language used to define "associated with industrial activity." In the initial regulations for storm water, "industrial activity" is identified

using Standard Industrial Classification (SIC) codes. The use of SIC codes led to incomplete categorization of industrial activities with discharges that needed to be regulated to protect water quality. Group B consisted of 18 industrial sectors, which included sources that EPA expected to contribute to storm water contamination due to the activities conducted and pollutants anticipated onsite (e.g., vehicle maintenance, machinery and electrical repair, and intensive agricultural activities).

EPA reported on the latter component of the section 402(p)(5) study via President Clinton's Clean Water Initiative, which was released on February 1, 1994 (U.S. Environmental Protection Agency, Office of Water. 1994. President Clinton's Clean Water Initiative. Washington, D.C. EPA 800-R-94-001) (“Initiative”). The Initiative addressed a number of issues associated with NPDES requirements for storm water discharges and proposed (1) establishing a phased compliance with a water quality standards approach for discharges from municipal separate storm sewer systems with priority on controlling discharges from municipal growth and development areas, (2) clarifying that the maximum extent practicable standard should be applied in a site-specific, flexible manner, taking into account cost considerations as well as water quality effects, (3) providing an exemption from the NPDES program for storm water discharges from industrial facilities with no activities or significant materials exposed to storm water, (4) providing extensions to the statutory deadlines to complete implementation of the NPDES program for the storm water program, (5) targeting urbanized areas for the requirements in the NPDES program for storm water, and (6) providing control of discharges from inactive and abandoned mines located on Federal lands in a more targeted, flexible manner. Additionally, prior to promulgation of today's rule, section 431 of the Agency's Appropriation Act for FY 2000 (Departments of Veterans Affairs and Housing and Urban Development and Independent Agencies Appropriations Act of 2000, [Public Law 106-74](#), section 432 (1999)) directed EPA to report on certain matters to be covered in today's rule. That report supplements the study required by CWA Section 402(p)(5). EPA is publishing the availability of that report elsewhere in this issue of the Federal Register.

Several commenters asserted that the Report to Congress is an inadequate basis for the designation and regulation of sources covered under today's final rule, specifically the nationwide designation of small municipal separate storm sewer systems within urbanized areas and construction activities disturbing between one and five acres.

EPA believes that it has developed an adequate record for today's regulation both through the Report to Congress and the Clean Water Initiative and through more recent activities, including the FACA Subcommittee process, regulatory notices and evaluation of comments, and recent research and analysis. EPA does not interpret the congressional reporting requirements of CWA section 402(p)(5) to be the sole basis for determining sources to be regulated under today's final rule.

EPA's decision to designate on a national basis small MS4s in urbanized areas is supported by studies that clearly show a direct correlation between urbanization and adverse water quality impacts from storm water discharges. (Schueler, T. 1987. *Controlling Urban Runoff: A Practical Manual for Planning & Designing Urban BMPs*. Metropolitan Washington Council of Governments). “Urbanized areas”—within which all small MS4s would be covered—represent the most intensely developed and dense areas of the Nation. They constitute only two percent of the land area but 63 percent of the total population. See section I.B.1, Urban Development, above, for studies and assessments of the link between urban development and storm water impacts on water resources.

Commenters argued that the Report to Congress does not address storm water discharges from construction sites. They further argued that the designation of small construction sites per today's final rule goes beyond the President's 1994 Initiative because the Initiative only recommends requiring municipalities to implement a storm water management program to control unregulated storm water sources, “including discharges from construction of less than 5 acres, which are part of growth, development and significant redevelopment activities.” They point out that the Initiative provides that unregulated storm water discharges not addressed through a municipal program would not be covered by the NPDES program. Commenters assert that EPA has not developed a record independent of its section 402(p)(5) studies

that demonstrates the necessity of regulating under a separate NPDES permit storm water discharges from smaller construction sites “to protect water quality.” EPA disagrees.

EPA evaluated the nature and extent of pollutants from construction site sources in a process that was separate and distinct from the development of the Report to Congress. Today's decision to regulate certain storm water discharges from construction sites disturbing less than 5 acres arose in part *68733 out of the 9th Circuit remand in [NRDC v. EPA](#), 966 F.2d 1292 (9th Cir. 1992). In that case, the court remanded portions of the Phase I storm water regulations related to discharges from construction sites. Those regulations define “storm water discharges associated with industrial activity” to include only those storm water discharges from construction sites disturbing 5 acres or more of total land area (see [40 CFR 122.26\(b\)\(14\)\(x\)](#)). In its decision, the court concluded that the 5-acre threshold was improper because the Agency had failed to identify information “to support its perception that construction activities on less than 5 acres are non-industrial in nature” (966 F.2d at 1306). The court remanded the below 5 acre exemption to EPA for further proceedings (966 F.2d at 1310).

In a Federal Register notice issued on December 18, 1992, EPA noted that it did not believe that the Court's decision had the effect of automatically subjecting small construction sites to the existing application requirements and deadlines. EPA believed that additional notice and comment were necessary to clarify the status of these sites. The information received during the notice and comment process and additional research, as discussed in section I.B.3 Construction Site Runoff, formed the basis for the designation of construction activity disturbing between one and five acres on a nationwide basis. EPA's objectives in today's proposal include an effort to (1) address the 9th Circuit remand, (2) address water quality concerns associated with construction activities that disturb less than 5 acres of land, and (3) balance conflicting recommendations and concerns of stakeholders.

One commenter noted that EPA's proposal would fail to regulate industrial facilities identified as Group A and Group B in the March 1995 Report to Congress. EPA is relying on the analysis in the Report, which provided that the recommendation for coverage was meant as guidance and was not intended to be an identification of specific categories that must be regulated under Section 402(p)(6). Report to Congress, p. 4-1. The Report recognized the existence of limited data on which to base loadings estimates to support the nationwide designation of individual or categories of sources. Report to Congress, p. 4-44. Furthermore, during FACA Subcommittee discussion, EPA continued to urge stakeholders to provide further data relating to industrial and commercial storm water sources, which EPA did not receive. EPA concluded that, due to insufficient data, these sources were not appropriate for nationwide designation at this time.

E. Industrial Facilities Owned or Operated by Small Municipalities

Congress granted extensions to the NPDES permit application process for selected classes of storm water discharges associated with industrial activity. On December 18, 1991, Congress enacted the Intermodal Surface Transportation Efficiency Act (ISTEA), which postponed NPDES permit application deadlines for most storm water discharges associated with industrial activity at facilities that are owned or operated by small municipalities. EPA and States authorized to administer the NPDES program could not require any municipality with a population of less than 100,000 to apply for or obtain an NPDES permit for any storm water discharge associated with industrial activity prior to October 1, 1992, except for storm water discharges from airports, power plants, or uncontrolled sanitary landfills. See [40 CFR 122.26\(e\)\(1\)](#); [57 FR 11524](#), April 2, 1992 (reservation of NPDES application deadlines for ISTEA facilities).

The facilities exempted by ISTEA discharge storm water in the same manner (and are expected to use identical processes and materials) as the industrial facilities regulated under the 1990 Phase I regulations. Accordingly, these facilities pose similar water quality problems. The extended moratorium for these facilities was necessary to allow municipalities additional time to comply with NPDES requirements. The proposal for today's rule would have maintained the existing deadline for seeking coverage under an NPDES permit (August 7, 2001).

Today's rule changes the permit application deadline for such municipally owned or operated facilities discharging industrial storm water to make it consistent with the application date for small regulated MS4s. Because EPA missed its March 1999 deadline for promulgating today's rule, and the deadline for MS4s to submit permit applications has been extended to three years and 90 days from the date of this notice, the deadline for permitting ISTEA sources has been similarly extended. The permitting of these sources is discussed below in section "II.I.3. ISTEA Sources."

F. Related Nonpoint Source Programs

Today's rule addresses point source discharges of storm water runoff and non-storm water discharges into MS4s. Many of these sources have been addressed by nonpoint source control programs, which are described briefly below.

In 1987, section 319 was added to the CWA to provide a framework for funding State and local efforts to address pollutants from nonpoint sources not addressed by the NPDES program. To obtain funding, States are required to submit Nonpoint Source Assessment Reports identifying State waters that, without additional control of nonpoint sources of pollution, could not reasonably be expected to attain or maintain applicable water quality standards or other goals and requirements of the CWA. States are also required to prepare and submit for EPA approval a statewide Nonpoint Source Management Program for controlling nonpoint source water pollution to navigable waters within the State and improving the quality of such waters. State program submittals must identify specific best management practices (BMPs) and measures that the State proposes to implement in the first four years after program submission to reduce pollutant loadings from identified nonpoint sources to levels required to achieve the stated water quality objectives.

State nonpoint source programs funded under section 319 can include both regulatory and nonregulatory State and local approaches. Section 319(b)(2)(B) specifies that a combination of "nonregulatory or regulatory programs for enforcement, technical assistance, financial assistance, education, training, technology transfer, and demonstration projects" may be used, as necessary, to achieve implementation of the BMPs or measures identified in the section 319 submittals.

Section 6217 of the Coastal Zone Act Reauthorization Amendments (CZARA) of 1990 provides that States with approved coastal zone management programs must develop coastal nonpoint pollution control programs and submit them to EPA and the National Oceanic and Atmospheric Administration (NOAA) for approval. Failure to submit an approvable program will result in a reduction of Federal grants under both the Coastal Zone Management Act and section 319 of the CWA.

State coastal nonpoint pollution control programs under CZARA must include enforceable policies and mechanisms that ensure implementation of the management measures throughout the coastal management area. EPA issued Guidance Specifying Management Measures for Sources of Nonpoint Pollution in Coastal Waters under section 6217(g) in *68734 January 1993. The guidance identifies management measures for five major categories of nonpoint source pollution. The management measures reflect the greatest degree of pollutant reduction that is economically achievable for each of the listed sources. These management measures provide reference standards for the States to use in developing or refining their coastal nonpoint programs. A few management measures, however, contain quantitative standards that specify pollutant loading reductions. For example, the New Development Management Measure, which is applicable to construction in urban areas, requires (1) that by design or performance the average annual total suspended solid loadings be reduced by 80 percent and (2) to the extent practicable, that the pre-development peak runoff rate and average volume be maintained.

EPA and NOAA published Coastal Nonpoint Pollution Control Program: Program Development and Approval Guidance (1993). The document clarifies that States generally must implement management measures for each source category identified in the EPA guidance developed under section 6217(g). Coastal Nonpoint Pollution Control Programs are not required to address sources that are clearly regulated under the NPDES program as point source discharges.

Specifically, such programs would not need to address small MS4s and construction sites covered under NPDES storm water permits (both general and individual).

II. Description of Program

A. Overview

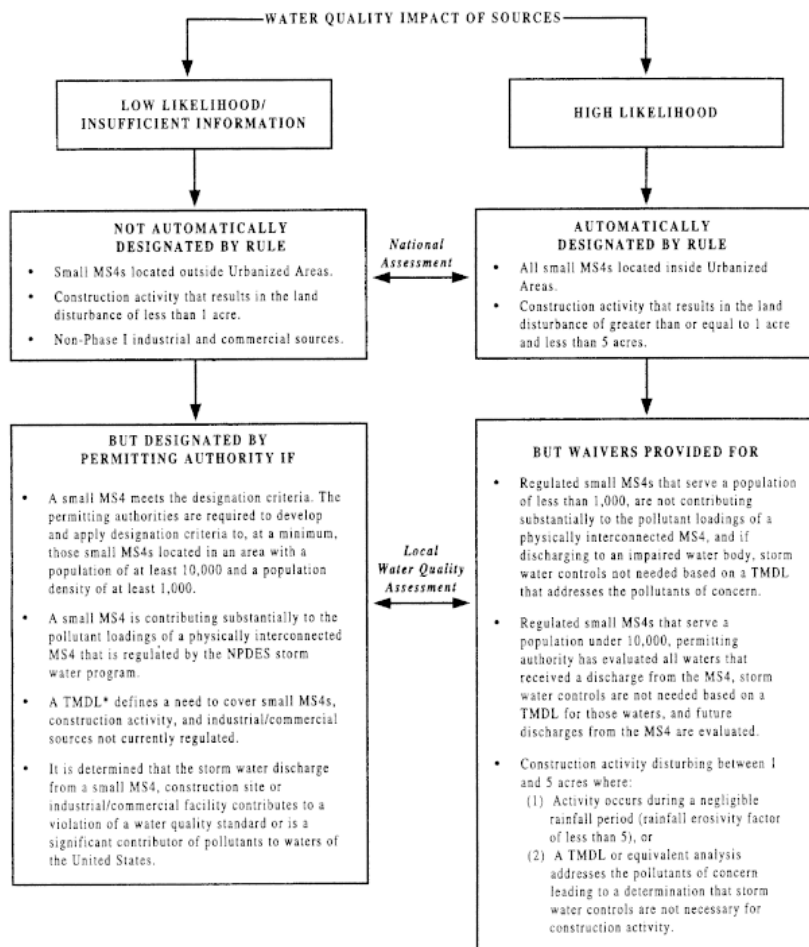
1. Objectives EPA Seeks To Achieve in Today's Rule

EPA seeks to achieve several objectives in today's final rule. First, EPA is implementing the requirement under CWA section 402(p)(6) to provide a comprehensive storm water program that designates and controls additional sources of storm water discharges to protect water quality. Second, EPA is addressing storm water discharges from the activities exempted under the 1990 storm water permit application regulations that were remanded by the Ninth Circuit Court of Appeals in [NRDC v. EPA, 966 F.2d 1292 \(9th Circuit, 1992\)](#). These are construction activities disturbing less than 5 acres and so-called "light" industrial activities not exposed to storm water (see discussion of "no exposure" below). Third, EPA is providing coverage for the so-called "donut holes" created by the existing NPDES storm water program. Donut holes are geographic gaps in the NPDES storm water program's regulatory scheme. They are MS4s located within areas covered by the existing NPDES storm water program, but not currently addressed by the storm water program because it is based on political jurisdictions. Finally, EPA also is trying to promote watershed planning as a framework for implementing water quality programs where possible.

Although EPA had options for different approaches (see alternatives discussed in the January 9, 1998, proposed regulation), EPA believes it can best achieve its objectives through flexible innovations within the framework of the NPDES program. Unlike the interim section 402(p)(6) storm water regulations EPA promulgated in 1995, EPA no longer designates all of the unregulated storm water discharges for nationwide coverage under the NPDES program for storm water. The framework for today's final rule is one that balances automatic designation on a nationwide basis and locally-based designation and waivers. Nationwide designation applies to those classes or categories of storm water discharges that EPA believes present a high likelihood of having adverse water quality impacts, regardless of location. Specifically, today's rule designates discharges from small MS4s located in urbanized areas and storm water discharges from construction activities that result in land disturbance equal to or greater than one and less than five acres. As noted under Section I.B., Water Quality Concerns/Environmental Impact Studies and Assessments, these two categories of storm water sources, when unregulated, tend to cause significant adverse water quality impacts. Additional sources are not covered on a nationwide basis either because EPA currently lacks information indicating a consistent potential for adverse water quality impact or because EPA believes that the likelihood of adverse impacts on water quality is low, with some localized exceptions. Additional individual sources or categories of storm water discharges could, however, be covered under the program through a local designation process. A permitting authority may designate additional small MS4s after developing designation criteria and applying those criteria to small MS4s located outside of an urbanized area, in particular those with a population of 10,000 or more and a population density of at least 1,000. Exhibit 1 illustrates the designation framework for today's final rule.

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EXHIBIT 1.—PHASE II SOURCE DECISIONS



*EPA will continue to require States to comply with their Total Maximum Daily Load (TMDL) implementation schedules.

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***68736** The designation framework for today's final rule provides a significant degree of flexibility. The proposed provisions for nationwide designation of storm water discharges from construction and from small MS4s in urbanized areas allowed for a waiver of applicable requirements based on appropriate water quality conditions. Today's final rule expands and simplifies those waivers.

The permitting authority may waive the requirement for a permit for any small MS4 serving a jurisdiction with a population of less than 1,000 unless storm water controls are needed because the MS4 is contributing to a water quality impairment. The permitting authority may also waive permit coverage for MS4s serving a jurisdiction with a population of less than 10,000 if all waters that receive a discharge from the MS4 have been evaluated and discharges from the MS4 do not significantly contribute to a water quality impairment or have the potential to cause an impairment. Today's rule also allows States with a watershed permitting approach to phase in coverage for MS4s in jurisdictions with populations under 10,000.

Water quality conditions are also the basis for a waiver of requirements for storm water discharges from construction activities disturbing between one and five acres. For these small construction sources, the rule provides significant flexibility for waiving otherwise applicable regulatory requirements where a permitting authority determines, based on water quality and watershed considerations, that storm water discharge controls are not needed.

Coverage can be extended to municipal and construction sources outside the nationwide designated classes or categories based on watershed and case-by-case assessments. For the municipal storm water program, today's rule provides broad discretion to NPDES permitting authorities to develop and implement criteria for designating storm water discharges from small MS4s outside of urbanized areas. Other storm water discharges from unregulated industrial, commercial, and residential sources will not be subject to the NPDES permit requirements unless a permitting authority determines on a case-by-case basis (or on a categorical basis within identified geographic areas such as a State or watershed) that regulatory controls are needed to protect water quality. EPA believes that the flexibility provided in today's rule facilitates watershed planning.

2. General Requirements for Regulated Entities Under Today's Rule

As previously noted, today's final rule defines additional classes and categories of storm water discharges for coverage under the NPDES program. These designated dischargers are required to seek coverage under an NPDES permit. Furthermore, all NPDES-authorized States and Tribes are required to implement these provisions and make any necessary amendments to current State and Tribal NPDES regulations to ensure consistency with today's final rule. EPA remains the NPDES permitting authority for jurisdictions without NPDES authorization.

Today's final rule includes some new requirements for NPDES permitting authorities implementing the CWA section 402(p)(6) program. EPA has made a significant effort to build flexibility into the program while attempting to maintain an appropriate level of national consistency. Permitting authorities must ensure that NPDES permits issued to MS4s include the minimum control measures established under the program. Permitting authorities also have the ability to make numerous decisions including who is regulated under the program, i.e., case-by-case designations and waivers, and how responsibilities should be allocated between regulated entities.

Today's final rule extends the NPDES program to include discharges from the following: small MS4s within urbanized areas (with the exception of systems waived from the requirements by the NPDES permitting authority); other small MS4s meeting designation criteria to be established by the permitting authority; and any remaining MS4 that contributes substantially to the storm water pollutant loadings of a physically interconnected MS4 already subject to regulation under the NPDES program. Small MS4s include urban storm sewer systems owned by Tribes, States, political subdivisions of States, as well as the United States, and other systems located within an urbanized area that fall within the definition of an MS4. These include, for example, State departments of transportation (DOTs), public universities, and federal military bases.

Today's final rule requires all regulated small MS4s to develop and implement a storm water management program. Program components include, at a minimum, 6 minimum measures to address: public education and outreach; public involvement; illicit discharge detection and elimination; construction site runoff control; post-construction storm water management in new development and redevelopment; and pollution prevention and good housekeeping of municipal operations. These program components will be implemented through NPDES permits. A regulated small MS4 is required to submit to the NPDES permitting authority, either in its notice of intent (NOI) or individual permit application, the BMPs to be implemented and the measurable goals for each of the minimum control measures listed above.

The rule addresses all storm water discharges from construction site activities involving clearing, grading and excavating land equal to or greater than 1 acre and less than 5 acres, unless requirements are otherwise waived by the NPDES permitting authority. Discharges from such sites, as well as construction sites disturbing less than 1 acre of land that are designated by the permitting authority, are required to implement requirements set forth in the NPDES permit, which may reference the requirements of a qualifying local program issued to cover such discharges.

The rule also addresses certain other sources regulated under the existing NPDES program for storm water. For municipally-owned industrial sources required to be regulated under the existing NPDES storm water program but exempted from immediate compliance by the Intermodal Surface Transportation Act of 1991 (ISTEA), the rule revises

the existing deadline for seeking coverage under an NPDES permit (August 7, 2001) to make it consistent with the application date for small regulated MS4s. (See section I.3. below.) The rule also provides relief from NPDES storm water permitting requirements for industrial sources with no exposure of industrial materials and activities to storm water.

3. Integration of Today's Rule With the Existing Storm Water Program

In developing an approach for today's final rule, numerous early interested stakeholders encouraged EPA to seek opportunities to integrate, where possible, the proposed Phase II requirements with existing Phase I requirements, thus facilitating a unified storm water discharge control program. EPA believes that this objective is met by using the NPDES framework. This framework is already applied to regulated storm water discharge sources and is extended to those sources designated under today's rule. This approach facilitates program consistency, public access to information, and program oversight. *68737

EPA believes that today's final rule provides consistency in terms of program coverage and requirements for existing and newly designated sources. For example, the rule includes most of the municipal donut holes, those MS4s located in incorporated places, townships or towns with a population under 100,000 that are within Phase I counties. These MS4s are not addressed by the existing NPDES storm water program while MS4s in the surrounding county are currently addressed. In addition, the minimum control measures required in today's rule for regulated small MS4s are very similar to a number of the permit requirements for medium and large MS4s under the existing storm water program. Following today's rule, permit requirements for all regulated MS4s (both those under the existing program and those under today's rule) will require implementation of BMPs. Furthermore, with regard to the development of NPDES permits to protect water quality, EPA intends to apply the August 1, 1996, Interim Permitting Approach for Water Quality-Based Effluent Limitations in Storm Water Permits (hereinafter, "Interim Permitting Approach") (see Section II.L.1. for further description) to all MS4s covered by the NPDES program.

EPA is applying NPDES permit requirements to construction sites below 5 acres that are similar to the existing requirements for those above 5 acres and above. In addition, today's rule allows compliance with qualifying local, Tribal, or State erosion and sediment controls to meet the erosion and sediment control requirements of the general permits for storm water discharges associated with construction, both above and below 5 acres.

4. General Permits

EPA recommends using general permits for all newly regulated storm water sources under today's rule. The use of general permits, instead of individual permits, reduces the administrative burden on permitting authorities, while also limiting the paperwork burden on regulated parties seeking permit authorization. Permitting authorities may, of course, require individual permits in some cases to address specific concerns, including permit non-compliance.

EPA recommends that general permits for MS4s, in particular, be issued on a watershed basis, but recognizes that each permitting authority must decide how to develop its general permit(s). Permit conditions developed to address concerns and conditions of a specific watershed could reflect a watershed plan; such permit conditions must provide for attainment of applicable water quality standards (including designated uses), allocations of pollutant loads established by a TMDL, and timing requirements for implementation of a TMDL. If the permitting authority issues a State-wide general permit, the permitting authority may include separate conditions tailored to individual watersheds or urbanized areas. Of course, for a newly regulated MS4, modification of an existing individual MS4 permit to include the newly regulated MS4 as a "limited co-permittee" also remains an option.

5. Tool Box

During the FACA process, many Storm Water Phase II FACA Subcommittee representatives expressed an interest, which was endorsed by the full Committee, in having EPA develop a "tool box" to assist States, Tribes, municipalities,

and other parties involved in the Phase II program. EPA made a commitment to work with Storm Water Phase II FACA Subcommittee representatives in developing such a tool box, with the expectation that a tool box would facilitate implementation of the storm water program in an effective and cost-efficient manner. EPA has developed a preliminary working tool box (available on EPA's web page at www.epa.gov/owm/sw/toolbox). EPA intends to have the tool box fully developed by the time of the first general permits. EPA also intends to update the tool box as resources and data become available. The tool box will include the following eight main components: fact sheets; guidances; a menu of BMPs for the six MS4 minimum measures; an information clearinghouse; training and outreach efforts; technical research; support for demonstration projects; and compliance monitoring/assistance tools. EPA intends to issue the menu of BMPs, both structural and non-structural, by October 2000. In addition, EPA will issue by October 2000 a "model" permit and will issue by October 2001 guidance materials on the development of measurable goals for municipal programs.

In an attempt to avoid duplication, the Agency has undertaken an effort to identify and coordinate sources of information that relate to the storm water discharge control program from both inside and outside the Agency. Such information includes research and demonstration projects, grants, storm water management-related programs, and compendiums of available documents, including guidances, related directly or indirectly to the comprehensive NPDES storm water program. Based on this effort, EPA is developing a tool box containing fact sheets and guidance documents pertaining to the overall program and rule requirements (e.g., guidance on municipal and construction programs, and permitting authority guidance on designation and waiver criteria); models of current programs aimed at assisting States, Tribes, municipalities, and others in establishing programs; a comprehensive list of reference documents organized according to subject area (e.g., illicit discharges, watersheds, water quality standards attainment, funding sources, and similar types of references); educational materials; technical research data; and demonstration project results. The information collected by EPA will not only provide the background for tool box materials, but will also be made available through an information clearinghouse on the world wide web.

With assistance from EPA, the American Public Works Association (APWA) developed a workbook and series of workshops on the proposed Phase II rule. Ten workshops were held from September 1998 through May 1999. Depending on available funding, these workshops may continue after publication of today's final rule. EPA also intends to provide training to enable regional offices to educate States, Tribes, and municipalities about the storm water program and the availability of the tool box materials.

The CWA currently provides funding mechanisms to support activities related to storm water. These mechanisms will be described in the tool box. Activities funded under grant and loan programs, which could be used to assist in storm water program development, include programs in the nonpoint source area, storm water demonstration projects, source water protection and wastewater construction projects. EPA has already provided funding for numerous research efforts in these areas, including a database of BMP effectiveness studies (described below), an assessment of technologies for storm water management, a study of the effectiveness of storm water BMPs for controlling the impacts of watershed imperviousness, protocols for wet weather monitoring, development of a dynamic model for wet weather flows, and numerous outreach projects.

EPA has entered into a cooperative agreement with the Urban Water Resources Research Council of the American Society of Civil Engineers (ASCE) to develop a scientifically-based management tool for the information *68738 needed to evaluate the effectiveness of urban storm water runoff BMPs nationwide. The long-term goal of the National Stormwater BMP Database project is to promote technical design improvements for BMPs and to better match their selection and design to the local storm water problems being addressed. The project team has collected and evaluated hundreds of existing published BMP performance studies and created a database covering about 75 test sites. The database includes detailed information on the design of each BMP and its watershed characteristics, as well as its performance. Eventually the database will include the nationwide collection of information on the characteristics of structural and non-structural BMPs, data collection efforts (e.g., sampling and flow gaging equipment), climatological characteristics, watershed characteristics, hydrologic data, and constituent data. The database will continue to grow as

new BMP data become available. The initial release of the database, which includes data entry and retrieval software, is available on CD-ROM and operates on Windows^(R)-compatible personal computers. The ASCE project team envisions that periodic updates to the database will be distributed through the Internet. The team is currently developing a system for Internet retrieval of selected database records, and this system is expected to be available in early 2000.

EPA and ASCE invite BMP designers, owners and operators to participate in the continuing database development effort. To make this effort successful, a large database is essential. Interested persons are encouraged to submit their BMP performance evaluation data and associated BMP watershed characteristics for potential entry into the database. The software included in the CD-ROM allows data providers to enter their BMP data locally, retain and edit the data as needed, and submit them to the ASCE Database Clearinghouse when ready.

To obtain a copy of the database, please contact Jane Clary, Database Clearinghouse Manager, Wright Water Engineers, Inc., 2490 W. 26th Ave., Suite 100A, Denver, CO 80211; Phone 303-480-1700; E-mail clary@wrightwater.com.

In addition, EPA requests that researchers planning to conduct BMP performance evaluations compile and collect BMP reporting information according to the standard format developed by ASCE. The format is provided with the database software and is also available on the ASCE website at www.asce.org/peta/tech/nsbd01.html.

6. Deadlines Established in Today's Action

Exhibit 2 outlines the various deadlines established under today's final rule. EPA believes that the dates allow sufficient time for completion of both the NPDES permitting authority's and the permittee's program responsibilities.

Exhibit 2-Storm Water Phase II Actions Deadlines

Activity	Deadline date
NPDES-authorized States modify NPDES program if no statutory change is required	1 year from date of publication of today's rule in the Federal Register.
NPDES-authorized States modify NPDES program if statutory change is required	2 years from date of publication of today's rule in the Federal Register.
EPA issues a menu of BMPs for regulated small MS4s	October 27, 2000
ISTEA sources submit permit application	3 years and 90 days from date of publication of today's rule in the Federal Register.
Permitting authority issues general permit(s) (if this type of permit coverage is selected)	3 years from date of publication of today's rule in the Federal Register.
Regulated small MS4s submit permit application:	
a. If designated under §122.32(a)(1) unless the permitting authority has established a phasing schedule under §123.35(d)(3)	a. 3 years and 90 days from date of publication of today's rule in the Federal Register.
b. If designated under §122.32(a)(2) or §§122.26(a)(9)(i) (C) or (D)	b. Within 180 days of notice.
Storm water discharges associated with small construction activity submit permit application:	

a. If designated under §122.26(b)(15)(i)	a. 3 years and 90 days from date of publication of today's rule in the Federal Register
b. If designated under §122.26(b)(15)(ii)	b. Within 180 days of notice.
Permitting authority designates small MS4s under §123.35(b)(2)	3 years from date of publication of today's rule in the Federal Register or 5 years from date of publication of today's rule in the Federal Register if a watershed plan is in place
Regulated small MS4s' program fully developed and implemented	Up to 5 years from date of permit issuance.
Reevaluation of the municipal storm water rules by EPA	13 years from date of publication of today's rule in the Federal Register
Permitting authority determination on a petition	Within 180 days of receipt.
Non-municipal sources designated under §122.26(a)(9)(i) (C) or (D) submit permit application	Within 180 days of notice.
Submission of No Exposure Certification	Every 5 years.

B. Readable Regulations

Today, EPA is finalizing new regulations in a “readable regulation” format. This reader-friendly, plain language approach is a departure from traditional regulatory language and should enhance the rule's readability. These plain language regulations use questions and answers, “you” to identify the person who must comply, and terms like “must” rather than “shall” to identify a mandate. This new format, which minimizes layers of subparagraphs, should also allow the reader to easily locate specific provisions of the regulation.

Some sections of today's final rule are presented in the traditional language and format because these sections amend existing regulations. The readable regulation format was not used in these existing provisions in an attempt to avoid confusion or disruption *68739 of the readability of the existing regulations.

Most commenters supported EPA's use of plain language and agreed with EPA that the question and answer format makes the rule easier to understand. Three commenters thought that EPA should retain the traditional rule format. The June 1, 1998, Presidential memorandum directs all government agencies to write documents in plain language. Based on the majority of the comments, EPA has retained the plain language format used in the January 9, 1998, proposal in today's final rule.

The proposal to today's final rule included guidance as well as legal requirements. The word “must” indicates a requirement. Words like “should,” “could,” or “encourage” indicate a recommendation or guidance. In addition, the guidance was set off in parentheses to distinguish it from requirements.

EPA received numerous comments supporting the inclusion of guidance in the text of the Code of Federal Regulations (CFR), as well as comments opposing inclusion of guidance. Supporters stated that preambles and guidance documents are often not accessible when rules are implemented. Any language not included in the CFR is therefore not available when it may be most needed. Commenters that opposed including guidance in the CFR expressed the concern that any language in the rule might be interpreted as a requirement, in spite of any clarifying language. They suggested that guidance be presented in the preamble and additional guidance documents.

The majority of commenters on this issue thought that the guidance should be retained but the distinction between requirements and guidance should be better clarified. Suggestions included clarifying text, symbols, and a change from use of the word “should” to “EPA recommends” or “EPA suggests”. EPA believes that it is important to include the guidance in the rule and agrees that the distinction between requirements and EPA recommendations must be very clear. In today's final rule, EPA has put the guidance in paragraphs entitled “Guidance” and replaced the word “should” with “EPA recommends.” This is intended to clarify that the recommendations contained in the guidance paragraphs are not legally binding.

C. Program Framework: NPDES Approach

Today's rule regulates Phase II sources using the NPDES permit program. EPA interprets Clean Water Act section 402(p)(6) as authorizing the Agency to develop a storm water program for Phase II sources either as part of the existing NPDES permit program or as a stand alone non-NPDES program such as a self-implementing rule. Under either approach, EPA interprets section 402(p)(6) as directing EPA to publish regulations that “regulate” the remaining unregulated sources, specifically to establish requirements that are federally enforceable under the CWA. Although EPA believes that it has the discretion to not require sources regulated under CWA section 402(p)(6) to be covered by NPDES permits, the Agency has determined, for the reasons discussed below, that it is most appropriate to use NPDES permits in implementing the program to address the sources designated for regulation in today's rule.

As discussed in Section II.A, Overview, EPA sought to achieve certain goals in today's final rule. EPA believes that the NPDES program best achieves EPA's goals for today's final rule for the reasons discussed below.

Requiring Phase II sources to be covered by NPDES permits helps address the consistency problems currently caused by municipal “donut holes.” Donut holes are gaps in program coverage where a small unregulated MS4 is located next to or within a regulated larger MS4 that is subject to an NPDES permit under the Phase I NPDES storm water program. The existence of such “donut holes” creates an equity problem because similar discharges may remain unregulated even though they cause or contribute to the same adverse water quality impacts. Using NPDES permits to regulate the unregulated discharges in these areas is intended to facilitate the development of a seamless regulatory program for the mitigation and control of contaminated storm water discharges in an urbanized area. For example, today's rule allows a newly regulated MS4 to join as a “limited” co-permittee with a regulated MS4 by referencing a common storm water management program. Such cooperation should be further encouraged by the fact that the minimum control measures required in today's rule for regulated small MS4s are very similar to a number of the permit requirements for medium and large MS4s under the Phase I storm water program. The minimum control measures applicable to discharges from smaller MS4s are described with slightly more generality than under the Phase I permit application regulations for larger MS4s, thus enabling maximum flexibility for operators of smaller MS4s to optimize efforts to protect water quality.

Today's rule also applies NPDES permit requirements to construction sites below 5 acres that are similar to the existing requirements for those 5 acres and above. In addition, the rule would allow compliance with qualifying local, Tribal, or State erosion and sediment controls to meet the erosion and sediment control requirements of the general permits for storm water discharges associated with construction, both above and below 5 acres.

Incorporating the CWA section 402(p)(6) program into the NPDES program capitalizes upon the existing governmental infrastructure for administration of the NPDES program. Moreover, much of the regulated community already understands the NPDES program and the way it works.

Another goal of the NPDES program approach is to provide flexibility in order to facilitate and promote watershed planning and sensitivity to local conditions. NPDES permits promote those goals in several ways. NPDES general permits may be used to cover a category of regulated sources on a watershed basis or within political boundaries. The NPDES permitting process provides a mechanism for storm water controls tailored on a case-by-case basis, where necessary. In addition, the NPDES permit requirements of a permittee may be satisfied by another cooperating

entity. Finally, NPDES permits may incorporate the requirements of existing State, Tribal and local programs, thereby accommodating State and Tribes seeking to coordinate the storm water program with other programs, including those that focus on watershed-based nonpoint source regulation.

In promoting the watershed approach to program administration, EPA believes NPDES general permits can cover a category of dischargers within a defined geographic area. Areas can be defined very broadly to include political boundaries (e.g., county), watershed boundaries, or State or Tribal land.

NPDES permits generally require an application or a notice of intent (NOI) to trigger coverage. This information exchange assures communication between the permitting authority and the regulated community. This communication is critical in ensuring that the regulated community is aware of the requirements and the permitting authority is aware of the potential for adverse impacts to water quality from identifiable locations. The NPDES permitting process includes the public as a valuable stakeholder and ensures ***68740** that the public is included and information is made publicly available.

Another concern for EPA and several stakeholders was that the program ensure citizen participation. The NPDES approach ensures opportunities for citizen participation throughout the permit issuance process, as well as in enforcement actions. NPDES permits are also federally enforceable under the CWA.

EPA believes that the use of NPDES permits makes a significant difference in the degree of compliance with regulations in the storm water program. The NPDES program provides for public participation in the development, enforcement and revision of storm water management programs. Citizen suit enforcement has assisted in focusing attention on adverse water quality impacts on a localized, public priority basis. Citizens frequently rely on the NPDES permitting process and the availability of NOIs to track program implementation and help them enforce regulatory requirements.

NPDES permits are also advantageous to the permittee. The NPDES permit informs the permittee about the scope of what it is expected to do to be in compliance with the Clean Water Act. As explained more fully in EPA's April 1995 guidance, Policy Statement on Scope of Discharge Authorization and Shield Associated with NPDES Permits, compliance with an NPDES permit constitutes compliance with the Clean Water Act (see CWA section 402(k)). In addition, NPDES permittees are excluded from duplicative regulatory regimes under the Resource Conservation and Recovery Act and the Comprehensive Emergency Response, Compensation and Liability Act under RCRA's exclusions to the definition of "solid waste" and CERCLA's exemption for "federally permitted releases."

EPA considered suggestions that the Agency authorize today's rule to be implemented as a self-implementing rule. This would be a regulation promulgated at the Federal, State, or Tribal level to control some or all of the storm water dischargers regulated under today's rule. Under this approach, a rule would spell out the specific requirements for dischargers and impose the restrictions and conditions that would otherwise be contained in an NPDES permit. It would be effective until modified by EPA, a State, or a Tribe, unlike an NPDES permit which cannot exceed a duration of five years. Some stakeholders believed that this approach would reduce the burden on the regulated community (e.g., by not requiring permit applications), and considerably reduce the amount of additional paperwork, staff time and accounting required to administer the proposed permit requirements.

EPA is sensitive to the interest of some stakeholders in having a streamlined program that minimizes the burden associated with permit administration and maximizes opportunities for field time spent by regulatory authorities. Key provisions in today's rule address some of these concerns by promoting a streamlined approach to permit issuance by, for example, using general permits and allowing the incorporation of existing programs. By adopting the NPDES approach rather than a self-implementing rule, today's rule also allows for consistent regulation between larger MS4s and construction sites regulated under the existing storm water management rule and smaller sources regulated under today's rule.

EPA believes that it is most appropriate to use NPDES permits to implement a program to address the sources regulated by today's rule. In addition to the reasons discussed above, NPDES permits provide a better mechanism than would a self-implementing rule for tailoring storm water controls on a case-by-case basis, where necessary. One commenter reasoned this concern could be addressed by including provisions in the regulation that allow site-specific BMPs (i.e., case-by-case permits), suggesting storm water discharges that might require site-specific BMPs can be identified during the designation process of the regulatory authority. EPA believes that, in addition to its complexity, the commenter's approach lacks the other advantages of the NPDES permitting process.

A self-implementing rule would not ensure the degree of public participation that the NPDES permit process provides for the development, enforcement and revision of the storm water management program. A self-implementing rule also might not have provided the regulated community the “permit shield” under CWA section 402(k) that is provided by an NPDES permit. Based on all these considerations, EPA declined to adopt a self-implementing rule approach and adopted the NPDES approach.

Some State representatives sought alternative approaches for State implementation of the storm water program for Phase II sources. These State representatives asserted that a non-NPDES alternative approach best facilitated watershed management and avoided duplication and overlapping regulations. These representatives believed the NPDES approach would undercut State programs that had developed storm water controls tailored to local watershed concerns. Finally, a number of commenters expressed the view that States implement a variety of programs not based on the CWA that are effective in controlling storm water, and that EPA should provide incentives for their implementation and improvement in performance.

Throughout the development of the rule, State representatives sought alternatives to the NPDES approach for State implementation of the storm water program for Phase II sources. Discussions focused on an approach whereby States could develop an alternative program that EPA would approve or disapprove based on identified criteria, including that the alternative non-NPDES program would result in “equivalent or better protection of water quality.” The State representatives, however, were unable to propose or recommend criteria for gauging whether a program would provide equivalent protection. EPA also did not receive any suggestions for objective, workable criteria in response to the Agency's explicit request for specific criteria (by which EPA could objectively judge such programs) in the preamble to the proposed rule.

EPA evaluated several existing State initiatives to address storm water and found many cases where standards under State programs may be coordinated with the Federal storm water program. Where the NPDES permit is developed in coordination with State standards, there are opportunities to avoid duplication and overlapping requirements. Under today's rule, an NPDES permitting authority may include conditions in the NPDES permit that direct an MS4 to follow the requirements imposed under State standards, rather than the requirements of §122.34(b). This is allowed as long as the State program at a minimum imposes the relevant requirements of §122.34(b). Additional opportunities follow from other provisions in today's rule.

Seeking to further explore the feasibility of a non-NPDES approach, the Agency, after the proposal, had extensive discussions with representatives of a number of States. Discussions related specifically to possible alternatives for regulations of urban storm water discharges and MS4s specifically. The Agency also sought input on these issues from other stakeholders.

As a result of these discussions, many of the commenters provided input on issues such as: whether or not the Agency should require NPDES permits; whether location of MS4s in urbanized *68741 areas should be the basis for designation or whether designation should be based on other determinations relating to water quality; whether States should be

allowed to satisfy the conditions of the rule through the use of existing State programs; and issues concerning timing and resources for program implementation.

In response, today's rule still follows the regulatory scheme of the proposed rule, but incorporates additional flexibility to address some of the concerns raised by commenters.

In order to facilitate implementation by States that utilize a watershed permitting approach or similar approach (i.e., based on a State's unified watershed assessments), today's rule allows States to phase in coverage for MS4s in jurisdictions with a population less than 10,000. Under such an approach, States could focus their resources on a rolling basis to assist smaller MS4s in developing storm water programs.

In addition, in response to concerns that the rule should not require permit coverage for MS4s that do not significantly contribute to water quality impairments, today's rule provides options for two waivers for small MS4s. The rule allows permitting authorities to exempt from the requirement for a permit any MS4 serving a jurisdiction with a population less than 1,000, unless the State determines that the MS4 must implement storm water controls because it is significantly contributing to a water quality impairment. A second waiver option applies to MS4s serving a jurisdiction with a population less than 10,000. For those MS4s, the State must determine that discharges from the MS4 do not significantly contribute to a water quality impairment, or have the potential for such an impairment, in order to provide the exemption. The State must review this waiver on a periodic basis no less frequently than once every five years.

Throughout the development of today's rule, commenters questioned whether the Clean Water Act authorized the use of the NPDES permit program, pointing out that the text of CWA 402(p)(6) does not use the word "permit." Based on the absence of the word "permit" and the express mention of State storm water management programs, the commenters asserted that Congress did not intend for Phase II sources to be regulated using NPDES permits.

EPA disagrees with the commenters' interpretation of section 402(p)(6). Section 402(p)(6) does not preclude use of permits as part of the "comprehensive program" to regulate designated sources. The language provides EPA with broad discretion in the establishment of the "comprehensive program." Absence of the word "permit" (a term that the statute does not otherwise define) does not preclude use of a permit, which is a familiar and reasonably well understood regulatory implementation vehicle. First, section 402(p)(6) says that EPA must establish a comprehensive program that "shall, at a minimum, establish priorities, establish requirements for State stormwater management programs, and establish expeditious deadlines." The "at a minimum" language suggests that the Agency may, and perhaps should, develop a comprehensive program that does more than merely attend to these minimum criteria. Use of the term "at a minimum" preserves for the Agency broad discretion to establish a comprehensive program that includes use of NPDES permits.

Further, in the final sentence of the section, Congress included additional language to affirm the Agency's discretion. The final sentence clarifies that the Phase II program "may include performance standards, guidelines, guidance, and management practices and treatment requirements, as appropriate." Under existing CWA programs, performance standards, (effluent limitations) guidelines, management practices, and treatment requirements are typically implemented through NPDES or dredge and fill permits.

Although EPA believes that it had the discretion to not require permits, the Agency has determined that it is reasonable to interpret section 402(p)(6) to authorize permits. Moreover, for the reasons discussed above, the Agency believes that it is appropriate to use NPDES permits in implementing today's rule.

D. Federal Role

Today's final rule describes EPA's approach to expand the existing storm water program under CWA section 402(p)(6). As in all other Federal programs, the Federal government plays an integral role in complying with, developing,

implementing, overseeing, and enforcing the program. This section describes EPA's role in the revised storm water program.

1. Develop Overall Framework of the Program

The storm water discharge control program under CWA section 402(p)(6) consists of the rule, tool box, and permits. EPA's primary role is to ensure timely development and implementation of all components. Today's rule is a refinement of the first step in developing the program. EPA is fully committed to continuing to work with involved stakeholders on developing the tool box and issuing permits. As noted in today's rule, EPA will assess the municipal storm water program based on (1) evaluations of data from the NPDES municipal storm water program, (2) research concerning water quality impacts on receiving waters from storm water, and (3) research on BMP effectiveness. (Section II.H, Municipal Role, provides a more detailed discussion of this provision.)

EPA is planning to standardize minimum requirements for construction and post-construction BMPs in a new rulemaking under Title III of the CWA. While larger construction sites are already subject to NPDES permits (and smaller sites will be subject to permits pursuant to today's rule), the permits generally do not contain specific requirements for BMP design or performance. The permits require the preparation of storm water pollution prevention plans, but actual BMP selection and design is at the discretion of permittees, in conformance with applicable State and local requirements. Where there are existing State and local requirements specific to BMPs, they vary widely, and many jurisdictions do not have such requirements.

In developing these regulations, EPA intends to evaluate the inclusion of design and maintenance criteria as minimum requirements for a variety of BMPs used for erosion and sediment control at construction sites, as well as for permanent BMPs used to manage post-construction storm water discharges. The Agency plans to consider the merits and performance of all appropriate management practices (both structural and non-structural) that can be used to reduce adverse water quality impacts. EPA does not intend to require the use of particular BMPs at specific sites, but plans to assist builders and developers in BMP selection by publishing data on the performance to be expected by various BMP types. EPA would like to build upon the successes of some of the effective State and local storm water programs currently in place around the country, and to establish nation-wide criteria to support builders and local jurisdictions in appropriate BMP selection.

2. Encourage Consideration of Smart Growth Approaches

In the proposal, EPA invited comment on possible approaches for providing ***68742** incentives for local decision making that would limit the adverse impacts of growth and development on water quality. EPA asked for comments on this "smart growth" approach.

EPA received comments on all sides of this issue. A number of commenters supported the idea of "smart growth" incentives but did not present concrete ideas. Several commenters suggested "smart growth" criteria. States that have adopted "smart growth" laws were worried that EPA's focus on urbanized areas for municipal requirements could encourage development outside of designated growth areas. Today's final rule clearly allows States to expand coverage of their municipal storm water program outside of urbanized areas. In addition, the flexibility of the six municipal minimum measures should avoid encouragement of development into rural rather than urban areas. For example, as part of the post-construction minimum measure, EPA recommends that municipalities consider policies and ordinances that encourage infill development in higher density urban areas, and areas with existing infrastructure, in order to meet the measure's intent.

EPA also received several comments expressing concern that incorporating "smart growth" incentives threatened the autonomy of local governments. One commenter was worried that "incentives" could become more onerous than the minimum measures. EPA is very aware of municipal concerns about possible federal interference with local land use

planning. EPA is also cognizant of the difficulty surrounding incentives for “smart growth” activities due to these concerns. However, the Agency believes it has addressed these concerns by proposing a flexible approach and will continue to support the concept of “smart growth” by encouraging policies that limit the adverse impacts of growth and development on water quality.

3. Provide Financial Assistance

Although Congress has not established a fund to fully finance implementation of the proposed extension of the existing NPDES storm water program under CWA section 402(p)(6), numerous federal financing programs (administered by EPA and other federal agencies) can provide some financial assistance. The primary funding mechanism is the Clean Water State Revolving Fund (SRF) program, which provides sources of low-cost financing for a range of water quality infrastructure projects, including storm water. In addition to the SRF, federal financial assistance programs include the Water Quality Cooperative Agreements under CWA section 104(b)(3), Water Pollution Control Program grants to States under CWA [section 106](#), and the Transportation Equity Act for the 21st Century (TEA-21) among others. In addition, Section 319 funds may be used to fund any urban storm water activities that are not specifically required by a draft or final NPDES permit. EPA will develop a list of potential funding sources as part of the tool box implementation effort. EPA anticipates that some of these programs will provide funds to help develop and, in limited circumstances, implement the CWA section 402(p)(6) storm water discharge control program.

EPA received numerous comments that requested additional funding. Congress provided one substantial new source of potential funding for transportation related storm water projects—TEA-21. The Department of Transportation has included a number of water-related provisions in its TEA-21 planning. These include Transportation Enhancements, Environmental Restoration and Pollution Abatement, and Environmental Streamlining. More information on TEA-21 is available at the following internet sites: www.fhwa.dot.gov/tea21/outreach.htm and www.tea21.org.

4. Implement the Program in Jurisdictions Not Authorized To Administer the NPDES Program

Because today's final rule uses the NPDES framework, EPA will be the NPDES permitting authority in several States, Tribal jurisdictions, and Territories. As such, EPA will have the same responsibilities as any other NPDES permitting authority—issuing permits, designating additional sources, and taking appropriate enforcement actions—and will seek to tailor the storm water discharge control program to the specific needs in that State, Tribal jurisdiction, or Territory. EPA also plans to provide support and oversight, including outreach, training, and technical assistance to the regulated communities. Section II.G. of today's preamble provides a separate discussion related to the NPDES permitting authority's responsibilities for today's final rule.

5. Oversee State and Tribal Programs

Under the NPDES program, EPA plays an oversight role for NPDES-approved States and Tribes. In this role, EPA and the State or Tribe work together to implement, enforce, and improve the NPDES program. Part of this oversight role includes working with States and Tribes to modify their programs where programmatic or implementation concerns impede program effectiveness. This role will be vitally important when States and Tribes make adjustments to develop, implement, and enforce today's extension of the existing NPDES storm water discharge control program. In addition, States maintain a continuing planning process (CPP) under CWA section 303(e), which EPA periodically reviews to assess the program's achievements.

In its oversight role, EPA takes action to address States and Tribes who have obtained NPDES authorization but are not fulfilling their obligations under the NPDES program. If an NPDES-authorized State or Tribe fails to implement an adequate NPDES storm water program, for example, EPA typically enters into extensive discussions to resolve outstanding issues. EPA has the authority to withdraw the entire NPDES program when resolution cannot be reached. Partial program withdrawal is not provided for under the CWA except for partial approvals.

EPA is also working with the States and Tribes to improve nonpoint source management programs and assessments to incorporate key program elements. Key nonpoint source program elements include setting short and long term goals and objectives; establishing public and private partnerships; using a balanced approach incorporating Statewide and watershed-wide abatement of existing impairments; preventing future impairments; developing processes to address both impaired and threatened waters; reviewing and upgrading all program components, including program revisions on a 5-year cycle; addressing federal land management and activities inconsistent with State programs; and managing State nonpoint source management programs effectively.

In particular, EPA works with the States and Tribes to strengthen their nonpoint source pollution programs to address all significant nonpoint sources, including agricultural sources, through the CWA section 319 program. EPA is working with other government agencies, as well as with community groups, to effect voluntary changes regarding watershed protection and reduced nonpoint source pollution.

In addition, EPA and NOAA have published programmatic and technical guidance to address coastal nonpoint source pollution. Under Section 6217 of the CZARA, States are developing and implementing coastal nonpoint pollution control programs approved by EPA and NOAA. *68743

6. Comply With Applicable Requirements as a Discharger

Today's final rule covers federally operated facilities in a variety of ways. These facilities are generally areas where people reside, such as a federal prison, hospital, or military base. It also includes federal parkways and road systems with separate storm sewer systems. Today's rule requires federal MS4s to comply with the same application deadlines that apply to regulated small MS4s generally. EPA believes that all federal MS4s serve populations of less than 100,000.

EPA received several comments that asked if individual buildings like post offices are considered to be small MS4s and thereby regulated in today's rule if they are in an urbanized area. Most of these buildings have at most a parking lot with runoff or a storm sewer that connects with a municipality's MS4. EPA does not intend that individual federal buildings be considered to be small MS4s. This is discussed in section II.H.2.b. of today's preamble.

Federal facilities can also be included under requirements addressing storm water discharges associated with small construction activities. In any case, discharges from these facilities will need to comply with all applicable NPDES requirements and any additional water quality-related requirements imposed by a State, Tribal, or local government. Failure to comply can result in enforcement actions. Federal facilities can act as models for municipal and private sector facilities and implement or test state-of-the-art management practices and control measures.

E. State Role

Today's final rule sets forth an NPDES approach for implementing the extension of the existing storm water discharge control program under CWA section 402(p)(6). State assumption of the NPDES program is voluntary, consistent with the principles of federalism. Because most States are approved to implement the NPDES program, they will tailor their storm water discharge control programs to address their water quality needs and objectives. While today's rule establishes the basic framework for the section 402(p)(6) program, States as well as Tribes (see discussion in section II.F) have an important role in fine-tuning the program to address the water quality issues within their jurisdictions. The basic framework allows for adjustments based on factors that vary geographically, including climate patterns and terrain.

Where States do not have NPDES authority, they are not required to implement the storm water discharge control program, but they may still participate in water quality protection through participation in the CWA [section 401](#) certification process (for any permits) and through development of water quality standards and TMDLs.

1. Develop the Program

In expanding the existing NPDES program for storm water discharges, States must evaluate whether revisions to their NPDES programs are necessary. If so, modifications must be made in accordance with §123.62. Under §123.62, States must revise their NPDES programs within 1 year, or within 2 years if statutory changes are necessary.

Some States and departments of transportation (DOTs) commented that this timeframe is too short, anticipating that the State legislative process and the modification of regulations combined would take beyond 2 years. The deadline language in §123.62 is not new language for the storm water discharge control program; it applies to all NPDES programs. EPA believes the vast majority of States will meet the deadline and will work with States in those cases where there may be difficulty meeting this deadline due to the timing of legislative sessions and the regulatory development process.

An authorized State NPDES program must meet the requirements of CWA section 402(b) and conform to the guidelines issued under CWA section 304(i)(2). Today's final rule under §123.25 adds specific cross references to the storm water discharge control program components to ensure that States adequately address these requirements.

2. Comply With Applicable Requirements as a Discharger

Today's final rule covers State operated separate storm sewer systems in a variety of ways. These systems generally drain areas where people reside, such as a prison, hospital, or other populated facility. These systems are included under the definition of a regulated small MS4, which specifically identifies systems operated by State departments of transportation. Alternatively, storm water discharges from State activities may be regulated under the section addressing storm water discharges associated with small construction activities. In any case, discharges from these facilities must comply with all applicable NPDES requirements. Failure to comply can result in enforcement actions. State facilities can act as models for municipal and private sector facilities and implement or test state-of-the-art management practices and control measures.

3. Communicate With EPA

Under approved NPDES programs, States have an ongoing obligation to share information with EPA. This dialogue is particularly important in the CWA section 402(p)(6) storm water program where these governments continue to develop a great deal of the guidance and outreach related to water quality.

F. Tribal Role

The proposal to today's final rule provides background information on EPA's 1984 Indian Policy and the criteria for treatment of an Indian Tribe in the same manner as a State. Today's final rule extends the existing NPDES program for storm water discharges to two types of dischargers located in Indian country. First, the final rule designates storm water discharges from any regulated small MS4, including Tribal systems. Second, the final rule regulates discharges associated with construction activity disturbing between one and five acres of land, including sites located in Indian country. Operators in each of these categories of regulated activity must apply for coverage under an NPDES permit by 3 years and 90 days from the date of publication of today's final rule. Under existing regulations, however, EPA or an authorized NPDES Tribe may require a specified storm water discharger to apply for NPDES permit coverage before this deadline based on a determination that the discharge is contributing to a violation of a water quality standard (including designated uses) or is a significant contributor of pollutants.

Under today's rule, a Tribal governmental entity may regulate storm water discharges on its reservation in two ways—as either an NPDES-authorized Tribe or as a regulated MS4. If a Tribe is authorized to operate the NPDES program, the Tribe must implement today's final rule for the NPDES program for storm water for covered dischargers located within the EPA recognized boundaries. Otherwise, EPA is generally the permitting/program authority within Indian country.

Discussions about the State Role in the preceding section also apply to NPDES authorized Tribes. For additional information on the role and responsibilities of the permitting authority in the NPDES storm water program, see [§123.35](#) (and [Section II.G.](#) of today's preamble) and [§ 123.25\(a\)](#). *68744

Under today's final rule, if the Indian reservation is located entirely or partially within an “urbanized area,” as defined in [§122.32\(a\)\(1\)](#), the Tribe must obtain an NPDES permit if it operates a small MS4 within the urbanized area portion. Tribal MS4s located outside an urbanized area are not automatically covered, but may be designated by EPA pursuant to [§122.32\(a\)\(2\)](#) of today's rule or may request designation as a regulated small MS4 from EPA. A Tribe that is a regulated MS4 for NPDES program purposes is required to implement the six minimum control measures to the extent allowable under Federal law.

The Tribal representative on the Storm Water Phase II FACA Subcommittee asked EPA to provide a list of the Tribes located in urbanized areas that would fall within the NPDES storm water program under today's final rule. In December 1996, EPA developed a list of federally recognized American Indian Areas located wholly or partially in Bureau of the Census-designated urbanized areas (see Appendix 1). Appendix 1 not only provides a listing of reservations and individual Tribes, but also the name of the particular urbanized area in which the reservation is located and an indication of whether the urbanized area contains a medium or large MS4 that is already covered by the existing Phase I regulations.

Some of the Tribes listed in Appendix 1 are only partially located in an urbanized area. If the Tribe's MS4 serves less than 1,000 people within an urbanized area, the permitting authority may waive the Tribe's MS4 storm water requirements if it meets the conditions of [§122.32\(c\)](#). EPA does not have information on the Tribal populations within the urbanized areas, so it can not identify the Tribes that are eligible for a waiver. Therefore, a Tribe that believes it qualifies for a waiver should contact its permitting authority.

G. NPDES Permitting Authority's Role for the NPDES Storm Water Small MS4 Program

As noted previously, the NPDES permitting authority can be EPA or an authorized State or an authorized Tribe. The following discussion describes the role of the NPDES permitting authority under today's final rule.

1. Comply With Implementation Requirements

NPDES permitting authorities must perform certain duties to implement the NPDES storm water municipal program. [Section 123.35\(a\)](#) of today's final rule emphasizes that permitting authorities have existing obligations under the NPDES program. [Section 123.35](#) focuses on specific issues related to the role of the NPDES authority to support administration and implementation of the municipal storm water program under CWA section 402(p)(6).

2. Designate Sources

[Section 123.35\(b\)](#) of today's final rule addresses the requirements for the NPDES permitting authority to designate sources of storm water discharges to be regulated under [§§122.32](#) through [122.36](#). NPDES permitting authorities must develop a process, as well as criteria, to designate small MS4s. They must also have the authority to designate a small MS4 if and when circumstances that support a waiver under [§122.32\(c\)](#) change. EPA may make designations if an NPDES-approved State or Tribe fails to do so.

NPDES permitting authorities must examine geographic jurisdictions that they believe should be included in the storm water discharge control program but are not located in an “urbanized area”. Small MS4s in these areas are not designated automatically. Discharges from such areas should be brought into the program if found to have actual or potential exceedances of water quality standards, including impairment of designated uses, or other adverse impacts on water quality, as determined by local conditions or watershed and TMDL assessments. EPA's aim is to address discharges to impaired waters and to protect waters with the potential for problems. EPA encourages NPDES permitting authorities,

local governments, and the interested public to work together in the context of a watershed plan to address water quality issues, including those associated with municipal storm water runoff.

EPA received comments stating that the process of developing criteria and applying it to all MS4s outside an urbanized area serving a population of 10,000 or greater and with a density of 1,000 people per square mile is too time-consuming and resource-intensive. These commenters believe that the permitting authority should decide which MS4s must be brought into the storm water discharge control program and that population and density should not be an overriding criteria. One suggested way of doing so was to only designate MS4s with demonstrated contributions to the impairment of water quality uses as shown by a TMDL. EPA disagrees with this suggestion. The TMDL process is time-consuming. MS4s outside of urbanized areas may cause water quality problems long before a TMDL is completed.

EPA believes that permitting authorities should consider the potential water quality impacts of storm water from all jurisdictions with a population of 10,000 or greater and a density of 1,000 people per square mile. EPA is using data summarized in the NURP study and in the CWA section 305(b) reports to support this approach for targeted designation outside of urbanized areas. EPA is not mandating which criteria are to be used, but has provided examples of criteria that may be useful in evaluating potential water quality impacts. EPA believes that the flexibility provided in this section of today's final rule allows the permitting authority to develop criteria and a designation process that is easy to use and protects water quality. Therefore, the provisions of § 123.35(b) remain as proposed.

a. Develop Designation Criteria

Under §123.35(b), the NPDES permitting authority must establish designation criteria to evaluate whether a storm water discharge results in or has the potential to result in exceedances of water quality standards, including impairment of designated uses, or other significant water quality impacts, including adverse habitat and biological impacts.

EPA recommends that NPDES permitting authorities consider, in a balanced manner, certain locally-focused criteria for designating any MS4 located outside of an urbanized area on the basis of significant water quality impacts. EPA recommends consideration of criteria such as discharge to sensitive waters, high growth or growth potential, high population density, contiguity to an urbanized area, significant contribution of pollutants to waters of the United States, and ineffective control of water quality concerns by other programs. These suggested designation criteria are intended to help encourage the permitting authority to use an objective method for identifying and designating, on a local basis, sources that adversely impact water quality. More information about these criteria and the reasons why they are suggested by EPA is included in the January 9, 1998, proposal (63 FR 1561) for today's final rule.

The suggested criteria are meant to be taken in the aggregate, with a great deal of flexibility as to how each should be weighed in order to best account for watershed and other local conditions and to allow for a more tailored case-by-case analysis. The application of criteria is meant to be geographically specific. Furthermore, each criterion does not have to be met in order for a small MS4 *68745 to qualify for designation, nor should an MS4 necessarily be designated on the basis of one or two criteria alone.

EPA believes that the application of the recommended designation criteria provides an objective indicator of real and potential water quality impacts from urban runoff on both the local and watershed levels. EPA encourages the application of the recommended criteria in a watershed context, thereby allowing for the evaluation of the water quality impacts of the portions of a watershed outside of an urbanized area. For example, situations exist where the urbanized area represents a small portion of a degraded watershed, and the adjacent nonurbanized areas of the watershed have significant cumulative effects on the quality of the receiving waters.

EPA received numerous suggestions of additional criteria that should be added and reasons why some of the criteria in the proposal to today's final rule were not appropriate. EPA developed its suggested designation criteria based on findings of the NURP study and other studies that indicate pollutants of concern, including total suspended solids, chemical oxygen

demand, and temperature. These criteria were the subject of considerable discussion by the Storm Water Phase II FACA Subcommittee. EPA developed them in response to recommendations from the subcommittee during development of the proposed rule. The listed criteria are only suggestions. Permitting authorities are required to develop their own criteria. EPA has not found any reason to change its suggested list of criteria and the suggestions remain as proposed.

b. Apply Designation Criteria

After customizing the designation criteria for local conditions, the permitting authority must apply such criteria, at a minimum, to any MS4 located outside of an urbanized area serving a jurisdiction with a population of at least 10,000 and a population density of 1,000 people per square mile or greater (see §123.35(b)(2)). If the NPDES permitting authority determines that an MS4 meets the criteria, the permitting authority must designate it as a regulated small MS4. This designation must occur within 3 years of publication of today's final rule. Alternatively, the NPDES authority can designate within 5 years from the date of final regulation if the designation criteria are applied on a watershed basis where a comprehensive watershed plan exists (a comprehensive watershed plan is one that includes the equivalents of TMDLs) (see §123.35(b)(3)). The extended 5 year deadline is intended to provide incentives for watershed-based designations. If an NPDES-authorized State or Tribe does not develop and apply designation criteria within this timeframe, then EPA has the opportunity to do so in lieu of the authorized State or Tribe.

NPDES permitting authorities can designate any small MS4, including one below 10,000 in population and 1,000 in density. EPA established the 10,000/1,000 threshold based on the likelihood of adverse water quality impacts at these population and density levels. In addition, the 1,000 persons per square mile threshold is consistent with both the Bureau of the Census definition of an “urbanized area” (see Section II.H.2. below) and stakeholder discussions concerning the definition of a regulated small MS4.

One commenter requested that EPA develop interim deadlines for development of designation criteria. EPA believes that the designation deadline identified in today's final rule at §123.35(b)(3) provides States and Tribes with a flexibility that allows them to develop and apply the criteria locally in a timely fashion, while at the same time establishing an expeditious deadline.

c. Designate Physically Interconnected Small MS4s

In addition to applying criteria on a local basis for potential designation, the NPDES permitting authority must designate any MS4 that contributes substantially to the pollutant loadings of a physically interconnected municipal separate storm sewer that is regulated by the NPDES program for storm water discharges (see §123.35(b)(4)). To be “physically interconnected,” the MS4 of one entity, including roads with drainage systems and municipal streets, is physically connected directly to the municipal separate storm sewer of another entity. This provision applies to all MS4s located outside of an urbanized area. EPA added this section in recognition of the concerns of local government stakeholders that a local government should not have to shoulder total responsibility for a storm water program when storm water discharges from another MS4 are also contributing pollutants or adversely affecting water quality. This provision also helps to provide some consistency among MS4 programs and to facilitate watershed planning in the implementation of the NPDES storm water program. EPA recommended physical interconnectedness in the existing NPDES storm water regulations as a factor for consideration in the designation of additional sources.

Today's final rule does not include interim deadlines for identifying physically interconnected MS4s. However, consistent with the deadlines identified in §123.35(b)(3) of today's final rule, EPA encourages the permitting authority to make these determinations within 3 years from the date of publication of the final rule or within 5 years if the permitting authority is implementing a comprehensive watershed plan. Alternatively, the affected jurisdiction could use the petition process under 40 CFR 122.26(f) in seeking to have the permitting authority designate the contributing jurisdiction.

Several commenters expressed concerns about who could be designated under this provision (§123.35(b)(4)). One commenter requested that the word “substantially” be deleted from the rule because they believe any MS4 that contributes at all to a physically interconnected municipal separate storm sewer should be regulated. EPA believes that the word “substantially” provides necessary flexibility to the permitting authorities. The permitting authority can decide if an MS4 is contributing discharges to another municipal separate storm sewer in a manner that requires regulation. If the operator of a regulated municipal separate storm sewer believes that some of its pollutant loadings are coming from an unregulated MS4, it can petition the permitting authority to designate the unregulated MS4 for regulation.

d. Respond to Public Petitions for Designation

Today's final rule reiterates the existing opportunity for the public to petition the permitting authority for designation of a point source to be regulated to protect water quality. The petition opportunity also appears in existing NPDES regulations at 40 CFR 122.26(f). Any person may petition the permitting authority to require an NPDES permit for a discharge composed entirely of storm water that contributes to a violation of a water quality standard or is a significant contributor of pollutants to the waters of the United States (see §123.32(b)). The NPDES permitting authority must make a final determination on any petition within 180 days after receiving the petition (see §123.35(c)). EPA believes that a 180 day limit balances the public's need for a timely final determination with the NPDES permitting authority's need to prioritize its workload. If an NPDES-approved State or Tribe fails to act *68746 within the 180-day timeframe, EPA may make a determination on the petition. EPA believes that public involvement is an important component of the NPDES program for storm water and feels that this provision encourages public participation. Section II.K, Public Involvement/Public Role, further discusses this topic.

3. Provide Waivers

Today's rule provides two opportunities for the NPDES permitting authority to exempt certain small MS4s from the need for a permit based on water quality considerations. See §§122.32(d) and (e). The two waiver opportunities have different size thresholds and take different approaches to considering the water quality impacts of discharges from the MS4.

In the proposal, EPA requested comment on the option of waiving coverage for all MS4s with less than 1,000 people unless the permitting authority determined that the small MS4 should be regulated based on significant adverse water quality impacts. A number of commenters supported this option. They expressed concern that compliance with the rule requirements and certification of one of the waiver provisions were both costly for very small communities. They stated that the permitting authority should identify a water quality problem before requiring compliance. Today's rule essentially adopts this alternative approach for MS4s serving a population under 1,000.

The final rule has expanded the waiver provision that EPA proposed for small MS4s with a population less than 1,000. The proposed rule would have required a small MS4 operator to certify that storm water controls are not needed based on either wasteload allocations that are part of TMDLs that address the pollutants of concern, or a comprehensive watershed plan implemented for the waterbody that includes the equivalents of TMDLs and addresses the pollutant(s) of concern. Commenters noted that the proposed waivers would be unattainable if a TMDL or equivalent analysis was required for every pollutant that could possibly be present in any amount in discharges from an MS4 regardless of whether the pollutant is causing water quality impairment. Commenters asked that EPA identify what constitutes the “pollutant(s) of concern” for which a TMDL or its equivalent must be developed. For example, §122.30(c) indicates that the MS4 program is intended to control “sediment, suspended solids, nutrients, heavy metals, pathogens, toxins, oxygen-demanding substances, and floatables.” Commenters asked whether TMDLs or equivalent analyses have to address all of these.

EPA has revised the proposed waiver in response to these concerns. Under today's rule, NPDES permitting authorities may waive the requirements of today's rule for any small MS4 with a population less than 1,000 that does not contribute substantially to the pollutant loadings of a physically interconnected MS4, unless the small MS4 discharges pollutants

that have been identified as a cause of impairment of the waters to which the small MS4 discharges. If the small MS4 does discharge pollutants that have been identified as impairing the water body into which the small MS4 discharges, the NPDES permitting authority may grant a waiver only if it determines that storm water controls are not needed based on an EPA approved or established TMDL that addresses the pollutant(s) of concern.

Unlike the proposed rule, §122.32(d) does not allow the waiver for MS4s serving a population under 1,000 to be based on “the equivalent of a TMDL.” Because §122.32(d) requires a pollutant specific analysis only for a pollutant that has been identified as a cause of impairment, a TMDL is required for such pollutant before the waiver may be granted. Once a pollutant has been identified as the cause of impairment of a water body, the State should develop a TMDL for that pollutant for that water body. Thus, §122.32(d) takes a different approach than that taken for the waiver in §122.32(e) for MS4s serving a population under 10,000, which can be based upon an analysis that is “the equivalent of a TMDL.” This is because §122.32(d) requires an analysis to support the waiver for MS4s under 1,000 only if a waterbody to which the MS4 discharges has been identified as impaired. The §122.32(e) waiver, on the other hand, would be available for larger MS4s but only after the State affirmatively establishes lack of impairment based upon a comprehensive analysis of smaller urban waters that might not otherwise be evaluated for the purposes of CWA [section 303](#). Since §122.32(e) requires the analysis of waters that have not been identified as impaired, an actual TMDL is not required and an analysis that is the equivalent of a TMDL can suffice to support the waiver.

Where a State is the NPDES permitting authority, the permitting authority is responsible for the development of the TMDLs as well as the assessment of the extent to which a small MS4's discharge contributes pollutants to a neighboring regulated system. In States where EPA is the permitting authority, EPA will use a State's TMDLs to determine whether storm water controls are required for the small MS4s.

The proposed rule would have required the operator of the small MS4 serving a population under 1,000 to certify that its discharge was covered under a TMDL that indicated that discharges from its particular system were not having an adverse impact on water quality (i.e., it was either not assigned wasteload allocations under TMDLs or its discharge is within an assigned allocation). Many commenters expressed concerns that MS4 operators serving less than 1,000 persons may lack the technical capacity to certify that their discharges are not contributing to adverse water quality impacts. These commenters thought that the permitting authority should make such a certification. Today's rule provides flexibility as to how the waiver is administered. Permitting authorities are ultimately responsible for granting the waiver, but are free to determine whether or not to require small MS4 operators that are seeking waivers to submit information or a written certification.

Under §122.32(e) a State may grant a waiver to an MS4 serving a population between 1,000 and 10,000 only if the State has made a comprehensive effort to ensure that the MS4 will not cause or contribute to water quality impairment. To grant a §122.32(e) waiver, the NPDES permitting authority must evaluate all waters of the U.S. that receive a discharge from the MS4 and determine that storm water controls are not needed. The permitting authority's evaluation must be based on wasteload allocations that are part of an EPA approved or established TMDL or, if a TMDL has not been developed or approved, an equivalent analysis that determines sources and allocations for the pollutant(s) of concern. The pollutants of concern that the permitting authority must evaluate include biochemical oxygen demand (BOD), sediment or a parameter that addresses sediment (such as total suspended solids, turbidity or siltation), pathogens, oil and grease, and any other pollutant that has been identified as a cause of impairment of any water body that will receive a discharge from the MS4. Finally, the permitting authority must have determined that future discharges from the MS4 do not have the potential to result in exceedances of water quality standards, including impairment of designated uses, or other significant ***68747** water quality impacts, including habitat and biological impacts.

Although EPA did not propose this specific approach, the Agency did request comment on whether to increase the proposed 1,000 population threshold for a waiver. The §122.32(e) waiver was developed in response to comments, including States' concerns that they needed greater flexibility to focus their efforts on MS4s that were causing water

quality impairment. Several commenters thought that the threshold should be increased from 1,000 to 5,000 or 10,000. Others suggested additional ways of qualifying for a waiver for MS4s that discharge to waters that are not covered by a TMDL or watershed plan. EPA carefully considered all the options for expanding the waiver provisions and has decided to expand the waiver only in the very narrow circumstances described above where a comprehensive analysis has been undertaken to demonstrate that the MS4 is not causing water quality impairment.

The NPDES permitting authority can, at any time, mandate compliance with program requirements from a previously waived small MS4 if circumstances change. For example, a waiver can be withdrawn in circumstances where the permitting authority later determines that a waived small MS4's storm water discharge to a small stream will cause adverse impacts to water quality or significantly interfere with attainment of water quality standards. A "change in circumstances" could involve receipt of new information. Changed circumstances can also allow a regulated small MS4 operator to request a waiver at any time.

Some commenters expressed concerns about allowing any small MS4 waivers. One commenter stated that storm water pollution prevention plans are necessary to control storm water pollution and should be required from all regulated small MS4s. For the reasons stated in the Background section above, EPA agrees that the discharges from most MS4s in urbanized areas should be addressed by a storm water management program outlined in today's rule. For MS4s serving very small areas, however, the TMDL development process provides an opportunity to determine whether an MS4 serving a population less than 1,000 is having a negative impact on any receiving water that is impaired by a pollutant that the MS4 discharges. MS4s serving populations up to 10,000 may receive a waiver only if a comprehensive analysis of its impact on receiving water has been performed.

Other commenters said that waivers should not be allowed for small MS4s that discharge into another regulated MS4. These commenters stated that the word "substantially" should be removed from §122.32(d)(i) so that a waiver would not be allowed for any system "contributing to the storm water pollutant loadings of a physically interconnected regulated MS4." As previously mentioned under the designation discussion of section II.G.2.c, EPA believes that the word "substantially" provides needed flexibility to the permitting authorities. It is important to note that this is only one aspect that the permitting authority must consider when deciding on the appropriateness of a waiver.

4. Issue Permits

NPDES permitting authorities have a number of responsibilities regarding the permit process. Sections 123.35(d) through (g) ensure a certain level of consistency for permits, yet provide numerous opportunities for flexibility. NPDES permitting authorities must issue NPDES permits to cover municipal sources to be regulated under §122.32, unless waived under §122.32(c). EPA encourages permitting authorities to use general permits as the vehicle for permitting and regulating small MS4s. The Agency notes, however, that some operators may wish to take advantage of the option to join as a co-permittee with an MS4 regulated under the existing NPDES storm water program.

Today's final rule includes a provision, §123.35(f), that requires NPDES permitting authorities to either include the requirements in §122.34 for NPDES permits issued for regulated small MS4s or to develop permit limits based on a permit application submitted by a small MS4. See Section II.H.3.a, Minimum Control Measures, for more details on the actual §122.34 requirements. See Section II.H.3.c for alternative and joint permitting options.

In an attempt to avoid duplication of effort, §122.34(c) allows NPDES permitting authorities to include permit conditions that direct an MS4 to meet the requirements of a qualifying local, Tribal, or State municipal storm water management program. For a local, Tribal, or State program to "qualify," it must impose, at a minimum, the relevant requirements of §122.34(b). A regulated small MS4 must still follow the procedural requirements for an NPDES permit (i.e., submit an application, either an individual application or an NOI under a general permit) but will instead follow the substantive pollutant control requirements of the qualifying local, Tribal, or State program.

Under [§122.35\(b\)](#), NPDES permitting authorities may also recognize existing responsibilities among governmental entities for the minimum control measures in an NPDES small MS4 storm water permit. For example, the permit might acknowledge the existence of a State administered program that addresses construction site runoff and require that the municipalities only develop substantive controls for the remaining minimum control measures. By acknowledging existing programs, this provision is meant to reduce the duplication of efforts and to increase the flexibility of the NPDES storm water program.

[Section 123.35\(e\)](#) of today's final rule requires permitting authorities to specify a time period of up to 5 years from the issuance date of an NPDES permit for regulated small MS4 operators to fully develop and implement their storm water programs. As discussed more fully below, permitting authorities should be providing extensive support to the local governments to assist them in developing and implementing their programs.

In the proposed rule, EPA stated that the permitting authority would develop the menu of BMPs and if they failed to do so, EPA would develop the menu. Commenters felt that EPA should develop a menu of BMPs, rather than just providing guidance. In the settlement agreement for seeking an extension to the deadline for issuing today's rule, EPA committed to developing a menu of BMPs by October 27, 2000. Permitting authorities can adopt EPA's menu or develop their own. The menu itself is not intended to replace more comprehensive BMP guidance materials. As part of the tool box efforts, EPA will provide separate guidance documents that discuss the results from EPA-sponsored nationwide studies on the design, operation and maintenance of BMPs. Additionally, EPA expects that the new rulemaking on construction BMPs may provide more specific design, operation and maintenance criteria.

5. Support and Oversee the Local Programs

NPDES permitting authorities are responsible for supporting and overseeing the local municipal programs. [Section 123.35\(h\)](#) of today's final rule highlights issues associated with these responsibilities.

To the extent possible, NPDES permitting authorities should provide financial assistance to MS4s, which ***68748** often have limited resources, for the development and implementation of local programs. EPA recognizes that funding for programs at the State and Tribal levels may also be limited, but strongly encourages States and Tribes to provide whatever assistance is possible. In lieu of actual dollars, NPDES permitting authorities can provide cost-cutting assistance in a number of ways. For example, NPDES permitting authorities can develop outreach materials for MS4s to distribute or the NPDES permitting authority can actually distribute the materials. Another option is to implement an erosion and sediment control program across an entire State (or Tribal land), thus alleviating the need for the MS4 to implement its own program. The NPDES permitting authority must balance the need for site-specific controls, which are best handled by a local MS4, with its ability to offer financial assistance. EPA, States, Tribes, and MS4s should work as a team in making these kinds of decisions.

NPDES permitting authorities are responsible for overseeing the local programs. Permitting authorities should work with the regulated community and other stakeholders to assist in local program development and implementation. This might include sharing information, analyzing reports, and taking enforcement actions, as necessary. NPDES permitting authorities play a vital role in supporting local programs by providing technical and programmatic assistance, conducting research projects, and monitoring watersheds. The NPDES permitting authority can also assist the MS4 permittee in obtaining adequate legal authority at the local level in order to implement the local component of the CWA section 402(p)(6) program.

NPDES permitting authorities are encouraged to coordinate and utilize the data collected under several programs. States and Tribes address point and nonpoint source storm water discharges through a variety of programs. In developing programs to carry out CWA section 402(p)(6), EPA recommends that States and Tribes coordinate all of their water pollution evaluation and control programs, including the continuing planning process under CWA section 303(e), the existing NPDES program, the CZARA program, and nonpoint source pollution control programs.

In addition, NPDES permitting authorities are encouraged to provide a brief (e.g., two-page) reporting format to facilitate compilation and analysis of data from reports submitted under §122.34(g)(3). EPA intends to develop a model form for this purpose.

H. Municipal Role

1. Scope of Today's Rule

Today's final rule attempts to establish an equitable and comprehensive four-pronged approach for the designation of municipal sources. First, the approach defines for automatic coverage the municipal systems believed to be of highest threat to water quality. Second, the approach designates municipal systems that meet a set of objective criteria used to measure the potential for water quality impacts. Third, the approach designates on a case-by-case basis municipal systems that “contribute substantially to the pollutant loadings of a physically-interconnected [regulated] MS4.” Finally, the approach designates on a case-by-case basis, upon petition, municipal systems that “contribute to a violation of a water quality standard or are a significant contributor of pollutants.”

Today's final rule automatically designates for regulation small MS4s located in urbanized areas, and requires that NPDES permitting authorities examine for potential designation, at a minimum, a particular subset of small MS4s located outside of urbanized areas. Today's rule also includes provisions that allow for waivers from the otherwise applicable requirements for the smallest MS4s that are not causing impairment of a receiving water body. Qualifications for the waivers vary depending on whether the MS4 serves a population under 1,000 or a population under 10,000. See §§122.32(d) and (e). These waivers are discussed further in section II.G.3. Any small MS4 automatically designated by the final rule or designated by the permitting authority under today's final rule is defined as a “regulated” small MS4 unless it receives a waiver.

In today's final rule, all regulated small MS4s must establish a storm water discharge control program that meets the requirements of six minimum control measures. These minimum control measures are public education and outreach on storm water impacts, public involvement participation, illicit discharge detection and elimination, construction site storm water runoff control, post-construction storm water management in new development and redevelopment, and pollution prevention/good housekeeping for municipal operations.

Today's rule allows for a great deal of flexibility in how an operator of a regulated small MS4 is authorized to discharge under an NPDES permit, by providing various options for obtaining permit coverage and satisfying the required minimum control measures. For example, the NPDES permitting authority can incorporate by reference qualifying State, Tribal, or local programs in an NPDES general permit and can recognize existing responsibilities among different governmental entities for the implementation of minimum control measures. In addition, a regulated small MS4 can participate in the storm water management program of an adjoining regulated MS4 and can arrange to have another governmental entity implement a minimum control measure on their behalf.

2. Municipal Definitions

a. Municipal Separate Storm Sewer Systems (MS4s)

The CWA does not define the term “municipal separate storm sewer.” EPA defined municipal separate storm sewer in the existing storm water permit application regulations to mean, in part, a conveyance or system of conveyances (including roads with drainage systems and municipal streets) that is “owned or operated by a State, city, town borough, county, parish, district, association, or other public body * * * designed or used for collecting or conveying storm water which is not a combined sewer and which is not part of a Publicly Owned Treatment Works as defined at 40 CFR 122.2” (see §122.26(b)(8)(i)). Section 122.26 contains definitions of medium and large municipal separate storm sewer systems but

no definition of a municipal separate storm sewer system, even though the term MS4 is commonly used. In today's rule, EPA is adding a definition of municipal separate storm sewer system and small municipal separate storm sewer system along with the abbreviations MS4 and small MS4.

The existing municipal permit application regulations define “medium” and “large” MS4s as those located in an incorporated place or county with a population of at least 100,000 (medium) or 250,000 (large) as determined by the latest Decennial Census (see §§122.26(b)(4) and 122.26(b)(7)). In today's final rule, these regulations have been revised to define all medium and large MS4s as those meeting the above population thresholds according to the 1990 Decennial Census.

Today's rule also corrects the titles and contents of Appendices F, G, H, & I to Part 122. EPA is adding those incorporated places and counties whose 1990 population caused them to be defined as a “medium” or “large” MS4. All of these MS4s have applied for *68749 permit coverage so the effect of this change to the appendices is simply to make them more accurate. They will not need to be revised again because today's rule “freezes” the definition of “medium” and “large” MS4s at those that qualify based on the 1990 census.

EPA received several comments supporting and opposing the proposal to “freeze” the definitions based on the 1990 census. Commenters who disagreed with EPA's position cited the unfairness of municipalities that reach the medium or large threshold at a later date having fewer permitting requirements compared to those that were already at the population thresholds when the existing storm water regulations took effect. EPA recognizes this disparity but does not believe it is unfair, as explained in the proposed rule. The decision was based on the fact that the deadlines from the existing regulations have lapsed, and because the permitting authority can always require more from operators of MS4s serving “newly over 100,000” populations.

b. Small Municipal Separate Storm Sewer Systems

The proposal to today's final rule added “the United States” as a potential owner or operator of a municipal separate storm sewer. This addition was intended to address an omission from existing regulations and to clarify that federal facilities are, in fact, covered by the NPDES program for municipal storm water discharges when the federal facility is like other regulated MS4s. EPA received a comment that this change would cause federal facilities located in Phase 1 areas to be considered Phase 1 dischargers due to the definition of medium and large MS4s. All MS4s located in Phase 1 cities or counties are defined as Phase 1 medium or large MS4s. EPA believes that all federal facilities serve a population of under 100,000 and should be regulated as small MS4s. Therefore, in §122.26(a)(16) of today's final rule, EPA is adding federal facilities to the NPDES storm water discharge control program by changing the proposed definition of small municipal separate storm sewer system. Paragraph (i) of this section restates the definition of municipal separate storm sewer with the addition of “the United States” as a owner or operator of a small municipal separate storm sewer. Paragraph (ii) repeats the proposed language that states that a small MS4 is a municipal separate storm sewer that is not medium or large.

Most commenters agreed that federal facilities should be covered in the same way as other similar MS4s. However, EPA received several comments asking whether individual federal buildings such as post offices or urban offices of the U.S. Park Service must apply for coverage as regulated small MS4s. Most of these buildings have, at most, a parking lot with runoff or a storm sewer that connects with a municipality's MS4. In §122.26(a)(16)(iii), EPA clarifies that the definition of small MS4 does not include individual buildings. These buildings may have a municipal separate storm sewer but they do not have a “system” of conveyances. The minimum measures for small MS4s were written to apply to storm sewer “systems” providing storm water drainage service to human populations and not to individual buildings. This is true of municipal separate storm sewers from State buildings as well as from federal buildings.

There will likely be situations where the permitting authority must decide if a federal or State complex should be regulated as a small MS4. A federal complex of two or three buildings could be treated as a single building and not be required to apply for coverage. In these situations, permitting authorities will have to use their best judgment as to the nature of

the complex and its storm water conveyance system. Permitting authorities should also consider whether the federal or State complex cooperates with its municipality's efforts to implement their storm water management program.

Along with the questions about individual buildings, EPA received many questions about how various provisions of the rule should be interpreted for federal and State facilities. EPA acknowledges that federal and State facilities are different from municipalities. EPA believes, however, that the minimum measures are flexible enough that they can be implemented by these facilities. As an example, DOD commenters asked about how to interpret the term “public” for military installations when implementing the public education measure. EPA agrees with the suggested interpretation of “public” for DOD facilities as “the resident and employee population within the fence line of the facility.”

EPA also received many comments from State departments of transportation (DOTs) that suggested the ways in which they are different from municipalities and should therefore be regulated differently. Storm water discharges from State DOTs in Phase 1 areas should already be regulated under Phase I. The preamble to Phase 1 clearly states that “all systems within a geographical area including highways and flood control districts will be covered.” Many permitting authorities regulated State DOTs as co-permittees with the Phase 1 municipality in which the highway is located. State DOTs that are already regulated under Phase I are not required to comply with Phase II. State DOTs that are not already regulated have various options for meeting the requirements of today's rule. These options are discussed in Section II.H.3.c.iv below. Several DOTs commented that some of the minimum measures are outside the scope of their mission or that they do not have the legal authority required for implementation. EPA believes that the flexibility of the minimum measures allows them to be implemented by most MS4s, including DOTs. When a DOT does not have the necessary legal authority, EPA encourages the DOT to coordinate their storm water management efforts with the surrounding municipalities and other State agencies. Under today's rule, DOTs can use any of the options of [§122.35](#) to share their storm water management responsibilities. DOTs may also want to work with their permitting authority to develop a State-wide DOT storm water permit.

There are many storm water discharges from State DOTs and other State MS4s located in Phase 1 areas that were not regulated under Phase 1. Today's rule adds many more State facilities as well as all federal facilities located in urbanized areas. All of these State and federal facilities that fit the definition of a small MS4 must be covered by a storm water management program. The individual permitting authorities must decide what type of permit is most applicable.

The existing NPDES storm water program already regulates storm water from federally or State-operated industrial sources. Federal or State facilities that are currently regulated due to their industrial discharges may already be implementing some of today's rule requirements.

EPA received comments that questioned the apparent inconsistency between regulating a federal facility such as a hospital and not regulating a similar private facility. Normally, this type of private facility is regulated by the MS4. EPA believes that federal facilities are subject to local water quality regulations, including storm water requirements, by virtue of the waiver of sovereign immunity in CWA section 313. However, there are special problems faced by MS4s in their efforts to regulate federal facilities that have not been encountered in regulating ***68750** similar private facilities. To ensure comprehensive coverage, today's rule merely clarifies the need for permit coverage for these federal facilities.

i. Combined Sewer Systems (CSS). The definition of small MS4s does not include combined sewer systems. A combined sewer system is a wastewater collection system that conveys sanitary wastewater and storm water through a single set of pipes to a publicly-owned treatment works (POTW) for treatment before discharging to a receiving waterbody. During wet weather events when the capacity of the combined sewer system is exceeded, the system is designed to discharge prior to the POTW treatment plant directly into a receiving waterbody. Such an overflow is a combined sewer overflow or CSO. Combined sewer systems are not subject to existing regulations for municipal storm water discharges, nor will they be subject to today's regulations. EPA addresses combined sewer systems and CSOs in the [National Combined Sewer Overflow \(CSO\) Control Policy issued on April 19, 1994 \(59 FR 18688\)](#). The CSO Control Policy contains provisions

for developing appropriate, site-specific NPDES permit requirements for combined sewer systems. CSO discharges are subject to limitations based on the best available technology economically achievable for toxic pollutants and based on the best conventional pollutant control technology for conventional pollutants. MS4s are subject to a different technology standard for all pollutants, specifically to reduce pollutants to the maximum extent practicable.

Some municipalities are served by both separate storm sewer systems and combined sewer systems. If such a municipality is located within an urbanized area, only the separate storm sewer systems within that municipality is included in the NPDES storm water program and subject to today's final rule. If the municipality is not located in an urbanized area, then the NPDES permitting authority has discretion as to whether the discharges from the separate storm sewer system is subject to today's final rule. The NPDES permitting authority will use the same process to designate discharges from portions of an MS4 for permit coverage where the municipality is also served by a combined sewer system.

EPA recognizes that municipalities that have both combined and separate storm sewer systems may wish to find ways to develop a unified program to meet all wet weather water pollution control requirements more efficiently. In the proposal to today's final rule, EPA sought comment on ways to achieve such a unified program. Many municipalities that are served by CSSs and MS4s commented that it is inequitable to force them to comply with Phase II at this time because implementation of the CSO Control Policy through their NPDES permits already imposes a significant financial burden. They requested an extension of the implementation time frame. They did not provide ideas on how to unify the two programs. EPA encourages permitting authorities to work with these municipalities as they develop and begin implementation of their CSO and storm water management programs. If both sets of requirements are carefully coordinated early, a cost-effective wet weather program can be developed that will address both CSO and storm water requirements.

ii. Owners/Operators. Several commenters mentioned the difference between the existing storm water application requirement for municipal operators and the proposed municipal requirement for owners or operators to apply. They felt that this inconsistency is confusing. The preamble to the existing regulations makes numerous references to owner/operator so there was no intent to make a clear distinction between Phase I and Phase II. [Section 122.21\(b\)](#) states that when the owner and operator are different, the operator must obtain the permit. MS4s often have several operators. The owner may be responsible for one part of the system and a regional authority may be responsible for other aspects. EPA proposed the “owner or operator” language to convey this dual responsibility. However, when the owner is responsible for some part of a storm water management plan, it is also an operator.

EPA has revised the regulation language to clarify that “an operator” must apply for a permit. When responsibilities for the MS4 are shared, all operators must apply.

c. Regulated Small MS4s

In today's final rule, all small MS4s located in an urbanized area are automatically designated as “regulated” small MS4s provided that they were not previously designated into the existing storm water program. Unlike medium and large MS4s under the existing storm water regulations, not all small MS4s are designated under today's final rule. Therefore, today's rule distinguishes between “small” MS4s and “regulated small” MS4s.

EPA's definition of “regulated small MS4s” in the proposal to today's rule included mention of incorporated places and counties. Along with the definition, EPA included Appendices 6 and 7 to assist in the identification of areas that would probably require coverage as “automatically designated” (Appendix 6) or “potentially designated” (Appendix 7). The definition and the appendices raised many questions about exactly who was required to comply with the proposed requirements. Commenters raised issues about the definition of “incorporated place” and the status of towns, townships, and other places that are not considered incorporated by the Census Bureau. They also asked about special districts, regional authorities, MS4s already regulated, and other questions in order to clarify the rule's coverage.

EPA has revised §122.32(a) to clarify that discharges are regulated under today's rule if they are from a small MS4 that is in an urbanized area and has not received a waiver or they are designated by the permitting authority. Today's rule does not regulate the county, city, or town. Today's rule regulates the MS4. Therefore, even though a county may be listed in Appendix 6, if that county does not own or operate the municipal storm sewer systems, the county does not have to submit an application or develop a storm water management program. If another entity does own or operate an MS4 within the county, for example, a regional utility district, that other entity needs to submit the application and develop the program.

Some commenters suggested that EPA should change the rule language to specifically allow regional authorities to be the permitted entity and to allow small MS4s to apply as co-permittees. EPA believes that the best way to clarify that regional authorities can be the primary permitted entity is the change to §122.32(a) and the explanation above. Because EPA assumes that today's regulation will be implemented through general permits, MS4s will not be co-permittees under a general permit in the same manner as under individual permits. EPA has added §122.33(a)(4) and made a minor change to §122.35(a) to clarify that small MS4s can work together to share the responsibilities of a storm water management program. This is discussed further in Section II.H.3.c.iv below.

The proposed rule stated that when a county or Federal Indian reservation is only partially included in an urbanized area, only MS4s in the urbanized portion of the county or Federal Indian reservation would be regulated. In the rare cases when an incorporated place is only partially included in the urbanized area, the entire incorporated place would be regulated. EPA received comments asking about towns and *68751 townships, because they were not considered to be incorporated areas according to the Census Bureau's definition. Would the whole town/township be covered or only the part of the town/township in the urbanized area? States use many different types of systems in their geographical divisions. Some towns are similar to incorporated cities and others are large areas that are more similar to counties. Some commenters thought that the urbanized area boundary was arbitrary, and if part of a town or county was covered, it all should be covered. Other commenters noted that some townships and counties encompass very large areas of which only a small portion is urbanized. Due to the great variety of situations, EPA has decided that for all geographical entities, only MS4s in the urbanized area are automatically designated. The population densities associated with the Census Bureau's designation of urbanized areas provide the basis for designation of these areas to protect water quality. This focused designation provides for consistency and allows for flexibility on the part of the MS4 and the permitting authority. In those situations where an incorporated place or a town is not all in an "urbanized area", there is a good possibility that it is served by more than one MS4. In those cases where the area is served by the same MS4, it makes sense to develop a storm water program for the whole area. Permitting authorities may also decide to designate all MS4s within a county or township, if they believe it is necessary to protect water quality.

Most operators of MS4s will not need to independently determine the status of coverage under today's rule. EPA has revised the proposed Appendices 6 and 7 to include towns and townships. Therefore, these appendices will alert most MS4s as to whether they are likely to be covered under today's rule. However, each permitting authority must make the decision as to who requires coverage. Most likely, an illustrative list of the regulated areas will be published with the general permit. If not, the operator can contact its permitting authority or the Bureau of the Census to find out if their separate storm sewer systems are within an urbanized area.

i. Urbanized Area Description. Under the Bureau of the Census definition of "urbanized area," adopted by EPA for the purposes of today's final rule, "an urbanized area (UA) comprises a place and the adjacent densely settled surrounding territory that together have a minimum population of 50,000 people." The proposal to today's rule provided the full definition and case studies to help explain the census category of "urbanized area." Appendix 2 is a simplified urbanized area illustration to help demonstrate the concept of urbanized areas in relation to today's final rule. The "urbanized area" is the shaded area that includes within its boundaries incorporated places, a portion of a Federal Indian reservation, portions of two counties, an entire town, and portions of another town. All small MS4s located in the shaded area are

covered by the rule, unless and until waived by the permitting authority. Any small MS4s located outside of the shaded area are subject to potential designation by the permitting authority.

There are 405 urbanized areas in the United States that cover 2 percent of total U.S. land area and contain approximately 63 percent of the nation's population (see Appendix 3 for a listing of urbanized areas of the United States and Puerto Rico). These numbers include U.S. Territories, although Puerto Rico is the only territory to have Census-designated urbanized areas. Urbanized areas constitute the largest and most dense areas of settlement. The purpose of determining an "urbanized area" is to delineate the boundaries of development and map the actual built-up urban area. The Bureau of the Census geographers liken it to flying over an urban area and drawing a line around the boundary of the built-up area as seen from the air.

Using data from the latest decennial census, the Census Bureau applies the urbanized area definition nationwide (including U.S. Tribes and Territories) and determines which places and counties are included within each urbanized area. For each urbanized area, the Bureau provides full listings of who is included, as well as detailed maps and special CD-ROM files for use with computerized mapping systems (such as GIS). Each State's data center receives a copy of the list, and some maps, automatically. The States also have the CD-ROM files and a variety of publications available to them for reference from the Bureau of the Census. In addition, local or regional planning agencies may have urbanized area files already. New listings for urbanized areas based on the 2000 Census will be available by July/August 2001, but the more comprehensive computer files will not be available until late 2001/early 2002.

Additional designations based on subsequent census years will be governed by the Bureau of the Census' definition of an urbanized area in effect for that year. Based on historical trends, EPA expects that any area determined by the Bureau of the Census to be included within an urbanized area as of the 1990 Census will not later be excluded from the urbanized area as of the 2000 Census. However, it is important to note that even if this situation were to occur, for example, due to a possible change in the Bureau of the Census' urbanized area definition, a small MS4 that is automatically designated into the NPDES program for storm water under an urbanized area calculation for any given Census year will remain regulated regardless of the results of subsequent urbanized area calculations.

ii. Rationale for Using Urbanized Areas. EPA is using urbanized areas to automatically designate regulated small MS4s on a nationwide basis for several reasons: (1) studies and data show a high correlation between degree of development/urbanization and adverse impacts on receiving waters due to storm water (U.S. EPA, 1983; Driver et al., 1985; Pitt, R.E. 1991. "Biological Effects of Urban Runoff Discharges." Presented at the Engineering Foundation Conference: Urban Runoff and Receiving Systems; An Interdisciplinary Analysis of Impact, Monitoring and Management, August 1991. Mt. Crested Butte, CO. American Society of Civil Engineers, New York. 1992.; Pitt, R.E. 1995. "Biological Effects of Urban Runoff Discharges," in Storm water Runoff and Receiving Systems: Impact, Monitoring, and Assessment. Lewis Publishers, New York.; Galli, J. 1990. Thermal Impacts Associated with Urbanization and Storm water Management Best Management Practices. Prepared for the Sediment and Storm water Administration of the Maryland Department of the Environment.; Klein, 1979), (2) the blanket coverage within the urbanized area encourages the watershed approach and addresses the problem of "donut-holes," where unregulated areas are surrounded by areas currently regulated (storm water discharges from donut hole areas present a problem due to their contributing uncontrolled adverse impacts on local waters, as well as by frustrating the attainment of water quality goals of neighboring regulated communities), (3) this approach targets present and future growth areas as a preventative measure to help ensure water quality protection, and (4) the determination of urbanized areas by the Bureau of the Census allows operators of small MS4s to quickly determine whether they are included in the NPDES storm water program as a regulated small MS4.

Urbanized areas have experienced significant growth over the past 50 years. According to EPA calculations *68752 based on Census data from 1980 to 1990, the national average rate of growth in the United States during that 10-year period was more than 4 percent. For the same period, the average growth within urbanized areas was 15.7 percent and

the average for outside of urbanized areas was just more than 1 percent. The new development occurring in these growing areas can provide some of the best opportunities for implementing cost-effective storm water management controls.

EPA received many comments on the proposal to designate discharges based on location within urbanized areas. EPA considered numerous other approaches, several of which are discussed in the proposal to today's final rule. Several commenters wanted designation to be based on proven water quality problems rather than inclusion in an urbanized area. One commenter proposed an approach based on the CWA 303(d) listing of impaired waters and the wasteload allocation conducted under the TMDL process. (See section II.L. on the section 303(d) and TMDL process). The commenter's proposal would designate small MS4s on a case-by-case basis, covering only those discharges where receiving streams are shown to have water quality problems, particularly a failure to meet water quality standards, including designated uses. The commenter further described a non-NPDES approach where a State would require cost-effective measures based on a proportionate share under a waste load allocation, equitably allocated among all pollutant contributors. These waste load allocations would be developed with input from all stakeholders, and remedial measures would be implemented in a phased manner based on the probability of results and/or economic feasibility. The States would then periodically reassess the receiving streams to determine whether the remedial measures are working, and if not, require additional control measures using the same procedure used to establish the initial measures. What the commenter describes is almost a TMDL.

EPA considered a remedial approach based on water quality impairment and rejected it for failure to prevent almost certain degradation caused by urban storm water. EPA's main concern in opting not to take a case-by-case approach to designation was that this approach would not provide controls for storm water discharges in receiving streams until after a site-specific demonstration of adverse water quality impact. The commenter's suggestion would do nothing to prevent pollution in waters that may be meeting water quality standards, including supporting designated uses. The approach would also rely on identifying storm water management programs following comprehensive watershed plans and TMDL development. In most States, water quality assessments have traditionally been conducted for principal mainstream rivers and their major tributaries, not all surface waters. The establishment of TMDLs nationwide will take many years, and many States will conduct additional monitoring to determine water quality conditions prior to establishing TMDLs. In addition, a case-by-case approach would not address the problem of "donut holes" within urbanized areas and a lack of consistency among similarly situated municipal systems would remain commonplace. After careful consideration of all comments, EPA still believes that the approach in today's rule is the most appropriate to protect water quality. Protection includes prevention as well as remediation.

d. Municipal Designation by the Permitting Authority

Today's final rule also allows NPDES permitting authorities to designate MS4s that should be included in the storm water program as regulated small MS4s but are not located within urbanized areas. The final rule requires, at a minimum, that a set of designation criteria be applied to all small MS4s within a jurisdiction that serves a population of at least 10,000 and has a population density of at least 1,000. Appendix 7 to this preamble provides an illustrative list of places that the Agency anticipates meet this criteria. In addition, any small MS4 may be the subject of a petition to the NPDES permitting authority for designation. See Section II.G, NPDES Permitting Authority's Role for more details on the designation and petition processes. EPA believes that the approach of combining nationwide and local designation to determine municipal coverage balances the potential for significant adverse impacts on water quality with local watershed protection and planning efforts.

e. Waiving the Requirements for Small MS4s

Today's final rule includes some flexibility in the nationwide coverage of all small MS4s located in urbanized areas by providing the NPDES permitting authority with the discretion to waive the otherwise applicable requirements of the smallest MS4s that are not causing the impairment of a receiving water body. Qualifications for the waiver vary depending on whether the MS4 serves a population under 1,000 or a population between 1,000 and 10,000. Note that

even if a small MS4 has requirements waived, it can subsequently be brought back into the program if circumstances change. See Section II.G, NPDES Permitting Authority's Role, for more details on this process.

3. Municipal Permit Requirements

a. Overview

i. Summary of Permitting Options. Today's rule outlines six minimum control measures that constitute the framework for a storm water discharge control program for regulated small MS4s that, when properly implemented, will reduce pollutants to the maximum extent practicable (MEP). These six minimum control measures are specified in [§122.34\(b\)](#) and are discussed below in section "II.H.3.b, Program Requirements-Minimum Control Measures." All operators of regulated small MS4s are required to obtain coverage under an NPDES permit, unless the requirement is waived by the permitting authority in accordance with today's rule. Implementation of [§122.34\(b\)](#) may be required either through an individual permit or, if the State or EPA makes one available to the facility, through a general permit. The process for issuing and obtaining these permits is discussed below in section "II.H.3.c, Application Requirements."

As an alternative to implementing a program that complies with the requirements of [§122.34](#), today's rule provides operators of regulated small MS4s with the option of applying for an individual permit under [§122.26\(d\)](#). The permit application requirements in [§122.26](#) were originally drafted to apply to medium and large MS4s. Although EPA believes that the requirements of [§ 122.34](#) provide a regulatory option that is appropriate for most small MS4s, the operators of some small MS4s may prefer more individualized requirements. This alternative permitting option for regulated small MS4s that wish to develop their own program is discussed below in section "II.H.3.c.iii. Alternative Permit Option." The second alternative permitting option for regulated small MS4s is to become co-permittees with a medium or large MS4 regulated under [§ 122.26\(d\)](#), as discussed below in section "II.H.3.c.v. Joint Permit Programs."

ii. Water Quality-Based Requirements. Any NPDES permit issued under today's rule must, at a minimum, require the operator to develop, implement, and ***68753** enforce a storm water management program designed to reduce the discharge of pollutants from a regulated system to the MEP, to protect water quality, and satisfy the appropriate water quality requirements of the Clean Water Act (see MEP discussion in the following section). Absent evidence to the contrary, EPA presumes that a small MS4 program that implements the six minimum measures in today's rule does not require more stringent limitations to meet water quality standards. Proper implementation of the measures will significantly improve water quality. As discussed further below, however, small MS4 permittees should modify their programs if and when available information indicates that water quality considerations warrant greater attention or prescriptiveness in specific components of the municipal program. If the program is inadequate to protect water quality, including water quality standards, then the permit will need to be modified to include any more stringent limitations necessary to protect water quality.

Regardless of the basis for the development of the effluent limitations (whether designed to implement the six minimum measures or more stringent or prescriptive limitations to protect water quality), EPA considers narrative effluent limitations requiring implementation of BMPs to be the most appropriate form of effluent limitations for MS4s. CWA section 402(p)(3)(b)(iii) expresses a preference for narrative rather than numeric effluent limits, for example, by reference to "management practices, control techniques and system, design and engineering methods, and such other provisions as the Administrator or the State determines appropriate for the control of such pollutants." [33 U.S.C. 1342\(p\)\(3\)\(B\)\(iii\)](#). EPA determines that pollutants from wet weather discharges are most appropriately controlled through management measures rather than end-of-pipe numeric effluent limitations. [As explained in the Interim Permitting Policy for Water Quality-Based Effluent Limitations in Storm Water Permits, issued on August 1, 1996 \[61 FR 43761 \(November 26, 1996\)](#), EPA believes that the currently available methodology for derivation of numeric water quality-based effluent limitations is significantly complicated when applied to wet weather discharges from MS4s (compared to continuous or periodic batch discharges from most other types of discharge). Wet weather discharges from MS4s introduce a high degree of variability in the inputs to the models currently available for derivation of water quality based effluent

limitations, including assumptions about instream and discharge flow rates, as well as effluent characterization. In addition, EPA anticipates that determining compliance with any such numeric limitations may be confounded by practical limitations in sample collection.

In the first two to three rounds of permit issuance, EPA envisions that a BMP-based storm water management program that implements the six minimum measures will be the extent of the NPDES permit requirements for the large majority of regulated small MS4s. Because the six measures represent a significant level of control if properly implemented, EPA anticipates that a permit for a regulated small MS4 operator implementing BMPs to satisfy the six minimum control measures will be sufficiently stringent to protect water quality, including water quality standards, so that additional, more stringent and/or more prescriptive water quality based effluent limitations will be unnecessary.

If a small MS4 operator implements the six minimum control measures in § 122.34(b) and the discharges are determined to cause or contribute to non-attainment of an applicable water quality standard, the operator needs to expand or better tailor its BMPs within the scope of the six minimum control measures. EPA envisions that this process will occur during the first two to three permit terms. After that period, EPA will revisit today's regulations for the municipal separate storm sewer program.

If the permitting authority (rather than the regulated small MS4 operator) needs to impose additional or more specific measures to protect water quality, then that action will most likely be the result of an assessment based on a TMDL or equivalent analysis that determines sources and allocations of pollutant(s) of concern. EPA believes that the small MS4's additional requirements, if any, should be guided by its equitable share based on a variety of considerations, such as cost effectiveness, proportionate contribution of pollutants, and ability to reasonably achieve wasteload reductions. Narrative effluent limitations in the form of BMPs may still be the best means of achieving those reductions.

See [Section II.L](#), Water Quality Issues, for further discussion of this approach to permitting, consistent with EPA's interim permitting guidance. Pursuant to CWA section 510, States implementing their own NPDES programs may develop more stringent or more prescriptive requirements than those in today's rule.

EPA's interpretation of CWA section 402(p)(3)(B)(iii) was recently reviewed by the Ninth Circuit in *Defenders of Wildlife, et al v. Browner*, No. 98-71080 (September 15, 1999). The Court upheld the Agency's action in issuing five MS4 permits that included water quality-based effluent limitations. The Court did, however, disagree with EPA's interpretation of the relationship between CWA sections 301 and 402(p). The Court reasoned that MS4s are not compelled by section 301(b)(1)(C) to meet all State water quality standards, but rather that the Administrator or the State may rely on section 402(p)(3)(B)(iii) to require such controls. Accordingly, the *Defenders of Wildlife* decision is consistent with the Agency's 1996 "Interim Permitting Policy for Water Quality-Based Effluent Limitations in Storm Water Permits."

As noted, the 1996 Policy describes how permits would implement an iterative process using BMPs, assessment, and refocused BMPs, leading toward attainment of water quality standards. The ultimate goal of the iteration would be for water bodies to support their designated uses. EPA believes this iterative approach is consistent with and implements section 301(b)(1)(C), notwithstanding the Ninth Circuit's interpretation. As an alternative to basing these water quality-based requirements on section 301(b)(1)(C), however, EPA also believes the iterative approach toward attainment of water quality standards represents a reasonable interpretation of CWA section 402(p)(3)(B)(iii). For this reason, today's rule specifies that the "compliance target" for the design and implementation of municipal storm water control programs is "to reduce pollutants to the maximum extent practicable (MEP), to protect water quality, and to satisfy the appropriate water quality requirements of the CWA." The first component, reductions to the MEP, would be realized through implementation of the six minimum measures. The second component, to protect water quality, reflects the overall design objective for municipal programs based on CWA section 402(p)(6). The third component, to implement other applicable water quality requirements of the CWA, recognizes the Agency's specific determination under CWA section 402(p)(3)

(B)(iii) of the need to achieve reasonable further progress toward attainment of water quality standards according to the iterative BMP process, as well as the determination that State or EPA officials who establish TMDLs could allocate waste loads to *68754 MS4s, as they would to other point sources.

EPA does not presume that water quality will be protected if a small MS4 elects not to implement all of the six minimum measures and instead applies for alternative permit limits under §122.26(d). Operators of such small MS4s that apply for alternative permit limits under §122.26(d) must supply additional information through individual permit applications so that the permit writer can determine whether the proposed program reduces pollutants to the MEP and whether any other provisions are appropriate to protect water quality and satisfy the appropriate water quality requirements of the Clean Water Act.

iii. Maximum Extent Practicable. Maximum extent practicable (MEP) is the statutory standard that establishes the level of pollutant reductions that operators of regulated MS4s must achieve. The CWA requires that NPDES permits for discharges from MS4s “shall require controls to reduce the discharge of pollutants to the maximum extent practicable, including management practices, control techniques and system, design and engineering methods.” CWA Section 402(p)(3)(B)(iii). This section also calls for “such other provisions as the [EPA] Administrator or the State determines appropriate for the control of such pollutants.” EPA interprets this standard to apply to all MS4s, including both existing regulated (large and medium) MS4s, as well as the small MS4s regulated under today's rule.

For regulated small MS4s under today's rule, authorization to discharge may be under either a general permit or individual permit, but EPA anticipates and expects that general permits will be the most common permit mechanism. The general permit will explain the steps necessary to obtain permit authorization. Compliance with the conditions of the general permit and the series of steps associated with identification and implementation of the minimum control measures will satisfy the MEP standard. Implementation of the MEP standard under today's rule will typically require the permittee to develop and implement appropriate BMPs to satisfy each of the required six minimum control measures.

In issuing the general permit, the NPDES permitting authority will establish requirements for each of the minimum control measures. Permits typically will require small MS4 permittees to identify in their NOI the BMPs to be performed and to develop the measurable goals by which implementation of the BMPs can be assessed. Upon receipt of the NOI from a small MS4 operator, the NPDES permitting authority will have the opportunity to review the NOI to verify that the identified BMPs and measurable goals are consistent with the requirement to reduce pollutants under the MEP standard, to protect water quality, and to satisfy the appropriate water quality requirements of the Clean Water Act. If necessary, the NPDES permitting authority may ask the permittee to revise their mix of BMPs, for example, to better reflect the MEP pollution reduction requirement. Where the NPDES permit is not written to implement the minimum control measures specified under §122.34(b), for example in the case of an individual permit under §122.33(b)(2)(ii), the MEP standard will be applied based on the best professional judgment of the permit writer.

Commenters argued that MEP is, as yet, an undefined term and that EPA needs to further clarify the MEP standards by providing a regulatory definition that includes recognition of cost considerations and technical feasibility. Commenters argued that, without a definition, the regulatory community is not adequately on notice regarding the standard with which they need to comply. EPA disagrees that affected MS4 permittees will lack notice of the applicable standard. The framework for the small MS4 permits described in this notice provides EPA's interpretation of the standard and how it should be applied.

EPA has intentionally not provided a precise definition of MEP to allow maximum flexibility in MS4 permitting. MS4s need the flexibility to optimize reductions in storm water pollutants on a location-by-location basis. EPA envisions that this evaluative process will consider such factors as conditions of receiving waters, specific local concerns, and other aspects included in a comprehensive watershed plan. Other factors may include MS4 size, climate, implementation

schedules, current ability to finance the program, beneficial uses of receiving water, hydrology, geology, and capacity to perform operation and maintenance.

The pollutant reductions that represent MEP may be different for each small MS4, given the unique local hydrologic and geologic concerns that may exist and the differing possible pollutant control strategies. Therefore, each permittee will determine appropriate BMPs to satisfy each of the six minimum control measures through an evaluative process. Permit writers may evaluate small MS4 operator's proposed storm water management controls to determine whether reduction of pollutants to the MEP can be achieved with the identified BMPs.

EPA envisions application of the MEP standard as an iterative process. MEP should continually adapt to current conditions and BMP effectiveness and should strive to attain water quality standards. Successive iterations of the mix of BMPs and measurable goals will be driven by the objective of assuring maintenance of water quality standards. If, after implementing the six minimum control measures there is still water quality impairment associated with discharges from the MS4, after successive permit terms the permittee will need to expand or better tailor its BMPs within the scope of the six minimum control measures for each subsequent permit. EPA envisions that this process may take two to three permit terms.

One commenter observed that MEP is not static and that if the six minimum control measures are not achieving the necessary water quality improvements, then an MS4 should be expected to revise and, if necessary, expand its program. This concept, it is argued, must be clearly part of the definition of MEP and thus incorporated into the binding and operative aspects of the rule. As is explained above, EPA believes that it is. The iterative process described above is intended to be sensitive to water quality concerns. EPA believes that today's rule contains provisions to implement an approach that is consistent with this comment.

b. Program Requirements' Minimum Control Measures

A regulated small MS4 operator must develop and implement a storm water management program designed to reduce the discharge of pollutants from their MS4 to protect water quality. The storm water management program must include the following six minimum measures.

i. **Public Education and Outreach on Storm Water Impacts.** Under today's final rule, operators of small MS4s must implement a public education program to distribute educational materials to the community or conduct equivalent outreach activities about the impacts of storm water discharges on water bodies and the steps to reduce storm water pollution. The public education program should inform individuals and households about the problem and the steps they can take to reduce or prevent storm water pollution.

EPA believes that as the public gains a greater understanding of the storm water program, the MS4 is likely to gain *68755 more support for the program (including funding initiatives). In addition, compliance with the program will probably be greater if the public understands the personal responsibilities expected of them. Well-informed citizens can act as formal or informal educators to further disseminate information and gather support for the program, thus easing the burden on the municipalities to perform all educational activities.

MS4s are encouraged to enter into partnerships with their States in fulfilling the public education requirement. It may be more cost-effective to utilize a State education program instead of numerous MS4s developing their own programs. MS4 operators are also encouraged to work with other organizations (e.g., environmental, nonprofit and industry organizations) that might be able to assist in fulfilling this requirement.

The public education program should be tailored, using a mix of locally appropriate strategies, to target specific audiences and communities (particularly minority and disadvantaged communities). Examples of strategies include distributing brochures or fact sheets, sponsoring speaking engagements before community groups, providing public service

announcements, implementing educational programs targeted at school age children, and conducting community-based projects such as storm drain stenciling, and watershed and beach cleanups. Operators of MS4s may use storm water educational information provided by the State, Tribe, EPA, or environmental, public interest, trade organizations, or other MS4s. Examples of successful public education efforts concerning polluted runoff can be found in many State nonpoint source pollution control programs under CWA section 319.

The public education program should inform individuals and households about steps they can take to reduce storm water pollution, such as ensuring proper septic system maintenance, ensuring the use and disposal of landscape and garden chemicals including fertilizers and pesticides, protecting and restoring riparian vegetation, and properly disposing of used motor oil or household hazardous wastes. Additionally, the program could inform individuals and groups on how to become involved in local stream and beach restoration activities as well as activities coordinated by youth service and conservation corps and other citizen groups. Finally, materials or outreach programs should be directed toward targeted groups of commercial, industrial, and institutional entities likely to have significant storm water impacts. For example, MS4 operators should provide information to restaurants on the impact of grease clogging storm drains and to auto garages on the impacts of used oil discharges.

EPA received comments from representatives of State DOTs and U.S. Department of Defense (DOD) installations seeking exemption from the public education requirement. While today's rule does not exempt DOTs and military bases from the user education requirement, the Agency believes the flexibility inherent in the Rule addresses many of the concerns expressed by these commenters.

Certain DOT representatives commented that if their agencies were not exempt from the user education measure's requirements, they should at least be allowed to count DOT employee education as an adequate substitute. EPA supports the use of existing materials and programs, granted such materials and programs meet the rule's requirement that the MS4 user community (i.e., the public) is also educated concerning the impacts of storm water discharges on water bodies and the steps to reduce storm water pollution.

Finally, certain DOD representatives requested that "public," as applied to their installations, be defined as the resident and employee populations within the fence line of the facility. EPA agrees that the education effort should be directed toward those individuals who frequent the federally owned land (i.e., residents and individuals who come there to work and use the MS4 facilities).

EPA also received a number of comments from municipalities stating that education would be more thorough and cost effective if accomplished by EPA on the national level. EPA believes that a collaborative State and local approach, in conjunction with significant EPA technical support, will best meet the goal of targeting, and reaching, specific local audiences. EPA technical support will include a tool box which will contain fact sheets, guidance documents, an information clearinghouse, and training and outreach efforts.

Finally, EPA received comments expressing concern that the public education program simply encourages the distribution of printed material. EPA is sensitive to this concern. Upon evaluation, the Agency made changes to the proposal's language for today's rule. The language has been changed to reflect EPA's belief that a successful program is one that includes a variety of strategies locally designed to reach specific audiences.

ii. Public Involvement/Participation. Public involvement is an integral part of the small MS4 storm water program. Accordingly, today's final rule requires that the municipal storm water management program must comply with applicable State and local public notice requirements. [Section 122.34\(b\)\(2\)](#) recommends a public participation process with efforts to reach out and engage all economic and ethnic groups. EPA believes there are two important reasons why the public should be allowed and encouraged to provide valuable input and assistance to the MS4's program.

First, early and frequent public involvement can shorten implementation schedules and broaden public support for a program. Opportunities for members of the public to participate in program development and implementation could include serving as citizen representatives on a local storm water management panel, attending public hearings, working as citizen volunteers to educate other individuals about the program, assisting in program coordination with other pre-existing programs, or participating in volunteer monitoring efforts. Moreover, members of the public may be less likely to raise legal challenges to a MS4's storm water program if they have been involved in the decision making process and program development and, therefore, internalize personal responsibility for the program themselves.

Second, public participation is likely to ensure a more successful storm water program by providing valuable expertise and a conduit to other programs and governments. This is particularly important if the MS4's storm water program is to be implemented on a watershed basis. Interested stakeholders may offer to volunteer in the implementation of all aspects of the program, thus conserving limited municipal resources.

EPA recognizes that there are a number of challenges associated with public involvement. One challenge is in engaging people in the public meeting and program design process. Another challenge is addressing conflicting viewpoints. Nevertheless, EPA strongly believes that these challenges can be addressed by use of an aggressive and inclusive program. Section II.K. provides further discussion on public involvement.

A number of municipalities sought clarification from EPA concerning what the public participation program must ***68756** actually include. In response, the actual requirements are minimal, but the Agency's recommendations are more comprehensive. The public participation program must only comply with applicable State and local public notice requirements. The remainder of the preamble, as well as the Explanatory Note accompanying the regulatory text, provide guidance to the MS4s concerning what elements a successful and inclusive program should include. EPA will provide technical support as part of the tool box (i.e., providing model public involvement programs, conducting public workshops, etc.) to assist MS4 operators meet the intent of this measure.

Finally, the Agency encourages MS4s to seek public participation prior to submitting an NOI. For example, public participation at this stage will allow the MS4 to involve the public in developing the BMPs and measurable goals for their NOI.

iii. Illicit Discharge Detection and Elimination. Discharges from small MS4s often include wastes and wastewater from non-storm water "illicit" discharges. Illicit discharge is defined at [40 CFR 122.26\(b\)\(2\)](#) as any discharge to a municipal separate storm sewer that is not composed entirely of storm water, except discharges pursuant to an NPDES permit and discharges resulting from fire fighting activities. As detailed below, other sources of non-storm water, that would otherwise be considered illicit discharges, do not need to be addressed unless the operator of the MS4 identifies one or more of them as a significant source of pollutants into the system. EPA's Nationwide Urban Runoff Program (NURP) indicated that many storm water outfalls still discharge during substantial dry periods. Pollutant levels in these dry weather flows were shown to be high enough to significantly degrade receiving water quality. Results from a 1987 study conducted in Sacramento, California, revealed that slightly less than one-half of the water discharged from a municipal separate storm sewer system was not directly attributable to precipitation runoff (U.S. Environmental Protection Agency, Office of Research and Development. 1993. Investigation of Inappropriate Pollutant Entries Into Storm Drainage Systems—A User's Guide. Washington, DC EPA 600/R-92/238.) A significant portion of these dry weather flows results from illicit and/or inappropriate discharges and connections to the municipal separate storm sewer system. Illicit discharges enter the system through either direct connections (e.g., wastewater piping either mistakenly or deliberately connected to the storm drains) or indirect connections (e.g., infiltration into the storm drain system or spills collected by drain inlets).

Under the existing NPDES program for storm water, permit applications for large and medium MS4s are to include a program description for effective prohibition against non-storm water discharges into their storm sewers (see [40 CFR](#)

122.26 (d)(1)(v)(B) and (d)(1)(iv)(B)). Further, EPA believes that in implementing municipal storm water management plans under these permits, large and medium MS4 operators generally found their illicit discharge detection and elimination programs to be cost-effective. Properly implemented programs also significantly improved water quality.

In today's rule, any NPDES permit issued to an operator of a regulated small MS4 must, at a minimum, require the operator to develop, implement and enforce an illicit discharge detection and elimination program. Inclusion of this measure for regulated small MS4s is consistent with the "effective prohibition" requirement for large and medium MS4s. Under today's rule, the NPDES permit will require the operator of a regulated small MS4 to: (1) Develop (if not already completed) a storm sewer system map showing the location of all outfalls, and names and location of all waters of the United States that receive discharges from those outfalls; (2) to the extent allowable under State, Tribal, or local law, effectively prohibit through ordinance, or other regulatory mechanism, illicit discharges into the separate storm sewer system and implement appropriate enforcement procedures and actions as needed; (3) develop and implement a plan to detect and address illicit discharges, including illegal dumping, to the system; and (4) inform public employees, businesses, and the general public of hazards associated with illegal discharges and improper disposal of waste.

The illicit discharge and elimination program need only address the following categories of non-storm water discharges if the operator of the small MS4 identifies them as significant contributors of pollutants to its small MS4: water line flushing, landscape irrigation, diverted stream flows, rising ground waters, uncontaminated ground water infiltration (as defined at 40 CFR 35.2005(20)), uncontaminated pumped ground water, discharges from potable water sources, foundation drains, air conditioning condensation, irrigation water, springs, water from crawl space pumps, footing drains, lawn watering, individual residential car washing, flows from riparian habitats and wetlands, dechlorinated swimming pool discharges, and street wash water (discharges or flows from fire fighting activities are excluded from the definition of illicit discharge and only need to be addressed where they are identified as significant sources of pollutants to waters of the United States). If the operator of the MS4 identifies one or more of these categories of sources to be a significant contributor of pollutants to the system, it could require specific controls for that category of discharge or prohibit the discharges completely.

Several comments were received on the mapping requirements of the proposal. Most comments said that more flexibility should be given to the MS4s to determine their mapping needs, and that resources could be better spent in addressing problems once the illicit discharges are detected. EPA reviewed the mapping requirements in the proposed rule and agrees that some of the information is not necessary in order to begin an illicit discharge detection and elimination program. Today's rule requires a map or set of maps that show the locations of all outfalls and names and locations of receiving waters. Knowing the locations of outfalls and receiving waters are necessary to be able to conduct dry weather field screening for non-storm water flows and to respond to illicit discharge reports from the public. EPA recommends that the operator collect any existing information on outfall locations (e.g., review city records, drainage maps, storm drain maps), and then conduct field surveys to verify the locations. It will probably be necessary to "walk" (i.e. wade small receiving waters or use a boat for larger receiving waters) the streambanks and shorelines, and it may take more than one trip to locate all outfalls. A coding system should be used to mark and identify each outfall. MS4 operators have the flexibility to determine the type (e.g. topographic, GIS, hand or computer drafted) and size of maps which best meet their needs. The map scale should be such that the outfalls can be accurately located. Once an illicit discharge is detected at an outfall, it may be necessary to map that portion of the storm sewer system leading to the outfall in order to locate the source of the discharge.

Several comments requested clarification of the requirement to develop and implement a plan to detect and eliminate illicit discharges. EPA recommends that plans include procedures for the following: locating priority areas; tracing the source of an illicit discharge; removing the source of the discharge; and program evaluation *68757 and assessment. EPA recommends that MS4 operators identify priority areas (i.e., problems areas) for more detailed screening of their system based on higher likelihood of illicit connections (e.g., areas with older sanitary sewer lines), or by conducting ambient sampling to locate impacted reaches. Once priority areas are identified, EPA recommends

visually screening outfalls during dry weather and conducting field tests, where flow is occurring, of selected chemical parameters as indicators of the discharge source. EPA's manual for investigation of inappropriate pollutant entries into the storm drainage system (EPA, 1993) suggests the following parameter list: specific conductivity, fluoride and/or hardness concentration, ammonia and/or potassium concentration, surfactant and/or fluorescence concentration, chlorine concentration, pH and other chemicals indicative of industrial sources. The manual explains why each parameter is a good indicator and how the information can be used to determine the type of source flow. The Agency is not recommending that fluoride and chlorine, generally used to locate potable water discharges, be addressed under this program, therefore a short list of parameters may include conductivity, ammonia, surfactant and pH. Some MS4s have found it useful to measure for fecal coliform or E. coli in their testing program. Observations of physical characteristics of the discharge are also helpful such as flow rate, temperature, odor, color, turbidity, floatable matter, deposits and stains, and vegetation.

The implementation plan should also include procedures for tracing the source of an illicit discharge. Once an illicit discharge is detected and field tests provide source characteristics, the next step is to determine the actual location of the source. Techniques for tracing the discharge to its place of origin may include: following the flow up the storm drainage system via observations and/or chemical testing in manholes or in open channels; televising storm sewers; using infrared and thermal photography; conducting smoke or dye tests.

The implementation plan should also include procedures for removing the source of the illicit discharge. The first step may be to notify the property owner and specify a length of time for eliminating the discharge. Additional notifications and escalating legal actions should also be described in this part of the plan.

Finally, the implementation plan should include procedures for program evaluation and assessment. Procedures could include documentation of actions taken to locate and eliminate illicit discharges such as: number of outfalls screened, complaints received and corrected, feet of storm sewers televised, numbers of discharges and quantities of flow eliminated, number of dye or smoke tests conducted. Appropriate records of such actions should be kept and should be submitted as part of the annual reports for the first permit term, as specified by the permitting authority (reports only need to be submitted in years 2 and 4 in later permits). For more on reporting requirements, see [§ 122.34\(g\)](#).

EPA received comments regarding an MS4's legal authority beyond its jurisdictional boundaries to inspect or take enforcement against illicit discharges. EPA recognizes that illicit flows may originate in one jurisdiction and cross into one or more jurisdictions before being discharged at an outfall. In such instances, EPA expects the MS4 that detects the illicit flow to trace it to the point where it leaves their jurisdiction and notify the adjoining MS4 of the flow, and any other physical or chemical information. The adjoining MS4 should then trace it to the source or to the location where it enters their jurisdiction. The process of notifying the adjoining MS4 should continue until the source is located and eliminated. In addition, because any non-storm water discharge to waters of the U.S. through an MS4 is subject to the prohibition against unpermitted discharges pursuant to CWA section 301 (a), remedies are available under the federal enforcement provisions of CWA [sections 309](#) and [505](#).

EPA requested and received comments regarding the prohibition and enforcement provision for this minimum measure. Commenters specifically questioned the proposal that the operator only has to implement the appropriate prohibition and enforcement procedures "to the extent allowable under State or Tribal law." They raised concerns that by qualifying prohibition and enforcement procedures in this manner, the operator could altogether ignore this minimum measure where affirmative legal authority did not exist. Comments suggested that EPA require States to grant authority to those municipalities where it did not exist. Other comments, however, stated that municipalities cannot exercise legal authority not granted to them under State law, which varies considerably from one State to another. EPA has no intention of directing State legislatures on how to allocate authority and responsibility under State law. As noted above, there is at least one remedy (the federal CWA) to control non-storm water discharges through MS4s. If State law prevents political

subdivisions from controlling discharges through storm sewers, EPA anticipates common sense will prevail to provide those MS4 operators with the ability to meet the requirements applicable for their discharges.

One comment reinforced the importance of public information and education to the success of this measure. EPA agrees and suggests that MS4 operators consider a variety of ways to inform and educate the public which could include storm drain stenciling; a program to promote, publicize, and facilitate public reporting of illicit connections or discharges; and distribution of visual and/or printed outreach materials. Recycling and other public outreach programs could be developed to address potential sources of illicit discharges, including used motor oil, antifreeze, pesticides, herbicides, and fertilizers.

EPA received comments that State DOT's lack authority to implement this measure. EPA believes that most DOTs can implement most parts of this measure. If a DOT does not have the necessary legal authority to implement any part of this measure, EPA encourages them to coordinate their storm water management efforts with the surrounding MS4s and other State agencies. Many DOTs that are regulated under Phase I of this program are co-permittees with the local regulated MS4. Under today's rule, DOTs can use any of the options of §122.35 to share their storm water management responsibilities.

EPA received comments requesting clarification of various terms such as “outfall” and “illicit discharge.” One comment asked EPA to reinforce the point that a “ditch” could be considered an outfall. The term “outfall” is defined at 40 CFR 122.26(b)(9) as “a point source at the point where a municipal separate storm sewer discharges to waters of the United States * * *”. The term municipal separate storm sewer is defined at 40 CFR § 122.26(b)(8) as “a conveyance or system of conveyances (including roads with drainage systems, municipal streets, catch basins, curbs, gutters, ditches, man-made channels, or storm drains) * * *”. Following the logic of these definitions, a “ditch” may be part of the municipal separate storm sewer, and at the point where the ditch discharges to waters of the United States, it would be an outfall. As with any determination about jurisdictional provisions of the CWA, however, final decisions require case specific evaluations of fact. *68758

One commenter specifically requested clarification on the relationship between the term “illicit discharge” and non-storm water discharges from fire fighting. The comment suggested that it would be impractical to attempt to determine whether the flow from a specific fire (i.e., during a fire) is a significant source of pollution. EPA intends that MS4s will address all allowable non-storm water flows categorically rather than individually. If an MS4 is concerned that flows from fire fighting are, as a category, contributing substantial amounts of pollutants to their system, they could develop a program to address those flows prospectively. The program may include an analysis of the flow from several sources, steps to minimize the pollutant contribution, and a plan to work with the sources of the discharge to minimize any adverse impact on water quality. During the development of such a program, the MS4 may determine that only certain types of flows within a particular category are a concern, for example, fire fighting flows at industrial sites where large quantities of chemicals are present. In this example, a review of existing procedures with the fire department and/or hazardous materials team may reveal weaknesses or strengths previously unknown to the MS4 operator.

EPA received comments requesting modifications to the rule to include on-site sewage disposal systems (i.e., septic systems) in the scope of the illicit discharge program. On-site sewage disposal systems that flow into storm drainage systems are within the definition of illicit discharge as defined by the regulations. Where they are found to be the source of an illicit discharge, they need to be eliminated similar to any other illicit discharge source. Today's rule was not modified to include discharges from on-site sewage disposal systems specifically because those sources are already within the scope of the existing definition of illicit discharge.

iv. Construction Site Storm Water Runoff Control. Over a short period of time, storm water runoff from construction site activity can contribute more pollutants, including sediment, to a receiving stream than had been deposited over several decades (see section I.B.3). Storm water runoff from construction sites can include pollutants other than sediment,

such as phosphorus and nitrogen, pesticides, petroleum derivatives, construction chemicals, and solid wastes that may become mobilized when land surfaces are disturbed. Generally, properly implemented and enforced construction site ordinances effectively reduce these pollutants. In many areas, however, the effectiveness of ordinances in reducing pollutants is limited due to inadequate enforcement or incomplete compliance with such local ordinances by construction site operators (Paterson, R.G. 1994. "Construction Practices: The Good, the Bad, and the Ugly." *Watershed Protection Techniques* 1(2)).

Today's rule requires operators of regulated small MS4s to develop, implement, and enforce a pollutant control program to reduce pollutants in any storm water runoff from construction activities that result in land disturbance of 1 or more acres (see [§122.34\(b\)\(4\)](#)). Construction activity on sites disturbing less than one acre must be included in the program if the construction activity is part of a larger common plan of development or sale that would disturb one acre or more.

The construction runoff control program of the regulated small MS4 must include an ordinance or other regulatory mechanism to require erosion and sediment controls to the extent practicable and allowable under State, Tribal or local law. The program also must include sanctions to ensure compliance (for example, non-monetary penalties, fines, bonding requirements, and/or permit denials for non-compliance). The program must also include, at a minimum: requirements for construction site operators to implement appropriate erosion and sediment control BMPs, such as silt fences, temporary detention ponds and diversions; procedures for site plan review by the small MS4 which incorporate consideration of potential water quality impacts; requirements to control other waste such as discarded building materials, concrete truck washout, chemicals, litter, and sanitary waste at the construction site that may adversely impact water quality; procedures for receipt and consideration of information submitted by the public to the MS4; and procedures for site inspection and enforcement of control measures by the small MS4.

Today's rule provides flexibility for regulated small MS4s by allowing them to exclude from their construction pollutant control program runoff from those construction sites for which the NPDES permitting authority has waived NPDES storm water small construction permit requirements. For example, if the NPDES permitting authority waives permit coverage for storm water discharges from construction sites less than 5 acres in areas where the rainfall erosivity factor is less than 5, then the regulated small MS4 does not have to include these sites in its storm water management program. Even if requirements for a discharge from a given construction site are waived by the NPDES permitting authority, however, the regulated small MS4 may still choose to control those discharges under the MS4's construction pollutant control program, particularly where such discharges may cause siltation problems in storm sewers. See [Section II.I.1.b](#) for more information on construction waivers by the permitting authority.

Some commenters suggested that the proposed construction minimum measure requirements went beyond the permit application requirements concerning construction for medium and large MS4s. In response, EPA has made changes to the proposed measure so that it more closely resembles the MS4 permit application requirements in existing regulations. For example, as described below, the Agency revised the proposed requirements for "pre-construction review of site management plans" to require "procedures for site plan review."

One commenter expressed concerns that addressing runoff from construction sites within urbanized areas (through the small MS4 program) differently from construction sites outside urbanized areas (which will not be covered by the small MS4 program) will encourage urban sprawl. Today's rule, together with the existing requirements, requires all construction greater than or equal to 1 acre, unless waived, to be covered by an NPDES permit whether it is located inside or outside of an urbanized area (see [§122.26\(b\)\(15\)](#)). Today's rule does not require small MS4s to control runoff from construction sites more stringently or prescriptively than is required for construction site runoff outside urbanized areas. Therefore, today's rule imposes no substantively different onsite controls on runoff of storm water from construction sites in urbanized areas than from construction sites outside of urbanized areas.

One commenter recommended that the small MS4 construction site storm water runoff control program address all storm water runoff from construction sites, not just the runoff into the MS4. The commenter also believed that MS4s should provide clear, objective standards for all construction sites. EPA agrees. Because today's rule only regulates discharges from the MS4, the construction pollutant control measure only requires small MS4 operators to control runoff into its system. As a practical matter, however, EPA anticipates that MS4 operators will find that regulation of all construction site runoff, whether they runoff into the MS4 or not, will prove to be the most simple and efficient program. The Agency may provide more specific criteria for construction site BMPs in the forthcoming rule being developed under CWA section 402(m). See section II.D.1 of today's rule.

One commenter stated that there is no need for penalties at the local level by the small MS4 because the CWA already imposes sufficient penalties to ensure compliance. EPA disagrees and believes that enforcement and compliance at the local level is both necessary and preferable. Examples of sanctions, some not available under the CWA, include non-monetary penalties, monetary fines, bonding requirements, and denial of future or other local permits.

One commenter recommended that EPA should not include the requirement to control pollutants other than sediment from construction sites in this measure. EPA disagrees with this comment. The requirement is to control waste that "may cause adverse impacts on water quality." Such wastes may include discarded building materials, concrete truck washout, chemicals, pesticides, herbicides, litter, and sanitary waste. These wastes, when exposed to and mobilized by storm water, can contribute to water quality impairment.

The proposed rule required "procedures for pre-construction review of site management plans." EPA requested comment on expanding this provision to require both review and approval of construction site storm water plans. Many commenters expressed the concern that review and approval of site plans is not only costly and time intensive, but may unnecessarily delay construction projects and unduly burden staff who administer the local program. In addition, some commenters expressed confusion whether EPA proposed pre-construction review for all site management plans or only higher priority sites. To address these comments, and be consistent with the permit application requirements for larger MS4s, EPA changed "procedures for pre-construction review of site management plans" to "procedures for site plan review." Today's rule requires the small MS4 to develop procedures for site plan review so as to incorporate consideration of adverse potential water quality impacts. Procedures should include review of site erosion and sediment control plans, preferably before construction activity begins on a site. The objective is for the small MS4 operator and the construction site operator to address storm water runoff from construction activity early in the project design process so that potential consequences to the aquatic environment can be assessed and adverse water quality impacts can be minimized or eliminated.

One commenter requested that EPA delete the requirement for "procedures for receipt and consideration of information submitted by the public" because it went beyond existing storm water requirements. Another commenter stated that establishing a separate process to respond to public inquiries on a project is a burden to small communities, especially if the project has gone through an environmental review. One commenter requested clarification of this provision. EPA has retained this requirement in today's final rule to require some formality in the process for addressing public inquiries regarding storm water runoff from construction activities. EPA does not intend that small MS4s develop a separate, burdensome process to respond to every public inquiry. A small MS4 could, for example, simply log public complaints on existing storm water runoff problems from construction sites and pass that information on to local inspectors. The inspectors could then investigate complaints based on the severity of the violation and/or priority area.

One commenter believed that the proposed requirement of "regular inspections during construction" would require every construction project to be inspected more than once by the small MS4 during the term of a construction project. EPA has deleted the reference to "regular inspections." Instead, the small MS4 will be required to "develop procedures for site inspection and enforcement of control measures." Procedures could include steps to identify priority sites for inspection

and enforcement based on the nature and extent of the construction activity, topography, and the characteristics of soils and receiving water quality.

In order to avoid duplication of small MS4 construction requirements with NPDES construction permit requirements, today's rule adds §122.44(s) to recognize that the NPDES permitting authority can incorporate qualifying State, Tribal, or local erosion and sediment control requirements in NPDES permits for construction site discharges. For example, a construction site operator who complies with MS4 construction pollutant control programs that are referenced in the NPDES construction permit would satisfy the requirements of the NPDES permit. See section II.I.1.d for more information on incorporating qualifying programs by reference into NPDES construction permits. This provision has no impact on, or direct relation to, the small MS4 operator's responsibilities under the construction site storm water runoff control minimum measure. Conversely, under §122.35(b), the permitting authority may recognize in the MS4's permit that another governmental entity, or the permitting authority itself, is responsible for implementing one or more of the minimum measures (including construction site storm water runoff control), and not include this measure in the small MS4's permit. In this case, the other governmental entity's program must satisfy all of the requirements of the omitted measure.

v. Post-Construction Storm Water Management in New Development and Redevelopment. The NURP study and more recent investigations indicate that prior planning and designing for the minimization of pollutants in storm water discharges is the most cost-effective approach to storm water quality management. Reducing pollutant concentrations in storm water after the discharge enters a storm sewer system is often more expensive and less efficient than preventing or reducing pollutants at the source. Increased human activity associated with development often results in increased pollutant loading from storm water discharges. If potential adverse water quality impacts are considered from the beginning stages of a project, new development and redevelopment provides more opportunities for water quality protection. For example, minimization of impervious areas, maintenance or restoration of natural infiltration, wetland protection, use of vegetated drainage ways, and use of riparian buffers have been shown to reduce pollutant loadings in storm water runoff from developed areas. EPA encourages operators of regulated small MS4s to identify specific problem areas within their jurisdictions and initiate innovative solutions and designs to focus attention on those areas through local planning.

In today's rule at §122.34(b)(5), NPDES permits issued to an operator of a regulated small MS4 will require the operator to develop, implement, and enforce a program to address storm water runoff from new development and redevelopment projects that result in land disturbance of greater than or equal to one acre, including projects less than one acre that are part of a larger common plan of development or sale, that discharge into the MS4. Specifically, the NPDES permit will require the operator of a regulated small MS4 to: (1) Develop and implement *68760 strategies which include a combination of structural and/or non-structural best management practices (BMPs) appropriate for the community; (2) use an ordinance, or other regulatory mechanism to address post-construction runoff from new development and redevelopment projects to the extent allowable under State, Tribal or local law; (3) ensure adequate long-term operation and maintenance of BMPs; and (4) ensure that controls are in place that would minimize water quality impacts. EPA intends the term "redevelopment" to refer to alterations of a property that change the "footprint" of a site or building in such a way that results in the disturbance of equal to or greater than 1 acre of land. The term is not intended to include such activities as exterior remodeling, which would not be expected to cause adverse storm water quality impacts and offer no new opportunity for storm water controls.

EPA received comments requesting guidance and clarification of the rule requirements. The scope of the comments ranged from general requests for more details on how MS4 operators should accomplish the four requirements listed above, to specific requests for information regarding transfer of ownership for structural controls, as well as ongoing responsibility for operation and maintenance. By the term "combination" of BMPs, EPA intends a combination of structural and/or non-structural BMPs. For this requirement, the term "combination" is meant to emphasize that multiple BMPs should be considered and adopted for use in the community. A single BMP generally cannot significantly

reduce pollutant loads because pollutants come from many sources within a community. The BMPs chosen should: (1) Be appropriate for the local community; (2) minimize water quality impacts; and (3) attempt to maintain pre-development runoff conditions. In choosing appropriate BMPs, EPA encourages small MS4 operators to participate in locally-based watershed planning efforts which attempt to involve a diverse group of stakeholders. Each new development and redevelopment project should have a BMP component. If an approach is chosen that primarily focuses on regional or non-structural BMPs, however, then the BMPs may be located away from the actual development site (e.g., a regional water quality pond).

Non-structural BMPs are preventative actions that involve management and source controls such as: (1) Policies and ordinances that provide requirements and standards to direct growth to identified areas, protect sensitive areas such as wetlands and riparian areas, maintain and/or increase open space (including a dedicated funding source for open space acquisition), provide buffers along sensitive water bodies, minimize impervious surfaces, and minimize disturbance of soils and vegetation; (2) policies or ordinances that encourage infill development in higher density urban areas, and areas with existing storm sewer infrastructure; (3) education programs for developers and the public about project designs that minimize water quality impacts; and (4) other measures such as minimization of the percentage of impervious area after development, use of measures to minimize directly connected impervious areas, and source control measures often thought of as good housekeeping, preventive maintenance and spill prevention. Detailed examples of non-structural BMPs follow.

Preserving open space may help to protect water quality as well as provide other benefits such as recharging groundwater supplies, detaining storm water, supporting wildlife and providing recreational opportunities. Although securing funding for open space acquisition may be difficult, various funding mechanisms have been used. New Jersey uses a portion of their State sales tax (voter approved for a ten year period) as a stable source of funding to finance the preservation of historic sites, open space and farmland. Colorado uses part of the proceeds from the State lottery to acquire and manage open space. Some local municipalities use a percentage of the local sales tax revenue to pay for open space acquisition (e.g., Jefferson County, CO has had an open space program in place since 1977 funded by a 0.50 percent sales tax). Open space can be acquired in the form of: fee simple purchase; easements; development rights; purchase and sellback or leaseback arrangements; purchase options; private land trusts; impact fees; and land dedication requirements. Generally, fee simple purchases provide the highest level of development control and certainty of preservation, whereas the other forms of acquisition may provide less control, though they would also generally be less costly.

Cluster development, while allowing housing densities comparable to conventional zoning practice, concentrates housing units in a portion of the total site area which provides for greater open space, recreation, stream protection and storm water control. This type of development, by reducing lot sizes, can protect sensitive areas and result in less impervious surface, as well as reduce the cost for roads and other infrastructure.

Minimizing directly connected impervious areas (DCIAs) is a drainage strategy that seeks to reduce paved areas and directs storm water runoff to landscaped areas or to structural controls such as grass swales or buffer strips. This strategy can slow the rate of runoff, reduce runoff volumes, attenuate peak flows, and encourage filtering and infiltration of storm water. It can be made an integral part of drainage planning for any development (Urban Drainage and Flood Control District, Denver, CO. 1992. Urban Storm Drainage Criteria Manual, Volume 3—Best Management Practices). The Urban Drainage and Flood Control District manual describes three levels for minimizing DCIAs. At Level 1 all impervious surfaces are made to drain over grass-covered areas before reaching a storm water conveyance system. Level 2 adds to Level 1 and replaces street curb and gutter systems with low-velocity grass-lined swales and pervious street shoulders. In addition to Levels 1 and 2, Level 3 over-sizes swales and configures driveway and street crossing culverts to use grass-lined swales as elongated detention basins.

Structural BMPs include: (1) Storage practices such as wet ponds and extended-detention outlet structures; (2) filtration practices such as grassed swales, sand filters and filter strips; and (3) infiltration practices such as infiltration basins and infiltration trenches.

EPA recommends that small MS4 operators ensure the appropriate implementation of the structural BMPs by considering some or all of the following: (1) Pre-construction review of BMP designs; (2) inspections during construction to verify BMPs are built as designed; (3) post-construction inspection and maintenance of BMPs; and (4) sanctions to ensure compliance with design, construction or operation and maintenance (O&M) requirements of the program.

EPA cautions that certain infiltration systems such as dry wells, bored wells or tile drainage fields may be subject to Underground Injection Control (UIC) program requirements (see [40 CFR Part 144.12](#)). To find out more about these requirements, contact your state UIC Program, or call EPA's Safe Drinking Water Hotline at 1-800-426-4791.

In order to meet the third post-construction requirement (ensuring adequate long-term O&M of BMPs), EPA recommends that small MS4 operators evaluate various O&M management agreement options. The most common options are agreements between the MS4 operator and another party such as post-development landowners (e.g., homeowners' associations, office park owners, other government departments or entities), or regional authorities (e.g., flood control districts, councils of government). These agreements typically require the post-construction property owner to be responsible for the O&M and may include conditions which: allow the MS4 operator to be reimbursed for O&M performed by the MS4 operator that is the responsibility of the property owner but is not performed; allow the MS4 operator to enter the property for inspection purposes; and in some cases specify that the property owner submit periodic reports.

In providing the guidance above, EPA intends the requirements in today's rule to be consistent with the permit application requirements for large MS4s for post-construction controls for new development and redevelopment. MS4 operators have significant flexibility both to develop this measure as appropriate to address local concerns, and to apply new control technologies as they become available. Storm water pollution control technologies are constantly being improved. EPA recommends that MS4s be responsive to these changes, developments or improvements in control technologies. EPA will provide more detailed guidance addressing the responsibility for long-term O&M of storm water controls in guidance materials. The guidance will also provide information on appropriate planning considerations, structural controls and non-structural controls. EPA also intends to develop a broad menu of BMPs as guidance to ensure flexibility to accommodate local conditions.

EPA received comments suggesting that requirements for new development be treated separately from redevelopment in the rule. The comment stressed that new development on raw land presents fewer obstacles and more opportunities to incorporate elements for preventing water quality impacts, whereas redevelopment projects are constrained by space limitations and existing infrastructure. Another comment suggested allowing waivers from the redevelopment requirements if the redevelopment does not result in additional adverse water quality impacts, and where BMPs are not technologically or economically feasible. EPA recognizes that redevelopment projects may have more site constraints which narrow the range of appropriate BMPs. Today's rule provides small MS4 operators with the flexibility to develop requirements that may be different for redevelopment projects, and may also include allowances for alternate or off-site BMPs at certain redevelopment projects. Non-structural BMPs may be the most appropriate approach for smaller redevelopment projects.

EPA received comments requesting clarification on what is meant by “pre-development” conditions within the context of redevelopment. Pre-development refers to runoff conditions that exist onsite immediately before the planned development activities occur. Pre-development is not intended to be interpreted as that period before any human-induced land disturbance activity has occurred.

EPA received comments on the guidance language in the proposed rule and preamble which suggest that implementation of this measure should “attempt to maintain pre-development runoff conditions” and that “post-development conditions should not be different than pre-development conditions in a way that adversely affects water quality.” Many comments expressed concern that maintaining pre-development runoff conditions is impossible and cost-prohibitive, and objected to any reference to “flow” or increase in volume of runoff. Other comments support the inclusion of this language in the final rule. Similar references in today's rule relating to pre-development runoff conditions are intended as recommendations to attempt to maintain pre-development runoff conditions. With these recommendations, EPA intends to prevent water quality impacts resulting from increased discharges of pollutants, which may result from increased volume of runoff. In many cases, consideration of the increased flow rate, velocity and energy of storm water discharges following development unavoidably must be taken into consideration in order to reduce the discharge of pollutants, to meet water quality standards and to prevent degradation of receiving streams. EPA recommends that municipalities consider these factors when developing their post-construction storm water management program.

Some comments said that the quoted phrases in the paragraph above are directives that imply federal land use control, which they argue is beyond the authority of the CWA. EPA recognizes that land use planning is within the authority of local governments.

EPA disagrees, however, with the implication that today's rule dictates any such land use decisions. The requirement for small MS4 operators to develop a program to address discharges resulting from new development and redevelopment is essentially a pollution prevention measure. The Rule provides the MS4 operator with flexibility to determine the appropriate BMPs to address local water quality concerns. EPA recognizes that these program goals may not be applied to every site, and expects that MS4s will develop an appropriate combination of BMPs to be applied on a site-by-site, regional or watershed basis.

vi. Pollution Prevention/Good Housekeeping for Municipal Operations. Under today's final rule, operators of MS4s must develop and implement an operation and maintenance program (“program”) that includes a training component and has the ultimate goal of preventing or reducing storm water from municipal operations (in addition to those that constitute storm water discharges associated with industrial activity). This measure's emphasis on proper O&M of MS4s and employee training, as opposed to requiring the MS4 to undertake major new activities, is meant to ensure that municipal activities are performed in the most efficient way to minimize contamination of storm water discharges.

The program must include government employee training that addresses prevention measures pertaining to municipal operations such as: parks, golf courses and open space maintenance; fleet maintenance; new construction or land disturbance; building oversight; planning; and storm water system maintenance. The program can use existing storm water pollution prevention training materials provided by the State, Tribe, EPA, or environmental, public interest, or trade organizations.

EPA also encourages operators of MS4s to consider the following in developing a program: (1) Implement maintenance activities, maintenance schedules, and long-term inspection procedures for structural and non-structural storm water controls to reduce floatables and other pollutants discharged from the separate storm sewers; (2) implement controls for reducing or eliminating the discharge of pollutants from streets, roads, highways, municipal parking lots, maintenance and storage yards, waste transfer stations, fleet or maintenance shops with outdoor storage areas, and salt/sand storage locations and snow disposal areas operated by the MS4; (3) adopt procedures for the proper disposal of waste removed from the separate storm sewer systems and areas listed above in (2), including dredge ***68762** spoil, accumulated sediments, floatables, and other debris; and (4) adopt procedures to ensure that new flood management projects are assessed for impacts on water quality and existing projects are assessed for incorporation of additional water quality protection devices or practices. Ultimately, the effective performance of the program measure depends on the proper maintenance of the BMPs, both structural and non-structural. Without proper maintenance, BMP performance declines significantly over time. Additionally, BMP neglect may produce health and safety threats, such as structural failure

leading to flooding, undesirable animal and insect breeding, and odors. Maintenance of structural BMPs could include: replacing upper levels of gravel; dredging of detention ponds; and repairing of retention basin outlet structure integrity. Maintenance of non-structural BMPs could include updating educational materials periodically.

EPA emphasizes that programs should identify and incorporate existing storm water practices and training, as well as non-storm water practices or programs that have storm water pollution prevention benefits, as a means to avoid duplication of efforts and reduce overall costs. EPA recommends that MS4s incorporate these new obligations into their existing programs to the greatest extent feasible and urges States to evaluate MS4 programs with programmatic efficiency in mind. EPA designed this minimum control measure as a modified version of the permit application requirements for medium and large MS4s described at [40 CFR 122.26\(d\)\(2\)\(iv\)](#), in order to provide more flexibility for these smaller MS4s. Today's requirements provide for a consistent approach to control pollutants from O&M among medium, large, and regulated small MS4s.

By properly implementing a program, operators of MS4s serve as a model for the rest of the regulated community. Furthermore, the establishment of a long-term program could result in cost savings by minimizing possible damage to the system from floatables and other debris and, consequently, reducing the need for repairs.

EPA received comments requesting clarification of what this measure requires. Certain municipalities expressed concern that the measure has the potential to impose significant costs associated with EPA's requirement that operators of MS4s consider implementing controls for reducing or eliminating the discharge of pollutants from streets, roads, highways, municipal parking lots, and salt/sand storage locations and snow disposal areas operated by the municipality. EPA disagrees that a requirement to consider such controls will impose considerable costs.

One commenter objected to the preamble language from the proposal suggesting that EPA does not expect the MS4 to undertake new activity. While it remains the Agency's expectation that major new activity will not be required, the MEP process should drive MS4s to incorporate the measure's obligations into their existing programs to achieve the pollutant reductions to the maximum extent practicable.

Certain commenters requested a definition for "municipal operations." EPA has revised the language to more clearly define municipal operations. Questions may remain concerning whether discharges from specific municipal activities constitute discharges associated with industrial activities (requiring NPDES permit authorization according to the requirements for industrial storm water that apply in that State) or from municipal operations (subject only to the controls developed in the MS4 control program). Even though there may be different substantive requirements that apply depending on the source of the discharge, EPA has modified the deadlines for permit coverage so that all the regulated municipally owned and operated sources become subject to permit requirements on the same date. The deadline is the same for permit coverage for this minimum measure as for permit coverage for municipally owned/operated industrial sources.

c. Application Requirements

An NPDES permit that authorizes the discharge from a regulated small MS4 may take the form of either an individual permit issued to one or more facilities as co-permittees or a general permit that applies to a group of MS4s. For reasons of administrative efficiency and to reduce the paperwork burden on permittees, EPA expects that most discharges from regulated small MS4s will be authorized under general permits. These NPDES general permits will provide specific instructions on how to obtain coverage, including application requirements. Typically, such application requirements will be satisfied by the submission of a Notice of Intent (NOI) to be covered by the general permit. In this section, EPA explains the small MS4 operator's application requirements for obtaining coverage under a NPDES permit for storm water.

i. Best Management Practices and Measurable Goals, [Section 122.34\(d\)](#) of today's rule requires the operator of a regulated small MS4 that wishes to implement a program under [§122.34](#) to identify and submit to the NPDES permitting authority a list of the best management practices (“BMPs”) that will be implemented for each minimum control measure in their storm water management program. They also must submit measurable goals for the development and implementation of each BMP. The BMPs and the measurable goals must be included either in an NOI to be covered under a general permit or in an individual permit application.

The operator's submission must identify, as appropriate, the months and years in which the operator will undertake actions required to implement each of the minimum control measures, including interim milestones and the frequency of periodic actions. The Agency revised references to “starting and completing” actions from the proposed rule because many actions will be repetitive or ongoing. The submission also must identify the person or persons responsible for implementing or coordinating the small MS4 storm water program. See [§ 122.34\(d\)](#). The submitted BMPs and measurable goals become enforceable according to the terms of the permit. The first permit can allow the permittee up to five years to fully implement the storm water management program.

Several commenters opposed making the measurable goals enforceable permit conditions. Some suggested that a permittee should be able to change its goals so that BMPs that are not functioning as intended can be replaced. EPA agrees that a permittee should be free to switch its BMPs and corresponding goals to others that accomplish the minimum measure or measures. The permittee is required to implement BMPs that address the minimum measures in [§122.34\(b\)](#). If the permittee determines that its original combination of BMPs are not adequate to achieve the objectives of the municipal program, the MS4 should revise its program to implement BMPs that are adequate and submit to the permitting authority a revised list of BMPs and measurable goals. EPA suggests that permits describe the process for revising BMPs and measurable goals, such as whether the permittee should follow the same procedures as were required for the submission of the original NOI and whether the permitting authority's approval is necessary prior to the permittee implementing the revised ***68763** BMPs. The permittee should indicate on its periodic report whether any BMPs and measurable goals have been revised since the last periodic report.

Some commenters expressed concern that making the measurable goals enforceable would encourage the development of easily attained goals and, conversely, discourage the setting of ambitious goals. Others noted that it is often difficult to determine the pollutant reduction that can be achieved by BMPs until several years after implementation. Much of the opposition to the enforceability of measurable goals appears to have been based on a mistaken understanding that measurable goals must consist of pollutant reduction targets to be achieved by the corresponding BMPs.

Today's rule requires the operator to submit either measurable goals that serve as BMP design objectives or goals that quantify the progress of implementation of the actions or performance of the permittee's BMPs. At a minimum, the required measurable goals should describe specific actions taken by the permittee to implement each BMP and the frequency and the dates for such actions. Although the operator may choose to do so, it is not required to submit goals that measure whether a BMP or combination of BMPs is effective in achieving a specific result in terms of storm water discharge quality. For example, a measurable goal might involve a commitment to inspect a given number of drainage areas of the collection system for illicit connections by a certain date. The measurable goal need not commit to achieving a specific amount of pollutant reduction through the elimination of illicit connections. Other measurable goals could include the date by which public education materials would be developed, a certain percentage of the community participating in a clean-up campaign, the development of a mechanism to address construction site runoff, and a reduction in the percentage of imperviousness associated with new development projects.

To reduce the risk that permittees will develop inadequate BMPs, EPA intends to develop a menu of BMPs to assist the operators of regulated small MS4s with the development of municipal programs. States may also develop a menu of BMPs. Today's rule provides that the measurable goals that demonstrate compliance with the minimum control measures in [§122.34 \(b\)\(3\)](#) through [\(b\)\(6\)](#) do not have to be met if the State or EPA has not issued a menu of BMPs at

the time the MS4 submits its NOI. Commenters pointed out that the proposed rule would have made the measurable goals unenforceable if the menu of BMPs was not available, but the proposal was silent as to the enforceability of the implementation of BMPs. Today's rule clarifies that the operators are not free to do nothing prior to the issuance of a menu of BMPs; they still must make a good faith effort to implement the BMPs designed to comply with each measure. See §122.34(d)(2). The operators would not, however, be liable for failure to meet its measurable goals if a menu of BMPs was not available at the time they submit their NOI.

The proposed rule provision in §123.35 stated that the “[f]ailure to issue the menu of BMPs would not affect the legal status of the general permit.” This concept is included in the final rule in §122.34(d)(2)'s clarification that the permittee still must comply with other requirements of the general permit.

Unlike the proposed rule, today's rule does not require that each BMP in the menu developed by the State or EPA be regionally appropriate, cost-effective and field-tested. Various commenters criticized those criteria as unworkable, and one described them as “ripe for ambiguity and abuse.” Other commenters feared that the operators of regulated small MS4s would never be required to achieve their goals until menus were developed that were cost-effective, field-tested and appropriate for every conceivable subregion.

While some municipal commenters supported the requirement that a menu of BMPs be made available that included BMPs that had been determined to be regionally appropriate, field-tested and cost-effective, others raised concerns that they would be restricted to a limited menu. Some commenters supported such a detailed menu because they thought they would only be able to select BMPs that were on the menu, while others thought that it was the permitting authority's responsibility to develop BMPs narrowly tailored to their situation. In response, EPA notes that the operators will not be restricted to implementing only, or all of, the BMPs included on the menu. Since the menu does not require permittees to implement the BMPs included on the menu, it is also not necessary to apply the public notice and other procedures that some commenters thought should be applied to the development of the menu of BMPs.

The purpose of the BMP menu is to provide guidance to assist the operators of regulated small MS4s with the development and refinement of their local program, not to limit their options. Permittees may implement BMPs other than those on the menu unless a State restricts its permittees to specific BMPs. To the extent possible, EPA will develop a menu of BMPs that describes the appropriateness of BMPs to specific regions, whether the BMPs have been field-tested, and their approximate costs. The menu, however, is not intended to relieve permittees of the need to implement BMPs that are appropriate for their specific circumstances.

If there are no known relevant BMPs for a specific circumstance, a permittee has the option of developing and implementing pilot BMPs that may be better suited to their circumstances. Where BMPs are experimental, the permittee should consider committing to measurable goals that address its schedule for implementing its selected BMPs rather than goals of achieving specific pollutant reductions. If the BMPs implemented by the permittee do not achieve the desired objective, the permittee may be required to commit to different or revised BMPs.

As stated in §123.35(g), EPA is committed to issuing a menu of BMPs prior to the deadline for the issuance of permits. This menu would serve as guidance for all operators of regulated small MS4s nationwide. After developing the initial menu of BMPs, EPA intends to periodically modify, update, and supplement the menu of BMPs based on the assessments of the MS4 storm water program and research. States may rely on EPA's menu of BMPs or issue their own. If States develop their own menus, they would constitute additional guidance (or perhaps requirements in some States) for the operators to follow. Several commenters were confused by the proposed rule language that stated that States must provide or issue a menu of BMPs and, if they fail to do so, EPA “may” do so. Some read this language as not requiring either EPA or the State to develop the menu. EPA had intended that it would develop a menu and that States could either provide the EPA developed menu or one developed by the State.

EPA has dropped the proposed language that States “must” develop the menu of BMPs. Some commenters thought that it was inappropriate to require States to issue guidance. A menu of BMPs issued by either EPA or a permittee's State will satisfy the condition in §122.34(d) that a regulatory authority provide a menu of BMPs. A State could require its permittees to follow its menu of BMPs provided that they are adequate to implement §122.34(b).

Several commenters raised concerns that operators of small MS4s could be *68764 required to submit their BMPs and measurable goals before EPA or the State has issued a menu of BMPs. EPA has assumed primary responsibility for developing a menu of BMPs to minimize the possibility of this occurring. Should a general permit be issued before a menu of BMPs is available, the permit writer would have the option of delaying the date by which the identification of the BMPs and measurable goals must be submitted to the permitting authority until some time after a menu of BMPs is available.

Several municipal commenters raised concerns that they would begin to develop a program only to be later told by the permitting authority or challenged in a citizen suit that their BMPs were inadequate. They expressed a need for certainty regarding what their permit required. Several commenters suggested that EPA require permitting authorities to approve or disapprove the submitted BMPs and measurable goals. EPA disagrees that formal approval or disapproval by the permitting authority is needed.

EPA acknowledges that the lack of a formal approval process does place on the permittee some responsibility for designing and determining the adequacy of its BMPs. Once the permittee has submitted its BMPs to the permitting authority as part of its NOI, it must implement them in order to achieve the corresponding measurable goals. EPA does not believe that this results in the uncertainty to the extent expressed by some commenters or unduly expose the permittee to the risk of citizen suit. If the permit is very specific regarding what the permittee must do, then the uncertainty is eliminated. If the permit is less prescriptive, the permittee has greater latitude in determining for itself what constitutes an adequate program. A citizen suit could impose liability on the permittee only if the program that it develops and implements clearly does not satisfy the requirements of the general permit. EPA believes today's approach strikes a balance between the competing goals of providing certainty as to what constitutes an adequate program and providing flexibility to the permittees.

Commenters were divided on whether five years was a reasonable and expeditious schedule for a MS4 to implement its program. Some thought that it was an appropriate amount of time to allow for the development and implementation of adequate programs. One questioned whether the permittee had to be implementing all of its program within that time, and suggested that there may be cases where a permitting authority would need flexibility to allow more time. One commenter suggested that five years is too long and would amount to a relaxation of implementation in their area. EPA believes it will take considerable time to complete the tasks of initially developing a program, commencing to implement it, and achieving results. EPA notes, however, that full implementation of an appropriate program must occur as expeditiously as possible, and not later than five years.

EPA solicited comment on how an NOI form might best be formatted to allow for measurable goal information (e.g., through the use of check boxes or narrative descriptions) while taking into account the Agency's intention to facilitate computer tracking. All commenters supported the development of a checklist NOI, but most noted that there would need to be room for additional information to cover unusual situations. One noted that, while a summary of measurable goals might be reduced to one sheet, attachments that more fully described the program and the planned BMPs would be necessary. EPA agrees that in most cases a “checklist” will not be able to capture the information on what BMPs a permittee intends to implement and its measurable goals for their implementation. EPA will continue to consider whether to develop a model NOI form and make it available for permitting authorities that choose to use it. What will be required on an MS4's NOI, however, is more extensive than what is usually required on an NOI, so a “form” NOI for MS4s may be impractical.

ii. Individual Permit Application for a §122.34(b) program. In some cases, an operator of a regulated small MS4s may seek coverage under an individual NPDES permit, either because it chooses to do so or because the NPDES permitting authority has not made the general permit option available to that source. For small MS4s that are to implement a §122.34(b) program in today's rule, EPA is promulgating simplified individual permit application requirements at §122.33(b)(2)(i). Under the simplified individual permit application requirements, the operator submits an application to the NPDES permitting authority that includes the information required under §122.21(f) and an estimate of square mileage served by the small MS4. They are also required to supply the BMP and measurable goal information required under §122.34(d). Consistent with CWA section 308 and analogous State law, the permitting authority could request any additional information to gain a better understanding of the system and the areas draining into the system.

Commenters suggested that the requirements of §122.21(f) are not necessarily applicable to a small MS4. One suggested that it was not appropriate to require the following information: a description of the activities conducted by the applicant which require it to obtain an NPDES permit; the name, mailing address, and location of the facility; and up to four Standard Industrial Classification (“SIC”) codes which best reflect the principal products or services provided by the facility. In response, EPA notes that the requirements in §122.21(f) are generic application requirements applicable to NPDES applicants. With the exception of the SIC code requirement, EPA believes that they are applicable to MS4s. In the SIC code portion of the standard application, the applicant may simply put “not applicable.”

One commenter asked that EPA clarify whether §122.21(f)(5)'s requirement to indicate “whether the facility is located on Indian lands,” referred to tribal lands, Indian country, or Indian reservations. For some local governments this is a complex issue with no easy “yes” or “no” answer. See the discussion in the Section II.F in the proposal to today's rule regarding what tribal lands are subject to the federal trust responsibility for purposes of the NPDES program.

One commenter suggested that the application should not have to list the permits and approvals required under §122.21(f)(6). EPA notes that the applicant must only list the environmental permits that the applicant has received that cover the small MS4. The applicant is not required to list permits for other operations conducted by the small MS4 operator (e.g., for an operation of an airport or landfill). Again, in most cases the applicant could respond “not applicable” to this portion of the application.

One commenter suggested that the topographic map requirement of §122.21(f)(7) was completely different from, and significantly more onerous than, the mapping requirement outlined in the proposed rule at §122.34(b)(3)(i). EPA agrees and has modified the final rule to clarify that a map that satisfies the requirements of §122.34(b)(3)(i) also satisfies the map requirements for MS4 applicants seeking individual permits under §122.33(b)(2)(i).

EPA is adding a new paragraph to §122.44(k) to clarify that requirements to implement BMPs developed pursuant to CWA 402(p) are appropriate permit *68765 conditions. While such conditions could be included under the existing provision in §122.44(k)(3) for “practices reasonably necessary to achieve effluent limitations and standards or to carry out the purposes and intent of the CWA,” EPA believes it is clearer to specifically list in §122.44(k) BMPs that implement storm water programs in light of the frequency with which they are used as effluent limitations.

iii. Alternative Permit Options/Tenth Amendment. As an alternative to implementing a program that addresses each of the six minimum measures according to the requirements of §122.34(b), today's rule provides the operators of regulated small MS4s with the option of applying for an individual permit under existing §122.26(d). See §122.33(b)(2)(ii). If a system operator does not want to be held accountable for implementation of each of the minimum measures, an individual permit option under §122.33(b)(2)(ii) remains available. (As explained in the next section of this preamble, §122.35(b) also provides an opportunity for relief from permit obligations for some of the minimum measures, but that relief exists within the framework of the minimum measures.)

EPA originally drafted the individual permit application requirements in § 122.26(d) to apply to medium and large MS4s. Today's rule abbreviates the individual permit application requirements for small MS4s. Although EPA believes that the storm water management program requirements of §122.34, including the minimum measures, provide the most appropriate means to control pollutants from most small MS4s, the Agency does recognize that the operators of some small MS4s may prefer more individualized permit requirements. Among other possible reasons, an operator may seek to avoid having to “regulate” third parties discharging into the separate storm sewer system. Alternatively, an operator may determine that structural controls, such as constructed wetlands, are more appropriate or effective to address the discharges that would otherwise be addressed under the construction and/or development/redevelopment measures.

Some MS4s commenters alleged that an absolute requirement to implement the minimum measures violates the Tenth Amendment to the U.S. Constitution. While EPA disagrees that requiring MS4s to implement the minimum measures would violate the Constitution, today's rule does provide small MS4s with the option of developing more individualized measures to reduce the pollutants and pollution associated with urban storm water that will be regulated under today's rule.

Some commenters specifically objected that §122.34's minimum measures for small MS4s violate the Tenth Amendment insofar as they require the operators of MS4s to regulate third parties. The minimum measures include requirements for small MS4 operators to prohibit certain non-storm water discharges, control storm water discharges from construction greater than one acre, and take other actions to control third party sources of storm water discharges into their MS4s. Commenters also argued that it was inappropriate for EPA to require local governments to enact ordinances that will consume local revenues and put local governments in the position of bearing the political responsibility for implementing the program. One commenter argued that EPA was prohibited from conditioning the issuance of an NPDES permit upon the small MS4 operators waiving their constitutional right to be free from such requirements to regulate third parties. The Agency replies to each comment in turn.

Because the rule does rely on local governments—who operate municipal separate storm sewer systems—to regulate discharges from third parties into storm sewers, EPA acknowledges that the rule implicates the Tenth Amendment and constitutional principles of federalism. EPA disagrees, however, that today's rule is inconsistent with federalism principles. [As political subdivisions of States, municipalities enjoy the same protections as States under the Tenth Amendment.]

The Supreme Court has interpreted the Tenth Amendment to preclude federal actions that compel States or their political subdivisions to enact or administer a federal regulatory program. See [New York v. United States, 505 U.S. 144 \(1992\)](#); [Printz v. United States, 117 S.Ct. 2365 \(1997\)](#). The Printz case, however, did acknowledge that the restriction does not apply when federal requirements of general applicability—requirements that regulate all parties engaging in a particular activity—do not excessively interfere with the functioning of State governments when those requirements are applied to States (or their political subdivisions). See [Printz, 117 S.Ct. at 2383](#).

Today's rule imposes a federal requirement of general applicability, namely, the requirement to obtain and comply with an NPDES permit, on municipalities that operate a municipal separate storm sewer system. By virtue of this rule, the permit will require the municipality/storm sewer operator to develop a storm water control program. The rule specifies the components of the control program, which are primarily “management'-type controls, for example, municipal regulation of third party storm water discharges associated with construction, as well as development and redevelopment, when those discharges would enter the municipal system.

Unlike the circumstances reviewed in the New York and Printz cases, today's rule merely applies a generally applicable requirement (the CWA permit requirement) to municipal point sources. The CWA establishes a generally applicable requirement to obtain an NPDES permit to authorize point source discharge to waters of the United States. Because municipalities own and operate separate storm sewers, including storm sewers into which third parties may discharge

pollutants, NPDES permits may require municipalities to control the discharge of pollutants into the storm sewers in the first instance. Because NPDES permits can impose end-of-pipe numeric effluent limits, narrative effluent limits in the form of “management” program requirements are also within the scope of Clean Water Act authority. As noted above, however, EPA believes that such narrative limitations are the most appropriate form of effluent limitation for these types of permits. For municipal separate storm sewer permits, CWA section 402(p)(3)(B)(iii) specifically authorizes “controls to reduce pollutants to the maximum extent practicable, including management practices, control techniques and system, design and engineering methods, and such other provisions as the Administrator or the State determines appropriate for the control of such pollutants.”

The Agency did not design the minimum measures in §122.34 to “commandeer” state regulatory mechanisms, but rather to reduce pollutant discharges from small MS4s. The permit requirement in CWA section 402 is a requirement of general applicability. The operator of a small MS4 that does not prohibit and/or control discharges into its system essentially accepts “title” for those discharges. At a minimum, by providing free and open access to the MS4s that convey discharges to the waters of the United States, the municipal storm sewer system enables water quality impairment by third parties. Section 122.34 requires the operator of a regulated small MS4 to control a third party only to the extent that the MS4 collection system receives pollutants from that third party and discharges it to the waters of the United States. The operators of regulated small MS4s cannot passively receive and discharge pollutants from third parties. The Agency concedes that administration of a municipal program will consume limited local revenues for implementation; but those consequences stem from the municipal operator's identity as a permitted sewer system operator. The Tenth Amendment does not create a blanket municipal immunity from generally applicable requirements. Development of a program based on the minimum measures and implementation of that program should not “excessively interfere” with the functioning of municipal government, especially given the “practicability” threshold under CWA section 402(p)(3)(B)(iii).

As noted above, today's rule also allows regulated small MS4s to opt out of the minimum measures approach. The individual permit option provides for greater flexibility in program implementation and also responds to the comment about requiring a municipal permit applicant's waiver of any arguable constitutional rights. The individual permit option responds to questions about the rule's alleged unconstitutionality by more specifically focusing on the pollutants discharged from municipal point sources. Today's rule gives operators of MS4s the option to seek an individual permit that varies from the minimum measures/management approach that is otherwise specified in today's rule. Even if the minimum measures approach was constitutionally suspect, a requirement that standing alone would violate constitutional principles of federalism does not raise concerns if the entity subject to the requirement may opt for an alternative action that does not raise a federalism issue.

For municipal system operators who seek to avoid third party regulation according to all or some of the minimum measures, §122.26(d) requires the operator to submit a narrative description of its storm water sewer system and any existing storm water control program, as well as the monitoring data to enable the permit writer to develop appropriate permit conditions. The permit writer can then develop permit conditions and limitations that vary from the six minimum measures prescribed in today's rule. The information will enable the permit writer to develop an NPDES permit that will result in pollutant reduction to the maximum extent practicable. See *NRDC v. EPA*, 966 F.2d at 1308, n17. If determined appropriate under CWA section 402(p)(3)(B)(iii), for example BMPs to meet water quality standards, the permit could also incorporate any more stringent or prescriptive effluent limits based on the individual permit application information.

For small MS4 operators seeking an individual permit, both Part 1 and Part 2 of the application requirements in §122.26(d)(1) and (2) are required to be submitted within 3 years and 90 days of the date of publication of this Federal Register notice. Some of the information required in Part 1 will necessarily have to be developed by the permit applicant prior to the development of Part 2 of the application. The permit applicant should coordinate with its permitting authority regarding the timing of review of the information.

The operators of regulated small MS4s that apply under §122.26(d) may apply to implement certain of the §122.34(b) minimum control measures, and thereby focus the necessary evaluation for additional limitations on alternative controls to the §122.34(b) measures that the small MS4 will not implement. The permit writer may determine “equivalency” for some or all of the minimum measures by developing a rough estimate of the pollutant reduction that would be achieved if the MS4 implemented the §122.34 minimum measure and to incorporate that pollutant reduction estimate in the small MS4's individual permit as an effluent limitation. The Agency recognizes that, based on current information, any such estimates will probably have a wide range. Anticipation of this wide range is one of the reasons EPA believes MS4 operators need flexibility in determining the mix of BMPs (under the minimum measures) to achieve water quality objectives. Therefore, for example, if a system operator seeks to employ an alternative that involves structural controls, wide ranges will probably be associated with gross pollutant reduction estimates. Permit writers will undoubtedly develop other ways to ensure that permit limits ensure reduction of pollutants to the maximum extent practicable.

Small MS4 operators that pursue this individual permit option do not need to submit details about their future program requirements (e.g., the MS4's future plans to obtain legal authority required by §§122.26(d)(1)(ii) and (d)(2)). A small MS4 operator might elect to supply such information if it intends for the permit writer to take those plans into account when developing the small MS4's permit conditions.

Several operators of small MS4s commented that they currently lacked the authority they would need to implement one or more of the minimum measures in §122.34(b). Today's rule recognizes that the operators of some small MS4s might not have the authority under State law to implement one or more of the measures using, for example, an ordinance or other regulatory mechanism. To address these situations, each minimum measure in §122.34(b) that would require the small MS4 operator to develop an ordinance or other regulatory mechanism states that the operator is only required to implement that requirement to “the extent allowable under State, Tribal or local law.” See § 122.34(b)(3)(ii) (illicit discharge elimination), § 122.34(b)(4)(ii) (construction runoff control) and §122.34(b)(5)(ii) (post-construction storm water management). This regulatory language does not mean that a operator of a small MS4 with ordinance making authority can simply fail to pass an ordinance necessary for a §122.34(b) program. The reference to “the extent allowable under * * * local law” refers to the local laws of other political subdivisions to which the MS4 operator is subject. Rather, a small MS4 operator that seeks to implement a program under section §122.34(b) may omit a requirement to develop an ordinance or other regulatory mechanism only to the extent its municipal charter, State constitution or other legal authority prevents the operator from exercising the necessary authority. Where the operator cannot obtain the authority to implement any activity that is only required to “the extent allowable under State, Tribal or local law,” the operator may satisfy today's rule by administering the remaining §122.34(b) requirements.

Finally, although today's rule provides operators of small MS4s with an option of applying for a permit under §122.26(d), States authorized to administer the NPDES program are not required to provide this option. NPDES-authorized States could require all regulated small MS4s to be permitted under the minimum measures management approach in §122.34 as a matter of State law. Such an approach would be deemed to be equally or more stringent than what is required by today's rule. See 40 CFR 123.2(i). The federalism concerns discussed above do not apply to requirements imposed by a State on its political subdivisions.

iv. Satisfaction of Minimum Measure Obligations by Another Entity. An operator of a regulated small MS4 may *68767 satisfy the requirement to implement one or more of the six minimum measures in §122.34(b) by having a third party implement the measure or measures. Today's rule provides a variety of means for small MS4 operators to share responsibility for different aspects of their storm water management program. The means by which the operators of various MS4s share responsibility may affect who is ultimately responsible for performance of the minimum measure and who files the periodic reports on the implementation of the minimum measure. Section 122.35 addresses these issues. The rule describes two different variants on third party implementation with different consequences if the third party fails to implement the measure.

If the permit covering the discharge from a regulated small MS4 identifies the operator as the entity responsible for a particular minimum control measure, then the operator-permittee remains responsible for the implementation of that measure even if another entity has agreed to implement the control measure. [Section 122.35\(a\)](#). Another party may satisfy the operator-permittee's responsibility by implementing the minimum control measure in a manner at least as stringent or prescriptive as the corresponding NPDES permit requirement. If the third party fails to do so, the operator-permittee remains responsible for its performance. The operator of the MS4 should consider entering into an agreement with the third party that acknowledges the responsibility to implement the minimum measure. The operator-permittee's NOI and its annual [§122.34\(f\)\(3\)](#) reports submitted to the NPDES permitting authority must identify the third party that is satisfying one or more of the permit obligations. This requirement ensures that the permitting authority is aware which entity is supposed to implement which minimum measures.

If, on the other hand, the regulated small MS4's permit recognizes that an NPDES permittee other than the operator-permittee is responsible for a particular minimum control measure, then the operator-permittee is relieved from the responsibility for implementing that measure. The operator-permittee is also relieved from the responsibility for implementing any measure that the operator's permit indicates will be performed by the NPDES permitting authority. [Section 122.35\(b\)](#). The MS4 operator-permittee would be responsible for implementing the remaining minimum measures.

Today's final rule differs from the proposed version of [§122.35\(b\)](#), which stated that, even if the third party's responsibility is recognized in the permit, the MS4 operator-permittee remained responsible for performance if the third party failed to perform the measure consistent with [§122.34\(b\)](#). Under today's rule, the operator-permittee is relieved from responsibility for performance of a measure if the third party is an NPDES permittee whose permit makes it responsible for performance of the measure (including, for example, a State agency other than the State agency that issues NPDES permits) or if the third party is the NPDES permitting authority itself. Because the permitting authority is acknowledging the third party's responsibility in the permit, commenters thought that the MS4 operator-permittee should not be responsible for ensuring that the other entity is implementing the control measure properly. EPA agrees that the operator-permittee should not be conditionally responsible when the requirements are enforceable against some other NPDES permittee. If the third party fails to perform the minimum measure, the requirements will be enforceable against the third party. In addition, the NPDES permitting authority could reopen the operator-permittee's permit under [§ 122.62](#) and modify the permit to make the operator responsible for implementing the measure. A new paragraph has been added to [§122.62](#) to clarify that the permit may be reopened in such circumstances.

Today's rule also provides that the operator-permittee is not conditionally responsible where it is the State NPDES permitting authority itself that fails to implement the measure. The permitting authority does not need to issue a permit to itself (i.e., to the same State agency that issues the permit) for the sole purpose of relieving the small MS4 from responsibility in the event the State agency does not satisfy its obligation to implement a measure. EPA does not believe that the small MS4 should be responsible in the situation where the NPDES permit issued to the small MS4 operator recognizes that the State agency that issues the permit is responsible for implementing a measure. If the State does fail to implement the measure, the State agency could be held accountable for its commitment in the permit to implement the measure. Where the State does not fulfill its responsibility to implement a measure, a citizen also could petition for withdrawal of the State's NPDES program or it could petition to have the MS4's permit reopened to require the MS4 operator to implement the measure.

EPA notes that not every State program that addresses erosion and sediment control from construction sites will be adequate to satisfy the requirement that each regulated small MS4 have a program to the extent required by [§ 122.34\(b\)\(4\)](#). For example, although all NPDES States are required to issue NPDES permits for construction activity that disturbs greater than one acre, the State's NPDES permit program will not necessarily be extensive enough to satisfy a regulated small MS4's obligation under [§122.34\(b\)\(4\)](#). NPDES States will not necessarily be implementing all of the required elements of that minimum measure, such as procedures for site plan review in each jurisdiction required to develop a

program and procedures for receipt and consideration of information submitted by the public on individual construction sites. In order for a State erosion and sediment control program to satisfy a small MS4 operator's obligation to implement §122.34(b)(4), the State program would have to include all of the elements of that minimum measure.

Where the operator-permittee is itself performing one or more of the minimum measures, the operator-permittee remains responsible for all of the reporting requirements under §122.34(f)(3). The operator-permittee's reports should identify each entity that is performing the control measures within the geographic jurisdiction of the regulated small MS4. If the other entity also operates a regulated MS4 and files reports on the progress of implementation of the measures within the geographic jurisdiction of the MS4, then the operator-permittee need not include that same information in its own reports.

If the other entity operates a regulated MS4 and is performing all of the minimum measures for the permittee, the permittee is not required to file the reports required by §122.34(f)(3). This relief from reporting is specified in §122.35(a).

Section 122.35 addresses the concerns of some commenters who sought relief for governmental facilities that are classified as small MS4s under today's rule. These facilities frequently discharge storm water through another regulated MS4 and could be regulated by that MS4's program. For example, a State owned office complex that operates its storm sewer system in an urbanized area will be regulated as an MS4 under today's rule even though its system may be subject to the storm water controls of the municipality in *68768 which it is located. Today's rule specifically revised the definition of MS4 to recognize that different levels of government often operate MS4s and that each such separate entity (including the federal government) should be responsible for its discharges. If both MS4s agree, the downstream MS4 can develop a storm water management program that regulates the discharge from both MS4s. The upstream small MS4 operator still must submit an NOI that identifies the entity on which the upstream small MS4 operator is relying to satisfy its permit obligations. No reports are required from the upstream small MS4 operator, but the upstream operator must remain in compliance with the downstream MS4 operator's storm water management program. This option allows small MS4s to work together to develop one storm water management program that satisfies the permit obligations of both. If they cannot agree, the upstream small MS4 operator must develop its own program.

As mentioned previously, comments from federal facilities and State organizations that operate MS4s requested that their permit requirements differ from those of MS4s that are political subdivisions of States (cities, towns, counties, etc.). EPA acknowledges that there are differences; e.g., many federal and State facilities do not serve a resident population and thus might require a different approach to public education. EPA believes, however, that MS4s owned by State and federal governments can develop storm water management plans that address the minimum measures. Federal and State owned small MS4s may choose to work with adjacent municipally owned MS4s to develop a unified plan that addresses all of the required measures within the jurisdiction of all of the contiguous MS4s. The options in §122.35 minimize the burden on small MS4s that are covered by another MS4's program.

One commenter recommended that if one MS4 discharges into a second MS4, the operator of the upstream MS4 should have to provide a copy of its NOI or permit application to the operator of the receiving MS4. EPA did not adopt this recommendation because the NOI and permit application will be publicly available; but EPA does recommend that NPDES permitting authorities consider it as a possible permit requirement. The commenter also suggested that monitoring data should be collected by the upstream MS4 and provided to the downstream MS4. EPA is not adopting such a uniform monitoring requirement because EPA believes it is more appropriate to let the MS4 operators work out the need for such data. If necessary, the downstream MS4s might want to make such data a condition to allowing the upstream MS4 to connect to its system.

v. Joint Permit Programs. Many commenters supported allowing the operators of small MS4s to apply as co-permittees so they each would not have to develop their own storm water management program. Today's rule specifically allows

regulated small MS4s to join with either other small MS4s regulated under §122.34(d) or with medium and large MS4s regulated under §122.26(d).

As is discussed in the previous section, regulated small MS4s may indicate in their NOIs that another entity is performing one or more of its required minimum control measures. Today's rule under §122.33(b)(1) also specifically allows the operators of regulated small MS4s to jointly submit an NOI. The joint NOI must clearly indicate which entity is required to implement which control measure in each geographic jurisdiction within the service area of the entire small MS4. The operator of each regulated small MS4 remains responsible for the implementation of each minimum measure for its MS4 (unless, as is discussed in the previous section above, the permit recognizes that another entity is responsible for completing the measure.) The joint NOI, therefore, is legally equivalent to each entity submitting its own NOI. EPA is, however, revising the rule language to specifically authorize the joint submission of NOIs in response to comments that suggested that such explicit authorization might encourage programs to be coordinated on a watershed basis.

Section 122.33(b)(2)(iii) authorizes regulated small MS4s to jointly apply for an individual permit to implement today's rule, where allowed by an NPDES permitting authority. The permit application should contain sufficient information to allow the permitting authority to allocate responsibility among the parties under one of the two permitting options in §§122.33(b)(2)(i) and (ii).

Section 122.33(b)(3) of today's rule also allows an operator of a regulated small MS4 to join as a co-permittee in an existing NPDES permit issued to an adjoining medium or large MS4 or source designated under the existing storm water program. This co-permittee option applies only with the agreement of all co-permittees. Under this co-permittee arrangement, the operator of the regulated small MS4 must comply with the terms and conditions of the applicable permit rather than the permit condition requirements of §122.34 of today's rule. The regulated small MS4 that wishes to be a co-permittee must comply with the applicable requirements of §122.26(d), but would not be required to fulfill all the permit application requirements applicable to medium and large MS4s. Specifically, the regulated small MS4 is not required to comply with the application requirements of §122.26(d)(1)(iii) (Part 1 source identification), §122.26(d)(1)(iv) (Part 1 discharge characterization), and § 122.26(d)(2)(iii) (Part 2 discharge characterization data). Furthermore, the regulated small MS4 operator could satisfy the requirements in § 122.26(d)(1)(v) (Part 1 management programs) and §122.26(d)(2)(iv) (Part 2 proposed management program) by referring to the adjoining MS4 operator's existing plan. An operator pursuing this option must describe in the permit modification request how the adjoining MS4's storm water program addresses or needs to be supplemented in order to adequately address discharges from the MS4. The request must also explain the role of the small MS4 operator in coordinating local storm water activities and describe the resources available to accomplish the storm water management plan.

EPA sought comments regarding the appropriateness of the application requirements in these subsections of §122.26(d). One commenter stated that newly regulated smaller MS4s should not be required to meet the existing regulations' Part II application requirements under §122.26(d) regarding the control of storm water discharges from industrial activity. EPA disagrees. The smaller MS4 operators designated for regulation in today's rule may satisfy this requirement by referencing the legal authority of the already regulated MS4 program to the extent the newly regulated MS4 will rely on such legal authority to satisfy its permit requirements. If the smaller MS4 operator plans to rely on its own legal authorities, it must identify it in the application. If the smaller MS4 operator does not elect to use its own legal authority, they may file an individual permit application for an alternate program under §122.33(b)(2)(ii).

The explanatory language in §122.33(b)(3) recommends that the smaller MS4s designated under today's rule identify how an existing plan “would need to be supplemented in order to adequately address your discharges.” One commenter suggested that this must be regulatory language and not guidance. EPA disagrees that this needs to be mandatory language. *68769 Since many of the smaller MS4s designated today are “donut holes” within the geographic jurisdiction of an already regulated MS4, the larger MS4's program generally will be adequate to address the newly regulated MS4's discharges. The small MS4 applicant should consider the adequacy of the existing MS4's program to address the smaller

MS4's water quality needs, but EPA is not imposing specific requirements. Where circumstances suggest that the existing program is inadequate with respect to the newly designated MS4 and the applicant does not address the issue, the NPDES permitting authority must require that the existing program be supplemented.

Commenters recommended that the application deadline for smaller MS4s designated today be extended so that existing regulated MS4s would not have to modify their permit in the middle of their permit term, provided that permit renewal would occur within a reasonable time (12 to 18 months) of the deadline. In response, EPA notes that today's rule allows operators of newly designated small MS4s up to three years and 90 days from the promulgation of today's rule to submit an application to be covered under the permit issued to an already regulated MS4. The permitting authority has a reasonable time after receipt of the application to modify the existing permit to include the newly designated source. If an existing MS4's permit is up for renewal in the near future, the operator of a newly designated small MS4 may take that into account when timing its application and the NPDES permitting authority may take that into account when processing the application.

Another commenter suggested that the rule should include a provision to allow permit application requirements for smaller MS4s designated today to be determined by the permitting authority to account for the particular needs/wants of an already regulated MS4 operator. EPA does not believe that the regulations should specifically require this approach. When negotiating whether to include a newly designated MS4 in its program, the already regulated MS4 operator may require the newly designated MS4's operator to provide any information that is necessary.

The co-permitting approach allows small MS4s to take advantage of existing programs to ease the burden of creating their own programs. The operators of regulated small MS4s, however, may find it simpler to apply for a program under today's rule, and to identify the medium or large MS4 operator that is implementing portions of its §122.34(b) minimum measures.

d. Evaluation and Assessment

Under today's rule, operators of regulated small MS4s are required to evaluate the appropriateness of their identified BMPs and progress toward achieving their identified measurable goals. The purpose of this evaluation is to determine whether or not the MS4 is meeting the requirements of the minimum control measures. The NPDES permitting authority is responsible for determining whether and what types of monitoring needs to be conducted and may require monitoring in accordance with State/Tribe monitoring plans appropriate to the watershed. EPA does not encourage requirements for "end-of-pipe" monitoring for regulated small MS4s. Rather, EPA encourages permitting authorities to carefully examine existing ambient water quality and assess data needs. Permitting authorities should consider a combination of physical, chemical, and biological monitoring or the use of other environmental indicators such as exceedance frequencies of water quality standards, impacted dry weather flows, and increased flooding frequency. (Claytor, R. and W. Brown. 1996. Environmental Indicators to Assess Storm Water Control Programs and Practices. Center for Watershed Protection, Silver Spring, MD.) Section II.L., Water Quality Issues, discusses monitoring in greater detail.

As recommended by the Intergovernmental Task Force on Monitoring Water Quality (ITFM), the NPDES permitting authority is encouraged to consider the following watershed objectives in determining monitoring requirements: (1) To characterize water quality and ecosystem health in a watershed over time, (2) to determine causes of existing and future water quality and ecosystem health problems in a watershed and develop a watershed management program, (3) to assess progress of watershed management program or effectiveness of pollution prevention and control practices, and (4) to support documentation of compliance with permit conditions and/or water quality standards. With these objectives in mind, the Agency encourages participation in group monitoring programs that can take advantage of existing monitoring programs undertaken by a variety of governmental and nongovernmental entities. Many States may already have a monitoring program in effect on a watershed basis. The ITFM report is included in the docket for today's rule (Intergovernmental Task Force on Monitoring Water Quality. 1995. The Strategy for Improving Water-Quality

Monitoring in the United States: Final Report of the Intergovernmental Task Force on Monitoring Water Quality. Copies can be obtained from: U.S. Geological Survey, Reston, VA.).

EPA expects that many types of entities will have a role in supporting group monitoring activities—including federal agencies, State agencies, the public, and various classes or categories of point source dischargers. Some regulated small MS4s might be required to contribute to such monitoring efforts. EPA expects, however, that their participation in monitoring activities will be relatively limited. For purposes of today's rule, EPA recommends that, in general, NPDES permits for small MS4s should not require the conduct of any additional monitoring beyond monitoring that the small MS4 may be already performing. In the second and subsequent permit terms, EPA expects that some limited ambient monitoring might be appropriately required for perhaps half of the regulated small MS4s. EPA expects that such monitoring will only be done in identified locations for relatively few pollutants of concern. EPA does not anticipate “end-of-pipe” monitoring requirements for regulated small MS4s.

EPA received a wide range of comments on this section of the rule. Some commenters believe that EPA should require monitoring; others want a strong statement that the newly regulated small MS4s should not be required to monitor. Many commenters raised questions about exactly what EPA expects MS4s to do to evaluate and assess their BMPs. EPA has intentionally written today's rule to provide flexibility to both MS4s and permitting authorities regarding appropriate evaluation and assessment. Permitting authorities can specify monitoring or other means of evaluation when writing permits. If additional requirements are not specified, MS4s can decide what they believe is the most appropriate way to evaluate their storm water management program. As mentioned above, EPA expects that the necessity for monitoring and its extent may change from permit cycle to permit cycle. This is another reason for making the evaluation and assessment rule requirements very flexible.

i. Recordkeeping. The NPDES permitting authority is required to include at least the minimum appropriate recordkeeping conditions in each permit. Additionally, the NPDES permitting authority can specify that permittees develop, maintain, and/or *68770 submit other records to determine compliance with permit conditions. The MS4 operator must keep these records for at least 3 years but is not required to submit records to the NPDES permitting authority unless specifically directed to do so. The MS4 operator must make the records, including the storm water management program, available to the public at reasonable times during regular business hours (see 40 CFR 122.7 for confidentiality provision). The MS4 operator is also able to assess a reasonable charge for copying and to establish advance notice requirements for members of the public.

EPA received a comment that questioned EPA's authority to require MS4s to make their records available to the public. EPA disagrees with the commenter and believes that the CWA does give EPA the authority to require that MS4 records be available. It is also more practical for the public to request records directly from the MS4 than to request them from EPA who would then make the request to the MS4. Based on comments, EPA revised the proposed rule so as not to limit the time for advance notice requirements to 2 business days.

ii. Reporting. Under today's rule, the operator of a regulated small MS4 is required to submit annual reports to the NPDES permitting authority for the first permit term. For subsequent permit terms, the MS4 operator must submit reports in years 2 and 4 unless the NPDES permitting authority requires more frequent reports. EPA received several comments supporting this timing for report submittal. Other commenters suggested that annual reports during the first permit cycle are too burdensome and not necessary. EPA believes that annual reports are needed during the first 5-year permit term to help permitting authorities track and assess the development of MS4 programs, which should be established by the end of the initial term. Information contained in these reports can also be used to respond to public inquiries.

The report must include (1) the status of compliance with permit conditions, an assessment of the appropriateness of identified BMPs and progress toward achieving measurable goals for each of the minimum control measures, (2) results

of information collected and analyzed, including monitoring data, if any, during the reporting period, (3) a summary of what storm water activities the permittee plans to undertake during the next reporting cycle, and (4) a change in any identified measurable goal(s) that apply to the program elements.

The NPDES permitting authority is encouraged to provide a brief two-page reporting format to facilitate compiling and analyzing the data from submitted reports. EPA does not believe that submittal of a brief annual report of this nature is overly burdensome, and has not changed the required reporting time frame from the proposal. The permitting authority will use the reports in evaluating compliance with permit conditions and, where necessary, will modify the permit conditions to address changed conditions.

iii. Permit-As-A-Shield. [Section 122.36](#) describes the scope of authorization (i.e. “permit-as-a-shield”) under an NPDES permit as provided by section 402(k) of the CWA. Section 402(k) provides that compliance with an NPDES permit is deemed compliance, for purposes of enforcement under CWA [sections 309](#) and [505](#), with CWA sections 301, 302, 306, 307, and 403, except for any standard imposed under [section 307](#) for toxic pollutants injurious to human health.

EPA's Policy Statement on Scope of Discharge Authorization and Shield Associated with NPDES Permits, originally issued on July 1, 1994, and revised on April 11, 1995, provides additional information on this matter.

e. Other Applicable NPDES Requirements

Any NPDES permit issued to an operator of a regulated small MS4 must also include other applicable NPDES permit requirements and standard conditions, specifically the applicable requirements and conditions at [40 CFR 122.41](#) through [122.49](#). Reporting requirements for regulated small MS4s are governed by [§122.34](#) and not the existing requirements for medium and large MS4s at [§ 122.42\(c\)](#). In addition, the NPDES permitting authority is encouraged to consult the Interim Permitting Approach, issued on August 1, 1996. The discussion on the Interim Permitting Approach in [Section II.L.1](#), Water Quality Based Effluent Limits, provides more information. The provisions of [§§122.41](#) through [122.49](#) establish permit conditions and limitations that are broadly applicable to the entire range of NPDES permits. These provisions should be interpreted in a manner that is consistent with provisions that address specific classes or categories of discharges. For example, [§122.44\(d\)](#) is a general requirement that each NPDES permit shall include conditions to meet water quality standards. This requirement will be met by the specific approach outlined in today's rule for the implementation of BMPs. BMPs are the most appropriate form of effluent limitations to satisfy technology requirements and water quality-based requirements in MS4 permits (see the introduction to Section II.H.3, Municipal Permit Requirements, Section II.H.3.h, Reevaluation of Rule, and the discussion of the Interim Permitting Policy in [Section II.L.1](#), below).

f. Enforceability

NPDES permits are federally enforceable. Violators may be subject to the enforcement actions and penalties described in CWA [sections 309](#), [504](#), and [505](#) or under similar water pollution enforcement provisions of State, tribal or local law. Compliance with a permit issued pursuant to section 402 of the Clean Water Act is deemed compliance, for purposes of [sections 309](#) and [505](#), with sections 301, 302, 306, 307, and 403 (except any standard imposed under [section 307](#) for toxic pollutants injurious to human health).

g. Deadlines

Today's final rule includes “expeditious deadlines” as directed by CWA section 402(p)(6). In proposed [§122.26\(e\)](#), the permit application for the “ISTEA” facilities was maintained as August 7, 2001 and the permit application deadline for storm water discharges associated with other construction activity was established as 3 years and 90 days from the final rule date. In proposed [§ 122.33\(c\)\(1\)](#), operators of regulated small MS4s were required to seek permit coverage within 3 years and 90 days from the date of publication of the final rule. In proposed [§122.33\(c\)\(2\)](#), operators of regulated small

MS4s designated by the NPDES permitting authority on a local basis under §122.32(a)(2) must seek coverage under an NPDES permit within 60 days of notice, unless the NPDES permitting authority specifies a later date.

In order to increase the clarity of today's final rule, EPA has changed the location of some of the above requirements. All application deadlines for both Phase I and Phase II are now listed or referenced in §122.26(e). Section 122.26(e)(1) contains the deadlines for storm water associated with industrial activity. Paragraph (i) has been changed to correct a typographical error. Paragraph (ii) has been revised to reflect the changed application date for "ISTEA" facilities. (See discussion in section I.3, ISTEAs Sources). The application deadline for storm water discharges associated with other construction activity is now in a new §122.26(e)(8). The application deadline for regulated small MS4s *68771 remains in §122.33(c) because this section is written in "readable regulation" format, but it is also described in a new § 122.26(e)(9).

Under today's rule, permitting authorities are allowed up to 3 years to issue a general permit and MS4s designated under §122.32(a)(1) are allowed up to 3 years and 90 days to submit a permit application. Operators of regulated small MS4s that choose to be a co-permittee with an adjoining MS4 with an existing NPDES storm water permit must apply for a modification of that permit within the same time frame. Several commenters stated that 90 days was not adequate time to submit an NOI. This might be true if facilities did not start developing their storm water program until publication of their general permit. In fact, municipalities should start developing their storm water program upon publication of today's final rule, if they have not already done so. Municipalities that are uncertain if they fall within the urbanized area should ask their permitting authority. EPA believes that municipalities should not automatically take three years and 90 days to develop a program and submit their NOI. Three years is the maximum amount of time to issue a general permit. MS4s that are automatically designated under today's rule may have less than 3 years and 90 days if the permitting authority issues a permit that requires submission of NOIs before that time. EPA encourages States to modify their NPDES program to include storm water and issue their permits as soon as possible. It is important for permitting authorities to keep their municipalities informed of their progress in developing or modifying their NPDES storm water requirements.

EPA recognizes that MS4s brought into the program due to the 2000 Census calculations do not have as much time to develop a program as those already designated from the 1990 Census. However, the official Bureau of the Census urbanized area calculation for the 2000 Census is expected to be published in the Federal Register in the spring of 2002, which should give the potentially affected MS4s adequate time to prepare for compliance under the applicable permit. However, if the publication of this information is delayed, MS4s in newly designated urbanized areas will have 180 days from the time the new designations are published to submit an NOI, consistent with the time frame for other regulated MS4s that are designated after promulgation of the rule.

The proposed application deadline for MS4s designated under §122.32(a)(2) was within 60 days of notice. Many commenters stated that 60 days does not provide adequate time for the preparation of an NOI or permit application. EPA agrees that newly designated MS4s may not be aware that they might be designated since the permitting authority could take several years to develop designation criteria. EPA has decided that the application time frame for these facilities should be consistent with the 180 days allowed for facilities designated under §§122.26(a)(9)(i)(C) and (D). Section 122.33(c)(2) of today's final rule contains the modified time frame of 180 days to apply for coverage.

h. Reevaluation of Rule

The municipal caucus of the Storm Water Phase II FACA Subcommittee asked EPA to demonstrate its commitment to revisit the municipal requirements of today's rule and make changes where necessary after evaluating the storm water program and researching the effectiveness of municipal BMPs. In §122.37 of today's final rule, EPA commits to revisiting the regulations for the municipal storm water discharge control program after completion of the first two permit terms. EPA intends to use this time to work closely with stakeholders on research efforts. Gathering and analyzing data related to the storm water program, including data regarding the effectiveness of BMPs, is critical to EPA's storm water program evaluation. EPA does not intend to change today's NPDES municipal storm water program until the end of this period, except under the following circumstances: a court decision requires changes; a technical change is

necessary for implementation; or the CWA is modified, thereby requiring changes. After careful analysis, EPA might also consider changes from consensus-based stakeholder requests regarding requirements applicable to newly regulated MS4s. EPA will apply the August 1, 1996, Interim Permitting Approach to today's program during this interim period and encourages all permitting authorities to use this approach in municipal storm water permits for newly regulated MS4s and in determining MS4 permit requirements under a TMDL approach. After careful consideration of the data, EPA will make modifications as necessary.

EPA received comments that supported waiting two permit cycles before re-evaluating the rule and other comments that requested re-evaluation much sooner. EPA anticipates two full permit cycles are necessary to obtain enough data to significantly evaluate the rule. The re-evaluation time frame of 13 years from today remains as proposed.

I. Other Designated Storm Water Discharges

1. Discharges Associated with Small Construction Activity

[Section 122.26\(b\)\(15\)](#) of today's rule designates certain construction activities for regulation as “storm water discharges associated with small construction activity.” Specifically, storm water discharges from construction activity equal to or greater than 1 acre and less than 5 acres are automatically designated except in those circumstances where the operator (i.e., person responsible for discharges that might occur) certifies to the permitting authority that one of two specific waiver circumstances (described in section b. below) applies. Sites below one acre may be designated under [§ 122.26\(b\)\(15\)\(ii\)](#) where necessary to protect water quality.

Today's rule regulates these construction-related storm water sources under CWA section 402(p)(6) to protect water quality rather than under CWA section 402(p)(2). Designation under 402(p)(6) gives States and EPA the flexibility to waive the permit requirement for construction activity that is not likely to impair water quality, and to designate additional sources below one acre that are likely to cause water quality impairment. Thus, the one acre threshold of today's rule is not an absolute threshold like the five acre threshold that applies under the existing storm water rule.

Today's rule regulating certain storm water discharges from construction activity disturbing less than 5 acres is consistent with the 9th Circuit remand in [NRDC v. EPA, 966 F.2d 1292 \(9th Cir. 1992\)](#). In that case, the court remanded portions of the existing storm water regulations related to discharges from construction sites. The existing Phase I regulations define “storm water discharges associated with industrial activity” to include storm water discharges from construction sites disturbing 5 acres or more of total land area (see [40 CFR 122.26\(b\)\(14\)\(x\)](#)). In its decision, the court concluded that the 5-acre threshold was improper because the Agency had failed to identify information “to support its perception that construction activities on less than 5 acres are non-industrial in nature” ([966 F.2d at 1306](#)). The court remanded the exemption to EPA for further proceedings ([966 F.2d at 1310](#)). EPA's objectives in today's action include an effort to (1) address the 9th Circuit *68772 remand to reconsider regulation of storm water discharges from construction activities that disturb less than 5 acres of land, (2) address water quality concerns associated with such activities, and (3) balance conflicting recommendations and concerns of stakeholders in the regulation of additional construction activity.

EPA responded to the Ninth Circuit's decision by designating discharges from construction activities that disturb between 1 and 5 acres as “discharges associated with small construction activity” under CWA section 402(p)(6), rather than as “discharges associated with industrial activity” under CWA section 402(p)(2)(B). Although a size criterion alone may be an indicator of whether runoff from construction sites between 1 and 5 acres is “associated with industrial activity,” the Agency is instead relying on a size threshold in tandem with provisions that allow for designations and waivers based on potential for “predicted water quality impairments” to regulate construction sites between 1 and 5 acres under CWA section 402(p)(6). This approach was chosen by the Agency for the sake of simplicity and certainty and, most importantly, to protect water quality consistent with the mandate of CWA section 402(p)(6). Today's rule also includes extended application deadlines for this new category of dischargers under the authority of CWA section 402(p)(6) (see [§122.26\(e\)\(8\)](#) of today's rule).

In today's rule, EPA is regulating storm water discharges from additional construction sites to better protect the Nation's waters, while remaining sensitive to a concern that the Agency should not regulate discharges from construction sites that might not or do not have adverse water quality impacts. EPA believes that today's rule will successfully accomplish this objective by establishing a 1-acre threshold nationwide that includes the flexibility to allow the permitting authority to both waive requirements for discharges from sites that are not expected to cause adverse water quality impacts and to designate discharges from sites below 1-acre based on adverse water quality impacts.

In addition to the diminishing water quality benefits of regulating all sites below one acre, the Agency relied on practical considerations in establishing a one acre threshold and not setting a lower threshold. Regardless of the threshold established by EPA, a NPDES permit can only be required if a construction site has a point source discharge. A point source discharge means that pollutants are added to waters of the United States through a discernible, confined, discrete conveyance. "Sheet flow" runoff from a small construction site would not result in a point source discharge unless and until it channelized. As the amount of disturbed land surface decreases, precipitation is less likely to channelize and create a "point source" discharge (assuming the absence of steep slopes or other factors that lead to increased channelization). Categorical designation of very small sites may create confusion about applicability of the NPDES permitting program to those sites. EPA's one acre threshold reflects, in part, the need to recognize that smaller sites are less likely to result in point source discharges. Of course, the NPDES permitting authority could designate smaller sites (below one acre, assuming point source discharges occur from the smaller designated sites) for regulation if a watershed or other local assessment indicated the need to do so. The Phase II rule includes this designation authority at [40 CFR 122.26\(a\)\(9\)\(i\)](#) (D) and [\(b\)\(15\)\(ii\)](#).

The one acre threshold also provides an administrative tool for more easily identifying those sites that are identified for coverage by the rule (but may receive a waiver) and those that are not automatically covered (but may be designated for inclusion). Although all construction sites less than five acres could have a significant water quality impact cumulatively, EPA is automatically designating for permit coverage only those storm water discharges from construction sites that disturb land equal to or greater than one acre. Categorical regulation of discharges from construction below this one acre threshold would overwhelm the resources of permitting authorities and might not yield corresponding water quality benefits. Construction activities that disturb less than one acre make up, in total, a very small percentage of the total land disturbance from construction nationwide. The one acre threshold is reasonable for accomplishing the water quality goals of CWA section 402(p)(6) because it results in 97.5% of the total acreage disturbed by construction being designated for coverage by the NPDES storm water program, while excluding from automatic coverage the numerous smaller sites that represent 24.7% of the total number of construction sites.

Some commenters believed that EPA has not adequately identified water quality problems associated with storm water discharges from construction activity disturbing less than five acres. Other commenters believed that storm water discharges from small construction activity is a significant water quality problem nationwide. Section I.B.3, Construction Site Runoff, provides a detailed discussion of adverse water quality impacts resulting from construction site storm water discharges. EPA is regulating storm water discharges from construction activity disturbing between 1 and 5 acres because the cumulative impact of many sources, and not just a single identified source, is typically the cause for water quality impairments, particularly for sediment-related water quality standards.

Several commenters requested that EPA regulate discharges from small construction activity as "discharges associated with industrial activity" under CWA 402(p)(4) and not, as proposed, as "storm water discharges associated with other activity" under CWA 402(p)(6). EPA is regulating discharges from small construction sites as "small construction activity" under the authority of CWA section 402(p)(6), rather than section 402(p)(4), to ensure that regulation of these sources is water quality-sensitive. CWA section 402(p)(6) affords the opportunity for designations and waivers of sources based on potential for "predicted water quality impairments." Regulation of storm water "associated with industrial activity" does not necessarily focus regulation to protect water quality.

a. Scope

The definition of “storm water discharges associated with small construction activity” includes discharges from construction activities, such as clearing, grading, and excavating activities, that result in the disturbance of equal to or greater than 1 acre and less than 5 acres (see §122.26(b)(15)(i)). Such activities could include: road building; construction of residential houses, office buildings, or industrial buildings; or demolition activity. The definition of “storm water discharges associated with small construction activity” also includes any other construction activity, regardless of size, designated based on the potential for contribution to a violation of a water quality standard or for significant contribution of pollutants to waters of the United States (§122.26(b)(15)(ii)). This designation is made by the Director, or in States with approved NPDES programs, either the Director or the EPA Regional Administrator.

For the purposes of today's rule, the definition of “storm water discharges associated with small construction activity” includes discharges from activities disturbing less than 1 acre if that construction activity is part of a *68773 “larger common plan of development or sale” with a planned disturbance of equal to or greater than 1 acre of land. A “larger common plan of development or sale” means a contiguous area where multiple separate and distinct construction activities are planned to occur at different times on different schedules under one plan, e.g., a housing development of five ¼ acre lots (§122.26(b)(15)(i)).

In addition to the regulatory text for smaller construction, the Agency is also revising the existing text of §122.26(b)(14)(x) to clarify EPA's intention regarding construction projects involving a larger common plan of development or sale ultimately disturbing 5 or more acres. Operators of such sites are required to seek coverage under an NPDES permit regardless of the number of lots in the larger plan because designation for permit coverage is based on the total amount of land area to be disturbed under the common plan. This designation attempts to address the potential cumulative effects of numerous construction activities concentrated in a given area.

Several commenters asked that EPA allow the permitting authority to set the appropriate size threshold based on water quality studies. While EPA agrees that location-specific water quality studies provide an ideal information base from which to make regulatory decisions, today's rule establishes a default standard for regulation in the absence of location-specific studies. The rule does allow for deviation from the default standard through additional designations and waivers, however, when supported by location-specific water quality information. The rule codifies the ability of permitting authorities to provide waivers for sites greater than or equal to one acre (the default standard) and designate additional discharges from small sites below one acre when location-specific information suggests that the default 1 acre standard is either unnecessary (waivers) or too limited (designations) to protect water quality.

Some commenters wanted EPA to base the regulation of storm water discharges from construction sites not only on size, but also on the duration and intensity of activity occurring on the site. EPA believes that a national 1-acre threshold, in combination with waivers and additional designations, is the most effective and simplest way to address adverse water quality impacts from storm water from small construction sites. Moreover, as discussed below, the waiver for rainfall erosivity does account for projects of limited duration. EPA believes, however, that the intensity of activity occurring on-site would be a very difficult condition to quantify.

Many commenters requested that EPA maintain the 5 acre threshold from the existing regulations, which include opportunities for site-specific designation, as the regulatory scope for regulating storm water from construction sites, i.e., that the Agency not automatically regulate storm water discharges from sites less than 5 acres. Several commenters wanted construction requirements to be applied to sites smaller than 1 acre, while some commenters suggested alternative thresholds of 2 or 3 acres. The rest of the commenters supported the 1 acre threshold. None of the commenters presented any data or rationales to support a specific size threshold.

EPA examined alternative size thresholds, including 0.5 acre, 1 acre, 2 acres and 5 acres. EPA had difficulty evaluating the alternative size thresholds because, while directly proportional to the size of the disturbed site, the water quality threat posed by discharges from construction sites of differing sizes varies nationwide, depending on the local climatological, geological, geographical, and hydrological influences. In order to ensure improvements in water quality nationwide, however, today's rule does not allow various permitting authorities to establish different size thresholds except based on the waiver and designation provisions of the rule. EPA believes that the water quality impact from small construction sites is as high as or higher than the impact from larger sites on a per acre basis. By selecting the 1 acre size threshold and coupling it with waivers and additional designations, EPA is seeking to standardize improvement of water quality on a national basis while providing permitting authorities with the opportunity to designate those unregulated activities causing water quality impairments regardless of site size, as well as to waive requirements when information demonstrates that regulation is unnecessary.

EPA recognizes that the size criterion alone may not be the most ideal predictor of the need for regulation, but effective protection of water quality depends as much on simplicity in implementation as it does on the scientific information underlying the regulatory criteria. The default size criterion of 1 acre will ensure protection against adverse water quality impacts from storm water from small construction sites while not overburdening the resources of permitting authorities and the construction industry to implement the program to protect water quality in the first place.

One commenter stated a need to clarify whether routine road maintenance is considered construction activity for the purpose of today's rule. The NPDES general permit for discharges from construction sites larger than 5 acres defined "commencement of construction" as the initial disturbance of soils associated with clearing, grading, or excavating activities or other construction activities (63 FR 7913). For construction sites disturbing less than 5 acres, EPA does not consider construction activity to include routine maintenance performed to maintain the original line and grade, hydraulic capacity, or original purpose of the facility.

Two commenters believed that the [Multi-Sector General Permit for storm water discharges from industrial activities \(MSGP\) \(60 FR 50804\)](#) already applies to storm water discharges from construction activities at oil and gas exploration and production sites and asked for a clarification on this issue. Commenters also requested a single general permit to authorize both industrial storm water discharges and construction site discharges which occur at the same industrial site.

Currently, when construction activity disturbing more than 5 acres occurs on an industrial site covered by the MSGP, authorization under a separate NPDES construction permit is needed because the MSGP does not include the "construction" industrial sector. While the MSGP does address sediment and erosion control, it is not as specific as the NPDES general permit for storm water discharges from construction activities disturbing more than 5 acres. Though permitting authorities could conceivably develop a single general permit to authorize storm water discharges associated with construction activity at these industrial facilities, the commenter's request is not addressed by today's rulemaking. When today's rule is implemented through general permits (to be issued later), the permitting authority will have discretion whether or not to incorporate the permit requirements for both the industrial storm water discharges and construction site storm water discharges into a single general permit. This type of request should be addressed to the permitting authority.

One commenter suggested that discharges from small construction sites should be regulated through a "self-implementing rule" approach. While today's rule is not a self-implementing rule, it does add [§122.28\(b\)\(2\)\(v\)](#), which [*68774](#) gives the permitting authority the discretion to authorize a construction general permit for sites less than 5 acres without submitting a notice of intent. Such non-registration general permits function similarly to self-implementing rules, but are, in fact, permits. Today's rule will be implemented through NPDES permits rather than self-implementing regulations to capitalize on the compliance, tracking, enforcement, and public participation associated with NPDES permits (see discussion in section II.C).

Other commenters believed that only the permitting authority should regulate construction site storm water discharges (under a NPDES permit) and that a small MS4 operator's regulation of storm water discharges associated with construction (under the small MS4 NPDES storm water program) is redundant. EPA disagrees that control measure implementation by the NPDES authority and the small MS4 operator is redundant. To the extent the two efforts overlap, today's rule provides for consolidation and coordination of substantive requirements via incorporation by reference permitting. Small MS4s operators may choose to impose more prescriptive requirements than an NPDES permitting authority based on localized water quality needs. In those cases, EPA intends that the substantive requirements from the small MS4 program should apply as the NPDES permit requirements for the construction site discharger. In cases where a small MS4 program does not prioritize and focus on storm water from construction sites (beyond the small MS4 minimum control measure in today's rule, which does not require the small MS4 operator to control construction site discharges in a manner as prescriptive as is expected for discharges regulated under NPDES permits), the Agency intends that the NPDES general permit will provide the substantive standards applicable to the construction site discharge. EPA does anticipate, however, that implementation of MS4 programs to address construction site runoff within their jurisdiction will enhance overall NPDES compliance by construction site dischargers. EPA also notes that under [§122.35\(b\)](#), the permitting authority may recognize its own program to control storm water discharges from construction sites in lieu of requiring such a program in an MS4's NPDES permit, provided that the permitting authority's program satisfies the requirements of [§122.34\(b\)\(4\)](#), including, for example, procedures for site plan reviews and consideration of information submitted by the public on individual construction sites in each jurisdiction required to be covered by the program.

b. Waivers

Under [§122.26\(b\)\(15\)\(i\)](#) of today's rule, NPDES permitting authorities may waive today's requirement for construction site operators to obtain a permit in two circumstances. The first waiver is intended to apply where little or no rainfall is expected during the period of construction. The second waiver may be granted when a TMDL or equivalent analysis indicates that controls on construction site discharges are not needed to protect water quality.

The first waiver is based on “low predicted rainfall erosivity” which can be found using tables of rainfall-runoff erosivity (R) values published for each region in the U.S. R factors are published in the U.S. Department of Agriculture (USDA) Agricultural Handbook 703 (Renard, K.G., Foster, G.R., Weesies, G.A., McCool, D.K., and D.C. Yoder. 1997. Predicting Soil Erosion by Water: A Guide to Conservation Planning with the Revised Universal Soil Loss Equation (RUSLE). U.S. Department of Agriculture Handbook 703). The R factor varies based on the time during the year when construction activity occurs, where in the country it occurs, and how long the construction activity lasts. The permitting authority may determine, using Handbook 703, which times of year, if any, the waiver opportunity is available for construction activity. EPA will provide assistance either through computer programs or the World Wide Web on how to determine whether this waiver applies for a particular geographic area and time period. Application of this waiver for regulatory purposes will be determined by the authorized NPDES authority. This waiver is discussed further in the following section titled Rainfall-Erosivity Waiver.

The second waiver is based on a consideration of ambient water quality. This waiver is available after a State or EPA develops and implements TMDLs for the pollutant(s) of concern from storm water discharges associated with construction activity. This waiver is also available for sites discharging to non-impaired waters that do not require TMDLs, when an equivalent analysis has determined allocations for small construction sites for the pollutant(s) of concern or determined that such allocations are not needed to protect water quality based on consideration of existing in-stream concentrations, expected growth in pollutant contributions from all sources, and a margin of safety. The Agency envisions an equivalent analysis that would demonstrate that water quality is not threatened by storm water discharges from small construction activity. This waiver is discussed further below in the sections titled TMDL Waiver and Water Quality Issues.

The proposed rule included a waiver based on “low predicted soil loss.” This waiver provision would have been applicable on a case-by-case basis where the annual soil loss rate for the period of construction for a site, using the Revised Universal Soil Loss Equation (RUSLE), would be less than 2 tons/acre/year. The annual soil loss rate of less than 2 tons/acre/year would be calculated through the use of the RUSLE equation, assuming the constants of no ground cover and no runoff controls in place.

Several commenters found the low soil loss waiver too complex and impractical, and stated that expertise is not available at the local level to prepare and evaluate eligibility for the waiver. Another commenter questioned whether two tons/acre/year was an appropriate threshold for predicting adverse water quality impacts. Two other commenters said that RUSLE was never intended to predict off-site impacts and is not an indicator of potential harm to water quality. EPA agrees with the commenters on the difficulty associated with determining and implementing this waiver. Most construction site operators are not familiar with the RUSLE program, and the potential burden on the permitting authority, construction industry, USDA's Natural Resources Conservation Service and conservation districts probably would have been significant. The Agency has not included this waiver in the final rule.

Two commenters asked that EPA allow States the flexibility to develop their own waiver criteria but did not suggest how the Agency (or affected stakeholders) could evaluate the acceptability of alternative State waiver criteria. Therefore, the final rule does not provide for any such alternative waivers. If a State does seek to develop alternate waiver criteria, then EPA procedures afford the opportunity for subsequent actions, for example, under the Project XL Program in EPA's Office of Reinvention, which seeks cleaner, smarter, and cheaper solutions to environmental problems. Many commenters suggested that EPA extend these waivers to existing industrial storm water regulations for construction activity greater than 5 acres. These construction site discharges are *68775 regulated as industrial storm water discharges under CWA 402(p)(2) and are not eligible for such water quality-based waivers.

Two commenters were concerned that waivers would create a potential for significant degradation of small streams. EPA disagrees. If small streams are threatened, the permitting authority would choose not to provide any waivers. In addition, permitting authorities may protect small streams by designating discharges from small construction activity based on the potential for contribution to a violation of a water quality standard or for significant contribution of pollutants to waters of the U.S.

Two commenters asked that the waiver options be eliminated. They felt it would create a gross inequity within the construction community if some projects will not be subject to the requirements of today's rule. While the comments may be valid, EPA disagrees that waivers should be disallowed on this basis. Construction site discharges that qualify for a waiver from permitting requirements are not expected to present a threat to water quality, which is the basis for designation and regulation under today's rule.

A number of commenters suggested additional waivers in cases where new development will result in no additional adverse impacts to water quality as compared to the existing development it replaces. EPA believes these waivers are either unworkable or unnecessary. It would be very difficult for most construction operators to determine, as well as for other stakeholders to verify, on a site-by-site basis, that there is no potential for adverse impact to water quality compared to the replaced development.

Other commenters proposed waivers in cases where a local erosion and sediment control program covers the project or a separate waiver for small linear utility projects. Instead of waivers, today's rule addresses the first suggestion through the qualifying program provision described in the section titled Cross-Referencing State/Local Erosion and Sediment Control Programs below. Today's rule provides waivers for small linear projects in so far as they satisfy conditions for low rainfall erosivity. (See § 122.26(b)(15)(i)(A).)

Other commenters suggested waivers based on distance to water body, existence of vegetated buffer around water body, slope of disturbed land, or if discharging to very large bodies of water. As a result of public outreach, EPA believes that these proposed waivers would be generally unworkable for construction site dischargers and permitting authorities because of the difficulty in applying them to all small sites.

One commenter mentioned that waivers for the R factor (rainfall-erosivity) and soil loss are effluent standards that have not been developed in accordance with sections 301 and 304 of the CWA. EPA disagrees that these sections are relevant to the designation of sources in today's rule. The waiver provisions in this section of the rule are jurisdictional because they affect the scope of the universe of entities subject to the NPDES program. Therefore, the waiver provisions are not themselves substantive control standards implemented through NPDES permits, and thus, not subject to the statutory criteria in [sections 301](#) and [304](#).

Another commenter stated that waivers would allow exemptions to the technology based requirements and would thus be inconsistent with the two-fold approach of the CWA (a technology based minimum and a water quality based overlay). EPA acknowledges that the CWA does not generally provide for waivers for the Act's technology-based requirements. The waiver provisions do not create exemptions from technology-based standards that apply to NPDES dischargers; they provide exemption from the underlying requirement for an NPDES permit in the first place. Protection of water quality is the reason these smaller sites are designated for regulation under NPDES. The Act's two fold approach imposes more stringent water quality based effluent limitations when technology-based limitations applicable to regulated dischargers are insufficient to meet water quality standards. Under today's rule, water quality protection is the basis for determining which of the unregulated sources should be regulated at all. Thus, today's rule is entirely consistent with the Act's two fold approach.

i. **Rainfall-Erosivity Waiver.** The rainfall-erosivity waiver under [§ 122.26\(b\)\(15\)\(i\)\(A\)](#) is intended to exempt the requirements for a permit when and where negligible rainfall/runoff-erosivity is expected. In the development of the Universal Soil Loss Equation, analysis of data indicated that when factors other than rainfall are held constant, soil loss is directly proportional to a rainfall factor composed of total storm kinetic energy times the maximum 30 minute intensity. The average annual sum of the storm energy and intensity values for an area comprise the R factor—the rainfall erosivity index. A detailed explanation of the R factor can be found in *Predicting Soil Erosion by Water: A Guide to Conservation Planning With the Revised Universal Soil Loss Equation (RUSLE)* (USDA, 1997).

This waiver is time-sensitive and is dependent on when during the year a construction activity takes place, how long it lasts, and the expected rainfall and intensity during that time. R factors vary based on location. EPA anticipates that this waiver opportunity responds to concerns about the requirement for a permit when it is not expected to rain, especially in the arid areas of the U.S. Under today's rule, the permitting authority could waive the requirements for a permit for time periods when the rainfall-erosivity factor (“R” in RUSLE) is less than five during the period of construction. For the purposes of calculating this waiver, the period of construction activity starts at the time of initial disturbance and ends with the time of final stabilization. The operator must submit a written certification to the Director in order to apply for such a waiver. EPA believes that those areas receiving negligible rainfall during certain times of the year are unlikely to have storm events causing discharges that could adversely impact receiving streams. Consequently, BMPs would not be necessary on those smaller sites. This waiver is most applicable to projects of short duration and to the arid regions of the country where the occurrence of rainfall follows a cyclic pattern—between no rain and extremely heavy rain. EPA review of rainfall records for these areas indicates that, during periods of the year when the number of events and quantity of rain are low, storm water discharges from the smaller construction sites regulated under today's rule should be minimal.

Some commenters supported the use of the R factor as a waiver, while others felt that a waiver based on rainfall statistics ignores the fact that it may rain on any given day and it is the cumulative effect of wet weather discharges which cause water quality impairments. A commenter also asked what happens in “El Niño” years when significantly more rainfall than normal occurs. Another commenter also expressed concern that this waiver was not based on a measured water

quality impact, but instead on an indicator of potential impact. In response to the previous comments, EPA notes that, under CWA 402(p)(6), sources are designated on their potential for adverse impact. Designation under the section is prospective, not retrospective or remedial only. For that reason, the waivers under today's rule also operate prospectively. EPA wanted to waive requirements for sites with little ~~*68776~~ potential to impair water quality, and the R factor is the most straightforward way to do this. The permitting authority, if electing to use waivers, could always suspend the use of waivers in certain areas or during certain times. In addition, the permitting authority may choose to use a lower R factor threshold than the one set by EPA. Application of this waiver is at the discretion of the permitting authority, subject only to the limitation that R factors cannot exceed 5.

One commenter expressed the need for EPA to provide a justification for the threshold value used for the R factor. None of the commenters included any data to show that EPA's proposed R factor of 2 was either too high or too low. EPA is using the R factor as an indicator of the potential to impact water quality. In an effort to determine which R threshold should be used, EPA conducted additional analysis of the rainfall/runoff erosivity factor for 134 sites across the country. For an R factor threshold of 5, approximately 12% of sites would be waived if the project period lasted 6 months, 27% for 3 months, 47% for 1 month, and 60% of sites would be waived if the project lasted for only 15 days. None of the 134 sites would be waived if the project lasted an entire year. For an R factor threshold of 2, approximately 9% of sites would be waived if the project period lasted 6 months, 15% for 3 months, 31% for 1 month, and 43% for 15 days. For an R factor threshold of 10, ~~approximately 22% of sites would be waived if the project period lasted 6 months, 37% for 3 months, 60% for 1 month, and 78% for 15 days.~~ EPA believes that an R factor of 5 is an adequate threshold to waive requirements for sites because they would not reasonably be expected to impair water quality.

EPA will develop, as part of the tool box described in section II.A.5, guidance materials and computer or web-accessible programs to assist permitting authorities and construction site discharges in determining if any resulting storm water discharges from specific projects are eligible for this waiver.

ii. Water Quality Waiver. The water quality waiver under § 122.26(b)(15)(i)(B) is available where storm water controls are not needed based on a comprehensive, location-specific evaluation of water quality needs. The waiver is available based on either an EPA-approved “total maximum daily load” (TMDL) under section 303(d) of the CWA that addresses the pollutant(s) of concern or, for sites discharging to non-impaired waters that do not require TMDLs, an equivalent analysis that has either determined allocations for small construction sites for the pollutant(s) of concern or determined that such allocations are not needed to protect water quality based on consideration of existing in-stream concentrations, expected growth in pollutant contributions from all sources, and a margin of safety. The pollutants of concern that must be addressed include sediment or a parameter that addresses sediment (such as total suspended solids (TSS), turbidity or siltation) and any other pollutant that has been identified as a cause of impairment of any water body that will receive a discharge from the construction activity. The operator must certify to the NPDES permitting authority that the construction activity will take place, and storm water discharges will occur, within the applicable drainage area evaluated in the TMDLs or equivalent analyses.

Today's rule modifies the approach in the proposed rule. EPA proposed to allow a waiver of permit requirements for small construction if storm water controls were determined to be unnecessary based on “wasteload allocations that are part of ‘total maximum daily loads’ (TMDLs) that address the pollutants of concern,” or “a comprehensive watershed plan, implemented for the water body, that includes the equivalents of TMDLs, and addresses the pollutants of concern.”

Commenters asked for clarification of the terms “comprehensive watershed plans” and “equivalent of TMDLs.” EPA intended that both terms would include a comprehensive analysis that determines that controls on small construction sites are not needed based on consideration of existing in-stream concentrations, expected growth in pollutant contributions from all sources, and a margin of safety. Today's rule makes this clarification.

One commenter pointed out that there are no water quality standards for suspended solids, the major pollutant expected in discharges from construction activity. The commenter asserted that no waiver would ever be available. Another commenter noted that there are no sediment criteria developed for streams, also making this waiver useless. EPA notes that a number of States and Tribes have water quality standards that address TSS, which are narrative in form, and that may serve as a basis for water quality-based effluent limits. As efforts to identify impairments and improve water quality progress, some States may yet develop water quality standards for suspended solids. Although several TMDLs for sediment and related parameters have been established, EPA does recognize that currently it is extremely difficult to develop TMDLs for sediment. EPA is partially addressing this concern by clarifying in today's rule that the waivers may be based on a TMDL or equivalent analyses for sediment or one of the various pollutant parameters that are a proxy for sediment. These include TSS, turbidity and siltation.

Other commenters noted that this waiver was unattainable if a TMDL or equivalent analysis must be available for every pollutant that could possibly be present in any amount in discharges from small construction sites regardless of whether the pollutant is causing water quality impairment. Commenters asked that EPA identify what constitutes the “pollutants of concern” for which a TMDL or its equivalent must be developed. EPA has revised the proposed rule in response to these concerns.

In order for discharges from construction sites under five acres to qualify for the water quality waiver of today's rule, the construction site operator must demonstrate that storm water controls are not necessary for sediment or a parameter that addresses sediment (such as TSS, turbidity or siltation) and any other pollutant that has been identified as a cause of impairment of any water body that will receive a discharge from the construction activity. Even if the water body is not currently impaired for sediment, today's rule requires an analysis of the potential impacts of sediment because the storm water discharges from the construction activity will be a new source of loading to the water body that could constitute a new impairment. Because the water body will not necessarily have been included on a “303(d) list” and a TMDL will not necessarily be required, the rule continues to allow an analysis that is the equivalent of a TMDL. The designation of storm water discharges from small construction activity for regulation in today's rule is intended to control pollutants other than sediment. This waiver provision requires a TMDL or equivalent analysis for a pollutant other than gross particulates (i.e., sediment and other particulate-focused pollutant parameters) only if the receiving water is currently impaired for that pollutant.

One commenter expressed the concern that construction operators will not know if they are in a watershed covered by a TMDL. To the extent this is an operator's concern, he or she could contact their NPDES permitting *68777 authority before applying for permit coverage to determine if receiving water is subject to a TMDL. Alternatively, the permitting authority could identify the TMDL (or equivalent analysis) areas in the general permit or another operator-accessible information source.

Another commenter expressed the concern that a TMDL waiver is likely to be ineffective because the TMDL list is submitted only once every 2 years. By the time a water is listed, the activity may have been completed and stabilized. The commenter argued that, if a watershed is impaired due to sediment from construction, then storm water controls will still be needed, because small construction can only be waived when it is not identified as a source of impairment. In response, EPA notes that an analysis that is the equivalent of a TMDL (specifically, equivalent to the component of a TMDL that comprehensively analyses existing ambient conditions against the applicable water quality standards) may also provide a basis for waiver from the default 1 acre designation. Also, even if a water has been identified as impaired for sediment, it is possible that a site or category of sites may receive an allocation that is sufficiently high enough to allow discharges without storm water controls.

c. Permit Process and Administration

The operator of the construction site, as with any operator of a point source discharge, is responsible for obtaining coverage under a NPDES permit as required by §122.21(b). The “operator” of the construction site, as explained in the

current NPDES construction general permit, is typically the party or parties that either individually or collectively meet the following two criteria: (1) Operational control over the site specifications, including the ability to make modifications in the specifications; and (2) day-to-day operational control of those activities at the site necessary to ensure compliance with permit conditions (63 FR 7859). If more than one party meets these criteria, then each party involved would typically be a co-permittee with any other operators. The operator could be the owner, the developer, the general contractor, or individual contractor. When responsibility for operational control is shared, all operators must apply.

In today's rule, EPA is not requiring an NOI for NPDES general permits for storm water discharges from construction activities regulated by §122.26(b)(15) if the NPDES permitting authority finds that the use of NOIs would be inappropriate (see §122.28(b)(2)(v)). Under this approach, the NPDES permitting authority will have the discretion to decide whether or not to require NOIs for discharges from construction activity less than 5 acres. Compared to the existing storm water regulation, the permitting authority thus has increased flexibility in program implementation. EPA does recommend the use of NOIs, however because NOIs track permit coverage and provide a useful information source to prioritize inspections or enforcement. Requiring an NOI allows for greater accountability by, and tracking of, dischargers. This simple permit application and reporting mechanism also allows for better outreach to the regulated community, uses an existing and familiar mechanism, and is consistent with the existing requirements for storm water discharges from larger construction activities. Today's rule does not amend the requirement for NOIs in general permits for storm water discharges from construction activity disturbing 5 acres or more. See §122.28(b)(2)(v).

EPA expects that the vast majority of discharges of storm water associated with small construction activity identified in §122.26(b)(15) will be regulated through general permits. In the event that an NPDES permitting authority decides to issue an individual construction permit, however, individual application requirements for these construction site discharges are found at § 122.26(c)(1)(ii). For any discharges of storm water associated with small construction activity identified in §122.26(b)(15) that are not authorized by a general permit, a permit application made pursuant to §122.26(c) must be submitted to the Director by 3 years and 90 days after publication of the final rule.

Some commenters expressed concern that linear construction projects (e.g., roads, highways, pipelines) that cross several jurisdictions will have to comply with multiple sets of requirements from various jurisdictions, including multiple local governments and States. EPA is limited in its options to address these concerns because the Agency cannot issue NPDES permits in States authorized to implement the NPDES program nor preempt other more stringent local and State requirements. EPA believes, however, that the option for incorporating by reference the State, Tribal or local requirements (see discussion in Section II.I.2.d., Cross-Referencing State/Local Erosion and Sediment Control Programs) should limit the administrative burden on the operator responsible for discharges from linear construction projects. If the operator were to implement the most comprehensive of the various requirements for the whole project, it could avoid confusion due to differing requirements for different sections of the project. In addition, linear utility projects, which usually have a shorter project period, are more likely to be eligible for the rainfall erosivity waiver.

One commenter stated there was no reason to delay the application period for regulated storm water discharges from small construction activities. The commenter requested that the newly regulated construction site discharges should be required to seek permit coverage within 90 days, as opposed to 3 years, of the effective date of the rule. The Agency does not accept this request. EPA anticipates that NPDES permitting authorities will need one to two years to develop adequate legal authority to implement a program to address this new category of discharges, as well as to develop and issue general permits. Moreover, to ensure effective implementation to protect water quality, regulatory authorities will need additional time to inform small construction site operators of requirements and provide guidance and training on these requirements.

Finally, EPA received a comment requesting that the three year file retention requirement be deleted for discharges from small construction sites. While EPA recognizes that the three year record retention schedule may be unnecessary for

certain construction projects, the Agency has determined it is necessary to retain files after the completion of the project to ensure permit compliance, including applicable construction site stabilization enabling permit termination for such sites.

d. Cross-Referencing State, Tribal or Local Erosion and Sediment Control Programs

In developing the NPDES permit requirements for construction sites less than 5 acres, members of the Storm Water Phase II FACA Subcommittee asked EPA to try to minimize redundancy in the construction permit requirements. In response, today's rule at §122.44(s) provides for incorporation of qualifying State, Tribal or local erosion and sediment control program requirements by reference into the NPDES permit authorizing storm water discharges from construction sites (described under §§122.26(b)(15) and (b)(14)(x)). The incorporation by reference approach applies not only to the newly regulated storm water discharges (from construction activity disturbing between 1 and 5 acres, including designated sites, but *68778 excluding waived sites) but also to discharges from construction activity disturbing 5 or more acres already covered by the existing storm water regulations. For this latter category of discharges from construction activity disturbing 5 or more acres, the incorporation by reference approach requires that the pollutant control requirements from the incorporated program also satisfy the statutory standard for limitations representing application of the best available technology economically achievable (BAT) and best conventional pollutant control technology (BCT).

For permits issued for discharges from small construction activity defined under §122.26(b)(15), a qualifying State, Tribal, or local erosion and sediment control program is one that includes the program elements described under §122.44(s)(1). These elements include requirements for construction site operators to implement appropriate erosion and sediment control BMPs, requirements to control waste, a requirement to develop a storm water pollution prevention plan, and requirements to submit a site plan for review. A storm water pollution prevention plan includes site descriptions, descriptions of appropriate control measures, copies of approved State, Tribal or local requirements, maintenance procedures, inspection procedures, and identification of non-storm water discharges. The construction site's permit would require it to follow the requirements of the qualifying local program rather than require it to follow two different sets of requirements. If a partially-qualifying program does not have all of the elements described under §122.44(s)(1), then the NPDES permitting authority may still incorporate language in the small construction site discharge's permit that requires the construction site operator to follow the program, but the construction site discharge permit also must incorporate the missing required elements in order to satisfy CWA requirements.

The term “local” refers to the geographic area of applicability, not the form of government that develops and administers the program. Thus, a qualifying federal erosion and control program, such as certain programs developed and administered by the federal Bureau of Land Management, could be a qualifying local program.

As a result of this provision, local requirements will, in effect, provide the substantive construction site erosion and sediment control requirements for the NPDES permit authorization. Therefore, by following one set of erosion and sediment control requirements, construction site operators satisfy both local and NPDES permit requirements without duplicative effort. At the same time, noncompliance with the referenced local requirements will be considered noncompliance with the NPDES permit which is federally enforceable. The NPDES permitting authority will, of course, retain the discretion to decide whether to include the alternative requirements in the general permit. EPA believes that this approach will best balance the need for consideration of specific local requirements and local implementation with the need for federal and citizen oversight, and will extend supplemental NPDES requirements to control storm water discharges from construction sites.

EPA developed the “incorporation by reference” approach based on implementation efforts designed by the State of Michigan. Michigan relies on localities to develop substantive controls for storm water discharges associated with construction activities on a localized basis. Localities, however, are not required to do so. In areas where the local authority does not choose to participate, the State administers the sedimentation and erosion control requirements. The State agency, as the NPDES permitting authority, receives an NOI (termed “notice of coverage” by Michigan) under the general permit and tracks and exercises oversight, as appropriate, over the activity causing the storm water discharge.

Michigan's goal under these procedures is to utilize the existing erosion and sediment control program infrastructure authorized under State law for storm water discharge regulation. (See U.S. Environmental Protection Agency, Office of Water, January 7, 1994. Memo: From Michael B. Cook, Director OWEC, to Water Management Division Directors, Regarding the "Approach Taken by Michigan to Regulate Storm Water Discharges from Construction Activities.")

Most commenters supported the general concept of incorporating by reference qualifying programs. Two commenters expressed concern that different local construction requirements will create an impossible regulatory scheme for builders who work in different localities. EPA believes that allowing States to incorporate qualifying programs by reference will minimize the differences for builders who work in different areas of the State. These differences already exist, however, not only for erosion and sediment controls, but also other aspects of construction. In any event, the criteria for qualification for localized programs should provide a certain degree of standardization for various localities' requirements. EPA expects that the new rule for construction and post-construction BMPs being developed under CWA section 304(m) will also encourage standardization of local requirements. (See discussion of this new rulemaking in section II.D.1, Federal Role of this preamble).

Two commenters requested that an "incorporation by reference" should include permission, in writing, from the qualifying local program administrator because of a perceived extra burden on the referenced program. Any program requirements incorporated by reference in NPDES permits should already apply to construction site dischargers in the applicable area and therefore should not add any additional burden to the referenced program. EPA has left to the discretion of the permitting authority the decision on whether to seek permission from the qualifying program before cross-referencing it in an NPDES permit.

One commenter stated that a qualifying local program should require a SWPPP. The proposed rule defined the qualifying local program as a program that meets the minimum program requirements established in the proposed construction minimum control measure for small MS4s. To ensure consistency in the controls for storm water discharges between the larger, already regulated construction sites and the discharges from smaller sites that will be regulated as a result of today's rule, EPA has made a change to define a qualifying local program as one that includes the elements described in [§122.44\(s\)\(1\)](#). [Section 122.44\(s\)\(1\)](#) requires the development and implementation of a storm water pollution prevention plan as a criterion for qualification of local programs for incorporation by reference. As noted above, if a qualifying program does not include all the elements in [§122.44\(s\)\(1\)](#) then the permitting authority will need to specify the missing elements in order to rely on the incorporation by reference approach.

One commenter asked what happens in regard to the use of qualifying programs when a construction site operator is also the qualifying local program operator. The provision for incorporation by reference applies in this situation also. The local program operator will be required to comply with requirements it has established for others. *68779

e. Alternative Approaches

EPA received a number of comments on alternative permitting approaches. Several commenters supported regulating discharges only from those construction sites within urbanized areas. Other commenters opposed this approach. EPA chose to address storm water discharges from construction sites located both within and outside urbanized areas because of the potential for adverse water quality impact from storm water discharges from smaller sites in all areas. Regulating only those sites within urbanized areas would have excluded a large number of potential contributors to water quality impairment and would not address large areas of new development occurring on the outer fringes of urbanized areas. In fact, designating only small construction discharges within urbanized areas might create a perverse incentive for building only outside urbanized areas. Such an incentive would be inconsistent with the Agency's intention behind designating to protect water quality. The Agency intends that designation to protect water quality in today's rule should be both remedial and preventive.

A number of commenters encouraged EPA to cover municipal construction activities under the small MS4 general permit, instead of issuing a separate NPDES construction permit to these municipal construction projects. Similarly, a number of commenters supported EPA giving industrial facilities the option of having storm water from construction activities on the site covered by the industrial storm water permit. Several other commenters found that combining multiple permit types under one general permit introduced a degree of complexity which was confusing to permittees. Permitting authorities have the option of combining MS4 and construction permits or industrial and construction permits, however, specific requirements for each would still need to be included in the permit issued. EPA agrees that this would probably result in a more complex and confusing permit compared to the existing component permits.

Several commenters supported an alternative for regulated small MS4s where a local qualified program alone, without an NPDES permit, is sufficient to enforce compliance with construction site discharge requirements. On the other hand, one commenter stated that linking the local construction erosion and sediment control program to the existing NPDES program for storm water from larger construction has driven improvements in many local programs. Another commenter stated that the potential fines under the NPDES program will encourage compliance and will be much stronger than any fines a local program may have. EPA agrees that the NPDES program is the best approach to address water quality impacts from construction sites and provides benefits such as accountability and federal enforcement.

A number of commenters supported issuing one permit for each construction company, instead of a permit for each individual construction activity (also requested for storm water discharges from the larger, already regulated construction sites). Other commenters found that a 'licensing' program for construction site operators would have many problems, including identifying who to permit and tracking information on active sites. EPA is regulating only the storm water discharges associated with construction activity from small sites, not the construction activity itself. Separate NPDES permits (either individual or general permit coverage) for construction site discharges avoid potential problems in tracking sites and operator accountability. [Section 122.28\(b\)\(2\)\(v\)](#) gives permitting authorities the option to issue a general permit without requiring an NOI. If an NOI is not required for each activity, permitting authorities could pursue other options such as a company-wide NOI, license instead of an NOI, or another mechanism.

2. Other Sources

In the Storm Water Discharges Potentially Addressed by Phase II of the National Pollutant Discharge Elimination System Storm Water Program, Report to Congress, March 1995, ("Report") submitted by EPA pursuant to CWA section 402(p)(5), EPA examined the remaining unregulated point sources of storm water for the potential to adversely affect water quality. Due to very limited national data on which to estimate pollutant loadings on the basis of discharge categories, the discussion of the extent of unregulated storm water discharges is limited to an analysis of the number and geographic distribution of the unregulated storm water discharges. Therefore, EPA is not designating any additional unregulated point sources of storm water on a nationwide, categorical basis. Instead, the remainder of the sources will be regulated based on case-by-case post-promulgation designations by the NPDES permitting authority.

EPA did, however, evaluate a variety of categories of discharges for potential designation in the Report. EPA's efforts to identify sources and categories of unregulated storm water discharges for potential designation for regulation in today's rule started with an examination of approximately 7.7 million commercial, retail, industrial, and institutional facilities identified as "unregulated." In general, the distribution of these facilities follows the distribution of population, with a large percentage of facilities concentrated within urbanized areas (see page 4-35 of the Report). This examination resulted in identification of two general classes of facilities with the potential for discharging pollutants to waters of the United States through storm water point sources.

The first group (Group A) included sources that are very similar, or identical, to regulated "storm water discharges associated with industrial activity" but that were not included in the existing storm water regulations because EPA used SIC codes in defining the universe of regulated industrial activities. By relying on SIC codes, a classification system created to identify industries rather than environmental impacts from these industries discharges, some types of storm

water discharges that might otherwise be considered “industrial” were not included in the existing NPDES storm water program. The second general class of facilities (Group B) was identified on the basis of potential for activities and pollutants that could contribute to storm water contamination.

EPA estimates that Group A has approximately 100,000 facilities. Discharges from facilities in this group, which may be of high priority due to their similarity to regulated storm water discharges from industrial facilities, include, for example, auxiliary facilities or secondary activities (e.g., maintenance of construction equipment and vehicles, local trucking for an unregulated facility such as a grocery store) and facilities intentionally omitted from existing storm water regulations (e.g., publicly owned treatment works with a design flow of less than 1 million gallons per day, landfills that have not received industrial waste).

Group B consists of nearly one million facilities. EPA organized Group B sources into 18 sectors for the purposes of the Report. The automobile service sector (e.g., gas/service stations, general automobile repair, new and used car dealerships, car and truck rental) makes up more than one-third of the total number of facilities identified in all 18 sectors.

EPA conducted a geographical analysis of the industrial and commercial facilities in Groups A and ***68780** B. The geographical analysis shows that the majority are located in urbanized areas (see Section 4.2.2, Geographic Extent of Facilities, in the Report). In general, about 61 percent of Group A facilities and 56 percent of Group B facilities are located in urbanized areas. The analysis also showed that nearly twice as many industrial facilities are found in all urbanized areas as are found in large and medium municipalities alone. Notable exceptions to this generalization included lawn/garden establishments, small unregulated animal feedlots, wholesale livestock, farm and garden machinery repair, bulk petroleum wholesale, farm supplies, lumber and building materials, agricultural chemical dealers, and petroleum pipelines, which can frequently be located in smaller municipalities or rural areas.

In identifying potential categories of sources for designation in today's notice, EPA considered designation of discharges from Group A and Group B facilities. EPA applied three criteria to each potential category in both groups to determine the need for designation: (1) The likelihood for exposure of pollutant sources included in that category, (2) whether such sources were adequately addressed by other environmental programs, and (3) whether sufficient data were available at this time on which to make a determination of potential adverse water quality impacts for the category of sources. As discussed previously, EPA searched for applicable nationwide data on the water quality impacts of such categories of facilities.

By application of the first criterion, the likelihood for exposure, EPA considered the nature of potential pollutant sources in exposed portions of such sites. As precipitation contacts industrial materials or activities, the resultant runoff is likely to mobilize and become contaminated by pollutants. As the size of these exposed areas increases, EPA expects a proportional increase in the pollutant loadings leaving the site. If EPA concluded that a category of sources has a high potential for exposure of raw materials, intermediate products, final products, waste materials, byproducts, industrial machinery, or industrial activity to rainfall, the Agency rated that category of sources as having “high” potential for adverse water quality impact. EPA's application of the first criterion showed that a number of Group A and B sources have a high likelihood of exposure of pollutants.

Through application of the second criterion, EPA assessed the likelihood that pollutant sources are regulated in a comprehensive fashion under other environmental protection programs, such as programs under the Resource Conservation and Recovery Act (RCRA) or the Occupational Health and Safety Act (OSHA). If EPA concluded that the category of sources was sufficiently addressed under another program, the Agency rated that source category as having “low” potential for adverse water quality impact. Application of the second criterion showed that some categories were likely to be adequately addressed by other programs.

After application of the third criterion, availability of nationwide data on the various storm water discharge categories, EPA concluded that available data would not support any such nationwide designations. While such data could exist on a regional or local basis, EPA believes that permitting authorities should have flexibility to regulate only those categories of sources contributing to localized water quality impairments.

EPA received comments requesting designation of additional industrial, commercial and retail sources (e.g. industrial activity “look-alikes”, roads, commercial facilities and institutions, and vehicle maintenance facilities) in the final rule, because the commenters believe that the data exist to support national designation of some of these sources. Other comments were received opposing designation of any additional sources. Today's rule does not designate any additional industrial or commercial category of sources either because EPA currently lacks information indicating a consistent potential for adverse water quality impact or because of EPA's belief that the likelihood of adverse impacts on water quality is low, with some possible exceptions on a more local basis. Since the time the Agency submitted the Report, EPA has continued to seek additional data and has requested available data from the FACA members. If sufficient regional or nationwide data become available in the future, the permitting authority could at that time designate a category of sources or individual sources on a case-by-case basis. Therefore, today's rule encourages control of storm water discharges from Groups A and B through self-initiated, voluntary BMPs, unless the discharge (or category of discharges) is designated for permitting by the permitting authority. See discussion in section I.D., EPA's Reports to Congress.

3. ISTEA Sources

Provisions within the Intermodal Surface Transportation and Efficiency Act (ISTEA) of 1991 temporarily exempted storm water discharges associated with industrial activity that are owned or operated by municipalities serving populations less than 100,000 people (except for airports, power plants, and uncontrolled sanitary landfills) from the need to apply for or obtain a storm water discharge permit (section 1068(c) of ISTEA). Congress extended the NPDES permitting moratorium for these facilities to allow small municipalities additional time to comply with NPDES requirements for certain sources of industrial storm water. The August 7, 1995 storm water final rule ([60 FR 40230](#)) further extended this moratorium until August 7, 2001. However, today's rule changes this deadline so that previously exempted industrial facilities owned or operated by municipalities serving populations less than 100,000 people, must now submit an application for a permit within 3 years and 90 days from date of publication of today's rule.

EPA received comments recommending that permit requirements for municipally owned or operated industrial storm water discharges, including those previously exempt under ISTEA, be included in a single NPDES permit for all MS4 storm water discharges. The existing NPDES regulations already provide permitting authorities the ability to issue a single “combination” permit for MS4 discharges. However, if the permitting authorities chose to issue this type of permit, they must make sure that in doing so, they are not creating a double standard for industrial facilities covered under the combination permit versus those covered under separate general or individual permits. In order to avoid this double standard, combination permits would have to contain requirements that are the same or very similar to the requirements found in separate MS4 and industrial permits, i.e., the minimum measures and other necessary requirements of an MS4 permit, and the SWPPP, monitoring and reporting requirements, and other necessary requirements of an industrial permit. If such a combined MS4 general permit were issued, the regulations require that each discharger submit NOIs for their respective discharges, except for discharges from small construction activities. Flexibility exists in developing a combination NOI which could reduce the need to submit duplicative information, e.g. owner/operator name and address. The combination NOI would still need to require specific information for each separate municipally owned or operated industrial location, including ***68781** construction projects disturbing 5 or more acres. The regulations at [§122.28\(b\)\(2\)\(ii\)](#) list the necessary contents of an NOI, which require: the facility name, facility address, type of facility or discharge and receiving stream for each industrial discharge location. When viewed in its entirety, a combination permit, which by necessity would need to contain all elements of otherwise separate industrial and MS4 permit requirements, and require NOI information for each separate industrial activity, may have few advantages when compared to obtaining separate MS4 and industrial general permit coverage.

In order to allow the permitting authority to issue a single storm water permit for the MS4 and all municipally owned or operated industrial facilities, including those previously exempt under ISTEA, today's rule requires applications for ISTEA sources within 3 yrs and 90 days from date of publication of today's rule. The permitting authority has the ultimate decision to determine whether or not a single all-encompassing MS4 permit is appropriate.

4. Residual Designation Authority

The NPDES permitting authority's existing designation authority, as well as the petition provisions are being retained. Today's rule contains two provisions related to designation authority at §§122.26(a)(9)(i)(C) and (D). Subsection (C) adds designation authority where storm water controls are needed for the discharge based upon wasteload allocations that are part of TMDLs that address the pollutant(s) of concern. EPA intends that the NPDES permitting authority have discretion in the matter of designations based on TMDLs under subsection (C). Subsection (D) carries forward residual designation authority under former §122.26(g), and has been modified to provide clarification on categorical designation. Under today's rule, EPA and authorized States continue to exercise the authority to designate remaining unregulated discharges composed entirely of storm water for regulation on a case-by-case basis (including §123.35). Individual sources are subject to regulation if EPA or the State, as the case may be, determines that the storm water discharge from the source contributes to a violation of a water quality standard or is a significant contributor of pollutants to waters of the United States. This standard is based on the text of section CWA 402(p). In today's rule, EPA believes, as Congress did in drafting section CWA 402(p)(2)(E), that individual instances of storm water discharge might warrant special regulatory attention, but do not fall neatly into a discrete, predetermined category. Today's rule preserves the regulatory authority to subsequently address a source (or category of sources) of storm water discharges of concern on a localized or regional basis. For example, as States and EPA implement TMDLs, permitting authorities may need to designate some point source discharges of storm water on a categorical basis either locally or regionally in order to assure progress toward compliance with water quality standards in the watershed.

EPA received comments asking that §122.26(a)(9)(i)(D) as proposed be modified to include specific language clarifying the permitting authority's ability to designate additional sources on a categorical basis as explained in the preamble to the proposed rule. One comment requested that the designation language include “categories of sources on a Statewide basis.” EPA agrees that the intent of the language may not have been clear regarding categorical designation. Today's rule modifies subsection (D) to clarify that the designation authority can be applied within different geographic areas to any single discharge (i.e., a specific facility), or category of discharges that are contributing to a violation of a water quality standard or are significant contributors of pollutants to waters of the United States. The added term “within a geographic area” allows “State-wide” or “watershed-wide” designation within the meaning of the terms.

One commenter questioned the Agency's legal authority to provide for such residual designation authority. The stakeholder argued that the lapse of the October 1, 1994, permitting moratorium under CWA section 402(p)(1) eliminated the significance of the CWA section 402(p)(2) exceptions to the moratorium, including the exception for discharges of storm water determined to be contributing to a violation of a water quality standard or a significant contributor of pollutants under CWA section 402(p)(2)(E). The stakeholder further argued that EPA's authority to designate sources for regulation under CWA section 402(p)(6) is limited to storm water discharges other than those described under CWA section 402(p)(2). Because CWA section 402(p)(2)(E) describes individually designated discharges, the stakeholder concluded that regulations under CWA section 402(p)(6) cannot provide for post-promulgation designation of individual sources. EPA disagrees.

First, as explained previously, EPA anticipates that NPDES permitting authorities may yet determine that individual unregulated point sources of storm water discharges require regulation on a case-by-case basis. This conclusion is consistent with the Congress' recognition of the potential need for such designation under the first phase of storm water regulation as described in CWA section 402(p)(2)(E). Under CWA section 402(p)(2)(E), Congress recognized the need for both EPA and the State to retain authority to regulate unregulated point sources of storm water under the NPDES permit program. Second, to the extent that CWA section 402(p)(6) requires designation of a “category” of sources,

the permitting authority may designate such (as yet unidentified) sources as a category that should be regulated to protect water quality. Though such sources may exist and discharge today, if neither EPA nor the State/Tribal NPDES permitting authority has designated the source for regulation under CWA section 402(p)(2)(E) to date, then CWA section 402(p)(6) provides the authority to designate such sources.

The Agency can designate a category of “not yet identified” sources to be regulated, based on local concerns, even if data do not exist to support nationwide regulation of such sources. EPA does not interpret the language in CWA section 402(p) to preclude States from exercising designation authority under these provisions because such designation (and subsequent regulation of designated sources) is within the “scope” of the NPDES program.

EPA also believes that sources regulated pursuant to a State designation are part of (and regulated under) a federally approved State NPDES program, and thus subject to enforcement under CWA sections 309 and 505. Under existing NPDES State program regulations, State programs that are “greater in scope of coverage” are not part of the federally-approved program. By contrast, any such State regulation of sources in this “reserved category” will be within the scope of the federal program because today's rule recognizes the need for such post promulgation designations of unregulated point sources of storm water. Such regulation will be “more stringent” than the federal program rather than “greater in scope of coverage” (40 CFR 123.1(h)).

EPA does not interpret the congressional direction in CWA section 402(p)(6) to preclude regulation of point sources of storm water that should be regulated to protect water quality. Under CWA section 510, Congress expressly recognized and preserved the authority of States to adopt and enforce *68782 more stringent regulation of point sources, as well as any requirement respecting the control or abatement of pollution. Section 510 applies, “except as expressly provided” in the CWA. CWA section 502(14) does expressly provide affirmative limitations on the regulation of certain pollutant sources through the point source control program, the NPDES permitting program. Section 502(14) excludes agricultural storm water and return flows from irrigated agriculture from the definition of point source, and section 402(l) limits applicability of the section 402 permit program for return flows from irrigated agriculture, as well as for storm water runoff from certain oil, gas, and mining operations. Unlike sections 502(14) and 402(l), EPA does not interpret CWA section 402(p)(6) as an express provision limiting the authority to designate point sources of storm water for regulation on a case-by-case basis after the promulgation of final regulations. Any source of storm water discharge is encouraged to assess its potential for storm water contamination and take preventive measures against contamination. Such proactive actions could result in the avoidance of future regulation.

One comment was received requesting clarification of the term “non-municipal” in §122.26(a)(9)(ii). The commenter is concerned that the term “non-municipal,” in this context, implies that municipally owned or operated facilities cannot be designated. The term “non-municipal” in this context refers to the universe of unregulated industrial and commercial facilities that could potentially be designated according to §122.26(a)(9)(i) authority. There is no exemption for municipally owned or operated facilities under these designation provisions.

Finally, EPA received comments and evaluated the proposal under which operators of regulated small, medium, and large MS4s would be responsible for controlling discharges from industrial and other facilities into their systems in lieu of requiring NPDES permit coverage for such facilities. EPA did not adopt this framework due to concerns with administrative and technical burden on the MS4 operators, as well as concerns about such an intergovernmental mandate.

J. Conditional Exclusion for “No Exposure” of Industrial Activities and Materials to Storm Water

1. Background

In 1992, the Ninth Circuit court remanded to EPA for further rulemaking, a portion of the definition of “storm water discharge associated with industrial activity” that excluded the category of industrial activity identified as “light industry”

when industrial materials and/or activities were not exposed to storm water. See [NRDC v. EPA, 966 F.2d 1292, 1305 \(9th Cir. 1992\)](#). Today's final rule responds to that remand. In the 1990 storm water regulations, EPA excluded the light industry category from the requirement for an NPDES permit if the industrial materials and/or activities were not "exposed" to storm water (see [§122.26\(b\)\(14\)](#)). The Agency had reasoned that most of the activity at these types of facilities takes place indoors and that emissions from stacks, use of unhooded manufacturing equipment, outside material storage or disposal, and generation of large amounts of dust or particles would be atypical (55 FR 48008, November 16, 1990).

The Ninth Circuit determined that the exemption was arbitrary and capricious for two reasons. First, the court found that EPA had not established a record to support its assumption that light industry that was not exposed to storm water was not "associated with industrial activity," particularly when other types of industrial activity not exposed to storm water remained "associated with industrial activity." The court specifically found that "[t]o exempt these industries from the normal permitting process based on an unsubstantiated assumption about this group of facilities is arbitrary and capricious." Second, the court concluded that the exemption impermissibly "altered the statutory scheme" for permitting because the exemption relied on the unverified judgment of the light industrial facility operator to determine non-applicability of the permit application requirements. In other words, the court was critical that the operator would determine for itself that there was "no exposure" and then simply not apply for a permit without any further action. Without a basis for ensuring the effective operation of the permitting scheme—either that facilities would self-report actual exposure or that EPA would be required to inspect and monitor such facilities—the court vacated and remanded the rule to EPA for further rulemaking.

One of the major concerns expressed by the FACA Committee, was that EPA streamline and reinvent certain troublesome or problematic aspects of the existing permitting program for storm water discharges. One area identified was the mandatory applicability of the permitting program to all industrial facilities, even those "light industrial" activities that are of very low risk or of no risk to storm water contamination. Such dischargers may not have any industrial sources of storm water contamination on the plant site, yet they are still required to apply for an NPDES storm water permit and meet all permitting requirements. Examples of such facilities are a soap manufacturing plant (SIC Code 28) or hazardous waste treatment and disposal facility, where all industrial activities, even loading docks, are inside a building or under a roof.

Although they did not provide a written report, the FACA Committee members advised EPA that the existing storm water program should be revised to allow such facilities to seek an exclusion from the NPDES storm water permitting requirements. The Committee agreed that such an exclusion should also provide a strong incentive for other industrial facilities that conduct industrial activities outdoors to move the activities under cover or into buildings to prevent contamination of rainfall and storm water runoff. The committee believed that such a "no exposure" permit exclusion could be a valuable incentive for storm water pollution prevention.

In today's final rule, the Agency responds to both of the bases for the court's remand. The exclusion from permitting based on "no exposure" applies to all industrial categories listed in the existing storm water regulations except construction. The court's opinion rejected EPA's distinction between light industry and other industry, but it did not preclude an interpretation that treats all "non-exposed" industrial facilities in the same fashion. Presuming that an industrial facility adequately prevents exposure of industrial materials and activities to storm water, today's rule treats discharges from "non-exposed" industrial facilities in a manner similar to the way Congress intended for discharges from administrative buildings and parking lots. Specifically, permits will not be required for storm water discharges from these facilities on a categorical basis.

To assure that discharges from industrial facilities really are similar to discharges from administrative buildings and parking lots, and to respond to the second basis for the court's remand, the permitting exclusion is "conditional". The person responsible for a point source discharge from a "no exposure" industrial source must meet the conditions of

the exclusion, and complete, sign and submit the certification to the permitting authority for tracking and *68783 accountability purposes. EPA believes today's rule, therefore, is fully consistent with the direction provided by the court.

EPA relied upon the “no exposure” concept discussed by the FACA Committee in developing the “no exposure” provisions of today's rule. EPA is deleting the sentence regarding “no exposure” for the facilities in §122.26(b)(14)(xi) and adding a new §122.26(g) titled “Conditional Exclusion for No Exposure of Industrial Activities to Storm Water.” The “no exposure” provision will make storm water discharges from all classes of industrial facilities eligible for exclusion, except storm water discharges from regulated construction activities. Regulated construction activities cannot claim “no exposure” because the main pollutants of concern (e.g., sediment) generally cannot entirely be sheltered from storm water.

Today's rule represents a significant expansion in the scope of the “no exposure” provision originally promulgated in the 1990 rule, which was only for storm water discharges from light industry. The intent of today's “no exposure” provision is to provide a simplified method for complying with the CWA to all industrial facilities that are entirely indoors. This includes facilities that are located within a large office building, or at which the only items permanently exposed to precipitation are roofs, parking lots, vegetated areas, and other non-industrial areas or activities.

EPA received several comments related to storm water runoff from parking lots, roof tops, lawns, and other non-industrial areas of an industrial facility. Storm water discharges from these areas, which may contain pollutants or which may result in additional storm water flows, are not directly regulated under the existing storm water permitting program because they are not “storm water discharges associated with industrial activity”. Many comments on this issue supported maintaining the exclusion from the existing regulations for storm water permitting for discharges from administrative buildings, parking lots, and other non-industrial areas. Other comments opposed allowing the continued exclusion for discharges from non-industrial areas of the site because discharges from these areas are potentially a significant cause of receiving water impairment. These comments urged that such discharges should not be excluded from NPDES permit coverage. Today's rule does not require permit coverage for discharges from a facility's exposed areas that are separate from industrial activities such as runoff from office buildings and accompanying parking lots, lawns and other non-industrial areas. This approach is consistent with the existing storm water rules which were based on Congress's intent to exclude non-industrial areas such as “parking lots and administrative and employee buildings.” 133 Cong. Rec. 985 (1987). EPA also lacks data indicating that discharges from these areas at an industrial facility cause significant receiving water impairments. Therefore, the non-industrial areas at a facility do not need to be assessed as part of the “no exposure” certification.

EPA received comments related to industrial facilities that achieve “no exposure” by constructing large amounts of impervious surfaces, such as roofs, where previously there were pervious or porous surfaces into which storm water could infiltrate. Some commenters made the point that large amounts of impervious area may cause a significant increase in storm water volume flowing off the industrial facility, and thus may cause adverse receiving water impacts simply due to the increased quantity of storm water flow. Some commenters said that storm water discharges from impervious areas at an industrial facility are generally more frequent, and often larger, than discharges from the pre-existing natural surfaces. They believe that these discharges will contain pollutants typical of commercial areas and roads and are an equal threat to direct human uses of the water and can cause equal damage to aquatic life and its habitat. Other commenters believe that if Congress or EPA addresses the issue of flow, it should be addressed on a broader scale than merely through the “no exposure” exclusion, and that EPA has no authority under any existing legal framework to regulate flow directly. Some commenters stated that developing federal parameters for the control of water quantity, i.e. flow, would result in federal intrusion into land use planning, an authority that they claim is solely within the purview of State governments and their political subdivisions.

EPA is not attempting to regulate flow via the “no exposure” provisions. EPA does agree, however, that increases in impervious surfaces can result in increased runoff volumes from the site which in turn may increase pollutant loading. In

addition, the Agency notes that in some States water quality standards include water quality criteria for flow or turbidity. Therefore, in order to provide a minimal amount of information on possible impacts from increased pollutant loading and runoff volume, EPA's "no exposure" certification form (see Appendix 4) asks the discharger to indicate if they have paved or roofed over a formerly exposed, pervious area in order to qualify for the "no exposure" exclusion. If the answer is yes, the discharger must indicate, by choosing from three possible responses, approximately how much impervious area was created to achieve "no exposure". The choices are: (1) less than 1 acre, (2) 1 to 5 acres, and (3) more than 5 acres. This requirement provides additional information that will aid in determining if discharges from the facility are causing adverse receiving water impacts. EPA intends to prevent water quality impacts resulting from increased discharges of pollutants, which may result from increased volume of runoff. In many cases, consideration of the increased flow rate, velocity and energy of storm water discharges, following construction of large amounts of impervious surfaces, must be taken into consideration in order to reduce the discharge of pollutants, to meet water quality standards and to prevent degradation of receiving streams. EPA recommends that dischargers consider these factors when making modifications to their site in order to qualify for the "no exposure" exclusion.

2. Today's Rule

In order to claim relief under the "no exposure" provision, the discharger of an otherwise regulated facility must submit a no exposure certification that incorporates the questions of §122.26(g)(4)(iii) to the NPDES permitting authority once every 5 years. This provision applies across all categories of industrial activity covered by the existing program, except discharges from construction activities.

In addition to submitting a "no exposure" certification every 5 years, the facility must allow the NPDES permitting authority or operator of an MS4 (where there is a storm water discharge to the MS4) to inspect the facility and to make such inspection reports publicly available upon request. Also, upon request, the facility must submit a copy of the "no exposure" certification to the operator of the MS4 into which the facility discharges (if applicable). All "no exposure" certifications must be signed in accordance with the signatory requirements of §122.22. The "no exposure" certification is non-transferable. In the event that the facility operator changes, the new discharger must submit a new "no exposure" certification. *68784

Members of the FACA Committee urged that EPA not allow dischargers certifying "no exposure" to take actions to qualify for this provision that result in a net environmental detriment. In developing a regulatory implementation mechanism, however, EPA found that the phrase "no net environmental detriment," was too imprecise to use within this context. Therefore, today's rule addresses this issue by requiring information that should help the permitting authority to determine whether actions taken to qualify for the exclusion interfere with the attainment or maintenance of water quality standards, including designated uses. Permitting authorities will be able, where necessary, to make a determination by evaluating the activities that changed at the industrial site to achieve "no exposure", and assess whether these changes cause an adverse impact on, or have the reasonable potential to cause an instream excursion of, water quality standards, including designated uses. EPA anticipates that many efforts to achieve "no exposure" will employ simple good housekeeping and contaminant cleanup activities. Other efforts may involve moving materials and industrial activities indoors into existing buildings or structures.

In very limited cases, industrial operators may make major changes at a site to achieve "no exposure". These efforts may include constructing a new building or cover to eliminate exposure or constructing structures to prevent run-on and storm water contact with industrial materials or activities. Where major changes to achieve "no exposure" increase the impervious area of the site, the facility operator must provide this information on the "no exposure" certification form as discussed above. Using this and other available data and information, permitting authorities should be able to assess whether any major change has resulted in increased pollutant concentrations or loadings, toxicity of the storm water runoff, or a change in natural hydrological patterns that would interfere with the attainment and maintenance of water quality standards, including designated uses or appropriate narrative, chemical, biological, or habitat criteria where such State or Tribal water quality standards exist. In these instances, the facility operator and their NPDES permitting

authority should take appropriate actions to ensure that attainment or maintenance of water quality standards can be achieved. The NPDES permitting authority should decide if the facility must obtain coverage under an individual or general permit to ensure that appropriate actions are taken to address adverse water quality impacts.

While the intent of today's "no exposure" provision is to reduce the regulatory burdens on industrial facilities and government agencies, the FACA Committee suggested that the NPDES permitting authority consider a compliance assessment program to ensure that facilities that have availed themselves of this "no exposure" option meet the applicable requirements. Inspections could be conducted at the discretion of the NPDES authority and be coordinated with other facility inspections. EPA expects, however, that the permitting authority will conduct inspections when it becomes aware of potential water quality impacts possibly caused by the facility's storm water discharges or when requested to do so by adversely affected members of the public. The intent of this provision is that the 5 year "no exposure" certification be fully available to, and enforceable by, appropriate federal and State authorities under the CWA. Private citizens can enforce against facilities for discharges of storm water that are inconsistent with a "no exposure" certification if storm water discharges from such facilities are not otherwise permitted and in compliance with applicable requirements.

EPA received comments from owners, operators and representatives of Phase I facilities classified as "light industry" as defined by the regulations at [§ 122.26\(b\)\(14\)\(xi\)](#). The comments recommended maintaining the approach of the existing regulations which does not require the discharger to submit any supporting documentation to the permitting authority in order to claim the "no exposure" exclusion from permitting. As discussed previously, the "no exposure" concept was developed in response to the Ninth Circuit court's remand of part of the existing rules back to EPA. The court found that EPA cannot rely on the "unverified judgment" of the facility. The comments opposing documentation did not address the "unverified judgment" concern.

Today's rule is a "conditional" exclusion from permitting which requires all categories, including the "light industrial" facilities that have no exposure of materials to storm water, to submit a certification to the permitting authority. Upon receipt of a complete certification, the permitting authority can review the information, or call, or inspect the facility if there are doubts about the facility's "no exposure" claim. Also, if the facility discharges into an MS4, the operator of the MS4 can request a copy of the certification, and can inspect the facility. The public can request a copy of the certification and/or inspection reports. In adopting these conditional "no exposure" provisions, the Agency addressed the Ninth Circuit court's ruling regarding the discharger's unverified judgment.

EPA received one comment requesting clarification on whether the anti-backsliding provisions in the regulations at [§122.44\(l\)](#) apply to industrial facilities that are currently covered under an NPDES storm water permit, and whether such facilities could qualify for the "no exposure" exclusion under today's rule. The anti-backsliding provisions will not prevent most industrial facilities that can certify "no exposure" under today's rule from qualifying for an exclusion from permitting. The anti-backsliding provisions contain 5 exceptions that allow permits to be renewed, reissued or modified with less stringent conditions. One exception at [§122.44\(l\)\(2\)\(A\)](#) allows less stringent conditions if "material and substantial alterations or additions to the permitted facility occurred after permit issuance which justify the application of a less stringent effluent limitation." [Section 122.44\(l\)\(B\)\(1\)](#) also allows less stringent requirements if "information is available which was not available at the time of permit issuance and which would have justified the application of less stringent effluent limitations at the time of permit issuance." Facility's operators who certify "no exposure" and submit the required information once every 5 years will have provided the permitting authority "information that was not available at the time of permit issuance." Also, some facilities may, in order to achieve "no exposure", make "material and substantial alterations or additions to the permitted facility." Therefore, most facilities covered under existing NPDES general permits for storm water (e.g., EPA's Multi-Sector General Permit) will be eligible for the conditional "no exposure" exclusion from permitting without concern about the anti-backsliding provisions. Such dischargers will have met one or both of the anti-backsliding exceptions detailed above. Facilities that are covered under individual permits containing numeric limitations for storm water should consult with their permitting authority to determine whether the

anti-backsliding provisions will prevent them from qualifying for the exclusion from permitting (for that discharge point) based on a certification of “no exposure”.

***68785** EPA received several comments regarding the timing of when the “no exposure” certification should be submitted. The proposed rule said that the “no exposure” certification notice must be submitted “at the beginning of each permit term or prior to commencing discharges during a permit term.” Some commenters interpreted this statement to mean that existing facilities can only submit the certification at the time a permit is being issued or renewed. EPA intended the phrase “at the beginning of each permit term” to mean “once every 5 years” and today's rule reflects this clarification. EPA envisions that the NPDES storm water program will be implemented primarily through general permits which are issued for a 5 year term. Likewise the “no exposure” certification term is 5 years. The NPDES permitting authority will maintain a simple registration list that should impose only a minor administrative burden on the permitting authority. The registration list will allow for tracking of industrial facilities claiming the exclusion. This change allows a facility to submit a “no exposure” certification at any time during the term of the permit, provided that a new certification is submitted every 5 years from the time it is first submitted (assuming that the facility maintains a “no exposure” status). Once a discharger has established that the facility meets the definition of “no exposure”, and submits the necessary “no exposure” certification, the discharger must maintain their “no exposure” status. Failure to maintain “no exposure” at their facility could result in the unauthorized discharge of pollutants to waters of the United States and enforcement for violation of the CWA. Where a discharger believes that exposure could occur in the future due to some anticipated change at the facility, the discharger should submit an application and obtain coverage under an NPDES permit prior to such discharge to avoid penalties.

Where EPA is the permitting authority, dischargers may submit a “no exposure” certification at any time after the effective date of today's rule. Where EPA is not the permitting authority, dischargers may not be able to submit the certification until the non-federal permitting authority completes any necessary statutory or regulatory changes to adopt this “no exposure” provision. EPA recommends that the discharger contact the permitting authority for guidance on when the “no exposure” certification should be submitted.

EPA received comments on the proposed rule requirement that the discharger “must comply immediately with all the requirements of the storm water program including applying for and obtaining coverage under an NPDES permit,” if changes occur at the facility which cause exposure of industrial activities or materials to storm water. The comments expressed the difficulty of immediate compliance. EPA expects that most facility changes can be anticipated, therefore dischargers should apply for and obtain NPDES permit coverage in advance of changes that result in exposure to industrial activities or materials. Permitting authorities may grant additional time, on a case-by-case basis, for preparation and implementation of a storm water pollution prevention plan.

Finally, today's rule at [§122.26\(g\)\(4\)](#) includes the information which must be included on the “no exposure” certification. Authorized States, Tribes or U.S. Territories may develop their own form which includes this required information, at a minimum. EPA adopted the requirements (with modification) from the draft “No Exposure Certification Form” published as an appendix to the proposed rule. Modifications were made to the draft form to address comments received and to streamline the required information. EPA included these certification requirements in today's rule in order to preserve its integrity. Dischargers in areas where EPA is the permitting authority should use the “No Exposure Certification” form included in Appendix 4.

3. Definition of “No Exposure”

For purposes of this section, “no exposure” means that all industrial materials or activities are protected by a storm resistant shelter to prevent exposure to rain, snow, snowmelt, and/or runoff. Industrial materials or activities include, but are not limited to, material handling equipment or activities, industrial machinery, raw materials, intermediate products, by-products, final products, or waste products. Material handling activities include the storage, loading and unloading, transportation, or conveyance of any raw material, intermediate product, final product or waste product. However,

storm resistant shelter is not required for: (1) Drums, barrels, tanks, and similar containers that are tightly sealed, provided those containers are not deteriorated and do not leak; (2) adequately maintained vehicles used in material handling; and (3) final products, other than products that would be mobilized in storm water discharge (e.g., rock salt). Each of these three exceptions to the no exposure definition are discussed in more detail below.

EPA intends the term “storm resistant shelter” to include completely roofed and walled buildings or structures, as well as structures with only a top cover but no side coverings, provided material under the structure is not otherwise subject to any run-on and subsequent runoff of storm water. While the Agency intends that this provision promote permanent “no exposure”, EPA understands that certain vehicles could pass between buildings and, during passage, be exposed to rain and snow. Adequately maintained vehicles such as trucks, automobiles, forklifts, or other such general purpose vehicles at the industrial site that are not industrial machinery, and that are not leaking contaminants or are not otherwise a source of industrial pollutants, could be exposed to precipitation or runoff. Such activities alone does not prevent a discharger from being able to certify no exposure under this provision. Similarly, trucks or other vehicles awaiting maintenance at vehicle maintenance facilities, as defined at §122.26(b)(14)(viii), that are not leaking contaminants or are not otherwise a source of industrial pollutants, are not considered exposed.

In addition, EPA recognizes that there are circumstances where permanent “no exposure” of industrial activities or materials is not possible. Under such conditions, materials and activities may be sheltered with temporary covers, such as tarps, between periods of permanent enclosure. The final rule does not specify every such situation. EPA intends that permitting authorities will address this issue on a case-by-case basis. Permitting authorities can determine the circumstances under which temporary structures will or will not meet the requirements of this section. Until permitting authorities specifically determine otherwise, EPA recommends application of the “no exposure” exclusion for temporary sheltering of industrial materials or activities only during facility renovation or construction, provided that the temporary shelter achieves the intent of this section. Moreover, “exposure” that results from a leak in protective covering would only be considered “exposure” if not corrected prior to the next storm water discharge event. EPA received one comment requesting that this allowance for temporary shelter be limited to facility renovation or construction directly related to the industrial activity requiring temporary shelter, and be scheduled to minimize the use of temporary shelter. Another comment suggested placing time limits ***68786** on the use of temporary shelter. The commenter did not recommend a specific time period, rather the comment said that renovation in some instances may take years, and that EPA should not allow temporary shelter over prolonged periods. EPA agrees that the use of temporary shelter must be related to the renovation or construction at the site, and be scheduled or designed to minimize the use of temporary shelter. Further, EPA agrees that the use of temporary shelter should be limited in duration, but does not intend to define “temporary” or “prolonged period”.

Many final products are intended for outdoor use and pose little risk of storm water contamination, such as new cars. Therefore, final products, except those that can be mobilized in storm water discharge, can be “exposed” and still allow the discharge to certify “no exposure”. EPA intends the term “final products” to mean those products that are not used in producing another product. Any product that can be used to make another product is considered an “intermediate product.” For example, a facility that makes horse trailers can store the finished trailers outdoors as a final product. The storage of those final products does not prevent eligibility to claim “no exposure”. However, any facility that makes parts for the horse trailers (e.g., metal tubing, sheet metal, paint) is not eligible for the “no exposure” exclusion from permitting if those “intermediate products” are stored outdoors (i.e., “exposed”).

EPA received comments related to materials in drums, barrels, tanks and similar containers. Some comments objected to the language in the preamble to the proposed rule that would have recommended that the “exposure” determination for drums and barrels be based on the “potential to leak.” Those comments said that all drums and barrels have the potential to leak, thereby making certification impossible. They recommended allowing outdoor storage of drums and barrels except for those that “are leaking” at the time of certification. Other comments suggested allowing drums and barrels to be stored outside only if the drums and barrels: are empty; have secondary containment; or there is a spill

contingency plan in place. Opposing comments suggested that allowing outdoor exposure of drums and barrels, based on existing integrity and condition, is inconsistent with the “however packaged” proposed rule language, and also would not satisfy the Ninth Circuit remand. The comments point out that the former rule was invalidated by the court in part because it relied on the “unverified judgment” of the light industrial facility operator to determine the non-applicability of the permit requirements, and that allowing the facility operator to determine the condition of their drums and barrels would result in the same flaw.

In response, EPA believes that drums and barrels that are stored outdoors pose little risk of storm water contamination unless they are open, deteriorated or leaking. The Agency has modified today's rule accordingly. EPA intends the term “open” to mean any container that is not tightly sealed and “sealed” to mean banded or otherwise secured and without operational taps or valves. Drums, barrels, tanks, and similar containers may only be stored outdoors under this conditional exclusion. The addition of material to or withdrawing of material from these containers while outside is deemed “exposure”. Moving the containers while outside does not create “exposure” provided that the containers are not open, deteriorated or leaking. In order to complete the “no exposure” certification, a facility operator must inspect all drums, barrels, tanks or other containers stored outside to ensure that they are not open, deteriorated, or leaking. EPA recommends that the discharger designate someone at the facility to conduct frequent inspections to verify that the drums, barrels, tanks or other containers remain in a condition such that they are not open, deteriorated or leaking. Drums, barrels, tanks or other containers stored outside that have valves which are used to put material in or take material out of the container, and that have dripped or may drip, are considered to be “leaking” and must be under a storm resistant shelter in order to qualify for the no exposure exclusion. Likewise, leaking pipes containing contaminants exposed to storm water are deemed “exposed.” If at any time drums, barrels, tanks or similar containers are opened, deteriorated or leaking, the discharger should take immediate actions to close or replace the container. Any resulting unpermitted discharge would violate the CWA. The Director, the operator of the MS4, or the municipality may inspect the facility to verify that all of the applicable areas meet the “no exposure” conditions as specified in the rule language. In requiring submission of the conditional “no exposure” certification and allowing the permitting authority and the operator of the MS4 to inspect the facility, today's rule does not rely on the unverified judgment of the facility to determine that the no exposure provision is being met.

EPA received several comments related to trash dumpsters that are located outside. The preamble to the proposed rule listed dumpsters in the same grouping as drums and barrels, which based exposure on the “potential to leak”. Today's rule distinguishes between dumpsters and drums/barrels. In the Phase I Question and Answer document (volume 1, question 52) the Agency noted that a covered dumpster containing waste material that is kept outside is not considered “exposed” as long as “the container is completely covered and nothing can drain out holes in the bottom, or is lost in loading onto a garbage truck.” EPA affirms this approach today. Industrial refuse and industrial trash that is left uncovered is deemed “exposed.”

For purposes of this provision, particulate matter emissions from roof stacks/vents that are regulated and in compliance under other environmental protection programs, such as air quality control programs, and that do not cause storm water contamination, are considered “not exposed.” EPA received comments on the phrase in the draft “no exposure” certification form that asked whether “particulate emissions from roof stacks/vents not otherwise regulated, and in quantities detectable in the storm water outflow,” are exposed to precipitation. One comment expressed concern that the phrase “in quantities detectable in the storm water outflow” implies that the facility must conduct monitoring prior to completing the checklist, and must continue to monitor after receiving the no exposure exclusion, in order to be able to verify compliance with the no exposure provision. Another comment said that current measurement technology allows detection of pollutants at levels that may not cause environmental harm. EPA does not intend to require monitoring of runoff from facilities with roof stacks/vents prior to or after completing and submitting the no exposure certification. EPA has thus replaced the phrase “in quantities detectable” with “evident” to convey the message that emissions from some roof stacks/vents have the potential to contaminate storm water discharges in quantities that are considered significant or that cause or contribute to a water quality standards violation. In those instances where the permitting

authority determines that particulate emissions from facility roof stacks/vents are a significant contributor of pollutants or contributing to water quality violations, the permitting authority may require the discharger to apply for and obtain coverage under a *68787 permit. Visible deposits of residuals (e.g., particulate matter) near roof or side vents are considered “exposed”. Likewise, visible “track out” (i.e., pollutants carried on the tires of vehicles) or windblown raw materials are deemed “exposed.”

EPA received a comment requesting an allowance under the “no exposure” provision for industrial facilities with several outfalls at a site where some, but not all of the outfalls drain non-exposed areas. The commenter provided an example of an industrial facility that has 5 outfalls draining different areas of the site, where two of those outfalls drain areas where industrial activities or materials are not exposed to storm water. The comment requested that the facility in this example be allowed to submit a “no exposure” certification in order to be relieved of permitting obligations for discharges from those two outfalls.

EPA agrees, but the comment would be implemented on an outfall-by-outfall basis in the permitting process, not through the “no exposure” exclusion. The “no exposure” provision was developed to allow exclusion from permitting of discharges from entire industrial facilities (except construction), based on a claim of “no exposure” for all areas of the facility where industrial materials or activities occur. Where exposure to industrial materials or activities exist at some but not all areas of the facility, the “no exposure” exclusion from permitting is not allowed because permit coverage is still required for storm water discharges from the exposed areas. Relief from permit requirements for outfalls draining non-exposed areas should be addressed through the permit process, in coordination with the permitting authority. Most NPDES general permits for storm water discharge provide enough flexibility to allow minimal or no requirements for non-exposed areas at industrial facilities. If the permitting authority determines that additional flexibility is needed for this scenario, the permits could be modified as necessary.

K. Public Involvement/Public Role

The Phase II FACA Subcommittee discussed the appropriate role of the public in successful implementation of a municipal storm water program. EPA believes that an educated and actively involved public is essential to a successful municipal storm water program. An educated public increases program compliance from residents and businesses as they realize their individual and collective responsibility for protecting water resources (e.g., the residents and businesses could be subject to a local ordinance that prohibits dumping used oil down storm sewers). Finally, the program is also more likely to receive public support and participation when the public is actively involved from the program's inception and allowed to participate in the decision making process.

In a time of limited staff and financial resources, public volunteers offer diverse backgrounds and expertise that may be used to plan, develop, and implement a program that is tailored to local needs (e.g., participate in public meetings and other opportunities for input, perform lawful volunteer monitoring, assist in program coordination with other preexisting and related programs, aid in the development and distribution of educational materials, and provide public training activities). The public's participation is also useful in the areas of information dissemination/education and reporting of violators, where large numbers of community members can be more effective than a few regulators.

The public can also petition the NPDES permitting authority to require an NPDES permit for a discharge composed entirely of storm water that contributes to a violation of a water quality standard or is a significant contributor of pollutants to waters of the United States. In evaluating such a petition, the NPDES permitting authority is encouraged to consider the set of designation criteria developed for the evaluation of small MS4s located outside of an urbanized area in places with a population of at least 10,000 and a population density of 1,000 or more. Furthermore, any person can protect water bodies by taking civil action under section 505 of the CWA against any person who is alleged to be in violation of an effluent standard or permit condition. If civil action is taken, EPA encourages citizen plaintiffs to resolve any disagreements or concerns directly with the parties involved, either informally or through any available alternative dispute resolution process.

EPA recognizes that public involvement and participation pose challenges. It requires a substantial initial investment of staff and financial resources, which could be very limited. Even with this investment, the public might not be interested in participating. In addition, public participation could slow down the decision making process. However, the benefits are numerous.

EPA encourages members of the public to contact the NPDES permitting authority or local MS4s operator for information on the municipal storm water program and ways to participate. Such information may also be available from local environmental, nonprofit and industry groups.

Some commenters stressed the need to suggest to the public that they have a responsibility to fund the municipal storm water program. While EPA believes it is important that the program be adequately funded, today's rule does not address appropriate mechanisms or levels for such funding.

EPA received comments expressing concern that considerable public involvement requirements could result in increased litigation. EPA is not convinced there is a correlation between meaningful public education programs and any increased probability of litigation.

Finally, EPA received comments stating that the Agency should not encourage volunteer monitoring unless proper procedures are followed. EPA agrees. EPA encourages only lawful monitoring, i.e., obtaining the necessary approval if there is any question about lawful access to sites. Moreover, as a matter of good practice and to enhance the validity and usefulness of the results, any party, public or private, conducting water quality monitoring is encouraged to use appropriate quality control procedures and approved sampling and analytic methods.

L. Water Quality Issues

1. Water Quality Based Effluent Limits

In addition to technology based requirements, all point source discharges of industrial storm water are subject to more stringent NPDES permitting requirements when necessary to meet water quality standards. CWA sections 402(p)(3)(A) and 301(b)(1)(C). For municipal separate storm sewers, EPA or the State may determine that other permit provisions (e.g. one of the minimum measures) are appropriate to protect water quality and, for discharges to impaired waters, to achieve reasonable further progress toward attainment of water quality standards pending implementation of a TMDL. CWA section 402(p)(3)(B)(iii). See *Defenders of Wildlife, et al. Browner*, No. 98-71080 (9th cir., August 11, 1999). Discharges of storm water also must comply with applicable antidegradation policies and implementation methods to maintain and protect water quality. [40 CFR 131.12](#). Section 122.34(a) emphasizes this point by specifically noting that a storm water management program designed to reduce the discharge of pollutants from the storm sewer system “to the maximum extent practicable” is also designed to protect water quality. ***68788** Permits issued to non-municipal sources of storm water must include water quality-based effluent limits where necessary to meet water quality standards.

Commenters challenged EPA's interpretation of the CWA as requiring water quality-based effluent limits for MS4s when necessary to protect water quality. Commenters asserted that CWA 402(p)(3)(B), which addresses permit requirements for municipal discharges, limits the scope of municipal program requirements to an effective prohibition on non-storm water discharges to a separate storm sewer and to controls which reduce pollutants to the “maximum extent practicable, including management practices, control techniques and system design and engineering methods.” They asserted that the final rule should clarify that neither numeric nor narrative water quality-based limits are appropriate or authorized for MS4s.

EPA disagrees that section 402(p)(3) divests permitting authorities of the tools necessary to issue permits to meet water quality standards. Section 402(p)(3)(B)(iii) specifically preserves the authority for EPA or the State to include other

provisions determined appropriate to reduce pollutants in order to protect water quality. Defenders of Wildlife, slip op. at 11688. Small MS4s regulated under today's rule are designated under CWA 402(p)(6) "to protect water quality."

Commenters argued that water quality standards, particularly numeric criteria, were not designed to address storm water discharges. The episodic nature and magnitude of storm water events, they argue, make it impossible to apply the "end of pipe" compliance assessment approach, for example, in the development of water quality based effluent limits.

EPA's disagrees with the commenters arguments about the inability of water quality criteria to address high flow conditions. Today's final rule does, however, address the concern that numeric effluent limits will necessitate end of pipe treatment and the need to provide a workable alternative.

Today's rule was developed under the approach outlined in the [Interim Permitting Policy for Water Quality-Based Effluent Limitations in Storm Water Permits, issued on August 1, 1996. 61 FR 43761 \(November 26, 1996\)](#) (the "Interim Permitting Policy"). EPA intends to issue NPDES permits consistent with the Interim Permitting Policy, which provides as follows:

In response to recent questions regarding the type of water quality-based effluent limitations that are most appropriate for NPDES storm water permits, EPA is adopting an interim permitting approach for regulating wet weather storm water discharges. Due to the nature of storm water discharges, and the typical lack of information on which to base numeric water quality-based effluent limitations (expressed as concentration and mass), EPA will use an interim permitting approach for NPDES storm water permits.

"The interim permitting approach uses best management practices (BMPs) in first-round storm water permits, and expanded or better-tailored BMPs in subsequent permits, where necessary, to provide for the attainment of water quality standards. In cases where adequate information exists to develop more specific conditions or limitations to meet water quality standards, these conditions or limitations are to be incorporated into storm water permits, as necessary and appropriate. This interim permitting approach is not intended to affect those storm water permits that already include appropriately derived numeric water quality-based effluent limitations. Since the interim permitting approach only addresses water quality-based effluent limitations, it also does not affect technology-based effluent limitations, such as those based on effluent limitations guidelines or developed using best professional judgment, that are incorporated into storm water permits.

"Each storm water permit should include a coordinated and cost-effective monitoring program to gather necessary information to determine the extent to which the permit provides for attainment of applicable water quality standards and to determine the appropriate conditions or limitations of subsequent permits. Such a monitoring program may include ambient monitoring, receiving water assessment, discharge monitoring (as needed), or a combination of monitoring procedures designed to gather necessary information.

"This interim permitting approach applies only to EPA; however, EPA also encourages authorized States and Tribes to adopt similar policies for storm water permits. This interim permitting approach provides time, where necessary, to more fully assess the range of issues and possible options for the control of storm water discharges for the protection of water quality. This interim permitting approach may be modified as a result of the ongoing Urban Wet Weather Flows Federal Advisory Committee policy dialogue on this subject."

One commenter challenged the Interim Permitting Policy on a procedural basis, arguing that it was published without opportunity for public notice and comment. In response, EPA notes that the Policy was included verbatim and made available for public comment in the proposal to today's final rule. Prior to that proposal, the Agency defended the application of the Policy on a case-by-case basis in individual permit proceedings. Moreover, the essential elements of the Policy—that narrative effluent limitations are the most appropriate form of effluent limitations for storm water

dischargers from municipal sources—was inherent in §122.34(a) of the proposed rule, and was the subject of extensive public comment. In any event, the Policy does not constitute a binding obligation. It is policy, not regulation.

Consistent with the recognition of data needs underlying the Policy, EPA will evaluate the small MS4 storm water regulations after the second round of permit issuance. Section 122.34(e)(2) of today's rule expressly provides that for the interim ten-year period, “EPA strongly recommends that until the evaluation of the storm water program in §122.37, no additional requirements beyond the minimum control measures be imposed on regulated small MS4s without the agreement of the operator of the affected small MS4, except where an approved TMDL or equivalent analysis provides adequate information to develop more specific measures to protect water quality.” This approach addresses the concern for protecting water resources from the threat posed by storm water discharges with the important qualification that there must be adequate information on the watershed or a specific site as a basis for requiring tailored storm water controls beyond the minimum control measures. As indicated, the Interim Permitting Policy has several important limitations—it does not apply to technology-based controls or to sources that already have numeric end of pipe effluent limitations. EPA encourages authorized States and Tribes to adopt policies similar to the Interim Permitting Policy when developing storm water discharge programs. For a discussion of appropriate monitoring activities, see Section H.3.d., Evaluation and Assessment.

Where a water quality analysis indicates there is a need and basis for deriving water quality-based effluent limits in NPDES permits for storm water discharges regulated under today's rule, EPA believes that most of these cases would be satisfied by narrative effluent *68789 limitations that require the implementation of BMPs. NPDES permit limits will in most cases continue to be based on the specific approach outlined in today's rule for the implementation of BMPs as the most appropriate form of effluent limitation to satisfy technology and water quality-based requirements. See §122.34(a). For storm water management plans with existing BMPs, this may require further tailoring of BMPs to address the pollutant(s) of concern, the nature of the discharge and the receiving water. If the permitting authority determines that, through implementation of appropriate BMPs required by the NPDES storm water permit, the discharge has the necessary controls to provide for attainment of water quality standards, additional controls are not needed in the permit. Conversely, if a discharger (MS4, industrial or construction) fails to adopt and implement adequate BMPs, the permittee and/or the permitting authority should consider a different mix of BMPs or more specific conditions to ensure water quality protection.

Some commenters observed that there was no evidence from the experience of storm water dischargers regulated under the existing NPDES storm water program, or from studies or reports that allegedly support EPA's position, that implementation of BMPs to satisfy the six minimum control measures would meet applicable water quality standards for a regulated small MS4. In response, EPA acknowledges that the six minimum measures are intended to implement the statutory requirement to control discharges to the maximum extent practicable, and they may not result in the attainment of water quality standards in all cases. The control measures do, however, focus on and address well-documented threats to water quality associated with storm water discharges. Based on the collective expertise of the FACA Sub-committee, EPA believes that implementation of the six minimum measures will, for most regulated small MS4s, be adequate to protect water quality, and for other regulated small MS4s will substantially reduce the adverse impacts of their discharges on water quality.

Some commenters asserted that analyses of existing water quality criteria suggest that numeric criteria for aquatic life may be overprotective if applied to storm water discharges. These comments maintained that an approach that prohibits exceedance of applicable water quality criteria is unworkable. Various commenters recommended wet weather specific criteria, variances to the criteria during wet weather events, and seasonal designated uses. Other commenters noted that water quality-based effluent limits in NPDES permits have traditionally been developed based on dry weather flow conditions (e.g., assuming critical low-flow conditions in the receiving water to ensure protection of aquatic life and human health). Wet weather discharges, however, typically occur under high-flow conditions in the receiving water. Assumptions regarding mass balance equations and size of mixing zones may also not be pertinent during wet weather.

EPA acknowledges the need to devise a regulatory program that is both flexible enough to accommodate the episodic nature, variability and volume of wet weather discharges and prescriptive enough to ensure protection of the water resource. EPA believes that wet weather discharges can be adequately addressed in the existing regulations through refining designated uses and assigning criteria that are tailored to the level of water quality protection described by the refined designated use.

EPA believes that lack of precision in assigning designated uses and corresponding criteria by States and Tribes, in many cases may result in application of water quality criteria that may not appropriately match the intended condition of the water body. States and Tribes have frequently designated uses without regard to site-specific wet weather conditions. Because certain uses (swimming, for example) might not exist during high-intensity storm events or in the winter, States may factor such climatic conditions and seasonal uses into their use designations with appropriate analyses. This would acknowledge that a lower level of control, at lower compliance cost, would be appropriate to protect that use. Before modifying any designated use, however, States would need to evaluate the effect of less stringent water quality criteria on protecting other uses, including any threatened or endangered species, drinking water supplies and downstream uses. EPA will further evaluate these issues in the context of the [Water Quality Standards Regulation, Advance Notice of Proposed Rule Making \(ANPRM\)](#), 63 FR, 36742, July 7, 1998.

One of the major themes presented by EPA in the ANPRM is that refinement in use designations and tailoring of water quality criteria to match refined use designations is an important future direction of the water quality standards program. In assigning criteria to protect general use classifications, a State or Tribe must ensure that the criteria are sufficiently protective to safeguard the full range of waters of the State, i.e., criteria would be based on the most sensitive use. This approach has been disputed, especially for aquatic life uses, where evidence suggests that the general use criteria will require controls more stringent than needed to protect the existing or potential aquatic life community for a specific water body. EPA recognizes that there is a growing need to more precisely tailor use descriptions and criteria to match site-specific conditions, ensuring that uses and criteria provide an appropriate level of protection, which, to the extent possible, are not overprotective. EPA is engaged in an ongoing evaluation of its regulations in this area through the ANPRM effort. At the same time, EPA continues to encourage States and Tribes to review the applicability of the designated uses and associated criteria using existing provisions in the water quality standards regulation.

2. Total Maximum Daily Loads and Analysis To Determine the Need for Water Quality-Based Limitations

The development and implementation of total maximum daily loads (TMDLs) provide a link between water quality standards and effluent limitations. CWA section 303(d) requires States to develop TMDLs to provide more stringent water quality-based controls when technology-based controls are inadequate to achieve applicable water quality standards. A TMDL is the sum of the individual wasteload allocations for point sources and load allocations for nonpoint sources, with consideration for natural background conditions. A TMDL quantifies the maximum allowable loading of a pollutant to a water body and allocates this maximum load to contributing point and nonpoint sources so that water quality criteria will not be exceeded and designated uses will be protected. A TMDL also includes a margin of safety to account for uncertainty about the relationship between pollutant loads and water quality.

Today's final rule refers to TMDLs in several provisions. For the purpose of today's rule, EPA relies on the component of the TMDL that evaluates existing conditions and allocates loads. For discharges to waters that are not impaired and for which a TMDL has not been developed, today's rule also refers to an "equivalent analysis." The discussion that follows uses the term "TMDL" for both.

Under revised [§122.26\(a\)\(9\)\(i\)\(C\)](#), the permitting authority may designate *68790 storm water discharges that require NPDES permits based on TMDLs that address the pollutants of concern. For storm water discharges associated with small construction activity, [§122.26\(b\)\(15\)\(i\)\(B\)](#) provides a waiver provision where it may be determined that storm water controls are not needed based on TMDLs that address sediment and any other pollutants of concern. The NPDES

permitting authority may waive requirements under the program for certain small MS4s within urbanized areas serving less than 1,000 persons provided that, if the small MS4 discharges any pollutant that has been identified as a cause of impairment of a water body into which it discharges, the discharge is in compliance with a wasteload allocation in a TMDL for the pollutant of concern. The permitting authority may also waive requirements for MS4s in urbanized areas serving between 1,000 and 10,000 persons, if the permitting authority determines that storm water controls are not needed, as provided in §123.35(d)(2). See §122.32(c).

Under CWA section 303(d), States identify which of their water bodies need TMDLs and rank them in order of priority. Generally, once a TMDL has been completed for one or more pollutants in a water body, a wasteload allocation for each point source discharging the pollutant(s) is implemented as an enforceable condition in the NPDES permit. Regulated small MS4s are essentially like other point source discharges for purposes of the TMDL process.

A TMDL and the resulting wasteload allocations for pollutant(s) of concern in a water body may not be available because the water body is not on the State's 303(d) list, the TMDL has not yet been completed, or the TMDL did not include specific pollutants of concern. In these cases, the permitting authority must determine whether point sources discharge pollutant(s) in amounts that cause, have the reasonable potential to cause, or contribute to excursions above State water quality standards, including narrative water quality criteria. This so-called “reasonable potential” analysis is intended to determine whether and for what pollutants water quality based effluent limits are required. The analysis is, in effect, a substitute for a similar determination that would be made as part of a TMDL, where necessary. When “reasonable potential” exists, regulations at §122.44(d) require a water quality-based effluent limit for the pollutant(s) of concern in NPDES permits. The water quality-based effluent limits may be narrative requirements to implement BMPs or, where necessary, may be numeric pollutant effluent limitations.

Commenters, generally from the regulated community, objected that, due to references to the need to develop a program “to protect water quality” and to additional NPDES permit requirements beyond the minimum control measures based on TMDLs or their equivalent, regulated small MS4s will be subject to uncertain permit limitations beyond the six minimum control measures. Commenters also asserted that through the imposition of a wasteload allocation under a TMDL in impaired water bodies, there is a likelihood that unattainable, yet enforceable narrative and numeric standards will be imposed on regulated small MS4s.

As is discussed in the preceding section, NPDES permits must include any more stringent limitations when necessary to meet water quality standards. However, even if a regulated small MS4 is subject to water quality based effluent limits, such limits may be in the form of narrative effluent limitations that require the implementation of BMPs. As discussed earlier, EPA has adopted the Interim Permitting Policy and incorporated it in the development of today's rule to recognize the appropriateness of BMP-based limits developed on a case-by-case basis.

EPA formed a Federal Advisory Committee to provide advice to EPA on identifying water quality-limited water bodies, establishing TMDLs for them as appropriate, and developing appropriate watershed protection programs for these impaired waters in accordance with CWA section 303(d). Operating under the auspices of the National Advisory Council for Environmental Policy and Technology (NACEPT), the committee produced its Report of the Federal Advisory Committee on the Total Maximum Daily Load (TMDL) Program (July 1998). EPA recently published a proposed rule to implement the Report's recommendations (64 FR 46012, August 23, 1999).

3. Anti-Backsliding

In general, the term “anti-backsliding” refers to statutory provisions at CWA sections 303(d)(4) and 402(o) and regulatory provisions at 40 CFR 122.44(i). These provisions prohibit the renewal, reissuance, or modification of an existing NPDES permit that contain effluent limits, permit terms, limitations and conditions, or standards that are less stringent than those established in the previous permit. There are also exceptions to this prohibition known as “antibacksliding exceptions.”

The issue of backsliding from prior permit limits, standards, or conditions is not expected to initially apply to most storm water dischargers designated under today's proposal because they generally have not been previously authorized by an NPDES permit. However, the backsliding prohibition would apply if a storm water discharge was previously covered under another NPDES permit. Also, the backsliding prohibition could apply when an NPDES storm water permit is reissued, renewed, or modified. In most cases, however, EPA does not believe that these provisions would restrict revisions to storm water NPDES permits.

One commenter questioned whether, if BMPs implemented by a regulated small MS4 operator fail to produce results in removal of pollutants and the permittee attempts to substitute a more effective BMP, the small MS4 operator could be accused of violating the anti-backsliding provisions and also be exposed to citizen lawsuits. In response, EPA notes that in such circumstances the MS4's permit has not changed and, therefore, the prohibition against backsliding is not applicable. Further, any change in the mix of BMPs that was intended to be more effective at controlling pollutants would not be considered backsliding, even if it did not include all of the previously implemented BMPs.

4. Water Quality-Based Waivers and Designations

Several sections of today's final rule refer to water quality standards in identifying those storm water discharges that are and are not required to be permitted under today's rule. As noted in §122.30 of today's rule, CWA section 402(p)(6) requires the designation of municipal storm water sources that need to be regulated to protect water quality and the establishment of a comprehensive storm water program to regulate these sources. Requirements applicable to certain municipal sources may be waived based on the absence of demonstrable water quality impacts. Section 122.32(c). The section 402(p)(6) mandate to protect water quality also provides the basis for regulating discharges associated with small construction. See also §122.26(b)(15)(i). Further, today's rule carries forward the existing authority for the permitting authority to designate sources of storm water discharges based upon water quality considerations. Section 122.26(a)(9)(i)(C) and (D).

As is discussed above in sections II.H.2.e (for small MS4s) and II.I.1.b.ii *68791 (for small construction), the requirements of today's rule may be waived based on wasteload allocations that are part of “total maximum daily loads” (TMDLs) that address the pollutants of concern or, in the case of small construction and municipalities serving between 1,000 and 10,000 persons, the equivalents of TMDLs. One commenter stated that waivers would allow exemptions to the technology based requirements and would thus be inconsistent with the two-fold approach of the CWA (a technology based minimum and a water quality based overlay). EPA acknowledges that waivers are not allowed for other technology-based requirements under the CWA. A more flexible approach is allowed, however, for sources designated for regulation under 402(p)(6) to protect water quality. For such sources EPA may allow a waiver where it is demonstrated that an individual source does not present the threat to water quality that was the basis for EPA's designation.

III. Cost-Benefit Analysis

EPA has determined that the range of the rule's benefits exceeds the range of regulatory costs. The estimated rule costs range from \$847.6 million to \$981.3 million annually with corresponding estimated monetized annual benefits which range from \$671.5 million to \$1.628 billion, expected to exceed costs.

The rule's cost and benefit estimates are based on an annual comparison of costs and benefits for a representative year (1998) in which the rule is implemented. This differs from the approach used for the proposed rule which projected cost and benefits over three permit terms. EPA has chosen to use the current approach because it determined that the ratio of annual benefits and costs would not change significantly over time. Moreover, because there is not an initial outlay of capital costs with benefits accruing in the future (i.e., benefits and costs are almost immediately at a steady state), it is not necessary to discount costs in order to account for a time differential.

EPA developed detailed estimates of the costs and benefits of complying with each of the incremental requirements imposed by the rule. The Agency used two approaches, a national water quality model and national water quality assessment, to estimate the potential benefits of the rule. Both approaches show that the benefits are likely to exceed costs.

These estimates, including descriptions of the methodology and assumptions used, are described in detail in the Economic Analysis of the Final Phase II Rule, which is included in the record of this rule making. Exhibit 3 summarizes costs and benefits associated with the basic elements of today's rule.

Exhibit 3.—Comparison of Annual Compliance Cost and Benefit Estimates¹

Monetized benefits	National water quality model (millions of 1998 dollars)	National water quality assessment (millions of 1998 dollars)
Municipal Minimum Measures	\$131.0-\$410.2
Controls for Construction Sites	\$540.5-\$686.0
Total Annual Benefits	\$1,628.5	\$671.5-\$1,096.2

Costs	Millions of 1998 dollars²
Municipal Minimum Measures	\$297.3
Controls/Waivers for Construction Sites	\$545.0-\$678.7
Federal/State Administrative Costs	\$5.3
Total Annual Costs	\$847.6-\$981.31

A. Costs

1. Municipal Costs

Initially, to determine municipal costs for the proposed rule, EPA used anticipated expenditure data included in permit applications from a sample of 21 Phase I MS4s. Certain commenters criticized the Agency for using anticipated expenditures because they could be significantly different from the actual expenditures. These commenters suggested that the Agency use the actual cost incurred by the Phase I MS4s. Other comments stated that because the Phase I MS4s, in general, are large municipalities, they may not be representative of the Phase II MS4s for estimating regulatory costs. Finally, one commenter noted that the sample of 21 municipalities used to project cost was relatively small.

To address the concerns of the commenters, EPA utilized a National Association of Flood and Stormwater Management Agencies (NAFSMA) survey of the Phase II community to obtain incremental cost estimates for Phase II municipalities. Using the list of potential Phase II designees published in the Federal Register (63 FR 1616), NAFSMA contacted more than 1,600 jurisdictions. The goal of the survey was to solicit information from those communities about the proposed Phase II NPDES storm water program. Several of the survey questions corresponded directly to the minimum measures required by the Phase II rule. One hundred twenty-one surveys were returned to NAFSMA and were used to develop municipal costs.

Using the NAFSMA information, EPA estimated average annual per household program costs for automatically designated municipalities. EPA also estimated an average annual per household administrative cost for municipalities to address application, record keeping, and reporting requirements of the Rule. The total average per household cost of the rule is expected to \$9.16 per household.

To determine potential national level costs for municipalities, EPA multiplied the number of households (32.5 million) by the per household cost (\$9.16). EPA estimates the annual cost of the Phase II municipal program at \$298 million.

As an alternative method, and point of comparison, to the NAFSMA-based approach, EPA reviewed actual expenditures reported from 35 Phase I MS4s. The Agency targeted these 35 Phase I MS4s because they had participated in the NPDES program for *68792 nearly one permit term, were smaller in size and had detailed data reflecting their actual program implementation costs. Of the 35 MS4s, appropriate cost data was only available for 26 of those MS4s. EPA analyzed the expenditure data and identified the relevant expenditures, excluding costs presented in the annual reports unrelated to the requirements of the Rule. The cost range and annual per household program costs of \$9.08 are similar to those found using the NAFSMA survey data.

2. Construction Costs

In order to estimate the rule's construction-related cost on a national level (the soil and erosion controls (SEC) requirements of the rule and the potential impacts of the post-construction municipal measure on construction), EPA estimated a per site cost for sites of one, three, and five acres and multiplied these costs by the total number of estimated Phase II construction starts across these size categories.

To estimate the percentage of starts subject to the soil and erosion control requirements between 1 and 5 acres, with respect to each category of building permits (residential, commercial, etc.), EPA initially used data from Prince George's County (PGC), Maryland, and applied these percentages to national totals. In the proposal, EPA recognized that the PGC data may not be representative of the entire country and requested data that could be used to develop better estimates of the number of construction sites between 1 and 5 acres. EPA did not receive any substantiated national data from commenters.

In view of the unavailability of national data from commenters, EPA made extensive efforts to collect construction site data around the country. The Agency contacted more than 75 municipalities. EPA determined that 14 of the contacted municipalities had useable construction site data. Using data from these 14 municipalities, EPA developed an estimate of the percentage of construction starts on one to five acres. EPA then multiplied this percentage by the number of building permits issued nationwide to determine the total number of construction starts occurring on one to five acres. Finally, to isolate the number of construction starts incrementally regulated by Phase II, EPA subtracted the number of activities regulated under equivalent programs (e.g., areas covered by the Coastal Zone Act Reauthorization Amendments of 1990, and areas covered by equivalent State level soil and erosion control requirements). Ultimately, EPA estimated that 110,223 construction starts would be incrementally covered by the rule annually.

EPA then used standard cost estimates from Building Construction Cost Data and Site Work Landscape Cost Data (R.S. Means, 1997a and 1997b) to estimate construction BMP costs for 27 model sites in a variety of typical site conditions across the United States. The model sites included three different site sizes (one, three and five acres), three slope variations (3%, 7%, and 12%), and three soil erosivity conditions (low, medium, and high). EPA chose BMP combinations appropriate to the model site conditions. Based on the assumption that any combination of site factors is equally likely to occur in a given site, EPA developed average cost of sediment and erosion control for all model sites. EPA estimated that, on average, BMPs for a 1 acre site will cost \$1,206, for a 3 acre site \$4,598 and for a 5 acre site \$8,709.

EPA then estimated administrative costs per construction site for the following elements required under the rule: Submittal of a notice of intent for permit coverage; notification to municipalities; development of a storm water

pollution prevention plan; record retention; and submittal of a notice of termination. EPA estimated the average total administrative cost per site to be \$937.

EPA also considered the cost implications of NPDES permit authorities waiving the applicability of requirements to storm water discharges from small construction sites based on two different criteria involving water quality impact and low rainfall. EPA received comments stating that a waiver would require a significant investment in training or acquisition of a consultant. Based on comments received, EPA eliminated one of the waiver conditions involving low soil loss threshold because it necessitated use of the Revised Universal Soil Loss Equation which could require extensive technical expertise.

Based on the opinions of construction industry experts, EPA estimates that 15 percent of the construction sites that would otherwise be covered by today's rule will be eligible to receive waivers. Therefore, the Agency has excluded 15 percent of the construction sites when deriving costs of sediment and erosion control. The average cost for sites to qualify for the waiver is expected to be \$34 per site. The construction cost analysis for the proposed rule did not include any costs for the preparation and submission of waiver applications because EPA believed those costs would be negligible. However, in response to public comments, EPA has estimated these potential costs.

EPA has also estimated the potential costs for construction site operators to implement the post-construction minimum measure. These are costs that may be incurred by construction site operators if the MS4 chooses to meet the post-construction minimum measure by requiring on-site structural, site-by-site control of post-construction runoff. Municipalities may select from an array of structural and non-structural options in implementing this measure, so the potential costs to construction operators is uncertain. Nonetheless, EPA developed average annual BMP costs for sites of one, three, five and seven acres. EPA's analysis accounted for varying levels of imperviousness that characterize residential, commercial, and institutional land uses. Nationwide, these costs are expected to range from \$44 million to \$178 million annually.

Finally, to establish national incremental annual costs for Phase II construction starts, EPA multiplied the total costs of compliance for the chosen site size categories by the total number of Phase II construction starts and added post-construction costs. EPA estimates the annual compliance cost to range from \$545 million to \$678.7 million.

B. Quantitative Benefits

In the Economic Analysis for the proposed rule, a “top-down” approach was used to estimate economic benefits. Under this approach, the combined economic benefits for wet weather programs were estimated first, and then were divided among various water programs on the basis of expert opinion. As a result, the benefits estimates for an individual program were rather uncertain. Moreover, this approach was inconsistent with the approach used to estimate the cost of the proposed storm water rule, which was developed using municipal-based and cost-based data to develop “bottom-up” costs. Therefore, EPA decided to use a “bottom-up” approach for estimating benefits of the Phase II rule. To adequately reflect the quantifiable benefits of the rule, EPA used two different methods: (1) National Water Quality Model and (2) National Water Quality Assessment.

To monetize benefits in both approaches, the Agency applied Carson and Mitchell's (1993) estimates of household willingness-to-pay (WTP) for water quality improvement to estimates of waters impaired by storm water discharges. Carson and Mitchell's 1993 study reports the results of their 1983 national survey of WTP for incremental ***68793** improvements in fresh water quality. Carson and Mitchell estimate the WTP for three minimum levels of fresh water quality: boatable, fishable, and sizable. EPA adjusted the WTP amounts to account for inflation, growth in real per capita income, and increased attitudes towards pollution control. The adjusted WTP amounts for improvements in fresh water quality are \$210 for boatable, \$158 for fishable, and \$177 for sizable. A brief summary of the national water quality model and national water quality assessment approaches follow.

1. National Water Quality Model

One approach EPA used to estimate the benefits of the Phase II municipal and construction site controls was the National Water Pollution Control Assessment Model (NWPCAM). NWPCAM estimates benefits of the storm water program at the national level, including the impact on small streams. This model estimates water quality and the resultant use support for the 632,000 miles of rivers and streams in the USEPA Reach File Version 1 (RF1), which covers the continental United States. The model analyzes water quality changes by stream reach. The parameters modeled in the NWPCAM are biological oxygen demand (BOD), total suspended solids (TSS), dissolved oxygen (DO), and fecal coliforms (FC).

The model projects changes in water quality due to the Phase II municipal and construction site controls. To calculate the economic benefits of change in water quality, the number of households in the proximity of the stream reach are determined, by overlaying the model results on the 1990 Census of Populated Places and Minor Civil Divisions, and updating the population to 1998. Economic benefits are calculated using the Carson and Mitchell WTP values. The benefits are separately estimated for local and non-local waters on the basis of WTP values and proximity to water quality changes.

The value of the change in use support for local waters is greater than the value of the non-local waters because of the opportunity to use local waters by the local population. This model assumes that if improvement occurs in waters that are not close to population centers the economic value is lower. Therefore, benefits are estimated for local and non-local waters separately. This assumption is based on Carson and Mitchell's survey which asked respondents to apportion each of their stated WTP values between achieving the water quality goals in their own State and achieving those goals in the nation as a whole. On average, respondents allocated 67% of their values to achieving in-State water quality goals and the remainder to the nation as a whole. Carson and Mitchell argue that for valuing local water quality changes 67% is a reasonable upper bound for the local multiplier and 33% for the non-local water quality changes. For the purposes of this analysis, the locality is defined as urban sites and associated populations linked into the NWPCAM framework. Using this methodology, the total monetized benefits of Phase II control of urban and construction site runoff is estimated to be \$1.628 billion per year. The local and non-local benefits due to Phase II controls are presented in Exhibit 4.

Exhibit 4.—Local and Non-local Benefits Estimates Due to Phase II Controls National Water Quality Model Estimate

Use support	Local benefits (\$million/yr)	Non-local benefits ¹ (\$million/yr)	Total benefits (\$million/yr)
Swimming, Fishing, and Boating	306.20	60.60	366.80
Fishing and Boating	395.10	51.90	447.00
Boating	700.10	114.60	814.70
Total	1401.40	227.10	1628.50

While the numbers of miles that are estimated to change their use support are small, the benefits estimates are quite significant. This is because urban runoff and, to a large extent, construction activity occurs where the people actually reside and the water quality changes mostly occur close to these population centers. NWPCAM indicates that changes in pollution loads have the most effect immediately downstream of pollution changes. As a result, the aggregate WTP is large because large numbers of households in these population centers are associated with the local waters that reflect improvement in designated use support.

2. National Water Quality Assessment

EPA also estimated benefits of the Phase II Storm Water program using the 1998 National Water Quality Inventory (305(b)) Report to Congress, rather than the NWPCAM as a basis for estimating impairment addressed by the rule. The Water Quality Assessment method separately estimates benefits associated with improvements to fresh water, marine water and construction site controls, and then aggregates these separate categories into an estimate of total annual benefits.

a. Municipal Measures

i. Fresh Waters Benefits

In order to develop estimates for the potential value of the municipal measures (except storm water runoff controls for construction sites), EPA applied Carson & Mitchell WTP values to estimated existing and projected future fresh water impairment. Carson & Mitchell did not evaluate marine waters, so only fresh water values were available from their research. Even though the Carson and Mitchell estimates apply to all fresh water, it is not clear how these values would be apportioned among rivers, lakes, and the Great Lakes. The 305(b) data indicate that lakes are the most impaired by urban runoff/storm sewers, followed closely by the Great Lakes, and then rivers. Therefore, EPA applied the WTP values to the categories separately and assumed that the higher resulting value for lakes represents the high end of the range (i.e., assuming that lake impairment is more indicative of national fresh water impairment) and that the lower resulting value for impaired rivers represents the low end of a value range for all fresh waters (i.e., assuming that river impairment is more indicative of national fresh water impairment). In addition, EPA estimated that the post-construction runoff *68794 requirements of the municipal program might result in benefits of at least \$16.8 million annually from avoided future runoff. The post-construction estimate significantly underestimates potential program benefits because it does not account for avoided hydrologic changes and resulting water quality impairment associated with increases in imperviousness from development and redevelopment. Summing the benefits across the water quality use support levels yields an estimate of benefits ranging from approximately \$121.9 million to \$378.2 million per year.

ii. Marine Waters Benefits

In addition to the fresh water benefits captured by the Carson and Mitchell study, EPA anticipates benefits as a result of improvements to marine waters. Sufficient methods have not been developed to quantify national-level benefits for commercial or recreational fishing. EPA used beach closure data and visitation estimates from its Beach Watch Program to estimate potential reductions in marine swimming visits due to storm water runoff contamination events in 1997. The estimated 86,100 trips that did not occur because of beach closures in coastal Phase II communities is a lower bound because it represents only those beaches that report both closures and visitation data. EPA estimates potential swimming benefits from the rule to be at least \$2.1 million annually.

EPA developed an analysis of potential benefits associated with avoided health impacts from exposure to contaminants in storm sewer effluent. Based on a study of incremental illnesses found among people who swam within one yard of storm drains in Santa Monica Bay, EPA estimated a range of incremental illnesses (Haile et al., 1996). Depending on assumptions made about number of exposures to contaminants and contaminant concentrations, benefits ranged from \$7.0 million to \$29.9 million annually.

b. Construction Benefits

The major pollutant resulting from construction activities is sediment. However, in addition to sediment, construction activities also yield pollutants such as pesticides, petroleum products, and solvents. Because circumstances will vary considerably from site to site, data is not available with which to develop estimates of benefits for each site and aggregate to obtain a national-level estimate.

In the proposed rule, EPA estimated the combined benefits of all wet weather programs, and then used expert opinions to allocate them to different individual programs. To eliminate the possible overlap between the benefits of the soil and erosion control requirements, municipal measures, and other wet weather storm water programs, EPA chose to use an approach in today's final rule that directly estimates the benefits of soil and erosion requirements.

A survey of North Carolina residents (Paterson et al., 1993) indicated that households are willing to pay for erosion and sediment controls similar to those in today's rule. Based on income and other indicators, the values derived from the study are expected to be similar to values held in the rest of the country. Using the mean value of the willingness to pay of \$25 per household, EPA projects annual benefits of the soil and erosion requirements to range from \$540.5-\$686 million.

c. Summary of Benefits From the National Water Quality Assessment

Total benefits from municipal measures and construction site controls are expected to range from \$671.5 million to \$1.1 billion per year, including benefits of approximately \$13.7 million per year associated with small stream improvements. A summary of the potential benefits is presented in Exhibit 5.

As shown in Exhibit 5, it was not possible to monetize all categories of benefits using the WTP estimates. In particular, benefits for improving marine water quality such as fishing and passive use benefits are not included in the values used to estimate the potential benefits of the municipal minimum measures (excluding construction sites controls), and they are not estimated separately, because information is not currently available.

Exhibit 5.—Potential Annual Benefits of the Phase II Storm Water Rule National Water Quality Assessment Estimate

Benefit category	Annual WTP
Municipal Minimum Measures ¹	
Fresh Water Use and Passive Use ²	\$121.9-\$378.2
Marine Recreational Swimming	\$2.1
Human Health (Marine Waters)	\$7.0-\$29.9
Other Marine Use and Passive Use	+
Erosion and Sediment Controls for Construction Sites	
Fresh Water and Marine Use and Passive Use ³	\$540.5-\$686
Total Phase II Program	
Total Use & Passive Use (Fresh Water and Marine)	>\$671.5->\$1,096.2

C. Qualitative Benefits

There are additional benefits to storm water control that cannot be quantified or monetized. Thus, the current estimate of monetized benefits may understate the true value of storm water controls because it omits many ways in which society is likely to benefit from reduced storm water pollution, such as improved *68795 aesthetic quality of waters, benefits to wildlife and to threatened and endangered species, cultural values, and biodiversity benefits.

A benefit that EPA did not monetize completely is the flood control benefits attributable to municipal storm water controls reducing downstream flooding, although flood control benefits associated with sediment and erosion control are already reflected to some extent in the construction benefits. Similarly, the Agency could not value the benefits from increased property value due to storm water controls reflected in the rule, even though a commenter suggested inclusion of these benefits in the estimates.

Moreover, while a number of commenters requested that EPA include ecological benefits, the Agency was not able to fully monetize these benefits. Urbanization usually increases the amount of sediment, nutrients, metals and other pollutants associated with land disturbance and development. Development usually not only results in a dramatic increase in the volume of water runoff, but also in a substantial decrease in that water's quality due to stream scour, runoff and dispersion of toxic pollutants, and oversiltation. These kinds of secondary benefits could not be fully reflected in the monetized benefits. EPA was able to only monetize the aquatic life support benefits for waters assumed to be impaired. Thus, only the aquatic life support benefits attributable to municipal controls, reflected through human satisfaction, are taken into account.

Reduced nutrient level is another benefit of the storm water control which is not fully captured by the economic analysis. High nutrient levels often lead to eutrophication of the aquatic system. The quality change in ecological sources as the result of storm water controls to reduce pollutants is not fully reflected in the present benefits.

D. National Economic Impact

Finally, the Agency determined that the rule will have minimal impacts on the economy or employment. This is because the final rule regulates small MS4s and construction sites under 5 acres, not the typical industrial plants or other non-construction activities that could directly impact production and thus those sectors of the economy.

Discussions with representatives within the construction industry indicate that construction costs will likely be passed on to buyers, thus not seriously affecting the housing industry directly. One commenter argued that the rule will have a negative employment effect because the builders will build fewer homes requiring less building materials as a result of the declining demand induced by the cost of the soil and erosion controls. EPA disagrees with this argument because the cost of the controls, as the percentage of the price of a median home, is negligible and will be passed on to final buyers.

Flexibility within the rule allows MS4s to tailor the storm water program requirements to their needs and financial position, minimizing impacts. For sedimentation and erosion controls on construction sites, the rule contemplates application of commonly used BMPs to reduce costs for the construction industry. Thus, the rule attempts to use existing practices to prevent pollution, which should minimize impacts on States, Tribes, municipalities and the construction industry.

Thus, EPA concludes that the effect of the rule, if any, on the national economy will be minimal. The benefits of today's rule more than offset any cost impacts on the national economy.

IV. Regulatory Requirements

A. Paperwork Reduction Act

The Office of Management and Budget (OMB) has approved some of the information collection requirements contained in this final rule (i.e. those found in [40 CFR 122.26\(g\)](#) and [123.35\(b\)](#)) under the provisions of the Paperwork Reduction Act, [44 U.S.C. 3501 et seq.](#) and has assigned OMB control number 2040-0211.

The burden and costs described below are for the information collection, reporting, and record keeping requirements for the three year period beginning with the effective date of today's rule. Additional information collection requirements

for regulated small MS4s and small construction sites will occur after this initial three year period and will be counted in a subsequent information collection requirement. The total burden of the information collection requirements for the first three years of this rule is estimated at 56,369 hours with a corresponding cost of \$2,151,305 million annually. This burden and cost is for industrial facilities to complete and submit the no exposure certification, for NPDES-authorized States to process and review the no exposure certification, and for the NPDES-authorized States to develop designation criteria and assess additional MS4s outside of urbanized areas. Compliance with the applicable information collection requirements imposed under this rule are mandatory, pursuant to CWA [section 402](#).

Exhibit 6 presents average annual burden and cost estimates for Phase II respondents for the first three years. Burden means the total time, effort, or financial resources expended by persons to generate, maintain, retain, disclose or provide information to or for a Federal agency. This includes the time needed to review instructions; develop, acquire, install, and utilize technology and systems for the purposes of collecting, validating, and verifying information, processing and maintaining information, and disclosing and providing information; adjust existing ways for complying with any previously applicable instructions and requirements; train personnel to be able to respond to a collection of information; search data sources; complete and review the collection of information; and transmit or otherwise disclose the information.

Exhibit 6.—Average Annual Burden and Cost Estimates for Phase II Respondents

Information collection activity	A	B	(A)x(B)=C	D	(C)x(D)=E
	Respondents per year (projected) ¹	Burden hours per respondent per year (predicted)	Annual respondent burden hours (projected)	Respondent labor cost (\$/hr) (1998 \$)	Annual Cost (\$) (projected)
Ind. No Expos. Facilities: ²					
No Expos. Certification	36,377	1.0	36,377	44.35	1,613,320
Annual Subtotal			36,377		1,613,320
NPDES-Authorized States: ³					
Designation of Addit. MS4s ⁴	15	332.8	4,892	26.91	131,644
No Exp. Cert. Proc. & Rev	30,200	0.5	15,100	26.91	406,341
Annual Subtotal			19,992		537,985
Annual Totals			56,369		2,151,305

*68796 Given the requirements of today's regulation, EPA believes there will be no capital startup and no operation and maintenance costs associated with information collection requirements of the rule.

The government burden associated with today's rule will impact State, Tribal, and Territorial governments (NPDES-authorized governmental entities) that have storm water program authority, as well as the federal government (i.e., EPA), where it is the NPDES permitting authority. As of March 1999, 43 States and the Virgin Islands had NPDES authority.

The annual burden imposed upon authorized governmental entities (delegated States and the Virgin Islands) and the federal government for the next three years is estimated to be 19,992 hours (\$537,985) and 4,087 hours (\$115,948) respectively, for a total of 24,079 hours (\$653,933). This estimate is based on the average time that governments will expend to carry out the following activities: designate additional MS4s (332.8 hours) and process and review “no exposure” certificates from industrial dischargers (0.5 hour).

Under the existing rule, storm water discharges from light industrial activities identified under §122.26(b)(14)(xi) were exempted from the permit application requirements if they were not exposed to storm water. Today's rule expands the applicability of the “no exposure” exclusion to include all industrial activity regulated under §122.26(b)(14) (except category (x), construction). The “no exposure” provision is applied through the use of a written certification process, thus representing a slight reporting burden increase for “light” industries with “no exposure”.

In addition to the information collection, reporting, and record keeping burden for the next three years, today's rule contains information collection requirements that will not begin until three years or more from the effective date of today's rule. These information collection requirements were not included in the information collection request approved by OMB. EPA will submit these burden estimates for OMB approval when it submits ICR 2040-0211 to OMB for renewal in three years. The rule burdens for regulated small MS4s and small construction sites that will be included in the ICR renewal fall into three areas: application for an NPDES permit or submittal of waiver information, record keeping of storm water management activities, and submittal of reports to the permitting authority. There will also be an additional burden for the permitting authority to review this information.

An agency may not conduct or sponsor, and a person is not required to respond to a collection of information unless it displays a currently valid OMB control number. The OMB control numbers for EPA's regulations are listed in 40 CFR Part 9 and 48 CFR Chapter 15. EPA is amending the table in 40 CFR Part 9 of currently approved ICR control numbers issued by OMB for various regulations to list the first three years of information requirements contained in this final rule.

B. Executive Order 12866

Under [Executive Order 12866](#), [58 FR 51,735 (October 4, 1993)] the Agency must determine whether the regulatory action is “significant” and therefore subject to OMB review and the requirements of the Executive Order. The Order defines “significant regulatory action” as one that is likely to result in a rule that may:

- (1) have an annual effect on the economy of \$100 million or more or adversely affect in a material way the economy, a sector of the economy, productivity, competition, jobs, the environment, public health or safety, or State, local, or tribal governments or communities;
- (2) create a serious inconsistency or otherwise interfere with an action taken or planned by another agency;
- (3) materially alter the budgetary impact of entitlements, grants, user fees, or loan programs or the rights and obligations of recipients thereof; or
- (4) raise novel legal or policy issues arising out of legal mandates, the President's priorities, or the principles set forth in the Executive Order.

Pursuant to the terms of [Executive Order 12866](#), it has been determined that this rule is a “significant regulatory action”. As such, this action was submitted to OMB for review. Changes made in response to OMB suggestions or recommendations will be documented in the public record.

C. Unfunded Mandates Reform Act

Title II of the Unfunded Mandates Reform Act of 1995 (UMRA), [Public Law 104-4](#), establishes requirements for Federal agencies to assess the effects of their regulatory actions on State, local, and tribal governments and the private sector. Under section 202 of the UMRA, EPA generally must prepare a written statement, including a cost-benefit analysis, for proposed and final rules with “Federal mandates” that may result in expenditures to State, local, and tribal governments, in the aggregate, or to the private sector, of \$100 million or more in any one year. Before promulgating an EPA rule for which a ***68797** written statement is needed, section 205 of the UMRA generally requires EPA to identify and consider a reasonable number of regulatory alternatives and adopt the least costly, most cost-effective or least burdensome alternative that achieves the objectives of the rule. The provisions of [section 205](#) do not apply when they are inconsistent with applicable law. Moreover, [section 205](#) allows EPA to adopt an alternative other than the least costly, most cost-effective or least burdensome alternative if the Administrator publishes with the final rule an explanation why that alternative was not adopted.

EPA has determined that today's rule contains a Federal mandate that may result in expenditures of \$100 million or more in any one year for both State, local, and tribal governments, in the aggregate, and the private sector. Accordingly, EPA has prepared under section 202 of the UMRA a written statement which is summarized below.

1. Summary of UMRA Section 202 Written Statement

EPA promulgates today's storm water regulation pursuant to the specific mandate of Clean Water Act section 402(p)(6), as well as sections 301, 308, 402, and 501. ([33 U.S.C. sections 1342\(p\)\(6\), 1311, 1318, 1342, 1361.](#)) Section 402(p)(6) of the CWA requires that EPA designate sources to be regulated to protect water quality and establish a comprehensive program to regulate those sources.

In the Economic Analysis of the Final Phase II Rule (EA), EPA describes the qualitative and monetized benefits associated with today's rule and then compares the monetized benefits with the estimated costs for the rule. EPA developed detailed estimates of the costs and benefits of complying with each of the incremental requirements imposed by the rule. These estimates, including descriptions of the methodology and assumptions used, are described in detail in the EA. The Agency used two approaches, a national water quality model and national water quality assessment, to estimate the potential benefits of the rule. Both approaches show that the benefits are likely to exceed costs. Exhibit 3 in section III of this preamble summarizes the costs and benefits associated with the basic elements of today's rule.

There are additional benefits to storm water control that cannot be quantified or monetized. Thus, the current estimate of monetized benefits may understate the true value of storm water controls because it omits many ways by which society is likely to benefit from reduced storm water pollution, such as improved aesthetic quality of waters, benefits to wildlife and to threatened and endangered species, cultural values, and biodiversity benefits.

Several commenters asserted that today's rule is an unfunded mandate and that, without funding, the monitoring of the already existing pollution control programs would suffer. In section II.D.3 of the preamble, EPA lists some of the programs that EPA anticipates may provide funds to help develop and, in limited circumstances, implement storm water management programs.

In the EA, EPA reviewed the expected effect of today's rule on the national economy. The Agency determined that the rule will have minimal impacts on the economy or employment. This is because the final rule regulates small MS4s and

construction sites under 5 acres, not the typical industrial plants or other non-construction activities that could directly impact production and thus those sectors of the economy.

Discussions with representatives within the construction industry indicate that construction costs will likely be passed on to buyers, thus not seriously affecting the housing industry directly. Flexibility within the rule allows MS4s to tailor the storm water program requirements to their needs and financial position, minimizing impacts. For sedimentation and erosion controls on construction sites, the rule contemplates application of commonly used BMPs to reduce costs for the construction industry. Thus, the rule attempts to use existing practices to prevent pollution, which should minimize impacts on States, Tribes, municipalities and the construction industry.

Thus, EPA concludes that the effect of the rule, if any, on the national economy would be minimal. The benefits of today's rule more than offset any cost impacts on the national economy.

Consistent with the intergovernmental consultation provisions of section 204 of the UMRA and [Executive Order 12875](#), "Enhancing the Intergovernmental Partnership," EPA consulted with the governmental entities affected by this rule.

First, EPA provided States, Tribal and local governments with the opportunity to comment on draft alternative approaches for the proposed rule through publishing a notice requesting information and public comment in the Federal Register on September 9, 1992 ([57 FR 41344](#)). This notice presented a full range of regulatory alternatives. At that time, EPA received more than 130 comments, including approximately 43 percent from municipalities and 24 percent from State or Federal agencies. These comments were the genesis of many of the provisions in the today's rule, including reliance on the NPDES program framework (including general permits), providing State and local governments flexibility in selecting additional sources requiring regulation, and focusing on high priority polluters. These comments helped to focus on pollution prevention, watershed-based concerns and BMPs. They also led to certain exemptions for facilities that do not pollute national waters.

In early 1993, EPA, in conjunction with the Rensselaerville Institute, held public and expert meetings to assist in developing and analyzing options for identifying unregulated storm water sources and possible controls. These meetings provided participants an additional opportunity to provide input into the CWA section 402(p)(6) program development process. The final rule addresses several of the key concerns identified in these groups, including provisions that provide flexibility to the States to select sources to be controlled and types of permits to be issued, and flexibility to MS4s in selecting BMPs.

EPA also conducted outreach with representatives of small entities, including small government representatives, in conjunction with the convening of a Small Business Advocacy Review Panel under SBREFA which is discussed in section IV.E. of the preamble.

In addition, EPA established the Urban Wet Weather Flows Advisory Committee under the Federal Advisory Committee Act (FACA). The Urban Wet Weather Flows Advisory Committee, in turn established the Storm Water Phase II Subcommittee. Consistent with FACA, the membership of the Committee and the Storm Water Phase II Subcommittee was balanced among EPA's various outside stakeholder interests, including representatives from State governments, municipal governments (both elected officials and appointed officials) and Tribal governments, as well as industrial and commercial sectors, agriculture, environmental and public interest groups.

In general, municipal and Tribal government representatives supported the NPDES approach in today's rule for the following reasons: It will be uniformly applied on a nationwide basis; it provides flexibility to allow incorporation of State and local programs; it resolves the problem of donut holes that cause water quality impacts in urbanized areas; and it allows co-permitting of small regulated ***68798** MS4s with those regulated under the existing storm water program.

In contrast, State representatives sought alternative approaches for State implementation of the storm water program for Phase II sources. State representatives asserted that a non-NPDES alternative approach best facilitated watershed management and avoided duplication and overlapping regulations. These representatives pointed out that there are a variety of State programs—not based on the CWA—implementing effective storm water controls, and that EPA should provide incentives for their implementation and improvement in performance. EPA continues to believe that an NPDES approach is the best approach in order to adequately protect water quality. However, EPA has worked with States on an alternative approach that provides flexibility within the NPDES framework. The final rule allows States with a watershed permitting approach to phase in permit coverage for MS4s in jurisdictions with a population less than 10,000 and provides two waivers from coverage for small MS4s. This issue is discussed in section II.C of the preamble, Program Framework: NPDES Approach.

Some municipal governments objected that the rule's minimum measures for small MS4s violate the Tenth Amendment insofar as they require the operators of MS4s to regulate third parties according to the “minimum measures” for municipal storm water management programs. EPA disagrees that today's rule is inconsistent with Tenth Amendment principles. Permits issued under today's rule will not compel political subdivisions of States to regulate in their sovereign capacities, but rather to effectively control discharges out of their storm sewer systems in their owner/operator capacities. For MS4s that do not accept this “default” minimum measures-based approach (to control discharges out of the storm sewer system by exercising local powers to control discharges into the storm sewer system), today's rule allows for alternative permits through individual permit applications. EPA made revisions to the rule to allow regulated small MS4s to opt out of the minimum measures approach and instead apply for an individual permit. This issue is discussed in section II.H.3.c.iii of the preamble, Alternative Permit Option/Tenth Amendment.

2. Selection of the Least Costly, Most Cost-Effective or Least Burdensome Alternative That Achieves the Objectives of the Statute

Today's rule evolved over time and incorporated aspects of alternatives that responded to concerns presented by the various stakeholders. A primary characteristic of today's rule is the flexibility it offers both the permitting authority and the regulated sources (small MS4s and small construction sites), by the use of general permits, implementation of BMPs suited to specific locations, and allowing MS4s to develop their own program goals.

In the administrative record supporting the proposed rule, EPA estimated ranges of costs associated with six different options, including a no action option, the proposed option, and four other options that considered various combinations of the following: Covering all the unregulated construction sites below 5 acres, all small MS4s, certain industrial and commercial activities, and all point sources. EPA developed detailed cost estimates for the incremental requirements imposed under the final regulation, and for each of the alternatives, and applied these estimates to the remaining unregulated point sources of storm water. The Agency compared the estimated annual range of costs imposed under today's rule and other major options considered. The range of values for each option included the costs for compliance, including paperwork requirements for the operators of small construction sites, industrial facilities, and MS4s and administrative costs for State and Federal NPDES permitting authorities.

Today's rule reflects the least costly option that achieves the objectives of the statute, thus meeting the requirements of [section 205](#). EPA did not consider “no regulation” to be an “option” because it would not achieve the objectives of CWA section 402(p)(6). A portion of currently unregulated point sources of storm water need to reduce pollutants to protect water quality.

Today's rule is estimated to range in cost from \$847.6 million to \$981.3 million annually, although the cost estimate for the proposed rule was reported as a range of \$138 to \$869 million annually. That range reflected a unit cost range for the municipal minimum measures and a cost range per construction site for soil erosion control. EPA has since revised its cost analysis to allow it to report the current estimate, which is toward the high end of the original cost range. The

four other regulatory options considered at proposal involved higher regulatory costs and, therefore, were not selected. These four options and their estimated costs are as follows:

- (1) An option based on the August 7, 1995 direct final rule was estimated to cost between \$2.2 billion and \$78.9 billion per year.
- (2) A “Plan B” option was estimated to cost between \$0.6 billion and \$3.2 billion per year.
- (3) An option based on the September 30, 1996 draft proposed rule was estimated to cost between \$0.2 billion and \$3.7 billion per year.
- (4) An option based on the February 13, 1997 draft proposed rule, was estimated to cost between \$0.2 billion and \$3.5 billion.

There are three reasons why the costs for these four options exceeded the estimated cost range for the proposed rule. The first two options regulated substantially more municipal governments. The first, third, and fourth options required industrial facilities to apply for permits. Finally, the first three options applied permit requirements to construction sites below 1 acre. Consequently, these options would be more costly than today's rule even with the revised analysis methods used to estimate costs.

3. Effects on Small Governments

Before EPA establishes any regulatory requirements that may significantly or uniquely affect small governments, including tribal governments, it must have developed under section 203 of the UMRA a small government agency plan. The plan must provide for notifying potentially affected small governments, enabling officials of affected small governments to have meaningful and timely input in the development of EPA regulatory proposals with significant Federal intergovernmental mandates, and informing, educating, and advising small governments on compliance with the regulatory requirements. EPA has determined that this rule contains no regulatory requirements that might significantly or uniquely affect small governments. Although today's rule expands the NPDES program (with modifications) to certain MS4s serving populations below 100,000 and although many MS4s are owned by small governments, EPA does not believe today's rule significantly or uniquely affects small governments. As explained in section IV.E. of the preamble, EPA today certifies that the rule will not have a significant impact on small governmental jurisdictions. In addition, the rule will not have a unique impact on small governments because the rule will affect small governments in *68799 to the same extent as (or to a lesser extent than) larger governments that are already covered by the existing storm water rules. Thus, today's rule is not subject to the requirements of section 203 of UMRA.

Notwithstanding this finding, in developing today's rule, EPA provided notice of the requirements to potentially affected small governments; enabled officials of affected small governments to provide meaningful and timely input in the development of regulatory proposals; and informed, educated and advised small governments on compliance with the requirements.

Concerning notice, EPA provided States, local, and Tribal governments with the opportunity to comment on alternative approaches for an early draft of the proposed rule by publishing a notice requesting information and public comment in the Federal Register on September 9, 1992 (57 FR 41344). This notice presented a full range of regulatory alternatives. At that time, EPA received more than 130 comments, including approximately 43 percent from municipalities and 24 percent from State or Federal agencies.

The Agency also provided, through the SBREFA panel process and the FACA process, the opportunity for elected officials of small governments (and their representatives) to meaningfully participate in the development of the rule. Through such participation and exchange, EPA not only notified potentially affected small governments of requirements

of the developing rule, but also allowed officials of affected small governments to have meaningful and timely input into the development of regulatory proposals.

In addition to involving municipalities in the development of the rule, EPA also continues to inform, educate, and advise small governments on compliance with the requirements of today's rule. For example, EPA supported 10 workshops, presented by the American Public Works Association from September 1998 through May 1999, designed to educate local governments on the implementation of the rule. The workshop curriculum included information on a variety of key issues such as anticipated regulatory requirements, agency reporting, best management practices, construction site controls, post construction management for new and redeveloped sites, public education and public involvement strategies, detection and control of illicit discharges, and good housekeeping practices. Moreover, EPA has prepared a series of fact sheets, available on the EPA website at www.epa.gov/owm/sw/toolbox, that explains the rule in detail.

Finally, to assist small governments in implementing the Phase II program, EPA is committed to the following: (1) developing a tool box of implementation strategies; (2) providing written technical assistance, including guidance on developing BMPs and measurable goals; and (3) compiling a comprehensive evaluation of the NPDES municipal storm water Phase II program over the next 13 years.

D. Executive Order 13132

[Executive Order 13132](#), entitled “Federalism” (64 FR 43255, August 10, 1999), requires EPA to develop an accountable process to ensure “meaningful and timely input by State and local officials in the development of regulatory policies that have federalism implications.” “Policies that have federalism implications” is defined in the Executive Order to include regulations that have “substantial direct effects on the States, on the relationship between the national government and the States, or on the distribution of power and responsibilities among the various levels of government.” Under [Executive Order 13132](#), EPA may not issue a regulation that has federalism implications, that imposes substantial direct compliance costs, and that is not required by statute, unless the Federal government provides the funds necessary to pay the direct compliance costs incurred by State and local governments, or EPA consults with State and local officials early in the process of developing the proposed regulation. EPA also may not issue a regulation that has federalism implications and that preempts State law unless the Agency consults with State and local officials early in the process of developing the proposed regulation.

If EPA complies by consulting, [Executive Order 13132](#) requires EPA to provide to the Office of Management and Budget (OMB), in a separately identified section of the preamble to the rule, a federalism summary impact statement (FSIS). The FSIS must include a description of the extent of EPA's prior consultation with State and local officials, a summary of the nature of their concerns and the agency's position supporting the need to issue the regulation, and a statement of the extent to which the concerns of State and local officials have been met. For final rules subject to [Executive Order 13132](#), EPA also must submit to OMB a statement from the agency's Federalism Official certifying that EPA has fulfilled the Executive Order's requirements.

EPA has concluded that this final rule may have federalism implications. As discussed above in section IV.C., the rule contains a Federal mandate that may result in the expenditure by State, local and tribal governments, in the aggregate, of \$100 million or more in any one year. Accordingly, the rule may have substantial direct effects on the States, on the relationship between the national government and the States, or on the distribution of power and responsibilities among the various levels of government, as specified in [Executive Order 13132](#). Moreover, the rule will impose substantial direct compliance costs on State or local governments. Accordingly, EPA provides the following [FSIS under section 6\(b\) of Executive Order 13132](#).

1. Description of the Extent of the Agency's Prior Consultation with State and Local Governments

Although this rule was proposed long before the November 2, 1999 effective date of [Executive Order 13132](#), EPA consulted extensively with affected State and local governments pursuant to the intergovernmental consultation provisions of [Executive Order 12875](#), “Enhancing the Intergovernmental Partnership” (now revoked by [Executive Order 13132](#)) and section 204 of UMRA.

First, EPA provided State and local governments the opportunity to comment on draft alternative approaches for the proposed rule through publishing a notice requesting information and public comment in the Federal Register on September 9, 1992 ([57 FR 41344](#)). This notice presented a full range of regulatory alternatives. At that time, EPA received more than 130 comments, including approximately 43 percent from municipalities and 24 percent from State or Federal agencies. These comments were the genesis of many of the provisions in the today's rule, including reliance on the NPDES program framework (including general permits), providing State and local governments flexibility in selecting additional sources requiring regulation, and focusing on high priority polluters. These comments helped to focus on pollution prevention, watershed-based concerns and BMPs. They also led to certain exemptions for facilities that do not pollute national waters.

In early 1993, EPA, in conjunction with the Rensselaerville Institute, held public and expert meetings to assist in developing and analyzing options for identifying unregulated storm water sources and possible controls. These meetings provided participants an additional opportunity to provide input into the CWA section 402(p)(6) program ***68800** development process. The final rule addresses several of the key concerns identified in these groups, including provisions that provide flexibility to the States to select sources to be controlled and types of permits to be issued, and flexibility to MS4s in selecting BMPs.

EPA also conducted outreach with representatives of small entities, including small governments, in conjunction with the convening of a Small Business Advocacy Review Panel under SBREFA which is discussed in section III.F. of the preamble.

In addition, EPA established the Urban Wet Weather Flows Advisory Committee (FACA), which in turn established the Storm Water Phase II Subcommittee. Consistent with the Federal Advisory Committee Act, the membership of the Committee and the Storm Water Phase II Subcommittee was balanced among EPA's various outside stakeholder interests, including representatives from State governments, municipal governments (both elected officials and appointed officials) and Tribal governments, as well as industrial and commercial sectors, agriculture, environmental and public interest groups.

2. Summary of Nature of State and Local Government Concerns, and Statement of the Extent to Which Those Concerns Have Been Met

In general, municipal government representatives supported the NPDES approach in today's rule for the following reasons: it will be uniformly applied on a nationwide basis; it provides flexibility to allow incorporation of State and local programs; it resolves the problem of donut holes that cause water quality impacts in urbanized areas; and it allows co-permitting of small regulated MS4s with those regulated under the existing storm water program.

In contrast, State representatives sought alternative approaches for State implementation of the storm water program for Phase II sources. State representatives asserted that a non-NPDES alternative approach best facilitated watershed management and avoided duplication and overlapping regulations. These representatives pointed out that there are a variety of State programs—not based on the CWA—implementing effective storm water controls, and that EPA should provide incentives for their implementation and improvement in performance. EPA continues to believe that an NPDES approach is the best approach in order to adequately protect water quality. However, EPA has worked with States on an alternative approach that provides flexibility within the NPDES framework. The final rule allows States with a watershed permitting approach to phase in permit coverage for MS4s in jurisdictions with a population less than 10,000

and provides two waivers from coverage for small MS4s. This issue is discussed in section II.C of the preamble, Program Framework: NPDES Approach.

Some municipal governments objected that the rule's minimum measures for small MS4s violate the Tenth Amendment insofar as they require the operators of MS4s to regulate third parties according to the "minimum measures" for municipal storm water management programs. EPA disagrees that today's rule is inconsistent with Tenth Amendment principles. Permits issued under today's rule will not compel political subdivisions of States to regulate in their sovereign capacities, but rather to effectively control discharges out of their storm sewer systems in their owner/operator capacities. For MS4s that do not accept this "default" minimum measures-based approach (to control discharges out of the storm sewer system by exercising local powers to control discharges into the storm sewer system), today's rule allows for alternative permits through individual permit applications. EPA made revisions to the rule to allow regulated small MS4s to opt out of the minimum measures approach and instead apply for an individual permit. This issue is discussed in section II.H.3.c.iii of the preamble, Alternative Permit Option/Tenth Amendment.

3. Summary of the Agency's Position Supporting the Need To Issue the Regulation

As discussed more fully in section I.B. above, today's rule is needed because uncontrolled storm water discharges from areas of urban development and construction activity have been shown to have negative impacts on receiving waters by changing the physical, biological, and chemical composition of the water, resulting in an unhealthy environment for aquatic organisms, wildlife, and people. As discussed in section II.C., the NPDES approach in today's rule is needed to ensure uniform application on a nationwide basis, to provide flexibility to allow incorporation of State and local programs, to resolve the problem of donut holes that cause water quality impacts in urbanized areas, and to allow co-permitting of small regulated MS4s with those regulated under the existing storm water program.

The draft final rule was transmitted to OMB on July 6, 1999. Because transmittal occurred before the November 2, 1999 effective date of [Executive Order 13132](#), certification under section 8 of the Executive Order is not required.

E. Regulatory Flexibility Act (RFA), as amended by the Small Business Regulatory Enforcement Fairness Act of 1996 (SBREFA), 5 U.S.C. 601 et seq.

The RFA generally requires an Agency to prepare a regulatory flexibility analysis of any rule subject to notice and comment rulemaking requirements under the Administrative Procedure Act or any other statute unless the agency certifies that the rule will not have a significant economic impact on a substantial number of small entities. Small entities include small businesses, small organizations, and small governmental jurisdictions.

For purposes of assessing the impact of today's rule on small entities, small entity is defined as: (1) a building contractor (SIC 15) with up to \$17.0 million in annual revenue; (2) a small governmental jurisdiction that is a government of a city, county, town, school district, or special district with a population of less than 50,000; and (3) a small organization that is any not-for-profit enterprise which is independently owned and operated and is not dominant in its field.

After considering the economic impacts of today's final rule on small entities, I certify that this action will not have a significant economic impact on a substantial number of small entities.

Although this final rule will not have a significant economic impact on a substantial number of small entities, EPA nonetheless has tried to reduce the impact of this rule on small entities.

For purposes of evaluating the economic impact of this rule on small governmental jurisdictions, EPA compared annual compliance costs with annual government revenues obtained from the 1992 Census of Governments, using state-specific estimates of annual revenue per capita for municipalities in three population size categories (fewer than 10,000, 10,000-25,000, and 25,000-50,000).

In order to estimate the annual compliance cost for small governmental jurisdictions, EPA used the mean variable municipal cost of \$8.93 per household as calculated in a 1998 study of 121 municipalities conducted by the national Association of Flood and Stormwater Management Agencies (NAFSMA). In addition, EPA used the estimated fixed administrative costs of \$1,545 per municipality for reporting, *68801 recordkeeping, and application requirements for today's rule.

In evaluating the economic impact of this rule on small governmental jurisdictions, EPA determined that compliance costs represent more than 1 percent of estimated revenues for only 10 percent of small governments and more than 3 percent of the revenue for 0.7 percent of these entities. In both absolute and relative terms, EPA does not consider this a significant economic impact on a substantial number of small entities.

EPA normally uses the “sales test” for determining the economic impact on small businesses. Under a sales test, annual compliance costs are compared with the small business's total annual sales. However, the direct application of the sales test is not suitable in this case, because of the uncertainty associated with estimating the number of units an “average” developer/contractor develops or builds in a typical year. For this rule, EPA has approximated the sales test by estimating compliance costs for three sizes of construction sites and comparing them with a representative sale price for three building categories. Although EPA's analysis is not exactly a “sales test,” it is similar to the sales test, producing comparable results.

For small building contractors, EPA estimated administrative compliance costs of \$870 per site for applying for coverage, reporting, record keeping, monitoring and preparing a storm water pollution prevention plan. EPA estimated compliance costs for installing soil and erosion controls as ranging from \$1,206 to \$8,709 per site. EPA compliance cost estimates are based on 27 theoretical model construction sites designed to mimic the mostly likely used best management practices around the country.

In evaluating the economic impact on small building contractors, EPA divided the revised compliance costs per construction start by the appropriate homes-to-site ratio for each of the three sizes of construction sites. The average compliance cost per home ranges from approximately \$450 to \$650. EPA concluded that compliance costs are roughly 0.22 to 0.43 percent of both the mean, \$181,300, and median, \$151,000, sale price of a home.

The absence of data to specifically assess annual compliance costs for building contractors as a percentage of annual sales (i.e., a very direct estimate of the impact on potentially affected small businesses) led EPA to perform additional market analysis to examine the ability of potentially affected firms to pass along regulatory costs to buyers for single-family homes constructed subject to today's rule. If the small building contractors covered by the rule are able to pass on the costs of compliance, either completely or partially, to their purchasers, then the rule's impact on these small business entities is significantly reduced. The market analysis shows that demand for homes is not overly sensitive to small changes in price, therefore builders should be able to pass on at least a significant fraction of the compliance costs to buyers.

EPA also assessed the effect of the building contractors' costs on average monthly mortgage rates and on the demand for new homes. Based on that screening analysis, EPA concludes that the costs to building contractors, and the potential changes in housing prices and monthly mortgage payments for single-family home buyers, are not expected to have a significant impact on the market for single-family houses. In both absolute and relative terms, EPA does not consider this a significant economic impact on a substantial number of small entities.

EPA also certified this rule at proposal. Even though the Agency was not required to, we convened a Small Business Advocacy Review Panel (“Panel”) in June 1997. A number of small entity representatives had already been actively involved with EPA through the FACA process, and were, therefore, broadly knowledgeable about the development of the proposed and final rules. Prior to convening the Panel, EPA consulted with the Small Business Administration to

identify a group of small entity representatives to advise the Panel. The Agency distributed a briefing package describing its preliminary analysis under the RFA to the small entity representatives (as well as to representatives from OMB and SBA) and conducted two telephone conference calls and an all-day meeting at EPA Headquarters in May of 1997 with small entity representatives. With this preliminary work complete, in June 1997, EPA formally convened the SBREFA Panel, comprising representatives from OMB, SBA, EPA's Office of Water and EPA's Small Business Advocacy Chair. The Panel received written comments from small entity representatives based on their involvement in the earlier meetings, and invited additional comments.

Consistent with requirements of the RFA, the Panel evaluated the assembled materials and small-entity comments on issues related to: (1) a description and the number of small entities that would be regulated; (2) a description of the projected record keeping, reporting and other compliance requirements applicable to small entities; (3) identification of other Federal rules that may duplicate, overlap, or conflict with the proposal to the final rule; and (4) regulatory alternatives that would minimize any significant economic impact of the rule on small entities while accomplishing the stated objectives of the CWA section 402(p)(6).

On August 7, 1997, the Panel provided a Final Report (hereinafter, "Report") to the EPA Administrator. A copy of the Report is included in the docket for the rule. The Panel acknowledged and commended EPA's efforts to work with stakeholders, including small entities, through the FACA process. The SBREFA Panel stated that, because of EPA's extensive outreach and responsiveness in addressing stakeholder concerns, commenters during the SBREFA process raised fewer concerns than might otherwise have been expected. Based on the advice and recommendations of the Panel, today's rule includes a number of provisions designed to minimize any significant impact on small entities. (See Appendix 5).

F. National Technology Transfer And Advancement Act

Section 12(d) of the National Technology Transfer and Advancement Act of 1995 ("NTTAA"), [Public Law 104-113](#), section 12(d) ([15 U.S.C. 272](#) note) directs EPA to use voluntary consensus standards in its regulatory activities unless to do so would be inconsistent with applicable law or otherwise impractical. Voluntary consensus standards are technical standards (e.g., materials specifications, test methods, sampling procedures, and business practices) that are developed or adopted by voluntary consensus standard bodies. The NTTAA directs EPA to provide Congress, through OMB, explanations when the Agency decides not to use available and applicable voluntary consensus standards.

This action does not mandate the use of any particular technical standards, although in designing appropriate BMPs regulated small MS4s and small construction sites are encouraged to use any voluntary consensus standards that may be applicable and appropriate. Because no specific technical standards are included in the rule, section 12(d) of the NTTAA is not applicable.

G. Executive Order 13045

[Executive Order 13045](#): "Protection of Children from Environmental Health Risks and Safety Risks" ([62 FR 19885](#), April 23, 1997) applies to any rule that: (1) Is determined to be "economically *68802 significant" as defined under [E.O. 12866](#), and (2) concerns an environmental health or safety risk that EPA has reason to believe may have a disproportionate effect on children. If the regulatory action meets both criteria, the Agency must evaluate the environmental health or safety effects of the planned rule on children, and explain why the planned regulation is preferable to other potentially effective and reasonably feasible alternatives considered by the Agency.

This final rule is not subject to [E.O. 13045](#) because it does not concern an environmental health or safety risk that may have a disproportionate effect on children. The rule expands the scope of the existing NPDES permitting program to require small municipalities and small construction sites to regulate their storm water discharges. The rule does not itself, however, establish standards or criteria that would be included in permits for those sources. Such standards or criteria

will be developed through other actions, for example, in the establishment of water quality standards or subsequently in the issuance of permits themselves. As such, today's action does not concern an environmental health or safety risk that may have a disproportionate effect on children. To the extent it does address a risk that may have a disproportionate effect on children, expanding the scope of the permitting program will have a corresponding disproportionate benefit to children to protect them from such risk.

H. Executive Order 13084

Under [Executive Order 13084](#), EPA may not issue a regulation that is not required by statute, that significantly or uniquely affects the communities of Indian tribal governments, and that imposes substantial direct compliance costs on those communities, unless the Federal government provides the funds necessary to pay the direct compliance costs incurred by the Tribal governments, or EPA consults with those governments. If EPA complies by consulting, [Executive Order 13084](#) requires EPA to provide to the Office of Management and Budget, in a separately identified section of the preamble to the rule, a description of the extent of EPA's prior consultation with representatives of affected Tribal governments, a summary of the nature of their concerns, and a statement supporting the need to issue the regulation. In addition, [Executive Order 13084](#) requires EPA to develop an effective process permitting elected officials and other representatives of Indian Tribal governments “to provide meaningful and timely input in the development of regulatory policies on matters that significantly or uniquely affect their communities.”

Today's rule does not significantly or uniquely affect the communities of Indian Tribal governments. Even though the Agency is not required to address Tribes under the Regulatory Flexibility Act, EPA used the same revenue test that was used for municipalities to assess the impact of the rule on communities of Tribal governments and determine that they will not be significantly affected. In addition, the rule will not have a unique impact on the communities of Tribal governments because small municipal governments are also covered by this rule and larger municipal governments are already covered by the existing storm water rules. Accordingly, the requirements of [section 3\(b\) of Executive Order 13084](#) do not apply to this rule.

I. Congressional Review Act

The Congressional Review Act, [5 U.S.C. section 801 et seq.](#), as added by the Small Business Regulatory Enforcement Fairness Act of 1996, generally provides that before a rule may take effect, the agency promulgating the rule must submit a rule report, which includes a copy of the rule, to each House of the Congress and the Comptroller General of the United States. EPA will submit a report containing this rule and other required information to the U.S. Senate, the U.S. House of Representatives, and the Comptroller General of the United States prior to publication of the rule in the Federal Register. A major rule cannot take effect until 60 days after it is published in the Federal Register. This rule is a “major rule” as defined by [5 U.S.C. 804\(2\)](#). This rule will be effective on February 7, 2000.

List of Subjects

40 CFR Part 9

Environmental protection, Reporting and recordkeeping requirements.

40 CFR Part 122

Administrative practice and procedure, Confidential business information, Environmental protection, Hazardous substances, Incorporation by reference, Reporting and recordkeeping requirements, Sewage disposal, Waste treatment and disposal, Water pollution control.

40 CFR Part 123

Administrative practice and procedure, Confidential business information, Hazardous materials, Indians—lands, Intergovernmental relations, Penalties, Reporting and recordkeeping requirements, Sewage disposal, Waste treatment and disposal, Water pollution control, Penalties.

40 CFR Part 124

Administrative practice and procedure, Air pollution control, Hazardous waste, Indians—lands, Reporting and recordkeeping requirements, Water pollution control, Water supply.

Dated: October 29, 1999.

Carol M. Browner,

Administrator.

Appendices to the Preamble

Appendix 1 to Preamble—Federally-Recognized American Indian Areas Located Fully or Partially in Bureau of the Census Urbanized Areas

[Based on 1990 Census data]

State	American Indian Area	Urbanized Area
AZ	Pascua Yacqui Reservation (pt.): Pascua Yacqui Tribe of Arizona	Tucson, AZ (Phase I).
AZ	Salt River Reservation (pt.): Salt River Pima-Maricopa Indian Community of the Salt River Reservation, California	Phoenix, AZ (Phase I).
AZ	San Xavier Reservation (pt.): Tohono O'odham Nation of Arizona (formerly known as the Papago Tribe of the Sells, Gila Bend & San Xavier Reservation)	Tucson, AZ (Phase I).
CA	Augustine Reservation: Augustine Band of Cahuilla Mission of Indians of the Augustine Reservation, CA	Indio- Coachella, CA (Phase I).
CA	Cabazon Reservation: Cabazon Band of Cahuilla Mission Indians of the Cabazon Reservation, CA	Indio- Coachella, CA (Phase I).
CA	Fort Yuma (Quechan) (pt.): Quechan Tribe of the Fort Yuma Indian Reservation, California & Arizona	Yuma, AZ-CA.
CA	Redding Rancheria: Redding Rancheria of California	Redding, CA.
FL	Hollywood Reservation: Seminole Tribe	Fort Lauderdale, FL (Phase I).

FL	Seminole Trust Lands: Seminole Tribe of Florida, Dania, Big Cypress & Brighton Reservations	Fort Lauderdale, FL (Phase I).
ID	Fort Hall Reservation and Trust Lands: Shosone-Bannock Tribes of the Fort Hall Reservation of Idaho	Pocatello, ID.
ME	Penobscot Reservation and Trust Lands (pt.): Penobscot Tribe of Maine	Bangor, ME.
MN	Shakopee Community: Shakopee Mdewakanton Sioux Community of Minnesota (Prior Lake)	Minneapolis-St. Paul, MN (Phase I).
NM	Sandia Pueblo (pt.): Pueblo of Sandia, New Mexico	Albuquerque, NM (Phase I).
NV	Las Vegas Colony: Las Vegas Tribe of Paiute Indians of the Las Vegas Indian Colony, Nevada	Las Vegas, NV (Phase I).
NV	Reno-Sparks Colony: Reno-Sparks Indian Colony, Nevada	Reno, NV (Phase I).
OK	Osage Reservation (pt.): Osage Nation of Oklahoma	Tulsa, OK (Phase I).
OK	Absentee Shawnee-Citizens Band of Potawatomi TJSAs (pt.): Absentee-Shawnee Tribe of Indians of Oklahoma; Citizen Potawatomi Nation, Oklahoma	Oklahoma City, OK (Phase I).
OK	Cherokee TJSAs 9 (pt.): Cherokee Nation of Oklahoma; United Keetoowah Band of Cherokee Indians of Oklahoma	Ft. Smith, AR-OK; Tulsa, OK (Phase I).
OK	Cheyenne-Arapaho TJSAs (pt.): Cheyenne-Arapaho Tribes of Oklahoma	Oklahoma City, OK (Phase I).
OK	Choctaw TJSAs (pt.): Choctaw Nation of Oklahoma	Ft. Smith, AR-OK (Phase I).
OK	Creek TJSAs (pt.): Alabama-Quassarte Tribal Town of the Creek Nation of Oklahoma; Kialegee Tribal Town of the Creek Indian Nation of Oklahoma; Muscogee (Creek) Nation of Oklahoma; Thlopthlocco Tribal Town of the Creek Nation of Oklahoma	Tulsa, OK (Phase I).
OK	Kiowa-Comanche-Apache-Ft. Sill Apache: Apache Tribe of Oklahoma; Comanche Indian Tribe, Oklahoma; Fort Sill Apache Tribe of Oklahoma; Kiowa Indian Tribe of Oklahoma	Lawton, OK.
TX	Ysleta del Sur Reservation: Ysleta Del Sur Pueblo of Texas	El Paso, TX-NM (Phase I).
WA	Muckleshoot Reservation and Trust Lands (pt.): Muckleshoot Indian Tribe of the Muckleshoot Reservation	Seattle, WA (Phase I).

WA	Puyallup Reservation and Trust Lands (pt.): Puyallup Tribe of the Puyallup Reservation, WA	Tacoma, WA (Phase I).
WA	Yakima Reservation (pt.): Confederated Tribes and Bands of the Yakama Indian Nation of the Yakama Reservation, WA	Yakima, WA.
WI	Oneida (West) (pt.): Oneida Tribe of Wisconsin	Green Bay, WI.

***68803 Please Note**

“(pt.)” indicates that the American Indian Area (AIA) listed is only partially located within the referenced urbanized area.

The first line under “American Indian Area” is the name of the federally-recognized reservation/colony/rancheria or trust land as it appears in the Bureau of the Census data. After this first line, the names of the tribes included in the AIA are listed as they appear in the Bureau of Indian Affairs' list of Federally Recognized Indian Tribes. [Federal Register: Nov. 13, 1996, Vol. 66, No. 220, pgs. 58211-58216]

“TJSAs” are Tribal Jurisdiction Statistical Areas in Oklahoma that are defined in conjunction with the federally-recognized tribes in Oklahoma who have definite land areas under their jurisdiction, but do not have reservation status.

“(Phase I)” indicates that the referenced urbanized area includes a medium or large MS4 currently regulated under the existing NPDES storm water program (i.e., Phase I). Any Tribally operated MS4 within these such urban areas would not automatically have been covered under Phase I, however.

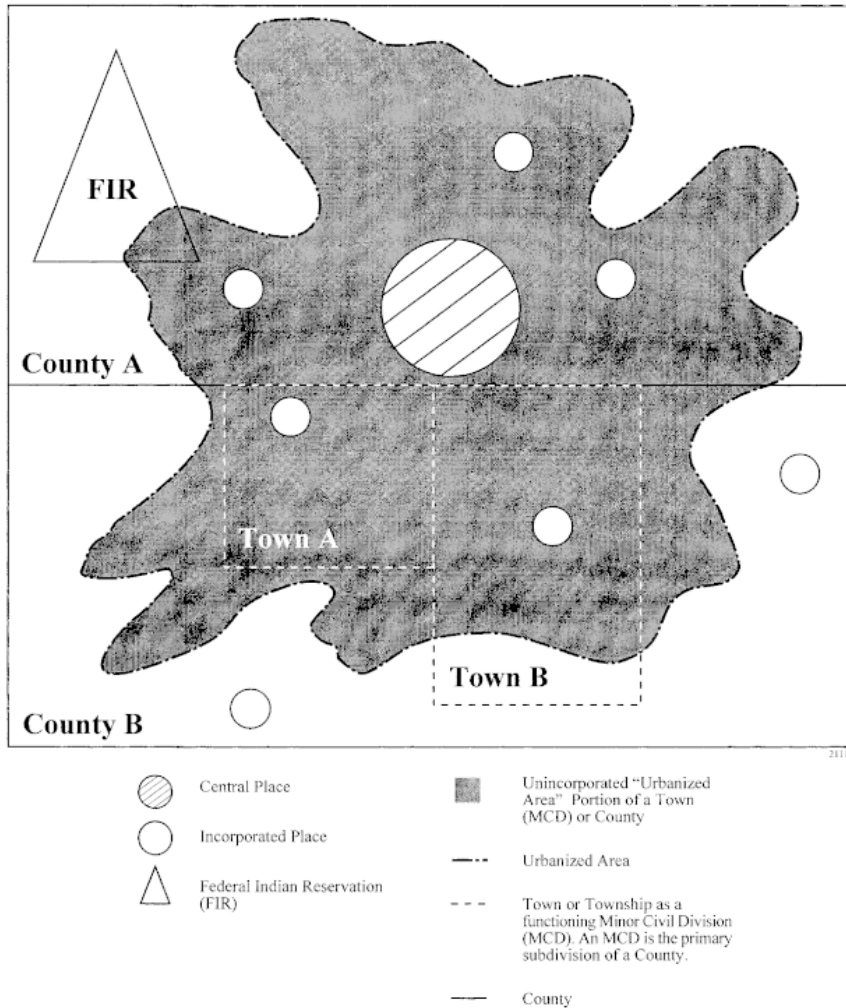
Sources

Michael Ratcliffe, Geographic Concepts Division, Bureau of the Census, U.S. Department of Commerce.

1990 Census of Population and Housing, Summary Population and Housing Characteristics, United States. Tables 9 & 10. [1990 CPH-1-1]. Bureau of the Census, U.S. Department of Commerce.

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APPENDIX 2 TO PREAMBLE—URBANIZED AREA ILLUSTRATION



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***68805 Appendix 3 to the Preamble—Urbanized Areas of the United States and Puerto Rico**

(Source: 1990 Census of Population and Housing, U.S. Bureau of the Census—This list is subject to change with the Decennial Census)

Alabama

Anniston

Auburn-Opelika

Birmingham

Columbus, GA-AL

Decatur

Dothan

Florence

Gadsden

Huntsville

Mobile

Montgomery

Tuscaloosa

Alaska

Anchorage

Arizona

Phoenix

Tucson

Yuma, AZ-CA

Arkansas

Fayetteville-Springdale

Fort Smith, AR-OK

Little Rock-North Little Rock

Memphis, TN-AR-MS

Pine Bluff

Texarkana, AR-TX

California

Antioch-Pittsburgh

Bakersfield

Chico

Davis

Fairfield

Fresno

Hemet-San Jacinto

Hesperia-Apple Valley-Victorville

Indio-Coachella

Lancaster-Palmdale

Lodi

Lompoc

Los Angeles

Merced

Modesto

Napa

Oxnard-Ventura

Palm Springs

Redding

Riverside-San Bernardino

Sacramento

Salinas

San Diego

San Francisco-Oakland

San Jose

San Luis Obispo

Santa Barbara

Santa Cruz

Santa Maria

Santa Rosa

Seaside-Monterey

Simi Valley

Stockton

Vacaville

Visalia

Watsonville

Yuba City

Yuma

Colorado

Boulder

Colorado Springs

Denver

Fort Collins

Grand Junction

Greeley

Longmont

Pueblo

Connecticut

Bridgeport-Milford

Bristol

Danbury, CT-NY

Hartford-Middletown

New Britain

New Haven-Meriden

New London-Norwich

Norwalk

Springfield, MA-CT

Stamford, CT-NY

Waterbury

Worcester, MA-CT

Delaware

Dover

Wilmington, DE-NJ-MD-PA

District of Columbia

Washington, DC-MD-VA

Florida

Daytona Beach

Deltona

Fort Lauderdale-Hollywood-Pompano Beach

Fort Myers-Cape Coral

Fort Pierce

Fort Walton Beach

Gainesville

Jacksonville

Kissimmee

Lakeland

Melbourne-Palm Bay

Miami-Hialeah

Naples

Ocala

Orlando

Panama City

Pensacola

Punta Gorda

Sarasota-Bradenton

Spring Hill

Stuart

Tallahassee

Tampa-St. Petersburg-Clearwater

Titusville

Vero Beach

West Palm Beach-Boca Raton-Delray Beach

Winter Haven

Georgia

Albany

Athens

Atlanta

Augusta

Brunswick

Chattanooga

Columbus

Macon

Rome

Savannah

Warner Robins

Hawaii

Honolulu

Kailua

Idaho

Boise City

Idaho Falls

Pocatello

Illinois

Alton

Aurora

Beloit, WI-IL

Bloomington-Normal

Champaign-Urbana

Chicago, IL-Northwestern IN

Crystal Lake

Davenport-Rock Island-Moline, IA-IL

Decatur

Dubuque

Elgin

Joliet

Kankakee

Peoria

Rockford

Round Lake Beach-McHenry, IL-WI

St. Louis, MO-IL

Springfield

Indiana

Anderson

Bloomington

Chicago, IL-Northwestern IN

Elkhart-Goshen

Evansville, IN-KY

Fort Wayne

Indianapolis

Kokomo

Lafayette-West Lafayette

Louisville, KY-IN

Muncie

South Bend-Mishawaka, IN-MI

Terre Haute

Iowa

Cedar Rapids

Davenport-Rock Island-Moline, IA-IL

Des Moines

Dubuque, IA-IL-WI

Iowa City

Omaha, NE-IA

Sioux City, IA-NE-SD

Waterloo-Cedar Falls

Kansas

Kansas City, MO-KS

Lawrence

St. Joseph, MO-KS

Topeka

Wichita

Kentucky

Cincinnati, OH-KY

Clarksville, TN-KY

Evansville, IN-KY

Huntington-Ashland, WV-KY-OH

Lexington-Fayette

Louisville, KY-IN

Owensboro

Louisiana

Alexandria

Baton Rouge

Houma

Lafayette

Lake Charles

Monroe

New Orleans

Shreveport *68806

Slidell

Maine

Bangor

Lewiston-Auburn

Portland

Portsmouth-Dover-Rochester, NH-ME

Maryland

Annapolis

Baltimore

Cumberland

Frederick

Hagerstown, MD-PA-WV

Washington, DC-MD-VA

Wilmington, DE-NJ-MD-PA

Massachusetts

Boston

Brockton

Fall River, MA-RI

Fitchburg-Leominster

Hyannis

Lawrence-Haverhill, MA-NH

Lowell, MA-NH

New Bedford

Pittsfield

Providence-Pawtucket, RI-MA

Springfield, MA-CT

Taunton

Worcester, MA-CT

Michigan

Ann Arbor

Battle Creek

Bay City

Benton Harbor

Detroit

Flint

Grand Rapids

Holland

Jackson

Kalamazoo

Lansing-East Lansing

Muskegon

Port Huron

Saginaw

South Bend-Mishawaka, IN-MI

Toledo, OH-MI

Minnesota

Duluth, MN-WI

Fargo-Moorhead, ND-MN

Grand Forks, ND-MN

La Crosse, WI-MN

Minneapolis-St.Paul

Rochester

St. Cloud

Mississippi

Biloxi-Gulfport

Hattiesburg

Jackson

Memphis, TN-AR-MS

Pascagoula

Missouri

Columbia

Joplin

Kansas City, MO-KS

St. Joseph, MO-KS

St. Louis, MO-IL

Springfield

Montana

Billings

Great Falls

Missoula

Nebraska

Lincoln

Omaha, NE-IA

Sioux City, IA-NE-SD

Nevada

Las Vegas

Reno

New Hampshire

Lawrence-Haverhill, MA-NH

Lowell, MA-NH

Manchester

Nashua

Portsmouth-Dover-Rochester, NH-ME

New Jersey

Allentown-Bethlehem-Easton, PA-NJ

Atlantic City

New York, NY-Northeastern NJ

Philadelphia, PA-NJ

Trenton, NJ-PA

Vineland-Millville

Wilmington, DE-NJ-MD-PA

New Mexico

Albuquerque

El Paso

Las Cruces

Santa Fe

New York

Albany-Schenectady-Troy

Binghamton

Buffalo-Niagara Falls

Danbury, CT-NY

Elmira

Glens Falls

Ithaca

Newburgh

New York, NY-Northeastern NJ

Poughkeepsie

Rochester

Stamford, CT-NY

Syracuse

Utica-Rome

North Carolina

Asheville

Burlington

Charlotte

Durham

Fayetteville

Gastonia

Goldsboro

Greensboro

Greenville

Hickory

High Point

Jacksonville

Kannapolis

Raleigh

Rocky Mount

Wilmington

Winston-Salem

North Dakota

Bismark

Fargo-Moorhead, ND-MN

Grand Forks, ND-MN

Ohio

Akron

Canton

Cincinnati, OH-KY

Cleveland

Columbus

Dayton

Hamilton

Huntington-Ashland, WV-KY-OH

Lima

Lorain-Elyria

Mansfield

Middletown

Newark

Parkersburg, WV-OH

Sharon, PA-OH

Springfield

Steubenville-Weirton, OH-WV-PA

Toledo, OH-MI

Wheeling, WV-OH

Youngstown-Warren

Oklahoma

Fort Smith, AR-OK

Lawton

Oklahoma City

Tulsa

Oregon

Eugene-Springfield

Longview

Medford

Portland-Vancouver, OR-WA

Salem

Pennsylvania

Allentown-Bethlehem-Easton, PA-NJ

Altoona

Erie

Hagerstown, MD-PA-WV

Harrisburg

Johnstown

Lancaster

Monessen

Philadelphia, PA-NJ

Pittsburgh

Pottstown

Reading

Scranton-Wilkes-Barre

Sharon, PA-OH

State College

Steubenville-Weirton, OH-WV-PA

Trenton, NJ-PA

Williamsport

Wilmington, DE-NJ-MD-PA

York

Rhode Island

Fall River, MA-RI

Newport

Providence-Pawtucket, RI-MA

South Carolina

Anderson

Augusta, GA-SC

Charleston

Columbia

Florence

Greenville

Myrtle Beach

Rock Hill

Spartanburg

Sumter

South Dakota

Rapid City

Sioux City, IA-NE-SD

Sioux Falls

Tennessee

Bristol, TN-Bristol, VA *68807

Chattanooga, TN-GA

Clarksville, TN-KY

Jackson

Johnson City

Kingsport, TN-VA

Knoxville

Memphis, TN-AR-MS

Nashville

Texas

Abilene

Amarillo

Austin

Beaumont

Brownsville

Bryan-College Station

Corpus Christi

Dallas-Fort Worth

Denton

El Paso, TX-NM

Galveston

Harlingen

Houston

Killeen

Laredo

Lewisville

Longview

Lubbock

McAllen-Edinburg-Mission

Midland

Odessa

Port Arthur

San Angelo

San Antonio

Sherman-Denison

Temple

Texarkana, TX-Texarkana, AR

Texas City

Tyler

Victoria

Waco

Wichita Falls

Utah

Logan

Ogden

Provo-Orem

Salt Lake City

Vermont

Burlington

Virginia

Bristol, TN-Bristol, VA

Charlottesville

Danville

Fredericksburg

Kingsport, TN-VA

Lynchburg

Norfolk-Virginia Beach-Newport News

Petersburg

Richmond

Roanoke

Washington, DC-MD-VA

Washington

Bellingham

Bremerton

Longview, WA-OR

Olympia

Portland-Vancouver, OR-WA

Richland-Kennewick-Pasco

Seattle

Spokane

Tacoma

Yakima

West Virginia

Charleston

Cumberland, MD-WV

Hagerstown, MD-PA-WV

Huntington-Ashland, WV-KY-OH

Parkersburg, WV-OH

Steubenville-Weirton, OH-WV-PA

Wheeling, WV-OH

Wisconsin

Appleton-Neenah

Beloit, WI-IL

Duluth, MN-WI

Eau Claire

Green Bay

Janesville

Kenosha

La Crosse, WI-MN

Madison

Milwaukee

Oshkosh

Racine

Round Lake Beach-McHenry, IL-WI

Sheboygan

Wausau

Wyoming

Casper

Cheyenne

Puerto Rico

Aquadilla

Arecibo

Caguas

Cayey

Humacao

Mayaguez


Ponce

San Juan

Vega Baja-Manati


BILLING CODE 6560-50-P

***68808 Appendix 4 to the Preamble—No Exposure Certification Form**

NPDES FORM 3510-11		United States Environmental Protection Agency Washington, DC 20460 NO EXPOSURE CERTIFICATION for Exclusion from NPDES Storm Water Permitting	Form Approved OMB No. 2040-0211
<p>Submission of this No Exposure Certification constitutes notice that the entity identified in Section A does not require permit authorization for its storm water discharges associated with industrial activity in the State identified in Section B under EPA's Storm Water Multi-Sector General Permit due to the existence of a condition of no exposure.</p> <p>A condition of no exposure exists at an industrial facility when all industrial materials and activities are protected by a storm resistant shelter to prevent exposure to rain, snow, snowmelt, and/or runoff. Industrial materials or activities include, but are not limited to, material handling equipment or activities, industrial machinery, raw materials, intermediate products, by-products, final products, or waste products. Material handling activities include the storage, loading and unloading, transportation, or conveyance of any raw material, intermediate product, final product or waste product. A storm resistant shelter is not required for the following industrial materials and activities:</p> <ul style="list-style-type: none"> - drums, barrels, tanks, and similar containers that are tightly sealed, provided those containers are not deteriorated and do not leak. "Sealed" means banded or otherwise secured and without operational taps or valves; - adequately maintained vehicles used in material handling; and - final products, other than products that would be mobilized in storm water discharges (e.g., rock salt). <p>A No Exposure Certification must be provided for each facility qualifying for the no exposure exclusion. In addition, the exclusion from NPDES permitting is available on a facility-wide basis only, not for individual outfalls. If any industrial activities or materials are or will be exposed to precipitation, the facility is not eligible for the no exposure exclusion.</p> <p>By signing and submitting this No Exposure Certification form, the entity in Section A is certifying that a condition of no exposure exists at its facility or site, and is obligated to comply with the terms and conditions of 40 CFR 122.26(g).</p> <p>ALL INFORMATION MUST BE PROVIDED ON THIS FORM.</p> <p>Detailed instructions for completing this form and obtaining the no exposure exclusion are provided on pages 3 and 4.</p>			
<p>A. Facility Operator Information</p> <p>1. Name: _____ 2. Phone: _____</p> <p>3. Mailing Address: a. Street: _____</p> <p>b. City: _____ c. State: _____ d. Zip Code: _____</p>			
<p>B. Facility/Site Location Information</p> <p>1. Facility Name: _____</p> <p>2. a. Street Address: _____</p> <p>b. City: _____ c. County: _____</p> <p>d. State: _____ e. Zip Code: _____</p> <p>3. Is the facility located on Indian Lands? Yes <input type="checkbox"/> No <input type="checkbox"/></p> <p>4. Is this a Federal facility? Yes <input type="checkbox"/> No <input type="checkbox"/></p> <p>5. a. Latitude: _____ ° _____ ' _____ " b. Longitude: _____ ° _____ ' _____ " *</p> <p>6. a. Was the facility or site previously covered under an NPDES storm water permit? Yes <input type="checkbox"/> No <input type="checkbox"/></p> <p>b. If yes, enter NPDES permit number: _____</p> <p>7. SIC/Activity Codes: Primary: _____ Secondary (if applicable): _____</p> <p>8. Total size of site associated with industrial activity: _____ acres</p> <p>9. a. Have you paved or roofed over a formerly exposed, pervious area in order to qualify for the no exposure exclusion? Yes <input type="checkbox"/> No <input type="checkbox"/></p> <p>b. If yes, please indicate approximately how much area was paved or roofed over. Completing this question does not disqualify you for the no exposure exclusion. However, your permitting authority may use this information in considering whether storm water discharges from your site are likely to have an adverse impact on water quality, in which case you could be required to obtain permit coverage.</p> <p style="text-align: center;"> Less than one acre <input type="checkbox"/> One to five acres <input type="checkbox"/> More than five acres <input type="checkbox"/> </p>			

NPDES FORM 3510-11		NO EXPOSURE CERTIFICATION for Exclusion from NPDES Storm Water Permitting	Form Approved OMB No. 2040-0211
C. Exposure Checklist Are any of the following materials or activities exposed to precipitation, now or in the foreseeable future? (Please check either "Yes" or "No" in the appropriate box.) If you answer "Yes" to any of these questions (1) through (11), you are <u>not</u> eligible for the no exposure exclusion.			
		Yes	No
1.	Using, storing or cleaning industrial machinery or equipment, and areas where residuals from using, storing or cleaning industrial machinery or equipment remain and are exposed to storm water	<input type="checkbox"/>	<input type="checkbox"/>
2.	Materials or residuals on the ground or in storm water inlets from spills/leaks	<input type="checkbox"/>	<input type="checkbox"/>
3.	Materials or products from past industrial activity	<input type="checkbox"/>	<input type="checkbox"/>
4.	Material handling equipment (except adequately maintained vehicles)	<input type="checkbox"/>	<input type="checkbox"/>
5.	Materials or products during loading/unloading or transporting activities	<input type="checkbox"/>	<input type="checkbox"/>
6.	Materials or products stored outdoors (except final products intended for outside use (e.g., new cars) where exposure to storm water does not result in the discharge of pollutants)	<input type="checkbox"/>	<input type="checkbox"/>
7.	Materials contained in open, deteriorated or leaking storage drums, barrels, tanks, and similar containers	<input type="checkbox"/>	<input type="checkbox"/>
8.	Materials or products handled/stored on roads or railways owned or maintained by the discharger	<input type="checkbox"/>	<input type="checkbox"/>
9.	Waste material (except waste in covered, non-leaking containers (e.g., dumpsters))	<input type="checkbox"/>	<input type="checkbox"/>
10.	Application or disposal of process wastewater (unless otherwise permitted)	<input type="checkbox"/>	<input type="checkbox"/>
11.	Particulate matter or visible deposits of residuals from roof stacks and/or vents not otherwise regulated (i.e., under an air quality control permit) and evident in the storm water outflow	<input type="checkbox"/>	<input type="checkbox"/>
D. Certification Statement I certify under penalty of law that I have read and understand the eligibility requirements for claiming a condition of "no exposure" and obtaining an exclusion from NPDES storm water permitting. I certify under penalty of law that there are no discharges of storm water contaminated by exposure to industrial activities or materials from the industrial facility or site identified in this document (except as allowed under 40 CFR 122.26(g)(2)). I understand that I am obligated to submit a no exposure certification form once every five years to the NPDES permitting authority and, if requested, to the operator of the local municipal separate storm sewer system (MS4) into which the facility discharges (where applicable). I understand that I must allow the NPDES permitting authority, or MS4 operator where the discharge is into the local MS4, to perform inspections to confirm the condition of no exposure and to make such inspection reports publicly available upon request. I understand that I must obtain coverage under an NPDES permit prior to any point source discharge of storm water from the facility. Additionally, I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is to the best of my knowledge and belief true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations. Print Name: _____ Print Title: _____ Signature: _____ Date: _____			

NPDES FORM 3510-11		Instructions for the NO EXPOSURE CERTIFICATION for Exclusion from NPDES Storm Water Permitting	Form Approved OMB No. 2040-0211
Who May File a No Exposure Certification		Section B. Facility/Site Location Information	
Federal law at 40 CFR Part 122.26 prohibits point source discharges of storm water associated with industrial activity to waters of the U.S. without a National Pollutant Discharge Elimination System (NPDES) permit. However, NPDES permit coverage is not required for discharges of storm water associated with industrial activities identified at 40 CFR 122.26(b)(14)(i)-(ix) and (xi) if the discharger can certify that a condition of "no exposure" exists at the industrial facility or site.		1. Enter the official or legal name of the facility or site.	
Storm water discharges from construction activities identified in 40 CFR 122.26(b)(14)(x) and (b)(15) are not eligible for the no exposure exclusion.		2. Enter the complete street address (if no street address exists, provide a geographic description (e.g., Intersection of Routes 9 and 55)), city, county, state, and zip code. Do not use a P.O. Box number.	
Obtaining and Maintaining the No Exposure Exclusion		3. Indicate whether the facility is located on Indian Lands.	
This form is used to certify that a condition of no exposure exists at the industrial facility or site described herein. This certification is only applicable in jurisdictions where EPA is the NPDES permitting authority and must be re-submitted at least once every five years.		4. Indicate whether the industrial facility is operated by a department or agency of the Federal Government (see also Section 313 of the Clean Water Act).	
The industrial facility operator must maintain a condition of no exposure at its facility or site in order for the no exposure exclusion to remain applicable. If conditions change resulting in the exposure of materials and activities to storm water, the facility operator must obtain coverage under an NPDES storm water permit immediately.		5. Enter the latitude and longitude of the approximate center of the facility or site in degrees/minutes/seconds. Latitude and longitude can be obtained from United States Geological Survey (USGS) quadrangle or topographic maps, by calling 1-(888) ASK-USGS, or by accessing EPA's web site at http://www.epa.gov/owm/sw/industry/index.htm and selecting Latitude and Longitude Finders under the Resources/Permit section.	
Where to File the No Exposure Certification Form		Latitude and longitude for a facility in decimal form must be converted to degrees (°), minutes (′), and seconds (″) for proper entry on the certification form. To convert decimal latitude or longitude to degrees/minutes/seconds, follow the steps in the following example.	
Mail the completed no exposure certification form to:		<u>Example:</u> Convert decimal latitude 45.1234567 to degrees (°), minutes (′), and seconds (″).	
Storm Water No Exposure Certification (4203) USEPA 401 M Street, SW Washington, D.C. 20460		a) The numbers to the left of the decimal point are the degrees: 45°.	
Completing the Form		b) To obtain minutes, multiply the first four numbers to the right of the decimal point by 0.006: 1234 x 0.006 = 7.404.	
You <u>must</u> type or print, using uppercase letters, in appropriate areas only. Enter only one character per space (i.e., between the marks). Abbreviate if necessary to stay within the number of characters allowed for each item. Use one space for breaks between words. One form must be completed for each facility or site for which you are seeking to certify a condition of no exposure. Additional guidance on completing this form can be accessed through EPA's web site at www.epa.gov/owm/sw . Please make sure you have addressed all applicable questions and have made a photocopy for your records before sending the completed form to the above address.		c) The numbers to the left of the decimal point in the result obtained in (b) are the minutes: 7′.	
Section A. Facility Operator Information		d) To obtain seconds, multiply the remaining three numbers to the right of the decimal from the result obtained in (b) by 0.06: 404 x 0.06 = 24.24. Since the numbers to the right of the decimal point are not used, the result is 24″.	
1. Provide the legal name of the person, firm, public organization, or any other entity that operates the facility or site described in this certification. The name of the operator may or may not be the same as the name of the facility. The operator is the legal entity that controls the facility's operation, rather than the plant or site manager.		e) The conversion for 45.1234567 = 45° 7′ 24″.	
2. Provide the telephone number of the facility operator.		6. Indicate whether the facility was previously covered under an NPDES storm water permit. If so, include the permit number.	
3. Provide the mailing address of the operator (P.O. Box numbers may be used). Include the city, state, and zip code. All correspondence will be sent to this address.		7. Enter the 4-digit SIC code which identifies the facility's primary activity, and second 4-digit SIC code identifying the facility's secondary activity, if applicable. SIC codes can be obtained from the <u>Standard Industrial Classification Manual, 1987</u> .	
		8. Enter the total size of the site associated with industrial activity in acres. Acreage may be determined by dividing square footage by 43,560, as demonstrated in the following example.	
		<u>Example:</u> Convert 54,450 ft ² to acres Divide 54,450 ft ² by 43,560 square feet per acre: 54,450 ft ² ÷ 43,560 ft ² /acre = 1.25 acres.	
		9. Check "Yes" or "No" as appropriate to indicate whether you have paved or roofed over a formerly exposed, pervious area (i.e., lawn, meadow, dirt or gravel road/parking lot) in order to qualify for no exposure. If yes, also indicate approximately how much area was paved or roofed over and is now impervious area.	

NPDES FORM 3510-11		Instructions for the NO EXPOSURE CERTIFICATION for Exclusion from NPDES Storm Water Permitting	Form Approved OMB No. 2040-0211
Section C. Exposure Checklist		authority to sign documents has been assigned or delegated to the manager in accordance with corporate procedures:	
Check "Yes" or "No" as appropriate to describe the exposure conditions at your facility. If you answer "Yes" to ANY of the questions (1) through (11) in this section, a potential for exposure exists at your site and you cannot certify to a condition of no exposure. You must obtain (or already have) coverage under an NPDES storm water permit. After obtaining permit coverage, you can institute modifications to eliminate the potential for a discharge of storm water exposed to industrial activity, and then certify to a condition of no exposure.		For a partnership or sole proprietorship: by a general partner or the proprietor; or	
Section D. Certification Statement		For a municipal, State, Federal, or other public facility: by either a principal executive or ranking elected official.	
Federal statutes provide for severe penalties for submitting false information on this application form. Federal regulations require this application to be signed as follows:		Paperwork Reduction Act Notice	
For a corporation: by a responsible corporate officer, which means:		Public reporting burden for this certification is estimated to average 1.0 hour per certification, including time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Burden means the total time, effort, or financial resources expended by persons to generate, maintain, retain, or disclose to provide information to or for a Federal agency. This includes the time needed to review instructions; develop, acquire, install, and utilize technology and systems for the purposes of collecting, validating, and verifying information, processing and maintaining information, and disclosing and providing information; adjust the existing ways to comply with any previously applicable instructions and requirements; train personnel to be able to respond to a collection of information; search data sources; complete and review the collection of information; and transmit or otherwise disclose the information. An agency may not conduct or sponsor, and a person is not required to respond to, a collection of information unless it displays a currently valid OMB control number. Send comments regarding the burden estimate, any other aspect of the collection of information, or suggestions for improving this form, including any suggestions which may increase or reduce this burden to: Director, OPPE Regulatory Information Division (2137), USEPA, 401 M Street, SW, Washington, D.C. 20460. Include the OMB control number of this form on any correspondence. Do not send the completed No Exposure Certification form to this address.	
(i) president, secretary, treasurer, or vice-president of the corporation in charge of a principal business function, or any other person who performs similar policy or decision making functions for the corporation, or			
(ii) the manager of one or more manufacturing, production, or operating facilities, provided the manager is authorized to make management decisions which govern the operation of the regulated facility including having the explicit or implicit duty of making major capital investment recommendations, and initiating and directing other comprehensive measures to assure long term environmental compliance with environmental laws and regulations; the manager can ensure that the necessary systems are established or actions taken to gather complete and accurate information for permit application requirements; and where			

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68811 Appendix 5 to Preamble—Regulatory Flexibility for Small Entities*A. Regulatory Flexibility for Small Municipal Storm Sewer Systems (MS4s)*****Different Compliance, Reporting, or Timetables That Are Responsive to Resources of Small Entities***

NPDES permitting authorities can issue general permits instead of requiring individual permits. This flexibility avoids the high application costs and administrative burden associated with individual permits.

NPDES permitting authorities can specify a time period of up to five years for small MS4s to fully develop and implement their program

Analytic monitoring is not required.

After the first permit term and subsequent permit terms, submittal of a summary report is only required in years two and four (Phase I municipalities are currently required to submit a detailed report each year).

A brief reporting format is encouraged to facilitate compiling and analyzing data from submitted reports. EPA intends to develop a model form for this purpose.

NPDES Permitting Authorities can phase in permit coverage for small MS4s serving jurisdictions with a population under 10,000 on a schedule consistent with a State watershed permitting approach.

Clarifying, Consolidating, or Simplifying Compliance and Reporting Requirements

The rule avoids duplication in permit requirements by allowing NPDES permitting authorities to include permit conditions that direct an MS4 to follow the requirements of a qualifying local program rather than the requirements of a minimum measure. Compliance with these programs is considered compliance with the NPDES general permit.

The rule allows NPDES permitting authorities to recognize existing responsibilities among different municipal entities to satisfy obligations for the minimum control measures.

A further alternative allows a small MS4 to satisfy its NPDES permit obligations if another governmental entity is already implementing a minimum control measure in the jurisdiction of the small MS4. The following conditions must be met:

1. The other entity is implementing the control measure,
2. The particular control measure (or component thereof) is at least as stringent as the corresponding NPDES permit requirement, and
3. The other entity agrees to implement the control measure on your behalf.

The rule allows a covered small MS4 to “piggy-back” on to the storm water management program of an adjoining Phase I MS4. A small MS4 is waived from the application requirements of §122.26(d)(1)(iii), (iv) and (d)(2)(iii) [discharge characterization] and may satisfy the requirements of §122.26(d)(1)(v) and (d)(2)(iv) [identifying a management plan] by referencing the adjoining Phase I MS4's storm water management plan.

The rule accommodates the use of the watershed approach through NPDES general permits that could be issued on a watershed basis. The small MS4 can develop measures that are tailored to meet their watershed requirements. The small MS4's storm water management program can tie into watershed-wide plans.

Performance Rather Than Design Standards for Small Entities

Small governmental jurisdictions whose MS4s are covered by this rule are allowed to choose the best management practices (BMPs) to be implemented and the measurable goals for each of the minimum control measures:

1. Public education and outreach on storm water impacts
2. Public Involvement/Participation
3. Illicit discharge detection and elimination ***68812**
4. Construction site storm water runoff control
5. Post-construction storm water management in new development and redevelopment
6. Pollution prevention/good housekeeping for municipal operations

EPA will provide guidance and recommend, but not mandate, certain BMPs for some of the minimum control measures listed above. States can provide guidance to supplement or supplant EPA guidance.

Small MS4s can identify the measurable goals for each of the minimum control measures listed above. In their reports to the NPDES permitting authority, the small MS4s must evaluate their progress towards achievement of their identified measurable goals.

Waivers for Small Entities From Coverage

The rule allows permitting authorities to waive from coverage MS4s operated by small governmental jurisdictions located within an urbanized area and serving a population less than 1,000 people where the permitting authority has determined the MS4 is not contributing substantially to the pollutant loadings of an interconnected MS4 and, if the MS4 discharges pollutants that have been identified as a cause of impairment in the receiving water of the MS4 then the permitting authority has determined that storm water controls are not needed based on a TMDL that addresses the pollutants of concern.

The rule allows the permitting authority to waive from coverage MS4s serving a population under 10,000 where the permitting authority has evaluated all waters that receive a discharge from the MS4 and the permitting authority has determined that storm water controls are not needed based on a TMDL that addresses the pollutants of concern and future discharges do not have the potential to result in exceedances of water quality standards.

B. Regulatory Flexibility for Small Construction Activities***Different Compliance, Reporting, or Timetables That Are Responsive to Resources of Small Entities***

The rule gives NPDES permitting authorities discretion not to require the submittal of a notice of intent (NOI) for coverage under a NPDES general permit, thereby reducing administrative and financial burden. All construction sites disturbing greater than 5 acres must submit an NOI.

Clarifying, Consolidating, or Simplifying Compliance and Reporting Requirements

The rule avoids duplication by allowing the NPDES permitting authority to incorporate by reference State, Tribal, or local programs under a NPDES general permit. Compliance with these programs is considered compliance with the NPDES general permit.

Performance Rather Than Design Standards for Small Entities

The operator of a covered construction activity selects and implement the BMPs most appropriate for the construction site based on the operator's storm water pollution prevention plan.

Waivers for Small Entities From Coverage

Waivers could be granted based on the use of a rainfall erosivity factor or a comprehensive analysis of water quality impacts.

(A) Low rainfall waiver: When the rainfall erosivity factor ("R" from Revised Universal Soil Loss Equation) is less than 5 during the period of construction activity, a permit is not required.

(B) Determination based on Water Quality Analysis: The NPDES permitting authority can waive from coverage construction activities disturbing from 1 acre up to 5 acres of land where storm water controls are not needed based on:

1. A TMDL approved or established by EPA that addresses the pollutants of concern, or
2. For non-impaired waters, an equivalent analysis that determines that such allocations are not needed to protect water quality based on consideration of existing in-stream concentrations, expected growth in pollutant contributions from all sources, and a margin of safety.

C. Regulatory Flexibility for Industrial/Commercial Facilities

Waivers for Small Entities From Coverage

The rule provides a “no-exposure” waiver provision for Phase I industrial/commercial facilities. Qualifying facilities seeking this provision simply need to complete a self-certification form indicating that no industrial materials or activities are exposed to rain, snow, snow melt and/or runoff.

Appendix 6 of Preamble—Governmental Entities Located Fully or Partially Within an Urbanized Area

(This is a reference list only, not a list of all operators of small MS4s subject to §§122.32-122.36. For example, a listed governmental entity is only regulated if it operates a small MS4 within an “urbanized area” boundary as determined by the Bureau of the Census. Furthermore, entities such as military bases, large hospitals, prison complexes, universities, sewer districts, and highway departments that operate a small MS4 within an urbanized area are also subject to the permitting regulations but are not individually listed here. See [§122.26\(b\)\(16\)](#) for the definition of a small MS4 and [§122.32\(a\)](#) for the definition of a regulated small MS4.)

(Source: 1990 Census of Population and Housing, U.S. Bureau of the Census. This list is subject to change with the Decennial Census)

AL Anniston city

AL Attalla city

AL Auburn city

AL Autauga County

AL Blue Mountain town

AL Calhoun County

AL Colbert County

AL Dale County

AL Decatur city

AL Dothan city

AL Elmore County

AL Etowah County

AL Flint City town

AL Florence city

AL Gadsden city

AL Glencoe city

AL Grimes town

AL Hartselle city
AL Hobson City town
AL Hokes Bluff city
AL Houston County
AL Kinsey town
AL Lauderdale County
AL Lee County
AL Limestone County
AL Madison County
AL Midland City town
AL Montgomery County
AL Morgan County
AL Muscle Shoals city
AL Napier Field town
AL Northport city
AL Opelika city
AL Oxford city
AL Phenix City city
AL Prattville city
AL Priceville town
AL Rainbow City city
AL Russell County
AL Sheffield city
AL Southside city
AL Sylvan Springs town
AL Talladega County
AL Tuscaloosa city
AL Tuscaloosa County

AL Tuscumbia city
AL Weaver city
AR Alexander town
AR Barling city
AR Benton County
AR Cammack Village city
AR Crawford County
AR Crittenden County
AR Farmington city
AR Fayetteville city
AR Fort Smith city
AR Greenland town
AR Jacksonville city
AR Jefferson County
AR Johnson city
AR Marion city
AR Miller County
AR North Little Rock city
AR Pine Bluff city
AR Pulaski County
AR Saline County
AR Sebastian County
AR Shannon Hills city
AR Sherwood city
AR Springdale city
AR Sunset town
AR Texarkana city
AR Van Buren city

AR Washington County
AR West Memphis city
AR White Hall city
AZ Apache Junction city
AZ Chandler city
AZ El Mirage town
AZ Gilbert town
AZ Guadalupe town
AZ Maricopa County
AZ Oro Valley town
AZ Paradise Valley town
AZ Peoria city
AZ Pinal County *68813
AZ South Tucson city
AZ Surprise town
AZ Tolleson city
AZ Youngtown town
AZ Yuma city
AZ Yuma County
CA Apple Valley town
CA Belvedere city
CA Benicia city
CA Brentwood city
CA Butte County
CA Capitola city
CA Carmel-by-the-Sea city
CA Carpinteria city
CA Ceres city

CA Chico city
CA Compton city
CA Corte Madera town
CA Cotati city
CA Davis city
CA Del Rey Oaks city
CA Fairfax town
CA Hesperia city
CA Imperial County
CA Lakewood city
CA Lancaster city
CA Larkspur city
CA Lodi city
CA Lompoc city
CA Marin County
CA Marina city
CA Marysville city
CA Merced city
CA Merced County
CA Mill Valley city
CA Monterey city
CA Monterey County
CA Morgan Hill city
CA Napa city
CA Napa County
CA Novato city
CA Pacific Grove city
CA Palm Desert city

CA Palmdale city
CA Piedmont city
CA Placer County
CA Redding city
CA Rocklin city
CA Rohnert Park city
CA Roseville city
CA Ross town
CA San Anselmo town
CA San Buenaventura (Ventura) city
CA San Francisco city
CA San Joaquin County
CA San Luis Obispo city
CA San Luis Obispo County
CA San Rafael city
CA Sand City city
CA Santa Barbara city
CA Santa Barbara County
CA Santa Cruz city
CA Santa Cruz County
CA Santa Maria city
CA Sausalito city
CA Scotts Valley city
CA Seaside city
CA Shasta County
CA Solano County
CA Sonoma County
CA Stanislaus County

CA Suisun City city
CA Sutter County
CA Tiburon town
CA Tulare County
CA Vacaville city
CA Victorville city
CA Villa Park city
CA Visalia city
CA Watsonville city
CA West Sacramento city
CA Yolo County
CA Yuba City city
CA Yuba County
CO Adams County
CO Arvada city
CO Boulder city
CO Boulder County
CO Bow Mar town
CO Broomfield city
CO Cherry Hills Village city
CO Columbine Valley town
CO Commerce City city
CO Douglas County
CO Edgewater city
CO El Paso County
CO Englewood city
CO Evans city
CO Federal Heights city

CO Fort Collins city
CO Fountain city
CO Garden City town
CO Glendale city
CO Golden city
CO Grand Junction city
CO Greeley city
CO Greenwood Village city
CO Jefferson County
CO La Salle town
CO Lakeside town
CO Larimer County
CO Littleton city
CO Longmont city
CO Manitou Springs city
CO Mesa County
CO Mountain View town
CO Northglenn city
CO Pueblo city
CO Pueblo County
CO Sheridan city
CO Thornton city
CO Weld County
CO Westminster city
CO Wheat Ridge city
CT Ansonia city
CT Avon town
CT Beacon Falls town

CT Berlin town
CT Bethel town
CT Bloomfield town
CT Bozrah town
CT Branford town
CT Bridgeport city
CT Bristol city
CT Brookfield town
CT Burlington town
CT Cheshire town
CT Cromwell town
CT Danbury city
CT Darien town
CT Derby city
CT Durham town
CT East Granby town
CT East Hartford town
CT East Haven town
CT East Lyme town
CT East Windsor town
CT Easton town
CT Ellington town
CT Enfield town
CT Fairfield County
CT Fairfield town
CT Farmington town
CT Franklin town
CT Glastonbury town

CT Greenwich town
CT Groton city
CT Groton town
CT Guilford town
CT Hamden town
CT Hartford city
CT Hartford County
CT Ledyard town
CT Lisbon town
CT Litchfield County
CT Manchester town
CT Meriden city
CT Middlebury town
CT Middlefield town
CT Middlesex County
CT Middletown city
CT Milford city (remainder)
CT Monroe town
CT Montville town
CT Naugatuck borough
CT New Britain city
CT New Canaan town
CT New Fairfield town
CT New Haven city
CT New Haven County
CT New London city
CT New London County
CT New Milford town

CT Newington town

CT Newtown town

CT North Branford town

CT North Haven town

CT Norwalk city

CT Norwich city

CT Orange town

CT Oxford town

CT Plainville town

CT Plymouth town

CT Portland town

CT Preston town

CT Prospect town

CT Rocky Hill town

CT Seymour town

CT Shelton city

CT Sherman town

CT Somers town

CT South Windsor town

CT Southington town

CT Sprague town

CT Stonington town

CT Stratford town

CT Suffield town

CT Thomaston town

CT Thompson town

CT Tolland County

CT Tolland town

CT Trumbull town

CT Vernon town

CT Wallingford town

CT Waterbury city

CT Waterford town

CT Watertown town

CT West Hartford town

CT West Haven city

CT Weston town

CT Westport town

CT Wethersfield town

CT Wilton town

CT Windham County

CT Windsor Locks town

CT Windsor town

CT Wolcott town

CT Woodbridge town *68814

CT Woodmont borough

DE Camden town

DE Dover city

DE Kent County

DE Newark city

DE Wyoming town

FL Alachua County

FL Baldwin town

FL Bay County

FL Belleair Shore town

FL Biscayne Park village

FL Brevard County
FL Callaway city
FL Cape Canaveral city
FL Cedar Grove town
FL Charlotte County
FL Cinco Bayou town
FL Clay County
FL Cocoa Beach city
FL Cocoa city
FL Collier County
FL Daytona Beach city
FL Daytona Beach Shores city
FL Destin city
FL Edgewater city
FL El Portal village
FL Florida City city
FL Fort Pierce city
FL Fort Walton Beach city
FL Gainesville city
FL Gulf Breeze city
FL Hernando County
FL Hillsboro Beach town
FL Holly Hill city
FL Indialantic town
FL Indian Harbour Beach city
FL Indian River County
FL Indian River Shores town
FL Indian Shores town

FL Kissimmee city
FL Lazy Lake village
FL Lynn Haven city
FL Malabar town
FL Marion County
FL Martin County
FL Mary Esther city
FL Melbourne Beach town
FL Melbourne city
FL Melbourne Village town
FL Naples city
FL New Smyrna Beach city
FL Niceville city
FL Ocala city
FL Ocean Breeze Park town
FL Okaloosa County
FL Orange Park town
FL Ormond Beach city
FL Osceola County
FL Palm Bay city
FL Panama City city
FL Parker city
FL Ponce Inlet town
FL Port Orange city
FL Port St. Lucie city
FL Punta Gorda city
FL Rockledge city
FL Santa Rosa County

FL Satellite Beach city
FL Sewall's Point town
FL Shalimar town
FL South Daytona city
FL Springfield city
FL St. Johns County
FL St. Lucie County
FL St. Lucie village
FL Stuart city
FL Sweetwater city
FL Titusville city
FL Valparaiso city
FL Vero Beach city
FL Virginia Gardens village
FL Volusia County
FL Walton County
FL Weeki Wachee city
FL West Melbourne city
FL Windermere town
GA Albany city
GA Athens city
GA Bartow County
GA Brunswick city
GA Catoosa County
GA Centerville city
GA Chattahoochee County
GA Cherokee County
GA Chickamauga city

GA Clarke County
GA Columbia County
GA Conyers city
GA Dade County
GA Dougherty County
GA Douglas County
GA Douglasville city
GA Fayette County
GA Floyd County
GA Fort Oglethorpe city
GA Glynn County
GA Grovetown city
GA Henry County
GA Houston County
GA Jones County
GA Lee County
GA Lookout Mountain city
GA Mountain Park city
GA Oconee County
GA Payne city
GA Rockdale County
GA Rome city
GA Rossville city
GA Stockbridge city
GA Vernonburg town
GA Walker County
GA Warner Robins city
GA Winterville city

GA Woodstock city
IA Altoona city
IA Asbury city
IA Bettendorf city
IA Black Hawk County
IA Buffalo city
IA Carter Lake city
IA Cedar Falls city
IA Clive city
IA Coralville city
IA Council Bluffs city
IA Dallas County
IA Dubuque city
IA Dubuque County
IA Elk Run Heights city
IA Evansdale city
IA Hiawatha city
IA Iowa City city
IA Johnson County
IA Johnston city
IA Le Claire city
IA Linn County
IA Marion city
IA Norwalk city
IA Panorama Park city
IA Pleasant Hill city
IA Polk County
IA Pottawattamie County

IA Raymond city
IA Riverdale city
IA Robins city
IA Scott County
IA Sergeant Bluff city
IA Sioux City city
IA University Heights city
IA Urbandale city
IA Warren County
IA Waterloo city
IA West Des Moines city
IA Windsor Heights city
IA Woodbury County
ID Ada County
ID Ammon city
ID Bannock County
ID Bonneville County
ID Chubbuck city
ID Idaho Falls city
ID Iona city
ID Pocatello city
ID Power County
IL Addison township
IL Addison village
IL Algonquin township
IL Algonquin village
IL Alorton village
IL Alsip village

IL Alton city
IL Antioch township
IL Antioch village
IL Arlington Heights village
IL Aroma Park village
IL Aroma township
IL Aurora city
IL Aurora township
IL Avon township
IL Ball township
IL Bannockburn village
IL Barrington township
IL Barrington village
IL Bartlett village
IL Bartonville village
IL Batavia city
IL Batavia township
IL Beach Park village
IL Bedford Park village
IL Belleville city
IL Bellevue village
IL Bellwood village
IL Bensenville village
IL Benton township
IL Berkeley village
IL Berwyn city
IL Bethalto village
IL Blackhawk township

IL Bloom township
IL Bloomingdale township
IL Bloomingdale village
IL Bloomington city
IL Bloomington township
IL Blue Island city
IL Bolingbrook village
IL Bourbonnais township
IL Bourbonnais village
IL Bowling township
IL Bradley village
IL Bremen township
IL Bridgeview village
IL Bristol township
IL Broadview village
IL Brookfield village
IL Brooklyn village
IL Buffalo Grove village
IL Burbank city
IL Burnham village
IL Burr Ridge village *68815
IL Burritt township
IL Burton township
IL Cahokia village
IL Calumet City city
IL Calumet Park village
IL Calumet township
IL Canteen township

IL Capital township
IL Carbon Cliff village
IL Carol Stream village
IL Carpentersville Village
IL Cary village
IL Caseyville township
IL Caseyville village
IL Centreville city
IL Centreville township
IL Champaign city
IL Champaign County
IL Champaign township
IL Channahon township
IL Cherry Valley township
IL Cherry Valley village
IL Chicago city
IL Chicago Heights city
IL Chicago Ridge village
IL Chouteau township
IL Cicero town
IL Cincinnati township
IL Clarendon Hills village
IL Coal Valley township
IL Coal Valley village
IL Collinsville city
IL Collinsville township
IL Colona township
IL Colona village

IL Columbia city
IL Country Club Hills city
IL Countryside city
IL Crest Hill city
IL Crestwood village
IL Crete township
IL Crete village
IL Creve Coeur village
IL Crystal Lake city
IL Cuba township
IL Curran township
IL Darien city
IL Decatur city
IL Decatur township
IL Deer Park village
IL Deerfield township
IL Deerfield village
IL Des Plaines city
IL Dixmoor village
IL Dolton village
IL Dorr township
IL Downers Grove township
IL Downers Grove village
IL Dry Grove township
IL Du Page township
IL Dundee township
IL Dunleith township
IL Dupo village

IL East Alton village
IL East Dubuque city
IL East Dundee village
IL East Hazel Crest village
IL East Moline city
IL East Peoria city
IL East St. Louis city
IL Edwardsville city
IL Edwardsville township
IL Ela township
IL Elgin city
IL Elgin township
IL Elk Grove township
IL Elk Grove Village village
IL Elm Grove township
IL Elmhurst city
IL Elmwood Park village
IL Evanston city
IL Evergreen Park village
IL Fairmont City village
IL Fairview Heights city
IL Flossmoor village
IL Fondulac township
IL Ford Heights village
IL Forest Park village
IL Forest View village
IL Forsyth village
IL Fort Russell township

IL Foster township

IL Fox Lake village

IL Fox River Grove village

IL Frankfort township

IL Frankfort village

IL Franklin Park village

IL Fremont township

IL Gardner township

IL Geneva city

IL Geneva township

IL Gilberts village

IL Glen Carbon village

IL Glen Ellyn village

IL Glencoe village

IL Glendale Heights village

IL Glenview village

IL Glenwood village

IL Godfrey township

IL Golf village

IL Grafton township

IL Grandview village

IL Granite City city

IL Grant township

IL Grayslake village

IL Green Oaks village

IL Green Rock city

IL Groveland township

IL Gurnee village

IL Hainesville village
IL Hampton township
IL Hampton village
IL Hanna township
IL Hanover Park village
IL Hanover township
IL Harlem township
IL Harristown township
IL Harristown village
IL Hartford village
IL Harvey city
IL Harwood Heights village
IL Hawthorn Woods village
IL Hazel Crest village
IL Henry County
IL Hensley township
IL Hickory Hills city
IL Hickory Point township
IL Highland Park city
IL Highwood city
IL Hillside village
IL Hinsdale village
IL Hodgkins village
IL Hoffman Estates village
IL Hollis township
IL Homer township
IL Hometown city
IL Homewood village

IL Indian Creek village

IL Indian Head Park village

IL Inverness village

IL Itasca village

IL Jarvis township

IL Jerome village

IL Jo Daviess County

IL Joliet city

IL Joliet township

IL Justice village

IL Kane County

IL Kankakee city

IL Kankakee County

IL Kankakee township

IL Kendall County

IL Kenilworth village

IL Kickapoo township

IL Kildeer village

IL La Grange Park village

IL La Grange village

IL Lake Barrington village

IL Lake Bluff village

IL Lake Forest city

IL Lake in the Hills village

IL Lake Villa township

IL Lake Villa village

IL Lake Zurich village

IL Lakemoor village

IL Lakewood village
IL Lansing village
IL Leland Grove city
IL Lemont township
IL Leyden township
IL Libertyville township
IL Libertyville village
IL Limestone township
IL Lincolnshire village
IL Lincolnwood village
IL Lindenhurst village
IL Lisle township
IL Lisle village
IL Lockport city
IL Lockport township
IL Lombard village
IL Long Creek township
IL Long Grove village
IL Loves Park city
IL Lynwood village
IL Lyons township
IL Lyons village
IL Machesney Park village
IL Macon County
IL Madison city
IL Madison County
IL Maine township
IL Markham city

IL Marquette Heights city
IL Maryville village
IL Matteson village
IL Maywood village
IL McCook village
IL McCullom Lake village
IL McHenry city
IL McHenry County
IL McHenry township
IL McLean County
IL Medina township
IL Melrose Park village
IL Merrionette Park village
IL Midlothian village
IL Milan village
IL Milton township
IL Moline city
IL Moline township
IL Monee township
IL Monroe County
IL Montgomery village
IL Moro township
IL Morton Grove village
IL Morton township
IL Morton village *68816
IL Mount Prospect village
IL Mount Zion township
IL Mount Zion village

IL Mundelein village
IL Nameoki township
IL Naperville city
IL Naperville township
IL National City village
IL New Lenox township
IL New Lenox village
IL New Millford village
IL New Trier township
IL Newport township
IL Niles township
IL Niles village
IL Normal town
IL Normal township
IL Norridge village
IL North Aurora village
IL North Barrington village
IL North Chicago city
IL North Pekin village
IL North Riverside village
IL Northbrook village
IL Northfield township
IL Northfield village
IL Northlake city
IL Norwood Park township
IL Norwood village
IL Nunda township
IL Oak Brook village

IL Oak Forest city
IL Oak Grove village
IL Oak Lawn village
IL Oak Park village
IL Oakbrook Terrace city
IL Oakley township
IL Oakwood Hills village
IL O'Fallon city
IL O'Fallon township
IL Olympia Fields village
IL Orland Hills village
IL Orland Park village
IL Orland township
IL Oswego township
IL Oswego village
IL Otto township
IL Owen township
IL Palatine township
IL Palatine village
IL Palos Heights city
IL Palos Hills city
IL Palos Park village
IL Palos township
IL Park City city
IL Park Forest village
IL Park Ridge city
IL Pekin city
IL Pekin township

IL Peoria city
IL Peoria County
IL Peoria Heights village
IL Phoenix village
IL Pin Oak township
IL Plainfield township
IL Plainfield village
IL Pontoon Beach village
IL Posen village
IL Precinct 10
IL Prospect Heights city
IL Proviso township
IL Rich township
IL Richton Park village
IL Richwoods township
IL River Forest village
IL River Grove village
IL Riverdale village
IL Riverside township
IL Riverside village
IL Riverwoods village
IL Robbins village
IL Rochester township
IL Rock Island city
IL Rock Island County
IL Rock Island township
IL Rockdale village
IL Rockford township

IL Rockton township
IL Rockton village
IL Rolling Meadows city
IL Romeoville village
IL Roscoe township
IL Roscoe village
IL Roselle village
IL Rosemont village
IL Round Lake Beach village
IL Round Lake Heights village
IL Round Lake Park village
IL Round Lake village
IL Roxana village
IL Rutland township
IL Sangamon County
IL Sauget village
IL Sauk Village village
IL Savoy village
IL Schaumburg township
IL Schaumburg village
IL Schiller Park village
IL Shields township
IL Shiloh Valley township
IL Shiloh village
IL Shorewood village
IL Silvis city
IL Skokie village
IL Sleepy Hollow village

IL Somer township
IL South Beloit city
IL South Chicago Heights village
IL South Elgin village
IL South Holland village
IL South Moline township
IL South Rock Island township
IL South Roxana village
IL South Wheatland township
IL Southern View village
IL Spring Bay township
IL Springfield city
IL Springfield township
IL St. Charles city
IL St. Charles township
IL St. Clair County
IL St. Clair township
IL Steger village
IL Stickney township
IL Stickney village
IL Stites township
IL Stone Park village
IL Stookey township
IL Streamwood village
IL Sugar Grove township
IL Sugar Loaf township
IL Summit village
IL Sunnyside village

IL Swansea village
IL Tazewell County
IL Thornton township
IL Thornton village
IL Tinley Park village
IL Tolono township
IL Tower Lakes village
IL Tremont township
IL Troy city
IL Troy township
IL University Park village
IL Urbana city
IL Urbana township
IL Venice city
IL Venice township
IL Vernon Hills village
IL Vernon township
IL Villa Park village
IL Warren township
IL Warrenville city
IL Washington city
IL Washington Park village
IL Washington township
IL Wauconda township
IL Waukegan city
IL Waukegan township
IL Wayne township
IL West Chicago city

IL West Deerfield township
IL West Dundee village
IL West Peoria township
IL Westchester village
IL Western Springs village
IL Westmont village
IL Wheatland township
IL Wheaton city
IL Wheeling township
IL Wheeling village
IL Whitmore township
IL Will County
IL Willow Springs village
IL Willowbrook village
IL Wilmette village
IL Winfield township
IL Winfield village
IL Winnebago County
IL Winnetka village
IL Winthrop Harbor village
IL Wood Dale city
IL Wood River city
IL Wood River township
IL Woodford County
IL Woodridge village
IL Woodside township
IL Worth township
IL Worth village

IL York township

IL Zion city

IN Aboite township

IN Adams township

IN Allen County

IN Anderson city

IN Anderson township

IN Baugo township

IN Beech Grove city

IN Bloomington city

IN Bloomington township

IN Boone County

IN Buck Creek township

IN Calumet township

IN Carmel city

IN Castleton town

IN Cedar Creek township

IN Center township

IN Centre township

IN Chesterfield town

IN Chesterton town

IN Clark County

IN Clarksville town

IN Clay township

IN Clermont town

IN Cleveland township

IN Concord township

IN Country Club Heights town *68817

IN Crown Point city
IN Crows Nest town
IN Cumberland town
IN Daleville town
IN Delaware County
IN Delaware township
IN Dyer town
IN Eagle township
IN East Chicago city
IN Edgewood town
IN Elkhart city
IN Elkhart County
IN Elkhart township
IN Evansville city
IN Fairfield township
IN Fall Creek township
IN Fishers town
IN Floyd County
IN Fort Wayne city
IN Franklin township
IN Gary city
IN German township
IN Goshen city
IN Greenwood city
IN Griffith town
IN Hamilton County
IN Hamilton township
IN Hammond city

IN Hancock County
IN Hanover township
IN Harris township
IN Harrison township
IN Hendricks County
IN Highland town
IN Hobart city
IN Hobart township
IN Homecroft town
IN Honey Creek township
IN Howard County
IN Howard township
IN Indian Village town
IN Jackson township
IN Jefferson township
IN Jeffersonville city
IN Jeffersonville township
IN Johnson County
IN Knight township
IN Kokomo city
IN Lafayette city
IN Lafayette township
IN Lake County
IN Lake Station city
IN Lawrence city
IN Lawrence township
IN Liberty township
IN Lincoln township

IN Lost Creek township
IN Madison County
IN Meridian Hills town
IN Merrillville town
IN Mishawaka city
IN Monroe County
IN Mount Pleasant township
IN Muncie city
IN Munster town
IN New Albany city
IN New Albany township
IN New Chicago town
IN New Haven city
IN New Whiteland town
IN Newburgh town
IN North Crows Nest town
IN North township
IN Ogden Dunes town
IN Ohio township
IN Osceola town
IN Osolo township
IN Otter Creek township
IN Penn township
IN Perry township
IN Pigeon township
IN Pike township
IN Pleasant township
IN Portage city

IN Portage township

IN Porter County

IN Porter town

IN Richland township

IN Riley township

IN River Forest town

IN Rocky Ripple town

IN Roseland town

IN Ross township

IN Salem township

IN Schererville town

IN Seelyville town

IN Sellersburg town

IN Selma town

IN Silver Creek township

IN South Bend city

IN Southport city

IN Speedway town

IN Spring Hill town

IN St. John town

IN St. John township

IN St. Joseph County

IN St. Joseph township

IN Sugar Creek township

IN Taylor township

IN Terre Haute city

IN Tippecanoe County

IN Tippecanoe township

IN Union township

IN Utica township

IN Van Buren township

IN Vanderburgh County

IN Vigo County

IN Wabash township

IN Warren Park town

IN Warren township

IN Warrick County

IN Washington township

IN Wayne township

IN Wea township

IN West Lafayette city

IN West Terre Haute town

IN Westchester township

IN Westfield town

IN White River township

IN Whiteland town

IN Whiting city

IN Williams Creek town

IN Woodlawn Heights town

IN Wynnedale town

IN Yorktown town

IN Zionsville town

KS Attica township

KS Bel Aire city

KS Countryside city

KS Delano township

KS Doniphan County
KS Douglas County
KS Eastborough city
KS Elwood city
KS Fairway city
KS Gypsum township
KS Haysville city
KS Johnson County
KS Kechi city
KS Kechi township
KS Lake Quivira city
KS Lawrence city
KS Leawood city
KS Lenexa city
KS Merriam city
KS Minneha township
KS Mission city
KS Mission Hills city
KS Mission township
KS Mission Woods city
KS Monticello township
KS Ohio township
KS Olathe city
KS Olathe township
KS Park City city
KS Park township
KS Prairie Village city
KS Riverside township

KS Roeland Park city
KS Salem township
KS Sedgwick County
KS Shawnee city
KS Shawnee County
KS Shawnee township
KS Soldier township
KS Tecumseh township
KS Topeka township
KS Waco township
KS Wakarusa township
KS Washington township
KS Westwood city
KS Westwood Hills city
KS Williamsport township
KS Wyandotte County
KY Alexandria city
KY Ashland city
KY Bellefonte city
KY Bellevue city
KY Boone County
KY Boyd County
KY Bromley city
KY Bullitt County
KY Campbell County
KY Catlettsburg city
KY Christian County
KY Covington city

KY Crescent Park city

KY Crescent Springs city

KY Crestview city

KY Crestview Hills city

KY Daviess County

KY Dayton city

KY Edgewood city

KY Elsmere city

KY Erlanger city

KY Fairview city

KY Flatwoods city

KY Florence city

KY Forest Hills city

KY Fort Mitchell city

KY Fort Thomas city

KY Fort Wright city

KY Fox Chase city

KY Greenup County

KY Hebron Estates city

KY Henderson city

KY Henderson County

KY Highland Heights city

KY Hillview city

KY Hunters Hollow city

KY Independence city

KY Jessamine County

KY Kenton County

KY Kenton Vale city

KY Lakeside Park city

KY Latonia Lakes city

KY Ludlow city

KY Melbourne city *68818

KY Newport city

KY Oak Grove city

KY Owensboro city

KY Park Hills city

KY Pioneer Village city

KY Raceland city

KY Russell city

KY Silver Grove city

KY Southgate city

KY Taylor Mill city

KY Villa Hills city

KY Wilder city

KY Woodlawn city

KY Wurtland city

LA Alexandria city

LA Baker city

LA Ball town

LA Bossier City city

LA Bossier Parish

LA Broussard town

LA Caddo Parish

LA Calcasieu Parish

LA Carencro city

LA Denham Springs city

LA Houma city

LA Lafayette city

LA Lafayette Parish

LA Lafourche Parish

LA Lake Charles city

LA Livingston Parish

LA Monroe city

LA Ouachita Parish

LA Pineville city

LA Plaquemines Parish

LA Port Allen city

LA Rapides Parish

LA Richwood town

LA Scott town

LA Slidell city

LA St. Bernard Parish

LA St. Charles Parish

LA St. Tammany Parish

LA Sulphur city

LA Terrebonne Parish

LA West Baton Rouge Parish

LA West Monroe city

LA Westlake city

LA Zachary city

MA Abington town

MA Acton town

MA Acushnet town

MA Agawam town

MA Amesbury town
MA Andover town
MA Arlington town
MA Ashland town
MA Attleboro city
MA Auburn town
MA Avon town
MA Barnstable County
MA Barnstable town
MA Bedford town
MA Bellingham town
MA Belmont town
MA Berkshire County
MA Beverly city
MA Billerica town
MA Blackstone town
MA Boxborough town
MA Boylston town
MA Braintree town
MA Bridgewater town
MA Bristol County
MA Brockton city
MA Brookline town
MA Burlington town
MA Cambridge city
MA Canton town
MA Charlton town
MA Chelmsford town

MA Chelsea city
MA Chicopee city
MA Cohasset town
MA Concord town
MA Dalton town
MA Danvers town
MA Dartmouth town
MA Dedham town
MA Dennis town
MA Dighton town
MA Dover town
MA Dracut town
MA Dudley town
MA East Bridgewater town
MA East Longmeadow town
MA Easthampton town
MA Easton town
MA Essex County
MA Essex town
MA Everett city
MA Fairhaven town
MA Fall River city
MA Fitchburg city
MA Foxborough town
MA Framingham town
MA Franklin town
MA Freetown town
MA Georgetown town

MA Gloucester city
MA Grafton town
MA Granby town
MA Groton town
MA Groveland town
MA Hadley town
MA Halifax town
MA Hamilton town
MA Hampden County
MA Hampden town
MA Hampshire County
MA Hanover town
MA Hanson town
MA Haverhill city
MA Hingham town
MA Hinsdale town
MA Holbrook town
MA Holden town
MA Holliston town
MA Holyoke city
MA Hudson town
MA Hull town
MA Lanesborough town
MA Lawrence city
MA Leicester town
MA Leominster city
MA Lexington town
MA Lincoln town

MA Littleton town

MA Longmeadow town

MA Lowell city

MA Ludlow town

MA Lunenburg town

MA Lynn city

MA Lynnfield town

MA Malden city

MA Manchester town

MA Mansfield town

MA Marblehead town

MA Marlborough city

MA Mashpee town

MA Maynard town

MA Medfield town

MA Medford city

MA Medway town

MA Melrose city

MA Merrimac town

MA Methuen town

MA Middlesex County

MA Middleton town

MA Millbury town

MA Millis town

MA Millville town

MA Milton town

MA Nahant town

MA Natick town

MA Needham town

MA New Bedford city

MA Newton city

MA Norfolk town

MA North Andover town

MA North Attleborough town

MA North Reading town

MA Northampton city

MA Northborough town

MA Northbridge town

MA Norton town

MA Norwell town

MA Norwood town

MA Oxford town

MA Paxton town

MA Peabody city

MA Pembroke town

MA Pittsfield city

MA Plainville town

MA Plymouth County

MA Quincy city

MA Randolph town

MA Raynham town

MA Reading town

MA Rehoboth town

MA Revere city

MA Rockland town

MA Rockport town

MA Salem city
MA Sandwich town
MA Saugus town
MA Scituate town
MA Seekonk town
MA Sharon town
MA Shrewsbury town
MA Somerset town
MA Somerville city
MA South Hadley town
MA Southampton town
MA Southborough town
MA Southwick town
MA Springfield city
MA Stoneham town
MA Stoughton town
MA Stow town
MA Sudbury town
MA Sutton town
MA Swampscott town
MA Swansea town
MA Taunton city
MA Tewksbury town
MA Tyngsborough town
MA Uxbridge town
MA Wakefield town
MA Walpole town
MA Waltham city

MA Watertown town

MA Wayland town

MA Webster town

MA Wellesley town

MA Wenham town

MA West Boylston town

MA West Bridgewater town

MA West Springfield town ***68819**

MA Westborough town

MA Westfield city

MA Westford town

MA Westminster town

MA Weston town

MA Westport town

MA Westwood town

MA Weymouth town

MA Whitman town

MA Wilbraham town

MA Williamsburg town

MA Wilmington town

MA Winchester town

MA Winthrop town

MA Woburn city

MA Worcester County

MA Wrentham town

MA Yarmouth town

MD Allegany County

MD Annapolis city

MD Bel Air town

MD Berwyn Heights town

MD Bladensburg town

MD Bowie city

MD Brentwood town

MD Brookeville town

MD Capitol Heights town

MD Cecil County

MD Cheverly town

MD Chevy Chase Section Five village

MD Chevy Chase Section Three village

MD Chevy Chase town

MD Chevy Chase Village town

MD College Park city

MD Colmar Manor town

MD Cottage City town

MD Cumberland city

MD District Heights city

MD Edmonston town

MD Elkton town

MD Fairmount Heights town

MD Forest Heights town

MD Frederick city

MD Frostburg city

MD Funkstown town

MD Gaithersburg city

MD Garrett Park town

MD Glen Echo town

MD Glenarden town

MD Greenbelt city

MD Hagerstown city

MD Highland Beach town

MD Hyattsville city

MD Kensington town

MD Landover Hills town

MD Laurel city

MD Martin's Additions village

MD Morningside town

MD Mount Rainier city

MD New Carrollton city

MD North Brentwood town

MD Riverdale town

MD Rockville city

MD Seat Pleasant city

MD Smithsburg town

MD Somerset town

MD Takoma Park city

MD University Park town

MD Walkersville town

MD Washington Grove town

MD Williamsport town

ME Androscoggin County

ME Auburn city

ME Bangor city

ME Berwick town

ME Brewer city

ME Cape Elizabeth town
ME Cumberland County
ME Eliot town
ME Falmouth town
ME Gorham town
ME Kittery town
ME Lebanon town
ME Lewiston city
ME Lisbon town
ME Old Town city
ME Orono town
ME Penobscot County
ME Penobscot Indian Island Reservation
ME Portland city
ME Sabattus town
ME Scarborough town
ME South Berwick town
ME South Portland city
ME Veazie town
ME Westbrook city
ME York County
MI Ada township
MI Allegan County
MI Allen Park city
MI Alpine township
MI Ann Arbor township
MI Auburn Hills city
MI Bangor township

MI Bath township

MI Battle Creek city

MI Bay City city

MI Bay County

MI Bedford township

MI Belleville city

MI Benton Charter township

MI Benton Harbor city

MI Berkley city

MI Berlin township

MI Berrien County

MI Beverly Hills village

MI Bingham Farms village

MI Birmingham city

MI Blackman township

MI Bloomfield Hills city

MI Bloomfield township

MI Bridgeport township

MI Brownstown township

MI Buena Vista Charter township

MI Burtchville township

MI Burton city

MI Byron township

MI Calhoun County

MI Canton township

MI Carrollton township

MI Cascade township

MI Cass County

MI Center Line city
MI Chesterfield township
MI Clarkston village
MI Clawson city
MI Clay township
MI Clayton township
MI Clinton County
MI Clinton township
MI Clio city
MI Clyde township
MI Commerce township
MI Comstock township
MI Cooper township
MI Dalton township
MI Davison city
MI Davison township
MI De Witt township
MI Dearborn city
MI Dearborn Heights city
MI Delhi Charter township
MI Delta township
MI Detroit city
MI East China township
MI East Detroit city
MI East Grand Rapids city
MI East Lansing city
MI Eaton County
MI Ecorse city

MI Emmett township

MI Erie township

MI Essexville city

MI Farmington city

MI Farmington Hills city

MI Ferndale city

MI Fillmore township

MI Flat Rock city

MI Flint township

MI Flushing city

MI Flushing township

MI Fort Gratiot township

MI Frankenlust township

MI Franklin village

MI Fraser city

MI Fruitport township

MI Gaines township

MI Garden City city

MI Genesee County

MI Genesee township

MI Georgetown township

MI Gibraltar city

MI Grand Blanc city

MI Grand Blanc township

MI Grand Rapids Charter township

MI Grandville city

MI Grosse Ile township

MI Grosse Pointe city

MI Grosse Pointe Farms city

MI Grosse Pointe Park city

MI Grosse Pointe Shores village

MI Grosse Pointe Woods city

MI Hampton township

MI Hamtramck city

MI Harper Woods city

MI Harrison township

MI Hazel Park city

MI Highland Park city

MI Highland township

MI Holland city

MI Holland township

MI Howard township

MI Hudsonville city

MI Huntington Woods city

MI Huron township

MI Independence township

MI Ingham County

MI Inkster city

MI Ira township

MI Jackson city

MI Jackson County

MI James township

MI Kalamazoo city

MI Kalamazoo County

MI Kalamazoo township

MI Keego Harbor city

MI Kent County
MI Kentwood city
MI Kimball township
MI Kochville township
MI Lake Angelus city
MI Laketon township
MI Laketown township
MI Lansing city
MI Lansing township
MI Lathrup Village city
MI Leoni township
MI Lincoln Park city *68820
MI Lincoln township
MI Livonia city
MI Macomb County
MI Macomb township
MI Madison Heights city
MI Marysville city
MI Melvindale city
MI Meridian township
MI Milford township
MI Milton township
MI Monitor township
MI Monroe County
MI Mount Clemens city
MI Mount Morris city
MI Mount Morris township
MI Mundy township

MI Muskegon city

MI Muskegon County

MI Muskegon Heights city

MI Muskegon township

MI New Baltimore city

MI Niles city

MI Niles township

MI North Muskegon city

MI Northville city

MI Northville township

MI Norton Shores city

MI Novi city

MI Novi township

MI Oak Park city

MI Oakland Charter township

MI Oakland County

MI Orchard Lake Village city

MI Orion township

MI Oshtemo township

MI Ottawa County

MI Parchment city

MI Park township

MI Pavilion township

MI Pennfield township

MI Pittsfield township

MI Plainfield township

MI Pleasant Ridge city

MI Plymouth city

MI Plymouth township
MI Pontiac city
MI Port Huron city
MI Port Huron township
MI Portage city
MI Portsmouth township
MI Redford township
MI Richfield township
MI River Rouge city
MI Riverview city
MI Rochester city
MI Rochester Hills city
MI Rockwood city
MI Romulus city
MI Roosevelt Park city
MI Roseville city
MI Ross township
MI Royal Oak city
MI Royal Oak township
MI Saginaw city
MI Saginaw County
MI Saginaw township
MI Schoolcraft township
MI Scio township
MI Shelby township
MI Shoreham village
MI Sodus township
MI South Rockwood village

MI Southfield city
MI Southfield township
MI Southgate city
MI Spaulding township
MI Spring Arbor township
MI Springfield city
MI Springfield township
MI St. Clair city
MI St. Clair County
MI St. Clair Shores city
MI St. Clair township
MI St. Joseph Charter township
MI St. Joseph city
MI Stevensville village
MI Sullivan township
MI Summit township
MI Sumpter township
MI Superior township
MI Swartz Creek city
MI Sylvan Lake city
MI Taylor city
MI Texas township
MI Thetford township
MI Thomas township
MI Trenton city
MI Troy city
MI Utica city
MI Van Buren township

MI Vienna township

MI Walker city

MI Walled Lake city

MI Washington township

MI Washtenaw County

MI Waterford township

MI Wayne city

MI West Bloomfield township

MI Westland city

MI White Lake township

MI Whiteford township

MI Williamstown township

MI Wixom city

MI Wolverine Lake village

MI Woodhaven city

MI Wyandotte city

MI Wyoming city

MI Ypsilanti city

MI Ypsilanti township

MI Zeeland city

MI Zilwaukee city

MN Andover city

MN Anoka city

MN Anoka County

MN Apple Valley city

MN Arden Hills city

MN Benton County

MN Birchwood Village city

MN Blaine city
MN Bloomington city
MN Brooklyn Center city
MN Brooklyn Park city
MN Burnsville city
MN Carver County
MN Cascade township
MN Champlin city
MN Chanhassen city
MN Circle Pines city
MN Clay County
MN Coon Rapids city
MN Cottage Grove city
MN Credit River township
MN Crystal city
MN Dakota County
MN Dayton city
MN Deephaven city
MN Dilworth city
MN Duluth city
MN Eagan city
MN East Grand Forks city
MN Eden Prairie city
MN Excelsior city
MN Falcon Heights city
MN Farmington city
MN Fort Snelling unorg.
MN Fridley city

MN Gem Lake city
MN Golden Valley city
MN Grant township
MN Greenwood city
MN Ham Lake city
MN Haven township
MN Hennepin County
MN Hermantown city
MN Hilltop city
MN Hopkins city
MN Houston County
MN Inver Grove Heights city
MN La Crescent city
MN La Crescent township
MN Lake Elmo city
MN Lakeville city
MN Landfall city
MN Lauderdale city
MN Le Sauk township
MN Lexington city
MN Lilydale city
MN Lino Lakes city
MN Little Canada city
MN Long Lake city
MN Loretto city
MN Mahtomedi city
MN Maple Grove city
MN Maple Plain city

MN Maplewood city
MN Marion township
MN Medicine Lake city
MN Medina city
MN Mendota city
MN Mendota Heights city
MN Midway township
MN Minden township
MN Minnetonka Beach city
MN Minnetonka city
MN Minnetrista city
MN Moorhead city
MN Moorhead township
MN Mound city
MN Mounds View city
MN New Brighton city
MN New Hope city
MN Newport city
MN North Oaks city
MN North St. Paul city
MN Oakdale city
MN Oakport township
MN Olmsted County
MN Orono city
MN Osseo city
MN Plymouth city
MN Polk County
MN Prior Lake city

MN Proctor city
MN Ramsey city
MN Robbinsdale city
MN Rochester city
MN Rochester township
MN Rosemount city
MN Roseville city
MN Sartell city
MN Sauk Rapids city
MN Sauk Rapids township
MN Savage city
MN Scott County
MN Sherburne County
MN Shoreview city
MN Shorewood city
MN South St. Paul city ***68821**
MN Spring Lake Park city
MN Spring Park city
MN St. Anthony city
MN St. Cloud city
MN St. Cloud township
MN St. Louis County
MN St. Paul Park city
MN Stearns County
MN Sunfish Lake city
MN Tonka Bay city
MN Vadnais Heights city
MN Victoria city

MN Waite Park city

MN Washington County

MN Wayzata city

MN West St. Paul city

MN White Bear Lake city

MN White Bear township

MN Willernie city

MN Woodbury city

MN Woodland city

MN Wright County

MO Airport Drive village

MO Airport township

MO Andrew County

MO Arnold city

MO Avondale city

MO Ballwin city

MO Battlefield town

MO Bella Villa city

MO Bellefontaine Neighbors city

MO Bellerive village

MO Bel-Nor village

MO Bel-Ridge village

MO Belton city

MO Berkeley city

MO Beverly Hills city

MO Big Creek township

MO Birmingham village

MO Black Jack city

MO Blanchette township

MO Blue Springs city

MO Blue township

MO Bonhomme township

MO Boone County

MO Boone township

MO Breckenridge Hills village

MO Brentwood city

MO Bridgeton city

MO Brooking township

MO Buchanan County

MO Calverton Park village

MO Campbell No. 1 township

MO Campbell No. 2 township

MO Carl Junction city

MO Carroll township

MO Cartersville city

MO Cass County

MO Cedar township

MO Center township

MO Charlack city

MO Chesterfield city

MO Chouteau township

MO Christian County

MO Clarkson Valley city

MO Clay County

MO Clay township

MO Claycomd village

MO Clayton city

MO Clayton township

MO Cliff Village village

MO Columbia city

MO Columbia township

MO Concord township

MO Cool Valley city

MO Cottleville town

MO Cottleville township

MO Country Club Hills city

MO Country Club village

MO Country Life Acres village

MO Crestwood city

MO Creve Coeur city

MO Creve Coeur township

MO Crystal Lake Park city

MO Dardenne township

MO Dellwood city

MO Dennis Acres village

MO Des Peres city

MO Duquesne village

MO Edmundson village

MO Ellisville city

MO Fenton city

MO Ferguson city

MO Ferguson township

MO Flordell Hills city

MO Florissant city

MO Florissant township
MO Fox township
MO Friedens township
MO Frontenac city
MO Galena township
MO Gallatin township
MO Gladstone city
MO Glen Echo Park village
MO Glenaire village
MO Glendale city
MO Grandview city
MO Grantwood Village town
MO Gravois township
MO Greendale city
MO Greene County
MO Hadley township
MO Hanley Hills village
MO Harvester township
MO Hazelwood city
MO High Ridge township
MO Hillsdale village
MO Houston Lake city
MO Huntleigh city
MO Imperial township
MO Iron Gates village
MO Jackson County
MO Jasper County
MO Jefferson County

MO Jefferson township

MO Jennings city

MO Joplin city

MO Joplin township

MO Kickapoo township

MO Kimmswick city

MO Kinloch city

MO Kirkwood city

MO Ladue city

MO Lake St. Louis city

MO Lake Tapawingo city

MO Lake Waukomis city

MO Lakeshire city

MO Leawood village

MO Lee's Summit city

MO Lemay township

MO Lewis and Clark township

MO Liberty city

MO Liberty township

MO Mac Kenzie village

MO Manchester city

MO Maplewood city

MO Marlborough village

MO Maryland Heights city

MO May township

MO Meramec township

MO Midland township

MO Mineral township

MO Missouri River township
MO Missouri township
MO Moline Acres city
MO Mount Pleasant township
MO Newton County
MO Normandy city
MO Normandy township
MO North Campbell No. 1 township
MO North Campbell No. 2 township
MO North Campbell No. 3 township
MO North Kansas City city
MO North View township
MO Northmoor city
MO Northwest township
MO Northwoods city
MO Norwood Court town
MO Oakland city
MO Oakland Park village
MO Oaks village
MO Oakview village
MO Oakwood Park village
MO Oakwood village
MO O'Fallon city
MO O'Fallon township
MO Olivette city
MO Overland city
MO Pagedale city
MO Parkdale town

MO Parkville city

MO Pasadena Hills city

MO Pasadena Park village

MO Pettis township

MO Pine Lawn city

MO Platte County

MO Platte township

MO Platte Woods city

MO Pleasant Valley city

MO Prairie township

MO Queeny township

MO Randolph village

MO Raymore city

MO Raymore township

MO Raytown city

MO Redings Mill village

MO Richmond Heights city

MO Rivers township

MO Riverside city

MO Riverview village

MO Rock Hill city

MO Rock township

MO Rocky Fork township

MO Saginaw village

MO Shoal Creek Drive village

MO Shoal Creek township

MO Shrewsbury city

MO Silver Creek village

MO Sioux township

MO Sni-A-Bar township

MO Spanish Lake township

MO Spencer Creek township

MO St. Ann city

MO St. Charles city

MO St. Ferdinand township

MO St. George city

MO St. John city

MO St. Joseph city

MO St. Louis city

MO St. Peters city

MO St. Peters township

MO Sugar Creek city

MO Sunset Hills city

MO Sycamore Hills village

MO Town and Country city

MO Twin Groves township

MO Twin Oaks village

MO Unity Village village ***68822**

MO University City city

MO Uplands Park village

MO Valley Park city

MO Velda Village city

MO Velda Village Hills village

MO Vinita Park city

MO Vinita Terrace village

MO Warson Woods city

MO Washington township
MO Wayne township
MO Weatherby Lake city
MO Webb City city
MO Webster Groves city
MO Wellston city
MO Wentzville township
MO Westwood village
MO Wilbur Park village
MO Wilson township
MO Winchester city
MO Windsor township
MO Woodson Terrace city
MO Zumbahl township
MS Bay St. Louis city
MS Biloxi city
MS Brandon city
MS Clinton city
MS DeSoto County
MS D'Iberville city
MS Flowood town
MS Forrest County
MS Gautier city
MS Gulfport city
MS Hancock County
MS Harrison County
MS Hattiesburg city
MS Hinds County

MS Horn Lake city

MS Jackson County

MS Lamar County

MS Long Beach city

MS Madison city

MS Madison County

MS Moss Point city

MS Ocean Springs city

MS Pascagoula city

MS Pass Christian city

MS Pearl city

MS Petal city

MS Rankin County

MS Richland city

MS Ridgeland city

MS Southaven city

MS Waveland city

MT Billings city

MT Cascade County

MT Great Falls city

MT Missoula city

MT Missoula County

MT Yellowstone County

NC Alamance County

NC Apex town

NC Archdale city

NC Asheville city

NC Belmont city

NC Belville town
NC Bessemer City city
NC Biltmore Forest town
NC Black Mountain town
NC Brookford town
NC Brunswick County
NC Buncombe County
NC Burke County
NC Burlington city
NC Cabarrus County
NC Carrboro town
NC Cary town
NC Catawba County
NC Chapel Hill town
NC China Grove town
NC Clemmons village
NC Concord city
NC Conover city
NC Cramerton town
NC Dallas town
NC Davidson County
NC Durham County
NC Edgecombe County
NC Elon College town
NC Fletcher town
NC Forsyth County
NC Garner town
NC Gaston County

NC Gastonia city

NC Gibsonville town

NC Goldsboro city

NC Graham city

NC Greenville city

NC Guilford County

NC Harnett County

NC Haw River town

NC Henderson County

NC Hickory city

NC High Point city

NC Hildebran town

NC Hope Mills town

NC Indian Trail town

NC Jacksonville city

NC Jamestown town

NC Kannapolis city

NC Landis town

NC Leland town

NC Long View town

NC Lowell city

NC Matthews town

NC McAdenville town

NC Mebane city

NC Mecklenburg County

NC Mint Hill town

NC Montreat town

NC Mount Holly city

NC Nash County

NC New Hanover County

NC Newton city

NC Onslow County

NC Orange County

NC Pineville town

NC Pitt County

NC Randolph County

NC Ranlo town

NC Rocky Mount city

NC Rowan County

NC Rural Hall town

NC Spring Lake town

NC Stallings town

NC Thomasville city

NC Union County

NC Wake County

NC Walkertown town

NC Wayne County

NC Weaverville town

NC Wilmington city

NC Winterville town

NC Woodfin town

NC Wrightsville Beach town

ND Barnes township

ND Bismarck city

ND Bismarck unorg.

ND Burleigh County

ND Captain's Landing township
ND Cass County
ND Fargo city
ND Grand Forks city
ND Grand Forks County
ND Grand Forks township
ND Hay Creek township
ND Lincoln city
ND Mandan city
ND Mandan unorg.
ND Morton County
ND Reed township
ND West Fargo city
NE Bellevue city
NE Bellevue No. 2 precinct
NE Benson precinct
NE Boys Town village
NE Chicago precinct
NE Covington precinct
NE Dakota County
NE Douglas County
NE Douglas precinct
NE Florence precinct
NE Garfield precinct
NE Gilmore No. 1 precinct
NE Gilmore No. 2 precinct
NE Gilmore No. 3 precinct
NE Grant precinct

NE Highland No. 1 precinct
NE Highland No. 2 precinct
NE Jefferson precinct
NE La Platte precinct
NE La Vista city
NE Lancaster County
NE Lancaster precinct
NE McArdle precinct
NE Millard precinct
NE Papillion city
NE Papillion No. 2 precinct
NE Pawnee precinct
NE Ralston city
NE Richland No. 1 precinct
NE Richland No. 2 precinct
NE Richland No. 3 precinct
NE Sarpy County
NE South Sioux City city
NE Union precinct
NE Yankee Hill precinct
NH Amherst town
NH Auburn town
NH Bedford town
NH Dover city
NH Durham town
NH Goffstown town
NH Hillsborough County
NH Hollis town

NH Hooksett town
NH Hudson town
NH Litchfield town
NH Londonderry town
NH Madbury town
NH Manchester city
NH Merrimack County
NH Merrimack town
NH Nashua city
NH New Castle town
NH Newington town
NH Pelham town
NH Plaistow town
NH Portsmouth city
NH Rochester city
NH Rockingham County
NH Rollinsford town
NH Rye town
NH Salem town
NH Somersworth city
NH Strafford County
NH Windham town
NJ Aberdeen township
NJ Absecon city *68823
NJ Allendale borough
NJ Allenhurst borough
NJ Alpha borough
NJ Alpine borough

NJ Asbury Park city
NJ Atlantic City city
NJ Atlantic County
NJ Atlantic Highlands borough
NJ Audubon borough
NJ Audubon Park borough
NJ Avon-by-the-Sea borough
NJ Barrington borough
NJ Bay Head borough
NJ Bayonne city
NJ Beachwood borough
NJ Bedminster township
NJ Belleville township
NJ Bellmawr borough
NJ Belmar borough
NJ Bergenfield borough
NJ Berkeley Heights township
NJ Berkeley township
NJ Berlin borough
NJ Berlin township
NJ Bernards township
NJ Bernardsville borough
NJ Beverly city
NJ Bloomfield township
NJ Bloomingdale borough
NJ Bogota borough
NJ Boonton town
NJ Boonton township

NJ Bordentown city
NJ Bordentown township
NJ Bound Brook borough
NJ Bradley Beach borough
NJ Branchburg township
NJ Brick township
NJ Bridgewater township
NJ Brielle borough
NJ Brigantine city
NJ Brooklawn borough
NJ Buena borough
NJ Buena Vista township
NJ Burlington city
NJ Burlington County
NJ Burlington township
NJ Butler borough
NJ Byram township
NJ Caldwell Borough township
NJ Camden city
NJ Cape May County
NJ Carlstadt borough
NJ Carneys Point township
NJ Carteret borough
NJ Cedar Grove township
NJ Chatham borough
NJ Chatham township
NJ Cherry Hill township
NJ Chesilhurst borough

NJ Chester township
NJ Chesterfield township
NJ Cinnaminson township
NJ City of Orange township
NJ Clark township
NJ Clayton borough
NJ Clementon borough
NJ Cliffside Park borough
NJ Clifton city
NJ Closter borough
NJ Collingswood borough
NJ Colts Neck township
NJ Commercial township
NJ Cranford township
NJ Cresskill borough
NJ Cumberland County
NJ Deal borough
NJ Delanco township
NJ Delran township
NJ Demarest borough
NJ Denville township
NJ Deptford township
NJ Dover town
NJ Dover township
NJ Dumont borough
NJ Dunellen borough
NJ East Brunswick township
NJ East Greenwich township

NJ East Hanover township
NJ East Newark borough
NJ East Orange city
NJ East Rutherford borough
NJ Eastampton township
NJ Eatontown borough
NJ Edgewater borough
NJ Edgewater Park township
NJ Edison township
NJ Egg Harbor township
NJ Elizabeth city
NJ Elk township
NJ Elmwood Park borough
NJ Emerson borough
NJ Englewood city
NJ Englewood Cliffs borough
NJ Englishtown borough
NJ Essex Fells township
NJ Evesham township
NJ Ewing township
NJ Fair Haven borough
NJ Fair Lawn borough
NJ Fairfield township
NJ Fairview borough
NJ Fanwood borough
NJ Fieldsboro borough
NJ Florence township
NJ Florham Park borough

NJ Fort Lee borough
NJ Franklin Lakes borough
NJ Franklin township
NJ Freehold borough
NJ Freehold township
NJ Galloway township
NJ Garfield city
NJ Garwood borough
NJ Gibbsboro borough
NJ Glassboro borough
NJ Glen Ridge Borough township
NJ Glen Rock borough
NJ Gloucester City city
NJ Gloucester County
NJ Gloucester township
NJ Green Brook township
NJ Greenwich township
NJ Guttenberg town
NJ Hackensack city
NJ Haddon Heights borough
NJ Haddon township
NJ Haddonfield borough
NJ Hainesport township
NJ Haledon borough
NJ Hamilton township
NJ Hanover township
NJ Harding township
NJ Harrington Park borough

NJ Harrison town

NJ Hasbrouck Heights borough

NJ Haworth borough

NJ Hawthorne borough

NJ Hazlet township

NJ Helmetta borough

NJ Highland Park borough

NJ Highlands borough

NJ Hillsborough township

NJ Hillsdale borough

NJ Hillside township

NJ Hi-Nella borough

NJ Hoboken city

NJ Ho-Ho-Kus borough

NJ Holmdel township

NJ Hopatcong borough

NJ Hopewell township

NJ Howell township

NJ Hunterdon County

NJ Interlaken borough

NJ Irvington township

NJ Island Heights borough

NJ Jackson township

NJ Jamesburg borough

NJ Jefferson township

NJ Jersey City city

NJ Keansburg borough

NJ Kearny town

NJ Kenilworth borough
NJ Keyport borough
NJ Kinnelon borough
NJ Lakehurst borough
NJ Lakewood township
NJ Laurel Springs borough
NJ Lavallette borough
NJ Lawnside borough
NJ Lawrence township
NJ Leonia borough
NJ Lincoln Park borough
NJ Linden city
NJ Lindenwold borough
NJ Linwood city
NJ Little Falls township
NJ Little Ferry borough
NJ Little Silver borough
NJ Livingston township
NJ Loch Arbour village
NJ Lodi borough
NJ Long Branch city
NJ Longport borough
NJ Lopatcong township
NJ Lumberton township
NJ Lyndhurst township
NJ Madison borough
NJ Magnolia borough
NJ Mahwah township

NJ Manalapan township
NJ Manasquan borough
NJ Manchester township
NJ Mantoloking borough
NJ Mantua township
NJ Manville borough
NJ Maple Shade township
NJ Maplewood township
NJ Margate City city
NJ Marlboro township
NJ Matawan borough
NJ Maywood borough
NJ Medford Lakes borough
NJ Medford township
NJ Mendham borough
NJ Mendham township
NJ Mercer County
NJ Merchantville borough
NJ Metuchen borough
NJ Middlesex borough
NJ Middlesex County
NJ Middletown township
NJ Midland Park borough
NJ Millburn township
NJ Millstone borough
NJ Milltown borough
NJ Millville city
NJ Mine Hill township *68824

NJ Monmouth Beach borough
NJ Monmouth County
NJ Monroe township
NJ Montclair township
NJ Montvale borough
NJ Montville township
NJ Moonachie borough
NJ Moorestown township
NJ Morris County
NJ Morris Plains borough
NJ Morris township
NJ Morristown town
NJ Mount Arlington borough
NJ Mount Ephraim borough
NJ Mount Holly township
NJ Mount Laurel township
NJ Mount Olive township
NJ Mountain Lakes borough
NJ Mountainside borough
NJ National Park borough
NJ Neptune City borough
NJ Neptune township
NJ Netcong borough
NJ New Brunswick city
NJ New Milford borough
NJ New Providence borough
NJ Newark city
NJ Newfield borough

NJ North Arlington borough
NJ North Bergen township
NJ North Brunswick township
NJ North Caldwell township
NJ North Haledon borough
NJ North Plainfield borough
NJ Northfield city
NJ Northvale borough
NJ Norwood borough
NJ Nutley township
NJ Oakland borough
NJ Oaklyn borough
NJ Ocean City city
NJ Ocean County
NJ Ocean Gate borough
NJ Ocean township
NJ Oceanport borough
NJ Old Bridge township
NJ Old Tappan borough
NJ Oradell borough
NJ Palisades Park borough
NJ Palmyra borough
NJ Paramus borough
NJ Park Ridge borough
NJ Parsippany-Troy Hills township
NJ Passaic city
NJ Passaic County
NJ Passaic township

NJ Paterson city
NJ Paulsboro borough
NJ Pennington borough
NJ Penns Grove borough
NJ Pennsauken township
NJ Pennsville township
NJ Pequannock township
NJ Perth Amboy city
NJ Phillipsburg town
NJ Pine Beach borough
NJ Pine Hill borough
NJ Pine Valley borough
NJ Piscataway township
NJ Pitman borough
NJ Pittsgrove township
NJ Plainfield city
NJ Pleasantville city
NJ Pohatcong township
NJ Point Pleasant Beach borough
NJ Point Pleasant borough
NJ Pompton Lakes borough
NJ Prospect Park borough
NJ Rahway city
NJ Ramsey borough
NJ Randolph township
NJ Raritan borough
NJ Readington township
NJ Red Bank borough

NJ Ridgefield borough
NJ Ridgefield Park village
NJ Ridgewood village
NJ Ringwood borough
NJ River Edge borough
NJ River Vale township
NJ Riverdale borough
NJ Riverside township
NJ Riverton borough
NJ Rochelle Park township
NJ Rockaway borough
NJ Rockaway township
NJ Rockleigh borough
NJ Roseland borough
NJ Roselle borough
NJ Roselle Park borough
NJ Roxbury township
NJ Rumson borough
NJ Runnemede borough
NJ Rutherford borough
NJ Saddle Brook township
NJ Saddle River borough
NJ Salem County
NJ Sayreville borough
NJ Scotch Plains township
NJ Sea Bright borough
NJ Sea Girt borough
NJ Seaside Heights borough

NJ Seaside Park borough
NJ Secaucus town
NJ Shamong township
NJ Shrewsbury borough
NJ Shrewsbury township
NJ Somerdale borough
NJ Somers Point city
NJ Somerset County
NJ Somerville borough
NJ South Amboy city
NJ South Belmar borough
NJ South Bound Brook borough
NJ South Brunswick township
NJ South Hackensack township
NJ South Orange Village township
NJ South Plainfield borough
NJ South River borough
NJ South Toms River borough
NJ Spotswood borough
NJ Spring Lake borough
NJ Spring Lake Heights borough
NJ Springfield township
NJ Stanhope borough
NJ Stratford borough
NJ Summit city
NJ Sussex County
NJ Tabernacle township
NJ Tavistock borough

NJ Teaneck township
NJ Tenafly borough
NJ Teterboro borough
NJ Tinton Falls borough
NJ Totowa borough
NJ Trenton city
NJ Union Beach borough
NJ Union City city
NJ Union township
NJ Upper Saddle River borough
NJ Upper township
NJ Ventnor City city
NJ Verona township
NJ Victory Gardens borough
NJ Vineland city
NJ Voorhees township
NJ Waldwick borough
NJ Wall township
NJ Wallington borough
NJ Wanaque borough
NJ Warren County
NJ Warren township
NJ Washington township
NJ Watchung borough
NJ Waterford township
NJ Wayne township
NJ Weehawken township
NJ Wenonah borough

NJ West Caldwell township
NJ West Deptford township
NJ West Long Branch borough
NJ West New York town
NJ West Orange township
NJ West Paterson borough
NJ Westampton township
NJ Westfield town
NJ Westville borough
NJ Westwood borough
NJ Wharton borough
NJ Willingboro township
NJ Winfield township
NJ Winslow township
NJ Woodbridge township
NJ Woodbury city
NJ Woodbury Heights borough
NJ Woodcliff Lake borough
NJ Woodlynne borough
NJ Wood-Ridge borough
NJ Wyckoff township
NM Bernalillo County
NM Corrales village
NM Dona Ana County
NM Las Cruces city
NM Los Ranchos de Albuquerque village
NM Mesilla town
NM Rio Rancho city

NM Sandoval County

NM Santa Fe city

NM Santa Fe County

NM Sunland Park city

NY Albany city

NY Albany County

NY Amherst town

NY Amityville village

NY Ardsley village

NY Ashland town

NY Atlantic Beach village

NY Babylon town

NY Babylon village

NY Baldwinsville village

NY Ballston town

NY Barker town

NY Baxter Estates village

NY Bayville village

NY Beacon city

NY Bedford town

NY Belle Terre village

NY Bellerose village

NY Bellport village

NY Bethlehem town

NY Big Flats town

NY Binghamton city

NY Binghamton town

NY Blasdell village

NY Boston town

NY Briarcliff Manor village

NY Brighton town

NY Brightwaters village *68825

NY Bronxville village

NY Brookhaven town

NY Brookville village

NY Broome County

NY Brunswick town

NY Buchanan village

NY Buffalo city

NY Camillus town

NY Camillus village

NY Carmel town

NY Cayuga Heights village

NY Cedarhurst village

NY Charlton town

NY Cheektowaga town

NY Chemung County

NY Chenango town

NY Chestnut Ridge village

NY Chili town

NY Cicero town

NY Clarence town

NY Clarkstown town

NY Clay town

NY Clayville village

NY Clifton Park town

NY Clinton village

NY Cohoes city

NY Colonie town

NY Colonie village

NY Conklin town

NY Cornwall on Hudson village

NY Cornwall town

NY Cortlandt town

NY Croton-on-Hudson village

NY De Witt town

NY Deerfield town

NY Depew village

NY Dickinson town

NY Dobbs Ferry village

NY Dryden town

NY Dutchess County

NY East Fishkill town

NY East Greenbush town

NY East Hills village

NY East Rochester village

NY East Rockaway village

NY East Syracuse village

NY East Williston village

NY Eastchester town

NY Elma town

NY Elmira city

NY Elmira Heights village

NY Elmira town

NY Elmsford village

NY Endicott village

NY Erie County

NY Evans town

NY Fairport village

NY Farmingdale village

NY Fayetteville village

NY Fenton town

NY Fishkill town

NY Fishkill village

NY Floral Park village

NY Flower Hill village

NY Floyd town

NY Fort Edward town

NY Fort Edward village

NY Frankfort town

NY Freeport village

NY Garden City village

NY Gates town

NY Geddes town

NY Glen Cove city

NY Glens Falls city

NY Glenville town

NY Grand Island town

NY Grand View-on-Hudson village

NY Great Neck Estates village

NY Great Neck Plaza village

NY Great Neck village

NY Greece town
NY Green Island village
NY Greenburgh town
NY Guilderland town
NY Halfmoon town
NY Hamburg town
NY Hamburg village
NY Harrison village
NY Hastings-on-Hudson village
NY Haverstraw town
NY Haverstraw village
NY Hempstead town
NY Hempstead village
NY Henrietta town
NY Herkimer County
NY Hewlett Bay Park village
NY Hewlett Harbor village
NY Hewlett Neck village
NY Hillburn village
NY Horseheads town
NY Horseheads village
NY Hudson Falls village
NY Huntington Bay village
NY Huntington town
NY Hyde Park town
NY Irondequoit town
NY Irvington village
NY Island Park village

NY Islandia village
NY Islip town
NY Ithaca city
NY Ithaca town
NY Johnson City village
NY Kenmore village
NY Kensington village
NY Kent town
NY Kings Point village
NY Kingsbury town
NY Kirkland town
NY Kirkwood town
NY La Grange town
NY Lackawanna city
NY LaFayette town
NY Lake Grove village
NY Lake Success village
NY Lancaster town
NY Lancaster village
NY Lansing town
NY Lansing village
NY Larchmont village
NY Lattingtown village
NY Lawrence village
NY Lee town
NY Lewiston town
NY Lewiston village
NY Lindenhurst village

NY Liverpool village
NY Lloyd Harbor village
NY Lloyd town
NY Long Beach city
NY Lynbrook village
NY Lysander town
NY Malta town
NY Malverne village
NY Mamaroneck town
NY Mamaroneck village
NY Manlius town
NY Manlius village
NY Manorhaven village
NY Marcy town
NY Massapequa Park village
NY Matinecock village
NY Menands village
NY Mill Neck village
NY Mineola village
NY Minoa village
NY Monroe County
NY Montebello village
NY Montgomery town
NY Moreau town
NY Mount Kisco village
NY Mount Pleasant town
NY Mount Vernon city
NY Munsey Park village

NY Muttontown village
NY New Castle town
NY New Hartford town
NY New Hartford village
NY New Hempstead village
NY New Hyde Park village
NY New Rochelle city
NY New Square village
NY New Windsor town
NY New York Mills village
NY Newburgh city
NY Newburgh town
NY Niagara County
NY Niagara Falls city
NY Niagara town
NY Niskayuna town
NY North Castle town
NY North Greenbush town
NY North Hempstead town
NY North Hills village
NY North Syracuse village
NY North Tarrytown village
NY North Tonawanda city
NY Northport village
NY Nyack village
NY Ogden town
NY Old Brookville village
NY Old Westbury village

NY Oneida County
NY Onondaga County
NY Onondaga town
NY Orange County
NY Orangetown town
NY Orchard Park town
NY Orchard Park village
NY Oriskany village
NY Ossining town
NY Ossining village
NY Oswego County
NY Owego town
NY Oyster Bay town
NY Paris town
NY Patchogue village
NY Patterson town
NY Peekskill city
NY Pelham Manor village
NY Pelham town
NY Pelham village
NY Pendleton town
NY Penfield town
NY Perinton town
NY Philipstown town
NY Phoenix village
NY Piermont village
NY Pittsford town
NY Pittsford village

NY Plandome Heights village
NY Plandome Manor village
NY Plandome village
NY Pleasant Valley town
NY Pleasantville village
NY Poestenkill town
NY Pomona village
NY Poospatuck Reservation *68826
NY Poquott village
NY Port Chester village
NY Port Dickinson village
NY Port Jefferson village
NY Port Washington North village
NY Poughkeepsie city
NY Poughkeepsie town
NY Pound Ridge town
NY Putnam County
NY Putnam Valley town
NY Queensbury town
NY Ramapo town
NY Rensselaer city
NY Rensselaer County
NY Riverhead town
NY Rochester city
NY Rockville Centre village
NY Rome city
NY Roslyn Estates village
NY Roslyn Harbor village

NY Roslyn village
NY Rotterdam town
NY Russell Gardens village
NY Rye Brook village
NY Rye city
NY Rye town
NY Saddle Rock village
NY Salina town
NY Sands Point village
NY Saratoga County
NY Scarsdale town
NY Scarsdale village
NY Schaghticoke town
NY Schenectady city
NY Schenectady County
NY Schodack town
NY Schroepfel town
NY Schuyler town
NY Scotia village
NY Sea Cliff village
NY Shoreham village
NY Sloan village
NY Sloatsburg village
NY Smithtown town
NY Solvay village
NY Somers town
NY South Floral Park village
NY South Glens Falls village

NY South Nyack village
NY Southampton town
NY Southport town
NY Spencerport village
NY Spring Valley village
NY Stewart Manor village
NY Stony Point town
NY Suffern village
NY Suffolk County
NY Syracuse city
NY Tarrytown village
NY Thomaston village
NY Tioga County
NY Tompkins County
NY Tonawanda city
NY Tonawanda town
NY Troy city
NY Tuckahoe village
NY Ulster County
NY Union town
NY Upper Brookville village
NY Upper Nyack village
NY Utica city
NY Valley Stream village
NY Van Buren town
NY Vestal town
NY Veteran town
NY Village of the Branch village

NY Wappinger town
NY Wappingers Falls village
NY Warren County
NY Washington County
NY Waterford town
NY Waterford village
NY Watervliet city
NY Webster town
NY Webster village
NY Wesley Hills village
NY West Haverstraw village
NY West Seneca town
NY Westbury village
NY Westchester County
NY Western town
NY Wheatfield town
NY White Plains city
NY Whitesboro village
NY Whitestown town
NY Williamsville village
NY Williston Park village
NY Woodsburgh village
NY Yonkers city
NY Yorktown town
NY Yorkville village
OH Addyston village
OH Allen County
OH Allen township

OH Amberley village
OH Amelia village
OH American township
OH Amherst city
OH Amherst township
OH Anderson township
OH Arlington Heights village
OH Auglaize County
OH Aurora city
OH Austintown township
OH Avon city
OH Avon Lake city
OH Bainbridge township
OH Barberton city
OH Batavia township
OH Bath township
OH Bay Village city
OH Beachwood city
OH Beaver township
OH Beavercreek city
OH Beavercreek township
OH Bedford city
OH Bedford Heights city
OH Bellaire city
OH Bellbrook city
OH Belmont County
OH Belpre city
OH Belpre township

OH Bentleyville village

OH Berea city

OH Bethel township

OH Bexley city

OH Blendon township

OH Blue Ash city

OH Boardman township

OH Brady Lake village

OH Bratenahl village

OH Brecksville city

OH Brice village

OH Bridgeport village

OH Brilliant village

OH Brimfield township

OH Broadview Heights city

OH Brook Park city

OH Brookfield township

OH Brooklyn city

OH Brooklyn Heights village

OH Brookside village

OH Brown township

OH Brownhelm township

OH Brunswick city

OH Brunswick Hills township

OH Butler County

OH Butler township

OH Campbell city

OH Canfield city

OH Canfield township
OH Canton city
OH Canton township
OH Carlisle township
OH Carlisle village
OH Centerville city
OH Chagrin Falls township
OH Chagrin Falls village
OH Champion township
OH Chesapeake village
OH Cheviot city
OH Chippewa township
OH Cincinnati city
OH Clark County
OH Clear Creek township
OH Clermont County
OH Cleveland city
OH Cleveland Heights city
OH Cleves village
OH Clinton township
OH Coal Grove village
OH Coitsville township
OH Colerain township
OH Columbia township
OH Concord township
OH Copley township
OH Coventry township
OH Cridersville village

OH Cross Creek township

OH Cuyahoga County

OH Cuyahoga Falls city

OH Cuyahoga Heights village

OH Deer Park city

OH Deerfield township

OH Delaware County

OH Delhi township

OH Doylestown village

OH Dublin city

OH Duchouquet township

OH East Cleveland city

OH Eastlake city

OH Eaton township

OH Elmwood Place village

OH Elyria city

OH Elyria township

OH Englewood city

OH Erie County

OH Etna township

OH Euclid city

OH Evendale village

OH Fairborn city

OH Fairfax village

OH Fairfield city

OH Fairfield County

OH Fairfield township

OH Fairlawn city

OH Fairport Harbor village
OH Fairview Park city
OH Fayette township
OH Forest Park city
OH Fort Shawnee village
OH Franklin city
OH Franklin County
OH Franklin township
OH Gahanna city
OH Garfield Heights city
OH Geauga County
OH Genoa township *68827
OH German township
OH Girard city
OH Glendale village
OH Glenwillow village
OH Golf Manor village
OH Goshen township
OH Grand River village
OH Grandview Heights city
OH Green township
OH Green village
OH Greene County
OH Greenhills village
OH Grove City city
OH Groveport village
OH Hamilton city
OH Hamilton County

OH Hamilton township
OH Hanging Rock village
OH Hanover township
OH Harbor View village
OH Harrison township
OH Hartville village
OH Heath city
OH Highland Heights city
OH Hilliard city
OH Hills and Dales village
OH Hinckley township
OH Holland village
OH Howland township
OH Hubbard city
OH Hubbard township
OH Huber Heights city
OH Hudson township
OH Hudson village
OH Independence city
OH Ironton city
OH Island Creek township
OH Jackson township
OH Jefferson County
OH Jefferson township
OH Jerome township
OH Kent city
OH Kettering city
OH Kirtland city

OH Lake County
OH Lake township
OH Lakeline village
OH Lakemore village
OH Lakewood city
OH Lawrence County
OH Lawrence township
OH Lemon township
OH Lexington village
OH Liberty township
OH Licking County
OH Licking township
OH Lima city
OH Lima township
OH Lincoln Heights city
OH Linndale village
OH Lockland village
OH Lorain city
OH Lorain County
OH Louisville city
OH Loveland city
OH Lowellville village
OH Lucas County
OH Lyndhurst city
OH Macedonia city
OH Mad River township
OH Madeira city
OH Madison township

OH Mahoning County
OH Maineville village
OH Mansfield city
OH Maple Heights city
OH Marble Cliff village
OH Mariemont village
OH Martins Ferry city
OH Mason city
OH Massillon city
OH Maumee city
OH Mayfield Heights city
OH Mayfield village
OH McDonald village
OH Mead township
OH Medina County
OH Mentor city
OH Mentor-on-the-Lake city
OH Meyers Lake village
OH Miami County
OH Miami township
OH Miamisburg city
OH Middleburg Heights city
OH Middletown city
OH Mifflin township
OH Milford city
OH Millbury village
OH Millville village
OH Minerva Park village

OH Mingo Junction city
OH Mogadore village
OH Monclova township
OH Monroe township
OH Monroe village
OH Montgomery city
OH Montgomery County
OH Moorefield township
OH Moraine city
OH Moreland Hills village
OH Mount Healthy city
OH Munroe Falls village
OH New Miami village
OH New Middletown village
OH New Rome village
OH Newark city
OH Newark township
OH Newburgh Heights village
OH Newton township
OH Newtown village
OH Niles city
OH Nimishillen township
OH North Bend village
OH North Canton city
OH North College Hill city
OH North Olmsted city
OH North Randall village
OH North Ridgeville city

OH North Royalton city

OH Northfield Center township

OH Northfield village

OH Northwood city

OH Norton city

OH Norwich township

OH Norwood city

OH Oakwood city

OH Oakwood village

OH Obetz village

OH Ohio township

OH Olmsted Falls city

OH Olmsted township

OH Ontario village

OH Orange township

OH Orange village

OH Oregon city

OH Ottawa County

OH Ottawa Hills village

OH Painesville city

OH Painesville township

OH Palmyra township

OH Parma city

OH Parma Heights city

OH Pease township

OH Pepper Pike city

OH Perry township

OH Perrysburg city

OH Perrysburg city
OH Perrysburg township
OH Pierce township
OH Plain township
OH Pleasant township
OH Poland township
OH Poland village
OH Portage County
OH Powell village
OH Prairie township
OH Proctorville village
OH Pultney township
OH Randolph township
OH Ravenna city
OH Ravenna township
OH Reading city
OH Reminderville village
OH Reynoldsburg city
OH Richfield township
OH Richfield village
OH Richland County
OH Richmond Heights city
OH Riveredge township
OH Riverlea village
OH Riverside village
OH Rocky River city
OH Rome township
OH Ross township

OH Rossford city
OH Russell township
OH Russia township
OH Sagamore Hills township
OH Seven Hills city
OH Shadyside village
OH Shaker Heights city
OH Sharon township
OH Sharonville city
OH Shawnee Hills village
OH Shawnee township
OH Sheffield Lake city
OH Sheffield township
OH Sheffield village
OH Silver Lake village
OH Silverton city
OH Solon city
OH South Amherst village
OH South Euclid city
OH South Point village
OH South Russell village
OH Springboro city
OH Springdale city
OH Springfield city
OH Springfield township
OH St. Bernard city
OH St. Clair township
OH Stark County

OH Steubenville city
OH Steubenville township
OH Stow city
OH Strongsville city
OH Struthers city
OH Suffield township
OH Sugar Bush Knolls village
OH Sugar Creek township
OH Summit County
OH Sycamore township
OH Sylvania city
OH Sylvania township
OH Symmes township
OH Tallmadge city
OH Terrace Park village
OH The Village of Indian Hill city ***68828**
OH Timberlake village
OH Trenton city
OH Trotwood city
OH Troy township
OH Trumbull County
OH Truro township
OH Turtle Creek township
OH Tuscarawas township
OH Twinsburg city
OH Twinsburg township
OH Union city
OH Union County

OH Union township
OH University Heights city
OH Upper Arlington city
OH Upper township
OH Urbancrest village
OH Valley View village
OH Valleyview village
OH Vandalia city
OH Vermilion city
OH Vermilion township
OH Violet township
OH Wadsworth city
OH Wadsworth township
OH Waite Hill village
OH Walbridge village
OH Walton Hills village
OH Warren city
OH Warren County
OH Warren township
OH Warrensville Heights city
OH Warrensville township
OH Washington County
OH Washington township
OH Wayne County
OH Wayne township
OH Weathersfield township
OH Wells township
OH West Carrollton City city

OH West Milton village

OH Westerville city

OH Westlake city

OH Whitehall city

OH Whitewater township

OH Wickliffe city

OH Willoughby city

OH Willoughby Hills city

OH Willowick city

OH Wintersville village

OH Wood County

OH Woodlawn village

OH Woodmere village

OH Worthington city

OH Wyoming city

OH Youngstown city

OK Arkoma town

OK Bethany city

OK Bixby city

OK Broken Arrow city

OK Canadian County

OK Catoosa city

OK Choctaw city

OK Cleveland County

OK Comanche County

OK Creek County

OK Del City city

OK Edmond city

OK Forest Park town
OK Hall Park town
OK Harrah town
OK Jenks city
OK Jones town
OK Lake Aluma town
OK Lawton city
OK Le Flore County
OK Logan County
OK Midwest City city
OK Moffett town
OK Moore city
OK Mustang city
OK Nichols Hills city
OK Nicoma Park city
OK Norman city
OK Oklahoma County
OK Osage County
OK Pottawatomie County
OK Rogers County
OK Sand Springs city
OK Sequoyah County
OK Smith Village town
OK Spencer city
OK The Village city
OK Tulsa County
OK Valley Brook town
OK Wagoner County

OK Warr Acres city
OK Woodlawn Park town
OK Yukon city
OR Central Point city
OR Columbia County
OR Durham city
OR Jackson County
OR Keizer city
OR King City city
OR Lane County
OR Marion County
OR Maywood Park city
OR Medford city
OR Phoenix city
OR Polk County
OR Rainier city
OR Springfield city
OR Troutdale city
OR Tualatin city
OR Wood Village city
PA Abington township
PA Adamsburg borough
PA Alburtis borough
PA Aldan borough
PA Aleppo township
PA Aliquippa city
PA Allegheny County
PA Allegheny township

PA Allen township

PA Allenport borough

PA Alsace township

PA Altoona city

PA Ambler borough

PA Ambridge borough

PA Amwell township

PA Antis township

PA Antrim township

PA Archbald borough

PA Arnold city

PA Ashley borough

PA Aspinwall borough

PA Aston township

PA Avalon borough

PA Avoca borough

PA Baden borough

PA Baldwin borough

PA Baldwin township

PA Beaver borough

PA Beaver County

PA Beaver Falls city

PA Bell Acres borough

PA Belle Vernon borough

PA Bellevue borough

PA Ben Avon borough

PA Ben Avon Heights borough

PA Bensalem township

PA Berks County

PA Bern township

PA Bethel Park borough

PA Bethel township

PA Bethlehem city

PA Bethlehem township

PA Big Beaver borough

PA Birdsboro borough

PA Birmingham township

PA Blair County

PA Blair township

PA Blakely borough

PA Blawnox borough

PA Boyertown borough

PA Brackenridge borough

PA Braddock borough

PA Braddock Hills borough

PA Bradfordwoods borough

PA Brentwood borough

PA Bridgeport borough

PA Bridgeville borough

PA Bridgewater borough

PA Brighton township

PA Bristol borough

PA Bristol township

PA Brookhaven borough

PA Brownstown borough

PA Brownsville borough

PA Brownsville township
PA Bryn Athyn borough
PA Buckingham township
PA Bucks County
PA California borough
PA Caln township
PA Cambria County
PA Camp Hill borough
PA Canonsburg borough
PA Canton township
PA Carbondale city
PA Carbondale township
PA Carnegie borough
PA Carroll township
PA Castle Shannon borough
PA Catasauqua borough
PA Cecil township
PA Center township
PA Centre County
PA Chalfant borough
PA Chalfont borough
PA Charleroi borough
PA Charlestown township
PA Chartiers township
PA Cheltenham township
PA Chester city
PA Chester County
PA Chester Heights borough

PA Chester township

PA Cheswick borough

PA Chippewa township

PA Churchill borough

PA Clairton city

PA Clarks Green borough

PA Clarks Summit borough

PA Clifton Heights borough

PA Coal Center borough

PA Coatesville city

PA Colebrookdale township

PA College township

PA Collegeville borough

PA Collier township

PA Collingdale borough

PA Columbia borough

PA Colwyn borough

PA Concord township

PA Conemaugh township

PA Conestoga township ***68829**

PA Conewago township

PA Conshohocken borough

PA Conway borough

PA Coplay borough

PA Coraopolis borough

PA Courtdale borough

PA Crafton borough

PA Crescent township

PA Cumberland County
PA Cumru township
PA Daisytown borough
PA Dale borough
PA Dallas borough
PA Dallas township
PA Dallastown borough
PA Darby borough
PA Darby township
PA Daugherty township
PA Dauphin County
PA Delaware County
PA Delmont borough
PA Derry township
PA Dickson City borough
PA Donora borough
PA Dormont borough
PA Douglass township
PA Dover borough
PA Dover township
PA Downingtown borough
PA Doylestown borough
PA Doylestown township
PA Dravosburg borough
PA Duboistown borough
PA Duncansville borough
PA Dunlevy borough
PA Dunmore borough

PA Dupont borough

PA Duquesne city

PA Duryea borough

PA East Allen township

PA East Bradford township

PA East Brandywine township

PA East Caln township

PA East Conemaugh borough

PA East Coventry township

PA East Deer township

PA East Fallowfield township

PA East Goshen township

PA East Hempfield township

PA East Lampeter township

PA East Lansdowne borough

PA East McKeesport borough

PA East Norriton township

PA East Pennsboro township

PA East Petersburg borough

PA East Pikeland township

PA East Pittsburgh borough

PA East Rochester borough

PA East Taylor township

PA East Vincent township

PA East Washington borough

PA East Whiteland township

PA Easton city

PA Easttown township

PA Eastvale borough
PA Economy borough
PA Eddystone borough
PA Edgewood borough
PA Edgeworth borough
PA Edgmont township
PA Edwardsville borough
PA Elco borough
PA Elizabeth borough
PA Elizabeth township
PA Ellport borough
PA Ellwood City borough
PA Emmaus borough
PA Emsworth borough
PA Erie city
PA Erie County
PA Etna borough
PA Exeter borough
PA Exeter township
PA Export borough
PA Fairfield township
PA Fairview township
PA Fallowfield township
PA Falls township
PA Fallston borough
PA Farrell city
PA Fayette City borough
PA Fayette County

PA Fell township
PA Ferguson township
PA Ferndale borough
PA Findlay township
PA Finleyville borough
PA Folcroft borough
PA Forest Hills borough
PA Forks township
PA Forty Fort borough
PA Forward township
PA Fountain Hill borough
PA Fox Chapel borough
PA Franconia township
PA Franklin borough
PA Franklin County
PA Franklin Park borough
PA Franklin township
PA Frankstown township
PA Frazer township
PA Freedom borough
PA Freemansburg borough
PA Geistown borough
PA Glassport borough
PA Glendon borough
PA Glenfield borough
PA Glenolden borough
PA Green Tree borough
PA Greensburg city

PA Hallam borough
PA Hampden township
PA Hampton township
PA Hanover township
PA Harborcreek township
PA Harmar township
PA Harmony township
PA Harris township
PA Harrisburg city
PA Harrison township
PA Harveys Lake borough
PA Hatboro borough
PA Hatfield borough
PA Hatfield township
PA Haverford township
PA Haysville borough
PA Heidelberg borough
PA Hellam township
PA Hellertown borough
PA Hempfield township
PA Hepburn township
PA Hermitage city
PA Highspire borough
PA Hilltown township
PA Hollidaysburg borough
PA Homestead borough
PA Homewood borough
PA Hopewell township

PA Horsham township

PA Houston borough

PA Hughestown borough

PA Hulmeville borough

PA Hummelstown borough

PA Hunker borough

PA Indiana township

PA Ingram borough

PA Irwin borough

PA Ivyland borough

PA Jackson township

PA Jacobus borough

PA Jeannette city

PA Jefferson borough

PA Jenkins township

PA Jenkintown borough

PA Jermyn borough

PA Jessup borough

PA Johnstown city

PA Juniata township

PA Kenhorst borough

PA Kennedy township

PA Kilbuck township

PA Kingston borough

PA Kingston township

PA Koppel borough

PA Lackawanna County

PA Laflin borough

PA Lancaster city

PA Lancaster County

PA Lancaster township

PA Langhorne borough

PA Langhorne Manor borough

PA Lansdale borough

PA Lansdowne borough

PA Larksville borough

PA Laurel Run borough

PA Laureldale borough

PA Lawrence County

PA Lawrence Park township

PA Lebanon County

PA Leesport borough

PA Leet township

PA Leetsdale borough

PA Lehigh County

PA Lehman township

PA Lemoyne borough

PA Liberty borough

PA Limerick township

PA Lincoln borough

PA Lititz borough

PA Logan township

PA Loganville borough

PA London Britain township

PA Londonderry township

PA Lorain borough

PA Lower Allen township
PA Lower Alsace township
PA Lower Burrell city
PA Lower Chichester township
PA Lower Frederick township
PA Lower Gwynedd township
PA Lower Heidelberg township
PA Lower Macungie township
PA Lower Makefield township
PA Lower Merion township
PA Lower Moreland township
PA Lower Nazareth township
PA Lower Paxton township
PA Lower Pottsgrove township
PA Lower Providence township
PA Lower Salford township
PA Lower Saucon township
PA Lower Southampton township
PA Lower Swatara township
PA Lower Yoder township
PA Loyalsock township
PA Luzerne borough
PA Luzerne County
PA Luzerne township *68830
PA Lycoming County
PA Lycoming township
PA Macungie borough
PA Madison borough

PA Maidencreek township
PA Malvern borough
PA Manchester township
PA Manheim township
PA Manor borough
PA Manor township
PA Marcus Hook borough
PA Marple township
PA Marshall township
PA Marysville borough
PA Mayfield borough
PA McCandless township
PA McKean township
PA McKees Rocks borough
PA McKeesport city
PA Mechanicsburg borough
PA Media borough
PA Mercer County
PA Middle Taylor township
PA Middletown borough
PA Middletown township
PA Millbourne borough
PA Millcreek township
PA Millersville borough
PA Millvale borough
PA Modena borough
PA Mohnton borough
PA Monaca borough

PA Monessen city
PA Monongahela city
PA Monroe township
PA Montgomery County
PA Montgomery township
PA Montoursville borough
PA Moon township
PA Moosic borough
PA Morrisville borough
PA Morton borough
PA Mount Lebanon township
PA Mount Oliver borough
PA Mount Penn borough
PA Mountville borough
PA Muhlenberg township
PA Munhall borough
PA Municipality of Monroeville borough
PA Municipality of Murrysville borough
PA Nanticoke city
PA Narberth borough
PA Nether Providence township
PA Neville township
PA New Brighton borough
PA New Britain borough
PA New Britain township
PA New Cumberland borough
PA New Eagle borough
PA New Galilee borough

PA New Garden township
PA New Hanover township
PA New Kensington city
PA New Sewickley township
PA New Stanton borough
PA Newell borough
PA Newport township
PA Newton township
PA Newtown borough
PA Newtown township
PA Norristown borough
PA North Belle Vernon borough
PA North Braddock borough
PA North Catasauqua borough
PA North Charleroi borough
PA North Coventry township
PA North Franklin township
PA North Huntingdon township
PA North Irwin borough
PA North Londonderry township
PA North Sewickley township
PA North Strabane township
PA North Versailles township
PA North Wales borough
PA North Whitehall township
PA North York borough
PA Northampton borough
PA Northampton County

PA Northampton township
PA Norwood borough
PA Oakmont borough
PA O'Hara township
PA Ohio township
PA Old Forge borough
PA Old Lycoming township
PA Olyphant borough
PA Ontelaunee township
PA Osborne borough
PA Paint borough
PA Paint township
PA Palmer township
PA Palmyra borough
PA Parkside borough
PA Patterson Heights borough
PA Patterson township
PA Patton township
PA Paxtang borough
PA Penbrook borough
PA Penn borough
PA Penn Hills township
PA Penn township
PA Penndel borough
PA Pennsbury Village borough
PA Pequea township
PA Perkiomen township
PA Perry County

PA Perry township

PA Peters township

PA Phoenixville borough

PA Pine township

PA Pitcairn borough

PA Pittsburgh city

PA Pittston city

PA Pittston township

PA Plains township

PA Pleasant Hills borough

PA Plum borough

PA Plymouth borough

PA Plymouth township

PA Port Vue borough

PA Potter township

PA Pottstown borough

PA Pringle borough

PA Prospect Park borough

PA Pulaski township

PA Radnor township

PA Rankin borough

PA Ransom township

PA Reading city

PA Red Lion borough

PA Reserve township

PA Richland township

PA Ridley Park borough

PA Ridley township

PA Robinson township
PA Rochester borough
PA Rochester township
PA Rockledge borough
PA Roscoe borough
PA Rose Valley borough
PA Ross township
PA Rosslyn Farms borough
PA Rostraver township
PA Royalton borough
PA Royersford borough
PA Rutledge borough
PA Salem township
PA Salisbury township
PA Scalp Level borough
PA Schuylkill township
PA Schwenksville borough
PA Scott township
PA Scranton city
PA Sewickley borough
PA Sewickley Heights borough
PA Sewickley Hills borough
PA Sewickley township
PA Shaler township
PA Sharon city
PA Sharon Hill borough
PA Sharpsburg borough
PA Sharpville borough

PA Shenango township

PA Shillington borough

PA Shiremanstown borough

PA Silver Spring township

PA Sinking Spring borough

PA Skippack township

PA Somerset County

PA Souderton borough

PA South Abington township

PA South Coatesville borough

PA South Fayette township

PA South Greensburg borough

PA South Hanover township

PA South Heidelberg township

PA South Heights borough

PA South Huntingdon township

PA South Park township

PA South Pymatuning township

PA South Strabane township

PA South Whitehall township

PA South Williamsport borough

PA Southmont borough

PA Southwest Greensburg borough

PA Speers borough

PA Spring City borough

PA Spring Garden township

PA Spring township

PA Springdale borough

PA Springdale township
PA Springettsbury township
PA Springfield township
PA St. Lawrence borough
PA State College borough
PA Steelton borough
PA Stockdale borough
PA Stonycreek township
PA Stowe township
PA Sugar Notch borough
PA Summit township
PA Susquehanna township
PA Sutersville borough
PA Swarthmore borough
PA Swatara township
PA Swissvale borough
PA Swoyersville borough
PA Tarentum borough
PA Taylor borough
PA Telford borough
PA Temple borough
PA Thornburg borough
PA Thornbury township
PA Throop borough
PA Tinicum township
PA Towamencin township
PA Trafford borough
PA Trainer borough *68831

PA Trappe borough
PA Tredyffrin township
PA Tullytown borough
PA Turtle Creek borough
PA Union township
PA Upland borough
PA Upper Allen township
PA Upper Chichester township
PA Upper Darby township
PA Upper Dublin township
PA Upper Gwynedd township
PA Upper Leacock township
PA Upper Macungie township
PA Upper Makefield township
PA Upper Merion township
PA Upper Milford township
PA Upper Moreland township
PA Upper Pottsgrove township
PA Upper Providence township
PA Upper Saucon township
PA Upper Southampton township
PA Upper St. Clair township
PA Upper Yoder township
PA Uwchlan township
PA Valley township
PA Vanport township
PA Verona borough
PA Versailles borough

PA Wall borough

PA Warminster township

PA Warrington township

PA Warrior Run borough

PA Warwick township

PA Washington city

PA Washington County

PA Washington township

PA Wayne township

PA Wernersville borough

PA Wesleyville borough

PA West Bradford township

PA West Brownsville borough

PA West Chester borough

PA West Conshohocken borough

PA West Deer township

PA West Earl township

PA West Easton borough

PA West Elizabeth borough

PA West Fairview borough

PA West Goshen township

PA West Hanover township

PA West Hempfield township

PA West Homestead borough

PA West Lampeter township

PA West Lawn borough

PA West Manchester township

PA West Mayfield borough

PA West Middlesex borough
PA West Mifflin borough
PA West Newton borough
PA West Norriton township
PA West Pikeland township
PA West Pittston borough
PA West Pottsgrove township
PA West Reading borough
PA West Taylor township
PA West View borough
PA West Whiteland township
PA West Wyoming borough
PA West York borough
PA Westmont borough
PA Westmoreland County
PA Westtown township
PA Wheatland borough
PA Whitaker borough
PA White Oak borough
PA White township
PA Whitehall township
PA Whitemarsh township
PA Whitpain township
PA Wilkes-Barre city
PA Wilkes-Barre township
PA Wilkins township
PA Wilkesburg borough
PA Williams township

PA Williamsport city
PA Willistown township
PA Wilmerding borough
PA Wilson borough
PA Windber borough
PA Windsor borough
PA Windsor township
PA Worcester township
PA Wormleysburg borough
PA Wrightsville borough
PA Wyoming borough
PA Wyomissing borough
PA Wyomissing Hills borough
PA Yardley borough
PA Yatesville borough
PA Yeadon borough
PA Yoe borough
PA York city
PA York County
PA York township
PA Youngwood borough
PR Aibonita
PR Anasco
PR Aquada
PR Aquadilla
PR Aguas Buenas
PR Arecibo
PR Bayamon

PR Cabo Rojo

PR Caguas

PR Camuy

PR Canovanas

PR Catano

PR Cayey

PR Cidra

PR Dorado

PR Guaynabo

PR Gurabo

PR Hatillo

PR Hormigueros

PR Humacao

PR Juncos

PR Las Piedras

PR Loiza

PR Manati

PR Mayaguez

PR Moca

PR Naguabo

PR Naranjito

PR Penuelas

PR Ponce

PR Rio Grande

PR San German

PR San Lorenzo

PR Toa Alta

PR Toa Baja

PR Trujillo Alto

PR Vega Alta

PR Vega Baja

PR Yabucao

RI Barrington town

RI Bristol town

RI Burrillville town

RI Central Falls city

RI Coventry town

RI Cranston city

RI Cumberland town

RI East Greenwich town

RI East Providence city

RI Glocester town

RI Jamestown town

RI Johnston town

RI Lincoln town

RI Middletown town

RI Newport city

RI Newport County

RI North Kingstown town

RI North Providence town

RI North Smithfield town

RI Pawtucket city

RI Portsmouth town

RI Providence city

RI Providence County

RI Scituate town

RI Smithfield town

RI Tiverton town

RI Warren town

RI Warwick city

RI Washington County

RI West Greenwich town

RI West Warwick town

RI Woonsocket city

SC Aiken city

SC Aiken County

SC Anderson city

SC Anderson County

SC Arcadia Lakes town

SC Berkeley County

SC Burnetown town

SC Cayce city

SC Charleston city

SC Charleston County

SC City View town

SC Columbia city

SC Cowpens town

SC Darlington County

SC Dorchester County

SC Edgefield County

SC Florence city

SC Florence County

SC Folly Beach city

SC Forest Acres city

SC Fort Mill town
SC Georgetown County
SC Goose Creek city
SC Hanahan city
SC Horry County
SC Irmo town
SC Isle of Palms city
SC Lexington County
SC Lincolnvile town
SC Mount Pleasant town
SC Myrtle Beach city
SC North Augusta city
SC North Charleston city
SC Pickens County
SC Pineridge town
SC Quinby town
SC Rock Hill city
SC South Congaree town
SC Spartanburg city
SC Spartanburg County
SC Springdale town
SC Sullivan's Island town
SC Summerville town
SC Sumter city
SC Sumter County
SC Surfside Beach town
SC West Columbia city
SC York County

SD Big Sioux township

SD Central Pennington unorg.

SD Lincoln County

SD Mapleton township *68832

SD Minnehaha County

SD North Sioux City city

SD Pennington County

SD Rapid City city

SD Split Rock township

SD Union County

SD Wayne township

TN Alcoa city

TN Anderson County

TN Bartlett town

TN Belle Meade city

TN Berry Hill city

TN Blount County

TN Brentwood city

TN Bristol city

TN Carter County

TN Church Hill town

TN Clarksville city

TN Collegedale city

TN Davidson County

TN East Ridge city

TN Elizabethton city

TN Farragut town

TN Forest Hills city

TN Germantown city
TN Goodlettsville city
TN Hamilton County
TN Hawkins County
TN Hendersonville city
TN Jackson city
TN Johnson City city
TN Jonesborough town
TN Kingsport city
TN Knox County
TN Lakesite city
TN Lakewood city
TN Lookout Mountain town
TN Loudon County
TN Madison County
TN Maryville city
TN Montgomery County
TN Mount Carmel town
TN Mount Juliet city
TN Oak Hill city
TN Red Bank city
TN Ridgeside city
TN Rockford city
TN Shelby County
TN Signal Mountain town
TN Soddy-Daisy city
TN Sullivan County
TN Sumner County

TN Washington County
TN Williamson County
TN Wilson County
TX Addison city
TX Alamo city
TX Alamo Heights city
TX Allen city
TX Archer County
TX Azle city
TX Balch Springs city
TX Balcones Heights city
TX Bayou Vista village
TX Baytown city
TX Bedford city
TX Bell County
TX Bellaire city
TX Bellmead city
TX Belton city
TX Benbrook city
TX Beverly Hills city
TX Bexar County
TX Blue Mound city
TX Bowie County
TX Brazoria County
TX Brazos County
TX Brookside Village city
TX Brownsville city
TX Bryan city

TX Buckingham town

TX Bunker Hill Village city

TX Cameron County

TX Carrollton city

TX Castle Hills city

TX Cedar Hill city

TX Cedar Park city

TX Chambers County

TX Cibolo city

TX Clear Lake Shores city

TX Clint town

TX Cockrell Hill city

TX College Station city

TX Colleyville city

TX Collin County

TX Comal County

TX Combes town

TX Converse city

TX Copperas Cove city

TX Corinth town

TX Coryell County

TX Crowley city

TX Dallas County

TX Dalworthington Gardens city

TX Deer Park city

TX Denison city

TX Denton city

TX Denton County

TX DeSoto city
TX Dickinson city
TX Donna city
TX Double Oak town
TX Duncanville city
TX Ector County
TX Edgecliff village
TX Edinburg city
TX El Lago city
TX El Paso County
TX Ellis County
TX Euless city
TX Everman city
TX Farmers Branch city
TX Flower Mound town
TX Forest Hill city
TX Fort Bend County
TX Friendswood city
TX Galena Park city
TX Galveston city
TX Galveston County
TX Grand Prairie city
TX Grapevine city
TX Grayson County
TX Gregg County
TX Groves city
TX Guadalupe County
TX Haltom City city

TX Hardin County

TX Harker Heights city

TX Harlingen city

TX Harrison County

TX Hedwig Village city

TX Hewitt city

TX Hickory Creek town

TX Hidalgo County

TX Highland Park town

TX Highland Village city

TX Hill Country Village city

TX Hilshire Village city

TX Hitchcock city

TX Hollywood Park town

TX Howe town

TX Humble city

TX Hunters Creek Village city

TX Hurst city

TX Hutchins city

TX Impact town

TX Jacinto City city

TX Jefferson County

TX Jersey Village city

TX Johnson County

TX Jones County

TX Katy city

TX Kaufman County

TX Keller city

TX Kemah city
TX Kennedale city
TX Killeen city
TX Kirby city
TX Kleberg County
TX La Marque city
TX La Porte city
TX Lacy-Lakeview city
TX Lake Dallas city
TX Lake Worth city
TX Lakeside City town
TX Lakeside town
TX Lampasas County
TX Lancaster city
TX League City city
TX Leander city
TX Leon Valley city
TX Lewisville city
TX Live Oak city
TX Longview city
TX Lubbock County
TX Lumberton city
TX Martin County
TX McAllen city
TX McLennan County
TX Meadows city
TX Midland city
TX Midland County

TX Mission city
TX Missouri City city
TX Montgomery County
TX Morgan's Point city
TX Nash city
TX Nassau Bay city
TX Nederland city
TX Nolanville city
TX North Richland Hills city
TX Northcrest town
TX Nueces County
TX Odessa city
TX Olmos Park city
TX Palm Valley town
TX Palmview city
TX Pantego town
TX Parker County
TX Pearland city
TX Pflugerville city
TX Pharr city
TX Piney Point Village city
TX Port Arthur city
TX Port Neches city
TX Portland city
TX Potter County
TX Primera town
TX Randall County
TX Richardson city

TX Richland Hills city
TX River Oaks city
TX Robinson city
TX Rockwall city
TX Rockwall County
TX Rollingwood city
TX Rose Hill Acres city
TX Rowlett city *68833
TX Sachse city
TX Saginaw city
TX San Angelo city
TX San Benito city
TX San Juan city
TX San Patricio County
TX Sansom Park city
TX Santa Fe city
TX Schertz city
TX Seabrook city
TX Seagoville city
TX Selma city
TX Shavano Park city
TX Sherman city
TX Shoreacres city
TX Smith County
TX Socorro town
TX South Houston city
TX Southside Place city
TX Spring Valley city

TX Stafford town

TX Sugar Land city

TX Sunset Valley city

TX Tarrant County

TX Taylor County

TX Taylor Lake Village city

TX Temple city

TX Terrell Hills city

TX Texarkana city

TX Texas City city

TX Tom Green County

TX Travis County

TX Tye town

TX Tyler city

TX Universal City city

TX University Park city

TX Victoria city

TX Victoria County

TX Wake Village city

TX Waller County

TX Watauga city

TX Webb County

TX Webster city

TX Weslaco city

TX West Lake Hills city

TX West University Place city

TX Westover Hills town

TX Westworth village

TX White Oak city
TX White Settlement city
TX Wichita County
TX Wichita Falls city
TX Williamson County
TX Wilmer city
TX Windcrest city
TX Woodway city
UT American Fork city
UT Bluffdale city
UT Bountiful city
UT Cache County
UT Cedar Hills town
UT Centerville city
UT Clearfield city
UT Clinton city
UT Davis County
UT Draper city
UT Farmington city
UT Farr West city
UT Fruit Heights city
UT Harrisville city
UT Highland city
UT Hyde Park city
UT Kaysville city
UT Layton city
UT Lehi city
UT Lindon city

UT Logan city
UT Mapleton city
UT Midvale city
UT Millville city
UT Murray city
UT North Logan city
UT North Ogden city
UT North Salt Lake city
UT Ogden city
UT Orem city
UT Pleasant Grove city
UT Pleasant View city
UT Providence city
UT Provo city
UT River Heights city
UT Riverdale city
UT Riverton city
UT Roy city
UT Sandy city
UT Smithfield city
UT South Jordan city
UT South Ogden city
UT South Salt Lake city
UT South Weber city
UT Springville city
UT Sunset city
UT Syracuse city
UT Uintah town

UT Utah County

UT Washington Terrace city

UT Weber County

UT West Bountiful city

UT West Jordan city

UT West Point city

UT West Valley City city

UT Woods Cross city

VA Albemarle County

VA Alexandria city

VA Amherst County

VA Bedford County

VA Botetourt County

VA Bristol city

VA Campbell County

VA Charlottesville city

VA Colonial Heights city

VA Danville city

VA Dinwiddie County

VA Fairfax city

VA Falls Church city

VA Fredericksburg city

VA Gate City town

VA Gloucester County

VA Hanover County

VA Herndon town

VA Hopewell city

VA James City County

VA Loudoun County
VA Lynchburg city
VA Manassas city
VA Manassas Park city
VA Occoquan town
VA Petersburg city
VA Pittsylvania County
VA Poquoson city
VA Prince George County
VA Richmond city
VA Roanoke city
VA Roanoke County
VA Salem city
VA Scott County
VA Spotsylvania County
VA Stafford County
VA Suffolk city
VA Vienna town
VA Vinton town
VA Washington County
VA Weber City town
VA Williamsburg city
VA York County
VT Burlington city
VT Chittenden County
VT Colchester town
VT Essex Junction village
VT Essex town

VT Shelburne town

VT South Burlington city

VT Williston town

VT Winooski city

WA Algona city

WA Auburn city

WA Beaux Arts Village town

WA Bellevue city

WA Bellingham city

WA Benton County

WA Bonney Lake city

WA Bothell city

WA Bremerton city

WA Brier city

WA Clyde Hill town

WA Cowlitz County

WA Des Moines city

WA DuPont city

WA Edmonds city

WA Everett city

WA Fife city

WA Fircrest town

WA Franklin County

WA Gig Harbor city

WA Hunts Point town

WA Issaquah city

WA Kelso city

WA Kennewick city

WA Kent city

WA Kirkland city

WA Kitsap County

WA Lacey city

WA Lake Forest Park city

WA Longview city

WA Lynnwood city

WA Marysville city

WA Medina city

WA Mercer Island city

WA Mill Creek city

WA Millwood town

WA Milton city

WA Mountlake Terrace city

WA Mukilteo city

WA Normandy Park city

WA Olympia city

WA Pacific city

WA Pasco city

WA Port Orchard city

WA Puyallup city

WA Redmond city

WA Renton city

WA Richland city

WA Ruston town

WA Selah city

WA Steilacoom town

WA Sumner city

WA Thurston County
WA Tukwila city
WA Tumwater city
WA Union Gap city
WA Vancouver city
WA West Richland city
WA Whatcom County
WA Woodway city
WA Yakima city
WA Yakima County
WA Yarrow Point town
WI Algoma town *68834
WI Allouez village
WI Altoona city
WI Appleton city
WI Ashwaubenon village
WI Bayside village
WI Bellevue town
WI Beloit city
WI Beloit town
WI Big Bend village
WI Black Wolf town
WI Blooming Grove town
WI Brookfield city
WI Brookfield town
WI Brown County
WI Brown Deer village
WI Brunswick town

WI Buchanan town
WI Burke town
WI Butler village
WI Caledonia town
WI Calumet County
WI Campbell town
WI Cedarburg city
WI Cedarburg town
WI Chippewa County
WI Chippewa Falls city
WI Clayton town
WI Combined Locks village
WI Cudahy city
WI Dane County
WI De Pere city
WI De Pere town
WI Delafield town
WI Douglas County
WI Dunn town
WI Eagle Point town
WI Eau Claire city
WI Eau Claire County
WI Elm Grove village
WI Elmwood Park village
WI Fitchburg city
WI Fox Point village
WI Franklin city
WI Germantown town

WI Germantown village
WI Glendale city
WI Grafton town
WI Grafton village
WI Grand Chute town
WI Green Bay city
WI Greendale village
WI Greenfield city
WI Greenville town
WI Hales Corners village
WI Hallie town
WI Harmony town
WI Harrison town
WI Hobart town
WI Holmen village
WI Howard village
WI Janesville city
WI Janesville town
WI Kaukauna city
WI Kenosha city
WI Kenosha County
WI Kimberly village
WI Kohler village
WI La Crosse city
WI La Crosse County
WI La Prairie town
WI Lafayette town
WI Lannon village

WI Lima town
WI Lisbon town
WI Little Chute village
WI Madison town
WI Maple Bluff village
WI Marathon County
WI McFarland village
WI Medary town
WI Menasha city
WI Menasha town
WI Menomonee Falls village
WI Mequon city
WI Middleton city
WI Middleton town
WI Monona city
WI Mount Pleasant town
WI Muskego city
WI Neenah city
WI Neenah town
WI Nekimi town
WI New Berlin city
WI North Bay village
WI Norway town
WI Oak Creek city
WI Onalaska city
WI Onalaska town
WI Oshkosh city
WI Oshkosh town

WI Outagamie County

WI Ozaukee County

WI Pewaukee town

WI Pewaukee village

WI Pleasant Prairie town

WI Pleasant Prairie village

WI Racine city

WI Racine County

WI Rib Mountain town

WI River Hills village

WI Rock County

WI Rock town

WI Rothschild village

WI Salem town

WI Schofield city

WI Scott town

WI Sheboygan city

WI Sheboygan County

WI Sheboygan Falls city

WI Sheboygan Falls town

WI Sheboygan town

WI Shelby town

WI Shorewood Hills village

WI Shorewood village

WI Somers town

WI South Milwaukee city

WI St. Francis city

WI Stettin town

WI Sturtevant village
WI Superior city
WI Superior village
WI Sussex village
WI Thiensville village
WI Turtle town
WI Union town
WI Vandenbroek town
WI Vernon town
WI Washington County
WI Washington town
WI Waukesha city
WI Waukesha County
WI Waukesha town
WI Wausau city
WI Wauwatosa city
WI West Allis city
WI West Milwaukee village
WI Weston town
WI Westport town
WI Wheaton town
WI Whitefish Bay village
WI Wilson town
WI Wind Point village
WI Winnebago County
WV Bancroft town
WV Barboursville village
WV Belle town

WV Benwood city
WV Berkeley County
WV Bethlehem village
WV Brooke County
WV Cabell County
WV Cedar Grove town
WV Ceredo city
WV Charleston city
WV Chesapeake town
WV Clearview village
WV Dunbar city
WV East Bank town
WV Follansbee city
WV Glasgow town
WV Glen Dale city
WV Hancock County
WV Huntington city
WV Hurricane city
WV Kanawha County
WV Kenova city
WV Marmet city
WV Marshall County
WV McMechen city
WV Mineral County
WV Moundsville city
WV Nitro city
WV North Hills town
WV Ohio County

WV Parkersburg city

WV Poca town

WV Putnam County

WV Ridgeley town

WV South Charleston city

WV St. Albans city

WV Triadelphia town

WV Vienna city

WV Wayne County

WV Weirton city

WV Wheeling city

WV Wood County

WY Casper city

WY Cheyenne city

WY Evansville town

WY Laramie County

WY Mills town

WY Natrona County

***68835 Appendix 7 of Preamble—Governmental Entities (Located Outside of an Urbanized Area) That Must Be Examined By the NPDES Permitting Authority for Potential Designation Under §123.35(b)(2)**

(All listed entities have a population of at least 10,000 and a population density of at least 1,000. A listed entity would only be potentially designated if it operates a small MS4. See §122.26(b)(16) for the definition of a small MS4.)

(This list does not include all operators of small MS4s that may be designated by the NPDES permitting authority. Operators of small MS4s in areas with populations below 10,000 and densities below 1,000 may also be designated but examination of them is not required. Also, entities such as military bases, large hospitals, prison complexes, universities, sewer districts, and highway departments that operate a small MS4 in an area listed here, or in an area otherwise designated by the NPDES permitting authority, may be designated and become subject to permitting regulations.) (Source: 1990 Census of Population and Housing, U.S. Bureau of the Census. This list is subject to change with the Decennial Census)

AL Daphne city

AL Jacksonville city

AL Selma city

AR Arkadelphia city

AR Benton city

AR Blytheville city

AR Conway city

AR El Dorado city

AR Hot Springs city

AR Magnolia city

AR Rogers city

AR Searcy city

AR Stuttgart city

AZ Douglas city

CA Arcata city

CA Arroyo Grande city

CA Atwater city

CA Auburn city

CA Banning city

CA Brawley city

CA Calexico city

CA Clearlake city

CA Corcoran city

CA Delano city

CA Desert Hot Springs city

CA Dinuba city

CA Dixon city

CA El Centro city

CA El Paso de Robles (Paso Robles) city

CA Eureka city

CA Fillmore city
CA Gilroy city
CA Grover City city
CA Hanford city
CA Hollister city
CA Lemoore city
CA Los Banos city
CA Madera city
CA Manteca city
CA Oakdale city
CA Oroville city
CA Paradise town
CA Petaluma city
CA Porterville city
CA Red Bluff city
CA Reedley city
CA Ridgecrest city
CA Sanger city
CA Santa Paula city
CA Selma city
CA South Lake Tahoe city
CA Temecula city
CA Tracy city
CA Tulare city
CA Turlock city
CA Ukiah city
CA Wasco city
CA Woodland city

CO Canon City city
CO Durango city
CO Lafayette city
CO Louisville city
CO Loveland city
CO Sterling city
FL Bartow city
FL Belle Glade city
FL De Land city
FL Eustis city
FL Haines City city
FL Key West city
FL Leesburg city
FL Palatka city
FL Plant City city
FL St. Augustine city
FL St. Cloud city
GA Americus city
GA Carrollton city
GA Cordele city
GA Dalton city
GA Dublin city
GA Griffin city
GA Hinesville city
GA Moultrie city
GA Newnan city
GA Statesboro city
GA Thomasville city

GA Tifton city

GA Valdosta city

GA Waycross city

IA Ames city

IA Ankeny city

IA Boone city

IA Burlington city

IA Fort Dodge city

IA Fort Madison city

IA Indianola city

IA Keokuk city

IA Marshalltown city

IA Mason City city

IA Muscatine city

IA Newton city

IA Oskaloosa city

IA Ottumwa city

IA Spencer city

ID Caldwell city

ID Coeur d'Alene city

ID Lewiston city

ID Moscow city

ID Nampa city

ID Rexburg city

ID Twin Falls city

IL Belvidere city

IL Canton city

IL Carbondale city

IL Centralia city
IL Charleston city
IL Danville city
IL De Kalb city
IL Dixon city
IL Effingham city
IL Freeport city
IL Galesburg city
IL Jacksonville city
IL Macomb city
IL Mattoon city
IL Mount Vernon city
IL Ottawa city
IL Pontiac city
IL Quincy city
IL Rantoul village
IL Sterling city
IL Streator city
IL Taylorville city
IL Woodstock city
IN Bedford city
IN Columbus city
IN Crawfordsville city
IN Frankfort city
IN Franklin city
IN Greenfield city
IN Huntington city
IN Jasper city

IN La Porte city

IN Lebanon city

IN Logansport city

IN Madison city

IN Marion city

IN Martinsville city

IN Michigan City city

IN New Castle city

IN Noblesville city

IN Peru city

IN Plainfield town

IN Richmond city

IN Seymour city

IN Shelbyville city

IN Valparaiso city

IN Vincennes city

IN Wabash city

IN Warsaw city

IN Washington city

KS Arkansas City city

KS Atchison city

KS Coffeyville city

KS Derby city

KS Dodge City city

KS El Dorado city

KS Emporia city

KS Garden City city

KS Great Bend city

KS Hays city

KS Hutchinson city

KS Junction City city

KS Leavenworth city

KS Liberal city

KS Manhattan city

KS McPherson city

KS Newton city

KS Ottawa city

KS Parsons city

KS Pittsburg city

KS Salina city

KS Winfield city

KY Bowling Green city

KY Danville city

KY Frankfort city

KY Georgetown city

KY Glasgow city

KY Hopkinsville city

KY Madisonville city

KY Middlesborough city

KY Murray city

KY Nicholasville city

KY Paducah city

KY Radcliff city

KY Richmond city

KY Somerset city

KY Winchester city *68836

LA Abbeville city

LA Bastrop city

LA Bogalusa city

LA Crowley city

LA Eunice city

LA Hammond city

LA Jennings city

LA Minden city

LA Morgan City city

LA Natchitoches city

LA New Iberia city

LA Opelousas city

LA Ruston city

LA Thibodaux city

MA Amherst town

MA Clinton town

MA Milford town

MA Newburyport city

MD Aberdeen town

MD Cambridge city

MD Salisbury city

MD Westminster city

ME Waterville city

MI Adrian city

MI Albion city

MI Alpena city

MI Big Rapids city

MI Cadillac city

MI Escanaba city

MI Grand Haven city

MI Marquette city

MI Midland city

MI Monroe city

MI Mount Pleasant city

MI Owosso city

MI Sturgis city

MI Traverse City city

MN Albert Lea city

MN Austin city

MN Bemidji city

MN Brainerd city

MN Faribault city

MN Fergus Falls city

MN Hastings city

MN Hutchinson city

MN Mankato city

MN Marshall city

MN New Ulm city

MN North Mankato city

MN Northfield city

MN Owatonna city

MN Stillwater city

MN Willmar city

MN Winona city

MO Cape Girardeau city

MO Farmington city

MO Hannibal city

MO Jefferson City city

MO Kennett city

MO Kirksville city

MO Marshall city

MO Maryville city

MO Poplar Bluff city

MO Rolla city

MO Sedalia city

MO Sikeston city

MO Warrensburg city

MO Washington city

MS Brookhaven city

MS Canton city

MS Clarksdale city

MS Cleveland city

MS Columbus city

MS Greenville city

MS Greenwood city

MS Grenada city

MS Indianola city

MS Laurel city

MS McComb city

MS Meridian city

MS Natchez city

MS Starkville city

MS Vicksburg city

MS Yazoo City city

MT Bozeman city

MT Havre city

MT Helena city

MT Kalispell city

NC Albemarle city

NC Asheboro city

NC Boone town

NC Eden city

NC Elizabeth City city

NC Havelock city

NC Henderson city

NC Kernersville town

NC Kinston city

NC Laurinburg city

NC Lenoir city

NC Lexington city

NC Lumberton city

NC Monroe city

NC New Bern city

NC Reidsville city

NC Roanoke Rapids city

NC Salisbury city

NC Sanford city

NC Shelby city

NC Statesville city

NC Tarboro town

NC Wilson city

ND Dickinson city

ND Jamestown city

ND Minot city

ND Williston city

NE Beatrice city

NE Columbus city

NE Fremont city

NE Grand Island city

NE Hastings city

NE Kearney city

NE Norfolk city

NE North Platte city

NE Scottsbluff city

NJ East Windsor township

NJ Plainsboro township

NJ Bridgeton city

NJ Princeton borough

NM Alamogordo city

NM Artesia city

NM Clovis city

NM Deming city

NM Farmington city

NM Gallup city

NM Hobbs city

NM Las Vegas city

NM Portales city

NM Roswell city

NM Silver City town

NV Elko city

NY Amsterdam city
NY Auburn city
NY Batavia city
NY Canandaigua city
NY Corning city
NY Cortland city
NY Dunkirk city
NY Fredonia village
NY Fulton city
NY Geneva city
NY Gloversville city
NY Jamestown city
NY Kingston city
NY Lockport city
NY Massena village
NY Middletown city
NY Ogdensburg city
NY Olean city
NY Oneonta city
NY Oswego city
NY Plattsburgh city
NY Potsdam village
NY Watertown city
OH Alliance city
OH Ashland city
OH Ashtabula city
OH Athens city
OH Bellefontaine city

OH Bowling Green city
OH Bucyrus city
OH Cambridge city
OH Chillicothe city
OH Circleville city
OH Coshocton city
OH Defiance city
OH Delaware city
OH Dover city
OH East Liverpool city
OH Findlay city
OH Fostoria city
OH Fremont city
OH Galion city
OH Greenville city
OH Lancaster city
OH Lebanon city
OH Marietta city
OH Marion city
OH Medina city
OH Mount Vernon city
OH New Philadelphia city
OH Norwalk city
OH Oxford city
OH Piqua city
OH Portsmouth city
OH Salem city
OH Sandusky city

OH Sidney city
OH Tiffin city
OH Troy city
OH Urbana city
OH Washington city
OH Wilmington city
OH Wooster city
OH Xenia city
OH Zanesville city
OK Ada city
OK Altus city
OK Bartlesville city
OK Chickasha city
OK Claremore city
OK McAlester city
OK Miami city
OK Muskogee city
OK Okmulgee city
OK Owasso city
OK Ponca City city
OK Stillwater city
OK Tahlequah city
OK Weatherford city
OR Albany city
OR Ashland city
OR Astoria city
OR Bend city
OR City of the Dalles city

OR Coos Bay city

OR Corvallis city

OR Grants Pass city

OR Hermiston city *68837

OR Klamath Falls city

OR La Grande city

OR Lebanon city

OR McMinnville city

OR Newberg city

OR Pendleton city

OR Roseburg city

OR Woodburn city

PA Berwick borough

PA Bloomsburg town

PA Butler city

PA Carlisle borough

PA Chambersburg borough

PA Ephrata borough

PA Hanover borough

PA Hazleton city

PA Indiana borough

PA Lebanon city

PA Meadville city

PA New Castle city

PA Oil City city

PA Pottsville city

PA Sunbury city

PA Uniontown city

PA Warren city
RI Narragansett town
SC Clemson city
SC Easley city
SC Gaffney city
SC Greenwood city
SC Newberry town
SC Orangeburg city
SD Aberdeen city
SD Brookings city
SD Huron city
SD Mitchell city
SD Vermillion city
SD Watertown city
SD Yankton city
TN Brownsville city
TN Cleveland city
TN Collierville town
TN Cookeville city
TN Dyersburg city
TN Greeneville town
TN Lawrenceburg city
TN McMinnville city
TN Millington city
TN Morristown city
TN Murfreesboro city
TN Shelbyville city
TN Springfield city

TN Union City city
TX Alice city
TX Alvin city
TX Andrews city
TX Angleton city
TX Bay City city
TX Beeville city
TX Big Spring city
TX Borger city
TX Brenham city
TX Brownwood city
TX Burkburnett city
TX Canyon city
TX Cleburne city
TX Conroe city
TX Coppell city
TX Corsicana city
TX Del Rio city
TX Dumas city
TX Eagle Pass city
TX El Campo city
TX Gainesville city
TX Gatesville city
TX Georgetown city
TX Henderson city
TX Hereford city
TX Huntsville city
TX Jacksonville city

TX Kerrville city

TX Kingsville city

TX Lake Jackson city

TX Lamesa city

TX Levelland city

TX Lufkin city

TX Mercedes city

TX Mineral Wells city

TX Mount Pleasant city

TX Nacogdoches city

TX New Braunfels city

TX Palestine city

TX Pampa city

TX Pecos city

TX Plainview city

TX Port Lavaca city

TX Robstown city

TX Rosenberg city

TX Round Rock city

TX San Marcos city

TX Seguin city

TX Snyder city

TX Stephenville city

TX Sweetwater city

TX Taylor city

TX The Colony city

TX Uvalde city

TX Vernon city

TX Vidor city

UT Brigham City city

UT Cedar City city

UT Spanish Fork city

UT Tooele city

VA Blacksburg town

VA Christiansburg town

VA Front Royal town

VA Harrisonburg city

VA Leesburg town

VA Martinsville city

VA Radford city

VA Staunton city

VA Waynesboro city

VA Winchester city

VT Rutland city

WA Aberdeen city

WA Anacortes city

WA Centralia city

WA Ellensburg city

WA Moses Lake city

WA Mount Vernon city

WA Oak Harbor city

WA Port Angeles city

WA Pullman city

WA Sunnyside city

WA Walla Walla city

WA Wenatchee city

WI Beaver Dam city

WI Fond du Lac city

WI Fort Atkinson city

WI Manitowoc city

WI Marinette city

WI Marshfield city

WI Menomonie city

WI Monroe city

WI Oconomowoc city

WI Stevens Point city

WI Sun Prairie city

WI Two Rivers city

WI Watertown city

WI West Bend city

WI Whitewater city

WI Wisconsin Rapids city

WV Beckley city

WV Bluefield city

WV Clarksburg city

WV Fairmont city

WV Martinsburg city

WV Morgantown city

WY Evanston city

WY Gillette city

WY Green River city

WY Laramie city

WY Rock Springs city

WY Sheridan city

For the reasons set forth in the preamble, chapter I of title 40 of the Code of Federal Regulations is amended as follows:

PART 9—OMB APPROVALS UNDER THE PAPERWORK REDUCTION ACT

1. The authority citation for part 9 continues to read as follows:

Authority: 7 U.S.C. 135 et seq., 136-136y; 15 U.S.C. 2001, 2003, 2005, 2006, 2601-2671; 21 U.S.C. 331j, 346a, 348; 31 U.S.C. 9701; 33 U.S.C. 1251 et seq., 1311, 1313d, 1314, 1318, 1321, 1326, 1330, 1342, 1344, 1345 (d) and (e), 1361; E.O. 11735, 38 FR 21243, 3 CFR, 1971-1975 Comp. p. 973; 42 U.S.C. 241, 242b, 243, 246, 300f, 300g, 300g-1, 300g-2, 300g-3, 300g-4, 300g-5, 300g-6, 300j-1, 300j-2, 300j-3, 300j-4, 300j-9, 1857 et seq., 6901-6992k, 7401-7671q, 7542, 9601-9657, 11023, 11048.

40 CFR § 9.1

2. In §9.1 the table is amended by adding entries in numerical order under the indicated heading to read as follows:

40 CFR § 9.1

§9.1 OMB approvals under the Paperwork Reduction Act.

* * * * *

40 CFR citation	OMB control No.
* * * * *	
EPA Administered Permit Programs: The National Pollutant Discharge Elimination System	
* * * * *	
122.26(g)	2040-0211
* * * * *	
State Permit Requirements	
* * * * *	
123.35(b)	2040-0211
* * * * *	

***68838 PART 122—EPA ADMINISTERED PERMIT PROGRAMS: THE NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM**

1. The authority citation for part 122 continues to read as follows:

Authority: The Clean Water Act, 33 U.S.C. 1251 et seq.

40 CFR § 122.21

2. Revise §122.21(c)(1) to read as follows:

40 CFR § 122.21

§122.21 Application for a permit (applicable to State programs, see §123.25).

* * * * *

(c) Time to apply. (1) Any person proposing a new discharge, shall submit an application at least 180 days before the date on which the discharge is to commence, unless permission for a later date has been granted by the Director. Facilities proposing a new discharge of storm water associated with industrial activity shall submit an application 180 days before that facility commences industrial activity which may result in a discharge of storm water associated with that industrial

activity. Facilities described under §122.26(b)(14)(x) or (b)(15)(i) shall submit applications at least 90 days before the date on which construction is to commence. Different submittal dates may be required under the terms of applicable general permits. Persons proposing a new discharge are encouraged to submit their applications well in advance of the 90 or 180 day requirements to avoid delay. See also paragraph (k) of this section and §122.26(c)(1)(i)(G) and (c)(1)(ii).

* * * * 40 CFR § 122.26

3. Amend §122.26 as follows:

- a. Revise paragraphs (a)(9), (b)(4)(i), (b)(7)(i), (b)(14) introductory text, (b)(14)(x), (b)(14)(xi);
- b. Redesignate paragraph (b)(15) as paragraph (b)(20) and add new paragraphs (b)(15) through (b)(19);
- c. Revise the heading for paragraph (c), the first sentence of paragraph (c)(1) introductory text, the first sentence of paragraph (c)(1)(ii) introductory text, paragraphs (e) heading and introductory text, (e)(1), (e)(5) introductory text, and (e)(5)(i);
- d. Add paragraphs (e)(8) and (e)(9); and
- e. Revise paragraphs (f)(4), (f)(5), and (g).

The additions and revisions read as follows:

40 CFR § 122.26

§122.26 Storm water discharges (applicable to State NPDES programs, see § 123.25).

(a) * * *

(9)(i) On and after October 1, 1994, for discharges composed entirely of storm water, that are not required by paragraph (a)(1) of this section to obtain a permit, operators shall be required to obtain a NPDES permit only if:

(A) The discharge is from a small MS4 required to be regulated pursuant to § 122.32;

(B) The discharge is a storm water discharge associated with small construction activity pursuant to paragraph (b)(15) of this section;

(C) The Director, or in States with approved NPDES programs either the Director or the EPA Regional Administrator, determines that storm water controls are needed for the discharge based on wasteload allocations that are part of “total maximum daily loads” (TMDLs) that address the pollutant(s) of concern; or

(D) The Director, or in States with approved NPDES programs either the Director or the EPA Regional Administrator, determines that the discharge, or category of discharges within a geographic area, contributes to a violation of a water quality standard or is a significant contributor of pollutants to waters of the United States.

(ii) Operators of small MS4s designated pursuant to paragraphs (a)(9)(i)(A), (a)(9)(i)(C), and (a)(9)(i)(D) of this section shall seek coverage under an NPDES permit in accordance with §§122.33 through 122.35. Operators of non-municipal sources designated pursuant to paragraphs (a)(9)(i)(B), (a)(9)(i)(C), and (a)(9)(i)(D) of this section shall seek coverage under an NPDES permit in accordance with paragraph (c)(1) of this section.

(iii) Operators of storm water discharges designated pursuant to paragraphs (a)(9)(i)(C) and (a)(9)(i)(D) of this section shall apply to the Director for a permit within 180 days of receipt of notice, unless permission for a later date is granted by the Director (see §124.52(c) of this chapter).

(b) * * *

(4) * * *

(i) Located in an incorporated place with a population of 250,000 or more as determined by the 1990 Decennial Census by the Bureau of the Census (Appendix F of this part); or

* * * * *

(7) * * *

(i) Located in an incorporated place with a population of 100,000 or more but less than 250,000, as determined by the 1990 Decennial Census by the Bureau of the Census (Appendix G of this part); or

* * * * *

(14) Storm water discharge associated with industrial activity means the discharge from any conveyance that is used for collecting and conveying storm ~~*68839~~ water and that is directly related to manufacturing, processing or raw materials storage areas at an industrial plant. The term does not include discharges from facilities or activities excluded from the NPDES program under this part 122. For the categories of industries identified in this section, the term includes, but is not limited to, storm water discharges from industrial plant yards; immediate access roads and rail lines used or traveled by carriers of raw materials, manufactured products, waste material, or by-products used or created by the facility; material handling sites; refuse sites; sites used for the application or disposal of process waste waters (as defined at part 401 of this chapter); sites used for the storage and maintenance of material handling equipment; sites used for residual treatment, storage, or disposal; shipping and receiving areas; manufacturing buildings; storage areas (including tank farms) for raw materials, and intermediate and final products; and areas where industrial activity has taken place in the past and significant materials remain and are exposed to storm water. For the purposes of this paragraph, material handling activities include storage, loading and unloading, transportation, or conveyance of any raw material, intermediate product, final product, by-product or waste product. The term excludes areas located on plant lands separate from the plant's industrial activities, such as office buildings and accompanying parking lots as long as the drainage from the excluded areas is not mixed with storm water drained from the above described areas. Industrial facilities (including industrial facilities that are federally, State, or municipally owned or operated that meet the description of the facilities listed in paragraphs (b)(14)(i) through (xi) of this section) include those facilities designated under the provisions of paragraph (a)(1)(v) of this section. The following categories of facilities are considered to be engaging in "industrial activity" for purposes of paragraph (b)(14):

* * * * *

(x) Construction activity including clearing, grading and excavation, except operations that result in the disturbance of less than five acres of total land area. Construction activity also includes the disturbance of less than five acres of total land area that is a part of a larger common plan of development or sale if the larger common plan will ultimately disturb five acres or more;

(xi) Facilities under Standard Industrial Classifications 20, 21, 22, 23, 2434, 25, 265, 267, 27, 283, 285, 30, 31 (except 311), 323, 34 (except 3441), 35, 36, 37 (except 373), 38, 39, and 4221-25;

(15) Storm water discharge associated with small construction activity means the discharge of storm water from:

(i) Construction activities including clearing, grading, and excavating that result in land disturbance of equal to or greater than one acre and less than five acres. Small construction activity also includes the disturbance of less than one acre of total land area that is part of a larger common plan of development or sale if the larger common plan will ultimately disturb equal to or greater than one and less than five acres. Small construction activity does not include routine maintenance that is performed to maintain the original line and grade, hydraulic capacity, or original purpose of the facility. The Director may waive the otherwise applicable requirements in a general permit for a storm water discharge from construction activities that disturb less than five acres where:

(A) The value of the rainfall erosivity factor (“R” in the Revised Universal Soil Loss Equation) is less than five during the period of construction activity. The rainfall erosivity factor is determined in accordance with Chapter 2 of Agriculture Handbook Number 703, Predicting Soil Erosion by Water: A Guide to Conservation Planning With the Revised Universal Soil Loss Equation (RUSLE), pages 21-64, dated January 1997. The Director of the Federal Register approves this incorporation by reference in accordance with 5 U.S.C 552(a) and 1 CFR part 51. Copies may be obtained from EPA's Water Resource Center, Mail Code RC4100, 401 M St. S.W., Washington, DC 20460. A copy is also available for inspection at the U.S. EPA Water Docket, 401 M Street S.W., Washington, DC. 20460, or the Office of the Federal Register, 800 N. Capitol Street N.W. Suite 700, Washington, DC. An operator must certify to the Director that the construction activity will take place during a period when the value of the rainfall erosivity factor is less than five; or

(B) Storm water controls are not needed based on a “total maximum daily load” (TMDL) approved or established by EPA that addresses the pollutant(s) of concern or, for non-impaired waters that do not require TMDLs, an equivalent analysis that determines allocations for small construction sites for the pollutant(s) of concern or that determines that such allocations are not needed to protect water quality based on consideration of existing in-stream concentrations, expected growth in pollutant contributions from all sources, and a margin of safety. For the purpose of this paragraph, the pollutant(s) of concern include sediment or a parameter that addresses sediment (such as total suspended solids, turbidity or siltation) and any other pollutant that has been identified as a cause of impairment of any water body that will receive a discharge from the construction activity. The operator must certify to the Director that the construction activity will take place, and storm water discharges will occur, within the drainage area addressed by the TMDL or equivalent analysis.

(ii) Any other construction activity designated by the Director, or in States with approved NPDES programs either the Director or the EPA Regional Administrator, based on the potential for contribution to a violation of a water quality standard or for significant contribution of pollutants to waters of the United States.

Exhibit 1 to §122.26(b)(15).—Summary of Coverage of “Storm Water Discharges Associated with Small Construction Activity” Under the NPDES Storm Water Program

Automatic Designation: Required Nationwide Coverage	<p>- Construction activities that result in a land disturbance of equal to or greater than one acre and less than five acres.</p> <p>- Construction activities disturbing less than one acre if part of a larger common plan of development or sale with a planned disturbance of equal to or greater than one acre and less than five acres. (see §122.26(b)(15)(i).)</p>
Potential Designation: Optional Evaluation and Designation by the NPDES Permitting Authority or EPA Regional Administrator.	<p>- Construction activities that result in a land disturbance of less than one acre based on the potential for contribution to a violation of a water quality standard or for significant contribution of pollutants. (see §122.26(b)(15)(ii).)</p>
Potential Waiver: Waiver from Requirements as Determined by the NPDES Permitting Authority.	<p>Any automatically designated construction activity where the operator certifies: (1) A rainfall erosivity factor of less than five, or (2) That the activity will occur within an area where controls are not needed based on a TMDL or, for non-impaired waters that do not require a TMDL, an equivalent analysis for the pollutant(s) of concern. (see §122.26(b)(15)(i).)</p>

*68840 (16) Small municipal separate storm sewer system means all separate storm sewers that are:

(i) Owned or operated by the United States, a State, city, town, borough, county, parish, district, association, or other public body (created by or pursuant to State law) having jurisdiction over disposal of sewage, industrial wastes, storm water, or other wastes, including special districts under State law such as a sewer district, flood control district or drainage district, or similar entity, or an Indian tribe or an authorized Indian tribal organization, or a designated and approved management agency under section 208 of the CWA that discharges to waters of the United States.

(ii) Not defined as “large” or “medium” municipal separate storm sewer systems pursuant to paragraphs (b)(4) and (b)(7) of this section, or designated under paragraph (a)(1)(v) of this section.

(iii) This term includes systems similar to separate storm sewer systems in municipalities, such as systems at military bases, large hospital or prison complexes, and highways and other thoroughfares. The term does not include separate storm sewers in very discrete areas, such as individual buildings.

(17) Small MS4 means a small municipal separate storm sewer system.

(18) Municipal separate storm sewer system means all separate storm sewers that are defined as “large” or “medium” or “small” municipal separate storm sewer systems pursuant to paragraphs (b)(4), (b)(7), and (b)(16) of this section, or designated under paragraph (a)(1)(v) of this section.

(19) MS4 means a municipal separate storm sewer system.

* * * * *

(c) Application requirements for storm water discharges associated with industrial activity and storm water discharges associated with small construction activity—(1) Individual application. Dischargers of storm water associated with industrial activity and with small construction activity are required to apply for an individual permit or seek coverage under a promulgated storm water general permit. * * *

* * * * *

(ii) An operator of an existing or new storm water discharge that is associated with industrial activity solely under paragraph (b)(14)(x) of this section or is associated with small construction activity solely under paragraph (b)(15) of this section, is exempt from the requirements of § 122.21(g) and paragraph (c)(1)(i) of this section. * * *

* * * * *

(e) Application deadlines. Any operator of a point source required to obtain a permit under this section that does not have an effective NPDES permit authorizing discharges from its storm water outfalls shall submit an application in accordance with the following deadlines:

(1) Storm water discharges associated with industrial activity. (i) Except as provided in paragraph (e)(1)(ii) of this section, for any storm water discharge associated with industrial activity identified in paragraphs (b)(14)(i) through (xi) of this section, that is not part of a group application as described in paragraph (c)(2) of this section or that is not authorized by a storm water general permit, a permit application made pursuant to paragraph (c) of this section must be submitted to the Director by October 1, 1992;

(ii) For any storm water discharge associated with industrial activity from a facility that is owned or operated by a municipality with a population of less than 100,000 that is not authorized by a general or individual permit, other than an airport, powerplant, or uncontrolled sanitary landfill, the permit application must be submitted to the Director by March 10, 2003.

* * * * *

(5) A permit application shall be submitted to the Director within 180 days of notice, unless permission for a later date is granted by the Director (see § 124.52(c) of this chapter), for:

(i) A storm water discharge that the Director, or in States with approved NPDES programs, either the Director or the EPA Regional Administrator, determines that the discharge contributes to a violation of a water quality standard or is a significant contributor of pollutants to waters of the United States (see paragraphs (a)(1)(v) and (b)(15)(ii) of this section);

* * * * *

(8) For any storm water discharge associated with small construction activity identified in paragraph (b)(15)(i) of this section, see §122.21(c)(1). Discharges from these sources require permit authorization by March 10, 2003, unless designated for coverage before then.

(9) For any discharge from a regulated small MS4, the permit application made under §122.33 must be submitted to the Director by:

(i) March 10, 2003 if designated under §122.32(a)(1) unless your MS4 serves a jurisdiction with a population under 10,000 and the NPDES permitting authority has established a phasing schedule under §123.35(d)(3) (see §122.33(c)(1)); or

(ii) Within 180 days of notice, unless the NPDES permitting authority grants a later date, if designated under §122.32(a)(2) (see §122.33(c)(2)).

(f) * * *

(4) Any person may petition the Director for the designation of a large, medium, or small municipal separate storm sewer system as defined by paragraph (b)(4)(iv), (b)(7)(iv), or (b)(16) of this section.

(5) The Director shall make a final determination on any petition received under this section within 90 days after receiving the petition with the exception of petitions to designate a small MS4 in which case the Director shall make a final determination on the petition within 180 days after its receipt.

(g) Conditional exclusion for “no exposure” of industrial activities and materials to storm water. Discharges composed entirely of storm water are not storm water discharges associated with industrial activity if there is “no exposure” of industrial materials and activities to rain, snow, snowmelt and/or runoff, and the discharger satisfies the conditions in paragraphs (g)(1) through (g)(4) of this section. “No exposure” means that all industrial materials and activities are protected by a storm resistant shelter to prevent exposure to rain, snow, snowmelt, and/or runoff. Industrial materials or activities include, but are not limited to, material handling equipment or activities, industrial machinery, raw materials, intermediate products, by-products, final products, or waste *68841 products. Material handling activities include the storage, loading and unloading, transportation, or conveyance of any raw material, intermediate product, final product or waste product.

(1) Qualification. To qualify for this exclusion, the operator of the discharge must:

(i) Provide a storm resistant shelter to protect industrial materials and activities from exposure to rain, snow, snow melt, and runoff;

(ii) Complete and sign (according to §122.22) a certification that there are no discharges of storm water contaminated by exposure to industrial materials and activities from the entire facility, except as provided in paragraph (g)(2) of this section;

(iii) Submit the signed certification to the NPDES permitting authority once every five years;

(iv) Allow the Director to inspect the facility to determine compliance with the “no exposure” conditions;

- (v) Allow the Director to make any “no exposure” inspection reports available to the public upon request; and
 - (vi) For facilities that discharge through an MS4, upon request, submit a copy of the certification of “no exposure” to the MS4 operator, as well as allow inspection and public reporting by the MS4 operator.
- (2) Industrial materials and activities not requiring storm resistant shelter. To qualify for this exclusion, storm resistant shelter is not required for:
- (i) Drums, barrels, tanks, and similar containers that are tightly sealed, provided those containers are not deteriorated and do not leak (“Sealed” means banded or otherwise secured and without operational taps or valves);
 - (ii) Adequately maintained vehicles used in material handling; and
 - (iii) Final products, other than products that would be mobilized in storm water discharge (e.g., rock salt).
- (3) Limitations. (i) Storm water discharges from construction activities identified in paragraphs (b)(14)(x) and (b)(15) are not eligible for this conditional exclusion.
- (ii) This conditional exclusion from the requirement for an NPDES permit is available on a facility-wide basis only, not for individual outfalls. If a facility has some discharges of storm water that would otherwise be “no exposure” discharges, individual permit requirements should be adjusted accordingly.
 - (iii) If circumstances change and industrial materials or activities become exposed to rain, snow, snow melt, and/or runoff, the conditions for this exclusion no longer apply. In such cases, the discharge becomes subject to enforcement for un-permitted discharge. Any conditionally exempt discharger who anticipates changes in circumstances should apply for and obtain permit authorization prior to the change of circumstances.
 - (iv) Notwithstanding the provisions of this paragraph, the NPDES permitting authority retains the authority to require permit authorization (and deny this exclusion) upon making a determination that the discharge causes, has a reasonable potential to cause, or contributes to an instream excursion above an applicable water quality standard, including designated uses.
- (4) Certification. The no exposure certification must require the submission of the following information, at a minimum, to aid the NPDES permitting authority in determining if the facility qualifies for the no exposure exclusion:
- (i) The legal name, address and phone number of the discharger (see [§ 122.21\(b\)](#));
 - (ii) The facility name and address, the county name and the latitude and longitude where the facility is located;
 - (iii) The certification must indicate that none of the following materials or activities are, or will be in the foreseeable future, exposed to precipitation:
 - (A) Using, storing or cleaning industrial machinery or equipment, and areas where residuals from using, storing or cleaning industrial machinery or equipment remain and are exposed to storm water;
 - (B) Materials or residuals on the ground or in storm water inlets from spills/leaks;
 - (C) Materials or products from past industrial activity;

- (D) Material handling equipment (except adequately maintained vehicles);
- (E) Materials or products during loading/unloading or transporting activities;
- (F) Materials or products stored outdoors (except final products intended for outside use, e.g., new cars, where exposure to storm water does not result in the discharge of pollutants);
- (G) Materials contained in open, deteriorated or leaking storage drums, barrels, tanks, and similar containers;
- (H) Materials or products handled/stored on roads or railways owned or maintained by the discharger;
- (I) Waste material (except waste in covered, non-leaking containers, e.g., dumpsters);
- (J) Application or disposal of process wastewater (unless otherwise permitted); and
- (K) Particulate matter or visible deposits of residuals from roof stacks/vents not otherwise regulated, i.e., under an air quality control permit, and evident in the storm water outflow;

(iv) All “no exposure” certifications must include the following certification statement, and be signed in accordance with the signatory requirements of § 122.22: “I certify under penalty of law that I have read and understand the eligibility requirements for claiming a condition of “no exposure” and obtaining an exclusion from NPDES storm water permitting; and that there are no discharges of storm water contaminated by exposure to industrial activities or materials from the industrial facility identified in this document (except as allowed under paragraph (g)(2)) of this section. I understand that I am obligated to submit a no exposure certification form once every five years to the NPDES permitting authority and, if requested, to the operator of the local MS4 into which this facility discharges (where applicable). I understand that I must allow the NPDES permitting authority, or MS4 operator where the discharge is into the local MS4, to perform inspections to confirm the condition of no exposure and to make such inspection reports publicly available upon request. I understand that I must obtain coverage under an NPDES permit prior to any point source discharge of storm water from the facility. I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based upon my inquiry of the person or persons who manage the system, or those persons directly involved in gathering the information, the information submitted is to the best of my knowledge and belief true, accurate and complete. I am aware there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.”

[40 CFR § 122.28](#)

4. Revise [§122.28\(b\)\(2\)\(v\)](#) to read as follows:

[40 CFR § 122.28](#)

[§122.28](#) General permits (applicable to State NPDES programs, see [§123.25](#)).

* * * * *

(b) * * *

(2) * * *

(v) Discharges other than discharges from publicly owned treatment works, combined sewer overflows, municipal *68842 separate storm sewer systems, primary industrial facilities, and storm water discharges associated with industrial activity, may, at the discretion of the Director, be authorized to discharge under a general permit without submitting a notice of intent where the Director finds that a notice of intent requirement would be inappropriate. In making such a finding, the Director shall consider: the type of discharge; the expected nature of the discharge; the potential for toxic and

conventional pollutants in the discharges; the expected volume of the discharges; other means of identifying discharges covered by the permit; and the estimated number of discharges to be covered by the permit. The Director shall provide in the public notice of the general permit the reasons for not requiring a notice of intent.

* * * * *

5. Add §§122.30 through 122.37 to subpart B to read as follows:

40 CFR § 122.30

§122.30 What are the objectives of the storm water regulations for small MS4s?

(a) Sections 122.30 through 122.37 are written in a “readable regulation” format that includes both rule requirements and EPA guidance that is not legally binding. EPA has clearly distinguished its recommended guidance from the rule requirements by putting the guidance in a separate paragraph headed by the word “guidance”.

(b) Under the statutory mandate in section 402(p)(6) of the Clean Water Act, the purpose of this portion of the storm water program is to designate additional sources that need to be regulated to protect water quality and to establish a comprehensive storm water program to regulate these sources. (Because the storm water program is part of the National Pollutant Discharge Elimination System (NPDES) Program, you should also refer to §122.1 which addresses the broader purpose of the NPDES program.)

(c) Storm water runoff continues to harm the nation's waters. Runoff from lands modified by human activities can harm surface water resources in several ways including by changing natural hydrologic patterns and by elevating pollutant concentrations and loadings. Storm water runoff may contain or mobilize high levels of contaminants, such as sediment, suspended solids, nutrients, heavy metals, pathogens, toxins, oxygen-demanding substances, and floatables.

(d) EPA strongly encourages partnerships and the watershed approach as the management framework for efficiently, effectively, and consistently protecting and restoring aquatic ecosystems and protecting public health.

40 CFR § 122.31

§122.31 As a Tribe, what is my role under the NPDES storm water program?

As a Tribe you may:

(a) Be authorized to operate the NPDES program including the storm water program, after EPA determines that you are eligible for treatment in the same manner as a State under §§123.31 through 123.34 of this chapter. (If you do not have an authorized NPDES program, EPA implements the program for discharges on your reservation as well as other Indian country, generally.);

(b) Be classified as an owner of a regulated small MS4, as defined in §122.32. (Designation of your Tribe as an owner of a small MS4 for purposes of this part is an approach that is consistent with EPA's 1984 Indian Policy of operating on a government-to-government basis with EPA looking to Tribes as the lead governmental authorities to address environmental issues on their reservations as appropriate. If you operate a separate storm sewer system that meets the definition of a regulated small MS4, you are subject to the requirements under §§122.33 through 122.35. If you are not designated as a regulated small MS4, you may ask EPA to designate you as such for the purposes of this part.); or

(c) Be a discharger of storm water associated with industrial activity or small construction activity under §§122.26(b)(14) or (b)(15), in which case you must meet the applicable requirements. Within Indian country, the NPDES permitting authority is generally EPA, unless you are authorized to administer the NPDES program.

40 CFR § 122.32

§122.32 As an operator of a small MS4, am I regulated under the NPDES storm water program?

(a) Unless you qualify for a waiver under paragraph (c) of this section, you are regulated if you operate a small MS4, including but not limited to systems operated by federal, State, Tribal, and local governments, including State departments of transportation; and:

(1) Your small MS4 is located in an urbanized area as determined by the latest Decennial Census by the Bureau of the Census. (If your small MS4 is not located entirely within an urbanized area, only the portion that is within the urbanized area is regulated); or

(2) You are designated by the NPDES permitting authority, including where the designation is pursuant to §§123.35(b)(3) and (b)(4) of this chapter, or is based upon a petition under §122.26(f).

(b) You may be the subject of a petition to the NPDES permitting authority to require an NPDES permit for your discharge of storm water. If the NPDES permitting authority determines that you need a permit, you are required to comply with §§122.33 through 122.35.

(c) The NPDES permitting authority may waive the requirements otherwise applicable to you if you meet the criteria of paragraph (d) or (e) of this section. If you receive a waiver under this section, you may subsequently be required to seek coverage under an NPDES permit in accordance with §122.33(a) if circumstances change. (See also §123.35(b) of this chapter.)

(d) The NPDES permitting authority may waive permit coverage if your MS4 serves a population of less than 1,000 within the urbanized area and you meet the following criteria:

(1) Your system is not contributing substantially to the pollutant loadings of a physically interconnected MS4 that is regulated by the NPDES storm water program (see §123.35(b)(4) of this chapter); and

(2) If you discharge any pollutant(s) that have been identified as a cause of impairment of any water body to which you discharge, storm water controls are not needed based on wasteload allocations that are part of an EPA approved or established “total maximum daily load” (TMDL) that addresses the pollutant(s) of concern.

(e) The NPDES permitting authority may waive permit coverage if your MS4 serves a population under 10,000 and you meet the following criteria:

(1) The permitting authority has evaluated all waters of the U.S., including small streams, tributaries, lakes, and ponds, that receive a discharge from your MS4;

(2) For all such waters, the permitting authority has determined that storm water controls are not needed based on wasteload allocations that are part of an EPA approved or established TMDL that addresses the pollutant(s) of concern or, if a TMDL has not been developed or approved, an equivalent analysis that determines sources and allocations for the pollutant(s) of concern;

(3) For the purpose of this paragraph (e), the pollutant(s) of concern include biochemical oxygen demand (BOD), sediment or a parameter that addresses sediment (such as total suspended solids, turbidity or siltation), pathogens, oil and grease, and any pollutant that has been identified as a cause of impairment of any water body that will receive a discharge from your MS4; and *68843

(4) The permitting authority has determined that future discharges from your MS4 do not have the potential to result in exceedances of water quality standards, including impairment of designated uses, or other significant water quality impacts, including habitat and biological impacts.

40 CFR § 122.33

§122.33 If I am an operator of a regulated small MS4, how do I apply for an NPDES permit and when do I have to apply?

(a) If you operate a regulated small MS4 under §122.32, you must seek coverage under a NPDES permit issued by your NPDES permitting authority. If you are located in an NPDES authorized State, Tribe, or Territory, then that State, Tribe, or Territory is your NPDES permitting authority. Otherwise, your NPDES permitting authority is the EPA Regional Office.

(b) You must seek authorization to discharge under a general or individual NPDES permit, as follows:

(1) If your NPDES permitting authority has issued a general permit applicable to your discharge and you are seeking coverage under the general permit, you must submit a Notice of Intent (NOI) that includes the information on your best management practices and measurable goals required by §122.34(d). You may file your own NOI, or you and other municipalities or governmental entities may jointly submit an NOI. If you want to share responsibilities for meeting the minimum measures with other municipalities or governmental entities, you must submit an NOI that describes which minimum measures you will implement and identify the entities that will implement the other minimum measures within the area served by your MS4. The general permit will explain any other steps necessary to obtain permit authorization.

(2)(i) If you are seeking authorization to discharge under an individual permit and wish to implement a program under §122.34, you must submit an application to your NPDES permitting authority that includes the information required under §§122.21(f) and 122.34(d), an estimate of square mileage served by your small MS4, and any additional information that your NPDES permitting authority requests. A storm sewer map that satisfies the requirement of § 122.34(b)(3)(i) will satisfy the map requirement in §122.21(f)(7).

(ii) If you are seeking authorization to discharge under an individual permit and wish to implement a program that is different from the program under §122.34, you will need to comply with the permit application requirements of §122.26(d). You must submit both Parts of the application requirements in §§122.26(d)(1) and (2) by March 10, 2003. You do not need to submit the information required by §§122.26(d)(1)(ii) and (d)(2) regarding your legal authority, unless you intend for the permit writer to take such information into account when developing your other permit conditions.

(iii) If allowed by your NPDES permitting authority, you and another regulated entity may jointly apply under either paragraph (b)(2)(i) or (b)(2)(ii) of this section to be co-permittees under an individual permit.

(3) If your small MS4 is in the same urbanized area as a medium or large MS4 with an NPDES storm water permit and that other MS4 is willing to have you participate in its storm water program, you and the other MS4 may jointly seek a modification of the other MS4 permit to include you as a limited co-permittee. As a limited co-permittee, you will be responsible for compliance with the permit's conditions applicable to your jurisdiction. If you choose this option you will need to comply with the permit application requirements of §122.26, rather than the requirements of §122.34. You do not need to comply with the specific application requirements of §122.26(d)(1)(iii) and (iv) and (d)(2)(iii) (discharge characterization). You may satisfy the requirements in §122.26 (d)(1)(v) and (d)(2)(iv) (identification of a management program) by referring to the other MS4's storm water management program.

(4) Guidance: In referencing an MS4's storm water management program, you should briefly describe how the existing plan will address discharges from your small MS4 or would need to be supplemented in order to adequately address your discharges. You should also explain your role in coordinating storm water pollutant control activities in your MS4, and detail the resources available to you to accomplish the plan.

(c) If you operate a regulated small MS4:

(1) Designated under §122.32(a)(1), you must apply for coverage under an NPDES permit, or apply for a modification of an existing NPDES permit under paragraph (b)(3) of this section by March 10, 2003, unless your MS4 serves a jurisdiction with a population under 10,000 and the NPDES permitting authority has established a phasing schedule under §123.35(d)(3) of this chapter.

(2) Designated under §122.32(a)(2), you must apply for coverage under an NPDES permit, or apply for a modification of an existing NPDES permit under paragraph (b)(3) of this section, within 180 days of notice, unless the NPDES permitting authority grants a later date.

40 CFR § 122.34

§122.34 As an operator of a regulated small MS4, what will my NPDES MS4 storm water permit require?

(a) Your NPDES MS4 permit will require at a minimum that you develop, implement, and enforce a storm water management program designed to reduce the discharge of pollutants from your MS4 to the maximum extent practicable (MEP), to protect water quality, and to satisfy the appropriate water quality requirements of the Clean Water Act. Your storm water management program must include the minimum control measures described in paragraph (b) of this section unless you apply for a permit under §122.26(d). For purposes of this section, narrative effluent limitations requiring implementation of best management practices (BMPs) are generally the most appropriate form of effluent limitations when designed to satisfy technology requirements (including reductions of pollutants to the maximum extent practicable) and to protect water quality. Implementation of best management practices consistent with the provisions of the storm water management program required pursuant to this section and the provisions of the permit required pursuant to §122.33 constitutes compliance with the standard of reducing pollutants to the “maximum extent practicable.” Your NPDES permitting authority will specify a time period of up to 5 years from the date of permit issuance for you to develop and implement your program.

(b) Minimum control measures—(1) Public education and outreach on storm water impacts. (i) You must implement a public education program to distribute educational materials to the community or conduct equivalent outreach activities about the impacts of storm water discharges on water bodies and the steps that the public can take to reduce pollutants in storm water runoff.

(ii) Guidance: You may use storm water educational materials provided by your State, Tribe, EPA, environmental, public interest or trade organizations, or other MS4s. The public education program should inform individuals and households about the steps they can take to reduce storm water pollution, such as ensuring proper septic system maintenance, ensuring the proper use and disposal of landscape and garden chemicals including fertilizers and pesticides, protecting and restoring riparian vegetation, and properly disposing of used motor oil or *68844 household hazardous wastes. EPA recommends that the program inform individuals and groups how to become involved in local stream and beach restoration activities as well as activities that are coordinated by youth service and conservation corps or other citizen groups. EPA recommends that the public education program be tailored, using a mix of locally appropriate strategies, to target specific audiences and communities. Examples of strategies include distributing brochures or fact sheets, sponsoring speaking engagements before community groups, providing public service announcements, implementing educational programs targeted at school age children, and conducting community-based projects such as storm drain stenciling, and watershed and beach cleanups. In addition, EPA recommends that some of the materials or outreach programs be directed toward targeted groups of commercial, industrial, and institutional entities likely to have significant storm water impacts. For example, providing information to restaurants on the impact of grease clogging storm drains and to garages on the impact of oil discharges. You are encouraged to tailor your outreach program to address the viewpoints and concerns of all communities, particularly minority and disadvantaged communities, as well as any special concerns relating to children.

(2) Public involvement/participation. (i) You must, at a minimum, comply with State, Tribal and local public notice requirements when implementing a public involvement/ participation program.

(ii) Guidance: EPA recommends that the public be included in developing, implementing, and reviewing your storm water management program and that the public participation process should make efforts to reach out and engage all economic and ethnic groups. Opportunities for members of the public to participate in program development and implementation include serving as citizen representatives on a local storm water management panel, attending public hearings, working as citizen volunteers to educate other individuals about the program, assisting in program coordination with other pre-existing programs, or participating in volunteer monitoring efforts. (Citizens should obtain approval where necessary for lawful access to monitoring sites.)

(3) Illicit discharge detection and elimination. (i) You must develop, implement and enforce a program to detect and eliminate illicit discharges (as defined at [§122.26\(b\)\(2\)](#)) into your small MS4.

(ii) You must:

(A) Develop, if not already completed, a storm sewer system map, showing the location of all outfalls and the names and location of all waters of the United States that receive discharges from those outfalls;

(B) To the extent allowable under State, Tribal or local law, effectively prohibit, through ordinance, or other regulatory mechanism, non-storm water discharges into your storm sewer system and implement appropriate enforcement procedures and actions;

(C) Develop and implement a plan to detect and address non-storm water discharges, including illegal dumping, to your system; and

(D) Inform public employees, businesses, and the general public of hazards associated with illegal discharges and improper disposal of waste.

(iii) You need address the following categories of non-storm water discharges or flows (i.e., illicit discharges) only if you identify them as significant contributors of pollutants to your small MS4: water line flushing, landscape irrigation, diverted stream flows, rising ground waters, uncontaminated ground water infiltration (as defined at [40 CFR 35.2005\(20\)](#)), uncontaminated pumped ground water, discharges from potable water sources, foundation drains, air conditioning condensation, irrigation water, springs, water from crawl space pumps, footing drains, lawn watering, individual residential car washing, flows from riparian habitats and wetlands, dechlorinated swimming pool discharges, and street wash water (discharges or flows from fire fighting activities are excluded from the effective prohibition against non-storm water and need only be addressed where they are identified as significant sources of pollutants to waters of the United States).

(iv) Guidance: EPA recommends that the plan to detect and address illicit discharges include the following four components: procedures for locating priority areas likely to have illicit discharges; procedures for tracing the source of an illicit discharge; procedures for removing the source of the discharge; and procedures for program evaluation and assessment. EPA recommends visually screening outfalls during dry weather and conducting field tests of selected pollutants as part of the procedures for locating priority areas. Illicit discharge education actions may include storm drain stenciling, a program to promote, publicize, and facilitate public reporting of illicit connections or discharges, and distribution of outreach materials.

(4) Construction site storm water runoff control. (i) You must develop, implement, and enforce a program to reduce pollutants in any storm water runoff to your small MS4 from construction activities that result in a land disturbance of greater than or equal to one acre. Reduction of storm water discharges from construction activity disturbing less than one acre must be included in your program if that construction activity is part of a larger common plan of development or sale that would disturb one acre or more. If the NPDES permitting authority waives requirements for storm water

discharges associated with small construction activity in accordance with [§ 122.26\(b\)\(15\)\(i\)](#), you are not required to develop, implement, and/or enforce a program to reduce pollutant discharges from such sites.

(ii) Your program must include the development and implementation of, at a minimum:

(A) An ordinance or other regulatory mechanism to require erosion and sediment controls, as well as sanctions to ensure compliance, to the extent allowable under State, Tribal, or local law;

(B) Requirements for construction site operators to implement appropriate erosion and sediment control best management practices;

(C) Requirements for construction site operators to control waste such as discarded building materials, concrete truck washout, chemicals, litter, and sanitary waste at the construction site that may cause adverse impacts to water quality;

(D) Procedures for site plan review which incorporate consideration of potential water quality impacts;

(E) Procedures for receipt and consideration of information submitted by the public, and

(F) Procedures for site inspection and enforcement of control measures.

(iii) Guidance: Examples of sanctions to ensure compliance include non-monetary penalties, fines, bonding requirements and/or permit denials for non-compliance. EPA recommends that procedures for site plan review include the review of individual pre-construction site plans to ensure consistency with local sediment and erosion control requirements. Procedures for site inspections and enforcement of control measures could include steps to identify priority sites for inspection and enforcement based on the nature of the construction activity, topography, and the characteristics of soils and receiving *68845 water quality. You are encouraged to provide appropriate educational and training measures for construction site operators. You may wish to require a storm water pollution prevention plan for construction sites within your jurisdiction that discharge into your system. See [§ 122.44\(s\)](#) (NPDES permitting authorities' option to incorporate qualifying State, Tribal and local erosion and sediment control programs into NPDES permits for storm water discharges from construction sites). Also see [§ 122.35\(b\)](#) (The NPDES permitting authority may recognize that another government entity, including the permitting authority, may be responsible for implementing one or more of the minimum measures on your behalf.)

(5) Post-construction storm water management in new development and redevelopment.

(i) You must develop, implement, and enforce a program to address storm water runoff from new development and redevelopment projects that disturb greater than or equal to one acre, including projects less than one acre that are part of a larger common plan of development or sale, that discharge into your small MS4. Your program must ensure that controls are in place that would prevent or minimize water quality impacts.

(ii) You must:

(A) Develop and implement strategies which include a combination of structural and/or non-structural best management practices (BMPs) appropriate for your community;

(B) Use an ordinance or other regulatory mechanism to address post-construction runoff from new development and redevelopment projects to the extent allowable under State, Tribal or local law; and

(C) Ensure adequate long-term operation and maintenance of BMPs.

(iii) Guidance: If water quality impacts are considered from the beginning stages of a project, new development and potentially redevelopment provide more opportunities for water quality protection. EPA recommends that the BMPs chosen: be appropriate for the local community; minimize water quality impacts; and attempt to maintain pre-development runoff conditions. In choosing appropriate BMPs, EPA encourages you to participate in locally-based watershed planning efforts which attempt to involve a diverse group of stakeholders including interested citizens. When developing a program that is consistent with this measure's intent, EPA recommends that you adopt a planning process that identifies the municipality's program goals (e.g., minimize water quality impacts resulting from post-construction runoff from new development and redevelopment), implementation strategies (e.g., adopt a combination of structural and/or non-structural BMPs), operation and maintenance policies and procedures, and enforcement procedures. In developing your program, you should consider assessing existing ordinances, policies, programs and studies that address storm water runoff quality. In addition to assessing these existing documents and programs, you should provide opportunities to the public to participate in the development of the program. Non-structural BMPs are preventative actions that involve management and source controls such as: policies and ordinances that provide requirements and standards to direct growth to identified areas, protect sensitive areas such as wetlands and riparian areas, maintain and/or increase open space (including a dedicated funding source for open space acquisition), provide buffers along sensitive water bodies, minimize impervious surfaces, and minimize disturbance of soils and vegetation; policies or ordinances that encourage infill development in higher density urban areas, and areas with existing infrastructure; education programs for developers and the public about project designs that minimize water quality impacts; and measures such as minimization of percent impervious area after development and minimization of directly connected impervious areas. Structural BMPs include: storage practices such as wet ponds and extended-detention outlet structures; filtration practices such as grassed swales, sand filters and filter strips; and infiltration practices such as infiltration basins and infiltration trenches. EPA recommends that you ensure the appropriate implementation of the structural BMPs by considering some or all of the following: pre-construction review of BMP designs; inspections during construction to verify BMPs are built as designed; post-construction inspection and maintenance of BMPs; and penalty provisions for the noncompliance with design, construction or operation and maintenance. Storm water technologies are constantly being improved, and EPA recommends that your requirements be responsive to these changes, developments or improvements in control technologies.

(6) Pollution prevention/good housekeeping for municipal operations. (i) You must develop and implement an operation and maintenance program that includes a training component and has the ultimate goal of preventing or reducing pollutant runoff from municipal operations. Using training materials that are available from EPA, your State, Tribe, or other organizations, your program must include employee training to prevent and reduce storm water pollution from activities such as park and open space maintenance, fleet and building maintenance, new construction and land disturbances, and storm water system maintenance.

(ii) Guidance: EPA recommends that, at a minimum, you consider the following in developing your program: maintenance activities, maintenance schedules, and long-term inspection procedures for structural and non-structural storm water controls to reduce floatables and other pollutants discharged from your separate storm sewers; controls for reducing or eliminating the discharge of pollutants from streets, roads, highways, municipal parking lots, maintenance and storage yards, fleet or maintenance shops with outdoor storage areas, salt/sand storage locations and snow disposal areas operated by you, and waste transfer stations; procedures for properly disposing of waste removed from the separate storm sewers and areas listed above (such as dredge spoil, accumulated sediments, floatables, and other debris); and ways to ensure that new flood management projects assess the impacts on water quality and examine existing projects for incorporating additional water quality protection devices or practices. Operation and maintenance should be an integral component of all storm water management programs. This measure is intended to improve the efficiency of these programs and require new programs where necessary. Properly developed and implemented operation and maintenance programs reduce the risk of water quality problems.

(c) If an existing qualifying local program requires you to implement one or more of the minimum control measures of paragraph (b) of this section, the NPDES permitting authority may include conditions in your NPDES permit that direct you to follow that qualifying program's requirements rather than the requirements of paragraph (b) of this section. A qualifying local program is a local, State or Tribal municipal storm water management program that imposes, at a minimum, the relevant requirements of paragraph (b) of this section.

(d)(1) In your permit application (either a notice of intent for coverage *68846 under a general permit or an individual permit application), you must identify and submit to your NPDES permitting authority the following information:

(i) The best management practices (BMPs) that you or another entity will implement for each of the storm water minimum control measures at paragraphs (b)(1) through (b)(6) of this section;

(ii) The measurable goals for each of the BMPs including, as appropriate, the months and years in which you will undertake required actions, including interim milestones and the frequency of the action; and

(iii) The person or persons responsible for implementing or coordinating your storm water management program.

(2) If you obtain coverage under a general permit, you are not required to meet any measurable goal(s) identified in your notice of intent in order to demonstrate compliance with the minimum control measures in paragraphs (b)(3) through (b)(6) of this section unless, prior to submitting your NOI, EPA or your State or Tribe has provided or issued a menu of BMPs that addresses each such minimum measure. Even if no regulatory authority issues the menu of BMPs, however, you still must comply with other requirements of the general permit, including good faith implementation of BMPs designed to comply with the minimum measures.

(3) Guidance: Either EPA or your State or Tribal permitting authority will provide a menu of BMPs. You may choose BMPs from the menu or select others that satisfy the minimum control measures.

(e)(1) You must comply with any more stringent effluent limitations in your permit, including permit requirements that modify, or are in addition to, the minimum control measures based on an approved total maximum daily load (TMDL) or equivalent analysis. The permitting authority may include such more stringent limitations based on a TMDL or equivalent analysis that determines such limitations are needed to protect water quality.

(2) Guidance: EPA strongly recommends that until the evaluation of the storm water program in §122.37, no additional requirements beyond the minimum control measures be imposed on regulated small MS4s without the agreement of the operator of the affected small MS4, except where an approved TMDL or equivalent analysis provides adequate information to develop more specific measures to protect water quality.

(f) You must comply with other applicable NPDES permit requirements, standards and conditions established in the individual or general permit, developed consistent with the provisions of §§122.41 through 122.49, as appropriate.

(g) Evaluation and assessment—(1) Evaluation. You must evaluate program compliance, the appropriateness of your identified best management practices, and progress towards achieving your identified measurable goals.

Note to Paragraph (g)(1): The NPDES permitting authority may determine monitoring requirements for you in accordance with State/Tribal monitoring plans appropriate to your watershed. Participation in a group monitoring program is encouraged.

(2) Recordkeeping. You must keep records required by the NPDES permit for at least 3 years. You must submit your records to the NPDES permitting authority only when specifically asked to do so. You must make your records, including

a description of your storm water management program, available to the public at reasonable times during regular business hours (see §122.7 for confidentiality provision). (You may assess a reasonable charge for copying. You may require a member of the public to provide advance notice.)

(3) Reporting. Unless you are relying on another entity to satisfy your NPDES permit obligations under §122.35(a), you must submit annual reports to the NPDES permitting authority for your first permit term. For subsequent permit terms, you must submit reports in year two and four unless the NPDES permitting authority requires more frequent reports. Your report must include:

(i) The status of compliance with permit conditions, an assessment of the appropriateness of your identified best management practices and progress towards achieving your identified measurable goals for each of the minimum control measures;

(ii) Results of information collected and analyzed, including monitoring data, if any, during the reporting period;

(iii) A summary of the storm water activities you plan to undertake during the next reporting cycle;

(iv) A change in any identified best management practices or measurable goals for any of the minimum control measures; and

(v) Notice that you are relying on another governmental entity to satisfy some of your permit obligations (if applicable).
40 CFR § 122.35

§122.35 As an operator of a regulated small MS4, may I share the responsibility to implement the minimum control measures with other entities?

(a) You may rely on another entity to satisfy your NPDES permit obligations to implement a minimum control measure if:

(1) The other entity, in fact, implements the control measure;

(2) The particular control measure, or component thereof, is at least as stringent as the corresponding NPDES permit requirement; and

(3) The other entity agrees to implement the control measure on your behalf. In the reports you must submit under §122.34(g)(3), you must also specify that you rely on another entity to satisfy some of your permit obligations. If you are relying on another governmental entity regulated under section 122 to satisfy all of your permit obligations, including your obligation to file periodic reports required by §122.34(g)(3), you must note that fact in your NOI, but you are not required to file the periodic reports. You remain responsible for compliance with your permit obligations if the other entity fails to implement the control measure (or component thereof). Therefore, EPA encourages you to enter into a legally binding agreement with that entity if you want to minimize any uncertainty about compliance with your permit.

(b) In some cases, the NPDES permitting authority may recognize, either in your individual NPDES permit or in an NPDES general permit, that another governmental entity is responsible under an NPDES permit for implementing one or more of the minimum control measures for your small MS4 or that the permitting authority itself is responsible. Where the permitting authority does so, you are not required to include such minimum control measure(s) in your storm water management program. (For example, if a State or Tribe is subject to an NPDES permit that requires it to administer a program to control construction site runoff at the State or Tribal level and that program satisfies all of the requirements of §122.34(b)(4), you could avoid responsibility for the construction measure, but would be responsible for the remaining minimum control measures.) Your permit may be reopened and modified to include the requirement to implement a minimum control measure if the entity fails to implement it. *68847

[40 CFR § 122.36](#)**§122.36 As an operator of a regulated small MS4, what happens if I don't comply with the application or permit requirements in §§122.33 through 122.35?**

NPDES permits are federally enforceable. Violators may be subject to the enforcement actions and penalties described in Clean Water Act sections 309 (b), (c), and (g) and [505](#), or under applicable State, Tribal, or local law. Compliance with a permit issued pursuant to section 402 of the Clean Water Act is deemed compliance, for purposes of [sections 309](#) and [505](#), with sections 301, 302, 306, 307, and 403, except any standard imposed under [section 307](#) for toxic pollutants injurious to human health. If you are covered as a co-permittee under an individual permit or under a general permit by means of a joint Notice of Intent you remain subject to the enforcement actions and penalties for the failure to comply with the terms of the permit in your jurisdiction except as set forth in [§122.35\(b\)](#).

[40 CFR § 122.37](#)**§122.37 Will the small MS4 storm water program regulations at §§122.32 through 122.36 and §123.35 of this chapter change in the future?**

EPA will evaluate the small MS4 regulations at [§§122.32](#) through [122.36](#) and [§ 123.35](#) of this chapter after December 10, 2012 and make any necessary revisions. (EPA intends to conduct an enhanced research effort and compile a comprehensive evaluation of the NPDES MS4 storm water program. EPA will re-evaluate the regulations based on data from the NPDES MS4 storm water program, from research on receiving water impacts from storm water, and the effectiveness of best management practices (BMPs), as well as other relevant information sources.)

[40 CFR § 122.44](#)

6. In [§122.44](#), redesignate paragraphs (k)(2) and (k)(3) as paragraphs (k)(3) and (k)(4), remove the comma at the end of newly redesignated paragraph (k)(3) and add a semicolon in its place, and add new paragraphs (k)(2) and (s) to read as follows:

[40 CFR § 122.44](#)**§122.44 Establishing limitations, standards, and other permit conditions (applicable to State NPDES programs, see §123.25).**

* * * * *

(k) * * *

(2) Authorized under section 402(p) of CWA for the control of storm water discharges;

* * * * *

(s) Qualifying State, Tribal, or local programs. (1) For storm water discharges associated with small construction activity identified in [§ 122.26\(b\)\(15\)](#), the Director may include permit conditions that incorporate qualifying State, Tribal, or local erosion and sediment control program requirements by reference. Where a qualifying State, Tribal, or local program does not include one or more of the elements in this paragraph (s)(1), then the Director must include those elements as conditions in the permit. A qualifying State, Tribal, or local erosion and sediment control program is one that includes:

(i) Requirements for construction site operators to implement appropriate erosion and sediment control best management practices;

(ii) Requirements for construction site operators to control waste such as discarded building materials, concrete truck washout, chemicals, litter, and sanitary waste at the construction site that may cause adverse impacts to water quality;

(iii) Requirements for construction site operators to develop and implement a storm water pollution prevention plan. (A storm water pollution prevention plan includes site descriptions, descriptions of appropriate control measures, copies of approved State, Tribal or local requirements, maintenance procedures, inspection procedures, and identification of non-storm water discharges); and

(iv) Requirements to submit a site plan for review that incorporates consideration of potential water quality impacts.

(2) For storm water discharges from construction activity identified in § 122.26(b)(14)(x), the Director may include permit conditions that incorporate qualifying State, Tribal, or local erosion and sediment control program requirements by reference. A qualifying State, Tribal or local erosion and sediment control program is one that includes the elements listed in paragraph (s)(1) of this section and any additional requirements necessary to achieve the applicable technology-based standards of “best available technology” and “best conventional technology” based on the best professional judgment of the permit writer.

40 CFR § 122.62

7. Add §122.62(a)(14) to read as follows:

40 CFR § 122.62

§122.62 Modification or revocation and reissuance of permits (applicable to State programs, see §123.25).

* * * * *

(a) * * *

(14) For a small MS4, to include an effluent limitation requiring implementation of a minimum control measure or measures as specified in § 122.34(b) when:

(i) The permit does not include such measure(s) based upon the determination that another entity was responsible for implementation of the requirement(s); and

(ii) The other entity fails to implement measure(s) that satisfy the requirement(s).

* * * * *

8. Revise Appendices F, G, H, and I to Part 122 to read as follows:

Appendix F to Part 122.—Incorporated Places With Populations Greater Than 250,000 According to the 1990 Decennial Census by the Bureau of the Census

State	Incorporated Place
Alabama	Birmingham.
Arizona	Phoenix. Tucson.
California	Long Beach. Los Angeles. Oakland. Sacramento. San Diego. San Francisco. San Jose.
Colorado	Denver.

District of Columbia

Florida

Jacksonville.

Miami.

Tampa.

Georgia.

Atlanta.

Illinois

Chicago.

Indiana

Indianapolis.

Kansas

Wichita.

Kentucky

Louisville.

Louisiana

New Orleans.

Maryland

Baltimore.

Massachusetts

Boston.

Michigan

Detroit.

Minnesota

Minneapolis.

St. Paul.

Missouri

Kansas City.

St. Louis.

Nebraska

Omaha.

New Jersey

Newark.

New Mexico

Albuquerque.

New York

Buffalo.

Bronx Borough.

Brooklyn Borough.

Manhattan Borough.

Queens Borough.

Staten Island Borough.

North Carolina

Charlotte.

Ohio

Cincinnati.

Cleveland.

	Columbus.
	Toledo.
Oklahoma	Oklahoma City.
	Tulsa.
Oregon	Portland.
Pennsylvania	Philadelphia.
	Pittsburgh.
Tennessee	Memphis.
	Nashville/Davidson.
Texas	Austin.
	Dallas.
	El Paso.
	Fort Worth.
	Houston.
	San Antonio.
Virginia	Norfolk.
	Virginia Beach.
Washington	Seattle.
Wisconsin	Milwaukee.

Appendix G to Part 122.—Incorporated Places With Populations Greater Than 100,000 But Less Than 250,000 According to the 1990 Decennial Census by the Bureau of the Census

State	Incorporated place
Alabama	Huntsville.
	Mobile.
	Montgomery.
Alaska	Anchorage.
Arizona	Mesa.
	Tempe.
Arkansas	Little Rock.

California

Anaheim.

Bakersfield.

Berkeley.

Chula Vista.

Concord.

El Monte.

Escondido.

Fremont.

Fresno.

Fullerton.

Garden Grove.

Glendale.

Hayward.

Huntington Beach.

Inglewood.

Irvine.

Modesto.

Moreno Valley.

Oceanside.

Ontario.

Orange.

Colorado

Aurora.

Colorado Springs.

Lakewood.

Pueblo.

Connecticut

Bridgeport.

Hartford.

New Haven.

Stamford.

	Waterbury.
Florida	Fort Lauderdale.
	Hialeah.
	Hollywood.
	Orlando.
	St. Petersburg.
	Tallahassee.
Georgia	Columbus.
	Macon.
	Savannah.
Idaho	Boise City.
Illinois	Peoria.
	Rockford.
Indiana	Evansville.
	Fort Wayne.
	Gary.
	South Bend.
Iowa	Cedar Rapids.
	Davenport.
	Des Moines.
Kansas	Kansas City.
	Topeka.
Kentucky	Lexington-Fayette.
Louisiana	Baton Rouge.
	Shreveport.
Massachusetts	Springfield.
	Worcester.
Michigan	Ann Arbor.
	Flint.

	Grand Rapids.
	Lansing.
	Livonia.
	Sterling Heights.
	Warren.
Mississippi	Jackson.
Missouri	Independence.
	Springfield.
Nebraska	Lincoln.
Nevada	Las Vegas.
	Reno.
New Jersey	Elizabeth.
	Jersey City.
	Paterson.
New York	Albany.
	Rochester.
	Syracuse.
	Yonkers.
North Carolina	Durham.
	Greensboro.
	Raleigh.
	Winston-Salem.
Ohio	Akron.
	Dayton.
	Youngstown.
Oregon	Eugene.
Pennsylvania	Allentown.
	Erie.
Rhode Island	Providence.

South Carolina	Columbia.
Tennessee	Chattanooga. Knoxville.
Texas	Abilene. Amarillo. Arlington. Beaumont. Corpus Christi. Garland. Irving. Laredo. Lubbock. Mesquite. Pasadena. Plano. Waco.
Utah	Salt Lake City.
Virginia	Alexandria. Chesapeake. Hampton. Newport News. Portsmouth. Richmond. Roanoke.
Washington	Spokane. Tacoma.
Wisconsin	Madison.

Appendix H to Part 122.—Counties With Unincorporated Urbanized Areas With a Population of 250,000 or More According to the 1990 Decennial Census by the Bureau of the Census

State	County	Unincorporated urbanized population
California	Los Angeles	886,780
	Sacramento	594,889
	San Diego	250,414
Delaware	New Castle	296,996
Florida	Dade	1,014,504
Georgia	DeKalb	448,686
Hawaii	Honolulu ¹	114,506
Maryland	Anne Arundel	344,654
	Baltimore	627,593
	Montgomery	599,028
	Prince George's	494,369
Texas	Harris	729,206
Utah	Salt Lake	270,989
Virginia	Fairfax	760,730
Washington	King	520,468

**Appendix I to Part 122.—Counties With Unincorporated Urbanized Areas Greater Than 100,000
But Less Than 250,000 According to the 1990 Decennial Census by the Bureau of the Census**

State	County	Unincorporated urbanized population
Alabama	Jefferson	78,608
Arizona	Pima	162,202
California	Alameda	115,082
	Contra Costa	131,082
	Kern	128,503
	Orange	223,081
	Riverside	166,509
	San Bernardino	162,202
Colorado	Arapahoe	103,248

Florida	Broward	142,329
	Escambia	167,463
	Hillsborough	398,593
	Lee	102,337
	Manatee	123,828
	Orange	378,611
	Palm Beach	360,553
	Pasco	148,907
	Pinellas	255,772
	Polk	121,528
Georgia	Sarasota	172,600
	Seminole	127,873
	Clayton	133,237
	Cobb	322,595
	Fulton	127,776
Kentucky	Gwinnett	237,305
	Richmond	126,476
	Jefferson	239,430
Louisiana	East Baton Rouge	102,539
	Parish	331,307
	Jefferson Parish
Maryland	Howard	157,972
North Carolina	Cumberland	146,827
Nevada	Clark	327,618
Oregon	Multnomah ¹	52,923
	Washington	116,687
South Carolina	Greenville	147,464
	Richland	130,589
Virginia	Arlington	170,936

	Chesterfield	174,488
	Henrico	201,367
	Prince William	157,131
Washington	Pierce	258,530
	Snohomish	157,218

***68849 PART 123—STATE PROGRAM REQUIREMENTS**

1. The authority citation for part 123 continues to read as follows:

Authority: The Clean Water Act, 33 U.S.C. 1251 et seq.

[40 CFR § 123.25](#)

2. Amend [§123.25](#) by removing the word “and” at the end of paragraph (a)(37), by removing the period at the end of paragraph (a)(38) and adding a semicolon in its place, and by adding paragraphs (a)(39) through (a)(45) to read as follows:

[40 CFR § 123.25](#)

§123.25 Requirements for permitting.

(a) * * * *68850

(39) [§122.30](#) (What are the objectives of the storm water regulations for small MS4s?);

(40) [§122.31](#) (For Indian Tribes only) (As a Tribe, what is my role under the NPDES storm water program?);

(41) [§122.32](#) (As an operator of a small MS4, am I regulated under the NPDES storm water program?);

(42) [§122.33](#) (If I am an operator of a regulated small MS4, how do I apply for an NPDES permit? When do I have to apply?);

(43) [§122.34](#) (As an operator of a regulated small MS4, what will my NPDES MS4 storm water permit require?);

(44) [§122.35](#) (As an operator of a regulated small MS4, may I share the responsibility to implement the minimum control measures with other entities?); and

(45) [§122.36](#) (As an operator of a regulated small MS4, what happens if I don't comply with the application or permit requirements in [§§122.33](#) through [122.35](#)?).

* * * *40 CFR § 123.35

3. Add [§123.35](#) to subpart B to read as follows:

[40 CFR § 123.35](#)

§123.35 As the NPDES Permitting Authority for regulated small MS4s, what is my role?

(a) You must comply with the requirements for all NPDES permitting authorities under Parts 122, 123, 124, and 125 of this chapter. (This section is meant only to supplement those requirements and discuss specific issues related to the small MS4 storm water program.)

(b) You must develop a process, as well as criteria, to designate small MS4s other than those described in [§122.32\(a\)\(1\)](#) of this chapter, as regulated small MS4s to be covered under the NPDES storm water discharge control program. This

process must include the authority to designate a small MS4 waived under paragraph (d) of this section if circumstances change. EPA may make designations under this section if a State or Tribe fails to comply with the requirements listed in this paragraph. In making designations of small MS4s, you must:

(1)(i) Develop criteria to evaluate whether a storm water discharge results in or has the potential to result in exceedances of water quality standards, including impairment of designated uses, or other significant water quality impacts, including habitat and biological impacts.

(ii) Guidance: For determining other significant water quality impacts, EPA recommends a balanced consideration of the following designation criteria on a watershed or other local basis: discharge to sensitive waters, high growth or growth potential, high population density, contiguity to an urbanized area, significant contributor of pollutants to waters of the United States, and ineffective protection of water quality by other programs;

(2) Apply such criteria, at a minimum, to any small MS4 located outside of an urbanized area serving a jurisdiction with a population density of at least 1,000 people per square mile and a population of at least 10,000;

(3) Designate any small MS4 that meets your criteria by December 9, 2002. You may wait until December 8, 2004 to apply the designation criteria on a watershed basis if you have developed a comprehensive watershed plan. You may apply these criteria to make additional designations at any time, as appropriate; and

(4) Designate any small MS4 that contributes substantially to the pollutant loadings of a physically interconnected municipal separate storm sewer that is regulated by the NPDES storm water program.

(c) You must make a final determination within 180 days from receipt of a petition under §122.26(f) of this chapter (or analogous State or Tribal law). If you do not do so within that time period, EPA may make a determination on the petition.

(d) You must issue permits consistent with §§122.32 through 122.35 of this chapter to all regulated small MS4s. You may waive or phase in the requirements otherwise applicable to regulated small MS4s, as defined in § 122.32(a)(1) of this chapter, under the following circumstances:

(1) You may waive permit coverage for each small MS4s in jurisdictions with a population under 1,000 within the urbanized area where all of the following criteria have been met:

(i) Its discharges are not contributing substantially to the pollutant loadings of a physically interconnected regulated MS4 (see paragraph (b)(4) of this section); and

(ii) If the small MS4 discharges any pollutant(s) that have been identified as a cause of impairment of any water body to which it discharges, storm water controls are not needed based on wasteload allocations that are part of an EPA approved or established “total maximum daily load” (TMDL) that address the pollutant(s) of concern.

(2) You may waive permit coverage for each small MS4 in jurisdictions with a population under 10,000 where all of the following criteria have been met:

(i) You have evaluated all waters of the U.S., including small streams, tributaries, lakes, and ponds, that receive a discharge from the MS4 eligible for such a waiver.

(ii) For all such waters, you have determined that storm water controls are not needed based on wasteload allocations that are part of an EPA approved or established TMDL that addresses the pollutant(s) of concern or, if a TMDL has

not been developed or approved, an equivalent analysis that determines sources and allocations for the pollutant(s) of concern.

(iii) For the purpose of paragraph (d)(2)(ii) of this section, the pollutant(s) of concern include biochemical oxygen demand (BOD), sediment or a parameter that addresses sediment (such as total suspended solids, turbidity or siltation), pathogens, oil and grease, and any pollutant that has been identified as a cause of impairment of any water body that will receive a discharge from the MS4.

(iv) You have determined that current and future discharges from the MS4 do not have the potential to result in exceedances of water quality standards, including impairment of designated uses, or other significant water quality impacts, including habitat and biological impacts.

(v) Guidance: To help determine other significant water quality impacts, EPA recommends a balanced consideration of the following criteria on a watershed or other local basis: discharge to sensitive waters, high growth or growth potential, high population or commercial density, significant contributor of pollutants to waters of the United States, and ineffective protection of water quality by other programs.

(3) You may phase in permit coverage for small MS4s serving jurisdictions with a population under 10,000 on a schedule consistent with a State watershed permitting approach. Under this approach, you must develop and implement a schedule to phase in permit coverage for approximately 20 percent annually of all small MS4s that qualify for such phased-in coverage. Under this option, all regulated small MS4s are required to have coverage under an NPDES permit by no later than March 8, 2007. Your schedule for phasing in permit coverage for small MS4s must be approved by the Regional Administrator no later than December 10, 2001.

(4) If you choose to phase in permit coverage for small MS4s in jurisdictions with a population under 10,000, in accordance with paragraph (d)(3) of this section, you may also provide waivers in accordance with paragraphs (d)(1) and (d)(2) of this section pursuant to your approved schedule. *68851

(5) If you do not have an approved schedule for phasing in permit coverage, you must make a determination whether to issue an NPDES permit or allow a waiver in accordance with paragraph (d)(1) or (d)(2) of this section, for each eligible MS4 by December 9, 2002.

(6) You must periodically review any waivers granted in accordance with paragraph (d)(2) of this section to determine whether any of the information required for granting the waiver has changed. At a minimum, you must conduct such a review once every five years. In addition, you must consider any petition to review any waiver when the petitioner provides evidence that the information required for granting the waiver has substantially changed.

(e) You must specify a time period of up to 5 years from the date of permit issuance for operators of regulated small MS4s to fully develop and implement their storm water program.

(f) You must include the requirements in §§122.33 through 122.35 of this chapter in any permit issued for regulated small MS4s or develop permit limits based on a permit application submitted by a regulated small MS4. (You may include conditions in a regulated small MS4 NPDES permit that direct the MS4 to follow an existing qualifying local program's requirements, as a way of complying with some or all of the requirements in §122.34(b) of this chapter. See §122.34(c) of this chapter. Qualifying local, State or Tribal program requirements must impose, at a minimum, the relevant requirements of §122.34(b) of this chapter.)

(g) If you issue a general permit to authorize storm water discharges from small MS4s, you must make available a menu of BMPs to assist regulated small MS4s in the design and implementation of municipal storm water management programs

to implement the minimum measures specified in §122.34(b) of this chapter. EPA plans to develop a menu of BMPs that will apply in each State or Tribe that has not developed its own menu. Regardless of whether a menu of BMPs has been developed by EPA, EPA encourages State and Tribal permitting authorities to develop a menu of BMPs that is appropriate for local conditions. EPA also intends to provide guidance on developing BMPs and measurable goals and modify, update, and supplement such guidance based on the assessments of the NPDES MS4 storm water program and research to be conducted over the next thirteen years.

(h)(1) You must incorporate any additional measures necessary to ensure effective implementation of your State or Tribal storm water program for regulated small MS4s.

(2) Guidance: EPA recommends consideration of the following:

(i) You are encouraged to use a general permit for regulated small MS4s;

(ii) To the extent that your State or Tribe administers a dedicated funding source, you should play an active role in providing financial assistance to operators of regulated small MS4s;

(iii) You should support local programs by providing technical and programmatic assistance, conducting research projects, performing watershed monitoring, and providing adequate legal authority at the local level;

(iv) You are encouraged to coordinate and utilize the data collected under several programs including water quality management programs, TMDL programs, and water quality monitoring programs;

(v) Where appropriate, you may recognize existing responsibilities among governmental entities for the control measures in an NPDES small MS4 permit (see §122.35(b) of this chapter); and

(vi) You are encouraged to provide a brief (e.g., two page) reporting format to facilitate compiling and analyzing data from submitted reports under § 122.34(g)(3) of this chapter. EPA intends to develop a model form for this purpose.

PART 124—PROCEDURES FOR DECISIONMAKING

1. The authority citation for part 124 continues to read as follows:

Authority: Resource Conservation and Recovery Act, 42 U.S.C. 6901 et seq.; Safe Drinking Water Act, 42 U.S.C. 300(f) et seq.; Clean Water Act, 33 U.S.C. 1251 et seq.; Clean Air Act, 42 U.S.C. 7401 et seq.

40 CFR § 124.52

2. Revise §124.52(c) to read as follows:

40 CFR § 124.52

§124.52 Permits required on a case-by-case basis.

* * * * *

(c) Prior to a case-by-case determination that an individual permit is required for a storm water discharge under this section (see §122.26(a)(1)(v), (c)(1)(v), and (a)(9)(iii) of this chapter), the Regional Administrator may require the discharger to submit a permit application or other information regarding the discharge under section 308 of the CWA. In requiring such information, the Regional Administrator shall notify the discharger in writing and shall send an application form with the notice. The discharger must apply for a permit within 180 days of notice, unless permission for a later date is granted by the Regional Administrator. The question whether the initial designation was proper will remain open for consideration during the public comment period under §124.11 or §124.118 and in any subsequent hearing.

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Footnotes

- 1 National level benefits are not inclusive of all categories of benefits that can be expected to result from the regulation.
- 2 Total may not add due to rounding.
- 1 To estimate non-local willingness to pay per household, the 33% of willingness is multiplied by the fraction of previously impaired national waters (in each use category) that attain the beneficial use as a result of the Phase II rule. To estimate the aggregate non-local benefits, non-local willingness to pay is multiplied with the total number of households in the US.
+= positive benefits expected but not monetized.
- 1 Includes water quality benefit of municipal programs, based on 80% effectiveness of municipal programs.
- 2 Based on research by Carson and Mitchell (1993). Fresh water value only. Does not include commercial fishery, navigation, or diversionary (e.g. municipal drinking water cost savings or risk reductions) benefits. May not fully capture human health risk reduction or ecological values.
- 3 Based on research by Paterson et al. (1993). Although the survey's description of the benefits of reducing soil erosion from construction sites included reduced dredging, avoided flooding, and water storage capacity benefits, these benefit categories may not be fully incorporated in the WTP values. Small streams may account for over 2% of total benefits.

Notes:

- 1 Source: U.S. EPA, Office of Wastewater Management. Economic Analysis for the Storm Water Phase II Rule.
- 2 The total number of potential no exposure respondents was divided by 5 to estimate an annual total. It was assumed that the annual number of respondents for the no exposure certification would be spread over the five year period the exclusion applies.
- 3 The number of respondents in each category represents only those respondents located within the 44 NPDES-authorized States and Territories. The burden and cost estimates provided in this section are for the NPDES-authorized States in their role as the permitting authority for municipal designations and industrial no exposure.
- 4 The number of respondents for this activity, 15, represents the number of NPDES-authorized States and Territories that must develop designation criteria and assess small MS4s located outside of an urbanized area for possible Phase II coverage divided by the three year ICR period.
- 1 County was previously listed in this appendix; however, population dropped to below 250,000 in the 1990 Census.
- 1 County was previously listed in this appendix; however, population dropped to below 100,000 in the 1990 Census.

End of Document

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ATTACHMENT 11

CALIFORNIA CONSTITUTION
ARTICLE 13B GOVERNMENT SPENDING LIMITATION

SEC. 1. The total annual appropriations subject to limitation of the State and of each local government shall not exceed the appropriations limit of the entity of government for the prior year adjusted for the change in the cost of living and the change in population, except as otherwise provided in this article.

CALIFORNIA CONSTITUTION
ARTICLE 13B GOVERNMENT SPENDING LIMITATION

SEC. 1.5. The annual calculation of the appropriations limit under this article for each entity of local government shall be reviewed as part of an annual financial audit.

CALIFORNIA CONSTITUTION
ARTICLE 13B GOVERNMENT SPENDING LIMITATION

SEC. 2. (a) (1) Fifty percent of all revenues received by the State in a fiscal year and in the fiscal year immediately following it in excess of the amount which may be appropriated by the State in compliance with this article during that fiscal year and the fiscal year immediately following it shall be transferred and allocated, from a fund established for that purpose, pursuant to Section 8.5 of Article XVI.

(2) Fifty percent of all revenues received by the State in a fiscal year and in the fiscal year immediately following it in excess of the amount which may be appropriated by the State in compliance with this article during that fiscal year and the fiscal year immediately following it shall be returned by a revision of tax rates or fee schedules within the next two subsequent fiscal years.

(b) All revenues received by an entity of government, other than the State, in a fiscal year and in the fiscal year immediately following it in excess of the amount which may be appropriated by the entity in compliance with this article during that fiscal year and the fiscal year immediately following it shall be returned by a revision of tax rates or fee schedules within the next two subsequent fiscal years.

CALIFORNIA CONSTITUTION
ARTICLE 13B GOVERNMENT SPENDING LIMITATION

SEC. 3. The appropriations limit for any fiscal year pursuant to Sec. 1 shall be adjusted as follows:

(a) In the event that the financial responsibility of providing services is transferred, in whole or in part, whether by annexation, incorporation or otherwise, from one entity of government to another,

then for the year in which such transfer becomes effective the appropriations limit of the transferee entity shall be increased by such reasonable amount as the said entities shall mutually agree and the appropriations limit of the transferor entity shall be decreased by the same amount.

(b) In the event that the financial responsibility of providing services is transferred, in whole or in part, from an entity of government to a private entity, or the financial source for the provision of services is transferred, in whole or in part, from other revenues of an entity of government, to regulatory licenses, user charges or user fees, then for the year of such transfer the appropriations limit of such entity of government shall be decreased accordingly.

(c) (1) In the event an emergency is declared by the legislative body of an entity of government, the appropriations limit of the affected entity of government may be exceeded provided that the appropriations limits in the following three years are reduced accordingly to prevent an aggregate increase in appropriations resulting from the emergency.

(2) In the event an emergency is declared by the Governor, appropriations approved by a two-thirds vote of the legislative body of an affected entity of government to an emergency account for expenditures relating to that emergency shall not constitute appropriations subject to limitation. As used in this paragraph, "emergency" means the existence, as declared by the Governor, of conditions of disaster or of extreme peril to the safety of persons and property within the State, or parts thereof, caused by such conditions as attack or probable or imminent attack by an enemy of the United States, fire, flood, drought, storm, civil disorder, earthquake, or volcanic eruption.

CALIFORNIA CONSTITUTION
ARTICLE 13B GOVERNMENT SPENDING LIMITATION

SEC. 4. The appropriations limit imposed on any new or existing entity of government by this Article may be established or changed by the electors of such entity, subject to and in conformity with constitutional and statutory voting requirements. The duration of any such change shall be as determined by said electors, but shall in no event exceed four years from the most recent vote of said electors creating or continuing such change.

CALIFORNIA CONSTITUTION
ARTICLE 13B GOVERNMENT SPENDING LIMITATION

SEC. 5. Each entity of government may establish such contingency, emergency, unemployment, reserve, retirement, sinking fund, trust, or similar funds as it shall deem reasonable and proper. Contributions to any such fund, to the extent that such contributions are derived from the proceeds of taxes, shall for purposes of this Article constitute appropriations subject to limitation in the year of contribution. Neither withdrawals from any such fund, nor expenditures of (or authorizations to expend) such withdrawals, nor transfers between or among such funds, shall for purposes of this

Article constitute appropriations subject to limitation.

CALIFORNIA CONSTITUTION
ARTICLE 13B GOVERNMENT SPENDING LIMITATION

SECTION 5.5. Prudent State Reserve. The Legislature shall establish a prudent state reserve fund in such amount as it shall deem reasonable and necessary. Contributions to, and withdrawals from, the fund shall be subject to the provisions of Section 5 of this Article.

CALIFORNIA CONSTITUTION
ARTICLE 13B GOVERNMENT SPENDING LIMITATION

SEC. 6. (a) Whenever the Legislature or any state agency mandates a new program or higher level of service on any local government, the State shall provide a subvention of funds to reimburse that local government for the costs of the program or increased level of service, except that the Legislature may, but need not, provide a subvention of funds for the following mandates:

- (1) Legislative mandates requested by the local agency affected.
- (2) Legislation defining a new crime or changing an existing definition of a crime.
- (3) Legislative mandates enacted prior to January 1, 1975, or executive orders or regulations initially implementing legislation enacted prior to January 1, 1975.

(4) Legislative mandates contained in statutes within the scope of paragraph (7) of subdivision (b) of Section 3 of Article I.

(b) (1) Except as provided in paragraph (2), for the 2005-06 fiscal year and every subsequent fiscal year, for a mandate for which the costs of a local government claimant have been determined in a preceding fiscal year to be payable by the State pursuant to law, the Legislature shall either appropriate, in the annual Budget Act, the full payable amount that has not been previously paid, or suspend the operation of the mandate for the fiscal year for which the annual Budget Act is applicable in a manner prescribed by law.

(2) Payable claims for costs incurred prior to the 2004-05 fiscal year that have not been paid prior to the 2005-06 fiscal year may be paid over a term of years, as prescribed by law.

(3) Ad valorem property tax revenues shall not be used to reimburse a local government for the costs of a new program or higher level of service.

(4) This subdivision applies to a mandate only as it affects a city, county, city and county, or special district.

(5) This subdivision shall not apply to a requirement to provide or recognize any procedural or substantive protection, right, benefit, or employment status of any local government employee or retiree, or of any local government employee organization, that arises from, affects, or directly relates to future, current, or past local government employment and that constitutes a mandate subject to this section.

(c) A mandated new program or higher level of service includes a transfer by the Legislature from the State to cities, counties, cities and counties, or special districts of complete or partial

financial responsibility for a required program for which the State previously had complete or partial financial responsibility.

CALIFORNIA CONSTITUTION
ARTICLE 13B GOVERNMENT SPENDING LIMITATION

SEC. 7. Nothing in this Article shall be construed to impair the ability of the State or of any local government to meet its obligations with respect to existing or future bonded indebtedness.

CALIFORNIA CONSTITUTION
ARTICLE 13B GOVERNMENT SPENDING LIMITATION

SEC. 8. As used in this article and except as otherwise expressly provided herein:

(a) "Appropriations subject to limitation" of the State means any authorization to expend during a fiscal year the proceeds of taxes levied by or for the State, exclusive of state subventions for the use and operation of local government (other than subventions made pursuant to Section 6) and further exclusive of refunds of taxes, benefit payments from retirement, unemployment insurance, and disability insurance funds.

(b) "Appropriations subject to limitation" of an entity of local government means any authorization to expend during a fiscal year the proceeds of taxes levied by or for that entity and the proceeds of state subventions to that entity (other than subventions made pursuant to Section 6) exclusive of refunds of taxes.

(c) "Proceeds of taxes" shall include, but not be restricted to, all tax revenues and the proceeds to an entity of government, from (1) regulatory licenses, user charges, and user fees to the extent that those proceeds exceed the costs reasonably borne by that entity in providing the regulation, product, or service, and (2) the investment of tax revenues. With respect to any local government, "proceeds of taxes" shall include subventions received from the State, other than pursuant to Section 6, and, with respect to the State, proceeds of taxes shall exclude such subventions.

(d) "Local government" means any city, county, city and county, school district, special district, authority, or other political subdivision of or within the State.

(e) (1) "Change in the cost of living" for the State, a school district, or a community college district means the percentage change in California per capita personal income from the preceding year.

(2) "Change in the cost of living" for an entity of local government, other than a school district or a community college district, shall be either (A) the percentage change in California per capita personal income from the preceding year, or (B) the percentage change in the local assessment roll from the preceding year for the jurisdiction due to the addition of local nonresidential new construction. Each entity of local government shall select its change in the cost of living pursuant to this paragraph annually by a recorded vote of the entity's governing body.

(f) "Change in population" of any entity of government, other than the State, a school district, or a community college district, shall be determined by a method prescribed by the Legislature.

"Change in population" of a school district or a community college district shall be the percentage change in the average daily attendance of the school district or community college district from the preceding fiscal year, as determined by a method prescribed by the Legislature.

"Change in population" of the State shall be determined by adding (1) the percentage change in the State's population multiplied by the percentage of the State's budget in the prior fiscal year that is expended for other than educational purposes for kindergarten and grades one to 12, inclusive, and the community colleges, and (2) the percentage change in the total statewide average daily attendance in kindergarten and grades one to 12, inclusive, and the community colleges, multiplied by the percentage of the State's budget in the prior fiscal year that is expended for educational purposes for kindergarten and grades one to 12, inclusive, and the community colleges.

Any determination of population pursuant to this subdivision, other than that measured by average daily attendance, shall be revised, as necessary, to reflect the periodic census conducted by the United States Department of Commerce, or successor department.

(g) "Debt service" means appropriations required to pay the cost of interest and redemption charges, including the funding of any reserve or sinking fund required in connection therewith, on indebtedness existing or legally authorized as of January 1, 1979, or on bonded indebtedness thereafter approved according to law by a vote of the electors of the issuing entity voting in an election for that purpose.

(h) The "appropriations limit" of each entity of government for each fiscal year is that amount which total annual appropriations subject to limitation may not exceed under Sections 1 and 3. However, the "appropriations limit" of each entity of government for fiscal year 1978-79 is the total of the appropriations subject to limitation of the entity for that fiscal year. For fiscal year 1978-79, state subventions to local governments, exclusive of federal grants, are deemed to have been derived from the proceeds of state taxes.

(i) Except as otherwise provided in Section 5, "appropriations subject to limitation" do not include local agency loan funds or indebtedness funds, investment (or authorizations to invest) funds of the State, or of an entity of local government in accounts at banks or savings and loan associations or in liquid securities.

CALIFORNIA CONSTITUTION
ARTICLE 13B GOVERNMENT SPENDING LIMITATION

SEC. 9. "Appropriations subject to limitation" for each entity of government do not include:

(a) Appropriations for debt service.

(b) Appropriations required to comply with mandates of the courts or the federal government which, without discretion, require an expenditure for additional services or which unavoidably make the provision of existing services more costly.

(c) Appropriations of any special district which existed on January 1, 1978, and which did not as of the 1977-78 fiscal year levy an ad valorem tax on property in excess of 12 1/2 cents per \$100 of assessed value; or the appropriations of any special district then existing or thereafter created by a vote of the people, which is totally funded by other than the proceeds of taxes.

(d) Appropriations for all qualified capital outlay projects, as defined by the Legislature.

(e) Appropriations of revenue which are derived from any of the following:

(1) That portion of the taxes imposed on motor vehicle fuels for use in motor vehicles upon public streets and highways at a rate of more than nine cents (\$0.09) per gallon.

(2) Sales and use taxes collected on that increment of the tax specified in paragraph (1).

(3) That portion of the weight fee imposed on commercial vehicles which exceeds the weight fee imposed on those vehicles on January 1, 1990.

CALIFORNIA CONSTITUTION
ARTICLE 13B GOVERNMENT SPENDING LIMITATION

SEC. 10. This Article shall be effective commencing with the first day of the fiscal year following its adoption.

CALIFORNIA CONSTITUTION
ARTICLE 13B GOVERNMENT SPENDING LIMITATION

SEC. 10.5. For fiscal years beginning on or after July 1, 1990, the appropriations limit of each entity of government shall be the appropriations limit for the 1986-87 fiscal year adjusted for the changes made from that fiscal year pursuant to this article, as amended by the measure adding this section, adjusted for the changes required by Section 3.

CALIFORNIA CONSTITUTION
ARTICLE 13B GOVERNMENT SPENDING LIMITATION

SEC. 11. If any appropriation category shall be added to or removed from appropriations subject to limitation, pursuant to final judgment of any court of competent jurisdiction and any appeal therefrom, the appropriations limit shall be adjusted accordingly. If any section, part, clause or phrase in this Article is for any reason held invalid or unconstitutional, the remaining portions of this Article shall not be affected but shall remain in full force and effect.

CALIFORNIA CONSTITUTION
ARTICLE 13B GOVERNMENT SPENDING LIMITATION

SEC. 12. "Appropriations subject to limitation" of each entity of government shall not include appropriations of revenue from the Cigarette and Tobacco Products Surtax Fund created by the Tobacco Tax and Health Protection Act of 1988. No adjustment in the

appropriations limit of any entity of government shall be required pursuant to Section 3 as a result of revenue being deposited in or appropriated from the Cigarette and Tobacco Products Surtax Fund created by the Tobacco Tax and Health Protection Act of 1988.

CALIFORNIA CONSTITUTION


ARTICLE 13B GOVERNMENT SPENDING LIMITATION

SEC. 13. "Appropriations subject to limitation" of each entity of government shall not include appropriations of revenue from the California Children and Families First Trust Fund created by the California Children and Families First Act of 1998. No adjustment in the appropriations limit of any entity of government shall be required pursuant to Section 3 as a result of revenue being deposited in or appropriated from the California Children and Families First Trust Fund. The surtax created by the California Children and Families First Act of 1998 shall not be considered General Fund revenues for the purposes of Section 8 of Article XVI.

ATTACHMENT 12

 KeyCite Yellow Flag - Negative Treatment

Unconstitutional or Preempted Limitation Recognized by [City of Arcadia v. State Water Resources Control Bd.](#), Cal.App. 4 Dist., Dec. 14, 2010

 KeyCite Yellow Flag - Negative Treatment Proposed Legislation

West's Annotated California **Codes**

Water Code (Refs & Annos)

Division 7. Water Quality (Refs & Annos)

Chapter 4. Regional Water Quality Control (Refs & Annos)

Article 4. Waste Discharge Requirements (Refs & Annos)

West's Ann. Cal. Water Code § **13263**

§ 13263. Discharge requirements; considerations by regional board; review of requirements; notice of requirements; no vested right; master reclamation permit

Currentness

(a) The regional board, after any necessary hearing, shall prescribe requirements as to the nature of any proposed discharge, existing discharge, or material change in an existing discharge, except discharges into a community sewer system, with relation to the conditions existing in the disposal area or receiving waters upon, or into which, the discharge is made or proposed. The requirements shall implement any relevant water quality control plans that have been adopted, and shall take into consideration the beneficial uses to be protected, the water quality objectives reasonably required for that purpose, other waste discharges, the need to prevent nuisance, and the provisions of **Section 13241**.

(b) A regional board, in prescribing requirements, need not authorize the utilization of the full waste assimilation capacities of the receiving waters.

(c) The requirements may contain a time schedule, subject to revision in the discretion of the board.

(d) The regional board may prescribe requirements although no discharge report has been filed.

(e) Upon application by any affected person, or on its own motion, the regional board may review and revise requirements. All requirements shall be reviewed periodically.

(f) The regional board shall notify in writing the person making or proposing the discharge or the change therein of the discharge requirements to be met. After receipt of the notice, the person so notified shall provide adequate means to meet the requirements.

(g) No discharge of waste into the waters of the state, whether or not the discharge is made pursuant to waste discharge requirements, shall create a vested right to continue the discharge. All discharges of waste into waters of the state are privileges, not rights.

(h) The regional board may incorporate the requirements prescribed pursuant to this **section** into a master recycling permit for either a supplier or distributor, or both, of recycled water.

(i) The state board or a regional board may prescribe general waste discharge requirements for a category of discharges if the state board or that regional board finds or determines that all of the following criteria apply to the discharges in that category:

(1) The discharges are produced by the same or similar operations.

(2) The discharges involve the same or similar types of waste.

(3) The discharges require the same or similar treatment standards.

(4) The discharges are more appropriately regulated under general discharge requirements than individual discharge requirements.

(j) The state board, after any necessary hearing, may prescribe waste discharge requirements in accordance with this **section**.

Credits

(Added by Stats.1969, c. 482, p. 1063, § 18, operative Jan. 1, 1970. Amended by Stats.1992, c. 211 (A.B.3012), § 3; Stats.1995, c. 28 (A.B.1247), § 21; Stats.1995, c. 421 (S.B.572), § 2.)

Editors' Notes

CROSS REFERENCES

Beneficial uses defined for purposes of this Division, see **Water Code § 13050**.

Board defined for purposes of this **Code**, see **Water Code § 25**.

Hazardous waste,

Surface impoundments, requirements and exemptions, see **Health and Safety Code § 25208.5**. •

Unified agency review of hazardous materials release sites, investigation and remedial action, see **Health and Safety Code § 25262**.

Integrated on-farm drainage management, solar evaporator in compliance with authorization to operate, exclusion from certain provisions of the **Water Code**, see **Health and Safety Code § 25209.17**.

Master recycling permit defined for purposes of this Division, see **Water Code § 13050**.

Notice and public comment periods prior to adoption of waste discharge requirements, water reclamation requirements, time schedule orders and other orders, method of notification, see **Water Code § 13167.5**

Nuisance defined for purposes of this Division, see **Water Code § 13050**.

Person defined for purposes of this **Code**, see **Water Code § 19**.

Person defined for purposes of this Division, see **Water Code § 13050**.

Recycled water defined for purposes of this **Code**, see **Water Code § 26**.

Recycled water defined for purposes of this Division, see **Water Code § 13050**.

Regional board defined for purposes of this Division, see [Water Code § 13050](#).

Solid waste facilities, inspections and compliance schedule, revocation of permit of noncomplying facility, see [Public Resources Code § 44106](#).

State board defined for purposes of this Division, see [Water Code § 13050](#).

State defined for purposes of this [Code](#), see [Water Code § 18](#).

State or regional water quality board, ex parte communications prohibited, remedies, see [Water Code § 13287](#).

Toxic Injection Well Control Act of 1985, inspection of facilities, revision of existing waste discharge requirements, see [Health and Safety Code § 25159.17](#).

Waste defined for purposes of this Division, see [Water Code § 13050](#).

Water pollution, prohibition, affirmative defense, see [Fish and Game Code § 5650](#).

Water quality control defined for purposes of this Division, see [Water Code § 13050](#).

Water quality control plan defined for purposes of this Division, see [Water Code § 13050](#).

Water quality objectives defined for purposes of this Division, see [Water Code § 13050](#).

Water reuse, permit for landscape irrigation uses of recycled water, persons subject to general or individual waste discharge requirements, see [Water Code § 13552.5](#).

Waters of the state defined for purposes of this Division, see [Water Code § 13050](#).

CODE OF REGULATIONS REFERENCES

Closure and post-closure maintenance standards for disposal sites and landfills, landfill emergency response plan review, see [27 Cal. Code of Regs. § 21132](#).

Consolidated regulations for treatment, storage, processing or disposal of solid waste, SWRCB - reliance upon CIWMB requirements, see [27 Cal. Code of Regs. § 20012](#).

Discharges of hazardous waste to land, water quality monitoring for classified waste management units,

- Compliance period, see [23 Cal. Code of Regs. § 2550.6](#). •
- Concentration limits, see [23 Cal. Code of Regs. § 2550.4](#). •
- Constituents of concern, see [23 Cal. Code of Regs. § 2550.3](#). •
- Corrective action program, see [23 Cal. Code of Regs. § 2550.10](#). •
- Corrective action where hazardous waste has been discharged at areas other than waste management units, see [23 Cal. Code of Regs. § 2550.12](#). •
- Detection monitoring program, see [23 Cal. Code of Regs. § 2550.8](#). •
- Evaluation monitoring program, see [23 Cal. Code of Regs. § 2550.9](#). •
- General water quality monitoring and system requirements, see [23 Cal. Code of Regs. § 2550.7](#). •
- Monitoring points and the point of compliance, see [23 Cal. Code of Regs. § 2550.5](#). •
- Required programs, see [23 Cal. Code of Regs. § 2550.1](#). •
- Water quality protection standard, see [23 Cal. Code of Regs. § 2550.2](#). •

Financial assurances at solid waste facilities and at waste management units for solid waste, financial assurance requirements,

- SWRCB - closure funding requirements, see [27 Cal. Code of Regs. § 22207](#). •
- SWRCB - corrective action funding requirements, see [27 Cal. Code of Regs. § 22222](#). •
- SWRCB - post-closure funding requirements, see [27 Cal. Code of Regs. § 22212](#). •

Special treatment, storage, and disposal units, SWRCB - confined animal facilities,

- Applicability of regulations, see [27 Cal. Code of Regs. § 22560](#). •
- General standard for surface, see [27 Cal. Code of Regs. § 22561](#). •

State Water Resources Control Board and Regional Water Quality Control Boards, adjudicative proceedings,

- Alternative dispute resolution, see [23 Cal. Code of Regs. § 648.6](#). •
- Enforcement orders and sanctions, see [23 Cal. Code of Regs. § 648.8](#). •
- Evidence by reference, see [23 Cal. Code of Regs. § 648.3](#). •
- Identification of witnesses, presubmission and presentation of testimony and exhibits, see [23 Cal. Code of Regs. § 648.4](#). •

- Informal hearings, see [23 Cal. Code of Regs. § 648.7](#). •
- Official notice, see [23 Cal. Code of Regs. § 648.2](#). •
- Parties and other interested persons, see [23 Cal. Code of Regs. § 648.1](#). •
- Rules of evidence, see [23 Cal. Code of Regs. § 648.5.1](#). •
- State Water Resources Control Board and Regional Water Quality Control Boards, laws governing adjudicative proceedings, see [23 Cal. Code of Regs. § 648](#).
- SWRCB - mining waste management regulations,
 - Applicability, see [27 Cal. Code of Regs. § 22470](#). •
 - Closure and post-closure maintenance of mining units, see [27 Cal. Code of Regs. § 22510](#). •
 - Mining unit siting and construction standards, see [27 Cal. Code of Regs. § 22490](#). •
 - Water quality monitoring for mining units, see [27 Cal. Code of Regs. § 22500](#). •
- SWRCB - waste discharge requirements (WDRs), see [27 Cal. Code of Regs. § 21720](#).
- SWRCB - water quality monitoring and response programs for solid waste management units,
 - Compliance period, see [27 Cal. Code of Regs. § 20410](#). •
 - Concentration limits, see [27 Cal. Code of Regs. § 20400](#). •
 - General water quality monitoring and system requirements, see [27 Cal. Code of Regs. § 20415](#). •
 - Monitoring points and the point of compliance, see [27 Cal. Code of Regs. § 20405](#). •
 - Required programs, see [27 Cal. Code of Regs. § 20385](#). •
 - Water quality protection standard (water standard), see [27 Cal. Code of Regs. § 20390](#). •
- Water monitoring, see [27 Cal. Code of Regs. § 20380 et seq.](#)
- Water resources control board, adjudicatory proceedings, see [23 Cal. Code of Regs. § 648 et seq.](#)

RESEARCH REFERENCES

Encyclopedias

- [Cal. Jur. 3d Pollution and Conservation Laws § 142](#), Report Of Discharge or Proposed Discharge Of Waste.
- [Cal. Jur. 3d Pollution and Conservation Laws § 144](#), Requirements as to Discharges.
- [Cal. Civ. Prac. Environmental Litigation § 7:4](#), Water Quality Planning and Regulation Under Statute.

Treatises and Practice Aids

- [Miller and Starr California Real Estate § 21:27](#), Other Federal and State Laws and Approvals--Water Quality Laws and Related Regulations.
- [Miller and Starr California Real Estate § 39:22](#), Notice to Governmental Agencies.
- [Miller and Starr California Real Estate § 39:55](#), The Porter-Cologne Water Quality Control Act--In General.

Relevant Notes of Decisions (10)

[View all 42](#)

Notes of Decisions listed below contain your search terms.

Construction with other laws

That Water Pollution Control Act adopted as an amendment to **Water Code** made no change in [Fish & G.C. § 5650](#) forbidding water pollution, and was passed at same time as legislative addition to [Fish & G.C. § 5651](#) whereby department of fish and game was directed to report chronic water pollution violations to regional boards created by water pollution control act indicated that civil proceedings against violators under water pollution control act were intended to supplement, not supplant, criminal proceedings under water pollution [§ 5650 of Fish and Game Code](#). [People v. Union Oil Co. \(App. 2 Dist. 1968\) 74 Cal.Rptr. 78, 268 Cal.App.2d 566](#). Nuisance [🔑 60](#)

---- Regional boards, discharge requirements

Under former § 13064, regional quality control board does not have authority to prescribe requirements which restrict the volume of flow of a discharge, or which prohibits a discharge, of sewage or industrial waste; however, the board may prescribe requirements that become more or less onerous as volume of discharge increases or decreases. 48 Op.Atty.Gen. 85, 9-7-66.

A regional water quality control board had power to enforce prohibition against waste discharge that was prescribed pursuant to former § 13054.3. 48 Op.Atty.Gen. 85, 9-7-66.

The regional water quality control boards, as provided in former § 13040 et seq., had primary responsibility for the control of water pollution, nuisance, and in obtaining coordinated action in water quality control; hence, these boards had authority to prescribe requirements for the indirect discharge of industrial wastes within its region which was causing or threatened to cause pollution or nuisance. Op.Leg.Counsel, 1967 A.J. 6115.

---- Responsible party, discharge requirements

When fee in land on which an abandoned mine was located was owned separately from mineral rights, both owner of fee and owner of mineral rights were “waste dischargers” within former § 13054, upon whom waste discharge requirements should have been imposed in respect to harmful drainage from abandoned mine. 26 Op.Atty.Gen. 88 (1955).

Beneficial use

Const. Art. 1, § 25, does not require the Los Angeles regional water quality control board to recognize fish and aquatic life as beneficial use of the Los Angeles-Long Beach Inner Harbor in establishing waste discharge requirements pursuant to this section. 51 Op.Atty.Gen. 92, 5-7-68.

Environmental impact report

Under § 13389 providing that neither state board nor regional board shall be required to comply with the Environmental Quality Act prior to adoption of any waste discharge requirement, regional water quality control board properly prescribed by order waste discharge requirements for city without preparation of environmental impact report. Pacific Water Conditioning Ass'n, Inc. v. City Council of City of Riverside (App. 4 Dist. 1977) 140 Cal.Rptr. 812, 73 Cal.App.3d 546. Environmental Law 595(6)

Sewage disposal--In general

Regional water pollution control boards might, under §§ 13053, 13054, establish requirements as to sewer well discharges without regard to Health & S.C. § 4458, absolutely prohibiting certain sewer wells, but no ruling of such boards was a limitation on powers or rights of cities, counties, state agencies or persons as set forth in § 13001 (repealed. See, now § 13002). 19 Op.Atty.Gen. 192 (1952).

---- Privately operated, sewage disposal

Former § 13054.3, as amended in 1967, authorized a regional quality control board to prescribe same type of requirements which it was authorized under existing law to prescribe, which should be applicable to all indirect discharge of sewage from family dwellings within a designated area, as specified. Op.Leg.Counsel, 1967 A.J. 4365.

--- **Direct or indirect discharge, sewage disposal**

Distinction was drawn within the language of former §§ 13054, 13054.1 between “disposal area” and “receiving waters,” a distinction that could only relate to difference between discharging of sewage on the ground “an indirect discharge” or discharging directly into the receiving waters “a direct discharge”, and no modifying restrictive language appeared in either **section** with respect to the type of discharge which a regional board was authorized to regulate. Op.Leg.Counsel, 1967, A.J. 4365.

West's Ann. Cal. **Water Code § 13263**, CA WATER § 13263

Current with urgency legislation through Chapter 893 of 2016 Reg.Sess., Ch. 8 of 2015-2016 2nd Ex.Sess., and all propositions on 2016 ballot.

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ATTACHMENT 13

West's Annotated California Codes

Water Code

Division 7. Water Quality

Chapter 5.5. Compliance with the Provisions of the Federal Water Pollution Control Act as Amended in 1972

West's Ann.Cal.Water Code D. 7, Ch. 5.5, Refs & Annos
[Currentness](#)

Editors' Notes

GENERAL NOTES

2009 Main Volume

<Chapter 5.5 was added by Stats.1972, c. 1256, p. 2485, § 1, eff. Dec. 12, 1972.>

West's Ann. Cal. Water Code D. 7, Ch. 5.5, Refs & Annos, CA WATER D. 7, Ch. 5.5, Refs & Annos
Current with urgency legislation through Chapter 893 of 2016 Reg.Sess., Ch. 8 of 2015-2016 2nd Ex.Sess., and all propositions on 2016 ballot.

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West's Annotated California Codes

Water Code (Refs & Annos)

Division 7. Water Quality (Refs & Annos)

Chapter 5.5. Compliance with the Provisions of the Federal Water Pollution Control Act as Amended in 1972 (Refs & Annos)

West's Ann.Cal.Water Code § 13370

§ 13370. Legislative findings and declarations

Currentness

The Legislature finds and declares as follows:

(a) The Federal Water Pollution Control Act ([33 U.S.C. Sec. 1251 et seq.](#)), as amended, provides for permit systems to regulate the discharge of pollutants and dredged or fill material to the navigable waters of the United States and to regulate the use and disposal of sewage sludge.

(b) The Federal Water Pollution Control Act, as amended, provides that permits may be issued by states which are authorized to implement the provisions of that act.

(c) It is in the interest of the people of the state, in order to avoid direct regulation by the federal government of persons already subject to regulation under state law pursuant to this division, to enact this chapter in order to authorize the state to implement the provisions of the Federal Water Pollution Control Act and acts amendatory thereof or supplementary thereto, and federal regulations and guidelines issued pursuant thereto, provided, that the state board shall request federal funding under the Federal Water Pollution Control Act for the purpose of carrying out its responsibilities under this program.

Credits

(Added by Stats.1972, c. 1256, p. 2485, § 1, eff. Dec. 19, 1972. Amended by Stats.1978, c. 746, p. 2343, § 1; Stats.1980, c. 676, p. 2028, § 319; [Stats.1987, c. 1189, § 1.](#))

West's Ann. Cal. Water Code § 13370, CA WATER § 13370

Current with urgency legislation through Chapter 893 of 2016 Reg.Sess., Ch. 8 of 2015-2016 2nd Ex.Sess., and all propositions on 2016 ballot.

West's Annotated California Codes

Water Code (Refs & Annos)

Division 7. Water Quality (Refs & Annos)

Chapter 5.5. Compliance with the Provisions of the Federal Water Pollution Control Act as Amended in 1972 (Refs & Annos)

West's Ann.Cal.Water Code § 13370.5

§ 13370.5. Additional findings and declarations; pretreatment program

Currentness

(a) The Legislature finds and declares that, since the Federal Water Pollution Control Act (33 U.S.C. Sec. 1251 et seq.), as amended, and applicable federal regulations (40 C.F.R. § 403 et seq.) provide for a pretreatment program to regulate the discharge of pollutants into publicly owned treatment works and provide that states with approved national pollutant discharge elimination system (NPDES) permit programs shall apply for approval of a state pretreatment program, it is in the interest of the people of the state to enact this section in order to avoid direct regulation by the federal government of publicly owned treatment works already subject to regulation under state law pursuant to this division.

(b) The state board shall develop a state pretreatment program and shall, not later than September 1, 1985, apply to the Environmental Protection Agency for approval of the pretreatment program in accordance with federal requirements.

Credits

(Added by Stats.1984, c. 1542, § 1.)

West's Ann. Cal. Water Code § 13370.5, CA WATER § 13370.5

Current with urgency legislation through Chapter 893 of 2016 Reg.Sess., Ch. 8 of 2015-2016 2nd Ex.Sess., and all propositions on 2016 ballot.



KeyCite Red Flag - Severe Negative Treatment

KeyCite Red Flag Negative Treatment§13371. Repealed by Stats.1987, c. 1189, §2

[West's Annotated California Codes](#)

[Water Code \(Refs & Annos\)](#)

[Division 7. Water Quality \(Refs & Annos\)](#)

[Chapter 5.5. Compliance with the Provisions of the Federal Water Pollution Control Act as Amended in 1972 \(Refs & Annos\)](#)

West's Ann.Cal.Water Code § 13371

§ 13371. Repealed by Stats.1987, c. 1189, § 2

[Currentness](#)

West's Ann. Cal. Water Code § 13371, CA WATER § 13371

Current with urgency legislation through Chapter 893 of 2016 Reg.Sess., Ch. 8 of 2015-2016 2nd Ex.Sess., and all propositions on 2016 ballot.

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West's Annotated California Codes

Water Code (Refs & Annos)

Division 7. Water Quality (Refs & Annos)

Chapter 5.5. Compliance with the Provisions of the Federal Water Pollution Control Act as Amended in 1972 (Refs & Annos)

West's Ann.Cal.Water Code § 13372

§ 13372. Construction and application of chapter

Effective: January 1, 2004

[Currentness](#)

(a) This chapter shall be construed to ensure consistency with the requirements for state programs implementing the Federal Water Pollution Control Act and acts amendatory thereof or supplementary thereto. To the extent other provisions of this division are consistent with the provisions of this chapter and with the requirements for state programs implementing the Federal Water Pollution Control Act and acts amendatory thereof or supplementary thereto, those provisions apply to actions and procedures provided for in this chapter. The provisions of this chapter shall prevail over other provisions of this division to the extent of any inconsistency. The provisions of this chapter apply only to actions required under the Federal Water Pollution Control Act and acts amendatory thereof or supplementary thereto.

(b) The provisions of [Section 13376](#) requiring the filing of a report for the discharge of dredged or fill material and the provisions of this chapter relating to the issuance of dredged or fill material permits by the state board or a regional board shall be applicable only to discharges for which the state has an approved permit program, in accordance with the provisions of the Federal Water Pollution Control Act, as amended, for the discharge of dredged or fill material.

Credits

(Added by Stats.1972, c. 1256, p. 2485, § 1, eff. Dec. 19, 1972. Amended by [Stats.1987, c. 1189, § 3](#); [Stats.2003, c. 683 \(A.B.897\), § 5](#).)

[Notes of Decisions \(1\)](#)

West's Ann. Cal. Water Code § 13372, CA WATER § 13372

Current with urgency legislation through Chapter 893 of 2016 Reg.Sess., Ch. 8 of 2015-2016 2nd Ex.Sess., and all propositions on 2016 ballot.

West's Annotated California Codes

Water Code (Refs & Annos)

Division 7. Water Quality (Refs & Annos)

Chapter 5.5. Compliance with the Provisions of the Federal Water Pollution Control Act as Amended in 1972 (Refs & Annos)

West's Ann.Cal.Water Code § 13373

§ 13373. Certain definitions; same as federal act

Currentness

The terms “navigable waters,” “administrator,” “pollutants,” “biological monitoring,” “discharge” and “point sources” as used in this chapter shall have the same meaning as in the Federal Water Pollution Control Act and acts amendatory thereof or supplementary thereto.

Credits

(Added by Stats.1972, c. 1256, p. 2485, § 1, eff. Dec. 19, 1972. Amended by Stats.1987, c. 1189, § 4.)

Notes of Decisions (2)

West's Ann. Cal. Water Code § 13373, CA WATER § 13373

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West's Annotated California Codes

Water Code (Refs & Annos)

Division 7. Water Quality (Refs & Annos)

Chapter 5.5. Compliance with the Provisions of the Federal Water Pollution Control Act as Amended in 1972 (Refs & Annos)

West's Ann.Cal.Water Code § 13374

§ 13374. Waste discharge requirements; equivalent to “permits” under federal act

Currentness

The term “waste discharge requirements” as referred to in this division is the equivalent of the term “permits” as used in the Federal Water Pollution Control Act, as amended.

Credits

(Added by Stats.1972, c. 1256, p. 2485, § 1, eff. Dec. 19, 1972.)

Notes of Decisions (1)

West's Ann. Cal. Water Code § 13374, CA WATER § 13374

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West's Annotated California Codes

Water Code (Refs & Annos)

Division 7. Water Quality (Refs & Annos)

Chapter 5.5. Compliance with the Provisions of the Federal Water Pollution Control Act as Amended in 1972 (Refs & Annos)

West's Ann.Cal.Water Code § 13375

§ 13375. Radiological, chemical or biological warfare agents; discharge prohibited

[Currentness](#)

The discharge of any radiological, chemical, or biological warfare agent into the waters of the state is hereby prohibited.

Credits

(Added by Stats.1972, c. 1256, p. 2485, § 1, eff. Dec. 19, 1972.)

West's Ann. Cal. Water Code § 13375, CA WATER § 13375

Current with urgency legislation through Chapter 893 of 2016 Reg.Sess., Ch. 8 of 2015-2016 2nd Ex.Sess., and all propositions on 2016 ballot.

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West's Annotated California Codes

Water Code (Refs & Annos)

Division 7. Water Quality (Refs & Annos)

Chapter 5.5. Compliance with the Provisions of the Federal Water Pollution Control Act as Amended in 1972 (Refs & Annos)

West's Ann.Cal.Water Code § 13376

§ 13376. Discharging pollutants or dredged or fill material or operating treatment works; reports of discharges or proposed discharges; prohibited discharges; exceptions

Effective: January 1, 2011

[Currentness](#)

A person who discharges pollutants or proposes to discharge pollutants to the navigable waters of the United States within the jurisdiction of this state or a person who discharges dredged or fill material or proposes to discharge dredged or fill material into the navigable waters of the United States within the jurisdiction of this state shall file a report of the discharge in compliance with the procedures set forth in [Section 13260](#). Unless required by the state board or a regional board, a report need not be filed under this section for discharges that are not subject to the permit application requirements of the Federal Water Pollution Control Act, as amended. ¹ A person who proposes to discharge pollutants or dredged or fill material or to operate a publicly owned treatment works or other treatment works treating domestic sewage shall file a report at least 180 days in advance of the date on which it is desired to commence the discharge of pollutants or dredged or fill material or the operation of the treatment works. A person who owns or operates a publicly owned treatment works or other treatment works treating domestic sewage, which treatment works commenced operation before January 1, 1988, and does not discharge to navigable waters of the United States, shall file a report within 45 days of a written request by a regional board or the state board, or within 45 days after the state has an approved permit program for the use and disposal of sewage sludge, whichever occurs earlier. The discharge of pollutants or dredged or fill material or the operation of a publicly owned treatment works or other treatment works treating domestic sewage by any person, except as authorized by waste discharge requirements or dredged or fill material permits, is prohibited. This prohibition does not apply to discharges or operations if a state or federal permit is not required under the Federal Water Pollution Control Act, as amended.

Credits

(Added by [Stats.1987, c. 1189, § 6](#). Amended by [Stats.2010, c. 288 \(S.B.1169\), § 32](#).)

[Notes of Decisions \(11\)](#)

Footnotes

¹ [33 U.S.C.A. § 1251 et seq.](#)

West's Ann. Cal. Water Code § 13376, CA WATER § 13376

Current with urgency legislation through Chapter 893 of 2016 Reg.Sess., Ch. 8 of 2015-2016 2nd Ex.Sess., and all propositions on 2016 ballot.



KeyCite Yellow Flag - Negative Treatment

Unconstitutional or Preempted Limited on Preemption Grounds by [Karuk Tribe of Northern California v. California Regional Water Quality Control Bd., North Coast Region](#), Cal.App. 1 Dist., Mar. 30, 2010

[West's Annotated California Codes](#)

[Water Code \(Refs & Annos\)](#)

[Division 7. Water Quality \(Refs & Annos\)](#)

[Chapter 5.5. Compliance with the Provisions of the Federal Water Pollution Control Act as Amended in 1972 \(Refs & Annos\)](#)

West's Ann.Cal.Water Code § 13377

§ 13377. Issuance of waste discharge requirements and dredged or fill material permits

[Currentness](#)

Notwithstanding any other provision of this division, the state board or the regional boards shall, as required or authorized by the Federal Water Pollution Control Act, as amended, issue waste discharge requirements and dredged or fill material permits which apply and ensure compliance with all applicable provisions of the act and acts amendatory thereof or supplementary, thereto, together with any more stringent effluent standards or limitations necessary to implement water quality control plans, or for the protection of beneficial uses, or to prevent nuisance.

Credits

(Added by Stats.1972, c. 1256, p. 2485, § 1, eff. Dec. 19, 1972. Amended by Stats.1978, c. 618, p. 2068, § 1; Stats.1978, c. 746, p. 2344, § 3.)

[Notes of Decisions \(6\)](#)

West's Ann. Cal. Water Code § 13377, CA WATER § 13377

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West's Annotated California Codes

Water Code (Refs & Annos)

Division 7. Water Quality (Refs & Annos)

Chapter 5.5. Compliance with the Provisions of the Federal Water Pollution Control Act as Amended in 1972 (Refs & Annos)

West's Ann.Cal.Water Code § 13378

§ 13378. Adoption of waste discharge requirements and dredged or fill material permits; notice and hearing; term

Currentness

Waste discharge requirements and dredged or fill material permits shall be adopted only after notice and any necessary hearing. Such requirements or permits shall be adopted for a fixed term not to exceed five years for any proposed discharge, existing discharge, or any material change therein.

Credits

(Added by Stats.1972, c. 1256, p. 2485, § 1, eff. Dec. 19, 1972. Amended by Stats.1978, c. 746, p. 2344, § 4.)

Notes of Decisions (2)

West's Ann. Cal. Water Code § 13378, CA WATER § 13378

Current with urgency legislation through Chapter 893 of 2016 Reg.Sess., Ch. 8 of 2015-2016 2nd Ex.Sess., and all propositions on 2016 ballot.

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KeyCite Red Flag - Severe Negative Treatment

KeyCite Red Flag Negative Treatment§13379. Repealed by Stats.1978, c. 618, p. 2069, §2

[West's Annotated California Codes](#)

[Water Code \(Refs & Annos\)](#)

[Division 7. Water Quality \(Refs & Annos\)](#)

[Chapter 5.5. Compliance with the Provisions of the Federal Water Pollution Control Act as Amended in 1972 \(Refs & Annos\)](#)

West's Ann.Cal.Water Code § 13379

§ 13379. Repealed by Stats.1978, c. 618, p. 2069, § 2

[Currentness](#)

West's Ann. Cal. Water Code § 13379, CA WATER § 13379

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West's Annotated California Codes

Water Code (Refs & Annos)

Division 7. Water Quality (Refs & Annos)

Chapter 5.5. Compliance with the Provisions of the Federal Water Pollution Control Act as Amended in 1972 (Refs & Annos)

West's Ann.Cal.Water Code § 13380

§ 13380. Review of waste discharge requirements and dredged or fill material permits

Currentness

Any waste discharge requirements or dredged or fill material permits adopted under this chapter shall be reviewed at least every five years and, if appropriate, revised.

Credits

(Added by Stats.1972, c. 1256, p. 2485, § 1, eff. Dec. 19, 1972. Amended by Stats.1978, c. 746, p. 2344, § 5.)

West's Ann. Cal. Water Code § 13380, CA WATER § 13380

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West's Annotated California Codes

Water Code (Refs & Annos)

Division 7. Water Quality (Refs & Annos)

Chapter 5.5. Compliance with the Provisions of the Federal Water Pollution Control Act as Amended in 1972 (Refs & Annos)

West's Ann.Cal.Water Code § 13381

§ 13381. Termination or modification of waste discharge requirements and dredged or fill material permits

Currentness

Waste discharge requirements or dredged or fill material permits may be terminated or modified for cause, including, but not limited to, all of the following:

- (a) Violation of any condition contained in the requirements or permits.
- (b) Obtaining the requirements by misrepresentation, or failure to disclose fully all relevant facts.
- (c) A change in any condition that requires either a temporary or permanent reduction or elimination of the permitted discharge.

Credits

(Added by Stats.1972, c. 1256, p. 2485, § 1, eff. Dec. 19, 1972. Amended by Stats.1978, c. 746, p. 2344, § 6.)

West's Ann. Cal. Water Code § 13381, CA WATER § 13381

Current with urgency legislation through Chapter 893 of 2016 Reg.Sess., Ch. 8 of 2015-2016 2nd Ex.Sess., and all propositions on 2016 ballot.

West's Annotated California Codes

Water Code (Refs & Annos)

Division 7. Water Quality (Refs & Annos)

Chapter 5.5. Compliance with the Provisions of the Federal Water Pollution Control Act as Amended in 1972 (Refs & Annos)

West's Ann.Cal.Water Code § 13382

§ 13382. Control of disposal of pollutants into wells or surrounding groundwater

Currentness

Waste discharge requirements shall be adopted to control the disposal of pollutants into wells or in areas where pollutants may enter into a well from the surrounding groundwater.

Credits

(Added by Stats.1972, c. 1256, p. 2485, § 1, eff. Dec. 19, 1972. Amended by Stats.1984, c. 1461, § 1.)

West's Ann. Cal. Water Code § 13382, CA WATER § 13382

Current with urgency legislation through Chapter 893 of 2016 Reg.Sess., Ch. 8 of 2015-2016 2nd Ex.Sess., and all propositions on 2016 ballot.

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West's Annotated California Codes

Water Code (Refs & Annos)

Division 7. Water Quality (Refs & Annos)

Chapter 5.5. Compliance with the Provisions of the Federal Water Pollution Control Act as Amended in 1972 (Refs & Annos)

West's Ann.Cal.Water Code § 13382.5

§ 13382.5. Discharge of pollutants from a point source to aquaculture project

Currentness

Waste discharge requirements shall be adopted to permit the discharge of a specific pollutant or pollutants in a controlled manner from a point source to a defined managed aquaculture project if such discharge meets all applicable requirements of the Federal Water Pollution Control Act¹ and acts amendatory thereof and supplementary thereto, together with any more stringent effluent standards or limitations necessary to implement water quality control plans.

Credits

(Added by Stats.1978, c. 618, p. 2069, § 3.)

Footnotes

¹ 33 U.S.C.A. § 1251 et seq.

West's Ann. Cal. Water Code § 13382.5, CA WATER § 13382.5

Current with urgency legislation through Chapter 893 of 2016 Reg.Sess., Ch. 8 of 2015-2016 2nd Ex.Sess., and all propositions on 2016 ballot.

West's Annotated California Codes

Water Code (Refs & Annos)

Division 7. Water Quality (Refs & Annos)

Chapter 5.5. Compliance with the Provisions of the Federal Water Pollution Control Act as Amended in 1972 (Refs & Annos)

West's Ann.Cal.Water Code § 13383

§ 13383. Monitoring, inspection, entry, reporting, and recordkeeping requirements; establishment and maintenance; inspections

Effective: January 1, 2004

[Currentness](#)

(a) The state board or a regional board may establish monitoring, inspection, entry, reporting, and recordkeeping requirements, as authorized by [Section 13160](#), [13376](#), or [13377](#) or by subdivisions (b) and (c) of this section, for any person who discharges, or proposes to discharge, to navigable waters, any person who introduces pollutants into a publicly owned treatment works, any person who owns or operates, or proposes to own or operate, a publicly owned treatment works or other treatment works treating domestic sewage, or any person who uses or disposes, or proposes to use or dispose, of sewage sludge.

(b) The state board or the regional boards may require any person subject to this section to establish and maintain monitoring equipment or methods, including, where appropriate, biological monitoring methods, sample effluent as prescribed, and provide other information as may be reasonably required.

(c) The state board or a regional board may inspect the facilities of any person subject to this section pursuant to the procedure set forth in [subdivision \(c\) of Section 13267](#).

Credits

(Added by [Stats.1987, c. 1189, § 8](#). Amended by [Stats.2003, c. 683 \(A.B.897\), § 6](#).)

West's Ann. Cal. Water Code § 13383, CA WATER § 13383

Current with urgency legislation through Chapter 893 of 2016 Reg.Sess., Ch. 8 of 2015-2016 2nd Ex.Sess., and all propositions on 2016 ballot.

West's Annotated California Codes

Water Code (Refs & Annos)

Division 7. Water Quality (Refs & Annos)

Chapter 5.5. Compliance with the Provisions of the Federal Water Pollution Control Act as Amended in 1972 (Refs & Annos)

West's Ann.Cal.Water Code § 13383.5

§ 13383.5. Storm water discharge; monitoring requirements;
application to specified municipalities and regulated industries

Effective: January 1, 2002

[Currentness](#)

(a) As used in this section, “regulated municipalities and industries” means the municipalities and industries required to obtain a storm water permit under Section 402(p) of the Clean Water Act ([33 U.S.C. Sec. 1342\(p\)](#)) and implementing regulations.

(b) This section only applies to regulated municipalities that were subject to a storm water permit on or before December 31, 2001, and to regulated industries that are subject to the General Permit for Storm Water Discharges Associated with Industrial Activities Excluding Construction Activities.

(c) Before January 1, 2003, the state board shall develop minimum monitoring requirements for each regulated municipality and minimum standard monitoring requirements for regulated industries. This program shall include, but is not limited to, all of the following:

(1) Standardized methods for collection of storm water samples.

(2) Standardized methods for analysis of storm water samples.

(3) A requirement that every sample analysis under this program be completed by a state certified laboratory or by the regulated municipality or industry in the field in accordance with the quality assurance and quality control protocols established pursuant to this section.

(4) A standardized reporting format.

(5) Standard sampling and analysis programs for quality assurance and quality control.

(6) Minimum detection limits.

(7) Annual reporting requirements for regulated municipalities and industries.

(8) For the purposes of determining constituents to be sampled for, sampling intervals, and sampling frequencies, to be included in a municipal storm water permit monitoring program, the regional board shall consider the following information, as the regional board determines to be applicable:

(A) Discharge characterization monitoring data.

(B) Water quality data collected through the permit monitoring program.

(C) Applicable water quality data collected, analyzed, and reported by federal, state, and local agencies, and other public and private entities.

(D) Any applicable listing under Section 303(d) of the Clean Water Act ([33 U.S.C. Sec. 1313](#)).

(E) Applicable water quality objectives and criteria established in accordance with the regional board basin plans, statewide plans, and federal regulations.

(F) Reports and studies regarding source contribution of pollutants in runoff not based on direct water quality measurements.

(d) The requirements prescribed pursuant to this section shall be included in all storm water permits for regulated municipalities and industries that are reissued following development of the requirements described in subdivision (c). Those permits shall include these provisions on or before July 1, 2008. In a year in which the Legislature appropriates sufficient funds for that purpose, the state board shall make available to the public via the Internet a summary of the results obtained from storm water monitoring conducted in accordance with this section.

Credits

(Added by [Stats.2001, c. 492 \(S.B.72\)](#), § 1.)

West's Ann. Cal. Water Code § 13383.5, CA WATER § 13383.5

Current with urgency legislation through Chapter 893 of 2016 Reg.Sess., Ch. 8 of 2015-2016 2nd Ex.Sess., and all propositions on 2016 ballot.

West's Annotated California Codes

Water Code (Refs & Annos)

Division 7. Water Quality (Refs & Annos)

Chapter 5.5. Compliance with the Provisions of the Federal Water Pollution Control Act as Amended in 1972 (Refs & Annos)

West's Ann.Cal.Water Code § 13383.6

§ 13383.6. Educational materials on stormwater pollution; permits issued with the requirement; satisfaction

Effective: January 1, 2006

[Currentness](#)

On and after January 1, 2007, if a regional board or the state board issues a municipal stormwater permit pursuant to Section 402(p) of the Clean Water Act ([33 U.S.C. Sec. 1342\(p\)](#)) that includes a requirement to provide elementary and secondary public schools with educational materials on stormwater pollution, the permittee may satisfy the requirement, upon approval by the regional board or state board, by contributing an equivalent amount of funds to the Environmental Education Account established pursuant to [subdivision \(a\) of Section 71305 of the Public Resources Code](#).

Credits

(Added by [Stats.2005, c. 581 \(A.B.1721\)](#), § 7.)

West's Ann. Cal. Water Code § 13383.6, CA WATER § 13383.6

Current with urgency legislation through Chapter 893 of 2016 Reg.Sess., Ch. 8 of 2015-2016 2nd Ex.Sess., and all propositions on 2016 ballot.

West's Annotated California Codes

Water Code (Refs & Annos)

Division 7. Water Quality (Refs & Annos)

Chapter 5.5. Compliance with the Provisions of the Federal Water Pollution Control Act as Amended in 1972 (Refs & Annos)

West's Ann.Cal.Water Code § 13383.7

§ 13383.7. Comprehensive guidance document for evaluating and measuring effectiveness of municipal stormwater management programs; quantifiable measures; reference to guidelines in establishing municipal stormwater programs and permits

Effective: January 1, 2008

[Currentness](#)

(a) No later than July 1, 2009, and after holding public workshops and soliciting public comments, the state board shall develop a comprehensive guidance document for evaluating and measuring the effectiveness of municipal stormwater management programs undertaken, and permits issued, in accordance with Section 402(p) of the Clean Water Act ([33 U.S.C. Sec. 1342\(p\)](#)) and this division.

(b) For the purpose of implementing subdivision (a), the state board shall promote the use of quantifiable measures for evaluating the effectiveness of municipal stormwater management programs and provide for the evaluation of, at a minimum, all of the following:

(1) Compliance with stormwater permitting requirements, including all of the following:

(A) Inspection programs.

(B) Construction controls.

(C) Elimination of unlawful discharges.

(D) Public education programs.

(E) New development and redevelopment requirements.

(2) Reduction of pollutant loads from pollution sources.

(3) Reduction of pollutants or stream erosion due to stormwater discharge.

(4) Improvements in the quality of receiving water in accordance with water quality standards.

(c) The state board and the regional boards shall refer to the guidance document developed pursuant to subdivision (a) when establishing requirements in municipal stormwater programs and permits.

Credits

(Added by [Stats.2007, c. 610 \(A.B.739\)](#), § 6.)

West's Ann. Cal. Water Code § 13383.7, CA WATER § 13383.7

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Water Code (Refs & Annos)

Division 7. Water Quality (Refs & Annos)

Chapter 5.5. Compliance with the Provisions of the Federal Water Pollution Control Act as Amended in 1972 (Refs & Annos)

West's Ann.Cal.Water Code § 13383.8

§ 13383.8. Stormwater management task force; report on implementation of priority goals and objectives of Ocean Protection Council's strategic plan

Effective: January 1, 2008

[Currentness](#)

(a) The state board shall appoint a stormwater management task force comprised of public agencies, representatives of the regulated community, and nonprofit organizations with expertise in water quality and stormwater management. The task force shall provide advice to the state board on its stormwater management program that may include, but is not limited to, program priorities, funding criteria, project selection, and interagency coordination of state programs that address stormwater management.

(b) The state board shall submit a report, including, but not limited to, stormwater and other polluted runoff control information, to the Ocean Protection Council no later than January 1, 2009, on the way in which the state board is implementing the priority goals and objectives of the council's strategic plan.

Credits

(Added by [Stats.2007, c. 610 \(A.B.739\)](#), § 7.)

West's Ann. Cal. Water Code § 13383.8, CA WATER § 13383.8

Current with urgency legislation through Chapter 893 of 2016 Reg.Sess., Ch. 8 of 2015-2016 2nd Ex.Sess., and all propositions on 2016 ballot.

West's Annotated California Codes

Water Code (Refs & Annos)

Division 7. Water Quality (Refs & Annos)

Chapter 5.5. Compliance with the Provisions of the Federal Water Pollution Control Act as Amended in 1972 (Refs & Annos)

West's Ann.Cal.Water Code § 13384

§ 13384. Applications for requirements and permits; notice to public and affected states; hearing

Currentness

The state board or the regional boards shall ensure that the public, and that any other state, the waters of which may be affected by any discharge of pollutants or dredged or fill material to navigable waters within this state, shall receive notice of each application for requirements or report of waste discharge or application for a dredged or fill material permit or report of dredged or fill material discharge and are provided an opportunity for public hearing before adoption of such requirements or permit.

Credits

(Added by Stats.1972, c. 1256, p. 2485, § 1, eff. Dec. 19, 1972. Amended by Stats.1978, c. 746, p. 2344, § 8.)

West's Ann. Cal. Water Code § 13384, CA WATER § 13384

Current with urgency legislation through Chapter 893 of 2016 Reg.Sess., Ch. 8 of 2015-2016 2nd Ex.Sess., and all propositions on 2016 ballot.

West's Annotated California Codes

Water Code (Refs & Annos)

Division 7. Water Quality (Refs & Annos)

Chapter 5.5. Compliance with the Provisions of the Federal Water Pollution Control Act as Amended in 1972 (Refs & Annos)

West's Ann.Cal.Water Code § 13385

§ 13385. Violations; civil liability; applicability; compliance projects; annual report

Effective: January 1, 2012

[Currentness](#)

(a) A person who violates any of the following shall be liable civilly in accordance with this section:

(1) [Section 13375](#) or [13376](#).

(2) A waste discharge requirement or dredged or fill material permit issued pursuant to this chapter or any water quality certification issued pursuant to [Section 13160](#).

(3) A requirement established pursuant to [Section 13383](#).

(4) An order or prohibition issued pursuant to [Section 13243](#) or Article 1 (commencing with [Section 13300](#)) of Chapter 5, if the activity subject to the order or prohibition is subject to regulation under this chapter.

(5) A requirement of Section 301, 302, 306, 307, 308, 318, 401, or 405 of the federal Clean Water Act ([33 U.S.C. Sec. 1311](#), [1312](#), [1316](#), [1317](#), [1318](#), [1341](#), or [1345](#)), as amended.

(6) A requirement imposed in a pretreatment program approved pursuant to waste discharge requirements issued under [Section 13377](#) or approved pursuant to a permit issued by the administrator.

(b)(1) Civil liability may be imposed by the superior court in an amount not to exceed the sum of both of the following:

(A) Twenty-five thousand dollars (\$25,000) for each day in which the violation occurs.

(B) Where there is a discharge, any portion of which is not susceptible to cleanup or is not cleaned up, and the volume discharged but not cleaned up exceeds 1,000 gallons, an additional liability not to exceed twenty-five dollars (\$25) multiplied by the number of gallons by which the volume discharged but not cleaned up exceeds 1,000 gallons.

(2) The Attorney General, upon request of a regional board or the state board, shall petition the superior court to impose the liability.

(c) Civil liability may be imposed administratively by the state board or a regional board pursuant to Article 2.5 (commencing with [Section 13323](#)) of Chapter 5 in an amount not to exceed the sum of both of the following:

(1) Ten thousand dollars (\$10,000) for each day in which the violation occurs.

(2) Where there is a discharge, any portion of which is not susceptible to cleanup or is not cleaned up, and the volume discharged but not cleaned up exceeds 1,000 gallons, an additional liability not to exceed ten dollars (\$10) multiplied by the number of gallons by which the volume discharged but not cleaned up exceeds 1,000 gallons.

(d) For purposes of subdivisions (b) and (c), “discharge” includes any discharge to navigable waters of the United States, any introduction of pollutants into a publicly owned treatment works, or any use or disposal of sewage sludge.

(e) In determining the amount of any liability imposed under this section, the regional board, the state board, or the superior court, as the case may be, shall take into account the nature, circumstances, extent, and gravity of the violation or violations, whether the discharge is susceptible to cleanup or abatement, the degree of toxicity of the discharge, and, with respect to the violator, the ability to pay, the effect on its ability to continue its business, any voluntary cleanup efforts undertaken, any prior history of violations, the degree of culpability, economic benefit or savings, if any, resulting from the violation, and other matters that justice may require. At a minimum, liability shall be assessed at a level that recovers the economic benefits, if any, derived from the acts that constitute the violation.

(f)(1) Except as provided in paragraph (2), for the purposes of this section, a single operational upset that leads to simultaneous violations of more than one pollutant parameter shall be treated as a single violation.

(2)(A) For the purposes of subdivisions (h) and (i), a single operational upset in a wastewater treatment unit that treats wastewater using a biological treatment process shall be treated as a single violation, even if the operational upset results in violations of more than one effluent limitation and the violations continue for a period of more than one day, if all of the following apply:

(i) The discharger demonstrates all of the following:

(I) The upset was not caused by wastewater treatment operator error and was not due to discharger negligence.

(II) But for the operational upset of the biological treatment process, the violations would not have occurred nor would they have continued for more than one day.

(III) The discharger carried out all reasonable and immediately feasible actions to reduce noncompliance with the applicable effluent limitations.

(ii) The discharger is implementing an approved pretreatment program, if so required by federal or state law.

(B) Subparagraph (A) only applies to violations that occur during a period for which the regional board has determined that violations are unavoidable, but in no case may that period exceed 30 days.

(g) Remedies under this section are in addition to, and do not supersede or limit, any other remedies, civil or criminal, except that no liability shall be recoverable under [Section 13261](#), [13265](#), [13268](#), or [13350](#) for violations for which liability is recovered under this section.

(h)(1) Notwithstanding any other provision of this division, and except as provided in subdivisions (j), (k), and (l), a mandatory minimum penalty of three thousand dollars (\$3,000) shall be assessed for each serious violation.

(2) For the purposes of this section, a “serious violation” means any waste discharge that violates the effluent limitations contained in the applicable waste discharge requirements for a Group II pollutant, as specified in Appendix A to [Section 123.45 of Title 40 of the Code of Federal Regulations](#), by 20 percent or more or for a Group I pollutant, as specified in Appendix A to [Section 123.45 of Title 40 of the Code of Federal Regulations](#), by 40 percent or more.

(i)(1) Notwithstanding any other provision of this division, and except as provided in subdivisions (j), (k), and (l), a mandatory minimum penalty of three thousand dollars (\$3,000) shall be assessed for each violation whenever the person does any of the following four or more times in any period of six consecutive months, except that the requirement to assess the mandatory minimum penalty shall not be applicable to the first three violations:

(A) Violates a waste discharge requirement effluent limitation.

(B) Fails to file a report pursuant to [Section 13260](#).

(C) Files an incomplete report pursuant to [Section 13260](#).

(D) Violates a toxicity effluent limitation contained in the applicable waste discharge requirements where the waste discharge requirements do not contain pollutant-specific effluent limitations for toxic pollutants.

(2) For the purposes of this section, a “period of six consecutive months” means the period commencing on the date that one of the violations described in this subdivision occurs and ending 180 days after that date.

(j) Subdivisions (h) and (i) do not apply to any of the following:

(1) A violation caused by one or any combination of the following:

(A) An act of war.

(B) An unanticipated, grave natural disaster or other natural phenomenon of an exceptional, inevitable, and irresistible character, the effects of which could not have been prevented or avoided by the exercise of due care or foresight.

(C) An intentional act of a third party, the effects of which could not have been prevented or avoided by the exercise of due care or foresight.

(D)(i) The operation of a new or reconstructed wastewater treatment unit during a defined period of adjusting or testing, not to exceed 90 days for a wastewater treatment unit that relies on a biological treatment process and not to exceed 30 days for any other wastewater treatment unit, if all of the following requirements are met:

(I) The discharger has submitted to the regional board, at least 30 days in advance of the operation, an operations plan that describes the actions the discharger will take during the period of adjusting and testing, including steps to prevent violations and identifies the shortest reasonable time required for the period of adjusting and testing, not to exceed 90 days for a wastewater treatment unit that relies on a biological treatment process and not to exceed 30 days for any other wastewater treatment unit.

(II) The regional board has not objected in writing to the operations plan.

(III) The discharger demonstrates that the violations resulted from the operation of the new or reconstructed wastewater treatment unit and that the violations could not have reasonably been avoided.

(IV) The discharger demonstrates compliance with the operations plan.

(V) In the case of a reconstructed wastewater treatment unit, the unit relies on a biological treatment process that is required to be out of operation for at least 14 days in order to perform the reconstruction, or the unit is required to be out of operation for at least 14 days and, at the time of the reconstruction, the cost of reconstructing the unit exceeds 50 percent of the cost of replacing the wastewater treatment unit.

(ii) For the purposes of this section, “wastewater treatment unit” means a component of a wastewater treatment plant that performs a designated treatment function.

(2)(A) Except as provided in subparagraph (B), a violation of an effluent limitation where the waste discharge is in compliance with either a cease and desist order issued pursuant to [Section 13301](#) or a time schedule order issued pursuant to [Section 13300](#), if all of the following requirements are met:

(i) The cease and desist order or time schedule order is issued after January 1, 1995, but not later than July 1, 2000, specifies the actions that the discharger is required to take in order to correct the violations that would otherwise be subject to subdivisions (h) and (i), and the date by which compliance is required to be achieved and, if the final date by which compliance is required to be achieved is later than one year from the effective date of the cease and desist order or time schedule order, specifies the interim requirements by which progress towards compliance will be measured and the date by which the discharger will be in compliance with each interim requirement.

(ii) The discharger has prepared and is implementing in a timely and proper manner, or is required by the regional board to prepare and implement, a pollution prevention plan that meets the requirements of [Section 13263.3](#).

(iii) The discharger demonstrates that it has carried out all reasonable and immediately feasible actions to reduce noncompliance with the waste discharge requirements applicable to the waste discharge and the executive officer of the regional board concurs with the demonstration.

(B) Subdivisions (h) and (i) shall become applicable to a waste discharge on the date the waste discharge requirements applicable to the waste discharge are revised and reissued pursuant to [Section 13380](#), unless the regional board does all of the following on or before that date:

(i) Modifies the requirements of the cease and desist order or time schedule order as may be necessary to make it fully consistent with the reissued waste discharge requirements.

(ii) Establishes in the modified cease and desist order or time schedule order a date by which full compliance with the reissued waste discharge requirements shall be achieved. For the purposes of this subdivision, the regional board may not establish this date later than five years from the date the waste discharge requirements were required to be reviewed pursuant to [Section 13380](#). If the reissued waste discharge requirements do not add new effluent limitations or do not include effluent limitations that are more stringent than those in the original waste discharge requirements, the date shall be the same as the final date for compliance in the original cease and desist order or time schedule order or five years from the date that the waste discharge requirements were required to be reviewed pursuant to [Section 13380](#), whichever is earlier.

(iii) Determines that the pollution prevention plan required by clause (ii) of subparagraph (A) is in compliance with the requirements of [Section 13263.3](#) and that the discharger is implementing the pollution prevention plan in a timely and proper manner.

(3) A violation of an effluent limitation where the waste discharge is in compliance with either a cease and desist order issued pursuant to [Section 13301](#) or a time schedule order issued pursuant to [Section 13300](#) or [13308](#), if all of the following requirements are met:

(A) The cease and desist order or time schedule order is issued on or after July 1, 2000, and specifies the actions that the discharger is required to take in order to correct the violations that would otherwise be subject to subdivisions (h) and (i).

(B) The regional board finds that, for one of the following reasons, the discharger is not able to consistently comply with one or more of the effluent limitations established in the waste discharge requirements applicable to the waste discharge:

(i) The effluent limitation is a new, more stringent, or modified regulatory requirement that has become applicable to the waste discharge after the effective date of the waste discharge requirements and after July 1, 2000, new or modified control measures are necessary in order to comply with the effluent limitation, and the new or modified control measures cannot be designed, installed, and put into operation within 30 calendar days.

(ii) New methods for detecting or measuring a pollutant in the waste discharge demonstrate that new or modified control measures are necessary in order to comply with the effluent limitation and the new or modified control measures cannot be designed, installed, and put into operation within 30 calendar days.

(iii) Unanticipated changes in the quality of the municipal or industrial water supply available to the discharger are the cause of unavoidable changes in the composition of the waste discharge, the changes in the composition of the waste discharge are the cause of the inability to comply with the effluent limitation, no alternative water supply is reasonably available to the discharger, and new or modified measures to control the composition of the waste discharge cannot be designed, installed, and put into operation within 30 calendar days.

(iv) The discharger is a publicly owned treatment works located in Orange County that is unable to meet effluent limitations for biological oxygen demand, suspended solids, or both, because the publicly owned treatment works meets all of the following criteria:

(I) Was previously operating under modified secondary treatment requirements pursuant to Section 301(h) of the Clean Water Act (33 U.S.C. Sec. 1311(h)).

(II) Did vote on July 17, 2002, not to apply for a renewal of the modified secondary treatment requirements.

(III) Is in the process of upgrading its treatment facilities to meet the secondary treatment standards required by Section 301(b)(1)(B) of the Clean Water Act (33 U.S.C. Sec. 1311(b)(1)(B)).

(C)(i) The regional board establishes a time schedule for bringing the waste discharge into compliance with the effluent limitation that is as short as possible, taking into account the technological, operational, and economic factors that affect the design, development, and implementation of the control measures that are necessary to comply with the effluent limitation. Except as provided in clause (ii), for the purposes of this subdivision, the time schedule shall not exceed five years in length.

(ii)(I) For purposes of the upgrade described in subclause (III) of clause (iv) of subparagraph (B), the time schedule shall not exceed 10 years in length.

(II) Following a public hearing, and upon a showing that the discharger is making diligent progress toward bringing the waste discharge into compliance with the effluent limitation, the regional board may extend the time schedule for an additional period not exceeding five years in length, if the discharger demonstrates that the additional time is necessary to comply with the effluent limitation. This subclause does not apply to a time schedule described in subclause (I).

(iii) If the time schedule exceeds one year from the effective date of the order, the schedule shall include interim requirements and the dates for their achievement. The interim requirements shall include both of the following:

(I) Effluent limitations for the pollutant or pollutants of concern.

(II) Actions and milestones leading to compliance with the effluent limitation.

(D) The discharger has prepared and is implementing in a timely and proper manner, or is required by the regional board to prepare and implement, a pollution prevention plan pursuant to [Section 13263.3](#).

(k)(1) In lieu of assessing all or a portion of the mandatory minimum penalties pursuant to subdivisions (h) and (i) against a publicly owned treatment works serving a small community, the state board or the regional board may elect to require the publicly owned treatment works to spend an equivalent amount towards the completion of a compliance project proposed by the publicly owned treatment works, if the state board or the regional board finds all of the following:

(A) The compliance project is designed to correct the violations within five years.

(B) The compliance project is in accordance with the enforcement policy of the state board, excluding any provision in the policy that is inconsistent with this section.

(C) The publicly owned treatment works has prepared a financing plan to complete the compliance project.

(2) For the purposes of this subdivision, “a publicly owned treatment works serving a small community” means a publicly owned treatment works serving a population of 10,000 persons or fewer or a rural county, with a financial hardship as determined by the state board after considering such factors as median income of the residents, rate of unemployment, or low population density in the service area of the publicly owned treatment works.

(l)(1) In lieu of assessing penalties pursuant to subdivision (h) or (i), the state board or the regional board, with the concurrence of the discharger, may direct a portion of the penalty amount to be expended on a supplemental environmental project in accordance with the enforcement policy of the state board. If the penalty amount exceeds fifteen thousand dollars (\$15,000), the portion of the penalty amount that may be directed to be expended on a supplemental environmental project may not exceed fifteen thousand dollars (\$15,000) plus 50 percent of the penalty amount that exceeds fifteen thousand dollars (\$15,000).

(2) For the purposes of this section, a “supplemental environmental project” means an environmentally beneficial project that a person agrees to undertake, with the approval of the regional board, that would not be undertaken in the absence of an enforcement action under this section.

(3) This subdivision applies to the imposition of penalties pursuant to subdivision (h) or (i) on or after January 1, 2003, without regard to the date on which the violation occurs.

(m) The Attorney General, upon request of a regional board or the state board, shall petition the appropriate court to collect any liability or penalty imposed pursuant to this section. Any person who fails to pay on a timely basis any liability or penalty imposed under this section shall be required to pay, in addition to that liability or penalty, interest, attorney's fees, costs for collection proceedings, and a quarterly nonpayment penalty for each quarter during which the

failure to pay persists. The nonpayment penalty shall be in an amount equal to 20 percent of the aggregate amount of the person's penalty and nonpayment penalties that are unpaid as of the beginning of the quarter.

(n)(1) Subject to paragraph (2), funds collected pursuant to this section shall be deposited in the State Water Pollution Cleanup and Abatement Account.

(2)(A) Notwithstanding any other provision of law, moneys collected for a violation of a water quality certification in accordance with paragraph (2) of subdivision (a) or for a violation of Section 401 of the federal Clean Water Act ([33 U.S.C. Sec. 1341](#)) in accordance with paragraph (5) of subdivision (a) shall be deposited in the Waste Discharge Permit Fund and separately accounted for in that fund.

(B) The funds described in subparagraph (A) shall be expended by the state board, upon appropriation by the Legislature, to assist regional boards, and other public agencies with authority to clean up waste or abate the effects of the waste, in cleaning up or abating the effects of the waste on waters of the state or for the purposes authorized in [Section 13443](#).

(o) The state board shall continuously report and update information on its Internet Web site, but at a minimum, annually on or before January 1, regarding its enforcement activities. The information shall include all of the following:

(1) A compilation of the number of violations of waste discharge requirements in the previous calendar year, including stormwater enforcement violations.

(2) A record of the formal and informal compliance and enforcement actions taken for each violation, including stormwater enforcement actions.

(3) An analysis of the effectiveness of current enforcement policies, including mandatory minimum penalties.

(p) The amendments made to subdivisions (f), (h), (i), and (j) during the second year of the 2001-02 Regular Session apply only to violations that occur on or after January 1, 2003.

Credits

(Added by [Stats.1987, c. 1189, § 10](#). Amended by [Stats.1999, c. 92 \(A.B.1104\), § 6](#); [Stats.1999, c. 93 \(S.B.709\), § 6](#); [Stats.2000, c. 807 \(S.B.2165\), § 2](#); [Stats.2001, c. 869 \(A.B.1664\), § 7](#); [Stats.2002, c. 995 \(A.B.2351\), § 1](#); [Stats.2002, c. 1019 \(A.B.1969\), § 2](#), eff. Sept. 28, 2002; [Stats.2002, c. 1019 \(A.B.1969\), § 3](#), eff. Sept. 28, 2002, operative Jan. 1, 2003; [Stats.2003, c. 683 \(A.B.897\), § 7](#); [Stats.2004, c. 644 \(A.B.2701\), § 41](#); [Stats.2006, c. 404 \(S.B.1733\), § 3](#); [Stats.2007, c. 130 \(A.B.299\), § 239](#); [Stats.2010, c. 645 \(S.B.1284\), § 1](#); [Stats.2011, c. 296 \(A.B.1023\), § 314](#).)

[Notes of Decisions \(9\)](#)

West's Ann. Cal. Water Code § 13385, CA WATER § 13385

Current with urgency legislation through Chapter 893 of 2016 Reg.Sess., Ch. 8 of 2015-2016 2nd Ex.Sess., and all propositions on 2016 ballot.

End of Document

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West's Annotated California Codes

Water Code (Refs & Annos)

Division 7. Water Quality (Refs & Annos)

Chapter 5.5. Compliance with the Provisions of the Federal Water Pollution Control Act as Amended in 1972 (Refs & Annos)

West's Ann.Cal.Water Code § 13385.1

§ 13385.1. Discharge monitoring reports; serious violation; time to file report and penalties for failure to file; deposit and expenditure of penalty funds; “effluent limitation” defined

Effective: January 1, 2011

[Currentness](#)

(a)(1) For the purposes of [subdivision \(h\) of Section 13385](#), a “serious violation” also means a failure to file a discharge monitoring report required pursuant to [Section 13383](#) for each complete period of 30 days following the deadline for submitting the report, if the report is designed to ensure compliance with limitations contained in waste discharge requirements that contain effluent limitations. This paragraph applies only to violations that occur on or after January 1, 2004.

(2)(A) Notwithstanding paragraph (1), a failure to file a discharge monitoring report is not a serious violation for purposes of [subdivision \(h\) of Section 13385](#) at any time prior to the date a discharge monitoring report is required to be filed or within 30 days after receiving written notice from the state board or a regional board of the need to file a discharge monitoring report, if the discharger submits a written statement to the state board or the regional board that includes both of the following:

(i) A statement that there were no discharges to waters of the United States reportable under the applicable waste discharge requirements during the relevant monitoring period.

(ii) The reason or reasons the required report was not submitted to the regional board by the deadline for filing that report.

(B) Upon the request of the state board or regional board, the discharger may be required to support the statement with additional explanation or evidence.

(C) If, in a statement submitted pursuant to subparagraph (A), the discharger willfully states as true any material fact that he or she knows to be false, that person shall be subject to a civil penalty not exceeding ten thousand dollars (\$10,000). Any public prosecutor may bring an action for a civil penalty under this subparagraph in the name of the people of the State of California, and the penalty imposed shall be enforced as a civil judgment.

(D) Notwithstanding subparagraph (A), the failure to file a discharge monitoring report is subject to penalties in accordance with [subdivisions \(c\) and \(e\) of Section 13385](#).

(b)(1) Notwithstanding paragraph (1) of subdivision (a), a mandatory minimum penalty shall continue to apply and shall be assessed pursuant to [subdivision \(h\) of Section 13385](#), but only for each required report that is not timely filed, and shall not be separately assessed for each 30-day period following the deadline for submitting the report, if both of the following conditions are met:

(A) The discharger did not on any occasion previously receive, from the state board or a regional board, a complaint to impose liability pursuant to [subdivision \(b\) or \(c\) of Section 13385](#) arising from a failure to timely file a discharge monitoring report, a notice of violation for failure to timely file a discharge monitoring report, or a notice of the obligation to file a discharge monitoring report required pursuant to [Section 13383](#), in connection with its corresponding waste discharge requirements.

(B) The discharges during the period or periods covered by the report do not violate effluent limitations, as defined in subdivision (d), contained in waste discharge requirements.

(2) Paragraph (1) shall only apply to a discharger who does both of the following:

(A) Files a discharge monitoring report that had not previously been timely filed within 30 days after the discharger receives written notice, including notice transmitted by electronic mail, from the state board or regional board concerning the failure to timely file the report.

(B) Pays all penalties assessed by the state board or regional board in accordance with paragraph (1) within 30 days after an order is issued to pay these penalties pursuant to [Section 13385](#).

(3) Notwithstanding paragraph (1), the failure to file a discharge monitoring report is subject to penalties in accordance with [subdivisions \(c\) and \(e\) of Section 13385](#).

(4) This subdivision shall become inoperative on January 1, 2014.

(c)(1) Notwithstanding any other provision of law, moneys collected pursuant to this section for a failure to timely file a report, as described in subdivision (a), shall be deposited in the State Water Pollution Cleanup and Abatement Account.

(2) Notwithstanding [Section 13340 of the Government Code](#), the funds described in paragraph (1) are continuously appropriated, without regard to fiscal years, to the state board for expenditure by the state board to assist regional boards, and other public agencies with authority to clean up waste or abate the effects of the waste, in responding to significant water pollution problems.

(d) For the purposes of this section, [paragraph \(2\) of subdivision \(f\) of Section 13385](#), and [subdivisions \(h\), \(i\), and \(j\) of Section 13385](#) only, “effluent limitation” means a numeric restriction or a numerically expressed narrative restriction, on the quantity, discharge rate, concentration, or toxicity units of a pollutant or pollutants that may be discharged from an authorized location. An effluent limitation may be final or interim, and may be expressed as a prohibition. An

effluent limitation, for those purposes, does not include a receiving water limitation, a compliance schedule, or a best management practice.

(e) The amendments made to this section by Senate Bill 1284 of the 2009-10 Regular Session of the Legislature shall apply to violations for which an administrative civil liability complaint or a judicial complaint has not been filed before July 1, 2010, without regard to the date on which the violations occurred.

Credits

(Added by Stats.2003, c. 609 (A.B.1541), § 1. Amended by Stats.2005, c. 145 (A.B.495), § 1; Stats.2006, c. 538 (S.B.1852), § 677; Stats.2008, c. 760 (A.B.1338), § 23, eff. Sept. 30, 2008; Stats.2010, c. 645 (S.B.1284), § 2.)

Editors' Notes

APPLICATION

<For application of the amendment by Stats.2010, c. 645 (S.B.1284), see the terms of this section.>

West's Ann. Cal. Water Code § 13385.1, CA WATER § 13385.1

Current with urgency legislation through Chapter 893 of 2016 Reg.Sess., Ch. 8 of 2015-2016 2nd Ex.Sess., and all propositions on 2016 ballot.

West's Annotated California Codes

Water Code (Refs & Annos)

Division 7. Water Quality (Refs & Annos)

Chapter 5.5. Compliance with the Provisions of the Federal Water Pollution Control Act as Amended in 1972 (Refs & Annos)

West's Ann.Cal.Water Code § 13385.2

§ 13385.2. Publicly owned treatment works (POTW) to demonstrate that financing plan is designed to generate sufficient funding to complete compliance program

Effective: September 29, 2006

[Currentness](#)

(a) Prior to the state board or regional board making its findings pursuant to [subdivision \(k\) of Section 13385](#), the publicly owned treatment works shall demonstrate to the satisfaction of the state board or regional board that the financing plan prepared pursuant to subparagraph (C) of paragraph (1) of subdivision (k) of that section is designed to generate sufficient funding to complete the compliance project within the time period specified pursuant to subparagraph (A) of paragraph (1) of subdivision (k) of that section.

(b) This section shall only become operative if Senate Bill 1733¹ of the 2005-06 Regular Session is enacted and becomes operative.

Credits

(Added by [Stats.2006, c. 725 \(A.B.1752\)](#), § 1, eff. Sept. 29, 2006.)

Editors' Notes

OPERATIVE EFFECT

<For operative effect of this section, see its terms.>

Footnotes

¹ [Stats.2006, c. 404 \(S.B.1733\)](#).

West's Ann. Cal. Water Code § 13385.2, CA WATER § 13385.2

Current with urgency legislation through Chapter 893 of 2016 Reg.Sess., Ch. 8 of 2015-2016 2nd Ex.Sess., and all propositions on 2016 ballot.

West's Annotated California Codes

Water Code (Refs & Annos)

Division 7. Water Quality (Refs & Annos)

Chapter 5.5. Compliance with the Provisions of the Federal Water Pollution Control Act as Amended in 1972 (Refs & Annos)

West's Ann.Cal.Water Code § 13385.3

§ 13385.3. Operative effect

Effective: September 29, 2006

[Currentness](#)

(a) The amendments made to [subdivision \(k\) of Section 13385 of the Water Code](#) by Senate Bill 1733¹ of the 2005-06 Regular Session shall become operative on July 1, 2007.

(b) This section shall only become operative if Senate Bill 1733 of the 2005-06 Regular Session is enacted and becomes operative.

Credits

(Added by [Stats.2006, c. 725 \(A.B.1752\)](#), § 2, eff. Sept. 29, 2006.)

Footnotes

¹ [Stats.2006, c. 404 \(S.B.1733\)](#).

West's Ann. Cal. Water Code § 13385.3, CA WATER § 13385.3

Current with urgency legislation through Chapter 893 of 2016 Reg.Sess., Ch. 8 of 2015-2016 2nd Ex.Sess., and all propositions on 2016 ballot.

West's Annotated California Codes

Water Code (Refs & Annos)

Division 7. Water Quality (Refs & Annos)

Chapter 5.5. Compliance with the Provisions of the Federal Water Pollution Control Act as Amended in 1972 (Refs & Annos)

West's Ann.Cal.Water Code § 13386

§ 13386. Threatened or continuing violations or failure of discharger to comply with cost or charge; injunctions

[Currentness](#)

Upon any threatened or continuing violation of any of the requirements listed in [paragraphs \(1\) to \(6\), inclusive, of subdivision \(a\) of Section 13385](#), or upon the failure of any discharger into a public treatment system to comply with any cost or charge adopted by any public agency under Section 204(b) of the Federal Water Pollution Control Act, as amended,¹ the Attorney General, upon the request of the state board or regional board shall petition the appropriate court for the issuance of a preliminary or permanent injunction, or both, as appropriate, restraining that person or persons from committing or continuing the violation. Subdivision (b) of [Section 13331](#) shall be applicable to proceedings under this section.

Credits

(Added by [Stats.1987, c. 1189, § 12](#). Amended by [Stats.1996, c. 659 \(A.B.3036\), § 27](#).)

Footnotes

¹ [33 U.S.C.A. § 1284\(b\)](#).

West's Ann. Cal. Water Code § 13386, CA WATER § 13386

Current with urgency legislation through Chapter 893 of 2016 Reg.Sess., Ch. 8 of 2015-2016 2nd Ex.Sess., and all propositions on 2016 ballot.

West's Annotated California Codes

Water Code (Refs & Annos)

Division 7. Water Quality (Refs & Annos)

Chapter 5.5. Compliance with the Provisions of the Federal Water Pollution Control Act as Amended in 1972 (Refs & Annos)

West's Ann.Cal.Water Code § 13387

§ 13387. Violations; criminal penalties

Effective: October 1, 2011

[Currentness](#)

(a) Any person who knowingly or negligently does any of the following is subject to criminal penalties as provided in subdivisions (b), (c), and (d):

(1) Violates [Section 13375](#) or [13376](#).

(2) Violates any waste discharge requirements or dredged or fill material permit issued pursuant to this chapter or any water quality certification issued pursuant to [Section 13160](#).

(3) Violates any order or prohibition issued pursuant to [Section 13243](#) or [13301](#), if the activity subject to the order or prohibition is subject to regulation under this chapter.

(4) Violates any requirement of Section 301, 302, 306, 307, 308, 318, 401, or 405 of the Clean Water Act ([33 U.S.C. Sec. 1311](#), [1312](#), [1316](#), [1317](#), [1318](#), [1328](#), [1341](#), or [1345](#)), as amended.

(5) Introduces into a sewer system or into a publicly owned treatment works any pollutant or hazardous substances that the person knew or reasonably should have known could cause personal injury or property damage.

(6) Introduces any pollutant or hazardous substance into a sewer system or into a publicly owned treatment works, except in accordance with any applicable pretreatment requirements, which causes the treatment works to violate waste discharge requirements.

(b) Any person who negligently commits any of the violations set forth in subdivision (a) shall, upon conviction, be punished by a fine of not less than five thousand dollars (\$5,000), nor more than twenty-five thousand dollars (\$25,000), for each day in which the violation occurs, by imprisonment for not more than one year in a county jail, or by both that fine and imprisonment. If a conviction of a person is for a violation committed after a first conviction of the person under this subdivision, subdivision (c), or subdivision (d), punishment shall be by a fine of not more than fifty thousand dollars (\$50,000) for each day in which the violation occurs, by imprisonment pursuant to [subdivision \(h\) of Section 1170 of the Penal Code](#) for 16, 20, or 24 months, or by both that fine and imprisonment.

(c) Any person who knowingly commits any of the violations set forth in subdivision (a) shall, upon conviction, be punished by a fine of not less than five thousand dollars (\$5,000), nor more than fifty thousand dollars (\$50,000), for each day in which the violation occurs, by imprisonment pursuant to [subdivision \(h\) of Section 1170 of the Penal Code](#), or by both that fine and imprisonment. If a conviction of a person is for a violation committed after a first conviction of the person under this subdivision or subdivision (d), punishment shall be by a fine of not more than one hundred thousand dollars (\$100,000) for each day in which the violation occurs, by imprisonment pursuant to [subdivision \(h\) of Section 1170 of the Penal Code](#) for two, four, or six years, or by both that fine and imprisonment.

(d)(1) Any person who knowingly commits any of the violations set forth in subdivision (a), and who knows at the time that the person thereby places another person in imminent danger of death or serious bodily injury, shall, upon conviction, be punished by a fine of not more than two hundred fifty thousand dollars (\$250,000), imprisonment pursuant to [subdivision \(h\) of Section 1170 of the Penal Code](#) for 5, 10, or 15 years, or by both that fine and imprisonment. A person that is an organization shall, upon conviction under this subdivision, be subject to a fine of not more than one million dollars (\$1,000,000). If a conviction of a person is for a violation committed after a first conviction of the person under this subdivision, the punishment shall be by a fine of not more than five hundred thousand dollars (\$500,000), by imprisonment pursuant to [subdivision \(h\) of Section 1170 of the Penal Code](#) for 10, 20, or 30 years, or by both that fine and imprisonment. A person that is an organization shall, upon conviction for a violation committed after a first conviction of the person under this subdivision, be subject to a fine of not more than two million dollars (\$2,000,000). Any fines imposed pursuant to this subdivision shall be in addition to any fines imposed pursuant to subdivision (c).

(2) In determining whether a defendant who is an individual knew that the defendant's conduct placed another person in imminent danger of death or serious bodily injury, the defendant is responsible only for actual awareness or actual belief that the defendant possessed, and knowledge possessed by a person other than the defendant, but not by the defendant personally, cannot be attributed to the defendant.

(e) Any person who knowingly makes any false statement, representation, or certification in any record, report, plan, notice to comply, or other document filed with a regional board or the state board, or who knowingly falsifies, tampers with, or renders inaccurate any monitoring device or method required under this division shall be punished by a fine of not more than twenty-five thousand dollars (\$25,000), by imprisonment pursuant to [subdivision \(h\) of Section 1170 of the Penal Code](#) for 16, 20, or 24 months, or by both that fine and imprisonment. If a conviction of a person is for a violation committed after a first conviction of the person under this subdivision, punishment shall be by a fine of not more than twenty-five thousand dollars (\$25,000) per day of violation, by imprisonment pursuant to [subdivision \(h\) of Section 1170 of the Penal Code](#) for two, three, or four years, or by both that fine and imprisonment.

(f) For purposes of this section, a single operational upset which leads to simultaneous violations of more than one pollutant parameter shall be treated as a single violation.

(g) For purposes of this section, "organization," "serious bodily injury," "person," and "hazardous substance" shall have the same meaning as in Section 309(c) of the Clean Water Act ([33 U.S.C. Sec. 1319\(c\)](#)), as amended.

(h)(1) Subject to paragraph (2), funds collected pursuant to this section shall be deposited in the State Water Pollution Cleanup and Abatement Account.

(2)(A) Notwithstanding any other provision of law, fines collected for a violation of a water quality certification in accordance with paragraph (2) of subdivision (a) or for a violation of Section 401 of the Clean Water Act (33 U.S.C. Sec. 1341) in accordance with paragraph (4) of subdivision (a) shall be deposited in the Water Discharge Permit Fund and separately accounted for in that fund.

(B) The funds described in subparagraph (A) shall be expended by the state board, upon appropriation by the Legislature, to assist regional boards, and other public agencies with authority to clean up waste or abate the effects of the waste, in cleaning up or abating the effects of the waste on waters of the state, or for the purposes authorized in Section 13443.

Credits

(Added by Stats.1987, c. 1189, § 14. Amended by Stats.1996, c. 775 (A.B.2937), § 5; Stats.2001, c. 869 (A.B.1664), § 8; Stats.2003, c. 683 (A.B.897), § 8; Stats.2004, c. 183 (A.B.3082), § 362; Stats.2005, c. 22 (S.B.1108), § 211; Stats.2006, c. 347 (A.B.2367), § 23; Stats.2011, c. 15 (A.B.109), § 616, eff. April 4, 2011, operative Oct. 1, 2011.)

Notes of Decisions (20)

West's Ann. Cal. Water Code § 13387, CA WATER § 13387

Current with urgency legislation through Chapter 893 of 2016 Reg.Sess., Ch. 8 of 2015-2016 2nd Ex.Sess., and all propositions on 2016 ballot.

West's Annotated California Codes

Water Code (Refs & Annos)

Division 7. Water Quality (Refs & Annos)

Chapter 5.5. Compliance with the Provisions of the Federal Water Pollution Control Act as Amended in 1972 (Refs & Annos)

West's Ann.Cal.Water Code § 13388

§ 13388. Board members; disqualification if income from person subject to requirements

Effective: June 27, 2012

[Currentness](#)

(a) Notwithstanding any other provision of this division or [Section 175](#), and except as provided in subdivision (b), a person shall not be a member of the state board or a regional board if that person receives, or has received during the previous two years, a significant portion of his or her income directly or indirectly from any person subject to waste discharge requirements or applicants for waste discharge requirements pursuant to this chapter.

(b)(1) A person shall not be disqualified from being a member of a regional board because that person receives, or has received during the previous two years, a significant portion of his or her income directly or indirectly from a person subject to waste discharge requirements, or an applicant for waste discharge requirements, that are issued pursuant to this chapter by the state board or regional board other than the regional board of which that person is a member.

(2) Paragraph (1) shall be implemented only if the United States Environmental Protection Agency either determines that no program approval is necessary for that implementation, or approves of a change in California's National Pollutant Discharge Elimination System program, to allow the state to administer the National Pollutant Discharge Elimination System permit program consistent with paragraph (1).

Credits

(Added by Stats.1972, c. 1256, p. 2485, § 1, eff. Dec. 19, 1972, operative March 1, 1973. Amended by [Stats.2012, c. 39 \(S.B.1018\)](#), § 121, eff. June 27, 2012.)

[Notes of Decisions \(1\)](#)

West's Ann. Cal. Water Code § 13388, CA WATER § 13388

Current with urgency legislation through Chapter 893 of 2016 Reg.Sess., Ch. 8 of 2015-2016 2nd Ex.Sess., and all propositions on 2016 ballot.

West's Annotated California Codes

Water Code (Refs & Annos)

Division 7. Water Quality (Refs & Annos)

Chapter 5.5. Compliance with the Provisions of the Federal Water Pollution Control Act as Amended in 1972 (Refs & Annos)

West's Ann.Cal.Water Code § 13389

§ 13389. Applicability of environmental impact reports

[Currentness](#)

Neither the state board nor the regional boards shall be required to comply with the provisions of Chapter 3 (commencing with [Section 21100](#)) of Division 13 of the Public Resources Code prior to the adoption of any waste discharge requirement, except requirements for new sources as defined in the Federal Water Pollution Control Act or acts amendatory thereof or supplementary thereto.

Credits

(Added by Stats.1972, c. 1256, p. 2485, § 1, eff. Dec. 19, 1972.)

[Notes of Decisions \(3\)](#)

West's Ann. Cal. Water Code § 13389, CA WATER § 13389

Current with urgency legislation through Chapter 893 of 2016 Reg.Sess., Ch. 8 of 2015-2016 2nd Ex.Sess., and all propositions on 2016 ballot.

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ATTACHMENT 14

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WESTLAW California Code of Regulations[Home](#) [Table of Contents](#)**§ 2235.2. Compliance with Regulations of the U.S. Environmental Protection Agency.**

23 CA ADC § 2235.2

BARCLAYS OFFICIAL CALIFORNIA CODE OF REGULATIONS

Barclays Official California Code of Regulations [Currentness](#)

Title 23. Waters

Division 3. State Water Resources Control Board and Regional Water Quality Control Boards

Chapter 9. Waste Discharge Reports and Requirements

Article 3. Waste Discharges from Point Sources to Navigable Waters

23 CCR § 2235.2

§ 2235.2. Compliance with Regulations of the U.S. Environmental Protection Agency.

Waste discharge requirements for discharge from point sources to navigable waters shall be issued and administered in accordance with the currently applicable federal regulations for the National Pollutant Discharge Elimination System (NPDES) program.

Note: Authority cited: Section 1058, Water Code. Reference: Chapter 5.5 (commencing with Section 13370) of Division 7, Water Code.

This database is current through 9/23/16 Register 2016, No. 39

23 CCR § 2235.2, 23 CA ADC § 2235.2

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ATTACHMENT 15

THOMSON REUTERS

WESTLAW California Code of Regulations[Home](#) [Table of Contents](#)**§ 2235.3. Additional Requirements.**

23 CA ADC § 2235.3

BARCLAYS OFFICIAL CALIFORNIA CODE OF REGULATIONS

Barclays Official California Code of Regulations [Currentness](#)

Title 23. Waters

Division 3. State Water Resources Control Board and Regional Water Quality Control Boards

Chapter 9. Waste Discharge Reports and Requirements

Article 3. Waste Discharges from Point Sources to Navigable Waters

23 CCR § 2235.3

§ 2235.3. Additional Requirements.

In addition to the federal regulations, waste discharge requirements prescribed for discharges to navigable water shall be in compliance with applicable state regulations, including, when appropriate, the requirements of Sections 2230(c), 2232 and 2233.

Note: Authority cited: Sections 185 and 1058, Water Code. Reference: Section 13263, Water Code.

HISTORY

1. Amendment filed 4-16-82; effective upon filing pursuant to Government Code Section 11346.2(d) (Register 82, No. 16).

This database is current through 9/23/16 Register 2016, No. 39

23 CCR § 2235.3, 23 CA ADC § 2235.3

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ATTACHMENT 16



KeyCite Yellow Flag - Negative Treatment

Declined to Follow by [Mrosek v. City of Peachtree City](#), N.D.Ga.,
December 22, 2014

344 F.3d 832

United States Court of Appeals,
Ninth Circuit.

ENVIRONMENTAL DEFENSE

CENTER, INC., Petitioner,

Natural Resources **Defense**

Council, Inc., Petitioner–Intervenor,

v.

UNITED STATES **ENVIRONMENTAL**

PROTECTION AGENCY, Respondent.

American Forest & Paper Association; National
Association of Home Builders, Petitioners,

v.

United States **Environmental**

Protection Agency, Respondent,

Natural Resources **Defense**

Council, Inc., Applicant–Intervenor.

Texas Cities Coalition on Stormwater; Texas
Counties Storm Water Coalition, Petitioners,

v.

United States **Environmental**

Protection Agency, Respondent,

Natural Resources **Defense Council**,

Inc., Respondent–Intervenor.

Nos. 00–70014, 00–70734, 00–70822.

Argued and Submitted Dec. 3, 2001.

Filed Sept. 15, 2003.

Environmental, municipal, and industry groups brought petitions for review of **Environmental** Protection Agency (**EPA**) rule mandating that discharges from small municipal storm sewers and construction sites be subject to National Pollutant Discharge Elimination System (NPDES) permitting requirements. On denial of rehearing, the Court of Appeals, [James R. Browning](#), Circuit Judge, held that: (1) **EPA** had authority to impose rule; (2) rule did not violate the Tenth Amendment; (3) rule improperly failed to provide for review of notices of intent and public participation in NPDES permitting process; (4) **EPA's** failure to designate industrial sources

of storm water pollution for permitting requirements was not arbitrary and capricious; (5) challenge to rule's exclusion of forest roads was not time-barred; (6) forestry trade association lacked standing to challenge rule; (7) **EPA** properly consulted with state and local officials; (8) sites subject to rule were properly designated; and (9) **EPA** properly retained authority to designate future sources of storm water pollution for regulation.

Petitions for review granted in part and denied in part.

[Tallman](#), Circuit Judge, filed opinion concurring in part and dissenting in part, and would have granted petition for rehearing.

Opinion, [319 F.3d 398](#), vacated.

West Headnotes (33)

[1] **Environmental Law**

➔ Sewage and sewers

Environmental Law

➔ Discharge of pollutants

Storm sewers are established “point sources” subject to National Pollutant Discharge Elimination System (NPDES) permitting requirements under Clean Water Act (CWA). Federal Water Pollution Control Act Amendments of 1972, § 101 et seq., [33 U.S.C.A. § 1251 et seq.](#)

[3 Cases that cite this headnote](#)

[2] **Environmental Law**

➔ Substances, Sources, and Activities
Regulated

Diffuse runoff, such as rainwater that is not channeled through point source, is considered “nonpoint source” pollution and is not subject to federal regulation under Clean Water Act (CWA). Federal Water Pollution Control Act Amendments of 1972, § 101 et seq., [33 U.S.C.A. § 1251 et seq.](#)

[3 Cases that cite this headnote](#)

[3] Constitutional Law

🔑 Resolution of non-constitutional questions before constitutional questions

Court of Appeals avoids considering constitutionality of a rule if an issue may be resolved on narrower grounds.

[5 Cases that cite this headnote](#)

[4] Environmental Law

🔑 Discharge of pollutants

Environmental Protection Agency (**EPA**) interpretation of rule promulgated under Clean Water Act (CWA), whereby **EPA** would require that discharges from small municipal storm sewers and construction sites be subject to National Pollutant Discharge Elimination System (NPDES) permitting requirements, was reasonable, and thus **EPA** acted within its statutory mandate in formulating permit program under rule; even though permitting was not included on statutory list of elements for **EPA's** comprehensive program to regulate small sewer systems, list was non-exclusive, and statutory language requiring imposition of permits for "municipal storm sewers" was reasonably interpreted to extend to small systems. Federal Water Pollution Control Act Amendments of 1972, § 402(p)(6), 33 U.S.C.A. § 1342(p)(6).

[9 Cases that cite this headnote](#)

[5] Environmental Law

🔑 Conditions and limitations

Minimum measures set forth by rule as conditions for issuance of stormwater discharge permit to operator of small municipal storm sewers did not exceed authority of **Environmental** Protection Agency (**EPA**) under Clean Water Act (CWA), as statute's list of elements for regulatory program was nonexclusive, and rule included at least one alternative to minimum measures. Federal Water Pollution Control Act Amendments of 1972, § 402(p)(6), 33

U.S.C.A. § 1342(p)(6); 40 C.F.R. §§ 122.26(d), 122.26, 122.33(b)(1), 122.34(b), (d)(1)(i).

[4 Cases that cite this headnote](#)

[6] States

🔑 Surrender of state sovereignty and coercion of state

Under the Tenth Amendment, the Federal Government may not compel States to implement, by legislation or executive action, federal regulatory programs. U.S.C.A. Const.Amend. 10.

[Cases that cite this headnote](#)

[7] States

🔑 Surrender of state sovereignty and coercion of state

Under the Tenth Amendment, the federal government may not force the States to regulate third parties in furtherance of a federal program. U.S.C.A. Const.Amend. 10.

[Cases that cite this headnote](#)

[8] States

🔑 Powers of United States and Infringement on State Powers

Protections of Tenth Amendment, whereby federal government may not compel States to implement federal regulatory programs by legislation or executive action, nor force the States to regulate third parties in furtherance of a federal program, extend to municipalities. U.S.C.A. Const.Amend. 10.

[Cases that cite this headnote](#)

[9] United States

🔑 State and local governments and agencies

While federal government may not compel them to do so, it may encourage States and municipalities to implement federal regulatory programs; for example, the federal government may make certain federal funds available only to those States or municipalities

that enact a given regulatory regime. [U.S.C.A. Const.Amend. 10](#).

[Cases that cite this headnote](#)

[10] States

🔑 Surrender of state sovereignty and coercion of state

The crucial proscribed element under the Tenth Amendment, as to federal government's ability to have states implement federal programs, is coercion; the residents of the State or municipality must retain the ultimate decision as to whether or not the State or municipality will comply with the federal regulatory program, but as long as the alternative to implementing a federal regulatory program does not offend the Constitution's guarantees of federalism, the fact that the alternative is difficult, expensive, or otherwise unappealing is insufficient to establish a Tenth Amendment violation. [U.S.C.A. Const.Amend. 10](#).

[1 Cases that cite this headnote](#)

[11] Environmental Law

🔑 Validity

States

🔑 Surrender of state sovereignty and coercion of state

Environmental Protection Agency (**EPA**) rule promulgated under Clean Water Act (CWA), whereby discharges from small municipal storm sewers and construction sites were subject to National Pollutant Discharge Elimination System (NPDES) permitting requirements, did not wrongfully compel municipalities to regulate third parties under federal law as condition of receiving permit to operate, as would contravene Tenth Amendment; although one means of obtaining permit would require municipality to adopt various enforcement procedures, permit applicants retained option of applying for Alternative Permit. [U.S.C.A. Const.Amend. 10](#); Federal Water Pollution Control Act Amendments of 1972, § 101 et

seq., [33 U.S.C.A. § 1251 et seq.](#); [40 C.F.R. §§ 122.26\(d\), 122.34](#).

[Cases that cite this headnote](#)

[12] Constitutional Law

🔑 Political speech, beliefs, or activity in general

Environmental Law

🔑 Discharge of pollutants

Environmental Protection Agency (**EPA**) adoption of "Public Education" and "Illicit Discharge" Minimum Measures within rules governing discharges from small municipal storm sewers and construction sites, whereby such discharges would be subject to National Pollutant Discharge Elimination System (NPDES) permitting requirements under Clean Water Act (CWA), did not wrongfully compel municipalities to deliver **EPA's** political messages, and thus did not violate municipalities' free speech rights under First Amendment; requiring providers of storm sewers that discharged into national waters to educate public about impacts of storm water discharge, and to inform affected parties, including public, about hazards of improper waste disposal fell short of compelling political speech, since they did not dictate specific ideological message. [U.S.C.A. Const.Amend. 1](#); Federal Water Pollution Control Act Amendments of 1972, § 101 et seq., [33 U.S.C.A. § 1251 et seq.](#)

[10 Cases that cite this headnote](#)

[13] Administrative Law and Procedure

🔑 Notice and comment, sufficiency

In determining whether notice to interested parties was adequate under informal rulemaking strictures of Administrative Procedure Act (APA) when final regulation has varied from proposal, court must consider whether new round of notice and comment would have provided first opportunity for interested parties to offer comments that could have persuaded agency to modify its ruling. [5 U.S.C.A. § 553](#).

3 Cases that cite this headnote

[14] **Environmental Law**

🔑 Notice and comment

Environmental Protection Agency (**EPA**) adoption of Alternative Permit option within rules governing discharges from small municipal storm sewers and construction sites, whereby such discharges would be subject to National Pollutant Discharge Elimination System (NPDES) permitting requirements under Clean Water Act (CWA), properly complied with minimum notice and comment procedures required in informal rulemaking under Administrative Procedure Act (APA), since Alternative Permit option was logical outgrowth of comments received by **EPA** in response to proposed rule, and option contained no elements that were not part of proposed rule, even though it was configured differently. 5 U.S.C.A. § 553; Federal Water Pollution Control Act Amendments of 1972, § 101 et seq., 33 U.S.C.A. § 1251 et seq.

2 Cases that cite this headnote

[15] **Environmental Law**

🔑 Ripeness

Challenge to **Environmental** Protection Agency (**EPA**) rule allowing operators of small municipal storm sewers to pursue general permit option to meet National Pollutant Discharge Elimination System (NPDES) requirements under Clean Water Act (CWA) was ripe for review, as issue did not involve merits of any specific permit but was purely one of statutory interpretation that would not benefit from further factual development; issue specifically was whether **EPA** accomplished the substantive controls for municipal stormwater that Congress mandated in the CWA. Federal Water Pollution Control Act Amendments of 1972, § 402(p), 33 U.S.C.A. § 1342(p).

11 Cases that cite this headnote

[16] **Environmental Law**

🔑 Discharge of pollutants

General permitting scheme of **Environmental** Protection Agency (**EPA**) rules governing discharges from small municipal storm sewers and construction sites, whereby such discharges would be subject to National Pollutant Discharge Elimination System (NPDES) requirements under Clean Water Act (CWA), improperly allowed sewer system operators to design storm water pollution control programs without adequate regulatory and public oversight, and thus contravened CWA, since permitting scheme did not require **EPA** to review content of dischargers' notices of intent, and did not contain express requirements for public participation in NPDES permitting process. Federal Water Pollution Control Act Amendments of 1972, § 402(p)(3), 33 U.S.C.A. § 1342(p)(3); 40 C.F.R. § 122.34.

6 Cases that cite this headnote

[17] **Administrative Law and Procedure**

🔑 Administrative construction

Administrative Law and Procedure

🔑 Theory and grounds of administrative decision

Court of Appeals normally defers to an agency's interpretations of its own regulations, but it may decline to defer to the post hoc rationalizations of appellate counsel.

7 Cases that cite this headnote

[18] **Environmental Law**

🔑 Discharge of pollutants

Failure of **Environmental** Protection Agency (**EPA**) to designate industrial sources of storm water pollution for discharge permit program, whereby such discharges would become subject to National Pollutant Discharge Elimination System (NPDES) requirements, was not arbitrary and capricious, and thus did not violate Clean Water Act (CWA); rather than designating industrial discharge

sources on nationwide basis under NPDES program, **EPA** sought to establish local and regional designation authority for such sources. Federal Water Pollution Control Act Amendments of 1972, § 101 et seq., as amended, 33 U.S.C.A. § 1251 et seq.

[8 Cases that cite this headnote](#)

[19] **Environmental Law**

🔑 **Accrual, computation, and tolling**

Petitioners' challenge to failure of **Environmental** Protection Agency (**EPA**) to regulate stormwater drainage from forest roads did not have to be raised either when **EPA** initially promulgated silviculture regulations excluding certain silvicultural activities from National Pollutant Discharge Elimination System (NPDES) permitting requirements, or when **EPA** considered amending such regulations but chose not to do so, and challenge was thus not time-barred, to extent that present challenge was made to **EPA's** decision not to address forest roads under later-enacted portion of Clean Water Act (CWA) directed to municipal and industrial stormwater discharges. Federal Water Pollution Control Act Amendments of 1972, §§ 402(p), 509(b)(1), 33 U.S.C.A. §§ 11342(p), 1369(b)(1); 40 C.F.R. § 122.27(b)(1).

[11 Cases that cite this headnote](#)

[20] **Environmental Law**

🔑 **Water pollution**

Petitioners' comments during rulemaking process in connection with **Environmental** Protection Agency (**EPA**) rule governing municipal and industrial stormwater discharges pursuant to Clean Water Act (CWA) were not so inadequate as to preclude appellate court jurisdiction to hear petitioners' subsequent challenge to rule's failure to address stormwater drainage from forest roads; comments comprised two paragraphs, with footnotes, stating objections and providing support, **EPA** was aware of forest road sedimentation problem at

time of rulemaking, and **EPA** responded to comments without disputing that problem was serious. Federal Water Pollution Control Act Amendments of 1972, § 402(p), 33 U.S.C.A. § 1342(p).

[2 Cases that cite this headnote](#)

[21] **Environmental Law**

🔑 **Organizations, associations, and other groups**

Forestry and paper association lacked sufficient standing to challenge **Environmental** Protection Agency (**EPA**) rule mandating that discharges from small municipal storm sewers and construction sites be subject to National Pollutant Discharge Elimination System (NPDES) permitting requirements under Clean Water Act (CWA), since association's interest in avoiding future regulation of forest roads was not actually or imminently affected by rule at issue. Federal Water Pollution Control Act Amendments of 1972, § 101 et seq., 33 U.S.C.A. § 1251 et seq.

[6 Cases that cite this headnote](#)

[22] **Environmental Law**

🔑 **Permit and certification proceedings**

Environmental Protection Agency (**EPA**), in promulgating rule mandating that discharges from small municipal storm sewers and construction sites be subject to National Pollutant Discharge Elimination System (NPDES) permitting requirements, properly consulted with state and local officials, and thus did not violate Clean Water Act (CWA); draft of first report pertaining to proposed rule was circulated to states and municipalities, **EPA** regional offices, professional associations and other stakeholders, and rule was revised based upon comments received. Federal Water Pollution Control Act Amendments of 1972, § 402(p), 33 U.S.C.A. § 1342(p).

[2 Cases that cite this headnote](#)

[23] Environmental Law

🔑 Organizations, associations, and other groups

Environmental Law

🔑 Government entities, agencies, and officials

Home builders' association and municipalities possessed sufficient standing to challenge designation by **Environmental Protection Agency (EPA)** of municipal storm sewers and construction sites for regulation under Clean Water Act (CWA), whereby National Pollutant Discharge Elimination System (NPDES) permits would be required for discharges by such entities, since association and municipalities were able to allege procedural harm from purported lack of notice or from effects of regulation itself. Federal Water Pollution Control Act Amendments of 1972, § 101 et seq., [33 U.S.C.A. § 1251 et seq.](#)

[Cases that cite this headnote](#)

[24] Environmental Law

🔑 Discharge of pollutants

Designation by **Environmental Protection Agency (EPA)** of municipal storm sewers to be subject to National Pollutant Discharge Elimination System (NPDES) permitting requirements, according to areas defined by Census Bureau as “urbanized,” was not arbitrary and capricious, as would violate Clean Water Act (CWA), since **EPA** articulated reasoned basis for its conclusion that Census Bureau's designation was correlated to actual levels of pollution runoff in storm water; record evidence demonstrated compelling and widespread relationship between urban storm water runoff and deleterious impacts on water quality. Federal Water Pollution Control Act Amendments of 1972, § 402(p), [33 U.S.C.A. § 1342\(p\)](#).

[5 Cases that cite this headnote](#)

[25] Environmental Law

🔑 Discharge of pollutants

Decision by **Environmental Protection Agency (EPA)** to subject construction sites disturbing between one and five acres of land to National Pollutant Discharge Elimination System (NPDES) permitting requirements was not arbitrary and capricious, as would violate Clean Water Act (CWA); record evidence included numerous studies of sedimentation from construction sites, which **EPA** specifically reviewed in promulgating challenged regulation, and **EPA's** extrapolation of data from studies involving larger sites had reasonable basis. Federal Water Pollution Control Act Amendments of 1972, § 402(p), [33 U.S.C.A. § 1342\(p\)](#).

[10 Cases that cite this headnote](#)

[26] Environmental Law

🔑 Discharge of pollutants

Allowance by **Environmental Protection Agency (EPA)** of regulatory waivers for small construction sites not likely to cause adverse water quality impacts, as would exempt such sites from National Pollutant Discharge Elimination System (NPDES) permit requirements, was not arbitrary and capricious, as would violate Clean Water Act (CWA); **EPA's** waiver approach promoted fairness and efficiency in permitting process, and did not create presumption applicable to evidentiary hearing. Federal Water Pollution Control Act Amendments of 1972, § 101 et seq., [33 U.S.C.A. § 1251 et seq.](#)

[Cases that cite this headnote](#)

[27] Environmental Law

🔑 Discharge of pollutants

Decision by **Environmental Protection Agency (EPA)** to subject small construction sites to National Pollutant Discharge Elimination System (NPDES) permitting requirements was consistent with its decisions to exempt other potential storm water runoff sources from such requirements, notwithstanding

alleged lack of quantifiable data regarding runoff, and thus was not arbitrary and capricious, as would violate Clean Water Act (CWA); record evidence demonstrated that construction sites of all sizes had greater erosion rates than almost any other land use, and thus were not similarly situated to potential polluters that EPA chose not to regulate. Federal Water Pollution Control Act Amendments of 1972, § 101 et seq., 33 U.S.C.A. § 1251 et seq.

[4 Cases that cite this headnote](#)

[28] Environmental Law

↳ [Substances, Sources, and Activities Regulated](#)

Language in Clean Water Act (CWA) conferring authority to Environmental Protection Agency (EPA) to regulate “a discharge” determined to threaten water quality does not preclude EPA from designating entire categories of discharge sources for regulation. Federal Water Pollution Control Act Amendments of 1972, § 402(p), 33 U.S.C.A. § 1342(p).

[3 Cases that cite this headnote](#)

[29] Environmental Law

↳ [Discharge of pollutants](#)

Residual designation authority retained by Environmental Protection Agency (EPA) for subjecting storm water discharge sites to future regulation under National Pollutant Discharge Elimination System (NPDES) permitting system was not ultra vires as to Clean Water Act (CWA); applicable statutory sections authorized designation of class of discharges to be identified on case-by-case, location-specific bases by NPDES permitting authority, consistent with comprehensive program to protect water quality. Federal Water Pollution Control Act Amendments of 1972, § 402(p), 33 U.S.C.A. § 1342(p).

[2 Cases that cite this headnote](#)

[30] Constitutional Law

↳ [Environment and natural resources](#)

Environmental Law

↳ [Discharge of pollutants](#)

Residual designation authority retained by Environmental Protection Agency (EPA) for subjecting storm water discharge sites to future regulation under National Pollutant Discharge Elimination System (NPDES) permitting system under Clean Water Act (CWA) did not effect unconstitutional delegation of legislative power, since such authority manifested statutory directive to restore and maintain chemical, physical and biological integrity of national waters. U.S.C.A. Const. Art. 1, § 1; Federal Water Pollution Control Act Amendments of 1972, § 402(p), 33 U.S.C.A. § 1342(p).

[1 Cases that cite this headnote](#)

[31] Environmental Law

↳ [Notice and comment](#)

Environmental Protection Agency (EPA) provided proper notice and comment for rule allowing agency to retain residual designation authority subjecting categories of storm water discharge sites to future regulation under National Pollutant Discharge Elimination System (NPDES) permitting system under Clean Water Act (CWA), even though proposed rule would have only allowed such designation on case-by-case basis, since final rule was logical outgrowth of comments received by EPA; elements in proposed rule explicitly envisioned categorical designation of sources at watershed level. Federal Water Pollution Control Act Amendments of 1972, § 402(p), 33 U.S.C.A. § 1342(p).

[4 Cases that cite this headnote](#)

[32] Administrative Law and Procedure

↳ [Economic or social impact statement](#)

Under Regulatory Flexibility Act (RFA), federal agency must prepare regulatory flexibility analysis and assessment of

economic impact of proposed rule on small business entities, unless agency certifies that proposed rule will not have significant economic impact on a substantial number of small entities, and provides a factual basis for that certification. 5 U.S.C.A. § 604.

4 Cases that cite this headnote

[33] **Environmental Law**

🔑 **Permit and certification proceedings**

Environmental Protection Agency (EPA), in promulgating rule subjecting categories of storm water discharge sites to National Pollutant Discharge Elimination System (NPDES) permitting requirements under Clean Water Act (CWA), reasonably certified that rule would not have significant economic impact on small business entities, as required under Regulatory Flexibility Act (RFA); EPA convened small business advocacy review panel before publishing notice of proposed rule, and included provisions in rule designed to minimize impacts on such entities. 5 U.S.C.A. § 604; Federal Water Pollution Control Act Amendments of 1972, § 101 et seq., 33 U.S.C.A. § 1251 et seq.

3 Cases that cite this headnote

Steven P. Quarles and J. Michael Klise, Crowell & Moring, Washington, DC, and William R. Murray, American Forest & Paper Association, Washington, DC, for petitioner American Forest & Paper Association.

Jim Mathews and Clarence Joe Freeland, Mathews & Freeland, Austin, TX, for petitioner Texas Cities Coalition on Stormwater.

Sydney W. Falk, Jr. and William D. Dugat III, Bickerstaff, Heath, Smiley, Pollan, Kever & McDaniel, Austin, TX, for petitioner Texas Counties Storm Water Coalition.

John C. Cruden, Daniel M. Flores and Kent E. Hanson, United States Department of Justice, Washington, DC, and Stephen J. Sweeny, United States **Environmental** Protection Agency, Washington, DC, for respondent United States **Environmental** Protection Agency.

On Petition for Review of an Order of the **Environmental** Protection Agency. EPA No. Clean Water 40 CFR.

Before BROWNING, REINHARDT, and TALLMAN, Circuit Judges.

Opinion by Judge JAMES R. BROWNING; Partial Concurrence and Partial Dissent by Judge TALLMAN.

ORDER AND OPINION

Attorneys and Law Firms

*839 Victoria Clark, **Environmental Defense Center**, Santa Barbara, CA, for petitioner **Environmental Defense Center**, Inc.

Andrew G. Frank and Arlene Yang, Paul, Weiss, Rifkind, Wharton & Garrison, New York, NY, and Nancy K. Stoner, Natural Resources **Defense** Council, Washington, DC, for intervenor National Resources **Defense** Council, Inc.

R. Timothy McCrum, Ellen B. Steen, and Donald J. Kochan, Crowell & Moring, Washington, DC, for petitioners American Forest & Paper Association and National Association of Home Builders.

ORDER

The opinion and dissent filed in this case on January 14, 2003, and published at 319 F.3d 398 are vacated. They are replaced by the Opinion and Dissent filed today.

With the filing of the new Opinion and Dissent, the panel has voted to deny the petitions for rehearing and the petition for rehearing en banc. (Judge Tallman would grant the petition for rehearing filed by *840 the **Environmental** Protection Agency.) The full court has been advised of the new Opinion, new Dissent, and petition for rehearing en banc. No judge has requested a vote on the petition for rehearing en banc. Fed. R.App. P. 35.

The petitions for rehearing and the petition for rehearing en banc are DENIED. The clerk is instructed not to accept

for filing any new petitions for rehearing or petitions for rehearing en banc in this case.

Each party shall bear its own costs in this appeal.

OPINION

JAMES R. BROWNING, Circuit Judge.

Petitioners challenge a rule issued by the United States **Environmental** Protection Agency pursuant to the Clean Water Act, 33 U.S.C. §§ 1251–1387, to control pollutants introduced into the nation's waters by storm sewers.

Storm sewers drain rainwater and melted snow from developed areas into water bodies that can handle the excess flow. Draining stormwater picks up a variety of contaminants as it filters through soil and over pavement on its way to sewers. Sewers are also used on occasion as an easy (if illicit) means for the direct discharge of unwanted contaminants. Since storm sewer systems generally channel collected runoff into federally protected water bodies, they are subject to the controls of the Clean Water Act.

In October of 1999, after thirteen years in process, the **Environmental** Protection Agency (“EPA”) promulgated a final administrative rule (the “Phase II Rule”¹ or “the Rule”) under § 402(p) of the Clean Water Act, 33 U.S.C. § 1342(p), mandating that discharges from small municipal separate storm sewer systems and from construction sites between one and five acres in size be subject to the permitting requirements of the National Pollutant Discharge Elimination System (“NPDES”), 33 U.S.C. §§ 1311(a), 1342. EPA preserved authority to regulate other harmful stormwater discharges in the future.

In the three cases consolidated here, petitioners and intervenors challenge the Phase II Rule on twenty-two constitutional, statutory, and procedural grounds. We remand three aspects of the Rule concerning the issuance of notices of intent under the Rule's general permitting scheme, and a fourth aspect concerning the regulation of forest roads. We affirm the Rule against all other challenges.

I.

BACKGROUND

A. The Problem of Stormwater Runoff

Stormwater runoff is one of the most significant sources of water pollution in the nation, at times “comparable to, if not greater than, contamination from industrial and sewage sources.”² Storm sewer waters carry suspended metals, sediments, algae-promoting nutrients (nitrogen and phosphorus), floatable trash, used motor oil, raw sewage, pesticides, and other toxic contaminants into streams, rivers, lakes, *841 and estuaries across the United States.³ In 1985, three-quarters of the States cited urban stormwater runoff as a major cause of waterbody impairment, and forty percent reported construction site runoff as a major cause of impairment.⁴ Urban runoff has been named as the foremost cause of impairment of surveyed ocean waters.⁵ Among the sources of stormwater contamination are urban development, industrial facilities, construction sites, and illicit discharges and connections to storm sewer systems.⁶

B. Stormwater and the Clean Water Act

Congress enacted the Clean Water Act in 1948 to “restore and maintain the chemical, physical, and biological integrity of the Nation's waters.” 33 U.S.C. § 1251(a) (originally codified as the Federal Water Pollution Control Act, 62 Stat. 1155). The Clean Water Act prohibits the discharge of pollutants from a “point source”⁷ into the waters of the United States without a permit issued under the terms of the National Pollutant Discharge Elimination System, 33 U.S.C. §§ 1311(a), 1342, which requires dischargers to comply with technology-based pollution limitations (generally according to the “best available technology economically achievable,” or “BAT” standard). 33 U.S.C. § 1311(b)(2)(A). NPDES permits are issued by EPA or by States that have been authorized by EPA to act as NPDES permitting authorities. 33 U.S.C. § 1342(a)-(b). The permitting authority must make copies of all NPDES permits and permit applications available to the public, 33 U.S.C. §§ 1342(j), 1342(b)(3); state permitting authorities must provide EPA notice of each permit application, 33 U.S.C.

§ 1342(b)(4); and a permitting authority must provide an opportunity for a public hearing before issuing any permit, 33 U.S.C. §§ 1342(a)(1), 1342(b)(3); cf. 33 U.S.C. § 1251(e) (requiring public participation).

[1] [2] Storm sewers are established point sources subject to NPDES permitting requirements. *Natural Res. Def. Council v. Costle*, 568 F.2d 1369, 1379 (D.C.Cir.1977) (holding unlawful EPA's exemption of stormwater discharges from NPDES permitting requirements); *Natural Res. Def. Council v. EPA*, 966 F.2d 1292, 1295 (9th Cir.1992).⁸ In 1987, to better regulate pollution conveyed by stormwater runoff, Congress enacted Clean Water Act § 402(p), 33 U.S.C. § 1342(p), "Municipal and Industrial Stormwater Discharges." Sections 402(p)(2) and 402(p)(3) mandate NPDES permits for stormwater discharges "associated with industrial activity," discharges from large and medium-sized municipal storm sewer systems, and certain other discharges. Section 402(p)(4) sets out a timetable for promulgation of the first of a *842 two-phase overall program of stormwater regulation. *Id.* at § 1342(p)(2)-(4); *Natural Res. Def. Council*, 966 F.2d at 1296. In 1990, pursuant to § 402(p)(4), EPA issued the Phase I Rule regulating large discharge sources.⁹

C. The Phase II Stormwater Rule

In Clean Water Act § 402(p), Congress also directed a second stage of stormwater regulation by ordering EPA to identify and address sources of pollution not covered by the Phase I Rule. Section 402(p)(1) placed a temporary moratorium (expiring in 1994) on the permitting of other stormwater discharges pending the results of studies mandated in § 402(p)(5) to identify the sources and pollutant content of such discharges and to establish procedures and methods to control them as "necessary to mitigate impacts on water quality." 33 U.S.C. § 1342(p)(5). Section 402(p)(6) required that EPA establish "a comprehensive program to regulate" these stormwater discharges "to protect water quality," following the studies mandated in § 402(p)(5) and consultation with state and local officials. *Id.* at § 1342(p)(6).

EPA proposed the Phase II Rule in January of 1998.¹⁰ In October, 1999, Congress passed legislation precluding EPA from promulgating the new Rule until EPA submitted an additional report to Congress supporting certain anticipated aspects of the Rule.¹¹ EPA was also

required to publish its report in the Federal Register for public comment. Pub. L. No. 106-74, § 431(c), 113 Stat. at 1097. Later that month, EPA submitted the required ("Appropriations Act") study and promulgated the Rule.¹²

Under the Phase II Rule, NPDES permits are required for discharges from small municipal separate storm sewer systems ("small MS4s") and stormwater discharges from construction activity disturbing between one and five acres ("small construction sites"). 40 C.F.R. § 122.26(a)(9)(i)(A)-(B). Small MS4s may seek permission to discharge by submitting an individualized set of best-management plans in six specified categories, *id.* at § 122.34, either in the form of an individual permit application, or in the form of a notice of intent to comply with a general permit. *Id.* at § 122.33(b). Small MS4s may also seek permission to discharge through an alternative process, under which a permit may be sought without requiring the operator to regulate third parties, *id.* at §§ 122.33(b)(2)(ii), 122.26(d).¹³ Small construction sites may *843 apply for individual NPDES permits or seek coverage under a promulgated general permit. *Id.* at § 122.26(c). EPA also preserved authority to regulate other categories of harmful stormwater discharges on a regional, as-needed basis. *Id.* at § 122.26(a)(9)(i)(C)-(D).

D. Facial Challenges to the Phase II Rule

The Rule was challenged in the Fifth, Ninth, and D.C. Circuits in three separate actions ultimately consolidated before the Ninth Circuit.

The Texas Cities Coalition on Stormwater and the Texas Counties Stormwater Coalition (collectively, "the Municipal Petitioners") assert that EPA lacked authority to require permitting, that its promulgation of the Rule was procedurally defective, that the Rule establishes categories that are arbitrary and capricious, and that the Rule impermissibly requires municipalities to regulate their own citizens in contravention of the Tenth Amendment and to communicate a federally mandated message in contravention of the First Amendment. The Natural Resources Defense Council ("NRDC") intervened on behalf of EPA.

Environmental Defense Center, joined by petitioner-intervenor NRDC ("the Environmental Petitioners"), asserts that the regulations fail to meet minimum Clean

Water Act statutory requirements because they constitute a program of impermissible self-regulation, fail to provide required avenues of public participation, and neglect to address stormwater runoff associated with forest roads and other significant sources of runoff pollution.

The American Forest & Paper Association (“AF&PA”) and the National Association of Home Builders (“the Industrial Petitioners”) assert that promulgation of the Rule was procedurally defective and violated the Regulatory Flexibility Act, that EPA’s retention of authority to regulate future sources of runoff pollution is *ultra vires*, and that the decision to regulate discharge from construction sites one to five acres in size is arbitrary and capricious. NRDC again intervened on behalf of EPA.

We have jurisdiction pursuant to section 509(b)(1) of the Clean Water Act, 33 U.S.C. § 1369(b)(1) (assigning review of EPA effluent and permitting regulations to the Federal Courts of Appeals).

II.

DISCUSSION

A. The Permit Requirements

[3] The Municipal Petitioners’ primary contention is that the Phase II Rule compels small MS4s to regulate citizens as a condition of receiving a permit to operate, and that EPA lacks both statutory and constitutional authority to impose such a requirement. Because we avoid considering constitutionality if an issue may be resolved on narrower grounds, *Greater New Orleans Broadcasting Ass’n v. United States*, 527 U.S. 173, 184, 119 S.Ct. 1923, 144 L.Ed.2d 161 (1999), we first ask whether the Phase II Rule is supported by statutory authority.

1. Statutory Authority

[4] The Municipal Petitioners assert that the statutory command in Clean Water Act § 402(p)(6) that EPA develop a “comprehensive program to regulate” small MS4s did not authorize a program based on NPDES permits. Petitioners argue that because § 402(p)(6) explicitly indicates elements that the program may *844 contain (performance standards, guidelines, etc.) without mentioning “permits,” Congress must have intended that the program exclude permitting.¹⁴

The fact that “permitting” is not included on a statutory list of elements that the program “may” include is not determinative, because the list is manifestly nonexclusive. The only constraints are that the § 402(p)(6) regulations be based on the § 402(p)(5) studies, that they be issued in consultation with state and local officials, and that—“at a minimum”—they establish priorities, requirements for state stormwater management programs, and expeditious deadlines, and constitute a comprehensive program “to protect water quality.” 33 U.S.C. § 1342(p)(6). EPA was free to adopt any regulatory program, including a permitting program, that included these elements. *See Chevron, U.S.A. v. Natural Res. Def. Council*, 467 U.S. 837, 842–43, 104 S.Ct. 2778, 81 L.Ed.2d 694 (1984) (deference to an agency’s reasonable interpretation is required unless Congress expressed its intent unambiguously). It is more reasonable to interpret congressional silence about permits as an indication of EPA’s flexibility not to use them than as an outright prohibition.¹⁵

The Municipal Petitioners further contend that their interpretation is supported by the structure of § 402(p), which expressly requires permits for large and medium sized MS4s in a separate section, § 402(p)(3)(B).¹⁶ However, as EPA counters, the language in § 402(p)(3) requiring permits for municipal storm sewers may be interpreted to apply both to Phase I and Phase II MS4s. Moreover, as respondent-intervenor NRDC notes, the mere existence of the § 402(p)(1) permitting moratorium, designed to apply only to Phase II dischargers, necessarily implies that EPA has the authority to require permits from these sources after the 1994 expiration of the moratorium.

Since there would have been no need to establish a permitting moratorium for these sources if the sources could *never* be subject to permitting requirements, petitioners’ interpretation violates the bedrock principle that statutes not be interpreted to render any provision superfluous. *See Burrey v. Pacific Gas & Elec. Co.*, 159 F.3d 388, 394 (9th Cir.1998). EPA’s interpretation of its mandate under § 402(p)(6) was reasonable and EPA acted within its statutory authority in formulating the Phase II Rule as a permitting program.

2. The Tenth Amendment

The Municipal Petitioners contend that the Phase II Rule on its face compels *845 operators of small MS4s to regulate third parties in contravention of the Tenth Amendment. We conclude that the Rule does not violate the Tenth Amendment, because it directs no unconstitutional coercion.

The Phase II Rule contemplates several avenues through which a small MS4 may obtain permission to discharge. First, if the NPDES Permitting Authority overseeing the small MS4 has issued an applicable general permit, the small MS4 may submit a notice of intent wherein the small MS4 agrees to comply with the terms of the general permit and specifies plans for implementing six “Minimum Measures” designed to protect water quality. 40 C.F.R. §§ 122.33(b)(1), 122.34(d)(1)(i), 122.34(b). Second, the small MS4 may apply for an individual permit under 40 C.F.R. § 122.34, which would again require compliance with the six Minimum Measures. *Id.* at §§ 122.33(b)(2)(i), 122.34(a), 122.34(b). Third, under an “Alternative Permit” option, the small MS4 may apply for an individualized permit under 40 C.F.R. § 122.26(d), the permitting program established by the Phase I Rule for large and medium-sized MS4s. *Id.* at §§ 122.33(b)(2)(ii), 122.26(d).¹⁷

[5] The Minimum Measures mentioned above require small MS4s to implement programs for: (1) conducting public education and outreach on stormwater impacts, *id.* at § 122.34(b)(1); (2) engaging public participation in the development of stormwater management programs, *id.* at § 122.34(b)(2); (3) detecting and eliminating illicit discharges to the MS4, *id.* at § 122.34(b)(3); (4) reducing pollution to the MS4 from construction activities disturbing one acre or more, *id.* at § 122.34(b)(4); (5) minimizing water quality impacts from development and redevelopment activities that disturb one acre or more, *id.* at § 122.34(b)(5); and (6) preventing or reducing pollutant runoff from municipal activities, *id.* at § 122.34(b)(6).¹⁸

*846 The Municipal Petitioners contend that the measures regulating illicit discharges, small construction sites, and development activities unconstitutionally compel small MS4 operators to regulate third parties, *i.e.*, upstream dischargers. The Illicit Discharge Detection and Elimination measure requires that a permit seeker prohibit non-stormwater discharges to the MS4 and implement appropriate enforcement procedures. 40 C.F.R. § 122.34(b)(3)(ii)(B).¹⁹ The Construction Site Stormwater

Runoff Control measure requires a permit seeker to implement and enforce a program to reduce stormwater pollutants from small construction sites. *Id.* at §§ 122.34(b)(4)(i)-(ii).²⁰ It mandates erosion and sedimentation controls, site plan reviews that take account of water quality impacts, site inspections, and the consideration of public comment, and requires that construction site operators implement erosion, sedimentation, and waste management best management practices. *Id.* The Post-Construction/New Development measure requires permit seekers to address post-construction runoff from new development and redevelopment projects disturbing one acre or more. *Id.* at § 122.34(b)(5)(ii)(B).²¹

Noting that most MS4s are operated by municipal governments, and that “[t]he drainage of a city in the interest of the public health and welfare is one of the most important purposes for which the police power can be exercised,” *New Orleans Gaslight Co. v. Drainage Comm'n*, 197 U.S. 453, 460, 25 S.Ct. 471, 49 L.Ed. 831 (1905), the Municipal Petitioners argue that requiring operators of small MS4s to implement “through ordinance or other regulatory mechanism” the regulations required by the Minimum Measures contravenes the Tenth Amendment. *See, e.g., New York v. United States*, 505 U.S. 144, 188, 112 S.Ct. 2408, 120 L.Ed.2d 120 (1992).

EPA counters that the Phase II Rule does not violate the Tenth Amendment because operators of small MS4s may opt to avoid the Minimum Measures by seeking a permit under the Alternative Permit *847 option, 40 C.F.R. § 122.33(b)(2)(ii).²²

[6] [7] [8] Under the Tenth Amendment, “the Federal Government may not compel States to implement, by legislation or executive action, federal regulatory programs.” *Printz v. United States*, 521 U.S. 898, 925, 117 S.Ct. 2365, 138 L.Ed.2d 914 (1997); *see also New York*, 505 U.S. at 188, 112 S.Ct. 2408. Similarly, the federal government may not force the States to regulate third parties in furtherance of a federal program. *See Reno v. Condon*, 528 U.S. 141, 151, 120 S.Ct. 666, 145 L.Ed.2d 587 (2000) (upholding a federal statutory scheme because it “does not require the States in their sovereign capacity to regulate their own citizens”). These protections extend to municipalities. *See, e.g., Printz* 521 U.S. at 931 n. 15, 117 S.Ct. 2365.

[9] [10] However, while the federal government may not *compel* them to do so, it may *encourage* States and municipalities to implement federal regulatory programs. See *New York*, 505 U.S. at 166–68, 112 S.Ct. 2408. For example, the federal government may make certain federal funds available only to those States or municipalities that enact a given regulatory regime. See, e.g., *South Dakota v. Dole*, 483 U.S. 203, 205–08, 107 S.Ct. 2793, 97 L.Ed.2d 171 (1987) (upholding federal statute conditioning state receipt of federal highway funds on state adoption of minimum drinking age of twenty-one). The crucial proscribed element is coercion; the residents of the State or municipality must retain “the ultimate decision” as to whether or not the State or municipality will comply with the federal regulatory program. *New York*, 505 U.S. at 168, 112 S.Ct. 2408. However, as long as “the alternative to implementing a federal regulatory program does not offend the Constitution's guarantees of federalism, the fact that the alternative is difficult, expensive or otherwise unappealing is insufficient to establish a Tenth Amendment violation.” *City of Abilene v. EPA*, 325 F.3d 657, 662 (5th Cir.2003).

[11] With the Phase II Rule, EPA gave the operators of small MS4s a choice: either implement the regulatory program spelled out by the Minimum Measures described at 40 C.F.R. § 122.34(b), or pursue the Alternative Permit option and seek a permit under the Phase I Rule as described at 40 C.F.R. § 122.26(d). Thus, unless § 122.26(d) itself offends the Constitution's guarantees of federalism, the Phase II Rule does not violate the Tenth Amendment.

Pursuing a permit under the Alternative Permit option does require permit seekers, in their application for a permit to discharge, to propose management programs that address substantive concerns similar to those addressed by the Minimum Measures. See 40 C.F.R. § 122.26(d). However, § 122.26(d) lists the requirements for an *application* for a permit to discharge, not the requirements of the permit itself. Therefore, nothing in § 122.26(d) requires the operator of an MS4 to implement a federal regulatory program in order to receive a permit to discharge, because nothing in § 122.26(d) specifies the contents of the permit that will result from the application process.

City of Abilene, 325 F.3d 657, provides a helpful illustration. The cities of Abilene and Irving, Texas, have

populations between 100,000 and 250,000, and so were *848 required to apply for permits under the Phase I Rule, 40 C.F.R. § 122.26(d). *City of Abilene*, 325 F.3d at 659–60. Under § 122.26(d) the cities were required to submit proposed stormwater management programs. *Id.* at 660. They negotiated the terms of those programs with EPA, and EPA eventually presented the cities with proposed management permits that contained conditions requiring the implementation of stormwater regulatory programs, and potentially requiring the regulation of third parties. *Id.* But, as the Fifth Circuit noted, this did not mean that the cities had no choice but to implement a federal regulatory program. Instead:

The Cities filed comments objecting to those conditions, and negotiations continued until the EPA offered the Cities the option of pursuing numeric end-of-pipe permits, which would have required the Cities to satisfy specific effluent limitations rather than implement management programs. The Cities declined this offer, electing to continue negotiations on the management permits.

Id. The Fifth Circuit rejected the cities' contention that the resulting permits violated the Tenth Amendment by requiring the cities to regulate third parties according to federal standards. *Id.* at 661–63. Because the cities chose to pursue the management permits despite the fact that EPA provided them with an option for obtaining permits that would not have involved implementing a management program or regulating third parties, no unconstitutional coercion occurred. *Id.* at 663. The ultimate decision to implement the federal program remained with the cities.

Any operator of a small MS4 that wishes to avoid the Minimum Measures may seek a permit under § 122.26(d), and, as *City of Abilene* demonstrates, nothing in § 122.26(d) will compel the operator of a small MS4 to implement a federal regulatory program or regulate third parties, because § 122.26(d) specifies application requirements, not permit requirements. Therefore, by presenting the option of seeking a permit under § 122.26(d), the Phase II Rule avoids any unconstitutional coercion. The Municipal Petitioners' claim that the Phase II Rule violates the Tenth Amendment therefore fails.

3. *The First Amendment and the Minimum Measures*

The Municipal Petitioners contend that the Public Education and Illicit Discharge Minimum Measures compel municipalities to deliver EPA's political message in violation of the First Amendment. The Phase II Rule's "Public Education and Outreach" Minimum Measure directs regulated small MS4s to "distribute educational materials to the community ... about the impacts of stormwater discharges on water bodies and the steps the public can take to reduce pollutants in stormwater runoff." 40 C.F.R. § 122.34(b)(1)(i). The "Illicit Discharge Detection and Elimination" measure requires regulated small MS4s to "[i]nform public employees, businesses, and the general public of hazards associated with illegal discharges and improper disposal of waste." 40 C.F.R. § 122.34(b)(3)(ii)(D).

[12] The Municipal Petitioners argue that the First Amendment prohibits EPA from compelling small MS4s to communicate messages that they might not otherwise wish to deliver. They further contend that EPA's interpretation of § 402(p) as authorizing these Measures does not warrant *Chevron* deference because it raises serious constitutional issues, but that even if deference were given, the resulting rule is unconstitutional because neither Congress nor EPA may dictate the speech of MS4s. They contend that municipalities are protected by the First Amendment, *849 *Pacific Gas & Elec. v. Public Utilities Comm'n*, 475 U.S. 1, 8, 106 S.Ct. 903, 89 L.Ed.2d 1 (1986) ("Corporations and other associations, like individuals, contribute to the [discourse] that the First Amendment seeks to foster...."), which applies as much to compelled statements of "fact" as to those of "opinion." *Riley v. Nat'l Fed. of the Blind*, 487 U.S. 781, 797-98, 108 S.Ct. 2667, 101 L.Ed.2d 669 (1988).

We conclude that the purpose of the challenged provisions is legitimate and consistent with the regulatory goals of the overall scheme of the Clean Water Act, *cf. Glickman v. Wileman Bros. & Elliott, Inc.*, 521 U.S. 457, 476, 117 S.Ct. 2130, 138 L.Ed.2d 585 (1997), and does not offend the First Amendment.²³ The State may not constitutionally require an individual to disseminate an ideological message, *Wooley v. Maynard*, 430 U.S. 705, 713, 97 S.Ct. 1428, 51 L.Ed.2d 752 (1977), but requiring a provider of storm sewers that discharge into national waters to educate the public about the impacts of stormwater discharge on water bodies and

to inform affected parties, including the public, about the hazards of improper waste disposal falls short of compelling such speech.²⁴ These broad requirements do not dictate a specific message. They require appropriate educational and public information activities that need not include any specific speech at all. A regulation is facially unconstitutional only when every possible reading compels it, *Meinhold v. U.S. Dep't of Def.*, 34 F.3d 1469, 1476 (9th Cir.1994),²⁵ but this is clearly not the case here.

As in *Zauderer v. Office of Disciplinary Counsel of the Sup. Ct. of Ohio*, 471 U.S. 626, 105 S.Ct. 2265, 85 L.Ed.2d 652 (1985), where the Supreme Court upheld certain disclosure requirements in attorney advertising, "[t]he interests at stake in this case are not of the same order as those discussed in *Wooley* [invalidating a law requiring that drivers display the motto 'Live Free or Die' on New Hampshire license plates] ... and *Barnette* [forbidding the requirement that public school students salute the flag because the State may not impose on the individual 'a ceremony so touching matters of opinion and political attitude']." *Id.* at 651. EPA has not attempted to "prescribe what shall be orthodox in politics, nationalism, religion, or other matters of opinion or force citizens to confess by word or act their faith therein." *West Virginia State Bd. of Ed. v. Barnette*, 319 U.S. 624, 642, 63 S.Ct. 1178, 87 L.Ed. 1628 (1943).

*850 Informing the public about safe toxin disposal is non-ideological; it involves no "compelled recitation of a message" and no "affirmation of belief." *Prune Yard Shopping Ctr. v. Robins*, 447 U.S. 74, 88, 100 S.Ct. 2035, 64 L.Ed.2d 741 (1980) (upholding state law protecting petitioning in malls and noting that "*Barnette* is inapposite because it involved the compelled recitation of a message containing an affirmation of belief"). It does not prohibit the MS4 from stating its own views about the proper means of managing toxic materials, or even about the Phase II Rule itself. Nor is the MS4 prevented from identifying its dissemination of public information as required by federal law, or from making available federally produced informational materials on the subject and identifying them as such.

Even if such a loosely defined public information requirement could be read as compelling speech, the regulation resembles another regulation that the Supreme Court has held permissible. In *Glickman*, 521 U.S. 457, 117 S.Ct. 2130, 138 L.Ed.2d 585, the Court upheld

a generic advertising assessment promulgated by the Department of Agriculture on behalf of California tree fruit growers because the order was consistent with an overall regulatory program that did not abridge protected speech:

Three characteristics of the regulatory scheme at issue distinguish it from laws that we have found to abridge the freedom of speech protected by the First Amendment. First, the marketing orders impose no restraint on the freedom of any producer to communicate any message to any audience. Second, they do not compel any person to engage in any actual or symbolic speech. Third, they do not compel the producers to endorse or to finance any political or ideological views. Indeed, since all of the respondents are engaged in the business of marketing California nectarines, plums, and peaches, it is fair to presume that they agree with the central message of the speech that is generated by the generic program.

Id. at 469–70, 117 S.Ct. 2130 (footnotes omitted). Here, as in *Glickman*, the Phase II regulations impose no restraint on the freedom of any MS4 to communicate any message to any audience. They do not compel any specific speech, nor do they compel endorsement of political or ideological views. And since all permittees are engaged in the handling of stormwater runoff that must be conveyed in reasonably unpolluted form to national waters, it is similarly fair to presume that they will agree with the central message of a public safety alert encouraging proper disposal of toxic materials.²⁶ The Phase II regulation departs only from the second element in the *Glickman* analysis, because the public information requirement may compel a *851 regulated party to engage in some speech at some time; but unlike the offensive messages in *Maynard* and *Barnette* (and even the inoffensive advertising messages at issue in *Glickman*) that speech is not specified by the regulation.²⁷

The public information requirement does not impermissibly compel speech, and nothing else in the

Phase II Rule offends the First Amendment.²⁸ The Rule does not compel a recitation of a specific message, let alone an affirmation of belief. To the extent MS4s are regulated by the public information requirement, the regulation is consistent with the overall regulatory program of the Clean Water Act and the responsibilities of point source dischargers.

4. Notice and Comment on the Alternative Permit Option

The Municipal Petitioners contend that, in adopting the Alternative Permit option, EPA did not comply with the minimum notice and comment procedures required in informal rulemaking by the Administrative Procedures Act (“APA”), 5 U.S.C. § 553. The APA requires an agency to publish notice of a proposed rulemaking that includes “either the terms or substance of the proposed rule or a description of the subjects and issues involved.” *Id.* at § 553(b)(3).

[13] We have held that a “final regulation that varies from the proposal, even substantially, will be valid as long as it is ‘in character with the original proposal and a logical outgrowth of the notice and comments.’ ” *Hodge v. Dalton*, 107 F.3d 705, 712 (9th Cir.1997). In determining whether notice was adequate, we consider whether the complaining party should have anticipated that a particular requirement might be imposed. The test is whether a new round of notice and comment would provide the first opportunity for interested parties to offer comments that could persuade the agency to modify its rule. *Am. Water Works Ass'n v. EPA*, 40 F.3d 1266, 1274 (D.C.Cir.1994).

The Municipal Petitioners argue that the Alternative Permit option is not a logical outgrowth of EPA's proposed rule because, although numerous alternatives were discussed in the Preamble to the proposed rule, 63 Fed. Reg. at 1554–1557, the Alternative Permit option eventually adopted was not. EPA counters that the proposed rule included a supplementary alternative permitting system based on concepts similar to those in the Minimum *852 Measures, including “simplified individual permit application requirements.”²⁹ EPA contends that the Alternative Permit option was a logical outgrowth of the comments it received on the proposal expressing concern that the Minimum Measures might violate the Tenth Amendment. 64 Fed. Reg. at 68,765.

[14] The Alternative Permit option passes the *Hodge* test. The proposed rule suggested an individualized permitting option to be developed in response to comments during the notice and comment period. The Alternative option contains no elements that were not part of the original rule, even if they are configured differently in the final rule. Petitioners had, and took, their opportunity to object to the aspects of the Rule that they did not support in their comments on the Minimum Measures.

B. The General Permit Option and Notices of Intent

The **Environmental** Petitioners contend that the general permitting scheme of the Phase II Rule allows regulated small MS4s to design stormwater pollution control programs without adequate regulatory and public oversight, and that it contravenes the Clean Water Act because it does not require **EPA** to review the content of dischargers' notices of intent and does not contain express requirements for public participation in the NPDES permitting process.

In reviewing a federal administrative agency's interpretation of a statute it administers, we first determine whether Congress has expressed its intent unambiguously on the question before the court. *See Chevron*, 467 U.S. 837, 842–44, 104 S.Ct. 2778, 81 L.Ed.2d 694 (“If the intent of Congress is clear, that is the end of the matter; for the court, as well as the agency, must give effect to the unambiguously expressed intent of Congress.”). “If, instead, Congress has left a gap for the administrative agency to fill, we proceed to step two. At step two, we must uphold the administrative regulation unless it is arbitrary, capricious, or manifestly contrary to the statute.” *Defenders of Wildlife v. Browner*, 191 F.3d 1159, 1162, amended by 197 F.3d 1035 (9th Cir.1999) (citations and internal quotations omitted).

[15] We conclude that the Phase II General Permit option violates the Clean Water Act's requirement that permits for discharges “require controls to reduce the discharge of pollutants to the maximum extent practicable,” 33 U.S.C. § 1342(p)(3)(B)(iii). We also conclude that the Phase II General Permit option violates the Clean Water Act because it does not contain express requirements for public participation in the NPDES permitting process. We remand these aspects of the Phase II Rule.³⁰

*853 1. Phase II General Permits and Notices of Intent

Primary responsibility for enforcement of the requirements of the Clean Water Act is vested in the Administrator of the **EPA**. 33 U.S.C. § 1251(d); *see also* 33 U.S.C. § 1361(a) (“The Administrator [of **EPA**] is authorized to prescribe such regulations as are necessary to carry out his functions under this chapter.”). The Clean Water Act renders illegal any discharge of pollutants not specifically authorized by a permit. 33 U.S.C. § 1311(a) (“Except in compliance with this section and [other sections detailing permitting requirements] of this title, the discharge of any pollutant by any person shall be unlawful.”). Under the Phase II Rule, dischargers may apply for an individualized permit with the relevant permitting authority, or may file a “Notice of Intent” (“NOI”) to seek coverage under a “general permit.” 40 C.F.R. § 122.33(b).

A general permit is a tool by which **EPA** regulates a large number of similar dischargers. Under the traditional general permitting model, each general permit identifies the output limitations and technology-based requirements necessary to adequately protect water quality from a class of dischargers. Those dischargers may then acquire permission to discharge under the Clean Water Act by filing NOIs, which embody each discharger's agreement to abide by the terms of the general permit. Because the NOI represents no more than a formal acceptance of terms elaborated elsewhere, **EPA's** approach does not require that permitting authorities review an NOI before the party who submitted the NOI is allowed to discharge. General permitting has long been recognized as a lawful means of authorizing discharges. *Natural Res. Def. Council v. Costle*, 568 F.2d 1369 (D.C.Cir.1977).

The Phase II general permitting scheme differs from the traditional general permitting model. The Clean Water Act requires **EPA** to ensure that operators of small MS4s “reduce the discharge of pollutants to the maximum extent practicable.” 33 U.S.C. § 1342(p)(3)(B). To ensure that operators of small MS4s achieve this “maximum extent practicable” standard, the Phase II Rule requires that each NOI contain information on an individualized pollution control program that addresses each of the six general criteria specified in the Minimum Measures; thus, according to the Phase II Rule, submitting an NOI and implementing the Minimum Measures it contains “constitutes compliance with the standard of reducing pollutants to the ‘maximum extent practicable.’ ” 40 C.F.R. § 122.34(a).

Because a Phase II NOI establishes what the discharger will do to reduce discharges to the “maximum extent practicable,” the Phase II NOI crosses the threshold from being an item of procedural correspondence to being a substantive component of a regulatory regime. The text of the Rule itself acknowledges that a Phase II NOI is a permit application that is, at least in some regards, functionally equivalent to a detailed application for an individualized permit. *See, e.g.*, 40 C.F.R. § 122.34(d)(1) (“In your permit application (either a notice of intent for coverage under a general permit or an individual permit application), you must identify and submit to your NPDES permitting authority the following information...”). For this reason, EPA rejected the possibility of providing a “form NOI” to Phase II permittees, explaining that “[w]hat will be required on an MS4’s NOI ... is more extensive than what is usually required on *854 an NOI, so a ‘form’ NOI for MS4s may be impractical.” 64 Fed. Reg. at 68,764.

2. Failure to Regulate

The Environmental Petitioners argue that, by allowing NPDES authorities to grant dischargers permits based on unreviewed NOIs, the Rule creates an impermissible self-regulatory system.³¹ Petitioners contend the Rule impermissibly fails to require that the permitting authority review an NOI to assure compliance with Clean Water Act standards, including the standard that municipal stormwater pollution be reduced to “the maximum extent practicable.” 33 U.S.C. § 1342(p)(3)(B)(iii). *See* 40 C.F.R. § 123.35 (setting out requirements for permitting authorities, but not requiring review of NOI); 64 Fed. Reg. at 68,764 (“EPA disagrees that formal approval or disapproval by the permitting authority is needed”).

EPA maintains that the Phase II permit system is fully consistent with the authorizing statute. It contends that § 402(p)(6) granted EPA flexibility in designing the Phase II “comprehensive program,” and notes that while the statute does not require general permits, neither does it preclude them. EPA contends that Congress delegated the task of designing the program to EPA, and that EPA reasonably adopted a “flexible version” of the NPDES permit program to suit the unique needs of the Phase II program. It disputes that the general permit program creates “paper tigers,” especially since EPA, States, and citizens may initiate enforcement actions. Finally, EPA

argues that the Rule does not create a self-regulatory program, but that even if it did, nothing in § 402(p)(6) precludes such a program.

Reviewing the Phase II Rule under the first step of *Chevron*, we note that the plain language of § 402(p) of the Clean Water Act, 33 U.S.C. § 1342(p), expresses unambiguously Congress’s intent that EPA issue no permits to discharge from municipal storm sewers unless those permits “require controls to reduce the discharge of pollutants to the maximum extent practicable.”

Phase II general permits will likely impose requirements that ensure that operators of small MS4s comply with many of the standards of the Clean Water Act. Thus, general permits issued under Phase II will ordinarily contain numerous substantive requirements, just as did the permits issued under Phase I. *See* 40 C.F.R. §§ 123.35 & 123.35(a) (“§ 123.35 As the NPDES Permitting Authority for regulated small MS4s, what is my role? (a) You must comply with the requirements for all NPDES permitting authorities under Parts 122, 123, 124 and 125 of this chapter.”); *see also* 40 C.F.R. § 122.28 (outlining requirements for NPDES authorities issuing general permits). And every operator of a small MS4 who files an NOI under Phase II “must comply with other applicable NPDES permit requirements, standards, and conditions established in *855 the ... general permit.” *See* 40 C.F.R. §§ 122.34 & 122.34(f).

[16] However, while each Phase II general permit will likely ensure that operators of small MS4s comply with certain standards of the Clean Water Act, they will not “require controls to reduce the discharge of pollutants to the maximum extent practicable.” According to the Phase II Rule, the operator of a small MS4 has complied with the requirement of reducing discharges to the “maximum extent practicable” when it implements its stormwater management program, *i.e.*, when it implements its Minimum Measures. 40 C.F.R. § 122.34(a); *see also* 64 Fed. Reg. at 68753 (stating EPA’s anticipation that limitations more stringent than the minimum control measures “will be unnecessary”). Nothing in the Phase II regulations requires that NPDES permitting authorities review these Minimum Measures to ensure that the measures that any given operator of a small MS4 has decided to undertake will *in fact* reduce discharges to the maximum extent practicable.³²

See 40 C.F.R. § 123.35 (“As the NPDES Permitting Authority for regulated small MS4s, what is my role?”). Therefore, under the Phase II Rule, nothing prevents the operator of a small MS4 from misunderstanding or misrepresenting its own stormwater situation and proposing a set of minimum measures for itself that would reduce discharges by far less than the maximum extent practicable.

In fact, under the Phase II Rule, in order to receive the protection of a general permit, the operator of a small MS4 needs to do nothing more than decide for itself what reduction in discharges would be the maximum practical reduction. No one will review that operator's decision to make sure that it was reasonable, or even good faith.³³ Therefore, as the Phase II Rule stands, EPA would allow permits to issue that would do less than *require* controls to reduce the discharge of pollutants to the maximum extent practicable.³⁴ See *856 64 Fed. Reg. at 68753 (explaining that the minimum control measures will protect water quality if they are “properly implemented”). We therefore must reject this aspect of the Phase II Rule as contrary to the clear intent of Congress. Cf. *Natural Res. Def. Council*, 966 F.2d at 1305 (rejecting as arbitrary and capricious a permitting system that allowed regulated industrial stormwater dischargers to “self-report” whether they needed permit coverage).

Involving regulated parties in the development of individualized stormwater pollution control programs is a laudable step consistent with the directive to consult with state and local authorities in the development of the § 402(p)(6) comprehensive program. But EPA is still required to ensure that the individual programs adopted are consistent with the law. Our holding should not prevent the Phase II general permitting program from proceeding mostly as planned. Our holding does not preclude regulated parties from designing aspects of their own stormwater management programs, as contemplated under the Phase II Rule. However, stormwater management programs that are designed by regulated parties must, in every instance, be subject to meaningful review by an appropriate regulating entity to ensure that each such program reduces the discharge of pollutants to the maximum extent practicable. We therefore remand this aspect of the Rule.

3. Public Participation

The Environmental Petitioners contend that the Phase II Rule fails to provide for public participation as required by the Clean Water Act, because the public receives neither notice nor opportunity for hearing regarding an NOI. The EPA replies on the one hand by arguing that NOIs are not “permits” and therefore are not subject to the public availability and public hearing requirements of the Clean Water Act, and on the other hand by arguing that the combination of the public involvement minimum measure, 40 C.F.R. § 122.34(b)(2), the Federal Freedom of Information Act, 5 U.S.C. § 552, and state freedom of information acts would fulfill any such requirements if NOIs were permits.

Reviewing the Phase II Rule under *Chevron* step one, we conclude that clear Congressional intent requires that NOIs be subject to the Clean Water Act's public availability and public hearings requirements. The Clean Water Act requires that “[a] copy of each permit application and each permit issued under [the NPDES permitting program] shall be available to the public,” 33 U.S.C. § 1342(j), and that the public shall have an opportunity for a hearing before an permit application is approved, 33 U.S.C. § 1342(a)(1). Congress identified public participation rights as a critical means of advancing the goals of the Clean Water Act in its primary statement of the Act's approach and philosophy. See 33 U.S.C. § 1251(e); see also *Costle v. Pacific Legal Found.*, 445 U.S. 198, 216, 100 S.Ct. 1095, 63 L.Ed.2d 329 (1980) (noting the “general policy of encouraging public participation is applicable to the administration of the NPDES permit program”). EPA has acknowledged that technical issues relating to the issuance of NPDES permits should be decided in “the most open, accessible forum possible, *857 and at a stage where the [permitting authority] has the greatest flexibility to make appropriate modifications to the permit.” 44 Fed. Reg. 32,854, 32,885 (June 7, 1979).

As we noted above, under the Phase II Rule it is the NOIs, and not the general permits, that contain the substantive information about how the operator of a small MS4 will reduce discharges to the maximum extent practicable. Under the Phase II Rule, NOIs are functionally equivalent to the permit applications Congress envisioned when it created the Clean Water Act's public availability and public hearing requirements. Thus, if the Phase II Rule does not make NOIs “available to the public,” and does not provide for public hearings on NOIs, the Phase II Rule violates the clear intent of Congress. EPA's first argument

—that NOIs are not subject to the public availability and public hearings requirements of the Clean Water Act—therefore fails.

We therefore reject the Phase II Rule as contrary to the clear intent of Congress insofar as it does not provide for public hearings on NOIs as required by 33 U.S.C. § 1342(a)(1). However, Congress has not directly addressed the question of what would constitute an NOI being “available to the public” as required by 33 U.S.C. § 1342(j). Under *Chevron* step two, we must defer to EPA’s interpretation of “available to the public” unless it is arbitrary, capricious, or manifestly contrary to the statute.

[17] EPA argues that the NOIs are “available to the public” as a result of the combined effects of the public participation minimum measures, and of federal and state freedom of information acts. This argument is unconvincing. First, the public participation Minimum Measure only requires dischargers to design a program minimally consistent with State, Tribal, and local requirements. 40 C.F.R. § 122.34(b)(2). Second, the federal Freedom of Information Act only applies to documents that are actually in EPA’s possession, not to documents that are in the possession of state or tribal NPDES authorities, *see* 40 C.F.R. § 2 (providing EPA’s policy for releasing documents under the federal Freedom of Information Act), and nothing in the Phase II Rule provides that EPA obtain possession of every NOI that is submitted to a NPDES permitting authority. *See* 40 C.F.R. § 123.41(a) (making information provided to state NPDES authorities available to EPA only upon request). Thus, under the Phase II Rule, NOIs will only “be available to the public” subject to the vagaries of state and local freedom of information acts. We conclude that EPA’s interpretation of 33 U.S.C. § 1342(j), as embodied in the provisions of the Phase II Rule providing for the public availability of NOIs, is manifestly contrary to the Clean Water Act, which contemplates greater scope, greater certainty, and greater uniformity of public availability than the Phase II Rule provides. We therefore reject this aspect of the Phase II Rule.³⁵

*858 In sum, we conclude that EPA’s failure to require review of NOIs, which are the functional equivalents of permits under the Phase II General Permit option, and EPA’s failure to make NOIs available to the public or subject to public hearings contravene the express requirements of the Clean Water Act. We therefore vacate

those portions of the Phase II Rule that address these procedural issues relating to the issuance of NOIs under the Small MS4 General Permit option, and remand so that EPA may take appropriate action to comply with the Clean Water Act.

C. Failure to Designate

We reject the Environmental Petitioners’ contention that EPA’s failure to designate for Phase II regulation serious sources of stormwater pollution, including certain industrial (“Group A”) sources and forest roads, was arbitrary and capricious. *See Marsh v. Oregon Natural Res. Council*, 490 U.S. 360, 378, 109 S.Ct. 1851, 104 L.Ed.2d 377 (1989).³⁶

1. “Group A” Facilities

In addition to the small MS4s and construction sites ultimately designated for regulation under the Phase II Rule, EPA evaluated a variety of other point-source discharge categories for potential Phase II regulation. One group of dischargers (referred to as the “Group A” facilities) included sources that “are very similar, or identical” to regulated stormwater discharges associated with industrial activity that were not designated for Phase I regulation for administrative reasons unrelated to their environmental impacts.³⁷ 64 Fed. Reg. at 68,779. EPA estimates that Group A includes approximately 100,000 facilities, including auxiliary facilities and secondary activities (“e.g., maintenance of construction equipment and vehicles, local trucking for an unregulated facility such as a grocery store,” *id.*) and facilities intentionally omitted from Phase I designation (“e.g., publicly owned treatment works with a design flow of less than 1 million gallons per day, landfills that have not received industrial waste,” *id.*).

*859 The Environmental Petitioners contend that EPA should have designated the Group A facilities for categorical Phase II regulation after finding (1) that stormwater discharges from these facilities are the same as those from the industrial sources regulated under Phase I, and (2) that such discharges may cause “adverse water quality impacts.” *Id.* Petitioners argue that these findings, and EPA’s failure to provide individualized analysis regarding whether any specific source category within Group A requires regulation, render EPA’s decision not to regulate any of these sources under the Rule arbitrary

and capricious. They maintain that EPA's "line-drawing," which regulates some pollution sources but leaves nearly identical sources unregulated without any persuasive rationale, is necessarily arbitrary and capricious. *See Natural Res. Def. Council*, 966 F.2d at 1306 (EPA's decision not to regulate construction sites smaller than five acres was arbitrary when EPA provided no data to justify the five-acre threshold and admitted that unregulated sites could have significant water quality impacts).

Petitioners argue that § 402(p)(6) at least required EPA to make findings with respect to individual Group A categories, and that data collected from Phase I permit applications could be used to evaluate the pollutant potential of the identical Group A sources. They contend that these findings should have sufficed as a basis for designating at least some Group A sources, and that EPA's conclusion that it lacked adequate nationwide data upon which to designate any of these sources is not supported by the record evidence. Comparing EPA's identification of the serious polluting potential of some of these sources with its statutory mandate under § 402(p)(6) "to protect water quality," they argue that EPA fails even the forgiving standard of arbitrary and capricious review in that it has "offered an explanation for its decision that runs counter to the evidence before [it]" and "is so implausible that it could not be ascribed to a difference in view or the product of agency expertise." *See Motor Vehicle Mfrs.*, 463 U.S. at 43, 103 S.Ct. 2856.

EPA maintains that it considered Group A facilities' similarity to already regulated sources as only one of several criteria that it used in designating sources for regulation under Phase II, 64 Fed. Reg. at 68,780, and that sources that appear "similarly situated" under one criterion are not necessarily similarly situated under all. EPA asserts that nothing in § 402(p)(6) implied a responsibility to make individualized findings regarding each Group A subcategory, and it maintains that it simply lacked sufficient data to support nationwide designation of the Group A facilities. EPA notes that, after failing to receive requested comment providing such data, it proposed instead "to protect water quality" by allowing regional regulation of problem Group A facilities under the residual designation authority. EPA contends that agencies must be afforded deference in determining the data necessary to support regulatory decisionmaking and that it reasonably determined the quantum of data it would need to support the designation of additional

sources on a nationwide basis. *See Sierra Club v. EPA*, 167 F.3d 658, 662 (D.C.Cir.1999).

[18] We conclude that sufficient evidence supports EPA's decision not to designate Group A sources on a nationwide basis, and instead to establish local and regional designation authority to account for these sources and protect water quality. Although we are troubled by the purely administrative basis for the distinction between facilities regulated under the Phase I Rule and the Group A facilities *860 that remain unregulated under Phase II,³⁸ EPA's choice of the Phase I standard for designation is not the issue before us. Before us is whether EPA acted arbitrarily in declining to designate the Group A sources on a nationwide basis under the Phase II Rule, and we cannot say that it did.

EPA has articulated a rational connection between record facts indicating insufficient data to categorically regulate Group A facilities and its corresponding conclusion not to do so, and we defer to that decision. *See Washington v. Daley*, 173 F.3d 1158, 1169 (9th Cir.1999). In the text of the Rule, EPA explains that the process behind its decision not to nationally designate Group A sources for Phase II regulation focused not only on the likelihood of contamination from a source category, but also on the sufficiency of national data about each category and whether pollution concerns were adequately addressed by existing environmental regulations.³⁹ We cannot say that EPA relied on factors Congress had not intended it to consider, that it failed to consider an important aspect of the problem, or that its rationale is implausible. *See Motor Vehicle Mfrs.*, 463 U.S. at 43, 103 S.Ct. 2856. Nor did EPA's decision run counter to the evidence before it. *Id.* The Environmental Petitioners allege that its decision not to regulate Group A facilities runs counter to evidence that similar sources are highly polluting, but as EPA considered evidence beyond those similarities that persuaded it not to regulate, we cannot say that EPA's decision is unsupported by the record. Nothing in § 402(p)(6) unambiguously requires EPA to evaluate the Group A source categories individually, and we defer to EPA's interpretation of the statute it is charged with administering. *See Royal Foods Co. v. RJR Holdings*, 252 F.3d 1102, 1106 (9th Cir.2001).

2. Forest Roads

The **Environmental** Petitioners also contend that **EPA** arbitrarily failed to regulate forest roads under the Rule despite clear evidence in the record documenting the need for stormwater pollution control *861 of drainage from these roads. Petitioners again contend that this agency action is arbitrary, because **EPA** has offered an explanation for its decision that runs counter to the evidence before it.

Petitioners point to **EPA's** own conclusion that forest roads “are considered to be the major source of erosion from forested lands, contributing up to 90 percent of the total sediment production from forestry operations.”⁴⁰ They note that both unimproved forest roads and construction sites create large expanses of non-vegetated soil subject to stormwater erosion, and argue that construction site data thus also support regulation of forest roads. Petitioners observe that **EPA** has cited no contrary evidence indicating that forest roads are not sources of stormwater pollutant discharges to U.S. waters, and they argue that Phase II regulation is necessary “to protect water quality,” because proper planning and road design can minimize erosion and prevent stream sedimentation. Petitioners note that this court has previously held that, in the absence of such “supportable facts,” **EPA** is not entitled to the usual assumption that it has “rationally exercised the duties delegated to it by Congress.” *Natural Res. Def. Council*, 966 F.2d at 1305.

[19] **EPA's** response is that we have no jurisdiction to hear this challenge, chiefly because, it believes, the challenge is time-barred by Clean Water Act § 509(b)(1), 33 U.S.C. § 1369(b)(1) (providing that “application for review shall be made within 120 days from the date of [agency action]”). **EPA** promulgated silviculture regulations in 1976 that exclude from NPDES permit requirements certain silvicultural activities that **EPA** determined constitute non-point source activities, including “surface drainage, or road construction and maintenance from which there is natural runoff.” 40 C.F.R. § 122.27(b)(1).⁴¹ **EPA** asserts that the exclusion applies to forest roads in general, not only to “construction” and “maintenance”—an assertion disputed by Petitioners—and that any challenge to the decision not to regulate forest roads should have been brought within 120 days of the promulgation of that rule. See 33 U.S.C. § 1369(b)(1).

EPA's argument might be more persuasive if Petitioners' contention could be understood essentially as a direct challenge to the 1976 silviculture regulations, but this is not the case. Even were we to assume that **EPA** exempted forest roads from NPDES permit requirements in 1976 under 40 C.F.R. § 122.27(b)(1), that would not resolve the question whether **EPA** should have addressed forest roads in its “comprehensive program ... to protect *862 water quality” under § 402(p)(6), because § 402(p)(6) was not enacted until 1987. Petitioners challenge **EPA's** decision not to regulate under the new portion of the statute, not the decision not to regulate under other provisions that were in effect earlier.

EPA argues in the alternative that Petitioners should have sought judicial review when **EPA** considered amending § 122.27(b)(1)—to delete the language that it asserts renders forest roads non-point sources—but then determined not to make the amendment. However, we are aware of no statute or legal doctrine providing that a party's failure to challenge an agency's decision *not* to amend its rules in one proceeding deprives the party of the right to challenge, in a contemporaneous proceeding, the promulgation of an entire new rule which could have, but did not, provide the full relief the party seeks. Assuming that **EPA** is correct that § 122.27(b)(1) defines forest roads as non-point sources, both the Phase II Rule proceedings and the proceedings in which the proposed amendment to § 122.27(b)(1) was considered and rejected were proper proceedings in which to raise the issue whether discharges from forest roads should be regulated. Petitioners chose to raise the issue in their comments to the proposed Phase II Rule, because they believed that Clean Water Act § 402(p)(6) mandates the regulation of forest roads. They did not lose their right to challenge the final Phase II Rule's failure to regulate forest roads simply because they did not also raise a challenge to **EPA's** failure to adopt an amendment to § 122.27(b)(1) that the agency initially proposed. (We note, incidentally, that it appears that even a successful challenge to § 122.27(b)(1) would likely not have achieved the objective the **Environmental** Petitioners sought: it would only have allowed case-by-case coverage for forest roads, and not for overall coverage.)

[20] Finally, **EPA** suggests that Petitioners' comments during the Phase II rulemaking process were too short to create jurisdiction in this court to hear this challenge. However, **EPA** exaggerates the slightness of those comments, which comprised two paragraphs, with

footnotes, stating objections and providing support. We also agree with Petitioners that EPA was aware of the forest road sedimentation problem at the time of the rulemaking.⁴² Indeed, EPA responded to the comments without disputing that the problem is serious. 3 EPA, *Response to Public Comments* 8 (Oct. 29, 1999). Rather, the agency relied on 40 C.F.R. § 122.27(b)(1), indicating that it was barred from acting under the Phase II Rule by § 122.27(b)(1).

EPA does not seriously address the merits of Petitioners' objections to the Rule in its brief to this court. Instead, EPA relies almost entirely on its assertion that we lack jurisdiction to decide this question. It does, however, strongly imply that its failure to adopt its own proposed amendment in the proceeding pertaining to § 122.27(b)(1) relieves it of its obligation to consider including forest roads in the Phase II Rule proceedings. We reject any such contention. Petitioners' assertion that § 402(p)(6) requires that the Phase II Rule contain provisions regulating forest roads necessitates a response from EPA on the merits.

***863** Having concluded that the objections of the Environmental Petitioners are not time-barred, and that we have jurisdiction to hear them, but that EPA failed to consider those objections on the merits, we remand this issue to the EPA, so that it may consider in an appropriate proceeding Petitioners' contention that § 402(p)(6) requires EPA to regulate forest roads. EPA may then either accept Petitioners' arguments in whole or in part, or reject them on the basis of valid reasons that are adequately set forth to permit judicial review.

D. AF&PA's Standing

The American Forestry & Paper Association (AF&PA), a national trade association representing the forest, pulp, paperboard, and wood products industry, is one of the two Industry Petitioners asserting the remaining claims.⁴³ Before considering these challenges, however, we consider whether AF&PA has standing to raise them.

EPA argues that AF&PA lacks standing because it cannot show that it represents entities that suffer a cognizable injury under the Phase II Rule as promulgated. EPA argues that the interests of AF&PA entities might have supported standing had EPA decided to regulate forest roads as Phase II stormwater dischargers, but since EPA declined to do so, none of AF&PA's members are

currently subject to the Rule. AF&PA contends that its members have a cognizable legal interest in the Rule because they risk becoming subject to regulation at any future time under the continuing designation authority.

[21] We agree that AF&PA lacks standing. A claimant meeting Article III standing requirements must show that "(1) it has suffered an 'injury in fact' ...; (2) the injury is fairly traceable to the challenged action of the defendant; and (3) it is likely, as opposed to merely speculative, that the injury will be redressed by a favorable decision." *Friends of the Earth v. Laidlaw Env'tl. Servs. (TOC)*, 528 U.S. 167, 180–81, 120 S.Ct. 693, 145 L.Ed.2d 610 (2000). Standing requires an injury that is "actual or imminent, not 'conjectural or hypothetical.'" *Lujan v. Defenders of Wildlife*, 504 U.S. 555, 560, 112 S.Ct. 2130, 119 L.Ed.2d 351 (1992). AF&PA's interest in avoiding future regulation of forest roads is not actually or imminently threatened by any potential result in this case. No ripe claim about misuse of the residual authority to regulate forest road discharge, or any other kind of discharge, is before the court. Should members of AF&PA become subject to Phase II regulation through subsequent administrative action, it will have standing to challenge those actions at that time. In the meanwhile, we proceed to the merits of the remaining claims on behalf of AF&PA's co-petitioner, the National Association of Home Builders, which has established its standing to raise them.

E. Consultation with State and Local Officials

The Industry Petitioners contend that EPA failed to consult with the States on the Phase II Rule as required by § 402(p)(5), which instructs EPA to conduct studies "in consultation with the States," and § 402(p)(6), which instructs the Administrator to issue regulations based on these studies "in consultation with State and local officials." 33 U.S.C. §§ 1342(p)(5)-(6). We conclude that EPA satisfied its statutory duty of consultation. See *Marsh*, 490 U.S. at 378, 109 S.Ct. 1851.

***864** Petitioners concede several instances in which EPA circulated drafts of the Phase II Rule to state and local authorities, but argue that these consultations were meaningless because (1) the reports were circulated too far in advance of the actual rulemaking, (2) the rulemaking wrongfully proceeded based on other sources of input, (3) standard APA notice and comment procedures could not suffice because Congress must have intended something more when it added the consultation requirements to

the language of § 402, and (4) consultation at the final stage of rulemaking was inadequate because comment was sought on the final report only after it had been submitted to Congress and the Phase II Rule had been promulgated. Petitioners provide examples of state feedback that allegedly went unheeded by EPA in its promulgation of the final Rule.

EPA maintains that it consulted extensively with States and localities in developing the Phase II Rule, discharging its obligations under §§ 402(p)(5) & (6). EPA contends that the comments Petitioners cite as unheeded by EPA demonstrate that EPA *did* consult with States concerning the Rule, even if some States did not concur in EPA's ultimate conclusion, and that the final rule adopted a good measure of the flexibility sought by state representatives. EPA argues that Industry Petitioners cannot complain that consultation was inadequate simply because it did not result in the adoption of Petitioners' preferred views.

EPA also disputes Petitioners' allegation that while EPA did comply with the terms of the 1999 Appropriations Act (requiring EPA to defend the proposed Phase II Rule before Congress and then publish the final report for public comment), it demonstrated its failure to adequately consult by publishing the report for public comment *after* the Phase II Rule had been formally promulgated, rendering any subsequent public comment meaningless. EPA counters that these actions do not indicate that it failed to satisfy Congress's directive that it consult with state and local officials, because EPA had engaged in extensive consultation before Congress requested the Appropriations Act report, and Congress did not require further consultation when it conditioned promulgation of the Rule only on the submission of this final report. EPA claims that while Congress required it to publish the report after its submission, public comment on the report was not required before promulgation, and that the statutory deadline structure rendered any other interpretation impossible.

[22] We conclude that the overall record indicates EPA met its statutory duty of consultation. A draft of the first report was circulated to States, EPA regional offices, the Association of State and Interstate Water Pollution Control Administrators (“ASIWPCA”), and other stakeholders in November, 1993, and was revised based on comments received. EPA established the Urban Wet Weather Flows Federal Advisory Committee

(“FACA Committee”), balancing membership between EPA's various outside stakeholder interests, including representatives from States, municipalities, Tribes, commercial and industrial sectors, agriculture, and environmental and public interest groups. 64 Fed. Reg. 68,724. The 32 members of the Phase II FACA Subcommittee, reflecting the same balance of interests, met fourteen times over three years and state and municipal representatives provided substantial input regarding the draft reports, the ultimate Phase II Rule, and the supporting data.⁴⁴ *Id.* EPA *865 instituted the Phase II Subcommittee meetings in addition to the standard APA notice and comment procedures, which EPA also followed.

The fact that the Rule did not conform to Petitioners' hopes and expectations does not bear on whether EPA adequately consulted state and local officials. Although required to consult with States and localities, EPA was free to chart the substantive course it saw fit. EPA was not required to consult with States on the Appropriations Act report. Even if EPA should have sought further comment at that late stage, failure to do so does not outweigh the evidence demonstrating extensive consultation and cooperation with local authorities on development of the Rule.

F. Designation of Certain Small MS4s and Construction Sites

The Industry Petitioners contend that, in designating certain small MS4s and construction sites for regulation under the Phase II Rule, EPA failed to adhere to the statutorily required regulatory basis and misinterpreted record evidence. We disagree.

1. Regulatory Basis

The Industry Petitioners and the Municipal Petitioners contend that EPA violated the statutory command to base the Phase II regulations on § 402(p)(5) studies. We review EPA's interpretation of its statutory authority under the *Chevron* standard, 467 U.S. at 842–44, 104 S.Ct. 2778, and affirm.

Petitioners argue that the studies mandated by § 402(p)(5) were intended to provide the sole substantive basis for the “comprehensive program” envisioned in § 402(p)(6), but that EPA also (and thus improperly) based its designation of small MS4s and construction sites on (1)

public comment received in the aftermath of judicial invalidation of the scope of construction sites regulated by the Phase I Rule,⁴⁵ and (2) additional research discussed in the Preamble to the Phase II Rule.⁴⁶

EPA contends that the statute did not require it to base its designations exclusively on the § 402(p)(5) studies, and that it was in fact required to take account of information from other sources in promulgating the regulations. It argues that it based the Phase II Rule on conclusions reported in the § 402(p)(5) studies, but then appropriately supported these results with data described in the additional study requested by Congress in the Appropriations Act, comments submitted during the statutorily required notice-and-comment process, and other available information. To read the authorizing statute as limiting reliance to the § 402(p)(5) studies, **EPA** claims, would preclude it from relying on recommendations received through the separate, post-study requirement to “consult with State and local officials” under *866 § 402(p)(6), and through the notice and comment process mandated by the APA, 5 U.S.C. § 553(b).

Respondent-intervenor NRDC adds that the Phase II Rule is consistent with the § 402(p)(5) studies reported in 1995, and moreover, that the Industry Petitioners lack standing to raise the “regulatory basis” claim because they cannot show the requisite injury. See *Friends of the Earth*, 528 U.S. at 180–81, 120 S.Ct. 693.

a. Standing. Industry Petitioners⁴⁷ contend that they have suffered injury in fact, because their members are now either automatically regulated by the permitting requirements or subject to future regulation (under the residual authority, discussed below) that otherwise would not have been authorized, and that this is a direct result of **EPA's** failure to adhere to the framework of the 1995 Report, which allegedly would have precluded these aspects of the Rule. NRDC contends that the Industry Petitioners lack standing because they cannot show that being subject to NPDES permitting is the causal result of the procedural injury they urge, and because they cannot base standing on hypothetical injury that may arise in the future.

NRDC argues that the injuries Petitioners allege are not consistent with the guidelines laid out in *Friends of*

the Earth, 528 U.S. at 180–81, 120 S.Ct. 693. It insists that Petitioners' only possible claims of injury from the alleged “regulatory basis” violation are purported harm to members caused by the final Phase II Rule itself or harm to members caused by **EPA's** alleged failure to provide adequate notice of future regulatory requirements in the 1995 Report. However, NRDC contends that Petitioners have not suffered the requisite injury, because they had actual notice that **EPA** might regulate small construction sites, 63 Fed. Reg. at 1583, and they can show no chain of causation linking their alleged injury from the Rule itself to the actions challenged here.

NRDC's causation argument is complex. Although the Petitioners purport to challenge **EPA's** failure to follow all of the 1995 Report's recommendations in the final Phase II Rule, NRDC contends, they are really challenging the subsequent proceedings through which **EPA** developed the final Rule. Even if there were some unlawful variance between the 1995 report and final rule, NRDC continues, the cause of that variance would have been some failure to abide by rulemaking standards during administrative proceedings that produced the text of the final Rule—not **EPA's** attention to sources of input other than the 1995 Report. NRDC maintains that these intervening acts of rulemaking (e.g., Phase II Subcommittee activities and the notice-and-comment process) break the requisite chain of causation between **EPA's** alleged failure to adhere to recommendations in the 1995 report and the flaws Petitioners allege in the Phase II Rule, which NRDC claims would have been due to “purportedly unlawful **EPA** decisions on the merits during the subsequent administrative proceedings.” See *Northside Sanitary Landfill v. Thomas*, 804 F.2d 371, 381–84 (7th Cir.1986) (finding no standing to challenge **EPA** statements concerning the fate of a hazardous waste facility when subsequent state administrative acts, not **EPA** comments, would determine the facility's actual fate).

[23] We note that NRDC's standing arguments apply equally to the Municipal Petitioners, who can also assert only the *867 harms resulting to members from the Rule itself or from a lack of notice, and that we are thus not only considering the standing of the Industry Petitioners but also that of the Municipal Petitioners to raise the “regulatory basis” claim.⁴⁸ That established, we find standing for both.

NRDC essentially argues that petitioners lack standing because (1) they cannot show that being subject to NPDES permitting is the causal result of the procedural injury they urge, (2) they cannot claim any actual notice injury from the alleged procedural wrong because notice was actually given, and (3) they cannot claim standing based on hypothetical injury that may (or may not) arise from future regulation under the residual authority. We can readily agree with the latter two contentions. As discussed above, the “actual injury” requirement of Article III standing precludes judicial consideration of exactly the kind of hypothetical harm the Industry Petitioners allege may follow from use of Phase II authority for future designations of regional sources. *Friends of the Earth*, 528 U.S. at 180–81, 120 S.Ct. 693. If future Phase II designations cause identifiable injury to Petitioners, they will then be free to pursue that ripe claim. And because EPA clearly issued notice to all regulated parties that they may be subject to regulation under the proposed rule, 63 Fed. Reg. at 1568 (MS4s) and 1582 (construction), petitioners cannot show injury from lack of actual notice.

However, NRDC's causation argument is less persuasive. NRDC correctly argues that the petitioners cannot establish a definite chain of causation between the EPA's alleged failure to limit their regulatory basis to the § 402(p)(5) studies and the fact that they now must obtain permits. But this will almost always be true of petitions challenging an agency's failure to abide by statutory procedural requirements. Because all administrative decisionmaking following an alleged procedural irregularity could always be considered an intervening factor breaking the chain of causation, NRDC's interpretation of the requisite chain of causation would dubiously shield administrative decisions from procedural review.

For this reason, we have held that the failure of an administrative agency to comply with procedural requirements in itself establishes sufficient injury to confer standing, even though the administrative result might have been the same had proper procedure been followed. *City of Davis v. Coleman*, 521 F.2d 661, 671 (9th Cir.1975) (agency's failure to comply with National Environmental Policy Act's procedural requirements constituted injury sufficient to support standing of a geographically related plaintiff regardless of potentially similar regulatory outcome). In *City of Davis*, we noted that the standing inquiry represents “a broad test, but because the nature and scope of environmental consequences are often highly

uncertain before study we think it an appropriate test.” *Id.* A plaintiff who shows that a causal relation is “probable” has standing, even if the chain cannot be definitively established. *Johnson v. Stuart*, 702 F.2d 193, 195–96 (9th Cir.1983) (school students and their parents had standing to challenge a statute that limited the texts that might be selected for teaching, even *868 though it could not be shown whether any specific book had been rejected under this statute or for other reasons).

The Supreme Court has also acknowledged that standing may be established by harm resulting indirectly from the challenged acts, *Warth v. Seldin*, 422 U.S. 490, 504–05, 95 S.Ct. 2197, 45 L.Ed.2d 343 (1975), and that causation may be established if the plaintiff shows a good probability that, absent the challenged action, the alleged harm would not have occurred, *Arlington Heights v. Metro. Hous. Dev. Corp.*, 429 U.S. 252, 262–64, 97 S.Ct. 555, 50 L.Ed.2d 450 (1977).

Thus, although the petitioners cannot show with certainty that the alleged “regulatory basis” violation caused them to be wrongfully subjected to Phase II permitting requirements, we hold that they have alleged a procedural injury sufficient to support their standing to bring the claim.

b. Merits. Although we resolve the standing issue in favor of the petitioners, we nevertheless affirm the Rule against their claim that EPA violated procedural constraints implied by the authorizing statute, § 402(p)(6).

Congress intended EPA to use all sources of information in developing a comprehensive program to protect water quality to the maximum extent practicable. The statute unambiguously required EPA to base its regulations both on the § 402(p)(5) studies and on consultation with state and local officials. Congress enacted § 402 with full knowledge that EPA would also be required to take account of public comments during the notice and comment phase of administrative rulemaking prescribed by the APA.⁴⁹

2. MS4s in Urbanized Areas

The Municipal Petitioners contend that the designation of small MS4s for Phase II regulation according to Census Bureau defined areas of population density (“urbanized areas”) is arbitrary and capricious. They argue that EPA

has not established that the Census Bureau's designation of urbanized areas is correlated with actual levels of pollution runoff in stormwater, and that **EPA** adopted the designations simply for administrative convenience. We affirm, because the record reflects a reasoned basis for **EPA's** decision. See *Marsh*, 490 U.S. at 378, 109 S.Ct. 1851.

Conceding that the Preamble cites studies purporting to establish “a high correlation between the degree of development/urbanization and adverse impacts on receiving waters due to stormwater,” 64 Fed. Reg. at 68,751, the Municipal Petitioners nevertheless contend that the record contains no “demonstrably correlated, quantified basis on which **EPA** may reasonably have concluded that any particular population, or any population density, *per se* establishes that all urban areas having that same characteristic in gross are necessarily appropriate for inclusion as Phase II sources.” Pointing to *Leather Industries of America v. EPA*, 40 F.3d 392, 401 (D.C.Cir.1994) (rejecting as arbitrary **EPA's** regulation of pollutant levels in the absence of data supporting a relationship between the caps and level of risk), Petitioners argue that **EPA** simply assumed the relationship Congress contemplated it would establish by the § 402(p)(5) studies.

EPA responds that it extensively documented the relationship between urbanization and harmful water quality impacts from stormwater runoff, pointing to its findings that the degree of surface imperviousness in an area directly corresponds *869 to the degree of harmful downstream pollution from stormwater runoff, 64 Fed. Reg. at 68,724–27, and that it articulated a rational connection between these record facts and its decision to designate small MS4s serving areas of high population density (“urbanized areas”) to protect water quality.

[24] We treat **EPA's** decision with great deference because we are reviewing the agency's technical analysis and judgments, based on an evaluation of complex scientific data within the agency's technical expertise. See *Baltimore Gas & Elec. Co. v. NRDC*, 462 U.S. 87, 103, 103 S.Ct. 2246, 76 L.Ed.2d 437 (1983); see also *Chem. Mfrs. Ass'n v. EPA*, 919 F.2d 158, 167 (D.C.Cir.1990) (“It is not the role of courts to ‘second-guess the scientific judgments of the **EPA**....’”). We conclude that the record supports **EPA's** choice.

The statute simply called upon **EPA** to “designate stormwater discharges,” other than those designated in Phase I, “to be regulated to protect water quality.” 33 U.S.C. § 1342(p)(6). **EPA** did so, based on record evidence showing a compelling and widespread correlation between urban stormwater runoff and deleterious impacts on water quality. Petitioners' assertion that **EPA** failed to establish a “quantified” basis for its designation is inapposite. The statute did not require **EPA** to establish with pinpoint precision a numeric population threshold within urbanized areas that would justify regulation under Phase II. In areas implicating technical expertise and judgment, courts do not require “perfect stud[ies]” or data. *Sierra Club*, 167 F.3d at 662. **EPA** satisfied the *Leather Industries* standard by adopting a threshold consistent with the criterion of “protecting water quality,” and did not assume, but instead sufficiently documented, the relationship between urbanization and harmful stormwater discharge.

3. Small Construction Sites

Industry and Municipal Petitioners also argue that **EPA's** decision to regulate under Phase II all construction sites disturbing between one and five acres of land (“small construction sites”) is arbitrary and unsupported by the record. We do not agree. See *Marsh*, 490 U.S. at 378, 109 S.Ct. 1851.

a. Record Evidence. Municipal Petitioners claim that **EPA** arrived at the one-acre standard based not on factual findings in the record but instead as a reaction to the earlier Ninth Circuit remand of the Phase I five-acre designation. They allege that the one-acre standard is no more based on supporting data than the rejected five-acre standard, and is thus quantitatively arbitrary.

Industry Petitioners argue that **EPA's** findings do not support regulation of *all* small construction sites, but indicate only that small construction sites, taken cumulatively, may cause effects similar to large sites in a given area. They contend that **EPA's** conclusion that adverse effects are possible under certain circumstances cannot support categorical designation of all small construction sites nationwide, and that the Rule is arbitrary because (1) it is based on an analysis that fails to take account of the frequency of negative impacts, (2) it fails to take account of acknowledged factors that determine whether small construction activities cumulatively cause harm (such as the degree

of development in a watershed at any given time), and (3) EPA has acknowledged that the actual water quality impact of construction sites of all sizes varies widely from area to area depending on climatological, geological, geographical, *870 and hydrological influences.⁵⁰

Industry Petitioners further contend that the record does not support the designation of small sites, because almost all of the technical papers EPA relied on focused on larger sites or failed to take account of size,⁵¹ and because the lack of an adequate factual basis for nationwide regulation of small sites makes the Phase II Rule arbitrary and capricious. *Am. Petroleum Inst. v. EPA*, 216 F.3d 50, 58 (D.C.Cir.2000) (invalidating a solid waste rule because EPA “failed to provide a rational explanation for its decision” declining to exclude oilbearing waste waters from the statutory definition of solid waste).

EPA maintains that construction sites regulated under the Phase II Rule degrade water quality across the United States and that the administrative record unambiguously documents that harm. EPA disputes Petitioners' assertion that it failed to establish the need to regulate small sites nationwide, but also contends that it is not required to base every administrative decision on a precise quantitative analysis. See *Sierra Club*, 167 F.3d at 662 (“EPA typically has wide latitude in determining the extent of data-gathering necessary to solve a problem.”).

EPA also disputes petitioners' assertions that data from studies involving larger construction sites are irrelevant to the Phase II Rule. EPA explains that discharges of sediment due to erosion are the result of the interaction of several factors including soils, slope, precipitation, and vegetation:

For construction sites that are one acre or more, none of the environmental factors contributing to sediment discharges is dependent on the size of the site disturbed. A one-acre site can have the same combination of soils, slope, degree of disturbance and precipitation as a 100-acre site, and consequently can lose soil at the same rate ... and discharge sediments in the same concentrations ... as a 100-acre site.

EPA contends that it is thus reasonable to extrapolate data about small sites from studies of larger ones—and that such an extrapolation may even be forgiving, since small sites are currently less likely to have effective erosion and sedimentation control plans.⁵²

*871 Indeed, EPA argues that although adverse water quality impacts of small construction sites have been widely recognized, effective local erosion and sedimentation control programs have not been adopted in many areas.⁵³ Though not all watersheds are currently adversely effected by small construction sites,⁵⁴ EPA notes that the Phase II Rule acts “to protect water quality” both remedially and preventively, and argues that it need not quantify the cumulative effects of discharges from these sites or identify all watersheds that are currently harmed before acting to limit pollution from small sites.⁵⁵

[25] We reverse under the arbitrary and capricious standard only if the agency has relied on factors Congress did not intend it to consider, entirely failed to consider an important aspect of the problem, offered an explanation for its decision contrary to the evidence before the agency, or is so implausible that it could not be ascribed to a difference in view or the product of agency expertise. *Motor Vehicle Mfrs. Ass'n*, 463 U.S. at 43, 103 S.Ct. 2856. Petitioners' contention that EPA relied on factors Congress did not intend it to consider was rejected in our earlier discussion of the regulatory basis challenge. They submit no evidence that EPA failed to consider an important aspect of the problem. We cannot say that EPA's designation of small construction sites is implausible (especially given the support of twenty-some-odd studies of sedimentation from construction sites that EPA reviewed in promulgating the challenged regulations, 64 Fed. Reg. 68,728–31). We could remand this aspect of the Rule only if, as the petitioners urge, EPA's explanation for its decision to regulate small construction sites were contrary to the record evidence, and it is not.

Petitioners' primary contention is that evidence in the record suggests it is not possible to provide an explicit, quantitative link between small construction sites and an adverse effect on water quality. But even if this were so, EPA's decision to regulate preventively small construction sites “to protect water quality” is not inconsistent with the record. Petitioners contend that EPA's reliance on data from studies of large construction sites is insufficient

to support **EPA's** designation of small sites, but **EPA** has adequately supported its contention that experts can reasonably *872 extrapolate projected water quality impacts from large to small sites. We apply the substantial evidence standard when reviewing the factual findings of an agency, *Dickinson v. Zurko*, 527 U.S. 150, 156–58, 119 S.Ct. 1816, 144 L.Ed.2d 143 (1999),⁵⁶ and find it satisfied here.

Moreover, **EPA** is not required to conduct the “perfect study.” *Sierra Club*, 167 F.3d at 662. We defer to an agency decision not to invest the resources necessary to conduct the perfect study, and we defer to a decision to use available data unless there is no rational relationship between the means **EPA** uses to account for any imperfections in its data and the situation to which those means are applied. *Id.*; *Am. Iron & Steel Inst. v. EPA*, 115 F.3d 979, 1004 (D.C.Cir.1997). The record indicates a reasoned basis for **EPA's** decision that regulating small construction sites was necessary “to protect water quality” as required by § 402(p)(6).

[26] *b. Waivers.* Industry Petitioners further contend that **EPA's** allowance of regulatory waivers for small construction sites not likely to cause adverse water quality impacts inappropriately supplements the permitting regulations.

Petitioners argue that **EPA** has the burden of establishing a comprehensive program to control sources as necessary to protect water quality, and that shifting the burden to individual contractors, businesses, and homeowners to prove they do not harm water quality falls short of meeting this statutory obligation. Citing *National Mining Association v. Babbitt*, 172 F.3d 906, 910 (D.C.Cir.1999), they argue that **EPA's** rebuttable regulatory presumption of water quality impact from small construction activity is unreasonable because the agency has established no scientific likelihood that any given small site will affect water quality. **EPA** defends the waiver approach as fair and efficient, and argues that the Industrial Petitioners are confusing arguments about the limits of presumptions in evidentiary hearings conducted under the APA.⁵⁷

EPA is correct; the Phase II Rule creates no presumption applicable to an evidentiary hearing, and a regulation creating exemptions by waiver is reviewed under the familiar arbitrary and capricious standard. The use of waivers to allow permit exemptions for small sites

unlikely to cause adverse impacts is reasonable under that standard.

[27] *c. Consistency.* Industry Petitioners also argue that **EPA's** decision to regulate all small construction sites under the Phase II Rule is arbitrary and capricious because **EPA** applied a different standard in regulating small construction projects than it applied to other potential sources of stormwater runoff subject to Phase II regulation.

Petitioners contend that **EPA** decided not to designate other potential sources identified in the § 402(p)(5) studies because it determined that there are not “sufficient data ... available at this time on which to make a determination of potential adverse water quality impacts for the category of sources.” 64 Fed. Reg. at 68,780. Petitioners contend this standard should have been applied to small construction sites as well, but **EPA** opted to *873 regulate these sources despite an alleged lack of coherent data on small site impacts as a general category.

EPA counters, once again, that it did have adequate data to regulate small construction sites. It contends that construction sites of all sizes have greater erosion rates than almost any other land use, and thus are not similarly situated to the potential polluters that **EPA** chose not to regulate at this time.⁵⁸ These sources include secondary industrial activities (for example, maintenance of construction equipment or local trucking for an unregulated facility such as a grocery store) and other unregulated commercial activities (for example, car and truck rental facilities). 64 Fed. Reg. at 68,779. **EPA** reports that it decided not to categorically regulate these potential sources based both on available data about water quality impacts and on the extent to which potentially adverse water quality impacts are mitigated by existing regulations to which these sources are already subject. *Id.* at 68,780.

We find no error. See *Marsh*, 490 U.S. at 378, 109 S.Ct. 1851. **EPA** acted reasonably in designating all small construction sites for Phase II regulation, and Industry Petitioners point to no record evidence that the nature of pollutant contributions from small construction site discharge is sufficiently similar to pollutants from the non-regulated sources to support the analogy they seek to draw. *New Orleans Channel 20 v. FCC*, 830 F.2d 361, 366 (D.C.Cir.1987) (an agency does not act irrationally when it treats parties differently, unless the parties are similarly

situated). Sufficient evidence supports EPA's conclusion that small construction sites are not similar enough to these "other sources" to support petitioner's challenge.

G. Continuing ("Residual") Designation Authority

The Industry Petitioners argue that EPA acted improperly in retaining authority to designate future sources of stormwater pollution for Phase II regulation as needed to protect federal waters. We disagree.

The Phase II Rule preserves authority for EPA and authorized States to designate currently unregulated stormwater dischargers as requiring permits under the Rule if future circumstances indicate that they warrant regulation "to protect water quality" under the terms of § 402(p)(6). 40 C.F.R. § 122.26(a)(9). In the Phase II Preamble, EPA explains this aspect of the Rule:

Under today's rule, EPA and authorized States continue to exercise the authority to designate remaining unregulated discharges composed entirely of stormwater for regulation on a case-by-case basis.... Individual sources are subject to regulation if EPA or the State, as the case may be, determines that the stormwater discharge from the source contributes to a violation of a water quality standard or is a significant contributor of pollutants to waters of the United States. This standard is based on the text of section CWA 402(p). In today's rule, EPA believes, as Congress did in drafting section CWA 402(p)(2)(E), that individual instances of stormwater discharge might warrant special regulatory attention, but do not fall neatly into a discrete, predetermined category. Today's rule preserves the regulatory authority § 874 to subsequently address a source (or category of sources) of stormwater discharges of concern on a localized or regional basis.

64 Fed. Reg. 68,781. The text of the Rule requires a discharger to obtain a permit if the NPDES permit authority determines that "stormwater controls are needed for the discharge based on wasteload allocations that are part of 'total maximum daily loads' (TMDLs⁵⁹) that address the pollutant(s) of concern" or that "the discharge, or category of discharges within a geographic area, contributes to a violation of a water quality standard or is a significant contributor of pollutants to waters of the United States." 40 C.F.R. §§ 122.26(a)(9)(i)(C)-(D).

1. Statutory Authority

The Industry Petitioners contend that this "residual" designation authority, which would allow a NPDES permitting authority to require at any future time a permit from any stormwater discharge not already regulated, is *ultra vires*. Although they concede that Congress authorized case-by-case designation in § 402(p)(2)(E),⁶⁰ they argue that this authority attached only during the permitting moratorium that ended in 1994, prior to the Phase II rulemaking. They object that EPA has impermissibly designated a category of "not yet identified" sources and preserved authority to regulate them on a case-by-case basis indefinitely into the future.⁶¹

[28] Petitioners contend that § 402(p)(6)⁶² cannot rescue the residual authority because it does not authorize case-by-case identification of discharges to be regulated, and that Congress, had it intended otherwise, would have included language in § 402(p)(6) similar to the case-by-case authority explicitly granted in § 402(p)(2)(E).⁶³ They also contend that § 875 continuing authority to designate sources based on waste load allocations that are part of TMDLs exceeds the scope of authority in § 402(p)(2), which nowhere mentions TMDLs. Finally, they argue that the categorical designation authorized by § 402(p)(6) is only permissible when based on the § 402(p)(5) studies and carried out in consultation with state and local authorities, but that the Rule allows future designations based on agency discretion unaccompanied by adequate demonstration that the source itself is a significant threat to water quality.

EPA counters that § 402(p)(6) authorized the designation, made on the basis of statutorily required sources of input and in consultation with the States, of a third class of discharges to be identified on location-specific

bases by the NPDES permitting authority. EPA contends that Petitioners mistake the source of its authority for continuing designations as arising only from § 402(p)(2), discounting the full scope of its authority under § 402(p)(6). EPA argues that it permissibly interpreted § 402(p)(6) as allowing the residual designation authority because its language does not expressly preclude it, and because such authority is consistent with (and arguably required by) that section's mandate to establish a “comprehensive program” to protect water quality from adverse stormwater discharges. EPA maintains that the structure of § 402(p) reflects “Congress' intent to assure regulation of all problematic stormwater discharges as expeditiously as reasonably possible—not to limit EPA to a one-time-only opportunity to designate discharges for regulation.”

[29] We review EPA's interpretation of the statute it administers with deference, *Royal Foods Co.*, 252 F.3d at 1106, and affirm this aspect of the Phase II Rule as a legitimate exercise of regulatory authority conferred by § 402(p). The residual designation authority is grounded both on § 402(p)(6), which broadly authorizes a comprehensive program to protect water quality, and on § 402(p)(2)(5), which authorizes case-by-case designation of certain polluters and categories of polluters.

While not a blank check, § 402(p)(6) authorizes a comprehensive program that allows regional designation of polluting discharges that compromise water quality locally, even if they have not been established as compromising water quality nationally at the time Phase II was promulgated. In allowing continuing designation authority, EPA permissibly designated a third category of dischargers subject to Phase II regulation—those established locally as polluting U.S. waters—following all required studies and consultation with state and local officials. EPA reasonably determined that discharges other than those from small MS4s and construction sites were likely to require regulation “to protect water quality” in satisfaction of the § 402(p)(6) mandate. EPA reasonably determined that, although it lacked sufficient data to support nationwide, categorical § 402(p)(6) designation of these sources, particularized data might support their designations on a more localized basis. EPA reasonably interpreted § 402(p)(6) as authorizing regional designation of sources and regional source categories, based on water quality standards including TMDLs.

Petitioners' § 402(p)(2)(5) argument (that EPA could not draw support for the residual designation authority from § 402(p)(2)(5) because such authority expired in 1994) is contradicted by the plain language of the statute. Respondent-intervenor NRDC correctly notes that § 402(p)(1) sets forth a permitting moratorium for stormwater discharges prior to 1994, and that § 402(p)(2) exempts certain categories of sources from that permitting moratorium, including those to be regulated on a case-by-case basis under § 402(p)(2)(5). Specifically, the statute provides that the 1994 date “shall not apply” to the five categories of discharges listed in § 402(p)(2). The termination of a moratorium that “shall not apply” to the continuing designation authority under § 402(p)(2)(5) cannot rescind EPA's authority to regulate sources in that category. Nothing in § 402(p) suggests that authority to designate these sources ends at any time, and EPA remains free to designate § 402(p)(2)(E) dischargers.

Finally, although Petitioners may be legitimately concerned that a permitting authority may designate a source without adequately establishing its eligibility, this issue must be addressed in the context of an actual case or controversy. Whether a NPDES authority may impose permitting requirements on a discharger without an adequate finding of polluting activity is not yet ripe for judicial review. *Thomas v. Anchorage Equal Rights Comm'n*, 220 F.3d 1134, 1141 (9th Cir.2000) (“A concrete factual situation is necessary to delineate the boundaries of what conduct the government may or may not regulate.”).

2. Nondelegation Doctrine

[30] Industry Petitioners contend that EPA's interpretation of § 402(p) to allow the residual designation authority must be rejected because it would render the statute unconstitutional under the nondelegation doctrine. We deny petitioners' claim, both because it is not properly raised and because it rests on an interpretation explicitly overturned by the United States Supreme Court.

Petitioners base their contention on *American Trucking Ass'ns v. EPA*, 175 F.3d 1027, 1034 (D.C.Cir.1999),⁶⁴ in which the D.C. Circuit remanded a regulation under the nondelegation doctrine because, although EPA had applied reasonable factors in establishing the air quality standards in question, the agency had articulated no “intelligible principle” to channel its application of

these factors. *Id.* Petitioners argue that if § 402(p) authorizes a NPDES permitting authority to require Phase II permitting of any stormwater source deemed to be a “significant contributor” of pollutants to U.S. waters, then that grant of authority likewise constitutes an unconstitutional delegation of legislative authority because—as did the *American Trucking* delegation—it “leaves [EPA] free to pick any point” at which a regulatory burden will attach. *Id.* at 1037.

However, in reversing *American Trucking*, the Supreme Court rejected the notion that an agency has the power to interpret a statute so as to either save it from being, or transform it into, an unconstitutional delegation. *Whitman v. Am. Trucking*, *877 Ass'ns, 531 U.S. 457, 473, 121 S.Ct. 903, 149 L.Ed.2d 1 (2001). Whether a statute delegates legislative power “is a question for the courts, and an agency's [interpretation] has no bearing upon the answer.” *Id.* Petitioner's argument to the contrary rests on the very reasoning in *American Trucking* that was overturned in *Whitman*. The relevant question is not whether EPA's interpretation is unconstitutional, but whether the statute itself is unconstitutional—a challenge Industry Petitioners do not raise.

But even if the challenge were properly raised, § 402(p) would, like the Clean Air Act standard-setting provision at issue in *Whitman*, survive constitutional review. The Supreme Court has upheld against nondelegation attacks many similar statutes establishing nonquantitative standards. *Am. Power & Light Co. v. SEC*, 329 U.S. 90, 104, 67 S.Ct. 133, 91 L.Ed. 103 (1946) (upholding statute giving SEC authority to modify corporate structures so that they are not “unduly or unnecessarily complicate[d]” and do not “unfairly or inequitably distribute voting power among security holders”); *Yakus v. United States*, 321 U.S. 414, 419–20, 423–27, 64 S.Ct. 660, 88 L.Ed. 834 (1944) (upholding statute giving agency power to set prices that “will be generally fair and equitable”). In *Yakus*, the Court held that a statutory command to “effectuate the purposes” of the overall statutory scheme withstood scrutiny. *Id.* Section 402(p)(6)'s directive “to protect water quality” summarizes the central purpose of the Clean Water Act, “to restore and maintain the chemical, physical, and biological integrity of the Nation's waters,” 33 U.S.C. § 1251(a). It establishes a determinate criterion of the kind the Supreme Court upheld in *Yakus* and *American Power & Light*.

3. Notice and Comment

[31] Industry Petitioners also contend that, to the extent it allows the designation of entire categories of sources, rather than individual sources, the residual designation authority violates the APA, 5 U.S.C. § 553(b)(3), because EPA did not provide public notice that it was considering such a rule. *Ober v. EPA*, 84 F.3d 304, 315 (9th Cir.1996) (invalidating EPA rule where it deviated from proposal); *Shell Oil Co. v. EPA*, 950 F.2d 741, 746–47 (D.C.Cir.1991). Petitioners contend that while the proposed rule would have allowed case-by-case designation where an authority “determines that the discharge contributes to a violation,” 63 Fed. Reg. at 1635 (proposing 40 C.F.R. § 122.26(a)(9)(i)(D)), the final rule authorizes case-by-case designation where “the discharge, or category of discharges within a geographic area, contributes to a violation,” 40 C.F.R. § 122.26(a)(9)(i)(D).

EPA notes that it had proposed to promulgate continuing designation authority in some form, and points to elements in the proposed rule that explicitly envision the categorical designation of sources at the local/watershed level.⁶⁵

*878 According to the “logical outgrowth” standard, a final regulation must be “in character with the original proposal and a logical outgrowth of the notice and comments.” *Hodge*, 107 F.3d at 712. EPA emphasized that it was considering continuing designations based on watershed data rather than designating these sources on a national basis, and invited comment regarding this proposal. 63 Fed. Reg. at 1536. This supports the necessary relationship between the proposed and final rule.

H. Regulatory Flexibility Act

The Industry Petitioners contend that the Phase II Rule will impose substantial compliance costs on their members and other small entities, but that EPA failed to conduct the analysis required by the Regulatory Flexibility Act (“RFA”), 5 U.S.C. §§ 601–11. They argue that EPA seeks to excuse its noncompliance by falsely certifying that the Rule does not have a significant impact on a substantial number of small entities. 64 Fed. Reg. at 68,800. We are not persuaded.

[32] The RFA requires a federal agency to prepare a regulatory flexibility analysis and an assessment of the economic impact of a proposed rule on small business entities, 5 U.S.C. § 604, unless the agency certifies that the proposed rule will not have a “significant economic impact on a substantial number of small entities” and provides a factual basis for that certification, *id.* at § 605; *N.W. Mining Ass'n v. Babbitt*, 5 F.Supp.2d 9, 15–16 (D.D.C.1998).

EPA did certify that the Phase II Rule would not yield “significant impacts,” 64 Fed. Reg. at 68,800, but Petitioners contend this certification is erroneous because (1) EPA treats as “not significant” costs that are in fact significant, and (2) EPA failed to account for the entire universe of small entities affected (including small home construction contractors) and all significant costs to those entities. They urge that the failure to consider a significant segment of the affected small entity community requires invalidation of the Rule, citing *North Carolina Fisheries Ass'n v. Daley*, 27 F.Supp.2d 650, 659 (E.D.Va.1998) (certification failed to comply with RFA where agency ignored several categories of affected small entities), and *Northwest Mining*, 5 F.Supp.2d at 15 (RFA was violated where improper definition of small entity excluded analysis of affected entities).

EPA maintains that its certification was appropriate, and, moreover, that it has already voluntarily followed the additional RFA procedures that the Industry Petitioners now request. EPA argues that Petitioners have incorrectly specified the costs that the small entities they represent will bear, referring erroneously to EPA's total annual compliance costs estimates for all entities, rather than to costs estimated for small entities as defined under the RFA. EPA maintains that it did consider economic impacts on small home construction contractors who might be denied discharge permits, and that it evaluated the annual costs of Phase II compliance associated with any land disturbance between one and five acres. 64 Fed. Reg. at 68,800–01.

Respondent-intervenor NRDC contends that Petitioners' reliance on measures of the aggregate impact of the Rule on small entities to determine compliance with the threshold test under the RFA fails as a matter of law because aggregate measures are not consistent with the statutory language setting out that test. NRDC notes that the plain language of § 605(b) sets out a three-component

test indicating that EPA need not perform a regulatory flexibility analysis if it finds that the proposed *879 rule will not have: (1) “a significant economic impact” on (2) “a substantial number” of (3) “small entities.” 5 U.S.C. § 605(b). NRDC contends that EPA satisfied the statutory test, and that Petitioners' interpretation, which rewrites the test to omit the “substantial number” component, is erroneous.

[33] We believe NRDC correctly interprets the statute, *Marsh*, 490 U.S. at 378, 109 S.Ct. 1851, and that EPA reasonably certified that the Phase II Rule would not have a significant economic impact in compliance with the Regulatory Flexibility Act. We also conclude that, even if EPA had failed to properly comply with the procedural requirements of the RFA, its actual assessment of the Rule's economic impacts renders any defective compliance harmless error. In granting relief under RFA § 611, a court may order an agency “to take corrective action consistent with” the RFA and APA, including remand to the agency, 5 U.S.C. § 611(a)(4)(A), but EPA has already conducted the economic analyses Petitioners seek when it convened the “Small Business Advocacy Review Panel” before publishing notice of the proposed rule. 64 Fed. Reg. at 68,801. That Panel evaluated the Rule and considered the comments of small entities on a number of issues, consistent with the procedures described in RFA § 603. *Id.* Appendix 5 of EPA's preamble to the proposed rule explained provisions that had been designed to minimize impacts on small entities, based on advice and recommendations from the Panel. 63 Fed. Reg. 1615, 64 Fed. Reg. 68,811. Modifications for small entities included alternative compliance and reporting mechanisms responsive to the resources of small entities, simplified procedures, performance rather than design standards, and waivers.

Any hypothetical noncompliance would thus have been harmless, since the available remedy would simply require performance of the economic assessments that EPA actually made. Like the Notice and Comment process required in administrative rulemaking by the APA, the analyses required by RFA are essentially procedural hurdles; after considering the relevant impacts and alternatives, an administrative agency remains free to regulate as it sees fit. We affirm the Rule against this challenge.⁶⁶

III.

CONCLUSION

We conclude that the EPA's failure to require review of NOIs, which are the functional equivalents of permits under the Phase II General Permit option, and its failure to make NOIs available to the public or subject to public hearings contravene the express requirements of the Clean Water Act. We therefore remand these aspects of the Small MS4 General Permit option so that EPA may take appropriate action to comply with the Clean Water Act. We also remand so that EPA may consider in an appropriate proceeding the Environmental Petitioners' contention that § 402(p)(6) requires EPA to regulate forest roads. We affirm all other aspects of the Phase II Rule against the statutory, administrative, and constitutional challenges raised in this action.

***880** Petitions for Review GRANTED IN PART and DENIED IN PART.

TALLMAN, Circuit Judge, concurring in part and dissenting in part:

I concur in most of the majority's opinion, but I dissent from Section II.B, which remands the Phase II Rule because its system of general permits is "arbitrary and capricious." I believe EPA's design of a system of general permits supported by notices of intent was a reasonable exercise of EPA's administrative discretion. We must give deference to EPA's interpretation of the laws it is charged with enforcing, so long as EPA's reading of those laws is permissible. Because EPA acted reasonably in designing a National Pollutant Discharge Elimination System ("NPDES") based on general permits and supported by NOIs, I respectfully dissent from the court's decision to remand this portion of the Phase II Rule.

I

As the majority concedes, we evaluate EPA's interpretation of the Clean Water Act with deference. Majority Op. 13796. If Congress's intent is unclear as to whether a system of general permits supplemented

by NOIs is allowed, we simply ask "whether EPA's interpretation is permissible." *Ober v. Whitman*, 243 F.3d 1190, 1193 (9th Cir.2001).

II

As an initial matter, then, we must ask if Congress was clear in its intent concerning the propriety of a system of general permits augmented by NOIs.

Five legislative commands guide this inquiry. First, 33 U.S.C. § 1342(p)(6) charges EPA with creating a system to regulate stormwater discharges. Plainly, nothing in this section speaks to whether EPA may utilize a general permit approach in regulating stormwater discharge.

Second, 33 U.S.C. § 1311(a) makes it illegal to discharge pollutants "except as in compliance" with several sections of the Clean Water Act. Again, nothing in this section addresses whether EPA may make use of general permits reinforced by NOIs.

Third, 33 U.S.C. § 1342 in general (as opposed to the limited charge in section 1342(p)(6) discussed above) authorizes EPA to issue NPDES permits, provided that the permits satisfy several conditions. But nothing in section 1342 prohibits the use of a system of general permits.

Fourth, the Clean Water Act mandates that "a copy of each permit application and each permit issued under" the NPDES permitting program be made available to the public for inspection and photocopying. 33 U.S.C. § 1342(j). The Act does not elaborate on this naked requirement. There is no explanation of the manner in which NPDES permits and applications are to be made publicly available. Nor does the Act define what constitutes a "permit" that would trigger these requirements.

And fifth, the Clean Water Act authorizes the issuance of an NPDES "permit" "after opportunity for public hearing." 33 U.S.C. § 1342(a)(1). The Act does not provide a definition of "permit," nor does it further detail what triggers the requirement of a public hearing.

In short, the Clean Water Act fails to address the propriety of a general permit system, or whether NOIs

ought to be considered “permits.” Therefore, we should uphold EPA's creation of a system of general permits buttressed by NOIs so long as it is “permissible.” See *881 *Chevron, U.S.A., Inc. v. Natural Resources Defense Council*, 467 U.S. 837, 843–44, 104 S.Ct. 2778, 81 L.Ed.2d 694 (1984). Our duty to defer to EPA in such a situation is based on sound policy. Given the overwhelming challenge and complexity of the programs administered by federal agencies today, it is sensible to trust agencies with the design of those programs so long as the programs are reasonable interpretations of congressional mandates.

The central issues regarding EPA's general permit system are whether the Clean Water Act allows such a system and whether NOIs should be considered “permits.” The resolution of these issues requires a complicated weighing of policies (e.g., administrative streamlining vs. robust inquiry) that is precisely what agencies are designed to do and courts are without the resources or expertise to do. “[I]f the statute is silent or ambiguous with respect to the specific issue, the question for the court is whether the agency's answer is based on a permissible construction.” *Chevron*, 467 U.S. at 843, 104 S.Ct. 2778.

III

The Phase II Rule promulgates a system of general permits. EPA contemplated that these general permits will be issued on a watershed basis, with individual stormwater dischargers then filing NOIs to operate under general permits. The federal regulations implementing this system repeatedly emphasize that “[t]he use of general permits, instead of individual permits, reduces the administrative burden of permitting authorities, while also limiting the paperwork burden on regulated parties.” 64 Fed. Reg. 68,722, 68,737, 68,762 (Dec. 8, 1999).

The use of a general permit system for the administration of the NPDES system has been considered and approved before. In *NRDC v. Costle*, 568 F.2d 1369 (D.C.Cir.1977), the District of Columbia Circuit considered a challenge to EPA's regulations under the Federal Water Pollution Control Act, which was the precursor to the Clean Water Act. In *Costle*, EPA sought approval of its design for the NPDES system. EPA had issued regulations exempting broad categories of point sources from the requirement that an NPDES permit be obtained before discharging into federal waters. Part of EPA's rationale in creating

the exempted categories was that otherwise EPA would be overwhelmed by the administrative burden of issuing NPDES permits. *Id.* at 1377–79. The *Costle* court affirmed the lower court's rejection of these exemptions because the legislation in question plainly required that all point sources obtain some kind of NPDES permit. *Id.* But in rejecting EPA's regulations, the *Costle* court discussed the options available to EPA in promulgating an NPDES system that was considerate of the enormous burden such a system could impose on EPA. *Id.* at 1380–81. In particular, the court recommended “the use of area or general permits. *The Act allows such techniques.* Area-wide regulation is one well-established means of coping with administrative exigency.” *Id.* at 1381 (emphasis added).

Against this backdrop, EPA's creation of a general permit system was entirely permissible. And if the creation of a general permit system is permissible, then it does not matter whether NOIs are given a public airing.

The majority contends that the general permit system prevents EPA from fulfilling its duty to make sure that municipalities do not discharge pollutants in violation of the Clean Water Act. The majority reasons that by failing to require EPA review of NOIs, the Rule fails to ensure that a regulated MS4's stormwater pollution control program will satisfy the Clean Water Act requirement that the MS4 “reduce *882 discharges to the maximum extent practicable.” Majority Op. 855. But the majority's analysis ignores the effects of the general permit. By filing an NOI, a discharger obligates itself to comply with the limitations and controls imposed by the general permit under which it intends to operate. EPA mandates that all permits (including general permits) condition their issuance on satisfaction of pollution limitations imposed by the Clean Water Act. 40 C.F.R. § 122.44. In particular, EPA requires permits to satisfy the restrictions imposed by Clean Water Act section 307(a). *Id.* at § 122.44(b)(1). Therefore, the *general permit* imposes the obligations with which the discharger must comply (including applicable Clean Water Act standards), and EPA's decision not to review every NOI is not a failure to insure compliance with the Clean Water Act.

The majority also objects to EPA's general permit system because it fails to allow for sufficient public participation in the NOIs. Majority Op. 856–858. The majority's position fails to give deference to EPA and imposes the majority's own wishes instead. EPA would have been

justified in creating a system entirely reliant on general or area permits. Its imposition of NOIs is an indulgence to certain policy prerogatives, namely public involvement and the collection of additional information. But the power to create a general permit system necessarily implies the power to require subordinate steps for NOIs that do not quite reach the level of inquiry associated with actual permits.

IV

We function as an adjudicator of disputes, not as a policy-making body. Where an agency promulgates rules after a

deliberative process, it is incumbent upon us to respect the agency's decisions or else risk trivializing the function of that agency. In this case, **EPA** made a permissible decision to create a general permit program supported by NOIs. Therefore, I respectfully dissent from Section II.B of the majority's opinion.

All Citations

344 F.3d 832, 57 ERC 1039, 33 Env'tl. L. Rep. 20,269, 03 Cal. Daily Op. Serv. 8398, 2003 Daily Journal D.A.R. 10,479

Footnotes

- 1 The "Phase II Rule" reviewed here is the product of the second stage of **EPA's** two-phase stormwater rulemaking effort. The "Phase I Rule," governing larger-scale stormwater discharges, was issued in 1990 and reviewed by this court in *Natural Res. Def. Council v. EPA*, 966 F.2d 1292 (9th Cir.1992).
- 2 Richard G. Cohn-Lee and Diane M. Cameron, *Urban Stormwater Runoff Contamination of the Chesapeake Bay: Sources and Mitigation*, THE **ENVIRONMENTAL** PROFESSIONAL, Vol. 14, p. 10, at 10 (1992); see also *Natural Res. Def. Council*, 966 F.2d at 1295 (citing a study by the Nationwide Urban Runoff Program).
- 3 *Regulation for Revision of the Water Pollution Control Program Addressing Storm Water*, 64 Fed. Reg. 68,722, 68,724, 68,727 (Dec. 8, 1999) (codified at 40 C.F.R. pts. 9, 122, 123, and 124).
- 4 *Id.* at 68,726.
- 5 *Id.*
- 6 *Id.* at 68,725–31.
- 7 A point source is "any discernible, confined and discrete conveyance, including but not limited to any pipe, ditch, channel, tunnel, conduit, well, discrete fissure, container, rolling stock, concentrated animal feeding operation, or vessel or other floating craft, from which pollutants are or may be discharged." 33 U.S.C. § 1362(14).
- 8 Diffuse runoff, such as rainwater that is not channeled through a point source, is considered nonpoint source pollution and is not subject to federal regulation. *Oregon Natural Desert Ass'n v. Dombeck*, 172 F.3d 1092, 1095 (9th Cir.1998).
- 9 *National Pollutant Discharge Elimination System Permit Application Regulations for Stormwater Discharges*, 55 Fed. Reg. 47,990 (Nov. 16, 1990) (codified at 40 C.F.R. pt. 122–124). The Phase I rule was challenged in this court in *Natural Res. Def. Council*, 966 F.2d at 1292. We held, *inter alia*, that **EPA** must impose deadlines for permit approvals, *id.* at 1300, that **EPA's** decision to regulate construction sites only over five acres in size was arbitrary and capricious, *id.* at 1306, and that **EPA** did not act capriciously in defining "municipal," *id.* at 1304, or in placing differently-sized municipalities on different permitting schedules, *id.* at 1301.
- 10 *Proposed Regulations for Revision of the Water Pollution Control Program Addressing Storm Water Discharges*, 63 Fed. Reg. 1536 (proposed Jan. 9, 1998).
- 11 Pub. L. No. 106–74, § 431(a), 113 Stat. 1047, 1096 (1999) ("Appropriations, 2000—Department of Veterans Affairs and Housing and Urban Development, and Independent Agencies").
- 12 *Regulations for Revision of the Water Pollution Control Program Addressing Storm Water Discharges*, 64 Fed. Reg. 68,722 (Dec. 8, 1999) (codified at 40 C.F.R. pts. 9, 122, 123, and 124).
- 13 The Rule also allows a small MS4 to be regulated under an individual NPDES permit covering a nearby large or medium MS4, with provisions adapted to address the small MS4. 40 C.F.R. § 122.33(b)(3).
- 14 The text of that section reads: "Not later than October 1, 1993, **EPA**, in consultation with state and local officials, shall issue regulations (based on the results of the studies conducted under paragraph (5)) which designate stormwater discharges, other than those discharges described in paragraph (2), to be regulated to protect water quality and shall establish a comprehensive program to regulate such designated sources. The program shall, at a minimum, (A)

establish priorities, (B) establish requirements for State stormwater management programs, and (C) establish expeditious deadlines. The program may include performance standards, guidelines, guidance, and management practices and treatment requirements, as appropriate.” 33 U.S.C. § 1342(p)(6).

15 The lesser category of “permits” may also be implied by the inclusion of “performance standards” in the list of possible program features.

16 “Where Congress includes particular language in one section of a statute but omits it in another section of the same Act, it is generally presumed that Congress acts intentionally and purposely in the disparate inclusion or exclusion.” *Bates v. United States*, 522 U.S. 23, 29–30, 118 S.Ct. 285, 139 L.Ed.2d 215 (1997).

17 The Phase II Rule also allows a small MS4 to be regulated under an NPDES permit covering a nearby large or medium-sized MS4, with provisions adapted to address the small MS4. 40 C.F.R. § 122.33(b)(3).

18 The Municipal Petitioners argue that the Minimum Measures exceed EPA’s statutory authority under § 402(p) of the Clean Water Act. We disagree. The list of elements for a regulatory program that appears in § 402(p)(6) is nonexclusive, and EPA’s adoption of the Minimum Measures represents a permissible interpretation of its authority under § 402(p)(6). See *Chevron*, 467 U.S. at 843–44, 104 S.Ct. 2778.

The Municipal Petitioners argue that EPA is not entitled to *Chevron* deference, and that the Minimum Measures must be rejected absent a clear statement of congressional intent that EPA enact the Minimum Measures. The Municipal Petitioners argue that this clear statement requirement arises because there are “significant constitutional questions” about the permissibility of the Minimum Measures under the Tenth Amendment, and because the Minimum Measures alter “the federal-state framework by permitting federal encroachment upon a traditional state power.” *Solid Waste Agency of N. Cook County v. Army Corps of Eng’rs*, 531 U.S. 159, 173, 121 S.Ct. 675, 148 L.Ed.2d 576 (2001).

As we explain, because the Phase II Rule includes at least one alternative to the Minimum Measures, *i.e.*, the option of seeking a permit under 40 C.F.R. § 122.26(d), the Minimum Measures do not present significant Tenth Amendment problems demanding a clear statement of congressional intent. Nor does the Phase II Rule alter the federal-state balance. To the contrary, the option of seeking a permit under 40 C.F.R. § 122.26(d) maintains precisely the same federal-state balance as existed prior to the Phase II Rule. See, *e.g.*, *Natural Res. Def. Council v. EPA*, 966 F.2d 1292 (9th Cir.1992) (reviewing Phase I Rule); *Natural Res. Def. Council v. Costle*, 568 F.2d 1369, 1379 (D.C.Cir.1977) (denying EPA authority to exempt MS4s from regulation under the Clean Water Act). Furthermore, even if a clear statement of congressional intent were necessary, § 402(p) of the Clean Water Act is replete with clear statements that Congress intended EPA to require MS4s either to obtain NPDES permits or to stop discharging stormwater.

19 This subsection provides that permit seekers must, “[t]o the extent allowable under State, Tribal, or local law, effectively prohibit, through ordinance or other regulatory mechanism, non-stormwater discharges into your storm sewer systems and implement appropriate enforcement procedures and actions....” 40 C.F.R. § 122.34(b)(3)(ii)(B).

20 This subsection provides that permit seekers “must develop, implement, and enforce a program to reduce pollutants in any storm water runoff to your small MS4 from construction activities that result in a land disturbance of greater than or equal to one acre.... [The] program must include the development and implementation of, at a minimum: (A) An ordinance or other regulatory mechanism to require erosion and sediment controls, as well as sanctions to ensure compliance, to the extent allowable under State, Tribal, or local law; (B) Requirements for construction site operators to implement appropriate erosion and sediment control best management practices; (C) Requirements for construction site operators to control waste such as discarded building materials, concrete truck washout, chemicals, litter, and sanitary waste at the construction site that may cause adverse impacts to water quality; (D) Procedures for site plan review which incorporate consideration of potential water quality impacts; (E) Procedures for receipt and consideration of information submitted by the public, and (F) Procedures for site inspection and enforcement control measures.” 40 C.F.R. §§ 122.34(b)(4)(i)-(ii).

21 This subsection provides that permit seekers must “[u]se an ordinance or other regulatory mechanism to address post-construction runoff from new development and redevelopment projects [disturbing one acre or more] to the extent allowable under State, Tribal or local law.” 40 C.F.R. §§ 122.34(b)(5)(ii)(B).

22 EPA and NRDC also argue that the Minimum Measures are facially constitutional, and that the Phase II Rule presents no Tenth Amendment difficulties because operators of small MS4s may avoid stormwater regulation entirely by electing not to discharge stormwater into federal waters in the first place. In light of our holding with regard to the Alternative Permit option, we do not consider these arguments.

23 We decline to address two further arguments raised by EPA: first, that municipalities do not receive full First Amendment protections, under *Muir v. Alabama Educational Television Commission*, 688 F.2d 1033, 1038 n. 12 (5th Cir.1982) (*en banc*) (“Government expression, being unprotected by the First Amendment, may be subject to legislative limitation which would be impermissible if sought to be applied to private expression”), and *Aldrich v. Knab*, 858 F.Supp. 1480, 1491

- ([W.D.Wash.1994](#)) (holding that “unlike private broadcasters, the state itself does not enjoy First Amendment rights”), and second, that even if the First Amendment were fully applicable, the Phase II regulations would satisfy them because MS4s may avoid the compulsion to speak by seeking a permit under the Alternative option, [40 C.F.R. § 122.26\(d\)\(2\)\(iv\)](#), rather than under the Minimum Measures.
- 24 As a subsidiary matter, we note that it also falls short of compelling the MS4 to “regulate” third parties in contravention of the Tenth Amendment. Dispensing information to facilitate public awareness about safe disposal of toxic materials constitutes “encouragement,” not regulation.
- 25 “When the constitutional validity of a statute or regulation is called into question, it is a cardinal rule that courts must first determine whether a construction is possible by which the constitutional problem may be avoided.” [Meinhold](#), [34 F.3d at 1476](#).
- 26 In its most recent treatment of compelled speech, the Supreme Court held that a generic advertising campaign violated free speech where the message was specific and antagonistic to the preferred advertising message of the plaintiff, and the regulation compelling participation was not part of a broader regulatory apparatus already constraining the plaintiff’s autonomy in the relevant arena. [United States Dep’t. of Agriculture v. United Foods](#), [533 U.S. 405, 410–17, 121 S.Ct. 2334, 150 L.Ed.2d 438 \(2001\)](#). The court distinguished this advertising program from the one in [Glickman](#) on the latter point: “[t]he program sustained in [Glickman](#) differs from the one under review in a most fundamental respect. In [Glickman](#) the mandated assessments for speech were ancillary to a more comprehensive program restricting market autonomy.” [Id. at 411, 121 S.Ct. 2334](#). Although the Phase II Rule is not an advertising or marketing regulation, it constitutes a “comprehensive program” restricting the autonomy of MS4s in the relevant arena of controlling toxic discharges to storm sewers that drain to U.S. waters.
- 27 In deciding the similar question of whether a regulation impermissibly compelled speech by requiring manufacturers of mercury-containing products to inform consumers how to dispose safely of the toxic material, the Second Circuit held that “mandated disclosure of accurate, factual, commercial information does not offend the core First Amendment values of promoting efficient exchange of information or protecting individual liberty interests.” [Nat’l Elec. Mfrs. Ass’n v. Sorrell](#), [272 F.3d 104, 114 \(2d Cir.2001\)](#). What speech may follow from the Phase II directive will not be “commercial” in the same sense that manufacturer labeling is, but it will be similar in substance to [Sorrell](#) to the extent that it informs the public how to dispose safely of toxins. We think the policy considerations underlying the commercial speech treatment of labeling requirements, see, e.g., the Federal Cigarette Labeling and Advertising Act, [15 U.S.C. §§ 1333–39](#), apply similarly in the context of the market-participant municipal storm sewer provider.
- 28 The Alternative option contains a public education requirement that is similar but even less specific, and therefore even less burdensome, than the requirements in the Minimum Measures. See [§ 122.26\(d\)\(2\)\(iv\)\(B\)\(6\)](#) (requiring permit seekers to propose programs to counter illicit discharges, including a “description of educational activities, public information activities, and other appropriate activities to facilitate the proper management and disposal of used oil and toxic materials”).
- 29 Municipal Petitioners concede that “simplified individual permit application requirements” were discussed, but they contend that the permit requirements discussed are not sufficiently similar to those promulgated to establish a logical outgrowth.
- 30 **EPA** argues that the **Environmental** Petitioner’s challenge is not ripe for review because “the question of whether some general permit somewhere might fail to assure that pollutants are reduced to the maximum extent practicable is not ripe for review.” But we are not addressing the merits of any specific permit. Rather, the question before us “is purely one of statutory interpretation that would not benefit from further factual development of the issues presented.” [Whitman v. American Trucking](#), [531 U.S. 457, 479, 121 S.Ct. 903, 149 L.Ed.2d 1 \(2001\)](#). Specifically, we are addressing whether **EPA**, in promulgating the Phase II Rule, has accomplished the substantive controls for municipal stormwater that Congress mandated in § 402(p) of the Clean Water Act. As we held in [Natural Resources Defense Council v. EPA](#), [966 F.2d at 1296–97, 1308](#), this question is ripe for review.
- 31 Petitioners suggest that **EPA** should be held to the standard it espoused to procure judicial approval for the Phase I program. In 1991, responding to NRDC’s assertion that the Phase I Rule failed to set “hard criteria” for review of MS4 stormwater programs, **EPA** responded that “inadequate proposals will result in the denial of permit applications.” Respondent’s Brief at 67, [Natural Res. Def. Council v. EPA](#), [966 F.2d 1292 \(9th Cir.1992\)](#) (Nos. 91–70200, 91–70176, & 90–70671). Petitioners contend that this court relied on that representation in ruling for **EPA** on that issue. [Natural Res. Def. Council v. EPA](#), [966 F.2d at 1308 n. 17](#) (“Individual NPDES permit writers ... will decide whether application proposals are adequate....”).

- 32 That the Rule allows a permitting authority to review an NOI is not enough; every permit must comply with the standards articulated by the Clean Water Act, and unless every NOI issued under a general permit is reviewed, there is no way to ensure that such compliance has been achieved.
- The regulations do require NPDES permitting authorities to provide operators of small MS4s with “menus” of management practices to assist in implementing their Minimum Measures, see 40 C.F.R. § 123.35(g), but again, nothing requires that the combination of items that the operator of a small MS4 selects from this “menu” will have the combined effect of reducing discharges to the maximum extent practicable.
- Nor is the availability of citizen enforcement actions a substitute for EPA's enforcement responsibility, especially because, as discussed below, the Rule does not require that NOIs be publicly available. Absent review on the front end of permitting, the general permitting regulatory program loses meaning even as a procedural exercise.
- 33 EPA identifies no other general permitting program that leaves the choice of substantive pollution control requirements to the regulated entity, and we are not persuaded by the analogy it urges to the traditional model of general permitting (where NOIs routinely are not reviewed), because, as we have noted, the Phase II general permit model is substantially dissimilar.
- 34 In its petition for rehearing, EPA argues for the first time that because the regulations require NPDES Permitting Authorities to include in general permits “any additional measures necessary” to ensure that the maximum extent practicable standard is met, 40 C.F.R. §§ 123.35(h)(1), 123.35(f) (incorporating by reference the “maximum extent practicable” requirement of 40 C.F.R. §§ 122.34(a)), 122.34(f) (requiring small MS4s to comply with additional measures), the Phase II Rule ensures that discharges will be reduced to the maximum extent practicable.
- The trouble with EPA's reasoning is that the Phase II Rule defines the “maximum extent practicable” standard in such a way that no “additional measures” will ever be necessary under § 123.35(h)(1). While a Permitting Authority may impose additional measures, nothing compels it to do so because, merely by implementing the best management practices that the operator of a small MS4 has chosen for itself, that small MS4 will already have met the “maximum extent practicable” standard. See 40 C.F.R. § 122.34(a).
- 35 EPA argues for the first time in its petition for rehearing that NOIs will be publicly available under 40 C.F.R. § 122.34(g) (2). Addressing operators of regulated small MS4s, this section provides: “You must make your records, including a description of your storm water management program, available to the public at reasonable times during regular business hours.” While this section does seem to provide for the public availability of a small MS4's records, we are troubled that nothing in EPA's initial briefs indicated that EPA considered NOIs to be subject to this section. We normally defer to an agency's interpretations of its own regulations, but we may decline to defer to the *post hoc* rationalizations of appellate counsel. See, e.g., *Martin v. Occupational Safety and Health Review Commission*, 499 U.S. 144, 150, 156, 111 S.Ct. 1171, 113 L.Ed.2d 117 (1991). If EPA intends this section to provide for the public availability of NOIs—for example because it intends NOIs to be among the records subject to this section—it may clarify on remand.
- 36 Agency determinations based on the record are reviewed under the “arbitrary and capricious” standard. 5 U.S.C. § 706(2) (A). The standard is narrow and the reviewing court may not substitute its judgment for that of the agency. *Marsh*, 490 U.S. at 378, 109 S.Ct. 1851. However, the agency must articulate a rational connection between the facts found and the conclusions made. *Washington v. Daley*, 173 F.3d 1158, 1169 (9th Cir.1999). The reviewing court must determine whether the decision was based on a consideration of the relevant factors and whether there has been a clear error of judgment. *Marsh*, 490 U.S. at 378, 109 S.Ct. 1851. The court may reverse under the “arbitrary and capricious” standard only if the agency:
- has relied on factors which Congress has not intended it to consider, entirely failed to consider an important aspect of the problem, offered an explanation for its decision that runs counter to the evidence before the agency, or is so implausible that it could not be ascribed to a difference in view or the product of agency expertise.
- Motor Vehicle Mfrs. Ass'n*, 463 U.S. at 43, 103 S.Ct. 2856.
- 37 EPA explains that the Group A facilities were not regulated with the other Phase I sources because EPA used Standard Industrial Classification Index (SIC) codes in defining the universe of regulated industrial activities: “By relying on SIC codes, a classification system created to identify industries rather than environmental impacts from these industries [sic] discharges, some types of storm water discharges that might otherwise be considered ‘industrial’ were not included in the existing NPDES storm water program.” 64 Fed. Reg. at 68,779.
- 38 As discussed in footnote 37, Group A facilities were not regulated with other Phase I industrial sources based on a government coding system used to distinguish different types of industry (without reference to their similar environmental impacts). See 64 Fed. Reg. at 68,779.

39 “In identifying potential categories of sources for designation in today’s notice, EPA considered designation of discharges from Group A and Group B facilities. EPA applied three criteria to each potential category in both groups to determine the need for designation: (1) The likelihood for exposure of pollutant sources included in that category, (2) whether such sources were adequately addressed by other environmental programs, and (3) whether sufficient data were available at this time on which to make a determination of potential adverse water quality impacts for the category of sources. As discussed previously, EPA searched for applicable nationwide data on the water quality impacts of such categories of facilities....”

“EPA’s application of the first criterion showed that a number of Group A and B sources have a high likelihood of exposure of pollutants.... Application of the second criterion showed that some categories were likely to be adequately addressed by other programs.”

“After application of the third criterion, availability of nationwide data on the various storm water discharge categories, EPA concluded that available data would not support any such nationwide designations. While such data could exist on a regional or local basis, EPA believes that permitting authorities should have flexibility to regulate only those categories of sources contributing to localized water quality impairments.... If sufficient regional or nationwide data become available in the future, the permitting authority could at that time designate a category of sources or individual sources on a case-by-case basis.” 64 Fed. Reg. at 68,780.

40 *Guidance Specifying Management Measures For Sources of Nonpoint Pollution in Coastal Waters*, EPA guidance paper 840-B-93-001c (Jan. 1993), available at <http://www.epa.gov/owow/nps/mmggi/index.html> (last visited Sept. 18, 2002) (“Coastal Waters”).

41 The provision provides in full as follows:

Silvicultural point source means any discernible, confined and discrete conveyance related to rock crushing, gravel washing, log sorting, or log storage facilities which are operated in connection with silvicultural activities and from which pollutants are discharged into waters of the United States. The term does not include non-point source silvicultural activities such as nursery operations, site preparation, reforestation and subsequent cultural treatment, thinning, prescribed burning, pest and fire control, harvesting operations, surface drainage, or road construction and maintenance from which there is natural runoff. However, some of these activities (such as stream crossing for roads) may involve point source discharges of dredged or fill material which may require a CWA section 404 permit (See 33 CFR 209.120 and part 233).

40 C.F.R. § 122.27(b)(1).

42 Nonpoint Source Pollution: The Nation’s Largest Water Quality Problem, EPA841-F-96-004A (“Pointer # 1”) (“The latest *National Water Quality Inventory* indicates that agriculture is the leading contributor to water quality impairments, degrading 60 percent of the impaired river miles and half of the impaired lake acreage surveyed by states, territories, and tribes.”).

43 The Municipal Petitioners join in asserting the “regulatory basis” claim at Part II(F)(1).

44 NRDC argues that this claim is not only meritless for the reasons stated by EPA, but also frivolous, since industry petitioner National Association of Home Builders, as a member of the FACA Phase II Subcommittee, participated in and affirmed that such consultation took place.

45 See *Natural Res. Def. Council*, 966 F.2d at 1306 (remanding EPA’s decision to regulate only construction sites disturbing more than five acres, after EPA had initially proposed to regulate all sites disturbing more than one acre).

46 The Industry Petitioners contend that EPA lacked authority to issue the Phase II regulation of construction sites based on a process EPA itself characterized as “separate and distinct” from the development of the Report to Congress. 64 Fed. Reg. at 68,732. They add that the Phase II Rule was not “based on” the 1999 Report ultimately requested by Congress in the Appropriations Act, since EPA’s report in response was released on the very day that the final Phase II Rule was published.

47 Since we have already determined that AF & PA lacks standing to raise any of its claims, see Section D above, this discussion pertains to the remaining Industry Petitioner, National Association of Home Builders.

48 Although the issue of Municipal Petitioners’ standing has not been raised by the parties, we are obliged to consider it to determine whether the case-or-controversy requirement of Article III is satisfied. See, e.g., *Boeing Co. v. Van Gemert*, 444 U.S. 472, 488 n. 4, 100 S.Ct. 745, 62 L.Ed.2d 676 (1980); *Judice v. Vail*, 430 U.S. 327, 331, 97 S.Ct. 1211, 51 L.Ed.2d 376 (1977).

49 Even if the statute were ambiguous, we would defer to EPA’s reasonable interpretation. *Chevron*, 467 U.S. at 843–44, 104 S.Ct. 2778.

- 50 The Industrial Petitioners argue that although the Phase I authorizing statute required EPA to regulate all sources associated with “industrial activity,” Congress expressly directed that the Phase II regulatory program be focused on sources that require regulation “to protect water quality.” They assert that because EPA’s rule ignores the variability of water quality impacts nationwide, the Rule is not appropriately targeted on the protection of water quality.
- 51 Petitioners heavily critique two studies relied on by EPA that dealt specifically with the water quality impacts of small construction sites, noting that one concludes it is impossible to generalize about the impacts of small sites, Lee H. MacDonald, *Technical Justification for Regulating Construction Sites 1–5 Acres in Size*, July 22, 1997, and that the other merely concludes that small sites “can have” significant effects if erosion controls are not implemented, David W. Owens, et al., *Soil Erosion from Small Construction Sites*. Petitioners contend that the latter study was managed with no erosion controls, intentionally producing worst-case sediment runoff and unreasonable estimates of actual sediment yields for small sites nationwide. EPA vigorously defends the studies.
- 52 NRDC adds that notwithstanding the clear interest of the National Association of Home Builders (“NAHB,” one of the Industry Petitioners), NAHB’s multi-year participation in the FACA Phase II Subcommittee Small Construction and No–Exposure Sites Work Group, and NAHB’s own submission of detailed comments on the proposed Rule, NAHB failed to enter into the administrative record any study contradicting the proposition that small construction sites cause water quality problems. NRDC points to the record’s showing that NAHB had itself proposed that regulation of construction sites of two acres or greater was appropriate, and contends that this is thus not a dispute over whether small construction sites should be regulated on a nationwide basis, but instead a technical disagreement over whether EPA should establish a one-acre threshold or a different threshold on a similar small scale.
- 53 Whitney Brown and Deborah Caraco, *Controlling Stormwater Runoff Discharges from Small Construction Sites: A National Review*, Task 5 Final Report submitted by the Center for Watershed Protection to the EPA Office of Wastewater Management, March 1997, IP E.R. 633, 643.
- 54 EPA adds that operators of small sites in areas unlikely to suffer adverse impacts may apply for a permit waiver if little or no rainfall is expected during the period of construction (the “rainfall erosivity waiver”) or if regulation is unnecessary based on a location-specific evaluation of water quality (the “water quality waiver”). 64 Fed. Reg. at 68,776.
- 55 EPA also implies permission to regulate for potential cumulative impacts of small sites from the past directive of this court. When the Phase I industrial discharge regulations were challenged, we found no record data to support that rule’s exemption of construction activities on less than five acres and held that small sites did not categorically qualify for a *de minimis* exemption because “even small construction sites can have a significant impact on local water quality.” *Natural Res. Def. Council*, 966 F.2d at 1306.
- 56 The “substantial evidence” standard requires a showing of such relevant evidence as a reasonable mind might accept as adequate to support a conclusion. *Edlund v. Massanari*, 253 F.3d 1152, 1156 (9th Cir.2001).
- 57 EPA further argues that even if the waiver provision were properly characterized as an evidentiary presumption, it should be sustained because the record demonstrates that the presumed fact of the water quality impact of small sites is more likely true than not.
- 58 EPA notes that the Phase II Rule empowers regional permitting authorities to regulate local sources of these types known to be responsible for harmful water quality impacts via the continuing “residual designation” authority (an aspect of the Rule that Petitioners also challenge).
- 59 TMDLs are pollutant loading limits established by NPDES permitting authorities under the Clean Water Act for waters that do not meet a water quality standard due to the presence of a pollutant. See 33 U.S.C. § 1313(d).
- 60 This section enables a NPDES permitting authority to designate for regulation: “[a] discharge for which the Administrator or the State, as the case may be, determines that the stormwater discharge contributes to a violation of a water quality standard or is a significant contributor of pollutants to waters of the United States.” 33 U.S.C. § 1342(p)(2)(E).
- 61 Notably, Industry Petitioner NAHB itself took the position during Phase II Subcommittee proceedings that the power to designate additional sources survived the promulgation of the Phase II Rule. In a 1996 comment letter to EPA, NAHB asserted its understanding that “[t]he permitting authority still reserves the right to designate additional sources if they are shown to be a contributor of water quality impairment.” NRDC Supplemental Excerpts of Record at 58.
- 62 The full text of § 402(p)(6), which specifically authorizes the Phase II program, reads: “Not later than October 1, 1993, the Administrator, in consultation with State and local officials, shall issue regulations (based on the results of the studies conducted under paragraph (5)) which designate stormwater discharges, other than those discharges described in paragraph (2), to be regulated to protect water quality and shall establish a comprehensive program to regulate such designated sources. The program shall, at a minimum, (A) establish priorities, (B) establish requirements for State stormwater management programs, and (C) establish expeditious deadlines. The program may include performance

standards, guidelines, guidance, and management practices and treatment requirements, as appropriate.” [33 U.S.C. § 1342\(p\)\(6\)](#).

- 63 Petitioners further argue that even if **EPA** could preserve the case-by-case authority conferred in § 402(p)(2)(E), that section confers authority only to regulate “a discharge” determined to threaten water quality, not a category of discharges. However, we agree with respondent-intervenor NRDC’s argument that § 402(p)(2)(E) does not preclude **EPA** from designating entire categories of sources. Petitioners’ argument follows from its reliance on the fact that § 402(p)(2)(E) refers to “discharge” in the singular rather than the plural to conclude that **EPA** may only designate sources meeting the § 402(p)(2)(E) description on a case-by-case basis. But all five of the § 402(p)(2)(5) categories refer to “discharge” in the singular, even in reference to discharges clearly intended for categorical regulation, like “a discharge from a municipal separate storm sewer system serving a population of 250,000 or more.” [33 U.S.C. § 1342\(p\)\(2\)\(C\)](#). The error in petitioners’ interpretation is exposed by [1 U.S.C. § 1](#), which provides that “[i]n determining the meaning of any Act of Congress, unless the context indicates otherwise—words importing the singular include and apply to several persons, parties, or things.”
- 64 This case was reversed in relevant part by the Supreme Court in *Whitman v. Am. Trucking Ass’ns*, [531 U.S. 457, 476, 121 S.Ct. 903, 149 L.Ed.2d 1 \(2001\)](#).
- 65 “[T]oday’s proposal would encourage [voluntary] control of stormwater discharges ... unless the discharge (or category of discharges) is individually or locally designated as described in the following section. The necessary data to support designation could be available on a local, regional, or watershed basis and would allow the NPDES permitting authority to designate a category of sources or individual sources on a case-by-case basis. If sufficient nationwide data [becomes] available in the future, **EPA** could at that time designate additional categories of industrial or commercial sources on a national basis. **EPA** requests comment on the three-pronged analysis used to assess the need to designate additional industrial or commercial sources and invites suggestions regarding watershed-based designation.” [63 Fed. Reg. at 1588](#).
- 66 Our consideration of the issue at all may be gratuitous, since petitioners failed to submit timely comment disputing the adequacy of **EPA’s** consideration of economic impacts on small businesses proposed at [63 Fed. Reg. at 1605–07](#). *United States v. L.A. Tucker Truck Lines*, [344 U.S. 33, 37, 73 S.Ct. 67, 97 L.Ed. 54 \(1952\)](#) (“[C]ourts should not topple over administrative decisions unless the administrative body not only has erred but has erred against objection made at the time appropriate under its practice.”).

ATTACHMENT 17



KeyCite Yellow Flag - Negative Treatment

Declined to Follow by [Conservation Law Foundation v. Hannaford Bros. Co.](#), D.Vt., May 14, 2004

568 F.2d 1369

United States Court of Appeals,
District of Columbia Circuit.

NATURAL RESOURCES
DEFENSE COUNCIL, INC. *

v.

Douglas M. COSTLE, Administrator,
Environmental Protection Agency, et al.,
National Forest Products Association, Appellant.

NATURAL RESOURCES
DEFENSE COUNCIL, INC., etc.

v.

Douglas M. COSTLE, Administrator,
Environmental Protection Agency, et al.,
National Milk Producers Federation, Appellant.

NATURAL RESOURCES
DEFENSE COUNCIL, INC., etc.

v.

Douglas M. COSTLE, Administrator, and
Environmental Protection Agency, et al., Appellants.
NATURAL RESOURCES DEFENSE COUNCIL, INC.

v.

Douglas M. COSTLE, Administrator,
Environmental Protection Agency, Colorado
River Water Conservation District, Appellant.

Nos. 75-2056, 75-2066, 75-2067 and 75-2235.

|
Argued Dec. 3, 1976.

|
Decided Nov. 16, 1977.

The National Resources Defense Council, Inc. challenged authority of the Environmental Protection Agency Administrator to exempt categories of point sources from permit requirements of the Federal Water Pollution Control Act Amendments of 1972. The United States District Court for the District of Columbia, Thomas A. Flannery, J., [396 F.Supp. 1393](#), granted summary judgment to the NRDC and the Administrator and others appealed. The Court of Appeals, Leventhal, Circuit Judge, held that: (1) legislative history shows that

National Pollution Discharge Elimination System permit is the only means by which discharger may escape total prohibition of discharges from point sources found in FWPCA; (2) national effluent limitations need not be uniform as precondition for NPDES program to include pollution from agricultural, silvicultural, and storm runoff point sources, and while technological or administrative infeasibility of such limitations may warrant adjustments in permit program it does not authorize Administrator to exclude relevant point sources; (3) where numeric effluent limitations are infeasible, permit conditions may proscribe industry practices that aggravate problems of point source pollution as well as require monitoring and reporting of effluent level; and (4) a number of administrative devices, including general or area permits are available to aid EPA in practical administration of NPDES program, and FWPCA, however tight in some respects, leaves some leeway to EPA in interpretation of that statute and affords agency some means to consider matters of feasibility.

Affirmed in accordance with opinion.

MacKinnon, Circuit Judge, filed a concurring opinion.

West Headnotes (8)

[1] **Environmental Law**

Discharge of Pollutants

Legislative history clearly shows that Congress intended that the national pollution discharge elimination system permit be the only means by which a discharger of pollutant may escape total prohibition of discharges from point sources found in Federal Water Pollution Control Act Amendments. Federal Water Pollution Control Act, §§ 301, 301(a), 402 as amended [33 U.S.C.A. §§ 1311, 1311\(a\), 1342](#).

[31 Cases that cite this headnote](#)

[2] **Environmental Law**

Discharge of Pollutants

Use of word “may” in that section of Federal Water Pollution Control Act Amendment providing that the administrator may issue

permit for discharge of any pollutant means only that the administrator has the discretion either to issue permit or to leave pollutant discharger subject to total proscription of statute making discharge of any pollutant by any person unlawful except as provided in Act. Federal Water Pollution Control Act, §§ 301(a), 302, 304 as amended [33 U.S.C.A. §§ 1311\(a\), 1342, 1344](#).

[17 Cases that cite this headnote](#)

[3] Environmental Law

[Substances, Sources, and Activities Regulated](#)

Environmental Law

[Discharge of Pollutants](#)

Existence of uniform national effluent limitations is not a necessary precondition for incorporating into the national pollutant discharge elimination system program pollution from agricultural, silvicultural, and storm water runoff point sources; technological or administrative infeasibility of such limitations may result in adjustments in permit programs but does not authorize administrator to exclude relevant point sources from program. Federal Water Pollution Control Act, §§ 301, 402, 404, 1362(12, 14), as amended [33 U.S.C.A. §§ 1311, 1342, 1344, 502\(12, 14\)](#).

[62 Cases that cite this headnote](#)

[4] Environmental Law

[Conditions and Limitations](#)

Where numeric effluent limitations are infeasible, point of discharge permits may proscribe industry practices which aggravate problems of point source pollution as well as require monitoring and reporting of effluent levels contrary to claim that any limitations must be issued in terms of a numerical effluent standard. Federal Water Pollution Control Act, §§ 302(a), 402, 402(a) as amended [33 U.S.C.A. §§ 1312\(a\), 1342, 1342\(a\)](#).

[25 Cases that cite this headnote](#)

[5] Environmental Law

[Discharge of Pollutants](#)

Federal Water Pollution Control Act Amendments merely require that point of discharge permits be in compliance with limitations section of Act and as a result the use of area or general permits is allowed. Federal Water Pollution Control Act, § 402 as amended [33 U.S.C.A. § 1342](#).

[5 Cases that cite this headnote](#)

[6] Environmental Law

[Water Pollution](#)

Power to define point and nonpoint sources of pollution is vested in Environmental Protection Agency under the Federal Water Pollution Control Act Amendments, and exercise of that power should be reviewed by court only after opportunity for full agency review and examination. Federal Water Pollution Control Act, § 402 as amended [33 U.S.C.A. § 1342](#).

[8 Cases that cite this headnote](#)

[7] Environmental Law

[Administrative Agencies and Proceedings](#)

Federal Water Pollution Control Act Amendments, however tight in some respects, leave some leeway to Environmental Protection Agency in interpretation and affords agency some means to consider matter of feasibility. Federal Water Pollution Control Act, §§ 1-26, 101-517 as amended [33 U.S.C.A. §§ 1151-1175, 1251-1376](#).

[Cases that cite this headnote](#)

[8] Administrative Law and Procedure

[Statutory Basis and Limitation](#)

It is not what court thinks that is generally appropriate to regulatory process, but what Congress intended.

[2 Cases that cite this headnote](#)

***1370 **148** *Syllabus by the Court*

The National Resources Defense Council, Inc. (NRDC) challenged the authority of the EPA Administrator to exempt categories of point sources from the permit requirements of s 402 of the Federal Water Pollution Control Act Amendments of 1972, [33 U.S.C. s 1342 \(Supp. V 1975\)](#). On appeal from a grant of summary judgment to NRDC, held:

1. The legislative history makes clear that Congress intended the National Pollution Discharge Elimination System (NPDES) permit to be the only means by which a discharger may escape the total prohibition of discharges from point sources found in FWPCA s 301(a), [33 U.S.C. s 1311\(a\)](#) (Supp. V 1975).

2. It is not necessary that national effluent limitations be uniform as a precondition for the NPDES program to include pollution from agricultural, silvicultural, and storm water runoff point sources. The technological or administrative infeasibility ***1371 **149** of such limitations may warrant adjustments in the permit program, but it does not authorize the Administrator to exclude the relevant point source from the NPDES program.

3. Where numeric effluent limitations are infeasible, permit conditions may proscribe industry practices that aggravate the problems of point source pollution as well as require monitoring and reporting of effluent levels.

4. A number of administrative devices, including general or area permits, are available to aid EPA in the practical administration of the NPDES program. The FWPCA, however tight in some respects, leaves some leeway to EPA in the interpretation of that statute and, in that regard, affords the agency some means to consider matters of feasibility.

Appeals from the United States District Court for the District of Columbia (D.C. Civil 1629-73).

Attorneys and Law Firms

Irvin B. Nathan, Washington, D. C., with whom Burton J. Mallinger, Washington, D. C., was on the brief, for appellant in No. 75-2056.

Charles W. Bills, Washington, D. C., with whom James R. Murphy, Washington, D. C., was on the brief for appellant in No. 75-2066.

G. William Frick, Atty., Dept. of Justice, Kansas City, Mo., of the bar of the Supreme Court of Missouri, pro hac vice by special leave of court for appellants in No. 75-2067. Peter R. Taft, Asst. Atty. Gen., Robert V. Zener, Gen. Counsel, Environmental Protection Agency, Edmund B. Clark, Lloyd S. Guerci, Larry A. Boggs, Attys., Dept. of Justice and Pamela P. Quinn, Atty., Environmental Protection Agency, Washington, D. C., were on the brief for appellants in No. 75-2067.

Christopher D. Williams, Washington D. C., with whom Kenneth Balcomb and Robert L. McCarty, Washington, D. C., were on the brief for appellant in No. 75-2235.

J. G. Speth, Washington, D. C., for appellee.

Theodore O. Torve, Asst. Atty. Gen., State of Washington, Olympia, Wash., filed a brief on behalf of the State of Washington as amicus curiae urging reversal in No. 75-2056.

Richard E. Schwartz, Jefferson City, Mo., filed a brief on behalf of Iron and Steel Institute, as amicus curiae urging reversal in No. 75-2067.

John L. Hill, Atty. Gen., State of Texas, and David M. Kendall, Jr., First Asst. Atty. Gen., State of Texas, Austin, Tex., filed a brief on behalf of State of Texas as amicus curiae urging reversal in No. 75-2067.

Before BAZELON, Chief Judge, and LEVENTHAL and MacKINNON, Circuit Judges.

Opinion

Opinion for the Court filed by LEVENTHAL, Circuit Judge.

Concurring Opinion filed by MacKINNON, Circuit Judge.

LEVENTHAL, Circuit Judge:

In 1972 Congress passed the Federal Water Pollution Control Act Amendments (hereafter referred to as the "FWPCA" or the "Act"¹). It was a dramatic response to accelerating environmental degradation of rivers, lakes and streams in this country. The Act's stated goal is to eliminate the discharge of pollutants into the Nation's waters by 1985. This goal is to be achieved through the enforcement of the strict timetables and technology-based effluent limitations established by the Act.

The FWPCA sets up a permit program, the National Pollutant Discharge Elimination System (NPDES), as the primary means of enforcing the Act's effluent limitations.² At issue in this case is the authority *1372 **150 of the Administrator of the Environmental Protection Agency to make exemptions from this permit component of the FWPCA.

Section 402 of the FWPCA, 33 U.S.C. s 1342 (Supp. V 1975), provides that under certain circumstances the EPA Administrator "may . . . issue a permit for the discharge of any pollutant" notwithstanding the general proscription of pollutant discharges found in s 301 of the Act. 33 U.S.C. s 1311 (Supp. V 1975). The discharge of a pollutant is defined in the FWPCA as "any addition of any pollutant to navigable waters from any point source" or "any addition of any pollutant to the waters of the contiguous zone or the ocean from any point source other than a vessel or floating craft." 33 U.S.C. s 1362(12) (Supp. V 1975). In 1973 the EPA Administrator issued regulations that exempted certain categories of "point sources" of pollution from the permit requirements of s 402.³ The Administrator's purported authority to make such exemptions turns on the proper interpretation of s 402.

A "point source" is defined in s 502(14) as "any discernible, confined and discrete conveyance, including but not limited to any pipe, ditch, channel, tunnel, conduit, well, discrete fissure, container, rolling stock, concentrated animal feeding operation, or vessel or other floating craft, from which pollutants are or may be discharged."⁴

The 1973 regulations exempted discharges from a number of classes of point sources from the permit requirements of s 402, including all silvicultural point sources; all

confined animal feeding operations below a certain size; all irrigation return flows from areas of less than 3,000 contiguous acres or 3,000 noncontiguous acres that use the same drainage system; all nonfeedlot, nonirrigation agricultural point sources; and separate storm sewers containing only storm runoff uncontaminated by any industrial or commercial activity.⁵ The EPA's *1373 **151 rationale for these exemptions is that in order to conserve the Agency's enforcement resources for more significant point sources of pollution, it is necessary to exclude these smaller sources of pollutant discharges from the permit program.

The National Resources Defense Council, Inc. (NRDC) sought a declaratory judgment that the regulations are unlawful under the FWPCA. Specifically, NRDC contended that the Administrator does not have authority to exempt any class of point source from the permit requirements of s 402. It argued that Congress in enacting ss 301, 402 of the FWPCA intended to prohibit the discharge of pollutants from all point sources unless a permit had been issued to the discharger under s 402 or unless the point source was explicitly exempted from the permit requirements by statute. The District Court granted NRDC's motion for summary judgment. It held that the FWPCA does not authorize the Administrator to exclude any class of point sources from the permit program. *NRDC v. Train*, 396 F.Supp. 1393 (D.D.C.1975). The EPA has appealed to this court. It is joined on appeal by a number of defendant-intervenors, National Forest Products Association (NFPA), National Milk Producers Federation (NMPF), and the Colorado River Conservation District.⁶

This case thus presents principally a question of statutory interpretation. EPA also argues that even if Congress intended to include the pertinent categories in the permit program, the regulations exempting them should be upheld on a doctrine of administrative infeasibility, i. e., the regulations should be upheld as a deviation from the literal terms of the FWPCA that is necessary to permit the Agency to realize the principal objectives of the Act.

I. LEGISLATIVE HISTORY

The principal purpose of the FWPCA is "to restore and maintain the chemical, physical, and biological integrity of the Nation's waters."⁷ The Act's ultimate objective, to eliminate the discharge of pollutants into navigable

waters by 1985, is to be achieved by means of two intermediate steps. As of July 1, 1977, all point sources other than publicly owned treatment works were to have achieved effluent limitations that require application of the "best practicable control technology."⁸ These same point sources must reduce their effluent discharges by July 1, 1983, to meet limitations determined by application of the "best available technology economically achievable" for each category of point source.⁹

The technique for enforcing these effluent limitations is straightforward. Section 301(a) of the FWPCA provides:

Except as in compliance with this section and sections 302, 306, 307, 318, 402, and 404 of this Act, the discharge of any pollutant by any person shall be unlawful.¹⁰

Appellants concede that if the regulations are valid, it must be because they are authorized ***1374 **152** by s 402; none of the other sections listed in s 301(a) afford grounds for relieving the exempted point sources from the prohibition of s 301.¹¹

Section 402 provides in relevant part that the Administrator may, after opportunity for public hearing, issue a permit for the discharge of any pollutant, or combination of pollutants, notwithstanding section 301(a), upon condition that such discharge will meet either all applicable requirements under sections 301, 302, 306, 307, 308, and 403 of this Act, or prior to the taking of the necessary implementing actions relating to all such requirements, such conditions as the Administrator determines are necessary to carry out the provisions of this Act.

The NPDES permit program established by s 402 is central to the enforcement of the FWPCA. It translates general effluent limitations into the specific obligations of a discharger. As this court noted in *NRDC v. Train*, 166 U.S.App.D.C. 312, 315, 510 F.2d 692, 695 (1975), the Act "relies primarily on a permit program for the achievement of effluent limitations . . . to attain its goals." The comments in floor debates of Senator Muskie, the leading Congressional sponsor of the Act, makes this clear.¹²

The appellants argue that s 402 not only gives the Administrator the discretion to grant or refuse a permit, but also gives him the authority to exempt classes of point sources from the permit requirements entirely. They argue that this interpretation is supported by the legislative history of s 402 and the fact that unavailability of this exemption power would place unmanageable administrative burdens on the EPA.

[I] Putting aside for the moment the appellants' administrative infeasibility argument, we agree with the District Court that the legislative history makes clear that Congress intended the NPDES permit to be the only means by which a discharger from a point source may escape the total prohibition of s 301(a). This intention is evident in both Committee Reports. In discussing s 301 the House Report stressed:

Any discharge of a pollutant without a permit issued by the Administrator under section 318, or by the Administrator or the State under section 402 or by the Secretary of the Army under section 404 is unlawful. Any discharge of a pollutant not in compliance with the conditions or limitations of such a permit is also unlawful.¹³

The Senate Report echoed this interpretation: (Section 301) clearly establishes that the discharge of pollutants is unlawful. Unlike its predecessor program which permitted the discharge of certain amounts of pollutants under the conditions described above, this legislation would clearly establish that no one has the right ***1375 **153** to pollute that pollution continues because of technological limits, not because of any inherent rights to use the nation's waterways for the purpose of disposing of wastes.

The program proposed by this Section will be implemented through permits issued in Section 402. The Administrator will have the capability and the mandate to press technology and economics to achieve those levels of effluent reduction which he believes to be practicable in the first instance and attainable in the second.¹⁴

[2] The EPA argues that since s 402 provides that “the Administrator may . . . issue a permit for the discharge of any pollutant” (emphasis added), he is given the discretion to exempt point sources from the permit requirements altogether. This argument, as to what Congress meant by the word “may” in s 402, is insufficient to rebut the plain language of the statute and the committee reports. We say this with due awareness of the deference normally due “the construction of a new statute by its implementing agency.” *NRDC v. Train*, 166 U.S.App.D.C. at 326, 510 F.2d at 706; see *Zuber v. Allen*, 396 U.S. 168, 192, 90 S.Ct. 314, 24 L.Ed.2d 345 (1969); *Udall v. Tallman*, 380 U.S. 1, 16, 85 S.Ct. 792, 13 L.Ed.2d 616 (1965). The use of the word “may” in s 402 means only that the Administrator has discretion either to issue a permit or to leave the discharger subject to the total proscription of s 301. This is the natural reading, and the one that retains the fundamental logic of the statute.

Under the EPA's interpretation the Administrator would have broad discretion to exempt large classes of point sources from any or all requirements of the FWPCA. This is a result that the legislators did not intend. Rather they stressed that the FWPCA was a tough law that relied on explicit mandates to a degree uncommon in legislation of this type. A statement of Senator Jennings Randolph of West Virginia, Chairman of the Senate Committee responsible for the Act, is illustrative.

I stress very strongly that Congress has become very specific on the steps it wants taken with regard to environmental protection. We have written into law precise standards and definite guidelines on how the environment should be protected. We have done more than just provide broad directives for administrators to follow. . . .

In the past, too many of our environmental laws have contained vague generalities. What we are attempting to do now is provide laws that can be administered with certainty and precision. I think that is what the American people expect that we do.¹⁵

There are innumerable references in the legislative history to the effect that the Act is founded on the “basic premise that a discharge of pollutants without a permit is unlawful and that discharges not in compliance with the limitations and conditions for a permit are

unlawful.”¹⁶ Even when infeasibility arguments were squarely raised, *1376 **154 the legislature declined to abandon the permit requirement.¹⁷ We stand by our previous interpretation of the Act's scheme for the enforcement of effluent limitations:

After dates set forth in (s 301(b)), a person must obtain a permit and comply with its terms in order to discharge any pollutant. The conditions of the permit must assure that any discharge complies with the applicable requirements of numerous sections including the effluent limitations of section 301(b).

NRDC v. Train, 166 U.S.App.D.C. at 316, 510 F.2d at 696 (emphasis added; footnotes omitted).

We also note that all the Supreme Court decisions referring to s 402 view the permit as the only means by which a point source polluter can avoid the ban on discharges found in s 301. Strictly speaking these expressions may be dicta, for they do not touch directly on the interpretation of s 402. But they are at least a considered reading of what the Act appears to mean.

In *Train v. Colorado Public Interest Research Group, Inc.*, 426 U.S. 1, 96 S.Ct. 1938, 48 L.Ed.2d 434 (1976), Justice Marshall characterized the enforcement scheme of the FWPCA as follows:

(E)ffluent limitations are enforced through a permit program. The discharge of “pollutants” into water is unlawful without a permit issued by the Administrator of the EPA or, if a State has developed a program that complies with the FWPCA, by the State. . . .

Id. at 7, 96 S.Ct. at 1941 (footnote omitted).

In *EPA v. State Water Resources Control Board*, 426 U.S. 200, 96 S.Ct. 2022, 48 L.Ed.2d 578 (1976), the issue was whether federal installations were subject to state NPDES programs. Justice White's majority opinion describes NPDES at 205, 96 S.Ct. at 2025 (footnote omitted):

Under NPDES, it is unlawful for any person to discharge a pollutant without obtaining a permit and complying with its terms. An NPDES

permit serves to transform generally applicable effluent limitations and other standards including those based on water quality into the obligations (including a timetable for compliance) of the individual discharger, and the Amendments provide for direct administrative and judicial enforcement of permits.

In *E. I. du Pont de Nemours v. Train*, 430 U.S. 112, 97 S.Ct. 965, 51 L.Ed.2d 204 (1977), the Court held that under FWPCA the EPA can set uniform effluent limitations through industry-wide regulations rather than develop them on an individual basis during the permit issuance process. But the Court, per Justice Stevens, clearly indicated ***1377 **155** that those limitations were translated into obligations of the discharger through their inclusion in an NPDES permit. *Id.* at 119-20, 97 S.Ct. 965.

The wording of the statute, legislative history, and precedents are clear: the EPA Administrator does not have authority to exempt categories of point sources from the permit requirements of s 402. Courts may not manufacture for an agency a revisory power inconsistent with the clear intent of the relevant statute. In holding that the FPC does not have authority to exempt the rates of small producers from regulation under the Natural Gas Act, the Supreme Court observed:

It is not the Court's role . . . to overturn congressional assumptions embedded into the framework of regulation established by the Act. This is a proper task for the Legislature where the public interest may be considered from the multifaceted points of view of the representational process.

FPC v. Texaco, Inc., 417 U.S. 380, 400, 94 S.Ct. 2315, 2327, 41 L.Ed.2d 141 (1974).

II. ADMINISTRATIVE INFEASIBILITY

The appellants have stressed in briefs and at oral argument the extraordinary burden on the EPA that will be imposed by the above interpretation of the scope of the NPDES

program. The spectre of millions of applications for permits is evoked both as part of appellants' legislative history argument that Congress could not have intended to impose such burdens on the EPA and as an invitation to this court to uphold the regulations as deviations from the literal terms of the FWPCA necessary to permit the agency to realize the general objectives of that act. During oral argument we asked for supplemental briefs so that the appellants could expand on their infeasibility arguments. We consider EPA's infeasibility contentions in turn.

A. Uniform National Effluent Limitations

EPA argues that the regulatory scheme intended under Titles III and IV of the FWPCA requires, first, that the Administrator establish national effluent limitations¹⁸ and, second, that these limitations be incorporated in the individual permits of dischargers. EPA argues that the establishment of such limitations is simply not possible with the type of point sources involved in the 1973 regulations, which essentially involve the discharge of runoff i. e., wastewaters generated by rainfall that drain over terrain into navigable waters, picking up pollutants along the way.

There is an initial question, to what extent point sources are involved in agricultural, silvicultural, and storm sewer runoff. The definition of point source in s 502(14), including the concept of a "discrete conveyance", suggests that there is room here for some exclusion by interpretation. We discuss this issue subsequently. Meanwhile, we assume that even taking into account what are clearly point sources, there is a problem of infeasibility which the EPA properly opens for discussion.

EPA contends that certain characteristics of runoff pollution make it difficult to promulgate effluent limitations for most of the point sources exempted by the 1973 regulations:

The major characteristic of the pollution problem which is generated by runoff . . . is that the owner of the discharge point . . . has no control over the quantity of the flow or the nature and amounts of the pollutants picked up by the runoff. The amount of flow obviously is unpredictable because it results from the duration and intensity of the rainfall event, the topography, the type of ground cover and the saturation point of the land due to any previous ***1378 **156** rainfall. Similar factors affect the types of pollutants which will be picked up by that runoff, including the type of farming practices employed, the rate

and type of pesticide and fertilizer application, and the conservation practices employed . . .

An effluent limitation must be a precise number in order for it to be an effective regulatory tool; both the discharger and the regulatory agency need to have an identifiable standard upon which to determine whether the facility is in compliance. That was the principal of the passage of the 1972 Amendments.

Federal Appellants' Memorandum on "Impossibility" at 7-8 (footnote omitted). Implicit in EPA's contentions is the premise that there must be a uniform effluent limitation prior to issuing a permit. That is not our understanding of the law.

In *NRDC v. Train*, we described the interrelationship of the effluent limitations and the NPDES permit program, [166 U.S.App.D.C. at 327, 510 F.2d at 707](#) (footnotes omitted):

The Act relies on effluent limitations on individual point sources as the "basis of pollution prevention and elimination." . . . Section 301(b) contains a broad description of phase one and phase two effluent limitations, to be achieved by July 1, 1977 and July 1, 1983, respectively. The limitations established under section 301(b) are to be imposed upon individual point sources through permits issued under the National Pollutant Discharge Elimination System (NPDES) established by section 402. Those permits are to contain schedules which will assure phased compliance with the effluent limitations no later than the final dates set forth in section 301(b). Section 304(b) calls for the publication of regulations containing guidelines for effluent limitations for classes and categories of point sources. These guidelines are intended to assist in the establishment of section 301(b) limitations that will provide uniformity in the permit conditions imposed on similar sources within the same category by diverse state and federal permit authorities.

As noted in *NRDC v. Train*, the primary purpose of the effluent limitations and guidelines was to provide uniformity among the federal and state jurisdictions enforcing the NPDES program and prevent the "Tragedy of the Commons"¹⁹ that might result if jurisdictions can compete for industry and development by providing more liberal limitations than their neighboring states. [166 U.S.App.D.C. at 329, 510 F.2d at 709](#). The effluent

limitations were intended to create floors that had to be respected by state permit programs.

But in *NRDC v. Train* it was also recognized that permits could be issued before national effluent limitations were promulgated and that permits issued subsequent to promulgation of uniform effluent limitations could be modified to take account of special characteristics of subcategories of point sources.

Prior to the promulgation of effluent limitations under section 301, the director of a state program is instructed merely to impose such terms and conditions in each permit as he determines are necessary to carry out the provisions of the Act. Once ***1379 **157** an effluent limitation is established, however, the state director and the regional EPA Administrator are required to apply the specified, uniform effluent limitations, modified only as necessary to take account of fundamentally different factors pertaining to particular point sources within a given class or category. Any variation in the uniform limitations adopted for specific dischargers must be approved by the Administrator.

[166 U.S.App.D.C. at 330, 510 F.2d at 710](#) (footnotes omitted).

Another passage in *NRDC v. Train* touches on the infeasibility problem. We noted that "(t)he statutory framework is not so tightly drawn as to require guidelines for each and every class and category of point source regardless of the need for uniform guidelines or to mandate that all guidelines be published prior to December 31 (1974) regardless of their quality or the burden that task would place upon the agency." *Id.* at 320-21, [510 F.2d at 710-11](#). In that case this court fully appreciated that technological and administrative constraints might prevent the Administrator from developing guidelines and corresponding uniform numeric effluent limitations for certain point sources anytime in the near future. The Administrator was deemed to have the burden of demonstrating that the failure to develop the guidelines on schedule was due to administrative or technological

infeasibility. 166 U.S.App.D.C. at 333, 510 F.2d at 713. Yet the underlying teaching was that technological or administrative infeasibility was a reason for adjusting court mandates to the minimum extent necessary to realize the general objectives of the Act.²⁰ It is a number of steps again to suggest that these problems afford the Administrator the authority to exempt categories of point sources from the NPDES program entirely.

With time, experience, and technological development, more point sources in the categories that EPA has now classed as exempt may be amenable to national effluent limitations achieved through end-of-pipe technology or other means of pollution control. EPA has noted its own success with runoff from mining operations:

EPA has found that in the area of runoff from mining operations, there is sufficient predictability because of a longer history of regulation and the relatively confined nature of the operations that numerical limitations can be established. Thus, consistent with EPA's position stated earlier that it will expand the permit program where its capability of establishing effluent limitations allows, appropriate limitations have been created and the permit program expanded.

Federal Appellants' Memorandum on "Impossibility" at 8.

[3] In sum, we conclude that the existence of uniform national effluent limitations is not a necessary precondition for incorporating into the NPDES program pollution from agricultural, silvicultural, and storm water runoff point sources. The technological or administrative infeasibility of such limitations may result in adjustments in the permit programs, as will be seen, but it does not authorize the Administrator to exclude the relevant point source from the NPDES program.

B. Alternative Permit Conditions under s 402(a)

EPA contends that even if it is possible to issue permits without national effluent limitations, *1380 **158 the special characteristics of point sources of runoff pollution make it infeasible to develop restrictions on a case-

by-case basis. EPA's implicit premise is that whether limitations are promulgated on a class or individual source basis, it is still necessary to articulate any limitation in terms of a numerical effluent standard. That is not our understanding.

[4] Section 402 provides that a permit may be issued upon condition "that such discharge will meet either all applicable requirements under sections 301, 302, 306, 307, 308 and 403 of this Act, or prior to taking of necessary implementing actions relating to all such requirements, such conditions as the Administrator determines are necessary to carry out the provisions of this Act." 33 U.S.C. s 1342(a) (Supp. V 1975) (emphasis added). This provision gives EPA considerable flexibility in framing the permit to achieve a desired reduction in pollutant discharges. The permit may proscribe industry practices that aggravate the problem of point source pollution.²¹

EPA's counsel caricatures the matter by stating that recognition of any such authority would give EPA the power "to instruct each individual farmer on his farming practices." Federal Appellants Memorandum on "Impossibility" at 12. Any limitation on a polluter forces him to modify his conduct and operations. For example, an air polluter may have a choice of installing scrubbers, burning different fuels or reducing output. Indeed, the authority to prescribe limits consistent with the best practicable technology may be tantamount to prescribing that technology. Of course, when alternative techniques are available, Congress intended to give the discharger as much flexibility as possible in choosing his mode of compliance. See, e. g., H.Rep.No.92-911, 92d Cong., 2d Sess. 107, reprinted in Legislative History at 794. We only indicate here that when numerical effluent limitations are infeasible, EPA may issue permits with conditions designed to reduce the level of effluent discharges to acceptable levels. This may well mean opting for a gross reduction in pollutant discharge rather than the fine-tuning suggested by numerical limitations. But this ambitious statute is not hospitable to the concept that the appropriate response to a difficult pollution problem is not to try at all.

It may be appropriate in certain circumstances for the EPA to require a permittee simply to monitor and report effluent levels; EPA manifestly has this authority.²² Such permit conditions might be desirable where the full extent of the pollution problem is not known.

C. General Permits

Finally, EPA argues that the number of permits involved in the absence of an exemption authority will simply overwhelm the Agency. Affidavits filed with the District Court indicate, for example, that the number of silviculture point sources may be over 300,000 and that there are approximately 100,000 separate storm sewer point sources.²³ We are and must be sensitive to *1381 **159 EPA's concerns of an intolerable permit load. But the District Court and the various parties have suggested devices to mitigate the burden to accommodate within a practical regulatory scheme Congress's clear mandate that all point sources have permits. All that is required is that EPA makes full use of its interpretational authority. The existence of a variety of options belies EPA's infeasibility arguments.

[5] Section 402 does not explicitly describe the necessary scope of a NPDES permit. The most significant requirement is that the permit be in compliance with limitation sections of the Act described above. As a result NRDC and the District Court have suggested the use of area or general permits. The Act allows such techniques. Area-wide regulation is one well-established means of coping with administrative exigency. An instance is area pricing for natural gas producers, which the Supreme Court upheld in *Permian Basin Area Rate Cases*, 390 U.S. 747, 88 S.Ct. 1344, 20 L.Ed.2d 312 (1968).²⁴ A more dramatic example is the administrative search warrant, which may be issued on an area basis despite the normal Fourth Amendment requirement of probable cause for searching specific premises. *Camara v. Municipal Court*, 387 U.S. 523, 87 S.Ct. 1727, 18 L.Ed.2d 930 (1967).

In response to the District Court's order, EPA promulgated regulations that make use of the general permit device. 42 Fed.Reg. 6846-53 (Feb. 4, 1977). The general permit is addressed to a class of point source dischargers, subject to notice and opportunity for public hearing in the geographical area covered by the permit. Although we do not pass on the validity of the February, 1977, regulations, they serve to dilute an objection of wholesale infeasibility.²⁵

Our approach is not fairly subject to the criticism that it elevates form over substance that the end result will look very much like EPA's categorical exemption. It is the function of the courts to require agencies to comply

with legislative intent when that intent is clear, and to leave it to the legislature to make adjustments when the result is counterproductive.²⁶ At the same time, where intent on an issue is unclear, *1382 **160 we are instructed to afford the administering agency the flexibility necessary to achieve the general objectives of the Act. *Weinberger v. Bentex Pharmaceuticals, Inc.*, 412 U.S. 645, 653, 93 S.Ct. 2448, 37 L.Ed.2d 235 (1973); *United States v. Southwestern Cable Co.*, 392 U.S. 157, 177-78, 88 S.Ct. 1994, 20 L.Ed.2d 1001 (1968); *Permian Basin Area Rate Cases*, 390 U.S. 747, 780, 88 S.Ct. 1344, 20 L.Ed.2d 312 (1968). These lines of authority conjoin in our approach. We insist, as the Act insists, that a permit is necessary; the Administrator has no authority to exempt point sources from the NPDES program. But we concede necessary flexibility in the shaping of the permits that is not inconsistent with the clear terms of the Act.

There is also a very practical difference between a general permit and an exemption. An exemption tends to become indefinite: the problem drops out of sight, into a pool of inertia, unlikely to be recalled in the absence of crisis or a strong political protagonist. In contrast, the general or area permit approach forces the Agency to focus on the problems of specific regions and requires that the problems of the region be reconsidered at least every five years, the maximum duration of a permit.²⁷

D. Other Interpretational Powers

[6] Many of the intervenor-appellants appear to argue that the District Court should be reversed because the categories exempted by EPA are nonpoint sources and are not, in fact, point sources.²⁸ We agree with the District Court "that the power to define point and nonpoint sources is vested in EPA and should be reviewed by the court only after opportunity for full agency review and examination." 396 F.Supp. at 1396. The only issue precisely confronted by all the parties and properly framed for our consideration is whether the Administrator has authority to exempt point sources from the NPDES program. We also think that we should, for similar reasons, not consider at this time the appropriate definition of "discharge of any pollutant" as used in s 402. The American Iron and Steel Institute as amicus curiae has pressed upon us the argument that the term "discharge" as used in s 402 was intended to encompass only "volitional flows" that add pollutants to navigable waters. Most forms of runoff, it is argued, do not involve volitional flows.

[7] We assume that FWPCA, however tight in some respects, leaves some leeway to EPA in the interpretation of that statute, and in that regard affords the Agency some means to consider matters of feasibility. However, for reasons already noted, we do not consider these particular contentions as to interpretation on the merits.

III. CONCLUSION

[8] As the Supreme Court recently stated in a FWPCA case, “(t)he question . . . is ****161 *1383** not what a court thinks is generally appropriate to the regulatory process, it is what Congress intended . . .” *E. I. du Pont de Nemours & Co. v. Train*, 430 U.S. 112, 138, 97 S.Ct. 965, 980, 51 L.Ed.2d 204 (1977). We find a plain Congressional intent to require permits in any situation of pollution from point sources. We also discern an intent to give EPA flexibility in the structure of the permits, in the form of general or area permits. We are aware that Congress hoped that more of the NPDES permit program would be administered by the states at this point.²⁹ But it also made provision for continuing EPA administration. Imagination conjoined with determination will likely give EPA a capability for practicable administration. If not, the remedy lies with Congress.

So ordered.

MacKINNON, Circuit Judge, concurring:

Footnotes

- * For convenience the court will refer to this case hereafter as NRDC v. Costle (Runoff Point Sources).
- 1 [33 U.S.C. ss 1251-1376 \(Supp. V 1975\)](#). Although characterized in the official title as “amendments”, the 1972 FWPCA actually substitutes its provisions for those of the pre-1972 Federal Water Pollution Control Act as amended, *id.* ss 1151-1175 (1970).
- 2 This case deals with s 402 of the FWPCA, [33 U.S.C. s 1342 \(Supp. V 1975\)](#), which sets out the permitting authority of the EPA Administrator as well as that of the states under EPA-approved state permit programs. The Secretary of the Army also has a permitting authority in certain circumstances. Under s 404 of the FWPCA, [33 U.S.C. s 1344 \(Supp. V 1975\)](#), he may issue permits for the discharge of dredged or fill material into navigable waters.
- 3 40 C.F.R. s 125.4 (1975). See [38 Fed.Reg. 18000-04 \(1973\)](#).
- 4 [33 U.S.C. s 1362\(14\) \(Supp. V 1975\)](#).
- 5 40 C.F.R. s 125.4 (1975):
The following do not require an NPDES permit:
(f) Uncontrolled discharges composed entirely of storm runoff when these discharges are uncontaminated by any industrial or commercial activity, unless the particular storm runoff discharge has been identified by the Regional Administrator, the State water pollution control agency or an interstate agency as a significant contributor of pollution.

I concur in the very sound and practical construction set forth in the foregoing opinion. Any person concerned with the actual application and enforcement of laws would necessarily be concerned by the application of the relevant legislation to all point sources in agriculture and particularly to irrigated agriculture. Concern would also lie in the congressional admission that present technology is inadequate to enable our citizens to meet the standards and deadlines the Act imposes; in passing the law, Congress was relying on the future “invention (of) new and imaginative developments that will allow us to meet the objectives of our bill.”¹ In gambling parlance, Congress in enacting the law was “betting on the come.” It is relying on our citizens in the near future to develop the complex technology to meet all the law's standards and objectives on time. The difficulty with that approach is that the hopes of Congress in this respect, like that of any gambler, might not be realized. The agency in this case, however, has shown that it takes a realistic view of both the situation and the task of meeting the difficult requirements and objectives of the Act. I sincerely hope that the ability of the agency to issue section 402 permits including general area permits² will permit it to meet the present and future compliance problems posed by the Act in a practical way.

All Citations

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(It is anticipated that significant contributors of pollution will be identified in connection with the development of plans pursuant to section 303(e) of the Act. This exclusion applies only to separate storm sewers. Discharges from combined sewers and bypass sewers are not excluded.)

(j) Discharges of pollutants from agricultural and silvicultural activities, including irrigation return flow and runoff from orchards, cultivated crops, pastures, rangelands, and forest lands, except that this exclusion shall not apply to the following:

(1) Discharges from animal confinement facilities, if such facility or facilities contain, or at any time during the previous 12 months contained, for a total of 30 days or more, any of the following types of animals at or in excess of the number listed for each type of animal:

(i) 1,000 slaughter and feeder cattle;

(ii) 700 mature dairy cattle (whether milkers or dry cows);

(iii) 2,500 swine weighing over 55 pounds;

(iv) 10,000 sheep;

(v) 55,000 turkeys;

(vi) If the animal confinement facility has continuous overflow watering, 100,000 laying hens and broilers;

(vii) If the animal confinement facility has liquid manure handling systems, 30,000 laying hens and broilers;

(viii) 5,000 ducks;

(2) Discharges from animal confinement facilities, if such facility or facilities contain, or any time during the previous 12 months contained for a total of 30 days or more, a combination of animals such that the sum of the following numbers is 1,000 or greater: the number of slaughter and feeder cattle multiplied by 1.0, plus the number of mature dairy cattle multiplied by 1.4, plus the number of swine weighing over 55 pounds multiplied by 0.4, plus the number of sheep multiplied by 0.1;

(3) Discharges from aquatic animal production facilities;

(4) Discharges of irrigation return flow (such as tailwater, tile drainage, surfaced ground water flow or bypass water), operated by public or private organizations or individuals, if: (1) There is a point source of discharge (e. g., a pipe, ditch, or other defined or discrete conveyance, whether natural or artificial) and; (2) the return flow is from land areas of more than 3,000 contiguous acres, or 3,000 non-contiguous acres which use the same drainage system; and

(5) Discharges from any agricultural or silvicultural activity which have been identified by the Regional Administrator or the Director of the State water pollution control agency or interstate agency as a significant contributor of pollution.

6 Briefs as amicus curiae were filed by the American Iron and Steel Institute, the State of Texas, and the State of Washington, Department of Natural Resources.

7 [33 U.S.C. s 1251\(a\)](#) (Supp. V 1975).

8 [33 U.S.C. s 1311\(b\)\(1\)\(A\)](#) (Supp. V 1975).

9 [Id. s 1311\(b\)\(2\)\(A\)](#).

10 [Id. s 1311\(a\)](#).

11 Section 302, [33 U.S.C. s 1312](#) (Supp. V 1975), permits the Administrator to set water quality related effluent limitations or control strategies where technology-based limitations are inadequate. Section 306, [33 U.S.C. s 1316](#) (Supp. V 1975), instructs the EPA Administrator to promulgate standards of performance for new sources of pollution constructed after those standards are proposed. Section 307, [33 U.S.C. s 1317](#) (Supp. V 1975), gives the EPA Administrator the authority to issue generally applicable effluent standards with respect to toxic substances and to require pretreatment of some pollutants before their introduction into treatment works. By virtue of s 318, [33 U.S.C. s 1328](#) (Supp. V 1975), the Administrator may "permit the discharge of a specific pollutant or pollutants under controlled conditions associated with an approved aquaculture project under Federal or State supervision." Section 404, [33 U.S.C. s 1344](#) (Supp. V 1975), gives the Secretary of the Army authority to issue permits for the discharge of dredged or fill material into the navigable waters at specified disposal sites.

12 "The Administrator of the Environmental Protection Agency is authorized to regulate discharge of pollutants through the use of an expanded permit program." 117 Cong.Rec. 38800 (1971) (Senator Muskie) (emphasis added), reprinted in 2 Environmental Policy Div., Congressional Reference Serv., A Legislative History of the Water Pollution Control Act Amendments of 1972, at 1259 (Senate Public Works Comm. Print 1973) (hereinafter cited as Legislative History).

13 [H.Rep.No.92-911](#), 92d Cong., 2d Sess. 100 (1972), reprinted in Legislative History at 787.

14 [S.Rep.No.92-414](#), 92d Cong., 1st Sess. 42 (1971), reprinted in Legislative History at 1460; U.S.Code Cong. & Admin.News 1972, pp. 3668, 3709.

- 15 117 Cong.Rec. 38805 (1971), reprinted in Legislative History at 1272. See also the comments of Senator Montoya on the original Senate bill.
Your committee has placed before you a tough bill. This body and this Nation would not have it be otherwise. Our legislation contains an important principle of psychology: Men seldom draw the best from themselves unless pressed by circumstances and deadlines. This bill contains deadlines and it imposes rather tough standards on industry, municipalities, and all other sources of pollution. Only under such conditions are we likely to press the technological threshold of invention into new and imaginative developments that will allow us to meet the objectives stated in our bill.
117 Cong.Rec. 38808 (1971), reprinted in Legislative History at 1278.
- 16 118 Cong.Rec. 10215 (1972) (Rep. Clausen), reprinted in Legislative History at 378. See, e. g., [H.R.Rep.No.92-911](#) 92d Cong., 2d Sess. 100 (1972), reprinted in Legislative History at 787; [S.Rep.No.92-414](#); 92d Cong., 1st Sess. 42-43 (1971), reprinted in Legislative History at 1460-61; 118 Cong.Rec. 10661 (1972) (Rep. Podell), reprinted in Legislative History at 574.
- 17 The House rejected an amendment designed to avoid the problems of including irrigation return flows in the permit program. Congressman Teno Roncalio of Wyoming offered an amendment on the floor of the House that would have explicitly exempted irrigated agriculture from the NPDES permit program.
Mr. RONCALIO. . . .
I offer my amendment so that a serious omission to H.R. 11896 can be corrected before we end up with a law that would be virtually impossible to enforce. My amendment would specifically exempt irrigated agriculture from sections 301(a), 302 and 304 of the Federal Water Pollution Control Act.
I think my colleagues will agree that the type of salinity problems created by irrigation runoff are simply not as alarming as the more common pollutants discharged by industrial and municipal facilities. Substantial salinity concentrations have little effect on recreational use of water or its suitability for the propagation of fish.
My amendment is necessary, Mr. Chairman, because at the present time we could not enforce pollution control on irrigation systems. It is virtually impossible to trace pollutants to specific irrigation lands, making these pollutants a nonpoint source in most cases. Second, we do not have the technology to deal with irrigation runoff (as contrasted to industrial pollution) and if we begin making laws to control something that cannot be handled with our given technological knowledge, we will be doing many thousand farmers and ranchers a great disservice. In fact, we will be doing the Federal Government a great disservice if we actually pass a Federal water pollution control bill that cannot be fully enforced.
118 Cong.Rec. 10764-65 (1972), reprinted in Legislative History at 651. The amendment was rejected.
- 18 See FWPCA s 502(11), [33 U.S.C. s 1362\(11\)](#) (Supp. V 1975):
The term "effluent limitation" means any restriction established by a State or the Administrator on quantities, rates, and concentrations of chemical, physical, biological, and other constituents which are discharged from point sources into navigable waters, the waters of the contiguous zone, or the ocean, including schedules of compliance.
- 19 As one commentator has recently written:
The Tragedy of the Commons arises in noncentralized decisionmaking under conditions in which the rational but independent pursuit by each decisionmaker of its own self-interest leads to results that leave all decisionmakers worse off than they would have been had they been able to agree collectively on a different set of policies.
Stewart, [Pyramids of Sacrifice? Problems of Federalism in Mandating State Implementation of National Environmental Policy](#), 86 *Yale L.J.* 1196, 1211 (1977). The classic account of the Tragedy of the Commons can be found in Hardin, *The Tragedy of the Commons*, 162 *Science* 1243 (1968). Hardin makes the point in the context of sheep-grazing. Put simply, even over-simply, Hardin shows that if no one is authorized to set limits to preserve open pasture land as a whole, allowing sheep to graze on that land may lead to serious overgrazing, as each herdsman thinks only of his own advantage. The solution lies in some mandate, from above or by agreement, with sanctions to compel conformance.
- 20 In *NRDC v. Train*, this court stated:
A federal equity court may exercise its discretion to give or withhold its mandate in furtherance of the public interest, including specifically the interest in effectuating the congressional objective incorporated in regulatory legislation. We think the court may forebear the issuance of an order in those cases where it is convinced by the official involved that he has in good faith employed the utmost diligence in discharging his statutory responsibilities. The sound discretion of an equity court does not embrace enforcement through contempt of a party's duty to comply with an order that calls him "to do an impossibility."
[166 U.S.App.D.C. at 333](#), [510 F.2d at 713](#) (footnotes omitted). For reasons stated in this opinion, we conclude that to require the EPA Administrator to include silvicultural, agricultural, and storm sewer point sources in the NPDES program is not to require him "to do an impossibility."

- 21 That Congress did not regard numeric effluent limitations as the only permissible limitation on a discharger is supported by s 302(a) of the Act, [33 U.S.C. s 1312\(a\)](#) (Supp. V 1975):
Whenever, in the judgment of the Administrator, discharges of pollutants from a point source or group of point sources, with the application of effluent limitations required under (s 301(b) of the Act), would interfere with the attainment or maintenance of that water quality in a specific portion of the navigable waters which shall assure protection of public water supplies, agricultural and industrial uses, and the protection and propagation of a balanced population of shellfish, fish and wildlife, and allow recreational activities in and on the water, effluent limitations (including alternative effluent control strategies) for such point source or sources shall be established which can reasonably be expected to contribute to the attainment or maintenance of such water quality.
The emphasis has been added.
- 22 FWPCA s 402(a)(3), (b)(2)(B), [33 U.S.C. s 1342\(a\)\(3\), \(b\)\(2\)\(B\)](#) (Supp. V 1975). EPA concedes that it has this authority. Federal Appellants' Memorandum on "Impossibility" at 14.
- 23 Affidavit of William H. McCredie, Director, Industrial Forestry, of the NFPA; Affidavit of Walter G. Gilbert, Chief of the Municipal Operations Branch, Municipal Waste Water Systems Div., EPA Office of Air and Water Programs.
- 24 In Permian Basin the Supreme Court observed:
The Commission has asserted, and the history of producer regulation has confirmed, that the ultimate achievement of the Commission's regulatory purposes may easily depend upon the contrivance of more expeditious administrative methods. The Commission believes that the elements of such methods may be found in area proceedings. "(C)onsiderations of feasibility and practicality are certainly germane" to the issues before us. . . . We cannot, in these circumstances, conclude that Congress has given authority inadequate to achieve with reasonable effectiveness the purposes for which it has acted.
[390 U.S. at 777, 88 S.Ct. at 1365.](#)
- 25 It is also of some, albeit limited, significance that the House Committee on Government Operations found EPA's administrative problems with applying the permit program to animal feedlots "grossly exaggerated." It was of the opinion that the Administrator did not have authority to exempt point sources from the NPDES program. [H.Rep.No.93-1012](#), 93d Cong., 2d Sess. 15-30 (1974).
- 26 The Supreme Court recently reiterated this instruction in [Union Electric Co. v. EPA](#), [427 U.S. 246, 96 S.Ct. 2518, 49 L.Ed.2d 474 \(1976\)](#). There the Court held that the EPA Administrator could not consider claims of technological or economic infeasibility when approving state implementation plans under the Clean Air Act Amendments of 1970, 42 U.S.C. ss 1857a-1857I (1970). Such claims were held only to be cognizable by the states in the plan design stage or by the Administrator when drawing up compliance orders. Justice Marshall, writing for the Court, emphasized that federal courts are not to ignore clear expressions of Congressional intent in order to accommodate claims of technological or economic infeasibility.
Allowing such claims to be raised by appealing the Administrator's approval of an implementation plan . . . would frustrate congressional intent. It would permit a proposed plan to be struck down as infeasible before it is given a chance to work, even though Congress clearly contemplated that some plans would be infeasible when proposed. And it would permit the Administrator or a federal court to reject a State's legislative choices in regulating air pollution, even though Congress plainly left with the States, so long as the national standards were met, the power to determine which sources would be burdened by regulation and to what extent. Technology forcing is a concept somewhat new to our national experience and it necessarily entails certain risks. But Congress considered those risks in passing the 1970 Amendments and decided that the dangers posed by uncontrolled air pollution made them worth taking. Petitioner's theory would render that considered legislative judgment a nullity, and that is a result we refuse to reach.
[427 U.S. at 268-69, 96 S.Ct. at 2531](#) (footnote omitted). See also [Wilderness Society v. Morton](#), [156 U.S.App.D.C. 121, 171, 479 F.2d 842, 892 \(1973\)](#), cert. denied, [411 U.S. 917, 93 S.Ct. 1550, 36 L.Ed.2d 309](#) (quoting [United States v. City and County of San Francisco](#), [310 U.S. 16, 31-32, 60 S.Ct. 749, 84 L.Ed. 1050 \(1940\)](#)): " 'We cannot accept the contention that administrative rulings such as those relied on can thwart the plain purpose of a valid law.' ")
- 27 [33 U.S.C. s 1342\(a\)\(3\), \(b\)\(1\)\(B\)](#) (Supp. V 1975).
- 28 This appears to be the position of the Colorado River Water Conservation District and the NFPA with respect to silvicultural activities, and NMPF, less obviously, with respect to small dairy farms.
We would put in the same category EPA's contention that the exempt categories are best handled under the areawide waste treatment management planning process of s 208 of the FWPCA, [33 U.S.C. s 1288 \(Supp. V 1975\)](#). By its terms that section is concerned with areawide waste treatment plans that identify and control "agriculturally and silviculturally related non-point sources of pollution." [Id. s 1288\(b\)\(2\)\(F\)](#).

- 29 See, e. g., 118 Cong.Rec. 10235 (1972) (Rep. Ichord) reprinted in Legislative History at 428.
- 1 Comments of Senator Montoya, 117 Cong.Rec. 38808 (1971), quoted in court's opinion at 12, reprinted in Legislative History at 1278.
- 2 As an example, an area permit with appropriate conditions and modifications could issue for the agricultural point sources within the Grand River Irrigation District, or the watershed of the Roaring Fork River and tributaries, etc.

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ATTACHMENT 18



KeyCite Yellow Flag - Negative Treatment

Distinguished by [San Diego Unified School Dist. v. Commission On State Mandates](#), Cal., August 2, 2004

43 Cal.3d 46

Supreme Court of California,
In Bank.COUNTY OF LOS ANGELES
et al., Plaintiffs and Appellants,

v.

The STATE of California et al.,
Defendants and Respondents.

CITY OF SONOMA et al., Plaintiffs and Appellants,

v.

The STATE of California et al.,
Defendants and Respondents.

L.A. No. 32106.

|

Jan. 2, 1987.

|

Rehearing Denied Feb. 26, 1987.

After State mandated increases in certain workers' compensation benefits, cities and counties, as self-insured employers, brought action against State for reimbursement of required increases. The Superior Court, Los Angeles County, Leon Savitch and John L. Cole, JJ., denied relief, and cities and counties appealed. The Court of Appeal, Eagleson, J., [215 Cal.Rptr. 139](#), affirmed in part, reversed in part, and remanded. The Supreme Court granted review, superseding the opinion of the Court of Appeal. The Supreme Court, Grodin, J., held that constitutional provision, requiring State to reimburse local governments for increased costs whenever legislature mandated new program or higher level of service, was not applicable to increases in workers' compensation benefits, where public and private employers were equally affected.

Court of Appeal reversed.

Mosk, J., concurred and filed opinion.

West Headnotes (1)

[1] [States](#)**🔑 Disbursements in General**

Constitutional provision requiring State to reimburse local governments for costs of new programs or higher levels of service mandated by legislature was not applicable to costs incurred by local governments in complying with legislatively mandated increases in workers' compensation benefits where increases were applicable to both public and private employers; disapproving *City of Sacramento v. State of California*, 156 Cal.App.3d 182, 203 Cal.Rptr. 258 (3 Dist.). West's Ann.Cal. Const. Art. 13B, § 6; West's Ann.Cal.Labor Code §§ 4453, 4453.1, 4460, 4553, 4702.

[45 Cases that cite this headnote](#)**Attorneys and Law Firms**

***49 **203 ***38** De Witt W. Clinton, Co. Counsel, Paula A. Snyder, Sr. Deputy Co. Counsel, Edward G. Pozorski, Deputy Co. Counsel, John W. Witt, City Atty., Kenneth K.Y. So, Deputy City Atty., William D. Ross, Diana P. Scott, Ross & Scott and Rogers & Wells, Los Angeles, for plaintiffs and appellants.

James K. Hahn, City Atty. (Los Angeles), Thomas C. Bonventura and Richard Dawson, Asst. City Attys., and Patricia V. Tubert, Deputy City Atty., as amici curiae on behalf of plaintiffs and appellants.

John K. Van de Kamp, Atty. Gen., N. Eugene Hill, Asst. Atty. Gen., Henry G. Ullerich and Martin H. Milas, Deputy Attys. Gen., for defendants and respondents.

Laurence Gold, Washington, D.C., Fred H. Altshuler, Marsha S. Berzon, Gay C. Danforth, Altshuler & Berzon, Charles P. Scully II, Donald C. Carroll, Peter Weiner, Heller, Ehrman, White & McAuliffe, San Francisco, Donald C. Green, Sacramento, Terrence S. Terauchi, Manatt, Phelps, Rothenberg & Tunney and Clare Bronowski, Los Angeles, as amici curiae on behalf of defendants and respondents.

Opinion

GRODIN, Justice.

We are asked in this proceeding to determine whether legislation enacted in 1980 and 1982 increasing certain workers' compensation benefit payments is subject to the command of article XIII B of the California Constitution that local government costs mandated by the state must be funded by the state. The County of Los Angeles and the City of Sonoma sought review by this court of a decision of the Court of Appeal which held that state-mandated increases ***39 in workers' compensation benefits that do not exceed the rise in the cost of living are not costs which must be borne by the state under article XIII B, an initiative constitutional provision, and legislative implementing statutes.

Although we agree that the State Board of Control properly denied plaintiffs' claims, our conclusion rests on grounds other than those relied upon by the Court of Appeal, and requires that its judgment be reversed. We conclude that when the voters adopted [article XIII B, section 6](#), their intent was not to require the state to provide subvention whenever a newly enacted statute resulted incidentally in some cost to local agencies. Rather, the drafters and the electorate had in mind subvention for the expense or *50 increased cost of programs administered locally and for expenses occasioned by laws that impose unique requirements on local governments and do not apply generally to all state residents or entities. In using the word "programs" they had in mind the commonly understood meaning of the term, programs which carry out the governmental function of providing services to the public. Reimbursement for the cost or increased cost of providing workers' compensation benefits to employees of local agencies is not, therefore, required by [section 6](#).

We recognize also the potential conflict between [article XIII B](#) and the grant of plenary power over workers' compensation bestowed upon the Legislature by section 4 of article XIV, but in accord with established rules of construction our construction of [article XIII B, section 6](#), harmonizes these constitutional provisions.

I

On November 6, 1979, the voters approved an initiative measure which added article XIII B to the California Constitution. That article imposed spending limits on the state and local governments and provided in [section](#)

[6](#) (hereafter [section 6](#)): "Whenever the Legislature or any state agency mandates a new program or higher level of **204 service on any local government, the state shall provide a subvention of funds to reimburse such local government for the costs of such program or increased level of service, except that the Legislature may, but need not, provide such subvention of funds for the following mandates: [¶] (a) Legislative mandates requested by the local agency affected; [¶] (b) Legislation defining a new crime or changing an existing definition of a crime; or [¶] (c) Legislative mandates enacted prior to January 1, 1975, or executive orders or regulations initially implementing legislation enacted prior to January 1, 1975." No definition of the phrase "higher level of service" was included in article XIII B, and the ballot materials did not explain its meaning.¹

The genesis of this action was the enactment in 1980 and 1982, after article XIII B had been adopted, of laws increasing the amounts which employers, *51 including local governments, must pay in workers' compensation benefits to injured employees and families of deceased employees.

The first of these statutes, Assembly Bill No. 2750 (Stats.1980, ch. 1042, p. 3328), amended several sections of the Labor Code related to workers' compensation. The amendments of [Labor Code sections 4453, 4453.1 and 4460](#) increased the maximum weekly wage upon which temporary and permanent disability indemnity is computed from \$231 per week to \$262.50 per week. The amendment of [section 4702 of the Labor Code](#) increased certain death benefits from \$55,000 to \$75,000. No appropriation ***40 for increased state-mandated costs was made in this legislation.²

Test claims seeking reimbursement for the increased expenditure mandated by these changes were filed with the State Board of Control in 1981 by the County of San Bernardino and the City of Los Angeles. The board rejected the claims, after hearing, stating that the increased maximum workers' compensation benefit levels did not change the terms or conditions under which benefits were to be awarded, and therefore did not, by increasing the dollar amount of the benefits, create an increased level of service. The first of these consolidated actions was then filed by the County of Los Angeles, the County of San Bernardino, and the City of San Diego, seeking a writ of mandate to compel the board to approve the

reimbursement claims for costs incurred in providing an increased level of service mandated by the state pursuant to [Revenue and Taxation Code section 2207](#).³ They also sought a declaration that because the State of California and the board were obliged by article XIII B to reimburse them, they were not obligated to ****205** pay the increased benefits until the state provided reimbursement.

The superior court denied relief in that action. The court recognized that although increased benefits reflecting cost of living raises were not expressly ***52** excepted from the requirement of state reimbursement in [section 6](#) the intent of article XIII B to limit governmental expenditures to the prior year's level allowed local governments to make adjustment for changes in the cost of living, by increasing their own appropriations. Because the Assembly Bill No. 2750 changes did not exceed cost of living changes, they did not, in the view of the trial court, create an "increased level of service" in the existing workers' compensation program.

The second piece of legislation (Assem. Bill No. 684), enacted in 1982 (Stats. 1982, ch. 922, p. 3363), again changed the benefit levels for workers' compensation by increasing the maximum weekly wage upon which benefits were to be computed, and made other changes among which were: The bill increased minimum weekly earnings for temporary and permanent total disability from \$73.50 to \$168, and the maximum from \$262.50 to \$336. For permanent partial disability the weekly wage was raised from a minimum of \$45 to \$105, and from a maximum of \$105 to \$210, in each case for injuries occurring on or after January 1, 1984. ([Lab.Code, § 4453](#).) A \$10,000 limit on additional compensation for injuries resulting from serious and willful employer misconduct was removed ([Lab.Code, § 4553](#)), and the maximum death benefit was raised from \$75,000 to \$85,000 for deaths in 1983, and to \$95,000 for deaths on or after January 1, 1984. ([Lab.Code, § 4702](#).)

Again the statute included no appropriation and this time the statute expressly acknowledged that the omission was made "[n]otwithstanding [section 6 of Article XIII B of the California Constitution](#) and *****41** [section 2231 ... of the Revenue and Taxation Code](#)." (Stats.1982, ch. 922, § 17, p. 3372.)⁴

Once again test claims were presented to the State Board of Control, this time by the City of Sonoma, the County

of Los Angeles, and the City of San Diego. Again the claims were denied on grounds that the statute made no change in the terms and conditions under which workers' compensation benefits were to be awarded, and the increased costs incurred as a result of higher benefit levels did not create an increased level of service as defined in [Revenue and Taxation Code section 2207, subdivision \(a\)](#).

The three claimants then filed the second action asking that the board be compelled by writ of mandate to approve the claims and the state to pay them, and that chapter 922 be declared unconstitutional because it was not adopted in conformity with requirements of the Revenue and Taxation Code or ***53** [section 6](#). The trial court granted partial relief and ordered the board to set aside its ruling. The court held that the board's decision was not supported by substantial evidence and legally adequate findings on the presence of a state-mandated cost. The basis for this ruling was the failure of the board to make adequate findings on the possible impact of changes in the burden of proof in some workers' compensation proceedings ([Lab.Code § 3202.5](#)); a limitation on an injured worker's right to sue his employer under the "dual capacity" exception to the exclusive remedy doctrine ([Lab.Code §§ 3601–3602](#)); and changes in death and disability benefits and in liability in serious and wilful misconduct cases. ([Lab.Code, § 4551](#).)

The court also held: "[T]he changes made by chapter 922, Statutes of 1982 may be excluded from state mandated costs if that change effects a cost of living increase which does not impose a higher or increased level of service on an existing program." The City of Sonoma, the County of Los Angeles, and the City of San Diego ****206** appeal from this latter portion of the judgment only.

II

The Court of Appeal consolidated the appeals. The court identified the dispositive issue as whether legislatively mandated increases in workers' compensation benefits constitute a "higher level of service" within the meaning of [section 6](#), or are an "increased level of service"⁵ described in subdivision (a) of [Revenue and Taxation Code section 2207](#). The parties did not question the proposition that higher benefit payments might constitute a higher level of "service." The dispute centered on whether higher

benefit payments which do not exceed increases in the cost of living constitute a higher level of service. Appellants maintained that the reimbursement requirement of [section 6](#) is absolute and permits no implied or judicially created exception for increased costs that do not exceed the inflation rate. The Court of Appeal addressed the problem as one of defining “increased level of service.”

The court rejected appellants' argument that a definition of “increased level of service” that once had been included in [section 2231](#), subdivision, (e) of the Revenue and Taxation Code should be applied. That definition brought any law that imposed “additional costs” within the scope of “increased level of service.” The court concluded that the repeal of [section 2231](#) in 1975 (Stats.1975, ch. 486, § 7, pp. 999–1000) and the failure of the Legislature by statute or the electorate in [article XIII B](#) to readopt the [*54](#) definition must be treated as reflecting an intent to change the law. (*Eu v. Chacon* (1976) 16 Cal.3d 465, 470, 128 Cal.Rptr. 1, 546 P.2d 289.)⁶ On that basis the court [***42](#) concluded that increased costs were no longer tantamount to an increased level of service.

The court nonetheless assumed that an increase in costs mandated by the Legislature did constitute an increased level of service if the increase exceeds that in the cost of living. The judgment in the second, or “Sonoma” case was affirmed. The judgment in the first, or “Los Angeles” case, however, was reversed and the matter “remanded” to the board for more adequate findings, with directions.⁷

III

The Court of Appeal did not articulate the basis for its conclusion that costs in excess of the increased cost of living do constitute a reimbursable increased level of service within the meaning of [section 6](#). Our task in ascertaining the meaning of the phrase is aided somewhat by one explanatory reference to this part of [section 6](#) in the ballot materials.

A statutory requirement of state reimbursement was in effect when [section 6](#) [**207](#) was adopted. That provision used the same “increased level of service” phraseology but it also failed to include a definition of “increased level of service,” providing only: ‘Costs mandated by the state’ means any increased costs which a local agency is required to incur as a result of the following: [¶] (a) Any law ...

which mandates a new program or an increased level of service of an existing program.” ([Rev. & Tax. Code, 2207.](#)) As noted, however, the definition of that term which had been [*55](#) included in Revenue and Taxation Code section 2164.3 as part of the Property Tax Relief Act of 1972 (Stats.1972, ch. 1406, § 14.7, p. 2961), had been repealed in 1975 when [Revenue and Taxation Code section 2231](#), which had replaced section 2164.3 in 1973, was repealed and a new [section 2231](#) enacted. (Stats.1975, ch. 486, §§ 6 & 7, p. 999.)⁸ Prior to repeal, Revenue and Taxation Code section 2164.3, and later [section 2231](#), after providing in subdivision (a) for state reimbursement, explained in subdivision (e) that “ ‘Increased level of service’ means any requirement mandated by state law or executive regulation ... which makes necessary expanded or additional costs to a county, city and county, city, or special district.” (Stats.1972, ch. 1406, § 14.7, p. 2963.)

[***43](#) Appellants contend that despite its repeal, the definition is still valid, relying on the fact that the Legislature, in enacting [section 2207](#), explained that the provision was “declaratory of existing law.” (Stats.1975, ch. 486, § 18.6, p. 1006.) We concur with the Court of Appeal in rejecting this argument. “[I]t is ordinarily to be presumed that the Legislature by deleting an express provision of a statute intended a substantial change in the law.” (*Lake Forest Community Assn. v. County of Orange* (1978) 86 Cal.App.3d 394, 402, 150 Cal.Rptr. 286; see also *Eu v. Chacon*, *supra*, 16 Cal.3d 465, 470, 128 Cal.Rptr. 1, 546 P.2d 289.) Here, the revision was not minor: a whole subdivision was deleted. As the Court of Appeal noted, “A change must have been intended; otherwise deletion of the preexisting definition makes no sense.”

Acceptance of appellants' argument leads to an unreasonable interpretation of [section 2207](#). If the Legislature had intended to continue to equate “increased level of service” with “additional costs,” then the provision would be circular: “costs mandated by the state” are defined as “increased costs” due to an “increased level of service,” which, in turn, would be defined as “additional costs.” We decline to accept such an interpretation. Under the repealed provision, “additional costs” may have been deemed tantamount to an “increased level of service,” but not under the post–1975 statutory scheme. Since that definition has been repealed, an act of which the drafters of section 6 and the electorate are presumed to have been [*56](#) aware, we may not conclude that an intent existed to incorporate the repealed definition into section 6.

In construing the meaning of the constitutional provision, our inquiry is not focussed on what the Legislature intended in adopting the former statutory reimbursement scheme, but rather on what the voters meant when they adopted [article XIII B](#) in 1979. To determine this intent, we must look to the language of the provision itself. (*ITT World Communications, Inc. v. City and County of San Francisco* (1985) 37 Cal.3d 859, 866, 210 Cal.Rptr. 226, 693 P.2d 811.) In [section 6](#), the electorate commands ****208** that the state reimburse local agencies for the cost of any “new program or higher level of service.” Because workers' compensation is not a new program, the parties have focussed on whether providing higher benefit payments constitutes provision of a higher level of service. As we have observed, however, the former statutory definition of that term has been incorporated into neither [section 6](#) nor the current statutory reimbursement scheme.

Looking at the language of [section 6](#) then, it seems clear that by itself the term “higher level of service” is meaningless. It must be read in conjunction with the predecessor phrase “new program” to give it meaning. Thus read, it is apparent that the subvention requirement for increased or higher level of service is directed to state mandated increases in the services provided by local agencies in existing “programs.” But the term “program” itself is not defined in [article XIII B](#). What programs then did the electorate have in mind when [section 6](#) was adopted? We conclude that the drafters and the electorate had in mind the commonly understood meanings of the term—programs that carry out the governmental function of providing services to the public, or laws which, to implement a state policy, impose unique requirements on local governments and do not apply generally to all residents and entities in the state.

The concern which prompted the inclusion of [section 6](#) in [article XIII B](#) was the perceived attempt by the state to enact legislation or adopt administrative orders creating programs to be administered by local agencies, thereby transferring to those agencies the fiscal responsibility for providing services which the state believed should be extended to the public. In their ballot arguments, the proponents of [article XIII B](#) explained [section 6](#) to the voters: “Additionally, this measure: (1) Will not allow the state government to *force programs* on local governments without the state paying for them.” (Ballot Pamp., Proposed Amend. to Cal. Const. with arguments

*****44** to voters, Spec. Statewide Elec. (Nov. 6, 1979) p. 18. Ital. added.) In this context the phrase “to force programs on local governments” confirms that the intent underlying [section 6](#) was to require reimbursement to local agencies for the costs involved in carrying out functions peculiar to government, not ***57** for expenses incurred by local agencies as an incidental impact of laws that apply generally to all state residents and entities. Laws of general application are not passed by the Legislature to “force” programs on localities.

The language of [section 6](#) is far too vague to support an inference that it was intended that each time the Legislature passes a law of general application it must discern the likely effect on local governments and provide an appropriation to pay for any incidental increase in local costs. We believe that if the electorate had intended such a far-reaching construction of [section 6](#), the language would have explicitly indicated that the word “program” was being used in such a unique fashion. (Cf. *Fuentes v. Workers' Comp. Appeals Bd.* (1976) 16 Cal.3d 1, 7, 128 Cal.Rptr. 673, 547 P.2d 449; *Big Sur Properties v. Mott* (1976) 62 Cal.App.3d 99, 105, 132 Cal.Rptr. 835.) Nothing in the history of [article XIII B](#) that we have discovered, or that has been called to our attention by the parties, suggests that the electorate had in mind either this construction or the additional indirect, but substantial impact it would have on the legislative process.

Were [section 6](#) construed to require state subvention for the incidental cost to local governments of general laws, the result would be far-reaching indeed. Although such laws may be passed by simple majority vote of each house of the Legislature (art. IV, § 8, subd. (b)), the revenue measures necessary to make them effective may not. A bill which will impose costs subject to subvention of local agencies must be accompanied by a revenue measure providing the subvention required by [article XIII B](#). (*Rev & Tax. Code*, § 2255, subd. (c).) Revenue bills must be passed by two-thirds vote of each house of the Legislature. (art. IV, § 12, subd. (d).) Thus, were we to construe [section 6](#) as ****209** applicable to general legislation whenever it might have an incidental effect on local agency costs, such legislation could become effective only if passed by a supermajority vote.⁹ Certainly no such intent is reflected in the language or history of [article XIII B](#) or [section 6](#).

We conclude therefore that [section 6](#) has no application to, and the state need not provide subvention for, the

costs incurred by local agencies in providing to their employees the same increase in workers' compensation *58 benefits that employees of private individuals or organizations receive.¹⁰ Workers' compensation is not a program administered by local agencies to provide service to the public. Although local agencies must provide benefits to their employees either through insurance or direct payment, they are indistinguishable in this respect from private employers. In no sense can employers, public or private, be considered to be administrators of a program of workers' compensation or to be providing services incidental to administration of the program. Workers' compensation is administered by the state through the Division of Industrial Accidents and the Workers' Compensation Appeals Board. (See ***45 *Lab.Code, § 3201* et seq.) Therefore, although the state requires that employers provide workers' compensation for nonexempt categories of employees, increases in the cost of providing this employee benefit are not subject to reimbursement as state-mandated programs or higher levels of service within the meaning of *section 6*.

IV

Our construction of *section 6* is further supported by the fact that it comports with controlling principles of construction which “require that in the absence of irreconcilable conflict among their various parts, [constitutional provisions] must be harmonized and construed to give effect to all parts. (*Clean Air Constituency v. California State Air Resources Bd.* (1974) 11 Cal.3d 801, 813–814 [114 Cal.Rptr. 577, 523 P.2d 617]; *Serrano v. Priest* (1971) 5 Cal.3d 584, 596 [96 Cal.Rptr. 601, 487 P.2d 1241]; *Select Base Materials v. Board of Equal.* (1959) 51 Cal.2d 640, 645 [335 P.2d 672].)” (*Legislature v. Deukmejian* (1983) 34 Cal.3d 658, 676, 194 Cal.Rptr. 781, 669 P.2d 17.)

Our concern over potential conflict arises because article XIV, section 4,¹¹ gives the **210 Legislature “plenary power, unlimited by any provision of *59 this Constitution” over workers' compensation. Although seemingly unrelated to Workers' compensation, *section 6*, as we have shown, would have an indirect, but substantial impact on the ability of the Legislature to make future changes in the existing workers' compensation scheme. Any changes in the system which would increase benefit levels, provide new services, or extend current service

might also increase local agencies' costs. Therefore, even though workers' compensation is a program which is intended ***46 to provide benefits to all injured or deceased employees and their families, because the change might have some incidental impact on local government costs, the change could be made only if it commanded a supermajority vote of two-thirds of the members of each house of the Legislature. The potential conflict between *section 6* and the plenary power over workers' compensation granted to the Legislature by article XIV, section 4 is apparent.

The County of Los Angeles, while recognizing the impact of *section 6* on the Legislature's power over workers' compensation, argues that the “plenary power” granted by article XIV, section 4, is power over the substance of workers' compensation legislation, and that this power would be unaffected by *article XIII B* if the latter is construed to compel reimbursement. The subvention requirement, it is argued, is analogous to other procedural *60 limitations on the Legislature, such as the “single subject rule” (art. IV, § 9), as to which article XIV, section 4, has no application. We do not agree. A constitutional requirement that legislation either exclude employees of local governmental agencies or be adopted by a supermajority vote would do more than simply establish a format or procedure by which legislation is to be enacted. It would place workers' compensation legislation in a special classification of substantive legislation and thereby curtail the power of a majority to enact substantive changes by any procedural means. If *section 6* were applicable, therefore, *article XIII B* would restrict the power of the Legislature over workers' compensation.

The City of Sonoma concedes that so construed *article XIII B* would restrict the plenary power of the Legislature, and reasons that the provision therefore either effected a pro tanto repeal of article XIV, section 4, or must be accepted as a limitation on the power of the Legislature. We need not accept that conclusion, however, because our construction of *section 6* permits the constitutional provisions to be reconciled.

Construing a recently enacted constitutional provision such as *section 6* to avoid conflict with, and thus pro tanto repeal of, an earlier provision is also consistent with **211 and reflects the principle applied by this court in *Hustedt v. Workers' Comp. Appeals Bd.* (1981) 30 Cal.3d 329, 178 Cal.Rptr. 801, 636 P.2d 1139. There, by

coincidence, article XIV, section 4, was the later provision. A statute, enacted pursuant to the plenary power of the Legislature over workers' compensation, gave the Workers' Compensation Appeals Board authority to discipline attorneys who appeared before it. If construed to include a transfer of the authority to discipline attorneys from the Supreme Court to the Legislature, or to delegate that power to the board, article XIV, section 4, would have conflicted with the constitutional power of this court over attorney discipline and might have violated the separation of powers doctrine. (Art. III, § 3.) The court was thus called upon to determine whether the adoption of article XIV, section 4, granting the Legislature plenary power over Workers' compensation effected a pro tanto repeal of the preexisting, exclusive jurisdiction of the Supreme Court over attorneys.

We concluded that there had been no pro tanto repeal because article XIV, section 4, did not give the Legislature the authority to enact the statute. Article XIV section 4, did not expressly give the Legislature power over attorney discipline, and that power was not integral to or necessary to the establishment of a complete system of workers' compensation. In those circumstances the presumption against implied repeal controlled. "It is well established that the adoption of article XIV, section 4 'effected a repeal pro tanto' of any state constitutional provisions which conflicted with that *61 amendment. (*Subsequent Etc. Fund. v. Ind. Acc. Com.* (1952) 39 Cal.2d 83, 88 [244 P.2d 889]; *Western Indemnity Co. v. Pillsbury* (1915) 170 Cal. 686, 695 [151 P. 398].) A pro tanto repeal of conflicting state constitutional provisions removes 'insofar as necessary' any restrictions which would prohibit the realization ***47 of the objectives of the new article. (*Methodist Hosp. of Sacramento v. Saylor* (1971) 5 Cal.3d 685, 691–692 [97 Cal.Rptr. 1, 488 P.2d 161]; cf. *City and County of San Francisco v. Workers' Comp. Appeals Bd.* (1978) 22 Cal.3d 103, 15–17 [148 Cal.Rptr. 626, 583 P.2d 151].) Thus the question becomes whether the board must have the power to discipline attorneys if the objectives of article XIV, section 4 are to be effectuated. In other words, does the achievement of those objectives compel the modification of a power—the disciplining of attorneys—that otherwise rests exclusively with this court?" (*Hustedt v. Workers' Comp. Appeals Bd.*, *supra*, 30 Cal.3d 329, 343, 178 Cal.Rptr. 801, 636 P.2d 1139.) We concluded that the ability to discipline attorneys appearing before it was not necessary to the expeditious resolution of workers' claims or the efficient

administration of the agency. Thus, the absence of disciplinary power over attorneys would not preclude the board from achieving the objectives of article XIV, section 4, and no pro tanto repeal need be found.

A similar analysis leads to the conclusion here that no pro tanto repeal of article XIV, section 4, was intended or made necessary here by the adoption of section 6. The goals of article XIII B, of which section 6 is a part, were to protect residents from excessive taxation and government spending. (*Huntington Park Redevelopment Agency v. Martin* (1985) 38 Cal.3d 100, 109–10, 211 Cal.Rptr. 133, 695 P.2d 220.) Section 6 had the additional purpose of precluding a shift of financial responsibility for carrying out governmental functions from the state to local agencies which had had their taxing powers restricted by the enactment of article XIII A in the preceding year and were ill equipped to take responsibility for any new programs. Neither of these goals is frustrated by requiring local agencies to provide the same protections to their employees as do private employers. Bearing the costs of salaries, unemployment insurance, and workers' compensation coverage—costs which all employers must bear—neither threatens excessive taxation or governmental spending, nor shifts from the state to a local agency the expense of providing governmental services.

**212 Therefore, since the objectives of article XIII B and section 6 can be achieved in the absence of state subvention for the expense of increases in workers' compensation benefit levels for local agency employees, section 6 did not effect a pro tanto repeal of the Legislature's otherwise plenary power over workers' compensation, a power that does not contemplate that the Legislature rather than the employer must fund the cost or increases in *62 benefits paid to employees of local agencies, or that statute affecting those benefits paid to employees of local agencies, or that a statute affecting those benefits must garner a supermajority vote.

Because we conclude that section 6 has no application to legislation that is applicable to employees generally, whether public or private, and affects local agencies only incidentally as employers, we need not reach the question that was the focus of the decision of the Court of Appeal—whether the state must reimburse localities for state-mandated cost increases which merely reflect adjustments for cost-of-living in existing programs.

V

It follows from our conclusions above, that in each of these cases the plaintiffs' reimbursement claims were properly denied by the State Board of Control. Their petitions for writs of mandate seeking to compel the board to approve the claims lacked merit and should have been denied by the superior court without the necessity of further proceedings before the board.

In B001713, the Los Angeles case, the Court of Appeal reversed the judgment of the superior court denying the petition. In the B003561, the Sonoma case, the superior court granted partial relief, ordering further proceedings before the board, and the Court of Appeal affirmed that judgment.

The judgment of the Court of Appeal is reversed. Each side shall bear its own costs.

*****48** BIRD, C.J., and BROUSSARD, REYNOSO, LUCAS and PANELLI, JJ., concur.

MOSK, Justice, concurring.

I concur in the result reached by the majority, but I prefer the rationale of the Court of Appeal, i.e., that neither [article XIII B, section 6, of the Constitution](#) nor [Revenue and Taxation Code sections 2207 and 2231](#) require state subvention for increased workers' compensation benefits provided by chapter 1042, Statutes of 1980, and chapter 922, Statutes of 1982, but only if the increases do not exceed applicable cost-of-living adjustments because such payments do not result in an increased level of service.

Under the majority theory, the state can order unlimited financial burdens on local units of government without providing the funds to meet those burdens. This may have serious implications in the future, and does violence to the requirement of [section 2231, subdivision \(a\)](#), that the state reimburse local government for "all costs mandated by the state."

In this instance it is clear from legislative history that the Legislature did not intend to mandate additional burdens, but merely to provide a cost-of-living *63 adjustment. I agree with the Court of Appeal that this was permissible.

All Citations

43 Cal.3d 46, 729 P.2d 202, 233 Cal.Rptr. 38

Footnotes

1 The analysis by the Legislative Analyst advised that the state would be required to "reimburse local governments for the cost of complying with 'state mandates.' 'State mandates' are requirements imposed on local governments by legislation or executive orders." Elsewhere the analysis repeats: "[T]he initiative would establish a requirement that the state provide funds to reimburse local agencies for the cost of complying with state mandates...."

The one ballot argument which made reference to [section 6](#), referred only to the "new program" provision, stating, "Additionally, this measure [¶] (1) will not allow the state government to force programs on local governments without the state paying for them."

2 The bill was approved by the Governor and filed with the Secretary of State on September 22, 1980. Prior to this, the Assembly gave unanimous consent to a request by the bill's author that his letter to the Speaker stating the intent of the Legislation be printed in the Assembly Journal. The letter stated: (1) that the Assembly Ways and Means Committee had recommended approval without appropriation on grounds that the increases were a result of changes in the cost of living that were not reimbursable under either [Revenue and Taxation Code section 2231](#), or article XIII B; (2) the Senate Finance Committee had rejected a motion to add an appropriation and had approved a motion to concur in amendments of the Conference Committee deleting any appropriation.

Legislative history confirms only that the final version of Assembly Bill 2750, as amended in the Assembly on April 16, 1986, contained no appropriation. As introduced on March 4, 1980, with a higher minimum salary of \$510 on which to base benefits, an unspecified appropriation was included.

3 The superior court consolidated another action by the County of Butte, Novato Fire Protection District, and the Galt Unified School District with that action. Neither those plaintiffs nor the County of San Bernardino are parties to the appeal.

- 4 The same section “recognized,” however, that a local agency “may pursue any remedies to obtain reimbursement available to it” under the statutes governing reimbursement for state-mandated costs in chapter 3 of the Revenue and Taxation Code, commencing with section 2201.
- 5 The court concluded that there was no legal or semantic difference in the meaning of the terms and considered the intent or purpose of the two provisions to be identical.
- 6 The Court of Appeal also considered the expression of legislative intent reflected in the letter by the author of Assembly Bill No. 2750 (see fn. 2, *ante*). While consideration of that expression of intent may have been proper in construing Assembly Bill No. 2750, we question its relevance to the proper construction of either [section 6](#), adopted by the electorate in the prior year, or of [Revenue and Taxation Code section 2207, subdivision \(a\)](#) enacted in 1975. (Cf. [California Employment Stabilization Com. v. Payne \(1947\) 31 Cal.2d 210, 213–214, 187 P.2d 702.](#)) There is no assurance that the Assembly understood that its approval of printing a statement of intent as to the later bill was also to be read as a statement of intent regarding the earlier statute, and it was not relevant to the intent of the electorate in adopting [section 6](#).
- The Court of Appeal also recognized that the history of Assembly Bill No. 2750 and Statutes 1982, chapter 922, which demonstrated the clear intent of the Legislature to omit any appropriation for reimbursement of local government expenditures to pay the higher benefits precluded reliance on reimbursement provisions included in benefit-increase bills passed in earlier years. (See e.g., Stats.1973, chs. 1021 and 1023.)
- 7 We infer that the intent of the Court of Appeal was to reverse the order denying the petition for writ of mandate and to order the superior court to grant the petition and remand the matter to the board with directions to set aside its order and reconsider the claim after making the additional findings. (See [Code Civ.Proc. § 1094.5](#), subd. (f).)
- 8 Pursuant to the 1972 and successor 1973 property tax relief statutes the Legislature had included appropriations in measures which, in the opinion of the Legislature, mandated new programs or increased levels of service in existing programs, (see, e.g., Stats.1973, ch. 1021, § 4, p. 2026; ch. 1022, § 2, p. 2027; Stats 1976, ch. 1017, § 9, p. 4597) and reimbursement claims filed with the State Board of Control pursuant to [Revenue and Taxation Code sections 2218–2218.54](#) had been honored. When the Legislature fails to include such appropriations there is no judicially enforceable remedy for the statutory violation notwithstanding the command of [Revenue and Taxation Code section 2231, subdivision \(a\)](#) that “[t]he state shall reimburse each local agency for all ‘costs mandated by the state,’ as defined in [Section 2207](#)” and the additional command of subdivision (b) that any statute imposing such costs “provide an appropriation therefor.” ([County of Orange v. Flourney \(1974\) 42 Cal.App.3d 908, 913, 117 Cal.Rptr. 224.](#))
- 9 Whether a constitutional provision which requires a supermajority vote to enact substantive legislation, as opposed to funding the program, may be validly enacted as a Constitutional amendment rather than through revision of the Constitution is an open question. (See [Amador Valley Joint Union High Sch. Dist. v. State Bd. of Equalization \(1978\) 22 Cal.3d 208, 228, 149 Cal.Rptr. 239, 583 P.2d 1281.](#))
- 10 The Court of Appeal reached a different conclusion in [City of Sacramento v. State of California \(1984\) 156 Cal.App.3d 182, 203 Cal.Rptr. 258](#), with respect to a newly enacted law requiring that all public employees be covered by unemployment insurance. Approaching the question as whether the expense was a “state mandated cost,” rather than as whether the provision of an employee benefit was a “program or service” within the meaning of the Constitution, the court concluded that reimbursement was required. To the extent that this decision is inconsistent with our conclusion here, it is disapproved.
- 11 Section 4: “The Legislature is hereby *expressly vested with plenary power, unlimited by any provision of this Constitution*, to create, and enforce a complete system of workers' compensation, by appropriate legislation, and in that behalf to create and enforce a liability on the part of any or all persons to compensate any or all of their workers for injury or disability, and their dependents for death incurred or sustained by the said workers in the course of their employment, irrespective of the fault of any party. A complete system of workers' compensation includes adequate provisions for the comfort, health and safety and general welfare of any and all workers and those dependent upon them for support to the extent of relieving from the consequences of any injury or death incurred or sustained by workers in the course of their employment, irrespective of the fault of any party; also full provision for securing safety in places of employment; full provision for such medical, surgical, hospital and other remedial treatment as is requisite to cure and relieve from the effects of such injury; full provision for adequate insurance coverage against liability to pay or furnish compensation; full provision for regulating such insurance coverage in all its aspects, including the establishment and management of a State compensation insurance fund; full provision for otherwise securing the payment of compensation; and full provision for vesting power, authority and jurisdiction in an administrative body with all the requisite governmental functions to determine any dispute or matter arising under such legislation, to the end that the administration of such legislation shall accomplish substantial justice in all cases expeditiously, inexpensively, and without encumbrance of any character; all

of which matters are expressly declared to be the social public policy of this State, binding upon all departments of the State government.

“The Legislature is vested with plenary powers, to provide for the settlement of any disputes arising under such legislation by arbitration, or by an industrial accident commission, by the courts, or by either, any, or all of these agencies, either separately or in combination, and may fix and control the method and manner of trial of any such dispute, the rules of evidence and the manner of review of decisions rendered by the tribunal or tribunals designated by it; provided that all decisions of any such tribunal shall be subject to review by the appellate courts of this State. The Legislature may combine in one statute all the provisions for a complete system of workers' compensation, as herein defined.

“The Legislature shall have power to provide for the payment of an award to the state in the case of the death, arising out of and in the course of the employment, of an employee without dependents, and such awards may be used for the payment of extra compensation for subsequent injuries beyond the liability of a single employer for awards to employees of the employer.

“Nothing contained herein shall be taken or construed to impair or render ineffectual in any measure the creation and existence of the industrial accident commission of this State or the State compensation insurance fund, the creation and existence of which, with all the functions vested in them, are hereby ratified and confirmed.” (Emphasis added.)

ATTACHMENT 19

56 Cal.App.4th 601
 Court of Appeal, Third District, California.

Kathleen **CONNELL**, as Controller etc., Petitioner,

v.

Sacramento County **SUPERIOR**

COURT, Respondent;

INTERSOURCE, INC., Real Party In Interest.

No. C022506.

|

July 22, 1997.

|

Certified for Partial Publication.¹

Commercial asset finder that offers its services to warrant payee vendors for recovery of funds requested information under Public Records Act from state Controller about warrants issued to state vendors that were unpaid and over \$3,000. Controller refused to provide information, and asset locator petitioned for writ of mandate to compel disclosure. The Sacramento County **Superior Court**, No. 379806, **James Timothy Ford**, J., directed disclosure. Controller petitioned for extraordinary writ to set aside judgment. The Court of Appeal, No. 3 Civil C022506, **Davis**, J., held that: (1) public interest in favor of disclosure outweighed public interest in nondisclosure of information as limited by **superior court's** order; (2) Controller's speculative security concerns and claims of undue inconvenience and expense did not support nondisclosure where they failed to address **superior court's** proposed limitations and requirements; and (3) there was strong public interest in disclosure of records pertaining to government's conduct in managing public revenues.

Petition for extraordinary writ granted in part to modify judgment, and otherwise denied.

West Headnotes (10)

[1] Records

🔑 [Matters Subject to Disclosure;](#)

[Exemptions](#)

When an agency raises catchall provision of Public Records Act as defense to request

for information, court may analogize to the specific exemptions provided by the Act to identify situations in which nondisclosure furthers the public interest; however, specific exemptions are not an exhaustive list. [West's Ann.Cal.Gov.Code § 6255.](#)

[2 Cases that cite this headnote](#)

[2] Records

🔑 [In general;request and compliance](#)

“Persons” entitled to enforce Public Records Act are not limited to citizens of state, but rather, include corporations, both domestic and foreign. [West's Ann.Cal.Gov.Code §§ 6250 et seq., 6252\(c\).](#)

[1 Cases that cite this headnote](#)

[3] Appeal and Error

🔑 [Cases Triable in Appellate Court](#)

[Appeal and Error](#)

🔑 [Effect of findings below](#)

In evaluating whether state agency satisfied burden of demonstrating that public interest in nondisclosure of information requested under Public Records Act clearly outweighs public interest in disclosure, Court of Appeal makes determination based on facts of particular case and exercises de novo review, according deference to any express or implied factual findings that are supported by substantial evidence. [West's Ann.Cal.Gov.Code § 6255.](#)

[8 Cases that cite this headnote](#)

[4] Records

🔑 [Matters Subject to Disclosure;](#)

[Exemptions](#)

Public interest in nondisclosure of unpaid warrants issued by state Controller to state vendors did not outweigh public interest in disclosure, where **superior court** limited information to be disclosed under Public Records Act and Controller opposing disclosure failed to address how modified disclosure would increase security risk or

present undue inconvenience and expense.
[West's Ann.Cal.Gov.Code § 6255.](#)

[Cases that cite this headnote](#)

[5] Records

[🔑 Matters Subject to Disclosure; Exemptions](#)

In weighing public interest in nondisclosure of records against public interest in disclosure under Public Records Act, court may consider potential threats resulting from disclosure of information where assertion of potential threat is reasonable and identifies specific threat presented by disclosure of requested information. [West's Ann.Cal.Gov.Code § 6255.](#)

[4 Cases that cite this headnote](#)

[6] Records

[🔑 Matters Subject to Disclosure; Exemptions](#)

In weighing public interest in nondisclosure of records against public interest in disclosure under Public Records Act, mere assertion of possible endangerment does not outweigh public interest in access to records. [West's Ann.Cal.Gov.Code § 6255.](#)

[4 Cases that cite this headnote](#)

[7] Records

[🔑 Investigatory or law enforcement records](#)
 Public Records Act's exemption from disclosure for investigative or intelligence information of law enforcement agencies did not provide analogous basis to support nondisclosure of unpaid warrants issued to state vendors. [West's Ann.Cal.Gov.Code §§ 6254\(f\), 6255.](#)

[Cases that cite this headnote](#)

[8] Records

[🔑 Matters Subject to Disclosure; Exemptions](#)

There was strong public interest in disclosure of unpaid warrants issued to state vendors, as modified by **superior court** limiting information to be disclosed, as records pertained to government's conduct in managing public revenues, and public interest was not diminished by claim that disclosure was requested solely for commercial purposes. [West's Ann.Cal.Gov.Code § 6255.](#)

[3 Cases that cite this headnote](#)

[9] Records

[🔑 Matters Subject to Disclosure; Exemptions](#)

There is a public interest in disclosure of information requested under Public Records Act if records pertain to conduct of people's business, and weight of that interest is proportionate to gravity of governmental tasks sought to be illuminated and directness with which disclosure will illuminate. [West's Ann.Cal.Gov.Code § 6255.](#)

[6 Cases that cite this headnote](#)

[10] Records

[🔑 Matters Subject to Disclosure; Exemptions](#)

In weighing public interest of disclosure of information requested under Public Records Act, fact that a requesting party is a commercial entity using information for strictly commercial purposes does not diminish public interest inherent in material requested, and Act does not take into consideration requesting party's profit motives or needs. [West's Ann.Cal.Gov.Code § 6255.](#)

[1 Cases that cite this headnote](#)

Attorneys and Law Firms

****739 *605 Daniel E. Lungren**, Attorney General,
Floyd D. Shimomura, Senior Assistant Attorney General,
Linda A. Cabatic, Supervising Deputy Attorney General,

and Susan R. Oie, Deputy Attorney General, for Petitioner.

No appearance for Respondent.

Gene Livingston, Rebecca M. Cenicerros, and Livingston & Mattesich Law Corp., Sacramento, for Real Party In Interest.

Opinion

DAVIS, Associate Justice.

Plaintiff InterSource, Inc. (InterSource), requested information from defendant State Controller (Controller)² about warrants the Controller had issued to state vendors which were unpaid. The Controller refused to provide the information. InterSource then filed a petition for writ of mandate in the superior court to compel the disclosure of these public records. (Gov't.Code, § 6258 [undesignated section references will be to this code].) The court issued a judgment directing disclosure under the same terms as its judgment in a case involving a similar request entitled *Argent Research and Recovery, Ltd. v. Davis* (Super.Ct. Sacramento County, No. CV380212) (“*Argent*”).³

The Controller has petitioned us for an extraordinary writ directing the superior **740 court to set aside the present judgment, and requested a stay. (§ 6259, subd. (c).) We issued an alternative writ and a stay pending our plenary review of the matter. We now grant the writ only to direct a modification of a portion of the judgment and dissolve the stay.

For reasons set forth in the unpublished portion of the opinion, we draw our facts not only from the present record but from the record in *Argent* as well. To avoid confusion, we will change references as necessary to reflect the identity of the present parties and to account for the procedural posture of the present case.

***606 FACTS**

*I**

II

InterSource is an Oklahoma corporation which searches public records for unpaid warrants payable to vendors of goods and services. It then offers its services to the payee vendors for recovery of the funds.

Pursuant to the California Public Records Act (“the Act”), section 6250 et seq., InterSource sent a letter to the Controller in August 1994 requesting information. (§§ 6251, 6256). InterSource divided its request into two steps. First, it wanted the month and year of issue, amount (to the nearest hundred dollars), and number for all outstanding warrants over \$3,000 predating August 1, 1993. After perusing this list, it would then request the payee, requesting-agency code, and control number (the latter only if kept in the same file) for specified warrants. It also wanted the same information for all canceled warrants.⁷ It offered to reimburse the costs of responding to the request. The Controller denied the request on the ground the information was not subject to disclosure under the Act.

InterSource consequently commenced this litigation in November 1994. The Controller demurred, asserting InterSource could not maintain the action because it was not a “person” within the meaning of the Act (§§ 6250; 6252, subd. (c); 6253, 6257, 6258) and because it was not certified to do business in California. The superior court sustained the demurrer with leave to amend in order to allow InterSource to qualify to do business in California. InterSource filed an amended petition in February 1995 alleging it was now registered to conduct business in California. The Controller answered, alleging InterSource was “not qualified to do business in California” and transmuting the other basis for its demurrer into the affirmative defense that InterSource, as an Oklahoma corporation, was not within the Act’s “purview.”

[1] In her opposition to the writ, the Controller cited the catchall provision of section 6255, which states, “The agency shall justify withholding any record by demonstrating ... *that on the facts of the particular case the public interest served by [nondisclosure] ... clearly outweighs the public interest served by disclosure of the record.*” (Emphasis supplied.) She thus argued the public had an interest in nondisclosure because providing the records would *607 increase the threat of counterfeit warrants and the presentation of false claims. She analogized as well to the specific exemption for

the investigatory and security files of law enforcement agencies. (§ 6254, subd. (f).)⁸

Another basis of her opposition was the principle that there is a public interest in nondisclosure where an agency will incur expense and inconvenience in segregating exempt from nonexempt information. (*American Civil Liberties Union Foundation v. Deukmejian* (1982) 32 Cal.3d 440, 452–453, 186 Cal.Rptr. 235, 651 P.2d 822 [“*ACLU*”].)

****741** Thus, the Controller argued the burden of producing a list of vendor warrants was excessive.

The Controller also disparaged any claim that these records furthered a public interest in insuring the state's accountability for the public fisc. She claimed these records would not illuminate the manner in which her office operated. She also argued disclosure would do no more than echo her own efforts to identify outstanding warrants and issue duplicate payments to the payees.

In support of her arguments, the Controller submitted two declarations. The first was from John Henry, who is the Controller's chief investigator. The Controller established his office in the 1980s in response to complaints by banks, check-cashers, and businesses about forged or counterfeit warrants; many businesses had begun to refuse to cash warrants, which worked a hardship on individual payees who did not maintain checking accounts. He cited individual examples of past instances involving forgery or counterfeiting. In his opinion, if the Controller were forced to provide *all* the requested information to any member of the public, anyone could produce a warrant which the Controller's verification procedures could not detect unless the real payee eventually came forward. Moreover, even if there were not a flood of counterfeit warrants, to provide the public with all the requested information would allow the criminally disposed to present false claims for duplicates of “lost” or “misplaced” warrants. Since forged and counterfeited warrants are charged back when detected to the institution honoring them, an increased problem with fraud could disrupt the Controller's relations with major banks.

The Controller also submitted a declaration by John Larrea, an assistant deputy controller. On the average, the Controller issues 125,000 warrants daily. These appear in a microfiche register in numerical order on the date issued, and the Controller updates the register daily. The Controller also ***608** updates daily an “outstanding

warrant file” on microfiche. A warrant is considered “outstanding” immediately upon issue until either paid by the State Treasurer or canceled after four years. As an example, on March 28, 1995, there were 2.1 million warrants in this file. Access to the outstanding warrants file is limited to the employees who update it and the management team. The Controller regularly denies requests such as InterSource's. Mr. Larrea claimed the fields of data in the request are not contained in any one file, and omitting individual payees would require a manual search of the microfiche. To assemble these data and delete individual payees would require greater personnel resources than the Controller has available. Mr. Larrea also described the Controller's own program to identify outstanding warrants. As initiated in 1990, the program located warrants more than 3 years old in amounts over \$3,000 in order to issue duplicate warrants to the payees. By 1995, this program was to include warrants outstanding more than 2 years in amounts over \$2,000, and the Controller ultimately hopes to be able to identify warrants in amounts over \$1,000. On the issue of security, Mr. Larrea noted the Controller electronically verifies warrants and thus a person with *all* the requested data could present a counterfeit warrant which could not be identified as such unless the real payee came forward. At present “there is little concern that the payee [of a lost warrant] is not being truthful,” but if the public generally obtained all the requested data, false claims could increase.

Wayland Witten filed a counterdeclaration in support of disclosure. Until his retirement in 1987, he was John Henry's predecessor. He explained the concern expressed by the Controller regarding forgeries is irrelevant in the present context because forgeries are the result of *stolen* warrants. Moreover, false claims for “lost” warrants would not be a problem so long as the Controller demanded appropriate verification of identification. Thus, he averred the only true security concern is with counterfeited warrants. He pointed out that if one accepted the security arguments made by the Controller, then her ****742** own locator program could be a breach because unscrupulous employees with sufficient information to search for outstanding warrants could pass these data to outsiders equally capable of counterfeiting. He therefore assumed (since the locator program began after his retirement) that the only way in which the Controller could insure against internal fraud would be to provide the employees in charge of

the program with sufficient data to locate the warrants but not to duplicate them. He was also “puzzled” by Mr. Larrea's claim the Controller would be forced to compile data from several files, because during his tenure the outstanding-warrant file contained all the requested data. Thus, he did not believe it would be any more burdensome or a greater security risk to make available a similar degree of information to the general public. In the alternative, the court could require *609 the use of an editor program to delete one or more of the requested fields of data, so that the codes which appear on the warrant itself could still detect counterfeited warrants electronically.⁹ This editor program could also automatically delete warrants from the file which were payable to individuals (forestalling the Controller's claim this would require manual manipulation of data). He further noted the Controller's unclaimed property division currently provides data similar to that requested in the petition at \$600 per microfiche, with sufficient data deleted as a protection against false claims.

In a supplementary declaration, Mr. Larrea stated the security of the locator program had been certified by the Controller's Internal Audits division. Moreover, employees who researched outstanding warrants were not authorized to issue duplicate warrants.

As the **superior court** asserted at one hearing, it could not imagine “a much more public thing than these warrants.” In its view, “We may not personally as individuals care who are the payees on unpaid warrants. But we have an interest fundamentally in the idea that our public business is public. And what could be more public than the payment of public taxpayer money to somebody, right? What's more public than that, as to who gets our tax dollars?” It did not accept the Controller's argument that nondisclosure would prevent fraud. “I mean, anyone, a counterfeiter of a state warrant doesn't have to have additional data to counterfeit. He can just go counterfeit one today. Makes up a number, ... [names] Chevron Oil Company, and goes down to the Bank of America and convinces the bank that he is a due representative of the Chevron Oil Company.” The court concluded that if the Controller provided only the payee, date, and amount of outstanding warrants, “some counterfeiter is going to have to hit an eight[-]digit [warrant] number. That's a heck of a shot.” It also rejected the claim disclosure would result in undue burden, particularly if the writ required the requesting party to provide a computer program at

its own expense to find the data outlined by the court. However, it gave the Controller the opportunity to return with additional evidence of burden.

The Controller did not submit any additional evidence of undue burden. In its response to a proposed form of the judgment, the Controller specifically objected to the failure to include a requirement that the requesting party provide a computer program “necessary to enable the Controller's staff to retrieve the information....”

Ultimately, the **superior court** signed a judgment prepared by the Controller. In pertinent part, it provides,

*610 “In support of a motion to compel discovery, [InterSource] acknowledges that the information it seeks is related to warrants issued to state vendors....

“Following extensive briefing in [Argent], this Court ordered disclosure of certain information regarding State Controller vendor warrants and, because the issue herein is the same, now makes the same ruling in this case ...

“1. The Petition for Writ of Mandate ... is GRANTED.

**743 “2. [The Controller] is directed to produce to [InterSource] information relating to warrants that were drawn or issued by the [Controller] in favor of companies and corporate vendors that provided goods and/or services to the State, but which have not been cashed or paid.... The information to be produced is as follows:

“a. the date of each outstanding warrant;

“b. the amount of each outstanding warrant; and

“c. the name of the payee of each outstanding warrant.

“3. [InterSource] is to provide to the [Controller] a computer program which will enable that Office to retrieve the information ordered disclosed herein.

“4. The information to be disclosed shall relate to all outstanding warrants beginning with the date six months prior to the date the computer program provided by [InterSource] is functional and going back in time to the date the outstanding warrants become void.”

The Controller filed the present petition in December 1995, which has awaited the resolution of her petition in *Argent*.

DISCUSSION

I

As a threshold consideration, we consider the claim by the Controller that InterSource is not within the “purview” of the Act. She relies on the last three words of the codified declaration of policy appearing at the outset of the Act, which provides, “In enacting this chapter, the Legislature ... finds and declares that access to information concerning the conduct of the people's business is a fundamental ... right of every person in this state.” (§ 6250 [emphasis supplied].) She also cites two decisions which describe the public's access to government records as “a fundamental right of citizenship.” *611 (*Rogers v. Superior Court* (1993) 19 Cal.App.4th 469, 475, 23 Cal.Rptr.2d 412 [emphasis supplied]; accord *CBS, Inc. v. Block* (1986) 42 Cal.3d 646, 651, fn. 5, 230 Cal.Rptr. 362, 725 P.2d 470.) Asserting InterSource is a citizen of Oklahoma because it is incorporated there,¹⁰ the Controller argues the Legislature could not have intended for California public agencies to be accountable to citizens of another state.¹¹

First of all, the cases cited by the Controller are inapposite, as neither adjudicated the right of non-Californians to enforce the Act. Cases are not propositions for matters not expressly considered. (*Honey Baked Hams, Inc. v. Dickens* (1995) 37 Cal.App.4th 421, 428, 43 Cal.Rptr.2d 595.) Therefore, the choice of terminology in the two decisions is immaterial.

[2] Moreover, the legislative intent evinced by the Act is directly contrary to that inferred by the Controller. Section 6250 originally concluded with the phrase “every citizen of this state.” (See Stats.1968, ch. 1473, § 39, p. 2946.) In 1970, the Legislature amended section 6250 to its present form, “every person in this state.” We presume the Legislature is aware of the distinction between “citizen” (defined in section 241 as all persons either born in California and residing within it, or citizens of the United States residing in California) and the

more-inclusive “person” (defined in section 17 as “any person [or] ... corporation ...”). Nor did the Legislature limit the Act's definition of “person” to domestic corporations. (§ 6252, subd. (c) [“ ‘Person’ includes any ... corporation ...”].) As the Corporations Code demonstrates, the Legislature is capable of expressing the distinction in usage between domestic and foreign corporations. (*Corp.Code*, §§ 167, 171.)

**744 This lack of limitation on those who may enforce the Act is by no means an inadvertent effect of ill-considered language employed by the Legislature. “Implicit in the democratic process is the notion that government should be accountable for its actions. In order to verify accountability, individuals must have access to government files. Such access permits checks against the arbitrary exercise of official power and secrecy in the political process.” (*CBS, Inc.*, *supra*, 42 Cal.3d at p. 651, 230 Cal.Rptr. 362, 725 P.2d 470.) It thus furthers the purpose of the Act to have the records of our public agencies and officials always and everywhere available on request (except where exempt). Thus, when section 6253 declares *every* person has a right to inspect any public record, when section *612 6257 commands state and local agencies to make records promptly available to any person on request, and when section 6258 expressly states any person may institute proceedings to enforce the right of inspection, they mean what they say. We therefore reject the Controller's argument to the contrary.

II

[3] We thus come to whether, under section 6255, the Controller satisfied her burden of demonstrating a public interest in nondisclosure that clearly outweighs the public interest in disclosure on the facts of this particular case. (*Times Mirror Co.*, *supra*, 53 Cal.3d at p. 1339, 283 Cal.Rptr. 893, 813 P.2d 240; *San Gabriel Tribune v. Superior Court* (1983) 143 Cal.App.3d 762, 780, 192 Cal.Rptr. 415.) This is a matter on which we exercise de novo review, according the usual deference to any express or implied factual findings of the *superior court* supported by substantial evidence. (*Times Mirror Co.*, *supra*, 53 Cal.3d at p. 1336, 283 Cal.Rptr. 893, 813 P.2d 240.)

A

The Controller posits three interests of the public in nondisclosure. We consider them in turn.

1. The Controller suggests the public interest in nondisclosure may be based on purely *speculative* security concerns. However, her authority does not support so broad a proposition.

[4] [5] A court may indeed consider *potential* threats; for example, the Supreme Court acknowledged a public interest in nondisclosure of then-Governor Deukmejian's appointment schedules and calendars because of "the potential threat to the Governor's physical security." (*Times Mirror Co.*, *supra*, 53 Cal.3d at p. 1346, 283 Cal.Rptr. 893, 813 P.2d 240.) However, the court was not accepting mere speculation. The court based its holding on what it termed the "reasonable" assertion in a declaration of the Governor's security director identifying a specific threat that the requested information would disclose "with relative precision when and where the Governor may be found, those persons who will be with him, and when he will be alone." (Id. at pp. 1331, 1346.) On the other hand, the Controller's declarations never make any particularized connection between the *limited* fields of data subject to disclosure under the **superior court's** judgment and the way in which this disclosure could increase the risk of counterfeiting. The Controller also cites discussion in *ACLU*, *supra*, 32 Cal.3d at p. 451, 186 Cal.Rptr. 235, 651 P.2d 822, of hypothetical malefactors misusing information obtained under the Act. However, *ACLU* merely noted (in the course of statutory interpretation of a specific exemption) that a court should bear in mind that information subject to disclosure was available to *anyone* who requests it. (Accord *Los Angeles Police Dept. v. *613 Superior Court* (1977) 65 Cal.App.3d 661, 668, 135 Cal.Rptr. 575.) This was not part of any weighing process under section 6255 which is, by legislative directive, to be based on the facts of a particular case.

[6] Moreover, existing authority explicitly rejects the Controller's suggestion. "A mere assertion of possible endangerment does not 'clearly outweigh' the public interest in access to these records." (*CBS, Inc.*, *supra*, 42 Cal.3d at p. 652, 230 Cal.Rptr. 362, 725 P.2d 470; accord *New York Times, Co. v. Superior Court* (1990) 218 Cal.App.3d 1579, 1585, 268 Cal.Rptr. 21.) We thus confine ourselves to security concerns supported by the record.

****745** The Controller continues to argue in this court that disclosure will create the potential for presentation of false claims, citing the Henry and Larrea declarations. However, the Witten declaration maintained that false claims can be prevented by requiring appropriate verification of the payee's identity. The Controller did not challenge this opinion on its merits (beyond highlighting the fact Mr. Witten was no longer a member of her office). Since we must resolve all factual disputes in favor of the judgment, in this conflict between declarations we must credit Wayland Witten's. (*Beckett v. Kaynar Mfg. Co., Inc.* (1958) 49 Cal.2d 695, 699, 321 P.2d 749; *Magnecomp Corp. v. Athene Co.* (1989) 209 Cal.App.3d 526, 533, 257 Cal.Rptr. 278.) Thus, the Controller has not established a potential for increased false claims.

As earlier recounted, the Witten declaration also maintained that the Controller's anecdotal evidence regarding forged warrants was inapposite because forged warrants can arise only in connection with stolen authorized warrants. The Controller has apparently conceded the point in this court, as she does not cite this evidence. In any event, the Witten declaration is again a basis for concluding the Controller failed to establish facts supporting this concern.

This leaves the concern with counterfeiting, a potential threat which InterSource does not dispute. However, as noted above, the **superior court** stated at the hearing that nothing at present prevents a counterfeiter from negotiating a phony warrant. The Controller has presented nothing other than speculation in her supporting declarations that the incidence of counterfeiting will increase if she provides the requested information. This is insufficient. (*CBS, Inc.*, *supra*, 42 Cal.3d at p. 652, 230 Cal.Rptr. 362, 725 P.2d 470; *New York Times Co.*, *supra*, 218 Cal.App.3d at p. 1585, 268 Cal.Rptr. 21.) But even if we credit these speculations as expert opinion, the Controller never challenged the **superior court's** conclusion at the hearing that its proposed limitations on the data disclosed to InterSource would make it extremely difficult to create an exact counterfeit of an existing outstanding warrant. Instead, the Controller reiterates in this court the concerns expressed in her own declarations about ***614** release of the *full panoply* of data *originally* requested in the writ of mandate. Yet again, the Witten declaration provides an adequate basis for the

superior court's conclusion that its *limited* disclosure order eliminated the Controller's legitimate security concern.

[7] 2. Among the Act's specific exemptions from disclosure are "Records of complaints to, or investigations conducted by, or records of intelligence information or security procedures" of the state and local law enforcement agencies (subject to extensive provisos). (§ 6254, subd. (f).) Acknowledging her records do not come literally within this provision, the Controller argues the outstanding warrants are "akin" to the files which are the subject of this provision because there are "security" concerns. She cites *Eskaton Monterey Hospital v. Myers* (1982) 134 Cal.App.3d 788, 792-793, 184 Cal.Rptr. 840, where we held there is a compelling public interest in the nondisclosure of investigative records to prevent potential violators of the law from escaping detection. While our analysis involved section 6255, we identified a public interest in nondisclosure by analogy to an exception for investigatory records contained in the parallel federal Freedom of Information Act (FOIA). Thus, we agreed a hospital could not have access to a manual which described the "game plan" for audits of Medi-Cal programs, because unscrupulous health-care providers could manipulate records of expenditures to avoid triggering audits. (134 Cal.App.3d at pp. 793-794, 184 Cal.Rptr. 840.)¹²

InterSource incorporates the opposition in *Argent* which cites numerous cases purportedly establishing the narrow contours of the Act's express investigatory-records exception. **746¹³ But this is beside the point. As noted, the Controller is not relying on the express investigatory-records exception, but is instead merely citing it as analogous support for its security argument. As we have already determined that the **superior court** could resolve the factual dispute regarding the Controller's security concerns in favor of disclosure, it adds nothing to the analysis to frame it in terms of a specific exemption in the Act.

3. This leaves the claim the undue inconvenience and expense in providing the requested information weighs in favor of nondisclosure. (*ACLU, supra*, 32 Cal.3d at pp. 452-453, 186 Cal.Rptr. 235, 651 P.2d 822.)

*615 In an abbreviated argument, the Controller reiterates the contentions she made in the **superior court**. Pointing to the daily fluctuations in the file caused by

newly-issued and newly-canceled warrants, she asserts she could be subjected to daily demands by numerous asset-finders. She also argues the data ordered disclosed by the judgment are not contained in a single file (forcing her employees to cull several files to obtain the information) and would require manual editing to remove the names of individual payees. She again asserts disclosure would overtax her personnel resources.

We first consider the contention there is not an existing file. Unlike *Argent*, where the Controller's failure to submit evidence in support of this contention was determinative, here we have an admission by InterSource in exhibits to its petition in the **superior court** that the names of payees appear only in the microfiched "warrant register" of copies of all issued warrants, while the date and amount are contained in the outstanding-warrant file (along with the warrant number that is not itself subject to disclosure). While this new information gives a better picture of the process, it does not change the facts that the Controller has admitted her own locator program searches for names, dates, and amounts (over \$2,000 and someday over \$1,000), which is substantial evidence supporting the **superior court's** implied conclusion there is an existing record containing the three data specified in the judgment.¹⁴

Turning to the Controller's remaining contentions, this court has previously held that an agency may be forced to bear a tangible burden in complying with the Act absent legislative direction to the contrary. (*State Bd. of Equalization v. Superior Court* (1992) 10 Cal.App.4th 1177, 1190, fn. 14, 13 Cal.Rptr.2d 342; *Northern Cal. Police Practices Project v. Craig* (1979) 90 Cal.App.3d 116, 124, 153 Cal.Rptr. 173.) In response to concerns about the burden on the Controller, the **superior court** did not include individual payees, limited its judgment to a date certain (eliminating the spectre of multiple requests by InterSource), and required InterSource to prepare an editor program to delete the data to which InterSource is not entitled.¹⁵ Witten's **747 declaration is substantial evidence supporting the **superior court's** implicit finding that these modifications eliminated any undue *616 burden (particularly the averment the Controller's unclaimed property division presently provides similarly redacted information). Despite the invitation of the **superior court**, the Controller never offered any evidence the *modified* disclosure would not alleviate the Controller's original objections. "[W]e are

given no reason to reject the trial court's [implicit] finding that the burden is sufficiently alleviated....” (*State Bd. of Equalization, supra*, 10 Cal.App.4th at p. 1190, 13 Cal.Rptr.2d 342.) As for the Controller's hypothecated multiple requests by other asset-locators, our focus under section 6255 are the facts of the *present* case. We leave to future litigation the determination whether the functioning of her office will be overwhelmed by other asset-finders operating under similar restrictions.

B

[8] We have determined the Controller has demonstrated on the facts of this case no more than a slight public interest in the nondisclosure of the data included in the superior court's judgment. On the other side of the balance, the Controller argues there is no public interest in disclosure of these records, so even a slight interest in nondisclosure should be determinative.

In the Controller's view, she exercises no discretion in issuing warrants to pay bills and there has not been any claim she has failed to pay bills, so she believes there is no public interest in holding her accountable for this ministerial task. While she concedes the purpose for which a request is made under the act is “generally” irrelevant, the Controller also claims no court has ordered disclosure solely for commercial purposes. Finally, the Controller asserts the existence of her own locator program for identifying and paying outstanding warrants expunges any public interest in outstanding warrants.

[9] [10] As we have previously held, “If the records sought pertain to the conduct of the people's business there is a public interest in disclosure. The *weight* of that interest is proportionate to the gravity of the governmental tasks sought to be illuminated and the directness with which the disclosure will serve to illuminate.” (*Citizens for a Better Environment v. Department of Food & Agriculture* (1985) 171 Cal.App.3d 704, 715, 217 Cal.Rptr. 504 [emphasis supplied].) The existence and weight of this public interest are conclusions derived from the nature of the information. (*Ibid.*) The purpose for which the requested records are to be used is not just “generally” irrelevant; we have specifically held, “What is material is the public interest in disclosure, not *617 the private interest of a requesting party; section 6255 does not take into consideration the requesting party's profit motives or

needs.” (*State Bd. of Equalization, supra*, 10 Cal.App.4th at p. 1191, 13 Cal.Rptr.2d 342.) Thus, the fact a requesting party is a commercial entity using the information for strictly commercial purposes does not diminish the public interest inherent in the material requested. (*Id.* at pp. 1190–1191, 13 Cal.Rptr.2d 342.)

As the superior court correctly concluded, the records pertain to the government's conduct in managing public revenues. The Controller may depict her office's part in the allocation of revenues to be drab and ministerial, but bill-paying is no less essential to the proper workings of state government than legislating (or, dare we say, adjudicating), thus there is a public interest of sufficient gravity. While the Controller may assert the public has no interest in these records because she is performing her task properly and is herself seeking out unpaid vendors to ensure they receive compensation for goods and services, this is akin to asking that we allow her “to exercise absolute discretion, shielded from public accountability” in the operations of her office. (*New York Times, Co., supra*, 218 Cal.App.3d at p. 1585, 268 Cal.Rptr. 21.) However, the public interest demands the ability to verify. Only in this way can the public be certain, for example, that there is not a conspiracy of silence about outstanding warrants so that the payees are lulled into inaction until the warrants are canceled.¹⁶

**748 Since there is a strong public interest in disclosure, the balance must tip in favor of access to the outstanding warrant file. We shall therefore deny the Controller's petition.

DISPOSITION

The alternative writ is discharged. The petition for an extraordinary writ is granted only to the extent of directing the trial court to modify its judgment to apply only to warrants over \$3,000, and is otherwise denied. The stay previously issued by this court shall be dissolved as of the date this opinion is final. InterSource shall recover its costs.

PUGLIA, P.J., and BLEASE, J., concur.

All Citations

56 Cal.App.4th 601, 65 Cal.Rptr.2d 738, 97 Cal. Daily Op. Serv. 5826, 97 Daily Journal D.A.R. 9311

Footnotes

- 1 Pursuant to [California Rules of Court, rules 976\(b\)](#) and [976.1](#), this opinion is certified for publication with the exception of part I of the Facts.
- 2 This action commenced in the waning days of the term of the present Controller's predecessor in office. We have substituted the incumbent officeholder in the caption.
- 3 The Controller sought an extraordinary writ to set aside this other judgment, which we denied after plenary review. ([Connell v. Superior Court](#) (Sept. 24, 1996) C021229 [nonpub. opn.])
- * See footnote 1, *ante*.
- 7 After four years, the Controller cancels outstanding warrants.
- 8 When an agency raises the catchall provision as a defense, a court may analogize to the specific exemptions provided by the Act to identify situations in which nondisclosure furthers the public interest. ([Times Mirror Co. v. Superior Court](#) (1991) 53 Cal.3d 1325, 1338–1339, 283 Cal.Rptr. 893, 813 P.2d 240.) However, the specific exemptions are not an exhaustive list. (*Id.* at p. 1339, 283 Cal.Rptr. 893, 813 P.2d 240.)
- 9 The Controller encodes warrants with several fields of numerical data to allow electronic verification. For obvious reasons, the Controller has alluded to this system only generally, and we will not insist on greater detail.
- 10 For this proposition, she cites [Neirbo Co. v. Bethlehem Shipbuilding Corp.](#) (1939) 308 U.S. 165, 169, 60 S.Ct. 153, 155, 84 L.Ed. 167, which states “a corporation ... [has] citizenship in the chartering state for [federal court] jurisdictional purposes.” We have no occasion to consider whether this rule of federal jurisdiction has application in the context of the Act or other California statutes.
- 11 The Controller's alternative purview argument—that disclosure of this information does not further the purpose of the Act—echoes her contentions regarding the absence of any public interest in disclosure. We will treat them in connection with that topic.
- 12 The Controller also cites [Procurier v. Superior Court](#) (1973) 35 Cal.App.3d 211, 110 Cal.Rptr. 531, a summary opinion which concludes an inmate defendant is not entitled to prison blueprints or lists of gang-affiliated prisoners in response to a discovery request because this would endanger the security of the prison system and the safety of the citizens of the state. However, the terseness of the opinion makes it difficult to apply the holding outside its factual context.
- 13 Although [Williams v. Superior Court](#) (1993) 5 Cal.4th 337, 19 Cal.Rptr.2d 882, 852 P.2d 377 calls a number of earlier cases into question because it rejects reliance on FOIA precedent in interpreting the reach of this exception (*id.* at p. 354, 19 Cal.Rptr.2d 882, 852 P.2d 377), it nonetheless affirms the qualification that a record comes within the exception only if there was a concrete prospect of its use for law-enforcement purposes at the time of its creation. (*Id.* at pp. 356, 362, 19 Cal.Rptr.2d 882, 852 P.2d 377.) Obviously, an outstanding-warrant file would not satisfy this criterion.
- 14 Although InterSource sought disclosure only of warrants over \$3,000, the present judgment contains no such restriction. To forestall any argument by the Controller that searching for warrants under \$3,000 is work not contained in any existing record, and because it is peremptory relief in excess of that requested in InterSource's original petition in the [superior court](#), we shall direct the appropriate modification of the judgment.
- 15 The Controller complains the judgment's provision for an editor program will compel her “to open files to [InterSource] which are not open even to the majority of [her] employees” and “reveal how [her] computer records are kept.” In the first place, since this provision was added to the judgment at the Controller's insistence, the doctrine of invited error precludes her from raising any argument based upon it. Further, the judgment does not require InterSource itself be given direct access to the Controller's database. All that need be provided to InterSource is sufficient information to allow it to create a compatible program which will be run by the “few employees” who have access to the file. Finally, the Controller has not provided any *facts* to support this claim of an alleged breach of security flowing from this provision.
- 16 We hasten to add that identifying a possible misfeasance is in no way intended to impugn the operations of the Controller's office (much as the Controller asserts her posited concern with dishonesty is not intended to impugn InterSource's reputation).

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ATTACHMENT 20

IN THE SUPREME COURT OF CALIFORNIA

DEPARTMENT OF FINANCE et al.,)	
)	
Plaintiffs and Respondents,)	
)	S214855
v.)	
)	Ct.App. 2/1 B237153
COMMISSION ON STATE MANDATES,)	
)	Los Angeles County
Defendant and Respondent;)	Super. Ct. No. BS130730
)	
)	
COUNTY OF LOS ANGELES et al.,)	
)	
Real Parties in Interest)	
and Appellants.)	
_____)	

Under our state Constitution, if the Legislature or a state agency requires a local government to provide a new program or higher level of service, the local government is entitled to reimbursement from the state for the associated costs. (Cal. Const., art. XIII B, § 6, subd. (a).) There are exceptions, however. Under one of them, if the new program or increased service is mandated by a federal law or regulation, reimbursement is not required. (Gov. Code, § 17556, subd. (c).)

The services in question here are provided by local agencies that operate storm drain systems pursuant to a state-issued permit. Conditions in that permit are designed to maintain the quality of California’s water, and to comply with the federal Clean Water Act. The Court of Appeal held that certain permit conditions

were federally mandated, and thus not reimbursable. We reverse, concluding that no federal law or regulation imposed the conditions nor did the federal regulatory system require the state to impose them. Instead, the permit conditions were imposed as a result of the state's discretionary action.

I. BACKGROUND

The Regional Water Quality Control Board, Los Angeles Region (the Regional Board) is a state agency. It issued a permit authorizing Los Angeles County, the Los Angeles County Flood Control District, and 84 cities (collectively, the Operators) to operate storm drainage systems.¹ Permit conditions required that the Operators take various steps to reduce the discharge of waste and pollutants into state waters. The conditions included installing and maintaining trash receptacles at transit stops, as well as inspecting certain commercial and industrial facilities and construction sites.

Some Operators sought reimbursement for the cost of satisfying the conditions. The Commission on State Mandates (the Commission) concluded

¹ The cities involved are the Cities of Agoura Hills, Alhambra, Arcadia, Artesia, Azusa, Baldwin Park, Bell, Bellflower, Bell Gardens, Beverly Hills, Bradbury, Burbank, Calabasas, Carson, Cerritos, Claremont, Commerce, Compton, Covina, Cudahy, Culver City, Diamond Bar, Downey, Duarte, El Monte, El Segundo, Gardena, Glendale, Glendora, Hawaiian Gardens, Hawthorne, Hermosa Beach, Hidden Hills, Huntington Park, Industry, Inglewood, Irwindale, La Cañada Flintridge, La Habra Heights, Lakewood, La Mirada, La Puente, La Verne, Lawndale, Lomita, Los Angeles, Lynwood, Malibu, Manhattan Beach, Maywood, Monrovia, Montebello, Monterey Park, Norwalk, Palos Verdes Estates, Paramount, Pasadena, Pico Rivera, Pomona, Rancho Palos Verdes, Redondo Beach, Rolling Hills, Rolling Hills Estates, Rosemead, San Dimas, San Fernando, San Gabriel, San Marino, Santa Clarita, Santa Fe Springs, Santa Monica, Sierra Madre, Signal Hill, South El Monte, South Gate, South Pasadena, Temple City, Torrance, Vernon, Walnut, West Covina, West Hollywood, Westlake Village, and Whittier.

each required condition was a new program or higher level of service, mandated by the state rather than by federal law. However, it found the Operators were only entitled to state reimbursement for the costs of the trash receptacle condition, because they could levy fees to cover the costs of the required inspections. (See discussion, *post*, at p. 12.) The trial court and the Court of Appeal disagreed, finding that all of the requirements were federally mandated.

We granted review. To resolve this issue, it is necessary to consider both the permitting system and the reimbursement obligation in some detail.

A. The Permitting System

The Operators' municipal storm sewer systems discharge both waste and pollutants.² State law controls "waste" discharges. (Wat. Code, § 13265.) Federal law regulates discharges of "pollutant[s]." (33 U.S.C. § 1311(a).) Both state and later-enacted federal law require a permit to operate such systems.

California's Porter-Cologne Water Quality Control Act (Porter-Cologne Act or the Act; Wat. Code, § 13000 et seq.) was enacted in 1969. It established the State Water Resources Control Board (State Board), along with nine regional water quality control boards, and gave those agencies "primary responsibility for the coordination and control of water quality." (Wat. Code, § 13001; see *City of Burbank v. State Water Resources Control Bd.* (2005) 35 Cal.4th 613, 619 (*City of Burbank*).) The State Board establishes statewide policy. The regional boards

² The systems at issue here are "municipal separate storm sewer systems," sometimes referred to by the acronym "MS4." (40 C.F.R. § 122.26(b)(19) (2001).) A "municipal separate storm sewer" is a system owned or operated by a public agency with jurisdiction over disposal of waste and designed or used for collecting or conveying storm water. (40 C.F.R. § 122.26(b)(8) (2001).) Unless otherwise indicated, all further citations to the Code of Federal Regulations are to the 2001 version.

formulate and adopt water quality control plans and issue permits governing the discharge of waste. (*Building Industry Assn. of San Diego County v. State Water Resources Control Bd.* (2004) 124 Cal.App.4th 866, 875 (*Building Industry*)).

The Porter-Cologne Act requires any person discharging, or proposing to discharge, waste that could affect the quality of state waters to file a report with the appropriate regional board. (Wat. Code, § 13260, subd. (a)(1).) The regional board then “shall prescribe requirements as to the nature” of the discharge, implementing any applicable water quality control plans. (Wat. Code, § 13263, subd. (a).) The Operators must follow all requirements set by the Regional Board. (Wat. Code, §§ 13264, 13265.)

The federal Clean Water Act (the CWA; 33 U.S.C. § 1251 et seq.) was enacted in 1972, and also established a permitting system. The CWA is a comprehensive water quality statute designed to restore and maintain the chemical, physical, and biological integrity of the nation’s waters. (*City of Burbank, supra*, 35 Cal.4th at p. 620.) The CWA prohibits pollutant discharges unless they comply with: (1) a permit (see 33 U.S.C. §§ 1328, 1342, 1344); (2) established effluent limitations or standards (see 33 U.S.C. §§ 1312, 1317); or (3) established national standards of performance (see 33 U.S.C. § 1316). (33 U.S.C. § 1311(a).) The CWA allows any state to adopt and enforce its own water quality standards and limitations, so long as those standards and limitations are not “less stringent” than those in effect under the CWA. (33 U.S.C. § 1370.)

The CWA created the National Pollutant Discharge Elimination System (NPDES), authorizing the Environmental Protection Agency (EPA) to issue a permit for any pollutant discharge that will satisfy all requirements established by the CWA or the EPA Administrator. (33 U.S.C. § 1342(a)(1), (a)(2).) The federal

system notwithstanding, a state may administer its own permitting system if authorized by the EPA.³ If the EPA concludes a state has adequate authority to administer its proposed program, it must grant approval (33 U.S.C. § 1342(b)) and suspend its own issuance of permits (33 U.S.C. § 1342(c)(1)).⁴

California was the first state authorized to issue its own pollutant discharge permits. (*People of St. of Cal., etc. v. Environmental Pro. Agcy.* (9th Cir. 1975) 511 F.2d 963, 970, fn. 11, revd. on other grounds in *Environmental Protection Agency v. California* (1976) 426 U.S. 200.) Shortly after the CWA's enactment, the Legislature amended the Porter-Cologne Act, adding chapter 5.5 (Wat. Code, § 13370 et seq.) to authorize state issuance of permits (Wat. Code, § 13370, subd. (c)). The Legislature explained the amendment was “in the interest of the people of the state, in order to avoid direct regulation by the federal government of persons already subject to regulation under state law pursuant to [the Porter-Cologne Act].” (*Ibid.*) The Legislature provided that Chapter 5.5 be “construed to ensure consistency” with the CWA. (Wat. Code, § 13372, subd. (a).) It directed that state and regional boards issue waste discharge requirements “ensur[ing] compliance with all applicable provisions of the [CWA] . . . together with any more stringent effluent standards or limitations necessary to implement water quality control plans, or for the protection of beneficial uses, or to prevent nuisance.” (Wat. Code, § 13377, italics added.) To align the state and federal

³ For a state to acquire permitting authority, the governor must give the EPA a “description of the program [the state] proposes to establish,” and the attorney general must affirm that the laws of the state “provide adequate authority to carry out the described program.” (33 U.S.C. § 1342(b).)

⁴ The EPA may withdraw approval of a state's program (33 U.S.C. § 1342(c)(3)), and also retains some supervisory authority: States must inform the EPA of all permit applications received and of any action related to the consideration of a submitted application (33 U.S.C. § 1342(d)(1)).

permitting systems, the legislation provided that the term “ ‘waste discharge requirements’ ” under the Act was equivalent to the term “ ‘permits’ ” under the CWA. (Wat. Code, § 13374.) Accordingly, California’s permitting system now regulates discharges under both state and federal law. (*WaterKeepers Northern California v. State Water Resources Control Bd.* (2002) 102 Cal.App.4th 1448, 1452; accord *Building Industry, supra*, 124 Cal.App.4th at p. 875.)

In 1987, Congress amended the CWA to clarify that a permit is required for any discharge from a municipal storm sewer system serving a population of 100,000 or more. (33 U.S.C. § 1342(p)(2)(C), (D).) Under those amendments, a permit may be issued either on a system- or jurisdiction-wide basis, must effectively prohibit non-storm water discharges into the storm sewers, and must “require controls to reduce the discharge of pollutants *to the maximum extent practicable.*” (33 U.S.C. § 1342(p)(3)(B), italics added.) The phrase “maximum extent practicable” is not further defined. How that phrase is applied, and by whom, are important aspects of this case.

EPA regulations specify the information to be included in a permit application. (See 40 C.F.R. § 122.26(d)(1)(i)-(vi), (d)(2)(i)-(viii).) Among other things, an applicant must set out a proposed management program that includes management practices; control techniques; and system, design, and engineering methods to reduce the discharge of pollutants to the maximum extent practicable. (40 C.F.R. § 122.26(d)(2)(iv).) The permit-issuing agency has discretion to determine which practices, whether or not proposed by the applicant, will be imposed as conditions. (*Ibid.*)

B. The Permit in Question

In 2001, Los Angeles County (the County), acting for all Operators, applied for a permit from the Regional Board. The board issued a permit (the Permit),

with conditions intended to “reduce the discharge of pollutants in storm water to the Maximum Extent Practicable” in the Operators’ jurisdiction. The Permit stated that its conditions implemented *both* the Porter-Cologne Act and the CWA.

Part 4 of the Permit contains the four requirements at issue. Part 4(C) addresses commercial and industrial facilities, and required the Operators to inspect certain facilities twice during the five-year term of the Permit. Inspection requirements were set out in substantial detail.⁵ Part 4(E) of the Permit addresses construction sites. It required each Operator to “implement a program to control runoff from construction activity at all construction sites within its jurisdiction,” and to inspect each construction site of one acre or greater at least “once during the wet season.”⁶ Finally, Part 4(F) of the Permit addresses pollution from public agency activities. Among other things, it directed each Operator not otherwise regulated to “[p]lace trash receptacles at all transit stops within its jurisdiction,” and to maintain them as necessary.

⁵ As to commercial facilities, Part 4(C)(2)(a) required each Operator to inspect each restaurant, automotive service facility, retail gasoline outlet, and automotive dealership within its jurisdiction, and to confirm that the facility employed best management practices in compliance with state law, county and municipal ordinances, a Regional Board resolution, and the Operators’ storm water quality management program (SQMP). For each type of facility, the Permit set forth specific inspection tasks.

Part 4(C)(2)(b) addressed industrial facilities, requiring the Operators to inspect them and confirm that each complied with county and municipal ordinances, a Regional Board resolution, and the SQMP. The Operators also were required to inspect industrial facilities for violations of the general industrial activity stormwater permit, a statewide permit issued by the State Board that regulates discharges from industrial facilities. (See discussion, *post*, at pp. 24-25.)

⁶ Part 4(E)(4) required inspections for violations of the general construction activity stormwater permit, another statewide permit issued by the State Board. (See discussion, *post*, at pp. 24-25.)

C. Local Agency Claims

1. *Applicable procedures for seeking reimbursement*

As mentioned, when the Legislature or a state agency requires a local government to provide a new program or higher level of service, the state must “reimburse that local government for the costs of the program or increased level of service.” (Cal. Const., art. XIII B, § 6, subd. (a) (hereafter, section 6).)⁷

However, reimbursement is not required if “[t]he statute or executive order imposes a requirement that is mandated by a federal law or regulation and results in costs mandated by the federal government, unless the statute or executive order mandates costs that exceed the mandate in that federal law or regulation.” (Gov. Code, § 17556, subd. (c).)

The Legislature has enacted comprehensive procedures for the resolution of reimbursement claims (Gov. Code, § 17500 et seq.) and created the Commission to adjudicate them. (Gov. Code, §§ 17525, 17551.) It also established “a test-claim procedure to expeditiously resolve disputes affecting multiple agencies.” (*Kinlaw v. State of California* (1991) 54 Cal.3d 326, 331 (*Kinlaw*).)

The first reimbursement claim filed with the Commission is called a test claim. (Gov. Code, § 17521.) The Commission must hold a public hearing, at which the Department of Finance (the Department), the claimant, and any other affected department or agency may present evidence. (Gov. Code, §§ 17551, 17553.) The Commission then determines “whether a state mandate exists and, if

⁷ “ ‘Costs mandated by the state’ means any increased costs which a local agency or school district is required to incur . . . as a result of any statute enacted on or after January 1, 1975, or any executive order implementing any statute enacted on or after January 1, 1975, which mandates a new program or higher level of service of an existing program within the meaning of Section 6 of Article XIII B of the California Constitution.” (Gov. Code, § 17514.)

so, the amount to be reimbursed.” (*Kinlaw, supra*, 54 Cal.3d at p. 332.) The Commission’s decision is reviewable by writ of mandate. (Gov. Code, § 17559.)

2. *The test claims*

The County and other Operators filed test claims with the Commission, seeking reimbursement for the Permit’s inspection and trash receptacle requirements. The Department, State Board, and Regional Board (collectively, the State) responded that the Operators were not entitled to reimbursement because each requirement was federally mandated.

The Department argued that the EPA had delegated its federal permitting authority to the Regional Board, which acted as an administrator for the EPA, ensuring the state’s program complied with the CWA. The Department acknowledged the Regional Board had discretion to set detailed permit conditions, but urged that the challenged conditions were required for the Permit to comply with federal law.

The State and Regional Boards argued somewhat differently. They contended the CWA required the Regional Board to impose specific permit controls to reduce the discharge of pollutants to the “maximum extent practicable.” Thus, when the Regional Board determined the Permit’s conditions, those conditions were part of the federal mandate. The State and Regional Boards also argued that the challenged conditions were “animated” by EPA regulations. In support of the trash receptacle requirement, they relied on 40 Code of Federal Regulations part 122.26(d)(2)(iv)(A)(3).⁸ In support of the inspection

⁸ 40 Code of Federal Regulations part 122.26(d)(2)(iv)(A) provides that the proposed management plan in an operator’s permit application must be based, in part, on a “description of structural and source control measures to reduce pollutants from runoff from commercial and residential areas that are discharged from the municipal storm sewer system that are to be implemented during the life

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requirements, they relied on 40 Code of Federal Regulations part 122.26(d)(2)(iv)(B)(1),⁹ (C)(1),¹⁰ and (D)(3).¹¹

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of the permit, accompanied with an estimate of the expected reduction of pollutant loads and a proposed schedule for implementing such controls,” and that, at a minimum, that description shall include, among other things, a “description of practices for operating and maintaining public streets, roads and highways and procedures for reducing the impact on receiving waters of discharges from municipal storm sewer systems, including pollutants discharged as a result of deicing activities.” (40 C.F.R. § 122.26(d)(2)(iv)(A), (A)(3).)

⁹ 40 Code of Federal Regulations part 122.26(d)(2)(iv)(B) provides that the proposed management plan in an operator’s permit application must be based, in part, on a “description of a program, including a schedule, to detect and remove . . . illicit discharges and improper disposal into the storm sewer,” and that the proposed program shall include a “description of a program, including inspections, to implement and enforce an ordinance, orders or similar means to prevent illicit discharges to the municipal separate storm sewer system.” (40 C.F.R. § 122.26(d)(2)(iv)(B), (B)(1).)

¹⁰ 40 Code of Federal Regulations part 122.26(d)(2)(iv)(C) provides that the proposed management plan in an operator’s permit application must be based, in part, on a “description of a program to monitor and control pollutants in storm water discharges to municipal systems from municipal landfills, hazardous waste treatment, disposal and recovery facilities, industrial facilities that are subject to section 313 of title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA), and industrial facilities that the municipal permit applicant determines are contributing a substantial pollutant loading to the municipal storm sewer system,” and that the program shall “[i]dentify priorities and procedures for inspections and establishing and implementing control measures for such discharges.” (40 C.F.R. § 122.26(d)(2)(iv)(C), (C)(1).)

¹¹ 40 Code of Federal Regulations part 122.26(d)(2)(iv)(D) provides that the proposed management plan in an operator’s permit application must be based, in part, on a “description of a program to implement and maintain structural and non-structural best management practices to reduce pollutants in storm water runoff from construction sites to the municipal storm sewer system,” which shall include, a “description of procedures for identifying priorities for inspecting sites and enforcing control measures which consider the nature of the construction activity,

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The Operators argued the conditions were not mandated by federal law, because nothing in the CWA or in the cited federal regulations required them to install trash receptacles or perform the required site inspections. They also submitted evidence showing that none of the challenged requirements were contained in their previous permits issued by the Regional Board, nor were they imposed on other municipal storm sewer systems by the EPA.

As to the inspection requirements, the Operators argued that state law required the *state and regional boards* to regulate discharges of waste. This regulatory authority included the power to inspect facilities and sites. The Regional Board had used the Permit conditions to shift those inspection responsibilities to them. They also presented evidence that the Regional Board was required to inspect industrial facilities and construction sites for compliance with statewide permits issued by the State Board (see *ante*, p. 7, fns. 5, 6). They urged that the Regional Board had shifted that obligation to the Operators as well. Finally, the Operators submitted a declaration from a county employee indicating the Regional Board had offered to pay the County to inspect industrial facilities *on behalf of* the Regional Board, but revoked that offer after including the inspection requirement in the Permit.

The EPA submitted comments to the Commission indicating that the challenged permit requirements were designed to reduce the discharge of pollutants to the “maximum extent practicable.” Thus, the EPA urged the requirements fell “within the scope” of federal regulations and other EPA

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topography, and the characteristics of soils and receiving water quality.” (40 C.F.R. § 122.26(d)(2)(iv)(D), (D)(3).)

guidance regarding storm water management programs. The Bay Area Stormwater Management Agencies Association, the League of California Cities, and the California State Association of Counties submitted comments urging that the challenged requirements were state, rather than federal, mandates.

3. *The commission's decision*

By a four-to-two vote, the Commission partially approved the test claims, concluding none of the challenged requirements were mandated by federal law. However, the Commission determined the Operators were not entitled to reimbursement for the inspection requirements because they had authority to levy fees to pay for the required inspections. Under Government Code section 17556, subdivision (d), the constitutional reimbursement requirement does not apply if the local government has the authority to levy fees or assessments sufficient to pay for the mandated program or service.

4. *Petitions for writ of mandate*

The State challenged the Commission's determination that the requirements were state mandates. By cross-petition, the County and certain cities challenged the Commission's finding that they could impose fees to pay for the inspections.

The trial court concluded that, because each requirement fell "within the maximum extent practicable standard," they were federal mandates not subject to reimbursement. It granted the State's petition and ordered the Commission to issue a new statement of decision. The court did not reach the cross-claims relating to fee authority. Certain Operators appealed.¹² The Court of Appeal

¹² The appellants are County and the Cities of Artesia, Azusa, Bellflower, Beverly Hills, Carson, Commerce, Covina, Downey, Monterey Park, Norwalk, Rancho Palo Verdes, Signal Hill, Vernon, and Westlake Village.

affirmed, concluding as a matter of law that the trash receptacle and inspection requirements were federal mandates.

II. DISCUSSION

A. Standard of Review

Courts review a decision of the Commission to determine whether it is supported by substantial evidence. (Gov. Code, § 17559.) Ordinarily, when the scope of review in the trial court is whether the administrative decision is supported by substantial evidence, the scope of review on appeal is the same. (*County of Los Angeles v. Commission on State Mandates* (1995) 32 Cal.App.4th 805, 814 (*County of Los Angeles*)). However, the appellate court independently reviews conclusions as to the meaning and effect of constitutional and statutory provisions. (*City of San Jose v. State of California* (1996) 45 Cal.App.4th 1802, 1810.) The question whether a statute or executive order imposes a mandate is a question of law. (*Ibid.*) Thus, we review the entire record before the Commission, which includes references to federal and state statutes and regulations, as well as evidence of other permits and the parties' obligations under those permits, and independently determine whether it supports the Commission's conclusion that the conditions here were not federal mandates. (*Ibid.*)

B. Analysis

The parties do not dispute here that each challenged requirement is a new program or higher level of service. The question here is whether the requirements were mandated by a federal law or regulation.

1. The federal mandate exception

Voters added article XIII B to the California Constitution in 1979. Also known as the "Gann limit," it "restricts the amounts state and local governments may appropriate and spend each year from the 'proceeds of taxes.'" (*City of*

Sacramento v. State of California (1990) 50 Cal.3d 51, 58-59 (*City of Sacramento*)). “Article XIII B is to be distinguished from article XIII A, which was adopted as Proposition 13 at the June 1978 election. Article XIII A imposes a direct constitutional limit on state and local power to *adopt and levy taxes*. Articles XIII A and XIII B work in tandem, together restricting California governments’ power both to levy and to spend for public purposes.” (*Id.* at p. 59, fn. 1.)

The “concern which prompted the inclusion of section 6 in article XIII B was the perceived attempt by the state to enact legislation or adopt administrative orders creating programs to be administered by local agencies, thereby transferring to those agencies the fiscal responsibility for providing services which the state believed should be extended to the public.” (*County of Los Angeles v. State of California* (1987) 43 Cal.3d 46, 56.) The reimbursement provision in section 6 was included in recognition of the fact “that articles XIII A and XIII B severely restrict the taxing and spending powers of local governments.” (*County of San Diego v. State of California* (1997) 15 Cal.4th 68, 81 (*County of San Diego*)). The purpose of section 6 is to prevent “the state from shifting financial responsibility for carrying out governmental functions to local agencies, which are ‘ill equipped’ to assume increased financial responsibilities because of the taxing and spending limitations that articles XIII A and XIII B impose.” (*County of San Diego*, at p. 81.) Thus, with certain exceptions, section 6 “requires the state ‘to pay for any new governmental programs, or for higher levels of service under existing programs, that it imposes upon local governmental agencies.’ ” (*County of San Diego*, at p. 81.)

As noted, reimbursement is not required if the statute or executive order imposes “a requirement that is mandated by a federal law or regulation,” unless the state mandate imposes costs that exceed the federal mandate. (Gov. Code,

§ 17556, subd. (c).) The question here is how to apply that exception when federal law requires a local agency to obtain a permit, authorizes the state to issue the permit, and provides the state discretion in determining which conditions are necessary to achieve a general standard established by federal law, and when state law allows the imposition of conditions that exceed the federal standard. Previous decisions of this court and the Courts of Appeal provide guidance.

In *City of Sacramento, supra*, 50 Cal.3d 51, this court addressed local governments' reimbursement claims for the costs of extending unemployment insurance protection to their employees. (*Id.*, at p. 59.) Since 1935, the applicable federal law had provided powerful incentives for states to implement their own unemployment insurance programs. Those incentives included federal subsidies and a substantial federal tax credit for all corporations in states with certified federal programs. (*Id.* at p. 58.) California had implemented such a program. (*Ibid.*) In 1976, Congressional legislation required that unemployment insurance protection be extended to local government employees. (*Ibid.*) If a state failed to comply with that directive, it "faced [the] loss of the federal tax credit and administrative subsidy." (*Ibid.*) The Legislature passed a law requiring local governments to participate in the state's unemployment insurance program. (*Ibid.*)

Two local governments sought reimbursement for the costs of complying with that requirement. Opposing the claims, the state argued its action was compelled by federal law. This court agreed, reasoning that, if the state had "failed to conform its plan to new federal requirements as they arose, its businesses [would have] faced a new and serious penalty" of double taxation, which would have placed those businesses at a competitive disadvantage against businesses in states complying with federal law. (*City of Sacramento, supra*, 50 Cal.3d at p. 74.) Under those circumstances, we concluded that the "state simply did what was necessary to avoid certain and severe federal penalties upon its

resident businesses.” (*Ibid.*) Because “[t]he alternatives were so far beyond the realm of practical reality that they left the state ‘*without discretion*’ to depart from federal standards,” we concluded “the state acted in response to a federal ‘mandate.’ ” (*Ibid.*, italics added.)

County of Los Angeles, supra, 32 Cal.App.4th 805, involved a different kind of federal compulsion. In *Gideon v. Wainwright* (1963) 372 U.S. 335, the United States Supreme Court held that states were required by the federal Constitution to provide counsel to indigent criminal defendants. That requirement had been construed to include “the right to the use of any experts that will assist counsel in preparing a defense.” (*County of Los Angeles*, at p. 814.) The Legislature enacted Penal Code section 987.9, requiring local governments to provide indigent criminal defendants with experts for the preparation of their defense. (*County of Los Angeles*, at p. 811, fn. 3.) Los Angeles County sought reimbursement for the costs of complying with the statute. The state argued the statute’s requirements were mandated by federal law.

The state prevailed. The Court of Appeal reasoned that, even without Penal Code section 987.9, the county would have been “responsible for providing ancillary services” under binding Supreme Court precedent. (*County of Los Angeles, supra*, 32 Cal.App.4th at p. 815.) Penal Code section 987.9 merely codified an existing federal mandate. (*County of Los Angeles*, at p. 815.)

Hayes v. Commission on State Mandates (1992) 11 Cal.App.4th 1564 (*Hayes*) provides a contrary example. *Hayes* involved the federal Education of the Handicapped Act (EHA; 20 U.S.C. § 1401 et seq.). EHA was a “comprehensive measure designed to provide all handicapped children with basic educational opportunities.” (*Hayes*, at p. 1594.) EHA required each state to adopt an implementation plan, and mandated “certain substantive and procedural

requirements,” but left “primary responsibility for implementation to the state.” (*Hayes*, at p. 1594.)

Two local governments sought reimbursement for the costs of special education assessment hearings which were required under the state’s adopted plan. The state argued the requirements imposed under its plan were federally mandated. The *Hayes* court rejected that argument. Reviewing the historical development of special education law (*Hayes, supra*, 11 Cal.App.4th at pp. 1582-1592), the court concluded that, so far as the state was concerned, the requirements established by the EHA were federally mandated. (*Hayes*, at p. 1592.) However, that conclusion “mark[ed] the starting point rather than the end of [its] consideration.” (*Ibid.*) The court explained that, in determining whether federal law requires a specified function, like the assessment hearings, the focus of the inquiry is whether the “manner of implementation of the federal program was left to the *true discretion* of the state.” (*Id.* at p. 1593, italics added.) If the state “has adopted an implementing statute or regulation pursuant to the federal mandate,” and had “no ‘true choice’ ” as to the manner of implementation, the local government is not entitled to reimbursement. (*Ibid.*) If, on the other hand, “the manner of implementation of the federal program was left to the true discretion of the state,” the local government might be entitled to reimbursement. (*Ibid.*)

According to the *Hayes* court, the essential question is how the costs came to be imposed upon the agency required to bear them. “If the state freely chose to impose the costs upon the local agency as a means of implementing a federal program then the costs are the result of a reimbursable state mandate regardless whether the costs were imposed upon the state by the federal government.” (*Hayes, supra*, 11 Cal.App.4th at p. 1594.) Applying those principles, the court concluded that, to the extent “the state implemented the [EHA] by freely choosing to impose new programs or higher levels of service upon local school districts, the

costs of such programs or higher levels of service are state mandated and subject to” reimbursement. (*Ibid.*)

From *City of Sacramento, County of Los Angeles*, and *Hayes*, we distill the following principle: If federal law compels the state to impose, or itself imposes, a requirement, that requirement is a federal mandate. On the other hand, if federal law gives the state discretion whether to impose a particular implementing requirement, and the state exercises its discretion to impose the requirement by virtue of a “true choice,” the requirement is not federally mandated.

Division of Occupational Safety & Health v. State Bd. of Control (1987) 189 Cal.App.3d 794 (*Division of Occupational Safety*) is instructive. The federal Occupational Safety and Health Act (Fed. OSHA; 29 U.S.C. § 651 et seq.) preempted states from regulating matters covered by Fed. OSHA unless a state had adopted its own plan and gained federal approval. (*Division of Occupational Safety*, at p. 803.) No state was obligated to adopt its own plan. But, if a state did so, the plan had to include standards at least as effective as Fed. OSHA’s and extend those standards to state and local employees. California adopted its own plan, which was federally approved. The state then issued a regulation that, according to local fire districts, required them to maintain three-person firefighting teams. Previously, they had been permitted to maintain two-person teams. (*Division of Occupational Safety*, at pp. 798-799.) The local fire districts sought reimbursement for the increased level of service. The state opposed, arguing the requirement was mandated by federal law.

The court agreed with the fire districts. As the court explained, a Fed. OSHA regulation arguably required the maintenance of three-person firefighting teams. (*Division of Occupational Safety, supra*, 189 Cal.App.3d at p. 802.) However, that federal regulation specifically excluded local fire districts. (*Id.* at p. 803.) Had the state elected to be governed by *Fed. OSHA standards*, that

exclusion would have allowed those fire districts to maintain two-person teams. (*Division of Occupational Safety*, at p. 803.) The conditions for approval of the state's plan required effective enforcement and coverage of public employees. But those conditions did not make the costs of complying with the state regulation federally mandated. "[T]he decision to establish . . . a federally approved [local] plan is an option which the state exercises freely." (*Ibid.*) In other words, the state was not "compelled to . . . extend jurisdiction over occupational safety to local governmental employers," which would have otherwise fallen under a federal exclusion. (*Ibid.*) Because the state "was not required to promulgate [the state regulation] to comply with federal law, the exemption for federally mandated costs does not apply." (*Id.* at p. 804.)¹³

San Diego Unified School Dist. v. Commission on State Mandates (2004) 33 Cal.4th 859 (*San Diego Unified*) provides another example. In *Goss v. Lopez* (1975) 419 U.S. 565, the United States Supreme Court held that if a school principal chose to recommend a student for expulsion, federal due process principles required the school district to give that student a hearing. Education Code section 48918 provided for expulsion hearings. (*San Diego Unified*, at p. 868.) Under Education Code section 48915, a school principal had *discretion* to recommend expulsion under certain circumstances, but was compelled to recommend expulsion for a student who possessed a firearm. (*San Diego Unified*, at p. 869.) Federal law at the time did not require expulsion for a student who brought a gun to school. (*Id.* at p. 883.)

¹³ In the end, the court held that the challenged state regulation did not obligate the local fire district to maintain three-person firefighting teams. Accordingly, the state regulation did not mandate an increase in costs. (*Division of Occupational Safety, supra*, 189 Cal.App.3d at pp. 807-808.)

The school district argued it was entitled to reimbursement of *all* expulsion hearing costs. This court drew a distinction between discretionary and mandatory expulsions. We concluded the costs of hearings for *discretionary* expulsions flowed from a federal mandate. (*San Diego Unified, supra*, 33 Cal.4th at pp. 884-890.)¹⁴ We declined, however, to extend that rule to the costs related to *mandatory* expulsions. Because it was *state law* that required an expulsion recommendation for firearm possession, all hearing costs triggered by the mandatory expulsion provision were reimbursable state-mandated expenses. (*Id.* at pp. 881-883). As was the case in *Hayes*, the key factor was how the costs came to be imposed on the entity that was required to bear them. The school principal could avoid the cost of a federally-mandated hearing by choosing not to recommend an expulsion. But, when a state statute *required* an expulsion recommendation, the attendant hearing costs did not flow from a federal mandate. (*San Diego Unified, supra*, 33 Cal.4th at p. 881.)

2. Application

Review of the Commission’s decision requires a determination as to whether federal statutory, administrative, or case law imposed, or compelled the Regional Board to impose, the challenged requirements on the Operators.

It is clear federal law did not compel the Regional Board to impose these particular requirements. There was no evidence the state was compelled to administer its *own* permitting system rather than allowing the EPA do so under the CWA. (33 U.S.C. § 1342(a).) In this respect, the case is similar to *Division of*

¹⁴ To the extent Education Code section 48918 imposed requirements that went beyond the mandate of federal law, those requirements were merely incidental to the federal mandate, and at most resulted in “a de minimis cost.” (*San Diego Unified, supra*, 33 Cal.4th at p. 890.) The State does not argue here that the costs of the challenged permit conditions were de minimis.

Occupational Safety, supra, 189 Cal.App.3d 794. Here, as in that case, the state chose to administer its own program, finding it was “in the interest of the people of the state, *in order to avoid direct regulation by the federal government* of persons already subject to regulation” under state law. (Wat. Code, § 13370, subd. (c), italics added.) Moreover, the Regional Board was not required by federal law to impose any specific permit conditions. The federal CWA broadly directed the board to issue permits with conditions designed to reduce pollutant discharges to the maximum extent practicable. But the EPA’s regulations gave the board discretion to determine which specific controls were necessary to meet that standard. (40 C.F.R. § 122.26(d)(2)(iv).) This case is distinguishable from *City of Sacramento, supra*, 50 Cal.3d 51, where the state risked the loss of subsidies and tax credits for all its resident businesses if it failed to comply with federal legislation. Here, the State was not compelled by federal law to impose any particular requirement. Instead, as in *Hayes, supra*, 11 Cal.App.4th 1564, the Regional Board had discretion to fashion requirements which it determined would meet the CWA’s maximum extent practicable standard.

The State argues the Commission failed to account for the flexibility in the CWA’s regulatory scheme, which conferred discretion on the State and regional boards in deciding what conditions were necessary to comply with the CWA. In exercising that discretion, those agencies were required to rely on their scientific, technical, and experiential knowledge. Thus, the State contends the Permit itself is the best indication of what requirements *would have been imposed* by the EPA if the Regional Board had not done so, and the Commission should have deferred to the board’s determination of what conditions federal law required.

We disagree that the Permit itself demonstrates what conditions would have been imposed had the EPA granted the Permit. In issuing the Permit, the Regional Board was implementing both state and federal law and was authorized to include

conditions more exacting than federal law required. (*City of Burbank, supra*, 35 Cal.4th at pp. 627-628.) It is simply not the case that, because a condition was in the Permit, it was, ipso facto, required by federal law.

We also disagree that the Commission should have deferred to the Regional Board's conclusion that the challenged requirements were federally mandated. That determination is largely a question of law. Had the Regional Board found, when imposing the disputed permit conditions, that those conditions were the only means by which the maximum extent practicable standard could be implemented, deference to the board's expertise in reaching that finding would be appropriate. The board's legal authority to administer the CWA and its technical experience in water quality control would call on sister agencies as well as courts to defer to that finding. The State, however, provides no authority for the proposition that, absent such a finding, the Commission should defer to a state agency as to whether requirements were state or federally mandated. Certainly, in a trial court action challenging the *board's authority* to impose specific permit conditions, the board's findings regarding what conditions satisfied the federal standard would be entitled to deference. (See, e.g., *City of Rancho Cucamonga v. Regional Water Quality Control Bd.* (2006) 135 Cal.App.4th 1377, 1384, citing *Fukuda v. City of Angels* (1999) 20 Cal.4th 805, 817-818.) Resolution of those questions would bring into play the particular technical expertise possessed by members of the regional board. In those circumstances, the party challenging the board's decision would have the burden of demonstrating its findings were not supported by substantial evidence or that the board otherwise abused its discretion. (*Rancho Cucamonga*, at p. 1387; *Building Industry, supra*, 124 Cal.App.4th at pp. 888-889.)

Reimbursement proceedings before the Commission are different. The question here was not whether the Regional Board had authority to impose the challenged requirements. It did. The narrow question here was who will pay for

them. In answering that legal question, the Commission applied California's constitutional, statutory, and common law to the single issue of reimbursement. In the context of these proceedings, the State has the burden to show the challenged conditions were mandated by federal law.

Section 6 establishes a general rule requiring reimbursement of all state-mandated costs. Government Code section 17556, subdivision (c), codifies an exception to that rule. Typically, the party claiming the applicability of an exception bears the burden of demonstrating that it applies. (See *Simpson Strong-Tie Co., Inc. v. Gore* (2010) 49 Cal.4th 12, 23; see also, *Long Beach Police Officers Assn. v. City of Long Beach* (2014) 59 Cal.4th 59, 67.) Here, the State must explain why federal law mandated these requirements, rather than forcing the Operators to prove the opposite. The State's proposed rule, requiring the Commission to defer to the Regional Board, would leave the Commission with no role to play on the narrow question of who must pay. Such a result would fail to honor the Legislature's intent in creating the Commission.

Moreover, the policies supporting article XIII B of the California Constitution and section 6 would be undermined if the Commission were required to defer to the Regional Board on the federal mandate question. The central purpose of article XIII B is to rein in local government spending. (*City of Sacramento, supra*, 50 Cal.3d at pp. 58-59.) The purpose of section 6 is to protect local governments from state attempts to impose or shift the costs of new programs or increased levels of service by entitling local governments to reimbursement. (*County of San Diego, supra*, 15 Cal.4th at p. 81.) Placing the burden on the state to demonstrate that a requirement is federally mandated, and thus excepted from reimbursement, serves those purposes.

Applying the standard of review described above, we evaluate the entire record and independently review the Commission's determination the challenged

conditions were not federal mandates. We conclude the Commission was correct. These permit conditions were not federally mandated.

a) The inspection requirements

Neither the CWA's "maximum extent practicable" provision nor the EPA regulations on which the State relies expressly required the Operators to inspect these particular facilities or construction sites. The CWA makes no mention of inspections. (33 U.S.C. § 1342(p)(3)(B)(iii).) The regulations required the Operators to include in their permit application a description of priorities and procedures for inspecting certain industrial facilities and construction sites, but suggested that the Operators would have discretion in selecting which facilities to inspect. (See C.F.R. § 122.26(d)(2)(iv)(C)(1).) The regulations do not mention commercial facility inspections at all.

Further, as the Operators explained, state law made the *Regional Board* responsible for regulating discharges of waste within its jurisdiction. (Wat. Code, §§ 13260, 13263.) This regulatory authority included the power to "inspect the facilities of any person to ascertain whether . . . waste discharge requirements are being complied with." (Wat. Code, § 13267, subd. (c).) Thus, state law imposed an overarching mandate that the Regional Board inspect the facilities and sites.

In addition, federal law and practice required the Regional Board to inspect all industrial facilities and construction sites. Under the CWA, the State Board, as an issuer of NPDES permits, was required to issue permits for storm water discharges "associated with industrial activity." (33 U.S.C. § 1342(p)(3)(A).) The term "industrial activity" includes "construction activity." (40 C.F.R. § 122.26(b)(14)(x).) The Operators submitted evidence that the State Board had satisfied its obligation by issuing a general industrial activity stormwater permit and a general construction activity stormwater permit. Those statewide permits

imposed controls designed to reduce pollutant discharges from industrial facilities and construction sites. Under the CWA, those facilities and sites could operate under the statewide permits rather than obtaining site-specific pollutant discharge permits.

The Operators showed that, in those statewide permits, the State Board had placed responsibility for inspecting facilities and sites on the *Regional Board*. The Operators submitted letters from the EPA indicating the State and regional boards were responsible for enforcing the terms of the statewide permits. The Operators also noted the State Board was authorized to charge a fee to facilities and sites that subscribed to the statewide permits (Wat. Code, § 13260, subd. (d)), and that a portion of that fee was earmarked to pay the Regional Board for “inspection and regulatory compliance issues.” (Wat. Code, § 13260, subd. (d)(2)(B)(iii).) Finally, there was evidence the Regional Board offered to pay the County to inspect industrial facilities. There would have been little reason to make that offer if federal law required the County to inspect those facilities.

This record demonstrates that the Regional Board had primary responsibility for inspecting these facilities and sites. It shifted that responsibility to the Operators by imposing these Permit conditions. The reasoning of *Hayes*, *supra*, 11 Cal.App.4th 1564, provides guidance. There, the EHA required the state to provide certain services to special education students, but gave the state discretion in implementing the federal law. (*Hayes*, at p. 1594.) The state exercised its “true discretion” by selecting the specific requirements it imposed on local governments. As a result, the *Hayes* court held the costs incurred by the local governments were state-mandated costs. (*Ibid.*) Here, state and federal law required the Regional Board to conduct inspections. The Regional Board exercised its discretion under the CWA, and shifted that obligation to the Operators. That the Regional Board did so while exercising its permitting

authority under the CWA does not change the nature of the Regional Board's action under section 6. Under the reasoning of *Hayes*, the inspection requirements were not federal mandates.

The State argues the inspection requirements were federally mandated because the CWA required the Regional Board to impose permit controls, and the EPA regulations contemplated that some kind of operator inspections would be required. That the EPA regulations contemplated some form of inspections, however, does not mean that federal law required the scope and detail of inspections required by the Permit conditions.¹⁵ As explained, the evidence before the Commission showed the opposite to be true.

b) The trash receptacle requirement

The Commission concluded the trash receptacle requirement was not a federal mandate because neither the CWA nor the regulation cited by the State explicitly required the installation and maintenance of trash receptacles. The State contends the requirement was mandated by the CWA and by the EPA regulation that directed the Operators to include in their application a “description of practices for operating and maintaining public streets, roads and highways and procedures for reducing the impact on receiving waters of discharges from municipal storm sewer systems.” (40 C.F.R. § 122.26(d)(2)(iv)(A)(3).)

The Commission's determination was supported by the record. While the Operators were required to include a description of practices and procedures in

¹⁵ The State also relied on a 2008 letter from the EPA indicating that the requirements to inspect industrial facilities and construction sites fell within the maximum extent practicable standard under the CWA. That letter, however, does not indicate that federal law required municipal storm sewer system operators to inspect all industrial facilities and construction sites within their jurisdictions.

their permit application, the issuing agency has discretion whether to make those practices conditions of the permit. (40 C.F.R. § 122.26(d)(2)(iv).) No regulation cited by the State required trash receptacles at transit stops. In addition, there was evidence that the EPA had issued permits to other municipal storm sewer systems in Anchorage, Boise, Boston, Albuquerque, and Washington, D.C. that did not require trash receptacles at transit stops. The fact the EPA itself had issued permits in other cities, but did not include the trash receptacle condition, fatally undermines the argument that the requirement was federally mandated.

c) Conclusion

Although we have upheld the Commission's determination on the federal mandate question, the State raised other arguments in its writ petition. Further, the issues presented in the Operators' cross-petition were not addressed by either the trial court or the Court of Appeal. We remand the matter so those issues can be addressed in the first instance.

III. DISPOSITION

We reverse the judgment of the Court of Appeal and remand for further proceedings consistent with our opinion.

CORRIGAN, J.

WE CONCUR:

CANTIL-SAKAUYE, C. J.

WERDEGAR, J.

CHIN, J.

CONCURRING AND DISSENTING OPINION BY CUÉLLAR, J.

A local government is entitled to reimbursement from the state when the Legislature or a state agency requires it to provide new programs or increased service. (Cal. Const., art. XIII B, § 6, subd. (a).) But one crucial exception coexists with this rule. It applies where the new program or increased service is mandated by a federal statute or regulation. (Gov. Code, § 17556, subd. (c).) We consider in this case whether certain conditions to protect water quality included in a permit from the Regional Water Quality Board, Los Angeles Region (Regional Board or Board) — specifically, installation and maintenance of trash receptacles at transit stops, as well as inspections of certain commercial and industrial facilities and construction sites — constitute state mandates subject to reimbursement, or federal mandates within the statutory reimbursement exception.

What the majority concludes is that federal law did not compel imposition of the conditions, and that the local agencies would not necessarily have been required to comply with them had they not been imposed by the state. In doing so, the majority upholds and treats as correct a decision by the Commission on State Mandates (the Commission) that is flawed in its approach and far too parsimonious in its analysis. This is no small feat: not only must the majority discount any expertise the Regional Board might bring to bear on the mandate question (see maj. opn., *ante*, at pp. 22-24), but it must also overlook the Commission's reliance on an overly narrow analytical framework and prop up the

Commission's decision with evidence on which the agency *could have relied*, rather than that on which it did (see *id.* at pp. 24-27).

Moreover, when the majority considers whether the permit conditions are indeed federally mandated, it purports to apply de novo review to the Commission's legal determination. (See maj. opn., *ante*, at pp. 13, 22, 24.) What it actually applies seems far more deferential to the Commission's decision — something akin to substantial evidence review — despite the Commission's own failure in affording deference to the Regional Board and, more generally, its reliance on the wrong decision-making framework. (Cf. *People v. Barnwell* (2007) 41 Cal.4th 1038, 1052 [“A substantial evidence inquiry examines the record in the light most favorable to the judgment and upholds it if the record contains reasonable, credible evidence of solid value upon which a reasonable trier of fact *could* have relied in reaching the conclusion in question”].) Indeed, what the majority overlooks is that the Commission itself should have considered the effect of the evidence on which the majority now relies in deciding whether the challenged permit conditions were necessary to comply with federal law. And in doing so, the Commission should have extended a measure of deference to the Regional Board's expertise in administering the statutory scheme. (See *County of Los Angeles v. Cal. State Water Resources Control Bd.* (2006) 143 Cal.App.4th 985, 997 (*State Water Board*).)

Because the Commission failed to do so, and because the Commission's interpretation of the federal Clean Water Act (the CWA; 33 U.S.C. § 1251 et seq.) failed to account for the complexities of the statute, I would reverse the Court of Appeal's judgment and remand with instructions for the Commission to reconsider its decision. So I concur in the majority's judgment reversing the Court of Appeal, but dissent from its conclusion upholding the Commission's decision rather than remanding the matter for further proceedings.

I.

To determine whether it is the state rather than local governments that should bear the entirety of the financial burden associated with a new program or increased service, the Commission must examine the nature of the federal scheme in question. That scheme is the CWA, a statute Congress amended in 1972 to establish the National Pollutant Discharge Elimination System (the NPDES) as a means of achieving and enforcing limitations on pollutant discharges. (See *EPA v. State Water Resources Control Bd.* (1976) 426 U.S. 200, 203-204.) The role envisioned for the states under the NPDES is a major one, encompassing both the opportunity to assume the primary responsibility for the implementation and enforcement of federal effluent discharge limitations by issuing permits as well as the discretion to enact requirements that are more onerous than the federal standard. (See 33 U.S.C. §§ 1251(b), 1342(b).)

But states undertaking such implementation must do so in a manner that complies with regulations promulgated by the Environmental Protection Agency (the EPA), as well as the CWA's broad provisions (including the "maximum extent practicable" standard (33 U.S.C. § 1342(p)(3)(B)(iii))), and subject to the EPA's continuing revocation authority (see *id.*, § 1342(c)(3)). Despite the breadth of the requirements the statute imposes on states assuming responsibility for permitting enforcement and the expansive nature of the EPA's revocation authority, neither the statute nor its implementing regulations include a safe harbor provision establishing a minimum level of compliance with the federal standard — an absence the majority tacitly acknowledges. (See maj. opn., *ante*, at p. 21 ["the Regional Board was not required by federal law to impose any specific permit conditions"].) Instead, implementation of the federal mandate requires the state agency — here, the Regional Board — to exercise technical judgments about the

feasibility of alternative permitting conditions necessary to achieve compliance with the federal statute.

With no statutory safe harbor that the Regional Board could have relied on to ensure the EPA's approval of the state permitting process, the Board interpreted the federal standard in light of the statutory text, implementing regulations, and its technical appraisal of potential alternatives. In discharging its own role, the Commission was then bound to afford the Regional Board a measure of "sister-agency" deference. (See *Yamaha Corp. of America v. State Bd. of Equalization* (1998) 19 Cal.4th 1, 7 [explaining that "the binding power of an agency's interpretation of a statute or regulation is contextual: Its power to persuade is both circumstantial and dependent on the presence or absence of factors that support the merit of the interpretation"].) In this case, the Regional Board informed localities that, in its view, the various permit conditions it imposed would satisfy the maximum extent practicable standard. The EPA agreed the requirements were within the scope of the federal standard. The Regional Board's judgment that these conditions will control pollutant discharges to the extent required by federal law is at the core of the agency's institutional expertise. That expertise merits a measure of deference because the Regional Board's ken includes not only its greater familiarity with the CWA (relative to other entities), but also technical knowledge relevant to judgments about the water quality consequences of particular permitting conditions relevant to the provisions of the CWA. (See, e.g., 33 U.S.C. § 1342(p)(3)(B)(iii) [requiring that permits include "management practices, control techniques and system, design and engineering methods, and such other provisions as . . . the State determines appropriate for the control of such pollutants"].) Casting aside the Regional Board's expertise on the issue at hand, the majority nonetheless upholds the Commission's ruling.

Remand to the Commission would have been the more appropriate course for multiple reasons. First, the Commission applied the wrong framework for its analysis. It failed to consider all the evidence relevant to whether the permit conditions were necessary for compliance with federal law. The commission compounded its error by relying on an interpretation of the CWA that misconstrues the federal statutory scheme governing the state permitting process.

In particular, the Commission treated the problem as essentially a simple matter of searching the statutory text and regulations for precisely the same terms used by the Regional Board's permit conditions. Unless the requirement in question is referenced explicitly in a federal statutory or regulatory provision, the Commission's analysis suggests, the requirement cannot be a federal mandate. With respect to trash receptacles, the Commission stated: "Because installing and maintaining trash receptacles at transit stops is not expressly required of cities or counties or municipal separate storm sewer dischargers in the federal statutes or regulations, these are activities that 'mandate costs that exceed the mandate in the federal law or regulation.' " And with respect to industrial facility inspections, the Commission said this: "Inasmuch as the federal regulation (40 CFR § 122.26 (c)) authorizes coverage under a statewide general permit for the inspections of industrial activities, and the federal regulation (40 CFR § 122.26 (d)(2)(iv)(D)) does not expressly require those inspections to be performed by the county or cities (or the 'owner or operator of the discharge') the Commission finds that the state has freely chosen to impose these activities on the permittees." (Fn. omitted.)

Existing law does not support this method of determining what constitutes a federal mandate. Instead, our past decisions emphasize the need to consider the implications of multiple statutory provisions and broader statutory context when interpreting federal law to determine if a given condition constitutes a federal mandate. (See *City of Sacramento v. State of California* (1990) 50 Cal.3d 51, 76

(*City of Sacramento*); see also *San Diego Unified School Dist. v. Commission on State Mandates* (2004) 33 Cal.4th 859, 890 [“challenged state rules or procedures that are intended to implement an applicable federal law — and whose costs are, *in context*, de minimis — should be treated as part and parcel of the underlying federal mandate” (italics added)].) In contrast, the Commission’s overly narrow approach to determining what constitutes a federal mandate risks creating a standard that will never be met so long as the state retains any shred of discretion to implement a federal program. It cannot be that so long as a federal statute or regulation does not expressly require every permit term issued by a state agency, then the permit is a state, rather than a federal, mandate. But this is precisely how the Commission analyzed the issue — an analysis that, remarkably, the majority does not even question. Instead, the majority combs the record for evidence that could have supported the result the Commission reached. In so doing, the majority implicitly acknowledges that the Commission’s approach to resolving the question at the heart of this case was deficient.

But if the Commission applied the wrong framework for its analysis, the right course is to remand. Doing so would obviate the need to cobble together scattered support for a decision by the Commission that was premised, in the first instance, on the Commission’s own misconstrual of the inquiry before it. Instead, we should give the Commission an opportunity to reevaluate its conclusion in light of the entire record and to, where appropriate, solicit further information from the parties to shed light on what permit conditions are necessary for compliance with federal law.

The potential consequences of allowing the Commission to continue on its present path are quite troubling. For if the law were as the Commission suggests, the state would be unduly discouraged from participating in federal programs like the NPDES — even though participation might otherwise be in California’s

interest — if the state knows *ex ante* that it will be unable to pass along the expenses to the local areas that experience the most costs and benefits from the mandate at issue. Our law on unfunded mandates does not compel such a result. Nor is there an apparent prudential rationale in support of it.

The Commission’s approach also fails to appreciate the EPA’s role in implementing (through its interpretation and enforcement of the CWA) statutory requirements that the CWA describes in relatively broad terms. Indeed, what may be “practicable” in Los Angeles may not be in San Francisco, much less in Kansas City or Detroit. (See *Building Industry Assn. of San Diego County v. State Water Resources Control Bd.* (2004) 124 Cal.App.4th 866, 889 (*Building Industry Assn.*) [explaining that “the maximum extent practicable standard is a highly flexible concept that depends on balancing numerous factors, including the particular control’s technical feasibility, cost, public acceptance, regulatory compliance, and effectiveness”].) It also suggests a lack of understanding of two interrelated matters on which the Regional Board likely has expertise: the consequences of the measures included as permit conditions relative to any alternatives and the interpretation of a complex federal statute governing regulation of the environment.

Second, beyond failing to consider all the relevant evidence bearing on the necessity of the imposed permit conditions, the Commission failed to extend any meaningful deference to the Regional Board’s conclusions — even though such deference was warranted given that the nature of the decisions involved in interpreting the CWA included evaluating appropriate alternatives and determining which of those were necessary to satisfy the federal standard. (See *State Water Board, supra*, 143 Cal.App.4th at p. 997 [“we defer to the regional board’s expertise in construing language which is not clearly defined in statutes involving pollutant discharge into storm drain sewer systems”]; *City of Rancho*

Cucamonga v. Regional Water Quality Control Bd. (2006) 135 Cal.App.4th 1377, 1384 (*Rancho Cucamonga*) [“consideration [should be] given to the [regional board’s] interpretations of its own statutes and regulations”]; *Building Industry Assn., supra*, 124 Cal.App.4th at p. 879, fn. 9 [“we do consider and give due deference to the Water Boards’ statutory interpretations [of the CWA] in this case”]; see also *Cal. Building Industry Assn. v. Bay Area Air Quality Management Dist.* (2015) 62 Cal.4th 369, 389-390 [explaining that “an agency’s expertise and technical knowledge, especially when it pertains to a complex technical statute, is relevant to the court’s assessment of the value of an agency interpretation”].) In the direct challenge to the permit at issue here, the local agencies argued that the Regional Board exceeded even those requirements associated with the maximum extent practicable standard, an argument the appellate court rejected in an unpublished section of its opinion. Because of its failure to afford any deference to the Regional Board or to conduct an analysis more consistent with the relevant standard of review, the Commission essentially forces the Board to defend its decision twice: once on direct challenge and a second time before the Commission.

Conditions as prosaic as trash receptacle requirements initially may not seem to implicate the Regional Board’s expertise. Yet its unique experience and technical competence matter even with respect to these conditions, because the use of such conditions implicates a decision not to use alternatives that might require greater conventional expert judgment to evaluate. Moreover, the Regional Board is likely to accumulate a distinct and greater degree of knowledge regarding issues such as the reactions of stakeholders to different requirements, and related factors relevant to determining which conditions are necessary to satisfy the CWA’s maximum extent practicable standard.

The Commission acknowledged that the State Water Resources Control Board — as well as the EPA — believed the permit requirements did not exceed this federal standard. “The comments of the State Water Board and U.S. EPA,” the Commission noted, “assert that the permit conditions merely implement a federal mandate under the federal Clean Water Act and its regulations.” But the Commission afforded these conclusions no clear deference in determining whether the requirements were state mandates.

Nor is the majority correct in suggesting that the Commission had only a limited responsibility, if it had one at all, to extend any deference to the Regional Board. (See maj. opn., *ante*, at pp. 22-24.) The Regional Board’s judgment as to whether the imposed permit conditions were necessary to comply with federal law was a prerequisite to the Commission’s own task, which was to review the Board’s determination in light of all the relevant evidence. To the extent ambiguity exists as to whether the Regional Board’s conclusions incorporated any findings that these conditions were necessary to meet the federal standard (see *id.* at pp. 22-23), remand to clarify the Board’s position is in order. By instead simply upholding the Commission’s conclusion without remand, the majority displaces any meaningful role for the Regional Board’s expert judgment.

The majority does so even though courts have routinely emphasized the pivotal role regional boards play in interpreting the CWA’s intricate mandate. (See *State Water Board*, *supra*, 143 Cal.App.4th at p. 997; *Rancho Cucamonga*, *supra*, 135 Cal.App.4th at p. 1384.) And for good reason: If the Regional Board’s judgment is that the trash receptacle and inspection requirements are necessary to control pollutant discharges to the maximum extent practicable, such a conclusion is well within the purview of its expertise. Unsurprisingly, then, we have never concluded that the technical knowledge relevant to interpreting the requirements of the CWA — a statute that lacks a safe harbor and where discerning what

phrases such as maximum extent practicable mean given existing conditions and technology is complex — lies beyond the ambit of the Regional Board’s expertise, or otherwise proves distinct from the sort of expertise that merits deference.

Third, the Commission devoted insufficient attention in its analysis to the role of states in implementing the CWA, and to how that role can be harmonized with the significant protections against unfunded mandates that the state Constitution provides. (See Cal. Const., art. XIII B, § 6, subd. (a).) By allowing states to assume such an important role in implementing its provisions, the CWA reflects principles of cooperative federalism. (See 33 U.S.C. §§ 1251(b), 1342(b); see also *Boise Cascade Corp. v. EPA* (9th Cir. 1991) 942 F.2d 1427, 1430 [“The federal-state relationship established by the [Clean Water] Act is . . . illustrated in Congress’ goal of encouraging states to ‘assume the major role in the operation of the NPDES program’ ”].) In accordance with the CWA’s express provisions, California chose to assume the responsibility for implementation of the NPDES program in the state — a role that requires further specification of permitting conditions. (See 33 U.S.C. § 1342(c)(3) [states must administer permitting programs “in accordance with requirements of this section,” including compliance with the maximum extent practicable standard].) In the process, the state must comply with the constitutional protections against unfunded mandates requiring reimbursement of localities if permit conditions exceed what is necessary to comply with the relevant federal mandate. But given the nature of the relevant CWA provisions — and particularly the maximum extent practicable standard — it is wrong to assume that the conditions at issue in this case exceed what is necessary to comply with the CWA simply because neither the statute nor its regulations explicitly mention those conditions. The consequence of that assumption, moreover, risks discouraging the state from assuming cooperative federalism responsibilities — and may even encourage the state to withdraw from

administering the NPDES. Indeed, counsel for the state indicated at oral argument that if the Commission’s reasoning were upheld — and the state were required to foot the bill for any conditions not expressly mentioned in the applicable federal statutes or regulations — it might think twice about entering into such arrangements of cooperative federalism.

In light of these concerns with the Commission’s approach to this case, it is difficult to see the basis for — or utility of — upholding the Commission’s decision, even under the inscrutable standard of review the majority employs. (See *California Youth Authority v. State Personnel Bd.* (2002) 104 Cal.App.4th 575, 586 [substantial evidence review requires that all evidence be considered, including evidence that does not support the agency’s decision]; see also *Sierra Club v. U.S. Army Corps of Engineers* (2d Cir. 1983) 701 F.2d 1011, 1030 [“the court may properly be skeptical as to whether an [agency report’s] conclusions have a substantial basis in fact if the responsible agency has apparently ignored the conflicting views of other agencies having pertinent expertise”].) The better course, in my view, would be for us to articulate the appropriate standard for evaluating the question whether these permit conditions are state mandates and then remand for the Commission to apply it in the first instance.

II.

The Commission relied on a narrow approach that only compares the terms of a permit with the text of the CWA and its implementing regulations. Instead, the Commission should have employed a more flexible methodology in determining whether the permit conditions were federally mandated. Such a flexible approach accords with our prior case law. (See *City of Sacramento, supra*, 50 Cal.3d at p. 76 [whether local government appropriations are federally mandated and therefore exempt from taxing and spending limitations under section 9, subdivision (b), of article XIII B of the California Constitution depends

on, inter alia, the nature and purpose of the federal program, whether its design suggests an intent to coerce, when state or local participation began, and the legal and practical consequences of nonparticipation or withdrawal].) Moreover, it would have the added benefit of not discouraging the state from participating in ventures of cooperative federalism.

The majority may be correct that the facts of *City of Sacramento* are distinguishable. (See maj. opn., *ante*, at p. 21.) In that case, the state risked forsaking subsidies and tax credits for its resident businesses if it failed to comply with federal law requiring that unemployment insurance protection be extended to local government employees. (*Id.* at p. 15.) Here, in contrast, the negative consequences of failing to comply with federal law may seem less severe, at least in fiscal terms: the EPA may determine that the state is not in compliance with the CWA and reassert authority over permitting. (See 33 U.S.C. § 1342(c)(3).) But *City of Sacramento* nonetheless remains relevant, even though a precisely comparable level of coercion may not exist here. The flexible approach we articulated in that case remains the best way to ensure that some weight is given to the Regional Board's technical expertise, and the conclusions resulting therefrom, while also taking account of the cooperative federalism arrangements built into the CWA.

So instead of adopting an approach foreign to our precedent, the Commission should have begun its analysis with the statutory and regulatory text — and then it should have considered other relevant materials and record evidence bearing on whether the permit conditions are necessary to satisfy federal law. Crucially, such evidence includes how the federal regulatory scheme operates in practice. The Commission could have examined, for instance, previous permits issued by the EPA in similarly situated jurisdictions, comparing them to the inspection and trash receptacle requirements the Regional Board imposed here and

giving due consideration to the EPA's conclusion that the maximum extent practicable standard is applied in a highly site-specific and flexible manner in order to account for unique local challenges and conditions. (See 64 Fed. Reg. 68722, 68754 (Dec. 8, 1999).) The Commission could also have considered whether, instead of identifying permitting conditions necessary to comply with the CWA, the state shifted onto local governments responsibility to conduct inspections or provide trash receptacles. The majority wisely notes that these are factors the Commission *could* have examined. (See maj. opn., *ante*, at pp. 24-27.) But the Commission mentioned this evidence only briefly, failing to grapple in any meaningful way with its implications for the issue at hand. We should allow the Commission an opportunity to do so in the first instance.

The Commission should have also accorded appropriate deference to the Regional Board's conclusions regarding how best to comply with the federal maximum extent practicable standard. One way to ensure that such deference is given would be to place on the party seeking reimbursement the burden of demonstrating that the challenged permit conditions clearly exceed the federal standard, or that they were otherwise unnecessary to reduce pollutant discharges to the maximum extent practicable. Doing so would make sense where the state is implementing a federal program that envisions routine state participation, the federal program does not itself define the minimum degree of compliance required, and the state's implementing agency reasonably determines in its expertise that certain conditions are necessary to comply with the applicable federal standard.

* * *

The Commission's decision — and the approach that produced it — fails to accord with existing law and with the nature of the applicable federal scheme. The state is not responsible for reimbursing localities for permit conditions that are

necessary to comply with federal law, a circumstance that renders interpretation of the CWA central to this case. A core principle of the CWA is to facilitate cooperative federalism, by allowing states to take on a critical responsibility in exchange for compliance with a set of demanding standards overseen by a federal agency capable of withdrawing approval for noncompliance. (See *Arkansas v. Oklahoma* (1992) 503 U.S. 91, 101 [“The Clean Water Act anticipates a partnership between the States and the Federal Government, animated by a shared objective: ‘to restore and maintain the chemical, physical, and biological integrity of the Nation’s waters’ ”]; *Shell Oil Co. v. Train* (9th Cir. 1978) 585 F.2d 408, 409 [“Shell’s complaint must be read against the background of the cooperative federal-state scheme for the control of water pollution”].) The Commission failed to interpret the statute in light of nuances in its text and structure. And it failed to offer even a modicum of deference to the Regional Board’s interpretation, despite the Board’s clear expertise that the technical nature of the questions necessary to interpret the scope of the CWA demands.

Accordingly, I would remand the matter to the Court of Appeal with directions that it instruct the Commission to reconsider its decision. On reconsideration, the Commission should appropriately defer to the Regional Board, consider all relevant evidence bearing on the question at hand, and ensure the evidence clearly shows the challenged permit conditions were not necessary to comply with the federal mandate. This is the standard that most thoroughly reflects our existing law and the nature of the CWA. Any dilution of it exacerbates the risk of undermining the nuanced federal-state arrangement at the heart of the CWA.

CUÉLLAR, J.

WE CONCUR:
LIU, J.
KRUGER, J.

See last page for addresses and telephone numbers for counsel who argued in Supreme Court.

Name of Opinion Department of Finance v. Commission on State Mandates

Unpublished Opinion

Original Appeal

Original Proceeding

Review Granted XXX 220 Cal.App.4th 740

Rehearing Granted

Opinion No. S214855

Date Filed: August 29, 2016

Court: Superior

County: Los Angeles

Judge: Ann I. Jones

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ATTACHMENT 21

ATTACHMENT 21

California Regional Water Quality Control Board, *Water Quality Control Plan for the San Diego Region (Basin Plan)* at:

- http://www.waterboards.ca.gov/sandiego/water_issues/programs/basin_plan/
- http://www.waterboards.ca.gov/sandiego/water_issues/programs/basin_plan/basinplan_amendments.shtml#nonpublished

ATTACHMENT 22

WATER QUALITY CONTROL PLAN

OCEAN WATERS OF CALIFORNIA



CALIFORNIA OCEAN PLAN

2015

STATE WATER RESOURCES CONTROL BOARD
CALIFORNIA ENVIRONMENTAL PROTECTION AGENCY



State of California

Edmund G. Brown Jr. Governor

California Environmental Protection Agency

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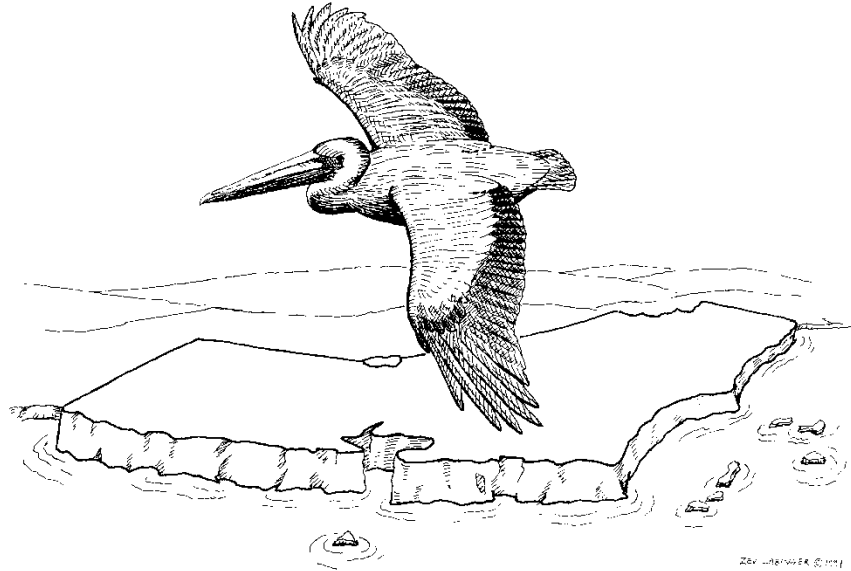
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State of California
STATE WATER RESOURCES CONTROL BOARD



2015

CALIFORNIA OCEAN PLAN

WATER QUALITY CONTROL PLAN

OCEAN WATERS OF CALIFORNIA

Amendments to the Water Quality Control Plan for the Ocean Waters of California

Name	Date Adopted	Resolution Number	Effective Date
1. Amendment to the statewide for the Ocean Plan of California addressing desalination facility intakes, brine discharges, and to incorporate other non-substantive changes	5/06/2015	2015-0033	1/28/2016
2. Amendment to the Water Quality Control Plan for Ocean Waters of California to control trash and part 1 trash provisions of the Water Quality Control Plan for inland surface waters, enclosed bays, and estuaries in California	4/7/2015	2015-0019	1/12/2016
3. Adoption of the California Ocean Plan Amendments regarding model monitoring, vessel discharges, and non-substantive changes	10/16/2012	2012-0057	7/01/2013
4. Adopting the California Ocean Plan Amendment implementing State Water Board resolutions 2010-0057 and 2011-013 regarding State Water Quality Protection Areas and Marine Protected Areas	10/16/2012	2012-0056	7/01/2013
5. Adoption of Proposed Amendments to the California Ocean Plan regarding total recoverable metals, compliance schedules, toxicity definitions, and the list of exceptions	9/15/2009	2009-0072	3/10/2010
6. Amendment to the California Ocean Plan: (1) Reasonable Potential, Determining When California Ocean Plan Water Quality-Based Effluent Limitations are Required, and (2) Minor Changes to the Areas of Special Biological Significance, and Exception Provisions	4/21/2005	2005-0035	10/12/2005
7. Amendment to California Ocean Plan Water Contact Bacterial Standards	1/20/2005	2005-0013	10/12/2005
8. Adoption of the Proposed Amendments to the California Ocean Plan regarding Table A, chemical water quality objectives, provisions of compliance, special protection for water quality and designated uses, and administrative changes	11/16/2000	2000-108	12/03/2001
9. Adoption of an Amendment to the Water Quality Control Plan for Ocean Waters of California regarding revisions to the list of critical life stage protocols used in testing the toxicity of waste discharges	3/20/1997	97-026	7/23/1997
10. Approval of Amendment to the Water Quality Control Plan for Ocean Waters of California regarding new water quality objectives in Table B	3/22/1990	90-027	3/22/1990

11. Water Quality Control Plan for Ocean Waters of California, California Ocean Plan	9/22/1988	88-111	9/22/1988
12. Water Quality Control Plan for Ocean Waters of California	11/17/1983	83-087	11/17/1983
13. Water Quality Control Plan for Ocean Waters of California	1/19/1978	78-002	1/19/1978
14. Water Quality Control Plan for Ocean Waters of California	7/06/1972	72-045	7/06/1972

CALIFORNIA OCEAN PLAN

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CALIFORNIA OCEAN PLAN
WATER QUALITY CONTROL PLAN FOR
OCEAN WATERS OF CALIFORNIA

INTRODUCTION

A. Purpose and Authority

1. In furtherance of legislative policy set forth in section 13000 of Division 7 of the California Water Code (CWC) (Stats. 1969, Chap. 482) pursuant to the authority contained in section 13170 and 13170.2 (Stats. 1971, Chap. 1288) the State Water Resources Control Board (State Water Board) hereby finds and declares that protection of the quality of the ocean* waters for use and enjoyment by the people of the State requires control of the discharge of waste* to ocean* waters and control of intake seawater* in accordance with the provisions contained herein. The Board finds further that this plan shall be reviewed at least every three years to guarantee that the current standards are adequate and are not allowing degradation* to marine species or posing a threat to public health.

B. Principles

1. Harmony Among Water Quality Control Plans and Policies.
 - a. In the adoption and amendment of water quality control plans, it is the intent of this Board that each plan will provide for the attainment and maintenance of the water quality standards of downstream waters.*
 - b. To the extent there is a conflict between a provision of this plan and a provision of another statewide plan or policy, or a regional water quality control plan (basin plan), the more stringent provision shall apply except where pursuant to Chap. III.J of this Plan, the State Water Board has approved an exception to the Plan requirements, and except in chapter III.M, in which the provisions of this plan shall govern.

C. Applicability

1. This plan is applicable, in its entirety, to point source discharges to the ocean.* Nonpoint sources of waste* discharges to the ocean* are subject to Chapter I Beneficial Uses, Chapter II - WATER QUALITY OBJECTIVES (wherein compliance with water quality objectives shall, in all cases, be determined by direct measurements in the receiving waters*) and Chapter III - PROGRAM OF IMPLEMENTATION Parts A.2, D, E, and I.
2. This plan is not applicable to discharges to enclosed* bays and estuaries* or inland waters or the control of dredged material.*

* See Appendix I for definition of terms.

3. Provisions regulating the thermal aspects of waste* discharged to the ocean* are set forth in the Water Quality Control Plan for the Control of Temperature in the Coastal and Interstate Waters and Enclosed* Bays and Estuaries* of California.
4. Provisions regulating the intake of seawater* for desalination facilities* are established pursuant to the authority contained in section 13142.5 subdivision (b) of the California Water Code (Stats. 1976, Chap. 1330).
5. Within this Plan, references to the State Board or State Water Board shall mean the State Water Resources Control Board. References to a Regional Board or Regional Water Board shall mean a California Regional Water Quality Control Board. References to the Environmental Protection Agency, USEPA, or EPA shall mean the federal Environmental Protection Agency.

* See Appendix I for definition of terms.

I. BENEFICIAL USES

- A. The beneficial uses of the ocean* waters of the State that shall be protected include industrial water supply; water contact and non-contact recreation, including aesthetic enjoyment; navigation; commercial and sport fishing; mariculture*; preservation and enhancement of designated Areas* of Special Biological Significance (ASBS); rare and endangered species; marine habitat; fish migration; fish spawning and shellfish* harvesting.

* See Appendix I for definition of terms.

II. WATER QUALITY OBJECTIVES

A. General Provisions

1. This chapter sets forth limits or levels of water quality characteristics for ocean* waters to ensure the reasonable protection of beneficial uses and the prevention of nuisance. The discharge of waste* shall not cause violation of these objectives.
2. The Water Quality Objectives and Effluent Limitations are defined by a statistical distribution when appropriate. This method recognizes the normally occurring variations in treatment efficiency and sampling and analytical techniques and does not condone poor operating practices.
3. Compliance with the water quality objectives of this chapter shall be determined from samples collected at stations representative of the area within the waste* field where initial* dilution is completed.

B. Bacterial Characteristics

1. Water-Contact Standards

Both the State Water Board and the California Department of Public Health (CDPH) have established standards to protect water contact recreation in coastal waters from bacterial contamination. Subsection a of this section contains bacterial objectives adopted by the State Water Board for ocean* waters used for water contact recreation. Subsection b describes the bacteriological standards adopted by CDPH for coastal waters adjacent to public beaches and public water contact sports areas in ocean waters.

a. State Water Board Water-Contact Standards

- (1) Within a zone bounded by the shoreline and a distance of 1,000 feet from the shoreline or the 30-foot depth contour, whichever is further from the shoreline, and in areas outside this zone used for water contact sports, as determined by the Regional Board (i.e., waters designated as REC-1), but including all kelp beds,* the following bacterial objectives shall be maintained throughout the water column:

30-day Geometric Mean – The following standards are based on the geometric mean of the five most recent samples from each site:

- i. Total coliform density shall not exceed 1,000 per 100 mL;
- ii. Fecal coliform density shall not exceed 200 per 100 mL; and
- iii. Enterococcus density shall not exceed 35 per 100 mL.

Single Sample Maximum:

- i. Total coliform density shall not exceed 10,000 per 100 mL;
- ii. Fecal coliform density shall not exceed 400 per 100 mL;
- iii. Enterococcus density shall not exceed 104 per 100 mL; and

* See Appendix I for definition of terms.

iv. Total coliform density shall not exceed 1,000 per 100 mL when the fecal coliform/total coliform ratio exceeds 0.1.

(2) The “Initial Dilution* Zone” of wastewater outfalls shall be excluded from designation as kelp beds* for purposes of bacterial standards, and Regional Boards should recommend extension of such exclusion zone where warranted to the State Water Board (for consideration under chapter III. J). Adventitious assemblages of kelp on waste discharge structures (e.g., outfall pipes and multipoint diffusers*) do not constitute kelp beds* for purposes of bacterial standards.

b. CDPH Standards

CDPH has established minimum protective bacteriological standards for coastal waters adjacent to public beaches and for public water-contact sports areas in ocean* waters. These standards are found in the California Code of Regulations, title 17, section 7958, and they are identical to the objectives contained in subsection a. above. When a public beach or public water-contact sports area fails to meet these standards, CDPH or the local public health officer may post with warning signs or otherwise restrict use of the public beach or public water-contact sports area until the standards are met. The CDPH regulations impose more frequent monitoring and more stringent posting and closure requirements on certain high-use public beaches that are located adjacent to a storm drain that flows in the summer.

For beaches not covered under AB 411 regulations, CDPH imposes the same standards as contained in Title 17 and requires weekly sampling but allows the county health officer more discretion in making posting and closure decisions.

2. Shellfish* Harvesting Standards

a. At all areas where shellfish* may be harvested for human consumption, as determined by the Regional Board, the following bacterial objectives shall be maintained throughout the water column:

(1) The median total coliform density shall not exceed 70 per 100 mL, and not more than 10 percent of the samples shall exceed 230 per 100 mL.

C. Physical Characteristics

1. Floating particulates and grease and oil shall not be visible.
2. The discharge of waste* shall not cause aesthetically undesirable discoloration of the ocean* surface.
3. Natural light* shall not be significantly* reduced at any point outside the initial* dilution zone as the result of the discharge of waste.*
4. The rate of deposition of inert solids and the characteristics of inert solids in ocean* sediments shall not be changed such that benthic communities are degraded.*

* See Appendix I for definition of terms.

5. Trash* shall not be present in ocean waters, along shorelines or adjacent areas in amounts that adversely affect beneficial uses or cause nuisance.

D. Chemical Characteristics

1. The dissolved oxygen concentration shall not at any time be depressed more than 10 percent from that which occurs naturally, as the result of the discharge of oxygen demanding waste* materials.*
2. The pH shall not be changed at any time more than 0.2 units from that which occurs naturally.
3. The dissolved sulfide concentration of waters in and near sediments shall not be significantly* increased above that present under natural conditions.
4. The concentration of substances set forth in chapter II, Table 1, in marine sediments shall not be increased to levels which would degrade* indigenous biota.
5. The concentration of organic materials* in marine sediments shall not be increased to levels that would degrade* marine life.
6. Nutrient materials* shall not cause objectionable aquatic growths or degrade* indigenous biota.
7. Numerical Water Quality Objectives
 - a. Table 1 water quality objectives apply to all discharges within the jurisdiction of this Plan. Unless otherwise specified, all metal concentrations are expressed as total recoverable concentrations.
 - b. Table 1 Water Quality Objectives

* See Appendix I for definition of terms.

**TABLE 1 (formerly TABLE B)
WATER QUALITY OBJECTIVES**

	Units of Measurement	Limiting Concentrations		
		6-Month Median	Daily Maximum	Instantaneous Maximum
OBJECTIVES FOR PROTECTION OF MARINE AQUATIC LIFE				
Arsenic	µg/L	8.	32.	80.
Cadmium	µg/L	1.	4.	10.
Chromium (Hexavalent) (see below, a)	µg/L	2.	8.	20.
Copper	µg/L	3.	12.	30.
Lead	µg/L	2.	8.	20.
Mercury	µg/L	0.04	0.16	0.4
Nickel	µg/L	5.	20.	50.
Selenium	µg/L	15.	60.	150.
Silver	µg/L	0.7	2.8	7.
Zinc	µg/L	20.	80.	200.
Cyanide (see below, b)	µg/L	1.	4.	10.
Total Chlorine Residual (For intermittent chlorine sources see below, c)	µg/L	2.	8.	60.
Ammonia (expressed as nitrogen)	µg/L	600.	2400.	6000.
Acute* Toxicity	TUa	N/A	0.3	N/A
Chronic* Toxicity	TUc	N/A	1.	N/A
Phenolic Compounds (non-chlorinated)	µg/L	30.	120.	300.
Chlorinated Phenolics	µg/L	1.	4.	10.
Endosulfan*	µg/L	0.009	0.018	0.027
Endrin	µg/L	0.002	0.004	0.006
HCH*	µg/L	0.004	0.008	0.012
Radioactivity	Not to exceed limits specified in Title 17, Division 1, Chapter 5, Subchapter 4, Group 3, Article 3, section 30253 of the California Code of Regulations. Reference to section 30253 is prospective, including future changes to any incorporated provisions of federal law, as the changes take effect.			

* See Appendix I for definition of terms.

TABLE 1 (formerly TABLE B) Continued

<u>Chemical</u>	<u>30-day Average (µg/L)</u>	
	<u>Decimal Notation</u>	<u>Scientific Notation</u>
OBJECTIVES FOR PROTECTION OF HUMAN HEALTH – NONCARCINOGENS		
acrolein	220.	2.2×10^2
antimony	1,200.	1.2×10^3
bis(2-chloroethoxy) methane	4.4	4.4×10^0
bis(2-chloroisopropyl) ether	1,200.	1.2×10^3
chlorobenzene	570.	5.7×10^2
chromium (III)	190,000.	1.9×10^5
di-n-butyl phthalate	3,500.	3.5×10^3
dichlorobenzenes*	5,100.	5.1×10^3
diethyl phthalate	33,000.	3.3×10^4
dimethyl phthalate	820,000.	8.2×10^5
4,6-dinitro-2-methylphenol	220.	2.2×10^2
2,4-dinitrophenol	4.0	4.0×10^0
ethylbenzene	4,100.	4.1×10^3
fluoranthene	15.	1.5×10^1
hexachlorocyclopentadiene	58.	5.8×10^1
nitrobenzene	4.9	4.9×10^0
thallium	2.	$2. \times 10^0$
toluene	85,000.	8.5×10^4
tributyltin	0.0014	1.4×10^{-3}
1,1,1-trichloroethane	540,000.	5.4×10^5
OBJECTIVES FOR PROTECTION OF HUMAN HEALTH – CARCINOGENS		
acrylonitrile	0.10	1.0×10^{-1}
aldrin	0.000022	2.2×10^{-5}
benzene	5.9	5.9×10^0
benzidine	0.000069	6.9×10^{-5}
beryllium	0.033	3.3×10^{-2}
bis(2-chloroethyl) ether	0.045	4.5×10^{-2}
bis(2-ethylhexyl) phthalate	3.5	3.5×10^0
carbon tetrachloride	0.90	9.0×10^{-1}
chlordane*	0.000023	2.3×10^{-5}
chlorodibromomethane	8.6	8.6×10^0

* See Appendix I for definition of terms.

TABLE 1 (formerly TABLE B) Continued

<u>Chemical</u>	<u>30-day Average (µg/L)</u>	
	<u>Decimal Notation</u>	<u>Scientific Notation</u>
OBJECTIVES FOR PROTECTION OF HUMAN HEALTH – CARCINOGENS		
chloroform	130.	1.3×10^2
DDT*	0.00017	1.7×10^{-4}
1,4-dichlorobenzene	18.	1.8×10^1
3,3'-dichlorobenzidine	0.0081	8.1×10^{-3}
1,2-dichloroethane	28.	2.8×10^1
1,1-dichloroethylene	0.9	9×10^{-1}
dichlorobromomethane	6.2	6.2×10^0
dichloromethane	450.	4.5×10^2
1,3-dichloropropene	8.9	8.9×10^0
dieldrin	0.00004	4.0×10^{-5}
2,4-dinitrotoluene	2.6	2.6×10^0
1,2-diphenylhydrazine	0.16	1.6×10^{-1}
halomethanes*	130.	1.3×10^2
heptachlor	0.00005	5×10^{-5}
heptachlor epoxide	0.00002	2×10^{-5}
hexachlorobenzene	0.00021	2.1×10^{-4}
hexachlorobutadiene	14.	1.4×10^1
hexachloroethane	2.5	2.5×10^0
isophorone	730.	7.3×10^2
N-nitrosodimethylamine	7.3	7.3×10^0
N-nitrosodi-N-propylamine	0.38	3.8×10^{-1}
N-nitrosodiphenylamine	2.5	2.5×10^0
PAHs*	0.0088	8.8×10^{-3}
PCBs*	0.000019	1.9×10^{-5}
TCDD equivalents*	0.0000000039	3.9×10^{-9}
1,1,2,2-tetrachloroethane	2.3	2.3×10^0
tetrachloroethylene	2.0	2.0×10^0
toxaphene	0.00021	2.1×10^{-4}
trichloroethylene	27.	2.7×10^1
1,1,2-trichloroethane	9.4	9.4×10^0
2,4,6-trichlorophenol	0.29	2.9×10^{-1}
vinyl chloride	36.	3.6×10^1

* See Appendix I for definition of terms.

Table 1 Notes:

- a) Dischargers may at their option meet this objective as a total chromium objective.
- b) If a discharger can demonstrate to the satisfaction of the Regional Water Board (subject to EPA approval) that an analytical method is available to reliably distinguish between strongly and weakly complexed cyanide, effluent limitations for cyanide may be met by the combined measurement of free cyanide, simple alkali metal cyanides, and weakly complexed organometallic cyanide complexes. In order for the analytical method to be acceptable, the recovery of free cyanide from metal complexes must be comparable to that achieved by the approved method in 40 CFR PART 136, as revised May 14, 1999.
- c) Water quality objectives for total chlorine residual applying to intermittent discharges not exceeding two hours, shall be determined through the use of the following equation:

$$\log y = -0.43 (\log x) + 1.8$$

where: y = the water quality objective (in µg/L) to apply when chlorine is being discharged;
x = the duration of uninterrupted chlorine discharge in minutes.

E. Biological Characteristics

- 1. Marine communities, including vertebrate, invertebrate, algae, and plant species, shall not be degraded.*
- 2. The natural taste, odor, and color of fish, shellfish,* or other marine resources used for human consumption shall not be altered.
- 3. The concentration of organic materials* in fish, shellfish* or other marine resources used for human consumption shall not bioaccumulate to levels that are harmful to human health.

F. Radioactivity

- 1. Discharge of radioactive waste* shall not degrade* marine life.

* See Appendix I for definition of terms.

III. PROGRAM OF IMPLEMENTATION

A. General Provisions

1. Effective Date

- a. The *Water Quality Control Plan, Ocean Waters of California, California Ocean Plan* was adopted and has been effective since 1972. There have been multiple amendments of the Ocean Plan since its adoption.

2. General Requirements For Management Of Waste Discharge To The Ocean*

- a. Waste* management systems that discharge to the ocean* must be designed and operated in a manner that will maintain the indigenous marine life and a healthy and diverse marine community.
- b. Waste* discharged to the ocean* must be essentially free of:
 - (1) Material* that is floatable or will become floatable upon discharge.
 - (2) Settleable material* or substances that may form sediments which will degrade* benthic communities or other aquatic life.
 - (3) Substances which will accumulate to toxic levels in marine waters, sediments or biota.
 - (4) Substances that significantly* decrease the natural light* to benthic communities and other marine life.
 - (5) Materials* that result in aesthetically undesirable discoloration of the ocean* surface.
- c. Waste* effluents shall be discharged in a manner which provides sufficient initial* dilution to minimize the concentrations of substances not removed in the treatment.
- d. Location of waste* discharges must be determined after a detailed assessment of the oceanographic characteristics and current patterns to assure that:
 - (1) Pathogenic organisms and viruses are not present in areas where shellfish* are harvested for human consumption or in areas used for swimming or other body-contact sports.
 - (2) Natural water quality conditions are not altered in areas designated as being of special biological significance or areas that existing marine laboratories use as a source of seawater.*
 - (3) Maximum protection is provided to the marine environment.

* See Appendix I for definition of terms.

e. Waste* that contains pathogenic organisms or viruses should be discharged a sufficient distance from shellfishing* and water-contact sports areas to maintain applicable bacterial standards without disinfection. Where conditions are such that an adequate distance cannot be attained, reliable disinfection in conjunction with a reasonable separation of the discharge point from the area of use must be provided. Disinfection procedures that do not increase effluent toxicity and that constitute the least environmental and human hazard should be used.

3. Areas of Special Biological Significance*

a. ASBS* shall be designated by the State Water Board following the procedures provided in Appendix IV. A list of ASBS* is available in Appendix V.

4. Combined Sewer Overflow: Notwithstanding any other provisions in this plan, discharges from the City of San Francisco’s combined sewer system are subject to the US EPA’s Combined Sewer Overflow Policy.

B. Table 2 Effluent Limitations

**TABLE 2 (formerly TABLE A)
EFFLUENT LIMITATIONS**

		Limiting Concentrations		
	Unit of <u>Measurement</u>	<u>Monthly</u> (30-day Average)	<u>Weekly</u> (7-day Average)	<u>Maximum</u> <u>at any time</u>
Grease and Oil	mg/L	25.	40.	75.
Suspended Solids			See below +	
Settleable Solids	mL/L	1.0	1.5	3.0
Turbidity	NTU	75.	100.	225.
pH	Units		Within limit of 6.0 to 9.0 at all times	

Table 2 Notes:

+ Suspended Solids: Dischargers shall, as a 30-day average, remove 75% of suspended solids from the influent stream before discharging wastewaters to the ocean,* except that the effluent limitation to be met shall not be lower than 60 mg/l. Regional Boards may recommend that the State Water Board (chapter III section J), with the concurrence of the Environmental Protection Agency, adjust the lower effluent concentration limit (the 60 mg/l above) to suit the environmental and effluent characteristics of the discharge. As a further consideration in making such recommendation for adjustment, Regional Water Boards should evaluate effects on existing and potential water* reclamation projects.

If the lower effluent concentration limit is adjusted, the discharger shall remove 75% of suspended solids from the influent stream at any time the influent concentration exceeds four times such adjusted effluent limit.

1. Table 2 effluent limitations apply only to publicly owned treatment works and industrial discharges for which Effluent Limitations Guidelines have not been established pursuant to sections 301, 302, 304, or 306 of the Federal Clean Water Act.

* See Appendix I for definition of terms.

2. Table 2 effluent limitations shall apply to a discharger's total effluent, of whatever origin (i.e., gross, not net, discharge), except where otherwise specified in this Plan.
3. The State Water Board is authorized to administer and enforce effluent limitations established pursuant to the Federal Clean Water Act. Effluent limitations established under sections 301, 302, 306, 307, 316, 403, and 405 of the aforementioned Federal Act and administrative procedures pertaining thereto are included in this plan by reference. Compliance with Table 2 effluent limitations, or Environmental Protection Agency Effluent Limitations Guidelines for industrial discharges, based on Best Practicable Control Technology, shall be the minimum level* of treatment acceptable under this plan, and shall define reasonable treatment and waste* control technology.
4. Compliance with Table 2 effluent limitations for brine discharges from desalination facilities that commingle brine and wastewater prior to discharge to the ocean may be measured after the brine has been commingled with wastewater, provided that the permittee for the commingled discharge accepts responsibly for any exceedances of the Table 2 effluent limitations.

C. Implementation Provisions for Table 1

1. Effluent concentrations calculated from Table 1 water quality objectives shall apply to a discharger's total effluent, of whatever origin (i.e., gross, not net, discharge), except where otherwise specified in this Plan.
2. If the Regional Water Board determines, using the procedures in Appendix VI, that a pollutant is discharged into ocean* waters at levels which will cause, have the reasonable potential to cause, or contribute to an excursion above a Table 1 water quality objective, the Regional Water Board shall incorporate a water quality-based effluent limitation in the Waste Discharge Requirement for the discharge of that pollutant.
3. Effluent limitations shall be imposed in a manner prescribed by the State Water Board such that the concentrations set forth below as water quality objectives shall not be exceeded in the receiving water* upon completion of initial* dilution, except that objectives indicated for radioactivity shall apply directly to the undiluted waste* effluent.
4. Calculation of Effluent Limitations
 - a. Effluent limitations for water quality objectives listed in Table 1, with the exception of acute toxicity and radioactivity, shall be determined through the use of the following equation:

Equation 1: $C_e = C_o + D_m (C_o - C_s)$

where:

C_e = the effluent concentration limit, $\mu\text{g/L}$

C_o = the concentration (water quality objective) to be met at the completion of initial* dilution, $\mu\text{g/L}$

C_s = background seawater* concentration (see Table 3 below, with all metals expressed as total recoverable concentrations), $\mu\text{g/L}$

D_m = minimum probable initial* dilution expressed as parts seawater* per part wastewater.

* See Appendix I for definition of terms.

Waste Constituent	Cs (µg/L)
Arsenic	3.
Copper	2.
Mercury	0.0005
Silver	0.16
Zinc	8.

For all other Table 1 parameters, Cs = 0.

b. Determining a Mixing Zone for the Acute Toxicity* Objective

The mixing zone for the acute toxicity* objective shall be ten percent (10%) of the distance from the edge of the outfall structure to the edge of the chronic mixing zone (zone of initial dilution*). There is no vertical limitation on this zone. The effluent limitation for the acute toxicity* objective listed in Table 1 shall be determined through the use of the following equation:

Equation 2: $C_e = C_a + (0.1) D_m (C_a)$

where:

C_a = the concentration (water quality objective) to be met at the edge of the acute mixing zone.

D_m = minimum probable initial* dilution expressed as parts seawater* per part wastewater (This equation applies only when $D_m > 24$).

c. Toxicity Testing Requirements based on the Minimum Initial* Dilution Factor for Ocean Waste* Discharges

- (1) Dischargers shall conduct acute toxicity* testing if the minimum initial* dilution of the effluent is greater than 1,000:1 at the edge of the mixing zone.
- (2) Dischargers shall conduct either acute or chronic toxicity* testing if the minimum initial* dilution ranges from 350:1 to 1,000:1 depending on the specific discharge conditions. The Regional Water Board shall make this determination.
- (3) Dischargers shall conduct chronic toxicity* testing for ocean waste* discharges with minimum initial* dilution factors ranging from 100:1 to 350:1. The Regional Water Board may require that acute toxicity* testing be conducted in addition to chronic as necessary for the protection of beneficial uses of ocean* waters.
- (4) Dischargers shall conduct chronic toxicity* testing if the minimum initial* dilution of the effluent falls below 100:1 at the edge of the mixing zone.

* See Appendix I for definition of terms.

- d. For the purpose of this Plan, minimum initial* dilution is the lowest average initial* dilution within any single month of the year. Dilution estimates shall be based on observed waste* flow characteristics, observed receiving water* density structure, and the assumption that no currents, of sufficient strength to influence the initial* dilution process, flow across the discharge structure.
- e. The Executive Director of the State Water Board shall identify standard dilution models for use in determining Dm, and shall assist the Regional Board in evaluating Dm for specific waste* discharges. Dischargers may propose alternative methods of calculating Dm, and the Regional Board may accept such methods upon verification of its accuracy and applicability.
- f. The six-month median shall apply as a moving median of daily values for any 180-day period in which daily values represent flow weighted average concentrations within a 24-hour period. For intermittent discharges, the daily value shall be considered to equal zero for days on which no discharge occurred.
- g. The daily maximum shall apply to flow weighted 24 hour composite samples.
- h. The instantaneous maximum shall apply to grab sample determinations.
- i. If only one sample is collected during the time period associated with the water quality objective (e.g., 30-day average or 6-month median), the single measurement shall be used to determine compliance with the effluent limitation for the entire time period.
- j. Discharge requirements shall also specify effluent limitations in terms of mass emission rate limits utilizing the general formula:

$$\text{Equation 3: lbs/day} = 0.00834 \times C_e \times Q$$

where:

C_e = the effluent concentration limit, $\mu\text{g/L}$

Q = flow rate, million gallons per day (MGD)

- k. The six-month median limit on daily mass emissions shall be determined using the six-month median effluent concentration as C_e and the observed flow rate Q in millions of gallons per day. The daily maximum mass emission shall be determined using the daily maximum effluent concentration limit as C_e and the observed flow rate Q in millions of gallons per day.
- l. Any significant* change in waste* flow shall be cause for reevaluating effluent limitations.

5. Minimum* Levels

For each numeric effluent limitation, the Regional Board must select one or more Minimum* Levels (and their associated analytical methods) for inclusion in the permit. The "reported" Minimum* Level is the Minimum* Level (and its associated analytical

* See Appendix I for definition of terms.

method) chosen by the discharger for reporting and compliance determination from the Minimum* Levels included in their permit.

a. Selection of Minimum* Levels from Appendix II

The Regional Water Board must select all Minimum* Levels from Appendix II that are below the effluent limitation. If the effluent limitation is lower than all the Minimum* Levels in Appendix II, the Regional Board must select the lowest Minimum* Level from Appendix II.

b. Deviations from Minimum* Levels in Appendix II

The Regional Board, in consultation with the State Water Board's Quality Assurance Program, must establish a Minimum* Level to be included in the permit in any of the following situations:

1. A pollutant is not listed in Appendix II.
2. The discharger agrees to use a test method that is more sensitive than those described in 40 CFR 136 (revised May 14, 1999).
3. The discharger agrees to use a Minimum* Level lower than those listed in Appendix II.
4. The discharger demonstrates that their calibration standard matrix is sufficiently different from that used to establish the Minimum* Level in Appendix II and proposes an appropriate Minimum* Level for their matrix.
5. A discharger uses an analytical method having a quantification practice that is not consistent with the definition of Minimum* Level (e.g., US EPA methods 1613, 1624, 1625).

6. Use of Minimum* Levels

- a. Minimum* Levels in Appendix II represent the lowest quantifiable concentration in a sample based on the proper application of method-specific analytical procedures and the absence of matrix interferences. Minimum* Levels also represent the lowest standard concentration in the calibration curve for a specific analytical technique after the application of appropriate method-specific factors.

Common analytical practices may require different treatment of the sample relative to the calibration standard. Some examples are given below:

<u>Substance or Grouping</u>	<u>Method-Specific Treatment</u>	<u>Most Common Factor</u>
Volatile Organics	No differential treatment	1
Semi-Volatile Organics	Samples concentrated by extraction	1000
Metals	Samples diluted or concentrated	½, 2, and 4
Pesticides	Samples concentrated by extraction	100

- b. Other factors may be applied to the Minimum* Level depending on the specific sample preparation steps employed. For example, the treatment typically applied when there are matrix effects is to dilute the sample or sample aliquot by a factor of ten. In such cases, this additional factor must be applied during the

* See Appendix I for definition of terms.

computation of the reporting limit. Application of such factors will alter the reported Minimum* Level.

- c. Dischargers are to instruct their laboratories to establish calibration standards so that the Minimum* Level (or its equivalent if there is differential treatment of samples relative to calibration standards) is the lowest calibration standard. At no time is the discharger to use analytical data derived from *extrapolation* beyond the lowest point of the calibration curve. In accordance with section 4b, above, the discharger's laboratory may employ a calibration standard lower than the Minimum* Level in Appendix II.

7. Sample Reporting Protocols

- a. Dischargers must report with each sample result the reported Minimum* Level (selected in accordance with section 4, above) and the laboratory's current MDL.*
- b. Dischargers must also report the results of analytical determinations for the presence of chemical constituents in a sample using the following reporting protocols:
 - (1) Sample results greater than or equal to the reported Minimum* Level must be reported "as measured" by the laboratory (i.e., the measured chemical concentration in the sample).
 - (2) Sample results less than the reported Minimum* Level, but greater than or equal to the laboratory's MDL,* must be reported as "Detected, but Not Quantified", or DNQ. The laboratory must write the estimated chemical concentration of the sample next to DNQ as well as the words "Estimated Concentration" (may be shortened to "Est. Conc.").
 - (3) Sample results less than the laboratory's MDL* must be reported as "Not Detected", or ND.

8. Compliance Determination

Sufficient sampling and analysis shall be required to determine compliance with the effluent limitation.

a. Compliance with Single-Constituent Effluent Limitations

Dischargers are out of compliance with the effluent limitation if the concentration of the pollutant (see section 7c, below) in the monitoring sample is greater than the effluent limitation and greater than or equal to the reported Minimum* Level.

b. Compliance with Effluent Limitations expressed as a Sum of Several Constituents

Dischargers are out of compliance with an effluent limitation which applies to the sum of a group of chemicals (e.g., PCBs*) if the sum of the individual pollutant concentrations is greater than the effluent limitation. Individual pollutants of the group will be considered to have a concentration of zero if the constituent is reported as ND or DNQ.

* See Appendix I for definition of terms.

c. Multiple Sample Data Reduction

The concentration of the pollutant in the effluent may be estimated from the result of a single sample analysis or by a measure of central tendency (arithmetic mean, geometric mean, median, etc.) of multiple sample analyses when all sample results are quantifiable (i.e., greater than or equal to the reported Minimum* Level). When one or more sample results are reported as ND or DNQ, the central tendency concentration of the pollutant shall be the median (middle) value of the multiple samples. If, in an even number of samples, one or both of the middle values is ND or DNQ, the median will be the lower of the two middle values.

d. Powerplants and Heat Exchange Dischargers

Due to the large total volume of powerplant and other heat exchange discharges, special procedures must be applied for determining compliance with Table 1 objectives on a routine basis. Effluent concentration values (C_e) shall be determined through the use of equation 1 considering the minimal probable initial* dilution of the combined effluent (in-plant waste* streams plus cooling water flow). These concentration values shall then be converted to mass emission limitations as indicated in equation 3. The mass emission limits will then serve as requirements applied to all in-plant waste* streams taken together which discharge into the cooling water flow, except that limits for total chlorine residual, acute (if applicable per section (3)(c)) and chronic* toxicity* and instantaneous maximum concentrations in Table 1 shall apply to, and be measured in, the combined final effluent, as adjusted for dilution with ocean water. The Table 1 objective for radioactivity shall apply to the undiluted combined final effluent.

9. Pollutant Minimization Program

a. Pollutant Minimization Program Goal

The goal of the Pollutant Minimization Program is to reduce all potential sources of a pollutant through pollutant minimization (control) strategies, including pollution prevention measures, in order to maintain the effluent concentration at or below the effluent limitation.

Pollution prevention measures may be particularly appropriate for persistent bioaccumulative priority pollutants where there is evidence that beneficial uses are being impacted. The completion and implementation of a Pollution Prevention Plan, required in accordance with CA Water Code section 13263.3 (d) will fulfill the Pollution Minimization Program requirements in this section.

b. Determining the need for a Pollutant Minimization Program

1. The discharger must develop and conduct a Pollutant Minimization Program if all of the following conditions are true:
 - (a) The calculated effluent limitation is less than the reported Minimum Level*
 - (b) The concentration of the pollutant is reported as DNQ

* See Appendix I for definition of terms.

- (c) There is evidence showing that the pollutant is present in the effluent above the calculated effluent limitation.
- 2. Alternatively, the discharger must develop and conduct a Pollutant Minimization Program if all of the following conditions are true:
 - (a) The calculated effluent limitation is less than the Method Detection Limit.*
 - (b) The concentration of the pollutant is reported as ND.
 - (c) There is evidence showing that the pollutant is present in the effluent above the calculated effluent limitation.
- c. Regional Water Boards may include special provisions in the discharge requirements to require the gathering of evidence to determine whether the pollutant is present in the effluent at levels above the calculated effluent limitation. Examples of evidence may include:
 - 1. health advisories for fish consumption,
 - 2. presence of whole effluent toxicity,
 - 3. results of benthic or aquatic organism tissue sampling,
 - 4. sample results from analytical methods more sensitive than methods included in the permit (in accordance with section 4b, above).
 - 5. the concentration of the pollutant is reported as DNQ and the effluent limitation is less than the MDL*

d. Elements of a Pollutant Minimization Program

The Regional Board may consider cost-effectiveness when establishing the requirements of a Pollutant Minimization Program. The program shall include actions and submittals acceptable to the Regional Board including, but not limited to, the following:

- 1. An annual review and semi-annual monitoring of potential sources of the reportable pollutant, which may include fish tissue monitoring and other bio-uptake sampling;
- 2. Quarterly monitoring for the reportable pollutant in the influent to the wastewater treatment system;
- 3. Submittal of a control strategy designed to proceed toward the goal of maintaining concentrations of the reportable pollutant in the effluent at or below the calculated effluent limitation;
- 4. Implementation of appropriate cost-effective control measures for the pollutant, consistent with the control strategy; and,
- 5. An annual status report that shall be sent to the Regional Board including:
 - (a) All Pollutant Minimization Program monitoring results for the previous year;
 - (b) A list of potential sources of the reportable pollutant;
 - (c) A summary of all action taken in accordance with the control strategy; and,

* See Appendix I for definition of terms.

(d) A description of actions to be taken in the following year.

10. Toxicity Reduction Requirements

- a. If a discharge consistently exceeds an effluent limitation based on a toxicity objective in Table 1, a toxicity reduction evaluation (TRE) is required. The TRE shall include all reasonable steps to identify the source of toxicity. Once the source(s) of toxicity is identified, the discharger shall take all reasonable steps necessary to reduce toxicity to the required level.
- b. The following shall be incorporated into waste* discharge requirements: (1) a requirement to conduct a TRE if the discharge consistently exceeds its toxicity effluent limitation, and (2) a provision requiring a discharger to take all reasonable steps to reduce toxicity once the source of toxicity is identified.

D. Implementation Provisions for Bacterial Characteristics

1. Water-Contact Monitoring

- a. Weekly samples shall be collected from each site. The geometric mean shall be calculated using the five most recent sample results.
- b. If a single sample exceeds any of the single sample maximum (SSM) standards, repeat sampling at that location shall be conducted to determine the extent and persistence of the exceedance. Repeat sampling shall be conducted within 24 hours of receiving analytical results and continued until the sample result is less than the SSM standard or until a sanitary survey is conducted to determine the source of the high bacterial densities.
 - i) Total coliform density will not exceed 10,000 per 100 mL; or
 - ii) Fecal coliform density will not exceed 400 per 100 mL; or
 - iii) Total coliform density will not exceed 1,000 per 100 mL when the ratio of fecal/total coliform exceeds 0.1;
 - iv) enterococcus density will not exceed 104 per 100 mL.

When repeat sampling is required because of an exceedance of any one single sample density, values from all samples collected during that 30-day period will be used to calculate the geometric mean.

- c. It is state policy that the geometric mean bacterial objectives are strongly preferred for use in water body assessment decisions, for example, in developing the Clean Water Act section 303(d) list of impaired waters, because the geometric mean objectives are a more reliable measure of long-term water body conditions. In making assessment decisions on bacterial quality, single sample maximum data must be considered together with any available geometric mean data. The use of only single sample maximum bacterial data is generally inappropriate unless there is a limited data set, the water is subject to short-term spikes in bacterial concentrations, or other circumstances justify the use of only single sample maximum data.

* See Appendix I for definition of terms.

- d. For monitoring stations outside of the defined water-contact recreation zone (REC-1), samples will be analyzed for total coliform only.

E. Implementation Provisions for Marine Managed Areas*

1. Section E addresses the following Marine Managed Areas*:

(a) State Water Quality Protection Areas (SWQPAs)* consisting of:

(1) SWQPA – Areas of Special Biological Significance (ASBS)* designated by the State Water Board that require special protections as defined under section 4 below.

(2) SWQPA – General Protection (GP) designated by the State Water Board to protect water quality within Marine Protected Areas (MPAs) that require protection under the provisions described under section 5 below.

(b) Marine Protected Areas as defined in the California Public Resources Code as State Marine Reserves, State Marine Parks and State Marine Conservation Areas, established by the Fish and Game Commission, or the Parks and Recreation Commission.

2. The designation of State Marine Parks and State Marine Conservation Areas may not serve as the sole basis for new or modified limitations, substantive conditions, or prohibitions upon existing municipal point source wastewater discharge outfalls. This provision does not apply to State Marine Reserves.

3. The State Water Board may designate SWQPAs* to prevent the undesirable alteration of natural water quality within MPAs. These designations may include either SWQPA-ASBS or SWQPA-GP or in combination. In considering the designation of SWQPAs over MPAs, the State Water Board will consult with the affected Regional Water Quality Control Board, the Department of Fish and Game and the Department of Parks and Recreation, in accordance with the requirements of Appendix IV.

4. Implementation Provisions For SWQPA-ASBS*

(a) Waste* shall not be discharged to areas designated as being of special biological significance. Discharges shall be located a sufficient distance from such designated areas to assure maintenance of natural water quality conditions in these areas.

(b) Regional Water Boards may approve waste* discharge requirements or recommend certification for limited-term (i.e. weeks or months) activities in ASBS.* Limited-term activities include, but are not limited to, activities such as maintenance/repair of existing boat facilities, restoration of sea walls, repair of existing storm water pipes, and replacement/repair of existing bridges. Limited-term activities may result in temporary and short-term changes in existing water quality. Water quality degradation shall be limited to the shortest possible time. The activities must not permanently degrade* water quality or result in water quality

* See Appendix I for definition of terms.

lower than that necessary to protect existing uses, and all practical means of minimizing such degradation shall be implemented.

5. Implementation Provisions for SWQPAs-GP*

(a) Implementation provisions for existing point source wastewater discharges (NPDES)

- (1) An SWQPA-GP shall not be designated over existing permitted point source wastewater outfalls or encroach upon the zone of initial dilution* associated with an existing discharge. This requirement does not apply to discharges less than one million gallons per day.
- (2) Designation of an SWQPA-GP shall not include conditions to move existing point source wastewater outfalls.
- (3) Where a new SWQPA-GP is established in the vicinity of existing municipal wastewater outfalls, there shall be no new or modified limiting condition or prohibitions for the SWQPA-GP relative to those wastewater outfalls.
- (4) Regulatory requirements for discharges from existing treated municipal wastewater outfalls shall be derived from the Chapter II – Water Quality Objectives and Chapter III – Program of Implementation.

(b) Implementation provisions for existing seawater* intakes

- (1) Existing permitted seawater* intakes other than those serving desalination facilities* must be controlled to minimize entrainment and impingement by using best technology available. Existing permitted seawater* intakes with a capacity less than one million gallons per day are excluded from this requirement.
- (2) Existing permitted seawater* intakes serving desalination facilities are governed by the provisions set forth in chapter III.M of this Plan.

(c) Implementation provisions for permitted separate storm sewer system (MS4) discharges and nonpoint source discharges.

- (1) Existing waste* discharges are allowed, but shall not cause an undesirable alteration in natural water quality. For purposes of SWQPA-GP, an undesirable alteration in natural water quality means that for intermittent (e.g. wet weather) discharges, Table 1 instantaneous maximum concentrations for chemical constituents, and daily maximum concentrations for chronic toxicity,* must not be exceeded in the receiving water.*
- (2) An NPDES permitting authority* may authorize NPDES-permitted non-storm water discharges* to an MS4 with a direct discharge to an SWQPA-GP only to the extent the NPDES permitting authority* finds that the discharge does not cause an undesirable alteration in natural water quality in an SWQPA-GP.
- (3) Non-storm water (dry weather) flows are effectively prohibited as required by the applicable permit. Where capacity and infrastructure exists, all dry weather flows

* See Appendix I for definition of terms.

shall be diverted to municipal sanitary sewer systems. The permitting authority* may allow discharges essential for emergency response purposes, structural stability, and slope stability, which may include but are not limited the following:

- a. Discharges associated with emergency fire-fighting operations.
- b. Foundation and footing drains
- c. Water from crawl space or basement pumps.
- d. Hillside dewatering.

(4) The following naturally occurring discharges are allowed:

- a. Naturally occurring groundwater seepage via a storm drain
- b. Non-anthropogenic flows from a naturally occurring stream via a culvert or storm drain, as long as there are no contributions of anthropogenic runoff.

(5) Existing storm water discharges into an SWQPA-GP shall be characterized and assessed to determine what effect if any these inputs are having on natural water quality in the State Water Quality Protection Area. Such assessments shall include an evaluation of cumulative impacts as well as impacts stemming from individual discharges. Information to be considered shall include:

- a. Water quality;
- b. Flow;
- c. Watershed pollutant sources; and
- d. Intertidal and/ or subtidal biological surveys.

Within each SWQPA-GP the assessment shall be used to rank these existing discharges into low, medium and high threat impact categories. Cumulative impacts will be ranked similarly as well.

(6) An initial analysis shall be performed for pre- and post-storm receiving water* quality of Table 1 constituents and chronic toxicity.* If post-storm receiving water* quality has larger concentrations of constituents relative to pre-storm, and Table 1 instantaneous maximum concentrations for chemical constituents, and daily maximum concentrations for chronic toxicity,* are exceeded, then receiving water* shall be re-analyzed along with storm runoff (end of pipe) for the constituents that are exceeded.

(7) If undesirable alterations of natural water quality and/or biological communities are identified, control strategies/measures shall be implemented for those dischargers characterized as a high threat or those contributing to higher threat cumulative impacts first.

(8) If those strategies fail, additional control strategies/measures will be implemented for dischargers characterized as medium impact dischargers. If these strategies do not result in improvement of water quality, those discharges classified as low threat shall also implement control strategies/measures.

(d) Implementation Provisions for New Discharges

* See Appendix I for definition of terms.

- (1) Point Source Wastewater Outfalls
No new point source wastewater outfalls shall be established within an SWQPA-GP.
- (2) Seawater* intakes
No new surface water seawater* intakes shall be established within an SWQPA-GP. This does not apply to subsurface* intakes where studies are prepared showing there is no predictable entrainment, impingement, or construction-related marine life mortality.
- (3) All Other New Discharges
There shall be no increase in nonpoint sources or permitted storm drains directly into an SWQPA-GP.

6. Impaired Tributaries to MPAs, SWQPA-ASBS and SWQPA-GP

All water bodies draining to, or that are designated as, MPAs and SWQPAs that appear on the State's CWA section 303(d) list shall be given a high priority to have a TMDL developed and implemented.

F. Revision of Waste* Discharge Requirements

1. The Regional Water Boards may establish more restrictive water quality objectives and effluent limitations than those set forth in this Plan as necessary for the protection of beneficial uses of ocean* waters.
2. Regional Water Boards may impose alternative less restrictive provisions than those contained within Table 1 of the Plan, provided an applicant can demonstrate that:
 - a. Reasonable control technologies (including source control, material* substitution, treatment and dispersion) will not provide for complete compliance; or
 - b. Any less stringent provisions would encourage water* reclamation;
3. Provided further that:
 - a. Any alternative water quality objectives shall be below the conservative estimate of chronic toxicity,* as given in Table 4 (with all metal concentrations expressed as total recoverable concentrations), and such alternative will provide for adequate protection of the marine environment;
 - b. A receiving water* quality toxicity objective of 1 TUc is not exceeded; and
 - c. The State Water Board grants an exception (chapter III.J) to the Table 1 limits as established in the Regional Board findings and alternative limits.

G. Compliance Schedules in National Pollutant Discharge Elimination System (NPDES) Permits

1. Compliance schedules in NPDES permits are authorized in accordance with the provisions of the State Water Board's Policy for Compliance Schedules in [NPDES] Permits (2008).

* See Appendix I for definition of terms.

**TABLE 4 (formerly TABLE D)
CONSERVATIVE ESTIMATES OF CHRONIC* TOXICITY**

Constituent	Estimate of Chronic* Toxicity (µg/L)
Arsenic	19.
Cadmium	8.
Hexavalent Chromium	18.
Copper	5.
Lead	22.
Mercury	0.4
Nickel	48.
Silver	3.
Zinc	51.
Cyanide	10.
Total Chlorine Residual	10.0
Ammonia	4000.0
Phenolic Compounds (non-chlorinated)	a) (see below)
Chlorinated Phenolics	a)
Chlorinated Pesticides and PCBs*	b)

Table 4 Notes:

- a) There are insufficient data for phenolics to estimate chronic* toxicity levels. Requests for modification of water quality objectives for these waste* constituents must be supported by chronic* toxicity data for representative sensitive species. In such cases, applicants seeking modification of water quality objectives should consult the Regional Water Quality Control Board to determine the species and test conditions necessary to evaluate chronic effects.
- b) Limitations on chlorinated pesticides and PCBs* shall not be modified so that the total of these compounds is increased above the objectives in Table 1.

H. Monitoring Program

1. The Regional Water Boards shall require dischargers to conduct self-monitoring programs and submit reports necessary to determine compliance with the waste* discharge requirements, and may require dischargers to contract with agencies or persons acceptable to the Regional Water Board to provide monitoring reports. Monitoring provisions contained in waste* discharge requirements shall be in accordance with the Monitoring Procedures provided in Appendices III and VI.
2. The Regional Water Board may require monitoring of bioaccumulation of toxicants in the discharge zone. Organisms and techniques for such monitoring shall be chosen by the Regional Water Board on the basis of demonstrated value in waste* discharge monitoring.

* See Appendix I for definition of terms.

I. Discharge Prohibitions

1. Hazardous Substances

- a. The discharge of any radiological, chemical, or biological warfare agent or high-level radioactive waste* into the ocean* is prohibited.

2. Areas Designated for Special Water Quality Protection

- a. Waste* shall not be discharged to designated Areas* of Special Biological Significance except as provided in chapter III.E Implementation Provisions for Marine Managed Areas.*

3. Sludge

- a. Pipeline discharge of sludge to the ocean* is prohibited by federal law; the discharge of municipal and industrial waste* sludge directly to the ocean,* or into a waste* stream that discharges to the ocean,* is prohibited by this Plan. The discharge of sludge digester supernatant directly to the ocean,* or to a waste* stream that discharges to the ocean* without further treatment, is prohibited.
- b. It is the policy of the State Water Board that the treatment, use and disposal of sewage sludge shall be carried out in the manner found to have the least adverse impact on the total natural and human environment. Therefore, if federal law is amended to permit such discharge, which could affect California waters, the State Water Board may consider requests for exceptions to this section under Chapter III. J of this Plan, provided further that an Environmental Impact Report on the proposed project shows clearly that any available alternative disposal method will have a greater adverse environmental impact than the proposed project.

4. By-Passing

- a. The by-passing of untreated wastes* containing concentrations of pollutants in excess of those of Table 2 or Table 1 to the ocean* is prohibited.

5. Vessels

- a. Discharges of hazardous waste (as defined in California Health and Safety Code § 25117 et seq. [but not including sewage]), oily bilge water,* medical waste (as defined in § 117600 et seq. of the California Health and Safety Code) dry-cleaning waste, and film-processing waste from large passenger vessels* and oceangoing vessels* are prohibited.
- b. Discharges of graywater* and sewage* from large passenger vessels* are prohibited.
- c. Discharges of sewage and sewage sludge from vessels are prohibited in No Discharge Zones* promulgated by U.S. EPA.

* See Appendix I for definition of terms.

6. Trash*

The discharge of Trash* to surface waters of the State or the deposition of Trash* where it may be discharged into surface waters of the State is prohibited. Compliance with this prohibition of discharge shall be achieved as follows:

- a. Dischargers with NPDES permits that contain specific requirements for the control of Trash* that are consistent with these Trash Provisions* shall be determined to be in compliance with this prohibition if the dischargers are in full compliance with such requirements.
- b. Dischargers with non-NPDES waste discharge requirements (WDRs) or waivers of WDRs that contain specific requirements for the control of Trash* shall be determined to be in compliance with this prohibition if the dischargers are in full compliance with such requirements.
- c. Dischargers with NPDES permits, WDRs, or waivers of WDRs that do not contain specific requirements for the control of Trash* are exempt from these Trash Provisions*.
- d. Dischargers without NPDES permits, WDRs, or waivers of WDRs must comply with this prohibition of discharge.
- e. Chapter III.I.6.b and Chapter III.L.3 notwithstanding, this prohibition of discharge applies to the discharge of preproduction plastic* by manufacturers of preproduction plastics*, transporters of preproduction plastics*, and manufacturers that use preproduction plastics* in the manufacture of other products to surface waters of the State, or the deposition of preproduction plastic* where it may be discharged into surface waters of the State, unless the discharger is subject to a NPDES permit for discharges of storm water* associated with industrial activity.

J. State Board Exceptions to Plan Requirements

1. The State Water Board may, in compliance with the California Environmental Quality Act, subsequent to a public hearing, and with the concurrence of the Environmental Protection Agency, grant exceptions where the Board determines:
 - a. The exception will not compromise protection of ocean* waters for beneficial uses, and,
 - b. The public interest will be served.
2. All exceptions issued by the State Water Board and in effect at the time of the Triennial Review will be reviewed at that time. If there is sufficient cause to re-open or revoke any exception, the State Water Board may direct staff to prepare a report and to schedule a public hearing. If after the public hearing the State Water Board decides to re-open, revoke, or re-issue a particular exception, it may do so at that time.

* See Appendix I for definition of terms.

K. Implementation Provisions for Vessel Discharges

1. Vessel discharges must comply with State Lands Commission (SLC) requirements for ballast water discharges and hull fouling to control and prevent the introduction of non-indigenous species, found in the Public Resources Code sections 71200 et seq. and title 2, California Code of Regulations, section 22700 et. seq.
2. Discharges incidental to the normal operation large passenger vessels* and ocean-going vessels must be covered and comply with an individual or general NPDES permit.
3. Vessel discharges must not result in violations of water quality objectives in this plan.
4. Vessels subject to the federal NPDES Vessel General Permit (VGP) which are not large passenger vessels* must follow the best management practices for graywater* as required in the VGP, including the use of only those cleaning agents (e.g., soaps and detergents) that are phosphate-free, non-toxic, and non-bioaccumulative.

L. Implementation Provisions for Trash* [(Section L only) effective January 12, 2016]

1. Applicability

- a. These Trash Provisions* shall be implemented through a prohibition of discharge (Chapter III.I.6) and through NPDES permits issued pursuant to section 402(p) of the Federal Clean Water Act, waste discharge requirements (WDRs), or waivers of WDRs (as set forth in Chapter III.L.2 and Chapter III.L.3 below).
- b. These Trash Provisions* apply to all surface waters of the State, with the exception of those waters within the jurisdiction of the Los Angeles Regional Water Quality Control Board (Los Angeles Water Board) for which trash Total Maximum Daily Loads (TMDLs) are in effect prior to the effective date of these Trash Provisions*¹; provided, however, that:
 - (1) Upon the effective date of these Trash Provisions*, the Los Angeles Water Board shall cease its full capture system* certification process and provide that any new full capture systems* shall be certified by the State Water Board in accordance with these Trash Provisions*.
 - (2) Within one year of the effective date of these Trash Provisions*, the Los Angeles Water Board shall convene a public meeting to reconsider the scope of its trash TMDLs, with the exception of those for the Los Angeles River and Ballona Creek watersheds, to particularly consider an approach

¹ In the Los Angeles Region, there are fifteen (15) trash TMDLs for the following watersheds and water bodies: Los Angeles River Watershed, Ballona Creek, Malibu Creek Watershed, Santa Monica Bay Nearshore and Offshore, San Gabriel River East Fork, Revolon Slough and Beardsley Wash, Ventura River Estuary, Machado Lake, Lake Elizabeth, Lake Hughes, Munz Lake, Peck Road Park Lake, Echo Park Lake, Lincoln Park Lake and Legg Lake. Three of these were established by the U.S. EPA: Peck Road Park Lake, Echo Park Lake and Lincoln Park Lake.

* See Appendix I for definition of terms.

that would focus MS4* permittees' trash-control efforts on high-trash generation areas within their jurisdictions.

2. Dischargers Permitted Pursuant to Federal Clean Water Act Section 402(p)

Permitting authorities* shall include the following requirements in NPDES permits issued pursuant to Federal Clean Water Act section 402(p):

- a. MS4* permittees with regulatory authority over priority land uses* shall be required to comply with the prohibition of discharge in Chapter III.I.6.a herein by either of the following measures:
 - (1) Track 1: Install, operate, and maintain full capture systems* for all storm drains that captures runoff from the priority land uses* in their jurisdictions; or
 - (2) Track 2: Install, operate, and maintain any combination of full capture systems*, multi-benefit projects*, other treatment controls*, and/or institutional controls* within either the jurisdiction of the MS4* permittee or within the jurisdiction of the MS4* permittee and contiguous MS4* permittees. The MS4* permittee may determine the locations or land uses within its jurisdiction to implement any combination of controls. The MS4* permittee shall demonstrate that such combination achieves full capture system equivalency*. The MS4* permittee may determine which controls to implement to achieve compliance with full capture system equivalency*. It is, however, the State Water Board's expectation that the MS4* permittee will elect to install full capture systems* where such installation is not cost-prohibitive.
- b. The California Department of Transportation (Department) shall be required to comply with the prohibition of discharge in Chapter III.I.6.a herein in all significant trash generating areas* by installing, operating, and maintaining any combination of full capture systems*, multi-benefit projects*, other treatment controls*, and/or institutional controls* for all storm drains that captures runoff from significant trash generating areas*. The Department shall demonstrate that such combination achieves full capture system equivalency*. In furtherance of this provision, the Department and MS4* permittees that are subject to the provisions of Chapter III.L.2.a herein shall coordinate their efforts to install, operate, and maintain full capture systems*, multi-benefit projects*, other treatment controls*, and/or institutional controls* in significant trash generating areas* and/or priority land uses*.
- c. Dischargers that are subject to NPDES permits for discharges of storm water* associated with industrial activity (including construction activity) shall be required to comply with the prohibition of discharge in Chapter III.I.6.a herein by eliminating Trash* from all storm water* and authorized non-storm water* discharges consistent with an outright prohibition of the discharge of Trash* contained within the applicable NPDES permit regulating the industrial or construction facility. If the discharger can satisfactorily demonstrate to the permitting authority* its inability to comply with the outright prohibition of the

* See Appendix I for definition of terms.

discharge of Trash* contained within the applicable NPDES permit, then the permitting authority* may require the discharger to either:

- (1) Install, operate, and maintain full capture systems* for all storm drains that captures runoff from the facility or site regulated by the NPDES permit; or,
- (2) Install, operate, and maintain any combination of full capture systems*, multi-benefit projects*, other treatment controls*, and/or institutional controls* for the facility or site regulated by the NPDES permit. The discharger shall demonstrate that such combination achieves full capture system equivalency*.

Termination of permit coverage for industrial and construction storm water* dischargers shall be conditioned upon the proper operation and maintenance of all controls (e.g., full capture systems*, multi-benefit projects*, other treatment controls*, and/or institutional controls*) used at their facility(ies).

- d. A permitting authority* may determine that specific land uses or locations (e.g., parks, stadia, schools, campuses, or roads leading to landfills) generate substantial amounts of Trash*. In the event that the permitting authority* makes that determination, the permitting authority* may require the MS4* to comply with Chapter III.L.2.a.1 or Chapter III.L.2.a.2, as determined by the permitting authority*, with respect to such land uses or locations.

3. Other Dischargers

A permitting authority* may require dischargers, described in Chapter III.I.6.c or Chapter III.I.6.d, that are not subject to Chapter III.L.2 herein, to implement any appropriate Trash* controls in areas or facilities that may generate Trash*. Such areas or facilities may include (but are not limited to) high usage campgrounds, picnic areas, beach recreation areas, parks not subject to an MS4* permit, or marinas.

4. Time Schedule

The permitting authority* shall modify, re-issue, or newly adopt NPDES permits issued pursuant to section 402(p) of the Federal Clean Water Act that are subject to the provisions of Chapter III.L.2 herein to include requirements consistent with these Trash Provisions*. The permitting authorities* shall abide by the following time schedules:

- a. NPDES Permits Regulating MS4* Permittees that have Regulatory Authority over Priority Land Uses*.²

² The time schedule requirement in Chapter III.L.4.a.1 requiring MS4* permittees to elect Chapter III.L.2.a.1 (Track 1) or Chapter III.L.2.a.2 (Track 2) does not apply to MS4* permittees subject to the Municipal Regional Stormwater NPDES Permit (MRP) issued by the San Francisco Bay Regional Water Quality Control Board (San Francisco Bay Water Board) or the East Contra Costa Municipal Storm Water Permit issued by the Central Valley Regional Water Quality Control Board (Central Valley Water Board) because those permits already require control requirements substantially equivalent to Track 2. The time schedule requirement in Chapter III.L.4.a.1 requiring MS4* permittees to submit an implementation plan

* See Appendix I for definition of terms.

- (1) Within eighteen (18) months of the effective date of these Trash Provisions*, for each permittee, each permitting authority* shall either:
 - A. Modify, re-issue, or adopt the applicable MS4* permit to add requirements to implement these Trash Provisions*. The implementing permit shall require written notice from each MS4* permittee stating whether it has elected to comply under Chapter III.L.2.a.1 (Track 1) or Chapter III.L.2.a.2 (Track 2) and such notice shall be submitted to the permitting authority* no later than three (3) months from the effective date of the implementing permit, or for MS4s* designated after the effective date of these Trash Provisions*, three (3) months from the effective date of that designation. The implementing permit shall also require that within eighteen (18) months of the effective date of the implementing permit or new designation, MS4* permittees that have elected to comply with Track 2 shall submit an implementation plan to the permitting authority*. The implementation plan shall describe: (i) the combination of controls selected by the MS4* permittee and the rationale for the selection, (ii) how the combination of controls is designed to achieve full capture system equivalency*, and (iii) how full capture system equivalency* will be demonstrated. The implementation plan is subject to approval by the permitting authority*.
 - B. Issue an order pursuant to Water Code section 13267 or 13383 requiring the MS4* permittee to submit, within three (3) months from receipt of the order, written notice to the permitting authority* stating whether such MS4* permittee will comply with the prohibition of discharge under Chapter III.L.2.a.1 (Track 1) or Chapter III.L.2.a.2 (Track 2). For MS4s* designated after the effective date of these Trash Provisions*, the order pursuant to Water Code section 13267 or 13383 shall be issued at the time of designation. Within eighteen (18) months of the receipt of the Water Code section 13267 or 13383 order, MS4* permittees that have elected to comply with Track 2 shall submit an implementation plan to the permitting authority* that describes: (i) the combination of controls selected by the MS4* permittee and the rationale for the selection, (ii) how the combination of controls is designed to achieve full capture system equivalency*, and (iii) how full capture system equivalency* will be demonstrated. The implementation plan is subject to approval by the permitting authority*.
- (2) For MS4* permittees that elect to comply with Chapter III.L.2.a.1 (Track1), the implementing permit shall state that full compliance shall occur within

does not apply to the above permittees if the pertinent permitting authority* determines that such permittee has already submitted an implementation plan prior to the effective date of the Trash Provisions* that is equivalent to the implementation plan required by Chapter III.L.4.a.1. In the aforementioned permits, the pertinent permitting authority* may establish an earlier full compliance deadline than that specified in Chapter III.L.4.a.3.

* See Appendix I for definition of terms.

ten (10) years of the effective date of the first implementing permit except as specified in Chapter III.L.4.a.5. The permit shall also require these permittees to demonstrate achievement of interim milestones such as average load reductions of ten percent (10%) per year or other progress to full implementation. In no case may the final compliance date be later than fifteen (15) years from the effective date of these Trash Provisions*.

- (3) For MS4* permittees that elect to comply with Chapter III.L.2.a.2 (Track 2), the implementing permit shall state that full compliance shall occur within ten (10) years of the effective date of the first implementing permit except as specified in Chapter III.L.4.a.5. The permit shall also require these permittees to demonstrate achievement of interim milestones such as average load reductions of ten percent (10%) per year or other progress to full implementation. In no case may the final compliance date be later than fifteen (15) years from the effective date of these Trash Provisions*.
- (4) The implementing permit shall state that for MS4* permittees designated after the effective date of the implementing permit, full compliance shall occur within ten (10) years of the effective date of the designation. The permit shall also require such designations to demonstrate achievement of interim milestones such as average load reductions of ten percent (10%) per year or other progress to full implementation.
- (5) Where a permitting authority* makes a determination pursuant to Chapter III.L.2.d that a specific land use generates a substantial amount of Trash*, that permitting authority* has discretion to determine the time schedule for full compliance. In no case may the final compliance date be later than ten (10) years from the determination.

b. NPDES Permits Regulating the Department.

- (1) Within eighteen (18) months of the effective date of these Trash Provisions*, the State Water Board shall issue an order pursuant to Water Code section 13267 or 13383 requiring the Department to submit an implementation plan to the Executive Director of the State Water Board that: (i) describes the specific locations of its significant trash generating areas*, (ii) the combination of controls selected by the Department and the rationale for the selections, and (iii) how it will demonstrate full capture system equivalency*.
- (2) The Department must demonstrate full compliance with Chapter III.L.2.b herein within ten (10) years of the effective date of the first implementing NPDES permit, along with achievements of interim milestones such as average load reductions of ten percent (10%) per year. In no case may the final compliance date be later than fifteen (15) years from the effective date of these Trash Provisions*.

c. NPDES Permits Regulating the Discharges of Storm Water* Associated with Industrial Activity (Including Construction Activity). Dischargers that are subject

* See Appendix I for definition of terms.

to the provisions of Chapter III.L.2.c herein must demonstrate full compliance in accordance with the deadlines contained in the first implementing NPDES permits. Such deadlines may not exceed the terms of the first implementing permits.

5. Monitoring and Reporting

The permitting authority* must include monitoring and reporting requirements in its implementing permits. The following monitoring and reporting provisions are the minimum requirements that must be included within the implementing permits:

- a. MS4* permittees that elect to comply with Chapter III.L.2.a.1 (Track 1) shall provide a report to the applicable permitting authority* demonstrating installation, operation, maintenance, and the Geographic Information System- (GIS-) mapped location and drainage area served by its full capture systems* on an annual basis.
- b. MS4* permittees that elect to comply with Chapter III.L.2.b.2 (Track 2) shall develop and implement monitoring plans that demonstrate the effectiveness of the full capture systems*, multi-benefit projects*, other treatment controls*, and/or institutional controls* and compliance with full capture system equivalency*. Monitoring reports shall be provided to the applicable permitting authority* on an annual basis, and shall include GIS-mapped locations and drainage area served for each of the full capture systems*, multi-benefit projects*, other treatment controls*, and/or institutional controls* installed or utilized by the MS4* permittee. In developing the monitoring reports the MS4* permittee should consider the following questions:
 - (1) What type of and how many treatment controls*, institutional controls*, and/or multi-benefit projects* have been used and in what locations?
 - (2) How many full capture systems* have been installed (if any), in what locations have they been installed, and what is the individual and cumulative area served by them?
 - (3) What is the effectiveness of the total combination of treatment controls*, institutional controls*, and multi-benefit projects* employed by the MS4* permittee?
 - (4) Has the amount of Trash* discharged from the MS4* decreased from the previous year? If so, by how much? If not, explain why.
 - (5) Has the amount of Trash* in the MS4's* receiving water(s) decreased from the previous year? If so, by how much? If not, explain why.
- c. The Department, as subject to the provisions of Chapter III.L.2.b, shall develop and implement monitoring plans that demonstrate the effectiveness of the controls and compliance with full capture system equivalency*. Monitoring reports shall be provided to the State Water Board on an annual basis, and shall include GIS-mapped locations and drainage area served for each of the full

* See Appendix I for definition of terms.

capture systems*, multi-benefit projects*, other treatment controls*, and/or institutional controls* installed or utilized by the Department. In developing the monitoring report, the Department should consider the following questions:

- (1) What type of and how many treatment controls* institutional controls*, and/or multi-benefit projects* have been used and in what locations?
- (2) How many full capture systems* have been installed (if any), in what locations have they been installed, and what is the individual and cumulative area served by them?
- (3) What is the effectiveness of the total combination of treatment controls*, institutional controls*, and multi-benefit projects* employed by the Department?
- (4) Has the amount of Trash* discharged from the Department's MS4* decreased from the previous year? If so, by how much? If not, explain why.
- (5) Has the amount of Trash* in the receiving waters decreased from the previous year? If so, by how much? If not, explain why.

- d. Dischargers that are subject to the provisions of Chapter III.L.2.c herein shall be required to report the measures used to comply with Chapter III.L.2.c.

M. Implementation Provisions for Desalination Facilities*

1. Applicability and General Provisions

- a. Chapter III.M applies to desalination facilities* using seawater.* Chapter III.M.2 does not apply to desalination facilities* operated by a federal agency. Chapter III.M.2, M.3, and M.4 do not apply to portable desalination facilities* that withdraw less than 0.10 million gallons per day (MGD) of seawater* and are operated by a governmental agency. These standards do not alter or limit in any way the authority of any public agency to implement its statutory obligations. The Executive Director of the State Water Board may temporarily waive the application of chapter III.M to desalination facilities* that are operating to serve as a critical short-term water supply during a state of emergency as declared by the Governor.

b. Definitions of New, Expanded, and Existing Facilities:

- (1) For purposes of chapter III.M, "existing facilities" means desalination facilities* that have been issued an NPDES permit and all building permits and other governmental approvals necessary to commence construction for which the owner or operator has relied in good faith on those previously-issued permits and approvals and commenced construction of the facility beyond site grading prior to January 28, 2016.

* See Appendix I for definition of terms.

(2) For purposes of chapter III.M, “expanded facilities” means existing facilities for which, after January 28, 2016, the owner or operator does either of the following in a manner that could increase intake or mortality of all forms of marine life * beyond that which was originally approved in any NPDES permit or Water Code section 13142.5, subdivision (b) (hereafter Water Code section 13142.5(b)) determination: 1) increases the amount of seawater* used either exclusively by the facility or used by the facility in conjunction with other facilities or uses, or 2) changes the design or operation of the facility. To the extent that the desalination facility* is co-located with another facility that withdraws water for a different purpose and that other facility reduces the volume of water withdrawn to a level less than the desalination facility’s* volume of water withdrawn, the desalination facility* is considered to be an expanded facility.

(3) For purposes of chapter III.M, “new facilities” means desalination facilities* that are not existing facilities or expanded facilities.

- c. Chapter III.M.2 (Water Code §13142.5(b) Determinations for New and Expanded Facilities: Site, Design, Technology, and Mitigation Measures) applies to new and expanded desalination facilities* withdrawing seawater.*
- d. Chapter III.M.3 (Receiving Water Limitation for Salinity*) applies to all desalination facilities* that discharge into ocean waters* and wastewater facilities that receive brine* from seawater* desalination facilities* and discharge into ocean waters.*
- e. Chapter III.M.4 (Monitoring and Reporting Programs) applies to all desalination facilities* that discharge into ocean waters.* Chapter III.M.4 shall not apply to a wastewater facility that receives brine* from a seawater* desalination facility* and discharges a positively buoyant commingled effluent through an existing wastewater outfall that is covered under an existing NPDES permit, as long as the owner or operator monitors for compliance with the receiving water limitation set forth in chapter III.M.3. For the purposes of chapter III.M.4, a positively buoyant commingled effluent shall mean that the commingled plume rises when it enters the receiving water body due to salinity* levels in the commingled discharge being lower than the natural background salinity.*
- f. References to the regional water board include the regional water board acting under delegated authority. For provisions that require consultation between regional water board and State Water Board staff, the regional water board shall notify and consult with the State Water Board staff prior to making a final determination on the item requiring consultation.
- g. All desalination facilities must comply with all other applicable sections of the Ocean Plan.

2. Water Code section 13142.5(b) Determinations for New and Expanded Facilities: Site, Design, Technology, and Mitigation Measures Feasibility Considerations

* See Appendix I for definition of terms.

a. General Considerations

- (1) The owner or operator shall submit a request for a Water Code section 13142.5(b) determination to the appropriate regional water board as early as practicable. This request shall include sufficient information for the regional water board to conduct the analyses described below. The regional water board in consultation with the State Water Board staff may require an owner or operator to provide additional studies or information if needed, including any information necessary to identify and assess other potential sources of mortality to all forms of marine life. All studies and models are subject to the approval of the regional water board in consultation with State Water Board staff. The regional water board may require an owner or operator to hire a neutral third party entity to review studies and models and make recommendations to the regional water board.
- (2) The regional water board shall conduct a Water Code section 13142.5(b) analysis of all new and expanded desalination facilities.* A Water Code section 13142.5(b) analysis may include future expansions at the facility. The regional water board shall first analyze separately as independent considerations a range of feasible* alternatives for the best available site, the best available design, the best available technology, and the best available mitigation measures to minimize intake and mortality of all forms of marine life.* Then, the regional water board shall consider all four factors collectively and determine the best combination of feasible* alternatives to minimize intake and mortality of all forms of marine life.* The best combination of alternatives may not always include the best alternative under each individual factor because some alternatives may be mutually exclusive, redundant, or not feasible* in combination.
- (3) The regional water board's Water Code section 13142.5(b) analysis for expanded facilities may be limited to those expansions or other changes that result in the increased intake or mortality of all forms of marine life,* unless the regional water board determines that additional measures that minimize intake and mortality of all forms of marine life* are feasible* for the existing portions of the facility.
- (4) In conducting the Water Code section 13142.5(b) determination, the regional water boards shall consult with other state agencies involved in the permitting of that facility, including, but not limited to: California Coastal Commission, California State Lands Commission, and California Department of Fish and Wildlife. The regional water board shall consider project-specific decisions made by other state agencies; however, the regional water board is not limited to project-specific requirements set forth by other agencies and may include additional requirements in a Water Code section 13142.5(b) determination.

* See Appendix I for definition of terms.

- (5) A regional water board may expressly condition a Water Code section 13142.5(b) determination based on the expectation of the occurrence of a future event. Such future events may include, but are not limited to, the permanent shutdown of a co-located power plant with intake structures shared with the desalination facility,* or a reduction in the volume of wastewater available for the dilution of brine.* The regional water board must make a new Water Code section 13142.5(b) determination if the foreseeable future event occurs.
- (a) The owner or operator shall provide notice to the regional water board as soon as it becomes aware that the expected future event will occur, and shall submit a new request for a Water Code section 13142.5(b) determination to the regional water board at least one year prior to the event occurring. If the owner or operator does not become aware that the event will occur at least one year prior to the event occurring, the owner or operator shall submit the request as soon as possible.
 - (b) The regional water board may allow up to five years from the date of the event for the owner or operator to make modifications to the facility required by a new Water Code section 13142.5(b) determination, provided that the regional water board finds that 1) any water supply interruption resulting from the facility modifications requires additional time for water users to obtain a temporary replacement supply, or 2) such a compliance period is otherwise in the public interest and reasonably required for modification of the facility to comply with the determination.
 - (c) If the regional water board makes a Water Code section 13142.5(b) determination for a desalination facility* that will be co-located with a power plant, the regional water board shall condition its determination on the power plant remaining in compliance with the Water Quality Control Policy on the Use of Coastal and Estuarine Waters for Power Plant Cooling.
- b. Site is the general onshore and offshore location of a new or expanded facility. There may be multiple potential facility design configurations within any given site. The regional water board shall require that the owner or operator evaluate a reasonable range of nearby sites, including sites that would likely support subsurface intakes. For each potential site, in order to determine whether a proposed facility site is the best available site feasible* to minimize intake and mortality of all forms of marine life,* the regional water board shall require the owner or operator to:
- (1) Consider whether subsurface intakes* are feasible.*
 - (2) Consider whether the identified need for desalinated* water is consistent with an applicable adopted urban water management plan

* See Appendix I for definition of terms.

prepared in accordance with Water Code section 10631, or if no urban water management plan is available, other water planning documents such as a county general plan or integrated regional water management plan.

- (3) Analyze the feasibility of placing intake, discharge, and other facility infrastructure in a location that avoid impacts to sensitive habitats* and sensitive species.
 - (4) Analyze the direct and indirect effects on all forms of marine life* resulting from facility construction and operation, individually and in combination with potential anthropogenic effects on all forms of marine life* resulting from other past, present, and reasonably foreseeable future activities within the area affected by the facility.
 - (5) Analyze oceanographic geologic, hydrogeologic, and seafloor topographic conditions at the site, so that the siting of a facility, including the intakes and discharges, minimizes the intake and mortality of all forms of marine life.*
 - (6) Analyze the presence of existing discharge infrastructure, and the availability of wastewater to dilute the facility's brine* discharge.
 - (7) Ensure that the intake and discharge structures are not located within a MPA or SWQPA* with the exception of intake structures that do not have marine life mortality associated with the construction, operation, and maintenance of the intake structures (e.g. slant wells). Discharges shall be sited at a sufficient distance from a MPA or SWQPA* so that the salinity* within the boundaries of a MPA or SWQPA* does not exceed natural background salinity.* To the extent feasible,* surface intakes shall be sited so as to maximize the distance from a MPA or SWQPA.*
- c. Design is the size, layout, form, and function of a facility, including the intake capacity and the configuration and type of infrastructure, including intake and outfall structures. The regional water board shall require that the owner or operator perform the following in determining whether a proposed facility design is the best available design feasible* to minimize intake and mortality of all forms of marine life:*
- (1) For each potential site, analyze the potential design configurations of the intake, discharge, and other facility infrastructure to avoid impacts to sensitive habitats* and sensitive species.
 - (2) If the regional water board determines that subsurface intakes* are not feasible* and surface water intakes are proposed instead, analyze potential designs for those intakes in order to minimize the intake and mortality of all forms of marine life.*

* See Appendix I for definition of terms.

- (3) Design the outfall so that the brine mixing zone* does not encompass or otherwise adversely affect existing sensitive habitat.*
 - (4) Design the outfall so that discharges do not result in dense, negatively-buoyant plumes that result in adverse effects due to elevated salinity* or hypoxic conditions occurring outside the brine mixing zone.* An owner or operator must demonstrate that the outfall meets this requirement through plume modeling and/or field studies. Modeling and field studies shall be approved by the regional water board in consultation with State Water Board staff.
 - (5) Design outfall structures to minimize the suspension of benthic sediments.
- d. Technology is the type of equipment, materials,* and methods that are used to construct and operate the design components of the desalination facility.* The regional water board shall apply the following considerations in determining whether a proposed technology is the best available technology feasible* to minimize intake and mortality of all forms of marine life:*
- (1) Considerations for Intake Technology:
 - (a) Subject to chapter M.2.a.(2), the regional water board in consultation with State Water Board staff shall require subsurface intakes* unless it determines that subsurface intakes* are not feasible* based upon a comparative analysis of the factors listed below for surface and subsurface intakes.* A design capacity in excess of the need for desalinated* water as identified in chapter III.M.2.b.(2) shall not be used by itself to declare subsurface intakes* as not feasible.*
 - i. The regional water board shall consider the following factors in determining feasibility of subsurface intakes:* geotechnical data, hydrogeology, benthic topography, oceanographic conditions, presence of sensitive habitats,* presence of sensitive species, energy use for the entire facility; design constraints (engineering, constructability), and project life cycle cost. Project life cycle cost shall be determined by evaluating the total cost of planning, design, land acquisition, construction, operations, maintenance, mitigation, equipment replacement and disposal over the lifetime of the facility, in addition to the cost of decommissioning the facility. Subsurface intakes* shall not be determined to be economically infeasible solely because subsurface intakes* may be more expensive than surface intakes. Subsurface intakes* may be determined to be economically infeasible if the additional costs or lost profitability associated with subsurface intakes,* as compared to surface intakes, would render the desalination facility* not economically viable. In

* See Appendix I for definition of terms.

addition, the regional water board may evaluate other site- and facility-specific factors.

- ii. If the regional water board determines that subsurface intakes* are not feasible* for the proposed intake design capacity, it shall determine whether subsurface intakes* are feasible* for a reasonable range of alternative intake design capacities. The regional water board may find that a combination of subsurface* and surface intakes is the best feasible* alternative to minimize intake and mortality of marine life and meet the identified need for desalinated water as described in chapter III.M.2.b.(2).
- (b) Installation and maintenance of a subsurface intake* shall avoid, to the maximum extent feasible,* the disturbance of sensitive habitats* and sensitive species.
- (c) If subsurface intakes* are not feasible,* the regional water board may approve a surface water intake, subject to the following conditions:
- i. The regional water board shall require that surface water intakes be screened. Screens must be functional while the facility is withdrawing seawater.*
 - ii. In order to reduce entrainment, all surface water intakes must be screened with a 1.0 mm (0.04 in) or smaller slot size screen when the desalination facility* is withdrawing seawater.*
 - iii. An owner or operator may use an alternative method of preventing entrainment so long as the alternative method results in intake and mortality of eggs, larvae, and juvenile organisms that is less than or equivalent to a 1.0 mm (0.04 in) slot size screen. The owner or operator must demonstrate the effectiveness of the alternative method to the regional water board. The owner or operator must conduct a study to demonstrate the effectiveness of the alternative method, and use an Empirical Transport Model* (ETM)/ Area of Production Forgone* (APF) approach* to estimate entrainment. The study period shall be at least 12 consecutive months. Sampling for environmental studies shall be designed to account for variation in oceanographic or hydrologic conditions and larval abundance and diversity such that abundance estimates are reasonably accurate. Samples must be collected using a mesh size no larger than 335 microns and individuals collected shall be identified to the lowest taxonomical level practicable. The ETM/APF analysis* shall evaluate entrainment for a broad range of species, species morphologies, and sizes under the environmental and operational conditions that are representative of the entrained species and the conditions at

* See Appendix I for definition of terms.

the full-scale desalination facility.* At their discretion, the regional water boards may permit the use of existing entrainment data to meet this requirement.

- iv. In order to minimize impingement, through-screen velocity at the surface water intake shall not exceed 0.15 meters per second (0.5 feet per second).

(2) Considerations for Brine* Discharge Technology:

- (a) The preferred technology for minimizing intake and mortality of all forms of marine life* resulting from brine* discharge is to commingle brine* with wastewater (e.g., agricultural, municipal, industrial, power plant cooling water, etc.) that would otherwise be discharged to the ocean. The wastewater must provide adequate dilution to ensure salinity* of the commingled discharge meets the receiving water limitation for salinity* in chapter III.M.3. Nothing in this section shall preclude future recycling of the wastewater.
- (b) Multiport diffusers* are the next best method for disposing of brine* when the brine* cannot be diluted by wastewater and when there are no live organisms in the discharge. Multiport diffusers* shall be engineered to maximize dilution, minimize the size of the brine mixing zone,* minimize the suspension of benthic sediments, and minimize mortality of all forms of marine life.*
- (c) Brine* discharge technologies other than wastewater dilution and multiport diffusers,* may be used if an owner or operator can demonstrate to the regional water board that the technology provides a comparable level of intake and mortality of all forms of marine life* as wastewater dilution if wastewater is available, or multiport diffusers* if wastewater is unavailable. The owner or operator must evaluate all of the individual and cumulative effects of the proposed alternative discharge method on the intake and mortality of all forms of marine life,* including (where applicable); intake-related entrainment, osmotic stress, turbulence that occurs during water conveyance and mixing, and shearing stress at the point of discharge. When determining the intake and mortality associated with a brine* discharge technology or combination of technologies, the regional water board shall require the owner or operator to use empirical studies or modeling to:
 - i. Estimate intake entrainment impacts using an ETM/APF approach.*
 - ii. Estimate degradation of all forms of marine life* from elevated salinity* within the brine mixing zone,* including osmotic stresses, the size of impacted area, and the duration that all forms of marine life* are exposed to the

* See Appendix I for definition of terms.

toxic conditions. Considerations shall be given to the most sensitive species, and community structure and function.

- iii. Estimate the intake and mortality of all forms of marine life* that occurs as a result of water conveyance, in-plant turbulence or mixing, and waste* discharge.
- iv. Within 18 months of beginning operation, submit to the regional water board an empirical study that evaluates intake and mortality of all forms of marine life* associated with the alternative brine* discharge technology. The study must evaluate impacts caused by any augmented intake volume, intake and pump technology, water conveyance, waste brine* mixing, and effluent discharge. Unless demonstrated otherwise, organisms entrained by the alternative brine* discharge technology are assumed to have a mortality rate of 100 percent. The study period shall be at least 12 consecutive months. If the regional water board requires a study period longer than 12 months, the final report must be submitted to the regional water board within 6 months of the completion of the empirical study.
- v. If the empirical study shows that the alternative brine* discharge technology results in more intake and mortality of all forms of marine life* than a facility using wastewater dilution or multiport diffusers,* then the facility must either: (1) cease using the alternative brine* discharge technology and install and use wastewater dilution or multiport diffusers* to discharge brine* waste, or (2) re-design the alternative brine* discharge technology system to minimize intake and mortality of all forms of marine life* to a level that is comparable with wastewater dilution if wastewater is available, or multiport diffusers* if wastewater is unavailable,* subject to regional water board approval.

(d) Flow augmentation* as an alternative brine* discharge technology is prohibited with the following exceptions:

- i. At facilities that use subsurface intakes* to supply augmented flow water for dilution. Facilities that use subsurface intakes* to supply augmented flow water for dilution are exempt from the requirements of chapter III.M.2.d.(2)(c) if the facility meets the receiving water limitation for salinity* in chapter III.M.3.
- ii. At a facility that has received a conditional Water Code section 13142.5(b) determination and is over 80 percent constructed by January 28, 2016. If the owner or operator of the facility proposes to use flow augmentation* as an

* See Appendix I for definition of terms.

alternative brine* discharge technology, the facility must: use low turbulence intakes (e.g., screw centrifugal pumps or axial flow pumps) and conveyance pipes; convey and mix dilution water in a manner that limits thermal stress, osmotic stress, turbulent shear stress, and other factors that could cause intake and mortality of all forms of marine life*; comply with chapter III.M.2.d.(1); and not discharge through multipoint diffusers.*

- e. Mitigation for the purposes of this section is the replacement of all forms of marine life* or habitat that is lost due to the construction and operation of a desalination facility* after minimizing intake and mortality of all forms of marine life* through best available site, design, and technology. The regional water board shall ensure an owner or operator fully mitigates for the operational lifetime of the facility and uses the best available mitigation measures feasible* to minimize intake and mortality of all forms of marine life.* The owner or operator may choose whether to satisfy a facility's mitigation measures pursuant to chapter III.M.2.e.(3) or, if available, M.2.e.(4), or a combination of the two.

- (1) *Marine Life Mortality Report.* The owner or operator of a facility shall submit a report to the regional water board estimating the marine life mortality resulting from construction and operation of the facility after implementation of the facility's required site, design, and technology measures.

- (a) For operational mortality related to intakes, the report shall include a detailed entrainment study. The entrainment study period shall be at least 12 consecutive months and sampling shall be designed to account for variation in oceanographic or hydrologic conditions and larval abundance and diversity such that abundance estimates are reasonably accurate. At their discretion, the regional water boards may permit the use of existing entrainment data from the facility to meet this requirement. Samples must be collected using a mesh size no larger than 335 microns and individuals collected shall be identified to the lowest taxonomical level practicable. The ETM/APF analysis* shall be representative of the entrained species collected using the 335 micron net. The APF* shall be calculated using a one-sided, upper 95 percent confidence bound for the 95th percentile of the APF distribution. An owner or operator with subsurface intakes* is not required to do an ETM/APF analysis* for their intakes and is not required to mitigate for intake-related operational mortality. The regional water board may apply a one percent reduction to the APF* acreage calculated in the Marine Life Mortality Report to account for the reduction in entrainment of all forms of marine life* when using a 1.0 mm slot size screen.

* See Appendix I for definition of terms.

- (b) For operational mortality related to discharges, the report shall estimate the area in which salinity* exceeds 2.0 parts per thousand above natural background salinity* or a facility-specific alternative receiving water limitation (see chapter III.M.3). The area in excess of the receiving water limitation for salinity* shall be determined by modeling and confirmed with monitoring. The report shall use any acceptable approach approved by the regional water board for evaluating mortality that occurs due to shearing stress resulting from the facility's discharge, including any incremental increase in mortality resulting from a commingled discharge.
 - (c) For construction-related mortality, the report shall use any acceptable approach approved by the regional water board for evaluating the mortality that occurs within the area disturbed by the facility's construction. The regional water board may determine that the construction-related disturbance does not require mitigation because the disturbance is temporary and the habitat is naturally restored.
 - (d) Upon approval of the report by the regional water board in consultation with State Water Board staff, the calculated marine life mortality shall form the basis for the mitigation provided pursuant to this section.
- (2) The owner or operator shall mitigate for the mortality of all forms of marine life* determined in the report above by choosing to either complete a mitigation project as described in chapter III.M.2.e.(3) or, if an appropriate fee-based mitigation program is available, provide funding for the program as described in chapter III.M.2.e.(4). The mitigation project or the use of a fee-based mitigation program and the amount of the fee that the owner or operator must pay is subject to regional water board approval.
- (3) *Mitigation Option 1: Complete a Mitigation Project.* The mitigation project must satisfy the following provisions:
- (a) The owner or operator shall submit a Mitigation Plan. Mitigation Plans shall include: project objectives, site selection, site protection instrument (the legal arrangement or instrument that will be used to ensure the long-term protection of the compensatory mitigation project site), baseline site conditions, a mitigation work plan, a maintenance plan, a long-term management plan, an adaptive management plan, performance standards and success criteria, monitoring requirements, and financial assurances.
 - (b) The mitigation project must meet the following requirements:
 - i. Mitigation shall be accomplished through expansion, restoration or creation of one or more of the following:

* See Appendix I for definition of terms.

kelp beds,* estuaries,* coastal wetlands, natural reefs, MPAs, or other projects approved by the regional water board that will mitigate for intake and mortality of all forms of marine life* associated with the facility.

- ii. The owner or operator shall demonstrate that the project fully mitigates for intake-related marine life mortality by including expansion, restoration, or creation of habitat based on the APF* acreage calculated in the Marine Life Mortality Report above. The owner or operator using surface water intakes shall do modeling to evaluate the areal extent of the mitigation project's production area to confirm that it overlaps the facility's source water body.* Impacts on the mitigation project due to entrainment by the facility must be offset by adding compensatory acreage to the mitigation project.
- iii. The owner or operator shall demonstrate that the project also fully mitigates for the discharge-related marine life mortality projected in the Marine Life Mortality Report above.
- iv. The owner or operator shall demonstrate that the project also fully mitigates for the construction-related marine life mortality identified in the Marine Life Mortality Report above.
- v. The regional water board may permit out-of-kind mitigation* for mitigation of open water or soft-bottom species. In-kind mitigation* shall be done for all other species whenever feasible.*
- vi. For out-of-kind mitigation,* an owner or operator shall evaluate the biological productivity of the impacted open water or soft-bottom habitat calculated in the Marine Life Mortality Report and the proposed mitigation habitat. If the mitigation habitat is a more biologically productive habitat (e.g. wetlands, estuaries,* rocky reefs, kelp beds,* eelgrass beds,* surfgrass beds*), the regional water boards may apply a mitigation ratio based on the relative biological productivity of the impacted open water or soft-bottom habitat and the mitigation habitat. The mitigation ratio shall not be less than one acre of mitigation habitat for every ten acres of impacted open water or soft-bottom habitat.
- vii. For in-kind mitigation,* the mitigation ratio shall not be less than one acre of mitigation habitat for every one acre of impacted habitat.

* See Appendix I for definition of terms.

- viii. For both in-kind* and out-of-kind mitigation,* the regional water boards may increase the required mitigation ratio for any species and impacted natural habitat calculated in the Marine Life Mortality Report when appropriate to account for imprecisions associated with mitigation including, but not limited to, the likelihood of success, temporal delays in productivity, and the difficulty of restoring or establishing the desired productivity functions.
 - ix. The rationale for the mitigation ratios must be documented in the administrative record for the permit action.
- (c) The Mitigation Plan is subject to approval by the regional water board in consultation with State Water Board staff and with other agencies having authority to condition approval of the project and require mitigation.
- (4) *Mitigation Option 2: Fee-based Mitigation Program.* If the regional water board determines that an appropriate fee-based mitigation program has been established by a public agency, and that payment of a fee to the mitigation program will result in the creation and ongoing implementation of a mitigation project that meets the requirements of chapter M.2.e.(3), the owner or operator may pay a fee to the mitigation program in lieu of completing a mitigation project.
- (a) The agency that manages the fee-based mitigation program must have legal and budgetary authority to accept and spend mitigation funds, a history of successful mitigation projects documented by having set and met performance standards for past projects, and stable financial backing in order to manage mitigation sites for the operational life of the facility.
 - (b) The amount of the fee shall be based on the cost of the mitigation project, or if the project is designed to mitigate cumulative impacts from multiple desalination facilities or other development projects, the amount of the fee shall be based on the desalination facility's* fair share of the cost of the mitigation project.
 - (c) The manager of the fee-based mitigation program must consult with the California Department of Fish and Wildlife, Ocean Protection Council, Coastal Commission, State Lands Commission, and State and regional water boards to develop mitigation projects that will best compensate for intake and mortality of all forms of marine life* caused by the desalination facility.* Mitigation projects that increase or enhance the viability and sustainability of all forms of marine life* in Marine Protected Areas are preferred, if feasible.*

* See Appendix I for definition of terms.

- (5) California Department of Fish and Wildlife, the regional water board, and State Water Board may perform audits or site inspections of any mitigation project.
- (6) An owner or operator, or a manager of a fee-based mitigation program, must submit a mitigation project performance report to the regional water board 180 days prior to the expiration date of their NPDES permit.
- (7) For conditionally permitted facilities or expanded facilities, the regional water boards may:
 - (a) Account for previously-approved mitigation projects associated with a facility when making a new Water Code section 13142.5(b) determination.
 - (b) Require additional mitigation when making a new Water Code section 13142.5(b) determination for any additional mortality of all forms of marine life resulting from the occurrence of the conditional event or the expansion of the facility. The additional mitigation must be to compensate for any additional construction, discharge, or other increases in intake or impacts or an increase in intake and mortality of all forms of marine life.*

3. Receiving Water Limitation for Salinity*

- a. Chapter III.M.3 is applicable to all desalination facilities discharging brine* into ocean waters,* including facilities that commingle brine* and wastewater.
- b. The receiving water limitation for salinity* shall be established as described below:
 - (1) Discharges shall not exceed a daily maximum of 2.0 parts per thousand (ppt) above natural background salinity* measured no further than 100 meters (328 ft) horizontally from each discharge point. There is no vertical limit to this zone.
 - (2) In determining an effluent limit necessary to meet this receiving water limitation, permit writers shall use the formula in chapter III.C.4 that has been modified for brine* discharges as follows:

Equation 1: $C_e = C_o + D_m(2.0 \text{ ppt})$
 $C_e = (2.0 \text{ ppt} + C_s) + D_m(2.0 \text{ ppt})$

Where:

C_e = the effluent concentration limit, ppt
 C_o = the salinity* concentration to be met at the completion of initial* dilution= 2.0 ppt + C_s
 C_s = the natural background salinity,* ppt
 D_m = minimum probable initial dilution* expressed as parts

* See Appendix I for definition of terms.

seawater* per part brine* discharge

- (a) The fixed distance referenced in the initial dilution* definition shall be no more than 100 meters (328 feet).
 - (b) In addition, the owner or operator shall develop a dilution factor (Dm) based on the distance of 100 meters (328 feet) or initial dilution,* whichever is smaller. The dilution factor (Dm) shall be developed within the brine mixing zone* using applicable water quality models that have been approved by the regional water boards in consultation with State Water Board staff.
 - (c) The value 2.0 ppt in Equation 1 is the maximum incremental increase above natural background salinity* (Cs) allowed at the edge of the brine mixing zone.* A regional water board may substitute an alternative numeric value for 2.0 ppt in Equation 1 based upon the results of a facility-specific alternative salinity* receiving water limitation study, as described in chapter III.M.3.c below.
- c. An owner or operator may submit a proposal to the regional water board for approval of an alternative (other than 2 ppt) salinity* receiving water limitation to be met no further than 100 meters horizontally from the discharge. There is no vertical limit to this zone.
- (1) To determine whether a proposed facility-specific alternative receiving water limitation is adequately protective of beneficial uses, an owner or operator shall:
 - (a) Establish baseline biological conditions at the discharge location and at reference locations over a 12-month period prior to commencing brine* discharge. The biologic surveys must characterize the ecologic composition of habitat and marine life using measures established by the regional water board. At their discretion, the regional water boards may permit the use of existing data to meet this requirement.
 - (b) Conduct at least the following chronic toxicity* Whole Effluent Toxicity (WET) tests: germination and growth for giant kelp (*Macrocystis pyrifera*); development for red abalone (*Haliotis refescens*); development and fertilization for purple urchin (*Strongylocentrotus purpuratus*); development and fertilization for sand dollar (*Dendraster excentricus*); larval growth rate for topsmelt (*Atheriniops affinis*). WET tests shall be performed by an Environmental Laboratory Accreditation Program (ELAP) certified laboratory.

* See Appendix I for definition of terms.

- (c) The regional water board in consultation with State Water Board staff may require an owner or operator to do additional toxicity studies if needed.
- (2) The regional water board in consultation with the State Water Board staff may require an owner or operator to provide additional studies or information in order to approve a facility-specific alternative receiving water limitation for salinity.*
- (3) The facility-specific alternative receiving water limitation shall be based on the lowest observed effect concentration (LOEC)* for the most sensitive species and toxicity endpoint as determined in the chronic toxicity* studies. The regional water board in consultation with State Water Board staff has discretion to approve the proposed facility-specific alternative receiving water limitation for salinity.*
- (4) The regional water board shall review a facility's monitoring data, the studies as required in chapter III.M.4 below, or any other information that the regional water board deems to be relevant to periodically assess whether the facility-specific alternative receiving water limitation for salinity* is adequately protective of beneficial uses. The regional water board may eliminate or revise a facility-specific alternative receiving water limitation for salinity* based on its assessment of the data.
- d. The owner or operator of a facility that has received a conditional Water Code section 13142.5(b) determination and is over 80 percent constructed by January 28, 2016 that proposes flow augmentation* using a surface water intake may submit a proposal to the regional water board in consultation with the State Water Board staff for approval of an alternative brine mixing zone* not to exceed 200 meters laterally from the discharge point and throughout the water column. The owner or operator of such a facility must demonstrate, in accordance with chapter III.M.2.d.(2)(c), that the combination of the alternative brine mixing zone* and flow augmentation* using a surface water intake provide a comparable level of intake and mortality of all forms of marine life* as the combination of the standard brine mixing zone* and wastewater dilution if wastewater is available, or multiport diffusers* if wastewater is unavailable. In addition to the analysis of the effects required by chapter III.M.2.d.(2)(c), the owner or operator must also evaluate the individual and cumulative effects of the alternative brine mixing zone* on the intake and mortality of all forms of marine life.* In no case may the discharge result in hypoxic conditions outside of the alternative brine mixing zone.* If an alternative brine mixing zone* is approved, the alternative distance and the areal extent of the alternative brine mixing zone* shall be used in lieu of the standard brine mixing zone* for all purposes, including establishing an effluent limitation and a receiving water limitation for salinity, in chapter III.M.
- e. Existing facilities that do not meet the receiving water limitation at the edge of the brine mixing zone* and throughout the water column by January 28, 2016 must either: 1) establish a facility-specific alternative receiving water limitation

* See Appendix I for definition of terms.

for salinity* as described in chapter III.M.3.c; or, 2) upgrade the facility's brine* discharge method in order to meet the receiving water limitation in chapter III.M.3.b in accordance with the State Water Board's Compliance Schedule Policy, as set forth in chapter III.M.3.f below. An owner or operator that chooses to upgrade the facility's method of brine* discharge:

- (1) Must demonstrate to the regional water board that the brine* discharge does not negatively impact sensitive habitats,* sensitive species, MPAs, or SWQPAs.*
- (2) Is subject to the Considerations for Brine* Discharge Technology described in chapter III.M.2.d.(2).

- f. The regional water board may grant compliance schedules for the requirements for brine* waste discharges for desalination facilities.* All compliance schedules shall be in accordance with the State Water Board's Compliance Schedule Policy, except that the salinity* receiving water limitation set forth in chapters III.M.3.b and III.M.3.c shall be considered to be a "new water quality objective" as used in the Compliance Schedule Policy.
- g. The regional water board in consultation with the State Water Board staff may require an owner or operator to provide additional studies or information if needed. All studies and models are subject to the approval of the regional water board in consultation with State Water Board staff. The regional water board may require an owner or operator to hire a neutral third party entity to review studies and models and make recommendations to the regional water board.

4. Monitoring and Reporting Programs

- a. The owner or operator of a desalination facility* must submit a Monitoring and Reporting Plan to the regional water board for approval. The Monitoring and Reporting Plan shall include monitoring of effluent and receiving water characteristics and impacts to all forms of marine life.* The Monitoring and Reporting Plan shall, at a minimum, include monitoring for benthic community health, aquatic life toxicity, hypoxia, and receiving water characteristics consistent with Appendix III of this Plan and for compliance with the receiving water limitation in chapter III.M.3. Receiving water monitoring for salinity* shall be conducted at times when the monitoring locations are most likely affected by the discharge. For new or expanded facilities the following additional requirements apply:
 - (1) An owner or operator must perform facility-specific monitoring to demonstrate compliance with the receiving water limitation for salinity,* and evaluate the potential effects of the discharge within the water column, bottom sediments, and the benthic communities. Facility-specific monitoring is required until the regional water board determines that a regional monitoring program is adequate to ensure compliance with the receiving water limitation. The monitoring and

* See Appendix I for definition of terms.

reporting plan shall be reviewed, and revised if necessary, upon NPDES permit renewal.

- (2) Baseline biological conditions shall be established at the discharge location and at a reference location prior to commencement of construction. The owner or operator is required to conduct biological surveys (e.g., Before-After Control-Impact study), that will evaluate the differences between biological communities at a reference site and at the discharge location before and after the discharge commences. The regional water board will use the data and results from the surveys and any other applicable data for evaluating and renewing the requirements set forth in a facility's NPDES permit.

* See Appendix I for definition of terms.

APPENDIX I DEFINITION OF TERMS

ACUTE TOXICITY

a. Acute Toxicity (TUa)

Expressed in Toxic Units Acute (TUa)

$$\text{TUa} = \frac{100}{96\text{-hr LC } 50\%}$$

b. Lethal Concentration 50% (LC 50)

LC 50 (percent waste giving 50% survival of test organisms) shall be determined by static or continuous flow bioassay techniques using standard marine test species as specified in Appendix III. If specific identifiable substances in wastewater can be demonstrated by the discharger as being rapidly rendered harmless upon discharge to the marine environment, but not as a result of dilution, the LC 50 may be determined after the test samples are adjusted to remove the influence of those substances.

When it is not possible to measure the 96-hour LC 50 due to greater than 50 percent survival of the test species in 100 percent waste, the toxicity concentration shall be calculated by the expression:

$$\text{TUa} = \frac{\log (100 - S)}{1.7}$$

where:

S = percentage survival in 100% waste. If S > 99, TUa shall be reported as zero.

ALL FORMS OF MARINE LIFE includes all life stages of all marine species.

AREA PRODUCTION FOREGONE (APF), also known as habitat production foregone, is an estimate of the area that is required to produce (replace) the same amount of larvae or propagules* that are removed via entrainment at a desalination facilities* intakes. APF is calculated by multiplying the proportional mortality* by the source water body,* which are both determined using an empirical transport model.*

AREAS OF SPECIAL BIOLOGICAL SIGNIFICANCE (ASBS) are those areas designated by the State Water Board as ocean areas requiring protection of species or biological communities to the extent that maintenance of natural water quality is assured. All Areas of Special Biological Significance are also classified as a subset of STATE WATER QUALITY PROTECTION AREAS.* ASBS are also referred to as State Water Quality Protection Areas* – Areas of Special Biological Significance (SWQPA-ASBS).

BRINE is the byproduct of desalinated* water having a salinity* concentration greater than a desalination facility's* intake source water.

* See Appendix I for definition of terms.

BRINE MIXING ZONE is the area where salinity* may exceed 2.0 parts per thousand above natural background salinity,* or the concentration of salinity* approved as part of an alternative receiving water limitation. The standard brine mixing zone shall not exceed 100 meters (328 feet) laterally from the points of discharge and throughout the water column. An alternative brine mixing zone, if approved as described in chapter III.M.3.d, shall not exceed 200 meters (656 feet) laterally from the points of discharge and throughout the water column. The brine mixing zone is an allocated impact zone where there may be toxic effects on marine life due to elevated salinity.

CHLORDANE shall mean the sum of chlordane-alpha, chlordane-gamma, chlrodene-alpha, chlrodene-gamma, nonachlor-alpha, nonachlor-gamma, and oxychlordane.

CHRONIC TOXICITY: This parameter shall be used to measure the acceptability of waters for supporting a healthy marine biota until improved methods are developed to evaluate biological response.

a. Chronic Toxicity (TUc)

Expressed as Toxic Units Chronic (TUc)

$$TUc = \frac{100}{NOEL}$$

b. No Observed Effect Level (NOEL)

The NOEL is expressed as the maximum percent effluent or receiving water* that causes no observable effect on a test organism, as determined by the result of a critical life stage toxicity test listed in Appendix III, Table III-1.

DDT shall mean the sum of 4,4'DDT, 2,4'DDT, 4,4'DDE, 2,4'DDE, 4,4'DDD, and 2,4'DDD.

DEGRADE: Degradation shall be determined by comparison of the waste field and reference site(s) for characteristic species diversity, population density, contamination, growth anomalies, debility, or supplanting of normal species by undesirable plant and animal species. Degradation occurs if there are significant* differences in any of three major biotic groups, namely, demersal fish, benthic invertebrates, or attached algae. Other groups may be evaluated where benthic species are not affected, or are not the only ones affected.

DESALINATION FACILITY is an industrial facility that processes water to remove salts and other components from the source water to produce water that is less saline than the source water.

DICHLOROBENZENES shall mean the sum of 1,2- and 1,3-dichlorobenzene.

DOWNSTREAM OCEAN WATERS shall mean waters downstream with respect to ocean currents.

DREDGED MATERIAL: Any material* excavated or dredged from the navigable waters of the United States, including material* otherwise referred to as "spoil".

EELGRASS BEDS are aggregations of the aquatic plant species of the genus *Zostera*.

* See Appendix I for definition of terms.

EMPIRICAL TRANSPORT MODEL (ETM) is a methodology for determining the spatial area known as the source water body* that contains the source water population, which are the organisms that are at risk of entrainment as determined by factors that may include but are not limited to biological, hydrodynamic, and oceanographic data. ETM can also be used to estimate proportional mortality,* P_m .

ENCLOSED BAYS are indentations along the coast which enclose an area of oceanic water within distinct headlands or harbor works. Enclosed bays include all bays where the narrowest distance between headlands or outermost harbor works is less than 75 percent of the greatest dimension of the enclosed portion of the bay. This definition includes but is not limited to: Humboldt Bay, Bodega Harbor, Tomales Bay, Drakes Estero, San Francisco Bay, Morro Bay, Los Angeles Harbor, Upper and Lower Newport Bay, Mission Bay, and San Diego Bay.

ENDOSULFAN shall mean the sum of endosulfan-alpha and -beta and endosulfan sulfate.

ESTUARIES AND COASTAL LAGOONS are waters at the mouths of streams that serve as mixing zones for fresh and ocean* waters during a major portion of the year. Mouths of streams that are temporarily separated from the ocean by sandbars shall be considered as estuaries. Estuarine waters will generally be considered to extend from a bay or the open ocean to the upstream limit of tidal action but may be considered to extend seaward if significant* mixing of fresh and salt water occurs in the open coastal waters. The waters described by this definition include but are not limited to the Sacramento-San Joaquin Delta as defined by section 12220 of the California Water Code, Suisun Bay, Carquinez Strait downstream to Carquinez Bridge, and appropriate areas of the Smith, Klamath, Mad, Eel, Noyo, and Russian Rivers.

ETM/APF APPROACH or ANALYSIS. For guidance on how to perform an ETM/APF analysis please see Appendix E of the Staff Report for Amendment to the Water Quality Control Plan For Ocean Waters of California Addressing Desalination Facility Intakes, Brine Discharges, And The Incorporation Of Other Non-substantive Changes.

FEASIBLE for the purposes of chapter III.M, shall mean capable of being accomplished in a successful manner within a reasonable period of time, taking into account economic, environmental, social, and technological factors.

FLOW AUGMENTATION is a type of in-plant dilution and occurs when a desalination facility* withdraws additional source water for the specific purpose of diluting brine* prior to discharge.

FULL CAPTURE SYSTEM is a treatment control*, or series of treatment controls*, including but not limited to, a multi-benefit project* or a low-impact development control* that traps all particles that are 5 mm or greater, and has a design treatment capacity that is either: a) of not less than the peak flow rate, Q , resulting from a one-year, one-hour, storm in the subdrainage area, or b) appropriately sized to, and designed to carry at least the same flows as, the corresponding storm drain.

[Rational equation is used to compute the peak flow rate: $Q = C \cdot I \cdot A$, where Q = design flow rate (cubic feet per second, cfs); C = runoff coefficient (dimensionless); I = design rainfall

* See Appendix I for definition of terms.

intensity (inches per hour, as determined per the rainfall isohyetal map specific to each region, and A = subdrainage area (acres).]

Prior to installation, full capture systems* must be certified by the Executive Director, or designee, of the State Water Board. Uncertified full capture systems* will not satisfy the requirements of these Trash Provisions*. To request certification, a permittee shall submit a certification request letter that includes all relevant supporting documentation to the State Water Board's Executive Director. The Executive Director, or designee, shall issue a written determination approving or denying the certification of the proposed full capture system* or conditions of approval, including a schedule to review and reconsider the certification. Full capture systems* certified by the Los Angeles Regional Water Board prior to the effective date of these Trash Provisions* and full capture systems* listed in Appendix I of the Bay Area-wide Trash Capture Demonstration Project, Final Project Report (May 8, 2014) will satisfy the requirements of these Trash Provisions*, unless the Executive Director, or designee, of the State Water Board determines otherwise.

FULL CAPTURE SYSTEM EQUIVALENCY is the Trash* load that would be reduced if full capture systems* were installed, operated, and maintained for all storm drains that capture runoff from the relevant areas of land (priority land uses*, significant trash generating areas*, facilities or sites regulated by NPDES permits for discharges of storm water* associated with industrial activity, or specific land uses or areas that generate substantial amounts of Trash*, as applicable). The full capture system equivalency* is a Trash* load reduction target that the permittee quantifies by using an approach, and technically acceptable and defensible assumptions and methods for applying the approach, subject to the approval of permitting authority*. Examples of such approaches include, but are not limited to, the following:

- (1) Trash Capture Rate Approach. Directly measure or otherwise determine the amount of Trash* captured by full capture systems* for representative samples of all similar types of land uses, facilities, or areas within the relevant areas of land over time to identify specific trash capture rates. Apply each specific Trash* capture rate across all similar types of land uses, facilities, or areas to determine full capture system equivalency*. Trash* capture rates may be determined either through a pilot study or literature review. Full capture systems* selected to evaluate Trash* capture rates may cover entire types of land uses, facilities, or areas, or a representative subset of types of land uses, facilities, or areas. With this approach, full capture system equivalency* is the sum of the products of each type of land use, facility, or area multiplied by Trash* capture rates for that type of land use, facility, or area.
- (2) Reference Approach. Determine the amount of Trash* in a reference receiving water in a reference watershed where full capture systems* have been installed for all storm drains that capture runoff from all relevant areas of land. The reference watershed must be comprised of similar types and extent of sources of trash* and land uses (including priority land uses* and all other land uses), facilities, or areas as the permittee's watershed. With this approach, full capture system equivalency* would be demonstrated when the amount of Trash* in the receiving water is equivalent to the amount of Trash* in the reference receiving water.

* See Appendix I for definition of terms.

GRAYWATER is drainage from galley, dishwasher, shower, laundry, bath, and lavatory wash basin sinks, and water fountains, but does not include drainage from toilets, urinals, hospitals, or cargo spaces.

HALOMETHANES shall mean the sum of bromoform, bromomethane (methyl bromide) and chloromethane (methyl chloride).

HCH shall mean the sum of the alpha, beta, gamma (lindane) and delta isomers of hexachlorocyclohexane.

INDICATOR BACTERIA includes total coliform bacteria, fecal coliform bacteria (or *E. coli*), and/or Enterococcus bacteria.

IN-KIND MITIGATION is when the habitat or species lost is the same as what is replaced through mitigation.

INSTITUTIONAL CONTROLS are non-structural best management practices (i.e., no structures are involved) that may include, but not be limited to, street sweeping, sidewalk Trash* bins, collection of the Trash*, anti-litter educational and outreach programs, producer take-back for packaging, and ordinances.

INITIAL DILUTION is the process which results in the rapid and irreversible turbulent mixing of wastewater with ocean water around the point of discharge.

For a submerged buoyant discharge, characteristic of most municipal and industrial wastes that are released from the submarine outfalls, the momentum of the discharge and its initial buoyancy act together to produce turbulent mixing. Initial dilution in this case is completed when the diluting wastewater ceases to rise in the water column and first begins to spread horizontally.

For shallow water submerged discharges, surface discharges, and nonbuoyant discharges, characteristic of cooling water wastes and some individual discharges, turbulent mixing results primarily from the momentum of discharge. Initial dilution, in these cases, is considered to be completed when the momentum induced velocity of the discharge ceases to produce significant* mixing of the waste, or the diluting plume reaches a fixed distance from the discharge to be specified by the Regional Board, whichever results in the lower estimate for initial dilution.

KELP BEDS, are aggregations of marine algae of the order Laminariales, including species in the genera *Macrocystis*, *Nereocystis*, and *Pelagophycus*. Kelp beds include the total foliage canopy throughout the water column.

LARGE PASSENGER VESSELS are vessels of 300 gross registered tons or greater engaged in carrying passengers for hire. The following vessels are not large passenger vessels:

- (1) Vessels without berths or overnight accommodations for passengers;
- (2) Noncommercial vessels, warships, vessels operated by nonprofit entities as determined by the Internal Revenue Service, and vessels operated by the state, the United States, or a foreign government;
- (3) Oceangoing vessels,* as defined below (e.g. those used to transport cargo).

* See Appendix I for definition of terms.

LOW-IMPACT DEVELOPMENT CONTROLS are treatment controls* that employ natural and constructed features that reduce the rate of storm water* runoff, filter out pollutants, facilitate storm water* storage onsite, infiltrate storm water* into the ground to replenish groundwater supplies, or improve the quality of receiving groundwater and surface water. (See Water Code § 10564.)

LOEC is the lowest observed effect concentration or the lowest concentration of effluent that causes observable adverse effects in exposed test organisms.

MARICULTURE is the culture of algae, plants, and animals in marine waters independent of any pollution source.

MARINE MANAGED AREAS are named, discrete geographic marine or estuarine areas along the California coast designated by law or administrative action, and intended to protect, conserve, or otherwise manage a variety of resources and their uses. According to the California Public Resources Code (§§ 36600 et seq.) there are six classifications of marine managed areas, including State Marine Reserves, State Marine Parks and State Marine Conservation Areas, State Marine Cultural Preservation Areas, State Marine Recreational Management Areas, and State Water Quality Protection Areas.*

MARKET SQUID NURSURIES are comprised of numerous egg capsules, each containing approximately 200 developing embryos, attached in clusters or mops to sandy substrate with moderate water flow. Market squid (*Doryteuthis opalescens*) nurseries occur at a wide range of depths; however, mop densities are greatest in shallow, nearshore waters between ten and 100 meters (328 feet) deep.

MATERIAL: (a) In common usage: (1) the substance or substances of which a thing is made or composed (2) substantial; (b) For purposes of this Ocean Plan relating to waste disposal, dredging and the disposal of dredged material* and fill, MATERIAL means matter of any kind or description which is subject to regulation as waste, or any material dredged from the navigable waters of the United States. See also, DREDGED MATERIAL.* For the purposes of chapter III.M.2.d, materials relates to the common usage in (a).

METHOD DETECTION LIMIT (MDL) is the minimum concentration of a substance that can be measured and reported with 99% confidence that the analyte concentration is greater than zero, as defined in 40 CFR PART 136 Appendix B.

MINIMUM LEVEL (ML) is the concentrations at which the entire analytical system must give a recognizable signal and acceptable calibration point. The ML is the concentration in a sample that is equivalent to the concentration of the lowest calibration standard analyzed by a specific analytical procedure, assuming that all the method-specified sample weights, volumes and processing steps have been followed.

MULTI-BENEFIT PROJECT is a treatment control* project designed to achieve any of the benefits set forth in section 10562, subdivision (d) of the Water Code. Examples include projects designed to: infiltrate, recharge or store storm water* for beneficial reuse; develop or enhance habitat and open space through storm water* and non-storm water management; and/or reduce storm water* and non-storm water runoff volume.

* See Appendix I for definition of terms.

MULTIPOINT DIFFUSERS are linear structures consisting of spaced ports or nozzles that are installed on submerged marine outfalls. For the purposes of chapter III.M, multipoint diffusers discharge brine* waste into an ambient receiving water body and enable rapid mixing, dispersal, and dilution of brine* within a relatively small area.

MUNICIPAL SEPARATE STORM SEWER SYSTEM (MS4) has the same meaning set forth in 40 Code of Federal Regulations section 122.26(b)(8).

NATURAL BACKGROUND SALINITY is the salinity* at a location that results from naturally occurring processes and is without apparent human influence. For purposes of determining natural background salinity, the regional water board may approve the use of:

- (1) the mean monthly natural background salinity. Mean monthly natural background salinity shall be determined by averaging 20 years of historical salinity* data in the proximity of the proposed discharge location and at the depth of the proposed discharge, when feasible.* For historical data not recorded in parts per thousand, the regional water boards may accept converted data at their discretion. When historical data are not available, natural background salinity shall be determined by measuring salinity* at depth of proposed discharge for three years, on a weekly basis prior to a desalination facility* discharging brine,* and the mean monthly natural salinity* shall be used to determine natural background salinity; or
- (2) the actual salinity at a reference location, or reference locations, that is representative of natural background salinity at the discharge location. The reference locations shall be without apparent human influence, including wastewater outfalls and brine discharges.

Either method to establish natural background salinity may be used for the purpose of determining compliance with the receiving water limitation or an effluent limitation for salinity. If a reference location(s) is used for compliance monitoring, the permit should specify that historical data shall be used if reference location data becomes unavailable. An owner or operator shall submit to the regional water board all necessary information to establish natural background salinity.

NATURAL LIGHT: Reduction of natural light may be determined by the Regional Board by measurement of light transmissivity or total irradiance, or both, according to the monitoring needs of the Regional Board.

NO DISCHARGE ZONE (NDZ) is an area in which both treated and untreated sewage discharges from vessels are prohibited. Within NDZ boundaries, vessel operators are required to retain their sewage discharges onboard for disposal at sea (beyond three miles from shore) or onshore at a pump-out facility.

NON-STORM WATER DISCHARGE is any runoff that is not the result of a precipitation event. This is often referred to as “dry weather flow.”

OCEAN WATERS are the territorial marine waters of the State as defined by California law to the extent these waters are outside of enclosed bays,* estuaries, and coastal lagoons.* If a discharge outside the territorial waters of the State could affect the quality of the waters of the State, the discharge may be regulated to assure no violation of the Ocean Plan will occur in ocean waters.

* See Appendix I for definition of terms.

OCEANGOING VESSELS (i.e., oceangoing ships) means commercial vessels of 300 gross registered tons or more calling on California ports or places, excluding active military vessels.

OILY BILGE WATER includes bilge water that contains used lubrication oils, oil sludge and slops, fuel and oil sludge, used oil, used fuel and fuel filters, and oily waste.

OUT-OF-KIND MITIGATION is when the habitat or species lost is different than what is replaced through mitigation.

PAHs (polynuclear aromatic hydrocarbons) shall mean the sum of acenaphthylene, anthracene, 1,2-benzanthracene, 3,4-benzofluoranthene, benzo[k]fluoranthene, 1,12-benzoperylene, benzo[a]pyrene, chrysene, dibenzo[ah]anthracene, fluorene, indeno[1,2,3-cd]pyrene, phenanthrene and pyrene.

PCBs (polychlorinated biphenyls) shall mean the sum of chlorinated biphenyls whose analytical characteristics resemble those of Aroclor-1016, Aroclor-1221, Aroclor-1232, Aroclor-1242, Aroclor-1248, Aroclor-1254 and Aroclor-1260.

PERMITTING AUTHORITY means the State Water Board or Regional Water Board, whichever issues the permit.

PREPRODUCTION PLASTIC has the same meaning set forth in section 13367(a) of the Water Code.

PRIORITY LAND USES are those developed sites, facilities, or land uses (i.e., not simply zoned land uses) within the MS4* permittee's jurisdiction from which discharges of Trash* are regulated by this Ocean Plan as follows:

- (1) **High-density residential:** all land uses with at least ten (10) developed dwelling units/acre.
- (2) **Industrial:** land uses where the primary activities on the developed parcels involve product manufacture, storage, or distribution (e.g., manufacturing businesses, warehouses, equipment storage lots, junkyards, wholesale businesses, distribution centers, or building material sales yards).
- (3) **Commercial:** land uses where the primary activities on the developed parcels involve the sale or transfer of goods or services to consumers (e.g., business or professional buildings, shops, restaurants, theaters, vehicle repair shops, etc.)
- (4) **Mixed urban:** land uses where high-density residential, industrial, and/or commercial land uses predominate collectively (i.e., are intermixed).
- (5) **Public transportation stations:** facilities or sites where public transit agencies' vehicles load or unload passengers or goods (e.g., bus stations and stops).

Equivalent alternate land uses: An MS4* permittee with regulatory authority over priority land uses* may issue a request to the applicable permitting authority* that the MS4* permittee be allowed to substitute one or more land uses identified above with alternates land use within the MS4* permittee's jurisdiction that generates rates of Trash* that are equivalent to or greater than the priority land use(s)* being substituted. The land use area

* See Appendix I for definition of terms.

requested to substitute for a priority land use* need not be an acre-for-acre substitution but may involve one or more priority land uses*, or a fraction of a priority land use*, or both, provided the total trash* generated in the equivalent alternative land use is equivalent to or greater than the total Trash* generated from the priority land use(s)* for which substitution is requested. Comparative Trash* generation rates shall be established through the reporting of quantification measures such as street sweeping and catch basin cleanup records; mapping; visual trash presence surveys, such as the “Keep America Beautiful Visible Litter Survey”; or other information as required by the permitting authority*.

PROPAGULES are structures that are capable of propagating an organism to the next stage in its life cycle via dispersal. Dispersal is the movement of individuals from their birth site to their reproductive grounds.

PROPORTIONAL MORTALITY, P_m , is percentage of larval organisms or propagules* in the source water body* that is expected to be entrained at a desalination facility's* intake. It is assumed that all entrained larvae or propagules* die as a result of entrainment.

RECEIVING WATER, for permitted storm water discharges and nonpoint sources, should be measured at the point of discharge(s), in the surf zone immediately where runoff from an outfall meets the ocean water (a.k.a., at point zero).

SALINITY is a measure of the dissolved salts in a volume of water. For the purposes of this Plan, salinity shall be measured using a standard method approved by the regional water board (e.g. Standard Method 2520 B, EPA Method 120.1, EPA Method 160.1) and reported in parts per thousand (ppt). For historical salinity data not recorded in parts per thousand, the regional water boards may accept converted data at their discretion.

SEAWATER is salt water that is in or from the ocean. For the purposes chapter III.M, seawater includes tidally influenced waters in coastal estuaries and coastal lagoons* and underground salt water beneath the seafloor, beach, or other contiguous land with hydrologic connectivity to the ocean.

SENSITIVE HABITATS, for the purposes of this Plan, are kelp beds,* rocky substrate, surfgrass beds,* eelgrass beds,* oyster beds, spawning grounds for state or federally managed species, market squid nurseries,* or other habitats in need of special protection as determined by the Water Boards.

SHELLFISH are organisms identified by the California Department of Public Health as shellfish for public health purposes (i.e., mussels, clams and oysters).

SIGNIFICANT difference is defined as a statistically significant difference in the means of two distributions of sampling results at the 95 percent confidence level.

SIGNIFICANT TRASH GENERATING AREAS means all locations or facilities within the Department's jurisdiction where Trash* accumulates in substantial amounts, such as:

- (1) Highway on- and off-ramps in high density residential, commercial, and industrial land uses (as such land uses are defined under priority land uses* herein).
- (2) Rest areas and park-and-rides.

* See Appendix I for definition of terms.

- (3) State highways in commercial and industrial land uses (as such land uses are defined under priority land uses* herein).
- (4) Mainline highway segments to be identified by the Department through pilot studies and/or surveys.

SOURCE WATER BODY is the spatial area that contains the organisms that are at risk of entrainment at a desalination facility* as determined by factors that may include, but are not limited to, biological, hydrodynamic, and oceanographic data.

STATE WATER QUALITY PROTECTION AREAS (SWQPAs) are nonterrestrial marine or estuarine areas designated to protect marine species or biological communities from an undesirable alteration in natural water quality. All Areas of Special Biological Significance (ASBS)* that were previously designated by the State Water Board in Resolutions 74-28, 74-32, and 75-61 are now also classified as a subset of State Water Quality Protection Areas and require special protections afforded by this Plan.

STATE WATER QUALITY PROTECTION AREAS – GENERAL PROTECTION (SWQPA-GP) designated by the State Water Board to protect marine species and biological communities from an undesirable alteration in natural water quality within State Marine Parks and State Marine Conservation Areas.

STORM WATER has the same meaning set forth in 40 Code of Federal Regulations section 122.26(b)(13) (Nov. 16, 1990).

SUBSURFACE INTAKE, for the purposes of chapter III.M, is an intake withdrawing seawater* from the area beneath the ocean floor or beneath the surface of the earth inland from the ocean.

SURFGRASS BEDS are aggregations of marine flowering plants of the genus *Phyllospadix*.

TCDD EQUIVALENTS shall mean the sum of the concentrations of chlorinated dibenzodioxins (2,3,7,8-CDDs) and chlorinated dibenzofurans (2,3,7,8-CDFs) multiplied by their respective toxicity factors, as shown in the table below.

* See Appendix I for definition of terms.

Isomer Group	Toxicity Equivalence Factor
	1.0
2,3,7,8-tetra CDD	
2,3,7,8-penta CDD	0.5
2,3,7,8-hexa CDDs	0.1
2,3,7,8-hepta CDD	0.01
octa CDD	0.001
2,3,7,8 tetra CDF	0.1
1,2,3,7,8 penta CDF	0.05
2,3,4,7,8 penta CDF	0.5
2,3,7,8 hexa CDFs	0.1
2,3,7,8 hepta CDFs	0.01
octa CDF	0.001

TRASH means all improperly discarded solid material from any production, manufacturing, or processing operation including, but not limited to, products, product packaging, or containers constructed of plastic, steel, aluminum, glass, paper, or other synthetic or natural materials.

TRASH PROVISIONS are the water quality objective for Trash*, as well as the prohibition of discharge set forth in Chapter III.I and implementation requirements set forth in Chapter III.L herein.

TREATMENT CONTROLS are structural best management practices to either (a) remove pollutants and/or solids from storm water* runoff, wastewater, or effluent, or (b) capture, infiltrate or reuse storm water* runoff, wastewater, or effluent. Treatment controls include full capture systems* and low-impact development controls*.

WASTE: As used in this Plan, waste includes a discharger's total discharge, of whatever origin, i.e., gross, not net, discharge.

WATER RECLAMATION: The treatment of wastewater to render it suitable for reuse, the transportation of treated wastewater to the place of use, and the actual use of treated wastewater for a direct beneficial use or controlled use that would not otherwise occur.

* See Appendix I for definition of terms.

APPENDIX II MINIMUM* LEVELS

The Minimum* Levels identified in this appendix represent the lowest concentration of a pollutant that can be quantitatively measured in a sample given the current state of performance in analytical chemistry methods in California. These Minimum* Levels were derived from data provided by state-certified analytical laboratories in 1997 and 1998 for pollutants regulated by the California Ocean Plan and shall be used until new values are adopted by the State Water Board. There are four major chemical groupings: volatile chemicals, semi-volatile chemicals, inorganics, pesticides & PCBs.* "No Data" is indicated by "--".

**TABLE II-1
MINIMUM* LEVELS – VOLATILE CHEMICALS**

Volatile Chemicals	CAS Number	Minimum* Level (µg/L)	
		GC Method ^a	GCMS Method ^b
Acrolein	107028	2.	5
Acrylonitrile	107131	2.	2
Benzene	71432	0.5	2
Bromoform	75252	0.5	2
Carbon Tetrachloride	56235	0.5	2
Chlorobenzene	108907	0.5	2
Chlorodibromomethane	124481	0.5	2
Chloroform	67663	0.5	2
1,2-Dichlorobenzene (volatile)	95501	0.5	2
1,3-Dichlorobenzene (volatile)	541731	0.5	2
1,4-Dichlorobenzene (volatile)	106467	0.5	2
Dichlorobromomethane	75274	0.5	2
1,1-Dichloroethane	75343	0.5	1
1,2-Dichloroethane	107062	0.5	2
1,1-Dichloroethylene	75354	0.5	2
Dichloromethane	75092	0.5	2
1,3-Dichloropropene (volatile)	542756	0.5	2
Ethyl benzene	100414	0.5	2
Methyl Bromide	74839	1.	2
Methyl Chloride	74873	0.5	2
1,1,2,2-Tetrachloroethane	79345	0.5	2
Tetrachloroethylene	127184	0.5	2
Toluene	108883	0.5	2
1,1,1-Trichloroethane	71556	0.5	2
1,1,2-Trichloroethane	79005	0.5	2
Trichloroethylene	79016	0.5	2
Vinyl Chloride	75014	0.5	2

Table II-1 Notes

- a) GC Method = Gas Chromatography
- b) GCMS Method = Gas Chromatography / Mass Spectrometry
- * To determine the lowest standard concentration in an instrument calibration curve for these techniques, use the given ML (see chapter III, "Use of Minimum* Levels").

* See Appendix I for definition of terms.

TABLE II-2
MINIMUM* LEVELS – SEMI VOLATILE CHEMICALS
 Minimum* Level (µg/L)

Semi-Volatile Chemicals	CAS Number	Minimum* Level (µg/L)			
		GC Method ^{a,*}	GCMS Method ^{b,*}	HPLC Method ^{c,*}	COLOR Method ^d
Acenaphthylene	208968	--	10	0.2	--
Anthracene	120127	--	10	2	--
Benzdine	92875	--	5	--	--
Benzo(a)anthracene	56553	--	10	2	--
Benzo(a)pyrene	50328	--	10	2	--
Benzo(b)fluoranthene	205992	--	10	10	--
Benzo(g,h,i)perylene	191242	--	5	0.1	--
Benzo(k)floranthene	207089	--	10	2	--
Bis 2-(1-Chloroethoxy) methane	111911	--	5	--	--
Bis(2-Chloroethyl)ether	111444	10	1	--	--
Bis(2-Chloroisopropyl)ether	39638329	10	2	--	--
Bis(2-Ethylhexyl) phthalate	117817	10	5	--	--
2-Chlorophenol	95578	2	5	--	--
Chrysene	218019	--	10	5	--
Di-n-butyl phthalate	84742	--	10	--	--
Dibenzo(a,h)anthracene	53703	--	10	0.1	--
1,2-Dichlorobenzene (semivolatile)	95504	2	2	--	--
1,3-Dichlorobenzene (semivolatile)	541731	2	1	--	--
1,4-Dichlorobenzene (semivolatile)	106467	2	1	--	--
3,3-Dichlorobenzidine	91941	--	5	--	--
2,4-Dichlorophenol	120832	1	5	--	--
1,3-Dichloropropene	542756	--	5	--	--
Diethyl phthalate	84662	10	2	--	--
Dimethyl phthalate	131113	10	2	--	--
2,4-Dimethylphenol	105679	1	2	--	--
2,4-Dinitrophenol	51285	5	5	--	--
2,4-Dinitrotoluene	121142	10	5	--	--
1,2-Diphenylhydrazine	122667	--	1	--	--
Fluoranthene	206440	10	1	0.05	--
Fluorene	86737	--	10	0.1	--
Hexachlorobenzene	118741	5	1	--	--
Hexachlorobutadiene	87683	5	1	--	--
Hexachlorocyclopentadiene	77474	5	5	--	--

Table II-2 continued on next page...

* See Appendix I for definition of terms.

Table II-2 (Continued)
Minimum* Levels – Semi Volatile Chemicals

Semi-Volatile Chemicals	CAS Number	Minimum* Level (µg/L)			
		GC Method ^{a,*}	GCMS Method ^{b,*}	HPLC Method ^{c,*}	COLOR Method ^d
Hexachloroethane	67721	5	1	--	--
Indeno(1,2,3-cd)pyrene	193395	--	10	0.05	--
Isophorone	78591	10	1	--	--
2-methyl-4,6-dinitrophenol	534521	10	5	--	--
3-methyl-4-chlorophenol	59507	5	1	--	--
N-nitrosodi-n-propylamine	621647	10	5	--	--
N-nitrosodimethylamine	62759	10	5	--	--
N-nitrosodiphenylamine	86306	10	1	--	--
Nitrobenzene	98953	10	1	--	--
2-Nitrophenol	88755	--	10	--	--
4-Nitrophenol	100027	5	10	--	--
Pentachlorophenol	87865	1	5	--	--
Phenanthrene	85018	--	5	0.05	--
Phenol	108952	1	1	--	50
Pyrene	129000	--	10	0.05	--
2,4,6-Trichlorophenol	88062	10	10	--	--

Table II-2 Notes:

- a) GC Method = Gas Chromatography
- b) GCMS Method = Gas Chromatography / Mass Spectrometry
- c) HPLC Method = High Pressure Liquid Chromatography
- d) COLOR Method= Colorimetric

* To determine the lowest standard concentration in an instrument calibration curve for this technique, multiply the given ML* by 1000 (see chapter III, "Use of Minimum* Levels").

* See Appendix I for definition of terms.

**TABLE II-3
MINIMUM* LEVELS - INORGANICS**

Minimum* Level (µg/L)

Inorganic Substances	CAS Number	COLOR Method ^a	DCP Method ^b	FAA Method ^c	GFAA Method ^d	HYDRIDE Method ^e	ICP Method ^f	ICPMS Method ^g	SPGFAA Method ^h	CVAA Method ⁱ
Antimony	7440360	--	1000.	10.	5.	0.5	50.	0.5	5.	--
Arsenic	7440382	20.	1000.	--	2.	1.	10.	2.	2.	--
Beryllium	7440417	--	1000.	20.	0.5	--	2.	0.5	1.	--
Cadmium	7440439	--	1000.	10.	0.5	--	10.	0.2	0.5	--
Chromium (total)	--	--	1000.	50.	2.	--	10.	0.5	1.	--
Chromium (VI)	18540299	10.	--	5.	--	--	--	--	--	--
Copper	7440508	--	1000.	20.	5.	--	10.	0.5	2.	--
Cyanide	57125	5.	--	--	--	--	--	--	--	--
Lead	7439921	--	10000.	20.	5.	--	5.	0.5	2.	--
Mercury	7439976	--	--	--	--	--	--	0.5	--	0.2
Nickel	7440020	--	1000.	50.	5.	--	20.	1.	5.	--
Selenium	7782492	--	1000.	--	5.	1.	10.	2.	5.	--
Silver	7440224	--	1000.	10.	1.	--	10.	0.2	2.	--
Thallium	7440280	--	1000.	10.	2.	--	10.	1.	5.	--
Zinc	7440666	--	1000.	20.	--	--	20.	1.	10.	--

Table II-3 Notes

- a) COLOR Method = Colorimetric
- b) DCP Method = Direct Current Plasma
- c) FAA Method = Flame Atomic Absorption
- d) GFAA Method = Graphite Furnace Atomic Absorption
- e) HYDRIDE Method = Gaseous Hydride Atomic Absorption
- f) ICP Method = Inductively Coupled Plasma
- g) ICPMS Method = Inductively Coupled Plasma / Mass Spectrometry
- h) SPGFAA Method = Stabilized Platform Graphite Furnace Atomic Absorption (i.e., US EPA 200.9)
- i) CVAA Method = Cold Vapor Atomic Absorption

* To determine the lowest standard concentration in an instrument calibration curve for these techniques, use the given ML* (see chapter III, "Use of Minimum* Levels").

* See Appendix I for definition of terms.

TABLE II-4
MINIMUM* LEVELS – PESTICIDES AND PCBs*

Pesticides – PCBs	CAS Number	Minimum* Level (µg/L)
		GC Method ^{a,*}
Aldrin	309002	0.005
Chlordane*	57749	0.1
4,4'-DDD	72548	0.05
4,4'-DDE	72559	0.05
4,4'-DDT	50293	0.01
Dieldrin	60571	0.01
a-Endosulfan	959988	0.02
b-Endosulfan	33213659	0.01
Endosulfan Sulfate	1031078	0.05
Endrin	72208	0.01
Heptachlor	76448	0.01
Heptachlor Epoxide	1024573	0.01
a-Hexachlorocyclohexane	319846	0.01
b-Hexachlorocyclohexane	319857	0.005
d-Hexachlorocyclohexane	319868	0.005
g-Hexachlorocyclohexane (Lindane)	58899	0.02
PCB 1016	--	0.5
PCB 1221	--	0.5
PCB 1232	--	0.5
PCB 1242	--	0.5
PCB 1248	--	0.5
PCB 1254	--	0.5
PCB 1260	--	0.5
Toxaphene	8001352	0.5

Table II-4 Notes

a) GC Method = Gas Chromatography

* To determine the lowest standard concentration in an instrument calibration curve for this technique, multiply the given ML* by 100 (see chapter III, “Use of Minimum* Levels”).

* See Appendix I for definition of terms.

APPENDIX III STANDARD MONITORING PROCEDURES

1. INTRODUCTION

The purpose of this appendix is to provide guidance to the Regional Water Boards on implementing the Ocean Plan and to ensure the reporting of useful information. Monitoring should be question driven rather than just gathering data and should be focused on assuring compliance with narrative and numeric water quality standards, the status and attainment of beneficial uses, and identifying sources of pollution.

It is not feasible to prescribe requirements in the Ocean Plan that encompass all circumstances and conditions that could be encountered by all dischargers, nor is it desirable to limit the flexibility of the Regional Water Boards in the monitoring of ocean* waters. This appendix should therefore be considered the basic framework for the design of an ocean discharger monitoring program. The Regional Water Boards are responsible for issuing monitoring and reporting programs (MRPs) that will implement this monitoring guidance. Regional Water Boards can deviate from the procedures required in the appendix only with the approval of the State Water Resources Control Board.

This monitoring guidance utilizes a model monitoring framework. The model monitoring framework has three components that comprise a range of spatial and temporal scales: (1) core monitoring, (2) regional monitoring, and (3) special studies.

1) Core monitoring consists of the basic site-specific monitoring necessary to measure compliance with individual effluent limits and/or impacts to receiving water* quality. Core monitoring is typically conducted in the immediate vicinity of the discharge by examining local scale spatial effects.

2) Regional monitoring provides information necessary to make assessments over large areas and serves to evaluate cumulative effects of all anthropogenic inputs. Regional monitoring data also assists in the interpretation of core monitoring studies. It is recommended that the Regional Water Boards require participation by the discharger in an approved regional monitoring program, if available, for the receiving water.* In the event that a regional monitoring effort takes place during a permit cycle in which the MRP does not specifically address regional monitoring, a Regional Water Board may allow relief from aspects of core monitoring components in order to encourage participation.

3) Special studies are directed monitoring efforts designed in response to specific management or research questions identified through either core or regional monitoring programs. Often they are used to help understand core or regional monitoring results, where a specific environmental process is not well understood, or to address unique issues of local importance. Regional Water Boards may require special studies as appropriate. Special studies are not addressed further in this guidance because they are beyond its scope.

The Ocean Plan does not address all site-specific monitoring issues and allows the Regional Water Boards to select alternative protocols with the approval of the State Water Board. If no direction is given in this appendix for a specific provision of the Ocean Plan, it is within the

* See Appendix I for definition of terms.

discretion of the Regional Water Boards to establish the monitoring requirements for that provision.

2. QUALITY ASSURANCE

All receiving* and ambient water monitoring conducted in compliance with MRPs must be comparable with the Quality Assurance requirements of the Surface Water Ambient Monitoring Program (SWAMP).

SWAMP comparable means all sample collection and analyses shall meet or exceed the measurement quality objectives (MQOs) – including all sample types, frequencies, control limits and holding time requirements – as specified in the SWAMP Quality Assurance Project Plan (QAPrP)

The SWAMP QAPrP is located at: http://www.waterboards.ca.gov/water_issues/programs/swamp/tools.shtml#qa.

For those measurements that do not have SWAMP MQOs available, then MQOs shall be at the discretion of the Regional Water Board. Refer to the USEPA guidance document (EPA QA/G-4) for selecting data quality objectives, located at <http://www.epa.gov/quality/qs-docs/g4-final.pdf>.

Water Quality data must be reported according to the California Environmental Data Exchange Network (CEDEN) “Data Template” format for all constituents that are monitored in receiving and ambient water. CEDEN Data Template are available at: <http://ceden.org>.

3. TYPE OF WASTE DISCHARGE SOURCES

Discharges to ocean waters* are highly diverse and variable, exhibiting a wide range of constituents, effluent quality and quantity, location and frequency of discharge. Different types of discharges will require different approaches. This Appendix provides specific direction for three broad types of discharges: (1) Point Sources, (2) Storm Water Point Sources and (3) Non-point Sources.

3.1. Point Sources

Industrial, municipal, marine laboratory and other traditional point sources of pollution that discharge wastewater directly to surface waters and are required to obtain NPDES permits.

3.2. Storm Water Point Sources

Storm Water Point Sources, hereafter referred to as Storm Water Sources, are those NPDES permitted discharges regulated by Construction or Industrial Storm Water General Permits or municipal separate storm sewer system (MS4s) Permits. MS4 Permits are further divided into Phase I and II Permits. A Phase I MS4 Permit is issued by a Regional Water Board for medium (serving between 100,000 and 250,000 people) and large (serving 250,000 or more people) municipalities. A Phase II MS4 General Permit is issued by the State Water Resources Control Board for the discharge of storm water for smaller municipalities, and includes nontraditional Small MS4s, which are governmental facilities such as military bases, public campuses, prison and hospital complexes.

* See Appendix I for definition of terms.

3.3. Non-point Sources

A Non-point Source is any source of pollutants that is not a Point Source described in section 3.1 or a Storm Water Source as described in section 3.2. Land use categories contributing to non-point sources include but are not limited to:

- a. Agriculture
- b. Grazing
- c. Forestry/timber harvest
- d. Urban not covered under an NPDES permit
- e. Marinas and mooring fields
- f. Golf Courses not covered under an NPDES Permit

Only agricultural and golf course related non-point source discharge monitoring is addressed in this Appendix, but Regional Water Boards may issue MRPs for other non-point sources at their discretion. Agriculture includes irrigated lands. Irrigated lands are where water is applied for the purpose of producing crops, including, but not limited to, row and field crop, orchards, vineyard, rice production, nurseries, irrigated pastures, and managed wetlands.

4. INDICATOR BACTERIA*

4.1. Point Sources

Primary questions to be addressed:

1. Does the effluent comply with the water quality standards in the receiving water*?
2. Does the sewage effluent reach water contact zones or commercial shellfish* beds?

To answer these questions, core monitoring shall be conducted in receiving water* on the shoreline for the indicator bacteria* at a minimum weekly for any point sources discharging treated sewage effluent:

- a. within one nautical mile of shore, or
- b. within one nautical mile of a commercial shellfish* bed, or
- c. if the discharge is in excess of 10 million gallons per day (MGD).

Alternatively, these requirements may be met through participation in a regional monitoring program to assess the status of marine contact recreation water quality. If the permittee participates in a regional monitoring program, in conjunction with local health organization(s), core monitoring may be suspended for that period at the discretion of the Regional Water Board. Regional monitoring should be used to answer the above questions, and may be used to answer additional questions. These additional questions may include, but are not limited to, questions regarding the extent and magnitude of current or potential receiving water* indicator bacteria* problems, or the sources of indicator bacteria.*

4.2. Storm Water

Primary questions to be addressed:

1. Does the receiving water* comply with water quality standards?

* See Appendix I for definition of terms.

2. Is the condition of the receiving water* protective of contact recreation and shellfish* harvesting beneficial uses?
3. Are the indicator bacteria* levels in receiving water* getting better or worse?
4. What is the relative contribution of indicator bacteria* to the receiving water* from storm water runoff?

To answer these questions, core monitoring for indicator bacteria* shall be required periodically for storm water discharges representative of the area of concern. At a minimum, for municipal storm water discharges, all receiving water* at outfalls greater than 36 inches in diameter or width must be monitored (ankle depth, point zero) at the following frequencies:

- a. During wet weather with a minimum of three storms per year, and
- b. When non-storm water discharges* occur (flowing during dry weather), and if located at an AB 411 beach, at least weekly. (An AB 411 Beach is defined as a beach visited by more than 50,000 people annually and located on an area adjacent to a storm drain that flows in the summer. (Health & Saf. Code § 115880.)).

Regional Water Boards may waive monitoring once structural best management practices have been installed, evaluated and determined to have successfully controlled indicator bacteria.*

Alternatively, these requirements may be met through participation in a regional monitoring program to assess the status of marine contact recreation water quality. If the permittee participates in a regional monitoring program, in conjunction with local health organization(s), core monitoring may be suspended for that period at the discretion of the Regional Water Board. Regional monitoring should be used to answer the above questions, and may be used to answer additional questions. These additional questions may include, but are not limited to, questions regarding the extent and magnitude of current or potential receiving water* indicator bacteria* problems, or the sources of indicator bacteria.*

4.3. Non-point Sources

Primary questions to be addressed:

1. Does the receiving water* comply with water quality standards?
2. Do agricultural and golf course non-point source discharges reach water contact or shellfish* harvesting zones?
3. Are the indicator bacteria* levels in receiving water* getting better or worse?
4. What is the relative contribution of indicator bacteria* to the receiving water* from agricultural and golf course non-point sources?

To answer these questions, core monitoring of representative agricultural irrigation tail water and storm water runoff, at a minimum, will be conducted in receiving water* (ankle depth, point zero) for indicator bacteria*:

- a. During wet weather, at a minimum of two storm events per year, and
- b. When non-storm water discharges* occur (flowing during dry weather), and if located at an AB 411 beach or within one nautical mile of shellfish* bed, at least weekly.

Alternatively, these requirements may be met through participation in a regional monitoring program to assess the status of marine contact recreation water quality. If the discharger

* See Appendix I for definition of terms.

participates in a regional monitoring program, in conjunction with local health organization(s), core monitoring may be suspended for that period at the discretion of the Regional Water Board. Regional monitoring should be used to answer the above questions, and may be used to answer additional questions. These additional questions may include, but are not limited to, questions regarding the extent and magnitude of current or potential receiving water* indicator bacteria* problems, or the sources of indicator bacteria.*

5. CHEMICAL CONSTITUENTS

5.1. Point Sources

Primary questions addressed:

1. Does the effluent meet permit effluent limits thereby ensuring that water quality standards are achieved in the receiving water*?
2. What is the mass of the constituents that are discharged annually?
3. Is the effluent concentration or mass changing over time?

Consistent with Appendix VI, the core monitoring for the substances in Table 1 and Table 2 shall be required periodically. For discharges less than 10 MGD, the monitoring frequency shall be at least one complete scan of the Table 1 substances annually. Discharges greater than 10 MGD shall be required to monitor at least semiannually.

5.2. Storm Water

Primary questions addressed:

1. Does the receiving water* meet the water quality standards?
2. Are the conditions in receiving water* getting better or worse?
3. What is the relative runoff contribution to pollution in the receiving water*?

For Phase I and Phase II MS4 dischargers, core receiving water* monitoring will be required at a minimum for 10 percent of all outfalls greater than 36 inches in diameter or width once per year. If a discharger has less than five outfalls exceeding 36 inches in diameter or width, they shall conduct monitoring at a minimum of only once per outfall during a five year period. Monitoring shall be for total suspended solids, oil & grease, total organic carbon, pH, temperature, biochemical oxygen demand, turbidity, Table 1 metals, PAHs,* and pesticides determined by the Regional Water Boards. Regional Water Boards may waive monitoring once structural best management practices have been installed, evaluated and determined to have successfully controlled pollutants.

For industrial storm water discharges, runoff monitoring must be conducted at all outfalls at least two storm events per year. In addition, at least one representative receiving water* sample must be collected per industrial storm water permittee during two storm events per year. Monitoring shall be conducted for total suspended solids, oil & grease, total organic carbon, pH, temperature, biochemical oxygen demand, turbidity, and Table 1 metals and PAHs.*

The requirements for individual core monitoring for Table 1 metals, PAHs* and pesticides may be waived at the discretion of the Regional Water Board, if the permittee participates in a regional program for monitoring runoff and/or receiving water* to answer the above questions as

* See Appendix I for definition of terms.

well as additional questions. Additional questions may include, but are not limited to, questions regarding the extent and magnitude of current or potential receiving water* problems from storm water runoff, or sources of any runoff pollutants.

5.3. Non-point Sources

The primary questions are:

1. Does the agricultural or golf course runoff meet water quality standards in the receiving water*?
2. Are nutrients present that would contribute to objectionable aquatic algal blooms or degrade* indigenous biota?
3. Are the conditions in receiving water* getting better or worse?
4. What is the relative agricultural runoff or golf course contribution to pollution in the receiving water*?

To answer these questions, a statistically representative sample (determined by the Regional Water Board) of receiving water* at the sites of agricultural irrigation tail water and storm water runoff, and golf course runoff in each watershed will be monitored for Ocean Plan Table 1 metals, ammonia as N, nitrate as N, phosphate as P, and pesticides determined by the Regional Board:

- a. During wet weather, at a minimum of two storm events per year, and
- b. During dry weather, when flowing, at a frequency determined by the Regional Boards.

This requirement may be satisfied by core monitoring individually, or through participation in a regional program for monitoring runoff and receiving water* at the discretion of the Regional Water Board to answer the above questions as well as additional questions. Additional questions may include, but are not limited to, questions regarding the sources of agricultural pollutants.

6. SEDIMENT MONITORING

All Sources:

1. Is the dissolved sulfide concentration of waters in sediments significantly* increased above that present under natural conditions?
2. Is the concentration of substances set forth in Table 1, for protection of marine aquatic life, in marine sediments at levels which would degrade* the benthic community?
3. Is the concentration of organic pollutants in marine sediments at levels that would degrade* the benthic community?

6.1. Point Sources

For discharges greater than 10 MGD, acid volatile sulfides, OP Pesticides, Table 1 metals, ammonia N, PAHs,* and chlorinated hydrocarbons will be measured in sediments annually in a core monitoring program approved by the Regional Water Board. Sediment sample locations will be determined by the Regional Water Board. If sufficient data exists from previous water column monitoring for these parameters, the Regional Water Board at its discretion may reduce the frequency of monitoring, or may allow this requirement to be satisfied through participation in a regional monitoring program.

* See Appendix I for definition of terms.

6.2. Storm Water

For Phase I MS4 permittees, discharges greater than 72 inches in diameter or width discharging to low energy coastal environments with the likelihood of sediment deposition, acid volatile sulfides, OP Pesticides, Ocean Plan Table 1 metals, ammonia N, PAHs,* and chlorinated hydrocarbons will be measured in sediments once per permit cycle.

Regional Water Boards may waive monitoring once structural best management practices have been installed, evaluated and determined to have successfully controlled pollutants.

This requirement may be satisfied by core monitoring individually or through participation in a regional monitoring program at the discretion of the Regional Water Board. Sediment sample locations will be determined by the Regional Water Board.

7. AQUATIC LIFE TOXICITY

Toxicity tests are another method used to assess risk to aquatic life. These tests assess the overall toxicity of the effluent, including the toxicity of unmeasured constituents and/or synergistic effects of multiple constituents.

7.1. Point Sources

1. Does the effluent meet permit effluent limits for toxicity thereby ensuring that water quality standards are achieved in the receiving water*?
2. If not:
 - a. Are unmeasured pollutants causing risk to aquatic life?
 - b. Are pollutants in combinations causing risk to aquatic life?

Core monitoring for Table 1 effluent toxicity shall be required periodically. For discharges less than 0.1 MGD the monitoring frequency for acute and/or chronic toxicity* shall be twice per permit cycle. For discharges between 0.1 and 10 MGD, the monitoring frequency for acute and/or chronic toxicity* of the effluent should be at least annually. For discharges greater than 10 MGD, the monitoring frequency for acute and/or chronic toxicity* of the effluent should be at least semiannually.

For discharges greater than 10 MGD in a low energy coastal environment with the likelihood of sediment deposition, Core monitoring for acute sediment toxicity is required and will utilize alternative amphipod species (*Eohaustorius estuarius*, *Leptocheirus plumulosus*, *Rhepoxynius abronius*).

If an exceedance is detected, six additional toxicity tests are required within a 12-week period. If an additional exceedance is detected within the 12-week period, a toxicity reduction evaluation (TRE) is required, consistent with chapter III.C.10 that requires a TRE if a discharge consistently exceeds an effluent limitation based on a toxicity objective in Table 1.

7.2. Storm Water

1. Does the runoff meet objectives for toxicity in the receiving water*?
2. Are the conditions in receiving water* getting better or worse with regard to toxicity

* See Appendix I for definition of terms.

3. What is the relative runoff contribution to the receiving water* toxicity?
4. What are the causes of the toxicity* and the sources of the constituents responsible?

For Phase I MS4, Phase II MS4, and industrial storm water discharges, core toxicity monitoring will be required at a minimum for 10 percent of all outfalls greater than 36 inches in diameter or width at a minimum of once per year. Receiving water* monitoring shall be for Table 1 critical life stage chronic toxicity* for a minimum of one invertebrate species.

For storm water discharges greater than 72 inches in diameter or width in a low energy coastal environment with the likelihood of sediment deposition, core sediment monitoring for acute sediment toxicity is required and will utilize alternative amphipod species (*Eohaustorius estuarius*, *Leptocheirus plumulosus*, *Rhepoxynius abronius*).

Regional Water Boards may waive monitoring once structural best management practices have been installed, evaluated and determined to have successfully controlled toxicity.

If an exceedance is detected, an additional toxicity test is required during the subsequent storm event. If an additional exceedance is detected at that time, a TRE is required, consistent with chapter III.C.10 that requires a TRE if a discharge consistently exceeds an effluent limitation based on a toxicity objective in Table 1. A sufficient volume must be collected to conduct a TIE, if necessary, as a part of a TRE.

The requirement for core toxicity monitoring may be waived at the discretion of the Regional Water Board, if the permittee participates in a regional monitoring program to answer the above questions, as well as any other additional questions that may be developed by the regional monitoring program.

7.3. Non-point Sources

1. Does the agricultural and golf course runoff meet water quality standards for toxicity in the receiving water*?
2. Are the conditions in receiving water* getting better or worse with regard to toxicity?
3. What is the relative agricultural and golf course runoff contribution to receiving water* toxicity?
4. What are the causes of the toxicity, and the sources of the constituents responsible?

To answer these questions, a statistically representative sample (determined by the Regional Water Board) of receiving water* at the sites of agricultural irrigation tail water and storm water runoff, and golf course runoff, in each watershed will be monitored:

- a. During wet weather, at a minimum of two storm events per year, and
- b. During dry weather, when flowing, at a frequency determined by the Regional Boards.

Core receiving water* monitoring shall include Table 1 critical life stage chronic toxicity* for a minimum of one invertebrate species.

For runoff in a low energy coastal environment with the likelihood of sediment deposition, core sediment monitoring shall include acute sediment toxicity utilizing alternative amphipod species (*Eohaustorius estuarius*, *Leptocheirus plumulosus*, *Rhepoxynius abronius*) at a minimum once per year.

* See Appendix I for definition of terms.

If an exceedance is detected, an additional toxicity test is required during the subsequent storm event. If an additional exceedance is detected, a TRE is required, consistent with chapter III.C.10 that requires a TRE if a discharge consistently exceeds an effluent limitation based on a toxicity objective in Table 1. A sufficient volume must be collected to conduct a TIE, if necessary, as a part of a TRE.

The requirement for core monitoring may be waived at the discretion of the Regional Water Board, if the permittee participates in a regional monitoring program to answer the above questions, as well as any other additional questions that may be developed by the regional monitoring program.

8. BENTHIC COMMUNITY HEALTH

8.1. Point Sources

1. Are benthic communities degraded* as a result of the discharge?

To answer this question, benthic community monitoring shall be conducted

- a. for all discharges greater than 10 MGD, or
- b. those discharges greater than 0.1 MGD and one nautical mile or less from shore, or
- c. discharges greater than 0.1 MGD and one nautical mile or less from a State Water Quality Protection Area* or a State Marine Reserve.

The minimum frequency shall be once per permit cycle, except for discharges greater than 100 MGD the minimum frequency shall be at least twice per permit cycle.

This requirement may be satisfied by core monitoring individually or through participation in a regional monitoring program at the discretion of the Regional Board.

9. BIOACCUMULATION

9.1. Point Sources

1. Does the concentration of pollutants in fish, shellfish,* or other marine resources used for human consumption bioaccumulate to levels that are harmful to human health?
2. Does the concentration of pollutants in marine life bioaccumulate to levels that degrade* marine communities?

To answer these questions, bioaccumulation monitoring shall be conducted, at a minimum, once per permit cycle for:

- a. discharges greater than 10 MGD, or
- b. those discharges greater than 0.1 MGD and one nautical mile or less from shore, or
- c. discharges greater than 0.1 MGD and one nautical mile or less from a State Water Quality Protection Area* or a State Marine Reserve, Park or Conservation Area.

Constituents to be monitored must include pesticides (at the discretion of the Regional Board), Table 1 metals, and PAHs.* Bioaccumulation may be monitored by a mussel watch program or a fish tissue program. Resident mussels are preferred over transplanted mussels. Sand crabs

* See Appendix I for definition of terms.

and/or fish may be added or substituted for mussels at the discretion of the Regional Water Board.

This requirement may be satisfied individually as core monitoring or through participation in a regional monitoring program at the discretion of the Regional Water Board.

9.2. Storm Water

1. Does the concentration of pollutants in fish, shellfish,* or other marine resources used for human consumption bioaccumulate to levels that are harmful to human health?
2. Does the concentration of pollutants in marine life bioaccumulate to levels that degrade* marine communities?

For Phase I MS4 dischargers, bioaccumulation monitoring shall be conducted, at a minimum, once per permit cycle. Constituents to be monitored must include OP Pesticides, Ocean Plan Table 1 metals, Table 1 PAHs,* Table 1 chlorinated hydrocarbons, and pyrethroids.

Bioaccumulation may be monitored by a mussel watch program or a fish tissue program. Sand crabs, fish, and/or Solid Phase Microextraction may be added or substituted for mussels at the discretion of the Regional Water Board.

This requirement may be satisfied individually as core monitoring or through participation in a regional monitoring program at the discretion of the Regional Water Board.

10. RECEIVING WATER* CHARACTERISTICS

All Sources:

1. Is natural light* significantly* reduced at any point outside the zone of initial dilution* as the result of the discharge of waste*?
2. Does the discharge of waste* cause a discoloration of the ocean surface?
3. Does the discharge of oxygen demanding waste* cause the dissolved oxygen concentration to be depressed at any time more than 10 percent from that which occurs naturally, as the result of the discharge of oxygen demanding* waste* materials*?
4. Does the discharge of waste* cause the pH to change at any time more than 0.2 units from that which occurs naturally?
5. Does the discharge of waste* cause the salinity* to become elevated in the receiving water*?
6. Do nutrients cause objectionable aquatic growth or degrade* indigenous biota?

10.1. Point Sources

For discharges greater than 10 MGD, turbidity (alternatively light transmissivity or surface water transparency), color [Chlorophyll-A and/or color dissolved organic matter (CDOM)], dissolved oxygen and pH shall be measured in the receiving water* seasonally, at a minimum, in a core monitoring program approved by the Regional Water Board. If sufficient data exists from previous water column monitoring for these parameters, the Regional Water Board, at its discretion, may reduce the frequency of water column monitoring, or may allow this requirement to be satisfied through participation in a regional monitoring program. Use of regional ocean observing programs, such as the Southern California Coastal Ocean Observing System

* See Appendix I for definition of terms.

(SCCOOS) and the Central and Northern California Ocean Observing System (CeNCCOOS) is encouraged.

Salinity* must also be monitored by all point sources discharging brine* as part of their core monitoring program. Seawater desalination facilities* discharging brine* into ocean waters* and wastewater facilities that receive brine from seawater desalination facilities and discharge into ocean waters shall monitor salinity as described in chapter III.M.4.

10.2. Storm Water

At a minimum, 10 percent of Phase I MS4 discharges greater than 36 inches, receiving water* turbidity, color, dissolved oxygen, pH, nitrate, phosphate, and ammonia shall be measured annually in a core monitoring program approved by the Regional Water Board.

Regional Water Boards may waive monitoring once structural best management practices have been installed, evaluated and determined to have successfully controlled pollutants. The Regional Water Board, at its discretion, may also allow this requirement to be satisfied through participation in a regional monitoring program.

10.3. Non-point Sources

Representative agricultural and golf course discharges shall be measured, at a minimum twice annually (during two storm season and irrigation season) for receiving water* turbidity, color, dissolved oxygen, pH, nitrate, phosphate, ammonia in a core monitoring program approved by the Regional Water Board. The Regional Water Board, at its discretion, may allow this requirement to be satisfied through participation in a regional monitoring program.

11. ANALYTICAL REQUIREMENTS

Procedures, calibration techniques, and instrument/reagent specifications shall conform to the requirements of 40 CFR PART 136. Compliance monitoring shall be determined using an US EPA approved protocol as provided in 40 CFR PART 136. All methods shall be specified in the monitoring requirement section of waste* discharge requirements.

Where methods are not available in 40 CFR PART 136, the Regional Water Boards shall specify suitable analytical methods in waste* discharge requirements. Acceptance of data should be predicated on demonstrated laboratory performance.

Laboratories analyzing monitoring data shall be certified by the California Department of Public Health, in accordance with the provisions of Water Code section 13176, and must include quality assurance quality control data with their reports.

Sample dilutions for total and fecal coliform bacterial analyses shall range from 2 to 16,000. Sample dilutions for enterococcus bacterial analyses shall range from 1 to 10,000 per 100 mL. Each test method number or name (e.g., EPA 600/4-85/076, Test Methods for *Escherichia coli* and *Enterococci* in Water by Membrane Filter Procedure) used for each analysis shall be specified and reported with the results.

* See Appendix I for definition of terms.

Test methods used for coliforms (total and fecal) shall be those presented in Table 1A of 40 CFR PART 136, unless alternate methods have been approved in advance by U.S. EPA pursuant to 40 CFR PART 136.

Test methods used for enterococcus shall be those presented in U.S. EPA publication EPA 600/4-85/076, Test Methods for *Escherichia coli* and *Enterococci* in Water by Membrane Filter Procedure or any improved method determined by the Regional Board to be appropriate. The Regional Water Board may allow analysis for *Escherichia coli* (*E. coli*) by approved test methods to be substituted for fecal coliforms if sufficient information exists to support comparability with approved methods and substitute the existing methods.

The State or Regional Water Board may, subject to U.S. EPA approval, specify test methods which are more sensitive than those specified in 40 CFR PART 136. Because storm water and non-point sources are not assigned a dilution factor, sufficient sampling and analysis shall be required to determine compliance with Table 1 Water Quality Objectives. Total chlorine residual is likely to be a method detection limit effluent limitation in many cases. The limit of detection of total chlorine residual in standard test methods is less than or equal to 20 µg/L.

Toxicity monitoring requirements in permits prepared by the Regional Water Boards shall use marine test species instead of freshwater species when measuring compliance. The Regional Water Board shall require the use of critical life stage toxicity tests specified in this Appendix to measure TUc. For Point Sources, a minimum of three test species with approved test protocols shall be used to measure compliance with the toxicity objective. If possible, the test species shall include a fish, an invertebrate, and an aquatic plant. After a screening period, monitoring can be reduced to the most sensitive species.

Dilution and control water should be obtained from an unaffected area of the receiving waters.* The sensitivity of the test organisms to a reference toxicant shall be determined concurrently with each bioassay test and reported with the test results.

Use of critical life stage bioassay testing shall be included in waste* discharge requirements as a monitoring requirement for all Point Source discharges greater than 100 MGD

Procedures and methods used to determine compliance with benthic monitoring should use the following federal guidelines when applicable: Macroinvertebrate Field and Laboratory Methods for Evaluating the Biological Integrity of Surface Waters (1990) -- EPA/600/4-90/030 (PB91-171363). This manual describes guidelines and standardized procedures for the use of macroinvertebrates in evaluating the biological integrity of surface waters.

Procedures used to determine compliance with bioaccumulation monitoring should use the U.S. EPA. Guidance for Assessing Chemical Contaminant Data for Use in Fish Advisories (November 2000, EPA 823-B-00-007), NOAA Technical Memorandum NOS ORCA 130, Sampling and Analytical Methods of the National Status and Trends Program Mussel Watch Project (1998 update), and/or State Mussel Watch Program, 1987-1993 Data Report, State Water Resources Control Board 94-1WQ.

* See Appendix I for definition of terms.

**TABLE III-1
APPROVED TESTS – CHRONIC TOXICITY* (TUc)**

<u>Species</u>	<u>Effect</u>	<u>Tier</u>	<u>Reference</u>
giant kelp, <i>Macrocystis pyrifera</i>	percent germination; germ tube length	1	1,3
red abalone, <i>Haliotis rufescens</i>	Abnormal shell development	1	1,3
oyster, <i>Crassostrea gigas</i> ; mussels, <i>Mytilus spp.</i>	Abnormal shell development; percent survival	1	1,3
urchin, <i>Strongylocentrotus purpuratus</i> ; sand dollar, <i>Dendraster excentricus</i>	Percent normal development	1	1,3
urchin, <i>Strongylocentrotus purpuratus</i> ; sand dollar, <i>Dendraster excentricus</i>	Percent fertilization	1	1,3
shrimp, <i>Holmesimysis costata</i>	Percent survival; growth	1	1,3
shrimp, <i>Mysidopsis bahia</i>	Percent survival; growth; fecundity	2	2,4
topsmelt, <i>Atherinops affinis</i>	Larval growth rate; percent survival	1	1,3
Silversides, <i>Menidia beryllina</i>	Larval growth rate; percent survival	2	2,4

Table III-1 Notes

The first tier test methods are the preferred toxicity tests for compliance monitoring. A Regional Water Board can approve the use of a second tier test method for waste* discharges if first tier organisms are not available.

* See Appendix I for definition of terms.

Protocol References

1. Chapman, G.A., D.L. Denton, and J.M. Lazorchak. 1995. Short-term methods for estimating the chronic toxicity of effluents and receiving waters to west coast marine and estuarine organisms. U.S. EPA Report No. EPA/600/R-95/136.
2. Klemm, D.J., G.E. Morrison, T.J. Norberg-King, W.J. Peltier, and M.A. Heber. 1994. Short-term methods for estimating the chronic toxicity of effluents and receiving water to marine and estuarine organisms. U.S. EPA Report No. EPA-600-4-91-003.
3. SWRCB 1996. Procedures Manual for Conducting Toxicity Tests Developed by the Marine Bioassay Project. 96-1WQ.
4. Weber, C.I., W.B. Horning, I.I., D.J. Klemm, T.W. Nieheisel, P.A. Lewis, E.L. Robinson, J. Menkedick and F. Kessler (eds). 1988. Short-term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Marine and Estuarine Organisms. EPA/600/4-87/028. National Information Service, Springfield, VA.

* See Appendix I for definition of terms.

**APPENDIX IV
PROCEDURES FOR THE NOMINATION AND DESIGNATION OF
STATE WATER QUALITY PROTECTION AREAS.***

1. Any person may nominate areas of ocean* waters for designation as SWQPA-ASBS or SWQPA-GP by the State Water Board. Nominations shall be made to the appropriate Regional Water Board and shall include:
 - (a) Information such as maps, reports, data, statements, and photographs to show that:
 - (1) Candidate areas are located in ocean* waters as defined in the "Ocean Plan".
 - (2) Candidate areas are intrinsically valuable or have recognized value to man for scientific study, commercial use, recreational use, or esthetic reasons.
 - (3) Candidate areas need protection beyond that offered by waste* discharge restrictions or other administrative and statutory mechanisms.
 - (b) Data and information to indicate whether the proposed designation may have a significant* effect on the environment.
 - (1) If the data or information indicate that the proposed designation will have a significant* effect on the environment, the nominee must submit sufficient information and data to identify feasible changes in the designation that will mitigate or avoid the significant* environmental effects.
2. The State Water Board or a Regional Water Board may also nominate areas for designation as SWQPA-ASBS or SWQPA-GP on their own motion.
3. A Regional Water Board may decide to (a) consider individual SWQPA-ASBS or SWQPA-GP nominations upon receipt, (b) consider several nominations in a consolidated proceeding, or (c) consider nominations in the triennial review of its water quality control plan (basin plan). A nomination that meets the requirements of 1. above may be considered at any time but not later than the next scheduled triennial review of the appropriate basin plan or Ocean Plan.
4. After determining that a nomination meets the requirements of paragraph 1. above, the Executive Officer of the affected Regional Water Board shall prepare a Draft Nomination Report containing the following:
 - (a) The area or areas nominated for designation as SWQPA-ASBS or SWQPA-GP.
 - (b) A description of each area including a map delineating the boundaries of each proposed area.
 - (c) A recommendation for action on the nomination(s) and the rationale for the recommendation. If the Draft Nomination Report recommends approval of the proposed designation, the Draft Nomination Report shall comply with the CEQA documentation requirements for a water quality control plan amendment in section 3777, title 23, California Code of Regulations.

* See Appendix I for definition of terms.

5. The Executive Officer shall, at a minimum, seek informal comment on the Draft Nomination Report from the State Water Board, Department of Fish and Game, other interested state and federal agencies, conservation groups, affected waste dischargers, and other interested parties. Upon incorporation of responses from the consulted agencies, the Draft Nomination Report shall become the Final Nomination Report.
6.
 - (a) If the Final Nomination Report recommends approval of the proposed designation, the Executive Officer shall ensure that processing of the nomination complies with the CEQA consultation requirements in section 3778, Title 23, California Code of Regulations and proceed to step 7 below.
 - (b) If the Final Nomination Report recommends against approval of the proposed designation, the Executive Officer shall notify interested parties of the decision. No further action need be taken. The nominating party may seek reconsideration of the decision by the Regional Water Board itself.
7. The Regional Water Board shall conduct a public hearing to receive testimony on the proposed designation. Notice of the hearing shall be published three times in a newspaper of general circulation in the vicinity of the proposed area or areas and shall be distributed to all known interested parties 45 days in advance of the hearing. The notice shall describe the location, boundaries, and extent of the area or areas under consideration, as well as proposed restrictions on waste* discharges within the area.
8. The Regional Water Board shall respond to comments as required in section 3779, Title 23, California Code of Regulations, and 40 C.F.R. Part 25 (July 1, 1999).
9. The Regional Water Board shall consider the nomination after completing the required public review processes required by CEQA.
 - (a) If the Regional Water Board supports the recommendation for designation, the board shall forward to the State Water Board its recommendation for approving designation of the proposed area or areas and the supporting rationale. The Regional Water Board submittal shall include a copy of the staff report, hearing transcript, comments, and responses to comments.
 - (b) If the Regional Water Board does not support the recommendation for designation, the Executive Officer shall notify interested parties of the decision, and no further action need be taken.
10. After considering the Regional Water Board recommendation and hearing record, the State Water Board may approve or deny the recommendation, refer the matter to the Regional Water Board for appropriate action, or conduct further hearing itself. If the State Water Board acts to approve a recommended designation, the State Water Board shall amend Appendix V, Table V-1, of this Plan. The amendment will go into effect after approval by the Office of Administrative Law and US EPA. In addition, after the effective date of a designation, the affected Regional Water Board shall revise its water quality control plan in the next triennial review to include the designation.

* See Appendix I for definition of terms.

12. The State Water Board Executive Director shall advise other agencies to whom the list of designated areas is to be provided that the basis for an SWQPA-ASBS or SWQPA-GP designation is limited to protection of marine life from waste* discharges.

* See Appendix I for definition of terms.

**APPENDIX V
STATE WATER QUALITY PROTECTION AREAS*
AREAS OF SPECIAL BIOLOGICAL SIGNIFICANCE***

**TABLE V-1
STATE WATER QUALITY PROTECTION AREAS*
AREAS OF SPECIAL BIOLOGICAL SIGNIFICANCE*
(DESIGNATED OR APPROVED BY THE STATE WATER RESOURCES CONTROL BOARD)**

No.	ASBS Name	Date Designated	State Water Board Resolution No.	Region No.
1.	Jughandle Cove	March 21, 1974,	74-28	1
2.	Del Mar Landing	March 21, 1974,	74-28	1
3.	Gerstle Cove	March 21, 1974,	74-28	1
4.	Bodega	March 21, 1974,	74-28	1
5.	Saunders Reef	March 21, 1974,	74-28	1
6.	Trinidad Head	March 21, 1974,	74-28	1
7.	King Range	March 21, 1974,	74-28	1
8.	Redwoods National Park	March 21, 1974,	74-28	1
9.	James V. Fitzgerald	March 21, 1974,	74-28	2
10.	Farallon Islands	March 21, 1974,	74-28	2
11.	Duxbury Reef	March 21, 1974,	74-28	2
12.	Point Reyes Headlands	March 21, 1974,	74-28	2
13.	Double Point	March 21, 1974,	74-28	2
14.	Bird Rock	March 21, 1974,	74-28	2
15.	Año Nuevo	March 21, 1974,	74-28	3
16.	Point Lobos	March 21, 1974,	74-28	3
17.	San Miguel, Santa Rosa, and Santa Cruz Islands	March 21, 1974,	74-28	3
18.	Julia Pfeiffer Burns	March 21, 1974,	74-28	3
19.	Pacific Grove	March 21, 1974,	74-28	3
20.	Salmon Creek Coast	March 21, 1974,	74-28	3
21.	San Nicolas Island and Begg Rock	March 21, 1974,	74-28	4
22.	Santa Barbara and Anacapa Islands	March 21, 1974,	74-28	4
23.	San Clemente Island	March 21, 1974,	74-28	4

Table V-1 Continued on next page...

* See Appendix I for definition of terms.

Table V-1 (Continued)
Areas of Special Biological Significance*
(Designated or Approved by the State Water Resources Control Board)

No.	ASBS Name	Date Designated	State Water Board Resolution No.	Region No.
24.	Laguna Point to Latigo Point	March 21, 1974,	74-28	4
25.	Northwest Santa Catalina Island	March 21, 1974,	74-28	4
26.	Western Santa Catalina Island	March 21, 1974,	74-28	4
27.	Farnsworth Bank	March 21, 1974,	74-28	4
28.	Southeast Santa Catalina	March 21, 1974,	74-28	4
29.	La Jolla	March 21, 1974,	74-28	9
30.	Heisler Park	March 21, 1974,	74-28	9
31.	San Diego-Scripps	March 21, 1974,	74-28	9
32.	Robert E. Badham	April 18, 1974	74-32	8
33.	Irvine Coast	April 18, 1974	74-32	8,9
34.	Carmel Bay	June 19, 1975	75-61	3

* See Appendix I for definition of terms.

APPENDIX VI

REASONABLE POTENTIAL ANALYSIS PROCEDURE FOR DETERMINING WHICH TABLE 1 OBJECTIVES REQUIRE EFFLUENT LIMITATIONS

In determining the need for an effluent limitation, the Regional Water Board shall use all representative information to characterize the pollutant discharge using a scientifically defensible statistical method that accounts for the averaging period of the water quality objective, accounts for and captures the long-term variability of the pollutant in the effluent, accounts for limitations associated with sparse data sets, accounts for uncertainty associated with censored data sets, and (unless otherwise demonstrated) assumes a lognormal distribution of the facility-specific effluent data.

The purpose of the following procedure (see also Figure VI-1) is to provide direction to the Regional Water Boards for determining if a pollutant discharge causes, has the reasonable potential to cause, or contributes to an excursion above Table 1 water quality objectives in accordance with 40 CFR 122.44 (d)(1)(iii). The Regional Water Board may use an alternative approach for assessing reasonable potential such as an appropriate stochastic dilution model that incorporates both ambient and effluent variability. The permit fact sheet or statement of basis will document the justification or basis for the conclusions of the reasonable potential assessment. This appendix does not apply to permits or any portion of a permit where the discharge is regulated through best management practices (BMP) unless such discharge is also subject to numeric effluent limitations.

Step 1: Identify C_o , the applicable water quality objective from Table 1 for the pollutant.

Step 2: Does information about the receiving water* body or the discharge support a reasonable potential assessment (RPA) without characterizing facility-specific effluent monitoring data? If yes, go to *Step 13* to conduct an RPA based on best professional judgment (BPJ). Otherwise, proceed to *Step 3*.

Step 3: Is facility-specific effluent monitoring data available? If yes, proceed to *Step 4*. Otherwise, go to *Step 13*.

Step 4: Adjust all effluent monitoring data C_e , including censored (ND or DNQ) values to the concentration X expected after complete mixing. For Table 1 pollutants use $X = (C_e + D_m C_s) / (D_m + 1)$; for acute toxicity* use $X = C_e / (0.1 D_m + 1)$; where D_m is the minimum probable initial dilution* expressed as parts seawater* per part wastewater and C_s is the background seawater* concentration from Table 3. For ND values, C_e is replaced with "<MDL*;" for DNQ values C_e is replaced with "<ML.*" Go to *Step 5*.

Step 5: Count the total number of samples n , the number of censored (ND or DNQ) values, c and the number of detected values, d , such that $n = c + d$.

Is any *detected* pollutant concentration after complete mixing greater than C_o ? If yes, the discharge causes an excursion of C_o ; go to *Endpoint 1*. Otherwise, proceed to *Step 6*.

Step 6: Does the effluent monitoring data contain three or more detected observations ($d \geq 3$)? If yes, proceed to *Step 7* to conduct a parametric RPA. Otherwise, go to *Step 11* to conduct a nonparametric RPA.

* See Appendix I for definition of terms.

Step 7: Conduct a parametric RPA. Assume data are lognormally distributed, unless otherwise demonstrated. Does the data consist entirely of detected values ($c/n = 0$)? If yes,

- calculate summary statistics M_L and S_L , the mean and standard deviation of the natural logarithm transformed effluent data expected after complete mixing, $\ln(X)$,
- go to *Step 9*.

Otherwise, proceed to *Step 8*.

Step 8: Is the data censored by 80% or less ($c/n \leq 0.8$)? If yes,

- calculate summary statistics M_L and S_L using the censored data analysis method of Helsel and Cohn (1988),
- go to *Step 9*.

Otherwise, go to *Step 11*.

Step 9: Calculate the UCB i.e., the one-sided, upper 95 percent confidence bound for the 95th percentile of the effluent distribution after complete mixing. For lognormal distributions, use $UCBL_{(.95,.95)} = \exp(M_L + S_L g'_{(.95,.95,n)})$, where g' is a normal tolerance factor obtained from the table below (Table VI-1). Proceed to *Step 10*.

Step 10: Is the UCB greater than C_o ? If yes, the discharge has a reasonable potential to cause an excursion of C_o ; go to *Endpoint 1*. Otherwise, the discharge has no reasonable potential to cause an excursion of C_o ; go to *Endpoint 2*.

Step 11: Conduct a non-parametric RPA. Compare each data value X to C_o . Reduce the sample size n by 1 for each tie (i.e., inconclusive censored value result) present. An adjusted ND value having $C_o < MDL^*$ is a tie. An adjusted DNQ value having $C_o < ML^*$ is also a tie.

Step 12: Is the adjusted $n > 15$? If yes, the discharge has no reasonable potential to cause an excursion of C_o ; go to *Endpoint 2*. Otherwise, go to *Endpoint 3*.

Step 13: Conduct an RPA based on BPJ. Review all available information to determine if a water quality-based effluent limitation is required, notwithstanding the above analysis in *Steps 1* through *12*, to protect beneficial uses. Information that may be used includes: the facility type, the discharge type, solids loading analysis, lack of dilution, history of compliance problems, potential toxic impact of discharge, fish tissue residue data, water quality and beneficial uses of the receiving water,* CWA 303(d) listing for the pollutant, the presence of endangered or threatened species or critical habitat, and other information.

Is data or other information unavailable or insufficient to determine if a water quality-based effluent limitation is required? If yes, go to *Endpoint 3*. Otherwise, go to either *Endpoint 1* or *Endpoint 2* based on BPJ.

Endpoint 1: An effluent limitation must be developed for the pollutant. Effluent monitoring for the pollutant, consistent with the monitoring frequency in Appendix III, is required.

Endpoint 2: An effluent limitation is not required for the pollutant. Appendix III effluent monitoring is not required for the pollutant; the Regional Board, however, may require occasional monitoring for the pollutant or for whole effluent toxicity as appropriate.

* See Appendix I for definition of terms.

Endpoint 3: The RPA is inconclusive. Monitoring for the pollutant or whole effluent toxicity testing, consistent with the monitoring frequency in Appendix III, is required. An existing effluent limitation for the pollutant shall remain in the permit, otherwise the permit shall include a reopener clause to allow for subsequent modification of the permit to include an effluent limitation if the monitoring establishes that the discharge causes, has the reasonable potential to cause, or contributes to an excursion above a Table 1 water quality objective.

Appendix VI References:

Helsel D. R. and T. A. Cohn. 1988. Estimation of descriptive statistics for multiply censored water quality data. *Water Resources Research*, Vol 24(12):1977-2004.

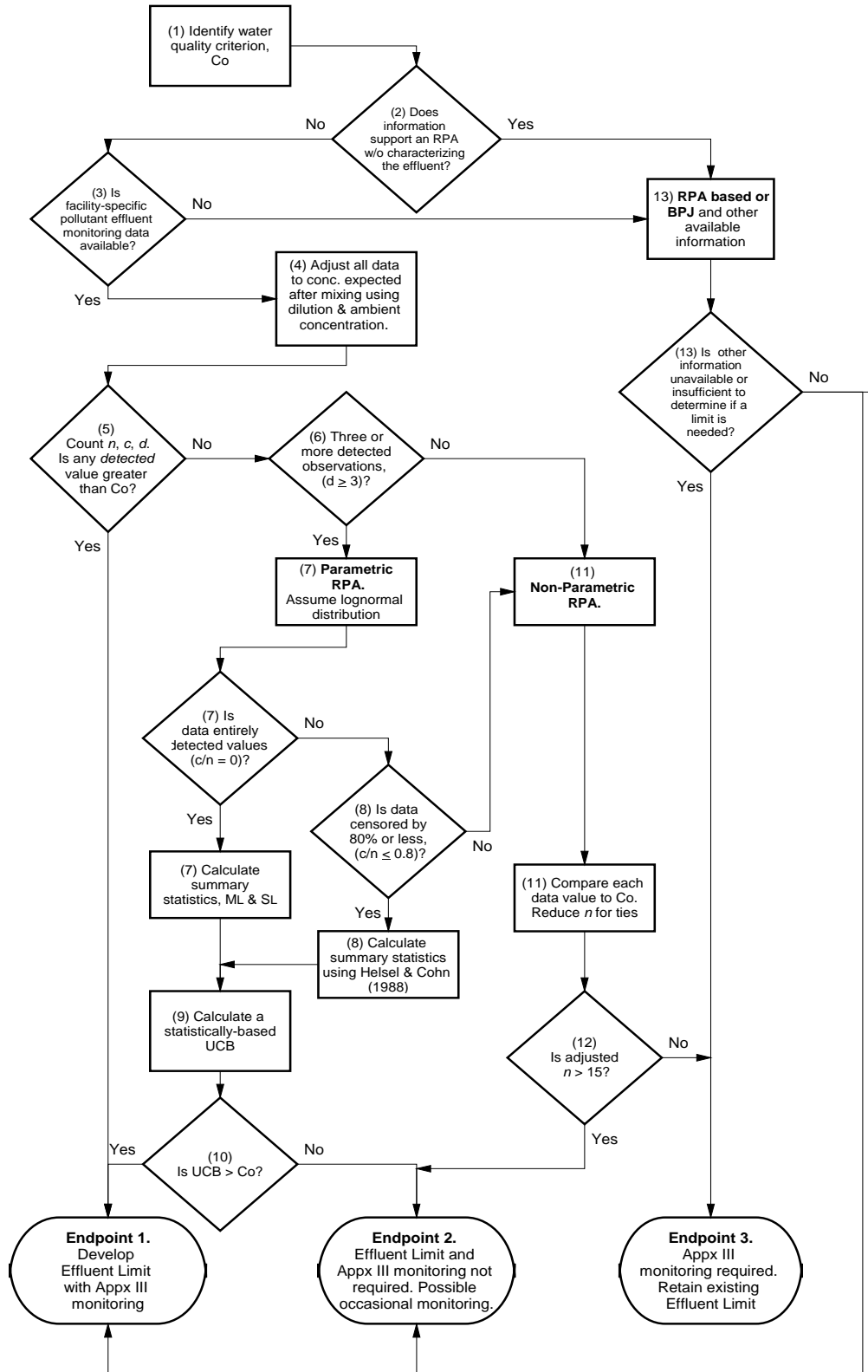
Hahn J. H. and W. Q. Meeker. 1991. *Statistical Intervals, A guide for practitioners*. J. Wiley & Sons, NY.

TABLE VI-1: Tolerance factors $g'_{(.95,.95,n)}$ for calculating normal distribution one-sided upper 95 percent tolerance bounds for the 95th percentile (Hahn & Meeker 1991)

<i>n</i>	$g'_{(.95,.95,n)}$	<i>n</i>	$g'_{(.95,.95,n)}$
2	26.260	21	2.371
3	7.656	22	2.349
4	5.144	23	2.328
5	4.203	24	2.309
6	3.708	25	2.292
7	3.399	26	2.275
8	3.187	27	2.260
9	3.031	28	2.246
10	2.911	29	2.232
11	2.815	30	2.220
12	2.736	35	2.167
13	2.671	40	2.125
14	2.614	50	2.065
15	2.566	60	2.022
16	2.524	120	1.899
17	2.486	240	1.819
18	2.453	480	1.766
19	2.423	∞	1.645
20	2.396		

* See Appendix I for definition of terms.

Figure VI-1. Reasonable potential analysis flow chart



* See Appendix I for definition of terms.

APPENDIX VII

EXCEPTIONS TO THE CALIFORNIA OCEAN PLAN

**TABLE VII-1
EXCEPTIONS TO THE OCEAN PLAN**

(GRANTED BY THE STATE WATER RESOURCES CONTROL BOARD)

Year	Resolution	Applicable Provision	Discharger
1977	77-11	Discharge Prohibition, ASBS #23	US Navy San Clemente Island
1979	79-16	Discharge Prohibition for wet weather discharges from combined storm and wastewater collection system.	The City and County of San Francisco
1983	83-78	Discharge Prohibition, ASBS #7	Humboldt County Resort Improvement District No.1
1984	84-78	Discharge Prohibition, ASBS #34	Carmel Sanitary District
1988	88-80	Total Chlorine Residual Limitation	Haynes Power Plant Harbor Power Plant Scattergood Power Plant Alamitos Power Plant El Segundo Power Plant Long Beach Power Plant Mandalay Power Plant Ormond Beach Power Plant Redondo Power Plant
1990	90-105	Discharge Prohibition, ASBS #21	US Navy San Nicolas Island
2004	2004-0052	Discharge Prohibition, ASBS #31	UC Scripps Institution of Oceanography
2006	2006-0013	Discharge Prohibition, ASBS #25	USC Wrigley Marine Science Center
2007	2007-0058	Discharge Prohibition, ASBS #4	UC Davis Bodega Marine Laboratory
2011	2011-0049	Discharge Prohibition, ASBS #6	HSU Telonicher Marine lab
2011	2011-0050	Discharge Prohibition, ASBS #19	Monterey Bay Aquarium
2011	2011-0051	Discharge Prohibition, ASBS #19	Stanford Hopkins Marine Station
2012	2012-0012, as amended on June 19 2012; in 2012-0031	ASBS Discharge Prohibition, General Exception for Storm Water and Nonpoint Sources	27 applicants for the General Exception

* See Appendix I for definition of terms.

APPENDIX VIII MAPS OF THE OCEAN, COAST, AND ISLANDS

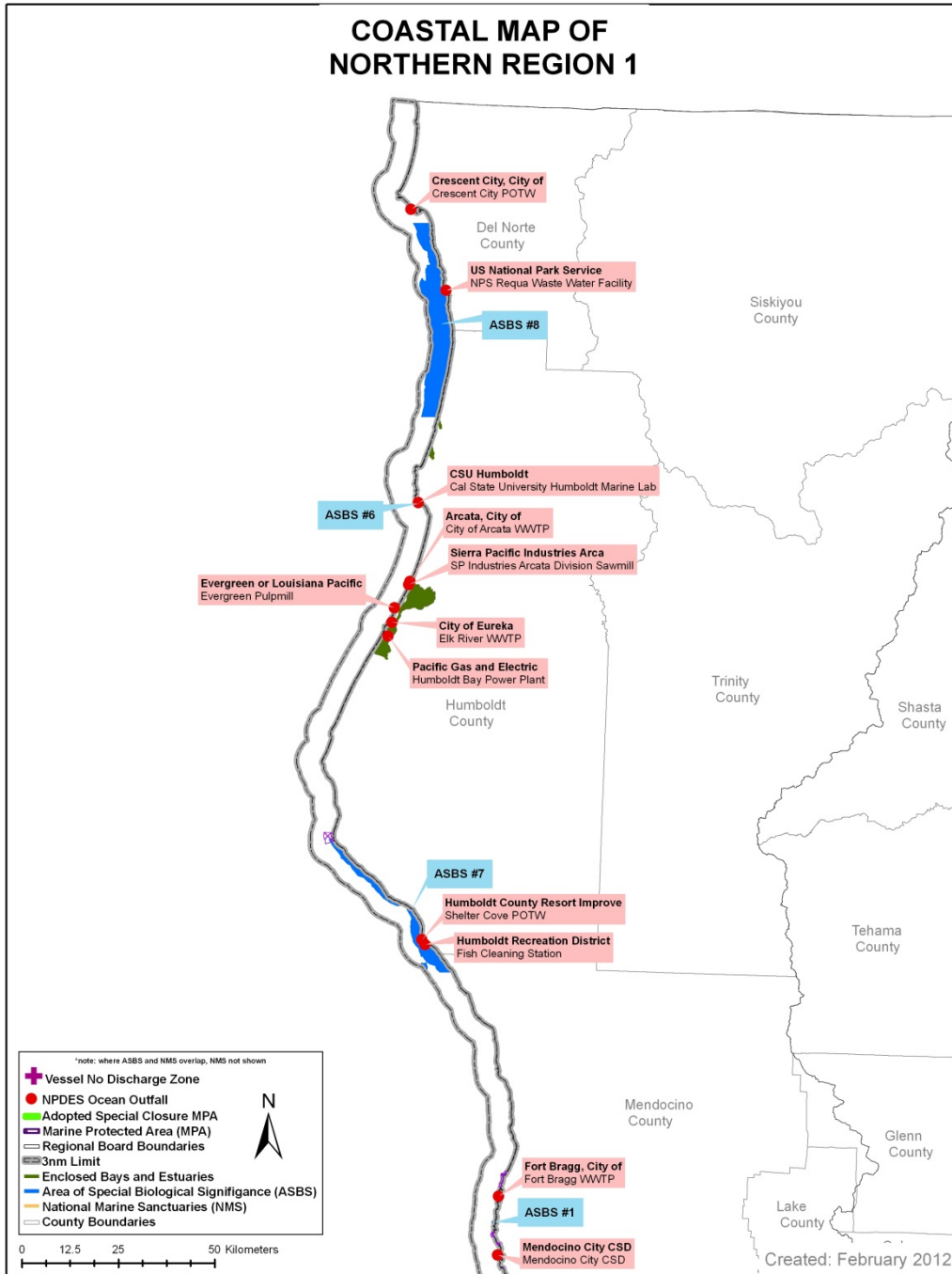


Figure VIII-1. ASBS Boundaries, MPA Boundaries, Wastewater Outfall Points, Marine Sanctuary Boundaries, and Enclosed Bays in northern Region 1.

* See Appendix I for definition of terms.

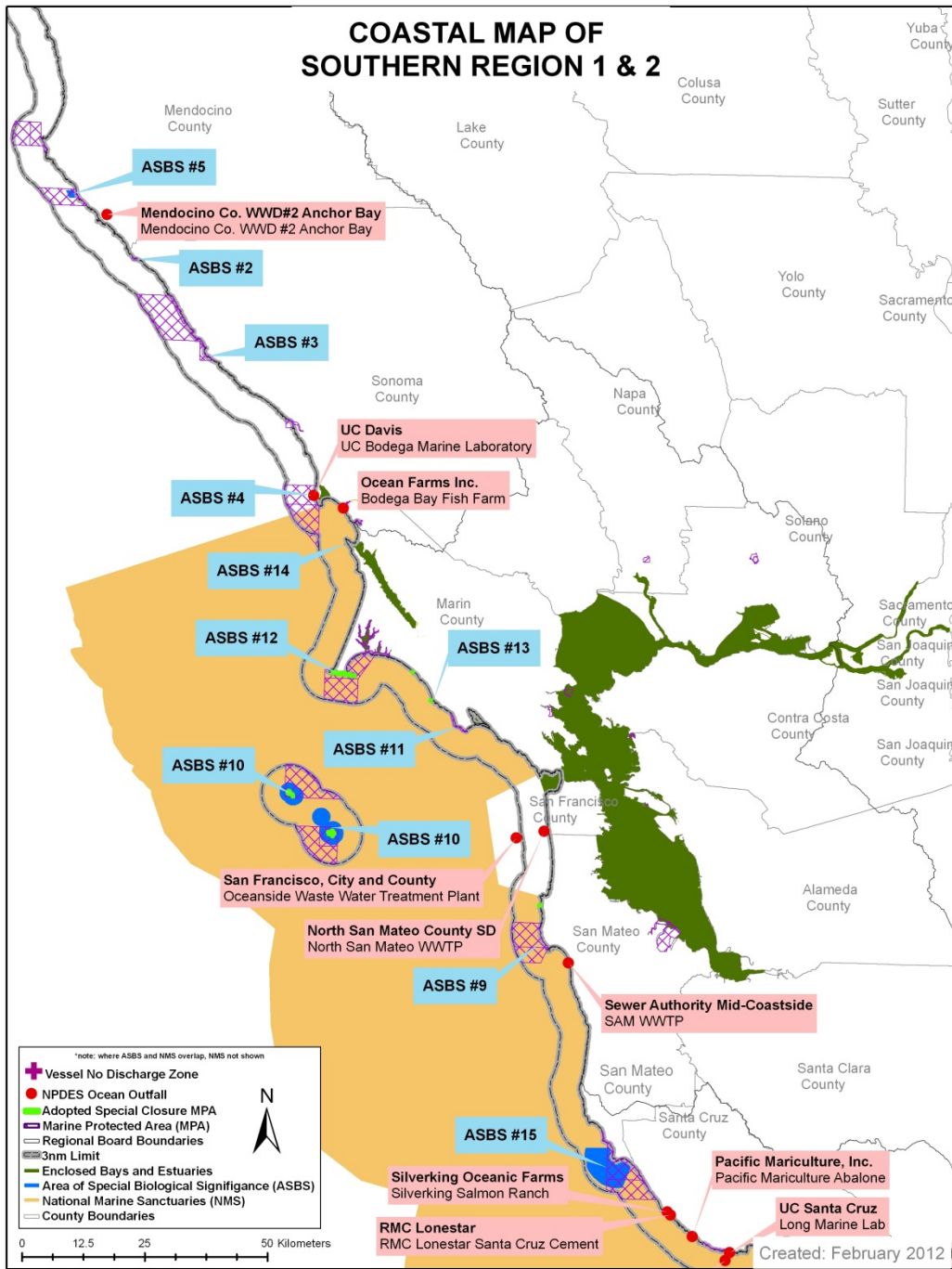


Figure VIII-2. ASBS Boundaries, MPA Boundaries, Wastewater Outfall Points, Marine Sanctuary Boundaries, and Enclosed Bays in southern Region 1 and Region 2.

* See Appendix I for definition of terms.

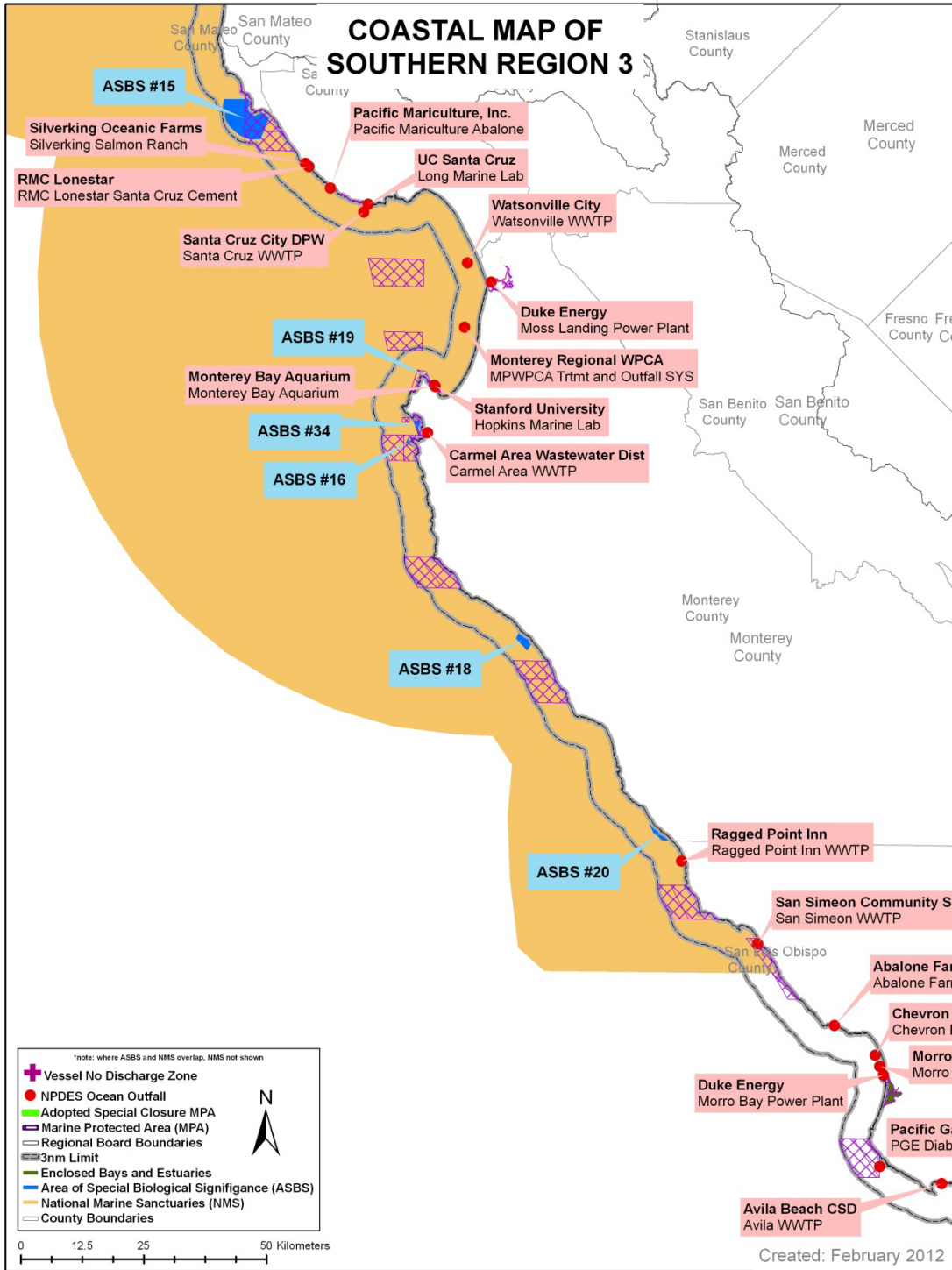


Figure VIII-3. ASBS Boundaries, MPA Boundaries, Wastewater Outfall Points, Marine Sanctuary Boundaries, and Enclosed Bays in northern Region 3.

* See Appendix I for definition of terms.

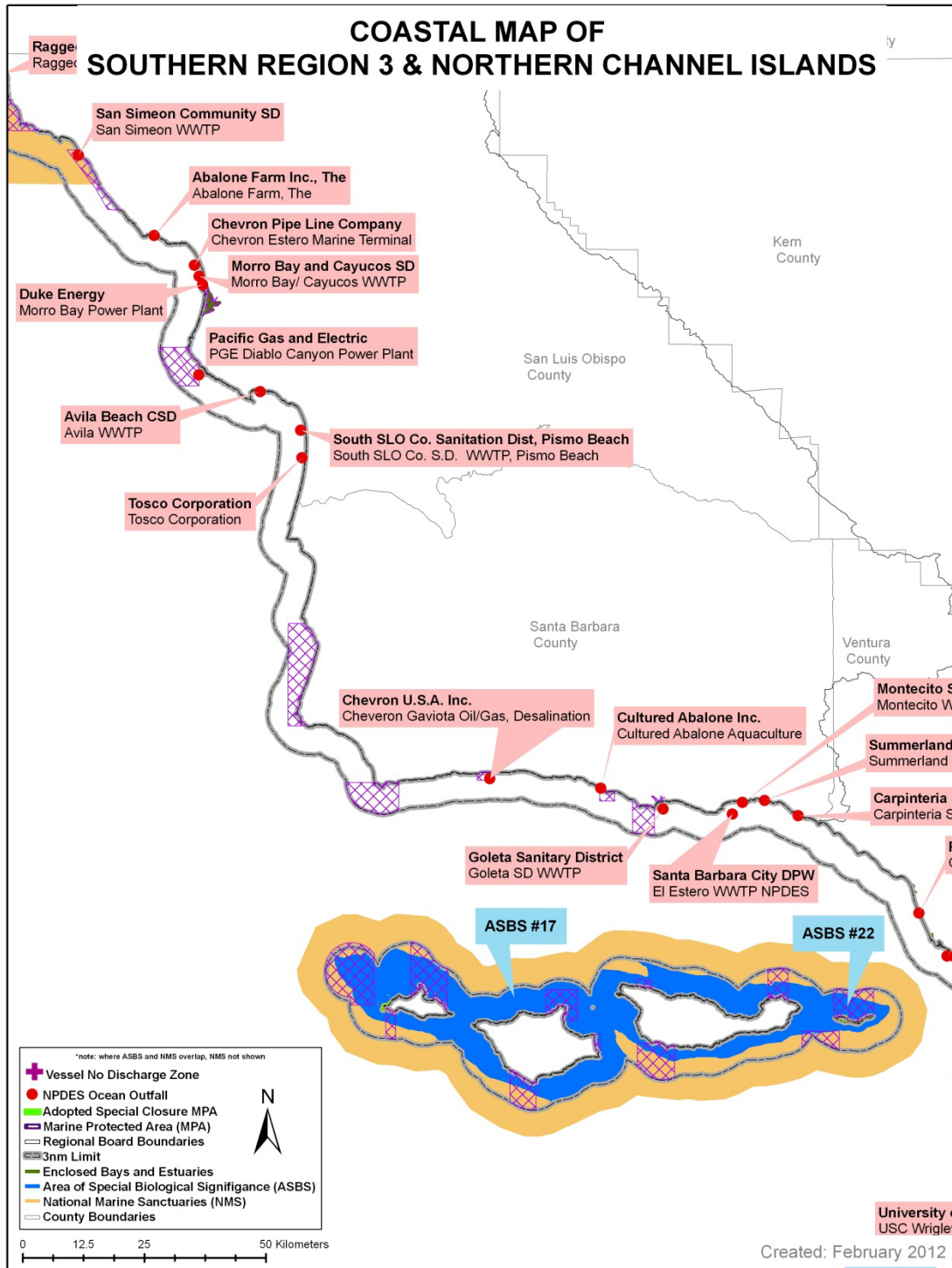


Figure VIII-4. ASBS Boundaries, MPA Boundaries, Wastewater Outfall Points, Marine Sanctuary Boundaries, and Enclosed Bays in southern Region 3 and northern Channel Islands.

* See Appendix I for definition of terms.

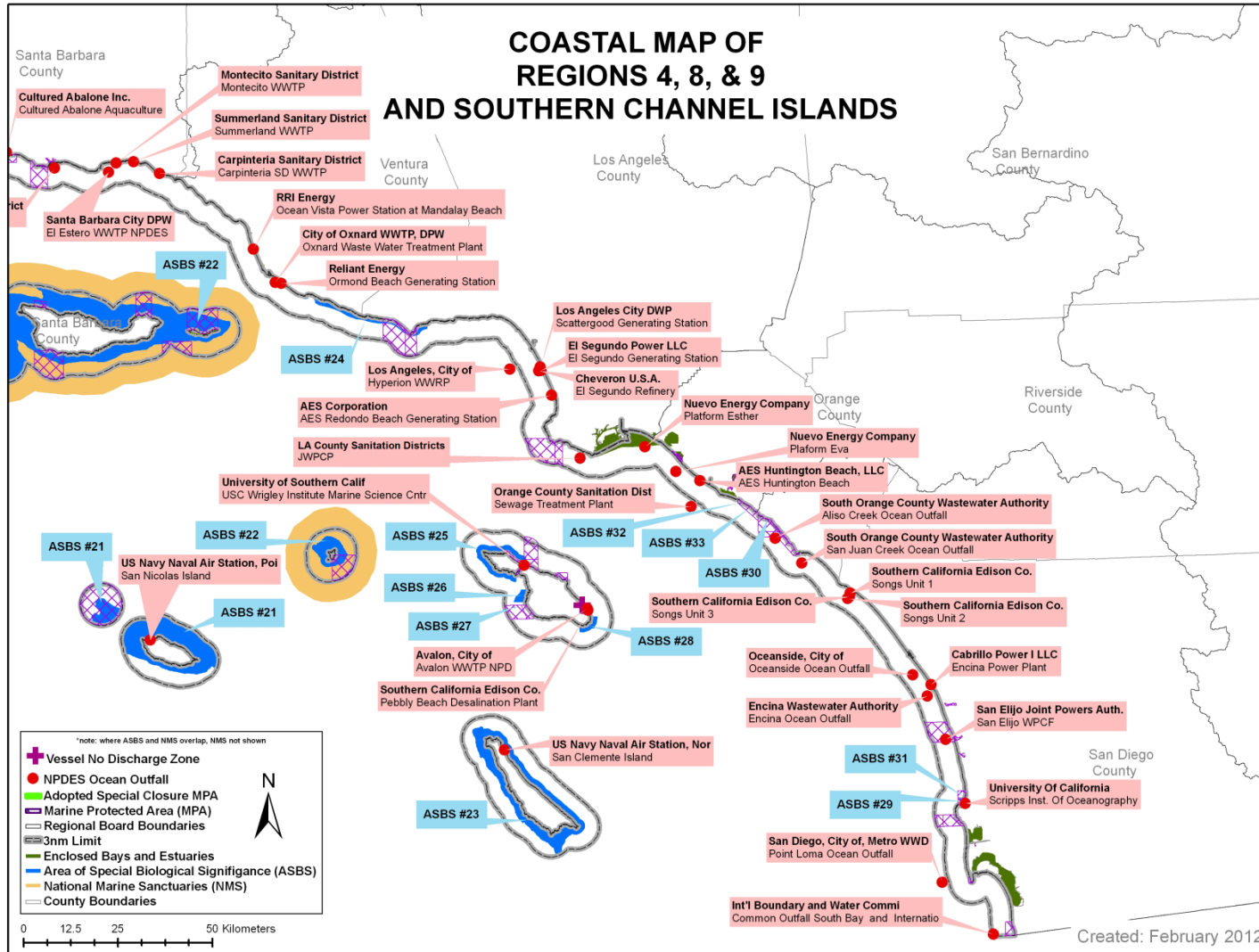


Figure VIII-5. ASBS Boundaries, MPA Boundaries, Wastewater Outfall Points, Marine Sanctuary Boundaries, and Enclosed Bays in southern Channel Islands and Regions 4, 8 and 9.

* See Appendix I for definition of terms.

ATTACHMENT 23

STATE OF CALIFORNIA
STATE WATER RESOURCES CONTROL BOARD
ORDER WQ 2015-0075

In the Matter of Review of

Order No. R4-2012-0175, NPDES Permit No. CAS004001

**WASTE DISCHARGE REQUIREMENTS FOR MUNICIPAL SEPARATE STORM SEWER
SYSTEM (MS4) DISCHARGES WITHIN THE COASTAL WATERSHEDS OF
LOS ANGELES COUNTY, EXCEPT THOSE DISCHARGES ORIGINATING FROM THE
CITY OF LONG BEACH MS4**

Issued by the
California Regional Water Quality Control Board,
Los Angeles Region

SWRCB/OCC FILES A-2236 (a)-(kk)

BY THE BOARD:

In this order, the State Water Resources Control Board (State Water Board) reviews [Order No. R4-2012-0175](#) (NPDES Permit No. CAS004001) adopted by the Los Angeles Regional Water Quality Control Board (Los Angeles Water Board) on November 8, 2012. Order No. R4-2012-0175 regulates discharges of storm water and non-storm water from the municipal separate storm sewer systems (MS4s) located within the coastal watersheds of Los Angeles County, with the exception of the City of Long Beach MS4, and is hereinafter referred to as the “Los Angeles MS4 Order” or the “Order.” We received 37 petitions challenging various provisions of the Los Angeles MS4 Order. For the reasons discussed herein, we generally uphold the Los Angeles MS4 Order, but with a number of revisions to the findings and provisions in response to issues raised in the petitions and as a result of our own review of the Order.

I. BACKGROUND

The Los Angeles MS4 Order regulates discharges from the MS4s operated by the Los Angeles County Flood Control District, Los Angeles County, and 84 municipal permittees (Permittees) in a drainage area that encompasses more than 3,000 square miles and multiple watersheds. The Order was issued by the Los Angeles Water Board in

accordance with section 402(p)(3)(B) of the Clean Water Act¹ and sections 13263 and 13377 of the Porter-Cologne Water Quality Control Act (Porter-Cologne Act),² as a National Pollutant Discharge Elimination System (NPDES) permit to control storm water and non-storm water discharges that enter the area's water bodies from the storm sewer systems owned or operated by the multiple governmental entities named in the Order. The Los Angeles MS4 Order superseded Los Angeles Water Board [Order No. 01-182](#) (2001 Los Angeles MS4 Order), and is the fourth iteration of the NPDES permit for MS4 discharges in the relevant area.

The Los Angeles MS4 Order incorporates most of the pre-existing requirements of the 2001 Los Angeles MS4 Order, including the water quality-based requirement to not cause or contribute to exceedances of water quality standards in the receiving water. The Los Angeles MS4 Order also requires Permittees to comply with new water quality-based requirements to implement 33 watershed-based total maximum daily loads (TMDLs) for the region. The Order links both of these water quality-based requirements to the programmatic elements of the Order by allowing Permittees to comply with the water quality-based requirements, in part, by developing and implementing a watershed management program (WMP) or enhanced watershed management program (EWMP), as more specifically defined in the Order.

Following adoption of the Los Angeles MS4 Order, we received 37 timely petitions challenging various provisions of the Order and, in particular, the provisions implementing TMDLs and integrating water quality-based requirements and watershed-based program implementation. Several petitioners asked that their petitions be held in abeyance;³ however, due to the number of active petitions also seeking review, we declined to hold those petitions in abeyance at that time.⁴ Five petitioners additionally requested that we partially stay the Los Angeles MS4 Order. Following review, the Executive Director of the State Water Board denied the stay requests for failure to comply with the prerequisites for a stay as specified in California Code of Regulations, title 23, section 2053.

¹ 33 U.S.C. § 1342(p)(3)(B).

² Wat. Code, §§ 13263, 13377.

³ See Cal. Code Regs., tit. 23, § 2050.5, subd. (d).

⁴ By letter dated January 30, 2013, we provided an opportunity for petitioners to submit an explanation for why a petition should be held in abeyance notwithstanding the existence of the active petitions. In response, two petitioners, City of Signal Hill and the City of Claremont, argued that their petitions raised unique issues not common to the remaining petitions and therefore appropriate for abeyance. We thereafter denied their requests on July 29, 2013, finding that the unique issues could nevertheless be resolved concurrently with the issues in the other petitions. On October 9, 2013, the City of Claremont withdrew two of the claims in its petition.

We deemed the petitions complete by letter dated July 8, 2013, and, as permitted under our regulations,⁵ consolidated the petitions for review.

An issue front and center in the petitions is the appropriateness of the approach of the Los Angeles MS4 Order in addressing what we generally refer to as “receiving water limitations.” Receiving water limitations in MS4 permits are requirements that specify that storm water and non-storm water discharges must not cause or contribute to exceedances of water quality standards in the waters of the United States that receive those discharges. In precedential State Water Board [Order WQ 99-05](#) (*Environmental Health Coalition*), we directed that all MS4 permits contain specific language that explains how the receiving water limitations will be implemented. (For clarity, we refer to MS4 permit language that relates to implementation of the permit’s receiving water limitations as “receiving water limitations provisions.”) We held a workshop on November 20, 2012, concerning receiving water limitations in MS4 permits. The purpose of the workshop was to receive public comment on an issue paper discussing several alternatives to the receiving water limitations provisions currently included in MS4 permits as directed by Order WQ 99-05 (Receiving Water Limitations Issue Paper).⁶

Because the Los Angeles MS4 Order contains new provisions that authorize the Permittees to develop and implement WMP/EWMPs in lieu of requiring compliance with the receiving water limitations provisions, we view our review of the Order as an appropriate avenue for resolving some of the issues raised in our November 20, 2012 workshop. Through notice to all interested persons, we bifurcated the responses to the petitions and solicited two separate sets of responses: (1) Responses to address issues related to whether the WMP/EWMP alternatives contained in the Los Angeles MS4 Order are an appropriate approach to revising the receiving water limitations provisions in MS4 permits (August 15, 2013 Receiving Water Limitations Submissions); and (2) Responses to address all other issues raised in the petitions (October 15, 2013 Responses).⁷ We held a workshop on October 8, 2013, to hear public comment on the first set of responses.

⁵ Cal. Code Regs., tit. 23, § 2054.

⁶ Information on that workshop is available at http://www.waterboards.ca.gov/water_issues/programs/stormwater/rwl.shtml (as of Nov 18, 2014).

⁷ We requested the bifurcated responses initially by letter dated July 15, 2013. Subsequent letters on July 29, 2013, and September 18, 2013, clarified the nature of the submissions and extended the submission deadline for the second response.

State Water Board regulations generally require final disposition on petitions within 270 days of the date a petition is deemed complete.⁸ However, in this case, we required additional time to review the large number of issues raised in the petitions. When the State Water Board anticipates addressing a petition on the merits after the review period passes, it may indicate that it will review the matter on its own motion.⁹ On April 1, 2014, we adopted [Order WQ 2014-0056](#) taking up review of the issues in the petitions on our own motion.¹⁰

We now resolve the issues in the petitions with this order.

II. ISSUES AND FINDINGS

The 37 petitions raise over sixty contentions claiming deficiencies in the Los Angeles MS4 Order. This Order addresses the most significant contentions. To the extent petitioners raised issues that are not discussed in this Order, such issues are dismissed as not raising substantial issues appropriate for State Water Board review.¹¹

Before proceeding to the merits of the petitions, we will resolve several procedural issues.

Requests to Take Official Notice or Supplement the Record with Additional Evidence

We received a number of requests to take official notice of documents not in the administrative record of the adoption of the Los Angeles MS4 Order by the Los Angeles Water Board (hereinafter Administrative Record)¹² and a number of requests to admit supplemental evidence not considered by the Los Angeles Water Board.¹³ We reviewed the requests with

⁸ Cal. Code Regs., tit. 23, § 2050.5, subd. (b).

⁹ See Wat. Code, § 13320, subd. (a); Cal. Code Regs., tit. 23, § 2050.5, subd. (c).

¹⁰ To avoid premature litigation on the petition issues as a result of our review extending past the 270 day-regulatory review period, at our suggestion most of the petitioners asked that their petitions be placed in abeyance until adoption by the State Water Board of a final order. We granted those requests. Simultaneously with adopting this order, we are removing the petitions from abeyance and acting upon them.

¹¹ *People v. Barry* (1987) 194 Cal.App.3d 158, 175-177; *Johnson v. State Water Resources Control Bd.* (2004) 123 Cal.App.4th 1107, 1114; Cal. Code Regs., tit. 23, § 2052, subd. (a)(1).

¹² The Administrative Record was prepared by the Los Angeles Water Board and is available at <http://www.waterboards.ca.gov/losangeles/water_issues/programs/stormwater/municipal/AdminRecordOrderNoR4_2012_0175/index.shtml> (as of Nov. 18, 2014).

¹³ Several requests for official notice or to admit supplemental evidence were received concurrently with submission of the petitions, with the August 15, 2013 Receiving Water Limitations Submissions, and with the October 15, 2013 Responses. Additional requests for official notice were submitted concurrently with comments on first and revised public drafts of this order and were opposed by several parties. (Request for Official Notice, Natural Resources Defense Council, Los Angeles Waterkeeper, and Heal the Bay, Jan. 21, 2015; Request for Official Notice, Natural Resources Defense Council, Los Angeles Waterkeeper and Heal the Bay, June 2, 2015.) Although we have reviewed these additional requests for official notice, we have not granted the requests for the various reasons articulated in this section, in Section II.B.8, and in footnote 74.

consideration of whether they were appropriate for notice or admission based on the legal standards governing our proceedings¹⁴ and whether the documents would materially aid in our review of the issues in the proceedings. We grant the requests with regard to documents 1-7 below, and additionally take official notice on our own motion of documents 8, 9, and 10.¹⁵

1. [Order No. 2013-0001-DWQ](#), NPDES Permit for Storm Water Discharges from Small MS4s, adopted by State Water Board, February 5, 2013;¹⁶
2. Modified NPDES Permit No. DC0000022 for the MS4 for the District of Columbia issued by the United States Environmental Protection Agency (USEPA), November 9, 2012, and a responsiveness summary issued in support of its original adoption of the permit, October 7, 2011;¹⁷
3. Administrative Procedures Update Number 90-004 on Antidegradation Policy Implementation for NPDES Permitting, issued by the State Water Board, July 2, 1990;¹⁸
4. Chapter 7 of the NPDES Permit Writers' Manual, updated by USEPA, September 2010;¹⁹
5. Letter to the Water Management Administration, Maryland Department of the Environment, issued by USEPA, August 8, 2012;²⁰

¹⁴ For official notice see Cal. Code Regs., tit. 23, § 648.2; Gov. Code, § 11515; Evid. Code, § 452. For admission of supplemental evidence see Cal. Code Regs., tit. 23, § 2050.6.

¹⁵ We note that two documents for which we received requests for official notice are already in the administrative record: USEPA, Memorandum Setting Forth Revisions to the November 22, 2002 Memorandum Establishing Total Maximum Daily Load Wasteload Allocations (WLAs) for Storm Water Sources and NPDES Permit Requirements Based on Those WLAs (Nov. 12, 2010) (Administrative Record, section 10.II, RB-AR23962-23968); USEPA, Chapter 6 of the NPDES Permit Writers' Manual (updated Sept. 2010) (Administrative Record, section 10.IV, RB-AR24905-24932).

¹⁶ County of Los Angeles October 15, 2013 Response, Att. C; also available at <http://www.waterboards.ca.gov/water_issues/programs/stormwater/docs/phsii2012_5th/order_final.pdf> (as of Nov. 18, 2014).

¹⁷ Los Angeles Water Board Request for State Water Board to Take Official Notice of Or Accept as Supplemental Evidence Exhibit A through SS (Oct. 15, 2013) (Los Angeles Water Board Request for Official Notice), Exh.'s A, B; also available at <http://www.epa.gov/reg3wapd/pdf/pdf_npdes/stormwater/DCMS4/MS4FinalLimitedModDocument/FinalModifiedPermit_10-25-12.pdf> and <http://www.epa.gov/reg3wapd/pdf/pdf_npdes/stormwater/DCMS4/FinalPermit2011/DCMS4FINALResponsivenessSummary093011.pdf> (as of Nov. 18, 2014).

¹⁸ Los Angeles Water Board Request for Official Notice, Exh.C; also available at <http://www.swrcb.ca.gov/water_issues/programs/npdes/docs/apu_90_004.pdf> (as of Nov. 18, 2014).

¹⁹ Chapter 7 of USEPA's NPDES Permit Writers' Manual, EPA-833-K-10-001, September 2010 (NPDES Permit Writers' Manual) was submitted as Exhibit C to Natural Resources Defense Council, Los Angeles Waterkeeper and Heal the Bay Request for Official Notice (Dec. 10, 2012) (Environmental Petitioners' Request for Official Notice). The chapter may additionally be accessed through links at <<http://water.epa.gov/polwaste/npdes/basics/NPDES-Permit-Writers-Manual.cfm>> (as of Nov. 18, 2014).

6. Memorandum to the Water Management Division Directors, Regions I-X, and NPDES State Directors, issued by USEPA, 1989;²¹
7. “Guidance on Implementing the Antidegradation Provisions of 40 C.F.R. 131.12,” issued by USEPA, Region 9, June 3, 1987;²²
8. [Order WQ 2014-0077-DWQ](#), amending NPDES Statewide Storm Water Permit for State of California Department of Transportation, [Order 2012-0011-DWQ](#), adopted by State Water Board, May 20, 2014;²³
9. Statement from USEPA soliciting comments on the USEPA Memorandum Setting forth Revisions to the November 22, 2002 Memorandum Establishing Total Maximum Daily Load Wasteload Allocations (WLAs) for Storm Water Sources and NPDES Permit Requirements Based on Those WLAs (November 12, 2010), issued March 17, 2011.²⁴
10. Memorandum, “Revisions to the November 22, 2002 Memorandum ‘Establishing Total Maximum Daily Load (TMDL) Wasteload Allocations (WLAs) for Storm Water Sources and NPDES Permit Requirements Based on Those WLAs,’” issued by USEPA, November 26, 2014.²⁵

In addition, we are incorporating the administrative record of the November 20, 2012 workshop on receiving water limitations, including the Receiving Water Limitations Issue Paper and comments by interested persons, into our record for the petitions on the Los Angeles MS4 Order.²⁶

(continued from previous page)

²⁰ Environmental Petitioners’ Request for Official Notice, Exh.B, available at http://www.waterboards.ca.gov/public_notices/petitions/water_quality/docs/a2236/a2236m_rfon.pdf (as of Nov. 18, 2014).

²¹ Environmental Petitioners’ Request for Official Notice, Exh.D; also available at <http://www.epa.gov/npdes/pubs/owm0231.pdf> (as of Nov. 18, 2014).

²² Environmental Petitioners’ Request for Official Notice, Exh.E; available at http://www.waterboards.ca.gov/public_notices/petitions/water_quality/docs/a2236/a2236m_rfon.pdf (as of Nov. 18, 2014).

²³ Available at http://www.waterboards.ca.gov/board_decisions/adopted_orders/water_quality/2014/wqo2014_0077_dwq.pdf (as of Nov. 18, 2014).

²⁴ Available at http://water.epa.gov/polwaste/npdes/stormwater/upload/sw_tmdlwa_comments.pdf (as of Nov. 18, 2014).

²⁵ Available at http://water.epa.gov/polwaste/npdes/stormwater/upload/EPA_SW_TMDL_Memo.pdf (as of March 30, 2015).

²⁶ The Receiving Water Limitations Issue Paper and comments and workshop presentations by interested person are available at http://www.waterboards.ca.gov/water_issues/programs/stormwater/rwl.shtml.

Among other requests, we are not granting the requests to take official notice of or supplement the Administrative Record with the notices of intent, workplans, draft programs, and other documents filed by Permittees toward development of WMPs/EWMPs and associated monitoring programs following adoption of the Los Angeles MS4 Order or comments submitted on those documents, or the conditional approvals of several of the programs. With regard to factual evidence regarding actions taken by Permittees to comply with the Los Angeles MS4 Order after it was adopted, we believe it appropriate to close the record with the adoption of the Los Angeles MS4 Order. However, we are keenly aware that the success of the Los Angeles MS4 Order in addressing water quality issues depends primarily on the careful and effective development and implementation of programs consistent with the requirements of the Order; we speak to that issue later in our discussion.

City of El Monte's Amended Petition

Petitioner City of El Monte (El Monte) timely filed a petition on December 10, 2012, challenging a number of provisions of the Los Angeles MS4 Order. Thereafter, on February 19, 2013, El Monte filed an amended petition, based on information it asserted was not available prior to the deadline for submission of the petition.

Water Code section 13320, subdivision (a) provides that a petition for review of a regional water quality control board (regional water board) action must be filed within 30 days of the regional water board's action.²⁷ The State Water Board interprets that requirement strictly and petitions filed more than 30 days from regional water board action are rejected as untimely. El Monte asserted that the two additional arguments raised in the amended petition were based on information that was not available prior to the deadline for submitting the petition and were therefore appropriate for State Water Board consideration.

Even if we were required by statute or regulation to accept amended petitions based on new information, here, El Monte's new arguments are not supported by information previously unavailable. First, El Monte argues that the Supreme Court's decision in *Los Angeles County Flood Control District v. Natural Resources Defense Council* (2013) 133 S.Ct. 710 invalidated certain provisions of the Los Angeles MS4 Order that require compliance with water quality standards and total maximum daily load requirements through receiving water monitoring. Contrary to El Monte's assertion, the decision by the Supreme Court did not invalidate any requirements of the Los Angeles MS4 Order and did not result in any changes to

²⁷ See also Cal. Code Regs., tit. 23, § 2050.

the Order. The Supreme Court decision, to the extent it applies to the legal issues before us in this matter, constitutes precedential case law and must be considered in our review of the Los Angeles MS4 Order, but it does not constitute new information that supports an amended petition.²⁸

Second, El Monte argues that the Los Angeles Water Board failed to consider various provisions of the California Watershed Improvement Act of 2009²⁹ when it adopted the Los Angeles MS4 Order. To the extent El Monte believed that the California Watershed Improvement Act was relevant to adoption of the Los Angeles MS4 Order, El Monte had the opportunity to raise that issue in comments before the Los Angeles Water Board and in its timely petition to the State Water Board. Having failed to raise the issue before the Los Angeles Water Board and in its timely petition, El Monte cannot raise the issue in an amended petition.³⁰

We reject El Monte's amended petition as untimely.

Environmental Petitioners' Motion to Strike

Petitioners Natural Resources Defense Council, Los Angeles Waterkeeper, and Heal the Bay (Environmental Petitioners), submitted a motion on November 11, 2013, requesting that the State Water Board strike sections of the October 15, 2013 Responses by six petitioners (Motion to Strike). The relevant sections respond to a collateral estoppel argument made by the Environmental Petitioners in their August 15, 2013 Receiving Water Limitations Submission to the State Water Board. Several parties asserted in their petitions that requiring compliance with water quality standards in MS4 permits violates federal law or conflicts with prior State Water Board precedent. The Environmental Petitioners responded in their August 15, 2013 Receiving Water Limitations Submission that these arguments were barred by collateral estoppel because the claims were settled in prior court cases challenging the 2001 Los Angeles MS4 Order. Six of the October 15, 2013 Responses, namely those by the Cities of

²⁸ We note that the State Water Board has the option of allowing additional briefing when there are material legal developments concerning issues raised in a petition, but we did not find such briefing would aid review of the petitions in this case.

²⁹ Wat. Code, § 16100 et seq.

³⁰ In addition to being untimely, El Monte's argument lacks merit. The California Watershed Improvement Act of 2009 grants authority to local government permittees regulated by an MS4 permit to develop and implement watershed improvement plans, but does not limit the authority of a regional water board to impose terms related to watershed management in an MS4 permit. Further, the terms of the WMPs/EWMPs are largely consistent with the watershed improvement plans authorized by the Act, so a permittee can comply with the Los Angeles MS4 Order while also using the authority provided by the California Watershed Improvement Act of 2009 if it so chooses.

Arcadia, Claremont, Covina, Duarte and Huntington Park, San Marino et al.,³¹ and Sierra Madre, incorporated a response to the collateral estoppel argument.

We stated in a July 15, 2013 letter that “[i]nterested persons may not use the [October 15]³² deadline for responses on the remaining petition issues as an opportunity to respond to comments filed on the receiving water limitations approach.” We clarified further in a July 29, 2013 letter: “[W]hen submitting subsequent responses to the petitions in accordance with the [October 15] deadline, petitioners and interested persons should not raise new issues related to the specific questions regarding the watershed management program/enhanced watershed management program or respond to any August 15, 2013, submissions; however petitioners and interested persons will not be precluded from responding to specific issues raised in the original petitions on grounds that the issues are related to the receiving water limitations language.”

We find that the collateral estoppel responses by the six petitioners are disallowed by the direction we provided in our July 15 and July 29, 2013 letters. However, as will be apparent in our discussion in section II.A, we do not rely on the Environmental Petitioners’ collateral estoppel argument in resolving the petitions. Our determination that portions of the October 15, 2013 Responses are disallowed is, therefore, immaterial to the resolution of the issues.³³

Having resolved the procedural issues, we turn to the merits of the Petitions.

A. Implementation of the Iterative Process as Compliance with Receiving Water Limitations

The Los Angeles MS4 Order includes receiving water limitations provisions that are consistent with our direction in Order WQ 99-05 in Part V.A of the Los Angeles MS4 Order. Part V.A. provides, in part, as follows:

1. Discharges from the MS4 that cause or contribute to the violation of receiving water limitations are prohibited.

³¹ The cities of San Marino, Rancho Palos Verdes, South El Monte, Norwalk, Artesia, Torrance, Beverly Hills, Hidden Hills, Westlake Village, La Mirada, Vernon, Monrovia, Agoura Hills, Commerce, Downey, Inglewood, Culver City, and Redondo Beach submitted a joint October 15, 2013 Response.

³² The July 15, 2013 letter set a deadline of September 20, 2013, which was subsequently extended to October 15, 2013.

³³ In a November 21, 2013 letter, we indicated that we would consider the Motion to Strike concurrently with drafting of this Order, but that we would not accept any additional submissions in this matter, including any responses to the Motion to Strike. City of San Marino objected to the letter and submitted an opposition to the Motion to Strike. Several petitioners submitted joinders in City of San Marino’s motion. For the same reasons articulated above, we are not accepting these submissions; they would not affect our resolution of the issues.

2. Discharges from the MS4 of storm water, or non-storm water, for which a Permittee is responsible [footnote omitted], shall not cause or contribute to a condition of nuisance.
3. The Permittees shall comply with Parts V.A.1 and V.A.2 through timely implementation of control measures and other actions to reduce pollutants in the discharges in accordance with the storm water management program and its components and other requirements of this Order including any modifications. . . .³⁴

The petitioners that are permittees (hereinafter referred to as “Permittee Petitioners”)³⁵ argue that the above language either means, or should be read and/or clarified to mean, that good faith engagement in the requirements of Part V.A.3, traditionally referred to as the “iterative process,” constitutes compliance with Parts V.A.1. and V.A.2. The position put forth by Permittee Petitioners is one we took up when we initiated a process to re-examine the receiving water limitations and iterative process in MS4 permits statewide with our Receiving Water Limitations Issue Paper and the November 20, 2012 workshop. We summarize the law and policy regarding Permittee Petitioners’ position again here and ultimately disagree with Permittee Petitioners that implementation of the iterative process does or should constitute compliance with receiving water limitations.

The Clean Water Act generally requires NPDES permits to include technology-based effluent limitations and any more stringent limitations necessary to meet water quality standards.³⁶ In the context of NPDES permits for MS4s, however, the Clean Water Act does not explicitly reference the requirement to meet water quality standards. MS4 discharges must meet a technology-based standard of prohibiting non-storm water discharges and reducing pollutants in the discharge to the Maximum Extent Practicable (MEP) in all cases, but requiring strict compliance with water quality standards (e.g., by imposing numeric effluent limitations) is at the discretion of the permitting agency.³⁷ Specifically the Clean Water Act states as follows:

Permits for discharges from municipal storm sewers –

. . .

(ii) shall include a requirement to effectively prohibit non-stormwater discharges into the storm sewers; and

³⁴ Los Angeles MS4 Order, Part V.A, pp. 38-39.

³⁵ For ease of reference, where an argument is made by multiple Permittee Petitioners, even if not by all, we attribute that argument to Permittee Petitioners generally, and do not list which of the 37 Permittee Petitioners in fact make the argument. Where only one or two Permittee Petitioners make a particular argument, we have identified the specific Permittee Petitioner(s).

³⁶ 33 U.S.C. §§ 1311, 1342(a).

³⁷ 33 U.S.C. § 1342(p)(3)(B); *Defenders of Wildlife v. Browner* (9th Cir. 1999) 191 F.3d 1159.

(iii) shall require controls to reduce the discharge of pollutants to the maximum extent practicable, including management practices, control techniques and system, design and engineering methods, and such other provisions as . . . the State determines appropriate for the control of such pollutants.³⁸

Thus, a permitting agency imposes requirements related to attainment of water quality standards where it determines that those provisions are “appropriate for the control of [relevant] pollutants” pursuant to the Clean Water Act municipal storm water provisions.

Under the Porter-Cologne Act, waste discharge requirements must implement applicable water quality control plans, which include the beneficial uses to be protected for a given water body and the water quality objectives reasonably required for that protection.³⁹ In this respect, the Porter-Cologne Act treats MS4 dischargers and other dischargers even-handedly and anticipates that all waste discharge requirements will implement the water quality control plans. However, when implementing requirements under the Porter-Cologne Act that are not compelled by federal law, the State Water Board and regional water boards (collectively, “water boards”) have some flexibility to consider other factors, such as economics, when establishing the appropriate requirements.⁴⁰ Accordingly, since the State Water Board has discretion under federal law to determine whether to require strict compliance with the water quality standards of the water quality control plans for MS4 discharges, the State Water Board may also utilize the flexibility under the Porter-Cologne Act to decline to require strict compliance with water quality standards for MS4 discharges.

We have previously exercised the discretion we have under federal law in favor of requiring compliance with water quality standards, but have required less than strict compliance. We have directed, in precedential orders, that MS4 permits require discharges to be controlled so as not to cause or contribute to exceedances of water quality standards in receiving waters,⁴¹ but have prescribed an iterative process whereby an exceedance of a water quality standard triggers a process of BMP improvements. That iterative process involves reporting of the violation, submission of a report describing proposed improvements to BMPs

³⁸ 33 U.S.C. § 1342(p)(3)(B).

³⁹ Wat. Code, § 13263. The term “water quality standards” encompasses the beneficial uses of the water body and the water quality objectives (or “water quality criteria” under federal terminology) that must be met in the waters of the United States to protect beneficial uses. Water quality standards also include the federal and state antidegradation policy.

⁴⁰ Wat. Code, §§ 13241, 13263; *City of Burbank v. State Water Resources Control Bd.* (2005) 35 Cal.4th 613.

⁴¹ State Water Board Orders WQ 98-01 (*Environmental Health Coalition*), WQ 99-05 (*Environmental Health Coalition*), WQ 2001-15 (*Building Industry Association of San Diego*).

expected to better meet water quality standards, and implementation of these new BMPs.⁴² The current language of the existing receiving waters limitations provisions was actually developed by USEPA when it vetoed two regional water board MS4 permits that utilized a prior version of the State Water Board's receiving water limitations provisions.⁴³ In State Water Board Order WQ 99-05, we directed that all regional boards use USEPA's receiving water limitations provisions.

There has been significant confusion within the regulated MS4 community regarding the relationship between the receiving water limitations and the iterative process, in part because the water boards have commonly directed dischargers to achieve compliance with water quality standards by improving control measures through the iterative process. But the iterative process, as established in our precedential orders and as generally written into MS4 permits adopted by the water boards, does not provide a "safe harbor" to MS4 dischargers. When a discharger is shown to be causing or contributing to an exceedance of water quality standards, that discharger is in violation of the permit's receiving water limitations and potentially subject to enforcement by the water boards or through a citizen suit, regardless of whether or not the discharger is actively engaged in the iterative process.⁴⁴

The position that the receiving water limitations are independent from the provisions that establish the iterative process has been judicially upheld on several occasions. The receiving water limitations provisions of the 2001 Los Angeles MS4 Order specifically have been litigated twice, and in both cases, the courts upheld the provisions and the Los Angeles Water Board's interpretation of the provisions. In a decision resolving a challenge to the 2001 Los Angeles MS4 Order, the Los Angeles County Superior Court stated: "[T]he Regional [Water] Board acted within its authority when it included [water quality standards compliance] in

⁴² State Water Board Order WQ 99-05, pp. 2-3; see also State Water Board Order WQ 2001-15, pp. 7-9. Additionally, consistent with federal law, we found it appropriate to require implementation of BMPs in lieu of numeric water quality-based effluent limitations to meet water quality standards. See State Water Board Orders WQ 91-03 (*Citizens for a Better Environment*), WQ 91-04 (*Natural Resources Defense Council*), WQ 98-01, WQ 2001-15. This issue is discussed in greater detail in Section II.C. of this order.

⁴³ See State Water Board Orders WQ 99-05, WQ 2001-15.

⁴⁴ Several Permittee Petitioners have argued that the State Water Board's opinion in State Water Board Order WQ 2001-15 must be read to endorse a safe harbor in the iterative process. We disagree. Regardless, the State Water Board's position that the iterative process of the subject permit did not create a "safe harbor" from compliance with receiving water limitations was clearly established in subsequent litigation on that order. (See *Building Industry Ass'n of San Diego County v. State Water Resources Control Bd.* (Super. Ct. 2003, No. GIC780263), affd. *Building Industry Assn. of San Diego County v. State Water Resources Control Bd.* (2004) 124 Cal.App.4th 866.)

the Permit without a ‘safe harbor,’ whether or not compliance therewith requires efforts that exceed the ‘MEP’ standard.”⁴⁵ The lack of a safe harbor in the iterative process of the 2001 Los Angeles MS4 Order was again acknowledged in 2011 and 2013, this time by the Ninth Circuit Court of Appeal. In these instances, the Ninth Circuit was considering a citizen suit brought by the Natural Resources Defense Council against the County of Los Angeles and the Los Angeles County Flood Control District for alleged violations of the receiving water limitations of that order. The Ninth Circuit held that, as the receiving water limitations of the 2001 Los Angeles MS4 Order (and accordingly as the precedential language in State Water Board Order WQ 99-05) was drafted, engagement in the iterative process does not excuse liability for violations of water quality standards.⁴⁶ The California Court of Appeal has come to the same conclusion in interpreting similar receiving water limitations provisions in MS4 Orders issued by the San Diego Regional Water Quality Control Board in 2001 and the Santa Ana Regional Water Quality Control Board in 2002.⁴⁷

While we reiterate that the judicial rulings have been consistent with the water boards’ intention and position regarding the relationship between the receiving water limitations and the iterative process, we acknowledge that some in the regulated community perceived the 2011 Ninth Circuit opinion in particular as a re-interpretation of that relationship. Our Receiving Water Limitations Issue Paper and subsequent workshop reflected our desire to re-examine the issue in response to concerns expressed by the regulated community in the aftermath of that ruling.

As stated above, both the Clean Water Act and the Porter-Cologne Act afford some discretion to not require strict compliance with water quality standards for MS4 discharges. In each of the discussed court cases above, the court’s decision is based on the specific permit language; thus the cases do not address our authority with regard to requiring compliance with water quality standards in an MS4 permit as a threshold matter, and they do not require us to continue to exercise our discretion as we decided in State Water Board Order

⁴⁵ *In re Los Angeles County Municipal Storm Water Permit Litigation* (L.A. Super. Ct., No. BS 080548, Mar. 24, 2005) Statement of Decision from Phase I Trial on Petitions for Writ of Mandate, pp. 4-5, 7. The decision was affirmed on appeal (*County of Los Angeles v. State Water Resources Control Board* (2006) 143 Cal.App.4th 985); however, this particular issue was not discussed in the court of appeal’s decision.

⁴⁶ *Natural Resources Defense Council v. County of Los Angeles* (9th Cir. 2011) 673 F.3d. 880, rev’d on other grounds sub nom. *Los Angeles County Flood Control Dist. v. Natural Resources Defense Council* (2013) 133 S.Ct. 710, mod. by *Natural Resources Defense Council v. County of Los Angeles* (9th Cir. 2013) 725 F.3d 1194, cert. den. *Los Angeles County Flood Control Dist. v. Natural Resources Defense Council* (2014) 134 S.Ct. 2135.

⁴⁷ *Building Industry Assn. of San Diego County, supra*, 124 Cal.App.4th 866; *City of Rancho Cucamonga v. Regional Water Quality Control Bd.* (2006) 135 Cal.App.4th 1377.

WQ 99-05. Although it would be inconsistent with USEPA's general practice of requiring compliance with water quality standards over time through an iterative process,⁴⁸ we may even have the flexibility to reverse⁴⁹ our own precedent regarding receiving water limitations and receiving water limitations provisions and make a policy determination that, going forward, we will either no longer require compliance with water quality standards in MS4 permits, or will deem good faith engagement in the iterative process to constitute such compliance.⁵⁰

However, with this Order, we now decline to do either. As the storm water management programs of municipalities have matured, an increasing body of monitoring data indicates that many water quality standards are in fact not being met by many MS4s. The iterative process has been underutilized and ineffective to date in bringing MS4 discharges into compliance with water quality standards. Compliance with water quality standards is and should remain the ultimate goal of any MS4 permit. We reiterate and confirm our determination that provisions requiring compliance with receiving water limitations are "appropriate for the control of . . . pollutants" addressed in MS4 permits and that therefore, consistent with our authority under the Clean Water Act, we will continue to require compliance with receiving water limitations.⁵¹

⁴⁸ See, e.g. Modified NPDES Permit No. DC0000022 for the MS4 for the District of Columbia, *supra*, fn. 17.

⁴⁹ Of course any change of direction would be subject to ordinary principles of administrative law. (See Code Civ. Proc., § 1094.5, subd. (b).)

⁵⁰ As such, it is not necessary to address the collateral estoppel arguments raised by the Environmental Petitioners and opposed by Permittee Petitioners. We agree that it is settled law that we have the discretion to require compliance with water quality standards in an MS4 permit under federal and state law. We also agree that it is settled law that the receiving water limitations provisions currently spelled out in our MS4 permits do not carve out a safe harbor in the iterative process. But the question for us is whether we should continue to exercise our discretion to utilize the same approach to receiving water limitations established under our prior precedent, or proceed in a new direction.

⁵¹ Several Permittee Petitioners argued in comments submitted on the first draft of this order that, because we find that we have some discretion under Clean Water Act section 402(p)(3) to not require compliance with receiving water limitations, the Los Angeles Water Board's action in requiring such compliance -- and our action in affirming it -- is pursuant to state authority. (See, e.g., Cities of Arcadia, Claremont, and Covina, Comment Letter, Jan. 21, 2015.) The Permittee Petitioners argue that the action is therefore subject to evaluation in light of the factors set out in Water Code section 13263 and 13241 pursuant to *City of Burbank*, *supra*, 35 Cal.4th 613. Under *City of Burbank*, a regional water board must consider the factors specified in section 13241 when issuing waste discharge requirements under section 13263, subdivision (a), but only to the extent those waste discharge requirements exceed the requirements of the federal Clean Water Act. (35 Cal.4th at 627.) Nowhere in our discussion in this section do we mean to disavow either that the Los Angeles Water Board acted under federal authority to impose "such other provisions as . . . determine[d] appropriate for the control of . . . pollutants" in adopting the receiving water limitations provisions of the Los Angeles MS4 Order in the first instance or that we are acting under federal authority in upholding those provisions. (33 U.S.C. § 1342(p)(3)(B)(iii).) The receiving water limitations provisions do not exceed the requirements of federal law. We nevertheless also point out that the Los Angeles Water Board engaged in an analysis of the factors under section 13241 when adopting the Order. (See Los Angeles MS4 Order, Att. F, Fact Sheet, pp. F-139 to F-155.)

As we explained in 2001, “[u]rban runoff is causing and contributing to impacts on receiving waters throughout the state and impairing their beneficial uses.”⁵² More than a decade later, this is still true. By definition, many of our urban waterways will never attain water quality standards and fully realize their beneficial uses if municipal runoff is allowed to continue to cause or contribute to exceedances of water quality standards. Further, the efforts of other dischargers who are required to not cause or contribute to exceedances of water quality standards would be largely in vain if we did not regulate MS4 dischargers with a somewhat even hand.

Such an approach is additionally consistent with the Porter-Cologne Act’s emphasis on water quality control plans as the cornerstone of water quality planning and regulation and the act’s expectation that all waste discharge requirements will implement the water quality control plans. We believe that direct enforcement of water quality standards is necessary to protect water quality, at a minimum as a back-stop where dischargers fail to meet requirements of the Order designed to achieve progress toward meeting the standards. We will not reverse our precedential determination in State Water Board Order WQ 99-05 that established the receiving water limitations provisions for MS4 permits statewide and reiterate that we will continue to read those provisions consistent with how the courts have: engagement in the iterative process does not excuse exceedances of water quality standards. We accordingly also decline to direct any revisions to the receiving water limitations provisions of the Los Angeles MS4 Order, which are consistent with our precedential language.⁵³

Yet, we are sympathetic to the assertions made by MS4 dischargers that the receiving water limitations provisions mandated by our Order WQ 99-05 may result in many years of permit noncompliance, because it may take years of technical efforts to achieve compliance with the receiving water limitations, especially for wet weather discharges.

⁵² State Water Board Order WQ 2001-15, p. 7.

⁵³ We disagree with Permittee Petitioners’ argument that the receiving water limitations in Part V.A of the Los Angeles MS4 Order are confusing, unclear, or overbroad, because they prohibit causing or contributing to a violation of a receiving water limitation rather than a violation of water quality standards. The Los Angeles Water Board defines “receiving water” as “[a] ‘water of the United States’ in to which waste and/or pollutants are or may be discharged.” (Los Angeles MS4 Order, Att. A., p. A-16.) The Los Angeles Water Board further defines “receiving water limitations” as “[a]ny applicable numeric or narrative water quality objective or criterion, or limitation to implement the applicable water quality objective or criterion, for the receiving water as contained in Chapter 3 or 7 of the Water Quality Control Plan for the Los Angeles Region (Basin Plan), water quality control plans or policies adopted by the State Water Board, or federal regulations, including but not limited to, 40 CFR §131.38.” (*Ibid.*) Receiving water limitations are therefore the water quality standards, including water quality objectives and criteria, that apply to the receiving water as expressed in the water quality control plan for the region, statewide water quality control plans that specify objectives for water bodies in the region, State Water Board policies for water quality control, and federal regulations.

Accordingly, we believe that the MS4 permits should incorporate a well-defined, transparent, and finite alternative path to permit compliance that allows MS4 dischargers that are willing to pursue significant undertakings beyond the iterative process to be deemed in compliance with the receiving water limitations.

With the WMP/EWMP provisions of the Los Angeles MS4 Order, the Los Angeles Water Board is striving to allow one such alternative compliance path. As such, the fundamental issue for review before us in this matter is whether the Los Angeles MS4 Order's WMP/EWMP provisions constitute a legal and technically sound compliance alternative for achieving receiving water limitations. We discuss and resolve this issue in the next section.

B. WMP/EWMP as Alternative Compliance Options for Complying with Receiving Water Limitations

The WMP/EWMP provisions allow Permittees to choose an integrated and collaborative watershed-based approach to meeting the requirements of the Los Angeles MS4 Order, including the receiving water limitations. Permittees develop a plan, either collaboratively or individually, that addresses water quality priorities within a watershed. Permittees first prioritize water quality issues within each watershed. Permittees may use the WMP/EWMP to address water body-pollutant combinations for which a TMDL has been developed, giving highest priority to those with interim and final compliance deadlines within the permit term. Permittees may also address water body-pollutant combinations for which no TMDL has been developed, but where the water body is impaired or shows exceedances of the standards for the relevant pollutant from an MS4 source. Once prioritization is completed, Permittees assess the sources of the pollutants and select watershed strategies that are designed to eliminate non-storm water discharges to the MS4 that are a source of pollutants, that meet all applicable TMDL-derived interim and final water quality-based effluent limitations (WQBELs) and/or limitations to be met in the receiving water (referred to herein as "other TMDL-specific limitations")⁵⁴ pursuant to corresponding compliance schedules, and that ensure that discharges from the MS4 do not cause or contribute to exceedances of receiving water limitations. Except as described below for storm water retention projects, Permittees conduct a "reasonable assurance analysis" for each water body-pollutant combination incorporated into the

⁵⁴ Some of the TMDL limitations of the Los Angeles MS4 Order are expressed not as WQBELs but as standards to be met in the receiving water. The Los Angeles MS4 Order refers to these limitations as "receiving water limitations;" however, in order to avoid confusion with the general receiving water limitations in Part V.A., we will use the term "other TMDL-specific limitations." Accordingly, while the Los Angeles MS4 Order uses the term "receiving water limitations" to refer to both the receiving water limitations in part V.A and some of the TMDL-based requirements in Attachments L-R, when we use the term we refer only to the receiving water limitations in part V.A.

WMP/EWMP to demonstrate the ability of the program to meet those objectives. Permittees additionally implement an integrated monitoring and assessment program to determine progress, adapting strategies and measures as necessary.⁵⁵

In addition to all the requirements above, for those Permittees that choose to develop and implement an EWMP, the EWMP provisions also require that Permittees collaborate on multi-benefit regional projects and, wherever feasible, retain all non-storm runoff, as well as all storm water runoff from the 85th percentile 24-hour storm event (hereinafter “storm water retention approach”) for the drainage areas tributary to the projects.⁵⁶

The primary controversy concerning the WMP/EWMP provisions of the Los Angeles MS4 Order is the manner in which they interact with the receiving water limitations and the WQBELs and other TMDL-specific limitations. Under certain conditions detailed in the Order, Permittees may be deemed in compliance with the receiving water limitations and the WQBELs and other TMDL-specific limitations by fully implementing the WMP/EWMP, rather than by demonstrating that the receiving water limitations and the WQBELs and other TMDL-specific limitations have actually been achieved. Specifically:

1. Permittees that develop and implement a WMP/EWMP and fully comply with all requirements and dates of achievement for the WMP/ EWMP as established in the Los Angeles MS4 Order, are deemed to be in compliance with the receiving water limitations in Part V.A for the water body-pollutant combinations addressed by the WMP/EWMP.⁵⁷

2. Permittees fully in compliance with the requirements and dates of achievement of the WMP/EWMP are deemed in compliance with the *interim* WQBELs and other TMDL-specific limitations in Attachments L-R for the water body-pollutant combinations addressed by the WMP/EWMP.⁵⁸

3. Permittees implementing an EWMP and utilizing the storm water retention approach in a drainage area tributary to the applicable water body are deemed in compliance with the *final* WQBELs and other TMDL-specific limitations in Attachments L-R for the water body-pollutant combinations addressed by the storm water retention approach.⁵⁹

⁵⁵ Los Angeles MS4 Order, Part VI.C., pp. 49-67.

⁵⁶ *Id.*, Part VI.C.1.g., pp. 48-49.

⁵⁷ *Id.*, Part VI.C.2.b., p. 52.

⁵⁸ *Id.*, Parts VI.C.3.a., p. 53, VI.E.2.d.i.4., pp. 143-44. The Los Angeles MS4 Order establishes separate requirements for Trash TMDLs and the WMP/EWMP are not a means of achieving compliance with the Trash TMDL provisions. (See Part VI.E.5, pp. 147-154.) References to TMDLs in this section exclude the Trash TMDLs.

⁵⁹ *Id.*, Part VI.E.2.e.i.(4), p. 145. As with Part VI.E.2.d.i.4, this Part does not apply to Trash TMDLs.

4. Because the Order additionally provides that full compliance with the general TMDL requirements in Part VI.E and the WQBELs and other TMDL-specific limitations in Attachments L through R constitutes compliance with the receiving water limitations in V.A for the specific pollutants addressed by the relevant TMDL,⁶⁰ provisions 2 and 3 above also constitute compliance with the receiving water limitations for the particular water body-pollutant combinations.

5. Finally, Permittees that have declared their intention to develop a WMP/EWMP may be deemed in compliance with receiving water limitations and with interim WQBELs with compliance deadlines occurring prior to approval of the WMP/EWMP if they meet certain conditions during the development phase.⁶¹

Both Environmental Petitioners and Permittee Petitioners put forth a number of arguments to the effect that the WMP/EWMP provisions of the Los Angeles MS4 Order are contrary to federal and state law or reflect poor policy. We discuss each argument below.

1. Anti-backsliding

The Environmental Petitioners argue that the inclusion of the WMP/EWMP in the Los Angeles MS4 Order violates the anti-backsliding provisions of the Clean Water Act and of the federal regulations.⁶² The Clean Water Act generally prohibits the relaxation of an effluent limitation established in an NPDES permit when that permit is renewed; the federal regulations include similar provisions. The Environmental Petitioners argue that the WMP/EWMP of the Los Angeles MS4 Order, by allowing a discharger to be deemed in compliance with receiving water limitations, even where a discharger may in fact be causing or contributing to an exceedance of a water quality standard, represent a relaxation of the receiving water limitations provisions contained in the 2001 Los Angeles MS4 Order.⁶³

We do not agree with the Environmental Petitioners that the WMP/EWMP provisions of the Los Angeles MS4 Order violate the anti-backsliding provisions of either the Clean Water Act or the federal regulations. Anti-backsliding provisions are an important aspect

⁶⁰ *Id.*, Part VI.E.2.c.ii., p. 143. Although this provision reflects a departure from provisions in previous MS4 permits, the provision has not generated controversy and has not been contested in the petitions. The State Water Board supports this provision in MS4 permits, as discussed at section II.B.5.b. of this order.

⁶¹ *Id.*, Parts VI.C. 2.d., pp. 52-53, VI.E.2.d.i.(4)(d), p. 144.

⁶² 33 U.S.C. § 1342(o); 40 C.F.R. §122.44(f).

⁶³ The receiving water limitations of the 2001 Los Angeles MS4 Order (like the receiving water limitations in Section V.A. of the Los Angeles MS4 Order) were modeled on the precedential language in State Water Board Order WQ 99-05.

of the Clean Water Act that generally promote continued progress toward clean water, but the provisions do not apply in all circumstances and are subject to certain exceptions. The 2001 Los Angeles MS4 Order required compliance with receiving water limitations, directed Permittees to achieve those limitations through the iterative process, but retained the Los Angeles Water Board's discretion to enforce compliance with the receiving water limitations at any time. The Los Angeles MS4 Order requires compliance with receiving water limitations, but allows implementation of control measures through the WMPs/EWMPs to constitute such compliance, and reserves direct enforcement of the receiving water limitations to situations where a permittee fails to comply with the WMP/EWMP provisions. The approaches under the prior and current orders are designed to achieve the same results – compliance with receiving water limitations – but through distinct paths that are not easily comparable for purposes of the specific, technical anti-backsliding requirements laid out in federal law.⁶⁴ We nevertheless discuss the provisions below.

The Clean Water Act contains both statutory anti-backsliding provisions in section 402(o) and regulatory anti-backsliding provisions in 40 C.F.R. section 122.44(f). The Clean Water Act's statutory prohibition against backsliding applies under a narrow set of criteria specified in Clean Water Act section 402(o). First, section 402(o) prohibits relaxing effluent limitations originally established based on best professional judgment, when there is a newly revised effluent limitation guideline.⁶⁵ The WMP/EWMP is not derived from an effluent limitation guideline, so this first prohibition is inapplicable. Second, section 402(o) prohibits relaxing effluent limitations imposed pursuant to Clean Water Act sections 301(b)(1)(C) or 303(d) or (e).⁶⁶ The receiving water limitations provisions in the 2001 Los Angeles MS4 Order were not

⁶⁴ Responding to an argument that NPDES Permit No. DC00000221 for MS4 discharges to the District of Columbia violated anti-backsliding requirements by removing certain numeric limitations in the prior permit, USEPA stated: "The Commenter implies that a Permit that replaces a numeric effluent limit with a non-numeric one is somehow automatically less stringent on that parameter. However, the narrative requirement only violates the anti-backsliding prohibition if the two provisions are comparable. . . . In this case, the two provisions are not comparable: EPA has determined that compliance with the performance standards in the Final Permit will result in more water quality protections for the DC MS4's receiving streams than did the previous aggregate numeric limit." (Responsiveness Summary, p. 84, *supra*, fn.17, citing *Communities for a Better Environment v. State Water Resources Control Bd.* (2005) 132 Cal. App. 4th 1313.)

⁶⁵ 33 U.S.C. § 1342(o)(1) ("In the case of effluent limitations established on the basis of subsection (a)(1)(B) of this section, a permit may not be renewed, reissued, or modified on the basis of effluent guidelines promulgated under section 1314 (b) of this title subsequent to the original issuance of such permit, to contain effluent limitations which are less stringent than the comparable effluent limitations in the previous permit.").

⁶⁶ *Ibid.* ("In the case of effluent limitations established on the basis of section 1311 (b)(1)(C) or section 1313 (d) or (e) of this title, a permit may not be renewed, reissued, or modified to contain effluent limitations which are less stringent than the comparable effluent limitations in the previous permit except in compliance with section 1313 (d)(4) of this title.").

established based on either section 301(b)(1)(C) or section 303(d) or (e), so this prohibition on backsliding is inapplicable.⁶⁷ The receiving water limitations provisions in MS4 permits are imposed under section 402(p)(3)(B) of the Clean Water Act rather than under section 301(b)(1)(C),⁶⁸ and are accordingly not subject to the anti-backsliding requirements of section 402(o).

With respect to the regulatory anti-backsliding provisions in 40 Code of Federal Regulations section 122.44(l), the non-applicability is less clear cut. USEPA promulgated 40 Code of Federal Regulations section 122.44(l)(1) and its predecessor anti-backsliding regulations prior to the Water Quality Act of 1987, which established the municipal permitting requirements of section 402(p)(3)(B). There is ample regulatory history to demonstrate USEPA's intent in establishing the anti-backsliding policy and regulations with respect to evolving technology standards for traditional point sources.⁶⁹ We have found no definitive guidance, however, since that time from USEPA or the courts applying the general provisions of section 122.44(l) in the context of municipal storm water permits.⁷⁰ Further, we have previously noted that anti-backsliding principles may be difficult to assess in the context of non-

⁶⁷ The Environmental Petitioners do not argue that the Los Angeles MS4 Order is contrary to Clean Water Act section 303(d)(4) (33 U.S.C. § 1313(d)(4)), which also sets out anti-backsliding requirements. Section 303(d)(4) sets out the conditions under which effluent limitations based on TMDL wasteload allocations may be relaxed. Specifically, effluent limitations for a discharge impacting an impaired water body where standards have not yet been attained may only be relaxed if either the cumulative effect of the revisions still assures the attainment of the water quality standards or the designated use that is not being attained is removed. (33 U.S.C. § 1313(d)(4)(A).) Where a water body has attained standards, effluent limitations may only be relaxed consistent with the federal antidegradation policy. (33 U.S.C. § 1313(d)(4)(B).)

⁶⁸ *Defenders of Wildlife, supra*, 191 F.3d at pp. 1165-1166.

⁶⁹ See, e.g., 44 Fed.Reg. 32854, 32864 (Jun. 7, 1979) (describing codification of predecessor regulation codified at 40 C.F.R. 122.15(i).) In the context of municipal storm water, the MEP standard is the technology standard; the record here supports that MEP, as reflected in the permit conditions, has evolved since the issuance of the 2001 Los Angeles MS4 Order to become more stringent. (See, e.g., Los Angeles MS4 Order, Part VI.D.9.h.vii., p.132, compared to 2001 Los Angeles MS4 Order, Part 4.F.5.c., pp.48-49 [trash controls]; Los Angeles MS4 Order, Part VI.D.7.c., pp. 97-109, as compared to 2001 Los Angeles MS4 Order, Part 4.D.3., pp.36-37 [new development/redevelopment project performance criteria]; Los Angeles MS4 Order, Part VI.D.8.d., pp.113-114, as compared to 2001 Los Angeles MS4 Order, Part 4.E., pp.42-45 [requirements for construction sites less than one acre].)

⁷⁰ As requested by the Environmental Petitioners, we took official notice of a Letter to the Water Management Administration, Maryland Department of the Environment, issued by USEPA Region III on August 8, 2012. (See fn. 19). We acknowledge that the letter states at page 3 that a provision in the Prince George County, Maryland, Phase I MS4 draft permit allowing for more time to complete tasks that were required under the previous permit constituted backsliding. The letter refers in passing to section 122.44(l)(1), but the letter has no regulatory effect and, further, is devoid of any analysis. The Environmental Petitioners have also pointed us to discussion of the regulatory anti-backsliding provisions in the NPDES Permit Writers' Manual. (NPDES Permit Writers' Manual, p. 7-4.) The relevant section of the NPDES Permit Writers' Manual does not explicitly distinguish between municipal storm water permits and traditional NPDES Permits in its discussion of the applicability of regulatory anti-backsliding provisions; however, nor does it specifically direct application of the anti-backsliding regulatory provisions to municipal storm water permits. We do not find this discussion to be to be determinative on the issue.

quantitative, non-numeric requirements such as BMPs and plans.⁷¹ It is unnecessary, however, to resolve the ultimate applicability of the regulatory anti-backsliding provisions, because, assuming for the sake of argument they do apply, the WMP/EWMP provisions would qualify for an exception to backsliding as discussed below.

Even if the receiving water limitations in MS4 permits could be considered subject to the anti-backsliding requirements of the Clean Water Act or the federal regulations, backsliding would be permissible based on the new information available to the Los Angeles Water Board when it developed and adopted the Los Angeles MS4 Order. The Clean Water Act and federal regulations contain exceptions to the anti-backsliding requirements where new information is available to the permitting authority that was not available at the time of the issuance of the prior permit and that would have justified the imposition of less stringent effluent limitations at that time.⁷² The Los Angeles Water Board makes a compelling argument in its October 15, 2013 Response that the development of 33 watershed-based TMDLs adopted since 2001, the inclusion and implementation of three of those TMDLs in the 2001 Los Angeles MS4 Order, and the TMDL-specific and general monitoring and analysis during implementation, have made new information available to the Los Angeles Water Board that fundamentally shaped the WMP/EWMP alternative of the Los Angeles MS4 Order. The Los Angeles Water Board states that the new information resulted in a new understanding that “time to plan, design, fund, operate and maintain [best management practices (BMPs)] is necessary to attain water quality improvements, and these BMPs are best implemented on a watershed scale.”⁷³ The Los Angeles Water Board further points out that, in terms of water supply, there has been a paradigm shift in the last decade from viewing storm water as a liability to viewing it as a regional asset, and that the Los Angeles MS4 Order was drafted to incorporate this new paradigm into its structure.

The WMP/EWMP approach represents a comprehensive attempt to implement the Board’s new understanding regarding how to make progress toward achieving water quality

⁷¹ See Order WQ 96-13 (*Save San Francisco Bay Association*) at pp. 8-10. Although the relevant portion of that decision primarily concerned Clean Water Act section 402(o), its analysis is equally instructive with respect to 40 C.F.R. section 122.44(l). (In passing, we note that the order appears to assume that the permit’s water quality-based requirements for the MS4 permit were derived pursuant to section 301(b)(1)(C); however, that assumption is in error based on the *Defenders of Wildlife* decision and subsequent State Water Board precedent.)

⁷² See 33 U.S.C. § 1342(o)(2)(B)(i); 40 C.F.R. § 122.44(l)(1) (anti-backsliding does not apply if the circumstances on which the previous permit was based have materially and substantially changed and would constitute cause for permit modification under 40 C.F.R. section 122.62); 40 C.F.R. § 122.62(a)(2) (stating that new information not available at the time the previous permit was issued is cause for modification); see also 40 C.F.R. §122.44(l)(2)(i)(B)(1).

⁷³ Los Angeles Water Board October 15, 2013 Response, p. 51.

standards as well as supporting the development of new water supplies.⁷⁴ The anti-backsliding requirements of the Clean Water Act and the federal regulations thus did not foreclose the incorporation of the WMP/EWMP alternatives into the Los Angeles MS4 Order even though the alternatives allow additional time to achieve receiving water limitations as compared to the immediate compliance required under the 2001 Los Angeles MS4 Order.

We shall amend Finding II.N. and Part III.D.4, page F-20, of Attachment F, Fact Sheet, as follows:

Finding II.N:

N. Anti-Backsliding Requirements. Section 402(o)(2) of the CWA and federal regulations at 40 CFR section 122.44(l) prohibit backsliding in NPDES permits. These anti-backsliding provisions require effluent limitations in a reissued permit to be as stringent as those in the previous permit, with some exceptions where limitations may be relaxed. All effluent limitations in this Order are at least as stringent as the effluent limitations in the previous permit. **The Fact Sheet of this Order contains further discussion regarding anti-backsliding.**

Attachment F, Fact Sheet, Part III.D.4:

4. Anti-Backsliding Requirements. Sections 402(o)(2) and 303(d)(4) of the CWA and federal regulations at 40 CFR section 122.44(l) prohibit backsliding in NPDES permits. These anti-backsliding provisions require effluent limitations in a reissued permit to be as stringent as those in the previous permit, with some exceptions where limitations may be relaxed. ~~All effluent limitations in this Order are at least as stringent as the effluent limitations in the previous permit.~~ **While this Order allows implementation of Watershed Management Plans/EWMPs to constitute compliance with receiving water limitations under certain circumstances, the availability of that alternative and the corresponding availability of additional time to come into compliance with receiving water limitations, does not violate the anti-backsliding provisions. The receiving**

⁷⁴ The Environmental Petitioners argue that information relied on to develop the WMP/EWMP approach was available to the Los Angeles Water Board at the time of the issuance of the 2001 Los Angeles MS4 Order, since regional and watershed based strategies and technologies in storm water planning, as well as the potential benefits of storm water for water supply, were considered prior to the last permit cycle. Similarly, the Environmental Petitioners argue that some of the data gathered through TMDL development was through the process of assessing impairments and through preparing drafts of the TMDL and was therefore available to the Los Angeles Water Board in 2001. (Environmental Petitioners, Written Comments, Jan. 21, 2015, pp. 15-17, 23-25.) The Environmental Petitioners have asked us to take official notice of several documents that support these assertions. It is not necessary for us to do so because we do not disagree with the Environmental Petitioners that some of the information that the Los Angeles Water Board has cited in support of an exception to the anti-backsliding requirements was available at the time of the adoption of the 2001 Los Angeles MS4 Order. We nevertheless concur with the Los Angeles Water Board that the more than a decade of implementation of storm water requirements, as well as the development and implementation of TMDL requirements, since 2001, has, as a whole, fundamentally reshaped our understanding of the physical and time scale on which such measures must be implemented to bring MS4s into compliance with receiving water limitations. Further, we find that all regional water boards are informed by the information gained in the Los Angeles region, so that any regional water board that adopts an alternative compliance path in a subsequent Phase I permit would not be in violation of anti-backsliding requirements, regardless of the particular storm water permitting history of that region.

water limitations provisions of this Order are imposed under section 402(p)(3)(B) of the Clean Water Act rather than based on best professional judgment, or based on section 301(b)(1)(C) or sections 303(d) or (e), and are accordingly not subject to the anti-backsliding requirements of section 402(o). Although the non-applicability is less clear with respect to the regulatory anti-backsliding provisions in 40 Code of Federal Regulations section 122.44(l), the regulatory history suggests that USEPA's intent was to establish the anti-backsliding regulations with respect to evolving technology standards for traditional point sources. (See, e.g., 44 Fed.Reg. 32854, 32864 (Jun. 7, 1979)). It is unnecessary, however, to resolve the ultimate applicability of the regulatory anti-backsliding provisions, because the WMP/EWMP provisions qualify for an exception to backsliding as based on new information. The Watershed Management Plan/EWMP provisions of this Order were informed by new information available to the Board from experience and knowledge gained through the process of developing 33 watershed-based TMDLs and implementing several of the TMDLs since the adoption of the previous permit. In particular, the Board recognized the significance of allowing time to plan, design, fund, operate and maintain watershed-based BMPs necessary to attain water quality improvements and additionally recognized the potential for municipal storm water to benefit water supply. Thus, even if the receiving water limitations are subject to anti-backsliding requirements, they were revised based on new information that would support an exception to the anti-backsliding provisions. (33 U.S.C. § 1342(o)(2)(B)(i); 40 C.F.R. § 122.44(l)(1); 40 C.F.R. §122.44(l)(2)(i)(B)(1)).

2. Antidegradation

The Environmental Petitioners argue that the WMP/EWMP provisions of the Los Angeles MS4 Order violate the federal and state antidegradation policies.⁷⁵ The federal and state antidegradation policies generally require that the existing quality of water bodies be maintained, unless degradation is justified through specific findings. At a minimum, any degradation may not lower the quality of the water below the water quality standards.⁷⁶

The federal and state antidegradation policies are not identical; however, where the federal antidegradation policy is applicable, the State Water Board has interpreted State Water Board Resolution No. 68-16, the state antidegradation policy, to incorporate the federal antidegradation policy.⁷⁷ In the context of the Los Angeles MS4 Order, a federal NPDES permit, compliance with the federal antidegradation policy would require consideration of the following: First, the Los Angeles MS4 Order must ensure that “existing instream uses and the level of

⁷⁵ 40 C.F.R. § 131.12; State Water Board Resolution No. 68-16, Statement of Policy with Respect to Maintaining High Quality Waters in California (State Water Board Resolution No. 68-16).

⁷⁶ *Ibid.*

⁷⁷ State Water Board Order WQ 86-17 (*Fay*), pp. 16-19.

water quality necessary to protect the existing uses” is maintained and protected.⁷⁸ Second, if the baseline quality of a water body for a given constituent “exceeds levels necessary to support propagation of fish, shellfish, and wildlife and recreation in and on the water, that quality shall be maintained and protected” through the requirements of the Los Angeles MS4 Order unless the Los Angeles Water Board makes findings that (1) any lowering of the water quality is “necessary to accommodate important economic or social development in the area in which the waters are located;” (2) “water quality adequate to protect existing uses fully“ is assured; and (3) “the highest statutory and regulatory requirements for all new and existing point sources and all cost-effective and reasonable best management practices for nonpoint source control” are achieved.⁷⁹

The Los Angeles MS4 Order must also comply with any requirements of State Water Board Resolution No. 68-16 beyond those imposed through incorporation of the federal antidegradation policy.⁸⁰ In particular, the Los Angeles Water Board must find that not only present, but also anticipated future uses of water are protected, and must ensure “best practicable treatment or control” of the discharges.⁸¹ The baseline quality considered in making the appropriate findings is the best quality of the water since 1968, the year of the adoption of Resolution No. 68-16, or a lower level if that lower level was allowed through a permitting action that was consistent with the federal and state antidegradation policies.⁸²

⁷⁸ 40 C.F.R. § 131.12(a)(1). This provision has been interpreted to mean that, “[i]f baseline water quality is equal to or less than the quality as defined by the water quality objective, water quality shall be maintained or improved to a level that achieves the objectives.” (State Water Board, Administrative Procedures Update, Antidegradation Policy Implementation for NPDES Permitting, 90-004 (APU 90-004), p. 4.) This provision is completely consistent with, and implemented by, the receiving water limitations provisions discussed above.

⁷⁹ 40 C.F.R. § 131.12(a)(2); see also State Water Board Resolution No. 68-16, Resolve 2. The federal regulations additionally require strict maintenance of water quality for “outstanding national resources.” (40 C.F.R. § 131.12(a)(3).) There are no designated outstanding national resource waters covered by the Los Angeles MS4 Order.

⁸⁰ See State Water Board Order WQ 86-17 (*Fay*), p. 23, fn. 11.

⁸¹ State Water Board Resolution No. 68-16, Resolve 2. Best practicable treatment or control is not defined in Resolution No. 68-16; however, the State Water Board has evaluated what level of treatment or control is technically achievable using “best efforts.” (See State Water Board Orders WQ 81-5 (*City of Lompoc*), WQ 82-5 (*Chino Basin Municipal Water District*), WQ 90-6 (*Environmental Resources Protection Council*.) A Questions and Answers document on Resolution No. 68-16 by the State Water Board states as follows: “To evaluate the best practicable treatment or control method, the discharger should compare the proposed method to existing proven technology; evaluate performance data, e.g. through treatability studies; compare alternative methods of treatment or control; and/or consider the method currently used by the discharger or similarly situated dischargers . . . The costs of the treatment or control should also be considered . . .” (Questions and Answers, Resolution No. 68-16, State Water Board (Feb. 16, 1995), pp. 5-6.)

⁸² APU 90-004, p.4. The baseline for application of the federal antidegradation policy is 1975. For state antidegradation requirements, see also *Asociacion de Gente Unida por el Agua v. Central Valley Water Board* (2012) 210 Cal.App.4th 1255, 1270. The baseline for the application of the state antidegradation policy is generally the highest water quality achieved since 1968. However, where a water quality objective for a particular constituent was adopted after 1968, the baseline for that constituent is the highest water quality achieved since the adoption of the (*Continued*)

The Los Angeles MS4 Order contains a conclusory antidegradation finding, but the Fact Sheet contains additional discussion.⁸³ The Fact Sheet discussion essentially conveys that, where there are high quality waters in the region, the antidegradation requirements are met because the Order requires best practicable treatment or control in the form of MEP and water quality standards compliance and, further, where the water quality is already impaired, the Order requires implementation of TMDL requirements to achieve water quality standards over time. The Fact Sheet also finds that the Los Angeles MS4 Order does not authorize an increase in waste discharges. The Los Angeles Water Board argues that it was not required to make more detailed findings because, using its best professional judgment and available data, it concluded that the Los Angeles MS4 Order would prevent any degradation. For this proposition, the Los Angeles Water Board cites to State Water Board guidance from 1990 (APU 90-004).⁸⁴ The guidance may be construed to exempt the Los Angeles Water Board from conducting an extensive pollutant by pollutant analysis for each water body in the region, but it does not exempt the Board from clearly stating its basis for finding that its action is consistent with the antidegradation policies.

The Los Angeles Water Board has provided a more extensive analysis of why the Los Angeles MS4 Order complies with the antidegradation policies in its October 15, 2013 Response. The Los Angeles Water Board argues that most of the water bodies impacted by the Los Angeles MS4 Order are already impaired for multiple constituents and that, even if some of these water bodies may have been higher quality in 1968, a scenario largely contradicted by the available data,⁸⁵ the appropriate baseline for the quality of such waters is the level of control achieved under the prior permit. The Los Angeles Water Board further argues that the Los Angeles MS4 Order has provisions that are equally or more stringent than those of the

(continued from previous page)

objective. Resolution 68-16 requires a comparison of the existing quality to “the quality established in policies as of the date on which such policies become effective.” (Resolution 68-16, Resolve 1.)

⁸³ Los Angeles MS4 Order, Finding II.M; Fact Sheet, Att. F, pp. F19-F20.

⁸⁴ APU 90-004, p. 2.

⁸⁵ We reviewed the Administrative Record, including the 1998 Clean Water Act section 303(d) List (May 12, 1999) (Administrative Record, section 10.VI.E., RB-AR35684-35733), the 2010 Clean Water Act section 303(d) List (Oct. 11, 2011) (Administrative Record, section 10.VI.E., RB-AR35734-35785), Santa Monica Bay Restoration Project, An Assessment of Inputs of Fecal Indication Organisms and Human Enteric Viruses from Two Santa Monica Bay Storm Drains (1990) (Administrative Record, section 10.VI.E., RB-AR43363-43413), Toxic Substances Monitoring Program, 10 Year Summary Report 1978-1987 (Administrative Record, Order No. 01-182, R0044602-0045053) and comments submitted by interested persons to the Los Angeles Water Board (Administrative Record RB-AR1006-1038, RB-AR1100-1128, RB-AR1768-2119, RB-AR2653-2847, RB-AR5642-17888). We found no specific evidence presented to the Los Angeles Water Board of high quality waters in the region with regard to pollutants typically associated with storm water discharges; however, we also recognize that in the absence of specific evidence of high quality waters, a blanket statement that there are no high quality water body-pollutant combinations may be overbroad.

2001 Los Angeles MS4 Order and therefore will not allow water quality to degrade below the level of control achieved under the prior permit.

We agree with the Los Angeles Water Board that the Los Angeles MS4 Order maintains and improves the level of control achieved under the 2001 Los Angeles MS4 Order. We expect that the Los Angeles MS4 Order's TMDL requirements and receiving water limitations, which may be implemented through the WMP/EWMP provisions, will be the means for achieving water quality standards for the majority of degraded water bodies in the region. To assert, as the Environmental Petitioners do, that compliance with the receiving water limitations provisions of the 2001 Los Angeles Order is more stringent than establishing specific implementation requirements with clear deadlines for TMDL and receiving water limitations compliance is misguided. We are concerned with the totality of the provisions in the two permits and find that, viewed from that broader perspective, the Los Angeles MS4 Order is at least as stringent in addressing degradation as its predecessor.⁸⁶ The Los Angeles MS4 Order improves on past practices that have been inadequate to protect water quality, and includes a monitoring and assessment program that will identify any changes in water quality.⁸⁷ In general, under the Los Angeles MS4 Order, we expect to see a trajectory away from any past degradation, even if there may be some continued short-term degradation.

We are not persuaded, however, that the level of control achieved under the 2001 Los Angeles MS4 Order necessarily represents the baseline for purposes of an antidegradation analysis. The 2001 Los Angeles MS4 Order had only minimal findings regarding antidegradation and it is not apparent that any degradation that may have continued under the conditions of the 2001 Los Angeles MS4 Order was anticipated by the Los Angeles Water Board and supported with appropriate analysis regarding economic and social benefits⁸⁸ and best practicable treatment or control. We therefore find that the appropriate baseline remains 1968 or the highest quality of receiving waters attained since 1968. We acknowledge

⁸⁶ In making this finding we also recognize that the Permittees may be deemed in compliance with receiving water limitations prior to approval of the WMP/EWMP. (Los Angeles MS4 Order Parts VI.C.2.d., pp. 52-53, VI.E.2.d.i.(4)(d), p. 144.) As discussed further under section II.B.6., we find that the Los Angeles Water Board reasonably exercised its discretion in allowing for compliance during the program development phase and further that the program development phase does not detract from the overall effectiveness of the permit provisions.

⁸⁷ See *Asociacion de Gente Unida*, *supra*, 210 Cal.App.4th at p. 1278.

⁸⁸ We note that the administrative record provides evidence that some discharge of storm water is to the maximum benefit of the people of the state because such discharge is necessary for flood control and public safety and helps accommodate development. (See, e.g., Administrative Record, section 10.VI.C, RB-AR30101; RB-AR32557-32558.)

that the evidence in the record indicates that it is unlikely that many water bodies were high quality even as far back as 1968, but we cannot make a blanket statement to that effect.⁸⁹

Despite this conclusion, we will not remand the antidegradation issue to the Los Angeles Water Board for further consideration, but will make the findings ourselves based on the record before us. Our findings are necessarily made at a generalized level. Even if the directive of APU 90-004 to carry out a complete antidegradation analysis for each water body-pollutant combination is applicable here, there is simply insufficient data available (to us or the Los Angeles Water Board) to make such findings. The APU 90-004 contemplates the appropriate antidegradation analysis for a discrete discharge or facility. It has limited value when considering antidegradation in the context of storm water discharges from diffuse sources, conveyed through multiple outfalls, with multiple pollutants impacting multiple water bodies within a municipality, or in this case, region, especially given that reliable data on the baseline water quality from 1968 is not available.⁹⁰

The Environmental Petitioners propose that antidegradation be addressed in subsequent actions of the Los Angeles Water Board by requiring that the reasonable assurance analysis (discussed in greater detail in section II.B.4.c. of this Order) supporting a WMP/EWMP also demonstrate that the proposed control measures will maintain high quality of waters with regard to pollutants for which they are not impaired. We reject this approach for two reasons. First, the Los Angeles Water Board was required under the federal and state antidegradation policies to evaluate whether permit conditions would lead to degradation of high quality waters at the time of permit issuance. Second, requiring Permittees to incorporate an evaluation of all water body-pollutant combinations, including those where there are no impairments or exceedances, would require them to expand the reasonable assurance analysis beyond its useful function and manageable scope.

We shall amend Finding II.M and Part D.3 at pages F-19 to F-20 of Attachment F, the Fact Sheet, as follows:

⁸⁹ See fn. 85.

⁹⁰ We note that USEPA did not conduct a detailed antidegradation analysis in issuing NPDES Permit No. DC00000221 for MS4 discharges to the District of Columbia, presumably for similar reasons. The court in *Asociacion de Gente Unida* relied on APU 90-004 in part in rejecting an antidegradation analysis conducted by the Central Valley Regional Water Quality Control Board for discharges of pollutants to groundwater from dairy facilities region-wide, but the court's objection was to the regional water board's reliance on an illusory prohibition of discharge to groundwater in finding that no antidegradation analysis was required, not to the sufficiency of any generalized antidegradation analysis the Board might have conducted in lieu of its reliance on the prohibition. (210 Cal.App.4th at pp. 1271-1273.)

Finding II. M.

M. Antidegradation Policy

40 CFR section 131.12 requires that state water quality standards include an antidegradation policy consistent with the federal antidegradation policy. The State Water Board established California's antidegradation policy in State Water Board Resolution No. 68-16 ("Statement of Policy with Respect to Maintaining the Quality of the Waters of the State"). Resolution No. 68-16 incorporates the federal antidegradation policy where the federal policy applies under federal law. Resolution No. 68-16 requires that existing water quality be maintained unless degradation is justified based on specific findings. The Regional Water Board's Basin Plan implements, and incorporates by reference, both the state and federal antidegradation policies. The permitted discharge is consistent with the antidegradation provision of section 131.12 and State Water Board Resolution No. 68-16 **as set out in the Fact Sheet.**

Attachment F, Fact Sheet Part III.D.3.

3. Antidegradation Policy. 40 CFR section 131.12⁴ requires that the state water quality standards include an antidegradation policy consistent with the federal antidegradation policy. The State Water Board established California's antidegradation policy in [State Water Board Resolution No. 68-16](#) ("Statement of Policy with Respect to Maintaining the Quality of the Waters of the State"). Resolution No. 68-16 incorporates the federal antidegradation policy where the federal policy applies under federal law. The Regional Water Board's Basin Plan implements, and incorporates by reference, both the State and federal antidegradation policies. Resolution No. 68-16 and 40 CFR section 131.12 require the Regional Water Board to maintain high quality waters of the State **unless degradation is justified based on specific findings. First, the Board must ensure that "existing instream uses and the level of water quality necessary to protect the existing uses" are maintained and protected. Second, if the baseline quality of a water body for a given constituent exceeds levels necessary to support propagation of fish, shellfish, and wildlife and recreation in and on the water, that quality shall be maintained and protected through the requirements of the Order unless the Board makes findings that (1) any lowering of the water quality is necessary to accommodate important economic or social development in the area in which the waters are located; (2) water quality adequate to protect existing uses fully is assured; and (3) the highest statutory and regulatory requirements for all new and existing point sources and all cost-effective and reasonable best management practices for nonpoint source control are achieved. The Board must also comply with any requirements of State Water Board Resolution No. 68-16 beyond those imposed through incorporation of the federal antidegradation policy. In particular, the Board must find that not only present, but also anticipated future uses of water are protected, and must ensure best practicable treatment or control of the discharges. The baseline quality considered in making the appropriate findings is the best quality of the water since 1968, the year of the adoption of Resolution No. 68-16, or a lower level if that lower level was allowed through a permitting action that was consistent with the federal and state antidegradation policies.** until it is demonstrated that any change in quality will

~~be consistent with maximum benefit to the people of the State, will not unreasonably affect beneficial uses, and will not result in water quality less than that described in the Regional Water Board's policies. Resolution 68-16 requires that discharges of waste be regulated to meet best practicable treatment or control to assure that pollution or nuisance will not occur and the highest water quality consistent with the maximum benefit to the people of the State be maintained.~~

The discharges permitted in this Order are consistent with the antidegradation provisions of 40 CFR section 131.12 and Resolution 68-16 **as set out in the Findings below:-**

1. Many of the water bodies within the area covered by this Order are of high quality. The Order requires the Permittees to meet best practicable treatment or control to meet water quality standards. As required by 40 CFR section 122.44(a), the Permittees must comply with the "maximum extent practicable" technology-based standard set forth in CWA section 402(p). Many of the waters within the area covered by this Order are impaired and **for multiple pollutants discharged through MS4s and are not high quality waters with regard to these pollutants. In most cases, there is insufficient data to determine whether these water bodies were impaired as early as 1968, but the limited available data shows impairment dating back for more than two decades. Many such water bodies are** listed on the State's CWA Section 303(d) List and either the Regional Water Board or USEPA has established TMDLs to address the impairments. **This Order ensures that existing instream (beneficial) water uses and the level of water quality necessary to protect the existing uses is maintained and protected.** This Order requires the Permittees to comply with permit provisions to implement the WLAs set forth in the TMDLs in order to restore the beneficial uses of the impaired water bodies consistent with the assumptions and requirements of the TMDLs. **This Order further requires compliance with receiving water limitations to meet water quality standards in the receiving water either by demonstrating compliance pursuant to Part V.A and the Permittee's monitoring and reporting program pursuant to Part VI.B or by implementing Watershed Management Programs/EWMPs with a compliance schedule.** This Order includes requirements to develop and implement storm water management programs, achieve water quality-based effluent limitations, and effectively prohibit non-storm water discharges through the MS4.

2. To the extent that some of the water bodies within the jurisdiction are high quality waters with regard to some constituents, this Order finds as follows:

a. Allowing limited degradation of high quality water bodies through MS4 discharges is necessary to accommodate important economic or social development in the area and is consistent with the maximum benefit to the people of the state. The discharge of storm water in certain circumstances is to the maximum benefit to the people of the state because it can assist with maintaining instream flows that support beneficial uses, may spur the development of multiple-benefit projects, and may be necessary for flood control, and public safety as well as to accommodate development in the

area. The alternative – capturing all storm water from all storm events – would be an enormous opportunity cost that would preclude MS4 permittees from spending substantial funds on other important social needs. The Order ensures that any limited degradation does not affect existing and anticipated future uses of the water and does not result in water quality less than established standards. The Order requires compliance with receiving water limitations that act as a floor to any limited degradation.

b. The Order requires the highest statutory and regulatory requirements and requires that the Permittees meet best practicable treatment or control. The Order prohibits all non-storm water discharges, with a few enumerated exceptions, through the MS4 to the receiving waters. As required by 40 CFR section 122.44(a), the Permittees must comply with the “maximum extent practicable” technology-based standard set forth in CWA section 402(p), and implement extensive minimum control measures in a storm water management program. Recognizing that best practicable treatment or control may evolve over time, the Order includes new and more specific requirements as compared to Order No. 01-182. The Order incorporates options to implement Watershed Management Programs or EWMPs that must specify concrete and detailed structural and non-structural storm water controls that must be implemented in accordance with an approved time schedule. The Order contains provisions to encourage, wherever feasible, retention of the storm water from the 85th percentile 24-hour storm event.

~~The issuance of this Order does not authorize an increase in the amount of discharge of waste. The Order includes new requirements to implement WLAs assigned to Los Angeles County MS4 discharges that have been established in 33 TMDLs, most of which were not included in the previous Order.~~

3. Compliance Schedules and the Appropriateness of Enforcement Orders

The Environmental Petitioners concede that immediate compliance with receiving water limitations is not achievable in many instances and that some additional time to reach compliance is warranted. They have proposed an alternative to the WMP/EWMP that would incorporate many of the provisions of those programs but require implementation through the mechanism of a time schedule order or other enforcement order rather than as permit conditions. The Los Angeles MS4 Order already provides that Permittees who are out of compliance with final WQBELs and other TMDL-specific limitations may request a time schedule order.⁹¹ Under the alternative proposed by the Environmental Petitioners, all Permittees that are currently out of compliance with receiving water limitations not addressed by a TMDL as well as with interim TMDL requirements with passed compliance deadlines, would be issued a time schedule order or other enforcement order not to exceed the five year term of

⁹¹ Los Angeles MS4 Order, Part VI.E.4., pp.146-147.

the permit. The Permittees would then implement a WMP/EWMP type plan to achieve compliance with the appropriate limitations within the confines of the enforcement order.

In the prior two sections, we found that the WMP/EWMP provisions are not contrary to the anti-backsliding or antidegradation requirements of federal and state law. We therefore disagree with the Environmental Petitioners that the relevant provisions must be stricken from the Order and incorporated instead into an enforcement order for those reasons. We also find that, given that strict compliance with water quality standards is discretionary in MS4 permits, the Los Angeles Water Board was not restricted to limiting the schedule for compliance with receiving water limitations to the term of the Los Angeles MS4 Order.

Further, from a policy perspective, we find that the MS4 Permittees that are developing and implementing a WMP/EWMP should be allowed additional time to come into compliance with receiving water limitations and interim and final TMDLs through provisions built directly into their permit, rather than through enforcement orders. Building a time schedule into the permit itself, as the Los Angeles MS4 Order does, is appropriate because it allows a more efficient regulatory structure compared to having to issue multiple enforcement orders. More importantly, it is appropriate to regulate Permittees in a manner that allows them to strive for compliance with the permit terms, provided no provision of law otherwise precludes including the schedule in the NPDES permit. For example, for traditional point source discharges subject to strict compliance with water quality standards pursuant to section 301(b)(1)(C), the terms of a compliance schedule are dictated by our compliance schedule policy (State Water Board Resolution 2008-0025) and any additional time for compliance could only be under the auspices of an enforcement order outside the permit.⁹²

The WMP/EWMP provisions constitute an effort to set ambitious, yet achievable, targets for Permittees; receiving water limitations, on the other hand, while the ultimate goal of MS4 permitting, may not in all cases be achievable within the five-year permit cycle. Generally, permits are best structured so that enforcement actions are employed when a discharger shows some shortcoming in achieving a realistic, even if ambitious, permit condition and not under circumstances where even the most diligent and good faith effort will fail to achieve the required condition. We add that it is our intention to encourage a watershed-based approach to addressing storm water issues going forward and that it would be contrary to that intention to

⁹² We also note that the State Water Board's Policy for the Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California (2005) (State Implementation Policy) and the CTR itself (40 C.F.R. § 131.38(e)) restrict the scope of compliance schedules for effluent limitations addressing the discharge of toxic pollutants; however the policy does not apply to storm water discharges. (State Implementation Policy, p.3, fn.1.)

structure the watershed-based requirements as an enforcement order. We will not require Permittees that propose and timely implement a WMP/EWMP to request time schedule orders or other enforcement orders as a precondition of being in compliance with the receiving water limitations or interim TMDL requirements of the Los Angeles MS4 Order.

While declining to structure the WMP/EWMP provisions generally as an enforcement order, we acknowledge that time schedule orders are appropriate under some circumstances. We have already noted that the Los Angeles MS4 Order allows a Permittee to request a time schedule order where a final compliance deadline for a state-adopted TMDL has passed and the Permittee believes that additional time to comply with the requirement is necessary.⁹³ We expect that a Permittee will request a time schedule order also if the Permittee fails to meet a final compliance deadline for a TMDL after the adoption date of the Los Angeles MS4 Order. We will also provide that a Permittee may request a time schedule order if the Permittee fails to meet a final compliance deadline for a receiving water limitation set in the Permittee's WMP/EWMP.

We shall add a new Part VI.C.6.b and revise Part VI.E.4.b as follows:

Part VI.C.6

b. Where a Permittee believes that additional time to comply with a final receiving water limitation compliance deadline set within a WMP/EWMP is necessary, and the Permittee fails to timely request or is not granted an extension by the Executive Officer, a Permittee may, no less than 90 days prior to the final compliance deadline, request a time schedule order pursuant to California Water Code section 13300 for the Regional Water Board's consideration.

Part VI.E.4

b. Where a Permittee believes that additional time to comply with the final water quality-based effluent limitations and/or receiving water limitations is necessary, a Permittee may within 45 days of Order adoption, **or no less than 90 days prior to the final compliance deadline if after adoption of the Order,** request a time schedule order pursuant to California Water Code section 13300 for the Regional Water Board's consideration.

4. Rigor and Accountability in the WMPs/EWMPs

We now turn to a consideration, from a technical as well as policy lens, as to whether the WMPs/EWMPs are structured in a manner that will maximize the likelihood of

⁹³ *Ibid.*

reaching the ultimate goal of the compliance alternative – achieving receiving water limitations.⁹⁴ We can support an alternative approach to compliance with receiving water limitations only to the extent that that approach requires clear and concrete milestones and deadlines toward achievement of receiving water limitations and a rigorous and transparent process to ensure that those milestones and deadlines are in fact met. Conversely, we cannot accept a process that leads to a continuous loop of iterative WMP/EWMP implementation without ultimate achievement of receiving water limitations.

We find below that the WMP/EWMP provisions generally ensure the appropriate rigor, transparency, and accountability, and that, with the few revisions we direct, are designed to lead to achievement of receiving water limitations.⁹⁵

a. Milestones and Compliance Deadlines

We first consider whether the WMP/EWMP provisions require clear, concrete, and finite milestones and deadlines.

For water body-pollutant combinations addressed by TMDLs, the Los Angeles MS4 Order requires the Permittees to incorporate the compliance schedules found in Attachments L through R of the Order, which reflect previously adopted TMDL-based requirements, into the WMP/EWMP, and, as necessary, to develop interim milestones and dates for their achievement.⁹⁶ A Permittee that does not thereafter comply with the approved compliance schedule must instead demonstrate compliance with the WQBELs and other TMDL-specific limitations of the Order.⁹⁷ For water body-pollutant combinations not addressed by a TMDL, but where the relevant pollutant is one for which the water body is identified as impaired on the Clean Water Act section 303(d) List and the pollutant is in the same class as a TMDL pollutant, the Order requires that the WMP/EWMP incorporate a schedule consistent with the TMDL schedule for the same class pollutant.⁹⁸ A Permittee that does not thereafter comply with

⁹⁴ From a legal standpoint, our analysis serves to verify that the Los Angeles MS4 Order's alternative compliance approach through WMPs/EWMPs is supported by the findings and by evidence in the record. (*Topanga Assn. for a Scenic Community v. County of Los Angeles* (1974) 11 Cal.3d 506.)

⁹⁵ We do not agree with Permittee Petitioners that the WMP/EWMP provisions are precluded by the program requirements of 40 Code of Federal Regulations section 122.26. Nor do we agree that the requirements are vague or lack definition. The WMP/EWMP provisions of the Order are guidelines for development of a subsequent program with more specificity to be approved by the Los Angeles Water Board or its Executive Officer.

⁹⁶ Los Angeles MS4 Order, Part VI.C.5.c., pp.64-65.

⁹⁷ *Id.*, Part VI.E.2.d.i(4)(c), p.144.

⁹⁸ *Id.*, Part VI.C.2.a.i., pp. 49-50.

the approved compliance schedule must instead demonstrate immediate compliance with the receiving water limitations in Part V.A.⁹⁹ We will not disturb these provisions.

With regard to exceedances of receiving water limitations not addressed by a TMDL, and where the pollutant is not in the same class as a pollutant addressed by a TMDL, the Order requires that the WMP/EWMP include milestones based on measurable criteria or indicators and a schedule for achieving the milestones. The WMP/EWMP must also incorporate a final date for achievement of receiving water limitations, but that date is circumscribed simply as “as soon as possible.”¹⁰⁰ Parts VI.C.2.a.ii.(4) and VI.C.2.a.iii.(2)(c) help clarify the meaning of “as soon as possible:”

Permittees shall identify enforceable requirements and milestones and dates for their achievement to control MS4 discharges such that they do not cause or contribute to exceedances of receiving water limitations within a timeframe(s) that is as short as possible, taking into account the technological, operation, and economic factors that affect the design, development, and implementation of the control measures that are necessary. The time between dates shall not exceed one year. Milestones shall relate to a specific water quality endpoint (e.g., x% of the MS4 drainage area is meeting the receiving water limitations) and dates shall relate either to taking a specific action or meeting a milestone.¹⁰¹

We will make a revision to the compliance schedule provisions to make it clear that the term “as soon as possible” is to be interpreted consistent with the more specific direction cited above. However, because the WMP/EWMP, and therefore the proposed compliance schedule, is subject to public review and comment and approval by the Los Angeles Water Board or its

⁹⁹ *Id.*, Part VI.C.2.c., p.52.

¹⁰⁰ *Id.*, Part VI.C.5.c.iii.(3), p. 65. If the pollutant is not in the same class as those addressed in a TMDL, but the water body is still identified as impaired for that pollutant, the WMP/EWMP must either have a final compliance deadline within the 5 year permit term or Permittees are expected to initiate development of a stakeholder-proposed TMDL and incorporate a compliance schedule consistent with the TMDL. (*Id.*, Part VI.C.2.a. ii., pp. 50-51) (If the exceedances are in a drainage area implementing the storm water retention approach, there is no requirement to initiate the TMDL development process.) The requirement to address receiving water limitations is ongoing. As exceedances are found through monitoring for water body-pollutant combinations not identified on the 303(d) List, Permittees must either meet receiving water limitations or include the water body-pollutant combination in the WMP/EWMP and set enforceable requirements and milestones and dates for their achievement within a time frame that is as short as possible. (*Id.*, Part VI.C.2.a.iii, pp. 51-52.) Permittees are deemed in compliance with receiving water limitations only for water body-pollutant combinations addressed in the WMP/EWMPs. Thus, as pointed out by several interested parties, for lower priority water body-pollutant combinations not incorporated into a WMP/EWMP for which exceedances are detected, Permittees may be in violation of the receiving water limitations. A Permittee always has the ability to reprioritize a water body-pollutant combination from low priority to high priority and amend its WMP/EWMP to incorporate measures to address that water body-pollutant combination.

¹⁰¹ *Id.*, Parts VI.C.2.a.ii.4, p. 50, VI.C.2.a.iii.(2)(c), p. 51 (identical language).

Executive Officer,¹⁰² we do not find it necessary to constrain the determination of milestones and dates for the achievement of receiving water limitations any further.

We shall amend Part VI.C.5.c.iii.(3)(b) as follows:

- (b) A final date for achieving the receiving water limitations as soon as possible, **consistent with Parts VI.C.2.a.ii.(4) & VI.C.2.a.iii.(2)(c).**

b. Constraints on Extension of Deadlines

The fact that the Los Angeles MS4 Order requires the establishment of concrete and rigorous deadlines within the WMP/EWMP for the achievement of receiving water limitations is critical to ensuring progress on such achievement; however, the Order also contemplates that the deadlines, with the exception of those compliance deadlines established in a TMDL, may be extended.¹⁰³ The WMP/EWMP is subject to an adaptive management process. Based on the results of that process the Permittees may propose modifications, including modifications to compliance deadlines and interim milestones, in the Annual Report.¹⁰⁴

The potential for multiple extensions is nevertheless ameliorated by the fact that extensions of compliance deadlines and interim milestones require Los Angeles Water Board Executive Officer approval,¹⁰⁵ and are accordingly, subject to a 30-day public comment period.¹⁰⁶ The public comment period will allow all other interested persons to weigh in on the appropriateness of any requested extensions. If thereafter dissatisfied with the determination made by the Executive Officer, interested persons may additionally seek review of the Executive Officer's decision by the Los Angeles Water Board.¹⁰⁷ Of course, in cases where no extension

¹⁰² *Id.*, Part VI.C.4.c., p.56, Table 9, p. 54, Part VI.A.5.b., p. 42, Att. F, Fact Sheet, p. F-42. Under Part VI.A.5.b, “[a]ll documents submitted to the Regional Water Board Executive Officer for approval shall be made available to the public for a 30-day period to allow for public comment.”

¹⁰³ *Id.*, Parts VI.C.7, p.66, VI.C.8, pp.66-67.

¹⁰⁴ *Id.*, Part, VI.C.8, p.67. Under another provision of the Order, Permittees may at any time request an extension of deadlines for achievement of interim milestones established to address exceedances of receiving water limitations not otherwise addressed by a TMDL. (*Id.*, Part VI.C.6.a., p.65.) (We note that the cited provision refers to “milestones established pursuant to Part VI.C.4.c.ii.(3),” but the intent appears to have been to reference Part VI.C.5.c.iii.(3).) But as we read the Los Angeles MS4 Order, extensions of not just interim deadlines for achievement of milestones but also final compliance deadlines to achieve receiving water limitations are already allowed under the adaptive management provisions of Part VI.C.8.a.ii.: “Based on the results of the adaptive management process, Permittees shall report any modifications, including where appropriate *new compliance deadlines* and interim milestones, with the exception of those compliance deadlines established in a TMDL, necessary to improve the effectiveness of the Watershed Management Program or EWMP, in the Annual Report” (Emphasis added.)

¹⁰⁵ *Id.*, Parts VI.C.8, p.67, VI.C.6.a., p.65. We recognize that as currently written the adaptive management provisions in effect deem any modifications to the WMPs/EWMPs approved if the Executive Officer “expresses no objections” within 60 days. (*Id.*, Part VI.C.8.a.iii., p. 67.) With our revisions, any deadline extensions must be affirmatively approved by the Executive Officer.

¹⁰⁶ *Id.*, Part VI.A.5.b, p. 42.

¹⁰⁷ *Id.*, Part VI.A.6, p.42.

is available, as with final deadlines established in TMDLs,¹⁰⁸ or where no extension is requested or granted, failure to meet a deadline means that the Permittee will have to comply from that time forward with the receiving water limitations or WQBELs and other TMDL-specific limitations or request a time schedule order. Therefore, Permittees cannot rely on the certainty of a deadline extension, and Permittees have a strong incentive to implement control measures that will in fact get them to compliance by the established deadline. Given that the Permittees and the Los Angeles Water Board are working with limited data¹⁰⁸ regarding storm water impacts and control measure performance, especially where TMDLs have not been developed, we are hesitant to remove all flexibility for deadline extensions, and find that the Order strikes an appropriate balance.

Permittee Petitioners seek even greater flexibility under the WMP/EWMP provisions for adjusting approved control measures and time lines. They advocate for amendments that would allow a Permittee to propose alternative controls or time lines upon a demonstration that required controls for timely achievement of a limitation are either technically infeasible or otherwise constitute a substantial hardship to the Permittee. We have found above that, in the case of final deadlines set in the WMP/EWMP for achievement of receiving water limitations not otherwise addressed in a TMDL, the Los Angeles MS4 Order already provides for an opportunity to propose new deadlines through the adaptive management process. We will make a clarifying revision below to confirm that Permittees may ask for extensions in meeting receiving water limitations not addressed by a TMDL. Technical infeasibility or substantial hardship may be grounds for such a request. The Los Angeles Water Board Executive Officer, in turn, may, after allowing for public review and comment, choose to (1) extend the deadline, (2) decline the extension but approve any time schedule order requested by the Permittee, or (3) decline the extension and not approve a time schedule order, with the result that the Permittee will be out of compliance with the provision of the WMP/EWMP and therefore the receiving water limitations of Part V.A. As stated previously, interested persons may thereafter ask the Los Angeles Water Board to review the Executive Officer's determination.¹⁰⁹

With regard to final deadlines for WQBELs and other TMDL-specific limitations, we will not amend the WMP/EWMP provisions to add flexibility for extensions. We find that the only option appropriately available to a Permittee unable to meet final deadlines that are set out in a TMDL and incorporated into the Los Angeles MS4 Order and the WMP/EWMPs, is to

¹⁰⁸ *Id.*, Part VI.C.8.a.ii., p.67.

¹⁰⁹ *Id.*, Part VI.A.6, p.42.

request a time schedule order, consistent with Part VI.E.2.e. of the Order, as that Part was amended in section II.B.3. above.¹¹⁰

We shall amend Part VI.C.6.a as follows:

- a. Permittees may request an extension of deadlines for achievement of interim milestones **and final compliance deadlines** established pursuant to Part VI.C.45.c.iii.(3) ~~only~~, **with the exception of those final compliance deadlines established in a TMDL**. Permittees shall provide requests in writing at least 90 days prior to the deadline and shall include in the request the justification for the extension. Extensions ~~shall be subject to approval by~~ **must be affirmatively approved by** the Regional Water Board Executive Officer, **notwithstanding Part VI.C.8.a.iii.**

c. Rigor and Accountability in the Process

We see three additional components of the WMPs/EWMPs as essential to ensuring that the proposed WMPs/EWMPs are in fact designed to achieve receiving water limitations within the appropriate time frame.

First, as documents to be approved by either the Los Angeles Water Board or its Executive Officer, the WMPs/EWMPs are subject to a public review and comment period.¹¹¹ Such review includes consideration of proposed control measures, deadlines for achievement of final limitations, and the reasonable assurance analysis that supports the WMP/EWMP. We expect this public process to vet the proposed WMPs/EWMPs and facilitate revisions to strengthen the programs as needed, thereby providing some assurance that approved WMPs/EWMPs will achieve the water quality targets set out.

Second, the requirement for a reasonable assurance analysis in particular is designed to ensure that Permittees are choosing appropriate controls and milestones for the WMP/EWMP.¹¹² Competent use of the reasonable assurance analysis should facilitate achievement of final compliance within the specified deadlines.¹¹³

¹¹⁰ Final TMDL deadlines are established and incorporated into the Basin Plans during the TMDL development process. That process invites stakeholder participation and the proposed schedule is subject to public review and comment and approval by the relevant regional water board, the State Water Board, and USEPA. The deadlines are established with consideration of the time needed for compliance for all dischargers contributing to an impairment, including industrial and construction storm water dischargers and traditional NPDES dischargers. Although we recognize that it may not always be feasible for municipal storm water dischargers to meet final TMDL deadlines, short of amending the Basin Plan to modify the deadlines (see *California Association of Sanitation Agencies v. State Water Resources Control Board* (2012) 208 Cal.App.4th 1438), we find it appropriate for the dischargers to request time schedule orders rather than be granted an extension within the provisions of the Los Angeles MS4 Order.

¹¹¹ See Los Angeles MS4 Order, Parts VI.C.4.d., p. 57, VI.C.6, p. 65, Table 9, p.54; see also *id.*, Part VI.A.5., p. 42.

¹¹² *Id.*, Part VI.C.5.b.iv.(5), pp. 63-64.

¹¹³ We note that the Los Angeles Water Board has released guidance on the development of a reasonable assurance analysis. The guidance was released after adoption of the Los Angeles MS4 Order and accordingly is not (*Continued*)

Third, the adaptive management provisions of the Order ensure that the Permittees will evaluate monitoring data and other new information every two years and consider progress up to that point on achieving WQBELs and other TMDL-specific limitations. Permittees are required as part of the adaptive management process to propose modifications to improve the effectiveness of the WMP/EWMP and implement those modifications.¹¹⁴

While we are supportive of all of these measures, we find that they should be strengthened. As a preliminary matter, we will require the Permittees to submit specific information, concurrently with the two-year adaptive management process, that will assist the Los Angeles Water Board in determining how effective the WMP/EWMP path is in spurring the completion of on-the-ground structural control measures that lead to measurable water quality improvement. As we discuss further in Section II.B.8 of this Order, we will direct the Los Angeles Water Board to report to the State Water Board periodically on the effectiveness of the WMP/EWMP approach and expect the additional information submitted by the Permittees to inform that report.

More significantly, we will add a provision that requires Permittees to comprehensively update the reasonable assurance analysis and the WMP/EWMP, following an opportunity to implement the adaptive management process. Given the limitations inherent in models, as well as the potential incentive to choose the lowest effort and cost level predicted by the model to achieve receiving water limitations,¹¹⁵ we are concerned that reliance on one initial reasonable assurance analysis is insufficient to ensure that in the long term WMPs/EWMPs will

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part of the Administrative Record. We nevertheless take this opportunity to state that we expect any revisions and updates to the guidance to be subject to a public process as part of reissuance of the Los Angeles MS4 Order.

¹¹⁴ Los Angeles MS4 Order, Part VI.C.8., pp. 66-67. We add that the adaptive management process will also allow Permittees to revise their WMPs/EWMPs to take advantage of funding opportunities as they arise in the future, including funding opportunities through Assembly Bill 2403 (approved by Governor, June 28, 2014 (2013-2014 Reg. Sess.)) and Proposition 1 (approved by ballot Nov. 4, 2014). We are cognizant of criticism that the adaptive management process is just another version of the ineffective iterative process of the receiving water limitations. These arguments are misplaced. Unlike the iterative process of the receiving water limitations, the adaptive management process is only one component of a series of actions required under the WMP/EWMP and acts as a periodic check to ensure that all the other requirements are achieving the stated goals of the WMP/EWMP within clearly stated deadlines. As our discussion above makes clear, we would not endorse an alternative compliance path with the sole requirement to adaptively manage implemented control measures. Further, the adaptive management process in the Los Angeles MS4 Order differs from the iterative process in that Permittees must carry out the adaptive management process every two years, limiting any discretionary determination as to when the program must be evaluated. (Los Angeles MS4 Order, Part VI.C.8.a.)

¹¹⁵ The numerical analysis methods and models approved for use by Permittees for estimating hydrologic conditions and contaminant fate and transport in the watersheds should, in principle, be able to propagate any and all known uncertainty to the outputs and results. It is in the public interest that the Los Angeles Water Board communicate this uncertainty to all stakeholders, as the results in most cases will affect the beneficial uses of California waters. Moreover, it is highly desirable that, to the extent possible, the Los Angeles Water Board define a minimum level of uncertainty (or level of confidence) acceptable for a reasonable assurance analysis to be approved.

achieve relevant water quality goals. . Currently, as stated above, the Permittees are required to implement the adaptive management process every two years from the date of program approval. Under the provision we add, the Permittees will be required to comprehensively update the reasonable assurance analysis (including potentially considering whether the model itself and its assumptions require updating) and the WMP/EWMP after several years of adaptive management, based on previous years' monitoring data and other performance measures. The Permittee will submit a full revised package to the Los Angeles Water Board Executive Officer for approval, following public review.

Given that the WMPs/EWMPs in many cases address water quality targets that are to be achieved a decade or more in the future, a periodic, complete re-consideration and recalibration of the assumptions and predictions that support the proposed control measures and implementation schedule in light of new data, above and beyond the two-year adaptive management requirements of the Los Angeles MS4 Order, is essential, notwithstanding the additional time and effort that Permittees must expend on the update. We also recognize that such review is a staff intensive process for the Los Angeles Water Board, but addressing storm water impacts is a priority for that Board. Although we expect that the update will be necessary in most cases, the new requirements provide that the Executive Officer of the Los Angeles Water Board may waive the requirement for an update if the Permittee demonstrates through water quality monitoring that the WMP/EWMP is meeting appropriate targets. Our direction to require a comprehensive update of the reasonable assurance analyses and the WMPs/EWMPs after several cycles of adaptive management should in no way be construed as limiting the Los Angeles Water Board Executive Officer's discretion to request such updates earlier in the implementation process or the obligation of the Permittees to initiate such updates earlier in the implementation process based on the ongoing adaptive management process.

The second added provision will not be relevant for the permit term of the order before us; however, we anticipate that the next iteration of an MS4 Order for the Los Angeles area will closely track the Los Angeles MS4 Order to allow for continued implementation of the WMP/EWMPs.

We shall amend Part VI.C.8 by adding new subsections a.iv. and b. as follows:

a.

iv. Permittees shall report the following information to the Regional Water Board concurrently with the reporting for the adaptive management process:

(1) On-the-ground structural control measures completed;

(2) Non-structural control measures completed;

- (3) Monitoring data that evaluates the effectiveness of implemented control measures in improving water quality;**
- (4) Comparison of the effectiveness of the control measures to the results projected by the RAA;**
- (5) Comparison of control measures completed to date with control measures projected to be completed to date pursuant to the Watershed Management Program or EWMP;**
- (6) Control measures proposed to be completed in the next two years pursuant to the Watershed Management Program or EWMP and the schedule for completion of those control measures;**
- (7) Status of funding and implementation for control measures proposed to be completed in the next two years.**

b. Watershed Management Program Resubmittal Process

- i. In addition to adapting the Watershed Management Program or EWMP every two years as described in Part VI.C.8.a., Permittees must submit an updated Watershed Management Program or EWMP with an updated Reasonable Assurance Analysis by June 30, 2021, or sooner as directed by the Regional Water Board Executive Officer or as deemed necessary by Permittees through the Adaptive Management Process, for review and approval by the Regional Water Board Executive Officer. The updated Reasonable Assurance Analysis must incorporate both water quality data and control measure performance data, and any other information informing the two-year adaptive management process, gathered through December 31, 2020. As appropriate, the Permittees must consider any new numeric analyses or other methods developed for the reasonable assurance analysis. The updated Watershed Management Program or EWMP must comply with all provisions in Part VI.C. The Regional Water Board Executive Officer will allow a 60-day public review and comment period with an option to request a hearing. The Regional Water Board Executive Officer must approve or disapprove the updated Watershed Management Program or EWMP by June 30, 2022. The Executive Officer may waive the requirement of this provision, following a 60-day public review and comment period, if a Permittee demonstrates through water quality monitoring data that the approved Watershed Management Program or EWMP is meeting appropriate water quality targets in accordance with established deadlines.**

5. Determination of Compliance with Final Requirements

a. Compliance with Final TMDL Requirements¹¹⁶

Part VI.E.2.e.i.4. of the Los Angeles MS4 Order provides that Permittees will be deemed in compliance with the final WQBELs and other TMDL-specific limitations if “[i]n drainage areas where Permittees are implementing an EWMP, (i) all non-storm water and (ii) all storm water runoff up to and including the volume equivalent to the 85th percentile, 24 hour event is retained for the drainage area tributary to the applicable receiving water.”¹¹⁷ Part VI.E.2.e.i.4 is one of four options available to the Permittee in Part VI.E.2.e. to be deemed in compliance with WQBELs and other TMDL-specific limitations. The other three options allow a Permittee to establish compliance with a final WQBEL or other TMDL-specific limitation by showing that (1) there are no violations of the final WQBEL; (2) there are no exceedances of the receiving water limitation for the specific pollutant in the receiving water at or downstream of the Permittee’s outfall, or (3) there is no direct or indirect discharge from the Permittee’s MS4 to the receiving water during any relevant time period.¹¹⁸ These three options ensure that either the receiving water limitations or WQBELs and other TMDL-specific limitations are in fact being complied with. In contrast, the storm water retention approach assumes compliance with *final* WQBELs and other TMDL-specific limitations, and accordingly, compliance with the receiving water limitations in Part V for the relevant water body-pollutant combinations,¹¹⁹ even if the final WQBELs and other TMDL-specific limitations are not actually being achieved. The Environmental Petitioners argue that the Los Angeles Water Board has failed to establish through findings and record evidence that the storm water retention approach will in fact achieve compliance with the WQBELs and other TMDL-specific limitations and that the Los Angeles

¹¹⁶ The Los Angeles MS4 Order additionally deems compliance with *interim* WQBELs and other TMDL-specific limitations if the “Permittee has submitted and is fully implementing an approved” WMP/EWMP. (Los Angeles MS4 Order, Part VI.E.2.d.i.(4), p. 143; see also *id.*, Part VI.C.3.a., p. 53.) Because Permittees are required to incorporate into the WMP/EWMP compliance schedules “compliance deadlines occurring within the permit term for all applicable interim . . . water quality-based effluent limitations and/or receiving water limitations in Part VI.E and Attachments L through R,” we expect that in most cases full implementation of the WMP/EWMP necessarily results in compliance with interim WQBELs and other TMDL-specific limitations. However, to the extent this is not the result reached, we find that requiring implementation of the WMP/EWMP with control measures designed to achieve interim WQBELs and other TMDL-specific limitations, in lieu of showing actual compliance with any *interim* numeric requirements, is consistent with the assumptions and requirements of the wasteload allocations of the relevant TMDLs. (40 C.F.R. § 122.44(d)(1)(vii)(B).)

¹¹⁷ Los Angeles MS4 Order, Part VI.E.2.e.i.(4), p. 145.

¹¹⁸ *Id.*, Part VI.E.2.e.i.(1)-(3), pp. 144-45.

¹¹⁹ We note again that Part VI.E.2.c.i. states that Part VI.E establishes the manner of achieving compliance with the receiving water limitations in Part V.A where the receiving water limitations are associated with water body-pollutant combinations addressed in a TMDL.

MS4 Order's reliance on the storm water retention approach for final compliance determination is therefore contrary to the law.

We are supportive of the EWMP's use of the storm water retention approach as a technical requirement. Retention of storm water is likely to be an effective path to water quality improvement. Furthermore, in addition to preventing pollutants from reaching the receiving water except as a result of high precipitation events (which also generally result in significant dilution in the receiving water), the storm water retention approach has additional benefits including recharge of groundwater, increased water supply, reduced hydromodification effects, and creation of more green space to support recreation and habitat.¹²⁰

We have some concerns, however, with the lack of verification in the Los Angeles MS4 Order that final WQBELs and other TMDL-specific limitations or receiving water limitations will in fact be met as a result of implementation of the storm water retention approach. We acknowledge that, in most cases, the final TMDLs have deadlines outside of the permit term for the Los Angeles MS4 Order and that, therefore, with regard to those, our concerns are more theoretical at this point than immediate. Nevertheless, we agree with the Environmental Petitioners that the evidence in the Administrative Record is not sufficient to establish that the storm water retention approach will in all cases result in achievement of final WQBELs and other TMDL-specific limitations and, more importantly, are concerned that the Order itself does not incorporate clear requirements that would provide for such verification in the process of implementation.

With regard to evidence in the Administrative Record, it is clear that the storm water retention approach is a promising approach for achieving compliance with receiving water limitations, with multiple additional environmental benefits. But the research regarding the storm water retention approach is still in early stages and we cannot say with certainty at this point that implementation will lead to compliance with receiving water limitations in all cases.¹²¹

With that conclusion in mind, we look to the Los Angeles MS4 Order itself to determine if there are sufficient additional provisions to assure that, in the long run, the storm water retention approach will achieve the ultimate goal of compliance with receiving water limitations. We first note that the Order does not require a reasonable assurance analysis when

¹²⁰ See e.g. Administrative Record, section 10.VI.C, RB-AR29263-29311, RB-AR32318-32350.

¹²¹ We reviewed the citations to the Administrative Record provided in the Los Angeles Water Board October 15, 2013 Response and in the October 15, 2013 Responses of many of the Petitioners. We find that the cited studies show the storm water retention to be a promising approach to meeting water quality standards, but do not establish, at a sufficiently high level of confidence, that the storm water retention approach will definitively achieve compliance with the receiving water limitations.

a Permittee opts for the storm water retention approach. Permittees are required to conduct a reasonable assurance analysis for each water body-pollutant combination addressed by a WMP, with the objective of demonstrating the ability of the controls to ensure that MS4 discharges achieve applicable WQBELs and do not cause or contribute to exceedances of receiving water limitations.¹²² The relevant provisions reference EWMPs, but elsewhere the Order states that the reasonable assurance analysis is only required for areas covered by the EWMP where retention of the 85th percentile, 24-hour storm event is not feasible.¹²³ The Fact Sheet also implies that the requirement for a reasonable assurance analysis is confined to situations where the storm water retention approach is not feasible.¹²⁴ In sum, then, Permittees that choose to develop and implement an EWMP are required to conduct a reasonable assurance analysis for each waterbody-pollutant combination addressed by the EWMP, except in the drainage areas that are tributary to the storm water retention projects.

The fact that the storm water retention approach does not require a reasonable assurance analysis prior to implementation to demonstrate the ability of the approach to achieve compliance with the limitations is mitigated in part by required monitoring and adaptive management to verify compliance following implementation. Although the provision could be clearer, we read the language “[i]n drainage areas where Permittees are implementing an EWMP” in Part VI.E.2.e.i.(4) to require Permittees to be in compliance with all aspects of the EWMP, including the monitoring and adaptive management provisions of Parts VI.C.7 and 8, to be deemed in compliance with final limitations through the storm water retention approach. As we read the Order, a Permittee’s showing that it has retained all non-storm water and all storm water up to and including the volume equivalent to the 85th percentile, 24-hour event, establishes compliance, but only if the Permittee continues to conduct monitoring and adapt the EWMP in response to the monitoring. The Los Angeles Water Board appears to read the Order the way we do, as it states in its October 15, 2013 Response that “the Permit requires monitoring and adaptive management, which will continue to inform the Los Angeles Water Board regarding the efficacy of this storm water retention approach in conjunction with implementation of the other storm water management program elements and any needed

¹²² Los Angeles MS4 Order, Part VI.C.5.b.iv.(5), pp. 63-64.

¹²³ *Id.*, Part VI.C.1.g., p. 48.

¹²⁴ *Id.*, Att. F, Fact Sheet, p. F-39.

modifications to the approach.”¹²⁵ The Los Angeles Water Board further states in comments submitted on a draft of this order, as follows:

The Los Angeles MS4 Order does not exclude EWMPs or areas within an EWMP where the stormwater retention standard is achieved from the integrated watershed monitoring, assessment and adaptive management processes. Neither does the Los Angeles MS4 Order specify or contemplate an end to the monitoring, assessment and adaptive management processes in the case of a Watershed Management Program (WMP) or EWMP. These required elements, including receiving water and outfall monitoring, evaluation of these monitoring data, and modification of the EWMP to improve its effectiveness, will be continually conducted throughout the Watershed Management Area addressed by the EWMP. . . . The Los Angeles Water Board understood that these regional multi-benefit projects would take time to implement and that Permittees needed to be afforded this time in the Los Angeles MS4 Order. The Los Angeles Water Board will continually evaluate progress during the implementation period. If, as full implementation nears, some Receiving Water Limitations are still not achieved, the Los Angeles Water Board and State Water Board have a variety of tools that can be used at a regional or statewide level including reconsideration of TMDLs, Basin Planning actions, policy development and permitting, among others.¹²⁶

We will make a revision to Part VI.E.2.e.i. to make it clear that the Permittee must be in compliance with all other requirements of the EWMP in addition to implementation of the storm water retention approach in order to be deemed in compliance with the final WQBELs and other TMDL-specific limitations.

With no definitive evidence in the record establishing that the storm water retention approach will achieve final requirements, no reasonable assurance analysis required at the outset, and reliance only on subsequent monitoring and adaptive management to improve results if final limitations are not in fact achieved, the storm water retention approach does not provide a level of assurance of success that would lead us to conclude that its implementation, with nothing else, is sufficient to constitute compliance with final WQBELs and other TMDL-specific limitations. We understand that there are nevertheless very good reasons to encourage its use. Certainly for all non-storm water and for all storm water generated in storms up to the 85th percentile storm, the storm water retention approach achieves compliance because there is no discharge. And there are significant benefits beyond water quality, including most importantly benefits to water supply. We also believe that public projects requiring investment of this magnitude are unlikely to be carried out without a commitment from the water boards that Permittees will be considered in compliance even if the resulting improvement in water quality

¹²⁵ Los Angeles Water Board, October 15, 2013 Response, p. 62.

¹²⁶ Los Angeles Water Board, Comment Letter, January 21, 2015, pp. 2-3.

does not rise all the way to complete achievement of the final WQBELs and other TMDL-specific limitations.

We are not willing to go as far as saying that compliance with the storm water retention approach alone constitutes compliance with final WQBELs and other TMDL-specific limitations for all time, regardless of the actual results.¹²⁷ Nonetheless, we anticipate that implementation of such projects will bring the drainage area most and, in many cases, all of the way to achievement of water quality standards. Where there is still a gap in required water quality improvement, we expect the Executive Officer of the Los Angeles Water Board to require appropriate actions, consistent with the provisions of the Los Angeles MS4 Order and the Los Angeles Water Board's stated interpretation of those provisions,¹²⁸ to close that gap with additional control measures in order for the Permittee to be considered in compliance with the WQBEL or other TMDL-specific limitation. There are various mechanisms to provide assurances that additional control measures will be implemented to achieve the WQBEL or other TMDL-specific limitation, and in some instances, it may be appropriate for the Los Angeles Water Board to issue a time schedule order governing the implementation of further control measures. Further, as acknowledged by the Los Angeles Water Board in its comments, in some circumstances, reconsideration of the underlying TMDLs and the final deadlines within those TMDLs may instead be warranted.¹²⁹ We additionally recognize that municipal storm water management is an area of continued development and, with continued research and data evaluation, water quality standards may evolve and become more nuanced or sophisticated over time.

While we decline to interpret the storm water retention approach to, in and of itself, constitute compliance with final WQBELs and other TMDL-specific limitations, we emphasize here that any additional control measures to reach compliance that may be required by the Los Angeles Water Board must not require changes to installed storm water retention projects. Any revisions should be prospective in nature and should not disturb projects that Permittees have already installed in good faith to comply with the provisions of their EWMP.

¹²⁷ Further, Permittees still have substantial incentive to develop and implement an EWMP. If a permittee pursues an EWMP, it will be deemed in compliance with the receiving water limitations during the EWMP development phase, and it may also recognize significant non-water quality benefits.

¹²⁸ Los Angeles Water Board, Comment Letter, January 21, 2015, pp. 2-3. As explained in footnote 110, at this time we see limited options available to the Los Angeles Water Board in addressing compliance with final deadlines for WQBELs and other TMDL-specific limitations.

¹²⁹ We also acknowledge the need for and commit to supporting state-wide solutions for source reduction as appropriate, similar to the brake pad legislation adopted to address copper discharges. (Senate Bill 346 (approved by the Governor September 27, 2010).)

Ultimately, we must set out to verify through appropriate monitoring that final WQBELs and other TMDL-specific limitations can be achieved through the storm water retention approach, or be willing to revise that approach. However, new or additional measures required at that point should be additive to the storm water retention approach measures already installed.

In sum, despite the uncertainty inherent in allowing the storm water retention approach, we concur in its use in the Los Angeles MS4 Order, with the clarification that ultimate compliance is subject to continued planning, monitoring and adaptive management. We shall amend Part VI.E.2.e.i. as follows:

- i. A Permittee shall be deemed in compliance with an applicable final water quality-based effluent limitation and final receiving water limitation for the pollutant(s) associated with a specific TMDL if any of the following is demonstrated:

...

- (4) In drainage areas where Permittees are implementing an EWMP, (i) all non-storm water and (ii) all storm water runoff up to and including the volume equivalent to the 85th percentile, 24 hour event is retained for the drainage area tributary to the applicable receiving water, **and the Permittee is implementing all requirements of the EWMP, including, but not limited to, Parts VI.C.7 and VI.C.8 of this Order.** This provision (4) shall not apply to final trash WQBELs.

b. Compliance with Final Receiving Water Limitations

The Los Angeles MS4 Order states that for receiving water limitations associated with water-body pollutant combinations addressed in a TMDL, compliance with the TMDL requirements of the Order in Part VI.E and Attachments L through R constitutes compliance with the receiving water limitations in Part V.A.¹³⁰ In other words, if there is an exceedance for a pollutant in a water body that has a TMDL addressing that pollutant, as long as the Permittee is complying with the requirements for the TMDL, the Permittee is deemed in compliance with the receiving water limitation. No petitioner has contested this provision and we find that it constitutes an appropriate approach to compliance with receiving water limitations for water body-pollutant combinations that are addressed by a TMDL.

For exceedances of receiving water limitations for a water body-pollutant combination not addressed by a TMDL, as previously discussed, the Permittee must either incorporate control measures to address the exceedances into the Permittee's WMP/EWMP or comply directly with the receiving water limitations provisions of Part V.A of the Order. For

¹³⁰ Los Angeles MS4 Order, Part VI.E.2.c.ii., p. 143.

Permittees that choose the WMP/EWMP approach, the WMP/EWMP must incorporate “a final date for achieving the receiving water limitation.”¹³¹ To the extent the Permittee does not achieve the limitation by that final date and does not request and receive an extension, the Permittee has “fail[ed] to meet [a] requirement or date for its achievement in an approved Watershed Management Program or EWMP”¹³² and is immediately subject to the receiving water limitations provisions of the Order, with the same result that it is out of compliance. In other words, implementation of non-structural and structural control measures in accordance with the timelines established in the WMP/EWMP constitutes compliance with the receiving water limitations up until the final deadline for achievement of the relevant receiving water limitation; however, at the deadline for final compliance, there must be verification of achievement based on the receiving water limitation itself. While we find that the Order provisions lead to this result as written, for the sake of greater clarity, we will specifically state that final compliance with receiving water limitations must be determined through verification that the receiving water limitation is actually being achieved.

We shall amend Part VI.C.2.c. as follows:

- c. If a Permittee fails to meet any requirement or date for its achievement in an approved Watershed Management Program or EWMP, the Permittee shall be subject to the provisions of Part V.A. for the waterbody-pollutant combination(s) that were to be addressed by the requirement. **For water body-pollutant combinations that are not addressed by a TMDL, final compliance with receiving water limitations is determined by verification through monitoring that the receiving water limitation provisions in Part V.A.1 and 2 have been achieved.**

c. Compliance with the Non-Storm Water Discharge Prohibition

The Environmental Petitioners suggest that the Los Angeles MS4 Order is unclear as to whether compliance with the WMP/EWMP may also constitute compliance with the non-storm water discharge prohibition of the Order. We disagree that the Los Angeles MS4 Order is unclear on this issue. The Permittees’ obligation to comply with the receiving water limitations and WQBELs and other TMDL-specific limitations in Parts V.A and VI.E is independent of the Permittees’ obligation to comply with the effective prohibition of non-storm water discharges in Part III.A. The several provisions stating that Permittees will be deemed to be in compliance with the receiving water limitations of the Los Angeles MS4 Order for implementing the WMP/EWMP specifically reference Parts V.A and VI.E of the Order and not

¹³¹ *Id.*, Part VI.C.5.c.iii.(3)(b), p. 65.

¹³² *Id.*, Part VI.C.2.c., p. 52.

III.A.¹³³ This notwithstanding, Parts VI.C.1.d and VI.C.5.b.iv.(2) require that a Permittee's WMP/EWMP include program elements and control measures to effectively prohibit non-storm water discharges consistent with Part III.A and Part VI.D.4.d or VI.D.10. Therefore, a Permittee's implementation of program elements and control measures consistent with Part III.A and Part VI.D.4.d or VI.D.10, through its approved WMP/EWMP, may provide a mechanism for compliance with Part III.A. Although we accordingly see no need to direct revisions to the Order, we provide this clarification here to respond to the Environmental Petitioners' concern and address any confusion that may exist.

6. "Safe Harbor" During the Planning Phase for the WMP/EWMP

Under the Los Angeles MS4 Order, a Permittee that has declared its intention to develop a WMP/EWMP is deemed in compliance with the receiving water limitations and with interim WQBELs with due dates prior to approval of the WMP/EWMP for the water body-pollutant combinations the WMP/EWMP addresses, provided it meets certain conditions, even though the Permittee is developing, not implementing the WMP/EWMP. Specifically, the Permittee is deemed in compliance if the Permittee (1) provides timely notice of its intent to develop a WMP/EWMP; (2) meets all interim and final deadlines for development of a WMP/EWMP; (3) targets implementation of watershed control measures in the existing program

¹³³ Los Angeles MS4 Order, Parts VI.C.2.b., p. 52, VI.C.3.a., p. 53, VI.E.2.c.ii., p. 143, VI.C. 2.d., pp. 52-53, VI.E.2.d.i.(4)(d), p. 144. To the extent that a non-storm water discharge authorized by Part III.A may be causing or contributing to an exceedance of receiving water limitations in V.A, compliance with the WMP/EWMP provisions would constitute compliance with the receiving water limitations and any relevant interim WQBELs and other TMDL-specific limitations, as long as the WMP/EWMP addresses the water body-pollutant combination for that water body. However, the discharger would have to additionally comply with requirements in Part III.A. and Part VI.D.4.d or VI.D.10 through its approved WMP/EWMP for conditionally exempt non-storm water discharges that are found to cause or contribute to an exceedance in the receiving water. (See *id.*, Part III.A.4.c.-e., pp. 31-32.) We disagree that every discharge from a Permittee's MS4 to the receiving water of non-storm water that is not specifically authorized under Part III.A will necessarily be subject to enforcement under the Los Angeles MS4 Order. Section 402(p)(3)(B)(ii) of the Clean Water Act imposes a requirement to "effectively prohibit" non-storm water discharges. Part III.A of the Los Angeles MS4 Order effectuates that requirement with a requirement for the Permittee to prohibit non-storm water discharges: "Each Permittee shall, for the portion of the MS4 for which it is an owner or operator, prohibit non-storm water discharges through the MS4 to receiving waters, except where such discharges are . . . [listing exceptions]." (Los Angeles MS4 Order, Part III.A.1, p. 27.) The Los Angeles MS4 Order incorporates a specific and detailed programmatic requirement – the Illicit Connections and Illicit Discharges Elimination Program – for the Permittees to achieve their obligation to effectively prohibit non-storm water discharges. (Los Angeles MS4 Order, Parts VI.D.4.d., pp. 81-86, VI.D.10, pp. 137-141.) We recognize that even the most comprehensive efforts to address unauthorized non-storm water discharges may not eliminate all such discharges. Where a Permittee is fully implementing its Illicit Connections and Illicit Discharges Elimination Program, either pursuant to Parts VI.D.4.d. or VI.D.10, or by incorporation of customized actions into a WMP/EWMP as approved by the Los Angeles Water Board (see Los Angeles MS4 Order Part VI.D.1.a., p. 67), we would expect any enforcement action under Part III.A to be supported by a fact-specific analysis of the nature and source of the unauthorized non-storm water discharge and the efforts of the Permittee to prohibit the discharge.

to address known contributions of pollutants; and (4) receives approval of the WMP/EWMP within the specified time periods.¹³⁴

The Environmental Petitioners object to the availability of a “safe harbor” during the planning phase. We disagree with the Environmental Petitioners that providing a “safe harbor” in the planning phase is disallowed by applicable law -- see our discussion of anti-backsliding requirements in section II.B.1. and antidegradation requirements in section II.B.2. However, we understand that deeming a discharger in compliance with receiving water limitations during the planning phase, not just the implementation phase, could weaken the incentive for Permittees to efficiently and timely seek approval of a WMP/EWMP and to move on to implementation. It is the implementation of the WMP/EWMP that will in fact lead to progress toward compliance with receiving water limitations; the planning phase is essential, but should be only as long as necessary for a well-planned program with carefully analyzed controls to be developed. Given the significance of the water quality issues addressed by the WMP/EWMPs, it is paramount that implementation begin as soon as feasible. Accordingly, the “safe harbor” in the planning phase is appropriate only if it is clearly constrained in a manner that sustains incentives to move on to approval and implementation and is structured with clear, enforceable provisions.

Having reviewed the planning sections of the WMP/EWMP provisions carefully, we find that the Los Angeles MS4 Order does sufficiently constrain the planning phase, so that the “safe harbor” provided is not unreasonable. As already stated, compliance is deemed only if the Permittee is meeting the relevant deadlines for development and approval of the WMP/EWMP.¹³⁵ There are no provisions in the Order that allow for extensions to these deadlines. If a Permittee fails to obtain approval within the allowed number of months for the development of a WMP/EWMP, the Order states that the Permittee must then instead demonstrate actual compliance with receiving water limitations and with applicable interim WQBELs.¹³⁶ The Los Angeles MS4 Order is also clear that achievement of any TMDL-associated final deadlines occurring prior to the approval deadlines for the WMP/EWMP cannot be excused through commitment to planning for a WMP/EWMP.¹³⁷

¹³⁴ *Id.*, Parts VI.C.2.d., p. 52, VI.C.3.b., p. 53, VI.E.2.d.i.(4)(d), p. 144.

¹³⁵ *Id.*, Parts VI.C.2.d., p. 52, VI.C.3.b., p. 53, VI.E.2.d.i.(4)(d), p. 144.

¹³⁶ *Id.*, Part VI.C.4.e., p. 58.

¹³⁷ *Id.*, Parts VI.C.3.c., p. 53, VI.C.4.d.iii, p. 58. Under Part VI.C.4.d.iii., Permittees must ensure that MS4 discharges achieve compliance with interim, in addition to final, trash WQBELs during the planning phase.

Further, Permittees are subject to a number of conditions during the planning phase that will ensure that progress toward achievement of receiving water limitations is not put on hold pending approval of the plan. These include requirements to put in place Low Impact Development (LID) ordinances and green streets policies¹³⁸ and to continue to implement watershed control measures in the existing storm water management programs, including those to eliminate non-storm water discharges,¹³⁹ but in a manner that is targeted to address known pollutants.¹⁴⁰

Given the clear, enforceable requirements limiting the planning phase of the WMP/EWMP provisions, we find that the Los Angeles MS4 Order's inclusion of provisions deeming compliance with the receiving water limitations and with interim WQBELs during development of the programs is reasonable.

In fact, we are concerned that the Los Angeles Water Board has left no room for any deviation from the prescribed development schedule for WMP/EWMPs. A Permittee working in good faith to develop a WMP/EWMP over multiple months may encounter an issue that requires it to ask for a short extension on an interim or final deadline. Under such circumstances, the Los Angeles Water Board should be able to consider the request for the extension, rather than have its hands tied and have to reject a WMP/EWMP based on lack of timeliness. We will add a provision to the Order that provides the Los Angeles Water Board or its Executive Officer discretion in granting such extensions, but the Permittee will not be deemed in compliance with the applicable receiving water limitations and WQBELs during the period of the extension.

We shall add a new Part VI.C.4.g. as follows:

g. Permittees may request an extension of the deadlines for notification of intent to develop a Watershed Management Program or EWMP, submission of a draft plan, and submission of a final plan. The extension is subject to approval by the Regional Water Board or the Executive Officer. Permittees that are granted an extension for any deadlines for development of the WMP/EWMP shall be subject to the baseline requirements in Part VI.D and shall demonstrate compliance with receiving water limitations pursuant to Part V.A. and with applicable interim water quality-based effluent limitations in Part VI.E pursuant to subparts VI.E.2.d.i.(1)-(3) until the Permittee has an approved WMP/EWMP in place.

¹³⁸ *Id.*, Part VI.C.4.c., pp. 56-57.

¹³⁹ *Id.*, Part VI.C.4.d.i.-ii., pp. 57-58.

¹⁴⁰ *Id.*, Parts VI.C.2.d.iii., pp. 52-53, VI.C.3.b.iii., p. 53, VI.E.2.d.i.(4)(d)(3), p. 144.

7. Conclusion

In conclusion, we uphold the WMP/EWMP provisions as a reasonable alternative compliance option for meeting receiving water limitations and uphold the WMP/EWMP provisions in all other aspects, except as specifically stated above. We find that the WMP/EWMP approach is a clearly defined, implementable, and enforceable alternative to the receiving water limitations provisions that we mandated in Order WQ 99-05, and that the alternative provides Permittees an ambitious, yet achievable, path forward for steady and efficient progress toward achievement of those limitations while remaining in compliance with the terms of the permit.

We direct all regional water boards to consider the WMP/EWMP approach to receiving water limitations compliance when issuing Phase I MS4 permits going forward.¹⁴¹ In doing so, we acknowledge that regional differences may dictate a variation on the WMP/EWMP approach, but believe that such variations must nevertheless be guided by a few principles.¹⁴² We expect the regional water boards to follow these principles unless a regional water board makes a specific showing that application of a given principle is not appropriate for region-specific or permit-specific reasons.

1. The receiving water limitations provisions of Phase I MS4 permits should continue to require compliance with water quality standards in the receiving water and should not deem good faith engagement in the iterative process to constitute such compliance. The Phase I MS4 permits should therefore continue to use the receiving water limitations provisions as directed by State Water Board Order WQ 99-05.

¹⁴¹ We acknowledge that small MS4s permitted under the statewide General Permit for WDRs for Storm Water Discharges from Small MS4s (Order No. 2013-0001-DWQ) (General Phase II MS4 Permit) have similar practical issues as Phase I permittees in complying with receiving water limitations. Nevertheless, because the General Phase II MS4 Permit is issued by the State Water Board, not the regional water boards, we limit our guidance to regional water boards to the Phase I permits. The State Water Board is committed to working with small MS4s, the regional water boards, and interested persons in developing an alternative compliance option for the General Phase II MS4 Permit.

¹⁴² In considering appropriate guidance for regional water boards drafting alternative compliance paths in municipal storm water permits, we have reviewed the proposed "strategic compliance program" model language that was submitted by the California Stormwater Quality Association (CASQA) and supported in whole or in part by a number of interested persons. (CASQA August 15, 2013 Receiving Water Limitations Submission, Attachment A, Section E.) While we have not in these proceedings adopted the CASQA language, or, for that matter, any specific language, for alternative compliance path provisions, regional water boards remain free to consider and incorporate the CASQA approach into their municipal storm water permits to the extent they determine and document that the approach, including any modifications, satisfies the principles we set out in this section as well as all other direction we have provided in this order.

2. The Phase I MS4 permits should include a provision stating that, for water body-pollutant combinations with a TMDL, full compliance with the requirements of the TMDL constitutes compliance with the receiving water limitations for that water body-pollutant combination.
3. The Phase I MS4 permits should incorporate an ambitious, rigorous, and transparent alternative compliance path that allows permittees appropriate time to come into compliance with receiving water limitations without being in violation of the receiving water limitations during full implementation of the compliance alternative.
4. The alternative compliance path should encourage watershed-based approaches, address multiple contaminants, and incorporate TMDL requirements.
5. The alternative compliance path should encourage the use of green infrastructure and the adoption of low impact development principles.
6. The alternative compliance path should encourage multi-benefit regional projects that capture, infiltrate, and reuse storm water and support a local sustainable water supply.
7. The alternative compliance path should have rigor and accountability. Permittees should be required, through a transparent process, to show that they have analyzed the water quality issues in the watershed, prioritized those issues, and proposed appropriate solutions. Permittees should be further required, again through a transparent process, to monitor the results and return to their analysis to verify assumptions and update the solutions. Permittees should be required to conduct this type of adaptive management on their own initiative without waiting for direction from the regional water board.

8. Direction to the Los Angeles Water Board to Report to the State Water Board on Implementation

We recognize that our review has been limited to the provisions of the Los Angeles MS4 Order. The success of the WMP/EWMP approach depends in large part on the steps that follow adoption of these provisions, i.e., the effort invested by Permittees in developing WMPs/EWMPs that truly address the stringent provisions of the Order, the precision with which the Los Angeles Water Board reviews the draft programs and requires revisions, and, most importantly, the actual implementation and appropriate enforcement of the programs once approved. The work going forward must ensure that the WMPs/EWMPs in fact exhibit the rigor and accountability the provisions of the Los Angeles MS4 Order demand. We expect that the Los Angeles Water Board will make careful oversight and enforcement a priority and that they will be aided in this process by the public review and comment opportunities built into the terms of the Order.

The process of developing the WMPs/EWMPs is currently ongoing -- the Los Angeles Water Board has been reviewing draft and revised draft WMPs and workplans for EWMPs – and, although we have been asked by the Environmental Petitioners to take official notice of some of the submissions and conditional approvals in the process, it is premature for the State Water Board to speak to the sufficiency of the resulting WMPs/EWMPs until the Los Angeles Water Board, with full input from the stakeholders, has had the opportunity to consider, revise, and finally approve the programs. We note again that all documents submitted to the Los Angeles Water Board Executive Officer for approval are subject to a 30-day public comment period¹⁴³ and that any formal determination or approval by the Executive Officer may be reviewed by the Los Angeles Water Board upon request by an interested person.¹⁴⁴ And an interested person may petition the State Water Board to review an action or failure to act of the Los Angeles Water Board.¹⁴⁵

Once the WMPs/EWMPs are approved, ensuring that they are diligently and timely implemented must remain a top priority for the Los Angeles Water Board. We expect that the Los Angeles Water Board will continue to work cooperatively and closely with the Permittees, the Environmental Petitioners, and other interested persons in this process, but that the Board will also use its enforcement authority to ensure that appropriate progress is made toward water quality goals. We intend to remain involved in this process, as we must learn statewide from the successes and shortcomings of the approach we are endorsing with this order. We accordingly direct the Los Angeles Water Board to report to us on progress in implementation of the WMPs/EWMPs, and progress in improving water quality during this and the next permit term by February 28, 2018, by February 29, 2020, and by March 31, 2022. Specifically, we ask that the Los Angeles Water Board report on region-wide data for the following:

- On-the-ground structural control measures completed;
- Non-structural control measures completed;
- Monitoring data that evaluates the effectiveness of implemented control measures in improving water quality;

¹⁴³ Los Angeles MS4 Order, Part V.A.5.b, p. 42.

¹⁴⁴ *Id.*, Part V.A.6, p. 42.

¹⁴⁵ Wat. Code, § 13320. On April 28, 2015, the Executive Officer of the Los Angeles Water Board conditionally approved several submitted WMPs. On May 28, 2015, the Environmental Petitioners filed a petition challenging the conditional approvals and requesting review by the Los Angeles Water Board and by the State Water Board of the Executive Officer's determination.

- Comparison of the effectiveness of the control measures to the results projected by the reasonable assurance analyses;
- Comparison of control measures completed to date with control measures projected to be completed to date pursuant to the WMPs/EWMPs;
- Control measures proposed to be completed in the next two years pursuant to the WMPs/EWMPs and the schedule for completion of those control measures;
- Status of funding and implementation for control measures proposed to be completed in the next two years;
- Trends in receiving water quality related to pollutants typically associated with storm water;
- Available permit compliance data, including requests for compliance extensions;
- Enforcement actions taken and results.

In addition to covering the above information, the third report shall summarize and reflect the comprehensive information gathered through the updates of the reasonable assurance analyses and WMPs/EWMPs conducted by the Permittees in the second permit term.

C. Appropriateness of TMDL Requirements

Section 303(d) of the Clean Water Act requires the water boards to identify impaired water bodies that do not meet water quality standards after applying required technology-based effluent limitations.¹⁴⁶ TMDLs are developed by either the regional water boards or by USEPA in response to section 303(d) listings of impaired water bodies. A TMDL is defined as the sum of the individual wasteload allocations for point sources of pollution, the load allocations for nonpoint sources of pollution, and the contribution from background sources of pollution,¹⁴⁷ and represents the maximum amount of a pollutant that a water body may receive and still achieve water quality standards. TMDLs developed by regional water boards include implementation provisions¹⁴⁸ and are typically incorporated into the regional water board's water quality control plan.¹⁴⁹ TMDLs developed by USEPA typically contain the total load and load allocations required by section 303(d), but do not set out comprehensive implementation provisions.¹⁵⁰ Most TMDLs are not self-executing, but instead rely upon subsequently-issued permits to impose requirements on discharges that implement the TMDLs' wasteload

¹⁴⁶ 33 U.S.C. § 1313(d).

¹⁴⁷ 40 C.F.R. § 130.2(i).

¹⁴⁸ Wat. Code, §§ 13050, subd. (j), 13242.

¹⁴⁹ See 40 C.F.R. §§ 130.6(c)(1).

¹⁵⁰ *Am. Farm Bureau Fed'n v. U.S. E.P.A.* (M.D. Pa. 2013) 984 F. Supp. 2d 289, 314.

allocations.¹⁵¹ The Los Angeles MS4 Order includes TMDL-specific requirements that implement 33 TMDLs (twenty-five adopted by the Los Angeles Water Board, seven established by USEPA, and one adopted by the Santa Ana Regional Water Quality Control Board that assigned requirements to two Permittees of the Los Angeles MS4 Order) in Part VI.E and in Attachments L-R.

Petitioners raise a number of challenges to the TMDL-based requirements of the Los Angeles MS4 Order. We take up several of those arguments in this section.¹⁵²

1. Inclusion of Numeric WQBELs

Permittee Petitioners argue that the numeric WQBELs incorporated into the Los Angeles MS4 Order as TMDL-based limitations are contrary to the Clean Water Act and to state law and policy. We disagree.

Under the federal regulations implementing the Clean Water Act, effluent limitations in NPDES permits developed to achieve water quality standards must be consistent with the assumptions and requirements of any available wasteload allocation for the discharge.¹⁵³ In addition, the Porter-Cologne Act requires that waste discharge requirements implement any relevant water quality control plans,¹⁵⁴ including TMDL requirements that have been incorporated into the water quality control plans. The Los Angeles MS4 Order incorporates numeric WQBELs and other limitations that the Los Angeles Water Board found are consistent with the TMDL requirements applicable to the Permittees.

Permittee Petitioners argue that there is no requirement under federal law for incorporation of TMDL requirements into an MS4 permit and that the inclusion of the requirements in Part VI.E and in Attachments L-R was therefore at the discretion of the Los Angeles Water Board. They point out, as we acknowledged in section II.A, that MS4 discharges must meet a technology-based standard of prohibiting non-storm water discharges and reducing pollutants in the discharge to the MEP, but that requirements to strictly meet water quality standards are at the discretion of the permitting agency.¹⁵⁵ Because TMDL requirements are a path to achieving water quality standards, the Permittee Petitioners argue, the Los Angeles Water Board had the discretion not to include them in the Los Angeles MS4 Order.

¹⁵¹ *City of Arcadia v. EPA* (N.D. Cal. 2013) 265 F.Supp.2d 1142, 1144-1145.

¹⁵² We note that we do not take up any arguments that challenge the terms of the TMDLs. Those arguments should have been made during the public process when the TMDLs were adopted. They are untimely now.

¹⁵³ 40 C.F.R. § 122.44(d)(1)(vii)(B).

¹⁵⁴ Wat. Code, § 13263, subd. (a).

¹⁵⁵ 33 U.S.C. § 1342(p); *Defenders of Wildlife, supra*, 191 F.3d 1159.

Answering the question of whether the Los Angeles Water Board was required under federal law to strictly effectuate TMDL compliance through the Los Angeles MS4 Order is a largely irrelevant exercise because we have already reaffirmed in this order that we will continue to require water quality standards compliance in MS4 permits. Further, given the back-stop nature of TMDLs, and the fact that each set of dischargers must meet their share of the allocation to reach the total reductions set out, a regime in which municipal storm water dischargers were given a pass on TMDL obligations would render the promise of water quality standards achievement through TMDLs illusory. This is especially true in a large urbanized area where pollutants in storm water constitute a significant share of the impairment and where other dischargers would be disproportionately burdened if MS4s were not held to their allocations. Although not dispositive, we also note that USEPA has assumed in guidance (discussed in more detail below) issued on storm water and TMDL implementation that MS4 permits must incorporate effluent limitations consistent with the assumptions and requirements of relevant wasteload allocations.¹⁵⁶ To the extent the TMDL provisions of the Clean Water Act and the federal regulations could be read to preclude mandatory incorporation of wasteload allocations into an MS4 permit, effluent limitations consistent with those load allocations should nevertheless be required under Clean Water Act section 402, subsection (p)'s direction that the MS4 permit shall require "such other controls" as the permitting authority determines "appropriate for the control of such pollutants."¹⁵⁷ Finally, for TMDLs incorporated into water quality control plans, the implementation plan associated with the TMDL applies to all dischargers named, including MS4 permittees, and the MS4 permits must be consistent with the direction in the water quality control plan.¹⁵⁸

Having found that the Los Angeles Water Board acted in a manner consistent with federal and state law when it developed WQBELs to address applicable TMDLs, we next turn to whether *numeric* WQBELs were appropriate. We find that the Los Angeles Water Board

¹⁵⁶ USEPA, Memorandum, "Establishing Total Maximum Daily Load Wasteload Allocations (WLAs) for Storm Water Sources and NPDES Permit Requirements Based on Those WLAs," (Nov. 22, 2002) (2002 USEPA Memorandum); see also USEPA, Memorandum, "Revisions to the November 22, 2002 Memorandum 'Establishing Total Maximum Daily Load (TMDL) Wasteload Allocations (WLAs) for Storm Water Sources and NPDES Permit Requirements Based on Those WLAs,'" (Nov. 26, 2014) (2014 USEPA Memorandum). The 2014 USEPA Memorandum replaced a memorandum with the same title issued on November 12, 2010, which was subsequently opened to public comment. (USEPA Statement (March 17, 2011), available at <http://water.epa.gov/polwaste/npdes/stormwater/upload/sw_tmdlwla_comments.pdf> (as of Nov. 18, 2014).)

¹⁵⁷ 33 U.S.C. § 1342(p)(3)(B)(iii). See, e.g., State Water Board Orders WQ 91-03, WQ 91-04, WQ 98-01, WQ 99-05, WQ 2001-15.

¹⁵⁸ Wat. Code, § 13263, subd. (a); see also *State Water Res. Control Bd. Cases* (2006) 136 Cal. App. 4th 674, 730 (noting the obligation of the water boards to follow the program of implementation included in a water quality control plan).

acted within its legal authority when establishing numeric WQBELs, and further that its choice of numeric WQBELs was a reasonable exercise of its policy discretion.

In the context of MS4 discharges, effluent limitations in NPDES permits may be expressed in the form of either numeric limitations or best management practices (BMPs). The federal regulations specifically state that BMP-based effluent limitations may be used to control pollutants for storm water discharges.¹⁵⁹ USEPA has issued two memoranda, on November 22, 2002 (2002 USEPA Memorandum), and on November 26, 2014 (2014 USEPA Memorandum), providing guidance to the states on translating wasteload allocations for storm water into effluent limitations in NPDES Permits.¹⁶⁰ The 2002 USEPA Memorandum contemplated that “the NPDES permitting authority will review the information provided by the TMDL . . . and determine whether the effluent limit is appropriately expressed using a BMP approach (including an iterative BMP approach) or a numeric limit.”¹⁶¹ The 2002 USEPA Memorandum further stated that “EPA expects that most WQBELs for NPDES-regulated municipal . . . storm water discharges will be in the form of BMPs, and that numeric limits will be used only in rare instances.”¹⁶² The 2014 USEPA Memorandum, after noting the increased information available to the permitting agencies after more than a decade of experience with setting wasteload allocations and effluent limitations, explained that:

Where the TMDL includes WLAs for stormwater sources that provide numeric pollutant loads, the WLA should, where feasible, be translated into effective, measurable WQBELs that will achieve this objective. This could take the form of a numeric limit, or of a measurable, objective BMP-based limit that is projected to achieve the WLA. . . . The permitting authority’s decision as to how to express the WQBEL(s), either as numeric effluent limitations or as BMPs, with clear, specific, and measurable elements, should be based on an analysis of the specific facts and circumstances surrounding the permit, and/or the underlying

¹⁵⁹ 40 C.F.R. § 122.44(k)(2); see also 33 U.S.C. § 1342(p)(3)(B)(iii). 40 Code of Federal Regulations section 122.44(k)(3) further contemplates that BMP-based effluent limitations are appropriate where it is infeasible to develop a numeric effluent limitation.

¹⁶⁰ 2002 USEPA Memorandum; 2014 USEPA Memorandum. In addition to the two memoranda, USEPA published guidance titled “Interim Permitting Approach for Water Quality-Based Effluent Limitations in Storm Water Permits” ((Sept. 1996) 61 Federal Register 57425), which recommended inclusion of BMPs in first-round permits, and expanded or better-tailored BMPs in subsequent permits. In 2005, the State Water Board assembled a blue ribbon panel to address the feasibility of including numeric effluent limits as part of NPDES municipal, industrial, and construction storm water permits. The panel issued a report dated June 19, 2006, which included recommendations as to the feasibility of including numeric limitations in storm water permits. The report concluded that it was not feasible, at that time, to set enforceable numeric effluent limitations for municipal storm water discharges.

¹⁶¹ 2002 USEPA Memorandum, p. 5.

¹⁶² *Id.*, p. 2.

WLA, including the nature of the stormwater discharge, available data, modeling results, and other relevant information.¹⁶³

Both options – to choose BMP-based WQBELs or to choose numeric WQBELs – were legally available to the Los Angeles Water Board. In adopting numeric WQBELs, the Los Angeles Water Board analyzed the specific facts and circumstances surrounding storm water discharges in the region and reasonably concluded that numeric WQBELs were warranted because storm water discharges constituted a significant contributor to the water quality standards exceedances in the area and the exceedances had not been to date resolved through BMP-based requirements. Moreover, the Los Angeles Water Board concluded that it could feasibly develop numeric WQBELs following the extensive work already conducted to develop the TMDLs, which involved analyzing pollutant sources and allocating loads using empirical relationships or quantitative models. We will not second-guess the determination of the Los Angeles Water Board, given its extensive and unique role in developing the TMDLs and the permit to implement the TMDLs, that numeric WQBELs were appropriate for the Los Angeles MS4 Order.¹⁶⁴

We emphasize, however, that we are not taking the position that numeric WQBELs are appropriate in all MS4 permits or even with respect to certain TMDLs within an MS4 permit. In a recent amendment to State Water Board Order 2011-0011-DWQ, NPDES Statewide Storm Water Permit for State of California Department of Transportation (Caltrans),¹⁶⁵ we found BMP-based TMDL requirements to be “consistent with the assumptions and requirements of the WLAs” of the TMDLs applicable to Caltrans. That determination was based on a number of factors including the fact that Caltrans, a single discharger, was named in over 80 TMDLs statewide, the fact that Caltrans had relatively little contribution to the exceedances in each of those TMDLs, and the consideration that there was significant efficiency to be gained by streamlining and standardizing control measure implementation throughout Caltrans’ statewide storm water program. Similarly, regional water boards may find BMP-based requirements to be appropriate based on TMDL-specific, region-specific, or permittee-specific

¹⁶³ 2014 USEPA Memorandum, p. 6.

¹⁶⁴ The Los Angeles Water Board incorporated a discussion in the Fact Sheet of how the TMDL wasteload allocations were translated into numeric WQBELs in order to implement the TMDLs in the Los Angeles MS4 Order. (Los Angeles MS4 Order, Att.F, Fact Sheet, pp. F-89-F-100). See 40 C.F.R. § 124.8. We are not independently reviewing the calculations and analyses underlying the specific numeric limitations arrived at by the Los Angeles Water Board; rather, our review has been limited to a determination of whether the choice of numeric rather than BMP-based limitations was reasonable. To the extent any petitioners asked us to independently review the issue in their petitions seeking review of the Order, the issue is dismissed. See fn. 11.

¹⁶⁵ State Water Board Order WQ 2014-0077-DWQ.

considerations. In many ways, the Los Angeles MS4 Order was uniquely positioned to incorporate numeric WQBELs because of the extensive TMDL development in the region in the past decade and the documented role of MS4 discharges in contributing to the impairments addressed by those TMDLs. Thus, while we decline to remove the numeric WQBELs from the Los Angeles MS4 Order, we also decline to urge the regional water boards to use numeric WQBELs in all MS4 permits.¹⁶⁶

2. Requirement for Reasonable Potential Analysis

The federal regulations implementing NPDES permitting require the permitting authority to establish WQBELs for point source discharges when those discharges cause, have the “reasonable potential” to cause, or contribute to an excursion above water quality standards.¹⁶⁷ Permittee Petitioners argue that the Los Angeles Water Board did not conduct an appropriate reasonable potential analysis prior to imposing numeric WQBELs. The argument is misguided. The Los Angeles Water Board established that the MS4 discharges can cause or contribute to exceedances of water quality standards through the process of developing TMDLs and assigning wasteload allocations. At the permitting stage, the Los Angeles Water Board’s legal obligation was to develop WQBELs “consistent with the assumptions and requirements of any wasteload allocation” in the TMDLs,¹⁶⁸ and not to reconsider reasonable potential.¹⁶⁹

3. USEPA-Established TMDLs

USEPA has established seven TMDLs that include wasteload allocations for MS4 discharges covered by the Los Angeles MS4 Order. In contrast to state-adopted TMDLs, USEPA-established TMDLs do not contain an implementation plan or schedule for achievement of the wasteload allocations,¹⁷⁰ with the effect that Permittees must comply with wasteload allocations immediately. To avoid this result, the regional water board may either adopt a

¹⁶⁶ Relying on the 2014 USEPA Memorandum, Permittee Petitioners also argue that the Los Angeles Water Board was required to disaggregate storm water sources within applicable TMDLs. The 2014 USEPA Memorandum only encourages permit writers to assign specific shares of the wasteload allocation to specific permittees during the permitting process, reasoning that permit writers may have more detailed information than the TMDL writers to assign reductions for specific sources. (2014 USEPA Memorandum, p.8.) In an MS4 system as complex and interconnected as that covered under the Los Angeles MS4 Order, we do not expect the permitting authority to be able to disaggregate wasteload allocations by discharger. Further, as discussed in section II.F. on joint responsibility, the Los Angeles MS4 Order has provided a means for Permittees with commingled discharges to demonstrate that they are not responsible for any given exceedance of a limitation.

¹⁶⁷ 40 C.F.R. § 122.44(d)(1)(iii).

¹⁶⁸ 40 C.F.R. § 122.44(d)(1)(vii)(B).

¹⁶⁹ See USEPA, NPDES Permit Writers Manual (updated September 2010), Chapter 6, section 6.3.3.

¹⁷⁰ See, e.g., *Am. Farm Bureau Fed'n v. U.S. E.P.A.*, *supra*, 984 F. Supp. 2d at p. 314.

separate implementation plan as a water quality control plan amendment¹⁷¹ or issue the Permittee a compliance order with a compliance schedule.¹⁷² For the seven USEPA-established TMDLs applicable to the Permittees, the Los Angeles Water Board authorizes Permittees subject to a wasteload allocation in a USEPA-established TMDL to propose control measures that will be effective in meeting the wasteload allocation, and a schedule for their implementation that is as short as possible, as part of a WMP/EWMP.¹⁷³ Permittees that do not submit an adequate WMP/EWMP are required to demonstrate compliance with the wasteload allocations immediately.¹⁷⁴

Permittee Petitioners argue that the Los Angeles Water Board has acted inconsistently in requiring BMP-based compliance with the USEPA-established TMDLs but requiring numeric WQBELs for the state-established TMDLs. We have already stated above in section C.1 that the permitting authority has discretion to choose between BMP-based and numeric effluent limitations depending on fact-specific considerations. The Los Angeles Water Board was not restricted to choosing one single uniform approach to implementing all 33 TMDLs in the Los Angeles MS4 Order. In fact, straight-jacketing NPDES permit writers to choose one approach to the exclusion of another, even within the confines of a single MS4 permit, would run afoul of USEPA's expectations in the 2014 USEPA Memorandum for a fact-specific, documented justification for the permit requirements included to implement a wasteload allocation.

The Environmental Petitioners argue that the provisions are contrary to law because they excuse Permittees from complying with final numeric wasteload allocations as long as they are implementing the BMPs proposed in the WMP/EWMP. The approach taken by the Los Angeles MS4 Order to compliance here is similar to the provisions for compliance with receiving water limitations that are not otherwise addressed by a TMDL: The Permittee proposes control measures and a timeline that is as short as possible and is considered in compliance with the final numeric limitations while implementing the control measures consistent with the schedule. We find that, given the absence of an implementation plan with final compliance deadlines specified in the Los Angeles Water Board's water quality control

¹⁷¹ Wat. Code, § 13242.

¹⁷² *Id.*, See, e.g., § 13300.

¹⁷³ The Los Angeles MS4 Order's Fact Sheet states that the Los Angeles Water Board may choose to adopt implementation plans or issue enforcement orders in the future. (Los Angeles MS4 Order, Att. F, Fact Sheet, p. F-111.)

¹⁷⁴ Los Angeles MS4 Order, Part VI.E.3., pp. 145-146.

plan, this approach is consistent with the assumptions and requirements of the relevant wasteload allocations. We will not revise the provisions.

D. Non-Storm Water Discharge Provisions

Permittee Petitioners argue that the non-storm water discharge provisions of the Los Angeles MS4 Order are contrary to the Clean Water Act. Specifically, Permittee Petitioners assert that the Los Angeles MS4 Order improperly regulates non-storm water discharges from the MS4 to the receiving waters by imposing the prohibition of discharge “through the MS4 to the receiving waters” and by imposing WQBELs and other numeric limitations, rather than the MEP standard, on dry weather discharges.

The Los Angeles MS4 Order states that “[e]ach Permittee shall, for the portion of the MS4 for which it is an owner or operator, prohibit non-storm water discharges through the MS4 to receiving waters” with certain exceptions including discharges separately regulated under an NPDES permit and discharges conditionally exempt from the prohibition consistent with the federal regulations.¹⁷⁵ Permittee Petitioners take issue with the imposition of the prohibition “through the MS4 to receiving waters” because the language does not track the specific requirement of the Clean Water Act that the MS4 permit “include a requirement to effectively prohibit non-stormwater discharges *into the storm sewer.*” (Emphasis added.)¹⁷⁶

We find the variation in language to be a distinction without a difference. Whether the Los Angeles MS4 Order prohibits non-storm water discharges *into* the MS4 or *through* the MS4 to receiving waters, the intent and effect of the prohibition is to prevent non-exempt non-storm water discharges from reaching the receiving waters.¹⁷⁷ The legal standard governing non-storm water – effective prohibition -- is not altered because the Los Angeles MS4 Order imposes the prohibition at the point of entry into the receiving water rather than the point of entry into the MS4 itself. Instructively, USEPA has used the terms “into,” “from,” and “through” interchangeably when describing the prohibition.¹⁷⁸

¹⁷⁵ *Id.*, Part III.A, pp 27-33.

¹⁷⁶ 33 U.S.C. § 1342(p)(3)(B)(ii).

¹⁷⁷ The Los Angeles Water Board notes that the language in the Los Angeles MS4 Order is not significantly changed from the version in the 2001 Los Angeles MS4 Order, which prohibited non-storm water discharges “into the MS4 and watercourses.” The Board additionally asserts that phrasing the prohibition as “through the MS4 to receiving waters” provides Permittees with greater flexibility to use measures that control non-storm water after it enters the MS4, including regional solutions such as low-flow diversions and catch-basin inserts.

¹⁷⁸ See, e.g., 55 Fed. Reg. 47990, 47995-47996 (“Section 402(p)(B)(3) of the CWA requires that permits for discharges *from municipal separate storm sewer systems* require the municipality to ‘effectively prohibit’ non-storm water discharges *from the municipal separate storm sewer*...Ultimately, such non-storm water discharges *through a municipal separate storm sewer* must either be removed from the system or become subject to an NPDES permit. . . . (Continued)

Permittee Petitioners' objection to the phrasing of the prohibition in the Los Angeles MS4 Order appears to be based largely on the assumption that prohibiting non-storm water discharges at the point of entry into the receiving water rather than at the point of entry into the MS4 allows the Los Angeles Water Board to impose requirements on those discharges that would otherwise not be available under the Clean Water Act and federal regulations. We disagree.

As a preliminary matter, regardless of the phrasing of the non-storm water discharge prohibition, MEP is not the standard that governs non-storm water discharges. Permittee Petitioners have asserted that, for non-storm water discharges that enter the MS4, MEP is the governing standard just as it is for storm water discharges. This assertion misinterprets the statute. The Clean Water Act imposes two separate standards for regulation of non-storm water and storm water in an MS4 permit: The MS4 permit "shall include a requirement to effectively prohibit non-stormwater discharges" into the MS4, and "shall require controls to reduce the discharge of pollutants to the maximum extent practicable. . . ." ¹⁷⁹ Although the statute imposes the MEP standard to control of "pollutants" rather than specifically to "pollutants in storm water," any reading of section 402(p)(3)(B)(iii) to apply generally to both non-storm water and storm water would render the effective prohibition of non-storm water in section 402(p)(3)(B)(ii) meaningless. The federal regulations confirm the distinction between the treatment of storm water and non-storm water by establishing requirements to prevent illicit discharges from entering the MS4. ¹⁸⁰ While the regulations have no definition for "non-storm water discharges," illicit discharges most closely represent the statutory term and are defined as "any discharge to a municipal separate storm sewer that is not composed entirely of storm water except discharges pursuant to a NPDES permit . . . and discharges resulting from firefighting activities." ¹⁸¹ Further, contrary to assertions by Permittee Petitioners, the definition of storm water in the federal regulations is not inclusive of dry weather discharges. The federal regulations define storm water as "storm water runoff, snow melt runoff, and surface runoff and

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The CWA prohibits the point source discharge of non-storm water not subject to an NPDES permit *through municipal separate storm sewers to waters of the United States.*" (Emphasis added.)

¹⁷⁹ 33 U.S.C. § 1342(p)(3)(b)(iii).

¹⁸⁰ 40 C.F.R. § 122.26(d)(2)(iv)(B).

¹⁸¹ *Id.*, § 122.26(b)(2). The preamble to the regulations states: "Today's rule defines the term 'illicit discharge' to describe any discharge through a municipal separate storm sewer system that is not composed entirely of storm water and that is not covered by an NPDES permit." (55 Fed. Reg. 47990, 47995 (Nov. 16, 1990).)

drainage.”¹⁸² Surface runoff and drainage cannot be understood to refer to dry weather discharges where USEPA has specifically stated in the preamble to the relevant regulations that it would not expand the definition of storm water to include “a number of classes of discharges which are not in any way related to precipitation events.”¹⁸³ Accordingly, dry weather discharges are not a component of storm water discharges subject to the MEP standard.¹⁸⁴

Second, the Los Angeles Water Board’s legal authority to impose TMDL-based WQBELs and other limitations on dry weather discharges is derived not from the phrasing of the discharge prohibition in the statute but from the TMDLs themselves, as well as the Clean Water Act direction to require “such other provisions” as the permitting authority “determines appropriate for the control of such pollutants.” We have already found that the Los Angeles MS4 Order reasonably (and legally) incorporated numeric WQBELs and other limitations to implement the TMDLs. The Los Angeles Water Board’s authority to impose the limitations for dry weather conditions is accordingly independent of the provisions establishing the non-storm water effective prohibition.

Permittee Petitioners also assert that requiring compliance with the non-storm water discharge prohibition through and from the MS4 would frustrate enforcement of the illicit connection and illicit discharge elimination programs of the Los Angeles MS4 Order, which continue to require the Permittee to prohibit illicit discharges and connections to the MS4.¹⁸⁵ On this point, we agree with the Los Angeles Water Board that the illicit connection and illicit discharge elimination program is a means to implement the non-storm water prohibition and independently implementable and enforceable. We are more sympathetic to the argument by Permittee Petitioners that, in the context of a complex MS4 system with commingled discharges, the prohibition of discharges through the MS4 to the receiving waters poses greater compliance challenges than a prohibition of discharges into the MS4; however, the Los Angeles MS4 Order’s Monitoring and Reporting Program contains a procedure by which a Permittee will notify the Board and the upstream jurisdiction when non-exempted, non-storm water discharges pose an issue in commingled discharges.¹⁸⁶ Further, the Los Angeles Water Board states in its

¹⁸² 40 C.F.R. § 122.26(b)(13).

¹⁸³ 55 Fed. Reg. 47990, 47995 (Nov. 16, 1990).

¹⁸⁴ We disagree that the phrasing of the non-storm water discharge prohibition in the Los Angeles MS4 Order means that *any* dry weather discharges from the MS4 could be construed as a violation of the Clean Water Act for the same reasons articulated in footnote 133 of this order.

¹⁸⁵ Los Angeles MS4 Order, Parts VI.A.2.a.iii, p. 40, VI.D.4.d., p. 81-86, VI.D.10, p. 137-141.

¹⁸⁶ Los Angeles MS4 Order, Att. E, Monitoring and Reporting Program, Part IX.F.6, p. E-27.

October 15, 2013 Response that the upstream jurisdiction would then have the responsibility to further investigate and address the discharge.¹⁸⁷ The challenge of addressing compliance and enforcement in the context of interconnected MS4s and commingled discharges is a challenge pervasive in the MS4 regulatory structure and not unique to non-storm water discharges. We are not sufficiently persuaded by Permittee Petitioners' arguments regarding compliance to disturb the non-storm water prohibitions as currently established in the Los Angeles MS4 Order.

E. Monitoring Provisions

Relying on Water Code sections 13165, 13225, and 13267, Permittee Petitioners argue that the Los Angeles Water Board was required to conduct a cost-benefit analysis to support the monitoring and reporting requirements of the Los Angeles MS4 Order. Because the monitoring and reporting provisions of the Los Angeles MS4 Order are incorporated pursuant to federal law, the cited provisions are inapplicable here. The monitoring and reporting provisions of the Los Angeles MS4 Order were established under the Clean Water Act and USEPA's regulations.¹⁸⁸ Further, under state law, Water Code section 13383, rather than Water Code section 13267, controls monitoring and reporting requirements in the context of NPDES permitting, and that provision does not include a requirement to ensure that the burden, including costs of the report, bear a reasonable relationship to the need for the report.¹⁸⁹

¹⁸⁷ Los Angeles Water Board, October 15, 2013 Response, p. 33 & fn. 116.

¹⁸⁸ See 33 U.S.C. §§ 1318, 1342(a)(2); 40 C.F.R. §§ 122.26(d)(2)(i)(F), 122.26(d)(2)(iii)D, 122.41(h), 122.41(j), 122.41(l), 122.42(c), 122.44(i), 122.48.

¹⁸⁹ Permittee Petitioners argue that the cost considerations of Water Code sections 13225 and 13267 are relevant to the Los Angeles MS4 Order notwithstanding the fact that it was issued under federal authority because the requirements of those section are not inconsistent with the requirements of section 13383. (See Water Code, §13372, subd. (a) ("To the extent other provisions of this division are consistent with the requirements for state programs . . . those provisions apply . . .").) This exact assertion was taken up by the trial court in litigation challenging the 2001 Los Angeles MS4 Order and decided in favor of the Los Angeles Water Board. The trial court stated: "As noted in *Silkwood v. Kerr-McGee Corp.* (1984) 464 U.S. 238, the Court held, in part: 'state law is still preempted. . . where the state law stands as an obstacle to the accomplishment of the full purposes and objectives of Congress.' (464 U.S. at p. 248.) Applying Water Code sections 13225 and 13267 would stand, in the words of *Silkwood* as: 'an obstacle to the accomplishment of the full purposes and objectives of [the federal law].' (Ibid)." (*In re Los Angeles County Municipal Storm Water Permit Litigation* (L.A. Super. Ct., No. BS 080548, Mar. 24, 2005) Statement of Decision from Phase II Trial on Petitions for Writ of Mandate, at pp.19-20 (Administrative Record, section 10.II., RB-AR23197-23198.). Further, we note that Water Code section 13383, subdivision (c) specifically references subdivision (c) of section 13267 when establishing facility inspection requirements; in contrast, section 13383, subdivision (a) does not reference subdivision (b) of section 13267, which incorporates the requirement that "[t]he burden, including costs, of these reports shall bear a reasonable relationship to the need for the report and the benefits to be obtained from the reports." Water Code section 13383, subdivision (a), was therefore arguably intended to stand in place of the requirements in section 13267(b). Finally, even where authority to impose a monitoring and reporting requirement is clearly derived from Water Code section 13267, the provision requires consideration of the costs and benefits of monitoring and reporting, but not a full cost-benefit analysis. We therefore find that the Los Angeles Water Board did not fail to meet its legal obligations by not carrying out a full cost-benefit analysis specific to the monitoring and reporting requirements of the Los Angeles MS4 Order. However, in making this finding, in no way do we mean to disavow the significance of cost consideration in permitting actions, even where not specifically required by law. We note again that the Los Angeles Water Board carefully considered the costs of (Continued)

Moreover, the monitoring and reporting requirements of the Los Angeles MS4 Order do not exceed the requirements of the Clean Water Act and the federal regulations.¹⁹⁰ In particular, we find that the receiving water monitoring requirements of the Order are reasonable in light of the need to identify water quality exceedances and evaluate progress in compliance with water quality standards. The argument made by several Permittee Petitioners that the federal regulations allow only two types of monitoring – effluent and ambient – for compliance is without support in the relevant regulations. The relevant law is clear that the permitting authority is required to incorporate monitoring and reporting requirements sufficient to determine compliance with the permit conditions.¹⁹¹ In contrast, nothing in the Clean Water Act or the regulations states that requiring wet weather receiving water monitoring is beyond the authority of the permitting agency.¹⁹² Further, accepting such a constrained interpretation of the Clean Water Act’s monitoring requirements would undermine storm water permitting assessment. Excluding wet weather receiving water monitoring would preclude storm water dischargers from assessing the impacts of their discharges on waters of the United States during the events for which they are primarily being permitted—storm events. We find nothing in the text or preamble of the federal regulations to support a narrow interpretation of monitoring to exclude wet weather receiving monitoring.

To the extent Permittee Petitioners are arguing that the MEP standard, applied at the outfall, constrains the permitting authority’s discretion to require monitoring beyond the outfall, we also find no support in the law for that proposition. We have already stated that we will continue to require compliance with water quality standards in MS4 permits. Wet weather receiving water monitoring is fundamental to assessing the effects of storm water discharges on water quality and determining the trends in water quality as Permittees implement control

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compliance with the Los Angeles MS4 Order generally as summarized in the Fact Sheet. (See Los Angeles MS4 Order, Att. F, Fact Sheet, pp. F-144-F-149.) Further, the Los Angeles Water Board considered monitoring costs-related comments on earlier drafts of the Los Angeles MS4 Order, and, in a number of cases, where presented with an argument that a cost related to a particular monitoring requirement was not commensurate with the benefits to be received from that requirement, made revisions to the requirement. (See, e.g., Administrative Record, section 8, RB-AR19653-19654, RB-AR19666, RB-AR19674, RB-AR19681.)

¹⁹⁰ The Los Angeles Water Board provided its rationale for the receiving water monitoring requirements in the Fact Sheet of the Los Angeles MS4 Order. (Los Angeles MS4 Order, Att. F, Fact Sheet, F-113-F-137.)

¹⁹¹ See 33 U.S.C. § 1318(a)(2); 40 C.F.R. § 122.26(d)(2)(i)(F). While we do not interpret these requirements to mean that each and every permit condition must have a corresponding monitoring and reporting requirement, neither do we see any constraints on the water boards’ authority to establish monitoring and reporting requirements.

¹⁹² Permittee Petitioners reference language in the federal regulations concerning “effluent and ambient monitoring” (40 C.F.R. § 122.44(d)(1)(vi)(C)(3)) and appear to be using the phrase as support for their argument. That section is inapposite as it applies to situations where a State has not established a water quality objective for a pollutant present in the effluent and instead establishes effluent limitations on an indicator parameter for the pollutant of concern.

measures. Compliance may be determined at the outfall – for example, where a permittee determines that the discharge does not exceed an applicable WQBEL or receiving water limitation – but outfall monitoring alone cannot provide the broader data related to trends in storm water discharge impacts on the receiving water. Accordingly, receiving water monitoring is a legal and reasonable component of the monitoring and reporting program. Further, because Permittees are responsible for impacts to the receiving waters resulting from their MS4 discharges, Permittees may be required to participate in monitoring not only in receiving waters within their jurisdiction but also in monitoring all receiving waters that their discharges impact.

We will make no revisions to the Monitoring and Reporting provisions of the Order.

F. Joint Responsibility

In the extensive and interconnected system regulated by the Los Angeles MS4 Order, discharges originating from one Permittee’s MS4 frequently commingle with discharges from other Permittees’ MS4s within or outside of the Permittee’s jurisdiction. Permittee Petitioners argue that the Los Angeles MS4 Order improperly ascribes responsibility to all Permittees with commingled discharges where those commingled discharges exceed a WQBEL or cause or contribute to exceedances of receiving water limitations. Specifically, Permittee Petitioners take issue with the fact that the Los Angeles MS4 Order ascribes “joint responsibility”¹⁹³ to the co-Permittees without a showing that a particular Permittee has in fact discharged the pollutant causing or contributing to the exceedance.

The Los Angeles Water Board counters that the joint responsibility regime is consistent with the intent of the Clean Water Act and further that it does not compel a Permittee to clean up the discharge of another Permittee. The Los Angeles Water Board points to two provisions for this latter proposition. First, even with joint responsibility, Permittees that have commingled MS4 discharges need only comply with permit conditions relating to discharges from the MS4 for which they are owners or operators.¹⁹⁴ Second, even where joint responsibility is presumed, a Permittee may subsequently counter the presumption of joint responsibility by

¹⁹³ “Joint responsibility” is the term used in the Los Angeles MS4 Order. (See Los Angeles MS4 Order, Part II.K.1, p. 23 (“‘Joint responsibility’ means that the Permittees that have commingled MS4 discharges are responsible for implementing programs in their respective jurisdictions, or within the MS4 for which they are an owner and/or operator, to meet the water quality-based effluent limitations and/or receiving water limitations assigned to such commingled MS4 discharges.”) As defined by the Los Angeles Water Board and as discussed below, this term does not have the same meaning and scope as the legal doctrine of “joint liability.”

¹⁹⁴ Los Angeles MS4 Order, Parts II.K.1, pp. 23-24, VI.A.4.a., p. 41; 40 C.F.R. § 122.26(a)(3)(vi); see also, *id.*, Part VI.E.2.b.ii., p. 142 (stating in the context of TMDL requirements that, where discharges are commingled and assigned a joint WLA, “each Permittee is only responsible for discharges from the MS4 for which they are owners and/or operators.”)

affirmatively demonstrating that its MS4 discharge did not cause or contribute to the relevant exceedances.¹⁹⁵

Given the size and complexity of the MS4s regulated under the Los Angeles MS4 Order and the challenges inherent in designing a monitoring program that could parse out responsibility for each individual Permittee, we find that a joint responsibility regime is a reasonable approach to assigning initial responsibility for an exceedance. The Los Angeles MS4 Order provisions addressing TMDLs also appropriately take a joint responsibility approach, given that the wasteload allocations from which the WQBELs and other TMDL-specific limitations are derived are most frequently expressed as joint allocations shared by all MS4 dischargers in the watershed. We further agree with the Los Angeles Water Board that the regime is one that is permissible under applicable law. The Clean Water Act contemplates that MS4 permits may be issued on a system-wide or jurisdiction-wide basis¹⁹⁶ and the federal regulations anticipate the need for inter-governmental cooperation.¹⁹⁷ Further, the United States Court of Appeal, Ninth Circuit, recently stated in *Natural Resources Defense Council v. County of Los Angeles* (2013) 725 F.3d 1194 that the permitting authority has wide discretion concerning the terms of a permit, including the manner in which permittees share liability.¹⁹⁸

Yet, we also find that joint responsibility in an MS4 Order is only appropriate if the ultimate responsibility for addressing an exceedance rests with those permittees that actually cause or contribute to the exceedance in question. The re-issued Los Angeles MS4 Order contains additional specificity and monitoring, beyond that contained in the 2001 Los Angeles MS4 Order, to document compliance and the presence or absence of an individual municipality's contribution of pollutants to the storm water. For this reason, the general reasoning of the Ninth Circuit's 2013 *Natural Resources Defense Council v. County of Los Angeles* decision finding liability based solely on the presence of pollutants above water quality standards in the receiving waters is of limited forward-looking importance. Generally, in the context of MS4 permits, we do not sanction joint responsibility to the extent that that joint

¹⁹⁵ *Id.*, Part VI.E.2., pp.141-42; see also *id.*, Part II.K.1, pp. 23-24.

¹⁹⁶ 33 U.S.C. § 1342(p)(3)(B)(i).

¹⁹⁷ See 40 C.F.R. §§ 122.26(d)(2)(i)(D), 122.26(d)(2)(iv), 122.26(d)(2)(vii).

¹⁹⁸ *Natural Resources Defense Council v. County of Los Angeles* (9th Cir. 2013) 725 F.3d 1194, 1205, fn. 16, cert. den. *Los Angeles County Flood Control Dist. v. Natural Resources Defense Council* (2014) 134 S.Ct. 2135. The Ninth Circuit went on to find that, based on the specific language of the 2001 Los Angeles MS4 Order, the Permittees were jointly liable for exceedances detected by mass emissions monitoring.

responsibility would require each Permittee to take full responsibility for addressing violations, regardless of whether, and to what extent, each permittee contributed to the violation.¹⁹⁹

The Los Angeles MS4 Order does not impose such a joint responsibility regime where each Permittee must take full responsibility for addressing other Permittees' violations. In addition to clearly stating that permittees are responsible only for their contribution to the commingled discharges, the Los Angeles MS4 Order provides that Permittees may affirmatively show that their discharge did not cause or contribute to an exceedance. Joint responsibility, as applied by the Los Angeles MS4 Order, is thus consistent with our expectation that ultimate responsibility for addressing an exceedance rests with those Permittees that actually cause or contribute to the exceedance and consistent with the regulatory direction that co-permittees need only comply with permit conditions relating to discharges from the MS4 for which they are owners or operators.

While the result is that the burden rests on the Permittee to demonstrate that its commingled discharge is not the source of an exceedance, rather than on the Los Angeles Water Board to demonstrate that a Permittee's commingled discharge is causing or contributing to the exceedance, the result is not contrary to law. The Los Angeles Water Board has the initial burden to show that a violation of the Los Angeles MS4 Order has occurred,²⁰⁰ but the Board can do so by establishing an exceedance of a limitation by jointly responsible Permittees and need not identify the exact source of the exceedance. This scheme represents a reasonable policy approach to a complicated compliance question where the Permittees are more closely familiar than the Los Angeles Water Board with their outfalls and their discharges in the extensive and interconnected MS4 network.

We are, however, concerned that the Los Angeles MS4 Order's treatment of the joint responsibility issue is too narrow. The Los Angeles Water Board addresses the issue of joint responsibility primarily in the context of compliance with the TMDL requirements of the Order. Commingled discharges pose the same questions of assigning responsibility where receiving water limitations are exceeded in water bodies receiving MS4 discharges from multiple jurisdictions, but where the pollutant is not addressed by a TMDL. A similar approach to

¹⁹⁹ In a "joint and several liability" scheme, a plaintiff may collect his or her entire damages from any one defendant, and the defendants must then rely on principles of indemnity or contribution to apportion ultimate liability amongst themselves. (See *American Motorcycle Assn. v. Superior Court of Los Angeles County* (1978) 20 Cal. 3d 578, 586-590.) Because the Los Angeles MS4 Order's joint responsibility scheme does not equate to joint liability, and because we do not find such liability appropriate from a policy perspective, we do not address Petitioners' legal arguments as to whether joint or joint and several liability in the storm water context would be consistent with applicable law.

²⁰⁰ See e.g. *Sackett v. E.P.A.* (9th Cir. 2010) 622 F.3d 1139 rev'd on other grounds *Sackett v. E.P.A.* (2012) 132 S. Ct. 1367.

assigning responsibility for addressing the exceedances is appropriate there. We will add new language to the Los Angeles MS4 Order mirroring Part VI.E.2.b., but applying the principles more generally.

We also take this opportunity to emphasize that all MS4 permits should be drafted to avoid one potential, but likely unintended, result arising from *Natural Resources Defense Council v. County of Los Angeles*. The broadest reading of the Ninth Circuit's holding following remand from the U.S. Supreme Court would assign joint liability to all Permittees for any exceedance at a monitoring location designated for the purpose of compliance determination, even if the particular pollutant is not typically found in storm water and has a likely alternative source such as an industrial discharger or waste water treatment plan. Providing municipalities an opportunity to demonstrate that they did not contribute to a pollutant present in receiving waters above standards will prevent this outcome.

We shall amend Part VI.B. as follows:

B. Monitoring and Reporting Program (MRP) Requirements

- 1.** Dischargers shall comply with the MRP and future revisions thereto, in Attachment E of this Order or may, in coordination with an approved Watershed Management Program per Part VI.C, implement a customized monitoring program that achieves the five Primary Objectives set forth in Part II.A. of Attachment E and includes the elements set forth in Part II.E. of Attachment E.

2. Compliance Determination for Commingled Discharges

- a. For commingled discharges addressed by a TMDL, a Permittee shall demonstrate compliance with the requirements of Part E as specified at Part E.2.b.**
- b. For commingled discharges not addressed by a TMDL, a Permittee shall demonstrate compliance with the requirements of Part V.A as follows:**
 - i. Pursuant to 40 CFR section 122.26(a)(3)(vi), each Permittee is only responsible for discharges from the MS4 for which they are owners and/or operators.**
 - ii. Where Permittees have commingled discharges to the receiving water, or where Permittees' discharges commingle in the receiving water, compliance in the receiving water shall be determined for the group of Permittees as a whole unless an individual Permittee demonstrates that its discharge did not cause or contribute to the exceedance, pursuant to subpart iv. below.**

- iii. For purposes of compliance determination, each Permittee is responsible for demonstrating that its discharge did not cause or contribute to an exceedance of the receiving water limitation in the target receiving water.
- iv. A Permittee may demonstrate that its discharge did not cause or contribute to an exceedance of a receiving water limitation in one of the following ways:
 - (1) Demonstrate that there was no discharge from the Permittee's MS4 into the applicable receiving water during the relevant time period;
 - (2) Demonstrate that the discharge from the Permittee's MS4 was controlled to a level that did not cause or contribute to the exceedance in the receiving water;
 - (3) Demonstrate that there is an alternative source of the pollutant that caused the exceedance, that the pollutant is not typically associated with MS4 discharges, and that the pollutant was not discharged from the Permittee's MS4; or
 - (4) Demonstrate that the Permittee is in compliance with the Watershed Management Programs provisions under VI.C.

G. Separation of Functions in Advising the Los Angeles Water Board

Petitioners Cities of Duarte and Huntington Park (Duarte and Huntington Park) argue that their rights to due process of law were violated when the same attorneys advised both the Los Angeles Water Board staff and the Board itself in the course of the proceedings to adopt the Los Angeles MS4 Order. We disagree and reaffirm our position that permitting actions do not require the water boards to separate functions when assigning counsel to advise in development and adoption of a permit.

A water board proceeding to adopt a permit, including an NPDES permit, waste discharge requirements, or a waiver of waste discharge requirements, is an adjudicative proceeding subject to the Administrative Procedure Act's administrative adjudication statutes in Government Code section 11400 et seq.²⁰¹ Section 11425.10, part of the "Administrative Adjudication Bill of Rights," provides that "[t]he adjudicative function shall be separated from the investigative, prosecutorial, and advocacy functions with the agency" ²⁰² In accordance with

²⁰¹ See Cal. Code Regs., tit. 23, § 648, subd. (b).

²⁰² Gov. Code, § 11425.10, subd. (a)(4). Subdivision (a)(4) references section 11425.30, which addresses disqualification of a presiding officer that has served as "investigator, prosecutor, or advocate" in the proceeding or its preadjudicative stage or is subject to "the authority, direction, or discretion" of a person who has served in such roles.

this directive, the water boards separate functions in all enforcement cases, assigning counsel and staff to prosecute the case, and separate counsel and staff to advise the board.

In a permitting action, water board counsel have an advisory role, not an investigative, prosecutorial, or advocacy role. Permitting actions are not investigative in nature and there is no consideration of liability or penalties that would make the action prosecutorial in nature. Further, while both counsel and staff are expected to develop recommendations for their boards, the role of counsel and staff is not to act as an advocate for one particular position or party concerning the permitting action, but to advise the board as neutrals, with consideration of the legal, technical, and policy implications of all options before the board. In the case of counsel, such consideration and advice includes not just legal evaluation of the substantive options for permitting but also of procedural issues such as admissibility of the evidence, conduct of the hearing, and avoidance of board member conflicts. Because counsel and staff are advisors to the board rather than advocates for a particular position, the same counsel may advise staff in the course of development of the permit and the board in the adoption proceedings.

A primary purpose of separation of functions in adjudicatory proceedings is the need to prevent improper ex parte communications.²⁰³ The exceptions to the ex parte communications rules further support the position that counsel advising board staff may also advise the board itself. While section 11430.10 of the Government Code generally prohibits communications concerning issues in a pending administrative proceeding between the presiding officer and an employee of the agency that is a party,²⁰⁴ one exception provides that a communication “for the purpose of assistance and advice to the presiding officer,” in this case the board, “from a person who has not served as investigator, prosecutor, or advocate in the proceeding or its preadjudicative stage” is permissible. Even if board counsel could be considered an advocate in the proceeding, another provision (specifically referencing the water boards) excepts the communication from the general ex parte communications rules. A communication is not an ex parte communication if:

- (c) The communication is for the purpose of advising the presiding officer concerning any of the following matters in an adjudicative hearing that is nonprosecutorial in character:

²⁰³ See *Dept. of Alcoholic Beverage Control v. Alcoholic Beverage Control Appeals Bd.* (2006) 40 Cal.4th 1, 9-10.

²⁰⁴ Government Code section 11430.10 prohibits communications between an employee that is a “party” to a pending proceeding and the presiding officer. We disagree that Los Angeles Water Board staff, as an advisor to the Board, was a “party” to the proceedings for adoption of the Los Angeles MS4 Order, but, even if staff could be considered a party, the cited exceptions to the ex parte communications rules would apply.

. . .
(2) The advice involves an issue in a proceeding of the San Francisco Bay Conservation and Development Commission, California Tahoe Regional Planning Agency, Delta Protection Commission, Water Resources Control Board, or a regional water quality control board.²⁰⁵

The fact that communications that would otherwise be considered prohibited *ex parte* communications are specifically permitted in non-prosecutorial adjudicative proceedings of the water boards further supports the position that the water boards are not obligated by law to separate functions in permitting actions.

We acknowledge that there may be some unique factual circumstances under which a permitting proceeding could violate due process or the Administrative Procedure Act because board counsel either acted or gave the appearance of acting as a prosecutor or advocate. Duarte and Huntington Park point to a writ of mandate issued by the Los Angeles Superior Court in 2010,²⁰⁶ holding that a 2006 proceeding to incorporate provisions of the Santa Monica Bay Beaches TMDL into the 2001 Los Angeles MS4 Order was not fairly conducted because Los Angeles Water Board counsel had acted as an advocate for Board staff, directly examining Board staff witnesses, cross-examining witnesses called by permittees, objecting to questions asked by permittees, and making a closing argument on behalf of Board staff, while simultaneously advising the Board. The proceedings to adopt the Los Angeles MS4 Order did not follow the type of adversarial structure that led the Superior Court to find a violation of separation of functions in the 2006 proceedings.²⁰⁷ Further, nothing in the conduct of the Los Angeles Water Board attorneys in the Los Angeles MS4 Order proceedings leads us to find that they acted as advocates for a particular position or party, rather than as advisors to the Board.

²⁰⁵ Gov. Code, § 11430.30. We note that the Law Revision Commission comments on section 11430.30, subdivision (c), state that “[s]ubdivision (c) applies to nonprosecutorial types of administrative adjudications, such as . . . proceedings . . . setting *water quality protection . . . requirements*.” (Emphasis added.) The notes further state that “[t]he provision recognizes that the length and complexity of many cases of this type may as a practical matter make it impossible for any agency to adhere to the restrictions of [ex parte communications], given limited staffing and personnel.” (25 Cal.L.Rev.Comm. Reports 711 (1995).) We agree that the lengthy and complex nature of permitting proceedings, and the limited staffing resources of the water boards, caution against an expansive interpretation of separation of functions in non-prosecutorial adjudications.

²⁰⁶ *County of Los Angeles v. State Water Resources Control Board* (Super. Ct., Los Angeles Co. (June 2, 2010, Minute Order) No. BS122724) (Administrative Record, section 10.II, RB-AR23665-23667.)

²⁰⁷ We also note that, although the writ directed that petitioners were entitled to a new hearing “in which the same person does not act as both an advocate before the Board and an advisor to the Board,” the writ had no direct bearing on the separate proceedings to adopt the Los Angeles MS4 Order. In any case, as discussed, Board attorneys did not act as advocates in the proceedings to adopt the Los Angeles MS4 Order.

The two specific cases pointed to by Duarte and Huntington Park – advice by Board counsel to Board member Mary Ann Lutz regarding recusal due to ex parte communications and advice to the Board generally on the lack of a cost-benefit analysis requirement in federal law – may be contrary to the legal position held by Duarte and Huntington Park, but there is nothing in the record to suggest that the advice was driven by biased advocacy for a Board staff position.²⁰⁸ In the absence of such evidence, we find no reason to depart from the general rule that separation of functions is not required in a permitting proceeding²⁰⁹ and find that Los Angeles Water Board counsel acted in accordance with applicable laws in advising Board staff and the Board itself.

H. Signal Hill's Inclusion in the Order

The City of Signal Hill (Signal Hill) argues that the Los Angeles Water Board acted contrary to relevant law when it issued the system-wide Los Angeles MS4 Order that included Signal Hill, even though Signal Hill had submitted an application for an individual permit.²¹⁰ We disagree.

Signal Hill points out that the federal regulations allow an operator of an MS4 to choose between submitting an application jointly with one or more other operators for a joint permit or individually for a distinct permit.²¹¹ However, the choice of application does not necessarily dictate the type of permit that the permitting authority ultimately deems appropriate. The permitting authority in turn has discretion to determine if the permit should be issued on a

²⁰⁸ See Administrative Record, section 7, RB-AR18309-18316, RB-AR18397-18400 (Transcript of Proceedings on Oct. 4, 2012), section 7, RB-AR18892-18894 (Transcript of Proceedings on Oct. 5, 2012).

²⁰⁹ Although *Morongo Band of Mission Indians v. State Water Resources Control Board* (2009) 45 Cal.4th 731 concerned an enforcement proceeding and therefore is not on point for our legal determination above, we take note of the direction by the California Supreme Court that separation of functions in an administrative tribunal should not be expanded beyond its appropriate scope: “In construing the constitutional due process right to an impartial tribunal, we take a more practical and less pessimistic view of human nature in general and of state administrative agency adjudicators in particular . . . [and where proper procedure is followed and in the absence of a specific demonstration of bias or unacceptable risk of bias] we remain confident that state administrative agency adjudicators will evaluate factual and legal arguments on their merits, applying the law to the evidence in the record to reach fair and reasonable decisions.” (*Morongo Band of Mission Indians, supra*, at pp. 741-742.)

²¹⁰ Signal Hill was one of several permittees under the 2001 Los Angeles MS4 Order that elected not to submit an application jointly with the other permittees for the renewed permit. The other parties have not challenged their inclusion under the Los Angeles MS4 Order. The Los Angeles Water Board rejected Signal Hill's application as incomplete; however, our determination that the Los Angeles Water Board had the discretion to issue the system-wide Los Angeles MS4 Order is not dependent on that fact.

²¹¹ 40 C.F.R. § 122.26(a)(3)(iii). Signal Hill has also cited regulations applicable to Small MS4s at 40 Code of Federal Regulations sections 122.30 through 122.37. These regulations are not applicable here because the Los Angeles Water Board has designated the Greater Los Angeles County MS4, which includes the incorporated cities and the unincorporated areas of Los Angeles County within coastal watersheds, as a large MS4 pursuant to 40 Code of Federal Regulations section 122.26(b)(4).

jurisdictional or system-wide basis.²¹² While the federal regulations do not specifically state that, in exercising that discretion, the permitting authority may override the permit applicant's preference for an individual permit, nothing in the regulations constrains its authority to do so. Section 122.26(a)(3)(iii) of 40 Code of Federal Regulations does not require the permitting authority to take any specific action in response to the submission of an individual application. And sections 122.26(a)(3)(ii) and 122.26(a)(3)(iv) provide that the permitting authority "may issue" system-wide or distinct permits. The preamble to the regulations similarly contemplates wide discretion for the permitting authority to choose system-wide permits, including a permit that would allow an entire system in a geographical region to be designated under one permit.²¹³ Particularly because the option of a system-wide permit would be significantly frustrated if MS4 operators were allowed to opt out at their discretion, the most reasonable reading of the regulations is that the permitting authority, not the applicant, makes the ultimate decision as to the scope of the permit that will be issued. Accordingly, we find that the Los Angeles Water Board had the discretion under the relevant law to issue the Los Angeles MS4 Order with Signal Hill as a permittee.

We also find that the Los Angeles Water Board's decision regarding Signal Hill was appropriately supported by findings in the Order and in the Fact Sheet.²¹⁴ Finding C of the Los Angeles MS4 Order, as well as discussion in the Fact Sheet,²¹⁵ establishes that the Los Angeles Water Board found a system-wide permit to be appropriate for a number of reasons, including that Permittees' MS4s comprise a large interconnected system with frequently commingled discharges, that the TMDLs to be implemented apply to the jurisdictional areas of multiple Permittees, that the passage of Assembly Bill 2554²¹⁶ in 2010 provided a potential means for funding collaborative water quality improvement plans among Permittees, and that the results of an online survey conducted by Los Angeles Water Board staff showed that the

²¹² 33 U.S.C. § 1342(p)(3)(B)(i); 40 C.F.R. § 122.26(a)(1)(v), (a)(3)(ii), (a)(3)(iv).

²¹³ See 55 Fed. Reg. 47990, 48039-48043 (preamble to the Phase I regulations noting that section 122.26(a)(3)(iv) would allow an entire system in a geographical region to be designated under one permit and further discussing that sections 122.26(a)(1)(v) and (a)(3)(ii) allow the permitting authority broad discretion in issuing system-wide permits).

²¹⁴ *Topanga Assn., supra*, 11 Cal.3d at 515.

²¹⁵ Los Angeles MS4 Order, Part II.C., pp. 14-15; *id.*, Att. F, Fact Sheet, pp. F-15-F-18.

²¹⁶ Assembly Bill No. 2554, Chapter 602, an act to amend sections 2 and 16 of the Los Angeles County Flood Control Act (Chapter 755 of the Statutes of 1915), relating to the Los Angeles County Flood Control District, Sept. 30, 2010 (Administrative Record, section 10.VI.C., RB-AR29172-29179). The Bill allows the Los Angeles County Flood Control District to assess a property-related fee or charge, subject to voter approval in accordance with proposition 218, for storm water and clean water programs.

majority of Permittees favored either a single MS4 permit for Los Angeles County or several watershed-based permits.

Signal Hill points out that the reasons enumerated by the Los Angeles Water Board as grounds for issuance of a system-wide permit did not preclude the Los Angeles Water Board from issuing an individual permit to the City of Long Beach (Long Beach).²¹⁷ The Los Angeles Water Board has provided the rationale for distinguishing Signal Hill and Long Beach in its October 15, 2013 Response. The Los Angeles Water Board explains that Long Beach has had an individual permit for more than a decade and that, unlike Signal Hill, it was not permitted under the 2001 Los Angeles MS4 Order. The Board's decision to issue a separate permit to Long Beach was originally the result of a settlement agreement that resolved litigation on the MS4 permit issued by the Los Angeles Water Board in 1996, and Long Beach has a proven track record in implementing the individual permit while cooperating with Permittees under the Los Angeles MS4 Order.²¹⁸ We find that the Los Angeles Water Board reasonably distinguished between Long Beach and the Permittees under the Los Angeles MS4 Order in making determinations as to individual permitting. We will not reverse its determination but we will add a brief statement reflecting that reasoning to the Fact Sheet.

We shall amend section III.D.1.a. at page F-18, Attachment F, Fact Sheet, as follows:

The Regional Water Board determined that the cities of Signal Hill and Downey, the five upper San Gabriel River cities, and the LACFCD are included as Permittees in this Order. **In making that determination, the Regional Water Board distinguished between the permitting status of those cities and the permitting status of the City of Long Beach at this time because the City of Long Beach has a proven track record in implementing an individual permit and developing a robust monitoring program under that individual permit, as well as in cooperation with other MS4 dischargers on watershed based implementation. While all other incorporated cities with discharges within the coastal watersheds of Los Angeles County, as well as Los Angeles County and the Los Angeles County Flood Control District, are permitted under this Order,** individually tailored permittee requirements are provided in this Order, where appropriate.

²¹⁷ Signal Hill is located in the geographical middle of Long Beach and is entirely surrounded by that city.

²¹⁸ Los Angeles Water Board, October 15, 2013 Response, p. 25, fn. 78.

III. CONCLUSION

Based on the above discussion, we conclude as follows:

1. Although we are not bound by federal law or state law to require compliance with water quality standards in municipal storm water permits, we will not depart from our prior precedent regarding compliance with water quality standards. The regional water boards shall continue to require compliance with receiving water limitations in municipal storm water permits through incorporation of receiving water limitations provisions consistent with State Water Board Order WQ 99-05.
2. However, we find that municipal storm water dischargers may not be able to achieve water quality standards in the near term and therefore that it is appropriate for municipal storm water permits to incorporate a well-defined, transparent, and finite alternative path to permit compliance that allows MS4 dischargers that are willing to pursue significant undertakings beyond the iterative process to be deemed in compliance with the receiving water limitations.
3. We find that the WMP/EWMP provisions of the Los Angeles MS4 Order, with minor revisions that we incorporate herein, are an appropriate alternative to immediate compliance with receiving water limitations. The WMP/EWMP provisions are ambitious, yet achievable, and include clear and enforceable deadlines for the achievement of receiving water limitations and a rigorous and transparent process for development and implementation of the WMPs/EWMPs.
4. We find that the WMP/EWMP provisions do not violate anti-backsliding requirements.
5. We find that the WMP/EWMP provisions do not violate antidegradation requirements; however, we find that the antidegradation findings made by the Los Angeles Water Board are too cursory and revise those findings consistent with the federal and state antidegradation policies.
6. We find that issuance of time schedule orders is appropriate where a final receiving water limitations deadline set in the WMP/EWMP or a final TMDL-related deadline is not met; however we find that the WMP/EWMP compliance schedule need not otherwise be structured as an enforcement order.
7. We clarify the WMP/EWMP provisions to make it clear that final compliance with receiving water limitations and final WQBELs and other TMDL-specific limitations must be verified through monitoring.

8. We clarify the WMP/EWMP provisions to make it clear that Permittees may request extensions of deadlines incorporated into the WMPs/EWMPs except those final deadlines established in a TMDL. However, any deadline extensions must be approved by the Executive Officer after public review and comment.
9. In order to add greater rigor and accountability to the process of achieving receiving water limitations, we revise the WMP/EWMP provisions to add that the Permittees must comprehensively evaluate new data and information and revise the WMPs/EWMPs, including the supporting reasonable assurance analysis, by June 30, 2021, for approval by the Executive Officer.
10. We find that the storm water retention approach is a promising approach to achieving receiving water limitations, but also find that the Administrative Record does not support a finding that the approach will necessarily lead to achievement of water quality standards in all cases. We revise the WMP/EWMP provisions to clarify that, in the case of implementation of an EWMP with the storm water retention approach, if compliance with a final WQBEL or other TMDL-specific limitation is not in fact achieved in the drainage area, a Permittee will be considered in compliance with the relevant limitation only if the Permittee continues to adaptively manage the EWMP to achieve ultimate compliance with the WQBEL or other TMDL limitation.
11. We find reasonable the WMP/EWMP provisions that allow permittees to be deemed in compliance with receiving water limitations during the planning and development phase of the WMP/EWMP. We revise the WMP/EWMP provisions to state that, if a Permittee fails to meet one of the deadlines, the Permittee may still develop a WMP/EWMP for approval by the Los Angeles Water Board or its Executive Officer; however, the Permittee will not be deemed in compliance with receiving water limitations or WQBELs and other TMDL-specific limitations during the subsequent WMP/EWMP development period.
12. We recognize that the Los Angeles MS4 Order WMP/EWMP compliance path alternative may not be appropriate in all MS4 permits. In order to provide guidance to regional water boards preparing Phase I MS4 permits, we lay out several principles to be followed in drafting receiving water limitations compliance alternatives: Phase I MS4 permits should (1) continue to require compliance with water quality standards in accordance with our Order WQ 99-05; (2) allow compliance with TMDL requirements to constitute compliance with receiving water limitations; (3) provide for a compliance

alternative that allows permittees to achieve compliance with receiving water limitations over a period of time as described above; (4) encourage watershed-based approaches, address multiple contaminants, and incorporate TMDL requirements; (5) encourage the use of green infrastructure and the adoption of low impact development principles; (6) encourage the use of multi-benefit regional projects that capture, infiltrate, and reuse storm water; and (7) require rigor, accountability, and transparency in identification and prioritization of issues in the watershed, in proposal and implementation of control measures, in monitoring of water quality, and in adaptive management of the program. We expect the regional water boards to follow these principles unless the regional water board makes a specific showing that application of a given principle is not appropriate for region-specific or permit-specific reasons.

13. We recognize that the success of the WMP/EWMP approach depends in large part on the steps that follow adoption of the provisions, including the development and approval of rigorous WMPs/EWMPs and the implementation and appropriate enforcement of the programs once approved. We direct the Los Angeles Water Board to periodically report specific information to the State Water Board regarding implementation of the WMPs/EWMPs, including on-the-ground structural control measures completed, monitoring data evaluating the effectiveness of such measures, control measures proposed to be completed and proposed funding and schedule, trends in receiving water quality related to storm water discharges, and compliance and enforcement data.
14. We find that the Los Angeles Water Board acted in a manner consistent with the law when establishing numeric WQBELs. We further find that the development of numeric WQBELs was a reasonable exercise of the Los Angeles Water Board's policy discretion, given its experience in developing the relevant TMDLs and the significance of storm water impacts in the region. However, we find that numeric WQBELs are not necessarily appropriate in all MS4 permits or for all parameters in any single MS4 permit.
15. We find that the Los Angeles Water Board's choice of BMP-based WQBELs, to be proposed by the Permittee in the WMP/EWMP to address USEPA-established TMDLs was reasonable.

16. We find that the Los Angeles Water Board did not act contrary to federal law when it prohibited the discharge of non-storm water “through the MS4 to receiving water” instead of “into” the MS4. Regardless of the exact wording of the prohibition, the standard that applies to non-storm water is the requirement of “effective prohibition.” However, the Los Angeles Water Board also has authority to regulate any dry weather discharges from the MS4s under the applicable TMDLs.
17. We find that the monitoring and reporting provisions of the Los Angeles MS4 Order are consistent with applicable law and reasonable.
18. We find that assigning joint responsibility for commingled discharges that cause exceedances is not contrary to applicable law. Given the size and complexity of the MS4s regulated under the Los Angeles MS4 Order, the joint responsibility regime also constitutes a reasonable policy choice. The Los Angeles MS4 Order specifically allows a permittee to avoid joint responsibility by demonstrating that its commingled discharge is not the source of an exceedance.
19. We find that representation of the Los Angeles Water Board and the Los Angeles Water Board staff by the same attorneys in the proceedings to adopt the Los Angeles MS4 Order was lawful and reasonable.
20. We find that the Los Angeles Water Board acted in a manner consistent with applicable law and reasonably when it issued a system-wide permit that included Signal Hill.

Addressing the water quality impacts of municipal storm water is a complex and difficult undertaking, requiring innovative approaches and significant investment of resources. We recognize and appreciate the commendable effort of the Los Angeles Water Board to come up with a workable and collaborative solution to the difficult technical, policy, and legal issues, as well as the demonstrated commitment of many of the area’s MS4 dischargers and of the environmental community to work with the Los Angeles Water Board in the development and implementation of the proposed solution. We also recognize the extensive work that interested persons from across the state, including CASQA, have invested in assisting us in understanding how the watershed-based alternative compliance approach developed by the Los Angeles Water Board may inform statewide approaches to addressing achievement of water quality requirements. While storm water poses an immediate water quality problem, we believe that a rigorous and transparent watershed-based approach that emphasizes low impact development, green infrastructure, multi-benefit projects, and capture, infiltration, and reuse of storm water is

a promising long-term approach to addressing the complex issues involved. We must balance requirements for and enforcement of immediate, but often incomplete, solutions with allowing enough time and leeway for dischargers to invest in infrastructure that will provide for a more reliable trajectory away from storm water-caused pollution and degradation. We believe that the Los Angeles MS4 Order, with the revisions we have made, strikes that balance at this stage in our storm water programs, but expect that we will continue to revisit the question of the appropriate balance as the water boards' experience in implementing watershed-based solutions to storm water grows.

IV. ORDER

IT IS HEREBY ORDERED that the Los Angeles MS4 Order is amended as described above in this order. The Los Angeles Water Board is directed to prepare a complete version of the Los Angeles MS4 Order (including any necessary non-substantive conforming corrections), post the conformed Los Angeles MS4 Order on its website, and distribute it as appropriate.

CERTIFICATION


The undersigned, Clerk to the Board, does hereby certify that the foregoing is a full, true, and correct copy of an order duly and regularly adopted at a meeting of the State Water Resources Control Board held June 16, 2015.

AYE: Chair Felicia Marcus
Vice Chair Frances Spivy-Weber
Board Member Tam M. Doduc
Board Member Steven Moore
Board Member Dorene D'Adamo

NAY: None

ABSENT: None

ABSTAIN: None



Jeanine Townsend
Clerk to the Board

ATTACHMENT 24

CONFORMED (04/07/15)

CALIFORNIA STATE WATER RESOURCES CONTROL BOARD
ORDER 2012-0011-DWQ

AS AMENDED BY
ORDER WQ 2014-0006-EXEC,
ORDER WQ 2014-0077-DWQ, AND
ORDER WQ 2015-0036-EXEC

NPDES NO. CAS000003
**NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES)
STATEWIDE STORM WATER PERMIT
WASTE DISCHARGE REQUIREMENTS (WDRS)
FOR
STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION**

The State Water Resources Control Board adopted Order 2012-0011-DWQ on:	September 19, 2012
The Executive Director of the State Water Resources Control Board issued Order WQ 2014-0006-EXEC on:	January 17, 2014
The State Water Resources Control Board adopted Order WQ 2014-0077-DWQ on:	May 20, 2014
The Executive Director of the State Water Resources Control Board issued Order WQ 2015-0036-EXEC on:	April 7, 2015
The amendments to Order 2012-0011-DWQ contained in Order 2015-0036-DWQ are effective on:	April 7, 2015

CERTIFICATION

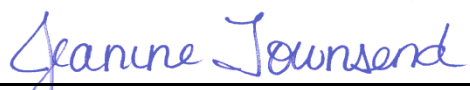
The undersigned, Clerk to the State Water Board, does hereby certify that the foregoing is a full, true, and correct copy of an order duly and regularly adopted at a meeting of the State Water Resources Control Board held on September 19, 2012.

AYE: Chairman Charles R. Hoppin
Vice Chair Frances Spivy-Weber
Board Member Tam M. Doduc
Board Member Steven Moore
Board Member Felicia Marcus

NAY: None

ABSENT: None

ABSTAIN: None



Jeanine Townsend
Clerk to the Board

CALIFORNIA STATE WATER RESOURCES CONTROL BOARD
ORDER 2012-0011-DWQ

AS AMENDED BY
ORDER WQ 2014-0006-EXEC,
ORDER WQ 2014-0077-DWQ, AND
ORDER WQ 2015-0036-EXEC

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**NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES)
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FOR
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DEPARTMENT OF TRANSPORTATION**

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REQUIREMENTS FOR STATE OF CALIFORNIA, DEPARTMENT OF
TRANSPORTATION

- ATTACHMENT I: INCIDENT REPORT FORM
- ATTACHMENT II: MONITORING CONSTITUENT LIST
- ATTACHMENT III: ASBS PRIORITY DISCHARGE LOCATIONS
- ATTACHMENT IV: TMDL IMPLEMENTATION REQUIREMENTS
- ATTACHMENT V: REGIONAL WATER BOARD SPECIFIC REQUIREMENTS
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- ATTACHMENT IX: REPORTING REQUIREMENTS
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CALIFORNIA STATE WATER RESOURCES CONTROL BOARD
ORDER 2012-0011-DWQ

AS AMENDED BY
ORDER WQ 2014-0006-EXEC,
ORDER WQ 2014-0077-DWQ, AND
ORDER WQ 2015-0036-EXEC

NPDES NO. CAS000003
**NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES)
STATEWIDE STORM WATER PERMIT
WASTE DISCHARGE REQUIREMENTS (WDRS)
FOR
STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION**

FINDINGS

The State Water Resources Control Board (State Water Board) finds that:

Permit Application

1. The State of California, Department of Transportation (hereafter the Department) has applied to the State Water Board for reissuance of its statewide storm water permit and waste discharge requirements to discharge storm water and permitted non-storm water to waters of the United States under the National Pollutant Discharge Elimination System (NPDES) permit program.

Background and Authority

Permit Background

2. Prior to issuance of the Department's first statewide storm water permit (Order No. 99-06-DWQ), the Regional Water Boards regulated storm water discharges from the Department's storm drain systems with individual permits. On July 15, 1999, the State Water Board adopted a statewide permit to consolidate storm water permits previously adopted by the Regional Water Boards. This statewide permit regulates storm water and non-storm water discharges from the Department's properties and facilities, and discharges associated with operation and maintenance of the State highway system. The Department's properties include all Right-of-Way (ROW) owned by the Department. The Department's facilities include, but are not limited to, maintenance stations/yards, equipment storage areas, storage facilities, fleet vehicle parking and maintenance areas and warehouses with material storage areas.

Federal Authority

3. In 1987, the United States Congress amended the federal Clean Water Act (CWA) and added section 402(p), which established a framework for regulating municipal and

industrial storm water discharges under the NPDES Permit Program. On November 16, 1990, the U.S. Environmental Protection Agency (U.S. EPA) promulgated federal regulations for controlling pollutants in storm water runoff discharges (known as Phase I storm water regulations). Phase I storm water regulations require permit coverage for storm water discharges from large and medium Municipal Separate Storm Sewer Systems (MS4s), certain categories of industrial facilities, and construction activities disturbing five or more acres of land. On December 8, 1999, U.S. EPA promulgated regulations, known as Phase II storm water regulations, which require NPDES permit coverage for storm water discharges from small MS4s and construction sites which disturb one to five acres of land.

State Authority

4. California Water Code (Wat. Code) section 13376 provides that any person discharging or proposing to discharge pollutants to waters of the United States within the jurisdiction of the state shall apply for and obtain Waste Discharge Requirements (WDRs). (For this permit, the State term “WDRs” is equivalent to the federal term “NPDES permits” as used in the Clean Water Act). The State Water Board issues this Order pursuant to section 402 of the Clean Water Act and implementing regulations adopted by U.S. EPA and chapter 5.5, division 7 of the California Water Code (commencing with § 13370 et seq.). It shall serve as an NPDES permit for point source discharges to surface waters. This Order also serves as WDRs pursuant to article 4, chapter 4, division 7 of the Water Code (commencing with § 13260 et seq.). Applicable State regulations on discharges of waste are contained in the California Code of Regulations (Cal. Code Regs.), tit. 23, Division 3, Chapter 9.

Storm Water Definition

Storm Water Discharge

5. Storm water discharges consist only of those discharges that originate from precipitation events. Storm water is defined in the Code of Federal Regulations (40 C.F.R. § 122.26(b)(13)) as storm water runoff, snowmelt runoff, and surface runoff and drainage. During precipitation events, storm water picks up and transports pollutants into and through MS4s and ultimately to waters of the United States.

Non-Storm Water Discharge

6. Non-storm water discharges consist of all discharges from an MS4 that do not originate from precipitation events.

Generally, non-storm water discharges to an MS4 are prohibited, conditionally exempt from prohibition, or regulated separately by an NPDES permit. The categories of conditionally exempt non-storm water discharge are specified at 40 Code of Federal Regulations section 122.26(d)(2)(iv)(B)(1). Non-storm water discharges that are regulated by a separate NPDES permit are not subject to the discharge prohibition. Prohibited non-storm water discharges include conditionally exempt discharges that are found to be a source of pollutants to waters of the United States. Illicit discharges must also be prohibited. An illicit discharge is defined in 40 Code of Federal Regulations section 122.26(b)(2) as "any discharge to a municipal storm sewer that is not composed entirely of storm water except

discharges pursuant to an NPDES permit (other than the NPDES Permit for discharges from the Municipal Separate Storm Sewer System) and discharges resulting from fire fighting activities." Provision B of this Order addresses non-storm water discharge.

Non-storm water discharges to an MS4 with a discharge to an ASBS are subject to a different set of conditions as stated in Finding 22.a.

Performance Standards

Performance Standard for Discharges from MS4s

7. Clean Water Act section 402(p) establishes performance standards for discharges from MS4s. Clean Water Act section 402(p)(3)(B) requires that municipal permits "shall require controls to reduce the discharge of pollutants to the maximum extent practicable, including management practices, control techniques and system, design and engineering methods, and such other provisions as the Administrator or the State determines appropriate for the control of such pollutants." This Order prohibits storm water discharges that do not comply with the maximum extent practicable (MEP) standard.
8. Compliance with the MEP standard involves applying Best Management Practices (BMPs) that are effective in reducing or eliminating the discharge of pollutants to the waters of the United States. MEP emphasizes pollutant reduction and source control BMPs to prevent pollutants from entering storm water runoff. MEP may require treatment of the storm water runoff if it contains pollutants. BMP development is a dynamic process, and the menu of BMPs contained in a SWMP may require changes over time as experience is gained and/or the state of the science and art progresses. MEP is the cumulative effect of implementing, evaluating, and making corresponding changes to a variety of technically appropriate and economically feasible BMPs, ensuring that the most appropriate controls are implemented in the most effective manner. The State Water Board has held that "MEP requires permittees to choose effective BMPs, and to reject applicable BMPs only where other effective BMPs will serve the same purpose, the BMPs would not be technically feasible, or the costs would be prohibitive." (SWRCB, 2000b).

Permit Coverage and Scope

Discharges Regulated by this Permit

9. This Order regulates the following discharges:
 - a. Storm water discharges from all Department-owned MS4s;
 - b. Storm water discharges from the Department's vehicle maintenance, equipment cleaning operations facilities and any other non-industrial facilities with activities that have the potential of generating significant quantities of pollutants; and
 - c. Certain categories of non-storm water discharges as listed under provision B. of this Order.

This Order does not regulate storm water discharges from leased office spaces, Department owned batch plants or any other industrial facilities, as industrial facilities defined in the Statewide Industrial General Permit. The Department will obtain coverage

for storm water discharges associated with industrial activities under the Statewide Industrial General Permit for each batch plant and industrial facility, and shall comply with applicable requirements. While this Order does not regulate storm water discharges associated with industrial activities, it does impose contractor requirements for certain industrial facilities.

This Order does not regulate discharges from the Department's construction activities, including dewatering effluent discharges from construction projects. Instead, the Department will obtain coverage for storm water discharges associated with construction activities under Order No. 2009-0009-DWQ Statewide Construction General Permit. While this Order does not regulate storm water discharges associated with construction activities, it does impose electronic filing, notification, reporting and contractor requirements for certain construction projects, and imposes limitations on types of materials that may be used during construction which may have an impact on post-construction discharges. Any discharges from a site occurring after completion of construction are fully subject to the requirements of this Order.

Some Regional Water Boards have issued specific requirements for dewatering effluent discharges in their regions. The Department will consult with the appropriate Regional Water Board and comply with the applicable dewatering requirements in each region.

Department Activities and Discharges

Department Activities

10. The Department is primarily responsible for the design, construction, management, and maintenance of the State highway system including; freeways, bridges, tunnels, and facilities such as corporation yards, maintenance facilities, rest areas, weigh stations, park and ride lots, toll plazas and related properties. The Department is also responsible for initial emergency spill response and cleanup for unauthorized discharges of waste within the Department's ROW.

Department Discharges

11. The Department's discharges include storm water and non-storm water discharges generated from:
 - a. Maintenance and operation of State-owned ROW;
 - b. Department storage and disposal areas;
 - c. Department facilities;
 - d. Department Airspaces; and
 - e. Other properties and facilities owned and operated by the Department.

The Department discharges either directly to surface waters or indirectly through municipal storm water conveyance systems. These surface waters include creeks, rivers, reservoirs, wetlands, saline sinks, lagoons, estuaries, bays, and the Pacific Ocean and tributaries thereto, some or all of which are waters of the United States as defined in 40 Code of

Federal Regulations section 122.2. As specified, this Order regulates the Department's municipal storm water and non-storm water discharges.

Potential Pollutants

12. Discharges of storm water and non-storm water from Department properties, facilities, and activities have been shown to contribute pollutants to waters of the United States. As such, these discharges may be causing or threatening to cause violations of water quality objectives and can have damaging effects on human health and aquatic ecosystems. The quality and quantity of these discharges vary considerably and are affected by many environmental factors including hydrology, geology, land use, climatology and chemistry, and by controllable management factors including maintenance practices, spill prevention and response activities, public education (i.e., concerning trash and other storm water pollutants) and pollution prevention.

Pollutant sources from the Department properties, facilities, and activities include motor vehicles, highway surface materials such as fine particles of asphalt and concrete, highway maintenance products, construction activities, erodible shoulder materials, eroding cut and filled slopes, abrasive sand and deicing salts used in winter operations, abraded tire rubber, maintenance facilities, illegal connections, illegal dumping, fluids from accidents and spills, and landscape care products.

Pollutant categories include, but are not limited to, metals (such as copper, lead, and zinc), synthetic organic compounds (pesticides), Polycyclic Aromatic Hydrocarbons (PAHs) from vehicle emissions, oil and grease, Total Petroleum Hydrocarbons (TPH), sediment, nutrients (nitrogen and phosphorus fertilizers), debris (trash and litter), pathogens, and oxygen demanding substances (decaying vegetation, animal waste, and other organic matter).

Characterization Monitoring

13. Under the previous permit (Order No. 99-06-DWQ), the Department conducted a comprehensive, multi-component storm water monitoring program. The Department monitored and collected pollutant characterization information at more than 180 sites statewide, yielding more than 60,000 data points. The Department used the data to evaluate the effectiveness of the Department's maintenance facility pollution prevention plans and highway operation control measures. This information is also used to identify pollutants of concern in the Department's discharges.

Department Discharge Characterization Studies

14. The Department compared the monitoring results from the 2002 and 2003 Runoff Characterization Studies (California Department of Transportation, 2003)¹ to California Toxics Rule (CTR) objectives and to several surface water quality objectives considered potentially relevant to storm water runoff quality. The Department prioritized constituents as high, medium, and low, according to a percentage estimate by which the most stringent water quality objective was exceeded. The Department identified lead, copper, zinc,

¹ References are found in Attachment X of this Order.

aluminum, diazinon, chlorpyrifos, and iron as high priority constituents in the Department's runoff. The sources of other water quality objectives considered were:

- a. National Primary Drinking Water Maximum Contaminant Levels (40 C.F.R., § 141.1);
- b. U.S. EPA Action Plan for Beaches and Recreational Waters;
- c. U.S. EPA Aquatic Life Criteria;
- d. California Department of Public Health Maximum Contaminant Levels; and California Department of Fish and Game Recommended Criteria for Diazinon and Chlorpyrifos.

Department Discharges that are Subject to MS4 Permit Regulations

15. An MS4 is a conveyance or system of conveyances, including roads with drainage systems, municipal streets, catch basins, curbs, gutters, ditches, man-made channels, or storm drains. An MS4 is designed or used for collecting or conveying storm water. It is not a combined sanitary sewer and is not part of a Publicly Owned Treatment Works (POTW). Clean Water Act section 402(p) and 40 Code of Federal Regulations section 122.26 (a)(v) give the State authority to regulate discharges from an MS4 on a system-wide or jurisdiction-wide basis. All MS4s under the Department's jurisdiction are considered one system, and are regulated by this Order. Therefore, all storm water and exempted and conditionally exempted non-storm water discharges from the Department owned MS4 are subject to the requirements in this Order.

Maintenance and Construction Activities not Subject to the Construction General Permit

16. Some maintenance and construction activities such as roadway and parking lot repaving and resurfacing may not be subject to the Construction General Permit. Such activities may involve grinding and repaving the existing surface and have the potential to mobilize pollutants, even though it may not involve grading or land disturbance. The Department's Maintenance Staff Guide (Department, 2007b), Project Planning and Design Guide (Department, 2010) and the California Stormwater Quality Association (CASQA) California Construction Stormwater BMP Handbook (CASQA, 2009) specify BMPs for paving and grinding operations. The Department is required to implement BMPs for such operations to control the discharge of pollutants to the MEP.

Department Construction Projects Involving Lead Contaminated Soils

17. Department construction projects may involve soils that contain lead in quantities that meet the State definition of hazardous waste but not the federal definition. The Department of Toxic Substances Control (DTSC) has issued a variance (V09HQSCD006) effective July 1, 2009, allowing the Department to place soil containing specific concentrations of aerially deposited lead under pavement or clean soil. In addition to complying with the terms of the variance, the Department also needs to notify the appropriate Regional Water Boards to determine the appropriate regulation of these soils.
18. Past monitoring data show that storm water runoff from the Department's facilities contains pollutants that may adversely affect the beneficial uses of receiving waters. Facilities not

subject to the Industrial General Permit are required to implement BMPs to reduce the discharge of pollutants from these facilities to the MEP.

Provisions of This Order

19. Storm water discharges from MS4s are highly variable in frequency, intensity, and duration, and it is difficult to characterize the amount of pollutants in the discharges. In accordance with 40 Code of Federal Regulations section 122.44(k)(2), the inclusion of BMPs in lieu of numeric effluent limitations is appropriate in storm water permits. This Order requires implementation of BMPs to control and abate the discharge of pollutants in storm water to the MEP. To assist in determining if the BMPs are effectively achieving MEP standards, this Order requires effluent and receiving water monitoring. The monitoring data will be used to determine the effectiveness of the applied BMPs and to make appropriate adjustments or revisions to BMPs that are not effective.

Receiving Water Limitations

20. The effect of the Department's storm water discharges on receiving water quality is highly variable. For this reason, this Order requires the Department to implement a storm water program designed to achieve compliance with water quality standards, over time through an iterative approach. If discharges are found to be causing or contributing to an exceedance of an applicable Water Quality Standard, the Department is required to revise its BMPs (including use of additional and more effective BMPs).

Discharges to Areas of Special Biological Significance

21. The State Water Board has designated 34 coastal marine waters as Areas of Special Biological Significance (ASBS) in the California Ocean Plan. An ASBS is a coastal area requiring protection of species or biological communities. The Department discharges storm water into the following ASBS:
 - a. Redwoods National Park ASBS
 - b. Saunders Reef ASBS
 - c. James V. Fitzgerald ASBS
 - d. Año Nuevo ASBS
 - e. Carmel Bay ASBS
 - f. Point Lobos ASBS
 - g. Julia Pfeiffer Burns ASBS
 - h. Salmon Creek Coast ASBS
 - i. Laguna Point to Latigo Point ASBS
 - j. Irvine Coast ASBS
22. The Ocean Plan prohibits waste discharges into ASBS. The Ocean Plan allows the State Water Board to grant exceptions to this prohibition, provided that: (1) the exception will not compromise protection of ocean waters for beneficial uses, and (2) the public interest will be served. The Department has applied for and been granted an exception under the General Exception for Storm Water and Non-Point Source Discharges to ASBS. The exception

allows the continued discharge into ASBS provided the Department complies with the special protections specified in the General Exception.

- 22a. Non-storm water discharges to ASBS are prohibited except as specified in the General Exception. Certain enumerated non-storm water discharges are allowed under the General Exception if essential for emergency response purposes, structural stability, slope stability, or if occur naturally. In addition, an NPDES permitting authority may authorize non-storm water discharges to an MS4 with a direct discharge to an ASBS to the extent the NPDES permitting authority finds that the discharge does not alter natural ocean water quality in the ASBS. This Order allows utility vault discharges to segments of the Department MS4 with a direct discharge to an ASBS, provided the discharge is authorized by the General NPDES Permit for Discharges from Utility Vaults and Underground Structures to Surface Water, NPDES No. CAG 990002. The State Water Board is in the process of reissuing the General NPDES Permit for Utility Vaults. As part of the renewal, the State Water Board will require a study to characterize representative utility vault discharges to an MS4 with a direct discharge to an ASBS and will impose conditions on such discharges to ensure the discharges do not alter natural ocean water quality in the ASBS. Given the limited number of utility vault discharges to MS4s that discharge directly to an ASBS, the State Water Board finds that discharges from utility vaults and underground structures to a segment of the Department's MS4 with a direct discharge to an ASBS are not expected to result in the MS4 discharge causing a substantial alteration of natural ocean water quality in the ASBS in the interim period while the General NPDES Permit for Discharges from Utility Vaults is renewed and the study is completed. However, if a Regional Water Board determines a specific discharge from a utility vault or underground structure does alter the natural ocean water quality in an ASBS, the Regional Water Board may prohibit the discharge as specified in this Order.

New Development and Re-development Design Standards

23. 40 Code of Federal Regulations section 122.26(d)(2)(iv)(A)(2) requires municipal storm water permittees to implement a new development and redevelopment program to reduce the post-construction generation and transport of pollutants. Development can involve grading and soil compaction, an increase in impervious surfaces (roadways, roofs, sidewalks, parking lots, etc.), and a reduction of vegetative cover, all of which increase the amount of rainfall that ends up as runoff, and decrease the particle size and the load of watershed sediment. The increase in runoff generally leads to increased pollutant loading from watersheds, even if post-construction pollutant concentrations are similar to pre-construction concentrations. The accelerated erosion and deposition resulting from an increase in runoff and a decrease in the size and load of watershed sediment generally causes a stream channel to respond by deepening and widening and detaching from the historic floodplain. The magnitude of response depends on geology, land use, and channel stability at the time of the watershed disturbance. Increased pollutant loads and alteration of the runoff/sediment balance have the potential to negatively impact the beneficial uses of receiving waters including streams, lakes, wetlands, ground water, oceans, bays and estuaries, and the biological habitats supported by these aquatic systems.

24. Department projects have the potential to negatively impact stream channels and downstream receiving waters through modification of the existing runoff hydrograph. The hydromodification requirements in this Order are “effluent limitations,” which are defined by the Clean Water Act to include any restriction on the quantities, rates, and concentrations of chemical, physical, biological, and other constituents which are discharged from point sources (C.W.A., § 502(11)).
25. Waters of the United States supporting the beneficial use of fish migration could be adversely impacted by improperly designed or maintained stream crossings, or through natural channel evolution processes affected by Department activities. This Order requires the Department to submit to the State Water Board the annual report required under Article 3.5 of the Streets and Highways Code reporting on the Department’s progress in locating, assessing, and remediating barriers to fish passage.
26. Low Impact Development (LID) is a sustainable practice that benefits water supply and contributes to water quality protection. Unlike traditional storm water management, which collects and conveys storm water runoff through storm drains, pipes, or other conveyances to a centralized storm water facility, LID uses site design and storm water management to maintain the site’s pre-project runoff rates and volumes by using design techniques that infiltrate, filter, store, evaporate, and detain runoff close to the source.
27. On October 5, 2000, the State Water Board adopted a precedential decision concerning the use of Standard Urban Storm Water Mitigation Plans (SUSMPs) (Order WQ 2000-11). The SUSMP in that case required sizing design standards for post-construction BMPs for specific categories of new development and redevelopment projects. Order WQ 2000-11 found that provisions in the SUSMPs, as revised in the order, reflected MEP. The LID requirements, post-construction requirements for impervious surface and the design standards in this Order are consistent with Order WQ 2000-11 and meet the requirement for development of a SUSMP.

Self-Monitoring Program

28. Effluent and receiving water monitoring are necessary to evaluate the effectiveness of BMP measures and to track compliance with water quality standards. This Order requires the Department to conduct effluent and receiving water monitoring.

Storm Water Management Plan (SWMP)

29. The SWMP describes the procedures and practices that the Department proposes to reduce or eliminate the discharge of pollutants to storm drainage systems and receiving waters. On May 17, 2001, the State Water Board approved a Storm Water Management Plan submitted by the Department. That SWMP was updated in 2003 (Department, 2003c) and the updates were approved by the Executive Director of the State Water Board on February 13, 2003. On January 15, 2004, the Department submitted a proposed Storm Water Management Plan as part of its NPDES permit application to renew its previous statewide storm water permit (Order No. 99-06-DWQ). The State Water Board and Regional Water Board staff and the Department discussed and revised Best Management

Practices (BMP) controls and many other components proposed in each section of the SWMP during numerous meetings from January 2004 to 2006. The Department submitted a revised SWMP in June 2007. The 2004 and 2007 SWMPs have not been approved by the State Water Board and the Department has continued to implement the 2003 SWMP. The Department is in the process of revising aspects of the 2003 SWMP to address the Findings of Violation and Order for Compliance issued by U.S. EPA in 2011 (U.S. EPA Docket No. CWA-09-2011-0001).

30. The SWMP and any future modifications or revisions are integral to and enforceable components of this Order. Any documents incorporated into the SWMP by reference that specify the manner in which the Department will implement the SWMP shall be consistent with the requirements of this Order.
31. This Order requires the Department to submit an Annual Report each year to the State Water Board. The Annual Report serves the purpose of evaluating, assessing, and reporting on each relevant element of the storm water program, and revising activities, control measures, BMPs, and measurable objectives, as necessary, to meet the applicable standards.
32. Revisions to the SWMP requiring approval by the State Water Board's Executive Director are subject to public notice and the opportunity for a public hearing.

Total Maximum Daily Load (TMDL) Requirements

33. TMDLs are calculations of the maximum amount of a pollutant that a water body can receive and still meet water quality standards. A TMDL is the sum of the allowable loads of a single pollutant from all contributing point sources (the waste load allocations or WLAs) and non-point sources (load allocations or LAs), plus the contribution from background sources and a margin of safety (40 C.F.R., § 130.2, subd.(i)). Discharges from the Department's MS4 are considered point source discharges.
34. This Order implements U.S. EPA-approved or U.S. EPA-established TMDLs applicable to the Department. This Order requires the Department to comply with all TMDLs listed in Attachment IV. Attachment IV identifies TMDLs adopted by the Regional Water Boards and approved by the State Water Board and U.S. EPA that assign the Department a Waste Load Allocation (WLA) or that specify the Department as a responsible party in the implementation plan. In addition, Attachment IV identifies TMDLs established by U.S. EPA that specify the Department as a responsible party or that identify NPDES permitted storm water sources or point sources generally, or identify roads generally, as subject to the TMDL. In accordance with 40 Code of Federal Regulations section 122.44, subdivision (d)(1)(vii)(B), NPDES water quality-based effluent limitations (WQBELs) must be consistent with the assumptions and requirements of available TMDL WLAs. In addition, Water Code section 13263, subdivision (a), requires that waste discharge requirements implement any relevant water quality control plans. The TMDL requirements in this Order are consistent with the assumptions and requirements of the TMDLs applicable to the Department.

35. TMDL WLAs in this Order are not limited by the MEP standard. Due to the nature of storm water discharges, and the typical lack of information on which to base numeric WQBELs, federal regulations (40 C.F.R., § 122.44, subd. (k)(2)) allow for the implementation of BMPs to control or abate the discharge of pollutants from storm water.
36. The Department reported in its 2008-09 Annual Report to the State Water Board that it is subject to over 50 TMDLs and is in the implementation phase of over 30 TMDLs. The State Water Board has since determined that the Department is subject to 84 TMDLs. WLAs and LAs for some TMDLs are shared jointly among several dischargers, with no specific mass loads assigned to individual dischargers. In some of these cases, multiple dischargers are assigned a grouped or aggregate waste load allocation, and each discharger is jointly responsible for complying with the aggregate waste load allocation.
37. The high variance in the level of detail and specificity in the TMDLs developed by the Regional Water Boards and U.S. EPA necessitates the development of more specific permit requirements in many cases, including deliverables and required actions, derived from each TMDL's WLA and implementation requirements. These requirements will provide clarity to the Department regarding its responsibilities for compliance with applicable TMDLs. The development of TMDL-specific permit requirements is subject to notice and a public comment period. Because most of the TMDLs were developed by the Regional Water Boards, and because some of the WLAs are shared by multiple dischargers, the development of TMDL-specific permit requirements has been coordinated initially at the Regional Water Board level.
38. Attachment IV specifies TMDL-specific permit implementation requirements for the Lake Tahoe sediment and nutrients TMDL, Napa River Sediment TMDL, Sonoma Creek Sediment TMDL, and the Lake Elsinore and Canyon Lake Nutrients TMDL. These requirements are consistent with the assumptions and requirements of applicable WLAs assigned to the Department, and with the adopted and approved TMDL, Basin Plan, and related Regional Water Board Orders and Resolutions.
39. For all remaining TMDLs identified in Attachment IV, the Regional Water Boards, in consultation with the State Water Board and the Department, developed categorical pollutant permit requirements. The Fact Sheet contains supporting analyses explaining how the proposed categorical pollutant permit requirements will implement the TMDL and are consistent with the assumptions and requirements of any applicable WLA and how the BMPs will be sufficient to implement applicable WLAs. Following a notice and comment period, Attachment IV of this Order and the Fact Sheet was reopened consistent with provision E.11.c. for incorporation of these requirements and supporting analysis into the Order and Fact Sheet.
40. This Order specifies the requirements to be followed for the Comprehensive TMDL Monitoring Plan. TMDL monitoring requirements are found in Attachment IV, Section III.A. The Regional Water Boards may require additional monitoring through Regional Water Board orders pursuant to Water Code section 13383.

41. Attachment IV may additionally be reopened consistent with provision E.11.b. of this Order for incorporation of newly adopted TMDLs or amendments to existing TMDLs into the Permit.

Non-Compliance

42. NPDES regulations require the Department to notify the Regional Water Board and/or State Water Board of anticipated non-compliance with this Order (40 C.F.R., § 122.41(l)(2)); or of instances of non-compliance that endanger human health or the environment (40 C.F.R., § 122.41(l)(6)).

Regional Water Board and State Water Board Enforcement

43. The Regional Water Boards and the State Water Board will enforce the provisions and requirements of this Order.

Region Specific Requirements

Basin Plans

44. Each Regional Water Board has adopted a Basin Plan for the watersheds within its jurisdiction. Basin Plans identify the beneficial uses for each water body and the water quality objectives necessary to protect them. The Department is subject to the prohibitions and requirements of each Basin Plan.

Region Specific Requirements

45. Regional Water Boards have identified Region-specific water quality issues and concerns pertaining to discharges from the Department's properties. Region-specific requirements to address these issues are included in this Order.

Local Municipalities and Preemption

46. Storm water and non-storm water from MS4s that are owned and managed by other NPDES permitted municipalities may discharge to storm water conveyance systems owned and managed by the Department. This Order does not supersede the authority of the Department to prohibit, restrict, or control storm water discharges and conditionally exempt non-storm water discharges to storm drain systems or other watercourses within its jurisdiction as allowed by State and federal law.

Storm water and non-storm water from the Department's ROW, properties, facilities, and activities may discharge to storm water conveyance systems managed by other NPDES permitted municipalities. This Order does not preempt or supersede the authority of the permitted municipalities to prohibit, restrict, or control storm water discharges and conditionally exempt non-storm water discharges to storm drain systems or other watercourses within their jurisdiction as allowed by State and federal law.

Anti-Degradation Policy

47. 40 Code of Federal Regulations section 131.12 requires that state water quality standards include an anti-degradation policy consistent with the federal policy. The State Water Board established California's anti-degradation policy in State Water Board Resolution No.

68-16. Resolution No. 68-16 incorporates the federal anti-degradation policy where the federal policy applies under federal law. Resolution No. 68-16 requires that existing quality of waters be maintained unless degradation is justified based on specific findings. The Regional Water Board's Basin Plans implement, and incorporate by reference, both the State and federal anti-degradation policies. This Order is consistent with the anti-degradation provision of 40 Code of Federal Regulations section 131.12 and State Water Board Resolution No. 68-16.

Endangered Species Act

48. This Order does not authorize any act that results in the taking of a threatened or endangered species or any act that is now prohibited, or becomes prohibited in the future, under either the California Endangered Species Act (Fish and Game Code, §§ 2050 to 2115.5) or the Federal Endangered Species Act (16 U.S.C.A., §§ 1531 to 1544). This Order requires compliance with effluent limitations, receiving water limitations, and other requirements to protect the beneficial uses of waters of the United States. The Department is responsible for meeting all requirements of the applicable Endangered Species Act.

California Environmental Quality Act (CEQA)

49. The action to adopt an NPDES Permit is exempt from the provisions of CEQA (Public Resources Code, § 21100, et. seq.), pursuant to section 13389 of the California Water Code (County of Los Angeles et al., v. California Water Boards et al., (2006), 143 Cal.App.4th 985).

Public Notification

50. The Department, interested agencies, and persons have been notified of the State Water Board's intent to reissue requirements for storm water discharges and have been provided an opportunity to submit their written comments and recommendations. State Water Board staff prepared a Fact Sheet and Response to Comments, which are incorporated by reference as part of this Order.

Public Hearing

51. The State Water Board, through public testimony in public meetings and in written form, has received and considered all comments pertaining to this Order.

Cost of Compliance

52. The State Water Board has considered the costs of complying with this Order and whether the required BMPs meet the minimum "maximum extent practicable" standard required by federal law. The MEP approach is an evolving, flexible, and advancing concept, which considers technical and economic feasibility. Because of the numerous advances in storm water regulation and management and the size of the Department's MS4, the Order does not require the Department to fully incorporate and implement all advances in a single permit term, but takes an incremental approach that allows for prioritization of efforts for the most effective use of the increased, but nevertheless limited, Department funds. This Order will have an effect on costs to the Department above and beyond the costs from the Department's prior permit. Such costs will be incurred in complying with the post-

construction, hydrograph modification, Low Impact Development, and monitoring and reporting requirements of this Order. Additional costs will also be incurred in correcting non-compliant discharges.² These incremental costs are necessary to advance the controls and management of storm water by the Department and to facilitate reduction of the discharge of pollutants to the MEP.

53. This Order supersedes Order No. 99-06-DWQ.

54. This Order serves as an NPDES permit pursuant to Clean Water Act section 402 or amendments thereto, and shall become effective on July 1, 2013, provided that the Regional Administrator, U.S. EPA, Region IX, expresses no objections.

IT IS HEREBY ORDERED, pursuant to the provisions of Division 7 of the California Water Code, regulations, and plans and policies adopted thereafter, and to the provisions of the Clean Water Act and regulations and guidelines adopted thereafter, that the Department shall comply with the following:

A. GENERAL DISCHARGE PROHIBITIONS

1. Storm water discharges from the Department's Municipal Separate Storm Sewer System (MS4) containing pollutants that have not been reduced to the Maximum Extent Practicable (MEP), are prohibited. The Department shall achieve the pollutant reductions described in this Prohibition through implementation of the provisions in this Order and the approved SWMP.
2. Discharges to Areas of Special Biological Significance (ASBS).
 - a. Existing storm water discharges into an ASBS are allowed only if the discharges:
 - 1) Are essential for flood control or slope stability, including roof, landscape, road, and parking lot drainage;
 - 2) Are designed to prevent soil erosion;
 - 3) Occur only during wet weather; and
 - 4) Are composed of only storm water runoff, except as provided at B.6.
 - b. Discharges composed of storm water runoff shall not alter natural water quality in an ASBS.
 - c. The discharge of trash is prohibited.
 - d. Only discharges from existing storm water outfalls are allowed. Any proposed or new storm water runoff discharge shall be routed to existing storm water discharge outfalls and shall not result in any new contribution of waste to an ASBS (i.e., no

² Although the cost of compliance with TMDL waste load allocations was considered, compliance with TMDLs is not subject to the MEP standard.

additional pollutant loading). “Existing storm water outfalls” are those that were constructed or under construction prior to January 1, 2005. “New contribution of waste” is defined as any addition of waste beyond what would have occurred as of January 1, 2005. A change to an existing storm water outfall, in terms of re-location or alteration, in order to comply with these special conditions, is allowed and does not constitute a new discharge.

- e. The discharges comply with all terms, prohibitions, and special conditions contained in sections E.2.c.2)a)i) and E.5. of this Order.
3. Discharge of material other than storm water, or discharge that is not composed entirely of storm water, to waters of the United States or another permitted MS4 is prohibited, except as conditionally exempted under Section B.2 of this Order or authorized by a separate National Pollutant Discharge Elimination System (NPDES) permit.
4. The discharge of storm water or conditionally exempt non-storm water that causes or contributes to the violation of water quality standards or water quality objectives (collectively WQs), the California Toxics Rule (CTR), or impairs the beneficial uses established in a Water Quality Control Plan, or a promulgated policy of the State or Regional Water Boards, is prohibited. The Department shall comply with all discharge prohibitions contained in Regional Water Board Basin Plans.
5. The discharge of storm water to surface waters of the United States in a manner causing or threatening to cause a condition of pollution or nuisance as defined in Water Code section 13050 is prohibited.
6. Discharge of wastes or wastewater from road-sweeping vehicles or from other maintenance activities to any waters of the United States or to any storm drain leading to waters of the United States is prohibited unless in compliance with section E.2.h.3)c)ii) of this Order or authorized by another NPDES permit.
7. The dumping, deposition, or discharge of waste by the Department directly into waters of the United States or adjacent to such waters in any manner that may allow its being transported into the waters is prohibited unless authorized by the Regional Water Board.
8. The discharge of sand, silt, clay, or other earthen materials from any activity in quantities which cause deleterious bottom deposits, turbidity, or discoloration in waters of the United States or which unreasonably affect or threaten to affect beneficial uses of such waters, is prohibited.

B. NON-STORM WATER DISCHARGE PROHIBITIONS

Non-storm water discharges, other than those to ASBS, must comply with the following provisions:

1. The Department shall effectively prohibit non-storm water discharges into its storm water conveyance system unless such discharges are either:
 - a. Authorized by a separate NPDES permit; or
 - b. Conditionally exempt in accordance with provision B.2. of this NPDES permit
2. Conditionally Exempt Non-storm Water Discharges.

The following non-storm water discharges are conditionally exempt from Prohibition B.1 unless the Department or the State Water Board Executive Director identifies them as sources of pollutants to receiving waters. For discharges identified as sources of pollutants, the Department shall either eliminate the discharge or otherwise effectively prohibit the discharge.

- a. Diverted stream flows;
 - b. Rising ground waters;
 - c. Uncontaminated ground water infiltration (as defined at 40 C.F.R., § 35.2005(20)) to MS4s;
 - d. Uncontaminated pumped ground water;
 - e. Foundation drains, including slope lateral drains;
 - f. Springs;
 - g. Water from crawl space pumps;
 - h. Footing drains;
 - i. Air conditioning condensation;
 - j. Flows from riparian habitats and wetlands;
 - k. Water line flushing³;
 - l. Minor, incidental discharges of landscape irrigation water⁴;
 - m. Discharges from potable water sources³;
 - n. Irrigation water⁵;
 - o. Minor incidental discharges from lawn watering;
 - p. Individual residential car washing; and
 - q. Dechlorinated swimming pool discharges.
3. Some Regional Water Boards have separate dewatering and/or “de minimus” NPDES discharge permits or Basin Plan requirements for some or all of these listed non-storm water discharges. The Department shall check with the appropriate Regional Water Board to determine if a specific non-storm water discharge requires coverage under a separate NPDES permit.
 4. The Department is not required to prohibit emergency fire fighting flows (i.e., flows necessary for the protection of life or property). Discharges associated with emergency

³ In order to remain conditionally exempt, discharges shall be dechlorinated prior to discharge.

⁴ In order to remain conditionally exempt, landscape irrigation systems must be designed, operated and maintained to control non-incidental runoff. See definition of incidental runoff in Attachment VIII.

⁵ Return flows from irrigated agriculture are not point-source discharges and are not prohibited from entering the Department’s MS4.

firefighting do not require BMPs, but they are recommended if feasible. As part of the SWMP, the Department shall develop and implement a program to reduce pollutants from non-emergency fire fighting flows (i.e., flows from controlled or practice blazes and maintenance activities) as specified in the SWMP.

5. If the State Water Board Executive Director determines that any category of conditionally exempt non-storm water discharge is a source of pollutants, the State Water Board Executive Director may require the Department to conduct additional monitoring and submit a report on the discharges. The State Water Board Executive Director may also order the Department to cease a non-storm water discharge if it is found to be a source of pollutants.

Non-storm water discharges to ASBS must comply with the following provisions:

6. Non-storm water discharges to ASBS are prohibited except as stated in this Section.

The following non-storm water discharges are allowed, provided that the discharges are essential for emergency response purposes, structural stability, slope stability, or occur naturally:

- a. Discharges associated with emergency fire fighting operations.
- a. Foundation and footing drains.
- b. Water from crawl space or basement pumps.
- c. Hillside dewatering.
- d. Naturally occurring groundwater seepage via a storm drain.
- f. Non-anthropogenic flows from a naturally occurring stream via a culvert or storm drain, as long as there are no contributions of anthropogenic runoff.

Discharges from utility vaults and underground structures to a segment of the Department's MS4 with a direct discharge to an ASBS are permitted if such discharges are authorized by the General NPDES Permit for Discharges from Utility Vaults and Underground Structures to Surface Water, NPDES No. CAG 990002. A Regional Water Board may nonetheless prohibit a specific discharge from a utility vault or underground structure if it determines that the discharge is causing the MS4 discharge to the ASBS to alter natural ocean water quality in the ASBS.

Additional non-storm water discharges to a segment of the Department's MS4 with a direct discharge to an ASBS are allowed only to the extent the relevant Regional Water Board finds that the discharge does not alter natural ocean water quality in the ASBS.

Authorized non-storm water discharges shall not cause or contribute to a violation of the water quality objectives in Chapter II of the Ocean Plan or alter natural ocean water quality in an ASBS.

C. EFFLUENT LIMITATIONS

The Department shall reduce the discharge of pollutants from its MS4 to waters of the United States to the MEP, as necessary to achieve TMDL WLAs established for discharges by the Department, and to comply with the Special Protections for discharges to ASBS.

D. RECEIVING WATER LIMITATIONS

1. Receiving water quality objectives, as specified in the Water Quality Control Plans and promulgated policies and regulations of the State and Regional Water Boards, are applicable to discharges from the Department's facilities and properties.
2. The discharge of storm water from a facility or activity shall not cause or contribute to an exceedance of any applicable water quality standard.
3. Storm water discharges shall not cause the following conditions to create a condition of nuisance or to adversely affect beneficial uses of waters of the United States:
 - a. Floating or suspended solids, deposited macroscopic particulate matter, or foam;
 - b. Bottom deposits or aquatic growth;
 - c. Alteration of temperature, turbidity, or apparent color beyond present natural background levels;
 - d. Visible, floating, suspended, or deposited oil or other products of petroleum origin, and/or;
 - e. Toxic or deleterious substances present in concentrations or quantities which will cause deleterious effects on aquatic biota, wildlife, or waterfowl, or which render any of these unfit for human consumption either at levels created in the receiving waters or as a result of biological concentration.
4. The Department shall comply with Sections A.4, D.2 and D.3 of this Order through timely implementation of control measures and other actions to reduce pollutants in the discharges in accordance with the SWMP and other requirements of this Order including any modifications. The SWMP shall be designed to achieve compliance with Sections A.4, D.2 and D.3 of this Order. If exceedance(s) of WQS persist notwithstanding implementation of the SWMP and other requirements of this Order, the Department shall assure compliance with Sections A.4, D.2 and D.3 of this Order by complying with the procedure specified at Section E.2.c.6)c) of this Order.
5. Provided the Department has complied with the procedure set forth in provision E.2.c.6)c) of this Order and is implementing the revised SWMP required by provision E.1., the Department is not required to repeat the procedure called for in provision E.2.c.6)c) for continuing or recurring exceedances of the same receiving water limitations unless directed by the State Water Board's Executive Director or Regional Water Board Executive Officer to develop additional BMPs.

6. Where the Department discharges waste to a water of the State that is not a water of the United States, compliance with the prohibitions, limitations, and provisions of this Order when followed for that water of the State will constitute compliance with the requirements of the Porter-Cologne Water Quality Control Act, unless the Department is notified otherwise in writing by the State Water Board Executive Director or a Regional Water Board Executive Officer.

E. PROVISIONS

1. Storm Water Management Plan (SWMP)

- a. The Department shall update, maintain and implement an effective SWMP that describes how the Department will meet requirements of this Order as outlined in E.1.b below. The Department shall submit for Executive Director approval an updated SWMP consistent with the provisions and requirements of this Order within one year of the effective date of this Order. The SWMP shall identify and describe the BMPs that shall be used. The SWMP shall be reviewed annually and modified as necessary to maintain an effective program in accordance with the procedures of this Order. The SWMP shall reflect the principles that storm water management is to be a year-round proactive program to eliminate or control pollutants at their source or to reduce them from the discharge by either structural or nonstructural means when elimination at the source is not possible.
- b. The SWMP shall contain the following elements:
 - 1) Overview
 - 2) Management And Organization
 - 3) Monitoring And Discharge Characterization Program
 - 4) Project Planning And Design
 - 5) BMP Development and Implementation
 - 6) Construction
 - 7) Compliance with the Industrial General Permit
 - 8) Maintenance Program Activities, including facilities operations
 - 9) Non-Departmental Activities
 - 10) Non-Storm Water Activities/ Discharges
 - 11) Training
 - 12) Public Education and Outreach
 - 13) Region Specific Activities (See provision E.6 and Attachment V.)
 - 14) Program Evaluation
 - 15) Measurable Objectives
 - 16) Reporting
 - 17) References

The Department shall implement all requirements of this Order regardless of whether those requirements are addressed by an element of the SWMP.

- c. The SWMP shall include all provisions and commitments in the 2003 SWMP (Department, 2003c), as revised in response to U.S. EPA's Findings of Violation and Order for Compliance (U.S. EPA Docket No. C.W.A.-09-2011-0001). The Department shall continue to implement the 2003 SWMP to the extent that it does not conflict with the requirements of this Order and until a new SWMP is approved pursuant to this Order.
- d. All policies, guidelines, and manuals referenced by the SWMP and related to storm water are intended to facilitate implementation of the SWMP, and shall be consistent with the requirements of this Order.
- e. The SWMP shall define terms in a manner that is consistent with the definitions in 40 Code of Federal Regulations section 122.2. This includes, but is not limited to, the definitions for pollutant, waters of the United States, and point source. Where there is a conflict between the SWMP and the language of this Order, the language of this Order shall govern.
- f. Unless otherwise specified in this Order, proposed revisions to the SWMP shall be submitted to the State Water Board Executive Director as part of the Annual Report. The Department shall revise all other appropriate manuals to reflect modifications to the SWMP.
- g. Revisions to the SWMP requiring Executive Director approval will be publicly noticed for thirty days on the State Water Board's website and via the storm water electronic notification list. During the public notice period, members of the public may submit written comments or request a public hearing. A request for a public hearing shall be in writing and shall state the nature of the issues proposed to be raised at the hearing. Upon review of the request or requests for a public hearing, the Executive Director may, in his or her discretion, schedule a public hearing prior to approval of the SWMP revision. The Executive Director shall schedule a hearing if there is a significant degree of public interest in the proposed revision. If no public hearing is conducted, the Executive Director shall consider all public comments received and may approve the SWMP revision if it meets the conditions set forth in this Order. Any SWMP revision approved by the Executive Director will be posted on the State Water Board's website.
- h. The Department shall maintain for public access on its website the latest approved version of the SWMP. The Department shall update the SWMP on its website within 30 days of approval of revisions by the State Water Board.

2. Storm Water Program Implementation Requirements

a. Overview

The Department shall provide an overview of the storm water program in the SWMP. The overview will include:

- 1) A statement of the SWMP purpose;
- 2) A description of the regulatory background;
- 3) A description of the SWMP applicability;
- 4) A description of the relationship of the Permit, SWMP, and related Department documents; and
- 5) A description of the permits addressed by the SWMP.

b. Management and Organization

The Department shall provide in the SWMP an overview of its management and organizational structure, roles and responsibilities of storm water personnel, a description of the role and focal point of the Department's storm water program, and a description of the Storm Water Advisory Teams. The Department shall implement the program specified in the SWMP. The Department shall also implement any additional requirements contained in this Order.

1) *Coordination with Local Municipalities*

- a) The Department is expected to comply with the lawful requirements of municipalities and other local, regional, and/or other State agencies regarding discharges of storm water to separate storm sewer systems or other watercourses under the agencies' jurisdictions.
- b) The Department shall include a **MUNICIPAL COORDINATION PLAN** in the SWMP. The plan shall describe the specific steps that the Department will take in establishing communication, coordination, cooperation, and collaboration with other MS4 storm water management agencies and their programs including establishing agreements with municipalities, flood control departments, or districts as necessary or appropriate. The Department shall report on the status and progress of interagency coordination activities in each Annual Report.

2) *Legal Authority*

- a) The Department shall establish, maintain, and certify that it has adequate legal authority through statute, permit, contract or other means to control discharges to and from the Department's properties, facilities and activities.
- b) The Department has provided a statement certified by its chief legal counsel that the Department has adequate legal authority to implement and enforce

each of the key regulatory requirements contained in 40 Code of Federal Regulations sections 122.26(d)(2)(i)(A-F). The Department shall submit annually, as part of the Annual Report, a **CERTIFICATION OF THE ADEQUACY OF LEGAL AUTHORITY**.

3) *Fiscal Resources*

- a) The Department shall seek to maintain adequate fiscal resources to comply with this NPDES Permit. This includes but is not limited to:
 - i) Implementing and maintaining all BMPs;
 - ii) Implementing an effective storm water monitoring program; and
 - iii) Retaining qualified personnel to manage the storm water program.
- b) The Department shall submit a **FISCAL ANALYSIS** of the storm water program annually. At a minimum, the fiscal analysis shall show:
 - i) The allocation of funds to the Districts for compliance with this Order;
 - ii) The funding for each program element;
 - iii) A comparison of actual past year expenditures with the current year's expenditures and next year's proposed expenditures;
 - iv) How the funding has met the goals specified in the SWMP and District workplans; and
 - v) Description of any cost sharing agreements with other responsible parties in implementing the storm water management program.
- c) The fourth year report shall contain a **BUDGET ANALYSIS** for the next permit cycle.

4) *Practices and Policies*

The Department shall identify in the SWMP any of the Department's practices and policies that conflict with implementation of the storm water program. The Department shall annually propose changes, including changes to implementation schedules, needed to resolve these conflicts and otherwise effectively implement the SWMP and the requirements of this Order.

5) *Inspection Program*

The Department shall have an inspection program to ensure that this Order and the SWMP are implemented, and that facilities are constructed, operated, and maintained in accordance with this Order and the SWMP. The program shall include training for inspection personnel, documentation of field activities, a reporting system that can be used to track effectiveness of control measures, enforcement procedures (or referral for enforcement) for non-compliance, procedures for taking corrective action, and responsibilities and responsible personnel of all affected functional offices and branches.

The inspection program shall also include standard operating procedures for documenting inspection findings, a system of escalating enforcement response to non-compliance (including procedures for addressing third party (i.e., contractor) non-compliance), and a system to ensure the timely resolution of all violations of this Order or the SWMP. The Department shall delegate adequate authority to appropriate personnel within all affected functional offices and branches to require corrective actions (including stop work orders).

6) *Incident Reporting - Non-Compliance and Potential/Threatened Non-Compliance*

The Department shall report all known incidents of non-compliance with this Order. Non-compliance may be emergency, field, or administrative. The Department shall electronically file a complete **INCIDENT REPORT FORM** (Attachment I) in the Storm Water Multiple Application Report and Tracking System (SMARTS)⁶ and provide verbal notifications as soon as practicable, but no later than the time frames specified in Attachment I. Submission of an Incident Report Form is not an admission by the Department of a violation of this Order. The types of incidents requiring non-compliance reporting are discussed in Attachment I. The State Water Board or Regional Water Board may require additional information. The Department shall include in the Annual Report a summary of all incidents by type and District, and report on the status of each.

The Department shall report all potential or threatened non-compliance to the State Water Board and appropriate Regional Water Board in accordance with the “Anticipated non-compliance” provisions described in Attachment VI (Standard Provisions). The report shall describe the timing, nature and extent of the anticipated non-compliance. An Incident Report Form is not required for anticipated non-compliance. Anticipated non-compliance may be for field or administrative incidents only.

c. Monitoring and Discharge Characterization Requirements

The Department shall revise and implement the SWMP consistent with the requirements specified below.

1) *Monitoring Site Selection*

Monitoring shall be conducted in two tiers. Tier 1 consists of all sites for which monitoring is required pursuant to the requirements of the General Exception, including Special Protections, to the California Ocean Plan waste discharge prohibitions for storm water and non-point source discharges to ASBS, and sites in impaired watersheds for which the Department has been assigned a WLA and monitoring requirements pursuant to an approved TMDL. Tier 2 consists of all sites where the Department has existing monitoring data, including both storm water and non-storm water. Tier 2 sites may include locations where the Department has conducted characterization monitoring or where monitoring has been conducted for other purposes.

⁶ <https://smarts.waterboards.ca.gov/smarts/faces/SwSmartsLogin.jsp>

The Department shall conduct without limitation all Tier 1 monitoring as required under the ASBS Special Protections and under the adopted and approved TMDLs. The Department may satisfy Tier 1 monitoring requirements by participating in stakeholder groups. Retrofitting and verification monitoring under Tier 2 need not be initiated until there are less than 100 sites actively monitored under Tier 1. There shall be a minimum of 100 active monitoring sites at any one time, consisting of Tier 1, Tiers 1 and 2, or Tier 2.

Sites from Tier 2 shall be prioritized by the Department in consideration of the threat to water quality, including the pollutant and its concentration or load, the distance to receiving water, water quality objectives, and any existing impairments in the receiving waters. The prioritized list shall be submitted to the State Water Board within eight (8) months of the effective date of this Order. The State Water Board will review the prioritized list and may revise it to reflect Regional or State Water Board priorities. The revised list will be approved by the Executive Director and will become effective upon notice to the Department.

2) *Water Quality Monitoring*

a) Tier 1 Monitoring Requirements

i) Areas of Special Biological Significance

The Department's ASBS monitoring program shall include both core discharge monitoring and ocean receiving water and reference site monitoring. The State and Regional Water Boards must approve receiving water and reference site sampling locations and any adjustments to the monitoring program. All ocean receiving water and reference area monitoring must be comparable with the Water Boards' Surface Water Ambient Monitoring Program (SWAMP).

Safety concerns: Sample locations and sampling periods must be determined considering safety issues. Sampling may be postponed upon notification to the State and Regional Water Boards if hazardous conditions exist.

(1) Core Discharge Monitoring Program

Core discharge monitoring is the monitoring of storm water effluents from the storm water outfalls at the priority discharge locations listed in Attachment III.

(a) General Sampling Requirements for Timing and Storm Size

Runoff must be collected during a storm event that is greater than 0.1 inch and generates runoff, and at least 72 hours from the previously measurable storm event. Runoff samples shall be collected during the same storm and at approximately the same time when post-storm receiving water is sampled, and analyzed for

the same constituents as receiving water and reference site samples (see section E.2.c.2)a)i(2)) as described below.

(b) Runoff Flow Measurements

For storm water outfalls in existence as of December 31, 2007, 18 inches (457mm) or greater in diameter/width, including multiple outfall pipes in combination having a width of 18 inches, runoff flows must be measured or calculated, using a method acceptable to and approved by the State Water Board. Report measurements annually for each precipitation season to the State and Regional Water Boards.

(c) Runoff samples – storm events

- (i) Outfalls equal to or greater than 18 inches (0.46m) in diameter or width.

Samples of storm water runoff shall be collected during the same storm as receiving water samples and analyzed for oil and grease, total suspended solids, and, within the range of the southern sea otter indicator bacteria or some other measure of fecal contamination. Samples of storm water runoff shall be collected and analyzed for critical life stage chronic toxicity (one invertebrate or algal species) at least once during each storm season when receiving water is sampled in the ASBS. If the Department has no outfall greater than 36 inches, then storm water runoff from the applicant's largest outfall shall be further collected during the same storm as receiving water samples and analyzed for Ocean Plan Table B (shown in Attachment II) metals for protection of marine life, Ocean Plan polynuclear aromatic hydrocarbons (PAHs), current use pesticides (pyrethroids and OP pesticides), and nutrients (ammonia, nitrate and phosphates).

- (ii) Outfalls equal to or greater than 36 inches (0.91m) in diameter or width.

Samples of storm water runoff shall be collected during the same storm as receiving water samples and analyzed for oil and grease, total suspended solids, and, within the range of the southern sea otter indicator bacteria or some other measure of fecal contamination. Samples of storm water runoff shall be further collected during the same storm as receiving water samples and analyzed for Ocean Plan Table B metals for protection of marine life, Ocean Plan polynuclear aromatic hydrocarbons (PAHs), current use pesticides (pyrethroids and OP pesticides), and nutrients (ammonia, nitrate and

phosphates). Samples of storm water runoff shall be collected and analyzed for critical life stage chronic toxicity (one invertebrate or algal species) at least once during each storm season when receiving water is sampled in the ASBS.

(d) If the Department does not participate in a regional monitoring program as described in provision E.2.c.2)a)i)(2)(b) in addition to (i) and (ii) above, a minimum of the two largest outfalls or 20 percent of the larger outfalls, whichever is greater, shall be sampled (flow weighted composite samples) at least three times annually during wet weather (storm event) and analyzed for all Ocean Plan Table A (shown in Attachment II) constituents, Table B constituents for marine aquatic life protection (except for toxicity, only chronic toxicity for three species shall be required), DDT, PCBs, Ocean Plan PAHs, OP pesticides, pyrethroids, nitrates, phosphates, and Ocean Plan indicator bacteria. For discharges to ASBS in more than one Regional Water Board, at a minimum, one (the largest) such discharge shall be sampled annually in each Region.

(e) The Executive Director of the State Water Board may reduce or suspend core monitoring once the storm runoff is fully characterized. This determination may be made at any point after the discharge is fully characterized, but is best made after the monitoring results from the first permit cycle are assessed.

(2) Ocean Receiving Water and Reference Area Monitoring Program
In addition to performing the Core Discharge Monitoring Program in provision E.2.c.2)a)i)(1) above, the Department must perform ocean receiving water monitoring. The Department may either implement an individual monitoring program or participate in a regional integrated monitoring program.

(a) Individual Monitoring Program

If the Department elects to perform an individual monitoring program to fulfill the requirements for monitoring the physical, chemical, and biological characteristics of the ocean receiving waters within the affected ASBS, in addition to Core Discharge Monitoring, the following additional monitoring requirements shall be met:

(i) Three times annually, during wet weather (storm events), the receiving water at the point of discharge from the outfalls described in provision E.2.c.2)a)i)(1)(c) above shall be sampled and analyzed for Ocean Plan Table A constituents, Table B constituents for marine aquatic life, DDT, PCBs, Ocean Plan

PAHs, OP pesticides, pyrethroids, nitrates, phosphates, salinity, chronic toxicity (three species), and Ocean Plan indicator bacteria.

The sample location for the ocean receiving water shall be in the surf zone at the point of discharges; this must be at the same location where storm water runoff is sampled. Receiving water shall be sampled prior to (pre-storm) and during (or immediately after) the same storm (post storm). Post storm sampling shall be during the same storm and at approximately the same time as when the runoff is sampled. Reference water quality shall also be sampled three times annually and analyzed for the same constituents pre-storm and post-storm, during the same storm seasons when receiving water is sampled. Reference stations will be determined by the State Water Board's Division of Water Quality and the applicable Regional Water Board(s).

- (ii) Sediment sampling shall occur at least three times during every five (5) year period. The subtidal sediment (sand or finer, if present) at the discharge shall be sampled and analyzed for Ocean Plan Table B constituents for marine aquatic life, DDT, PCBs, PAHs, pyrethroids, and OP pesticides. For sediment toxicity testing, only an acute toxicity test using the amphipod *Eohaustorius estuarius* must be performed.
- (iii) A quantitative survey of intertidal benthic marine life shall be performed at the discharge and at a reference site. The survey shall be performed at least once every five (5) year period. The survey design is subject to approval by the Regional Water Board and the State Water Board's Division of Water Quality. The results of the survey shall be completed and submitted to the State Water Board and Regional Water Board at least six months prior to the end of the permit cycle.
- (iv) Once during each permit term and in each subsequent five year period, a bioaccumulation study shall be conducted to determine the concentrations of metals and synthetic organic pollutants at representative discharge sites and at representative reference sites. The study design is subject to approval by the Regional Water Board and the State Water Board's Division of Water Quality. The bioaccumulation study may include California mussels (*Mytilus californianus*) and/or sand crabs (*Emerita analoga* or *Blepharipoda occidentalis*). Based on the study results, the Regional Water Board and the

State Water Board's Division of Water Quality, may adjust the study design in subsequent permits, or add or modify additional test organisms (such as shore crabs or fish), or modify the study design appropriate for the area and best available sensitive measures of contaminant exposure.

(v) Marine Debris: Representative quantitative observations for trash by type and source shall be performed along the coast of the ASBS within the influence of the discharger's outfalls. The design, including locations and frequency, of the marine debris observations is subject to approval by the Regional Water Board and State Water Board's Division of Water Quality.

(vi) The monitoring requirements of the Individual Monitoring Program in this section are minimum requirements. After a minimum of one (1) year of continuous water quality monitoring of the discharges and ocean receiving waters, the Executive Director of the State Water Board may require additional monitoring, or adjust, reduce or suspend receiving water and reference station monitoring. This determination may be made at any point after the discharge and receiving water is fully characterized, but is best made after the monitoring results from the first permit cycle are assessed.

(b) Regional Integrated Monitoring Program

The Department may elect to participate in a regional integrated monitoring program, in lieu of an individual monitoring program, to fulfill the requirements for monitoring the physical, chemical, and biological characteristics of the ocean receiving waters within an ASBS. This regional approach shall characterize natural water quality, pre- and post-storm, in ocean reference areas near the mouths of identified open space watersheds and the effects of the discharges on natural water quality (physical, chemical, and toxicity) in the ASBS receiving waters, and should include benthic marine aquatic life and bioaccumulation components. The design of the ASBS stratum of a regional integrated monitoring program may deviate from the prescribed individual monitoring approach described in provision E.2.c.2)a)i)(2)(a) if approved by the State Water Board's Division of Water Quality and the Regional Water Boards.

(i) Ocean reference areas shall be located at the drainages of flowing watersheds with minimal development (in no instance more than 10% development), and shall not be located in CWA Section 303(d) listed waterbodies or have tributaries that are

303(d) listed. Reference areas shall be free of wastewater discharges and anthropogenic non-storm water runoff. A minimum of low threat storm runoff discharges (e.g. stream highway overpasses and campgrounds) may be allowed on a case-by-case basis. Reference areas shall be located in the same region as the ASBS receiving water monitoring occurs. The reference areas for each Region are subject to approval by the participants in the regional monitoring program and the State Water Board's Division of Water Quality and the applicable Regional Water Board(s). A minimum of three ocean reference water samples must be collected from each station, each from a separate storm during the same storm season that receiving water is sampled. A minimum of one reference location shall be sampled for each ASBS receiving water site sampled by the Department. Because the Department discharges to ASBS in more than one Regional Water Board region, at a minimum, one reference station and one receiving water station shall be sampled in each region.

- (ii) ASBS ocean receiving water must be sampled in the surf zone at the location where the runoff makes contact with ocean water (i.e. at "point zero"). Ocean receiving water stations must be representative of worst-case discharge conditions (i.e. co-located at a large drain greater than 36 inches, or if drains greater than 36 inches are not present in the ASBS then the largest drain greater than 18 inches). Ocean receiving water stations are subject to approval by the participants in the regional monitoring program and the State Water Board's Division of Water Quality and the applicable Regional Water Board(s). A minimum of three ocean receiving water samples must be collected during each storm season from each station, each from a separate storm. A minimum of one receiving water location shall be sampled in each ASBS by the Department. At a minimum, one reference station and one receiving water station shall be sampled in each applicable Regional Water Board.
- (iii) Reference and receiving water sampling shall commence during the first full storm season following the adoption of these special conditions, and post-storm samples shall be collected during the same storm event when storm water runoff is sampled. Sampling shall occur in a minimum of two storm seasons.

- (iv) Receiving water and reference samples shall be analyzed for the same constituents as storm water runoff samples. At a minimum, constituents to be sampled and analyzed in reference and discharge receiving waters must include oil and grease, total suspended solids, Ocean Plan Table B metals for protection of marine life, Ocean Plan PAHs, pyrethroids, OP pesticides, ammonia, nitrate, phosphates, and critical life stage chronic toxicity for three species. In addition, within the range of the southern sea otter, indicator bacteria or some other measure of fecal contamination shall be analyzed.
- (v) Determinations of compliance with Special Protections requirements for ASBS discharges (State Water Board resolution DWQ 2012-0012) shall be made by the Executive Director of the State Water Board or his designee. When a determination is made that a site or discharge is in compliance with the Special Protections, the site will no longer be considered an active monitoring site pursuant to provision E.2.c.1). This provision applies regardless of any continued monitoring that may be required at the site pursuant to the Special Protections.

ii) Total Maximum Daily Load Watersheds

The Department shall comply with the TMDL monitoring requirements in Attachment IV, or in orders of the Regional Water Boards pursuant to Water Code section 13383 that require TMDL-related monitoring. TMDL monitoring shall also include the constituents listed in Attachment II, except as exempted in Attachment IV.

Determinations of compliance with the TMDL shall be made by the Executive Officer of the Regional Water Board or his designee. When a determination is made that a site or discharge is in compliance with the TMDL, the site will no longer be considered an active monitoring site pursuant to provision E.2.c.1) and monitoring of Attachment II constituents will be discontinued. This provision applies regardless of any continued monitoring that may be required at the site pursuant to the TMDL.

b) Tier 2 Retrofit and Verification Monitoring Requirements

Corrective actions shall be implemented at the top 15 percent of sites (rounded up) on the Tier 2 priority list, subject to the number of sites per year specified in provision E.2.c.1). Follow up monitoring shall be conducted to confirm the effectiveness of the measures implemented, as determined by the Executive Officer of the Regional Water Board or his designee. Follow up monitoring is not required where the discharge has been eliminated, or where

the implemented BMP provides full retention of the 85th percentile, 24-hour rain event.

Determinations of compliance at the Tier 2 sites shall be made by the Executive Officer of the Regional Water Board or his designee. When a determination is made that a site or discharge is in compliance, the site will no longer be considered an active monitoring site pursuant to provision E.2.c.1).

3) *Corrective Actions*

Corrective actions may include structural or non-structural BMPs. All structural BMPs must be designed according to the requirements in provisions E.2.d. and E.2.e.

4) *Field and Laboratory Data Requirements*

The Department shall prepare, maintain, and implement a Quality Assurance Project Plan (QAPP) in accordance with the Surface Water Ambient Monitoring Program. All monitoring samples shall be collected and analyzed according to the Department's QAPP developed for the purpose of compliance with this Order. SWAMP Quality Assurance Program Plan (2008) is available at:

http://www.waterboards.ca.gov/water_issues/programs/swamp/tools.shtml

All samples shall be analyzed by a certified or accredited laboratory as required by Water Code section 13176. Global Positioning System (GPS) coordinates shall be recorded for all monitoring sites, including sites selected for the final Tier 2 priority list (top 15%) according to existing data.

Water quality data (receiving water and effluent) shall be uploaded to the Storm Water Multi-Application Reporting and Tracking System (SMARTS) and must conform to "CEDEN Minimum Data Templates" format. CEDEN Minimum Data Templates are available at <http://ceden.org/>.

Analytical results shall be filed electronically in SMARTS within 30 days of receipt by the Department.

5) *Monitoring Results Report*

The Department shall submit, separate from the Annual Report, a **MONITORING RESULTS REPORT (MRR)** by October 1 of each year.

- a) The MRR shall include a list of all sites in Tier 1 and Tier 2 being actively monitored, and the results of the past fiscal year's monitoring activities including effluent and receiving water quality monitoring.
- b) The Department shall specifically highlight sample values that exceed applicable WQSs, including toxicity objectives. Complete sample results or

lab data need not be included, but must be retained and filed electronically, and must be provided to the Regional Water Board or State Water Board as provided in provision E.2.c.4).

- c) The MRR shall include a summary of sites requiring corrective actions needed to achieve compliance with this Order, and a review of any iterative procedures (where applicable) at sites needing corrective actions.
- d) The reporting period for the MRR shall be July 1 of the prior year through June 30 of the current year.

6) *Compliance Monitoring and Reporting*

- a) The Department shall review and propose any updates, as needed, to the Non-compliance Reporting Plan for Municipal and Construction Activities in section 9.4.1 of the SWMP. The plan shall identify the staff in each District Office and Regional Water Board to send and receive **INCIDENT REPORT FORMS** (Attachment I). The Department shall continue to implement the July 2008 Construction Compliance Evaluation Plan or any updated plan as approved by the Executive Director.
- b) The Department shall summarize, by District, all non-compliance incidents, including construction, in the Annual Report. The summary shall include incident dates, types, locations, and the status of the non-compliance incidents.
- c) Receiving Water Limitations Compliance.
 - i) Upon a determination by the Department or the Regional Water Board Executive Officer that a discharge is causing or contributing to an exceedance of an applicable WQS, the Department shall provide verbal notification within five (5) days, and within 30 days thereafter submit a report to the appropriate Regional Water Board with a copy to the State Water Board. Verbal notification is not required where the determination is made by the Regional Water Board. An Incident Report is not required. Where the pollutant causing the exceedance is subject to a waste load allocation listed in Attachment IV of this Order, the Department shall comply with the requirements of the relevant TMDL in lieu of this provision.
 - ii) The report shall describe BMPs that are currently being implemented and additional BMPs that will be implemented to prevent or reduce any pollutants that are causing or contributing to the exceedance. The report shall include an implementation schedule. The Regional Water Board Executive Officer may require modifications to the report.
 - iii) The Department shall submit any modifications to the report required by the Regional Water Board within 30 days of notification.
 - iv) The Department shall implement the revised BMPs and conduct any additional monitoring required according to the implementation schedule.

d) Toxicity

- i) Tests for chronic toxicity, where required, shall be estimated as specified in Short-term Method for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Freshwater Organisms, Fourth Edition, EPA/821-R-02-013, October 2002; Table IA, 40 Code of Federal Regulations section 136 and its subsequent amendments or revisions.
- ii) For the Department's discharges, the In-stream Waste Concentration (IWC) is 100 percent (i.e., either is 100 percent storm water or 100% non-storm water). To calculate either a Pass or Fail of the effluent concentration chronic toxicity test at the IWC, the instructions in Appendix A in the National Pollutant Discharge Elimination System Test of Significant Toxicity Implementation Document (EPA/833-R-10-003) shall be used. A Pass result indicates no toxicity at the IWC, and a Fail result indicates toxicity at the IWC. Results shall be reported as provided in provision E.2.c.5).

e) Toxicity Reduction Evaluations (TREs)

- i) The Department shall include in the SWMP a TRE workplan (1-2 pages) specifying the steps that will be taken in preparing a TRE, when a TRE is required pursuant to provision E.2.c.6)e)ii). The workplan shall include, at a minimum:
 - (a) A description of the investigation and evaluation techniques that will be used to identify potential causes and sources of toxicity, effluent variability, and BMP efficiencies.
 - (b) A description of the steps that will be taken to identify effective pollutant/toxicity reduction opportunities.
 - (c) If a Toxicity Identification Evaluation (TIE) is necessary, an indication of who would conduct the TIEs (i.e., a Department laboratory or outside contractor).
- ii) Upon a determination that a discharge is causing or contributing to an exceedance of an applicable toxicity standard, a TRE may be required by the appropriate Regional Water Board Executive Officer on a site specific basis. The TRE shall be conducted according to the workplan in the SWMP.

d. Project Planning and Design

The Department shall describe in the SWMP how storm water management is incorporated into the project planning and design process, and how the procedures and methodologies used in the selection of Design and Construction BMPs will be used in Department projects. The Department shall implement the program specified in the SWMP, any documents incorporated into the SWMP by reference, and any additional requirements contained in this Order.

Department and Non-Department projects within the Department's ROW that are new development or redevelopment shall comply with the standard project planning and design requirements for new development and redevelopment specified below. These requirements shall apply to all new and redevelopment projects that have not completed the project initiation phase on the effective date of this Order.

1) *Design Pollution Prevention Best Management Practices*

The following design pollution prevention best management practices shall be incorporated into all projects that create disturbed soil area (DSA), including projects designed to meet the post-construction treatment requirements (Section E.2.d.2)). The SWMP shall be updated to reflect these principles.

- a) Conserve natural areas, to the extent feasible, including existing trees, stream buffer areas, vegetation and soils;
- b) Minimize the impervious footprint of the project;
- c) Minimize disturbances to natural drainages;
- d) Design and construct pervious areas to effectively receive runoff from impervious areas, taking into consideration the pervious areas' soil conditions, slope and other pertinent factors;
- e) Implement landscape and soil-based BMPs such as compost-amended soils and vegetated strips and swales;
- f) Use climate-appropriate landscaping that minimizes irrigation and runoff, promotes surface infiltration, and minimizes the use of pesticides and fertilizers; and
- g) Design all landscapes to comply with the California Department of Water Resources Water Efficient Landscape Ordinance.

<http://www.water.ca.gov/wateruseefficiency/landscapeordinance/technical.cfm>

Where the California Department of Water Resources Water Efficient Landscape Ordinance conflicts with a local water conservation ordinance, the Department shall comply with the local ordinance.

2) *Post-Construction Storm Water Treatment Controls*

a) Projects Subject to Post-Construction Treatment Requirements

i) Department Projects

The Department shall implement post construction treatment control BMPs for the following new development or redevelopment projects:

- (1) Highway Facility projects that create 1 acre or more of new impervious surface.
- (2) Non-Highway Facility projects that create 5,000 square feet or more of new impervious surface.

ii) Non-Department Projects within Department ROW

- (1) The Department shall exercise control or oversight over Non-Department projects through encroachment permits or other means.
- (2) Non-Department development or redevelopment projects shall be subject to the same post-construction treatment control requirements as Department projects.
- (3) For all Non-Department Projects that trigger post-construction treatment control requirements, the Department shall review and approve the design of post-construction treatment controls and BMPs prior to implementation.

iii) Waiver

Where a Regional Water Board Executive Officer finds that a project will have a minimal impact on water quality, the Executive Officer may waive the treatment control requirements, or lessen the stringency of the requirements, for a project. Waivers may not be granted for projects subject to treatment control requirements based on a waste load allocation assigned to the Department.

b) Numeric Sizing Criteria for Storm Water Treatment Control BMPs:

Treatment control BMPs constructed for Department and Non-Department projects shall be designed according to the following priorities (in order of preference):

- i) Infiltrate, harvest and re-use, and/or evapotranspire the storm water runoff;
- ii) Capture and treat the storm water runoff.

The storm water runoff volumes and rates used to size BMPs shall be based on the 85th percentile 24-hour storm event. This sizing criterion shall apply to the entire treatment train within Project Limits. Design Pollution Prevention BMPs can be used to comply with this requirement.

In the event the entire runoff volume from an 85th percentile 24-hour storm event cannot be infiltrated, harvested and re-used, or evapotranspired, the excess volume may be treated by Low Impact Development (LID)-based flow-through treatment devices. Where LID-based flow-through treatment devices are not feasible, the excess volume may be treated through conventional volume-based or flow-based storm water treatment devices.

The Department shall always prioritize the use of landscape and soil-based BMPs to treat storm water runoff. Other BMPs may be used only after landscape and soil-based BMPs are determined to be infeasible. The

Department shall also consider other effective storm water treatment control methods or devices for Department approval.

c) Scope of Design Criteria Applicability for Redevelopment Projects

i) For Highway Facilities:

- (1) Where redevelopment results in an increase in impervious area that is less than or equal to 50 percent of the total post-project impervious area within Project Limits, the numeric sizing criteria shall only apply to the new impervious area and not to the entire project.

If the redeveloped impervious area cannot be hydraulically separated from the existing impervious area, the Department shall either: provide treatment for redeveloped areas and as much of the hydraulically inseparable flow as feasible, based on site conditions and constraints; or identify treatment opportunities equivalent to the redeveloped area (see Alternative Compliance, below).

If it is not possible to separate the flows from redeveloped areas from the existing impervious area, the treatment system shall be designed to treat as much of the hydraulically inseparable flow as feasible, and shall bypass or divert any excess around the treatment device. The purpose of this requirement is to prevent overloading the treatment device and impairing its performance.

- (2) Where redevelopment results in an increase in impervious area that is greater than 50 percent of the total post-project impervious area within Project Limits, the numeric sizing criteria apply to the entire project.

ii) For Non-Highway Facilities, where redevelopment results in an increase in impervious area that is less than or equal to 50 percent of the total post-project impervious area of an existing development, the numeric sizing criteria shall only apply to the new impervious area and not to the entire project.

- (1) If the redeveloped impervious area cannot be hydraulically separated from the existing impervious area, the Department shall either provide treatment for existing and redeveloped areas, or identify treatment opportunities equivalent to the redeveloped area (See Alternative Compliance, below).

- (2) Where redevelopment results in an increase in impervious area that is greater than 50 percent of the total post-project impervious area of an existing development, the numeric sizing criteria apply to the entire project.

d) Alternative Compliance

If the Department determines that all or any portion of on-site treatment for a project is infeasible on-site, the Department shall prepare a proposal for alternative compliance for approval by the Regional Water Board Executive Officer or his designee until such time as a statewide process is approved by the Executive Director of the State Water Board. The proposal shall include documentation supporting the determination of infeasibility. Alternative compliance may be achieved outside Project Limits within the Department's ROW, including within another Department project. Alternative compliance to be achieved outside Project Limits shall include provisions for the long-term maintenance of such treatment facilities.

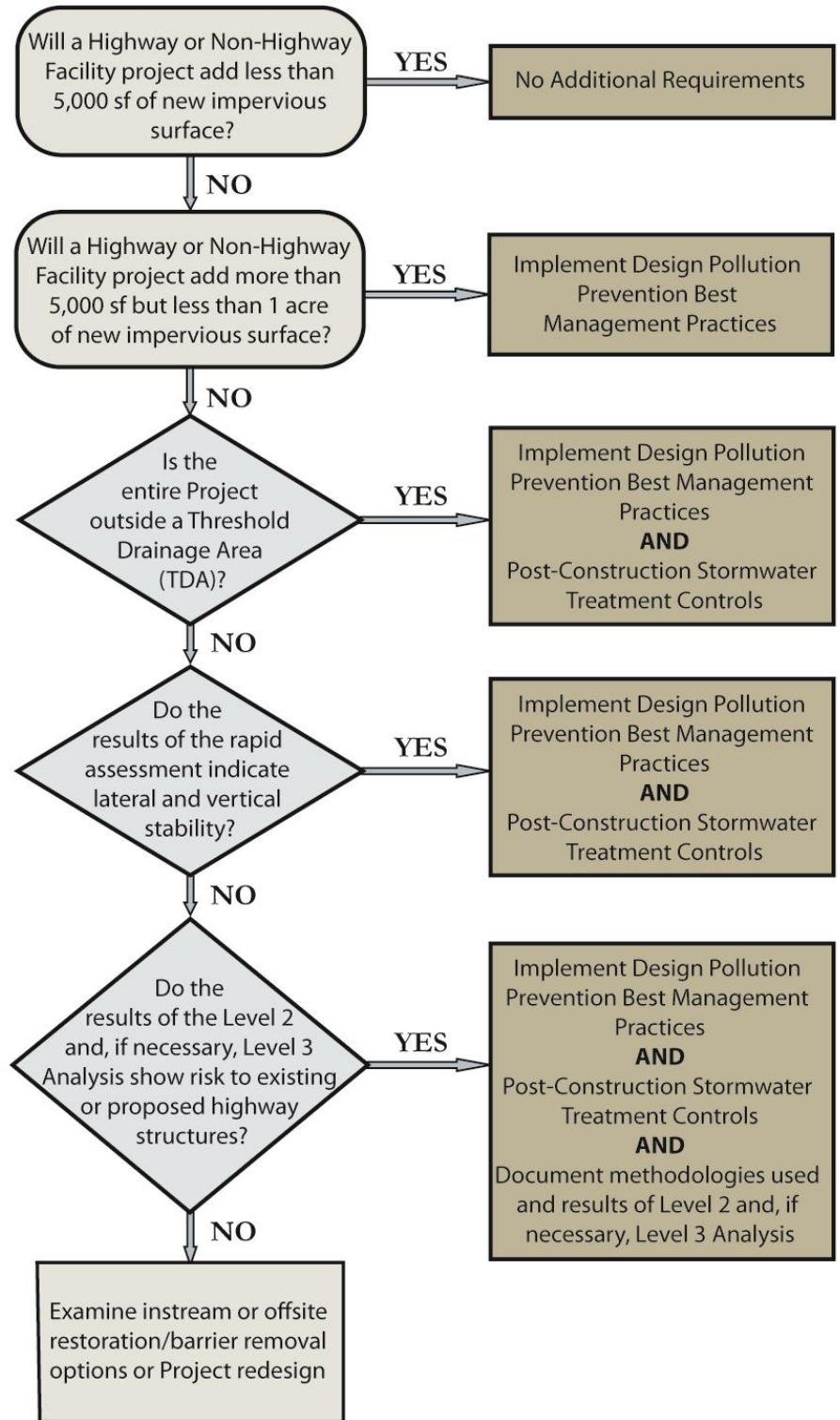
3) *Hydromodification Requirements*

The Department shall ensure that all new development and redevelopment projects do not cause a decrease in lateral (bank) and vertical (channel bed) stability in receiving stream channels. Unstable stream channels negatively impact water quality by yielding much greater quantities of sediment than stable channels. The Department shall employ the risk-based approach detailed in this permit to assess lateral and vertical stability. The approach assists the Department in assessing pre-project channel stability and implementing mitigation measures that are appropriate to protect structures and minimize stream channel bank and bed erosion. The approach is depicted in Figure 1 and described below.

- a) Highway or Non-Highway Facility projects that add between 5,000 square feet and 1 acre of new impervious surface must implement the Design Pollution Prevention Best Management Practices in Section E.2.d.1).
- b) Highway or Non-Highway Facility projects that add 1 acre or more of new impervious surface completely outside of a Threshold Drainage Area⁷ must implement the Design Pollution Prevention Best Management Practices and the Post-Construction Storm Water Treatment Controls in Section E.2.d.

⁷ Threshold Drainage Area is defined as the area draining to a location at least 20 channel widths downstream of a stream crossing (pipe, swale, culvert, or bridge) within Project Limits. Delineating the Threshold Drainage Area is not necessary if there is/ are no stream crossing(s) within the Project Limits.

FIGURE 1: Hydromodification Flowchart



- c) Highway or Non-Highway Facility projects that add 1 acre or more of new impervious surface with any impervious portion of the project located within a Threshold Drainage Area must conduct a rapid assessment of stream stability⁸ at each stream crossing (e.g., pipe, culvert, swale or bridge) within that Threshold Drainage Area. If the stream crossing is a bridge, a follow up rapid assessment of stream stability is also required and can be coordinated with the federally-mandated bridge inspection process. The assessment will be conducted within a representative channel reach to assess lateral and vertical stability. A representative reach is a length of stream channel that extends at least 20 channel widths upstream and downstream of a stream crossing. For example, a 20 foot-wide channel would require analyzing a 400 foot distance upstream and downstream of the discharge point or bridge. If sections of the channel within the 20 channel width distance are immediately upstream or downstream of steps, culverts, grade controls, tributary junctions, or other features and structures that significantly affect the shape and behavior of the channel, more than 20 channel widths should be analyzed.
- d) If the results of the rapid assessment indicate that the representative reach is laterally and vertically stable (i.e., a rating of excellent or good) the Department does not have to conduct further analyses and must implement the Design Pollution Prevention Best Management Practices and the Post-Construction Storm Water Treatment Controls in Section E.2.d.
- e) If the results of the rapid assessment indicate that the representative reach will not be laterally and vertically stable (i.e., a rating of excellent or good), the Department must determine whether the instability, in conjunction with the proposed project, poses a risk to existing or proposed highway structures by conducting appropriate Level 2 (and, if necessary, Level 3) analyses. The Department shall follow the Level 2 and 3 analysis guidelines contained in HEC-20 (FHWA, 2001) or a suitable equivalent within an accessible portion of the reach. If the results of the appropriate Level 2 (and, if necessary Level 3) analyses indicate that there is no risk to existing or proposed highway structures, the Department must implement the Design Pollution Prevention Best Management Practices and the Post-Construction Storm Water Treatment Controls in Section E.2.d. and document the methodologies used, the results, and the mitigation measures suggested as part of the appropriate Level 2 and, if necessary, Level 3 analyses.
- f) If the results of the Level 2 and 3 analysis indicate that the instability, in conjunction with the proposed project, poses a risk to existing or proposed highway structures, other options must be implemented, including, but not limited to, in-stream and floodplain enhancement/restoration, fish barrier

⁸ Guidance and worksheets used for the rapid assessment of stream stability are in the Federal Highway Administration publication "Assessing Stream Channel Stability at Bridges in Physiographic Regions" (FHWA, 2006).

removal as identified in the report required under Article 3.5 of the Streets and Highways Code (see below), regional flow control, off-site BMPs, and, if necessary, project re-design.

- 4) *Stream Crossing Design Guidelines to Maintain Natural Stream Processes*
The Department shall review and revise as necessary the guidance document “Fish Passage Design for Road Crossings” (Department, 2009). In reviewing and revising the guidance document, the Department shall be consistent with the latest stream crossing design, construction, and rehabilitation criteria contained in the California Salmonid Stream Habitat Restoration Manual (California Department of Fish & Game, 2010) and National Marine Fisheries Service guidance (NMFS, 2001). The review shall be completed no later than one year after the effective date of this Order. The Department shall submit in the Year 2 Annual Report a report detailing the review of the guidance document. The Year 2 Annual Report shall also report on the implementation of the road crossing guidelines.

If it is infeasible to meet any of the guidelines specified above, the Department shall prepare written documentation justifying the determination of infeasibility. Documentation shall be provided to the Regional Water Board for approval.

The Department shall submit to the State Water Board by October 1 of each year the same report required under Article 3.5 of the Streets and Highways Code requiring the Department to report on the status of its efforts in locating, assessing, and remediating barriers to fish passage.

e. BMP Development & Implementation

In the SWMP, the Department shall include a description of how BMPs will be developed, constructed and maintained. The Department shall continue to evaluate and investigate new BMPs through pilot studies. The Department shall submit updates to the **STORM WATER TREATMENT BMP TECHNOLOGY REPORT** and the **STORM WATER MONITORING AND BMP DEVELOPMENT STATUS REPORT** in the Annual Report.

1) *Vector Control*

- a) All storm water BMPs that retain storm water shall be designed, operated and maintained to minimize mosquito production, and to drain within 96 hours of the end of a rain event, unless designed to control vectors. BMPs shall be maintained at the frequency specified by the manufacturer. This limitation does not apply in the Lake Tahoe Basin and in other high-elevation regions of the Sierra Nevada above 5000 feet elevation with similar alpine climates. The Department shall operate and maintain all BMPs to prevent the propagation of vectors, including complying with applicable provisions of the California Health and Safety Code relating to vector control.

- b) The Department shall cooperate and coordinate with the California Department of Public Health (CDPH) and with local mosquito and vector control agencies on issues related to vector production in the Department's structural BMPs. The Department shall prepare and maintain an inventory of structural BMPs that retain water for more than 96 hours. The inventory need not include BMPs in the Lake Tahoe Basin or other regions of the Sierra Nevada above 5000 feet. The inventory shall be provided to CDPH in electronic format for distribution to local mosquito and vector control agencies. The inventory shall be provided in Year 2 of the permit and updated every two years.

2) *Storm Water Treatment BMPs*

- a) The Department shall inspect all newly installed storm water treatment BMPs within 45 days of installation to ensure they have been installed and constructed in accordance with approved plans. If approved plans have not been followed, the Department shall take appropriate remedial actions to bring the BMP or control into conformance with its approved design.
- b) The Department shall inspect all installed storm water treatment BMPs at least once every year, beginning one year after the effective date of this Order.
- c) The Department may drain storm water treatment BMPs to the MS4 if the discharge does not cause or contribute to exceedances of water quality standards. Retained sediments shall be disposed of properly, in compliance with all applicable local, State, and federal acts, laws, regulations, ordinances, and statutes.
- d) The Department shall develop and utilize a watershed-based database to track and inventory treatment BMPs and treatment BMP maintenance within its jurisdiction. At a minimum, the database shall include:
 - i) Name and location of BMP;
 - ii) Watershed, Regional Water Board and District where project is located;
 - iii) Size and capacity;
 - iv) Treatment BMP type and description;
 - v) Date of installation;
 - vi) Maintenance certifications or verifications;
 - vii) Inspection dates and findings;
 - viii) Compliance status;
 - ix) Corrective actions, if any; and
 - x) Follow-up inspections to ensure compliance.

Electronic reports for each BMP inspected during the reporting period shall be submitted to each associated Regional Water Board in tabular form. A summary of the tracking system data shall be included in the Annual Report along with a report on maintenance activities for post construction BMPs.

The tracking system database shall be made available to the State Water Board or any Regional Water Board upon request.

3) BMPs shall not constitute a hazard to wildlife.

4) *Biodegradable Materials.*

The Department shall utilize wildlife-friendly 100% biodegradable⁹ erosion control products wherever feasible. At any site where erosion control products containing non-biodegradable materials have been used for temporary site stabilization, the Department shall remove such materials when they are no longer needed. If the Department finds that erosion control netting or products have entrapped or harmed wildlife at any site or facility, the Department shall remove the netting or product and replace it with wildlife-friendly biodegradable products.

f. Construction

1) *Compliance with the Statewide Construction Storm Water General Permit (CGP) and Lake Tahoe Construction General Permit (TCGP)*

Construction activities that may receive coverage under the CGP or the TCGP are not covered under this MS4 Permit. The Department shall electronically file Permit Registration Documents (PRD) for coverage under the CGP or TCGP for all projects subject to the CGP or TCGP.

2) *Construction Activities not Requiring Coverage Under the CGP*

For construction activities that are not subject to the CGP or the TCGP, the Department shall implement BMPs to reduce the discharge of pollutants to the MEP in storm water discharges associated with land disturbance activities including clearing, grading and excavation activities that result in the disturbance of less than one acre of total land area. The Department shall also implement BMPs to reduce the discharge of pollutants to the MEP for construction and maintenance activities that do not involve land disturbance such as roadway and parking lot repaving and resurfacing. The Department must comply with any region-specific waste discharge requirements, including any requirements applicable to activities involving less than one acre land disturbance.

3) *Construction Projects Involving Lead Contaminated Soils*

The Department has applied for and received variances from the California Department of Toxic Substances Control (DTSC) for the reuse of some soils that contain lead. For construction projects that have received a DTSC variance, the Department shall notify the appropriate Regional Water Board in writing 30 days prior to advertisement for bids to allow a determination by the Regional Water Board of the need for development of Waste Discharge Requirements (WDRs).

⁹ For purposes of this Order, photodegradable synthetic products are not considered biodegradable.

- 4) *Pavement Grindings*
The Department shall comply with the requirements of the Regional Water Boards for the management of pavement grindings as well as with all local and State regulations, including Titles 22 and 27 of the California Code of Regulations.
 - 5) *Contractor Compliance*
The Department shall require its contractors to comply with this Order and with all applicable requirements of the CGP.
 - 6) *Construction Non-Compliance Reporting*
Incidents of non-compliance with the CGP shall be reported pursuant to the provisions of the CGP. The Department shall provide in the Annual Report a summary of all construction project non-compliance (Section E.2.c.6b)).
- g. Compliance with Statewide Industrial Storm Water General Permit (IGP)
Industrial activities are not covered under this MS4 permit. The Department shall electronically file PRDs for coverage under the IGP for all facilities subject to coverage under the IGP. The categories of industrial facilities are provided in Attachment 1 of the Industrial General Permit (NPDES Permit No. CAS000001; the current Order No. 97-03-DWQ). The Department shall require its industrial facility contractors to comply with all requirements of the IGP. The discharge of pollutants from facilities not covered by the Industrial General Permit will be reduced to the MEP through the appropriate implementation of BMPs.
- h. Maintenance Program Activities and Facilities Operations
- 1) *Implement SWMP Requirements*
The Department shall implement the program specified in the SWMP to reduce or eliminate pollutants in storm water discharges from Department maintenance facilities and maintenance activities. The Department shall also implement any additional requirements contained in this Order.
 - 2) A **FACILITY POLLUTION PREVENTION PLAN (FPPP)** describes the activities conducted at a facility and the BMPs to be implemented to reduce or eliminate the discharge of pollutants in storm water runoff from the facility.

The Department shall prepare, revise and/or update the FPPPs for all maintenance facilities by October 1 of the first year. Each facility shall be evaluated separately and assigned appropriate site specific BMPs. The FPPP shall describe the activities conducted at the facility and the BMPs to be implemented to reduce or eliminate the discharge of pollutants in storm water runoff from the facility. The FPPP shall describe the inspection program used to ensure that maintenance BMPs are implemented and maintained. The Department shall identify in each Annual Report the status of the FPPP for each

Maintenance Facility by District and Region, including the date of the last update or revision and the nature of any revisions.

The Department shall evaluate all non-maintenance Facilities, excluding leased properties, for water quality problems. If the Department identifies a water quality problem at a non-maintenance facility, it shall prepare an FPPP for that facility. If Regional Water Board staff determines that a non-maintenance facility may discharge pollutants to the storm water drainage system or directly to surface waters, the Department shall prepare an FPPP for that facility.

Regional Water Board staff has the authority to require the submittal of an FPPP at any time, to require changes to a FPPP, and to require changes in the implementation of the provisions of a FPPP.

3) *Highway Maintenance Activities*

a) The Department shall develop and implement runoff management programs and systems for existing roads, highways, and bridges to reduce runoff pollutant concentrations and volumes entering surface waters. The Department shall:

- i) Identify priority and watershed pollutant reduction opportunities (e.g., improvements to existing urban runoff control structures). Priority shall be given to sites in sensitive watersheds or where there is an existing or potential threat to water quality;
- ii) Establish schedules for implementing appropriate controls; and
- iii) Identify road segments with slopes that are prone to erosion and sediment discharge and stabilize these slopes to control the discharge of pollutants to the MEP. An inventory of vulnerable road segments shall be maintained in the District Work Plans. Stabilization activities shall be reported in the Annual Report. This section does not apply to landslides and other forms of mass wasting which are covered under section E.2.h.3)d).

b) *Vegetation Control*

The Department shall control its handling and application of chemicals including pesticides, herbicides, and fertilizers to reduce or eliminate the discharge of pollutants to the MEP. The Department shall incorporate integrated pest management and integrated vegetation management practices into its vegetation control program¹⁰. At a minimum, the Department shall:

- i) Apply herbicides and pesticides in compliance with federal, state and local use regulations and product label directions.

¹⁰ <http://www.epa.gov/opp00001/factsheets/ipm.htm> and <http://www.ipm.ucdavis.edu/>

- (1) Violations of regulations shall be reported to the County Agricultural Commissioners within 10 business days.
 - (2) The Annual Report shall include a summary of violations and follow-up actions to correct them.
- ii) Minimize the application of chemicals by using integrated pest management and integrated vegetation management. For example, the Department may reduce the need for application of fertilizers and herbicides by using native species and using mechanical and biological methods for control of exotic species.
 - iii) Prior to chemical applications, assess site-specific and application-specific conditions to prevent discharge. The assessment shall include the following variables:
 - (1) Expected precipitation events, especially those with the potential for high intensity;
 - (2) Proximity to water bodies;
 - (3) Intrinsic mobility of the chemical;
 - (4) Application method, including any tendency for aerial dispersion;
 - (5) Fate and transport of the chemical after application;
 - (6) Effects of using combinations of chemicals; and
 - (7) Other conditions as identified by the applicator.
 - iv) Apply nutrients at rates and by means necessary to establish and maintain vegetation without causing significant nutrient runoff to surface water.
 - v) Ensure that all employees or contractors who, within the scope of their duties, prescribe or apply herbicides, pesticides, or fertilizers (including over-the-counter products) are appropriately trained and licensed to comply with these provisions.
 - vi) Propose SWMP provisions as appropriate.
 - vii) Include the following items in the Annual Report:
 - (1) A summary of the Department's chemical use. Report the quantity of chemicals used during the previous reporting period by name and type of chemical, by District, and by month.
 - (2) An assessment of long-term trends in herbicide usage. Include a table presenting yearly District herbicide totals by chemical type;
 - (3) A comparison of the statewide herbicide use with the Department's herbicide reduction goals;

- (4) An analysis of the effectiveness of implementation of vegetation control BMPs. Improvements to BMP implementation either being used or proposed for usage shall be discussed. If no improvements are proposed, explain why;
- (5) Justification for any increases in use of herbicides, pesticides, and fertilizers;
- (6) A report on the number and percentage of employees who apply pesticides and have been trained and licensed in the Department's Pesticide and Fertilizer Pollution Control Program policies; and
- (7) Training materials, if requested by the State Water Board.

c) Storm Water Drainage System Facilities Maintenance

- i) The Department shall inspect all urban¹¹ drainage inlets and catch basins a minimum of once per year and shall remove all waste and debris from drainage inlets and catch basins when waste and debris have accumulated to a depth of 50 percent of the inlet or catch basin capacity.
- ii) Waste and debris, including sweeper and vacuum truck waste, shall be managed and reported in accordance with all applicable laws and regulations, including the Cal. Code Regs. Title 27, Division 2, Subdivision 1.
- iii) The Department shall develop a **WASTE MANAGEMENT PLAN** that includes a comprehensive inventory of waste storage, transfer, and disposal sites; the source(s) of waste and the physical and chemical characterization of the waste retained at each site; estimated annual volumes of material and existing or planned waste management practices for each waste and facility type. Waste characterization need not be conducted on a site-by-site basis but may be evaluated programmatically based upon the highway environment and associated land uses contributing to the sites, climate, and ecoregion. The Waste Management Plan shall be submitted for State Water Board review and approval within one year of the effective date of this Order.

d) Landslide Management Activities

The Department shall develop a **LANDSLIDE MANAGEMENT PLAN** that includes BMPs for Department construction and maintenance work landslide-related activities (e.g., prevention, containment, clean-up). The *Landslide Management Plan* shall address all forms of mass wasting such as slumps, mud flows, and rockfalls, and shall include BMPs specifically for burn site management activities. The Department shall submit the *Landslide Management Plan* with the Year 1 Annual Report and implement the *Landslide Management Plan* for the remainder of the Permit term.

¹¹ For purposes of this requirement, the term "urban" shall mean located within an "urbanized area" as determined by the latest Decennial Census by the Bureau of the Census (Urbanized Area).

4) *Surveillance Activities*

a) Spill Response

The Department will follow the applicable Emergency Management Agency (EMA) procedures and timelines specified in Water Code sections 13271 and 13272 for reporting spills.

b) Illegal Connection/Illicit Discharge (IC/ID) and Illegal Dumping Response

i) The Department shall implement the BMPs and other requirements of the SWMP and this Order to reduce and eliminate IC/IDs and illegal dumping.

ii) The Department shall develop an **IC/ID AND ILLEGAL DUMPING RESPONSE PLAN** that includes, at a minimum, the following:

- (a) Procedures for investigating reports or discoveries of IC/IDs or incidents of illegal dumping, for remediating or eliminating the IC/IDs, and for clean-up of illegal dump sites.
- (b) Procedures for prevention of illegal dumping at sites subject to repeat or chronic incidents of illegal dumping.
- (c) Procedures for educating the public, raising awareness and changing behaviors regarding illegal dumping, and encouraging the public to contact the appropriate local authorities if they witness illegal dumping.

Within 6 months of the effective date of this Order, the Department shall submit the **IC/ID AND ILLEGAL DUMPING RESPONSE PLAN** to the State Water Board Executive Director for approval.

iii) The Department shall report all suspected IC/IDs to the Regional Water Board.

c) Reporting Requirements for Trash and Litter

The Department shall report on the trash and litter removal activities that are currently underway or are initiated after adoption of this Order. Activities include, but are not limited to, storm drain maintenance, road sweeping, public education and the Adopt-A-Highway program. Reporting and assessment of these or future activities shall follow protocols established by the Department and shall include estimated annual volumes of the trash and litter removed. Results shall be submitted as part of the Annual Report in a summary format by District. Prior year's data shall be included to facilitate an analysis of trends.

d) Department Activities Outside the Department's Right-of-Way

The Department shall include provisions in its contracts that require the contractor to obtain and comply with applicable permits for project-related facilities and operations outside the Department's ROW. Facilities may include concrete or asphalt batch plants, staging areas, concrete slurry

processing or other material recycling operations, equipment and material storage yards, material borrow areas, and access roads.

5) *Maintenance Facility Compliance Inspections*

- a) District staff shall inspect all maintenance facilities at least twice annually. Follow up inspections shall be conducted when deficiencies are noted. The inspections are to identify areas contributing to a discharge of pollutants associated with maintenance facility activities, to determine if control practices to reduce pollutant loadings identified in the Facility Pollution Prevention Plans (FPPP) are adequate and properly implemented, and to determine whether additional control practices are needed. The District shall keep a record of inspections. The record of the inspections shall include the date of the inspection, the individual(s) who performed the inspection, a report of the observations, recommendations for any corrective actions identified or needed, and a description of any corrective actions undertaken.
- b) The Regional Water Board may require the Department to conduct additional site inspections, to submit reports and certifications, or to perform additional sampling and analysis to the extent authorized by the Water Code.
- c) Records of all inspections, compliance certifications, and non-compliance reporting shall be retained for a period of at least three years. With the exception of non-compliance reporting, the Department is not required to submit these records unless requested.

6) *Operation and Maintenance of Post-Construction BMPs*

The Department shall prepare and implement long-term operation and maintenance plans for every site subject to the post-construction storm water treatment design standards. The plans must ensure the following: a) Long-term structural LID BMPs are maintained as necessary to ensure they continue to work effectively; b) Proprietary devices are maintained according to the manufacturer's directions; and c) Post-construction BMPs are replaced if they lose their effectiveness.

i. Non-Departmental Activities

The Department shall summarize its control over all non-departmental (third party) activities performed on Department ROW in the SWMP. The summary shall describe how the Department shall ensure compliance with this Order in all non-departmental activities.

The Department shall not grant or renew encroachment permits or easements benefitting any third party required to obtain coverage under the Statewide Construction and/or Industrial Storm Water General Permits unless the party has obtained coverage. In all leases, rental agreements, and all other contracts with

third parties conducting activities within the ROW, the Department shall require the third party to comply with applicable requirements of the Construction General Permit, the Industrial General Permit, and this Order.

j. Non-Storm Water Activities/ Discharges

- 1) The Department shall describe the management activities for all non-storm water discharges in the SWMP. Management activities shall include the procedures for prohibiting illicit discharges and illegal connections, and procedures for spill response, cleanup, reporting, and follow-up.
- 2) *Agricultural Return Flows*
The Department shall provide reasonable support to the monitoring activities of agricultural dischargers whose runoff enters the MS4. Reasonable support includes facilitating monitoring activities, providing necessary access to monitoring sites, and cooperating with monitoring efforts as needed. It does not include actively conducting monitoring or providing funding. The Department may require agricultural dischargers to follow established Department access and encroachment procedures in establishing sites and conducting monitoring activities, and may deny access at sites that may restrict traffic flow or pose a danger to any party.
- 3) See Section B of this Order for the complete list of conditionally exempt non-storm water discharges and compliance requirements.

k. Training

- 1) The Department shall implement a training program for Department employees and construction contractors. The training program shall be described in the SWMP.
- 2) The training program shall cover:
 - a) Causes and effects of storm water pollution;
 - b) Regulatory requirements;
 - c) Best Management Practices;
 - d) Penalties for non-compliance with this Order; and
 - e) Lessons learned.
- 3) The Department shall provide a review and assessment of all training activities in the Annual Report.

I. Public Education and Outreach

The Department shall implement a Statewide Public Education Program and describe it in the SWMP. The Department shall continue to seek opportunities to participate in public outreach and education activities with other MS4 permittees.

- 1) The Statewide Public Education Program shall include the following elements:
 - a) Research: A plan for conducting research on public behavior that affects the quality of the Department's runoff. The information gathered will form the foundation for all the public education conducted.
 - b) Education: Education of the general public to modify behavior and communicate with commercial and industrial entities whose actions may add pollutants to the Department's storm water.
 - c) Mass Media Advertising: Continue the advertising campaign as a focal point of the public education strategy. The campaign should focus on the behaviors of concern and should be designed to motivate the public to change those behaviors. The public education campaign should be revised and updated according to the results of the research. The Department may cooperate with other organizations to implement the public education campaign.
- 2) A **PUBLIC EDUCATION PROGRAM PROGRESS REPORT** shall be submitted as part of the Annual Report.

m. Program Evaluation

- 1) The Department shall implement the program specified in the SWMP and any additional requirements contained in this Order.
- 2) **Field Activities SELF-AUDIT**
The Department will perform compliance evaluations for field activities including construction, highway maintenance, facility maintenance, and selected targeted program components. The results of the field compliance evaluations for each fiscal year will be provided in the Annual Report.
- 3) **OVERALL PROGRAM EFFECTIVENESS EVALUATION:**
Each year, the Department shall submit an **OVERALL PROGRAM EFFECTIVENESS EVALUATION** together with the Annual Report. The Department shall increase the scope of the evaluation each year in response to the environmental monitoring data it collects. The effectiveness evaluation shall be comparable to that outlined in CASQA's *Municipal Stormwater Program Effectiveness Assessment Guidance*¹² and shall emphasize assessment of BMPs specifically targeting primary pollutants of concern. The effectiveness evaluation shall include, but is not limited to, the following components:

¹² <https://www.casqa.org/store/products/tabid/154/p-7-effectiveness-assessment-guide.aspx>

- a) Assessment of program effectiveness in achieving permit requirements and measurable objectives.
 - b) Assessment of program effectiveness in protecting and restoring water quality and beneficial uses.
 - c) Identification of quantifiable effectiveness measurements for each BMP, including measurements that link BMP implementation with improvement of water quality and beneficial use conditions.
 - d) Identification of how the Department will propose revisions to the SWMP to optimize BMP effectiveness when effectiveness assessments identify BMPs or programs that are ineffective or need improvement.
- n. Measurable Objectives
The Department shall implement the program specified in the SWMP and any additional requirements contained in this Order. In the SWMP, the Department shall identify measurable objectives to meet the SWMP's goals, proposed activities and tasks to meet the objectives, and a time schedule for the proposed activities and tasks. In the Annual Report, the Department shall report on its progress in meeting the measurable objectives.
- o. References
The Department shall provide references for all information, documents, and studies used in the development of the SWMP.

3. Annual Report

- a. The Department shall submit 13 copies of an **ANNUAL REPORT** to the State Water Board Executive Director by October 1 of each year. An electronic copy shall also be uploaded into SMARTS in the portable document format (PDF). The reporting period for the Annual Report shall be July 1 through June 30. The Annual Report shall contain all information and submittals required by this Order including, but not limited to:
 - 1) A District-by-District description of storm water pollution control activities conducted during the reporting period;
 - 2) A progress report on meeting the SWMP's measurable objectives;
 - 3) An Overall Program Effectiveness Evaluation as described in section E.2.m.3);
 - 4) Proposed revisions to the SWMP, including revisions to existing BMPs, along with corresponding justifications;
 - 5) A report on post-construction BMP maintenance activities;
 - 6) A list of non-approved BMPs that were implemented in each District during the reporting period including the type of BMP, reason for use, physical location, and description of any monitoring;
 - 7) An evaluation of project planning and design activities conducted during the year;

- 8) A summary of non-compliance with this Order and the SWMP as specified in Section E.2.c.6)b). The summary shall include an assessment of the effectiveness of any Department enforcement and penalties, and as appropriate, proposed solutions to improve compliance;
- 9) An evaluation of the Monitoring Results Report, including a summary of the monitoring results;
- 10) Proposed revisions to the Department's Vegetation Control Program;
- 11) Proposals for monitoring and control of non-storm water discharges that are found to be sources of pollutants as described in Section B. of this Order;
- 12) District Workplans (See below); and
- 13) Measures implemented to meet region-specific requirements.

A partial summary of reporting requirements is contained in Attachment IX of this Order.

b. ***DISTRICT WORKPLANS***

The Department shall submit ***DISTRICT WORKPLANS*** (workplans) for each District by October 1 of each year, as part of the Annual Report. The workplans will be forwarded to the appropriate Regional Water Board Executive Officer for acceptance. Workplans are deemed accepted after 60 days after receipt by the Regional Water Board unless rejected in writing. District staff shall meet with Regional Water Board staff on an annual basis prior to submittal of the workplans to discuss alternatives and ensure that appropriate post construction controls are included in the project development process through review of the workplan and early consultation and coordination between District and Regional Water Board staff. Workplans shall conform with the requirements of applicable Regional Water Board Basin Plans and shall include, at a minimum:

- 1) A description of all activities and projects, including maintenance projects, to be undertaken by the Districts. For all projects with soil disturbing activities, this shall include a description of the construction and post construction controls to be implemented;
- 2) The area of new impervious surface and the percentage of new impervious surface to existing impervious surface for each project;
- 3) The area of disturbed soil associated with each project or activity;
- 4) A description of other permits needed from the Regional Water Boards for each project or activity;
- 5) Potential and actual impacts of the discharge(s) from each project or activity;
- 6) The proposed BMPs to be implemented in coordination with other MS4 permittees to comply with WLAs and LAs assigned to the Department for specific pollutants in specific watersheds or sub watersheds;
- 7) The elements of the statewide monitoring program to be implemented in the District;

- 8) Identification of high-risk areas (such as locations where spills or other releases may discharge directly to municipal or domestic water supply reservoirs or ground water percolation facilities);
- 9) Spill containment, spill prevention and spill response and control measures for high-risk areas; and
- 10) Proposed measures to be taken to meet Region-specific requirements included in Attachment V.
- 11) An inventory of vulnerable road segments having slopes that are prone to erosion and sediment discharge.

4. TMDL Compliance Requirements

a. Implementation

The Department shall comply with all TMDL-related requirements identified in Attachment IV.

In addition, consistent with provision E.11.b of this Order, the State Water Board may reopen this Order to incorporate any modifications or revisions to the TMDLs in Attachment IV, or to incorporate any new TMDLs adopted during the term of this Order that assign a WLA to the Department or that identify the Department as a responsible party in the TMDL implementation plan.

b. Status Review Report

The Department shall prepare a ***TMDL STATUS REVIEW REPORT*** to be submitted with each Annual Report. The ***TMDL STATUS REVIEW REPORT*** shall include all information required in Attachment IV.

5. ASBS Compliance Requirements

a. Priority Discharges

Attachment III, ASBS Priority Discharge Locations, identifies representative monitoring locations where the Department has priority discharges to ASBS. Priority discharges are those that pose the greatest threat to water quality in the ASBS and which the State Water Board identifies to require monitoring and potential installation of structural or non-structural controls.

b. Alternate Locations

The Executive Director of the State Water Board may authorize revisions to Attachment III, ASBS Priority Discharge Locations, where access limitations or safety considerations make it infeasible to conduct monitoring. Alternate locations proposed by the Department shall be in as close proximity to the original priority discharge locations as is feasible.

c. Compliance Schedule

- 1) On the effective date of the Exception, all non-authorized non-storm water discharges (e.g., dry weather flow) to ASBS shall be effectively prohibited.
- 2) No later than September 20, 2013, the Department shall submit a draft written ASBS Compliance Plan to the State Water Board Executive Director that describes its strategy to comply with these provisions, including the requirement to maintain natural water quality in the affected ASBS (see provision E.5.d.). The final ASBS Compliance Plan, including a description and final schedule for structural controls based on the results of runoff and receiving water monitoring, shall be submitted no later than September 20, 2015 and shall be included in the SWMP.
- 3) Within 18 months of the effective date of the Exception, any non-structural controls that are necessary to comply with these provisions shall be implemented.
- 4) Within six (6) years of the effective date of the Exception, any structural controls identified in the ASBS Compliance Plan that are necessary to comply with these provisions shall be operational.
- 5) Within six (6) years of the effective date of the Exception, the Department must comply with the requirement that their discharges into the affected ASBS maintain natural ocean water quality. If the initial results of post-storm receiving water quality testing indicate levels higher than the 85th percentile threshold of reference water quality data and the pre-storm receiving water levels, then the Department must re-sample the receiving water, pre- and post-storm. If after re-sampling, the post-storm levels are still higher than the 85th percentile threshold of reference water quality data, and the pre-storm receiving water levels, for any constituent, then natural ocean water quality is exceeded. See Figure 2.
- 6) The Executive Director of the State Water Board may only authorize additional time to comply with provisions E.5.b.4) and E.5.b.5) above if good cause exists to do so. Good cause means a physical impossibility or lack of funding.

If the Department claims physical impossibility, it shall notify the Executive Director of the State Water Board in writing within thirty (30) days of the date that the discharger Department first knew of the event or circumstance that caused or would cause it to fail to meet the deadline in provisions E.5.c.4) or E.5.c.5). The notice shall describe the reason for the noncompliance or anticipated noncompliance and specifically refer to this Permit provision. The Department shall describe the anticipated length of time the delay in compliance may persist, the cause or causes of the delay as well as measures to minimize the impact of

the delay on water quality, the measures taken or to be taken by the Department to prevent or minimize the delay, the schedule by which the measures will be implemented, and the anticipated date of compliance. The Department shall adopt all reasonable measures to avoid and minimize such delays and their impact on water quality.

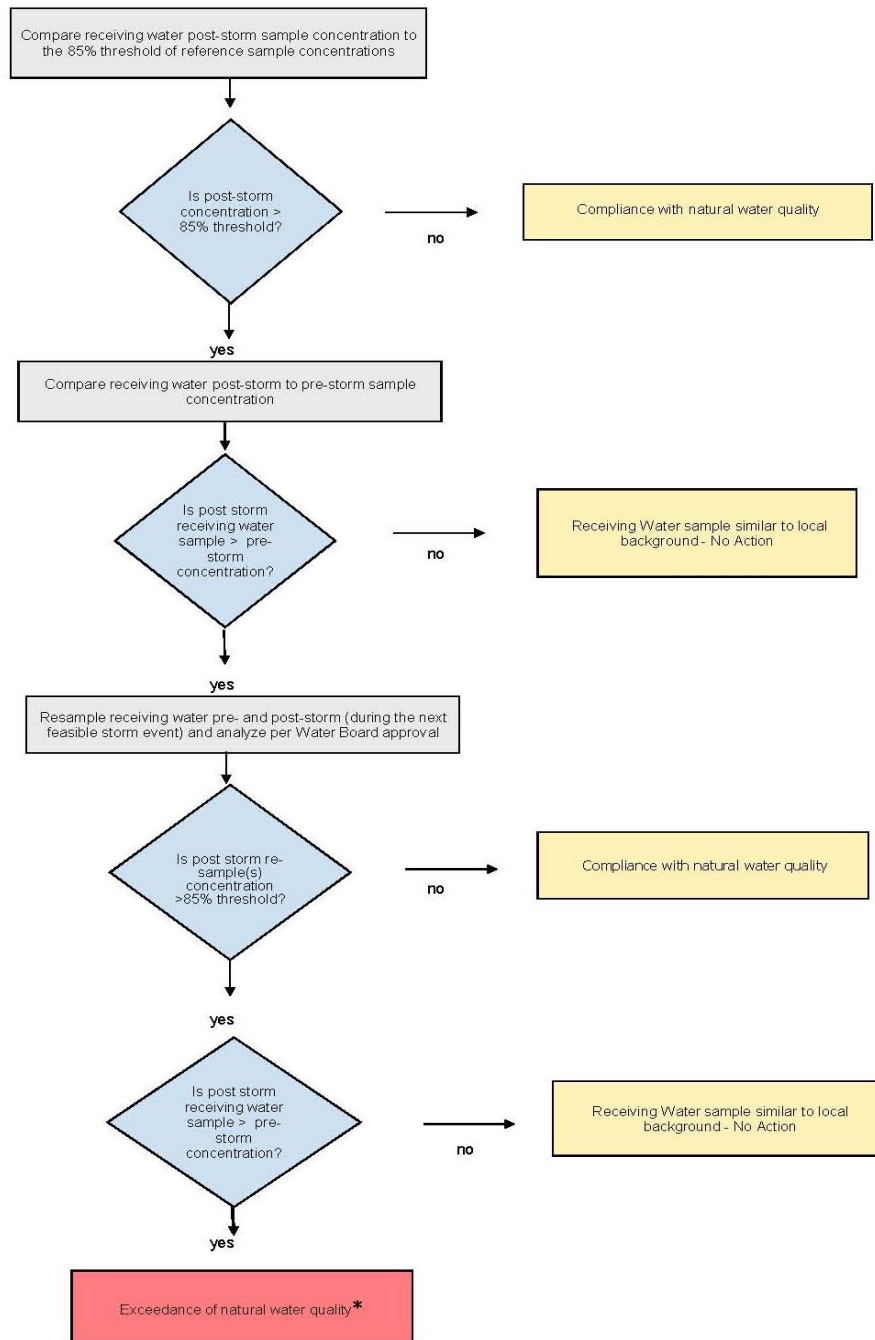
The Department may request an extension of time for compliance based on lack of funding. The request for an extension shall require a demonstration and documentation of a good faith effort to acquire funding through the Department's budgetary process, and a demonstration that funding was unavailable or inadequate.

d. ASBS Compliance Plan

The Department shall develop and submit to the Executive Director of the State Water Board a draft ASBS Compliance Plan not later than September 20, 2013. The ASBS Compliance Plan shall address all locations listed in Attachment III as follows:

- 1) Include a map of surface drainage of storm water runoff, showing areas of sheet runoff, priority discharge locations, and any structural Best Management Practices (BMPs) already employed and/or BMPs to be employed in the future. The map shall also show the storm water conveyances in relation to other features such as service areas, sewage conveyances and treatment facilities, landslides, areas prone to erosion, and waste and hazardous material storage areas, if applicable.
- 2) Describe the measures by which all non-authorized non-storm water runoff (e.g., dry weather flows) has been eliminated, how these measures will be maintained over time, and how these measures are monitored and documented.
- 3) Require minimum inspection frequencies as follows:
 - a) The minimum inspection frequency for construction sites shall be weekly during the rainy season;
 - b) The minimum inspection frequency for industrial facilities shall be monthly during the rainy season; and
 - c) Storm water outfall drains equal to or greater than 18 inches (457 mm) in diameter or width shall be inspected once prior to the beginning of the rainy season and once during the rainy season, and maintained to remove trash and other anthropogenic debris.

Figure 2
ASBS Special Protections
Flowchart to Determine Compliance with Natural Water Quality



*** When an exceedance of natural water quality occurs, the Department must comply with section I.A.2.h of the Special Protections as well as the requirements of this Order. Note, when sampling data is available, end-of-pipe effluent concentrations will be considered by the Water Boards in making this determination.**

- 4) Address storm water discharges (wet weather flows) and, in particular, describe how pollutant reductions in storm water runoff, that are necessary to comply with these special conditions, will be achieved through BMPs. Structural BMPs need not be installed if the discharger can document to the satisfaction of the State Water Board Executive Director that such installation would pose a threat to health or safety. BMPs to control storm water runoff discharges (at the end-of-pipe) during a design storm shall be designed to achieve on average the following target levels:
 - a) Table B Instantaneous Maximum Water Quality Objectives in Chapter II of the Ocean Plan; or
 - b) A 90% reduction in pollutant loading during storm events, for the Department's total discharges.

The baseline for these determinations is the effective date of the Exception, except for those structural BMPs installed between January 1, 2005 and adoption of the Special Protections.

- 5) Address erosion control and the prevention of anthropogenic sedimentation in ASBS. The natural habitat conditions in the ASBS shall not be altered as a result of anthropogenic sedimentation.
 - 6) Describe the non-structural BMPs currently employed and planned in the future (including those for construction activities), and include an implementation schedule. The ASBS Compliance Plan shall include non-structural BMPs that address public education and outreach. The ASBS Compliance Plan shall also describe the structural BMPs, including any low impact development (LID) measures currently employed and planned for higher threat discharges, and shall include an implementation schedule. To control storm water runoff discharges (at the end-of-pipe) during a design storm, the Department must first consider, and use where feasible, LID practices to infiltrate, use, or evapotranspire storm water runoff on-site, if LID practices would be the most effective at reducing pollutants from entering the ASBS.
 - 7) The BMPs and implementation schedule shall be designed to ensure that natural water quality conditions in the receiving water are achieved and maintained by either reducing flows from impervious surfaces or reducing pollutant loading, or some combination thereof.
- e. Reporting
- If the results of the receiving water monitoring described in provision E.2.c.2)a)i) indicate that the storm water runoff is causing or contributing to an alteration of natural ocean water quality in the ASBS, the discharger shall submit a report to the State Water Board and Regional Water Board within 30 days

of receiving the results.

- 1) The report shall identify the constituents in storm water runoff that alter natural ocean water quality and the sources of these constituents.
- 2) The report shall describe BMPs that are currently being implemented, BMPs that are identified in the SWMP for future implementation, and any additional BMPs that may be added to the SWMP to address the alteration of natural water quality. The report shall include a new or modified implementation schedule for the BMPs.
- 3) Within 30 days of the approval of the report by the State Water Board Executive Director, the discharger shall revise its ASBS Compliance Plan to incorporate any new or modified BMPs that have been or will be implemented, the implementation schedule, and any additional monitoring required.
- 4) As long as the discharger has complied with the procedures described above and is implementing the revised SWMP, the discharger does not have to repeat the same procedure for continuing or recurring exceedances of natural ocean water quality conditions due to the same constituent.

6. Region Specific Requirements

- a. The Department shall implement the region-specific requirements specified in this Order.
- b. In the SWMP, the Department shall describe how individual Districts will address region-specific requirements in each Regional Water Board.
- c. Region specific requirements are specified in Attachment V of this Order.

7. Regional Water Board Authorities

- a. Upon the effective date of this Order, the Regional Water Boards shall enforce the requirements of this Order. Enforcement may include, but is not limited to, reviewing FPPPs, reviewing workplans and monitoring reports, conducting compliance inspections, conducting monitoring, reviewing Annual Reports and other information, and issuing enforcement orders.
- b. Regional Water Boards may require submittal of FPPPs.
- c. Regional Water Boards may require retention of records for more than three years.
- d. To the extent authorized by the Water Code, Regional Water Boards may impose additional monitoring and reporting requirements and may provide guidance on monitoring plan implementation (Water Code, § 13383).
- e. Regional Water Board staff may inspect the Department's facilities, roads, highways, bridges, and construction sites.

- f. Regional Water Boards may issue other individual storm water NPDES permits or WDRs to the Department, particularly for discharges beyond the scope of this Order.

8. Requirements of Other Agencies

This Order does not preempt or supersede the authority of other State or local agencies (such as the Department of Toxic Substances Control or the California Coastal Commission) and local municipalities to prohibit, restrict, or control storm water discharges and conditionally exempt non-storm water discharges to storm drain systems or other watercourses within their jurisdictions as allowed by State and federal law.

9. Standard Provisions

The Department shall comply with the Standard Provisions (Attachment VI) and any amendments thereto.

10. Permit Compliance and Rescission of Previous Waste Discharge Requirements

This Order shall serve and become effective as an NPDES permit and the Department shall comply with all its requirements on July 1, 2013. Requirements prescribed by this Order supersede the requirements prescribed by Order No. 99-06-DWQ, except for compliance purposes for violations occurring before the effective date of this Order.

11. Permit Re-Opener

This Order may be modified, revoked and reissued, or terminated for cause due to promulgation of amended regulations, receipt of U.S. EPA guidance concerning regulated activities, judicial decision, or in accordance with 40 Code of Federal Regulations 122.62, 122.63, 122.64, and 124.5. The State Water Board may reopen and modify this Order at any time prior to its expiration under any of the following circumstances:

- a. Present or future investigations demonstrate that the discharge(s) regulated by this Order may have the potential to cause or contribute to adverse impacts on water quality and/or beneficial uses.
- b. New or revised Water Quality Objectives come into effect, or any new TMDL is adopted or revised that assigns a WLA to the Department or that identifies the Department as a responsible party in the TMDL implementation plan. In such cases, effluent limitations and other requirements in this Order may be modified as necessary to reflect the new TMDLs or the new or revised Water Quality Objectives; or
- c. TMDL-specific permit requirements for adopted TMDLs are developed by a Regional Water Board for incorporation into this Order.

- d. The State Water Board determines, after opportunity for public comment and a public workshop, that revisions are warranted to those provisions of the Order addressing compliance with water quality standards in the receiving water and/or those provisions of the Order establishing an iterative process for implementation of management practices to assure compliance with water quality standards in the receiving water.

12. Dispute Resolution

In the event of a disagreement between the Department and a Regional Water Board over the interpretation of any provision of this Order, the Department shall first attempt to resolve the issue with the Executive Officer of the Regional Water Board. If a satisfactory resolution is not obtained at the Regional Water Board level, the Department may submit the issue in writing to the Executive Director of the State Water Board or his designee for resolution, with a copy to the Executive Officer of the Regional Water Board. The issue must be submitted to the Executive Director within ten days of any final determination by the Executive Officer of the Regional Water Board. The Executive Officer of the Regional Water Board will be provided an opportunity to respond.

13. Order Expiration and Reapplication

- a. This Order expires on June 30, 2018.
- b. If a new order is not adopted by June 30, 2018, then the Department shall continue to implement the requirements of this Order until a new one is adopted.
- c. In accordance with Title 23, Division 3, Chapter 9 of the California Code of Regulations, the Department shall file a report of waste discharge no later than 180 days before the expiration date of this Order as application for reissuance of this permit and waste discharge requirements. The application shall be accompanied by a SWMP, and a summary of all available water quality data for the discharge and receiving waters, including conventional pollutant data from at least the most recent three years, and toxic pollutant data from at least the most recent five years, in the discharge and receiving water. Additionally, the Discharger shall include the final results of any studies that may have a bearing on the limits and requirements of the next permit.

CALIFORNIA STATE WATER RESOURCES CONTROL BOARD

**FACT SHEET
FOR**

ORDER 2012-0011-DWQ

AS AMENDED BY
ORDER WQ 2014-0006-EXEC,
ORDER WQ 2014-0077-DWQ, AND
ORDER WQ 2015-0036-EXEC

NPDES NO. CAS000003
**NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES)
STATEWIDE STORM WATER PERMIT
WASTE DISCHARGE REQUIREMENTS (WDRS)
FOR
STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION**

This Fact Sheet contains information regarding the waste discharge requirements (WDRs) and National Pollutant Discharge Elimination System (NPDES) permit for the California State Department of Transportation (Department) for discharges of storm water and certain types of non-storm water. This Fact Sheet describes the factual, legal, and methodological basis for the permit conditions, provides supporting documentation, and explains the rationale and assumptions used in deriving the limits and requirements.

BACKGROUND

In 1972, the Federal Water Pollution Control Act (also referred to as the Clean Water Act (CWA)) was amended to provide that the discharge of pollutants to waters of the United States from any point source is unlawful, unless the discharge is in compliance with an NPDES permit. The 1987 amendments to the Clean Water Act added section 402(p). Section 402(p) establishes that storm water discharges are point source discharges and lays out a framework for regulating municipal and industrial storm water discharges under the NPDES program. On November 16, 1990, the United States Environmental Protection Agency (U.S. EPA) promulgated final regulations that establish the storm water permit requirements.

Pursuant to the 1990 regulations, storm water permits are required for discharges from a municipal separate storm sewer system (MS4) serving a population of 100,000 or more. U.S. EPA defines an MS4 as a conveyance or system of conveyances (including roads with drainage systems, municipal streets, catch basins, curbs, gutters, ditches, man-made channels, or storm drains) owned or operated by a State (40 Code of Federal Regulations

(C.F.R.), § 122.26(b)(8)). The regulations also require storm water permits for 11 categories of industry, including construction activities where the construction activity: (1) disturbs more than one (1) acre of land; (2) is part of a larger common plan of development; and/or (3) is found to be a significant threat to water quality.

Before July 1999, storm water discharges from Department storm water systems were regulated by individual NPDES permits issued by the Regional Water Quality Control Boards (Regional Water Boards). On July 15, 1999, the State Water Resources Control Board (State Water Board) issued a statewide permit (Order No. 99-06-DWQ), which regulated all storm water discharges from Department owned MS4s, maintenance facilities and construction activities. The existing permit (Order No. 99-06-DWQ) will be superseded by adoption of a new permit.

Industrial activities are covered by two General Permits that have been adopted by the State Water Board. The Department's construction activities are subject to the requirements under the NPDES General Permit for Construction Activities (CGP, NPDES Permit No. CAS000002) for construction activities that are equal to or greater than one (1) acre. The exception to this is in the Lake Tahoe area, where the Lahontan Regional Water Board adopted its own construction general permit (NPDES Permit No. CAG616002). The Department's industrial facility activities are subject to the requirements of the NPDES General Permit for Industrial Activities (IGP, NPDES Permit No. CAS000001).

The Department is responsible for the design, construction, management, and maintenance of the State highway system, including freeways, bridges, tunnels, the Department's facilities, and related properties. The Department's discharges consist of storm water and non-storm water discharges from State owned right-of-way (ROW).

Clean Water Act section 402(p) and 40 Code of Federal Regulations section 122.26 (a)(v) give the State authority to regulate discharges from an MS4 on a system-wide or jurisdiction-wide basis. The State Water Board considers all storm water discharges from all MS4s and activities under the Department's jurisdiction as one system. Therefore, this Order is intended to cover all of the Department's municipal storm water activities.

This Order will be implemented by the Department and enforced by the State Water Board and nine Regional Water Boards.

The Department operates highways and highway-related properties and facilities that cross through local jurisdictions. Some storm water discharges from the Department's MS4 enter the MS4s owned and managed by these local jurisdictions. This Order does not supersede the authority of local agencies to prohibit, restrict, or control storm water discharges and conditionally exempt non-storm water discharges to storm drain systems or other watercourses within their jurisdiction as allowed by State and federal law. The Department is expected to comply with the lawful requirements of municipalities and other local, regional, and/or state agencies regarding discharges of storm water to separate storm sewer systems or other watercourses under the agencies' jurisdictions.

GENERAL DISCHARGE PROHIBITIONS

This Order authorizes storm water and conditionally exempt non-storm water discharges from the Department's properties, facilities and activities. This Order prohibits the discharge of material other than storm water, unless specifically authorized in this Order.

The Department owns and operates highway systems that are located adjacent to and discharge into many ASBS. This Order specifies that Department discharges to an ASBS are prohibited except in compliance with the conditions and special protections contained in the General Exception for Storm Water and Non-Point Source Discharges to ASBS, State Water Board Resolution 2012-0012. This State Water Board resolution is hereby incorporated by reference and the Department is required to comply with applicable requirements. Attachment III identifies 77 priority Department ASBS discharge locations. These locations represent sites having significant potential to impact the ASBS that are feasible to retrofit. The following locations are not included in the list:

1. Inland sites discharging indirectly to the ASBS;
2. Sites where the discharge is attenuated through vegetation;
3. Sites where it is infeasible to install a BMP, e.g. an overhanging outfall or where there is insufficient space to install a treatment control; and
4. Sites that would pose a safety hazard to motorists, or that would be unsafe to install or maintain.

Provision E.5 of the Order requires the Department to ensure that structural controls at these locations are operational within six (6) years of the effective date of the General Exception.

NON-STORM WATER

Non-storm water discharges are subject to different requirements under the Order depending on whether they are discharged to ASBS.

Non-storm water discharges outside ASBS:

Non-storm water discharges must be effectively prohibited unless they are authorized by a separate NPDES permit or are conditionally exempt under provisions of the Order consistent with 40 CFR, §122.26 (d)(2) (iv)(B). Non-storm water discharges that are not specifically or conditionally exempted by this Order are subject to the existing regulations for point source discharges. Conditionally exempt non-storm water discharges that are found to be significant sources of pollution are to be effectively prohibited.

Discussion of Agricultural Return Flows:

The Department (2007a) indicated in its Non-Storm Water Report that agricultural irrigation water return flows carrying pollutants pass under the Department's ROW in many locations and enter its MS4. Agricultural return flows are not prohibited or conditionally exempted non-

storm water discharges and are not subject to the non-storm water requirements of the Order.

The regulations conditionally exempt MS4s from the requirement to effectively prohibit “irrigation water” discharges to the MS4. The regulations also completely exempt MS4s from addressing non-storm water discharges (also called “illicit discharges”) if they are regulated by an NPDES permit (40 C.F.R., §§ 122.26(b)(2); 122.26(d)(2)(iv)(B)). The term “irrigation water” is not defined and the regulations do not clarify whether that term is intended to encompass agricultural return flows that may run on to the Department’s rights of way.

Because agricultural return flows cannot be regulated by an NPDES permit, it is unlikely that they were intended to be treated as “illicit discharges” under the federal MS4 regulations. In discussing illicit non-storm water discharges and the requirement to effectively prohibit such discharges, the preamble of the Phase I final regulations states: “The CWA prohibits the *point source* discharge of non-storm water not subject to an NPDES permit through municipal separate storm sewers to waters of the United States. Thus, classifying such discharges as illicit properly identifies such discharges as being illegal” (55 FR 47996) (emphasis added). Implicit in this statement is that illicit discharges do not include non-point source discharges, including agricultural return flows, which are statutorily excluded from the definition of a point-source discharge (C.W.A., § 502(14)).¹³

Clean Water Act Section 402(l)(1) states that an NPDES permitting agency “shall not require a permit under this section for discharges composed entirely of return flows from irrigated agriculture.” Accordingly, agricultural return flows co-mingling with an illicit discharge would be treated as a point source discharge. This fact, however, does not lead the State Water Board to find that agricultural return flows should be subject to the conditional prohibition on non-storm water discharges.

First, the illicit discharge prohibition acts to prevent non-storm water discharges “*into the storm sewers*” (C.W.A., § 402(p)(3)(B)(ii)) (emphasis added). Based on a plain reading of the statutory language,¹⁴ a determination of what constitutes an illicit discharge should be made with reference to the nature of the discharge as it enters the MS4. Unless the agricultural return flow has co-mingled with a point source discharge prior to entering the MS4, it is not subject to the discharge prohibition. Further, since certain point source discharges are conditionally exempted from the requirement for effective prohibition under 40 Code of Federal Regulations section 122.26(d)(2)(iv)(B)(1), the fact that the agricultural return flow may have co-mingled with such an exempted dry weather point source discharge prior to entering the MS4 does not render it an illicit discharge subject to the effective

¹³ Elsewhere in the preamble, EPA refers to the conditionally exempted non-storm water discharges as “seemingly innocent flows that are characteristic of human existence *in urban environments* and which discharge to municipal separate storm sewers” (55 F.R.48037) (emphasis added). This language further suggests that the term “irrigation water” was not intended to encompass irrigation return flows characteristic of a rural area.

¹⁴ 40 C.F.R. §122.26(d)(2)(iv)(B)(1) similarly states that the MS4 is to “prevent illicit discharges *to the municipal separate storm sewer system.*” (Emphasis added.)

prohibition.¹⁵ See *Fishermen Against the Destruction of the Environment, Inc. v. Closter Farms, Inc.* (11th Cir. 2002) 300 F.3d 1294.

Second, even assuming that the agricultural return flow mingling with a point source discharge *after* entering the MS4 would trigger the requirements related to non-storm water discharges, agricultural return flows are not expected to require an effective prohibition. Irrigation of agricultural fields typically occurs in dry weather, not wet weather, and therefore the State Water Board anticipates that irrigation return flows into the Department's MS4 would generally not co-mingle with discharges other than exempt non-storm water discharges.

Further, agricultural return flows entering an MS4, while not regulated by an NPDES permit, are through much of the State regulated under WDRs, waivers, and Basin Plan prohibitions. The regulations exempt MS4s from addressing non-storm water discharges that are regulated by an NPDES permit. Flows to the Department's MS4 regulated through state-law based permits are subject to regulatory oversight analogous to being subject to an NPDES permit. The appropriate regulatory mechanism for these discharges is the non-point source regulatory programs and not a municipal storm water permit.¹⁶

Non-Storm Water Discharges to ASBS:

Non-storm water discharges to ASBS are prohibited except as specified in the General Exception. Certain enumerated non-storm water discharges are allowed under the General Exception if essential for emergency response purposes, structural stability, slope stability, or if occur naturally.

Discussion of Utility Vault Discharges:

In addition, an NPDES permitting authority may authorize non-storm water discharges to an MS4 with a direct discharge to an ASBS to the extent the NPDES permitting authority finds that the discharge does not alter natural ocean water quality in the ASBS. This Order allows utility vault discharges to segments of the Department MS4 with a direct discharge to an ASBS, provided the discharge is authorized by the General NPDES Permit for Discharges from Utility Vaults and Underground Structures to Surface Water, NPDES No. CAG 990002. The State Water Board is in the process of reissuing the General NPDES Permit for Utility Vaults. As part of the renewal, the State Water Board will require a study to characterize representative utility vault discharges to an MS4 with a direct discharge to an ASBS and will impose conditions on such discharges to ensure the discharges do not alter natural ocean water quality in the ASBS. Given the limited number of utility vault discharges to MS4s that

¹⁵ The Federal Register discussion clarifies that "irrigation return flows are excluded from regulation under the NPDES program," but that "joint discharges," i.e. discharges with a component "from activities unrelated to crop production" may be regulated (55 FR 47996).

¹⁶ It should also be noted that the Department has limited control options since up gradient flows such as agricultural runoff must in many cases be allowed to flow under or alongside the roadway so as to not threaten roadway integrity.

discharge directly to an ASBS, the State Water Board finds that discharges from utility vaults and underground structures to MS4s with a direct discharge to an ASBS are not expected to result in the MS4 discharge causing a substantial alteration of natural ocean water quality in the ASBS in the interim period while the General NPDES Permit for Discharges from Utility Vaults is renewed and the study is completed. However, if a Regional Water Board determines a specific discharge from a utility vault or underground structure does alter the natural ocean water quality in an ASBS, the Regional Water Board may prohibit the discharge as specified in this Order. It should also be noted that, under the California Ocean Plan Section III.E.2 (Implementation Provisions for ASBS), limited-term activities that result in temporary and short-term changes in existing water quality in the ASBS may be permitted.

EFFLUENT LIMITS

The State of California Nonpoint Source Program Five-Year Implementation Plan (SWRCB, 2003) (the Plan) describes a variety of pollutants in urban storm water and non-storm water that are carried in MS4 discharges to receiving waters. These include oil, sand, de-icing chemicals, litter, bacteria, nutrients, toxic materials and general debris from urban and suburban areas. The Plan identifies construction as a major source of sediment erosion and automobiles as primary sources of petroleum hydrocarbons.

The Natural Resources Defense Council (NRDC) also identified two main causes of storm water pollution in urban areas (NRDC, 1999). Both identified causes are directly related to development in urban and urbanizing areas:

1. Increased volume and velocity of surface runoff. There are three types of human-made impervious cover that increase the volume and velocity of runoff: (i) rooftops, (ii) transportation imperviousness, and (iii) non-porous (impervious) surfaces. As these impervious surfaces increase, infiltration will decrease, forcing more water to run off the surface, picking up speed and pollutants.
2. The concentration of pollutants in the runoff. Certain industrial, commercial, residential and construction activities are large contributors of pollutant concentrations in urban runoff. As human population density increases, it brings with it proportionately higher levels of car emissions, car maintenance wastes, municipal sewage, pesticides, household hazardous wastes, pet wastes, trash, etc.

As a result of these two causes, runoff leaving developed urban areas is significantly greater in volume, velocity, and pollutant load than pre-development runoff from the same area.

NPDES storm water permits must meet applicable provisions of sections 301 and 402 of the Clean Water Act. For discharges from an MS4, Clean Water Act section 402(p)(3)(B)(iii) requires control of pollutants to the maximum extent practicable (MEP). A permitting agency also has the discretion to require dischargers to implement more stringent controls, if

necessary, to meet water quality standards (*Defenders of Wildlife v. Browner* (9th Cir. 1999) 191 F.3d 1159, 1166.), (discussed below under Receiving Water Limitations).

MEP is the technology-based standard established by Congress in Clean Water Act section 402(p)(3)(B)(iii) that municipal dischargers of storm water must meet. Technology-based standards establish the level of pollutant reductions that dischargers must achieve. MEP is generally achieved by emphasizing pollution prevention and source control BMPs as the first lines of defense in combination with structural and treatment methods where appropriate. The MEP approach is an ever evolving, flexible, and advancing concept, which considers technical and economic feasibility. As knowledge about controlling urban runoff continues to evolve, so does that which constitutes MEP.

In a precedential order (State Water Board Order WQ 2000-11 (In the Matter of the petitions of the Cities of Bellflower et al.)), the State Water Board has stated as follows:

While the standard of MEP is not defined in the storm water regulations or the Clean Water Act, the term has been defined in other federal rules. Probably the most comparable law that uses the term is the Superfund legislation, or CERCLA, at section 121(b). The legislative history of CERCLA indicates that the relevant factors, to determine whether MEP is met in choosing solutions and treatment technologies, include technical feasibility, cost, and state and public acceptance. Another example of a definition of MEP is found in a regulation adopted by the Department of Transportation for onshore oil pipelines. MEP is defined as to “the limits of available technology and the practical and technical limits on a pipeline operator”

These definitions focus mostly on technical feasibility, but cost is also a relevant factor. There must be a serious attempt to comply, and practical solutions may not be lightly rejected. If, from the list of BMPs, a permittee chooses only a few of the least expensive methods, it is likely that MEP has not been met. On the other hand, if a permittee employs all applicable BMPs except those where it can show that they are not technically feasible in the locality, or whose cost would exceed any benefit to be derived, it would have met the standard. MEP requires permittees to choose effective BMPs, and to reject applicable BMPs only where other effective BMPs will serve the same purpose, the BMPs would not be technically feasible, or the cost would be prohibitive. Thus while cost is a factor, the Regional Water Board is not required to perform a cost-benefit analysis.

The final determination of whether a municipality has reduced pollutants to the maximum extent practicable can only be made by the permitting agency, and not by the discharger.

Because of the numerous advances in storm water regulation and management and the size of the Department’s MS4, this Order does not require the Department to fully incorporate and

implement all advances in a single permit term. The Order allows for prioritization of efforts to ensure the most effective use of available funds.

This Order will have an impact on costs to the Department above and beyond the costs from the Department's prior permit. Such costs will be incurred in complying with the post-construction, hydrograph modification, Low Impact Development, and monitoring and reporting requirements of this Order. Additional costs will also be incurred in correcting non-compliant discharges. Recognizing that there are cost increases associated with the Order, the State Water Board has prepared a cost analysis to approximate the anticipated cost associated with implementing this permit. The resulting cost analysis is discussed later in this Fact Sheet under the section on "Cost of Compliance and Other MEP Considerations." The cost analysis has been prepared based on available data and is not a cost-benefit analysis.

The individual and collective activities required by this Order and contained in the Department's Storm Water Management Plan (SWMP) meet the MEP standard.

RECEIVING WATER LIMITATIONS

Under federal law, an MS4 permit must include "controls to reduce the discharge of pollutants to the maximum extent practicable . . . and such other provisions as . . . the State determines appropriate for the control of such pollutants." (Clean Water Act §402(p)(3)(B)(iii).) The State Water Board has previously determined that limitations necessary to meet water quality standards are appropriate for the control of pollutants discharged by MS4s and must be included in MS4 permits. (State Water Board Orders WQ 91-03, 98-01, 99-05, 2001-15; see also *Defenders of Wildlife v. Browner* (9th Cir. 1999) 191 F3d 1159.). The Proposed Order accordingly prohibits discharges that cause or contribute to violations of water quality standards.

The Proposed Order further sets out that, upon determination that a Permittee is causing or contributing to an exceedance of applicable water quality standards, the Permittee must engage in an iterative process of proposing and implementing additional control measures to prevent or reduce the pollutants causing or contributing to the exceedance. This iterative process is modeled on receiving water limitations set out in State Water Board precedential Order WQ 99-05 and required by that Order to be included in all municipal storm water permits.

The Ninth Circuit held in *Natural Resources Defense Council, Inc. v. County of Los Angeles* (2011) 673 F.3d 880 that engagement in the iterative process does not provide a safe harbor from liability for violations of permit terms prohibiting exceedances of water quality standards. The Ninth Circuit holding is consistent with the position of the State Water Board and Regional Water Boards that exceedances of water quality standards in an MS4 permit constitute violations of permit terms subject to enforcement by the Boards or through a citizen suit. While the Boards have generally directed dischargers to achieve compliance by improving control measures through the iterative process, the Board retains the discretion to

take other appropriate enforcement and the iterative process does not shield dischargers from citizen suits.

The State Water Board has received multiple comments, from the Department and from other interested parties, expressing confusion and concern about the Order provisions regarding receiving water limitations and the iterative process. The Department has commented that the provisions as currently written do not provide the Department with a viable path to compliance with the proposed Order. Other commenters, including environmental parties, support the current language.

As stated above, the provisions in this Order regarding receiving water limitations and the iterative process are based on precedential Board orders. Accordingly, substantially identical provisions are found in the proposed statewide Phase II MS4 NPDES permit, as well as the Phase I NPDES permits issued by the Regional Water Boards. In the context of the proposed Phase II MS4 permit, similar comments have been received. Because of the broad applicability of any policy decisions regarding the receiving water limitations and iterative process provisions, the State Water Board has proposed a public workshop to consider this issue and seek public input.

Rather than delay consideration of adoption of the tentative Order in anticipation of any future changes to the receiving water limitations and iterative process provisions that may result from the public workshop and deliberation, the Board has added a specific reopener clause at Section 11.d. to facilitate any future revisions as necessary.

NUMERIC EFFLUENT LIMITATIONS AND BLUE RIBBON PANEL OF EXPERTS

Under 40 Code of Federal Regulations section 122.44(k)(2)&(3); the State Water Board may impose BMPs for control of storm water discharges in lieu of numeric effluent limitations.¹⁷

In 2005, the State Water Board assembled a blue ribbon panel to address the feasibility of including numeric effluent limits as part of NPDES municipal, industrial, and construction storm water permits. The panel issued a report dated June 19, 2006, which included recommendations as to the feasibility of including numeric limitations in storm water permits, how such limitations should be established, and what data should be required (SWRCB, 2006).

¹⁷ On November 12, 2010, U.S. EPA issued a revision to a November 22, 2002 memorandum in which it had “affirm[ed] the appropriateness of an iterative, adaptive management best management practices (BMP) approach” for improving storm water management over time. In the revisions, U.S. EPA recommended that, in the case the permitting authority determines that MS4 discharges have the reasonable potential to cause or contribute to a water quality excursion, the permitting authority, where feasible, include numeric effluent limitations as necessary to meet water quality standards. However, the revisions recognized that the permitting authority’s decision as to how to express water quality based effluent limitations (WQBELs), i.e. as numeric effluent limitations or BMPs, would be based on an analysis of the specific facts and circumstances surrounding the permit. U.S. EPA has since invited comment on the revisions to the memorandum and will be making a determination as to whether to “either retain the memorandum without change, to reissue it with revisions, or to withdraw it.”

http://www.epa.gov/npdes/pubs/sw_tmdlwla_comments_pdf

The report concluded that “It is not feasible at this time to set enforceable numeric effluent criteria for municipal BMPs and in particular urban discharges. However, it is possible to select and design them much more rigorously with respect to the physical, chemical and/or biological processes that take place within them, providing more confidence that the estimated mean concentrations of constituents in the effluents will be close to the design target.”

Consistent with the findings of the Blue Ribbon Panel and precedential State Water Board orders (State Water Board Orders Nos. WQ 91-03 and WQ 91-04), this Order allows the Department to implement BMPs to comply with the requirements of the Order.

In 1980, the State Water Resources Control Board adopted concentration-based numeric effluent limitations for total nitrogen, total phosphate, total iron, turbidity, and grease and oil for storm water discharges in the Lake Tahoe Basin. The Lahontan Regional Water Board included revised versions of those limitations in Table 5.6-1 of the Water Quality Control Plan for the Lahontan Region (Basin Plan). The numeric effluent limitations in Table 5.6-1 were included in previous iterations of the Department's MS4 permit. This Order does not include these referenced numeric effluent limitations. The TMDL for sediment and nutrients in Lake Tahoe, approved by U.S. EPA on August 16, 2011, removed statements from the Basin Plan requiring the effluent limitations in Table 5.6-1 to apply to municipal jurisdictions and the Department. The Lake Tahoe TMDL would constitute cause for permit revocation and reissuance in accordance with 40 Code of Federal Regulations section 122.62(a)(3), so the removal of the referenced numeric effluent limitations is consistent with 40 Code of Federal Regulations section 122.44(l)(1). Further, any water quality based effluent limitations in MS4 permits are imposed under section 402(p)(3)(B) of the Clean Water Act rather than under section 301(b)(1)(C), and are accordingly not subject to the antibacksliding requirements of section 402(o). The Order requires compliance with pollutant load reduction requirements established by the Lake Tahoe TMDL for total nitrogen, total phosphorus, and fine sediment particles.

OTHER PROVISIONS OF THIS ORDER

Storm Water Management Plan (SWMP)

The SWMP describes the procedures and practices that the Department proposes to reduce or eliminate the discharge of pollutants to storm drainage systems and receiving waters. On May 17, 2001, the State Water Board approved a Storm Water Management Plan submitted by the Department. That SWMP was updated in 2003 (Department, 2003c) and the updates were approved by the Executive Director of the State Water Board on February 13, 2003. On January 15, 2004, the Department submitted a proposed Storm Water Management Plan as part of its NPDES permit application to renew its previous statewide storm water permit (Order No. 99-06-DWQ). The State Water Board and Regional Water Board staff and the Department discussed and revised Best Management Practices (BMP) controls and many

other components proposed in each section of the SWMP during numerous meetings from January 2004 to 2006. The Department submitted a revised SWMP in June 2007 (Department, 2007c). The 2004 and 2007 SWMPs have not been approved by the State Water Board and the Department has continued to implement the 2003 SWMP. The Department is in the process of revising aspects of the 2003 SWMP to address the Findings of Violation and Order for Compliance issued by U.S. EPA in 2011 (U.S. EPA Docket No. CWA-09-2011-0001).

This Order requires the Department to update, maintain and implement an effective SWMP that describes how the Department will meet requirements of this Order. Within one year of the effective date of the Order, the Department shall submit for Executive Director approval a SWMP consistent with the provisions and requirement of the Order. The SWMP is an integral and enforceable component of this Order and is required to be updated on an annual basis.

In ruling upon the adequacy of federal regulations for discharges from small municipal storm sewer systems, the court in *Environmental Defense Center v. United States EPA* (9th Cir. 2003) 344 F.3d 832 held that NPDES “notices of intent” that required the inclusion of a proposed storm water management program (SWMP) are subject to the public participation requirements of the federal Clean Water Act because they are functionally equivalent to NPDES permit applications and because they contain “substantive information” about how the operator will reduce its discharges to the maximum extent practicable. By implication, the public participation requirements of the Clean Water Act may also apply to proposals to revise the Department’s SWMP. Although the Proposed Order contains significantly more detailed and prescriptive requirements for achievement of MEP than previously adopted orders for the Department, some of the substantive information about how MEP will be achieved is arguably still set out in the SWMP. This Order accordingly provides for public participation in the SWMP revision process. However, because there may be a need for numerous revisions to the SWMP during the term of this Order, a more streamlined approach to SWMP revisions is needed to provide opportunities for public hearings while preserving the State Water Board’s ability to effectively administer its NPDES storm water permitting program. (See *Costle v. Pacific Legal Foundation* (1980) 445 U.S. 198, 216-221, *Natural Resources Defense Council v. Costle* (9th Cir. 1977) 568 F.2d 1369, 1382.)

This Order establishes that revisions to the SWMP requiring Executive Director approval will be publicly noticed for thirty days on the State Water Board’s website (except as otherwise specified). During the public notice period, a member of the public may submit a written comment or request that a public hearing be conducted. A request for a public hearing shall be in writing and shall state the nature of the issues proposed to be raised in the hearing. Upon review of the request or requests for a public hearing, the Executive Director may, in his or her discretion, schedule a public hearing to take place before approval of the SWMP revision. The Executive Director shall schedule a hearing if there is a significant degree of public interest in the proposed revision. If no public hearing is conducted, the Executive Director may approve the SWMP revision if it meets the conditions set forth in this Order.

Any SWMP revision approved by the Executive Director will be posted on the State Water Board's website.

The Department references various policies, manuals, and other guidance related to storm water in the SWMP. These documents are intended to facilitate implementation of the SWMP and must be consistent with all requirements of the Order.

In addition to the annual submittal of the proposed SWMP revisions, this Order also requires the Department to submit workplans that explain how the program will be implemented in each District. The purpose of the workplans is to bring the proposed statewide program of the SWMP to the practical and implementable level at the District, watershed, and water body level.

Legal Authority

The Department has submitted a certification of adequate legal authority to implement the program. Through implementation of the storm water program, the Department may find that the legal authority is, in fact, not adequate. This Order requires the Department to reevaluate the legal authority each year and recertify that it is adequate. The Department is required to submit the Certification of the Adequacy of Legal Authority as part of the Annual Report each year. If it becomes clear that the legal authority is not adequate to fully implement the SWMP and the requirements of this Order, the Department must seek the authority necessary for implementation of the program.

SWMP Implementation Requirements

Management and Organization

The Department must maintain adequate funding to implement an effective storm water program and must submit an analysis of the funding each year. This includes a report on the funding that is dedicated to storm water as well as an estimate of the funding that has been allocated to various program elements that are not included in the storm water program funding. An example of this would be to estimate the funding that has been made available to the Maintenance Program to implement the development of Maintenance Facility Pollution Prevention Plans (FPPP) and to implement the Best Management Practices (BMPs) that are necessary for water quality.

The Department's facilities and rights-of-way may cross or overlap other MS4s. The Department is required to coordinate their activities with other municipalities and local governments that have responsibility for storm water runoff. This Order requires the Department to prepare a Municipal Coordination Plan describing the approach that the Department will take in establishing communication, coordination, cooperation and collaboration with other storm water management programs.

Discharge Monitoring and Reporting Program

Since 1998, the Department has conducted monitoring of runoff from representative transportation facilities throughout California. The key objectives of the characterization

monitoring were to produce scientifically credible data on runoff from the Department's facilities, and to provide useful information in designing effective storm water management strategies. Between 2000 and 2003, the Department conducted a three-year characterization monitoring study (Department, 2003b). The study generated over 60,000 data points from over 180 monitoring sites. Results were compared with California Toxics Rule (CTR) objectives and other relevant receiving water quality objectives (U.S. EPA, 2000b). Copper, lead, and zinc were estimated to exceed the CTR objectives for dissolved and total fractions in greater than 50 percent of samples. Diazinon and chlorpyrifos were also found to exceed the California Department of Fish and Game recommended chronic criteria in a majority of samples.

The discharge monitoring program has been structured to focus on the highest priority water quality problems in order to ensure the most effective use of limited funds. A tiered approach is established that gives first priority to monitoring in ASBS and TMDL watersheds. Monitoring in these locations must be conducted pursuant to the applicable requirements of the ASBS Special Protections or TMDL, without limitation as to the number of sites. The second monitoring tier requires the Department to examine and prioritize existing monitoring locations where existing data show elevated levels of pollutants. Fifteen percent of the highest priority sites must be scheduled for retrofit, with a maximum of 100 sites per year.

Monitoring constituents were chosen by the State Water Board from the results of the Department's comprehensive, multi-component storm water characterization monitoring program conducted in 2002 and 2003 and various other characterization studies.

Toxicity in storm water discharges from the Department's rights-of-way has been reported in a number of studies. A 2005 report prepared for the Department by the University of California at Davis "Toxicity of Storm Water from Caltrans Facilities" reported significant occurrences of acute and chronic toxicity (Department, 2005). Toxicity Identification Evaluations showed toxicity from a number of compounds, including heavy metals, organic compounds, pesticides and surfactants. Toxicity testing is required under the Order, and a workplan for conducting Toxicity Reduction Evaluations is required to be included in the SWMP.

Monitoring data must be filed electronically in the Storm Water Multiple Application Report and Tracking System (SMARTS). Receiving water monitoring data must be comparable¹⁸ with the Surface Water Ambient Monitoring Program (SWAMP), (SWAMP, 2010), and must be uploaded to the California Data Exchange Network (CEDEN).

¹⁸ U.S. EPA defines comparability as the measure of confidence with which one data set, element, or method can be considered as similar to another. Functionally, SWAMP comparability is defined as adherence to the SWAMP Quality Assurance Program Plan and the Surface Water Ambient Monitoring Program Information Management Plan.

Incident Reporting - Non-Compliance and Potential/Threatened Non-Compliance

The Department may at times be out of compliance with the requirements of this Order. Incidents of non-compliance and potential or threatened non-compliance must be reported to the State and Regional Water Boards. This Order identifies the conditions under which non-compliance reporting will be required. This Order distinguishes between emergency, field, and administrative (procedural) incidents that require notification to the State and Regional Water Boards, and requires that a summary of non-compliance incidents and the subsequent actions taken by the Department to reduce, eliminate and prevent the reoccurrence of the non-compliance be included in the Annual Report.

Emergency, field and administrative incidents are defined in Attachment I and have separate reporting requirements. Generally, failure to meet any permit requirement that is local or regional in nature will be reported to the Regional Water Boards. Attachment I outlines the reporting timelines for the three categories. This reporting will be conducted through the Storm Water Multiple Application Report and Tracking System (SMARTS)¹⁹. Distribution of this report internally between the State Water Board and any Regional Water Boards will be conducted through this system.

Project Planning and Design

In Order WQ 2000-11, the State Water Board considered Standard Urban Storm Water Mitigation Plans (SUSMPs) related to new development and redevelopment. The SUSMPs include a list of BMPs for specific development categories, and a numeric design standard for structural or treatment control BMPs. The numeric design standard created objective and measurable criteria for the amount of runoff that must be treated or infiltrated by BMPs. While this Order does not regulate construction activities, it does regulate the post-construction storm water runoff pursuant to municipal storm water regulations. SUSMPs are addressed in this Order through the numeric sizing criteria that apply to treatment BMPs at specified new and redevelopment projects and through requirements to implement Low Impact Development through principles of source control, site design, and storm water treatment and infiltration.

The Order provides the Department with an alternative compliance method for complying with the Treatment Control BMP numeric sizing criteria for projects where on-site treatment is infeasible. Under that method, the Department may propose complying with the requirements by installing and maintaining equivalent treatment BMPs at an offsite location (meaning outside of Project Limits) within the watershed, or by contributing funds to achieve the same amount of treatment at a regional project within the watershed. This compliance method will provide some flexibility to the Department in meeting the treatment control requirements.

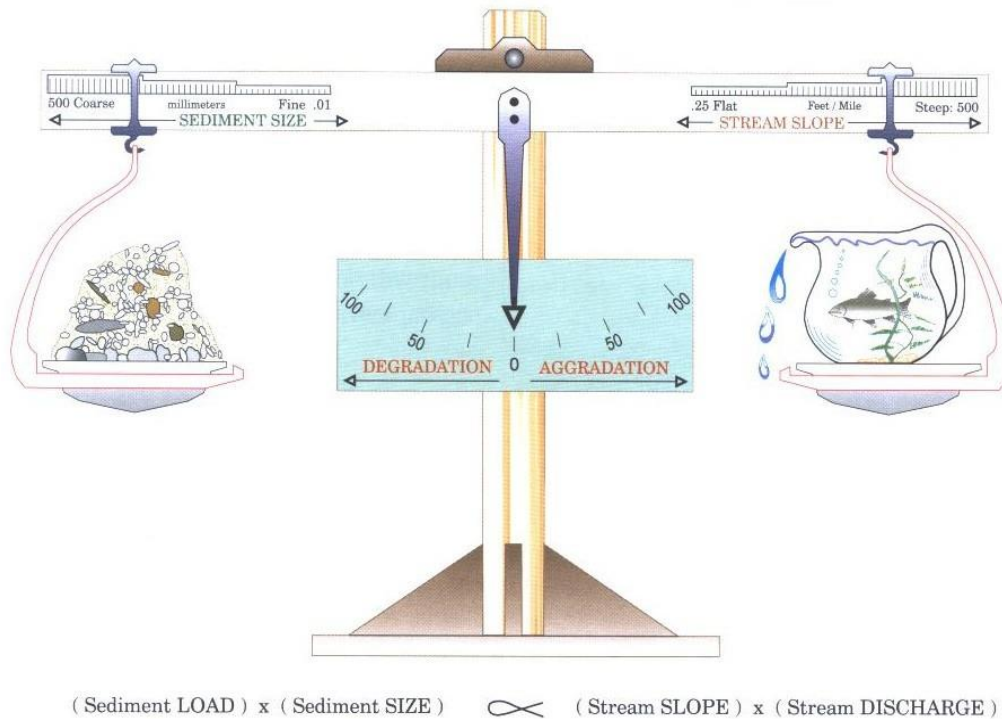
¹⁹ <https://smarts.waterboards.ca.gov/smarts/faces/SwSmartsLogin.jsp>

Hydromodification and Channel Protection

Department development and redevelopment projects have the potential to negatively impact stream channels and downstream receiving waters. The potential impacts of hydromodification by Department projects must be assessed in the project planning and design stage, and measures taken to mitigate them. This section describes the rationale and approach for the hydromodification and channel protection requirements.

A dominant paradigm in fluvial geomorphology holds that streams adjust their channel dimensions (width and depth) in response to long-term changes in sediment supply and bankfull discharge. The bankfull stage corresponds to the discharge at which channel maintenance is the most effective, that is, the discharge at which the moving sediment, forming or removing bars, and forming or changing bends and meanders, are doing work that results in the average morphologic characteristics of channels (Finkenbine, 2000). A.W. Lane showed the generalized relationship between sediment load, sediment size, stream discharge and stream slope, as shown in Figure 1, (Rosgen, 1996). A change in any one of these variables sets up a series of mutual adjustments in the companion variables resulting in a direct change in the physical characteristics of the stream channel.

Figure 1 - Schematic of the Lane Relationship



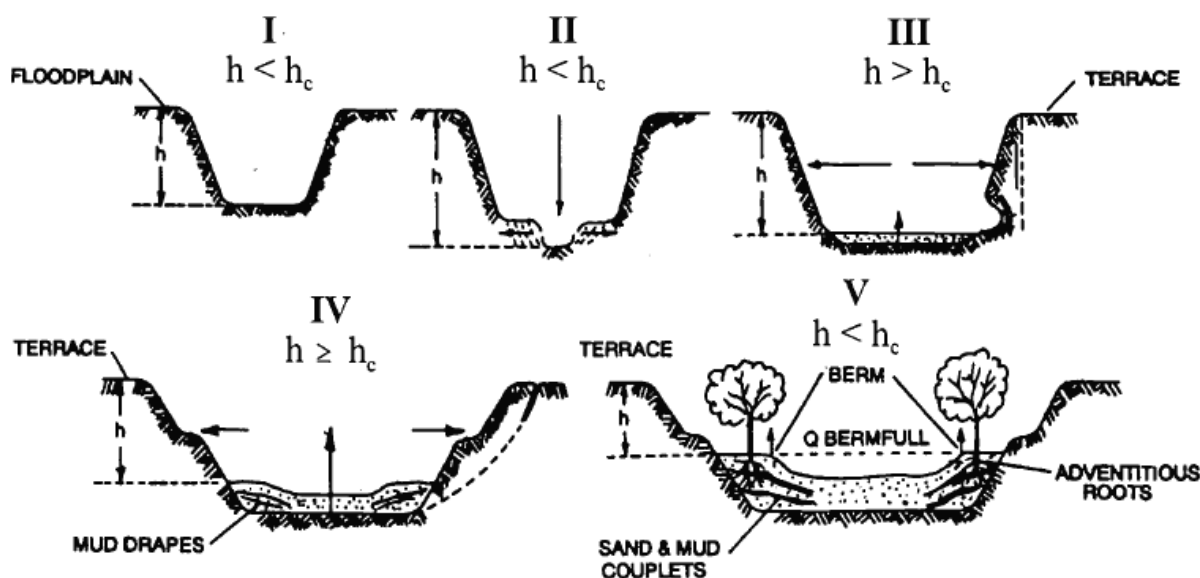
After Lane (1955) as cited in Rosgen (1996)

Stream slope times stream discharge (the right side of the scale) is an approximation of stream power, a unifying concept in fluvial geomorphology (Bledsoe, 1999). Urbanization generally increases stream power and affects the resisting forces in a channel (represented as sediment load and sediment size on the left side of the scale).

During construction, sediment loads can increase from 2 to 40,000 times over pre-construction levels (Goldman, 1986). Most of this sediment is delivered to stream channels during large, episodic rain events (Wolman, 2001). This increased sediment load leads to an initial aggradation phase where stream depths may decrease as sediment fills the channel, leading to a decrease in channel capacity and an increase in flooding and overbank deposition. A degradation phase initiates after construction is completed.

Schumm et al (Schumm, 1984) developed a channel evolution model that describes the series of adjustments from initial downcutting, to widening, to establishing new floodplains at lower elevations (Figure 2).

Figure 2 - Channel Changes Associated with Urbanization



h = bank height

h_c = critical bank height (the bank is susceptible to failure when bank heights are greater than critical bank height. Stable banks have low angles and heights)

After Incised Channel Evolution Sequence in Schumm et al. 1984

Channel incision (Stage II) and widening (Stages III and to a lesser degree, Stage IV) are due to a number of fundamental changes on the landscape. Connected impervious area and compaction of pervious surfaces increase the frequency and volume of bankfull discharges (Stein, 2005; Booth, 1997), resulting in an increase in stream power. Increased drainage density (miles of stream length per square mile of watershed) also affects receiving channels (May, 1998; SCVURPPP, 2002). Increased drainage density and hydraulic efficiency leads to an increase in the frequency and volume of bankfull discharges because the time of concentration is shortened. Flows from engineered pipes and channels are also often “sediment starved” and seek to replenish their sediment supply from the channel.

Encroachment of stream channels can also lead to an increase in stream slope, which leads to an increase in stream power. In addition, watershed sediment loads and sediment size (with size generally represented as the median bed and bank particle size, or d_{50}) decrease during urbanization (Finkenbine, 2000; Pizzuto, 2000). This means that even if pre- and post- development stream power are the same, more erosion will occur in the post-development stage because the smaller particles are less resistant.

As shown in Stages II and III, the channel deepens and widens to accommodate the increased stream power (Hammer, 1973; Booth, 1990) and decrease in sediment load and sediment size. Channels may actually narrow as entrained sediment from incision is deposited laterally in the channel (Trimble, 1997). After incised channels begin to migrate laterally (Stage III), bank erosion begins, which leads to general channel widening (Trimble, 1997). At this point, a majority of the sediment that leaves a drainage area comes from within the channel, as opposed to the background and construction related hillslope contribution (Trimble, 1997). Stage IV is characterized by more aggradation and localized bank instability. Stage V represents a new quasi-equilibrium channel morphology in balance with the new flow and sediment supply regime. In other words, stream power is in balance with sediment load and sediment size.

The magnitude of the channel morphology changes discussed above varies along a stream network as well as with the age of development, slope, geology (sand-bedded channels may cycle through the evolution sequence in a matter of decades whereas clay-dominated channels may take much longer), watershed sediment load and size, type of urbanization, and land use history. It is also dependent on a channel's stage in the channel evolution sequence when urbanization occurs. Management strategies must take into account a channel's stage of adjustment and account for future changes in the evolution of channel form (Stein, 2005).

The hydromodification requirements in this Order are based on established Federal Highway Administration procedures for assessing stream stability at highway crossings. These procedures are geomorphically based and have historically been used to inform bridge and culvert design and to ensure that these structures are not impacted by decreased lateral and vertical stability (FHWA, 2001; FHWA, 2006). Maintaining lateral and vertical stability will not only protect highway structures but will serve the broader interest of maintaining stable stream form and function.

These hydromodification requirements are risk based and reflect the concept that stable channels (as determined from a Level 1 rapid analysis) do not have to undergo any further analysis and that hydrology-based design standards are protective.

If stream channels are determined to be laterally and or vertically unstable, the analysis procedures are much more rigorous and the mitigation measures are potentially more extensive. There is support in the literature for the type of tiered, risk-based approach taken in this Order (Booth, 1990; Watson, 2002; Bledsoe, 2002; Bledsoe et al., 2008).

California Senate Bill 857 (2006) amended Article 3.5 of the Streets and Highways Code to require the Department to assess and remediate barriers to passage of anadromous fish at stream crossings along the State Highway System. The bill also requires the Department to, among other things, prepare an annual report to the legislature on the status of the Department's efforts in locating, assessing, and remediating barriers to fish passage. Waters of the State supporting the beneficial use of fish migration could be adversely impacted by improperly designed or maintained stream crossings, or through natural channel evolution processes. Accordingly, this Order requires the Department to also submit the annual report required under SB 857 to the State Water Board.

Low Impact Development (LID)

On January 20, 2005, the State Water Board adopted sustainability as a core value for all California Water Boards' activities and programs, and directed State Water Board staff to consider sustainability in all future policies, guidelines, and regulatory actions. Sustainability can be achieved through appropriate implementation of the LID techniques required by this Order.

The proper implementation of LID techniques not only results in water quality protection benefits and a reduction of land development and construction costs, but also enhances property values, and improves habitat, aesthetic amenities, and quality of life (U.S. EPA, 2007). Further, properly implemented LID techniques reduce the volume of runoff leaving a newly developed or re-developed area thereby lowering the peak rate of runoff, and thus minimizing the adverse effects of hydromodification on stream habitat (SWRCB, 2007). The requirements of this Order facilitate the implementation of LID strategies to protect water quality, reduce runoff volume, and to promote sustainability.

Unlike traditional storm water management, which collects and conveys storm water runoff through storm drains, pipes, or other conveyances to a centralized storm water facility, LID takes a different approach by using site design and storm water management to maintain the site's pre-development runoff rates and volumes. The goal of LID is to mimic a site's pre-development hydrology by using design techniques that infiltrate, filter, store, evaporate, and detain runoff close to the source of rainfall. LID has been a proven approach in other parts of the country and is seen in California as an alternative to conventional storm water management.

LID is a tool that can be used to better manage natural resources and limit the pollution delivered to waterways. To achieve optimal benefits, LID needs to be integrated with watershed planning and appropriate land use programs. LID by itself will not deliver all the water quality outcomes desired; however, it does provide enhanced storm water treatment and mitigates increased volume and flow rates (SWRCB, 2007).

This Order approaches LID through source control design principles, site design principles and storm water treatment and infiltration principles. Source control and site design principles are required as applicable to provide enough flexibility such that projects are not forced to include inappropriate or impractical measures. Not all of the storm water treatment

and infiltration principles identified in the Order are required to be implemented but are listed in order of preference with the most environmentally protective and effective alternatives listed first.

BMP Development and Implementation

The Department has developed a BMP program for control of pollutants from existing facilities and for new and reconstructed facilities. This BMP program includes development, construction, maintenance and evaluation of BMPs, and investigation of new BMPs. The goal of BMP implementation is to control the discharge of pollutants to the applicable standards.

While erosion control BMPs are typically used on construction sites, some are used as permanent, post-construction BMPs. Typical erosion control BMPs involve use of straw or fiber rolls and mats. These rolls and mats are often held together by synthetic mesh or netting. Synthetic materials are persistent in the environment and have been found to be a source of pollutants, trash (Brzozowski, 2009), and hazard to wildlife through entrapment (Brzozowski, 2009; Barton and Kinkead, 2005; Walley et al, 2005; Stuart et al, 2001). For erosion control products used as permanent, post-construction BMPs, this Order requires the use of biodegradable materials, and the removal of any temporary erosion control products containing synthetic materials when they are no longer needed. Biodegradable materials are required in erosion control products used by the Departments of Transportation in the states of Delaware and Iowa (Brzozowski, 2009). Use of synthetic (plastic) materials is also prohibited through a Standard Condition in Streambed Alteration Agreements by the California Department of Fish and Game, Region 1 (Van Hattem, personal communication, 2009).

Potential Unintended Public Health Concerns Associated with Structural BMPs

The Department worked collaboratively with the California Department of Public Health (CDPH) on a comprehensive, multi-component monitoring program of more than 120 structural BMPs for mosquito production (Department, 2004). The data revealed that certain BMPs may unintentionally create habitat suitable for mosquitoes and other vectors. The California Health and Safety Code prohibits landowners from knowingly providing habitat for or allowing the production of mosquitoes and other vectors, and gives local vector control agencies broad inspection and abatement powers. This Order requires the Department to comply with applicable provisions of the Health and Safety Code and to cooperate and coordinate with CDPH and local mosquito and vector control agencies on vector control issues in the Department's MS4.

Construction

The Department's construction activities were previously regulated under the MS4 permit (Order 99-06-DWQ), which required the Department to comply with the substantive provisions of the CGP but not the requirement to file separate notices of intent for each construction project. Some Regional Water Boards have had difficulty enforcing the provisions of the CGP when enrollment under that permit is not required. This Order requires the Department to file for separate coverage for each construction project under the

CGP. This change is expected to increase the Department's accountability for discharges from construction sites and improve the ability of the Regional Water Boards to take enforcement actions as necessary.

Though discharges from construction activities are not regulated under this Order, any discharges from a site occurring after completion of construction (i.e. post-construction discharges) are fully subject to the requirements of this Order.

Some Department construction-related activities such as roadway and parking lot repaving and resurfacing may mobilize pollutants, even though they may not trigger coverage under the CGP. Such activity may discharge pollutants to the environment, however. BMPs for the control of such discharges are specified in the Department's Project Planning and Design Guide and Construction Site BMP Field Manual and Trouble Shooting Guide, and in the California Stormwater Quality Association (CASQA) California Stormwater BMP Handbook (Department, 2010; Department, 2003a); (CASQA, 2009). The Department is required to implement BMPs to control such discharges.

Because some Department construction projects may not involve grading or land disturbance of one acre or more, these smaller projects do not trigger requirements to enroll under the Construction General Permit. This Order requires the Department to implement BMPs to control discharges from such projects to the MEP. Failure to implement appropriate BMPs is a violation of this Order.

Maintenance Program Activities

Preservation of vegetation is an effective method for the control of pollutants in runoff; however the Department must control vegetation in its rights-of-way for purposes of traffic safety and nuisance. The Department currently implements a vegetation control program with a stated purpose of minimizing the use of agricultural chemicals and maximizing the use of appropriate native and adapted vegetation for erosion control, filtering of runoff, and velocity control.

Notwithstanding the Department's commitment to reduce the use of agricultural chemicals, the Department reported a total amount of 208,549 pounds of herbicide used in the 2008-2009 Storm Water Management Program Annual Report (Department (2010a); CTSW-RT-10-182-32.1). Reported reasons for increased herbicide usage included:

1. Local weather conditions, such as increased rainfall, leading to increased weed production.
2. The need to address new mandates for fire suppression (fuel abatement) adjacent to roadways.
3. Requests from local cities and counties.
4. Increase in or outbreaks of noxious weeds in areas adjacent to farmland.

This Order contains detailed requirements for the control of vegetation and reporting requirements for the use of agricultural chemicals.

The Department's maintenance facilities discharge pollutants to the MS4. This Order requires the Department to prepare Facility Pollution Prevention Plans (FPPPs) for all maintenance facilities. The Department is also required to implement BMP programs at each facility as necessary and periodically inspect each facility.

Spill cleanup is part of the Department's maintenance program. This Order requires the Department to ensure that spills on its rights-of-way are fully and appropriately cleaned up, and to provide appropriate notifications to local municipalities which may be affected by the spill. The Department is also required to notify the appropriate Regional Water Board of any spill with the potential to impact receiving waters.

This Order requires the Department to monitor and clean storm drain inlets when they have reached 50 percent capacity. The Department must initiate procedures contained in an Illegal Connection/Illicit Discharge (IC/ID) and Illegal Dumping Response Plan where storm water structures are found to contain excessive material resulting from illegal dumping, and it must determine if enhanced BMPs are needed at the site.

This Order requires the Department to implement the BMPs and other requirements of the SWMP and this Order to reduce and eliminate IC/IDs. It also requires the Department to prepare a Storm Drain System Survey Plan and an Illegal Dumping Response Plan.

Facilities Operations

There is potential for the discharge of pollutants from Department facilities during rain events. The discharge of pollutants from facilities not covered by the IGP will be reduced to the MEP through the appropriate implementation of BMPs.

This Order requires the Department to file an NOI for coverage under the IGP for industrial facilities as specified in Attachment 1 of the IGP. This requirement is expected to increase the Department's accountability for discharges from industrial facilities and improve the ability of the Regional Water Boards to take enforcement actions as necessary.

Department Activities Outside the Department's Right-of-Way

Facilities and operations outside the Department's ROW may support various Department activities. Facilities may include concrete or asphalt batch plants, staging areas, concrete slurry processing or other material recycling operations, equipment and material storage yards, material borrow areas, and access roads. Facilities may be operated by the Department or by a third party. The Department is required to include provisions in its contracts that require the contractor to obtain and comply with applicable permits for facilities and operations outside the Department's ROW when these facilities are active for the primary purpose of accommodating Department activities.

Non-Department Projects and Activities

Non-Department projects and activities include construction projects or other activities conducted by a third party within the Department's ROW. The Department is responsible for runoff from all non-Department projects and activities in its rights-of-way unless a separate

permit is issued to the other entity. At times, local municipalities or private developers may undertake construction projects or other activities within the Department's ROW. The Department may exercise control or oversight over these third party projects or activities through encroachment permits or other means. This Order sets project planning and design requirements for non-Department projects.

Management Activities for Non-Storm Water Discharges

Non-storm water discharges are dry weather flows that do not originate from precipitation events. Non-storm water discharges are illicit discharges and are prohibited by the federal regulations (40 C.F.R., § 122.26 (d)(2)(iv)(B)(1)) unless exempted or separately permitted. Procedures for prohibiting illicit discharges and illegal connections, and for responding to illegal dumping and spills are needed to prevent environmental damage and must be described in the SWMP.

Training and Public Education

Education is an important element of municipal storm water runoff management programs. U.S. EPA (2005) finds that "An informed and knowledgeable community is crucial to the success of a storm water management program since it helps ensure the following: Greater support for the program as the public gains a greater understanding of the reasons why it is necessary and important, [and] greater compliance with the program as the public becomes aware of the personal responsibilities expected of them and others in the community, including the individual actions they can take to protect or improve the quality of area waters."

U.S. EPA also states "The public education program should use a mix of appropriate local strategies to address the viewpoints and concerns of a variety of audiences and communities, including minority and disadvantaged communities, as well as children."

This Order requires the Department to implement a Training and Public Education program. The Training and Public Education program focuses on three audiences: Department employees, Department contractors, and the general public. The Department must implement programs for all three audiences. The Training and Public Education program is considered a BMP and an analysis of its effectiveness is needed.

Program Evaluation

This Order requires the Department to evaluate the effectiveness and adequacy of the storm water program on an annual basis. This includes both water quality monitoring and a self-audit of the program. The audit is intended to determine the effectiveness of the storm water and non-storm water programs through the evaluation of factors and program components such as:

1. Storm water and non-storm water discharges, including pollutant concentrations from locations representative of the Department's properties, facilities, and activities;
2. Maintenance activity control measures;
3. Facility pollution prevention plans;

4. Permanent control measures; and
5. Highway operation control measures.

In addition to water quality monitoring and the self-audit, the Department must perform an Overall Program Effectiveness Evaluation each year to determine the effectiveness of the program in achieving environmental and water quality objectives. The scope of the evaluation is expected to increase each year in response to the continuing collection of environmental monitoring data.

Reporting

Comprehensive reporting is needed to determine compliance with this Order and to track the effectiveness of the Department's storm water program over time. A summary of the reports required from the Department is presented in Attachment IX of the Order. The State Water Board and Regional Water Boards have the authority under various sections of the California Water Code to request additional information as needed.

The Department must track, assess and report on program implementation to ensure its effectiveness. In addition to the individual reports referenced above, the Department is required to submit an annual report to the State Water Board by October 1 of each year. The Annual Report must evaluate compliance with permit conditions, evaluate and assess the effectiveness of BMPs, summarize the results of the monitoring program, summarize the activities planned for the next reporting cycle, and, if necessary, propose changes to the SWMP.

Total Maximum Daily Loads (TMDL)

Section 303(d) of the Clean Water Act requires States to identify waters ("impaired" water bodies) that do not meet water quality standards after applying certain required technology-based effluent limits. States are required to compile this information in a list and submit the list to the U.S. EPA for review and approval. This list is known as the Section 303(d) list of impaired waters.

As part of the listing process, States are required to prioritize waters/watersheds for future development of TMDLs. A TMDL is defined as the sum of the individual waste load allocations (WLAs) for point sources of pollution, plus the load allocations (LAs) for nonpoint sources of pollution, plus the contribution from background sources of pollution and a margin of safety. The State Water Board and Regional Water Boards have ongoing efforts to monitor and assess water quality, to prepare the Section 303(d) list, and to subsequently develop TMDLs.

TMDLs are developed by either the Regional Water Boards or U.S. EPA in response to Section 303(d) listings. TMDLs developed by Regional Water Boards include implementation provisions and can be incorporated as Basin Plan amendments. TMDLs developed by U.S. EPA typically contain the total load and load allocations required by Section 303(d), but do not contain comprehensive implementation provisions. Subsequent

steps after Regional Water Board TMDL development are: approval by the State Water Board, approval by the Office of Administrative Law, and ultimately, approval by U.S. EPA.

The Department has been assigned mass based and concentration based WLAs for constituents contributing to a TMDL in specific regions. The Department is subject to TMDLs in the North Coast, San Francisco Bay, Central Coast, Los Angeles, Central Valley, Lahontan, Colorado River, Santa Ana, and San Diego Regions. These TMDLs are summarized in Table 1 of this Fact Sheet below, and Table IV.2 of Attachment IV of this Order.

Table 1. Department Statewide TMDLs

Water Body	Pollutant	U.S. EPA Approved/Established
<i>North Coast Region</i>		
Albion River *	Sediment	December 2001
Big River *	Sediment	December 2001
Lower Eel River *	Temperature & Sediment	December 18, 2007
Middle Fork Eel River *	Temperature & Sediment	December 2003
South Fork Eel River *	Sediment & Temperature	December 16, 1999
Upper Main Eel River and Tributaries (including Tomki Creek, Outlet Creek and Lake Pillsbury) *	Sediment & Temperature	December 29, 2004
Garcia River	Sediment	March 16, 1998
Gualala River *	Sediment	November 29, 2004
Klamath River	Temperature, Dissolved Oxygen, Nutrient, & Microcystin	December 28, 2010
Lost River	Nitrogen and Biochemical Oxygen Demand	December 30, 2008
Mad River *	Sediment & Turbidity	December 21, 2007
Navarro River *	Temperature & Sediment	December 27, 2000
Noyo River *	Sediment	December 16, 1999
Redwood Creek *	Sediment	December 30, 1998
Scott River	Sediment and Temperature	August 11, 2006
Shasta River	Dissolved Oxygen & Temperature	January 26, 2007
Ten Mile River *	Sediment	December 2000

Water Body	Pollutant	U.S. EPA Approved/Established
Trinity River *	Sediment	December 20, 2001
South Fork Trinity River and Hayfork Creek *	Sediment	December 1998
Van Duzen River & Yager Creek *	Sediment	December 16, 1999
<i>San Francisco Bay Region</i>		
Napa River	Sediment	January 20, 2011
Richardson Bay	Pathogens	December 18, 2009
San Francisco Bay	PCBs	March 29, 2010
San Francisco Bay	Mercury	February 12, 2008
San Pedro and Pacifica State Beach	Bacteria	August 1, 2013
San Francisco Bay Urban Creeks	Diazinon & Pesticide-Related Toxicity	May 16, 2007
Sonoma Creek	Sediment	September 8, 2010
<i>Central Coast Region</i>		
San Lorenzo River (includes Carbonera Lompico, Shingle Mill Creeks)	Sediment	February 19, 2004
Morro Bay (includes Chorro Creek, Los Osos Creek, and the Morro Bay Estuary)	Sediment	January 20, 2004
<i>Los Angeles Region</i>		
Ballona Creek	Metals (Ag, Cd, Cu, Pb, & Zn) and Selenium	December 22, 2005 and reaffirmed on October 29, 2008
Ballona Creek	Trash	August 1, 2002 and February 8, 2005
Ballona Creek Estuary	Toxic Pollutants (Ag, Cd, Cu, Pb, Zn, Chlordane, DDTs, Total PCBs, and Total PAHs)	December 22, 2005
Ballona Creek, Ballona Estuary and Sepulveda Channel	Bacteria	March 26, 2007
Ballona Creek Wetlands *	Sediment and Invasive Exotic Vegetation	March 26, 2012
Calleguas Creek and its Tributaries and Mugu	Metals and Selenium	March 26, 2007

Water Body	Pollutant	U.S. EPA Approved/Established
Lagoon		
Calleguas Creek its Tributaries and Mugu Lagoon	Organochlorine Pesticides, Polychlorinated Biphenyls, and Siltation	March 14, 2006
Colorado Lagoon	Organochlorine Pesticides, Polychlorinated Biphenyls, Sediment Toxicity, Polycyclic Aromatic Hydrocarbons, and Metals	June 14, 2011
Dominguez Channel, Greater Los Angeles and Long Beach Harbor Waters	Toxic Pollutants: Metals (Cu, Pb, Zn), DDT, PAHs, and PCBs	March 23, 2012
Legg Lake	Trash	February 27, 2008
Long Beach City Beaches and Los Angeles & Long Beach Harbor Waters *	Indicator Bacteria	March 26, 2012
Los Angeles Area (Echo Park Lake) *	Nitrogen, Phosphorus, Chlordane, Dieldrin, PCBs, and Trash	March 26, 2012
Los Angeles Area (Lake Sherwood) *	Mercury	March 26, 2012
Los Angeles Area (North, Center, and Legg Lakes) *	Nitrogen and Phosphorus	March 26, 2012
Los Angeles Area (Peck Road Park Lake) *	Nitrogen, Phosphorus, Chlordane, DDT, Dieldrin, PCBs, and Trash	March 26, 2012
Los Angeles Area (Puddingstone Reservoir) *	Nitrogen, Phosphorus, Chlordane, DDT, PCBs, Hg, and Dieldrin	March 26, 2012
Los Angeles River and Tributaries	Metals	December 22, 2005 and October 29, 2008 & Reopened and Modified on November 3, 2011
Los Angeles River	Trash	July 24, 2008
Los Angeles River Watershed	Bacteria	March 23, 2012
Los Cerritos *	Metals	March 17, 2010
Machado Lake	Pesticides and Polychlorinated Biphenyls	March 20, 2012
Machado Lake	Trash	February 27, 2008

Water Body	Pollutant	U.S. EPA Approved/Established
Machado Lake	Eutrophic, Algae, Ammonia, and Odors (Nutrient)	March 11, 2009
Malibu Creek Watershed	Bacteria	January 10, 2006, Revised November 8, 2013**
Malibu Creek and Lagoon *	Sedimentation and Nutrients to Address Benthic Community Impairments	July 2, 2013
Malibu Creek Watershed	Trash	June 26, 2009
Marina del Rey Harbor	Toxic Pollutants	March 16, 2006
Marina del Rey, Harbor Back Basins, Mothers' Beach	Bacteria	March 18, 2004, Revised November 7, 2013**
Revolon Slough and Beardsley Wash	Trash	August 1, 2002 and February 8, 2005
San Gabriel River *	Metals (Cu, Pb, & Zn) and Selenium	March 26, 2007
Santa Clara River Estuary and Reaches 3, 5, 6, and 7	Coliform	January 13, 2012
Santa Clara River Reach 3 *	Chloride	June 18, 2003
Santa Monica Bay *	DDTs and PCBs	March 26, 2012
Santa Monica Bay Nearshore & Offshore	Debris (trash & plastic pellets)	March 20, 2012
Santa Monica Bay Beaches	Bacteria	June 19, 2003, Revised November 7, 2013**
Upper Santa Clara River	Chloride	April 6, 2010
Ventura River Estuary	Trash	February 27, 2008
Ventura River and its Tributaries	Algae, Eutrophic Conditions, and Nutrients	June 28, 2013
Central Valley Region		
Cache Creek, Bear Creek, Sulphur Creek and Harley Gulch	Mercury	February 7, 2007
Clear Lake	Nutrients	September 21, 2007
Sacramento – San Joaquin Delta	Methylmercury	October 20, 2011
Lahontan Region		

Water Body	Pollutant	U.S. EPA Approved/Established
Lake Tahoe	Sediment and Nutrients	August 16, 2011
Truckee River	Sediment	September 16, 2009
<i>Colorado River Region</i>		
Coachella Valley Storm Water Channel	Bacterial Indicators	April 27, 2012
<i>Santa Ana Region</i>		
Big Bear Lake	Nutrients for Hydrological Conditions	September 25, 2007
Lake Elsinore and Canyon Lake	Nutrients	September 30, 2005
Rhine Channel Area of the Lower Newport Bay *	Chromium and Mercury	June 14, 2002
San Diego Creek and New Port Bay, including the Rhine Channel *	Metals (Cadmium, Copper, Lead, & Zinc)	June 14, 2002
San Diego Creek and Upper Newport *	Cadmium	June 14, 2002
San Diego Creek Watershed	Organochlorine Compounds (DDT, Chlordane, PCBs, and Toxaphene)	November 12, 2013
Upper & Lower Newport Bay	Organochlorine Compounds (DDT, Chlordane, & PCBs)	November 12, 2013
<i>San Diego Region</i>		
Chollas Creek	Diazinon	November 3, 2003
Chollas Creek	Dissolved Copper, Lead, and Zinc	December 18, 2008
Rainbow Creek	Total Nitrogen and Total Phosphorus	March 22, 2006
Project 1 – Revised Twenty Beaches and Creek in the San Diego Region (Including Tecolote Creek)	Indicator Bacteria	June 22, 2011
* U.S. EPA Established TMDL		
** OAL Approved, U.S. EPA Approval Pending		

The TMDL-based requirements of this Order are not limited to the maximum extent practical (MEP) standard. The TMDL-based requirements have been imposed in accordance with 40 Code of Federal Regulations section 122.44(d)(1)(vii)(B). Pursuant to 40 Code of Federal Regulations section 122.44(d)(1)(vii)(B), the effluent limitations for NPDES permits must be consistent with the assumptions and requirements of any available WLA for the discharge prepared by the state and approved by EPA, or established by EPA. In addition, Water Code section 13263, subdivision (a), requires that waste discharge requirements implement

any relevant water quality control plans (basin plans), including TMDL requirements that have been incorporated into the basin plans.

Effluent limitations for NPDES-regulated storm water discharges that implement WLAs in TMDLs may be expressed in the form of best management practices (BMPs). (See 33 U.S.C. §1342(p)(3)(B)(iii); 40 C.F.R. §122.44(k)(2)&(3).) Where effluent limitations are expressed as BMPs, there should be adequate demonstration in the administrative record of the permit, including in the Fact Sheet, that the BMPs will be sufficient to comply with the WLAs.²⁰ (See 40 C.F.R. §§ 124.8, 124.9 & 124.18.) The NPDES permit must also specify the monitoring necessary to determine compliance with permit limitations. (See 40 C.F.R. § 122.44(i).) Where effluent limitations are specified as BMPs, the permit should also specify the monitoring necessary to assess if the expected load reductions attributed to BMP implementation are achieved (e.g., BMP performance data). The permit should additionally provide a mechanism to make adjustments to the required BMPs as necessary to ensure their adequate performance.²¹

As detailed below, this Order establishes BMP-based requirements for TMDL implementation that are consistent with the requirements and assumptions of the relevant WLAs. This Order further requires implemented BMPs to be monitored for effectiveness and to be adaptively managed for modifications as necessary to achieve WLAs.

Overview

The State Water Board and Regional Water Boards have reviewed the WLAs, implementation requirements, and monitoring requirements specified in the adopted and approved Regional Water Board Basin Plans or in U.S. EPA-established TMDLs applicable to the Department. In most of the relevant TMDLs, the Department's contribution to impairment is a small portion of the overall contribution from multiple sources (less than five percent). While the Department is generally a small contributor to impairment, the statewide reach of its highway system means that it is a contributor in numerous impaired watersheds. The Department must comply with applicable TMDLs across the state.

The fact that one discharger – the Department – must implement requirements for over 84 TMDLs administered by nine Regional Water Boards poses a unique challenge in permitting. Many of the TMDLs are designed to address the same pollutants causing impairment, and progress in achievement of the WLA for these pollutant categories requires implementation of similar control measures coupled with monitoring and adaptive management. In past

²⁰ Establishing Total Maximum Daily Load Wasteload Allocations (WLAs) for Storm Water Sources and NPDES Permit Requirements Based on Those WLAs," Memorandum, U.S. EPA, November 22, 2002. On November 12, 2010, U.S. EPA issued a revision to the November 22, 2002, memorandum, recommending that "where the TMDL includes WLAs for storm water sources that provide numeric pollutant load or numeric surrogate pollutant parameter objectives, the WLA should, where feasible, be translated into numeric WQBELs in the applicable storm water permits." The revision further stated, however, that the permitting authority's decision as to how to express water quality based effluent limitations (WQBELs), i.e. as numeric effluent limitations or BMPs, would be based on an analysis of the specific facts and circumstances surrounding the permit.

²¹ *Ibid.*

regulatory actions, however, the Department has been directed to comply with the TMDL requirements by reference to the sections of the relevant basin plan and through coordination with the relevant Regional Water Board. As a result, the Department has devoted significant effort to coordination and exercises to determine the next steps, with limited progress in installing on-the-ground control measures to achieve actual water quality improvements. This Order provides a focused and streamlined process for TMDL compliance so that the Department may proceed as quickly as possible to installation of control measures and monitoring, and adaptive management of those control measures to result in water quality improvements. The Order's TMDL requirements provide consistency in determining compliance requirements, where appropriate. To allow for consistency, with resulting time and cost-efficiency, in achieving compliance with the TMDL requirements applicable to the Department, the State Water Board has developed a set of pollutant category requirements to be implemented by the Department.

The pollutant categories are as follows:

1. Sediment/Nutrients/Mercury/Siltation/Turbidity TMDLs
2. Metals/Toxics/Pesticides TMDLs
3. Trash TMDLs
4. Bacteria TMDLs
5. Diazinon TMDLs
6. Selenium TMDLs
7. Temperature TMDLs
8. Chloride TMDLs

Table IV.2 of Attachment IV of this Order lists all TMDLs applicable to the Department. For each TMDL, Table IV.2 cross-references one or more pollutant category. The Department must implement the cross-referenced pollutant category requirements to achieve compliance with the TMDL provisions of the Order. Where TMDL-specific, rather than, or in addition to, pollutant category-specific permit requirements are appropriate (because of the unique local conditions or specific requirements in the TMDL), those requirements are also noted in Table IV.2. In addition, Table IV.2 cross-references the monitoring, reporting and adaptive management requirements applicable to all pollutant categories.

Attachment IV of this Order recognizes that, because the Department must comply with numerous TMDLs, the Department must phase in implementation requirements for TMDLs over several years. To achieve the highest water quality benefit as quickly as feasible in the permit term, this phase-in must be accomplished in a manner that addresses discharges with the highest impact on water quality first. Accordingly, Attachment IV requires the Department, by October 1, 2014, to prepare and submit an inventory of all impaired reaches subject to TMDLs to which the Department discharges with prioritized implementation of controls for these reaches based on a set of qualitative criteria. In preparing the initial prioritization, the Department must consider the degree of impairment of the water body, measured by the percent pollution reduction needed to achieve the WLA, the contributing drainage area from the Department's right of way (ROW) relative to the watershed draining to the reach, and the relative proximity of the ROW to the receiving water.

The State Water Board will allow a 30-day public comment period on the Department's initial prioritization and will work with the Department and the Regional Water Boards to compile a final prioritization to be approved by the State Water Board Executive Director. Criteria for final prioritization to be considered by the Department, the State Water Board and Regional Water Boards include:

- a. Opportunities for synergistic benefits with existing or anticipated projects or activities within the reach, e.g., cooperative efforts with other dischargers or projects within an ASBS.
- b. Multiple TMDLs that can be addressed by a single BMP within a reach.
- c. TMDL deadlines specified in a Basin Plan.
- d. Regional Water Board and State Water Board priorities.
- e. Accessibility for construction and/or maintenance (i.e. safety considerations).
- f. Multi-benefit projects that provide benefits in addition to water quality improvement, such as groundwater recharge or habitat enhancement.

In finalizing the prioritization, the State Water Board and Regional Water Boards will consider the compliance date for attainment of the WLAs established in the Basin Plans and may adjust the prioritization accordingly. It is the intent of the State Water Board to have the Department meet listed TMDL deadlines where feasible.

Upon State Water Board Executive Director approval of final prioritization, the Department must implement control measures to achieve 1650 Compliance Units (CUs) per year. One CU is equivalent to one acre of the Department's ROW, from which the runoff is retained, treated, or otherwise controlled prior to discharge to the relevant reach. BMPs installed during construction activities in TMDL watersheds may receive CU credit for that portion of the treatment volume that exceeds the baseline treatment control requirements specified in the Order. A CU may be claimed when the BMP retrofit project enters the Project Initiation Document (PID) phase of implementation per the requirements of the Order. If a BMP retrofit project is not completed within the approved time schedule, the CU(s) will be revoked unless the Executive Director approves a delay.

The determination of the number of CUs the Department must complete each year is based on the objective of addressing every TMDL in Attachment IV within 20 years. A primary factor considered in the determination of the number of CUs to be completed each year is the compliance due date for the final WLA for many of the relevant TMDLs. The State Water Board considered two approaches in determining the annual number of CUs.

The first approach is based on a simple calculation of the number of acres of ROW that must be treated to ensure that all TMDL watersheds are addressed over a 20 year time frame. Data submitted by the Department indicate that there are 68,000 acres of ROW within TMDL watersheds.

It is not possible or necessary to treat 100 percent of the runoff from TMDL watersheds. In evaluating monitoring sites for discharges into ASBS, staff found that approximately 64

percent of the sites considered could not be addressed, either due to access limitations or safety considerations. Similar conditions are expected to exist in TMDL watersheds, although the percentage will not be as high because the terrain found along most of California's coastline is more difficult and rugged than the terrain that typically exists in the rest of the state. Accordingly, for purposes of this calculation based on the Department's preliminary estimates, the percentage of inaccessible/unsafe sites is reduced by one-half for TMDL watersheds, or 32 percent, translating into approximately 22,000 fewer acres ($68,000 \times 32 \text{ percent} = 22,000$) that must be treated. Therefore, the Department will have to address approximately 46,000 acres of ROW to comply with the TMDL requirements of Attachment IV. With the objective of addressing all TMDLs in Attachment IV within 20 years, the Department must treat or otherwise address 2300 acres per year ($46,000/20 = 2300$) throughout the state within the TMDL watersheds listed in Attachment IV.

The second approach for determination of CUs considered by the State Water Board is based on the Department's updated estimates of ROWs that must be treated. This proposal provided by the Department segregates the TMDLs into eight pollutant categories, similar to those presented in Attachment IV, including sediments, metals, trash and bacteria. The Department proposed annual CU commitments based upon the individual categories, with 600 CUs for sediments, a combined 710 CUs for metals and trash, and 340 CUs for bacteria, for an annual total of 1650 CUs. The proposal does not include other pollutant categories in which the acreage and controls for sediments, metals, trash, and bacteria would overlap with the acreage and controls for these other pollutants. This overlap of coverage was identified for the above categorical annual commitments so that the total ROW acreage requiring treatment equates to 33,000 acres.

Though the two approaches produce similar results, the State Water Board confirms that the second approach is sufficient for TMDL-implementation planning at the current stage of TMDL implementation; therefore the second compliance unit determination approach described above is implemented in this Order. The State Water Board believes that 1650 CUs represent a reasonable balance of resources and environmental protection, and will be sufficient to address the TMDLs in Attachment IV in the foreseeable future. The Department is ultimately responsible for demonstrating that it has complied with the TMDLs in Attachment IV by meeting the WLAs and other TMDL performance criteria, independent of its annual obligation to receive credit for compliance units. 1650 CUs per year may be more or less than is needed to comply with the TMDLs in Attachment IV within 20 years. This permit expires in 2018; therefore Attachment IV of this Order requires the Department to present to the State Water Board, at a public meeting to be scheduled approximately 180 days prior to the expiration of the Order, a TMDL Progress Report containing an evaluation of the progress achieved during this permit term. The State Water Board will then evaluate the compliance unit approach and the Department's progress in meeting the 20 year objective before consideration of subsequent requirements in a subsequently renewed permit.

Using an average cost \$176,000 per BMP/acre²², the proposed annual cost to meet this requirement relying solely on retrofits is approximately \$290,000,000. The Department's contribution to impairment in any given TMDL is generally a small portion of the overall contribution from multiple sources. In many cases, synergistic effects can be achieved and water quality improvements are better served through coordinated efforts with other parties to the TMDL. To encourage collaborative implementation, Attachment IV of this Order allows CUs for collaborative efforts based on the amount of financial participation made by the Department. To determine an appropriate financial equivalence staff used the cost data submitted by the Department of \$176,000 per BMP/acre or per CU. However, to encourage collaborative efforts, staff proposes a 50 percent discount for participation in these types of agreements. Attachment IV accordingly sets the CU equivalent at \$88,000. Based on the same approach described above, and relying solely on contributions to collaborative efforts, the annual cost to the Department is approximately \$145,000,000.

Attachment IV allows for two types of collaborative implementation: Cooperative Implementation Agreements between the Department and other responsible parties to conduct work to comply with a TMDL, and a Cooperative Implementation Grant Program funded by the Department and administered by the State Water Board. The grant program will be used to fund capital projects in impaired watersheds in which the Department has been assigned a WLA or otherwise has responsibility for implementation of the TMDL. Cooperative implementation will satisfy some or all of the Department's obligations under a TMDL, whether or not discharges from the Department's ROW are controlled or treated.

Cooperative implementation has the following advantages:

- Allows for retrofit projects off the ROW, at locations that may otherwise have space, access, or safety limitations within the ROW;
- Provides for the involvement of local watershed partners who have an interest and expertise in the best way to protect, manage, and enhance water quality in the watershed;
- Allows for implementation of BMPs and other creative solutions not typically available to the Department;
- Allows for larger watershed scale projects; and
- Leverages resources from other entities.

In addition, the Cooperative Implementation Grant Program eliminates the Department's complex budgeting and project approval process to expedite the implementation of BMPs in impaired watersheds.

If the Department elects to fund a Cooperative Implementation Grant Program, the Department and the State Water Board will enter into a formal agreement to specify the terms of the grant program and the commitments and responsibilities of the parties. The agreement will specify the following:

²² Construction capital cost based on information provided by Department staff.

- The Department will pay all State Water Board costs in administering the grant program. No credit for compliance units will be given for administrative costs paid to the State Water Board.
- The Department will track and report on the projects funded under the grant program.
- Grantees will be responsible for the long term management, operation, and maintenance of BMPs.
- Grants are limited to other responsible parties named in the TMDL.
- Projects shall address storm water runoff and treat or control the same Pollutants of Concern that the Department is responsible for.
- Priority is given to projects that address impairments in the highest priority reaches identified in the prioritization process specified in Attachment IV, Section I.A.
- If the grant program is discontinued, any unexpended funds will be returned to the Department and the corresponding compliance units will be revoked and added to subsequent annual compliance unit totals.

Attachment IV reflects the State Water Board's commitment to streamlining TMDL compliance for the Department to proceed as quickly as feasible to implement on-the-ground control measures and obtain measurable improvement in water quality. In the prioritization process, the Department and the Water Boards will consider the final compliance deadlines under the TMDLs; however, the State Water Board recognizes that the requirements in Attachment IV do not mirror all specific interim deadlines for studies, reports, and pollutant reductions in the TMDLs included to demonstrate progress toward meeting the WLAs. The requirements in Attachment IV are general yet consistent with specific planning, study, and reporting requirements in the TMDLs.

The Department is required annually to include in the TMDL Status Review Report its proposal for reaches to be addressed in the upcoming year, with selected control measures and projected schedule for implementation. The Department is also required to report a set of information that encompasses updates on cooperative and individual implementation activities completed, as well as an analysis of the effectiveness of existing BMPs and activities in meeting the WLAs. This information will be reviewed by the State Water Board and will be publicly available. Control measures and implementation schedules proposed for the upcoming year are subject to the approval of the Executive Director, or designee.

Attachment IV does not list the final required WLAs for each TMDL. With few exceptions, the WLAs are to be achieved jointly by a number of storm water dischargers and accordingly are of limited use in determining and enforcing the Department's specific responsibilities under the TMDL. The State Water Board finds that effective implementation and enforcement of Attachment IV is better achieved through clear requirements for implementation of controls, and monitoring and adaptive management of such controls, than by implementation of joint WLAs into the permit requirements.

Nevertheless, the WLAs, both Department-specific and joint with other dischargers, are discussed in the sections below. While the WLAs are not incorporated into Attachment IV as permit requirements, the discussion establishes that Attachment IV is consistent with the

requirements and assumptions of the WLAs. In general, the Department is a relatively small contributor to the impairment to be addressed by the relevant TMDLs.²³ Attachment IV requires a focused effort to address the priority discharges through measurable and streamlined progress in implementation of controls, effectively addressing the relatively small contribution from the Department. The Department must verify progress through reporting of subsequent monitoring and adaptive management activities.

As an additional step in determining compliance toward achievement of WLAs, the Department must submit a TMDL Progress Report with its application for permit reissuance in January of 2018, analyzing the effectiveness of the control measures installed for each reach and whether the control measures have been or will be sufficient to achieve WLAs and other performance standards by the final TMDL compliance deadlines. The TMDL Progress Report will be subject to public review and comment and will inform the State Water Board as it considers subsequent requirements in a subsequently reissued permit.

A. General Requirements for all TMDLs: Comprehensive TMDL Monitoring, Reporting, and Adaptive Management

As previously discussed, an NPDES permit must specify the monitoring necessary to determine compliance with effluent limitations. Where effluent limitations are specified as BMPs, the permit should specify the monitoring necessary to assess if the expected load reductions attributed to BMP implementation are achieved. The permit should additionally provide a mechanism to make adjustments to the required BMPs as necessary to ensure their adequate performance. Attachment IV requires continuation of existing monitoring plans as approved by the Regional Water Board Executive Officer. Where there is no approved monitoring plan in place for a TMDL, the Department is required to submit a plan to the State Water Board by January 1, 2015, with a time schedule to implement the plan. The submitted plan must be designed to assess the effectiveness of implemented BMPs and to inform BMP selection. The Department shall use the monitoring data to conduct an on-going assessment of the performance and effectiveness of BMPs and shall use the assessment to inform modifications to control measures to achieve WLAs and other applicable performance standards.

BMP effectiveness monitoring and the adaptive management strategy related to BMP implementation allows for flexibility in source control methods until the most appropriate BMPs are identified and installed for the control of a pollutant. The Department will evaluate the effectiveness of the controls that were implemented each year and submit the results of the evaluation in the TMDL Status Review Report, which is submitted as part of the Annual Report. If the controls implemented are shown to be ineffective, then the Department must either re-design the BMP or implement a new type of control measure to address the inadequacies of the current design. The process of assessing the performance and

²³ In the few instances where the Department's contribution is a relatively high percentage of the total contribution from identified sources, as identified in this Fact Sheet, the State Water Board would expect the Department to prioritize addressing such discharges and evaluating the performance and effectiveness of the selected BMPs.

effectiveness of BMPs and using that assessment to modify or replace inadequate BMPs ensures that the Department will make progress toward achieving the requirements of the TMDLs within the permit term.

The Department must also prepare and submit a TMDL Progress Report to the State Water Board as part of its permit reissuance application. That report must include: (1) a summary of the effectiveness of the control measures installed for each reach that has been addressed, as a result of BMP effectiveness assessment, (2) a determination as to whether the control measures have been or will be sufficient to achieve WLAs and other performance standards by the final compliance deadlines, (3) where the control measures are determined not to be sufficient to achieve WLAs or other performance standards by the final compliance deadlines, a proposal for improved control measures to address the relevant pollutants, and (4) a summary of the estimated amount of pollutants that were prevented from entering into the receiving waters. The TMDL Progress Report will be subject to public review and comment and will inform the requirements of the reissued permit.

B. Sediments/Nutrients/Mercury/Siltation/Turbidity Pollutant Category

General Description of Pollutant Category

The TMDLs in this pollutant category identify sediment from roads as a significant or primary source of these pollutants. Excessive sediment loads have resulted in the non-attainment of water quality objectives for sediment, suspended material, and settleable material. Excess sediment delivery to stream channels is associated with several natural processes as well as anthropogenic sources.

Sources of Pollutant and How Pollutants Enters the Waterway

Natural sources include geologically unstable areas that are subject to landslides, as well as smaller sediment sources such as gullies and stream-bank failures. Anthropogenic sources include road-related stream crossing failures, gullies, fill failures, and landslides precipitated by road-related surface erosion and cut bank failures. Road-related activities which can increase sediment discharge to a waterway include the construction and maintenance of paved and unpaved roadways, watercourse crossing construction, reconstruction, maintenance, use, and obliteration, and many activities conducted on unstable slopes. Unstable areas are areas with a naturally high risk of erosion and areas or sites that will not reasonably respond to efforts to prevent, restore or mitigate sediment discharges. Unstable areas are characterized by slide areas, gullies, eroding stream banks, or unstable soils that are capable of delivering sediment to a watercourse. Slide areas include shallow and deep seated landslides, debris flows, debris slides, debris torrents, earthflows, headwall swales, inner gorges and hummocky ground. Unstable soils include unconsolidated, non-cohesive soils and colluvial debris.

Mercury is negatively impacting the beneficial uses of many waters of the state. As of 2010, more than 180 water bodies are designated as impaired by mercury, and fish in these waters can have mercury concentrations that pose a health risk for humans and wildlife that eat the fish, including threatened and endangered species. The beneficial uses impacted by

mercury include, but may not be limited to, COMM, WILD, and RARE beneficial uses. Also REC-1 has been used for many waters to indicate fish consumption as part of fishing. Sources of mercury include gold and mercury mines, naturally mercury enriched soils, atmospheric deposition, improper disposal of mercury containing items, such as batteries and dental amalgam. Mercury from many of these sources can end up in storm water and industrial and municipal wastewater.

Watershed Contribution

The Department is a relatively minor source of pollutants and small percentage of the watershed. The Department will address the highest problem areas and therefore, addressing the problem at the appropriate level for the Sediment, Nutrients, Mercury, Siltation and Turbidity TMDLs.

Control Measures

Attachment IV requires the Department to implement control measures to prevent erosion and sediment discharge. The measures that control the discharge of sediment can be effective in controlling releases of nutrients and mercury. This can be achieved by protecting hillsides, intercepting and filtering runoff, avoiding concentrated flows in natural channels and drains, and not modifying natural runoff flow patterns.

In addition to TMDL requirements, the Department has developed a BMP program for control of pollutants from existing facilities and for new and reconstructed facilities. This BMP program includes implementation, maintenance and evaluation of BMPs, and the investigation of new BMPs. The goal of BMP implementation is to control the discharge of pollutants to achieve the applicable standards. Erosion control BMPs are typically used on construction sites, although some are also used as permanent, post-construction BMPs.

Department's Contribution

The Department's discharge contribution is discussed under the individual TMDLs below. The TMDLs in this pollutant category attribute most anthropogenic sediment related beneficial use impairments to logging activities and, to a lesser degree, some agricultural activities. Logging activities routinely include extensive construction and maintenance of unpaved roads which range over large areas, whereas the Department maintains a network of paved highways which account for a small fraction of the total area devoted to all paved roadways within the boundaries of these TMDLs.

The requirements in Attachment IV are generally sufficient to address the sediment TMDLs that originate from a comparatively minor pollutant source, and this is accomplished by focusing on the most problematic areas and activities within this relatively low-volume subset of anthropogenic discharges for this pollutant category.

NORTH COAST REGION SEDIMENT TMDLS

As discussed under individual TMDLs below, the TMDLs in this pollutant category attribute most anthropogenic sediment-related beneficial use impairments to logging activities and, to a lesser degree, some agricultural activities. Logging activities in the North Coast region routinely include extensive construction and maintenance of unpaved roads which range over large areas of the Coast Range’s vertical topography, whereas the Department maintains a network of paved highways which accounts for a small fraction of the total area devoted to all paved roadways within the boundaries of these TMDLs.

WLAS

The North Coast Regional Water Board has adopted the “Total Maximum Daily Load Implementation Policy Statement for Sediment-Impaired Receiving Waters in the North Coast Region” on November 29, 2004. The goals of the Policy are to control sediment waste discharges to impaired water bodies so that the TMDLs are met, sediment water quality objectives are attained, and beneficial uses are no longer adversely affected by sediment. This policy requires the use of NPDES permits and waste discharge requirements to achieve compliance with sediment-related water quality standards.

The sediment control requirements in Attachment IV (TMDL Requirements) of this Order are intended to reduce the adverse impacts of excessive sediment discharges to sediment-impaired waters, including impacts to the cold water salmonid fishery and the COLD, COMM, RARE, SPWN, and MIGR beneficial uses. The beneficial uses associated with the cold water salmonids fishery are often the most sensitive to sediment discharges. The North Coast Regional Water Board’s basin plan has the following narrative water quality objectives which apply to sediment-related discharges to receiving waterbodies:

Parameter	Water Quality Objectives
Suspended Material	Waters shall not contain suspended material in concentrations that cause nuisance or adversely affects beneficial uses.
Settleable Material	Waters shall not contain substances in concentrations that result in deposition of material that causes nuisance or adversely affect beneficial uses.
Sediment	The suspended sediment load and suspended sediment discharge rate of surface water shall not be altered in such a manner as to cause nuisance or adversely affect beneficial uses.
Turbidity	Turbidity shall not be increased more than 20 percent above naturally occurring background levels. Allowable zones of dilution within which higher percentages can be tolerated may be defined for specific discharges upon the issuance of discharge permits or waiver thereof.

Department’s Contribution:

The Department’s specific discharge contribution is discussed under the individual TMDLs below.

Albion River Sediment TMDL, December 2001

Final WLA

U.S. EPA states that there are no significant individual point sources of sediment in the Albion River watershed.

Final WLA Specific to the Department

U.S. EPA states that there are no significant individual point sources of sediment in the Albion River watershed. As a consequence, its wasteload allocation is set to zero.

Final Deadlines

U.S. EPA did not specify deadlines for implementation.

Department's Contribution (relative contribution to pollutant loading)

Approximately five percent of the total miles of roads within the watershed are paved, whereas logging road construction, logging road usage, and other activities associated with logging operations constitute the majority of anthropogenic sediment discharges. The Department's paved roadways thus constitute some undetermined fraction of the total paved road mileage: its wasteload allocation is set to zero.

Big River Sediment TMDL, December 2001

Final WLA

U.S. EPA states that there are no significant individual point sources of sediment in the Big River watershed, so the wasteload allocation is zero.

Final WLA Specific to the Department

U.S. EPA states that there are no significant individual point sources of sediment in the Big River watershed.

Final Deadlines

U.S. EPA did not specify deadlines for implementation.

Department's Contribution (relative contribution to pollutant loading)

Approximately three (3) percent of the miles of roadways within the watershed are paved, whereas logging road construction, logging road usage, and other activities associated with logging operations constitute the majority of anthropogenic sediment discharges. The Department is not listed as a source of point source discharges of sediment.

Lower Eel River Sediment & Temperature TMDL, December 18, 2007

Final Sediment WLA

For the Department’s facilities, construction sites, and municipalities, the wasteload allocation is expressed as equivalent to the load allocations, as specified in the following table:

Sediment Source		Average Daily		Average Daily		Percent Reduction 1955 -2003
		1955 – 2003 Loading	Load Allocation	1955 – 2003 Loading	Load Allocation	
		(tons/mi ² /yr)	(tons/mi ² /yr)	(tons/mi ² /day)	(tons/mi ² /day)	
Natural Load Allocation		718	718	2.0	2.0	0%
Roads	Episodic	43	9	0.1	0.02	80%
	Chronic	115	17	0.3	0.05	85%
Timber Harvest		590	147	1.6	0.4	75%
Skid Trail		7	1	0.02	0.5	90%
Bank Erosion		21	6	0.1	0.03	70%
Total Human-related Load Allocation		775	180	2.1	0.5	77%
Total Load Allocations Natural and Human-Related Sources		1,493	898	4.1	2.5	

Final WLA Specific to the Department

As stated above, U.S. EPA’s wasteload allocation for the temperature TMDL assigned to the Department and other point source dischargers is zero net increase in receiving water temperature.

Final Deadlines

As noted above, U.S. EPA did not set a specific sediment WLA for the Department.

Department’s Contribution (relative contribution to pollutant loading)

The Department’s relative sediment contribution is not known.

Eel River (Middle-Fork) Eden Valley and Round Valley HSAs Temperature and Sediment TMDL, December 2003

Final Sediment WLA

U.S. EPA states that because discharge from point sources cannot be readily determined, and because possible loading from point sources is not distinguished from general management-related loading in the source analysis, U.S. EPA considers the rates set as load allocations (i.e., for nonpoint sources) to also represent wasteload allocations (i.e., for those point sources that would be covered by general NPDES permits).

Table 7: Sediment TMDLs and Allocation (t/m²/yr)

Source	Black Butte	Elk Creek	Round Valley	Upper MF	Williams Thatcher	BASINWIDE Load
TOTAL Natural	724	1,059	374	410	417	574
Percent Reduction over current	0%	0%	0%	0%	0%	0%
Subtotals Landslides	9	12	10	2	2	6
Percent Reduction over current	0%	5%	5%	0%	5%	5%
Subtotal Small Management Sources	7	41	9	8	19	23
Percent Reduction over current	0%	32%	95%	0%	89%	70%
Total Management-Related	16	53	19	10	21	29
Percent Reduction over current	0%	27%	91%	0%	88%	65%
TMDL – ALL SOURCES	740	1,112	393	420	438	603
Percent Reduction over current	0%	2%	32%	0%	26%	8%
Percent Natural	98%	95%	95%	98%	95%	95%
Percent Management	2%	5%	5%	2%	5%	5%

Final Sediment WLA Specific to the Department

As discussed above, U.S. EPA did not assign a specific sediment WLA to the Department.

Final Sediment Deadlines

U.S. EPA did not specify deadlines for implementation.

Department's Sediment Contribution (relative contribution to pollutant loading)

U.S. EPA states that the Department's discharges of sediment, like other point sources of anthropogenic sediment discharges in this TMDL, are comparatively minor sources of this pollutant.

South Fork Eel River Temperature & Sediment TMDL, December 16, 1999

U.S. EPA's source analysis indicates that the sediment loading due to nonpoint erosion from roads and other anthropogenic activities accounts for a substantial portion of the total sediment loading in this watershed.

The waste load allocation for point sources are for sediment only, i.e., they are not directly related to the temperature portion of the TMDL, nor does U.S. EPA set a waste load allocation for point sources under the temperature portion of the TMDL. However, U.S. EPA also states that any improvements in stream temperature from reduced sedimentation contribute to the cumulative benefits of both sediment and temperature load reductions, and this assumption is accommodated in U.S. EPA's calculations for the margin of safety in this TMDL.

Final Sediment WLA

U.S. EPA set the wasteload allocation to zero because it found that there are no point sources of sediment in this watershed.

Final Sediment WLA Specific to the Department

As stated above, U.S. EPA states that there are no point source discharges of sediment within this TMDL, so the Department's wasteload allocation is set to zero.

Final Sediment Deadlines

U.S. EPA did not specify deadlines for implementation.

Department's Sediment Contribution (relative contribution to pollutant loading)

U.S. EPA states that there are no discharges from point sources within this TMDL, and because of this finding, the Department's potential contribution to anthropogenic sediment loading is insignificant.

Upper Main Eel River Temperature & Sediment TMDL, December 29, 2004

Final Sediment WLA

For the sediment TMDL, U.S. EPA states that point sources are not significant, and sets the waste load allocation to zero.

Final Sediment WLA Specific to the Department

U.S. EPA views point source contributions to sediment loading in this TMDL, so the Department's wasteload allocation is set to zero.

Final Deadlines

U.S. EPA did not specify deadlines for implementation.

Department's Sediment Contribution (relative contribution to pollutant loading)

U.S. EPA considers all point sources of anthropogenic sediment loading to be insignificant for purposes of this TMDL.

Garcia River Sediment & Temperature TMDL, March 16, 1998**Final Sediment WLA**

The wasteload allocation is effectively set to zero for "controllable" anthropogenic discharges of sediment, including those associated with roads, since all controllable discharges of sediment from roadways are prohibited.

Final Sediment WLA Specific to the Department

Although not specifically included in this TMDL, the wasteload allocation for all "controllable" anthropogenic discharges of sediment from roadways is effectively set to zero.

Final Sediment Deadlines

The structure of this 2002 TMDL requires responsible parties to choose an option for controlling 'sediment delivery', and some 'due dates' have already passed, e.g., January 2005 was the deadline for the Long Term Road System Plan- it is unclear which option, if any, has been selected by the Department.

Department's Sediment Contribution (relative contribution to pollutant loading)

The Department's relative sediment pollutant loading is not known.

Gualala River Sediment & Temperature TMDL, November 29, 2004**Final Sediment WLA**

U.S. EPA set the wasteload allocation for sediment discharges to zero, noting that point sources of sediment pollution are insignificant within the area described in this TMDL.

Final Sediment WLA Specific to the Department

There is no wasteload allocation specifically assigned to the Department, but as mentioned above, U.S. EPA set these to zero because of their comparative insignificance as sources.

Final Sediment Deadlines

U.S. EPA did not specify deadlines for implementation.

Department's Sediment Contribution (relative contribution to pollutant loading)

Approximately three percent of the miles of roadways included within this TMDL are paved. The Department's potential contribution to pollutant loading is some unspecified fraction of the former, whereas logging road construction, logging road usage, and other activities associated with logging operations constitute the majority of anthropogenic sediment discharges. Due to its relative insignificance as a source of sediment pollution the Department's wasteload allocation is set to zero.

Klamath River in California Temperature, Dissolved Oxygen, Nutrients, and Microcystin TMDL, December 28, 2010

Final Nutrients WLA

Daily mass-based nutrient (total phosphorus and total nitrogen) and organic matter load allocations are assigned to segments of the Klamath River and its tributaries.

Source Area	Daily TP Load Allocations (lbs/day)	Daily TN Load Allocations (lbs/day)
Stateline	245+	3,139+
Upstream of Copco 1 Reservoir	(61)+	(330)+
Stateline to Iron Gate Dam inputs	22+	339+
Δ Iron Gate Hatchery	0+	0+
Tributaries between Iron Gate Dam and the Shasta River	49+	317+
Shasta River	75+	220+
Tributaries between Shasta River and Scott River	17+	97+
Scott River	87+	1,279+
Tributaries between Scott River and Salmon River	187+	1,050+
Salmon River	193+	1,583+
Tributaries between Salmon River and Trinity River	90+	504+
Trinity River	762+	5,783+
Tributaries between Trinity River and Turwar Creek	179+	1,004+
Total Maximum Daily Load	1,845	14,985

Final Nutrients WLA Specific to the Department

There are no WLAs that are assigned specifically to the Department. The Department is expected to address nutrient inputs into the Klamath River watershed through control of sediment from its road and highway facilities.

Final Nutrients Deadlines

There are no final deadlines for achievement of WLAs. However, the Department shall submit annual reports to the North Coast Regional Water Board documenting progress in implementing.

Department's Nutrients Contribution (relative contribution to pollutant loading)

The Department's relative contribution to the nutrient pollutant loading is not known.

Lost River Nitrogen Biochemical Oxygen Demand to address Dissolved Oxygen and pH Impairments December 30, 2008

The Lower Lost River TMDL was developed by the North Coast Regional Water Quality Control Board and approved by U.S. Environmental Protection Agency (U.S. EPA) (regional board resolution number R1-2010-0026). It established TMDLs for Nitrogen and Biochemical Oxygen Demand to address Dissolved Oxygen and pH Impairments. The Lower Lost River TMDLs implementation plan which was established by U.S. EPA is included in the Klamath River TMDL. Both the Klamath River TMDL and the Lower Lost River TMDL were both approved on December 28, 2010.

Final Nitrogen WLAs

Segment	Total Dissolved Inorganic Nitrogen WLA (average kg/day)	Total Carbonaceous Biochemical Oxygen Demand (CBOD) (average kg/day)
Lost River from Border of Tule Lake Refuge	79.5	197.0
Tule Lake Refuge TMDLs	181.5	90.10
Lower Klamath Refuge TMDLs	76.2	889.9

Final Nitrogen WLAs Specific to the Department

Segment	Dissolved inorganic nitrogen, (average kg/day)	Carbonaceous Biochemical Oxygen Demand (CBOD) (average kg/day)
Lost River from border of Tule Lake Refuge	0.3	0.5
Tule Lake Refuge TMDLs	0.3	0.5
Lower Klamath Refuge TMDLs	0.3	0.5

Final Nitrogen Deadlines

There are no deadlines associated with these TMDLs.

Department's Nitrogen Contribution (relative contribution to pollutant loading)

Segment	Percentage of Total Dissolved Inorganic Nitrogen WLA	Percentage of Total Carbonaceous Biochemical Oxygen Demand (CBOD) WLA
Lost River from border of Tule Lake Refuge	100	100
Tule Lake Refuge TMDLs	3.0	10.1
Lower Klamath Refuge TMDLs	100	100

Mad River Sediment and Turbidity TMDL, December 21, 2007

U.S. EPA states that almost all sources of sediment in the Mad River watershed are from diffuse, nonpoint sources, including runoff from roads, timber operations, and natural background. In the Mad River basin, individual point sources are negligible sources of sediment and suspended sediment. To ensure protection of the cold water beneficial use, EPA has determined that it is appropriate to consider the rates set forth in these TMDLs as load allocations to also represent wasteload allocations for the *diffuse* discharges in the watershed that are subject to NPDES permits, as discussed below.

Final WLAs for Sediment and Turbidity

Wasteload allocations for diffuse, permitted point sources function similarly to and are represented by the nonpoint source load allocations, and wasteload allocations for permitted point sources are provided concentration-based wasteload allocations equivalent to what is included in the permits in order to account for incidental sediment and suspended sediment discharges. The TMDLs for sediment and turbidity include separate but identical load allocations for nonpoint sources and wasteload allocations for the diffuse point sources for each subarea. These WLAs are equivalent to and represented by the LAs, and the LAs are expressed on a unit loading basis (tons/mi²/year); therefore, they are not added to the LAs in the TMDL equation.

Table 20. Total Sediment Load Allocations Summary for the Mad River Watershed

Sediment Source	Average Annual		Average Daily		Percent Reduction over 1976 – 2006 Period
	1976 – 2006 Loading (tons/mi ² /yr)	Load Allocation (tons/mi ² /yr)	1976 – 2006 Loading (tons/mi ² /yr)	Load Allocation (tons/mi ² /yr)	
Natural Load Allocation	894	894	2.4	2.4	0%
Roads	Landslides	1,298			
	Surface	242			
Roads Subtotal	1,540	174	4.2	0.5	89%
Harvest	Landslide	38			
	Surface	2			

Sediment Source	Average Annual		Average Daily		Percent Reduction over 1976 – 2006 Period
	1976 – 2006 Loading (tons/mi ² /yr)	Load Allocation (tons/mi ² /yr)	1976 – 2006 Loading (tons/mi ² /yr)	Load Allocation (tons/mi ² /yr)	
Harvest Subtotal	40	5	0.1	0.01	89%
Total Human-related Load	1,580	179	4.3	0.5	89%
Total Load: All Sources	2,474	1,073	6.8	2.9	57%
Note: values have been rounded.					

Suspended sediment is estimated as a proportion of total sediment load, and the reductions for the suspended sediment load are shown in Table 21 (below). The reductions reflect similar priorities as for the total sediment load. Suspended sediment is estimated as a proportion of total sediment load, and the reductions for the suspended sediment load are shown in Table 21. The reductions reflect similar priorities as for the total sediment load.

Table 21. Suspended Sediment Load Allocations Summary for the Mad River Watershed

Sediment Source		Average Annual		Average Daily		Percent Reduction over 1976 – 2006 Period
		1976 – 2006 Loading (tons/mi ² /yr)	Load Allocation (tons/mi ² /yr)	1976 – 2006 Loading (tons/mi ² /yr)	Load Allocation (tons/mi ² /yr)	
Natural Load Allocation		809	809	2.2	2.2	0 %
Road	Landslides	1,174				
	Surface	219				
Roads Subtotal		1,393	158	3.8	0.4	89%
Harvest	Landslides	34				
	Surface	2				
Harvest Subtotal		36	4	0.1	0.01	89%
Total Human-related Load		1,430	162	3.9	0.4	89%
Total Load: All Sources		2,238	971	6.1	2.7	57%

Final WLAs for Sediment and Turbidity Specific to the Department

U.S. EPA grouped the Department’s discharges under its NPDES municipal storm water permit with other “diffuse” NPDES-permitted storm water discharges occurring in this TMDL. U.S. EPA’s source analysis did not distinguish between land areas subject to NPDES regulation and nonpoint sources of sediment and turbidity. U.S. EPA’s TMDLs thus include separate but identical load allocations (LAs) for nonpoint sources and wasteload allocations (WLAs) for the “diffuse” point sources for each subarea. These WLAs are equivalent to and

represented by the LAs, and the LAs are expressed on a unit loading basis (tons/mi²/year); therefore, they are not added to the LAs in the TMDL equation.

For the diffuse permitted sources such as the Department's discharges under its municipal storm water permit, the waste load allocation is expressed as equivalent to the load allocation for (all) roads. The load allocations for roads are listed in the tables given above.

U.S. EPA also states that the Regional Water Board may wish to refine these TMDLs and allocations further in the future.

Final Sediment and Turbidity Deadlines

U.S. EPA did not specify deadlines for implementation.

Department's Sediment and Turbidity Contribution

U.S. EPA states that non-NPDES nonpoint sources are responsible for nearly all sediment loading in the watershed, but does not estimate the Department's potential contribution to sediment and turbidity waste loading in this TMDL. Only six percent of the roads in this watershed are paved, and some unspecified portions of the latter are State highways.

Navarro River Sediment and Temperature TMDL, December 27, 2000

Final Sediment WLA

The Navarro River TMDLs for temperature and sediment are based on separate analyses. Reduced sediment loads could be expected to lead to increased frequency and depth of pools, and to reduced wetted channel width/depth ratios.

Final Sediment WLA Specific to the Department

The Department is not specifically mentioned as a source of pollutant loading for temperature and sediment, nor are any other point sources of these pollutants. The wasteload allocation for the Department is therefore presumed to be set to zero.

Final Sediment Deadlines

U.S. EPA did not specify deadlines for implementation of this TMDL.

Department's Sediment Contribution

As mentioned above, neither Department nor other point sources are identified as sources of pollutant loading for temperature or sediment, so U.S. EPA has determined that these potential sources are insignificant in this TMDL.

Noyo River Sediment TMDL, December 16, 1999

Final Sediment WLA

U.S. EPA apportioned the total load among several non-point sources of sediment, after accounting for background load. As a consequence, this TMDL does not include wasteload allocations for point sources.

Final Sediment WLA Specific to the Department

U.S. EPA did not specify deadlines for implementation of this TMDL.

Department's Sediment Contribution (relative to pollutant loading)

As stated above, U.S. EPA did not establish wasteload allocations for point sources of sediment.

Redwood Creek Sediment TMDL, U.S. EPA Established December 30, 1998

Final Sediment WLA

U.S. EPA did not establish wasteload allocations for point sources in this TMDL.

Final WLA

U.S. EPA established this TMDL on December 30, 1998 and it became effective immediately.

Final WLA Specific to the Department and the Department's Contribution

As stated above, U.S. EPA did not establish wasteload allocations for point sources of sediment.

Final Deadlines

U.S. EPA did not specify deadlines for implementation of this TMDL.

Department's Contribution (relative to pollutant loading)

The Department's contribution relative sediment pollutant loading is not known.

Scott River Sediment and Temperature TMDL, August 11, 2006

Final Sediment WLA

U.S. EPA states that there are no point sources of sediment and/or temperature related discharges within the area encompassed by this TMDL, so the wasteload allocation is set to zero.

Final Sediment WLA Specific to the Department

None.

Final Sediment Deadlines

U.S. EPA directed Regional Water Board staff to evaluate the Department's state-wide NPDES permit in the North Coast Region by September 8, 2008. The purpose of the evaluation was to determine the adequacy and effectiveness of the Department's storm water program in preventing and reducing elevated water temperatures in the North Coast Region, including the Scott River watershed.

Department's Sediment Contribution (relative to pollutant loading)

As noted above, U.S. EPA did not establish specific wasteload allocations for point sources, so the wasteload allocations are set to zero. The Department's point source contribution is therefore judged to be insignificant.

Ten Mile River Sediment TMDL, December 2000

Final Sediment WLA

U.S. EPA states that there are no point sources of sediment discharges within the area included within this TMDL: wasteload allocations are therefore set to zero.

Final Sediment WLA Specific to the Department

As stated above, U.S. EPA did not establish wasteload allocations for point sources such as the Department in this TMDL, so the wasteload allocations are set to zero.

Final Sediment Deadlines

U.S. EPA did not specify deadlines for implementation of this TMDL.

Department's Sediment Contribution (relative pollutant loading)

The Department's relative sediment contribution is judged to be insignificant.

Trinity River Sediment TMDL, December 20, 2001

Final Sediment WLA

U.S. EPA did not subdivide waste load and load allocations into specific sources such as roads and timber harvest, unlike several of its other sediment-related TMDLs in Region 1. U.S. EPA divided the basin into subareas because of the wide range of sediment delivery rates within each of the several subareas. U.S. EPA further states that although nonpoint sources are responsible for most sediment loading in the watershed, point sources also discharge some sediment.

The TMDL identified wasteload allocations for point sources and load allocations for nonpoint sources as pollutant loading rates (tons/square mile/year) for subareas within the Trinity Basin. The source analysis supporting these allocations evaluated sediment loading at a subarea scale, and did not attempt to distinguish sediment loading at the scale of specific land ownership, nor did the source analysis specifically distinguish between land areas subject to NPDES regulation and land areas not subject to NPDES regulation. As a

consequence, the TMDL includes separate but identical load allocations for nonpoint sources and wasteload allocations for point sources for each subarea. The joint LA/WLA's for each subarea are given in the following tables:

Table 5-2. TMDL and Allocations by Source Category for Upper Area

Source Categories		Subareas within the Upper Assessment Area				
		Reference Subwatersheds ¹	Westside Tributaries ²	Upper Trinity ³	East Fork Tributaries ⁴	East Side Tributaries ⁵
Current Sediment Delivery Rate						
Background (non-management)		1,125	421	2,759	258	241
Management	Roads	129	101	162	319	48
	Timber Harvest	240	31	1,084	46	22
	Legacy (Roads, Mining)	7	25	21	26	96
	Total Mgmt.	376	157	1,267	391	96
Total Sediment Delivery		1,051	578	4,026	649	337
Total as percent of background		133%	137%	146%	252%	140%
Loading Capacity (TMDL) and Allocations (tons/mi²/yr)						
TMDL (= 1.25 X Background)		1,406	526	3,449	323	301
Background Allocation		1,125	421	2,759	258	241
Total Management Allocation (= TMDL – Background)		281	105	690	65	60
Percent reduction needed in management to attain TMDL		25%	33%	46%	83%	37%
<ol style="list-style-type: none"> 1. Stuarts Fork, Swift Creek, Coffee Creek 2. Stuart Arm Area, Stoney Creek, Mule Creek, East Fork Stuart Fork, West Side Trinity Lake, Hatchet Creek, Buckeye Creek; 3. Upper Trinity River, Tangle Blue, Sunflower, Graves, Bear Upper Trinity Mainstem Area, Ramshorn Creek, Ripple Creek, Minnehaha Creek, Snowside Gulch Area, Scorpion Creek 4. East Fork Trinity, Cedar Creek, Squirrel Gulch Area 5. East Side Tributaries, Trinity Lake 						

Table 5.3 TMDL and Allocations by Source Category for Upper Middle Area

Source Categories	Subareas within the Upper Assessment Area						
	Weaver and Rush Creeks (72 mi ²)	Deadwood Creek, Hoadley Gulch and Poker Bar Area (47 mi ²)	Lewiston Lake Area (25 mi ²)	Grass Valley Creek ¹ (37 mi ²)	Indian Creek (34 mi ²)	Reading and Brown Creek (104 mi ²)	
Current Sediment Delivery Rates (tons/mi²/yr)							
Background (non-management)	675	273	195	175	324	263	
Management	Roads	144	220	83	287	1,570	125
	Timber Harvest	61	280	37	1,136	330	204
	Legacy (Roads, Mining)	81	62	69	65	68	42
	Total Mgmt.	286	562	189	1,488	1,968	372
Total Sediment Delivery	961	835	384	1,663	2,292	635	
Total as percent of background	142%	305%	197%	950%	707%	241%	
Loading Capacity (TMDL) and Allocations (tons/mi²/yr)							
TMDL (= 1.25 X Background)	844	341	244	219	405	329	
Background Allocation	675	273	195	175	324	263	
Total Management Allocation (= TMDL – Background)	169	68	49	44	81	66	
Percent reduction needed in management to attain TMDL	41%	88%	74%	97%	96%	82%	
1. The rates in Grass Valley Creek do not account for the amount of sediment trapped by Buckhorn Dam and Hamilton Ponds.							

Table 5.4 TMDL and Allocations by Source Category for Lower Middle Assessment Area

Source Categories		Subareas within the Lower Middle Assessment Area				
		Reference Subwatersheds ¹ (434 mi ²)	Canyon Creek (64 mi ²)	Upper Tributaries ² (72 mi ²)	Middle Tributaries ³ (54 mi ²)	Lower Tributaries ² (96 mi ²)
Current Sediment Delivery Rates (tons/mi²/yr)						
Background (non-management)		1,568	1,302	268	210	221
Management	Roads	11	2,482	60	37	41
	Timber Harvest	4	4	29	16	20
	Legacy (Roads, mining)	9	17	46	28	29
	Total Mgmt.	24	2,503	135	81	90
Total Sediment Delivery		1,592	3,805	403	291	311
Total as percent of background		102%	292%	150%	139%	141%
Loading Capacity (TMDL) and Allocations (tons/mi²/yr)						
TMDL (= 1.25 X Background)		1,592	1,628	335	263	276
Background Allocation		1,568	1,302	268	210	221
Total Management Allocation (= TMDL – Background)		24	326	67	53	55
Percent reduction needed in management to attain TMDL		0	87%	50%	35%	39%
1. New River, Big French, Manzanita, North Fork, East Fork North Fork. 2. Dutch, Soldier, Oregon Gulch, Conner Creek Area. 3. Big Bar Area, Prairie Creek, Little French Creek. 4. Swede, Italian, Canadian, Cedar Flat, Mill, McDonald, Hennessy, Quinby Creek Area, Hawkins, Sharber.						

Table 5.5. TMDL and Allocations by Source Category for Lower Assessment Area

Source Categories	Subareas within the Lower Assessment Area. Outside of Hoopa Valley Tribe Reservation Boundaries					
	Reference Subwatersheds Horse Linto Creek: 64 mi ²)	Mill Creek and Tish Tang (39mi ²)	Willow Creek (43 mi ²)	Campbell Creek and Supply Creek (11 mi ²)	Lower Mainstem Area and Coon Creek (32mi ²)	
Current Sediment Delivery Rates (tons/mi²/yr)						
Background (non-management)	2,110	839	374	7,845	252	
Management	Roads	483	703	854	14,349	76
	Timber Harvest	87	83	201	785	15
	Legacy (Roads, Mining)	26	26	26	26	22
	Total Mgmt.	596	812	1,081	15,160	113
Total Sediment Delivery	2,706	1,651	1,455	23,005	365	
Total as percent of background	128%	197%	389%	293%	145%	
Loading Capacity (TMDL) and Allocations (tons/mi²/yr)						
TMDL (= 1.25 X Background)	2,638	1,049	468	9,806	315	
Background Allocation	2,110	839	374	7,845	245	
Total Management Allocation (= TMDL – Background)	528	210	94	1,961	63	
Percent reduction needed in management to attain TMDL	11%	74%	91%	87%	44%	
Note: Since Background rates for Lower Mainstem Area and Coon Creek were not available from GMA (2001), U.S. EPA used the same rate as was calculated for the Quinby Creek Area is comparable in size and underlain by the same geology type (Galice Formation).						

Final Sediment Deadlines

U.S. EPA did not specify deadlines for implementation.

Final Sediment WLA Specific to the Department

U.S. EPA issued joint LAs and WLA's, as noted above, so source-specific wasteload allocations were not developed for this TMDL.

Department's Sediment Contribution (relative pollutant loading)

It is not possible to estimate the Department's point source contribution from the source analysis developed by U.S. EPA.

South Fork Trinity River Watershed Sediment Total Maximum Daily Load (U.S. EPA, 1998)

Final Sediment WLA

U.S. EPA states that there are no point source discharges, and set the waste load allocation to zero.

Final Sediment WLA Specific to the Department

There is no waste load allocation for the Department's discharges. In keeping with U.S. EPA's rationale, this means that the waste load allocation for the Department's sediment discharges is zero.

Final Deadlines

No deadlines were specified.

Department's Pollutant Contribution

The Department is mentioned as a possible source of sediment discharges, but the relative contribution of its potential discharges were not measured or estimated. The State highways it mentions in the geographic area included in the TMDL are portions of Highways 36 and 101.

Van Duzen River Watershed Sediment Total Maximum Daily Load (U.S. EPA, 1999)

Final Sediment WLA

U.S. EPA states that there are no point source discharges, and set the waste load allocation to zero.

Final Sediment WLA Specific to the Department

There is no waste load allocation for the Department's discharges. In keeping with U.S. EPA's rationale, this means that the waste load allocation for the Department's sediment discharges is zero.

Final Sediment TMDL Deadlines

No deadlines were specified.

Department's Pollutant Contribution

The Department is mentioned as a possible source of sediment discharges, but the relative contribution of its potential discharges were not measured or estimated. The State highways it mentions in the geographic area included in the TMDL are portions of Highways 3, 36, and 299.

SAN FRANCISCO BAY REGION SEDIMENT AND MERCURY TMDLS

Napa River Sediment TMDL, January 20, 2011

Final Sediment WLA

The wasteload allocations are listed in the following table:

Point Source Category	Current Load		Reduction Needed (percentage)	Wasteload Allocations	
	Metric (Tons/year)	Percentage of Natural Background		Metric (Tons/year)	Percent of Natural Background
Construction Storm Water Order No. 99-08-DWQ	500	0.3	0	500	.03
Municipal Storm Water NPDES Permit No. CAS000001	800	0.5	0	800	0.5
Industrial Storm Water NPDES Permit No. CAS000001	500	0.3	0	500	0.3
Department Storm Water-Order No. 99-06-DWQ	600	0.4	0	600	0.4
Wastewater Treatment Plant Discharges ^a					
City of St. Helena NPDES Permit No. CA0038016	30	<0.1	0	30	<0.1
Town of Yountville/CA Veteran's Home NPDES Permit No. CA0038121	30	<0.1	0	30	<0.1
City of Calistoga NPDES Permit No. CA0037966	40	<0.1	0	40	<0.1
TOTAL	2,500	2		2,500	2

a. For wastewater treatment plant discharges, compliance with existing permit effluent limit of 30 mg/L of TSS is consistent with these wasteload allocations.
Note: Above estimates for loads, percent reductions, and allocations are rounded to two significant figures.

Final Sediment WLA Specific to the Department

The Department's wasteload allocation is 600 metric tons/year.

Final Sediment Deadlines

The Department is deemed to be implementing appropriate control measures if it discharges in compliance with its municipal storm water permit, and if it conducts the monitoring program included in its storm water permit.

Department's Sediment Contribution (relative to pollutant loading)

The Regional Water Board indicates that the Department is a fairly minor anthropogenic source of sediment discharges, and attributes its current discharges to only 0.4% of natural background loading. As a consequence, the Regional Water Board has determined that compliance with its NPDES permit will enable the Department to meet its sediment wasteload allocation.

Sonoma Creek Sediment TMDL, September 8, 2010

Final WLA

Although roadways are cited as a major source of sediment loading in the Sonoma Creek watershed, the Regional Water Board has determined that compliance with its NPDES permit for storm water will enable the Department to meet its wasteload allocation for sediment.

Final Sediment WLA Specific to the Department

The Department's wasteload allocation is 100 tons/year, which is its current (2005) estimated annual discharge of sediment within the area encompassed by this TMDL.

Final Sediment Deadlines

In collaboration with stakeholders in the watershed, Water Board staff will develop a detailed monitoring program to assess progress of TMDL attainment and provide a basis for reviewing and revising TMDL elements or implementation actions. As an initial milestone, by fall 2011, the Regional Water Board and watershed partners were required to complete monitoring plans to evaluate: a) attainment of water quality targets; and b) suspended sediment and turbidity conditions. Initial data collection, based on the protocols established in these monitoring plans was anticipated to begin in the winter of 2011-2012.

Department's Sediment Contribution (relative to pollutant loading)

The Regional Water Board estimates that the Department's point source discharges of sediment constitute approximately 8% of total point sources discharges of sediment.

San Francisco Bay Mercury TMDL, February 12, 2008

The San Francisco Bay Mercury TMDL was adopted by the San Francisco Bay Regional Water Quality Control Board as Resolution Number R2-2006-0052 on August 9, 2006. It was approved by U.S. EPA on February 12, 2008.

Final Mercury WLA

There are no WLAs specific to the Department. Instead, the Department's WLA is an unspecified portion of the WLA assigned to the city or municipal NPDES permit in which the Department's roads or facilities reside.

Final Mercury WLA Specific to the Department

No deadlines specified.

Final Mercury Deadlines

The WLAs must be attained by February 12, 2028.

Department's Mercury Contribution (relative contribution to pollutant loading)

The Department's contribution is unknown.

CENTRAL COAST SEDIMENT TMDLS

Although roadways are cited as a major source of sediment loading in some Central Coast watersheds, the Central Coast Regional Water Board has determined that compliance with the Department's NPDES permit will meet the Department's wasteload allocation.

San Lorenzo River (includes Carbonera Lompico, and Shingle Mill Creeks) Sediment TMDL, February 19, 2004

Final Sediment WLA

The sediment load to the San Lorenzo River derives from both nonpoint sources and point sources. The TMDL combines nonpoint source LAs and point source WLAs for each segment of this TMDL, as specified in the following table:

Sediment Source Category	Allocation (tons/year)			
	Shingle Mill Creek	Carbonera Creek	Lompico Creek	San Lorenzo River
Upland Timber Harvest Plan (THP) Roads	0	419	362	25,215
Streamside THP Roads on Steep Slopes	0	182	164	10,949
Upland Public/ Private Roads	146	1,235	367	13,835
Streamside Public/Private Roads on Steep Slopes	77	135	239	6,178

Sediment Source Category	Allocation (tons/year)			
	Shingle Mill Creek	Carbonera Creek	Lompico Creek	San Lorenzo River
THP Land	0	23	16	1,057
Other Urban and Rural Land	310	2,622	965	43,368
Mass Wasting	0	4,082	6,440	157,388
Channel/Bank Erosion	324	3,030	989	48,149
Total Allocation = TMDL³	857	11,728	9,542	306,139

Note:

³ The term "TMDL" is used here for familiarity. The allowable loads for the San Lorenzo River and its tributaries are actually expressed as a Total Annual Loads (tons/year). This expression of load accounts for seasonal variation in sediment loads explained by the seasonality of rainfall in this region of the Central Coast.

Final Sediment WLA Specific to the Department

As stated above, no specific waste load allocation was assigned to the Department.

Final Sediment Deadlines

Compliance with its municipal storm water permit is deemed to be sufficient to meet the Department's waste load allocation for sediment.

Department's Sediment Contribution (relative contribution to pollutant loading)

This TMDL does not estimate the relative contribution of the Department's roadways/facilities to sediment discharges, but this source appears to be moderate based on this TMDL's source analysis.

Morro Bay (includes Chorro Creek, Los Osos Creek, and the Morro Bay Estuary) Sediment TMDL, January 20, 2004

Final WLA

The sediment load to Morro Bay, Los Osos Creek and Chorro Creek derives from both nonpoint sources and point sources. The TMDL combines nonpoint source LAs and point source WLAs for each segment of this TMDL, as specified in the following table:

Final Sediment WLA Specific to the Department

Loading Allocations (TMDL expressed as annual load)	Watershed	Total (Tons/Yr) Rounded to the nearest ton
	Chorro Creek at Reservoir	6,541
	Dairy Creek	440
	Pennington Creek	966
	San Luisito Creek	7,315
	San Bernardo Creek	10,269
	Minor Tributaries	4,489
	Chorro Creek (Subtotal)	30,020
	Los Osos Creek	3,052
	Warden Creek and Tributaries	1,812
	Los Osos Creek (Subtotal)	4,864
	Morro Bay Watershed (Total)	34,885

Final Sediment WLA Specific to the Department

Although no specific wasteload allocation was assigned to the Department, this TMDL states that discharges which are in compliance with their respective storm water (and other) NPDES permits are meeting their portion of shared responsibility for achieving sediment load reduction.

Final Sediment Deadlines

Implementation will rely on the State’s Plan for NPS pollution control (CWC §13369) and continued implementation of existing regulatory controls as appropriate for point sources, including storm water pursuant to NPDES surface water discharge regulations and Waste Discharge Requirements under Porter-Cologne. Final compliance with sediment load reductions is scheduled to be achieved by 2054 (50 years from the adoption of the TMDL).

Department’s Sediment Contribution (relative contribution to pollutant loading)

The Department’s contribution to sediment loading was not estimated in this TMDL.

LOS ANGELES REGION SEDIMENT/NUTRIENTS/MERCURY TMDLS

Department’s Pollution Contribution:

Although roadways are cited as a major source of sediment loading in some watersheds, for purposes of current sediment-related TMDLs, the Los Angeles Regional Water Board has determined that compliance with its NPDES permit will meet the Department’s wasteload allocations for sediment.

**Ballona Creek Wetlands Sediment and Invasive Exotic Vegetation TMDLs,
March 26, 2012**

Final Sediment WLA

U.S. EPA established wasteload allocations (WLAs) for sediment to address the impairments identified for the Ballona Creek Wetlands. WLAs are assigned to the Los Angeles County MS4 and their co-permittees, and the Department, who are responsible for the loading of sediment into Ballona Creek Wetlands. The WLAs are the total allowable sediment load that can be discharged into Ballona Creek Wetlands. This total sediment load includes both suspended sediment and sediment bed load that are transported from Ballona Creek Watershed into Ballona Creek Wetlands. Invasive exotic vegetation listed on the California Noxious Weed list are given a WLA and LA of zero.

Since the current existing discharge of sediment load is not contributing to the listed impairments or otherwise causing a negative impact to Ballona Creek Wetlands, this TMDL establishes joint WLAs based on existing conditions. The allowable WLA is set at 58,354 yd³/yr (or 44,615 m³/yr). The joint wasteload allocation is as follows:

Responsible Jurisdiction	Input	Sediment Wasteload Allocation ¹ (yd ³ /yr)	Existing Total Sediment Load (yd ³ /yr)
Los Angeles County MS4 , Co-Permittees & Department	Ballona Creek Watershed	58,354	58,354

Final Sediment WLA Specific to the Department

As stated above, there is no WLA specific to the Department. The joint point source WLA is 58,354 cubic yards of sediment per year, which is equivalent to the current estimated total sediment loading contributed by these sources.

Final Sediment Deadlines

U.S. EPA did not specify deadlines for implementation of this TMDL.

Department’s Contribution (relative contribution to pollutant loading)

The Department’s relative contribution to anthropogenic sediment loading is not estimated or quantified in this TMDL. However, the joint WLAs are set to the current estimated sediment discharges, which the Department can meet through compliance with its NPDES municipal storm water permit.

Calleguas Creek and its Tributaries & Mugu Lagoon Metals (including Mercury) and Selenium TMDL, March 26, 2007

Final Mercury WLA

The Department shares group mass-based WLAs for mercury for Calleguas Creek and Revolon Slough with other Permitted Storm water Dischargers (PSDs). Final WLAs are mass-based and are dependent upon annual flow ranges.

Final Mass-based WLAs for Annual Flow Ranges, Mercury in Suspended Sediment

Flow Range, Millions of Gallons per Year	Calleguas Creek (lbs/yr)	Revolon Slough (lbs/yr)
0-15,000 MGY	0.4	0.1
15,000-25,000 MGY	1.6	0.7
Above 25,000 MGY	9.3	1.8

Final Mercury WLA Specific to the Department

There is no specific allocation for the Department.

Final Mercury Deadlines

The final WLAs must be achieved within 15 years after the effective date of the amendment, or March 26, 2022.

Department’s Mercury Contribution (relative contribution to pollutant loading)

The Department’s areal proportion of the watershed is not known.

The Los Angeles Area Lakes and Reservoir

TMDLs specific to the Department include targets for the following lakes:

- Echo Park Lake: nitrogen phosphorus, chlordane, dieldrin, PCBs, and trash
- Lake Sherwood: mercury
- Legg Lakes (North, Center and Legg): nitrogen and phosphorus
- Peck Road Park Lake: nitrogen and phosphorus
- Puddingstone Reservoir: nitrogen, phosphorus, chlordane, DDT, PCBs, Hg, and Dieldrin

Wasteload allocations were assigned to responsible jurisdictions based on existing loading of nitrogen and phosphorus to each lake. To allow flexibility in implementing the nutrient TMDLs, responsible jurisdictions receiving required reductions have the option to submit a request to the Regional Board for alternative concentration-based wasteload allocations. These jurisdictions can receive alternative concentration-based wasteload allocations not to exceed 1.0 and 0.1 milligrams per liter total nitrogen and total phosphorus, respectively.

During wet weather, runoff from industrial sites has the potential to contribute pollutant loadings. During dry weather, the potential contribution of pollutant loadings from industrial storm water is low because non-storm water discharges are prohibited or authorized by the

permit only under the following circumstances: when they do not contain significant quantities of pollutants, where Best Management Practices are in place to minimize contact with significant materials and reduce flow, and when they are in compliance with Regional Board and local agency requirements.

Los Angeles Area (Echo Park Lake) Total Nitrogen, Total Phosphorus, Chlordane, Dieldrin, PCBs, and Trash TMDLs, March 26, 2012)

Final Nutrient WLAs

	Total Phosphorus, (lbs/year)	Total Nitrogen, (lbs/year)
TOTAL	83.3	682

Final Nutrient WLAs Specific to the Department

Subwatershed	Total Phosphorus, (lbs/year)	Total Nitrogen, (lbs/year)
Northern	0.608	4.77
Southern	0.051	0.403

Final Nutrient Deadlines

There are no final deadlines specified for the Department.

Department's Nutrient Contributions (relative contribution to pollutant loading)

Subwatershed	Percentage of the Total Phosphorus Load	Percentage of the Total Nitrogen Load
Northern	0.6 %	0.7 %
Southern	0.05 %	0.06 %

Los Angeles Area (North, Center & Legg Lakes) Nitrogen and Phosphorus, TMDLs, March 26, 2012

Final Nutrient WLA Nitrogen & Phosphorous TMDLs

	Total Phosphorus (lbs/year)	Total Nitrogen (lbs/year)
TOTAL	1,541	9,135

Final WLAs Specific to the Department

Subwatershed	Total Phosphorus, (lbs/year)	Total Nitrogen, (lbs/year)
Direct to Center Lake	4.6	15.5
Direct to Legg Lake	1.2	4.0
Direct to North Lake	19.1	64.1
Northwestern	9.4	29.3
Northeastern	10.9	34.0

Alternative concentration-based WLAs are available to the Department if it satisfies certain criteria as detailed in the TMDL. Those WLAs are:

Subwatershed	Maximum Allowable WLA for Total Phosphorus (mg/L)	Maximum Allowable WLA for Total Nitrogen (mg/L)
Direct to Center Lake	0.1	1.0
Direct to Legg Lake	0.1	1.0
Direct to North Lake	0.1	1.0
Northwestern	0.1	1.0
Northeastern	0.1	1.0

Final Nutrient Deadlines

There are no final deadlines specified for the Department.

Department's Nutrient Contribution (relative contribution to pollutant loading)

Subwatershed	Percentage of the Total Phosphorus Load	Percentage of the Total Nitrogen Load
Direct to Center Lake	0.2 %	0.2 %
Direct to Legg Lake	0.1 %	<0.1 %
Direct to North Lake	1.0 %	0.6 %
Northwestern	0.5 %	0.3 %
Northeastern	0.6 %	0.3 %

Los Angeles Area (Peck Road Park Lake) Nitrogen, Phosphorus, Chlordane, DDT, Dieldrin, PCBs, and Trash TMDLs, March 26, 2012

Final Nutrient WLAs

	Total Phosphorus (lbs/year)	Total Nitrogen (lbs/year)
TOTAL	19,319	186,845

Final Nitrogen & Phosphorus WLA Specific to the Department

Subwatershed	Total Phosphorus (lbs/year)	Total Nitrogen (lbs/year)
Eastern	158	1,165
Western	34.2	251

Final Nutrient Deadlines

There are no final deadlines specified for the Department.

Department's Nutrient Contribution (relative contribution to pollutant loading)

Subwatershed	Percentage of the Total Phosphorus Load	Percentage of the Total Nitrogen Load
Eastern	0.8 %	0.6 %
Western	0.2 %	0.1 %

Los Angeles Area (Puddingstone Reservoir) Nitrogen, Phosphorus, Chlordane, DDT, PCBs, Mercury, and Dieldrin TMDLs, March 26, 2012

Final Nutrient WLAs for Puddingstone Reservoir

Final Nitrogen and Phosphorus WLAs

	Total Phosphorus (lbs/year)	Total Nitrogen (lbs/year)
TOTAL	4,226	18,756

Final Nitrogen, Phosphorus WLAs Specific to the Department

Subwatershed	Total Phosphorus (lbs/year)	Total Nitrogen (lbs/year)
Northern	167	745
Southern	14.8	68.2

Alternative concentration-based WLAs are available to the Department if it satisfies certain criteria as detailed in the TMDL. Those WLAs are:

Subwatershed	Maximum Allowable WLA for Total Phosphorus (mg/L)	Maximum Allowable WLA for Total Nitrogen (mg/L)
Northern	0.1	1.0
Direct Southern	0.1	1.0

Final Nutrient Deadlines

There are no final deadlines specified for the Department.

Department's Nutrient Contribution (relative contribution to pollutant loading)

Subwatershed	Percentage of the Total Phosphorus Load	Percentage of the Total Nitrogen Load
Northern	3.6 %	3.4 %
Southern	0.3 %	0.3 %

Final Mercury WLA for Puddingstone Reservoir

Final Waste Load Allocations are assigned to the Department for sub-watersheds for Puddingstone Reservoir, and must be met at the Department's discharge points.

Final Mercury WLA for Puddingstone Reservoir Specific to the Department

Mercury WLAs for Puddingstone Reservoir

Subwatershed	Area (ac)	Existing Annual Hg Load (g/yr)	Percent of Load	Final Wasteload Allocation (g/yr)
Puddingstone-Northern	110	1.32	1.85	0.702
Puddingstone-Southern	11.6	0.0960	0.13	0.051

Fish Harbor is impaired for mercury in sediment. The Department is named as a responsible party for WLAs to Fish Harbor. The final concentration-based WLA for sediment in Fish Harbor is 0.15 mg per kilogram of dry sediment.

Final Mercury Deadlines for Puddingstone Reservoir

The Department is subject to the prescribed point source interim WLAs which are effective as of March 23, 2012. Compliance with all final WLAs is required by March 23, 2032.

Department's Mercury Contribution for Puddingstone Reservoir (relative contribution to pollutant loading)

Subwatershed	Annual Hg Load (g/yr)	Percent of Total Load
Northern	1.32	1.85
Southern	0.096	0.13
Total	1.42	1.99

Los Angeles Area (Lake Sherwood) Mercury TMDL, March 26, 2012

Final Mercury WLA

Final waste load allocations are assigned to the Department for one sub-watershed, Lake Sherwood, and must be met at the Department's discharge points.

Final Mercury WLA Specific to the Department

Mercury WLAs for Lake Sherwood

Subwatershed	Area (ac)	Existing Annual Hg Load (g/yr)	Percent of Load	Final Wasteload Allocation (g/yr)
Carlisle Canyon	2.75	0.049	0.12	0.014

Final Mercury Deadlines

There are no final deadlines specified for the Department.

Department's Mercury Contribution (relative contribution to pollutant loading)

Subwatershed	Annual Hg Load (g/yr)	Percent of Total Load
Carlisle Canyon	0.049	0.12
Entire Watershed	0.049	0.001

Machado Lake Eutrophic, Algae, Ammonia, and Odors (Nutrients), March 11, 2009

Final Nutrients WLA

Final concentration-based Waste Load Allocations are established for total phosphorus and total nitrogen (defined as the sum of the concentrations of Total Kjeldhal Nitrogen, Nitrate as N, and Nitrite as N). For most storm water permittees, the final WLA for total phosphorus is 0.1 mg/L. For total nitrogen, the final WLA is 1.0 mg/L.

Final Nutrients WLA Specific to the Department

For the Department, the final WLA for total phosphorus is 0.1 mg/L. For total nitrogen, the final WLA is 1.0 mg/L.

Final Nutrients Deadlines

The Department must achieve its final WLAs by September 11, 2018.

Department's Nutrients Contribution (relative contribution to pollutant loading)

The Department's contribution to the overall loading is not defined in the TMDL. The draft Machado Lake Nutrients TMDL Implementation Plan, submitted on March 11, 2011 by the Department states that the Department's roadways and facilities comprise approximately 1.2 percent of the Machado Lake Watershed.

Malibu Creek & Lagoon TMDL for Sedimentation and Nutrients, July 2, 2013

Sediment loading into Malibu Lagoon is much higher than naturally expected. The excess sediment accumulates in the Lagoon tidal channels and carries greater nutrient loads and cause algae blooms with likely adverse impacts on benthic macroinvertebrates.

Final Sedimentation WLA

Allocations for Sedimentation as listed in Table 10-2. (Based on SCAG 2008 land use and Jurisdictional maps provided by MS4 Co-permittees.)

Type of Allocation	Responsible Party	Impervious Area (total acres)	Pervious Area (acres)	Allocation Fraction	Sedimentation Allocation (tons/yr)
WLA	WLA Los Angeles Co. below	887	10,612	17.4%	1,012
WLA	Department below Malibou Lake	60	61	0.8%	44
LA	Unincorporated area draining to Las Virgenes Creek**	8	267	0.3%	16
LA	Protected land below Malibou Lake*	253	16,820	13.7	796
LA	Load Allocation at outlet of Malibou Lake	3,669	37,550	67.9%	3,950
Total		4,878	65,310	100.0 %	5,817

Final Sedimentation WLA Specific to the Department

See Table 10-2 above for the Department's below Malibou Lake.

Final Sedimentation Deadlines

U.S. EPA did not develop final deadlines for this TMDL.

Department's Sedimentation Contribution (relative contribution to pollutant loading)

See the Department's Nutrients Contribution below.

Final Nutrients WLA

There are no total final WLAs for Malibu Creek and Lagoon. Below are the concentration-based numeric targets as listed in Table 10-4 of this TMDL.

Season	Total Nitrogen (mg/l)	Total Phosphorus (mg/l)
Summer (Apr 15 – Nov 15)	0.65	0.1
Winter (Nov 16 - Apr 14)	1.0	0.2

Final Nutrients WLA Specific to the Department

Final WLAs are established Total Nitrogen (TN) and Total Phosphorus (TP) for summer and winter as listed in Table 10-4 of this TMDL.

Summer TN, mg/l (Apr 15 – Nov 15)	Winter TN, mg/l (Nov 16 – Apr 14)	Summer TP, mg/l (Apr 15 – Nov 15)	Winter TP, mg/l (Nov 16 – Apr 14)
1.0	4.0	0.1	0.2

Final Nutrients Deadlines

EPA did not develop final deadlines for this TMDL.

Department’s Nutrients Contribution (relative contribution to pollutant loading)

The Department’s total area within the watershed is 206 acres, of a total of 65,310 acres or 0.317% of the total watershed.

The Department’s contribution to the nutrient loads is not specified in the TMDL, but it can be assumed that the contribution is nearly the same as the allocation fraction for sediment in Table 10-2, at 0.8%. Multiplying the monthly watershed loads for winter and summer from Tables 5-3 and 5-4, respectively, by the Department’s allocation fraction provides an approximation of the Department’s total contribution to the monthly load.

Source	Summer TN Load kg/mo (Apr 15 – Nov 15)	Winter TN Load kg/mo (Nov 16 – Apr 14)	Summer TP Load kg/mo (Apr 15 – Nov 15)	Winter TP Load kg/mo (Nov 16 – Apr 14)
Total Load	789	20,442	140	2,842
Department Runoff (estimate based on area)	6.31	164	1.12	22.7

Ventura River and its Tributaries Algae, Eutrophic Conditions, and Nutrients TMDL, June 28, 2013

This TMDL establishes dry-weather and wet-weather WLAs for nitrogen and a dry-weather TMDL for phosphorus.

Final Nutrients WLA

The final dry-weather Total Nitrogen and Total Phosphorus loads are not explicitly stated in the TMDL.

Final Nutrients WLA Specific to the Department

The final total dry-weather total nitrogen WLA for the Department is 1.1 pound/day. The final dry-weather total phosphorus WLA for the Department is 0.11 pound/day.

Wet-weather allocations for “nitrogen”, defined as the sum of Nitrate-N and Nitrite-N, are the same for all storm water dischargers and are site-specific to the reaches of the watershed:

Reach	Nitrate-N + Nitrite-N (mg/L)
Estuary	7.4
Reach 1	7.4
Reach 2	10
Cañada Larga	10
Reach 3	5
San Antonio Creek	5
Reach 4	5
Reach 5	5

Final Nutrients Deadlines

Wet-weather WLAs for the Department apply on the effective date of the TMDL. Dry-weather WLAs for the Department must be achieved by June 28, 2019.

Department’s Nutrients Contribution

The Department’s proportional contributions to the final WLAs are estimated to be approximately 1 percent each.

CENTRAL VALLEY REGION NUTRIENTS AND MERCURY TMDLS***Clear Lake Nutrients TMDL, September 21, 2007*****Final Nutrients WLA**

The final WLA for phosphorus for Clear Lake is 2100 kg per year.

Final Nutrients WLA Specific to the Department

The Department is given a final WLA for phosphorus of 100 kg per year.

Final Nutrients Deadlines

The Department shall achieve its WLAs by September 21, 2017.

Department’s Nutrients Contribution (relative contribution to pollutant loading)

The Department contributes 4.8 percent to the final phosphorus WLA.

**Cache Creek, Bear Creek, Sulphur Creek and Harley Gulch Mercury TMDL,
February 7, 2011**

Final Methylmercury WLA

Implementation Summary Cache Creek and Bear Creek Methylmercury Allocations

Source	Acceptable Annual Load (g/yr)
Cache Creek (Clear Lake to North Fork Confluence)	11
North Fork Cache Creek	12.4
Harley Gulch	0.04
Davis Creek	0.7
Bear Creek @ Highway 20	3
In-channel production and un-gauged tributaries	32
Bear Creek @ Bear Valley Road	0.9
Sulphur Creek	0.8
In-channel production and un-gauged tributaries	1

Final Mercury WLA Specific to the Department

No specific WLA assigned to the Department.

Final Mercury Deadlines

None specified.

Department's Mercury Contribution (relative contribution to pollutant loading)

The Department's relative contribution to pollutant loading is not known.

**Sacramento-San Joaquin River Delta Estuary Methylmercury TMDL,
October 20, 2011**

Final Methylmercury WLA

Delta Methylmercury Allocations

Permittee	NPDES Permit	Waste Load Allocation (g/yr)
Central Delta		
County of Contra Costa	CAS083313	0.75
City of Lodi	CAS000004	0.053
Port of Stockton MS4	CAS084077	0.39
County of San Joaquin	CAS000004	0.57
Stockton Area MS4	CAS083470	3.6
SUBTOTAL		5.4
Marsh Creek		
County of Contra Costa	CAS083313	0.30
SUBTOTAL		0.30
Mokelumne River		

Permittee	NPDES Permit	Waste Load Allocation (g/yr)
County of San Joaquin	CAS000004	0.016
<i>SUBTOTAL</i>		<i>0.016</i>
Sacramento River		
City of Rio Vista	CAS000004	0.0078
Sacramento Area MS4	CAS082597	1.0
County of San Joaquin	CAS000004	0.11
County of Solano	CAS000004	0.041
City of West Sacramento	CAS000004	0.36
County of Yolo	CAS000004	0.041
<i>SUBTOTAL</i>		<i>1.6</i>
San Joaquin River		
City of Lathrop	CAS000004	0.097
Port of Stockton MS4	CAS084077	0.0036
County of San Joaquin	CAS000004	0.79
Stockton Area MS4	CAS083470	0.18
City of Tracy	CAS000004	0.65
<i>SUBTOTAL</i>		<i>1.7</i>
West Delta		
County of Contra Costa	CAS083313	3.2
<i>SUBTOTAL</i>		<i>3.2</i>
Yolo Bypass		
County of Solano	CAS000004	0.021
City of West Sacramento	CAS000004	0.28
County of Yolo	CAS000004	0.083
<i>SUBTOTAL</i>		<i>0.38</i>
TOTAL		12.596

Final Methylmercury WLA Specific to the Department

There are no WLAs specific to the Department. However, allocations for each of the defined municipal entities in the above table include all current and future permitted dischargers within the geographic boundaries of these municipalities and unincorporated areas, including the Department.

Final Methylmercury Deadlines

The final WLAs for dischargers in the Delta and Yolo bypass shall be met as soon as possible, but no later than January 1st, 2030.

Department's Methylmercury Contribution (relative contribution to pollutant loading)

The Department's contribution to the methylmercury load is not known.

LAHONTAN REGION SEDIMENT/NUTRIENTS TMDLS

Lake Tahoe Sediment and Nutrients TMDL, August 16, 2011

Attachment IV incorporates TMDL-specific permit requirements for the sediments and nutrients TMDL for Lake Tahoe. The TMDL requires the Department to meet pollutant load reduction requirements and to develop and implement a comprehensive Pollutant Load Reduction Plan (PLRP).

Final Sediment WLA

The pollutant load reduction requires the Department to reduce fine sediment particle (FSP), total phosphorus (TP), and total nitrogen (TN) loads by ten percent, seven percent and eight percent respectively by September 30, 2016. The Department shall prepare a Pollutant Load Reduction Plan (PLRP) describing how it expects to meet the pollutant load reductions.

Final Sediment Deadlines

This plan is to be submitted no later than July 15, 2013. By July 15, 2014, the Department shall submit a Progress Report documenting pollutant load reductions accomplished between May 1, 2004 (baseline year) and October 15, 2011. The Department shall also prepare and submit a Storm Water Monitoring Plan for review and approval by the Regional Board by July 15, 2013 and implement the approved plan.

Final deadlines for both nitrogen and phosphorus WLAs are for 65 years after the effective date of the TMDL (August 16, 2076).

Department's Sediment Contribution (relative contribution to pollutant loading)

Final Nutrient WLA

Constituent	Basin-Wide Load (MT/yr)	Urban Upland Load	Final Urban Upland Reduction %	Final WLA, (MT/yr)
Nitrogen	345	63	50	31.5
Phosphorus	38	18	46	8.28

Final Nutrient WLA Specific to the Department

The Department's specific contributions to the loads are not defined. The Department is part of a group of Urban Upland (storm water) dischargers. The Department was required to submit a 2004 baseline load estimate specific to its jurisdiction by August 16, 2013.

Final Nutrient Deadlines

Final deadlines for both nitrogen and phosphorus WLAs are for 65 years after the effective date of the TMDL (August 16, 2076).

Department's Nutrient Contribution (relative contribution to pollutant loading)
The Department's relative contribution to pollutant loading is not known.

Truckee River Sediment TMDL, September 16, 2009

TMDL attainment will be evaluated through the TMDL targets: these targets express desired conditions in the watershed, rather than sediment mass reductions. This was deemed to be appropriate because sediment mass reductions are not a practical indication of beneficial use protection due to the inherent natural variability of sediment delivery and the uncertainties associated with accurately measuring sediment loads and reductions.

Final Sediment WLA

For the most part, point source dischargers' compliance with their respective NPDES permits are deemed to be evidence of compliance with their respective responsibilities to help achieve desired watershed conditions, as described above.

Final Sediment WLA Specific to the Department

The Department's compliance with its storm water permit is deemed to be evidence of compliance with its responsibility to help achieve desired watershed conditions, as described above.

Final Sediment TMDL Deadlines

The Truckee River instream sediment targets are currently being met and will be further evaluated for TMDL attainment.

Department's Contribution (relative contribution to pollutant loading)

The Department's relative contribution to sediment pollutant loading is not known.

SANTA ANA REGION NUTRIENTS AND MERCURY TMDLS

Big Bear Lake Nutrients for Dry Hydrological Conditions TMDL, September 25, 2007

This TMDL contains waste load allocations for phosphorus loads under dry hydrological conditions, defined as an average tributary inflow to Big Bear Lake ranging from 0 to 3,049 acre-feet, average lake levels ranging from 6,671 to 6,735 feet and annual precipitation ranging from 0 to 23 inches.

Final Nutrients WLA

The total Waste Load Allocation is 475 pounds/year.

Final Nutrients WLA Specific to the Department

There is no WLA specific to the Department.

Final Nutrients Deadlines

The WLA must be achieved by December 31, 2015.

Department’s Nutrients Contribution (relative contribution to pollutant loading)

The Department’s relative contribution to nutrient pollutant loading is not known.

Lake Elsinore and Canyon Lake Nutrients TMDL, September 30, 2005

The Department has already committed to cooperative implementation actions, monitoring actions, special studies and implementation actions jointly with other responsible agencies as an active paying member of the Lake Elsinore/Canyon Lake TMDL Task Force. If the Department doesn’t fulfill its Lake Elsinore/Canyon Lake Task Force obligations or if the Department chooses to opt out of the cooperative approach with the TMDL Task Force for implementation actions, monitoring actions, and/or special studies then the Department will have to implement the requirements listed in Table IV.2. of Attachment IV.

Final Nutrients WLA

Waterbody	Final Total Phosphorus Waste Load Allocation (kg/year)	Final Total Nitrogen Waste Load Allocation (kg/year)
Canyon Lake	487	6,248
Lake Elsinore	3,845	7,791

Final Nutrients WLA Specific to the Department

There are no WLAs specific to the Department.

Final Nutrients Deadlines

Final allocation compliance is to be achieved by December 31, 2020.

Department’s Nutrient Contribution (relative contribution to pollutant loading)

The Department’s relative contribution to the nutrient pollutant loading is not available.

Rhine Channel Area of Lower Newport Bay Chromium and Mercury, U.S. EPA Established on June 14, 2002

Mercury Final WLA

A WLA for mercury to Rhine Channel is 0.225 kilograms/year.

Mercury Final WLA Specific to the Department

The final mass-based Mercury WLA for the Department is 0.0027 kilograms/year.

Mercury Final Deadlines

The Santa Ana Regional Water Quality Control Board anticipated a Basin Plan Amendment addressing implementation of the above TMDLs in 2007; these amendments have not yet been completed

Department's Mercury Contribution (relative contribution to pollutant loading)

The Department's relative contribution to the mercury loading is approximately three percent. This WLA was developed by taking the available load and dividing it roughly in proportion to the land areas associated with the remaining source categories (including the Department).

SAN DIEGO REGION SEDIMENT AND NUTRIENTS TMDLS

Historical loading of sediment to some coastal wetlands within Region 9 has resulted in impacts to natural wetland functions. The excess deposition and movement of sediment within remaining coastal wetlands has greatly altered the natural conditions. Urbanized development of the watershed and the channel straightening has modified both the sediment supply and the ability of flows to transport sediments. Additionally, channelization of streams has cut off the banks and floodplains of natural rivers within these watersheds. Sediments carried in flows are not stored within the banks but are rather transported to the outlet of coastal estuaries where they are deposited. Recurring dredging operations in coastal areas also affect sediment transport and deposition patterns in these watersheds. Wetland and estuarine habitats tend to be fragmented by existing roads, infrastructure, and surrounding urbanized development.

In some Region 9 watersheds, natural processes of erosion have been accelerated due to anthropogenic watershed disturbances, resulting in impairment of additional principally biological resources, but also recreational uses, including: RARE, MIGR, SPWN, WILD, EST, MAR, BIOL, REC1, REC2, NAV.

Rainbow Creek Total Nitrogen and Total Phosphorus TMDL, March 22, 2006

Final Nutrient WLA

The final WLA for nitrogen is 82 kilograms/year. The final WLA for phosphorus is eight kilograms/year.

Final Nutrient WLA Specific to the Department

The final WLA for nitrogen for the Department is 49 kilograms/year. The final WLA for phosphorus for the Department is five kilograms/year.

Final Nutrient Deadlines

The Department shall achieve the final WLA by December 31, 2021.

Department's Nutrient Contribution (relative contribution to pollutant loading)

The Department's contribution to the nitrogen and phosphorus WLAs is three percent of the total.

C. Metals/Toxics/Pesticides TMDL Pollutant Category

General Description of Pollutant Category

Toxic pollutants, including but not limited to Pesticides, Polycyclic Aromatic Hydrocarbons (PAHs) and Polychlorinated Biphenyls (PCBs), cause several impairments to California's water quality.

Sources of Pollutant & How it Enters the Waterway

The main transport mechanism for these pollutants is through fine sediment. Once the contaminated fine sediments wash off the roadways and into storm drains or nearby receiving waters they re-suspend in the water column and become bioavailable.

Metals including copper, zinc, lead, cadmium, nickel and chromium are toxic to aquatic life and cause impairments to California's waterbodies. Toxic metals are present in water as both dissolved and total recoverable fractions. During times of high precipitation (storm events), the primary transport mechanism for metals, especially in the total recoverable fraction, is again the mobilization of fine sediment. Accumulated contaminated fine sediment washes off roadways and into storm drains or nearby receiving waters. Metals in the sediment become bioavailable while suspended in the water column. During times of low precipitation, flows that reach storm drains or discharge points are typically insufficient to mobilize fine sediment, but dissolved metal ions are still bioavailable and reach discharge points.

Mechanical components of automobiles, especially those that are subjected to frictional stresses are either known or supposed sources of these metals (i.e., copper from brake pads and zinc from synthetic rubber tires). Some toxic metals are also present in petroleum-based lubricants and in gasoline and diesel fuel (i.e. cadmium).

Watershed Contribution

The Department is identified in many TMDLs as a source of toxic pollutants because they own and operate the roadways which act as conveyance systems of fine sediments. However, in most cases the Department makes up a relatively minor load for toxic pollutants because the models used to develop TMDLs rely on the percentage of land use to determine WLAs.

The Department is named in the TMDLs below as a source of metals in storm water because it owns, operates and maintains roadways and facilities present in these watersheds. As with toxics, in most cases, the Department is assigned a relatively minor proportion of the entire storm water WLA for each metal because its roadways and facilities comprise a small proportion of the total watershed area.

Control Measures

The requirements in Part C of Attachment IV of this permit address both dissolved and sediment-bound sources of toxics and metals. Section C.1 addresses treatment of the fine sediment fraction of toxics and metals and requires that the Department implement structural controls/BMPs.

Dissolved fraction metal impairments require an inventory of outfalls/discharge points to waterbodies within each prioritized reach impaired by dissolved fraction metals and to propose and implement appropriate controls consistent with the report.

The Reach Prioritization and Implementation Requirements in Section I.A. and I.B. of Attachment IV place a priority on identifying and addressing the highest source generating areas. This strategy will control the largest sources of fine sediment for a minor pollutant source and allow for attainment of the applicable WLAs consistent with the Toxic Pollutants and Metals TMDLs identified in Table IV.2 of Attachment IV.

In Section III.C.1, the options for controlling sediment-bound toxics and metals are essentially the same. The types of BMPs expected to be implemented to address fine sediment discharges under C.1 are those expected to be implemented to address sediment discharges for the sediment TMDLs discussed above.

Section III.C.2 explains that Dissolved Fraction Metals levels in storm water are reduced when contaminated sediment is removed or mitigated, but additional structural and non-structural BMPs may still be necessary to achieve compliance. In some cases, this may require building or instituting BMPs in addition to those used for metals in fine sediments for the same discharge points. Structural BMPs might include Infiltration or detention basins/trenches, filtration using metal-absorbing media, etc.

Section III.C.3. Pesticides. The Department is to comply with the Vegetation Control provision that specifies practices for the safe handling and use of pesticides, including compliance with federal, state and local regulations, and label directions.

SAN FRANCISCO BAY REGION TOXIC TMDLS

San Francisco Bay PCBs TMDL, March 29, 2010

The TMDL identifies storm water runoff as a major source for PCB transport and includes the Department's roadways, non-roadway facilities, and rights-of-way.

Final PCBs WLA

The total WLA for all storm water runoff sources is two kilograms/year.

Final PCBs WLA Specific to the Department

All storm water runoff sources share a two kilograms/year WLA.

Final PCBs Deadlines

The WLA of two kilograms/year is broken up by county and is to be achieved within 20 years or March 29, 2030.

Department's PCBs Contribution (relative contribution to pollutant loading)

The TMDL also directs the storm water sources to implement this TMDL through the applicable NPDES permits.

San Francisco Bay Urban Creeks Diazinon and Pesticide Toxicity, May 16, 2007

Final Pesticide Toxicity WLA

The TMDL states that most urban runoff flows through storm drains operated by all storm water entities including the Department. The WLA for each storm water entity is 1 TUC_a (TUC_a = 100/No Observed Adverse Effect Concentration) and one TUC_c (TUC_c = 100/No Observed Effect Concentration) in water and sediment.

Final Pesticide Toxicity WLA Specific to the Department

The Department's level of responsibility is not identified.

Final Pesticide Toxicity Deadlines

The TMDL specifies that all NPDES permits for runoff management agencies, including the Department, require implementation of best management practices and control measures that reduce pesticides in urban runoff to the maximum extent practicable. No final compliance date is specified, however, the Regional Water Board may require additional control measures if the Department fails to meet the TMDL targets.

Department's Contribution (relative contribution to pollutant loading)

The Department's relative contribution to pesticide toxicity pollutant loading is not known.

LOS ANGELES REGION METALS AND TOXICITY TMDLS

Ballona Creek Metals & Selenium TMDL, December 22, 2005 and reaffirmed on December 29, 2008

The TMDL identifies storm water as a significant contributor to loadings of copper, lead and zinc (and selenium) to Ballona Creek and Sepulveda Canyon Channel in both dry weather and wet weather.

Final Metals WLA

Storm water allocations are divided among the MS4 and general permits named in the TMDL based on an areal weighting approach.

Final Metals WLA Specific to the Department

The Department is assigned separate dry-weather and wet-weather Waste Load Allocations (WLAs). Dry-weather conditions apply to days when the maximum daily flow in Ballona Creek is less than 40 cubic feet per second (cfs), and wet-weather conditions apply to days when the maximum daily flow in Ballona Creek is equal to or greater than 40 cfs. Both dry-weather and wet-weather WLAs are mass-based, although alternate concentration-based dry-weather WLAs are allowed due to the expense of obtaining accurate flow measurements.

Dry-weather WLAs g/day, Total Recoverable Metal:

Waterbody	Copper	Lead	Zinc
Ballona Creek	11.2	6.0	143.1
Sepulveda Channel	5.1	2.7	64.7

Wet-weather WLAs, g/day, Total Recoverable Metal; V is daily flow volume in liters:

Waterbody	Copper	Lead	Zinc
All	$2.37 * V * 10^{-7}$	$7.78 * V * 10^{-7}$	$1.57 * V * 10^{-6}$

Alternate dry-weather WLAs, µg/L, Total Recoverable Metal:

Waterbody	Copper	Lead	Zinc
All	24	13	304

Final Metals Deadlines

The Department is responsible for meeting its assigned mass-based WLAs, but has the option to work with the other MS4 permittees. Each municipality and permittee is required to meet the storm water waste load allocation at designated TMDL effectiveness monitoring points. The MS4 permittees including the Department may use a combination of structural and non-structural BMPs to achieve compliance with the storm water WLAs. Total compliance is to be achieved by January 11, 2021.

Department's Metals Contribution (relative contribution to pollutant loading)

The Department's relative contribution to metals pollutant loading is not known.

Ballona Creek Estuary Toxic Pollutants TMDL, December 22, 2005

Final OC-Compounds & PAHs WLA

The storm water WLAs are apportioned between the MS4 permittees, the Department, the general construction, and the general industrial storm water permits based on an areal weighting approach.

Final WLA Specific to the Department

The Department is assigned the following WLAs based on the 1.3 percent land area associated with the Department:

Metals Storm Water WLAs Apportioned between Permits

Cadmium (kg/yr)	Copper (kg/yr)	Lead (kg/yr)	Silver (kg/yr)	Zinc (kg/yr)
0.11	3.2	4.4	0.09	14

Organics Storm Water WLAs Apportioned between Permits

Total Chlordane (g/yr)	Total DDTs (g/yr)	Total PCBs (g/yr)	Total PAHs (g/yr)
0.05	0.15	2	400

Final WLA Deadlines

The implementation schedule for the MS4 and the Department permittees consists of a phased approach, with compliance to be achieved in prescribed percentages of the watershed with total compliance to be achieved within 15 years of the TMDL effective date or December 22, 2020.

Department's WLA Contribution (relative contribution to pollutant loading)

The Department's relative contribution to the pollutant loading is unknown.

Calleguas Creek OC Pesticides, PCBs, and Siltation TMDL, March 14, 2006

Final OC Pesticides & PCBs WLA

In accordance with current U.S. EPA practice, a group concentration-based WLA has been developed for MS4s, including the Department's MS4. The grouped allocation will apply to all NPDES-regulated municipal storm water discharges in the Calleguas Creek Watershed. Storm water WLAs will be incorporated into the NPDES permit as receiving water limits measured at the downstream points of each subwatershed and are expected to be achieved through the implementation of BMPs as outlined in the implementation plan.

Interim WLAs as an In-stream Annual Average (ng/g)

Pollutant	Mugu Lagoon	Calleguas Creek	Revolon Slough	Arroyo Las Posas	Arroyo Simi	Conejo Creek
Total Chlordane	25.0	17.0	48.0	3.3	3.3	3.4
4,4-DDD	69.0	66.0	400.0	290.0	14.0	5.3
4,4-DDE	300.0	470.0	1,600.0	950.0	170.0	20.0
4,4-DDT	39.0	110.0	690.0	670.0	25.0	2.0
Dieldrin	19.0	3.0	5.7	1.1	1.1	3.0

Pollutant	Mugu Lagoon	Calleguas Creek	Revolon Slough	Arroyo Las Posas	Arroyo Simi	Conejo Creek
Total PCBs	180.0	3,800.0	7,600.0	25,700.0	25,700.0	3,800.0
Toxaphene	22,900.0	260.0	790.0	230.0	230.0	260.0

Final WLAs as an In-stream Annual Average

Pollutant	Mugu Lagoon (ng/g)	Calleguas Creek (ng/g)	Revolon Slough (ng/g)	Arroyo Las Posas (ng/g)	Arroyo Simi (ng/g)	Conejo Creek (ng/g)
Total Chlordane	3.3	3.3	0.9	3.3	3.3	3.3
4,4-DDD	2.0	2.0	2.0	2.0	2.0	2.0
4,4-DDE	2.2	1.4	1.4	1.4	1.4	1.4
4,4-DDT	0.3	0.3	0.3	0.3	0.3	0.3
Dieldrin	4.3	0.2	0.1	0.2	0.2	0.2
Total PCBs	180.0	120.0	130.0	120.0	120.0	120.0
Toxaphene	360.0	0.6	1.0	0.6	0.6	0.6

Final OC Pesticides & PCBs WLA Specific to the Department

See Tables above.

Final OC Pesticides & PCBs Deadlines

The above Final WLAs (ng/g) as an in-stream annual average are to be achieved by March 24, 2026, but the schedule and allocations can be altered based on the results of several special studies required in the TMDL implementation plan.

Department's OC Pesticides & PCBs Contribution (relative contribution to pollutant loading)

The Department's relative pesticide and PCB contribution is not known.

Calleguas Creek and its Tributaries & Mugu Lagoon Metals and Selenium TMDL, March 26, 2007

Final Metals WLAs

Urban storm water runoff was identified as a source for metals pollution in the TMDL. The Department shares group WLAs for nickel, copper and selenium with other Permitted Storm water Dischargers (PSDs). Concentration-based interim limits for nickel, copper and selenium are effective from the date of the TMDL for all PSDs. Final WLAs are mass-based.

There are final WLAs for both dry-weather and wet-weather conditions. The dry-weather WLAs apply to days when flows in the stream are less than the 86th percentile flow rate for each reach. The wet-weather WLAs apply to days when flows in the stream exceed the 86th percentile flow rate for each reach. Dry weather limits are based on chronic California Toxics Rule (CTR) criteria. Wet weather limits are based on acute CTR criteria.

Interim Concentration-based Wet and Dry Weather Limits

Metal	Calleguas and Conejo Creek			Revolon Slough		
	Dry CMC µg/L	Dry CCC µg/L	Wet CMC µg/L	Dry CMC µg/L	Dry CCC µg/L	Wet CMC µg/L
Copper	23	19	204	23	19	204
Nickel	15	13	*	15	13	*

* The current loads do not exceed the TMDL under wet conditions: interim limits not required

Final Mass-based Dry-weather WLAs, lbs/day, Total Recoverable Metal in Water Column

Metal	Calleguas and Conejo Creek			Revolon Slough		
	Low	Average	Elevated	Low	Average	Elevated
Copper (lbs/day)	0.04 * WER – 0.02	0.12 * WER – 0.02	0.18 * WER – 0.03	0.03 * WER – 0.01	0.06 * WER – 0.03	0.13 * WER – 0.02
Nickel (lbs/day)	0.100	0.120	0.440	0.050	0.069	0.116

Final Mass-based Wet-weather WLAs, lbs/day, total recoverable metal in water column

Metal	Calleguas Creek	Revolon Slough
Copper (lbs/day)	$(0.00054*Q^2 + 0.032*Q - 0.17)*WER - 0.06$	$(0.0002*Q^2 + 0.0005*Q)*WER$
Nickel (lbs/day)	$0.014*Q^2 + 0.82*Q$	$0.027*Q^2 + 0.47*Q$

A WER is applied to final numeric targets for copper for the Mugu Lagoon, Calleguas Creek 2, and Revolon/Beardsley reaches; the WER defaults to a value of one (1) unless a site-specific study is approved. The mass-based WLAs apply to the Permitted Storm water Dischargers as a group, and the Department has no specific proportional WLA.

Final Metals WLA Specific to the Department

The WLAs above apply to all permitted storm water dischargers, including the Department. The Department has no specific final WLAs.

Final Metals Deadlines

All PSDs have required interim reductions of 25 percent and 50 percent by March 26, 2012 and March 26, 2017, respectively. The final WLAs must be achieved within 15 years after the effective date of the amendment (March 26, 2022). Implementation shall be achieved through BMPs. The Department was originally tasked with submitting an Urban Water Quality Control Plan by March 26, 2012. Implementation is meant to be achieved using BMPs. The Department was required to conduct a source control study and submit an

Urban Water Quality Management Program for copper, nickel, selenium and mercury by March 26, 2009.

Department's Metals Contribution (relative contribution to pollutant loading)

The Department's contribution to the metal loads is unknown.

Colorado Lagoon OC Pesticides, PCBs, Sediment Toxicity, PAHs and Metals TMDL, June 14, 2011

The TMDL identifies the point sources of OC pesticides, PCBs, PAHs, and metals discharged to Colorado Lagoon are urban runoff and storm water discharges from the MS4 and the Department. The Colorado Lagoon watershed is divided into five sub-basins that discharge storm water and urban dry weather runoff to Colorado Lagoon. Each of the sub-basins is served by a major storm sewer trunk line and supporting appurtenances that collect and transport storm water and urban dry weather runoff to Colorado Lagoon.

Final WLAS for OC Pesticides, PCBs, and PAHs

The Department and the City of Long Beach shall each be responsible for achieving the following final mass-based WLAs assigned to the Line I Storm Drain as it conveys storm water from both the Department's facilities and the City of Long Beach:

Final Mass-based WLA for MS4 Discharges

Total Chlordane	Dieldrin (mg/yr)	Total PAHs (mg/yr)	Total PCBs (mg/yr)	Total DDTs (mg/yr)
3.65	0.15	29,321.50	165.49	11.52

In addition, concentration-based WLAs for sediment are assigned to MS4 permittees including the City of Long Beach, LACFCD, and the Department. Concentration-based WLAs for sediment are applied as average monthly limits. Compliance with the concentration-based WLAs for sediment shall be determined by pollutant concentrations in the sediment in the lagoon at points in the West Arm, North Arm, and Central Arm that represent the cumulative inputs from the MS4 drainage system to the lagoon. Concentration-based interim WLAs for sediment are set to allow time for removal of contaminated sediment through proposed implementation actions. Interim WLAs are based on the 95th percentile value of sediment data collected from 2000-2008. The following interim and final WLAs will be included in MS4 permits in accordance with NPDES guidance and requirements:

Concentration-based WLAs

Pollutants	Interim WLAs (µg/dry kg)	Final WLAs (µg/dry kg)
Total Chlordane	129.65	0.50
Dieldrin	26.20	0.02
Total PAHs	4,022	4,022
Total PCBs	89.90	22.7
Total DDTs	149.80	1.58

Final WLAs for Metals

The Department is jointly responsible with the City of Long Beach in attaining final mass-based WLAs for lead and zinc in sediment and storm water conveyed to Colorado Lagoon via the Line I Storm Drain. In addition, concentration-based interim limits are established for all storm water dischargers, including the Department.

Interim Concentration-based WLAs for Metals in Sediment

Metal	Average Monthly Sediment	
	Interim WLA (µg/kg)	Final WLA (µg/kg)
Lead	399,500	46,700
Zinc	565,000	150,000

Final Mass-based WLAs for Metals in Line I Storm Drain

Metal	mg/yr
Lead	340,455.99
Zinc	1,093,541.72

Proposed BMPs that may apply to the Line I Storm Drain include:
 Low-flow diversion, trash separation devices, vegetated bioswales, cleaning of existing culverts, or direct removal of accumulated sediment

Final OC Pesticides, PCBs & PAHs WLA Specific to the Department

See tables above.

Final OC Pesticides, PCBs & PAHs Deadlines

The Department is subject to the prescribed point source interim WLAs which are effective as of July 28, 2011. Compliance with all final WLAs is required by July 28, 2018.

The Department's OC Pesticides, PCBs & PAHs Contribution (relative contribution to pollutant loading)

The Department's relative contribution to the OC Pesticides, PCBs, and PAHs pollutant loading is not known.

Dominguez Channel and Greater Los Angeles and Long Beach Harbor Toxic Pollutants TMDL, March 23, 2012

The toxic pollutants included in this TMDL include Copper, lead, zinc, DDT, PAHs, and PCBs.

Final WLAs for OC Pesticides PCBs, and PAHs

Interim and final WLA are assigned to storm water discharges including those from the Department’s MS4. Dominguez Channel freshwater allocations are set for wet weather only because exceedances have only been observed in wet weather. Mass-based allocations have been set where sufficient data was available to calculate mass-based allocations; otherwise, concentration-based allocations have been set. Interim and final WLAs shall be included in permits in accordance with state and federal regulations and guidance.

An interim freshwater toxicity allocation of two chronic toxicity units (TUc) applies to all point sources to Dominguez Channel during wet weather including the Department. A final freshwater toxicity allocation of one (1) TUc applies to all point sources to Dominguez Channel during wet weather including the Department.

Interim sediment allocations for Dominguez Channel Estuary and greater Los Angeles and Long Beach Harbor waters are assigned to storm water discharges based on the 95th percentile of sediment data collected from 1998-2006. The final mass-based allocations for PAHs expressed as an annual loading (kilograms/year) of pollutants in the sediment deposited to the Dominguez Channel Estuary, Los Angeles River Estuary, and the Greater Los Angeles and Long beach Harbor Waters. The final mass-based allocations for Total DDT and Total PCBs, expressed annual loading (grams/year) of pollutants in the sediment deposited to the Dominguez Channel Estuary, Los Angeles River Estuary, and the Greater Los Angeles and Long Beach Harbor Waters.

OC Pesticides PCBs, and PAHs Interim and Final WLAs

Interim Concentration-Based Sediment Allocations			
	Total PAHs (mg/kg)	Total DDTs (mg/kg)	Total PCBs (mg/kg)
Dominguez Channel Estuary	31.60	1.727	1.490
Long Beach Inner Harbor	4.58	0.070	0.060
Los Angeles Inner Harbor	90.30	0.341	2.107
Long Beach Outer Harbor	4,022	0.075	0.248
Los Angeles Outer Harbor	4,022	0.097	0.310
Los Angeles River Estuary	4.36	0.254	0.683
San Pedro Bay	4,022	0.057	0.193
Cabrillo Marina	36.12	0.186	0.199
Consolidated Slop	386.00	1.724	1.920
Cabrillo Beach Area	4,022	0.145	0.033
Fish Harbor	2102.7	40.5	36.6

Final Mass-Based Sediment Allocations for the Department			
	Total PAHs (kg/yr)	Total DDTs (g/yr)	Total PCBs (g/yr)
Dominguez Channel Estuary	0.0023	0.004	0.004
Consolidated Slip	0.00009	0.00014	0.00006
Inner Harbor	0.0017	0.0010	0.0011
Outer Harbor	0.00021	0.000010	0.00004
Fish Harbor	0.000021	0.0000010	0.000006
Cabrillo Marina	0.0000016	0.00000028	0.00000024
San Pedro Bay	0.077	0.002	0.019
LA River Estuary	0.333	0.014	0.047

Final Concentration-based Sediment WLAs for Other Bioaccumulative Compounds (dry sediment)		
Total Chlordane (µg/kg)	Dieldrin (µg/kg)	Toxaphene (µg/kg)
0.5	0.02	0.10

Final OC Pesticides PCBs, and PAHs WLAs for Metals

Interim and final WLAs for copper, lead and zinc are assigned to storm water discharges including those from the Department's MS4. Freshwater allocations for Dominguez Channel are set for wet weather only because exceedances have only been observed in wet weather. Wet weather conditions in Dominguez Channel and all of its upstream tributaries apply to any day when the maximum daily flow is greater than 62.7 cfs at any point in Dominguez Channel. Mass-based allocations have been set where sufficient data were available to calculate mass-based allocations; otherwise, WLAs are concentration-based.

Interim allocations for Dominguez Channel and Torrance Lateral are assigned to storm water dischargers, including the Department, and are based on the 95th percentile of total metals data collected from January 2006 to January 2010 using a log-normal distribution. Interim sediment allocations for Dominguez Channel Estuary and greater Los Angeles and Long Beach Harbor waters are assigned to storm water discharges based on the 95th percentile of sediment data collected from 1998-2006.

Interim Concentration-Based WLAs for Dominguez Channel and Torrance Lateral

Total Copper (µg/L)	Total Lead (µg/L)	Total Zinc (µg/L)
207.51	122.88	898.87

Interim Concentration-Based Sediment Allocations (mg/kg sediment)

Waterbody	Copper (mg/kg)	Lead (mg/kg)	Zinc (mg/kg)
Dominguez Channel Estuary	220.0	510.0	789.0
Long Beach Inner Harbor	142.3	50.4	240.6
Los Angeles Inner Harbor	154.1	145.5	362.0
Long Beach Outer Harbor	67.3	46.7	150
Los Angeles Outer Harbor	104.1	46.7	150
Los Angeles River Estuary	53.0	46.7	183.5
San Pedro Bay	76.9	66.6	263.1
Cabrillo Marina	367.6	72.6	281.8
Consolidated Slip	1470.0	1100.0	1705.0
Cabrillo Beach Area	129.7	46.7	163.1
Fish Harbor	558.6	116.5	430.5

Wet-weather freshwater metals allocations are assigned to Dominguez Channel and all of its upstream reaches and tributaries above Vermont Avenue. Mass-based (grams/day) WLAs are divided between the Department and other MS4 permittees by subtracting the other storm water or NPDES WLAs, air deposition and margin of safety from the total loading capacity. Metals targets used to calculate these WLAs were based on an assumed hardness of 50 mg/L and 90th percentile annual flow rates for Dominguez Channel (62.7 cfs).

The Department's Final mass-based water WLAs for Dominguez Channel

Total Copper	Total Lead	Total Zinc
32.3 (g/day)	142.6 (g/day)	232.6 (g/day)

For the Torrance Lateral subwatershed, concentration-based freshwater WLAs for both water and sediment are assigned to all dischargers, including the Department. Metals targets used to calculate these WLAs were based on an assumed hardness of 50 mg/L and 90th percentile annual flow rates.

The Department's Final concentration-based WLAs for Torrance Lateral

Media (units)	Total Copper	Total Lead	Total Zinc
Water (µg/L, unfiltered)	9.7	42.7	69.7
Sediment (mg/kg, dry)	31.6	35.8	121

The final mass-based allocations for metals are expressed as an annual loading (kilograms/year) of pollutants in the sediment deposited to the Dominguez Channel Estuary, Los Angeles River Estuary, and the Greater Los Angeles and Long Beach Harbor Waters. The Interim and Final WLAs are:

Reach	Total Copper (kg/yr)	Total Lead (kg/yr)	Total Zinc (kg/yr)
Dominguez Channel Estuary	0.384	0.93	4.7
Consolidated Slip	0.043	0.058	0.5

Reach	Total Copper (kg/yr)	Total Lead (kg/yr)	Total Zinc (kg/yr)
Inner Harbor	0.032	0.641	2.18
Outer Harbor	0.0018	0.052	0.162
Fish Harbor	0.0000005	0.00175	0.0053
Cabrillo Marina	0.00019	0.0028	0.007
San Pedro Bay	0.88	2.39	9.29
LA River Estuary	5.1	9.5	34.8

In addition to the above, Fish Harbor is impaired for mercury in sediments, Consolidated Slip is impaired for mercury, cadmium and chromium in sediments and Dominguez Channel Estuary is impaired for cadmium in sediments. These waterbodies are assigned no interim WLAs but are assigned final concentration-based WLAs. The Department is NOT named as a responsible party for WLAs to Consolidated Slip.

Final concentration-based sediment WLAs for other metals, dry sediment

Reach	Cadmium mg/kg	Chromium mg/kg	Mercury mg/kg
Dominguez Channel Estuary	1.2	-	-
Fish Harbor	-	-	0.15

Note: The Department is NOT specifically named as a responsible party for implementation actions to Dominguez Channel proper in the 1st Phase of implementation to reduce the amount of sediment transport from point sources that directly or indirectly discharge to the Dominguez Channel and the Harbor waters, even though it has specific WLAs.

Final Toxic Pollutant WLA Specific to the Department

See tables above.

Final Toxic Pollutant Deadlines

The Department is subject to the prescribed point source interim WLAs which are effective as of March 23, 2012. Compliance with all final WLAs is required by March 23, 2032.

Department's Toxic Pollutant Contribution (relative contribution to pollutant *loading*)

The Department's relative contribution to the toxic pollutant loading is not known.

Los Angeles Area Lakes for Organochlorine Pesticides and PCBs

To assess compliance with the organochlorine (OC) compounds TMDLs, monitoring should include monitoring of fish tissue at least every three years as well as once yearly sediment and water column sampling. For the OC pesticides and PCBs TMDLs a demonstration that fish tissue targets have been met in any given year must at minimum include a composite sample of skin off fillets from at least five common carp each measuring at least 350mm in length. At a minimum, compliance monitoring should measure the following in-lake water quality parameters: total suspended sediments, total PCBs, total chlordane, dieldrin, and total DDTs; as well as the following in-lake sediment parameters: total organic carbon, total PCBs, total chlordane, dieldrin, and total DDTs. WLAs are assigned to storm water inputs.

These sources should be measured near the point where they enter the lakes once a year during a wet weather event. Sampling should be designed to collect sufficient volumes of suspended solids to allow for the analysis of at minimum: total organic carbon, total suspended solids, total PCBs, total chlordane, dieldrin, and total DDTs. Measurements of the temperature, dissolved oxygen, pH and electrical conductivity should also be taken.

U.S. EPA established TMDLs do not include implementation plans so all WLAs are considered in effect as of the approval date.

Los Angeles Area (Echo Park Lake) Nitrogen, Phosphorus, Chlordane, Dieldrin, and Trash TMDLs, U.S. EPA Established on March 26, 2012

The entire watershed of Echo Park Lake is contained in MS4 jurisdictions, and watershed loads are therefore assigned WLAs. The Department's areas and facilities that operate under a general industrial storm water permit also receive WLAs. There are TMDLs for PCBs, Chlordane, and Dieldrin, and each has specific WLAs for the Department which are detailed below. The TMDLs have two sets of WLAs, one of which relies on meeting various fish tissue targets that would supersede the initial set of WLAs. Each WLA must be met at the point of discharge.

Final WLAs

PCBs WLA

Subwatershed	Responsible Jurisdiction	Input	Suspended Sediment WLAs (µg/kg dry weight)	Water Column WLAs (ng/L)
Northern	Department	State Highway Storm water	1.77	0.17
Southern	Department	State Highway Storm water	1.77	0.17

If the Fish Tissue targets are met:

Subwatershed	Responsible Jurisdiction	Input	Suspended Sediment WLAs (ug/kg dry weight)	Water Column WLAs (ng/L)
Northern	Department	State Highway Storm water	59.8	0.17
Southern	Department	State Highway Storm water	59.8	0.17

Total Chlordane TMDL

Subwatershed	Responsible Jurisdiction	Input	Suspended Sediment WLAs (ug/kg dry weight)	Water Column WLAs (ng/L)
Northern	Department	State Highway Storm water	2.10	0.59
Southern	Department	State Highway Storm water	2.10	0.59

If Fish Tissue Targets are met:

Subwatershed	Responsible Jurisdiction	Input	Suspended Sediment WLAs (ug/kg dry weight)	Water Column WLAs (ng/L)
Northern	Department	State Highway Storm water	3.24	0.59
Southern	Department	State Highway Storm water	3.24	0.59

Dieldrin TMDL

Subwatershed	Responsible Jurisdiction	Input	Suspended Sediment WLAs (ug/kg dry weight)	Water Column WLAs (ng/L)
Northern	Department	State Highway Storm water	0.80	0.14
Southern	Department	State Highway Storm water	0.80	0.14

If the Fish Tissue targets are met:

Subwatershed	Responsible Jurisdiction	Input	Suspended Sediment WLAs (ug/kg dry weight)	Water Column WLAs (ng/L)
Northern	Department	State Highway Storm water	1.90	0.14
Southern	Department	State Highway Storm water	1.90	0.14

Final OC Compounds WLA Specific to the Department

See tables above.

Final OC Compounds Deadlines

U.S. EPA did not establish deadlines.

Department's OC Compounds Contribution (relative contribution to pollutant loading)
 The Department's relative contribution to the OC Pesticide pollutant loading is unknown.

Los Angeles Area (Peck Road Park Lake) Nitrogen, Phosphorus, Chlordane, DDT, Dieldrin, PCBs, and Trash

Final OC Compounds WLA

The entire watershed of Peck Road Park Lake is contained in MS4 jurisdictions, and watershed loads are therefore assigned WLAs. The Department areas and facilities that operate under a general industrial storm water permit also receive WLAs. There are TMDLs for PCBs, Chlordane, DDTs, and Dieldrin and each has specific WLAs for the Department which are detailed below. The TMDLs have two sets of WLAs, one of which relies on meeting various fish tissue targets that would supersede the initial set of WLAs. Each WLA must be met at the point of discharge.

Final OC Compounds WLA Specific to the Department

Subwatershed	Responsible Jurisdiction	Input	Suspended Sediment WLAs (ug/kg dry weight)	Water Column WLAs (ng/L)
Eastern	Department	State Highway Storm water	1.29	0.17
Western	Department	State Highway Storm water	1.29	0.17

If the Fish Tissue targets are met:

Subwatershed	Responsible Jurisdiction	Input	Suspended Sediment WLAs (ug/kg dry weight)	Water Column WLAs (ng/L)
Eastern	Department	State Highway Storm water	59.8	0.17
Western	Department	State Highway Storm water	59.8	0.17

Total Chlordane TMDL

Subwatershed	Responsible Jurisdiction	Input	Suspended Sediment WLAs (ug/kg dry weight)	Water Column WLAs (ng/L)
Eastern	Department	State Highway Storm water	1.73	0.59
Western	Department	State Highway Storm water	1.73	0.59

If the Fish Tissue targets are met:

Subwatershed	Responsible Jurisdiction	Input	Suspended Sediment WLAs (ug/kg dry weight)	Water Column WLAs (ng/L)
Eastern	Department	State Highway Storm water	3.24	0.59
Western	Department	State Highway Storm water	3.24	0.59

Total DDTs TMDL

Subwatershed	Responsible Jurisdiction	Input	Suspended Sediment WLAs (ug/kg dry weight)	Water Column WLAs (ng/L)
Eastern	Department	State Highway Storm water	5.28	0.59
Western	Department	State Highway Storm water	5.28	0.59

Dieldrin TMDL

Subwatershed	Responsible Jurisdiction	Input	Suspended Sediment WLAs (ug/kg dry weight)	Water Column WLAs (ng/L)
Eastern	Department	State Highway Storm water	0.43	0.14
Western	Department	State Highway Storm water	0.43	0.14

If the Fish Tissue targets are met:

Subwatershed	Responsible Jurisdiction	Input	Suspended Sediment WLAs (ug/kg dry weight)	Water Column WLAs (ng/L)
Eastern	Department	State Highway Storm water	1.90	0.14
Western	Department	State Highway Storm water	1.90	0.14

Final OC Compounds WLA Specific to the Department

See tables above.

Final OC Compounds Deadlines

U.S. EPA did not establish deadlines.

Department’s OC Compounds Contribution (relative contribution to pollutant loading)

The Department’s relative contribution to the OC Pesticides and PCBs pollutant loading is not known.

Los Angeles Area (Puddingstone Reservoir) Nitrogen, Phosphorus, Chlordane, DDT, PCBs, Mercury, and Dieldrin TMDLs, U.S. EPA Established on March 26, 2012

Final OC Compounds WLA

In the Puddingstone Reservoir watershed, WLAs are required for all permittees in the northern subwatershed and the Department's areas in the southern subwatershed. There are TMDLs for PCBs, Chlordane, DDTs, and Dieldrin and each has specific WLAs for the Department which are detailed below.

Final OC Compounds WLA Specific to the Department

The TMDLs have two sets of WLAs, one of which relies on meeting various fish tissue targets that would supersede the initial set of WLAs. Each WLA must be met at the point of discharge.

Total PCBs TMDL

Subwatershed	Responsible Jurisdiction	Input	Suspended Sediment WLAs (ug/kg dry weight)	Water Column WLAs (ng/L)
Northern	Department	State Highway Storm water	0.59	0.17
Southern	Department	State Highway Storm water	0.59	0.17

If the Fish Tissue targets are met:

Subwatershed	Responsible Jurisdiction	Input	Suspended Sediment WLAs (ug/kg dry weight)	Water Column WLAs (ng/L)
Northern	Department	State Highway Storm water	59.8	0.17
Southern	Department	State Highway Storm water	59.8	0.17

Total Chlordane TMDL

Subwatershed	Responsible Jurisdiction	Input	Suspended Sediment WLAs (ug/kg dry weight)	Water Column WLAs (ng/L)
Northern	Department	State Highway Storm water	0.75	0.57
Southern	Department	State Highway Storm water	0.75	0.57

If the Fish Tissue targets are met:

Subwatershed	Responsible Jurisdiction	Input	Suspended Sediment WLAs (ug/kg dry weight)	Water Column WLAs (ng/L)
Northern	Department	State Highway Storm water	3.24	0.57
Southern	Department	State Highway Storm water	3.24	0.57

Total DDTs TMDL

Subwatershed	Responsible Jurisdiction	Input	Suspended Sediment WLAs (ug/kg dry weight)	Water Column WLAs (ng/L)
Northern	Department	State Highway Storm water	3.94	0.59
Southern	Department	State Highway Storm water	3.94	0.59

If the Fish Tissue targets are met:

Subwatershed	Responsible Jurisdiction	Input	Suspended Sediment WLAs (ug/kg dry weight)	Water Column WLAs (ng/L)
Northern	Department	State Highway Storm water	5.28	0.59
Southern	Department	State Highway Storm water	5.28	0.59

Dieldrin TMDL

Subwatershed	Responsible Jurisdiction	Input	Suspended Sediment WLAs (ug/kg dry weight)	Water Column WLAs (ng/L)
Northern	Department	State Highway Storm water	0.22	0.14
Southern	Department	State Highway Storm water	0.22	0.14

If the Fish Tissue targets are met:

Subwatershed	Responsible Jurisdiction	Input	Suspended Sediment WLAs (ug/kg dry weight)	Water Column WLAs (ng/L)
Northern	Department	State Highway Storm water	1.90	0.14
Southern	Department	State Highway Storm water	1.90	0.14

Final OC Compounds WLA Specific to the Department

See tables above.

Final OC Compounds Deadlines

U.S. EPA did not establish deadlines.

Department’s OC Compounds Contribution (relative contribution to pollutant loading)

The Department’s relative contribution to pollutant loading is not known.

Los Angeles River Watershed Metals TMDL, September 6, 2007

Final Metals WLA

This TMDL includes wet-weather and dry-weather WLAs for copper, lead, and zinc. Wet-weather conditions are when the maximum daily flow of the Los Angeles River is greater than or equal to 500 cfs. Dry-weather conditions are where maximum daily flow is less than 500 cfs; critical flows are also listed for each of the reaches in this TMDL.

Final Metals WLA Specific to the Department

For dry-weather conditions, the Department is assigned grouped WLAs with other MS4 permittees.

WERs are explicitly included in these WLAs, but default to a value of 1 (unit less) unless site-specific values are approved by the Regional Water Board. Concentration-based limits are also allowed for dry weather due to the expense of obtaining accurate flow measurements; in this case, the concentration-based limits are equal to dry-weather reach-specific dry-weather numeric targets.

Final Mass-based Dry-weather WLAs for Storm water and MS4s, Total Recoverable Metals

Waterbody	Critical Flow (CFS)	Copper (kg/day)	Lead (kg/day)	Zinc (kg/day)
LAR 6	7.20	0.53 x WER	0.33 x WER	-
LAR 5	0.75	0.05 x WER	0.03 x WER	-
LAR 4	5.13	0.32 x WER	0.12 x WER	-

Waterbody	Critical Flow (CFS)	Copper (kg/day)	Lead (kg/day)	Zinc (kg/day)
LAR 3	4.84	0.06 x WER	0.03 x WER	-
LAR 2	3.86	0.13 x WER	0.07 x WER	-
LAR 1	2.58	0.14 x WER	0.07 x WER	-
Bell Creek	0.79	0.06 x WER	0.04 x WER	-
Tujunga Wash	0.03	0.001x WER	0.0002xWER	-
Burbank Channel	3.3	0.15 x WER	0.07 x WER	-
Verdugo Wash	3.3	0.18 x WER	0.10 x WER	-
Arroyo Seco	0.25	0.01 x WER	0.01 x WER	-
Rio Hondo Reach 1	0.50	0.01 x WER	0.006 x WER	0.16 x WER
Compton Creek	0.90	0.04 x WER	0.02 x WER	-

Note: All WERs are equal to 1 (unit less)

Final Concentration-based reach-specific numeric targets, total recoverable metals

Waterbody	Copper (µg/L)	Lead (µg/L)	Zinc (µg/L)
LA River Reach 6	WER ¹ * 30	WER ¹ * 19	-
LA River Reach 5	WER ¹ * 30	WER ¹ * 19	-
LA River Reach 4	WER ² * 26	WER ¹ * 10	-
LA River Reach 3 above LA-Glendale WRP	WER ² * 23	WER ¹ * 12	-
LA River Reach 3 below LA-Glendale WRP	WER ² * 26	WER ¹ * 12	-
LA River Reach 2	WER ² * 22	WER ¹ * 11	-
LA River Reach 1	WER ² * 23	WER ¹ * 12	-
Bell Creek	WER ¹ * 30	WER ¹ * 19	-
Burbank Western Channel (above WRP)	WER ² * 26	WER ¹ * 14	-
Burbank Western Channel (below WRP)	WER ² * 19	WER ¹ * 9.1	-
Verdugo Wash	WER ² * 23	WER ¹ * 12	-
Compton Creek	WER ¹ * 19	WER ¹ * 8.9	-
Arroyo Seco	WER ² * 22	WER ¹ * 11	-
Rio Hondo Reach 1	WER ¹ * 13	WER ¹ * 5.0	WER ¹ * 131
Monrovia Canyon	-	WER ¹ * 8.2	-

Note:
¹ WER is equal to 1 (unit less)
² WER for this constituent in this reach is 3.96

Wet-weather allocations are apportioned among storm water permit holders based on percent area of the watershed served by storm drains.

Final Mass-based wet-weather WLAs, Total Recoverable Metals

Metal	Waste Load Allocation (kg/day) Total Recoverable
Cadmium	WER * 5.3 * 10 ⁻¹¹ * daily volume (L) – 0.03
Copper	WER * 2.9 * 10 ⁻¹⁰ * daily volume (L) – 0.2
Lead	WER * 1.06 * 10 ⁻⁰⁹ * daily volume (L) – 0.07
Zinc	WER * 2.7 * 10 ⁻⁰⁹ * daily volume (L) – 1.6

Final Metals Deadlines

By January 11, 2024, the jurisdictional group shall demonstrate that 100 percent of the group’s total drainage area served by the storm drain system is effectively meeting the dry-weather WLAs and 50 percent of the group’s total drainage area served by the storm drain system is effectively meeting the wet-weather WLAs. By January 11, 2028, the jurisdictional group shall demonstrate that 100 percent of the group’s total drainage area served by the storm drain system is effectively meeting both the dry-weather and wet-weather WLAs. MS4s and the Department may meet the TMDL using a phased implementation approach using a combination of structural and non-structural BMPs.

Department’s Metals Contribution (relative contribution to pollutant loading)

Unknown

Los Cerritos Channel Metals TMDL, March 17, 2010

Final Metals WLA

This TMDL assigns the Department wet-weather WLAs for copper, lead and zinc and a dry-weather WLA for copper only. Wet weather is defined as where the maximum daily flow of Los Cerritos Channel is greater than 23 cfs, and dry weather is where the maximum daily flow of the Channel is less than 23 cfs. For dry-weather copper targets, a site-specific translator was used, defined as the median value of the ratio of direct measurements to CTR criteria. Only the Department and other MS4s have a mass-based WLA for copper for dry weather, and this is divided among permittees based on estimates of respective percentage of total watershed area.

Final mass-based wet-weather WLAs are divided among the Department, other MS4 permittees, General Construction permittees and General Industrial permittees based on an estimate of the percentage of land area covered under each permit. The Department’s estimated percent area of the watershed is 0.8 percent.

Final Metals WLA Specific to the Department

Copper Dry-weather WLA, Total Recoverable Metal	
Copper	1.0 g/day

Metals Wet-weather WLAs, Total Recoverable Metal (V is daily flow volume in liters)		
Copper g/day	Lead g/day	Zinc g/day
$0.070 * V * 10^{-6}$	$0.397 * V * 10^{-6}$	$0.680 * V * 10^{-6}$

Final Metals Deadlines

U.S. EPA did not include implementation measures for the TMDL, and as such implementation procedures are the responsibility of the Los Angeles Regional Water Board. Implementation measures for this TMDL are currently being developed by the Los Angeles Regional Water Board.

Department's Metals Contribution (relative contribution to pollutant loading)

The Department's relative contribution to the metals pollutant loading is not known.

Machado Lake Pesticides and PCBs TMDL, March 20, 2012

The point sources of pesticides and PCBs into Machado Lake are storm water and urban runoff discharges including those from the Department's MS4. Storm water and urban runoff dischargers to Machado Lake occur through the following sub-drainage systems: Wilmington Drain, Project 77 and Project 510.

Final Pesticides and PCBs WLA

The following WLAs apply to all point sources:

Pollutants	WLAs (ug/kg dry weight)
Total PCBs	59.8
DDT (all congeners)	4.16
DDE (all congeners)	3.16
DDD (all congeners)	4.88
Total DDT	5.28
Total Chlordane	3.24
Dieldrin	1.9

Final Pesticides and PCBs WLA Specific to the Department

See table above.

Final Pesticides and PCBs Deadlines

The TMDL WLAs are applied with a three-year averaging period and shall be incorporated into MS4 permits, including the Department's MS4 permit, and general construction and industrial storm water NPDES permits and any other non-storm water NPDES permits.

Storm water dischargers may coordinate compliance with the TMDL. Permitted storm water dischargers can implement a variety of implementation strategies to meet the required WLAs, such as non-structural and structural BMPs, and/or diversion and treatment to reduce sediment transport from the watershed to the lake. Compliance with the TMDL may be based on a coordinated Monitoring and Reporting Program. The Department is subject to the prescribed point source WLAs with a final compliance date of September 30, 2019.

Department’s Pesticides and PCBs Contribution (relative contribution to pollutant loading)

The Department’s relative contribution to the OC Pesticides and PCBs pollutant loading is not known.

Marina Del Rey Harbor Toxics Pollutants TMDL, March 26, 2006

Final Toxic Pollutant WLAs

The Department is assigned mass-based WLAs for copper, lead and zinc along with other storm water permittees in the watershed. The Copper, Lead, and Zinc WLAs are apportioned between the permittees based on an estimate of the percentage of land area covered under each permit.

Total Mass-based Storm Water Metal WLAs:

Copper (kg/yr)	Lead (kg/yr)	Zinc (kg/year)
2.06	2.83	9.11

Total Mass-based Storm Water Organics WLAs:

Total Chlordane (g/yr)	Total PCBs (g/yr)
0.03	1.38

Final Toxic Pollutants WLAs Specific to the Department

Mass-based Metals WLAs for Caltrans

Copper (kg/yr)	Lead (kg/yr)	Zinc (kg/year)
0.022	0.03	0.096

Mass-based Organics WLAs for the Department:

Total Chlordane (g/yr)	Total PCBs (g/yr)
0.0003	0.015

Final Toxic Pollutant Deadlines

The implementation schedule for the MS4 permittees and the Department consists of a phased approach. A combination of non-structural and structural BMPs may be used to achieve compliance with the WLAs, with compliance to be achieved in prescribed percentages of the watershed. Total compliance is to be achieved within 10 years or March 22, 2016. However, the Regional Board may extend the implementation period up to 15 years or March 22, 2021, if an integrated water resources approach is employed.

Department Toxic Pollutant Contribution (relative contribution to pollutant loading)

The Department is assigned approximately one percent of the WLA for each pollutant, based on an estimate of area within the watershed.

San Gabriel River Metals & Selenium TMDL, U.S. EPA Established on March 26, 2007

Final Metals WLA

The Department is assigned WLAs for dry-weather and wet-weather for copper, lead and zinc (as well as selenium). For San Gabriel River Reach 2, the critical flow for wet weather is 260 cfs; for Coyote Creek, the critical flow is 156 cfs. The combined storm water WLA is allocated to individual permits based on percent area of the developed portion of the watershed.

For dry-weather copper, all MS4 storm water permittees, including the Department, are assigned concentration-based WLAs specific to San Gabriel River Reach 1, Coyote Creek, and the San Gabriel River Estuary.

Dry-weather Concentration-Based Copper WLAs for Storm water Permittees

Waterbody	Concentration-based WLA (µg/L)
Estuary	3.7
San Gabriel Reach 1	18
Coyote Creek	20

The TMDL establishes wet-weather WLAs to San Gabriel River Reach 2 for lead, and the Department is part of a grouped mass-based WLA. For Coyote Creek, mass-based WLAs are applied to copper, lead, and zinc. These WLAs are further divided among municipal storm water, industrial storm water, and construction storm water permits that are expressed as an area-based proportion of the total WLA. The Department and other MS4s share WLAs because there are not enough data on the relative reach-specific extent of these permittees' areas. The mass-based WLAs for the grouped Department's and MS4s are defined as the

daily storm volume times the numeric target of the metal for the waterbody times the estimated percentage of watershed covered by these permits.

WLAs for San Gabriel River Reach 2, Coyote Creek and to all of their respective Tributaries

Reach	Copper (kg/day)	Lead (kg/day)	Zinc (kg/day)
San Gabriel Reach 2	--	Daily storm vol * 166 µg/L * 49%	--
Coyote Creek	Daily storm vol * 27 µg/L * 91.5%	Daily storm vol * 106 µg/L * 91.5%	Daily storm vol * 158 µg/L * 91.5%

Final Metals WLA Specific to the Department

No specific WLAs.

Final Metals Deadlines

U.S. EPA did not include implementation measures for the TMDL, and implementation procedures are the responsibility of the Los Angeles Regional Water Board. Implementation measures or this TMDL are currently being developed by the Los Angeles Regional Water Board.

Department’s Metals Contribution (relative contribution to pollutant loading)

The Department’s contribution to the metals loads is not known.

Santa Monica Bay PCBs and DDTs TMDLs, U.S. EPA Established on March 26, 2012

Final PCBs and DDTs WLA

The grouped WLAs are apportioned to the Los Angeles County MS4 permit, the Department’s MS4 permit, and enrollees under the general construction and industrial storm water permits. Mass-based WLAs are to be partitioned among the four groups based on the percent area of each major group in the watersheds draining to Santa Monica Bay. Permittees covered under the general construction and storm water permittees are not expected to perform individual sampling; instead, monitoring should be conducted on a coordinated, watershed-wide basis consistent with the WLAs in the TMDL. The establishment of watershed efforts to identify and address sources of DDTs and PCBs within the watersheds and reporting of the total storm water loadings of DDT and PCB to Santa Monica Bay is encouraged.

The analysis of DDT and PCBs on suspended particle loadings from the mass emission stations will provide more robust measures of mass loadings. If additional data indicate that existing storm water loadings differ from the storm water WLAs defined in the TMDL, the Los Angeles Regional Water Board should consider re-opening the TMDL to better reflect actual loadings.

BMPs and pollutant removal are the most suitable courses of action to reduce DDT and PCBs in the Santa Monica Bay Watershed. Attention should be focused on those watersheds with the highest potential loadings to Santa Monica Bay, such as those that are more heavily urbanized. BMPs should also be targeted to reduce potential PCB loads from industrial and construction runoff as studies have shown that these may be a major source of PCBs. U.S. EPA also recommends implementation of a PCB Source Identification and Control program within storm water permits to evaluate and identify controllable sources of PCBs.

Final PCBs and DDT WLAs Specific to the Department

Final PCBs and DDTs WLAs

Total PCBs (g/yr)	Total DDTs (g/yr)
3.9	0.75

Final PCBs and DDTs Deadlines

U.S. EPA recommends that storm water WLAs be evaluated based on a three year averaging period. This will provide more robust assessment for compliance and should smooth out variability due to wet years. This is consistent with timeframes provided for the Los Angeles Harbor/Long Beach TMDL.

Department’s PCBs and DDTs Contribution (relative contribution to pollutant loading)

The footprint of the Department’s MS4 is 2.7 percent of the area within the Santa Monica Bay watersheds.

SANTA ANA REGION METALS/TOXICS/PESTICIDES TMDLS

Rhine Channel Area of Lower Newport Bay Chromium and Mercury, U.S. EPA Established on June 14, 2002

Final Chromium WLA

For Rhine Channel, the final Chromium WLA is 7.44 kg/yr in sediment.

Final Chromium WLA Specific to the Department

The final mass-based Chromium WLA for the Department is 0.89 kilograms/year in sediment.

Final Chromium Deadlines

The Santa Ana Regional Water Board anticipated a Basin Plan Amendment addressing implementation of the above TMDLs in 2007; these amendments have not yet been completed.

Department’s Chromium Contribution (relative contribution to pollutant loading)

The Department's relative contribution to the Chromium loading is approximately three percent of the total, based on area.

San Diego Creek and Newport Bay, including Rhine Channel Metals (Copper and Zinc) TMDL, U.S. EPA Established on June 14, 2002

Final Metals WLA

WLAs are established for cadmium, copper, lead and zinc in the San Diego Creek watershed, for cadmium, copper, lead and zinc in Newport Bay, and for cadmium, copper, lead, zinc and chromium (and mercury) in Rhine Channel. San Diego Creek is a fresh water stream, while Newport Bay and Rhine Channel are saltwater.

Final Metals WLA Specific to the Department

For San Diego Creek, the Department is assigned concentration-based WLAs for cadmium, copper, lead, and zinc. There are no wet-weather or dry-weather WLAs, but there are four sets of WLAs for each metal for four different flow tiers. All flow tiers have an acute and chronic WLA, except for the highest flow tier, which only has an acute WLA.

Concentration-based WLAs for San Diego Creek Watershed by Flow Tiers, µg/L

Metal	< 20 cfs); H = 400 mg/L		21 – 181 cfs		182 - 815 cfs		> 815 cfs
	Acute	Chronic	Acute	Chronic	Acute	Chronic	Acute
Cu	50	29.3	40	24.3	30.2	18.7	25.5
Pb	281	10.9	224	8.8	162	6.3	134
Zn	379	382	316	318	243	244	208

* Applies to Upper Newport Bay Only

For Newport Bay, mass-based WLAs for cadmium, copper, lead and zinc were assigned to the Department. These WLAs were developed on estimates made using Best Professional Judgment because insufficient data were available to accurately estimate relative contributions to existing loads. The Department's share of the estimated loads is based on the relative proportion of watershed land area among the Department and adjacent permit-holders.

Final mass-based WLAs in Newport Bay, Dissolved Metals

Metal	Cu	Pb	Zn
Total	423 lbs/yr	2,171 lbs/yr	22,866 lbs/yr

Additional concentration-based limits apply only to sources which discharge directly to the Bay, including storm water dischargers from storm drains direction to Bay segments.

Newport Bay Concentration-based Dissolved Metal TMDLs, WLAs/LAs

Metal	Dissolved saltwater Acute TMDLs and allocations (µg/L)	Dissolved saltwater chronic TMDLs and allocations (µg/L)
Cu	4.8	3.1
Pb	210	8.1
Zn	90	81

* Applies to Upper Newport Bay Only

Final Metals Deadlines

U.S. EPA did not include implementation measures for the TMDL.

Department’s Metals Contribution (relative contribution to pollutant loading)

The Department’s relative contribution to the metals pollutant loading is not known.

San Diego Creek and Upper Newport Bay Cadmium TMDL, U.S. EPA Established on June 14, 2002

Final Cadmium WLA

Concentration-based WLAs for San Diego Creek Watershed by Flow Tiers

Metal	< 20 cfs; H = 400 mg/L		21 – 181 cfs		182 - 815 cfs		> 815 cfs
	Acute	Chronic	Acute	Chronic	Acute	Chronic	Acute
Cd (µg/L)	19.1	6.2	15.1	5.3	10.8	4.2	8.9

* Applies to Upper Newport Bay Only

Newport Bay Concentration-based Dissolved Metal TMDLs, WLAs/LAs

Metal	Dissolved saltwater Acute TMDLs and allocations (µg/L)	Dissolved saltwater chronic TMDLs and allocations (µg/L)
Cd	42	9.3

* Applies to Upper Newport Bay Only

Final Cadmium WLA Specific to the Department

See Table above.

Final Cadmium Deadlines

U.S. EPA did not include implementation measures for the TMDL.

Department’s Cadmium Contribution

The Department’s relative contribution to the cadmium pollutant loading is not known.

San Diego Creek Watershed, Organochlorine Compounds and PCBs TMDLs, November 12, 2013

Final OC Compounds WLA

The Department is listed as a primary source of pollutant loads to the San Diego Creek watershed. The mass-based WLAs were expressed as both daily and annual values. Pollutants include Total DDT, Chlordane, Total PCBs and Toxaphene.

WLAs Expressed as a Daily Value (grams/day)					
Watershed	Input	Total DDT	Chlordane	Total PCBs	Toxaphene
San Diego Creek	Department (11%)	0.11	0.07	0.03	0.002
WLAs Expressed as a Annual Value (grams/year)					
Watershed	Input	Total DDT	Chlordane	Total PCBs	Toxaphene
San Diego Creek	Department (11%)	39.2	25.2	12.4	0.6

Final OC Compounds WLA Specific to the Department

See Tables above.

Final OC Compounds Deadlines

Compliance with the TMDLs and WLAs is to be achieved as soon as possible, but no later than December 31, 2020. The way that this deadline applies to a particular discharger differs depending on whether the discharger is participating in the Working Group. Ultimate compliance with permit limitations based on WLAs is expected to be based upon iterative implementation of effective BMPs to manage the discharge of fine sediments containing organochlorine compounds, along with monitoring to measure BMP effectiveness.

Department’s OC Compounds Contribution (relative contribution to pollutant loading)

Based upon the percentage of the total urban land use comprised by Urban-Roads, Department’s facilities and roadways make up 11 percent of the land area and are assigned a proportion of the overall WLAs accordingly.

Upper & Lower Newport Bay Organochlorine Compounds TMDL, November 12, 2013

Final OC Compounds WLA

Upper Newport Bay and Lower Newport Bay OC Compounds WLAs

WLAs Expressed as a Daily Value (grams/day)					
Watershed	Input	Total DDT	Chlordane	Total PCBs	Toxaphene
Upper Newport Bay	Department (11%)	0.04	0.03	0.02	-
Lower Newport Bay	Department (11%)	0.02	0.01	0.07	-

WLAs Expressed as a Annual Value (grams/year)					
Watershed	Input	Total DDT	Chlordane	Total PCBs	Toxaphene
Upper Newport Bay	Department (11%)	15.8	9.2	9.1	-
Lower Newport Bay	Department (11%)	5.8	3.4	23.9	-

Final OC Compounds WLA Specific to the Department

See Tables above.

Final OC Compounds Deadlines

Compliance with the TMDLs and WLAs is to be achieved as soon as possible, but no later than December 31, 2020. The way that this deadline applies to a particular discharger differs depending on whether the discharger is participating in the Working Group. Ultimate compliance with permit limitations based on WLAs is expected to be based upon iterative implementation of effective BMPs to manage the discharge of fine sediments containing organochlorine compounds, along with monitoring to measure BMP effectiveness.

Department's OC Compounds Contribution (relative contribution to pollutant loading)

Based upon the percentage of the total urban land use comprised by Urban-Roads, Department's facilities and roadways make up 11 percent of the land area and are assigned a proportion of the overall WLAs accordingly.

SAN DIEGO REGION METALS TMDL

Chollas Creek Dissolved Copper, Lead and Zinc TMDLs, December 18, 2008

Final Metals WLA

WLAs are concentration-based and set as the acute and chronic limits in the California Toxics Rule times 90 percent for all permitted dischargers, in units of µg/L, as dissolved metals. The final WLAs are based on statistical measures of hardness used in calculating permit requirements.

Final Concentration-based WLAs

Chollas Creek, Copper, Lead, and Zinc WLAs, Dissolved Metal

Metal	Numeric Target for Acute Conditions: Criteria Maximum Concentration, (µg/L)	Numeric Target for Chronic Conditions: Criteria Continuous Concentration, (µg/L)
Copper	$(1) * (0.96) * \{e^{[0.9422 * \ln(\text{hardness}) - 1.700]}\} * 0.9$	$(1) * (0.96) * \{e^{[0.8545 * \ln(\text{hardness}) - 1.702]}\} * 0.9$
Lead	$(1) * \{1.46203 - [0.145712 * \ln(\text{hardness})]\} * \{e^{[1.273 * \ln(\text{hardness}) - 1.460]}\} * 0.9$	$(1) * \{1.46203 - [0.145712 * \ln(\text{hardness})]\} * \{e^{[1.273 * \ln(\text{hardness}) - 4.705]}\} * 0.9$
Zinc	$(1) * (0.978) * \{e^{[0.8473 * \ln(\text{hardness}) + 0.884]}\} * 0.9$	$(1) * (0.986) * \{e^{[0.8473 * \ln(\text{hardness}) + 0.884]}\} * 0.9$

Final Metals WLA Specific to the Department

There are no WLAs specific to the Department.

Final Metals Deadlines

The Department along with other responsible parties must meet 100 percent of Chollas Creek Metals TMDL WLA reductions by December 18, 2028.

Department's Contribution *(relative contribution to pollutant loading)*

The Department's contribution to the metal loads is not known.

D. Trash TMDL Pollutant Category

General Description of Pollutant Category

As discussed under the ten individual TMDLs below, the TMDLs in the trash pollutant category establish that the Department varies in the significance of a source of trash and debris. The scale of the Department as a source depends on the magnitude and location of the impacted water body and corresponding land uses. For the individual TMDLs, the Department is not the sole responsible party for source of trash and debris. Other point source responsible parties include Los Angeles County MS4 permittees, Ventura County MS4 permittees, and industrial permittees.

Since trash generation rates are dependent on land use, the requirements for the Department in Attachment IV Section III.D.1 focus on significant trash generating areas. These areas include: highway on- and off-ramps in high density residential, commercial and industrial land uses, rest areas and park-and-rides, state highways in commercial and industrial land uses, and mainline highway segments to be identified by the Department through pilot studies and/or surveys. The requirements in Attachment IV are expected to address the highest source of trash from the Department by focusing management practices on the highest problem areas.

Attachment IV Section III.D.1 establishes a prohibition of discharge of trash to receiving waters. All of the individual TMDLs set a numeric target of zero trash, since the receiving water body lacks an assimilative capacity for any piece of the trash. Attaining the numeric target is difficult due to the transport mechanisms of the trash, specifically for the Department whose users are temporary and transitory. Attachment IV Section III.D.2 sets forth two compliance options to achieve the prohibition of discharge. The compliance options focus on implementation of management practices, treatment controls, and institutional controls in the significant trash generating areas and the coordination with neighboring municipalities to implement treatment and institutional controls in significant trash generating areas and priority land use areas (high density residential, industrial, commercial, mixed urban, and public transportation stations).

Sources of Pollutant & How it Enters the Waterway

Trash and debris are the man-made products that are improperly discarded and transported to surface water bodies. Trash is considered a 'gross pollutants' and excludes sediments, oil and grease, and vegetation. Trash can include cigarette butts, paper, fast food containers, plastic grocery bags, cans and bottles, used diapers, construction site debris, industrial plastic pellets, old tires and appliances. Trash and debris cause impairments to beneficial uses of surface water bodies, including rivers, lakes, enclosed bays and estuaries, and ocean waters.

Watershed Contribution

Trash impacts aquatic habitat and life. Mammals, turtles, birds, fish, and crustaceans are threatened following the ingestion or entanglement of trash. Ingestion and entanglement can be fatal for freshwater, estuarine, saline and marine aquatic life. Similarly, habitat alterations and degradations due to trash can make natural habitats unsuitable for spawning, migration, and preservation of aquatic life. These negative effects of trash to aquatic life can impact several beneficial uses. The aquatic life beneficial uses that can be impacted by negative effects of trash include: Warm Freshwater Habitat (WARM); Cold Freshwater habitat (COLD); Inland Saline Water Habitat (SAL); Estuarine Habitat (EST); Marine Habitat (MAR); Wildlife Habitat (WILD); Preservation of Biological Habitats (BIOL); Rare, Threatened, or Endangered Species (RARE); Migration of Aquatic Organisms (MIGR); Spawning, Reproduction, and/or Early Development (SPWN); and Wetland Habitat (WET).

Trash impacts human activity by means of jeopardizing public health and safety and posing harm and hindrance in recreational, navigational, and commercial activities. The human

beneficial uses impacted by trash and debris include: Navigation (NAV); Water Contact Recreation (REC-1); Non-Contact Water Recreation (REC-2); Commercial and Sport Fishing (COMM); Aquaculture (AQUA); Shellfish Harvesting (SHELL); and Industrial Service Supply (IND).

Trash and debris, which is intentionally or accidentally discarded in watershed drainage areas, enter a water body through a transport mechanism. Transport mechanisms include the following:

1. Storm drains: trash is deposited throughout the watershed and is carried to a water body during and after significant rainstorms through storm drains.
2. Wind/wave action: trash can also blow into the waterways directly.
3. Direct disposal: direct dumping of trash to water body.

The amount and type of trash and debris that is washed into the storm drain system is generally a function of the surrounding land use. It is generally accepted that commercial, industrial, high density residential land use contribute larger loads of gross pollutants per area compared to low residential and open space and park land use areas.

Control Measures

Full capture system is a type of treatment control that is a device or series of devices that traps all particles that are 5 mm or greater and has a design treatment capacity that is not less than the peak flow rate, Q, resulting from a one-year, one-hour, storm in the subdrainage area. For the Department, there are three types of full capture systems that fall under the category of Gross Solids Removal Devices (GSRDs). Gross Solids Removal Devices (GSRDs) were developed by the Department to be retrofitted into existing highway drainage systems or implemented in future highway drainage systems. GSRDs are structures that remove litter and solids five mm and larger from the storm water runoff using various screening technologies. Overflow devices are incorporated, and the usual design of the overflow release device is based upon the design storm for the roadway. Though designed to capture litter, the devices can also capture some of the vegetation debris. The devices shown below are generally limited to accept flows from pipes 30 inches in diameter and smaller.

The three types of potential GSRDs the Department could utilize are linear radial and two versions using an inclined screen. A linear radial device is relatively long and narrow, with flow entering one end and exiting the other end. It is suited for narrow and flat rights-of-way with limited space. It utilizes modular well screen casings with 5 mm louvers and is contained in a concrete vault, although it also could be attached to a headwall at a pipe outfall. While runoff flows enter into the screens, they pass radially through the louvers and trap litter in the casing. A smooth bottom to convey litter to the end of the screen sections is required, so a segment of the circumference of each screen is uncovered. The louvered sections have access doors for cleaning by vacuum truck or other equipment. Under most placement conditions the goal would be to capture within the casing one year's volume of

litter. This device has been configured with an overflow/bypass for larger storm events and if the unit becomes plugged.

Two Inclined Screen Devices have also been developed. Each device requires about 1-meter of hydraulic head and is better suited for fill sections. In the Type 1 device, the storm water runoff flows over the weir and falls through the inclined bar rack. The screen has five-mm maximum spacing between the bars. Flow passes through the screen and exits via the discharge pipe. The trough distributes influent over the inclined screen. Storm water pushes captured litter toward the litter storage area. The gross solids storage area is sloped to drain to prevent standing water. This device has been configured with an overflow/bypass for larger storm events and if the unit becomes plugged. It has a goal of litter capture and storage for one year. The Type 2 Inclined Screen only comes in a sloped sidewall version.

Full capture devices and treatment controls are highly effective to capture and retain trash when properly maintained. However, there are locations that might be infeasible to install treatment controls. The Department may elect to employ institutional controls, which are non-structural best management practices that may include street sweeping and anti-litter education and outreach programs. Street sweeping minimizes trash loading to the river by removing trash from streets and curbs. Maintaining a regular street sweeping schedule reduces the buildup of trash on streets and prevents trash from entering catch basins and the storm drain system. Street sweeping can also improve the appearance of roadways. There are at least three types of street sweepers the Department may employ: 1) mechanical, 2) vacuum filter, and 3) regenerative air sweepers. Public education can be an effective implementation alternative to reduce the amount of trash entering water bodies. The public is often unaware that trash littered on the street ends up in receiving waters, much less the cost of abating it. The Department may elect to continue to participate in educational programs like 'Adopt-A-Highway' and 'Don't Trash California'.

As specified in Attachment IV Section III.D.3, the Department shall submit an annual status report of the selected treatment and institutional control measures implemented to comply with the prohibition of discharge of trash. In addition to the annual status report, the Department should conduct a pilot survey to further determine highway characteristics and sections that should be included in the category of significant trash generating areas. The pilot study will further assure compliance with the prohibition of discharge and reduction of trash to receiving water bodies from high trash generation areas from the Department's jurisdiction.

LOS ANGELES REGION TRASH TMDLS

Ballona Creek Trash TMDL, August 1, 2002 and February 8, 2005

Final WLA

The numeric target for this TMDL is zero trash in the water. Storm drains were identified as a major source of trash. WLAs were assigned to permittees of the Los Angeles County MS4 permit and the Department.

Final WLA Specific to the Department

The Department is assigned the following baseline WLAs of trash.

Weight (lbs/mile ²)	Volume (ft ³ /mile ²)
7479.36	892.64

Final Deadlines

The implementation schedule for the MS4 and the Department permittees consists of a phased approach with compliance to be achieved in prescribed percentages. Total compliance, 100 percent reduction of trash from the Baseline WLA, is to be achieved within twelve years from the effective date of the TMDL (September 30, 2015).

Department's Contribution (relative contribution to pollutant loading)

The Department's Baseline WLA relative to all other point sources (municipal permittees) is 13 percent.

Legg Lake Trash TMDL, February 27, 2008

Final WLA

The numeric target for this TMDL is zero trash in Legg Lake and on the shoreline. Both point sources and nonpoint sources are identified as sources of trash in Legg Lake. WLAs were assigned to the permittees of the Los Angeles County MS4 permit and the Department.

Final Trash WLA Specific to the Department

The Department is assigned the following baseline WLAs assuming a trash generation rate of 6677 (gallons of uncompressed litter per mile² per year).

Point Source Area (mile ²)	Baseline WLA (gal/yr)
0.09	586.92

Final Trash Deadlines

The implementation schedule for the Department consists of a phased approach with compliance to be achieved in prescribed percentages. Total compliance, 100 percent reduction of trash from the Baseline WLA, is to be achieved within eight years from the effective date of the TMDL (March 6, 2016).

Department’s Trash Contribution (relative contribution to pollutant loading)

The Department’s Baseline WLA relative to all other point sources (municipal permittees) is 7.9 percent.

Los Angeles Area (Echo Park Lake) Nitrogen, Phosphorus, Chlordane, Dieldrin, PCBs, and Trash TMDL, March 26, 2012

Final Trash WLA

The numeric target for this TMDL is zero trash in Echo Park Lake and on the shoreline. Both point sources and nonpoint sources are identified as sources of trash. WLAs could be assigned to permittees of the Los Angeles County MS4 permit and the Department.

The Department is estimated to have the following baseline WLAs assuming a trash generation rate of 6,677 (gallons of uncompressed litter per mile² per year).

Point Source Area (mile ²)	Current Point Source Trash Load (gal/yr)
0.022	150

Final Trash WLA Specific to the Department

No WLAs were assigned to the Department.

Final Trash Deadlines

There is no compliance and implementation schedule for the Echo Park Lake Trash TMDL.

Department’s Trash Contribution (relative contribution to pollutant loading)

As there is no assigned WLA, the Department’s contribution to the estimated point source trash loads is 16.7 percent.

Los Angeles Area (Peck Road Park) Lake Nitrogen, Phosphorus, Chlordane, DDT, Dieldrin, PCBs, and Trash TMDL, March 26, 2012

Final Trash WLA

The numeric target for this TMDL is zero trash in Peck Road Lake and on the shoreline. Both point sources and nonpoint sources are identified as sources of trash. WLAs could be assigned to permittees of the Los Angeles County MS4 permit and the Department.

Final Trash WLA Specific to the Department

No WLAs were assigned to the Department.

Final Trash Deadlines

There is no compliance and implementation schedule for the Peck Road Park Lake Trash TMDL.

Department’s Trash Contribution (relative contribution to pollutant loading)

As there are no assigned WLAs, the Department’s contribution to the estimated point source trash loads is 3.9 percent or 950 gal/yr.

Los Angeles River Trash TMDL, December 24, 2008

Final Trash WLA

The numeric target for the Los Angeles River Watershed Trash TMDL is zero trash in the water. Storm drains were identified as a major source of trash in the Los Angeles River. WLAs were assigned to permittees of the Los Angeles County MS4 permit and the Department.

Final Trash WLA Specific to the Department

The Department is assigned the following baseline WLAs for trash.

WLA (gal)	WLA (lbs)
59421	66,566

Final Trash Deadlines

The implementation schedule for the MS4 and the Department consists of a phased approach with compliance to be achieved in prescribed percentages. Total compliance, 100 percent reduction of trash from the Baseline WLA, is to be achieved within seven years from the effective date of the TMDL (September 30, 2014).

Department’s Trash Contribution (relative contribution to pollutant loading)

The Department’s Baseline WLA relative to all other point sources (municipal permittees) is 11.8 percent.

Machado Lake Trash TMDL, February 27, 2008

Final Trash WLA

The numeric target for this TMDL is zero trash in Machado Lake and on the shoreline. Both point sources and nonpoint sources are identified as sources of trash in Machado Lake. WLAs were assigned to permittees of the Los Angeles County MS4 permit and the Department.

Final Trash WLA Specific to the Department

The Department is assigned the following baseline WLA assuming a trash generation rate of 5,334 (gallons of uncompressed litter per mile² per year).

Point Source Area (mile ²)	Baseline WLA (gal/yr)
0.63	4,215.84

Final Trash Deadlines

The implementation schedule for the Department consists of a phased approach with compliance to be achieved in prescribed percentages. Total compliance, 100 percent reduction of trash from the Baseline WLA, is to be achieved within eight years of the effective date of the TMDL (March 6, 2016).

Department's Trash Contribution (relative contribution to pollutant loading)

The Department's Baseline WLA relative to all other point sources (municipal permittees) is 4.5 percent.

Malibu Creek Watershed Trash TMDL, June 26, 2009

Final Trash WLAs

The numeric target for the Malibu Creek Watershed Trash TMDL is zero trash in or on the water and on the shoreline. For point sources, zero means that no trash is discharged into the water body of concern, shoreline, and channels. Both point source and nonpoint sources of trash were identified in the water bodies in the Malibu Creek Watershed. For point sources, WLAs were assigned to permittees of the Los Angeles County MS4 permit and Ventura County MS4 permit and the Department.

Final Trash WLA Specific to the Department

The Department is assigned the following WLAs assuming a trash generation rate of 640 (gallons of uncompressed litter).

Point Source Area (mile ²)	Baseline WLA (gal/yr)
0.32	10,813

Final Trash Deadlines

The implementation schedule for the MS4 and the Department consists of a phased approach with compliance to be achieved in prescribed percentages. Total compliance, 100 percent reduction of trash from the Baseline WLA, is to be achieved within eight years of the effective date of the TMDL (July 7, 2017).

Department's Trash Contribution (relative contribution to pollutant loading)

The Department's Baseline WLA relative to all other point sources (municipal permittees) is 65.5 percent.

Revolon Slough and Beardsley Wash Trash TMDL, August 1, 2002, February 8, 2005, and February 27, 2008

Final Trash WLA

The numeric target for the Revolon Slough and Beardsley Wash TMDL is zero trash within Revolon Slough, Beardsley Wash and their tributaries. Both point source and nonpoint sources of trash were identified in the Revolon Slough and Beardsley Wash. For point sources, WLAs were assigned to permittees of the Ventura County MS4 permit and the Department.

Final Trash WLA Specific to the Department

The Department is assigned the following WLA (gal/year) assuming a trash generation rate of 640 (gallons of uncompressed litter).

Point Source Area (mile²)	Baseline WLA (gal/yr)
1.68	11,215.45

Final Trash Deadlines

The implementation schedule for the Department consists of a phased approach with compliance to be achieved in prescribed percentages. Total compliance, 100 percent reduction of trash from the Baseline WLA, is to be achieved within eight years of the effective date of the TMDL (March 6, 2016).

Department's Trash Contribution (relative contribution to pollutant loading)

The Department's Baseline WLA relative to all other point sources (municipal permittees) is 64.1 percent.

Santa Monica Bay Nearshore & Offshore Debris (trash and plastic pellets), March 20, 2012

Final Trash WLA

The numeric target for the Santa Monica Bay Debris TMDL is zero trash in Santa Monica Bay. For point sources, zero trash is defined as no trash discharged into water bodies within the Santa Monica Bay Watershed and into Santa Monica Bay or on the shoreline of Santa Monica Bay. For nonpoint sources, zero trash is defined as no trash on the shoreline or beaches, or in harbors adjacent to Santa Monica Bay. The numeric target for plastic pellets in the Santa Monica Bay Debris TMDL is zero plastic pellets in Santa Monica Bay. Both point source and nonpoint sources of trash were identified in Santa Monica Bay Nearshore and Offshore areas. For point sources, WLAs were assigned to permittees of the Los Angeles County MS4 permit and Ventura County MS4 permit and the Department.

Final Trash WLA Specific to the Department

The Baseline WLA for the Department was based on a trash generation rate of 33,452.8 gallons per mile² per year.

Point Source Area (mile ²)	Baseline WLA (gal/year)
1.08	36,129.0

Final Trash Deadlines

The implementation schedule for the Department consists of a phased approach with compliance to be achieved in prescribed percentages. Total compliance, 100 percent reduction of trash from the Baseline WLA, is to be achieved within eight years of the effective date of the TMDL (March 12, 2020).

Department's Trash Contribution (relative contribution to pollutants)

The Department's Baseline WLA relative to all other point sources (municipal permittees) is 32.8 percent.

Ventura River Estuary Trash TMDL, February 27, 2008

Final Trash WLA

The numeric target for the Ventura River Estuary Trash TMDL is zero trash in or on the water and on the shoreline. Both point source and nonpoint sources of trash were identified in the Ventura River Estuary.

Final Trash WLA Specific to the Department

The Department is assigned the following WLAs assuming a trash generation rate of 640 (gallons of uncompressed litter).

Point Source Area (mile ²)	Baseline WLA (gal/yr)
0.31	2,049.86

Final Trash Deadlines

The implementation schedule for the Department consists of a phased approach with compliance to be achieved in prescribed percentages. Total compliance, 100 percent reduction of trash from the Baseline WLA, is to be achieved within eight years of the effective date of the TMDL (March 8, 2016).

Department's Trash Contribution (relative contribution to pollutants)

The Department's Baseline WLA relative to all other point sources (municipal permittees) is 34.8 percent.

E. Bacteria TMDL Pollutant Category

General Description of Pollutant Category

Receiving waters are often adversely affected by urban storm water runoff containing bacteria. Several reaches and tributaries have been impaired due to excessive amounts of coliform bacteria. There is a causal relationship between adverse health effects and recreational water quality, as measured by bacterial indicator densities. Fecal coliform bacteria may be introduced from a variety of sources including storm water runoff, dry-weather runoff, onsite wastewater and animal wastes. In addition, humans may be exposed to waterborne pathogens through recreation water use or by harvesting and consuming filter-feeding shellfish.

Attachment IV of this permit requires the Department to prioritize reaches, including those within watersheds under a bacteria TMDL, and then further to select each year the reaches for implementing control measures to address the highest priority reaches.

Sources of Pollutant & How it Enters the Waterway

Major contributors are flows and associated bacteria loading from storm water conveyance systems. The extent of bacteria loading from natural sources such as birds, waterfowl and other wildlife, however, are unknown as data does not exist to quantify the impact of wildlife on the waterbodies.

Watershed Contribution

The TMDLs in the Bacteria Pollutant Category show that the Department is a relatively minor source of pollutants.

Control Measures

This prioritization strategy will control the largest sources of bacteria first and allow for attainment of the applicable WLAs consistent with the bacteria TMDLs identified in Part E of Attachment IV. The Department must install structural and nonstructural controls utilizing BMPs to variously control dry weather discharges and wet weather discharges.

The Department has options that would be effective for controlling non-storm water runoff during dry weather. The Department is required to implement control measures to ensure that the effective prohibition of non-storm water discharges is implemented. This can be achieved through infiltration, diversion, or other methods. Generally, there should be no flow from areas during dry weather. Overwatering, broken sprinklers and irrigation pipes can be a source of dry weather flows. The Department can limit dry weather discharges by ensuring that broken sprinklers and irrigation pipes are fixed within 72 hours. To control overwatering and the resulting runoff, the Department could review watering schedules for irrigated areas on an annual basis.

To control runoff during wet weather, the Department should work with responsible agencies to jointly comply with the TMDL whenever possible. If the Department does not work with the other responsible agencies, non-structural and structural BMPs would be necessary.

Increasing infiltration through the slowing of runoff and improving soil structure and texture to encourage infiltration of storm water are non-structural ways to reduce runoff. In addition, structural BMPs like biofiltration strips, biofiltration swales and detention basins can work in concert with the non-structural BMPs to capture of the runoff.

Wet-weather flows for the most part impact water contact recreation beneficial uses (REC-1). The Department shall implement control measures to prevent or eliminate the discharge of bacteria from its ROW through a combination of source control and treatment BMPs. These treatment BMPs shall include retention/detention, infiltration, diversion of storm water or through preemptive activities such as sweeping, clean-up of illegal dumping, and public education on littering.

SAN FRANCISCO BAY BACTERIA TMDLS

Richardson Bay Pathogens TMDL, December 18, 2009

The TMDL identifies storm water runoff as a potential pathogen source, along with sanitary sewer systems and houseboats and vessel marinas. The Department is listed in the storm water runoff source category along with other implementing parties.

Final Pathogens WLA

The WLA for Fecal Coliform in the pollutant category of storm water runoff is a median of < 14 MPN/100 ml and a 90th percentile limit of <43 MPN/100 ml (no more than 10 percent of total samples during any 30-day period may exceed this number)

The implementation plan for storm water runoff has the following actions:

1. Implement applicable storm water management plan.
2. Update/amend storm water management plan, as appropriate, to include specific measures to reduce pathogen loading, including additional education and outreach efforts, and installation of additional pet waste receptacles.
3. Report progress on implementation of pathogen reduction measures to the Water Board.

For most pollutants, TMDLs are expressed on a mass-load basis (e.g., kilograms per year). For pathogen indicators such as fecal coliform, however, it is the number of organisms in a given volume of water (i.e., their density), and not their total number (or mass) that is significant with respect to public health risk and protection of beneficial uses. The density of fecal coliform organisms in a discharge and/or in the receiving waters is the technically relevant criteria for assessing the impact of discharges, water quality, and public-health risk. U.S. EPA guidance recommends establishing density-based TMDLs for pollutants that are not readily controllable on a mass basis. Therefore, we propose density-based TMDLs and pollutant load allocations, expressed in terms of fecal coliform concentrations.

Establishment of a density-based, rather than a mass-based, TMDL carries the advantage of eliminating the need to conduct a complex and potentially error-prone analysis to link loads and projected densities. A load-based pathogens TMDL would require calculation of acceptable loads based on acceptable bacterial densities and anticipated discharge volumes, and then back-calculation of expected densities under various load reduction scenarios. Since discharge volumes in Richardson Bay are highly variable and difficult to measure, such an analysis would inevitably involve a great deal of uncertainty with no increased water quality benefit.

Pathogen WLA Specific to the Department

As stated in the TMDL, the Department's wasteload allocations for discharges from municipal separate storm sewers are set by NPDES permits No. CAS000004 [Storm Water Discharges from Small Municipal Separate Storm Sewer Systems (MS4s)] and CAS000003 (National Pollutant Discharge Elimination System (NPDES) Statewide Storm Water Permit Waste Discharge Requirements (WDRs) for State Of California Department Of Transportation).

Final Pathogens Deadline

The completion date for these implementation actions is "as specified in approved storm water management plan and in applicable NPDES permit." Region 2 does not anticipate that the Department's storm water management plan will need to be revised because they believe that the source of bacteria in highway runoff is wildlife.

The TMDL also notes that in 2013, the Water Board will evaluate monitoring results and assess progress towards attaining TMDL targets and load allocations.

Department's Pathogens Contribution (relative contribution to pollutant loading)

The Department's relative contribution to pathogen pollutant loading is not known.

San Pedro and Pacifica State Beach Bacteria TMDL, August 1, 2013

The San Pedro and Pacifica State Beach Bacteria TMDL was developed by the San Francisco Bay Regional Water Quality Control Board and approved by U.S. EPA on August 1, 2013. The TMDL identifies sanitary sewer systems, horse facilities and municipal storm water runoff and dry weather flows as sources that have the potential to discharge bacteria, if not properly managed, to San Pedro Creek and Pacifica State Beach.

Final Bacteria WLA

The TMDL established a desired, or target condition for the water contact recreation use in San Pedro Creek and at Pacifica State Beach based on the water quality objectives for indicator bacteria. The wasteload allocations are based on the water quality objectives shown in the table below:

Bacteriological Water Quality Objectives for San Pedro Creek and Pacifica State Beach		
Indicator Type	Pacifica State Beach (Marine REC-1) MPN/100 mL	San Pedro Creek (Freshwater REC-1) MPN/100 mL¹
	Single Sample Maximum	90th Percentile/No Sample Greater Than
E. coli	NA	235
Fecal Coliform	400	400
Enterococcus	104	NA
Total Coliform	10,000 ²	10,000
	Geometric Mean³	Geometric Mean/Log Mean/Median
E. coli	NA	
Fecal Coliform	200	126
Enterococcus	35	200
Total Coliform	1,000	NA 240
Notes:		
1. Based on a minimum of five consecutive samples equally spaced over a 30-day period.		
2. Total coliform density shall not exceed 1,000/100 ml, if the ratio of fecal-to-total coliform exceeds 0.1.		
3. Calculated based on the five most recent samples from each site during a 30-day period.		
NA: not applicable.		

For this TMDL, a reference system and antidegradation approach has been incorporated the wasteload allocations as an allowable number of times that the water quality objectives can be exceeded. The following table lists the allowable exceedances:

Numeric Targets, TMDLs and Allocations Based on Allowable Exceedances of Single-Sample Objective for San Pedro Creek and Pacifica State Beach					
	San Pedro Creek		Pacifica State Beach		
	Dry Weather	Wet Weather⁵	Summer Dry Weather (Apr. 1 - Oct. 31)	Winter Dry Weather (Nov. 1 - Mar. 31)	Wet Weather⁵
Allowable Exceedances of Single- Sample Objectives (assuming daily sampling is conducted) ^{1,2,3}	4	26	0	2	30
Allowable Exceedances of Single- Sample	1	4	0	1	5

Numeric Targets, TMDLs and Allocations Based on Allowable Exceedances of Single-Sample Objective for San Pedro Creek and Pacifica State Beach					
	San Pedro Creek		Pacifica State Beach		
	Dry Weather	Wet Weather⁵	Summer Dry Weather (Apr. 1 - Oct. 31)	Winter Dry Weather (Nov. 1 - Mar. 31)	Wet Weather⁵
Objectives (assuming weekly sampling is conducted)⁴					
Notes: 1. Allowable exceedances are calculated by multiplying exceedance rates observed in the reference system(s) by the number of days during each respective period in the reference year (1994). 2. To end up with whole numbers, where the fractional remainder for the calculated allowable exceedance days exceeds 0.1, then the number of days is rounded up. 3. The calculated number of exceedance days assumes that daily sampling is conducted. 4. To determine the allowable number of exceedance events given a weekly sampling regime, as practiced for monitoring San Pedro Creek and Pacifica State Beach, the number of exceedance days was adjusted by solving for "X" in the following equation: $X = (\text{exceedance days} \times 52 \text{ weeks}) / 365 \text{ days}$. 5. Wet weather is defined as any day with 0.1 inches of rain or more and the following three days.					

Final Bacteria Deadlines

The TMDLs, load allocations and wasteload allocations for Pacifica State Beach shall be attained within eight years of the effective date of the TMDL (August 1, 2021). The TMDLs, load allocations and wasteload allocations to San Pedro Creek shall be attained within 15 years of the effective Date of the TMDL (August 1, 2028).

Storm water discharges from the Department's stretch of Highway 1 crossing the northwestern edge of the San Pedro Creek watershed are not a significant source of indicator bacteria because that section of the highway does not include any typical bacteria-generating sources such as homeless encampments, restroom facilities, garbage bins, etc. The Department's existing BMPs and storm water NPDES permit requirements, as of the effective date of the TMDL (August 1, 2013), are sufficient to attain and maintain its portion of the wasteload allocation.

Department's Bacteria Contribution (relative contribution to pollutant loading)

The Department's relative contribution to bacteria pollutant loading is not known.

LOS ANGELES REGION BACTERIA TMDLS

Ballona Creek, Ballona Estuary, and Sepulveda Channel Bacteria TMDL, March 26, 2007

Final Bacteria WLA

The Department is noted as a source of storm water runoff. The Department and municipal storm water permittees and co-permittees are assigned waste load allocations (WLAs) expressed as the number of daily or weekly sample days that may exceed the single sample targets equal to the TMDLs established for the impaired reaches and WLA assigned to waters tributary to impaired reaches. The County of Los Angeles, the Department, and the Cities of Los Angeles, Culver City, Beverly Hills, Inglewood, West Hollywood, and Santa Monica are the responsible jurisdictions and responsible agencies for the Ballona Creek Watershed.

For the single sample objectives of the impaired REC-1 and LREC-1 reaches, the proposed WLA for summer dry-weather is zero (0) days of allowable exceedances, and those for winter dry-weather and wet-weather are three (3) days and seventeen (17) days of exceedance, respectively. In the instances where more than one single sample objective applies, exceedance of any one of the limits constitutes an exceedance day. The proposed waste load allocation for the rolling 30-day geometric mean for the responsible agencies and jurisdictions is zero (0) days of allowable exceedances.

For the single sample objectives of the impaired REC-2 reach, the proposed WLA for all periods is a 10 percent exceedance frequency of the REC-2 single sample water quality objectives. The proposed waste load allocation for the rolling 30-day geometric mean for the responsible agencies and jurisdictions is zero (0) days of allowable exceedances.

In addition to assigning TMDLs for the impaired reaches, Waste Load Allocations and Load Allocations are assigned to the tributaries to these impaired reaches. These WLAs and LAs are to be met at the confluence of each tributary and its downstream reach (see Table 7.21.2b of Attachment A to Resolution No. 2006-011). See Chapter 3 of Region 4's Basin Plan for bacteriological objectives for Water Contact Recreation for Marine and Fresh Waters, for Limited Water Contact Recreation and for Non-contact Water Recreation.

Final Bacteria WLA Specific to the Department

There is no specific WLA assigned to the Department. The responsible jurisdictions and responsible agencies within the watershed are jointly responsible for complying with the waste load allocation in each reach.

Final Bacteria Deadlines

See Final WLA above.

Department's Bacteria Contribution (relative contribution to pollutant loading)

The Department's jurisdiction within the cities and unincorporated areas in the Ballona Creek Watershed totals 1206 acres. This equals 1.5 percent of the watershed.

Long Beach City Beaches Indicator Bacteria TMDL, March 26, 2012

The TMDL identifies storm water runoff from the Department's properties such as the highway system, park and ride facilities, and maintenance yards as a potential source of bacteria. The Department has jurisdiction of some areas in the Los Angeles River (LAR) Estuary direct drainage, but not in the Long Beach City beaches direct drainage.

Final Bacteria WLA

To implement the single sample bacteria water quality objectives (total coliform, fecal coliform, enterococcus, and fecal-to-total coliform ratio) for waters designated REC-1, an allowable number of exceedance days for three seasons (summer dry, winter dry and winter wet) is set for marine waters using a reference system/anti-degradation approach. This approach ensures that bacteriological water quality is at least as good as that of a reference system and that no degradation of the existing bacteriological water quality is permitted where the existing condition is better than that of the selected reference system(s). The exceedance days are used to set load allocations (LA) and waste load allocations (WLAs) in these TMDLs.

Storm water systems covered under the City of Long Beach, Los Angeles County and the Department's MS4 permits are assigned WLAs in the form of exceedance days. During summer dry conditions, reductions in exceedance days are estimated to be 13-120 days during a 120 day period (11 percent to 100 percent of the time), depending on the location of the monitoring site. During winter wet conditions, reductions in exceedance days are estimated to be 11-45 days during a 75-day period (15 percent to 60 percent of the time) depending on the location of the monitoring site. During winter dry conditions, reductions in exceedance days are estimated to be 0-11 days during an 80 day period (zero (0) percent to 14 percent of the time) depending on the location of the monitoring site.

Final Bacteria WLA Specific to the Department

See Final WLA above.

Final Bacteria Deadlines

As this TMDL was established by U.S. EPA, U.S. EPA only described recommendations to the Regional Board that could be used. No timelines were noted.

Department's Bacteria Contribution (relative contribution to pollutant loading)

The loading of bacteria specifically from the Department's properties has not been determined in the LAR Estuary direct drainage. However a conservative estimate of 128 acres or approximately two percent of the LAR Estuary drainage area is noted in the TMDL.

Los Angeles River Watershed Bacteria, March 23, 2012

Final Bacteria WLA

The Los Angeles River Watershed Bacteria TMDL was developed by the Los Angeles Regional Water Quality Control Board and approved by U.S. EPA. The TMDL identifies storm water from the MS4 Permittees (the Department along with the County of Los Angeles and the Incorporated Cities therein and the City of Long Beach) as the principal source of bacteria in both dry weather and wet weather.

Final Bacteria WLA Specific to the Department

This TMDL uses a “reference system/anti-degradation approach” to implement the water quality objectives per the implementation provisions in Chapter 3 of the Basin Plan. On the basis of the historical exceedance frequency at Southern California reference reaches, a certain number of daily exceedances of the single sample bacteria objectives are permitted. The allowable number of exceedance days is set such that (1) bacteriological water quality at any site is at least as good as at the reference site(s) and (2) there is no degradation of existing bacteriological water quality. This approach recognizes that there are natural sources of bacteria that may cause or contribute to exceedances of the single sample objectives and that it is not the intent of the Regional Board to require treatment or diversion of natural coastal creeks or to require treatment of natural sources of bacteria from undeveloped areas.

For MS4 dischargers, the final dry-weather WLAs and wet-weather WLA for the single sample targets are listed below:

Allowable Number of Exceedance Days	Daily Sampling	Weekly Sampling
Dry Weather	5	1
Non-High Flow Suspension (HFS) Waterbodies Wet Weather	15	2
HFS Waterbodies Wet Weather	10 (not including HFS days)	2 (not including HFS days)

The final WLAs for the geometric mean target during any time at any river segment and tributary in the Los Angeles River Watershed is zero (0) days of allowable exceedances.

Final Bacteria Deadlines

The Department has from 8.5 to 25 years (September 23, 2020 to March 23, 2037) to achieve final WLAs depending on the segment of the waterbody. Table 7-39.3 in Attachment A to Resolution No. R10-007 lists other interim implementation compliance dates.

Department's Bacteria Contribution (relative contribution to pollutant loading)

The Department's MS4 permit covers approximately 6,950 acres, which is equivalent to around one percent of the urban watershed.

Malibu Creek and Lagoon Bacteria TMDL, June 7, 2012

The TMDL identifies on-site wastewater treatment plants, storm water runoff, dry weather runoff and wildlife (birds) as possible sources of bacterial contamination.

Final WLA

Malibu Creek and Lagoon Bacteria TMDL: Final Annual Allowable Exceedance Days for Single Sample Limits by Sampling Location

Compliance Deadline		January 24, 2012		July 15, 2021	
Station ID	Location Name	Dry Weather ^		Wet Weather ^	
		Daily sampling (No. days)	Weekly sampling (No. days)	Daily sampling (No. days)	Weekly sampling
LA RWQCB	Triunfo Creek	5	1	15	2
LA RWQCB	Lower Las Virgenes Creek	5	1	15	2
LA RWQCB	Lower Medea Creek	5	1	15	2
LVMWD (R-9)	Upper Malibu Creek, above Las Virgenes Creek	5	1	15	2
LVMWD (R-2)	Middle Malibu Creek, below Tapia discharge 001	5	1	15	2
LVMWD (R-3)	Lower Malibu Creek, 3 mi below Tapia	5	1	15	2
LVMWD (R-4)	Malibu Lagoon, above PCH	5	1	15	2
LVMWD (R-11)	Malibu Lagoon, below PCH	9*	2*	17	3
	Other sampling stations as identified in the Compliance Monitoring Plan as approved by the Executive Officer including at least one sampling station in each subwatershed, and areas where frequent REC-1 use is known to occur.	5	1	15	2

Compliance Deadline		January 24, 2012		July 15, 2021	
Station ID	Location Name	Dry Weather ^		Wet Weather ^	
		Daily sampling (No. days)	Weekly sampling (No. days)	Daily sampling (No. days)	Weekly sampling (No. days)
Notes: The number of allowable exceedances is based on the lesser of (1) the reference system or (2) existing levels of exceedance based on historical monitoring data. The allowable number of exceedance days is calculated based on the 90th percentile storm year in terms of wet days at the LAX meteorological station. ^ A dry day is defined as a non-wet day. A wet day is defined as a day with a 0.1 inch or more of rain and the three days following the rain event. * The number of allowable exceedance days is for the winter dry-weather period. No exceedance days are allowed for the summer dry-weather period.					

Final Bacteria WLA Specific to the Department

No exceedances are allowed for the geometric mean limits. The allowable days of exceedance for the single sample limits differ depending on season, dry weather or wet weather, and by sampling locations as described in the Table above (Malibu Creek and Lagoon Bacteria TMDL: Final Annual Allowable Exceedance Days for Single Sample Limits by Sampling Location)

Final Bacteria Deadlines

This TMDL will be implemented in two phases as outlined in the TMDL. By January 24, 2012, compliance with the allowable number of dry-weather exceedance days must be achieved. By July 15, 2021, compliance with the allowable number of wet-weather exceedance days and the geometric mean targets must be achieved.

Department's Bacteria Contribution (relative contribution to pollutant loading)

The Department's relative contribution to bacteria pollutant loading is not known.

Marina del Rey Harbor (MdRH) Mother's Beach and Back Basin Bacteria TMDL, March 18, 2004, revised November 7, 2013

The TMDL identifies dry-weather urban runoff and storm water conveyed by storm drains as the primary sources of elevated bacterial indicator densities to MdRH Mothers' Beach and back basins during dry and wet weather. Potential sources of bacterial contaminations at Mothers' Beach and the back basins of MdRH include marina activities such as waste disposal from boats, boat deck and slip washing, swimmer "wash-off," restaurant washouts and natural sources from birds, waterfowl and other wildlife.

Final Bacteria WLA

Implementation of the bacteria objectives and the associated TMDL numeric targets is achieved using a "reference system/anti-degradation approach" as set forth in Chapter 3 of

the Basin Plan. As required by the Clean Water Act and California Water Code, Basin Plans include beneficial uses of waters, water quality objectives to protect those uses, an anti-degradation policy, collectively referred to as water quality standards, and other plans and policies necessary to implement water quality standards. This TMDL and its associated waste load allocations, which shall be incorporated into relevant permits, and load allocations are the vehicles for implementation of the Region’s standards.

The geometric mean targets may not be exceeded at any time. For purposes of this TMDL, the geometric means shall be calculated weekly as a rolling geometric mean using five or more samples, for six week periods starting all calculation weeks on Sunday. For the single sample targets, each existing monitoring site is assigned an allowable number of exceedance days for three time periods: (1) summer dry-weather (April 1 to October 31), (2) winter dry-weather (November 1 to March 31), and (3) wet-weather (defined as days with 0.1 inch of rain or greater and the three days following the rain event).

The County of Los Angeles, Los Angeles County Flood Control District, City of Los Angeles, and Culver City are the Los Angeles County MS4 permittees identified as the responsible jurisdictions and responsible agencies for the Marina del Rey Watershed. All proposed WLAs for summer dry weather are zero (0) days of allowable exceedances.²⁴ The proposed WLAs for winter dry weather and wet weather vary by monitoring location as identified in the following table:

Marina del Rey Harbor Mothers’ Beach and Back Basins Bacteria TMDL: Final Allowable Exceedance Days by Sampling Location

Compliance Deadline		March 18, 2007		March 18, 2007		July 15, 2021	
		Summer Dry Weather ^		Winter Dry Weather ^		Wet Weather ^	
		Apr 1 – Oct 31		Nov 1 – Mar 31		Nov 1 – Oct 31	
Station ID	Location Name	Daily sampling (No. days)	Weekly sampling (No. Days)	Daily sampling (No. days)	Weekly sampling (No. days)	Daily sampling (No. days)	Weekly sampling (No. days)
MdRH-1	Mothers’ (Marina) Beach, at playground area	0	0	9	2	17	3

²⁴ In order to fully protect public health, no exceedances are permitted at any monitoring location during summer dry-weather (April 1 to October 31). In addition to being consistent with the two criteria, waste load allocations of zero (0) days of allowable exceedances are further supported by the fact that the California Department of Public Health has established minimum protective bacteriological standards – the same as the numeric targets in this TMDL – which, when exceeded during the period April 1 to October 31, result in posting a beach with a health hazard warning (California Code of Regulations, Title 17, Section 7958).

Compliance Deadline		March 18, 2007		March 18, 2007		July 15, 2021	
		Summer Dry Weather ^		Winter Dry Weather ^		Wet Weather ^	
		Apr 1 – Oct 31		Nov 1 – Mar 31		Nov 1 – Oct 31	
MdRH-2	Mothers' (Marina) Beach, at lifeguard tower	0	0	9	2	17	3
MdRH-3	Mothers' (Marina) Beach, between lifeguard tower and boat dock	0	0	9	2	17	3
MdRH-4	Basin D, near first slips outside swim area	0	0	9	2	17	3
MdRH-5	Basin E, in front of tide-gate from Oxford Basin	0	0	9	2	17	3
MdRH-6	Basin E, center of basin	0	0	9	2	17	3
MdRH-7	Basin E, in front of Boone-Olive Pump Outlet	0	0	9	2	17	3
MdRH-8	Back of Main Channel	0	0	9	2	17	3
MdRH-9	Basin F, center of basin	0	0	9	2	8	1

Compliance Deadline	March 18, 2007	March 18, 2007	July 15, 2021
	Summer Dry Weather ^	Winter Dry Weather ^	Wet Weather ^
	Apr 1 – Oct 31	Nov 1 – Mar 31	Nov 1 – Oct 31
<p>Notes:</p> <p>The number of allowable exceedances is based on the lesser of (1) the reference system or (2) existing levels of exceedance based on historical monitoring data.</p> <p>The allowable number of exceedance days during winter dry-weather is calculated based on the 10th percentile storm year in terms of dry days at the LAX meteorological station.</p> <p>The allowable number of exceedance days during wet-weather is calculated based on the 90th percentile storm year in terms of wet days at the LAX meteorological station.</p> <p>^ A dry day is defined as a non-wet day.</p> <p>A wet day is defined as a day with a 0.1 inch or more of rain and the three days following the rain event.</p>			

Final Bacteria WLA Specific to the Department

See Final WLA above.

Final Bacteria Deadlines

This TMDL will be implemented over an 18-year period. By March 18, 2007, there shall be no allowable exceedances of the single sample limits at any location during summer dry weather (April 1 to October 31) or winter dry weather (November 1 to March 31). By July 15, 2021, compliance with the allowable number of wet weather exceedance days and the geometric mean targets must be achieved.

Department’s Bacteria Contribution (relative contribution to pollutant loading)

The Department’s jurisdiction covers one percent of the watershed.

Santa Clara River Estuary and Reaches 3, 5, 6, and 7 Indicator Bacteria TMDL, January 13, 2012

The TMDL identifies dry- and wet-weather urban runoff discharges from the storm water conveyance systems as significant contributors of bacteria loading to the Santa Clara River and Estuary. Mass emission data collected by MS4 Permittees show elevated levels of bacteria in the river. Data from natural landscapes in the region indicate that open space loading is not a significant source of bacteria.

Final Bacteria WLA

The Statewide Storm Water Permit for Department Activities (CAS000003) are assigned WLAs of zero (0) allowable exceedance days of the single sample targets for both dry and wet weather and no exceedances of the geometric mean targets because they are not expected to be significant source of indicator bacteria. Compliance with an effluent limit based on the bacteria water quality objectives will be used to demonstrate compliance with the WLA.

Final Bacteria WLA Specific to the Department

See Final WLA above.

Final Deadlines

The TMDL states that WLAs assigned to the Department's permit must be attained on the effective date of the TMDL.

Department's Contribution (relative contribution to pollutant loading)

The Department's relative contribution to pollutant loading is unknown.

Santa Monica Bay Beaches Bacteria TMDL June 19, 2003, Revised November 7, 2013

Final WLA

With the exception of isolated sewage spills, dry weather urban runoff and storm water runoff conveyed by storm drains and creeks is the primary source of elevated bacterial indicator densities to Santa Monica Beaches (SMB). Limited natural runoff and groundwater may also potentially contribute to elevated bacterial indicator densities during winter dry weather. Because the bacterial indicators used as targets in the TMDL are not specific to human sewage, storm water runoff from undeveloped areas may also be a source of elevated bacterial indicator densities. For example, storm water runoff from natural areas may convey fecal matter from wildlife and birds or bacteria from soil. This is supported by the finding that, at the reference beach, the probability of exceedance of the single sample targets during wet weather is 0.22.

Implementation of the bacteria objectives in Chapter 3 of the Basin Plan and the associated TMDL numeric targets is achieved using a "reference system/anti-degradation approach" rather than the alternative "natural sources exclusion approach" or strict application of the single sample objectives. As required by the Clean Water Act and Porter-Cologne Water Quality Control Act, Basin Plans include beneficial uses of waters, water quality objectives to protect those uses, an anti-degradation policy, collectively referred to as water quality standards, and other plans and policies necessary to implement water quality standards. This TMDL and its associated waste load allocations, which shall be incorporated into relevant permits, and load allocations are the vehicles for implementation of the Region's standards.

The geometric mean targets may not be exceeded at any time. For the single sample targets, each existing shoreline monitoring site is assigned an allowable number of exceedance days during three time periods as defined in the table below (summer dry weather, winter dry weather, and wet weather [defined as days with 0.1 inch of rain or greater and the three days following the rain event]). The allowable exceedance days for each associated shoreline monitoring site are identified in the following table:

Allowable Number of Days that may Exceed any Single Sample Bacterial Indicator Target for Existing Shoreline Monitoring Stations

Compliance Deadline			15-Jul-06		1-Nov-09		15-Jul-21	
Station ID	Location Name	Subwatershed	Summer Dry Weather ^A		Winter Dry Weather ^A		Wet Weather Year-round	
			Daily sampling (No. days)	Weekly sampling (No. days)	Daily sampling (No. days)	Weekly sampling (No. days)	Daily sampling (No. days)	Weekly sampling (No. days)
SMB 1-1	Leo Carillo Beach (REFERENCE)	Arroyo Sequit	0	0	9	2	17	3
SMB 1-2	El Pescador State Beach	Los Alisos	0	0	1	1	5	1
SMB 1-3	El Matador State Beach	Encinal Canyon	0	0	1	1	3	1
SMB 1-4	Trancas Creek	Trancas Canyon	0	0	9	2	17	3
SMB 1-5	Zuma Creek	Zuma Canyon	0	0	9	2	17	3
SMB 1-6	Walnut Creek	Ramirez Canyon	0	0	9	2	17	3
SMB O-1#	Paradise Cove	Ramirez Canyon	0	0	9	2	15	3
SMB 1-7	Ramirez Creek	Ramirez Canyon	0	0	9	2	17	3
SMB 1-8	Escondido Creek	Escondido Canyon	0	0	9	2	17	3
SMB 1-9	Latigo Canyon Creek	Latigo Canyon	0	0	9	2	17	3
SMB 1-10	Solstice Creek	Solstice Canyon	0	0	5	1	17	3
SMB O-2#	Puerco Canyon storm drain	Corral Canyon	0	0	0	0	6	1
SMB 1-11	Wave wash of unnamed creek on Puerco Beach	Corral Canyon	0	0	9	2	17	3
SMB 1-12	Marie Canyon Storm Drain on	Corral Canyon	0	0	9	2	17	3
SMB 1-13	Sweetwater Creek on Carbon	Carbon Canyon	0	0	9	2	17	3
SMB 1-14	Las Flores Creek	Las Flores	0	0	6	1	17	3
SMB 1-15	Big Rock Beach at 19948 Pacific	Piedra Gorda	0	0	9	2	17	3
SMB 1-16	Pena Creek	Pena Canyon	0	0	3	1	14	2
SMB 1-17	Tuna Canyon Creek	Tuna Canyon	0	0	7	1	12	2
SMB 1-18	Topanga Creek	Topanga Canyon	0	0	9	2	17	3
SMB 4-1	San Nicholas Canyon Creek	Nicholas Canyon	0	0	4	1	14	2
SMB 2-1	Castlerock (Parker Mesa) Storm	Castlerock	0	0	9	2	17	3
SMB 2-2	Santa Ynez Storm Drain	Santa Ynez	0	0	9	2	17	3
SMB 2-3	Will Rogers State Beach at 17200	Santa Ynez	0	0	9	2	17	3
SMB 2-4	Pulga Canyon storm drain	Pulga Canyon	0	0	9	2	17	3
SMB 2-5	Temescal Storm Drain	Pulga Canyon	0	0	9	2	17	3
SMB 2-6	Bay Club Storm Drain	Santa Ynez	0	0	9	2	17	3
SMB 2-7	Santa Monica Canyon, Will	Santa Monica	0	0	9	2	17	3
SMB 2-8	Venice Pier, Venice	Ballona	0	0	9	2	17	3
SMB 2-9	Topsail Street extended	Ballona	0	0	9	2	17	3
SMB 2-10	Dockweiler State Beach at Culver	Dockweiler	0	0	9	2	17	3
SMB 2-11	North Westchester Storm Drain	Dockweiler	0	0	0	0	17	3
SMB 2-12	World Way extended	Dockweiler	0	0	9	2	17	3
SMB 2-13	Imperial Highway storm drain	Dockweiler	0	0	4	1	17	3
SMB 2-14	Opposite Hyperion Plant, 1 mile	Dockweiler	0	0	9	2	17	3
SMB 2-15	Grand Avenue Storm Drain	Dockweiler	0	0	9	2	17	3

Compliance Deadline			15-Jul-06		1-Nov-09		15-Jul-21	
Station ID	Location Name	Subwatershed	Summer Dry Weather [^]		Winter Dry Weather [^]		Wet Weather Year-round	
			Daily sampling (No. days)	Weekly sampling (No. days)	Daily sampling (No. days)	Weekly sampling (No. days)	Daily sampling (No. days)	Weekly sampling (No. days)
SMB 3-1	Montana Ave. Storm Drain	Santa Monica	0	0	9	2	17	3
SMB 3-2	Wilshire Blvd., Santa Monica	Santa Monica	0	0	9	2	17	3
SMB 3-3	Santa Monica Municipal Pier at	Santa Monica	0	0	9	2	17	3
SMB 3-4	Santa Monica Beach at	Santa Monica	0	0	9	2	17	3
SMB 3-5	Ashland Av. storm drain (Venice)	Santa Monica	0	0	9	2	17	3
SMB 3-6	Rose Ave. Storm Drain on	Santa Monica	0	0	6	1	17	3
SMB 3-7	Venice City Beach at Brooks	Ballona	0	0	9	2	17	3
SMB 3-8	Venice Pavilion at projection of	Ballona	0	0	9	2	17	3
SMB 3-9	Strand Street extended	Santa Monica	0	0	9	2	17	3
SMB 5-1	Manhattan State Beach at 40th	Hermosa	0	0	1	1	4	1
SMB 5-2	Terminus of 28th Street Drain in	Hermosa	0	0	9	2	17	3
SMB 5-3	Manhattan Beach Pier	Hermosa	0	0	3	1	6	1
SMB 5-4	Near 26th Street on Hermosa	Hermosa	0	0	3	1	12	2
SMB 5-5	Hermosa Beach Pier	Hermosa	0	0	2	1	8	2
SMB 6-1	Herondo Storm Drain	Redondo	0	0	9	2	17	3
SMB 6-2	Redondo Municipal Pier - 100	Redondo	0	0	3	1	14	2
SMB 6-3	4' x 4' outlet at projection of	Redondo	0	0	5	1	17	3
SMB 6-4	120' north of Topaz groin	Redondo	0	0	9	2	17	3
SMB 6-5	Storm Drain at Projection of	Redondo	0	0	4	1	11	2
SMB 6-6	Malaga Cove, Palos Verdes	Redondo	0	0	1	1	3	1
SMB 7-1	Malaga Cove	Palos Verdes	0	0	1	1	14	2
SMB 7-2	Bluff Cove	Palos Verdes	0	0	1	1	0	0
SMB 7-3	Long Point	Palos Verdes	0	0	1	1	5	1
SMB 7-4	Abalone Cove	Palos Verdes	0	0	0	0	1	1
SMB 7-5	Portuguese Bend Cove	Palos Verdes	0	0	1	1	2	1
SMB 7-6	Royal Palms	Palos Verdes	0	0	1	1	6	1
SMB 7-8	Wilder Annex	Palos Verdes	0	0	1	1	2	1
SMB 7-9	Outer Cabrillo Beach	Palos Verdes	0	0	1	1	3	1
SMB MC-1	Malibu Point, Malibu Colony Dr.	Malibu Canyon	0	0	9	2	17	3
SMB MC-2	Surfrider Beach (breach point of	Malibu Canyon	0	0	9	2	17	3
SMB MC-3	Malibu Pier on Carbon Beach	Malibu Canyon	0	0	9	2	17	3

Notes: The allowable number of exceedance days during winter dry weather is calculated based on the 10th percentile year in terms of non-wet days at the LAX meteorological station.

The number of allowable exceedances during winter dry weather is based on the lesser of (1) the reference system or (2) existing levels of exceedance based on historical shoreline data.

[^]Dry weather days are defined as those with <0.1 inch of rain and those days not less than 3 days after a rain day. Rain days are defined as those with >=0.1 inch of rain.

Detailed descriptions of the sampling locations are provided in the Santa Monica Bay Beaches Bacterial TMDLs Coordinated Shoreline Monitoring Plan.

#Monitoring began in 2010 and data was examined from April 2010 to November 2011

Final Bacteria WLA Specific to the Department

See Final WLA above.

Final Bacteria Deadlines

The final implementation targets in terms of allowable wet-weather exceedance days must be achieved at each individual beach location no later than July 15, 2021.

Department’s Contribution (relative contribution to pollutant loading)

The Department’s relative contribution to bacteria pollutant loading is not known.

COLORADO RIVER REGION BACTERIA TMDL

Coachella Valley Storm Water Channel (CVSC) Bacterial Indicators TMDL, April 27, 2012

The TMDL identifies flows from urban MS4s as violating applicable water quality objectives for REC I and REC II. Birds and other animals are possible sources of bacteria in the CVSC.

Final Bacterial Indicator WLA

Wasteload allocations (WLAs) for bacteria indicator dischargers into CVSC are described below:

Allocation Type	Discharger	E. Coli Allocations
Point Source (WLAs)	Department	A log mean (Geomean) of the MPN of ≤126/100ml (based on a minimum of not less than five samples during a 30-day period), or 400 MPN/100ml for a single sample.

Final Bacterial Indicator WLA Specific to the Department

See Final WLA above.

Final Bacterial Indicator Deadlines

The final implementation targets in terms of allowable wet-weather exceedance days must be achieved at each individual beach location no later than July 15, 2021.

Department’s Bacterial Indicator Contribution (relative contribution to pollutant loading)

The Department’s relative contribution to bacteria pollutant loading is not known.

SAN DIEGO REGION BACTERIA TMDL

Project I – Twenty Beaches and Creeks in the San Diego Region (including Tecolote Creek) TMDL, June 22, 2011

The TMDL identifies dry and wet weather runoff as the source of bacterial loading.

Final Indicator Bacteria WLA

In general, controllable point and nonpoint sources generating less than five percent of the total loads (e.g., The Department and/or Agriculture) were assigned WLAs and LAs equal to their existing loads, resulting in no load reduction requirements.

The dry weather mass-load based TMDLs were assigned entirely to discharges from MS4 land uses because the runoff that transports bacteria to surface waters during dry weather is expected to occur in urban areas. The allocation of the dry weather mass-based TMDL assumes that no surface runoff discharge to receiving waters occurs from the Department, Agriculture, or Open Space land use categories (i.e., $WLA_{\text{Caltrans}} = 0$, $LA_{\text{Agriculture}} = 0$, and $LA_{\text{OpenSpace}} = 0$), meaning the entire dry weather mass-based TMDL (i.e., allowable mass load) is allocated to Municipal MS4 land use categories (i.e., $WLA_{\text{MS4}} = \text{TMDL}$).

For the wet weather TMDLs, discharges of surface runoff are expected from all land use types, thus allocations were assigned to each land use category (i.e., Municipal MS4s, the Department, Agriculture, and Open Space). The Department's wet weather WLAs were set equal to existing loads, since the Department's discharges were found to account for less than 1 percent of the wet weather load. Allocations were assigned based on discharges of "existing" bacteria loads predicted with a wet weather watershed model. In general, the Department WLAs, Agriculture LAs (in all but four of the modeled watersheds), and Open Space LAs were set equal to the "existing" bacteria loads predicted by the wet weather watershed model. The remainder of allowable bacteria load that can be discharged to the receiving waters as part of the TMDL was assigned as the Municipal MS4s WLAs (or proportionally divided between the Municipal MS4s and Agriculture land use categories in four of the modeled watersheds).

Final Indicator Bacteria WLA Specific to Department

See Final WLA above.

Final Indicator Bacteria Deadlines

TMDL Compliance Schedule: Full implementation of the TMDLs for indicator bacteria shall be completed within 10 to 20 years (April 4, 2021 to April 4, 2031) from the effective date of the Basin Plan amendment. The compliance schedule for implementing the load and wasteload reductions required to achieve the wet weather and dry weather TMDLs is phased in over time.

The dry weather TMDLs must be achieved in the receiving waters as soon as possible, but no later than 10 years (April 4, 2021) from the effective date of the Basin Plan amendment

that establishes the TMDLs. For dischargers that undertake wet weather load reduction programs only for bacteria, the wet weather TMDLs must be achieved in the receiving waters as soon as possible, but no later than 10 years (April 4, 2021) from the effective date.

For dischargers in watersheds that undertake concurrent wet weather load reduction programs for other pollutant constituents (e.g. metals, pesticides, trash, nutrients, sediment, etc.) together with the bacteria load reduction requirements in these TMDLs, an alternative compliance schedule may be proposed and incorporated by the San Diego Water Board into the implementing orders. The wet weather TMDL compliance schedules may be extended, but no more than a total of 20 years (April 4, 2031) from the effective date of the Basin Plan amendment. The dry weather TMDL compliance schedule cannot be extended to be more than 10 years (April 4, 2021) from the effective date of the Basin Plan amendment.

Department's Indicator Bacteria Contribution (relative contribution to pollutant loading)

The Department's relative contribution to bacteria pollutant loading is unknown.

F. Diazinon TMDL Pollutant Category

General Description of Pollutant Category

Diazinon is an organophosphate insecticide has been banned for residential use; it is still used in agriculture.

Sources of Pollutant & How it Enters the Waterway

It is a broad spectrum contact insecticide. Residential use was for general-purpose gardening use and indoor pest control of ants, fleas, cockroaches, silverfish, mosquitos and spiders in residential, non-food buildings.

Watershed Contribution

The Department does not use Diazinon. The Department is identified as a source of Diazinon because they own and operate storm water conveyance systems in association with roadways and facilities. In some areas the Department's storm water systems are connected to municipal storm water systems.

Control Measures

Attachment IV, Section III.F, prohibits the discharge of Diazinon. This prohibition is consistent with the TMDLs for Diazinon which generally limit the discharge of this pesticide to non-toxic levels. Since the Department does not use Diazinon it is in compliance with the prohibition of discharge. Attachment IV, Part F does not require additional monitoring beyond what is specified in the permit.

SAN FRANCISCO BAY REGION DIAZINON TMDL

San Francisco Bay Urban Creeks Diazinon and Pesticide Toxicity May 16, 2007

The TMDL states that most urban runoff flows through storm drains operated by all storm water entities including the Department. The use of diazinon is prohibited in the Department's NPDES permit, and no additional measures are required.

Final Diazinon WLA

The WLA for each storm water entity is 100 ng/L as a one-hour average.

Final Diazinon WLA Specific to the Department

The Department's level of responsibility is not identified.

Final Diazinon Deadlines

The TMDL does not specify any interim or final compliance dates but states that the requirements included in the permits are inadequate to meet the targets the San Francisco Bay Water Board will require additional control measures or additional actions by others.

Department's Diazinon Contribution (relative contribution to pollutant loading)

The Department's relative contribution to the diazinon pollutant loading is not known.

SAN DIEGO REGION DIAZINON TMDL

Chollas Creek Diazinon TMDL, November 3, 2003

Final Diazinon WLA

The below concentration-based waste load allocations are applied equally to all diazinon discharge sources in the Chollas Creek watershed:

Waterbody	Diazinon (ng/L)	
	Acute (1 hour ave)	Chronic (4 day ave)
Chollas Creek	72	45

Final Diazinon WLA Specific to the Department

The final WLA for the Department is noted above.

Final Diazinon Deadlines

The TMDL states that the phased compliance schedule will apply only to attainment of numeric limitations for diazinon and all other requirements of this TMDL will be immediately effective upon incorporation into applicable NPDES permits.

Department Diazinon Contribution

In the supporting technical documentation, the San Diego Regional Water Board stated that the Department is responsible for the major freeways and roadways making up approximately four percent of the land in the watershed; that the Department reports diazinon is not used; and that the Department has an integrated pest management plan. Since the Department does not use Diazinon it is in compliance with the prohibition of discharge.

G. Selenium TMDL Pollutant Category

General Description of Pollutant Category

Sources of Pollutant & How it Enters the Waterway

Selenium is naturally occurring in geologic formations, soils and aquatic sediments. Storm water runoff, dewatering, ground water seepage, irrigation of high selenium content soils, and oil refineries are identified as sources of selenium to surface waters in southern California. Generally, atmospheric deposition was determined to be a not significant source. Selenium bioaccumulates to levels that cause severe impacts on invertebrates, fish, birds that prey on fish, and humans.

Watershed Contribution

Selenium in soil may be a contributing source, and naturally occurring selenium in groundwater may be a significant source.

Control Measures

As discussed under the individual TMDLs below, the TMDLs in this pollutant category generally establish that the Department is a relatively minor source of selenium since the sources of selenium are not transportation related. The Department is expected to continue its current pollutant control activities in order to remain in compliance with the TMDLs.

LOS ANGELES REGION SELENIUM TMDL

Ballona Creek Metals and Selenium TMDL, December 22, 2005 and reaffirmed on October 29, 2008.

This TMDL addresses dry- and wet-weather discharges of metals and selenium in Ballona Creek and Sepulveda Canyon Channel. There are significant differences in the sources of metals and selenium loadings during dry and wet weather because hardness values and flow conditions in Ballona Creek and Sepulveda Canyon Channel vary between dry and wet weather. A grouped mass-based waste load allocation is developed for the storm water permittees that includes the Department.

Final Selenium WLA

The Department and MS4 storm water NPDES permittees will be found to be effectively meeting the dry-weather WLAs if the instream pollutant concentrations or load at the first downstream monitoring location is equal to or less than the corresponding concentration- or load based WLA.

Selenium Dry-weather Storm Water WLAs Apportioned between Storm Water Permits (grams total recoverable metals/day)

Permittee	Waste Load Allocation (grams/day)
Ballona Creek	
MS4 Permittees	169
Department	2
Sepulveda Channel	
MS4 Permittees	76
General Industrial	1

Selenium Wet-weather Storm Water WLAs Apportioned between Storm Water Permits (total recoverable metals)

Permittee	Waste Load Allocation (grams/day)
MS4 Permittees	4.73E-06 x Daily storm volume (L)
Department	6.59E-08 x Daily Storm Volume (L)
General Construction	1.37E-07 x Daily storm volume (L)
General Industrial	3.44E-08 x Daily storm volume (L)

The Department and MS4 NPDES permittees will be found to be effectively meeting the wet-weather WLAs if the loading at the most downstream monitoring location is equal to or less than the wet-weather WLA.

Final Selenium WLA Specific to the Department

See Tables above for specific Department WLAs.

Final Deadlines

The implementation schedule for the MS4 permittees and the Department consists of a phased approach, with compliance to be achieved in prescribed percentages of the watershed, with total compliance to be achieved within 15 years. The Department shall demonstrate that 100 percent of the total drainage area served by the MS4 system is effectively meeting the dry-weather and wet-weather WLAs.

Whereas the Department is responsible for meeting their mass-based waste load allocations they may choose to work with the MS4 Permittees.

Department’s Selenium Contribution (relative contribution to pollutant loading)

The Department’s relative contribution to the selenium loading is not known.

Calleguas Creek, its Tributaries and Mugu Lagoon Metals and Selenium TMDL, March 26, 2007

Significant sources were identified as urban runoff, agricultural runoff, groundwater seepage and POTW effluent. The Department is a participant in the watershed-wide water monitoring program.

Final Selenium WLA

Dry-weather is defined as days when flows in the stream are less than the 86th percentile flow rate for each reach; wet weather is defined as flows greater than 86th percentile. The daily maximum interim limit is set equal to the 99th percentile of available discharge data, the monthly average interim limit is set equal to the 95th percentile. The interim WLAs for dry-weather in Revolon Slough are 14 µg/L criteria maximum concentration (CMC), and 13 µg/L criteria continuous concentration (CCC) for wet-weather. There is no interim wet-weather WLA because current loads do not exceed the TMDL. In this TMDL interim limits and WLAs are applied to receiving waters.

Final Selenium WLA Specific to the Department

Final WLAs for selenium in Revolon Slough are:

Dry weather: In lbs/day are 0.004 low flow, 0.003 average flow, 0.004 elevated flow.

Wet weather: In lbs/day is $0.027*Q^2+0.47*Q$, where Q equals the daily storm volume.

Current loads do not exceed the loading capacity during wet weather, therefore no additional action by the Department is needed during wet weather.

Final Deadlines

The TMDL states that storm water dischargers are expected to achieve compliance through implementation of BMPs. A group watershed monitoring plan was required and receiving water monitoring compliance points are specified for all dischargers subject to the TMDL. A 25 percent reduction was required by March 2012, and a 50 percent reduction is required by March 2017. Final compliance is required by March 2022. The TMDL states that achievement of required reductions will be evaluated based on progress towards BMP implementation as outlined in the UWQMPs and in consideration of background loading information. The requirements of Attachment IV, Section III.G are consistent with the requirements of the TMDL.

Department's Selenium Contribution (relative contribution to pollutant loading)

The Department's relative contribution to the selenium pollutant loading is not known.

San Gabriel River and Impaired Tributaries Metals and Selenium TMDL, March 26, 2007

The San Gabriel River and impaired tributaries metals and selenium TMDL was established by U.S. EPA (and therefore there are no milestones, compliance schedule, or monitoring requirements) and includes a dry-weather TMDL for selenium in San Jose Creek Reach 1.

The TMDL notes that selenium is present in local marine sedimentary rocks and presumes that much of the selenium in San Jose Creek results from natural soils, and that this assumption is corroborated by the fact that many of the impairments in San Jose Creek occur after the channel becomes soft-bottomed. Other potential sources were identified as mobilization of groundwater, such as by dewatering, irrigation of soils naturally high in selenium, and discharges from petroleum-related activities.

The requirements of Attachment IV, Section III.G are consistent with the requirements of the TMDL.

Final WLA for Selenium

The TMDL sets a dry-weather selenium WLA of five (5) µg/L for all storm water discharges to San Jose Creek. The TMDL states that a review of the storm water permits indicates that the Department discharges entirely to municipal storm water systems.

Final Selenium WLA Specific to the Department

No specific selenium WLAs are assigned to the Department. The dry-weather WLAs for the storm water permittees are shared by the MS4 permittees and the Department because there is not enough data on the relative extent of MS4 and the Department's areas.

Final Deadlines for Selenium

The MS4 permittees and the Department shall demonstrate that 100 percent of the total drainage area served by the storm drain system is effectively meeting both the dry-weather and wet-weather WLAs and attaining water quality standards for metals and selenium.

Department's Selenium Contribution (relative contribution to pollutant loading)

The Department's relative contribution to selenium pollutant loading is not known.

H. Temperature TMDL Pollutant Category

General Description of Pollutant Category

The North Coast Region Basin Plan defines the water quality objective for temperature as follows:

(1) For estuaries, the Basin Plan incorporates by reference the statewide plan entitled "Water Quality Control Plan for Control of Temperature in the Coastal and Interstate Waters and Enclosed Bays of California."

(2) The following temperature objectives apply to surface waters:

The natural receiving water temperature of intrastate waters shall not be altered unless it can be demonstrated to the satisfaction of the Regional Water Board that such alteration in temperature does not adversely affect beneficial uses. At no time or place shall the temperature of any COLD water be increased by more than five degrees Fahrenheit

above natural receiving water temperature. At no time or place shall the temperature of WARM intrastate waters be increased more than five degrees Fahrenheit above natural receiving water temperature.

The designated beneficial uses affected by thermal pollution of receiving waters include: cold freshwater habitat (COLD); rare, threatened, and endangered species (RARE); migration of aquatic organisms (MIGR); and spawning, reproduction, and/or early development of fish (SPWN); commercial and sport fishing (COMM); and contact and non-contact water recreation (REC-1 and REC-2).

Sources of Pollutant & How it Enters the Waterway

Anthropogenic processes that influence water temperature include changes to stream shade, stream flow via changes in groundwater accretion, streamflow via surface water use, changes to local microclimates, and channel geometry. Road construction and maintenance can, for example, involve the removal of some riparian vegetation, thus increasing ambient water temperature along the affected segment of a surface water body unless this impact is minimized via re-planting and/or by reducing the amount of vegetation removed.

Natural sources of sediment which can increase receiving water temperatures include geologically unstable areas that are subject to landslides, as well as smaller sediment sources such as gullies and stream-bank failures. Anthropogenic sources include road-related stream crossing failures, gullies, fill failures, and landslides precipitated by road-related surface erosion and cut bank failures. Road-related activities which can increase sediment discharge to a waterway include the construction and maintenance of paved and unpaved roadways, watercourse crossing construction, reconstruction, maintenance, use, and obliteration, and many activities conducted on unstable slopes. Unstable areas are areas with a naturally high risk of erosion and areas or sites that will not reasonably respond to efforts to prevent, restore or mitigate sediment discharges. Unstable areas are characterized by slide areas, gullies, eroding stream banks, or unstable soils that are capable of delivering sediment to a watercourse. Slide areas include shallow and deep seated landslides, debris flows, debris slides, debris torrents, earthflows, headwall swales, inner gorges and hummocky ground. Unstable soils include unconsolidated, non-cohesive soils and colluvial debris.

Watershed Contribution

The Department is a relatively minor source of pollutants and small percentage of the watershed. The Department will address the highest problem areas soonest and therefore address the problem at the appropriate level for the temperature and sediment TMDLs.

Control Measures

Dischargers responsible for vegetation removal are encouraged (and sometimes required) to preserve and restore such vegetation where possible. This may include planting riparian trees, minimizing the removal of vegetation that provides shade to a water body, and minimizing activities that might suppress the growth of new or existing vegetation. Reductions in sediment loads are expected to increase the number and depth of pools in

streams and rivers, and to reduce wetted channel width/depth ratios. These changes would tend to result in lower stream temperatures overall and in more lower-temperature pool habitat.

The Department is required to implement control measures to prevent erosion and sediment discharge. The measures that control the discharge of sediment can be effective in reducing thermal pollution in receiving waters. This can be achieved by protecting hillsides, intercepting and filtering runoff, avoiding concentrated flows in natural channels and drains, and avoidance of alterations of natural runoff flow patterns.

The sediment control requirements in Attachment IV are intended to reduce the adverse impacts of excessive sediment discharges to sediment-impaired waters, including impacts to the cold water salmonid fishery and the COLD, COMM, RARE, SPWN, and MIGR beneficial uses. The beneficial uses associated with the cold water salmonids fishery are often the most sensitive to sediment discharges.

The Sediment TMDL Implementation Policy also directs staff to develop: (1) the Work Plan, which describes how and when permitting and enforcement tools are to be used; (2) the Guidance Document on Sediment Waste Discharge Control; (3) the Sediment TMDL Implementation Monitoring Strategy; and (4) the Desired Conditions Report. Of these items, the Guidance Document on Sediment Waste Discharge Control and the Sediment TMDL Implementation Monitoring Strategy are still under development by the North Coast Region. At present, the requirements in Attachment IV are generally sufficient to address the sediment/temperature TMDLs in the North Coast Region that originate from a comparatively minor pollutant source, and this is accomplished by focusing on the most problematic areas and activities within this relatively low-volume subset of anthropogenic discharges for this pollutant category.

Attachment IV requires continuation of existing monitoring plans, or monitoring consistent with the TMDLs' requirements as approved by the Regional Water Board Executive Officer. A primary focus of the monitoring required by Attachment IV is management practice effectiveness monitoring and "Adaptive Management" for BMP implementation requirements ensures compliance with the sediment/temperature TMDLs.

The North Coast Regional Water Board is also in the process of amending its basin plan for the control of thermal pollution. These revisions will add a policy for implementing the water quality objective for temperature. The amendment will also add additional action plans to implement total maximum daily loads for temperature in the Navarro, and Eel, and Mattole watersheds.

The proposed revisions to the Basin Plan include changes to Chapter 4 –Implementation Plans. The Regional Water Board directed staff to prepare an amendment incorporating a temperature implementation policy into the Basin Plan by adoption of resolution R1-2012-0013. The proposed Basin Plan amendment will describe the approach to implementing the interstate water quality objective for temperature in one cohesive policy. It will identify the

regulatory mechanisms staff will employ to ensure achievement of the water quality objective for temperature, it will describe the significance of stream shade as a factor determining stream temperatures, and it will direct staff to address temperature concerns through existing authorities and processes.

The proposed Basin Plan amendment will also establish implementation plans for the Navarro, Mattole, Upper Main Eel, Middle Main Eel, Lower Eel, Middle Fork Eel, North Fork Eel, and South Fork Eel River temperature TMDLs.

NORTH COAST REGION TEMPERATURE TMDLS

Eel River (Lower HA) Temperature and Sediment TMDL, U.S. EPA Established on December 18, 2007

Final Temperature WLA

For the diffuse permitted sources, such as municipal and industrial storm water discharges, the Department's facilities, construction sites, and municipalities, as well as for discharges that are subject to NPDES permits but are not currently permitted, the waste load allocation (WLA) is expressed as follows: zero net increase in receiving water temperature.

Final Temperature WLA Specific to the Department

As stated above, U.S. EPA's wasteload allocation for the temperature TMDL assigned to the Department and other point source dischargers is zero net increase in receiving water temperature.

Final Temperature Deadlines

U.S. EPA did not specify deadlines for implementation.

Department's Contribution (relative contribution to pollutant loading)

U.S. EPA states that although nonpoint sources are responsible for most heat loading in the watershed, point sources may also discharge some heat in the watershed.

Eel River (Middle-Fork) Eden Valley, and Round Valley HSAs Temperature and Sediment TMDL, U.S. EPA Established on December 2003

Final Temperature WLA

Although U.S. EPA states that because appropriate heat loads, water temperatures and tree heights cannot be generalized on a basin-wide scale, this reduction is best achieved by allowing trees to grow so as to provide the equivalent amount of shade that would be provided under natural conditions. In addition, measures to reduce sediment discharge and promote establishment or protection of additional refugia pool areas will facilitate attainment of water quality standards. In this sense, the temperature and sediment TMDLs overlap to some degree.

Final Temperature WLA Specific to the Department

Please see above discussion of the temperature WLA.

Final Temperature Deadlines

U.S. EPA did not specify deadlines for implementation.

Department's Temperature Contribution (relative contribution to pollutant loading)

U.S. EPA states that although nonpoint sources are responsible for most heat loading in the watershed, point sources may also discharge some heat in the watershed.

Eel River (South Fork) HA Temperature and Sediment TMDL, U.S. EPA Established on December 16, 1999

U.S. EPA's source analysis indicates that the sediment loading due to nonpoint erosion from roads and other anthropogenic activities accounts for a substantial portion of the total sediment loading in this watershed.

The waste load allocation for point sources are for sediment only, i.e., they are not directly related to the temperature portion of the TMDL, nor does U.S. EPA set a waste load allocation for point sources under the temperature portion of the TMDL. However, U.S. EPA also states that any improvements in stream temperature from reduced sedimentation contribute to the cumulative benefits of both sediment and temperature load reductions, and this assumption is accommodated in U.S. EPA's calculations for the margin of safety in this TMDL.

Final Temperature WLAs

As stated above, there is no wasteload allocation for point sources.

Final Temperature WLA Specific to the Department

As stated above, there is no specific wasteload allocation for the Department.

Final Temperature Deadlines

U.S. EPA did not specify deadlines for implementation.

Department's Temperature Contribution to Thermal Loading (relative contribution to pollutant loading)

U.S. EPA attributes most sediment and thermal pollutant loading in the TMDL to nonpoint sources, and considers the Department's and other point source contributions to be comparatively minor.

Eel River (Upper Main HA) Temperature and Sediment TMDL, U.S. EPA Established on December 29, 2004

Final Temperature WLA

U.S. EPA states that there are no point source discharges included in the temperature TMDL for purposes of attaining temperature reductions via “shade allocation,” so the waste load allocation is set to zero. U.S. EPA states that permitted sources of increased water temperatures and sediment loading, if they occur in the future, will be attributable only to construction-related storm water discharges.

Final Temperature WLA Specific to the Department

As stated above, U.S. EPA stated that there are no point source discharges for thermal pollution, so the wasteload allocation for all point source discharges (including the Department) is set to zero.

Final Temperature Deadlines

U.S. EPA did not specify deadlines for implementation.

Department’s Temperature Contribution (relative contribution to pollutant loading)

U.S. EPA considers all point sources of temperature pollution to be insignificant for purposes of this TMDL.

Klamath River in California Temperature, Dissolved Oxygen, Nutrients, and Microcystin TMDL, December 28, 2010

Final Temperature WLA

The Iron Gate Fish Hatchery was identified as the only point-source heat load in the Klamath River watershed: The interstate water quality objective for temperature prohibits the discharge of thermal waste to the Klamath River, and therefore the waste load allocation for Iron Gate Hatchery is set to zero, as monthly average temperatures. The TMDL addresses elevated temperatures from natural and non-point anthropogenic sources. The non-point sources include: (1) excess solar radiation, expressed as its inverse, shade; (2) heat loads associated with increased sediment loads; (3) heat loading from impoundments; and (4) heat loads from Oregon. The assigned load allocations for temperature are expressed as follows (as adapted from Table 4-15 in the basin plan):

Source	Allocation
Excess Solar Radiation (expressed as effective shade)	The shade provided by topography and full potential vegetation conditions at a site, with an allowance for natural disturbances such as floods, wind throw, disease, landslides, and fire.
Increased Sediment Loads	Zero temperature increase caused by substantial human-caused sediment-related channel alterations.
Impoundment Discharges	Zero temperature increase above natural temperatures ¹
Excess Solar Radiation	The shade provided by topography and full potential

Source	Allocation
(expressed as effective shade)	vegetation conditions at a site, with an allowance for natural disturbances such as floods, wind throw, disease, landslides, and fire.
Increased Sediment Loads	Zero temperature increase caused by substantial human-caused sediment-related channel alterations. ²
Impoundment Discharges	Zero temperature increase above natural temperatures

1. Natural temperatures are those water temperatures that exist in the absence of anthropogenic influences, and are equal to natural background.
2. Substantial human-caused sediment-related channel alteration: “A human-caused alteration of stream channel dimensions that increases channel width, decreases depth, or removes riparian vegetation to a degree that alters stream temperature dynamics and is caused by increased sediment loading.”

Final Temperature WLA Specific to the Department

The Department was not assigned a waste load allocation for temperature.

Final Deadlines

No deadlines were specified.

Department’s Pollutant Contribution (relative contribution to pollutant loading)

The Department is listed as a source of thermal pollution: however, the relative magnitude of the Department’s contribution to thermal pollution was not specified or estimated.

Navarro River Sediment and Temperature TMDL, U.S. EPA Established on December 27, 2000

Final Temperature WLA

U.S. EPA states that there are no known point sources of heat to the Navarro or its tributaries. The source analysis therefore focused on non-point sources. The wasteload allocation any for point sources which might be present is thus presumed to set to zero.

The Navarro River TMDLs for temperature and sediment are based on separate analyses. Reduced sediment loads could be expected to lead to increased frequency and depth of pools and to reduced wetted channel width/depth ratios. These changes would tend to result in lower stream temperatures overall and in more lower-temperature pool habitat.

Improvements in stream temperature that may result from reduced sedimentation were not considered in the analysis.

Final Temperature WLA Specific to the Department

The Department is not specifically mentioned as a source of pollutant loading for temperature, therefore the wasteload allocation for the Department is presumed to be set to zero.

Final Temperature Deadlines

U.S. EPA did not specify deadlines for implementation of this TMDL.

Department's Temperature Contribution (relative contribution to pollutant loading)

As mentioned above, neither the Department nor other point sources are identified as sources of pollutant loading for temperature or sediment, so U.S. EPA has determined that these potential sources are insignificant in this TMDL.

Scott River Sediment and Temperature TMDL, August 11, 2006**Final Temperature WLA**

U.S. EPA states that there are no point sources for temperature related discharges within the area encompassed by this TMDL, so the waste load allocation is set to zero.

Final Temperature WLA Specific to the Department

U.S. EPA directed Regional Water Board staff shall evaluate the effects of the Department's state-wide NPDES permit, storm water permit, and waste discharge requirements (collectively known as the Department's Storm Water Program) by September 8, 2008. The evaluation shall determine the adequacy and effectiveness of the Department's Storm Water Program in preventing, reducing, and controlling sediment waste discharges and elevated water temperatures in the North Coast Region, including the Scott River watershed.

Final Temperature Deadlines

U.S. EPA did not establish specific wasteload allocations for point sources, so the wasteload allocations are set to zero.

Department's Contribution (relative contribution to pollutant loading)

The Department's relative contribution to the temperature pollutant loading is not known.

Shasta River Dissolved Oxygen and Temperature TMDL, U.S. EPA Established on December 26, 2007**Final Temperature WLA**

There are no point source heat loads in the Shasta River watershed, and therefore no waste load allocations apply.

Final Temperature WLA Specific to the Department

The Department was not assigned a waste load allocation for temperature: as stated above, there are no point sources of heat loads in the Shasta River watershed.

Final Deadlines

No deadlines were specified.

Department’s Pollutant Contribution

The Department’s relative contribution to the temperature pollutant loading in Shasta River Watershed is not known.

I. Chloride Pollutant Category**General Description of Pollutant Category**

The Department is named as a responsible party in the Santa Clara River watershed chloride TMDL.

Sources of Pollutant & How it Enters the Waterway

Chloride in the Santa Clara River watershed is principally due to increased salt loadings from imported water and the use of self-regenerating water softeners.

Watershed Contribution

The Department does not import water and does not use self-generating water softeners.

Control Measures

The Department is expected to be in compliance with the chloride WLA without any additional control actions as long as the Department is in compliance with this Order.

LOS ANGELES REGION CHLORIDE TMDLS***Santa Clara River Reach 3 Chloride TMDL, U.S. EPA Established on June 18, 2003***

There are two major sources that discharge into Reach 3, the Santa Paula and Fillmore WRPs, that comprise approximately 80 percent of the total estimated load under flow conditions.

The Department is one of five minor point sources that discharge to Reach 3. Although the Department is a minor source, the minor discharges to the Santa Clara River are typically related to dewatering and construction projects that are covered by other NPDES permits.

Final Chloride WLA**Estimated Chloride Loads to Reach 3 Under Low Flow Conditions**

Point Sources	Waste Load Allocation (mg/L)
Fillmore WRP	80
Santa Paula WRP	80
MS4 Stormwater	80

Point Sources	Waste Load Allocation (mg/L)
Construction General Permit	80
Department	80
Other Minor Permits	80
NonPoint Sources	Load Allocation (mg/L)
Other Tributaries to Reach 3*	80
Sespe Creek	40
Santa Clara Reach 4	100
Total	80
* Although other tributaries to Reach 3 were not included in the linkage analysis above, their contributions to Reach 3 chloride loads and flows are believed to be insignificant.	

Final Chloride WLA Specific to the Department

Specific WLA for the Department is 80 mg/L.

Final Chloride Deadlines

U.S. EPA established this TMDL and it became effective on June 18, 2003. The Department is expected to be in compliance with the Chloride WLA without any additional control actions as long as the Department is in compliance with this Order.

Department's Chloride Contribution (relative contribution to pollutant loading)

The Department's relative contribution to the chloride pollutant loading in the Santa Clara River Reach 3 is not known.

Upper Santa Clara River Chloride TMDL, April 6, 2010

The principal source of chloride in the Upper Santa Clara River is discharges from the Saugus WRP and Valencia WRP, which are estimated to contribute 70 percent. These sources of chloride accumulate and degrade groundwater in the lower area east of Piru Creek in the basin.

Final Chloride WLA

Other minor NPDES discharges receive conditional WLAs shown below.

Reach	Concentration-based Conditional WLA for Chloride (mg/L)
6	150 (12-month Average)
	230 (Daily Maximum)
5	150 (12-month Average)
	230 (Daily Maximum)
4B	117 (3-month Average)
	230 (Daily Maximum)

Final Chloride WLA Specific to the Department

The Department is assigned the above concentration based WLAs.

Final Chloride Deadlines

The interim and final WLAs for TDS and sulfate contained in the Basin Plan Amendment are essentially established for the principal sources. The Department does not import water and does not use self-generating water softeners. The Department is expected to be in compliance with the Chloride WLA without any additional control actions as long as the Department is in compliance with this Order.

Department's Chloride Contribution (relative contribution to pollutant loading)

The Department's relative contribution to the chloride pollutant loading in the Upper Santa Clara River is not known.

Region Specific Requirements

The Regional Water Boards have identified specific areas within their Regions requiring special conditions (Attachment V). These special conditions are needed to account for the unique value of the resource(s) within the Region, special pollutant or pollution control issues within the Region, or storm water management and compliance issues applicable to the Region. These special requirements need not be applied statewide but are applicable only to Department discharges within the Regions as specified in Attachment V. Region specific requirements are included for the North Coast, San Francisco Bay, and Lahontan Regional Water Boards.

North Coast Region

1. Sediment. Region specific requirements addressing sediment discharges in sediment-impaired watersheds in the North Coast Region are based on the "Total Maximum Daily Load Implementation Policy Statement for Sediment-Impaired Receiving Waters in the North Coast Region," as included in the Basin Plan and Resolution No. R1-2004-0087. The Policy requires the use of NPDES permits and waste discharge requirements to achieve compliance with sediment-related water quality standards. The requirements in Attachment V to systematically inventory, prioritize, control, monitor, and adapt, as well as to include a time schedule in the annual District Workplan, are consistent with region-wide excess sediment control regulations.

The sediment requirements are intended to reduce the adverse impacts of excessive sediment discharges to sediment-impaired waters, including impacts to the cold water salmonid fishery and the COLD, COMM, RARE, SPWN, and MIGR beneficial uses. The beneficial uses associated with the cold water salmonid fishery are often the most sensitive to sediment discharges. Risks to salmonids from excessive sediment are well documented in scientific literature and include:

- the filling of pools and subsequent reduction in available in-stream salmonid habitat;
- burial of spawning gravels;
- gill abrasion and death due to extremely high turbidity levels;
- reduction in macroinvertebrate populations available as food for salmonids; and

- alterations in channel geometry to a wider, shallower channel which is subject to increases in solar heating.
2. Riparian Vegetation Requirements. Region specific requirements to protect and restore riparian vegetation are based on the Water Quality Objective for temperature. The temperature objective states, in part, that the natural receiving water temperature shall not be altered unless it can be demonstrated that such alteration does not adversely affect beneficial uses. Removal of riparian vegetation associated with Department activities has the potential to decrease shade, increase solar radiation, and raise water temperatures, and may therefore cause an exceedance of the temperature objective.

The requirements in Attachment V direct the Department to protect and restore riparian vegetation to the greatest extent feasible. In many cases, activities involving the removal of riparian vegetation will require a 401 water quality certification, which will contain more specific conditions regarding the removal and/or establishment of vegetation.

These requirements are intended to prevent alterations to natural receiving water temperature from Department activities. The primary mechanism in which riparian vegetation influences water temperature is through the shade. Loss of riparian vegetation and the shade that it provides can lead to increased solar radiation, hotter water temperatures, and adverse impacts to beneficial uses. The beneficial uses most sensitive to increases in water temperature are often those associated with the cold water salmonid fishery. Risks to salmonids are well documented in scientific literature and include:

- reduced feeding rates and growth rates;
- impaired development of embryos and alevins;
- changes in the timing of life history events, such as upstream migration, spawning, and seaward migration;
- increased disease infection rates and disease mortality; and
- direct mortality.

San Francisco Bay Region

The Urban Runoff Management, Comprehensive Control Program section of the Basin Plan (Chapter 4.14) requires municipalities and local agencies, including the Department, to address existing water quality problems and prevent new problems associated with urban runoff through the development and implementation of a comprehensive control program focused on reducing current levels of pollutant loading to storm drains to the maximum extent practicable.

The Highway Runoff Control Program section of the Basin Plan (Chapter 4.14.2) requires the Department to manage and monitor pollutant sources from its ROW through development and implementation of a highway runoff management plan.

The Basin Plan comprehensive and highway runoff program requirements are designed to be consistent with federal regulations (40 C.F.R., §§ 122-124) and are implemented through issuance of NPDES permits to owners and operators of MS4s. A summary of the regulatory provisions is contained in Title 23 of the California Code of Regulations at section 3912. The Basin Plan identifies beneficial uses and establishes water quality objectives for surface waters in the Region, as well as effluent limitations and discharge prohibitions intended to protect those uses. The region-specific requirements in Attachment V of this Order implement the plans, policies, and provisions of the Regional Water Board's Basin Plan.

1. Trash Load Reduction.

a. Legal Authority. The following legal authorities apply to the trash load reduction requirements specified in Attachment V:

- Clean Water Act sections 402(p)(3)(B)(ii-iii), CWC section 13377, and Federal NPDES regulations 40 Code of Federal Regulations sections 122.26(d)(2)(i)(B, C, D, E, and F) and 40 Code of Federal Regulations section 122.26(d)(2)(iv).
- Federal NPDES regulations 40 Code of Federal Regulations section 122.26(d)(2)(iv)(B) requires, "shall be based on a description of a program, including a schedule, to detect and remove (or require the discharger to the municipal storm sewer to obtain a separate NPDES permit for) illicit discharges and improper disposal into the storm sewer."
- Federal NPDES regulation 40 Code of Federal Regulations section 122.26(d)(2)(iv)(B)(2) requires, "a description of procedures to conduct on-going field screening activities during the life of the permit, including areas or locations that will be evaluated by such field screens."
- Federal NPDES regulation 40 Code of Federal Regulations section 122.26(d)(2)(iv)(B)(3) requires, "a description of procedures to be followed to investigate portions of the separate storm sewer system that, based on the results of the field screen, or other appropriate information, indicate a reasonable potential of containing illicit discharges or other sources of non-storm water."
- Federal NPDES regulations 40 Code of Federal Regulations section 122.26(d)(2)(iv)(B)(4) requires, "a description of procedures to prevent, contain, and respond to spills that may discharge into the municipal separate storm sewer."
- San Francisco Bay Basin Plan, Chapter 4 – Implementation, Table 4-1 Prohibitions, Prohibition 7, which is consistent with the State Water Board's Enclosed Bays and Estuaries Policy, Resolution 95-84, prohibits the discharge of rubbish, refuse, bark, sawdust, or other solid wastes into surface waters or at any place where they would contact or where they would be eventually transported to surface waters, including flood plain areas. This prohibition was adopted by the Regional Water Board in the 1975 Basin Plan, primarily to protect recreational uses such as boating.

- b. Extent, Impacts, and Conclusions. Trash²⁵ and litter are a pervasive problem near and in creeks and in San Francisco Bay having major impacts on the environment, including aquatic life and habitat in those waters. Ubiquitous, unacceptable levels of trash in waters of the San Francisco Bay Region warrant a comprehensive and progressive program of education, warning, and enforcement, and certain areas warrant consideration of structural controls and treatment. Trash in urban waterways of coastal areas can become *marine debris*, known to harm fish and wildlife and cause adverse economic impacts.²⁶ It accumulates in streams, rivers, bays, and ocean beaches throughout the San Francisco Bay Region, particularly in urban areas.

Trash adversely affects numerous beneficial uses of waters, particularly recreation and aquatic habitat. Not all litter and debris delivered to streams are of equal concern with regard to water quality. Besides the obvious negative aesthetic effects, most of the harm of trash in surface waters is to wildlife in the form of entanglement or ingestion.^{27,28} Some elements of trash exhibit significant threats to human health, such as discarded medical waste, human or pet waste, and broken glass.²⁹ Also, some household and industrial wastes can contain toxic batteries, pesticide containers, and fluorescent light bulbs containing mercury. Large trash items such as discarded appliances can present physical barriers to natural stream flow, causing physical impacts such as bank erosion. From a management perspective, the persistent accumulation of trash in a waterbody is of particular concern, and signifies a priority for prevention of trash discharges. Also of concern are trash *hotspots* where illegal dumping, littering, and/or accumulation of trash occur.

The narrative water quality objectives applicable to trash are Floating Material (Waters shall not contain floating material, including solids, liquids, foams, and scum, in concentrations that cause nuisance or adversely affect beneficial uses), Settleable Material (Waters shall not contain substances in concentrations that result in the deposition of material that cause nuisance or adversely affect beneficial uses), and Suspended Material (Waters shall not contain suspended material in concentrations that cause nuisance or adversely affect beneficial uses).

²⁵ For the purposes of this provision, trash is defined to consist of litter and particles of litter. Man-made litter is defined in California Government Code section 68055.1 (g): *Litter* means all improperly discarded waste material, including, but not limited to, convenience food, beverage, and other product packages or containers constructed of steel, aluminum, glass, paper, plastic, and other natural and synthetic materials, thrown or deposited on the lands and waters of the state, but not including the properly discarded waste of the primary processing of agriculture, mining, logging, sawmilling, or manufacturing.

²⁶ Moore, S.L., and M.J. Allen. 2000. Distribution of anthropogenic and natural debris on the mainland shelf of the Southern California Bight. *Mar. Poll. Bull.* 40:83-88.

²⁷ Laist, D. W. and M. Liffmann. 2000. *Impacts of marine debris: research and management needs*. Issue papers of the International Marine Debris Conference, Aug. 6-11, 2000. Honolulu, HI, pp. 16–29.

²⁸ McCauley, S.J. and K.A. Bjorndahl. 1998. Conservation implications of dietary dilution from debris ingestion: sublethal effects in post-hatchling loggerhead sea turtles. *Conserv. Biol.* 13(4):925-929.

²⁹ Sheavly, S.B. 2004. *Marine Debris: an Overview of a Critical Issue for our Oceans*. 2004 International Coastal Cleanup Conference, San Juan, Puerto Rico. The Ocean Conservancy.

The Regional Water Board, at its February 11, 2009 hearing, adopted a resolution proposing that 26 waterbodies be added to the 303(d) list for trash. The adopted Resolution and supporting documents are contained in Attachment 10.1 – 303(d) Trash Resolution and Staff Report, February 2009.

Data collected by Regional Water Board staff using the SWAMP Rapid Trash Assessment (RTA) Protocol,³⁰ over the 2003–2005 period,³¹ suggest that the current approach to managing trash in waterbodies is not reducing the adverse impact on beneficial uses. The levels of trash in the waters of the San Francisco Bay Region are high, even with the Basin Plan prohibitions and potentially large fines. During dry weather conditions, a significant quantity of trash, particularly plastic, is making its way into storm drains and being transported downstream to San Francisco Bay and the Pacific Ocean. On the basis of 85 surveys conducted at 26 sites throughout the Bay Area, staff have found an average of 2.93 pieces of trash for every foot of stream, and all the trash was removed when it was surveyed, indicating high return rates of trash over the 2003–2005 study period.

A number of key conclusions can be made from the RTA study:

- Lower watershed sites have higher densities of trash.
 - All watersheds studied in the San Francisco Bay Region have high levels of trash.
 - There are trash source hotspots, usually associated with parks, schools, or poorly kept commercial facilities.
 - Dry season deposition of trash, associated with wind and dry season runoff, contributes measurable levels of trash to downstream locations.
 - The majority of trash is plastic at lower watershed sites where trash accumulates in the wet season. This suggests that urban runoff is a major source of floatable plastic found in the ocean and on beaches as marine debris.
 - Parks that have more evident management of trash by city staff and local volunteers, including cleanup within the creek channel, have measurably less trash and higher RTA scores.
- c. Trash Reduction measures shall demonstrate compliance through timely implementation of controls in all high trash generating areas for the prohibition of discharge of trash and include the following:
- Implementation of full capture systems, treatment controls, and/or enhanced maintenance controls for storm drains or catchment that service the significant trash generating areas.
 - Coordinate with neighboring MS4 permittees to construct, operate and maintain those controls listed above.

³⁰ SWAMP Rapid Trash Assessment Protocol, Version 8

³¹ SWAMP S.F. Bay Region Trash Report, January 23, 2007

- Assess for the effectiveness of enhanced maintenance controls implemented in high generating trash areas, as well as coordination with local municipalities.
 - Abate trash from construction and reconstruction projects.
 - Include trash capture devices on the outlets of treatment systems for new and redeveloped highway projects to achieve the full trash capture standard.
 - Report in each Annual Report, as part of the TMDL STATUS REVIEW REPORT a per District summary of trash reduction controls and their effectiveness.
- d. Costs of Trash Control. Costs for either enhanced trash management measure implementation or installation and maintenance of trash capture devices are significant, but when spread over several years, and when viewed on a per-capita basis, are reasonable. To meet Basin Plan and local MS4 requirements, trash capture devices have already been installed by other municipalities in the Bay Area.

Cost information on various trash capture devices is included in the Santa Clara Valley Urban Runoff Pollution Prevention Program (SCVURPPP) BMP Trash Toolbox (July 2007). The Toolbox contains cost information for both trash capture devices and enhanced trash management measure implementation, covers a broad range of options, and also discusses operation and maintenance costs.

2. Storm Water Pump Stations. In late 2005, Regional Water Board staff investigated an occurrence of low salinity and dissolved oxygen conditions in Old Alameda Creek (Alameda County) and Alviso Slough (Santa Clara County). In the case of Old Alameda Creek, discharge of black-colored water from the Alvarado pump station to the slough was observed at the time of the data collection on September 7, 2005, confirming dry weather urban runoff as the source of the violations of the five (5) mg/L dissolved oxygen water quality objective. Such conditions were measured again on September 21, 2005.

On October 17, 2005, waters in Alviso Slough were much less saline than the salt ponds and had the lowest documented dissolved oxygen of the summer, suggesting a dry weather urban runoff source. The dissolved oxygen sag was detected surface to bottom at 2.3 mg/L at a salinity of less than one part per thousand (ppt), mid-day, when oxygen levels should be high at the surface. The sloughs have a typical depth of six feet.

Board staff's investigations of these incidents, documented in a memorandum,³² found that "storm water pump stations, universally operated by automatic float triggers, have been confirmed as the cause in at least one instance, and may represent an overlooked source of controllable pollution to the San Francisco Bay Estuary and its tidal sloughs... [that] discharges of dry weather urban runoff from these pump stations are not being managed to protect water quality, and [that] surveillance monitoring has detected measurable negative water quality consequences of this current state of pump station management."

³² Internal Water Board Memo dated December 2, 2005: "Dry Weather Urban Weather Urban Runoff Causing or Contributing to Water Quality Violations: Low Dissolved Oxygen (DO) in Old Alameda Creek and Alviso Slough."

Pump station discharges of dry weather urban runoff can cause violations of water quality objectives. These discharges are controllable point sources of pollution that are virtually unregulated. The Regional Water Board has determined that the measures included in Attachment V are necessary to address these discharges and water quality problems.

Lahontan Region

1. The Lahontan Basin Plan encourages the infiltration of storm water runoff to treat pollutants in discharges and mitigate the effects of increased runoff to surface waters from the addition of impervious surfaces. The 20-year, one-hour design storm has been historically applied and accepted as an effective requirement to mitigate discharges of storm water to surface waters in the sensitive high mountain watersheds of the Lahontan Region. Water Board staff has estimated that facilities designed to treat or infiltrate the 20-year, one-hour storm event effectively capture approximately 85 percent of the average annual runoff volume in the Lake Tahoe Basin. However, it is recognized that the natural environment provides adequate infiltration and/or treatment in areas where there is little or no connectivity to surface waters. Therefore the Lahontan Water Board encourages the Department to focus implementation of storm water treatment facilities in those areas that discharge directly to surface waters to maximize water quality benefits. This requirement is applicable to existing highways and facilities in the Mammoth Lakes Area Hydrologic Unit.
2. The Natural Environment as Treatment (NEAT) study has helped identify the priority areas within the Lake Tahoe Hydrologic Unit where storm water treatment and control measure implementation has the most benefit for water quality protection. Similarly, the NEAT study has helped identify those areas where there may be limited water quality benefits associated with implementing structural treatment and control measures. The NEAT approach is also applicable in other areas. This provision is needed to focus available resources on the areas where the most water quality benefit can be achieved.
3. The October 15 to May 1 grading prohibition is necessary to reduce erosion and sedimentation from disturbed areas within the sensitive high elevation areas within the Lahontan Region. These are areas where snow fall restricts the ability to control storm water pollution through the winter months. This requirement mitigates winter erosion issues by requiring disturbed soil areas to be winterized prior to the onset of snow, and allows for exceptions where there is a compelling need.

Regional Water Board Authorities

Regional Water Boards and their staff will oversee implementation and compliance with this Order. As appropriate, they will review reports, conduct inspections, and take enforcement actions on violations of this Order.

Cost of Compliance and Other MEP Considerations

General Cost Considerations in Storm Water Regulation and Management

The Department will incur incremental costs in implementing this Order, such as the cost of complying with the Order's storm water treatment BMP, post-construction, hydromodification, Low Impact Development, and monitoring and reporting requirements. The Department will also incur additional costs in following the iterative process as required by the Order. The cost of complying with TMDL waste load allocations is not considered since TMDLs are not subject to the MEP standard.

In adopting Order WQ 2000-11, the State Water Board found that cost is a relevant factor, among others such as feasibility and public acceptance that should be considered in determining MEP. The State Water Board considered the costs in preparing this Order and has determined that the costs reflect the MEP standard. The State Water Board further found in adopting Order WQ 2000-11 that in considering the cost of compliance, it is also important to consider the costs of impairment; that is, the negative impact of pollution on the economy and the positive impact of improved water quality. So, while it is appropriate and necessary to consider the cost of compliance, it is also important to consider the larger economic impacts of implementation of the storm water management program.

Many studies have been undertaken to assess the cost of compliance with storm water permits. Most studies have focused on municipal programs as opposed to "linear MS4s" or Departments of Transportation. A study by the Los Angeles Regional Water Board reported wide variability in the cost of compliance among municipal permit holders which was not easily explained (LARWQCB, 2003).

In 1999, U.S. EPA reported on multiple studies it conducted to determine the cost of urban runoff management programs. A study of Phase II municipalities determined that the annual cost of the Phase II program was expected to be \$9.16 per household. U.S. EPA also studied 35 Phase I municipalities, finding costs to be similar to those anticipated for Phase II municipalities, at \$9.08 per household annually (U.S. EPA, 1999a).

A program cost study was also conducted by the Los Angeles Regional Water Board, where program costs reported in the municipalities' annual reports were assessed. The Water Board estimated the average per household cost to implement the MS4 program in Los Angeles County was \$12.50.

The State Water Board also commissioned a study by California State University, Sacramento to assess costs of the Phase I MS4 program. This study is current and includes an assessment of costs incurred by the City of Encinitas in implementing its program. Annual cost per household ranged from \$18-46, with the City of Encinitas representing the upper end of the range (SWRCB, 2005). The cost of the City of Encinitas' program is understandable, given the city's coastal location, reliance on tourism, and additional costs resulting from a consent decree with environmental groups regarding its program. For these reasons, as well as the general recognition the city receives for implementing a superior program, the city's program cost can be considered as the high end of the spectrum for municipal storm water management program costs.

The California Department of Finance (Finance, 2003) conducted a comprehensive review of the Department's storm water program. Finance noted widely divergent compliance cost estimates produced by regulators and environmental organizations versus consultant's estimates. Finance also had difficulty identifying compliance costs because of the way storm water activities are integrated with other functions and allocated among the different divisions within the Department, and because they are funded from different sources. Finance made three findings related to cost:

- The projected costs of compliance are escalating.
- Storm water compliance costs are integrated into many of the Department's business processes and are not accurately tracked.
- As storm water compliance costs increase, the amount of funding available for highway projects decreases, which reduces the number of projects that can be constructed.

The review concluded that balancing costs and benefits is a difficult policy decision and there should be a recognition of the trade-offs associated with resource allocation decisions given the Department's limited resources.

It is important to note that storm water program costs are not all attributable to compliance with MS4 permits. Many program components and their associated costs existed before any MS4 permits were issued. For example, for the Department, storm drain maintenance, street sweeping and trash/litter collection costs cannot be solely or even principally attributable to MS4 permit compliance since these practices have long been implemented before the MS4 permit was issued. Even many structural BMPs (erosion protection, energy dissipation devices, detention basins etc.) are standard engineering practice for many projects and are not implemented solely to comply with permit provisions. Therefore, the true cost resulting from MS4 permit requirements is some fraction of the cost to operate and maintain the highway system.

The California State University, Sacramento study found that only 38 percent of program costs are new costs fully attributable to MS4 permits. The remainder of program costs was either pre-existing or resulted from enhancement of pre-existing programs (SWRCB, 2005). The County of Orange found that even lesser amounts of program costs are solely attributable to MS4 permit compliance, reporting that the amount attributable to implement its Drainage Area Management Plan is less than 20 percent of the total budget. The remaining 80 percent is attributable to pre-existing programs (County of Orange, 2007). Any increase in cost to the Department by the requirements of this Order will be incremental in nature.

Storm water management programs cannot be considered solely in terms of their costs. The programs must also be viewed in terms of their value to the public. For example, household willingness to pay for improvements in fresh water quality for fishing and boating has been estimated by U.S. EPA to be \$158-210 per household (U.S. EPA, 1999a). This estimate can be considered conservative, since it does not include important considerations such as marine waters benefits, wildlife benefits, or flood control benefits. The California State University, Sacramento study corroborates U.S. EPA's estimates, reporting annual

household willingness to pay for statewide clean water to be \$180 (SWRCB, 2005). Though these costs may be assessed differently at the state level (for the Department) than at the municipal level, the results indicate that there is public support for storm water management programs and that costs incurred by the Department to implement its storm water management program remain reasonable.

It is also important to consider the cost of not implementing a storm water management program. Urban runoff in southern California has been found to cause illness in people bathing near storm drains (Haile et al., 1996). A study of south Huntington Beach and north Newport Beach found that an illness rate of about 0.8 percent among bathers at those beaches resulted in about \$3 million annually in health-related expenses (Lin, 2005). Extrapolation of such numbers to the beaches and other water contact recreation areas in the state would increase these numbers significantly.

Storm water runoff and its impact on receiving waters also impacts the tourism industry. The California Travel and Tourism Commission (2009) estimated that in 2008 direct travel spending in California was \$97.6 billion directly supporting 924,000 jobs, with earnings of \$30.6 billion. Travel spending in 2008 generated \$1.6 billion in local taxes and \$2.8 billion in state taxes. Impacts on tourism from storm water runoff (e.g. beach closures) can have a significant impact on the economy. The experience of Huntington Beach provides an example of the potential economic impact of poor water quality. Approximately eight miles of Huntington Beach were closed for two months in the middle of summer of 1999, impacting beach visitation and the local economy.

Cost Considerations Relative to the Department

In written comments and before the Board, the Department has stated that the requirements of the first public drafts would impose prohibitive costs on the Department at a time of economic difficulty and limited resources. State Water Board staff has carefully considered the Department's comments and revised the draft Tentative Order to continue to address critical water quality problems in consideration of the cost of compliance.

State Water Board staff completed a Draft Tentative Order and submitted it to the Department, U.S. EPA, and the Natural Resources Defense Council for informal stakeholder review in the fall of 2010. Further review was provided by the Regional Water Boards. Staff revised the Draft Tentative Order to address the informal comments received and released it for public review on January 7, 2011 (Draft Tentative Order). Approximately 330 comments from 16 commenters were received on the Draft Tentative Order, and a public hearing was held on July 19, 2011. Staff further revised the Draft Tentative Order and released a Revised Draft Tentative Order on August 18, 2011 (Revised Draft Tentative Order). Approximately 220 comments from 33 commenters were received on the Revised Draft Tentative Order, and a State Water Board workshop was held on September 21, 2011. In each set of comments and before the Board, the Department expressed significant concerns with the cost of compliance with the Tentative Orders.

On October 6, 2011, the California Senate Select Committee on California Job Creation and Retention held a hearing on the economic impacts of the State Water Board's three general or statewide storm water permits that were under renewal: the Phase II Small MS4 permit, the Industrial General Permit, and the Department's MS4 permit. The Executive Director of the State Water Board testified at the hearing that the comments regarding cost of compliance with the permits were being considered carefully and that the three permits required substantial revision to address the comments. State Water Board staff held bi-weekly meetings with the Department in October through December 2011 to discuss their concerns. Revisions resulting from these meetings are contained in the Second Revised Draft Tentative Order which was released for public review on April 27, 2012 (Second Revised Draft Tentative Order).

This section is a general discussion of the cost of compliance with the Second Revised Draft Tentative Order and of current expenditures by the Department to comply with the existing permit (Order 99-06-DWQ) (Existing Permit). It also discusses the more significant changes between the Revised Draft and Second Revised Draft Tentative Orders.

It is very difficult to precisely determine the true cost of implementation of the Department's storm water management program as affected by this Order. Due to the extensive, distributed nature of the Department's MS4, permit requirements that involve an unknown level of implementation or that depend on environmental variables that are as yet undefined, and the difficulty in isolating program costs attributable to permit compliance, only general conclusions can be drawn from this information.

The Department has made a number of estimates of the cost of complying with the Draft and Revised Draft Tentative Orders. Generally, the Department's estimates are based on worst-case scenarios or the most restrictive interpretation of the Tentative Orders. In a presentation to a meeting of the American Association of State Highway and Transportation Officials (AASHTO) on June 22, 2011,³³ the Department's Chief Environmental Engineer, Scott McGowen estimated the annual cost of compliance at \$281million. This estimate was based on the January 7, 2011 Draft Tentative Order. At the July 19, 2011 public hearing, the Department estimated the annual compliance cost at approximately \$450 million, based on the same January 7, 2011 Draft Tentative Order. At the September 21, 2011 State Water Board workshop, the Department estimated an annual compliance cost of \$904 million, based on the requirements of the August 18, 2011 Revised Draft Tentative Order. It should be noted that the August 18 draft removed or modified a number of provisions that were expected to reduce the cost of compliance.

Annual expenditures for the Department's storm water management program under the Existing Permit (DWQ 99-06) are provided in the Department's annual reports. For fiscal years 2007-08 through 2010-11, the Department reported annual personal services and

³³ Caltrans NPDES Tentative Order, Natural Systems and Ecological Communities Subcommittee at the National Planning and Environmental Practitioners Meeting. AASHTO, June 22, 2011.

operating expenses of \$93.8 million, \$93.6 million, \$75.2 million, and \$89.2 million. These figures do not include the cost of capital improvements needed to comply with the permit.

State Water Board staff estimated the capital expenditures for the Existing Permit in two ways. First, the Department provided the number of post-construction storm water treatment BMPs installed in 2009-10 and 2010-11 along with typical unit costs for each BMP. In 2007-08, the Department spent approximately \$74.7 million for 396 treatment BMPs, \$104.5 million in 2009-10 for 667 treatment BMPs, and \$75.7 million in 2010-11 for 506 treatment BMPs. The Department indicated that anomalies in the data for 2008-09 make them unreliable and they are therefore not included. The Department also indicated that the unit cost factors do not include costs for design, ROW and other related elements. The estimates therefore can be considered on the low side.

Second, capital expenditures were estimated from budget appropriations from the Department's State Highway Operation and Protection Program (SHOPP) as reported in the 2008-09 annual report. The SHOPP account is the primary source of funding for storm water-related capital expenses. Storm water compliance costs are not consistently reported in the annual reports; however, the 2008-09 annual report contains sufficient information to make an estimate. The capital value of the SHOPP "storm water mitigation element" for fiscal years 2009-10 through 2012-13 is \$640 million, including capital outlay support, or about \$160 million per year.

Using average personal services and operating expenses for the last four years (\$88 million) and average annual programmed SHOPP funding, the Department's expenditures to comply with the Existing Permit amount to approximately \$248 million.

As stated above, the Department has estimated cost of compliance with the Draft Tentative and Revised Draft Tentative Orders variously at \$281 to \$904 million. These estimates are based on "worst case scenarios" and on the most restrictive interpretations of the Orders' requirements. In preparing the Second Revised Tentative Order, staff worked to provide greater clarity and certainty to the Department on the scope of permit obligations and to eliminate compliance costs that were not expected to yield significant water quality benefits. With the exception of a lowering of the post-construction treatment threshold for non-highway facility projects from 10,000 square feet of new impervious surface to 5,000 square feet³⁴, no requirements have been added to the Second Revised Draft Tentative Order that would materially increase the cost of compliance over the Revised Draft Tentative Order. In contrast, a number of substantive requirements have been removed, replaced or modified from the Revised Draft Tentative Order with the goal of focusing the Department's limited resources on the most significant water quality issues. These changes are expected to result in a lower cost of compliance with the Second Revised Draft Tentative Order as compared to the Revised Tentative Order. These include:

³⁴ The threshold was lowered for consistency with the draft statewide Phase II Small MS4 General Permit and with regional MS4 permits.

1. Water quality monitoring program.
 - a. Replaced random compliance-driven monitoring approach with a tiered approach focusing on ASBS and TMDL watersheds, and deferring to the monitoring requirements specified in the ASBS Special Protections and TMDLs.
 - b. Deleted sampling pool, water quality action levels, and response process flow chart.
 - c. Removed 29 constituents from the monitoring constituent list.
 - d. Limited the monitoring for new constituents to TMDL watersheds.
 - e. For sites with existing monitoring data, limited BMP retrofits to 15 percent of the highest priority sites.
 - f. Deleted the long-term monitoring program.
 - g. Deleted maintenance facility compliance monitoring.
2. Project Planning and Design.
 - a. Raised the treatment threshold for highway projects from 5,000 square feet of new impervious surface to one acre.
 - b. Deleted the requirement for pilot Low Impact Development retrofits and effectiveness evaluations.
3. Hydromodification.
 - a. Removed requirement for programmatic stream stability assessments and a retrofit implementation schedule.
 - b. Raised the risk assessment threshold for non-highway facility projects from 10,000 square feet of new impervious surface to one acre.
4. Region Specific Requirements – removed, modified or scaled back requirements for the San Francisco Bay, Los Angeles, Central Valley, Lahontan, and San Diego Regional Water Boards with the goal of maximizing statewide consistency of requirements for the Department.
5. Construction Program – replaced requirement to inspect contractor operations outside the ROW with a requirement to include compliance language in its construction contracts.
6. TMDLs – Revised Attachment IV to more precisely identify the TMDLs applicable to the Department and shifted responsibility to prepare TMDL implementation plans from the Department to the Regional Water Boards.
7. ASBS – Added Attachment III to identify priority Department ASBS outfalls for installation of controls.
8. Maintenance Program.
 - a. Deleted the requirement to report the amount of waste and debris removed from drainage inlets.
 - b. Replaced the site-by-site characterization of waste management sites with a programmatic characterization.
 - c. Deleted the requirement to prepare and implement a storm drain system survey plan.

- d. Replaced quantitative measurements of trash and litter removal with estimated annual volumes.

9. Non-Storm Water.

- a. Deleted surveillance monitoring of agricultural return flows.
- b. Deleted characterization monitoring of slope lateral drains.

Though no firm conclusions or precise estimates can be drawn from this analysis, it is expected that the revisions to the Revised Draft Tentative Order will significantly reduce the cost of compliance.

ATTACHMENT I

Incident Report Form

Type of incident: <input type="checkbox"/> Field <input type="checkbox"/> Administrative	
Name of person completing this form: _____	Person's agency name and address: _____
	Person's phone and e-mail: _____

For Field incidents complete Sections 1 and 3. For Administrative incidents complete Section 2. See Non-Compliance Notification Schedule on Page 2.

SECTION 1: Field incidents

Date(s) and time(s) of incident:	1. Start date / time:
	2. End date / time:
Location of Incident: County: _____	3. Nearest city / town:
	4. Street address / nearest cross street:
	5. Latitude / Longitude:
	6. Additional location detail:
Materials involved in the incident: (use Comments Section below if necessary):	6. Name(s) of material(s) discharged:
	7. Approximate quantity discharged (specify units):
	8. Approximate concentration of material:
Discharge to surface water? <input type="checkbox"/> No <input type="checkbox"/> Yes If yes, answer questions 9-11	9. Name of waterbody:
	10. Apparent effects (if any) on waterbody:
	11. Estimated extent of impacts to waterbody:
Was CalEMA notified? <input type="checkbox"/> No <input type="checkbox"/> Yes If yes, answer questions 12-14	12. Date and time of notification:
	13. Name of person making the notification:
	14. Phone number of person making the notification:
Was the Regional Water Board (RWB) notified? <input type="checkbox"/> No <input type="checkbox"/> Yes If yes, answer questions 15-17	15. Name of RWB contact:
	16. RWB contact's phone / e-mail:
	17. Name of person making the notification:
Were downgradient communities / people notified? <input type="checkbox"/> No <input type="checkbox"/> Yes If yes, answer questions 18 - 20	18. Date and time of notification:
	19. Name of person making the notification:
	20. Phone number of person making the notification:
	21. Name of downgradient community/ person:

Field Non-Compliance (check all that apply)	
	Lack of BMP(s), ineffective implementation of BMP(s), or failure of BMP(s) resulted in a discharge of pollutants to surface water.
	Monitoring data indicates an exceedance of a defined standard. Defined standards include TMDL Waste Load Allocations, and water quality standards in the Water Quality Control Plans and promulgated policies and regulations of the State and Regional Water Boards, including California Ocean Plan limitations and prohibitions.
	Discharge of prohibited non-storm water.
	Failure to comply with Facility Pollution Prevention Plan (FPPP) requirements.
	Failure to comply with inspection, monitoring, and reporting requirements and protocols.
	Other (describe - use Comments Section below if needed):

SECTION 2: Administrative Non-Compliance (check all that apply)

	Failure to submit reports or documents required by the Permit and/or SWMP, failure of timely submittal, and/or failure to submit required information.
	Failure to develop and/or maintain a site-specific FPPP or to implement any other procedural requirement of the Permit.
	Other (describe - use Comments Section below if needed):

SECTION 3: Description of Incident

Activities in the area prior to the incident (If any):
Initial assessment of any impact caused by the discharge (If any):
Samples collected and analyses requested (If any):
Steps taken to mitigate damage and prevent reoccurrence (If any):
Current Status:
Schedule for proposed mitigation/abatement (If any):
Other Comments:

Non-Compliance Notification Schedule

Type of Incident	Within 5 Working Days (Verbal)	Within 10 Working Days (Written)	Within 30 Calendar Days (Written)	In Annual Report
Emergency Incidents ¹	—	—	—	Chronological summary and status of all incidents
Field ²	Notify RWB Executive Officer	To RWB Executive Officer and copies to Dept. HQ	—	Chronological summary and status of all incidents
Administrative ³	Notify RWB Executive Officer or SWB Contact ³	—	To RWB Executive Officer, SWB Executive Director, and copies to Dept. HQ.	Chronological summary and status of all incidents

¹ Sudden, unexpected, unpreventable incidents that threaten public health, public safety, property, or the environment that pose a clear and imminent danger requiring immediate action to prevent or mitigate the damage or threat, and that result in a discharge or potential discharge.

² Failure to meet any non-administrative requirement of the SWMP or Permit or to meet any applicable water quality standard. This includes failure to install required BMPs or conduct required monitoring or maintenance. It also includes discharges or prohibited non-storm water that do not meet the definition of emergency incidents. It does not include determinations by the Department or a Regional Water Board Executive Officer that a discharge is causing or contributing to an exceedance of an applicable WQS. See provision E.2.c.6)c).

³ Failure to meet any administrative or procedural requirement of the SWMP or Permit including submission of required reports, notifications and certifications. The report of non-compliance shall be submitted to the same organization (State or Regional Water Board) to which the required report was originally due.

<i>Certification – I certify that under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.</i>			
Signature of Contractor (if applicable)	Title	Telephone	Date:
Signature of Department Representative	Title	Telephone	Date:

ATTACHMENT II

Monitoring Constituent List

(Not Applicable to ASBS Discharges)

Constituent	Analytical Method	Reporting Limit ³⁵	Units
<i>WATER COLUMN CHEMISTRY</i>			
Conventional Pollutants			
Hardness as CaCO ₃	SM 2340 B or C	5	mg/L
pH	Calibrated Field Instrument		pH Units
Temperature	Calibrated Field Instrument		C +/-
Flow Rate	Calibrated Field Instrument		ft ³ /s
Total Dissolved Solids	EPA 160.1	1	mg/L
Total Suspended Solids	EPA 160.2	1	mg/L
Hydrocarbons			
Oil & Grease	EPA 1664B	1.4	mg/L
Polycyclic Aromatic Hydrocarbons (Total)	EPA 8310	0.05	µg/L
Nutrients			
Total Kjeldahl Nitrogen (TKN)	EPA 351.3	100	µg/L
Nitrate as Nitrogen (NO ₃ -N)	EPA 300.0	100	µg/L
Phosphorous (Total)	EPA 365.2	30	µg/L
Metals			
Aluminum (Total)	EPA 200.8	25	µg/L
Chromium (Total)	EPA 200.8	1	µg/L
Copper (Total)	EPA 200.8	1	µg/L
Iron (Total)	EPA 200.8	1	µg/L
Lead (Total)	EPA 200.8	1	µg/L
Zinc (Total)	EPA 200.8	5	µg/L
Microbiological			
Fecal Coliform	SM 9221 C E	2	MPN/100 mL
Enterococcus ³⁶	EPA 1600	2	CFU/100 mL
<i>WATER COLUMN TOXICITY</i>			
Chronic ³⁷	EPA 821-R-02-013	Pass/Fail	

³⁵ Reporting limits should be sufficient enough to detect the presence of a constituent based on the applicable Regional Water Board Basin Plan. If no limit is specified in the Basin Plan, the reporting limit specified in this table will be used. If no limit is specified in this table, then the Regional Boards shall be consulted.

³⁶ Only applicable for direct discharges to marine waters. See definition of direct discharges and indirect discharges in Attachment VIII (glossary).

³⁷ To calculate either a Pass or Fail of the effluent concentration chronic toxicity test at the IWC, the instructions in Appendix A in the National Pollutant Discharge Elimination System Test of Significant Toxicity Implementation Document (EPA/833-R-10-003) shall be used.

ATTACHMENT II

ASBS Monitoring

TABLE A
Monitoring Constituent List
(excerpted from California Ocean Plan dated 2009)

Constituent	Units
Grease and Oil	mg/L
Suspended Solids	mg/L
Settleable Solids	mL/L
Turbidity	NTU
PH	

TABLE B
Monitoring Constituent List
(excerpted from California Ocean Plan dated 2009)

Constituent	Units
Arsenic	µg/L
Cadmium	µg/L
Chromium	µg/L
Copper	µg/L
Lead	µg/L
Mercury	µg/L
Nickel	µg/L
Selenium	µg/L
Silver	µg/L
Zinc	µg/L
Cyanide	µg/L
Total Chlorine Residual	µg/L
Ammonia (as N)	µg/L
Acute Toxicity	TUa
Chronic Toxicity	TUc
Phenolic Compounds (non-chlorinated)	µg/L
Chlorinated Phenolics	µg/L
Endosulfan	µg/L
Endrin	µg/L
HCH	µg/L

Analytical Chemistry Methods: All constituents shall be analyzed using the lowest minimum detection limits comparable to the Ocean Plan water quality objectives. For metal analysis, all samples, including storm water effluent, reference samples, and ocean receiving water samples, shall be analyzed by the approved analytical method with the lowest minimum detection limits (currently Inductively Coupled Plasma/Mass Spectrometry) described in the Ocean Plan.

ATTACHMENT III

ASBS PRIORITY DISCHARGE LOCATIONS

Sample ID	Regional Board	ASBS Name	Longitude	Latitude
SAU020A	1	Saunders Reef	-123.65273	38.85916
SAU019A	1	Saunders Reef	-123.6528	38.86067
SAU016A	1	Saunders Reef	-123.65237	38.85849
SAU015	1	Saunders Reef	-123.65178	38.85612
SAU013A	1	Saunders Reef	-123.6514	38.85451
SAU014	1	Saunders Reef	-123.6517	38.8551
SAU011A	1	Saunders Reef	-123.64853	38.8527
SAU008	1	Saunders Reef	-123.6478	38.8521
SAU006A	1	Saunders Reef	-123.64777	38.85186
SAU009A	1	Saunders Reef	-123.64809	38.85254
RED023	1	Redwoods National Park	-124.1017	41.60527
RED027	1	Redwoods National Park	-124.10126	41.59657
RED028	1	Redwoods National Park	-124.10101	41.59729
RED018A	1	Redwoods National Park	-124.1061	41.613
RED015	1	Redwoods National Park	-124.11257	41.62928
RED014	1	Redwoods National Park	-124.11296	41.63059
RED017A	1	Redwoods National Park	-124.10571	41.61195
FIT012	2	James V. Fitzgerald	-122.516861	37.531406
ANO030	3	Ano Nuevo	-122.30121	37.11334
ANO033	3	Ano Nuevo	-122.29881	37.11202
ANO001	3	Ano Nuevo	-122.306364	37.121672
ANO002	3	Ano Nuevo	-122.30534	37.11987
ANO035	3	Ano Nuevo	-122.29297	37.10714
ALT004	4	Laguna Point to Latigo Point	-119.059097	34.08609
MUG005	4	Laguna Point to Latigo Point	-119.03821	34.083896
ALT005	4	Laguna Point to Latigo Point	-119.054291	34.085415
ALT006	4	Laguna Point to Latigo Point	-119.048653	34.085361
MUG008	4	Laguna Point to Latigo Point	-119.036389	34.083644
MUG010	4	Laguna Point to Latigo Point	-119.014826	34.070804
MUG013	4	Laguna Point to Latigo Point	-118.993551	34.065445
MUG016	4	Laguna Point to Latigo Point	-118.987069	34.062852
ALT008	4	Laguna Point to Latigo Point	-118.985931	34.062325

ATTACHMENT III

Sample ID	Regional Board	ASBS Name	Longitude	Latitude
MUG028	4	Laguna Point to Latigo Point	-118.974165	34.058928
ALT009	4	Laguna Point to Latigo Point	-118.975975	34.059978
MUG031	4	Laguna Point to Latigo Point	-118.968706	34.056265
MUG041	4	Laguna Point to Latigo Point	-118.964271	34.053461
MUG046	4	Laguna Point to Latigo Point	-118.960862	34.052112
MUG048	4	Laguna Point to Latigo Point	-118.9594833	34.05172
MUG049	4	Laguna Point to Latigo Point	-118.9594333	34.05165
MUG051	4	Laguna Point to Latigo Point	-118.957316	34.050937
ALT011	4	Laguna Point to Latigo Point	-118.939404	34.045355
MUG053	4	Laguna Point to Latigo Point	-118.95539	34.050248
MUG059	4	Laguna Point to Latigo Point	-118.9515	34.048835
MUG058	4	Laguna Point to Latigo Point	-118.95042	34.048355
ALT010	4	Laguna Point to Latigo Point	-118.948184	34.047873
MUG061	4	Laguna Point to Latigo Point	-118.94834	34.047675
MUG077	4	Laguna Point to Latigo Point	-118.9345833	34.04513
MUG078	4	Laguna Point to Latigo Point	-118.934358	34.045431
MUG070	4	Laguna Point to Latigo Point	-118.9320000	34.04600
MUG066	4	Laguna Point to Latigo Point	-118.924654	34.04714
MUG073	4	Laguna Point to Latigo Point	-118.922723	34.046418
MUG135	4	Laguna Point to Latigo Point	-118.897426	34.041983
MUG147	4	Laguna Point to Latigo Point	-118.894154	34.041553
MUG150	4	Laguna Point to Latigo Point	-118.889212	34.040872
MUG187	4	Laguna Point to Latigo Point	-118.869505	34.039285
SAD0950	4	Laguna Point to Latigo Point	-118.8385500	34.02699
SAD0960	4	Laguna Point to Latigo Point	-118.8375000	34.02619
SAD0970	4	Laguna Point to Latigo Point	-118.8364600	34.02535
SAD0980	4	Laguna Point to Latigo Point	-118.8348600	34.02435
MUG318	4	Laguna Point to Latigo Point	-118.834316	34.023879
SAD0990	4	Laguna Point to Latigo Point	-118.8326600	34.02302
SAD1000	4	Laguna Point to Latigo Point	-118.8303400	34.02123
MUG355	4	Laguna Point to Latigo Point	-118.829258	34.02122

ATTACHMENT III

Sample ID	Regional Board	ASBS Name	Longitude	Latitude
SAD1030	4	Laguna Point to Latigo Point	-118.827049	34.018711
SAD1040	4	Laguna Point to Latigo Point	-118.8256600	34.01748
SAD1050	4	Laguna Point to Latigo Point	-118.8249200	34.01700
SAD1060	4	Laguna Point to Latigo Point	-118.8225400	34.01559
ALT017	4	Laguna Point to Latigo Point	-118.777059	34.025805
MUG346	4	Laguna Point to Latigo Point	-118.783588	34.02508
MUG283	4	Laguna Point to Latigo Point	-118.765915	34.02589
IRV020	8	Irvine Coast	-117.840190	33.576001
IRV009	8	Irvine Coast	-117.830393	33.566251
IRV007	8	Irvine Coast	-117.828078	33.565343
IRV001	8	Irvine Coast	-117.81858	33.558
IRV002	8	Irvine Coast	-117.821484	33.560705
CAR007B	3	Carmel Bay	-121.923798	36.52499
CAR006	3	Carmel Bay	-121.92457	36.52469

ATTACHMENT IV

Total Maximum Daily Load Requirements

Attachment IV prescribes the implementation requirements for the Total Maximum Daily Loads (TMDLs) in which the Department of Transportation (Department) has been identified as a responsible party. The TMDLs in this attachment have been (1) adopted by the Regional Water Quality Control Boards (Regional Water Boards) and approved by the State Water Resources Control Board (State Water Board) and the Office of Administrative Law or the United States Environmental Protection Agency (U.S. EPA), or (2) established by U.S. EPA.

Section I of this attachment provides directions and general guidance on development of a prioritized list of reaches for implementation actions. Section II identifies the applicable TMDLs and implementation requirements. Section II also contains TMDL-specific permit requirements for the Lake Tahoe Sediment/Nutrients TMDL, Napa River Sediment TMDL, Sonoma Creek Sediment TMDL, and the Lake Elsinore and Canyon Lake Nutrients TMDL. Section III prescribes the general implementation requirements applicable to all TMDLs, and the specific requirements applicable to each pollutant category.

The TMDLs addressed in this attachment were developed by numerous parties over many years, and vary widely in their implementation requirements. As explained in further detail in the Fact Sheet for this Order, Attachment IV establishes consistent implementation requirements among the TMDLs by separating them into one of eight categories by pollutant type, based upon the common treatment and control actions associated with each pollutant type. Each impaired waterbody will be prioritized for implementation by reach, with a fixed number of “compliance units” that must be achieved each year so that all TMDLs are addressed in 20 years. Effectiveness monitoring of the treatment and control actions is required to inform an adaptive management process.

The following eight TMDL pollutant categories have been established for TMDL implementation³⁸:

1. Sediment/Nutrients/Mercury/Siltation/Turbidity
2. Metals/Toxics/Pesticides
3. Trash
4. Bacteria
5. Diazinon
6. Selenium
7. Temperature
8. Chloride

The Department shall comply with the requirements of Attachment IV. These requirements are directly enforceable through Order 2012-0011-DWQ (Order).

³⁸ Some TMDLs containing multiple pollutants have been separated according to the categories that best address the individual pollutants.

ATTACHMENT IV

Section I. TMDL Prioritization and Implementation

A. Reach Prioritization for Pollutant Categories

The Department shall prioritize all TMDLs for implementation of source control measures and best management practices (BMPs). Prioritization shall be consistent with the final TMDL deadlines to the extent feasible. Prioritization shall be conducted separately for each pollutant category and shall be based on an evaluation of each reach of applicable receiving waters within the watershed with a TMDL. The Department shall conduct the prioritization using the following five steps:

1. Complete an inventory of reaches. If reaches are defined in a TMDL, the Department may use that delineation for developing the inventory. If no reaches are specified in the TMDL, the Department shall delineate the receiving water into reaches.
2. Segregate the inventory of reaches according to the pollutant categories listed below in Section III, B through I (Categorical Inventories of Reaches). Individual reaches may be present in multiple pollutant categories.
3. Rank the reaches in each TMDL category in accordance with a procedure similar to that presented in Table IV.1. below.
4. Submit the prioritized Categorical Inventories of Reaches to the State Water Board **by October 1, 2014**, for Regional Water Board and State Water Board consideration. The State Water Board will provide public notice of the submission and the submission will be subject to a 30-day public comment period.
5. The Department shall collaborate with the State Water Board and Regional Water Boards on a final prioritization for each of the Categorical Inventories of Reaches. Factors that may be considered in the final prioritization will include, but not be limited to:
 - a. Opportunities for synergistic benefits with existing or anticipated projects or activities within the reach, e.g., cooperative efforts with other dischargers or projects within an ASBS,
 - b. Multiple TMDLs that can be addressed by a single BMP or a suite of BMPs within a reach,
 - c. TMDL deadlines specified in a Basin Plan,
 - d. Regional Water Board and State Water Board priorities,
 - e. Accessibility for construction and/or maintenance (e.g., safety considerations), and
 - f. Multi-benefit projects that provide benefits in addition to water quality improvement, such as groundwater recharge or habitat enhancement.

ATTACHMENT IV

B. Implementation

Following completion of the process described in Section I.A, the State Water Board Executive Director will approve, with any changes, the final prioritized Categorical Inventories of Reaches. The Department shall then select and begin implementation actions, as specified in Sections II and III, within the highest priority reaches to achieve at least the minimum number of compliance units as described below.

1. The Department shall include the following information regarding implementation of control measures in the selected reaches for the upcoming reporting period in the **TMDL STATUS REVIEW REPORT**, as required in Section E.4.b. of the Order:
 - a. Name of the waterbody,
 - b. Associated TMDL(s),
 - c. Proposed control measures,
 - d. Proposed number of compliance units per control measure, and
 - e. Projected schedule for installation of control measures with anticipated beginning and ending dates.

2. The Department shall also include in the **TMDL STATUS REVIEW REPORT**³⁹ a discussion of previous years' activities including:
 - a. The status of implementation activities,
 - b. The location of the control measures,
 - c. The size and type of BMPs that were installed,
 - d. The effectiveness of the BMPs installed, including any pertinent monitoring data (e.g., influent vs. effluent data),
 - e. A summary update of any cooperative implementation agreements (see Attachment IV, section II.B.1), including those that are solely for each TMDL,
 - f. A summary update of activities and/or actions that have been completed for any cooperative implementation agreement for each TMDL,
 - g. A summary update of projects initiated under the cooperative implementation grant program (see Attachment IV, section II.B.2),
 - h. A summary update of activities and/or actions that have been completed for any projects under the cooperative implementation grant program,
 - i. A summary of institutional control measures implemented to comply with Attachment IV,
 - j. A summary of TMDLs adopted during the past year where the Department is assigned a WLA or the Department is identified as a responsible party in the implementation plan,
 - k. A discussion, supported by data and analysis, of whether the Department considers work in the reach complete because it has met WLAs and other TMDL performance criteria, and

³⁹ Per section III.A.3.a of this attachment, by January 1, 2015, the Department shall submit the required information regarding planned implementation of control measures for the first upcoming reporting period (after permit amendment per Order WQ 2014-0077-DWQ) of January 1, 2015 – October 1, 2015.

ATTACHMENT IV

- I. Any other information requested by the State Water Board Executive Director or designee.

Control measures and implementation schedules proposed for the upcoming year are subject to the approval of the Executive Director of the State Water Board or designee.

3. Each year the Department shall select and begin implementation activities within the highest priority reaches to achieve a minimum of 1650 compliance units. A compliance unit is defined as one acre of the Department's Right-of-Way (ROW) from which the runoff is retained, treated, and/or otherwise controlled prior to discharge to the relevant reach. Compliance units may be credited to the Department for the following actions:
 - stand-alone BMP retrofits,
 - cooperative implementation,
 - monitoring program-related retrofits,
 - post-construction treatment beyond permit requirements, and
 - other pollution reduction practices necessary to comply with the TMDL.

Compliance units, unless specifically stated below, are credited only when the Department begins implementation of an action listed above.⁴⁰ Once compliance units have been credited for a site, the Department may not receive credit for additional compliance units at that location for additional activities or corrective measures needed to bring the site into compliance. See Section III.A.2. Credit may be received, however, for new activities within the same reach that do not treat the runoff from a site that has already received treatment.

4. The Department may receive credit for compliance units by contributing funds to Cooperative Implementation Agreements and/or the Cooperative Implementation Grant Program (see Section II.B. below). The Department may receive credit for one compliance unit for each \$88,000 that it contributes. For Cooperative Implementation Agreements, the credit will be received when the Department transfers the funds to a responsible party. For the Cooperative Implementation Grant Program, the credit will be received when the Department transfers the funds to the State Water Board.
5. No credit will be given to post-construction BMPs that only meet the minimum requirements of this Order (Section E.2.d.2)a)). Other projects within a TMDL watershed where treatment is provided above and beyond the post-construction requirements in this Order, may receive compliance units according to the following formula:

⁴⁰ For purposes of Section I.B of this attachment, implementation means that a project has entered the Project Initiation Document (PID) phase, the process used by the Department to explain the scope, funding commitment, and approval of a transportation project (<http://www.dot.ca.gov/hq/oppd/pdpm/other/PDPM-Chapters.pdf>).

ATTACHMENT IV

$$[(V_t - V_o) / p_{85}] * 12 = \text{acres treated (compliance units calculated to the nearest 0.1)}$$

Where, V_t = Planned volume of runoff to be treated (acre-ft.),

V_o = Volume of runoff from 85th percentile, 24-hour storm event (acre-ft.),

p_{85} = depth of the 85th percentile, 24-hour storm event (inches).

Table IV.1 – Reach Prioritization Scoring Matrix

The rating factors in this table are intended as guidance. Each pollutant category will be ranked separately.

Rating Factor	Criteria		
	<u>High</u>	<u>Medium</u>	<u>Low</u>
Impairment Status: Percent reduction needed	Over 75%	25% - 75%	Below 25%
Department's Drainage Area Contributing to the Reach	Over 5% of drainage area	Between 1% and 5% of drainage area	Less than 1% of drainage area
Proximity to Receiving Waters	Over 75% of ROW within 0.25 miles of reach	Between 25% and 75% of ROW within 0.25 miles of reach	Less than 25% of ROW within 0.25 miles of reach
Community Environmental Health Impact	Top 3 categories	Middle 4 categories	Lower 3 categories

Impairment Status

The degree of impairment of the waterbody, measured by the percent pollution reduction needed to achieve the WLA. Reaches with higher degrees of impairment will be given higher priority. Consider all sources of impairment when making this determination.

Department's Contributing Drainage Area

The contributing drainage area from the Department's ROW is relative to the watershed draining to the reach.

Proximity to Receiving Waters

This rating factor measures the relative proximity of the Department's ROW to the reach of the water that receives runoff from the Department's ROW. Sites discharging through conveyances within 0.25 miles of the pertinent reach are considered to have greater potential to contribute pollutants and receive a higher rating.

Community Environmental Health Impact

This rating factor requires use of the California Office of Health Hazard Assessment (OEHHA) evaluation tool "Enviroscreen" which can be found at <http://oehha.ca.gov/ej/ces11.html>. This tool should be used to assess environmental justice issues. Outcomes are segregated into 10 categories ranging from low to high environmental justice scores. Higher scores indicate that there is a higher potential for environmental justice issues to be present at a site.

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Section II. Applicable TMDLs and Implementation Requirements

A. For each reach for which the Department has committed to begin implementation actions in accordance with Section I of this attachment, the Department shall do one of the following:

1. Implement the requirements in Table IV.2 applicable to that reach ensuring that all BMPs installed meet the minimum requirements specified in the following permit sections:
 - E.2.d.1) (Design Pollution Prevention Best Management Practices),
 - E.2.d.2)b) (Numeric Sizing Criteria for Storm Water Treatment Control BMPs),
 - E.2.e.1) (BMP Development and Implementation, Vector Control),
 - E.2.e.2) (BMP Development and Implementation , Storm Water Treatment BMPs),
 - E.2.e.3) (BMP Development and Implementation, Wildlife), and
 - E.2.e.4) (BMP Development and Implementation, Biodegradable Materials) of this Order.

In addition, the Department shall ensure that all BMPs installed do not cause a decrease in lateral (bank) or vertical (channel bed) stability in receiving stream channels.

2. Demonstrate that it has entered into or intends to enter into a Cooperative Implementation Agreement with other parties having responsibility for the TMDL, as specified below under Cooperative Implementation Agreements.

3. Identify cooperative implementation grants that have been awarded to other parties having responsibility for the TMDL, as specified below under Cooperative Implementation Grant Program.

B. Cooperative Implementation

1. Cooperative Implementation Agreements

- a. The Department is encouraged to establish agreements for cooperative implementation efforts, such as joint implementation actions and/or special implementation studies with other parties that have responsibility for the TMDL, except where precluded by a TMDL or where specific implementation requirements are prescribed in Table IV.2. Cooperative agreements that only involve monitoring are not eligible for compliance units.
- b. Where the Department has existing cooperative implementation agreements with other responsible parties, it shall fulfill the commitments and requirements of those agreements.
- c. Where the Department has not yet committed to cooperative implementation efforts, but intends to do so, the Department must provide written notification,

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including the anticipated date of commitment, to the State Water Board in its ***TMDL STATUS REVIEW REPORT***.

- d. Cooperative agreements relative to the TMDL implementation activity are subject to approval by the applicable Regional Water Board Executive Officer. Cooperative agreements shall describe the terms of the mutually agreed activities to be performed, and at a minimum shall include:
 - i. The date the cooperative agreement was approved by the Regional Water Board,
 - ii. A map showing the location of work to be performed in the reach,
 - iii. Any monitoring program parameters and responsibilities,
 - iv. Any implementation responsibilities, including BMP Operation and Maintenance,
 - v. Any funding commitments that correspond with the implementation responsibilities, and
 - vi. A termination clause upon failure to comply with the terms and conditions of the agreement, as applicable.
- e. The Department shall submit sufficient information to document the progress in achieving the requirements of the TMDL for each cooperative implementation agreement in its annual ***TMDL STATUS REVIEW REPORT***. (See Section I.B.2.)
- f. If the Department is not participating or has not given notice of its intent to participate in cooperative implementation efforts, or the Department is not fulfilling its cooperative implementation responsibilities under an agreement, it shall immediately comply with applicable TMDL Control Requirements listed in Table IV-2 below and report the corresponding status in the ***TMDL STATUS REVIEW REPORT***.

2. Cooperative Implementation Grant Program

- a. The Department may establish a cooperative implementation grant program to be administered by the State Water Board for TMDL watersheds.
- b. If the Department elects to establish a grant program, the Department and State Water Board will prepare an agreement specifying the terms of the grant program and the commitments and responsibilities of the parties. The Department will be responsible for paying the State Water Boards' cost of administering the grant program.
- c. Cooperative implementation grants will be used to fund capital projects undertaken by other responsible parties in impaired watersheds in which the Department has been assigned a WLA or otherwise has responsibility for implementation of the TMDL. Cooperative implementation grant applications that are consistent with the final prioritized Categorical Inventories of Reaches

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(Section I.A.5) will be given a higher priority for funding. Cooperative implementation grants will not be awarded for projects that only involve monitoring, where precluded by a TMDL, or where specific implementation requirements are prescribed in Table IV.2.

C. Consideration for Factors Affecting Implementation

Implementation may require environmental approvals and permitting from local, State, and/or federal resource agencies (e.g., California Coastal Commission, California Department of Fish and Wildlife, U.S. Army Corps of Engineers, local Flood Control agencies, local County, etc.). Other factors such as safety concerns and technical infeasibility may affect project implementation. Delays or cancellations due to environmental or permitting factors beyond the Department's control must be reported in its annual ***TMDL STATUS REVIEW REPORT***.

The State Water Board will revoke compliance units for projects not completed within the implementation schedule approved under Section I.B.1 of this attachment, unless the delay in the implementation schedule is additionally approved by the Executive Director. Partial credit may be allowed if a portion of the project is completed and functioning.

The State Water Board will revoke compliance units for unrecovered grant funds for projects that are not completed under Section II.B.2 of this attachment. Partial credit may be allowed if a portion of the project is completed and functioning. If the grant program is discontinued, any unexpended funds will be returned to the Department and the corresponding compliance units will be revoked.

Compliance units revoked shall be added to the total number of the required compliance units in following years. For example, if a project which claimed 20 compliance units is cancelled, 1670 compliance units (1650 + 20) are required to be implemented in the following year. If the grant program is discontinued, additional time may be allowed for the Department to implement the corresponding compliance units.

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Table IV.2. TMDL Summary Table and Control Requirements

Impaired Waterbody	Pollutant(s)	Approved or U.S. EPA Established TMDLs Effective Date Basin Plan Amendment Resolution No.	Implementation Requirements
R1 - North Coast Regional Water Board			
Albion River	Sediment	<i>U.S. EPA Established TMDL</i> Effective Date: December 2001 BPA: N/A Resolution: N/A	Implement Section III.A. and Section III.B.
Big River	Sediment	<i>U.S. EPA Established TMDL</i> Effective Date: December 2001 BPA: N/A Resolution: N/A	Implement Section III.A. and Section III.B.
Lower Eel River	Temperature and Sediment	<i>U.S. EPA Established TMDL</i> Effective Date: December 18, 2007 BPA: N/A Resolution: N/A	Implement Section III.A., Section III.B., and Section III.H.
Middle Fork Eel River	Temperature and Sediment	<i>U.S. EPA Established TMDL</i> Effective Date: December 2003 BPA: N/A Resolution: N/A	Implement Section III.A., Section III.B., and Section III.H.
South Fork Eel River	Sediment and Temperature	<i>U.S. EPA Established TMDL</i> Effective Date: December 16, 1999 BPA: N/A Resolution: N/A	Implement Section III.A., Section III.B., and Section III.H.
Upper Main Eel River and Tributaries (including Tomki Creek, Outlet Creek and Lake Pillsbury)	Temperature and Sediment	<i>U.S. EPA Established TMDL</i> Effective Date: December 29, 2004 BPA: N/A Resolution: N/A	Implement Section III.A., Section III.B., and Section III.H.
Garcia River	Sediment	Effective Date: March 16, 1998 BPA: 4-37.00 Action Plan for the Garcia River Watershed Resolution:	Implement Section III.A. and Section III.B.
Gualala River	Sediment	<i>U.S. EPA Established TMDL</i> Effective Date: November 29, 2004 BPA: N/A Resolution: N/A	Implement Section III.A. and Section III.B.

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Impaired Waterbody	Pollutant(s)	Approved or U.S. EPA Established TMDLs Effective Date Basin Plan Amendment Resolution No.	Implementation Requirements
Klamath River in California	Temperature, Dissolved Oxygen, Nutrients, and Microcystin	Effective Date: December 28, 2010 BPA: Action Plan for Klamath River TMDLs Resolution: R1-2010-0026	Implement, Section III.A., Section III.B., Section III.H. In addition, the Department shall refer to the Section E.2.d.4) of this Order for locating, assessing, and remediating barriers to fish passage.
Lost River	Nitrogen, Biochemical Oxygen Demand to address Dissolved Oxygen and pH Impairments	Effective Date: December 30, 2008 BPA: Action Plan for Lost River TMDL Resolution: R1-2010-0026	Implement Section III.A. and Section III.B.
Mad River	Sediment and Turbidity	U.S. EPA Established TMDL Effective Date: December 21, 2007 BPA: N/A Resolution: N/A	Implement Section III.A. and Section III.B.
Navarro River	Sediment and Temperature	U.S. EPA Established TMDL Effective Date: December 27, 2000 BPA: N/A Resolution: N/A	Implement Section III.A., Section III.B., and Section III.H.
Noyo River	Sediment	U.S. EPA Established TMDL Effective Date: December 16, 1999 BPA: N/A Resolution: N/A	Implement Section III.A. and Section III.B.
Redwood Creek	Sediment	U.S. EPA Established TMDL Effective Date: December 30, 1998 BPA: N/A Resolution: N/A	Implement Section III.A. and Section III.B.
Scott River	Sediment and Temperature	Effective Date: August 11, 2006 BPA: Action Plan for Scott River. Resolutions: R1-2005-0113 & R-2010-0026	Implement Section III.A., Section III.B., and Section III.H.

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Impaired Waterbody	Pollutant(s)	Approved or U.S. EPA Established TMDLs Effective Date Basin Plan Amendment Resolution No.	Implementation Requirements
Shasta River	Dissolved Oxygen and Temperature	Effective Date: January 26, 2007 BPA: Action Plan for the Shasta River Watershed Resolution: R1-2006-0052	Implement Section III.A., Section III.B., and Section III.H.
Ten Mile River	Sediment	U.S. EPA Established TMDL Effective Date: December 2000 BPA: N/A Resolution: N/A	Implement Section III.A. and Section III.B.
Trinity River	Sediment	U.S. EPA Established TMDL Effective Date: December 20, 2001 BPA: N/A Resolution: N/A	Implement Section III.A. and Section III.B.
South Fork Trinity River and Hayfork Creek	Sediment	U.S. EPA Established TMDL Effective Date: December 1998 BPA: N/A Resolution: N/A	Implement Section III.A. and Section III.B.
Van Duzen River and Yager Creek	Sediment	U.S. EPA Established TMDL Effective Date: December 16, 1999 BPA: N/A Resolution: N/A	Implement Section III.A. and Section III.B.
R2 - San Francisco Bay Regional Water Board			
Napa River	Sediment	Effective Date: January 20, 2011 BPA: Chapter 7, Water Quality Attainment Strategies including TMDLs Resolution: R2-2009-0064	Implement Section III.A., Section III.B., and the following: <ul style="list-style-type: none"> • Conduct a survey of stream crossings associated with Department roadways, and develop a prioritized implementation plan and schedule for repair and/or replacement of high priority crossings/culverts. • Submit plan and schedule for conducting stream crossings surveys with

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Impaired Waterbody	Pollutant(s)	Approved or U.S. EPA Established TMDLs Effective Date Basin Plan Amendment Resolution No.	Implementation Requirements
			<p>TMDL STATUS REVIEW REPORT in accordance with Section I.B. above.</p> <ul style="list-style-type: none"> • Submit implementation plan and schedule for repair and/or replacement of high priority crossings/culverts with TMDL STATUS REVIEW REPORT in accordance with Section I.B. above.
Richardson Bay	Pathogens	Effective Date: December 18, 2009 BPA: Pathogens in Richardson Bay Resolution: R2-2008-0061	Implement Section III.A. and Section III.E.
San Francisco Bay	PCBs	Effective Date: March 29, 2010 BPA: Exhibit A & TMDL & Implementation Plan for PCBs Resolution: R1-2008-0012	Implement Section III.A. and Section III.C.
San Francisco Bay	Mercury	Effective Date: February 12, 2008 BPA : Chapter 7, SF Bay Mercury TMDL Resolution: R2-2006-0052	Implement Section III.A, Section III.B., and the following: The Department shall work out an equitable mercury WLA scheme in consultation with the San Francisco Bay Area Urban Runoff Management Agencies.
San Pedro and Pacifica State Beach	Bacteria	Effective Date: August 1, 2013 BPA – Chapter 3, Section 3.3.1 Bacteria Resolution: R2-2012-0089	Implement Section III.A. and Section III.E.

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Impaired Waterbody	Pollutant(s)	Approved or U.S. EPA Established TMDLs Effective Date Basin Plan Amendment Resolution No.	Implementation Requirements
Sonoma Creek	Sediment	Effective Date: September 8, 2010 BPA: Exhibit A & Implementation Plan Resolution: R2-2008-0103	Implement Section III.A., Section III.B, and the following: <ul style="list-style-type: none"> • Conduct a survey of stream crossings associated with Department roadways, and develop a prioritized implementation plan and schedule for repair and/or replacement of high priority crossings/culverts. • Submit plan and schedule for conducting stream crossings surveys with TMDL STATUS REVIEW REPORT in accordance with Section I.B. above. • Submit implementation plan and schedule for repair and/or replacement of high priority crossings/culverts with TMDL STATUS REVIEW REPORT in accordance with Section I.B. above.
San Francisco Bay Urban Creeks	Diazinon & Pesticide-Related Toxicity	Effective Date: May 16, 2007 BPA: Chapter 3, Toxicity Resolution: R2-2005-0063	Implement Section III.A., Section III.C., and Section III.F.

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Impaired Waterbody	Pollutant(s)	Approved or U.S. EPA Established TMDLs Effective Date Basin Plan Amendment Resolution No.	Implementation Requirements
R3 - Central Coast Regional Water Board			
San Lorenzo River (includes Carbonera Lompico, and Shingle Mill Creeks)	Sediment	Effective Date: February 19, 2004 BPA: Attachment to R3-2002-0063 Resolution: R3-2002-0063	Implement Section III.A. and Section III.B.
Morro Bay (includes Chorro Creek, Los Osos Creek, and the Morro Bay Estuary)	Sediment	Effective Date: January 20, 2004 BPA: Attachment A to R3-2002-0051 Resolution: R3-2003-0051	Implement Section III.A. and Section III.B.
R4 - Los Angeles Regional Water Board			
Ballona Creek	Metals (Ag, Cd, Cu, Pb, & Zn) and Selenium	Effective Date: December 22, 2005 and reaffirmed on October 29, 2008 BPA: Attachment A, Chapter 7-12 Resolution: R2007-015	Implement Section III.A., Section III.C., and Section III.G.
Ballona Creek	Trash	Effective Date: August 1, 2002 & February 8, 2005 BPA: Attachment A, Chapter 7-3. Resolution: 2004-0023	Implement Section III.A. and Waste Load Allocation requirements and schedule as set forth in the Ballona Creek Trash TMDL.
Ballona Creek Estuary	Toxic Pollutants (Ag, Cd, Cu, Pb, Zn, Chlordane, DDTs, Total PCBs, & Total PAHs)	Effective Date: December 22, 2005 BPA: Attachment A, Chapter 7-14 Resolution: R4-2005-008	Implement Section III.A. and Section III.C.
Ballona Creek, Ballona Estuary, and Sepulveda Channel	Bacteria	Effective Date: March 26, 2007 and November 18, 2013 BPA: Attachment A, Chapter 7-21 Resolution: R4-2006-011	Implement Section III.A. and Section III.E.

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Impaired Waterbody	Pollutant(s)	Approved or U.S. EPA Established TMDLs Effective Date Basin Plan Amendment Resolution No.	Implementation Requirements
Ballona Creek Wetlands	Sediment and Invasive Exotic Vegetation	<i>U.S. EPA Established</i> Effective Date: March 26, 2012 BPA: N/A Resolution: N/A	Implement Section III.A. and Section III.B.
Calleguas Creeks, its Tributaries and Mugu Lagoon	Metals and Selenium	Effective Date: March 26, 2007 BPA: Attachment A, Chapter 7-19 Resolution: R4-2006-012	Implement Section III.A., Section III.C., and Section III.G.
Calleguas Creeks its Tributaries and Mugu Lagoon	Organochlorine Pesticides, Polychlorinated Biphenyls, and Siltation	Effective Date: March 14, 2006 BPA: Attachment A, Chapter 7-17 Resolution: R4-2005-010	Implement Section III.A., Section III.B, and Section III.C.
Colorado Lagoon	Organochlorine Pesticides, PCBs, Sediment Toxicity, PAHs, and Metals (Pb & Zn)	Effective Date: June 14, 2011 BPA: Attachment K, Chapter 7-38 Resolution: R09-005	Implement Section III.A. and Section III.C.
Dominguez Channel & Greater Los Angeles & Long Beach Harbor Waters	Toxic Pollutants: Metals (Cu, Pb, Zn), DDT, PAHs, and PCBs	Effective Date: March 23, 2012 BPA: Attachment A, Chapter 7-40 Resolution: R11-008	Implement Section III.A. and Section III.C.
Legg Lake	Trash	Effective Date: February 27, 2008 BPA: Attachment A, Chapter 7-27 Resolution: R4-2007-10	Implement Section III.A. and Section III.D.
Long Beach City Beaches and Los Angeles River Estuary	Indicator Bacteria	<i>U.S. EPA Established</i> Effective Date: March 26, 2012 BPA: N/A Resolution: N/A	Implement Section III.A., and Section III.E.
Los Angeles Area (Echo Park Lake)	Nitrogen, Phosphorus, Chlordane, Dieldrin, PCBs, & Trash	<i>U.S. EPA Established</i> Effective Date: March 26, 2012 BPA: N/A Resolution: N/A	Implement Section III.A., Section III.B., Section III.C., and Section III.D.

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Impaired Waterbody	Pollutant(s)	Approved or U.S. EPA Established TMDLs Effective Date Basin Plan Amendment Resolution No.	Implementation Requirements
Los Angeles Area (Lake Sherwood)	Mercury	<i>U.S. EPA Established</i> Effective Date: March 26, 2012 BPA: N/A Resolution: N/A	Implement Section III.A. and Section III.B.
Los Angeles Area (North, Center, & Legg Lakes)	Nitrogen & Phosphorus	<i>U.S. EPA Established</i> Effective Date: March 26, 2012 BPA: N/A Resolution: N/A	Implement Section III.A. and Section III.B.
Los Angeles Area (Peck Road Park Lake)	Nitrogen, Phosphorus, Chlordane, DDT, Dieldrin, PCBs, and Trash	<i>U.S. EPA Established</i> Effective Date: March 26, 2012 BPA: N/A Resolution: N/A	Implement Section III.A., Section III.B., Section III.C, and Section III.D.
Los Angeles Area (Puddingstone Reservoir)	Nitrogen, Phosphorus, Chlordane, DDT, PCBs, Hg, and Dieldrin	<i>U.S. EPA Established</i> Effective Date: March 26, 2012 BPA: N/A Resolution: N/A	Implement Section III.A., Section III.B., and Section III.C.
Los Angeles River and Tributaries	Metals	Effective Date: December 22, 2005, October 29, 2008, & Reopened and Modified on November 3, 2011 BPA: Attachment A, Chapter 7-13 to 7-13 and Attachment B Resolution: R2007-014 & R10-003	Implement Section III.A. and Section III.C.
Los Angeles River	Trash	Effective Date: December 24, 2008 BPA: Attachment A, Chapter 7-2 Resolution: R4-2007-012	Implement Section III.A. and Waste Load Allocation requirements and schedule as set forth in the Los Angeles River Watershed Trash TMDL.
Los Angeles River Watershed	Bacteria	Effective Date: March 23, 2012 BPA: Attachment A, Chapter 7-39 Resolution: R10- 007	Implement Section III.A and Section III.E.

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Impaired Waterbody	Pollutant(s)	Approved or U.S. EPA Established TMDLs Effective Date Basin Plan Amendment Resolution No.	Implementation Requirements
Los Cerritos	Metals	<i>U.S. EPA Established</i> Effective Date: March 17, 2010 BPA: N/A Resolution: N/A	Implement Section III.A. and Section III.C.
Machado Lake	Eutrophic, Algae, Ammonia, and Odors (Nutrients)	Effective Date: March 11, 2009 BPA: Attachment A, to R09-006 Resolution: R08-006	Implement Section III.A. and Section III.B.
Machado Lake	Pesticides and PCBs	Effective Date: March 20, 2012 BPA: Attachment A, Chapter 7-38 Resolution: R10- 008	Implement Section III.A. and Section III.C.
Machado Lake	Trash	Effective Date: February 27, 2008 BPA: Attachment A, Chapter 7-26 Resolution: R4-2007-06	Implement Section III.A. and Section III.D.
Malibu Creek Watershed	Bacteria	Effective Date: January 10, 2006, Revised on November 8, 2013 ** BPA: Attachment A, Chapter 7-10 Resolution: 2004-019R & R12-009	Implement Section III.A. and Section III.E.
Malibu Creek and Lagoon	Sedimentation and Nutrients to address Benthic Community Impairments	<i>U.S. EPA Established TMDL</i> Effective Date: July 2, 2013 BPA: N/A Resolution: N/A	Implement Section III.A. and Section III.B.
Malibu Creek Watershed	Trash	Effective Date: June 26, 2009 BPA: Attachment A, Chapter 7-31 Resolution: R4-2008-007	Implement Section III.A. and Section III.D.
Marina del Rey Harbor	Toxic Pollutants (Cu, Pb, Zn, Chlordane, and Total PCBs)	Effective Date: March 16, 2006 BPA: Attachment A, Chapter 7-18 Resolution: R4-2005-012	Implement Section III.A. and Section III.C.
Marina del Rey Harbor Mothers' Beach and Back Basins	Bacteria	Effective Date: March 18, 2004, Revised on November 7, 2013 ** BPA: Attachment A, Chapter 7-5 Resolution: 2003-012, R12-007	Implement Section III.A. and Section III.E.

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Impaired Waterbody	Pollutant(s)	Approved or U.S. EPA Established TMDLs Effective Date Basin Plan Amendment Resolution No.	Implementation Requirements
Revolon Slough and Beardsley Wash	Trash	Effective Date: August 1, 2002 & February 8, 2005 BPA: Attachment A, Chapter 7-3 Resolution: 2004-0023	Implement Section III.A. and Section III.D.
San Gabriel River	Metals (Cu, Pb, Zn) and Selenium	<i>U.S. EPA Established TMDL</i> Effective Date: March 26, 2007 BPA: N/A Resolution: N/A	Implement Section III.A., Section III.C., and Section III.G.
Santa Clara River Estuary and Reaches 3, 5, 6, and 7	Coliform	Effective Date: January 13, 2012 BPA: Attachment A, Chapter 7-36 Resolution: R10-006	Implement Section III.A. and Section III.E.
Santa Clara River Reach 3	Chloride	Effective Date: December 11, 2008 BPA: Attachment B to Resolution No. R4-2008-012 & R4-2008-012	Implement Section III.A. and Section III.I.
Santa Monica Bay Beaches	Bacteria	Effective Date: June 19, 2003, Revised November 7, 2013 ** BPA: Attachment A, Revised in Chapter 7-4 Resolution: 2003-012, R12-007	Implement Section III.A. and Section III.E.
Santa Monica Bay	DDTs and PCBs	<i>U.S. EPA Established TMDL</i> Effective Date: March 26, 2012 BPA: N/A Resolution: N/A	Implement Section III.A. and Section III.C.
Santa Monica Bay Nearshore & Offshore	Debris (trash & plastic pellets)	Effective Date: March 20, 2012 BPA: Attachment A, Chapter 7 Resolution:	Implement Section III.A. and Section III.D.
Upper Santa Clara River	Chloride	Effective Date: April 6, 2010 BPA: Attachment B. Chapter 7-6 Resolution: R4-2008-012	Implement Section III.A. and Section III.I.

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Impaired Waterbody	Pollutant(s)	Approved or U.S. EPA Established TMDLs Effective Date Basin Plan Amendment Resolution No.	Implementation Requirements
Ventura River Estuary	Trash	Effective Date: February 27, 2008 BPA: Attachment A, Chapter 7-25 Resolution: R4-2007-008	Implement Section III.A. and Section III.D.
Ventura River and its Tributaries	Algae, Eutrophic Conditions, and Nutrients	Effective Date: June 28, 2013 BPA: Attachment A, Chapter 7-35 Resolution: R12-011	Implement Section III.A. and Section III.B.
R5 - Central Valley Regional Water Board			
Clear Lake	Nutrients	Effective Date: September 21, 2007 BPA: Attachment 1 to R5-2006-0060 Resolution No.: R5-2006-0060	Implement Section III.A. and Section III.B.
Cache Creek, Bear Creek, Sulphur Creek and Harley Gulch	Mercury	Effective Date: February 7, 2007 BPA: Attachment 1 to R5-2005-0146 Resolution: R5-2005-0146	Implement Section III.A. and Section III.B.
Sacramento-San Joaquin River Delta Estuary	Methyl mercury	Effective Date: October 20, 2011 BPA: Sacramento River and San Joaquin River Basins for the Control of Methylmercury and Total Mercury in the Sacramento – San Joaquin River Delta Estuary Resolution: R5-2010-0043.	Implement Section III.A. and Section III.B.
R6 - Lahontan Regional Water Board			
<p>Lake Tahoe Sediment and Nutrients TMDL Effective Date: August 16, 2011 BPA: WQ Amendment May 2008 Resolution: 2009-0028</p> <p>Lake Tahoe Sediment Requirements A. Pollutant Load Reduction Requirements The Department must reduce fine sediment particle (FSP), total phosphorus (TP), and total nitrogen (TN) loads by 10%, 7%, and 8%, respectively, by September 30, 2016.</p>			

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Impaired Waterbody	Pollutant(s)	Approved or U.S. EPA Established TMDLs Effective Date Basin Plan Amendment Resolution No.	Implementation Requirements
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Pollutant load reductions shall be measured in accordance with the processes outlined in the most recent version of Lake Clarity Crediting Program Handbook. To demonstrate compliance with the average annual fine sediment particle pollutant load reduction requirements, the Department must earn and maintain 298 Lake Clarity Credits for the water year October 1, 2015 to September 30, 2016, and for subsequent water years.

B. Pollutant Load Reduction Plans

The Department shall prepare a Pollutant Load Reduction Plan (PLRP) describing how it expects to meet the pollutant load reduction requirements described in Section A above. The Department shall submit a plan no later than July 15, 2014 that shall include, at a minimum, the following elements:

1. Catchment registration schedule

The PLRP shall include a list of catchments that the Department plans to register pursuant to the approved Lake Clarity Crediting Program to meet load reduction requirements. The list shall include catchments where capital improvement projects have been constructed since May 1, 2004 that the Department expects to claim credit for, and catchments where projects will be constructed and other load reduction activities (capital improvements, institutional controls, and other measures/practices implement) taken during the term of this Order.

2. Proposed pollutant control measures

The PLRP shall generally describe storm water program activities to reduce fine sediment particle, total phosphorus, and total nitrogen loading that the Department will implement in identified catchments.

3. Pollutant load reduction estimates

The Department shall conduct pollutant load reduction analyses on a representative catchment subset to demonstrate that proposed implementation actions are expected to achieve the pollutant load reduction requirements specified in Section A. above. For representative catchments, the analysis shall include detailed estimates of both baseline pollutant loading and expected pollutant loading resulting from implementation actions and provide justification why the conducted load reduction analysis is adequate for extrapolation to other catchments.

The pollutant loading estimates shall differentiate between estimates of pollutant load reductions achieved since May 1, 2004 and pollutant load reductions from actions not yet taken.

4. Load reduction schedule

The PLRP shall describe a schedule for achieving the pollutant load reduction requirements described in the

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Impaired Waterbody	Pollutant(s)	Approved or U.S. EPA Established TMDLs Effective Date Basin Plan Amendment Resolution No.	Implementation Requirements
			<p>Lake Tahoe Sediment TMDL Section A above. The schedule shall include an estimate of expected pollutant load reductions for each year of this Permit term based on preliminary numeric modeling results. The schedule shall also describe which catchments the Department anticipates it will register for each year of this Permit term.</p> <p>5. <i>Annual adaptive management</i> The PLRP shall include a description of the processes and procedures to annually assess storm water management activities and associated load reduction progress. The plan shall describe how the Department will use information from the monitoring and implementation or other efforts to improve operational effectiveness and for achieving the pollutant load reduction requirements specified in Section A.</p> <p>6. <i>Pollutant Load Reduction Plan Update</i> By March 15, 2017, the Department shall update its Pollutant Load Reduction Plan to describe how it will achieve the pollutant load reduction requirements for the second five-year TMDL implementation period, defined as the ten-year load reduction milestone in the Lake Tahoe TMDL. Specifically, the updated Pollutant Load Reduction Plan shall demonstrate how the Department will reduce baseline fine sediment particle, total nitrogen, and total phosphorus loads by 21 percent, 14 percent, and 14 percent, respectively, by water year 2021.</p> <p>C. <i>Pollutant Load Reduction Progress</i> To demonstrate pollutant load reduction progress, the Department shall submit a Progress Report by July 15, 2014 documenting pollutant load reductions accomplished between May 1, 2004 (baseline year) and October 15, 2011.</p> <p>D. <i>Pollutant Load Reduction Monitoring and Water Quality Monitoring Requirements</i> The Department shall prepare and submit a Storm water Monitoring Plan for review and approval by the Regional Water Board by July 15, 2013 and implement the approved plan.</p>
Truckee River	Sediment	Effective Date: September 16, 2009 BPA: WQ Amendment May 2008 Resolution: 2009-0028	Implement Sections III.A. and Section III.B.

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Impaired Waterbody	Pollutant(s)	Approved or U.S. EPA Established TMDLs Effective Date Basin Plan Amendment Resolution No.	Implementation Requirements
R7 - Colorado River Regional Water Board			
Coachella Valley Storm Water Channel	Bacterial Indicators	Effective Date: April 27, 2012 BPA: Attachment 1: Final CVSC Bacteria TMDL Resolution: R7-2010-0028	Implement Section III.A. and Section III.E.
R8 - Santa Ana Regional Water Board			
Big Bear Lake	Nutrients for Dry Hydrological Conditions	Effective Date: September 25, 2007 BPA: Attachment to R8-2006-0023 Resolutions: R8-2006-0023, and R8-2008-0070	Implement Section III.A. and Section III.B.
<p>Lake Elsinore and Canyon Lake Nutrients TMDL Effective Date: September 30, 2005 BPA: Attachment to R8-2004-0037 & R8-2006-0031 Resolution: R8-2007-0083 Implement Section III.A., Section III.B., and the following:</p> <p>Lake Elsinore/Canyon Lake Nutrient TMDL Joint Responsibility Options</p> <ol style="list-style-type: none"> a. The Department has already committed to cooperative implementation actions, monitoring actions, special studies and implementation actions jointly with other responsible agencies as an active paying member of the Lake Elsinore/Canyon Lake TMDL Task Force. The Department shall continue with those actions and remain an active paying Task Force member. b. If the State Water Board is notified that the Department is not fulfilling its Lake Elsinore/Canyon Lake Task Force obligations or if Department chooses to opt out of the cooperative approach with the TMDL Task Force for implementation actions, monitoring actions, and/or special studies the Department shall make a formal decision six months after the adoption of the Permit Amendment. These decisions must be approved/adopted by the State Board. The Department will then be required to conduct the following activities: <ol style="list-style-type: none"> 1) Within 30 days of such notification, implement a Lake Elsinore and Canyon Lake in-lake monitoring consistent with the TMDL Task Force monitoring program. 2) Within 30 days of such notification, submit a proposed Department facilities monitoring program to evaluate nutrient discharges from the Department’s facilities in the Lake Elsinore/Canyon Lake watershed. 			

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Impaired Waterbody	Pollutant(s)	Approved or U.S. EPA Established TMDLs Effective Date Basin Plan Amendment Resolution No.	Implementation Requirements
<p>3) Within 30 days of notification, develop and implement a Lake Elsinore in-lake sediment nutrient reduction program to mitigate Department facilities in-lake nutrient sediment load. Develop and implement a monitoring program to evaluate the success of in-lake sediment reduction strategies that will be implemented.</p> <p>4) Within 60 days of notification, develop and implement a Canyon Lake in-lake sediment nutrient reduction program to mitigate Department facilities in-lake nutrient sediment load. Develop and implement a monitoring program to evaluate the success of in-lake sediment reduction strategies that will be implemented.</p> <p>5) Within 60 days of notification, submit an annual monitoring report by August 15th of each year.</p> <p>6) Submit an annual in-lake nutrient reduction program status report by August 15th of each year</p>			
Rhine Channel Area of Lower Newport Bay	Chromium and Mercury	<i>U.S. EPA Established TMDL</i> Effective Date: June 14, 2002 BPA: N/A Resolution: N/A	Implement Section III.A., Section III.B., and Section III.C.
San Diego Creek and Newport Bay, including Rhine Channel	Metals (Copper, Lead, & Zinc)	<i>U.S. EPA Established TMDL</i> Effective Date: June 14, 2002 BPA: N/A Resolution: N/A	Implement Section III.A. and Section III.C.
San Diego Creek and Upper Newport Bay	Cadmium	<i>U.S. EPA Established TMDL</i> Effective Date: June 14, 2002 BPA: N/A	Implement Section III.A. and Section III.C.
San Diego Creek Watershed	Organochlorine Compounds (DDT, Chlordane, PCBs, & Toxaphene)	Effective Date: November 12, 2013 BPA: Attachment 2 Resolution: R8-2011-0037	Implement Section III.A. and Section III.C.
Upper & Lower Newport Bay	Organochlorine Compounds (DDT, Chlordane & PCBs)	Effective Date: November 12, 2013 BPA: Attachment 2 Resolution: R8-2011-0037	Implement Section III.A. and Section III.C.

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Impaired Waterbody	Pollutant(s)	Approved or U.S. EPA Established TMDLs Effective Date Basin Plan Amendment Resolution No.	Implementation Requirements
R9 - San Diego Regional Water Board			
Chollas Creek	Diazinon	Effective Date: November 3, 2003 BPA: Attachment A to Resolution: R9-2002-0123	Implement Section III.A. and Section III.F.
Chollas Creek	Dissolved Copper, Lead and Zinc	Effective Date: December 18, 2008 BPA: Attachment A Resolution: R9-2007-0043	Implement Section III.A and Section III.C.
Rainbow Creek	Total Nitrogen and Total Phosphorus	Effective Date: March 22, 2006 BPA: Attachment A Resolution: R9-2005-0036	Implement Section III.A. and Section III.B.
Project 1- Revised Twenty Beaches & Creeks in the San Diego Region (including Tecolote Creek)	Indicator Bacteria	Effective Date: June 22, 2011 BPA: Attachment A Resolution: R9-2010-001	Implement Section III.A. and Section III.E.
** OAL Approved, U.S. EPA Approval Pending			

Section III. General and Categorical Requirements

A. General Requirements for All TMDLs:

1. Comprehensive TMDL Monitoring Plan

- a. The Department shall continue to implement existing TMDL water quality monitoring plans, including cooperative water quality monitoring plans that the Department is party to that have already received approval from the Regional Water Board Executive Officer.
- b. The Department shall develop and implement a comprehensive TMDL monitoring plan to be submitted to the State Water Board by January 1, 2015. The comprehensive TMDL monitoring plan shall include existing approved water quality monitoring plans as described in Section III.A.1.a. above, and shall also include monitoring for all TMDLs that do not have existing approved

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water quality monitoring plans. The proposed comprehensive TMDL monitoring plan shall be designed to inform selection of BMPs, to inform future reach prioritization submittals, and to assess the effectiveness of BMP implementation. The Department may propose monitoring by pollutant category and may rely on representative monitoring for BMP effectiveness assessment. The comprehensive TMDL monitoring plan shall include a time-schedule for the implementation of the monitoring plan. The comprehensive TMDL monitoring plan is subject to approval by the Executive Director of the State Water Board.

2. Adaptive Management

The Department shall use monitoring data to conduct an on-going assessment of the performance and effectiveness of BMPs. The assessment shall include necessary modifications to control measures to achieve WLAs and other applicable performance standards. Where an assessment indicates that control measures are inadequate to achieve WLAs and other performance standards in a reach, the Department must implement improved control measures/BMPs.

3. Reporting

- a. By January 1, 2015, the Department shall submit the required information in section I.B. of this attachment regarding planned implementation of control measures for the upcoming reporting period (January 1, 2015 – October 1, 2015).
- b. The Department shall summarize the previous year's TMDL monitoring results, deliverables and other actions as specified in its annual **TMDL STATUS REVIEW REPORT**.
- c. The Department shall prepare and submit a **TMDL PROGRESS REPORT** by January 1, 2018, to the State Water Board as part of its report of waste discharge under Provision E.13.c. The **TMDL PROGRESS REPORT** shall be presented to the State Water Board as an informational item and include the following information:
 - i. A summary of the effectiveness of the control measures installed for each reach that has been addressed, as a result of the BMP effectiveness assessment,
 - ii. A determination as to whether the control measures have been or will be sufficient to achieve WLAs and other performance standards by the final compliance deadlines,
 - iii. Where the control measures are determined not to be sufficient to achieve WLAs or other performance standards by the final compliance deadlines, a proposal for improved control measures to address the relevant pollutants,
 - iv. A summary of the estimated quantified amount of pollutants prevented from entering into the receiving waters as a result of BMPs, cooperative agreements, or other source control measures taken, and

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- v. An analysis demonstrating that the level of effort (1650 compliance units/year) during the present permit cycle will be sufficient to achieve WLAs and other performance standards for all TMDLs listed in Table IV.2 by 2034. The analysis must utilize monitoring data if available, pertinent analytical tools, including modeling where appropriate, and provide a reasonable assurance that applicable WLAs and performance criteria will be met.

The **TMDL PROGRESS REPORT** will be subject to public review and comment and will be used in the development of the reissued permit.

B. Sediment/Nutrients/Mercury/Siltation/Turbidity TMDL Control Requirements

Sediment, nutrient and mercury TMDLs identify sediment from roads as a significant or primary source of these pollutants. Measures that control the discharge of sediment can be effective in controlling releases of nutrients and mercury. Therefore, the Department shall implement control measures to prevent or minimize erosion and sediment discharge. This can be achieved by protecting hillsides, intercepting and filtering runoff, avoiding concentrated flows in natural channels and drains, and not modifying natural runoff flow patterns.

C. Metals/Toxics/Pesticides TMDL Control Requirements

1. Fine Particulates

Toxic pollutants and/or heavy metals have a high affinity for adherence to fine sediment, such as particles from tires, brake parts, and the road surfaces. Therefore, the appropriate control measures for metals and toxics are to control erosion and prevent or minimize the discharge of fine sediment. The Department shall implement control measures to prevent the discharge of fine sediment. This can be achieved by intercepting and filtering runoff, avoiding concentrated flows in natural channels and drains, and not modifying runoff flow patterns.

2. Dissolved Fraction Metals

The fraction of metals that are not bound to particulates exists in a dissolved state as free metal ions, as inorganic complexes, or bound to dissolved organic chemicals. Although fine particulate removal also reduces dissolved fraction metals, additional control measures may be necessary for the control of dissolved metals. Typically, treatment for dissolved fraction metals requires physical structures that prevent contaminated runoff from reaching receiving waters, such as infiltration systems that allow runoff water to percolate into soil.

The Department shall propose and implement appropriate control measures to reduce the discharge of dissolved fraction metals to comply with this Order.

3. Pesticides

The Department shall comply with Provision E.2.h.3)b) of this Order which specifies practices for the safe handling and use of pesticides, including

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compliance with federal, State and local regulations, and label directions. This provision also requires site assessments, applicator training, and implementation of integrated pest and vegetation management practices in its vegetation control program.

D. Trash TMDL Control Requirements

Trash in waterbodies reduces habitat for aquatic life, directly impacts wildlife from ingestion or entanglement, impacts human health from pathogens, and impacts the aesthetics of waterbodies.

1. The discharge of trash to receiving waters is prohibited. The Department shall comply with this prohibition in all significant trash generating areas in the watersheds subject to trash TMDL controls, identified as the following:
 - a. Highway on-ramps and off-ramps in high density residential, commercial, and industrial land use areas.
 - b. Rest area and park-and-ride facilities.
 - c. State highways in commercial and industrial land use areas.
 - d. Mainline highway segments identified through pilot studies and/or surveys.
2. The Department shall comply with the discharge prohibition of trash through one of the following control measures:
 - a. Install, operate, and maintain a full capture system, treatment controls, and/or institutional controls for storm drains that service the significant trash generating areas; or
 - b. Coordinate with neighboring municipalities that have jurisdiction over significant trash generating areas and/or priority land use areas (high density residential, industrial, commercial, mixed urban, and public transportation stations) to implement Section III.D.2.a above.
3. The Department shall submit as part of its **TMDL STATUS REVIEW REPORT** a determination of the highway characteristics that may qualify as significant trash generating areas by October 1, 2015, and
4. The Department shall submit as part of its **TMDL STATUS REVIEW REPORT** the status of each of the applicable control measures specified in Section III.D.2 above.

The constituents of Attachment II are not applicable for this pollutant category; therefore the Department is exempted from monitoring for the constituents listed in Attachment II for the waterbodies listed only for trash impairments.

E. Bacteria TMDL Control Requirements

The constituents of Attachment II are not applicable for this pollutant category; therefore the Department is exempted from monitoring for the constituents listed in Attachment II for the waterbodies listed only for bacteria impairments.

1. Dry-Weather Flows

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Dry weather non-storm water discharges may significantly increase bacteria loading to receiving waters. Therefore, the Department shall implement control measures to ensure that the effective prohibition of non-storm water discharges (Provision B.2. of this Order) is implemented according to the prioritized work schedule specified in Section I of this attachment. The prohibition of non-storm water discharges can be achieved through infiltration, diversion, or other methods.

2. Wet-Weather Flows

Wet weather storm water discharges also contribute significant bacteria loads to receiving waters. The principal impact is to the water contact recreation beneficial use (REC-1). The Department shall implement control measures/BMPs to prevent or eliminate the discharge of bacteria from its ROW. Source control and preemptive activities such as street sweeping, clean-up of illegal dumping, public education on littering; and BMPs such as retention/detention, infiltration, diversion of storm water prevent or eliminate the discharge of bacteria to receiving waters.

F. Diazinon TMDL Control Requirements

Diazinon is an organophosphate pesticide used in agriculture. It is no longer registered by the California Department of Pesticide Regulation for non-agricultural uses. The Department does not use diazinon on its ROW. The discharge of diazinon is prohibited.

G. Selenium TMDL Control Requirements

Selenium is naturally occurring in geologic formations, soils and aquatic sediments. Storm water runoff, dewatering, ground water seepage, irrigation of high selenium content soils, and oil refineries are identified as significant sources of selenium. The Department shall implement control measures to control the discharge of selenium, unless the Department can demonstrate one of the following:

1. There is no exceedance of an applicable receiving water limitation for selenium in the receiving water(s) at, or immediately downstream of, the Department's outfall(s), or
2. There is no direct or indirect discharge from the Department's outfall(s) to the receiving water during the time period subject to the WLA.

The Department does not have to comply with the monitoring requirements of Attachment II in demonstrating non-exceedance or no discharge of selenium.

H. Temperature TMDL Control Requirements

Maintenance activities may increase receiving water temperatures as a result of vegetation removal and/or erosion and sedimentation. Sedimentation and erosion control measures for temperature impairments are being required in accordance with Section III.B. Therefore, the Department shall:

1. Preserve existing riparian biotic conditions immediately adjacent to receiving waters susceptible to temperature increases,

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2. Provide effective shade near receiving waters susceptible to temperature increases, and
3. Maintain site potential effective shade near receiving waters susceptible to temperature increases.

Alteration of riparian biotic conditions that may increase sedimentation or reduce effective shade shall receive prior written authorization by the applicable Regional Water Board Executive Officer or designee.

Site-specific Potential Effective Shade is defined as the shade equivalent to that provided by topography and potential vegetation conditions at a site. Effective shade is the percentage of direct beam solar radiation that attenuated and scattered before reaching the ground or stream surface from topographic and vegetation conditions. The term "site-specific potential" is defined as the vegetation conditions possible at a location, considering the vegetation species present, and any natural factors that limit vegetation size and density.

I. Chloride TMDL Control Requirements

Elevated levels of chloride in receiving waters affect their beneficial use for agricultural irrigation. Chloride in the Santa Clara River watershed is principally due to increased salt loadings from imported water and the use of self-regenerating water softeners. The Department does not discharge significant amounts of chloride and any minimal discharges are expected to be addressed under the requirements of this Order. No additional TMDL implementation actions for control of chloride are required in this attachment.

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REGIONAL WATER BOARD SPECIFIC REQUIREMENTS

PART 1 NORTH COAST REGION

1. North Coast Regional Water Board Resolution R1-2004-0087 directs its staff to utilize existing regulatory programs to address sources of sediment within sediment impaired watersheds. The Department owns road right-of-way and other property within watersheds that are listed as impaired for sediment. Some of these facilities have sources of sediment (eroding shoulders, failed culverts, unstabilized cut and fill slopes, etc) that discharge into sediment impaired waterbodies. Consistent with Resolution R1-2004-0087 and the Water Quality Control Plan for the North Coast Region, the Department shall take the following steps in watersheds listed for sediment to identify, prioritize and control sources of sediment that discharge anthropogenic amounts of sediment into impaired waters. These requirements are in addition to any watershed-specific TMDL implementation requirements listed in Attachment IV of this Order. Steps to be taken include:
 - a. Inventory: Identify sources of excess sediment or threatened discharge, and quantify the discharge or threatened discharges from the source(s).
 - b. Prioritize: Prioritize efforts to control discharge of excess sediment based on, but not limited to, severity of threat to water quality and beneficial uses, the feasibility of source control, and source site accessibility. The inventory and prioritized steps shall be completed within two (2) years of the adoption of this Order and updated annually. This step is not required if the Department is implementing the requirements of Attachment IV for sediment TMDLs as the given reaches have already been prioritized within the context of statewide implementation.
 - c. Implement: Develop and implement feasible sediment control practices to prevent, minimize, and control the discharge.
 - d. Monitor and Adapt: Use monitoring results to direct adaptive management measures in order to refine and adjust erosion control practices and implementation schedules, until sediment discharge is reduced and no longer causes a violation of any sediment related narrative or numeric objective.

Each District within the North Coast Region shall include a time schedule for the above-referenced activities within the District Workplan for Regional Water Board approval. The time schedule shall implement the required activities as quickly as feasible. An annual update on activities and compliance with the projected time schedule shall be included in each subsequent annual report.

2. Removal of riparian vegetation may result in a threatened discharge or an exceedance of a water quality objective. The North Coast Region has many

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watersheds that are impaired for excess sediment and temperature. Riparian vegetation shall be protected and restored to the greatest extent feasible and removal may require permitting by the Regional Water Board.

PART 2 SAN FRANCISCO BAY REGION

1. High Trash Generation Areas

The Department shall demonstrate compliance with Discharge Prohibition 7, Table 4-1 of the San Francisco Bay Regional Water Board Basin Plan through the timely implementation of control measures in all high trash generating areas in the San Francisco Bay Region, identified as the following:

- a. Freeway on- and off-ramps in high density residential, commercial and industrial land uses.
- b. Rest areas and park-and-rides.
- c. State highways in commercial and industrial land use areas.
- d. Other freeway segments as identified by maintenance staff and/or trash surveys.

2. Control Measures

The Department shall comply with the prohibition of discharge for trash through implementation of the following control measures:

- a. Install, operate, and maintain full trash capture systems, treatment controls, and/or enhanced maintenance controls for storm drains or catchments that service the significant trash generating areas.
- b. Coordinate with neighboring MS4 permittees to construct, operate, and maintain full trash capture systems, treatment controls, and/or enhanced maintenance controls in high trash generating areas and/or priority land use areas (high density residential, industrial, commercial, and public transportation stations).

All installed devices that meet the full trash capture definition (See "Full Capture System", Attachment VIII) may be counted toward this requirement regardless of date of installation.

3. Coordination with Local Entities

The Department may choose to establish a municipal coordination plan to design, build, operate, and/or maintain controls in conjunction with other watershed stakeholders. The Minimum Full Trash Capture requirement may be met with the Department specific activities and devices, or from load reduction resulting from municipal coordination implementation, or any combination thereof, so long as the municipal coordination activities meet the full trash capture standard.

4. Assessment

The Department shall assess the effectiveness of enhanced maintenance controls implemented in high trash generation areas. This assessment will include controls implemented in coordination with local municipalities.

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5. Additional

- a. Abate trash from construction and reconstruction projects.
- b. Include trash capture devices on the outlets of treatment systems for new and redeveloped highway projects to achieve the full trash capture standard.

6. Reporting

In each Annual Report, as part of the **TMDL STATUS REVIEW REPORT**, the Department shall provide a per District summary of the following:

- a. Trash load reduction actions.
- b. Full trash capture installation and maintenance.
- c. Implementation of enhanced maintenance controls.
- d. A map and list of high trash generation areas and the installed controls addressing each area.
- e. The reporting of trash load shall be in a manner approved by the Executive Officer.
- f. Municipal coordination implementation.

7. Storm Water Pump Stations

The Department shall comply with the following implementation measures to reduce polluted water discharges from its pump stations:

- a. Complete an inventory of pump stations within the Department's jurisdiction in the San Francisco Bay Region, including locations and key characteristics⁴¹ and submit to the Regional Water Board by October 1, 2015.
- b. Inspect and collect dissolved oxygen (DO) data from 20 percent of the pump stations once a year (100 percent in five years) after a minimum of a two week antecedent period with no precipitation. DO monitoring is exempted where all discharge from a pump station remains in the storm water collection system or infiltrates into a dry creek immediately downstream.
- c. If DO levels are at or below three milligrams per liter (3 mg/L), apply corrective actions, such as continuous pumping at a low flow rate, aeration, or other appropriate methods to maintain DO concentrations of the discharge above 3 mg/L.
- d. Report inspection and monitoring results in the Annual Report.

⁴¹ Characteristics include name of pump station, latitude and longitude in NAD83, number of pumps, drainage area in acres, dominant land use(s), first receiving water body, maximum pumping capacity of station in gallons per minute (gpm), flow measurement capability (Y or N), flow measurement method, average wet season discharge rate in gpm, dry season discharge (Y, N, or unknown), nearest municipal wastewater treatment plant, wet well storage capacity in gallons, trash control (Y or N), trash control measure, and date built or last updated.

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PART 3 LAHONTAN REGION

The Water Quality Control Plan for the Lahontan Region (Basin Plan) has additional requirements which have been historically applied to the Department's permits and which apply to this NPDES Permit in the Lahontan Region. These requirements include:

1. For projects meeting the criteria specified in Provision E.2.d.of the permit (Project Planning and Design), the following numeric sizing criteria for storm water treatment control BMPs apply:

Where storm water runoff is determined to have connectivity to surface waters and/or is not adequately infiltrated or treated by the natural environment, storm water/urban runoff collection, treatment, and/or infiltration disposal facilities shall be designed, installed, and maintained for the discharge of storm water runoff from all impervious surfaces generated by the 20-year, one-hour design storm (1) within the Truckee River Hydrologic Unit (3/4- inch of rain), (2) within the East Fork Carson River and West Fork Carson River Hydrologic Units (one inch of rain), and (3) within the Mammoth Creek Hydrologic Unit above 7,000-foot elevation (one inch of rain). Hydrologic evaluations may be required or may be conducted consistent with the NEAT study described in item No. 2 below to help determine areas where infiltration of the 20-year, one-hour storm is required.

2. In 2009, the Department completed the Natural Environment as Treatment (NEAT) study and report for 38 miles of roadway within the Lake Tahoe Hydrologic Unit. The NEAT approach is consistent with the strategic approach required by this permit. Projects developed within the NEAT study area shall be designed and constructed based on the priority areas identified by the study.
3. Unless granted a variance by the Lahontan Regional Water Board Executive Officer, there shall be neither removal of vegetation nor disturbance of existing ground surface conditions between October 15 of any year and May 1 of the following year, except when there is an emergency situation that threatens the public health or welfare. This prohibition period applies to the Lake Tahoe, Truckee River, East Fork Carson River, and West Fork Carson River Hydrologic Units and above the 5,000-foot elevation in the portions of Mono and Inyo Counties within the Lahontan Region.
4. Project Review Requirements
 - a. The Department shall participate in early project design consultation for all projects within the Lake Tahoe, Truckee River, East and West Forks Carson River and Mammoth Creek Hydrologic Units.
 - b. The Department must solicit Lahontan Regional Water Board staff review when project development/design is at the 20 to 30 percent design level (prior to Project "Approval" and Environmental Document), 60 percent design level, and 90 percent design level (Plans, "Specifications" and Estimates).

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ATTACHMENT VI — STANDARD PROVISIONS

1. **Duty to Comply.** The Department shall comply with all of the conditions of this Order. Any permit noncompliance constitutes a violation of the CWA and the Porter-Cologne Water Quality Control Act, which may be grounds for enforcement action or denial of permit coverage. [40 C.F.R. § 122.41(a)]

The Department shall comply with effluent standards or prohibitions established under Section 307(a) of the CWA for toxic pollutants within the time provided in the regulations that establish these standards or prohibitions, even if this Order has not yet been modified to incorporate the requirement. [40 C.F.R. § 122.41(a)(1)]

2. **Modification, Revocation and Reissuance, or Termination.** This Order may be modified, revoked and reissued, or terminated for cause. The filing of a request by the Department for a permit modification, revocation and reissuance, or termination, or a notification of planned changes or anticipated noncompliance does not stay any General Permit condition.
3. **Enforcement**
 - a. The provision contained in this enforcement section shall not act as a limitation on the statutory or regulatory authority of the State and Regional Water Board.
 - b. Any violation of the Order constitutes violation of the California Water Code and regulations adopted hereunder and the provisions of the Clean Water Act, and is the basis for enforcement action, permit termination, permit revocation and reissuance, denial of an application for permit reissuance; or a combination thereof.
 - c. The State and Regional Water Boards may impose administrative civil liability may refer a discharger to the State Attorney General to seek civil monetary penalties, may seek injunctive relief or take other appropriate enforcement action as provided in the California Water Code or federal law.
 - d. All applications, reports, or information submitted to the State Water Board or Regional Water Boards shall be signed and certified. The Clean Water Act provides that any person who knowingly makes any false statement, representation, or certification in any record or other document submitted or required to be maintained under this Order including monitoring reports or reports of compliance or noncompliance shall, upon conviction, be punished by a fine of not more than \$10,000 per violation, or by imprisonment for not more than six months per violation, or by both. [40 C.F.R. § 122.41(k)]
4. **Need to Halt or Reduce Activity not a Defense.** It shall not be a defense for the Department in an enforcement action that it would have been necessary to halt or

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reduce the permitted activity in order to maintain compliance with the conditions of this Order. [40 C.F.R. § 122.41(c)]

5. **Duty to Mitigate.** The Department shall take all reasonable steps to minimize or prevent any discharge in violation of this Order that has a reasonable likelihood of adversely affecting human health or the environment. [40 C.F.R. § 122.41(d)]
6. **Proper Operation and Maintenance.** The Department at all times shall properly operate and maintain any facilities and systems of treatment and control (and related appurtenances) which are installed or used by the Department to achieve compliance with the conditions of this Order. Proper operation and maintenance also include adequate laboratory controls and appropriate quality assurance procedures. This provision requires the operation of backup or auxiliary facilities or similar systems installed by the Department only when necessary to achieve compliance with the conditions of this Order. [40 C.F.R. § 122.41(e)]
7. **Property Rights.** This Order does not convey any property rights of any sort, or any exclusive privileges, nor does it authorize any injury to private property or any invasion of personal rights, nor any infringement of federal, State, or local laws or regulations. [40 C.F.R. § 122.41(g)]
8. **Duty to Provide Information.** Within a reasonable time specified by the State Water Board, Regional Water Boards, or U.S. EPA, the Department shall furnish records, reports, or information required to be kept by this Order, and shall furnish any information requested to determine whether cause exists for modifying, revoking, and reissuing, or terminating this Order or to determine compliance with this Order. [40 C.F.R. § 122.41(h)]
9. **Inspection and Entry.** [40 C.F.R. § 122.41(i)] Upon the presentation of credentials and other documents as may be required by law, the Department shall allow the State and Regional Water Boards, or U.S. EPA to:
 - a. Enter upon the Department's premises where a regulated facility or activity is located or conducted or where records are required to be kept under the conditions of this Order;
 - b. Have access to and copy at reasonable times any records that must be kept under the conditions of this Order;
 - c. Inspect at reasonable times any facilities, equipment (including monitoring and control equipment), practices, or operations regulated or required under this Order; and
 - d. Sample or monitor at reasonable times for the purposes of assuring ensuring permit compliance, or as otherwise authorized by the Clean Water Act.

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10. **Monitoring and Records.** [40 C.F.R. § 122.41(j)]
- a. Samples and measurements taken for the purpose of monitoring shall be representative of the monitored activity.
 - b. The Department shall retain records of all monitoring information for a period of at least 3 years from the date of the sample, measurement, report or application. This period may be extended by request of the State Water Board's Executive Director or Regional Water Board's Executive Officer at any time.
 - c. Records of monitoring information shall include:
 - i. The date, exact place, and time of sampling or measurements;
 - ii. The individual(s) who performed the sampling or measurements;
 - iii. The date(s) analyses were performed;
 - iv. The individual(s) who performed the analyses;
 - v. The analytical techniques or methods used; and
 - vi. The results of such analyses.
 - d. Monitoring must be conducted according to test procedures approved under 40 C.F.R. § 136 unless another method is required under 40 C.F.R. subchapters N or O.
 - e. The Clean Water Act provides that any person who falsifies, tampers with, or knowingly renders inaccurate any monitoring device or method required to be maintained under this Order shall, upon conviction, be punished by a fine of not more than \$10,000, or by imprisonment for not more than two years, or both. If a conviction of a person is for a violation committed after a first conviction of such person under this paragraph, punishment is a fine of not more than \$20,000 per day of violation, or by imprisonment of not more than four years, or both.
11. **Signatory Requirements.** All reports, certifications, and records required by this Order or requested by the State Water Board and Regional Water Boards or U.S. EPA shall be signed by either a principal executive officer or by a duly authorized representative. A person is a duly authorized representative only if [40 C.F.R. §§ 122.22 & 122.41(k)]:
- a. The authorization is made in writing by the principal executive officer; and
 - b. The authorization specifies either an individual or a position having responsibility for the overall operation of the regulated facility or activity, such as the position of manager, operator, superintendent, or position of equivalent responsibility or an individual or position having overall responsibility for environmental matters for the Department. (A duly authorized representative may thus be either a named individual or any individual occupying a named position.)

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If an authorization is no longer accurate because a different individual or position has responsibility for the overall operation of the facility, the Department shall provide a new authorization prior to submittal of any reports, certifications, or records signed by the newly authorized representative.

12. **Certification.** Any person signing documents under Provision 11 above shall make the following certification [40 C.F.R. § 122.22(d)]:

"I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to ensure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."

13. **Reporting Requirements.**

- a. *Planned changes.* The Department shall give advance notice to the State Water Board and the appropriate Regional Water Board of any planned physical alteration or additions to the permitted facility. Notice is required under this provision only when the alteration or addition could significantly change the nature or increase the quantity of pollutants discharged; [40 C.F.R. § 122.41(l)(1)]
- b. *Anticipated noncompliance.* The Department shall give advance notice to the appropriate Regional Water Board of any planned changes at the permitted facility or activity which may result in noncompliance with Permit requirements; [40 C.F.R. § 122.41(l)(2)]
- c. *Compliance Schedules.* Reports of compliance or noncompliance with, or any progress reports on, interim and final requirements contained in any compliance schedule of this Order shall be submitted no later than 14 days following each scheduled date; [40 C.F.R. § 122.41(l)(5)]
- d. *Other Information.* Where the Department becomes aware that it failed to submit any relevant facts, or submitted incorrect information in a permit application or in any required report, it shall promptly submit such facts or information [40 C.F.R. § 122.41(l)(8)].
- e. The Department shall submit, except for the Annual Report, one copy of each report required by the permit to the State Water Board. The Department shall also submit one copy to each of the appropriate Regional Water Boards. The Department may choose to submit its properly signed reports electronically

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into SMARTS in the Portable Document Format (PDF) and submit hard copies only upon request of the State or Regional Water Board staff.

14. **Oil and Hazardous Substance Liability.** Nothing in this Order shall be construed to preclude the institution of any legal action or relieve the Department from any responsibilities, liabilities, or penalties to which the Department is or may be subject to under Section 311 of the CWA.
15. **Severability.** The provisions of this Order are severable; and if any provision of this Order or the application of any provision of this Order to any circumstance is held invalid, the application of such provision to other circumstances and the remainder of this Order shall not be affected thereby.
16. **Availability.** A copy of this Order shall be maintained at the facility and be available at all times to the appropriate facility personnel and to representatives of the Regional Water Boards, State Water Board, or U.S. EPA.
17. **Education.** The Department shall ensure that all personnel whose decisions or activities could affect storm water quality are familiar with the requirements of this NPDES Permit.

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ATTACHMENT VII — LIST OF ACRONYMS & ABBREVIATIONS

ASBS	Areas of Special Biological Significance
BAT	Best Available Technology Economically Achievable
Basin Plans	Regional Water Quality Control Plans
BCT	Best Conventional Pollutant Control Technology
BMPs	Best Management Practices
CCR	California Code of Regulations
CEQA	California Environmental Quality Act
CFR	Code of Federal Regulations
CGP	Construction General Permit - NPDES General Permit for Storm Water Discharges Associated with Construction Activities
CTR	California Toxics Rule
CWA	Clean Water Act
CWC	California Water Code
Department	California Department of Transportation (Caltrans)
EC	Electrical Conductivity
EMA	Emergency Management Agency
ESA	Environmentally Sensitive Area
FPPP	Facility Pollution Prevention Plan
GPS	Global Positioning System
Hydromodification	Hydrograph Modification
IC/ID	Illegal Connection/ Illicit Discharge
IGP	Industrial General Permit - NPDES General Permit for Discharges Associated with Industrial Activities Excluding Construction Activities
LA	Load Allocation
LID	Low Impact Development
MEP	Maximum Extent Practicable
MRP	Monitoring and Reporting Program
MS4	Municipal Separate Storm Sewer System
NCIR	Non-Compliance Incident Report
NOI	Notice of Intent
NPDES	National Pollutant Discharge Elimination System
Ocean Plan	California Ocean Plan
PAHs	Polycyclic Aromatic Hydrocarbons
POTW	Publicly Owned Treatment Works
Regional Water Board	Regional Water Quality Control Board
ROW	Department Right-of-Way
State Water Board	State Water Resources Control Board
SUSMP	Standard Urban Storm Water Mitigation Plan
SWAMP	Surface Water Ambient Monitoring Program
SWMP	Storm Water Management Plan
SWPPP	Storm Water Pollution Prevention Plan
TCGP	Tahoe Construction General Permit
TDS	Total Dissolved Solids
TMDL	Total Maximum Daily Load
TPH	Total Petroleum Hydrocarbon
TSS	Total Suspended Solids
U.S. EPA	United States Environmental Protection Agency
WDRs	Waste Discharge Requirements
WLA	Waste Load Allocation
WQBEL	Water Quality-Based Effluent Limitation
WQO	Water Quality Objective
WQS	Water Quality Standard
Workplans	District Workplans

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ATTACHMENT VIII - GLOSSARY

Acute Toxicity. A chemical stimulus severe enough to rapidly induce an effect; in aquatic toxicity tests, an effect observed within 96 hours or less is considered acute. When expressed as toxic units acute (TUa), $TUa = 100/96\text{-hour LC } 50 \text{ percent}$. Acute toxicity can also be expressed as lethal concentration 50 percent (LC 50).

Administrative Noncompliance. Failure to comply with the procedural requirements of this Order. Examples include but are not limited to: failure to submit required reports or documents required by the Permit and/or SWMP, missed deadlines or late submittal, and/or failure to submit required information, failure to develop and/or maintain site-specific FPPP or to implement any other procedural requirement of the Permit.

Areas of Special Biological Significance (ASBS). Ocean or estuarine areas designated by the State Water Board that require special protection of species or biological communities to the extent where alteration of natural water quality is undesirable. The California Ocean Plan describes ASBSs as "those areas containing biological communities of such extraordinary value that no risk of change in their environment as the result of man's activities can be entertained". ASBSs are a subset of State Water Quality Protection Areas.

Basin Plans. Basin Plans (regional water quality control plans) are the principal regulatory mechanisms for protection of water quality in California. Basin plans describe the beneficial uses that each water body supports, e.g. drinking, swimming, fishing, and agricultural irrigation; the water quality objectives necessary to protect those uses; and the program implementation needed to achieve the objectives, such as waste discharge permits and enforcement actions.

Batch Plant. A processing plant where concrete or asphalt is mixed before transport to a construction site. Batch plants are considered to be industrial activities as defined in 40 CFR 122.26(b)(14) (iii) and are regulated under the Industrial General Permit.

Beneficial Uses. The uses of the water protected against degradation including, but not limited to, domestic, municipal, agricultural and industrial supply; power generation; recreation; aesthetic enjoyment; navigation; and preservation and enhancement of fish, wildlife, and other aquatic resources or preserves.

Best Available Technology Economically Achievable (BAT). Technology-based compliance standard established by the Clean Water Act. BAT is based on consideration of the age of the equipment and facilities involved, the processes employed, the engineering aspects of the application of various types of control techniques, process changes, non-water quality environmental impact (including energy requirements) and other factors as deemed appropriate. BAT effluent

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limitations guidelines, in general, represent the best existing performance of treatment technologies that are economically achievable within an industrial point source category or subcategory.

Best Conventional Pollutant Control Technology (BCT). Technology-based compliance standard for the discharge from existing industrial point sources of conventional pollutants including BOD, TSS, fecal coliform, pH, oil and grease. BCT is established by a two-part “cost reasonableness” test, which compares the cost for an industry to reduce its pollutant discharge with the cost to a POTW for similar levels of reduction of a pollutant loading. The second test examines the cost-effectiveness of additional industrial treatment beyond BCT. Limits must be reasonable under both tests.

Best Management Practices (BMPs). Schedules of activities, prohibitions of practices, maintenance procedures, and other management practices to prevent or reduce the pollution of “waters of the United States.” BMPs include structural and nonstructural controls, treatment requirements, operation and maintenance procedures, and practices to control plant site runoff, spillage or leaks, sludge or waste disposal, or drainage from raw material storage.

Non-Approved BMP. Any BMP for maintenance, construction, design pollution prevention, and treatment that are not in the Department’s SWMP (CTSW-RT-02-008) or Statewide Storm Water Quality Practice Guidelines (CTSW-RT-02-009) approved for statewide use.

Post-Construction BMPs. Any structural or non-structural controls that detain, retain, or filter storm water to prevent the release of pollutants to receiving waters after final site stabilization is attained.

Structural BMPs. Any structural facility designed and constructed to mitigate the adverse impacts of storm water runoff (e.g. canopy, structural enclosure). The category may include both Treatment Control BMPs and Source Control BMPs.

Source Control BMPs. Any schedules of activities, prohibitions of practices, maintenance procedures, managerial practices or operational practices that aim to prevent storm water pollution by reducing the potential for contamination at the source. Examples include treatment techniques that use natural measures to reduce pollution levels, do not require extensive construction efforts, and/or promote pollutant reduction by controlling the pollutant source.

Treatment Control BMPs. Any engineered system designed to remove pollutants by simple gravity settling of particulate pollutants, filtration, biological uptake, media absorption or any other physical, biological, or chemical process.

California Ocean Plan (Ocean Plan). The water quality control plan for California near-coastal waters, first adopted by the State Water Resources Control Board in 1972.

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The purpose of the Ocean Plan is to protect the beneficial uses of the State's ocean waters by identifying water quality objectives, setting general waste discharge requirements, and listing discharge prohibitions. In addition, the Ocean Plan is used to develop and update statewide water quality control plans, policies, and standards involving marine waters.

California Toxics Rule. The Federal regulation, found at 40 CFR § 131.38. Establishes water quality criteria (limits) for heavy metals and other toxic compounds for the protection of beneficial uses of surface waters in California.

Catch Basins. A storm drain inlet having a sump below the outlet to capture settled solids, debris, sediment, and prevent clogging.

Chronic Toxicity. The ability of a substance or a mixture of substances to cause harmful effects over an extended period of time. Expressed as toxic units chronic (TUc), $TUc = 100/NOEL$, where NOEL is the No Observed Effect Level.

Construction Activity. Any construction or demolition activity, clearing, grading, grubbing, or excavation or any other activity that results in a land disturbance. Construction does not include emergency construction activities required to immediately protect public health and safety or routine maintenance to maintain original line and grade, hydraulic capacity, or original purpose of the facility.

Cut and Fill. The process of moving earth by excavating part of an area and using the excavated material for adjacent embankment of fill areas.

Department Airspaces. Any area within the Department's operating right-of-way that can safely accommodate a privately managed use such as: parking lots, self storage units, commercial businesses, light industry, and cellular telephone towers. The Department executes airspace leases with third parties for these uses.

Department Facility. A Maintenance Facility, Non-maintenance Facility, Highway Facility, Industrial Facility, or Vehicle Maintenance.

Maintenance Facility. A facility under Department ownership or control that contains fueling areas, maintenance stations/yards, waste storage or disposal facilities, wash racks, equipment or vehicle storage and materials storage areas.

Non-maintenance Facility. Laboratories or office buildings used exclusively for administrative functions.

Highway Facility. Highways are linear facilities designed to carry vehicular and pedestrian traffic. These include freeways, highways, and expressways as designated by the California Streets and Highway Code and the California legislature. These facilities also include all support infrastructure associated with these freeways, including bridges, toll plazas, inspection and weigh stations, sound walls, retaining

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walls, culverts, vegetated slopes, shoulders, intersections, off ramps, on ramps, over passes, lights, signal lights, gutter, guard rail, and other support

facilities. The support infrastructure is considered a Highway Facility only when accompanied by an increase in highway impervious surface. Otherwise, it is considered a non-highway .

Industrial Facility. A collection of industrial processes discharging storm water associated with industrial activity within the property boundary or operational unit.

Non-Highway Facility. For purposes of this permit, a Non-Highway Facility is any facility not meeting the definition of a Highway Facility, including but not limited to rest stops, park and ride facilities, maintenance stations, vista points, warehouses, laboratories, and office buildings.

Discharge. When used without qualification means the discharge of a pollutant.

Direct Discharge. Any discharge from the MS4 that does not meet the definition of an indirect discharge.

Indirect Discharge. Any discharge from the MS4 that is conveyed to the receiving water through 300 feet or more of an unlined ditch or channel as measured between the discharge point from the MS4 and the receiving water.

Discharge of a Pollutant. The addition of any pollutant or combination of pollutants to waters of the United States from any point source, or any addition of any pollutant or combination of pollutants to the waters of the contiguous zone or the ocean from any point source other than a vessel or other floating craft which is being used as a means of transportation. The term includes additions of pollutants to waters of the United States from: surface runoff which is collected or channeled by man; discharges through pipes, sewers, or other conveyances owned by a State, municipality, or other person which do not lead to a treatment works; and discharges through pipes, sewers, or other conveyances, leading into privately owned treatment works.

District Workplans (DWPs). Annual workplans prepared by each District containing descriptions of all activities and projects to be undertaken in the District that are necessary to implement the SWMP and comply with the requirements of this Order. DWPs are submitted annually with the Annual Report. Formerly known as the Regional Work Plans.

Drainage Inlet. A location where water runoff enters a storm water drainage system that includes streets, gutters, conduits, natural or artificial drains, channels and watercourses, or other facilities that are owned, operated, maintained and used for the purpose of collecting, storing, transporting or disposing of storm water

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Effluent. Any discharge from the MS4.

Emergency. Any sudden, unexpected occurrence, involving a clear and imminent danger, demanding immediate action to prevent or mitigate loss of, or damage to, life, health, property, or essential public services. "Emergency" includes such occurrences as fire, flood, earthquake, or other soil or geologic movements, as well as such occurrences as riot, accident, or sabotage.

Erosion. The diminishing or wearing away of land due to wind, or water. Often the eroded material (silt or sediment) becomes a pollutant via stormwater runoff.

Erosion occurs naturally, but can be intensified by land disturbing and grading activities such as farming, development, road building, and timber harvesting.

Facility Pollution Prevention Plan (FPPP). A plan that identifies the functional activities specific to the maintenance facility and the applicable BMPs and other procedures utilized by facility personnel to control the discharge of pollutants in storm water. Facilities subject to FPPPs include: maintenance yards/stations; material storage facilities/permanent stockpile locations (if not totally enclosed); equipment storage and repair facilities, roadside rest areas, agricultural and highway patrol weigh stations, decant storage or disposal locations, and permanent and temporary solid and liquid waste management sites.

FPPPs are not required for temporary stockpile locations (in continuous use for less than one year). All temporary stockpile locations shall implement the applicable best management practices defined in the Caltrans Stormwater Quality Handbook Maintenance Staff guide. Any stockpile location in continuous use for more than one year is deemed permanent and requires a Facility Pollution Prevention Plan.

Full Capture System. A full capture system is any single device or series of devices that traps all particles retained by a five (5) mm mesh screen and has a design treatment capacity of not less than the peak flow rate Q resulting from a one-year, one-hour, storm in the subdrainage area.

Rational equation is used to compute the peak flow rate: $Q = C \times I \times A$

Where Q = design flow rate (cubic feet per second, cfs);

C = runoff coefficient (dimensionless);

I = design rainfall intensity (inches per hour, as determined per a rainfall isohyetal map), and

A = subdrainage area (acres).

Hydrograph Modification (Hydromodification). The alteration of the hydrologic characteristics of surface waters through watershed development. Under past practices, new and re-development construction activities resulted in urbanization, which in turn modified natural watershed and stream processes. The impacts of hydromodification include, but are not limited to, increased bed and bank erosion,

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loss of habitat, increased sediment transport and deposition, and increased flooding. Urbanization does this by altering the terrain, modifying the vegetation and soil characteristics, introducing impervious surfaces such as pavement and buildings, and altering the condition of stream channels through straightening, deepening, and armoring. These changes affect hydrologic characteristics in the watershed and affect the supply and transport of sediment in the stream system.

Hydromodification Management Plan. A plan to control and reduce the impacts of hydrograph modification from development activities in a watershed.

Illegal Connection/Illicit Discharge (IC/ID).

Illegal Connection. An engineered conveyance that is connected to an MS4 without authorization by local, state, or federal statutes, ordinances, codes, or regulations.

Illicit Discharge. Any discharge to an MS4 that is prohibited under local, state, or federal statutes, ordinances, codes, or regulations. It includes all non-storm water discharges except conditionally exempt non-storm water discharges.

Illegal Dumping. Discarding or disposal within the Department's right-of-way, properties or facilities, either intentionally or unintentionally, of trash and other wastes in non-designated areas that may contribute to storm water pollution.

Impervious Cover. Any surface in the landscape that cannot effectively absorb or infiltrate rainfall; for example, sidewalks, rooftops, roads, and parking lots.

Incidental Runoff. Unintended small amounts (volume) of runoff from landscape irrigation, such as minimal over-spray from sprinklers that escapes the irrigated area. Water leaving an irrigated area is not considered incidental if it is due to improper (e.g. during a precipitation event) or excessive application, if it is due to intentional overflow or application, or if it is due to negligence. Leaks and other discharges (e.g. broken sprinkler heads) are not considered incidental if not corrected within 72 hours of learning of the discharge or if the discharge exceeds 1000 gallons.

Land Use. How land is managed or used by humans (e.g., residential and industrial development, roads, mining, timber harvesting, agriculture, grazing, etc.). Land use is generally regulated at the local level in the U.S. based on zoning and other regulations. Land use mapping differs from land cover mapping in that it is not always obvious what the land use is from visual inspection.

Load Allocation. The portion of a receiving water's loading capacity that is attributed either to one of its existing or future nonpoint sources of pollution or to natural background sources. Load allocations are best estimates of the loading, which can range from reasonably accurate estimates to gross allotments, depending on the availability of data and appropriate techniques for predicting the loading (40 CFR 130.2(g)).

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Low Impact Development (LID). An approach to land development with the goal of mimicking or replicating the pre-project hydrologic regime through the use of design techniques to create a functionally equivalent hydrologic site design. Hydrologic functions of storage, infiltration and ground water recharge, as well as the volume and frequency of discharges are maintained through the use of integrated and distributed micro-scale storm water retention and detention areas, reduction of impervious surfaces, and the lengthening of runoff flow paths and flow time. Other strategies include the preservation/protection of environmentally sensitive site features such as riparian buffers, wetlands, steep slopes, mature trees, flood plains, woodlands, and highly permeable soils.

Maximum Extent Practicable (MEP). The minimum required performance standard for implementation of municipal storm water management programs to reduce pollutants in storm water. Clean Water Act § 402(p)(3)(B)(iii) requires that municipal permits "shall require controls to reduce the discharge of pollutants to the maximum extent practicable, including management practices, control techniques and system, design and engineering methods, and such other provisions as the Administrator or the State determines appropriate for the control of such pollutants." MEP is the cumulative effect of implementing, evaluating, and making corresponding changes to a variety of technically appropriate and economically feasible BMPs, ensuring that the most appropriate controls are implemented in the most effective manner. To achieve the MEP standard, municipalities must employ whatever BMPs are technically feasible and are not cost-prohibitive. Reducing pollutants to the MEP means choosing effective BMPs, and rejecting applicable BMPs only where other effective BMPs will serve the same purpose, or the BMPs would not be technically feasible, or the costs would be prohibitive. A final determination of whether a municipality has reduced pollutants to the MEP can only be made by the State or Regional Water Boards.

Municipal Separate Storm Sewer System (MS4). A conveyance or system of conveyances (including roads with drainage systems, municipal streets, catch basins, curbs, gutters, ditches, man-made channels, or storm drains) that is: (1) Owned or operated by a state, city, town, village, or other public entity that discharges to waters of the U.S.; (2) Designed or used to collect or convey storm water; (3) Not a combined sewer; and (4) Not part of a Publicly Owned Treatment Works.

Natural Ocean Water Quality. The water quality (based on selected physical, chemical and biological characteristics) that is required to sustain marine ecosystems, and which is without apparent human influence, i.e., an absence of significant amounts of: (a) man-made constituents (e.g., DDT); (b) other chemical (e.g., trace metals), physical (temperature/thermal pollution, sediment burial), and biological (e.g., bacteria) constituents at concentrations that have been elevated due to man's activities above those resulting from the naturally occurring processes that affect the area in question; and (c) non-indigenous biota (e.g., invasive algal bloom species) that have been introduced either deliberately or accidentally by man. Discharges "shall not alter natural ocean water quality" as determined by a comparison to the range of constituent concentrations in reference areas agreed upon via the regional

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monitoring program(s). If monitoring information indicates that natural ocean water quality is not maintained, but there is sufficient evidence that a discharge is not contributing to the alteration of natural water quality, then the Regional Water Board may make that determination. In this case, sufficient information must include runoff sample data that has equal or lower concentrations for the range of constituents at the applicable reference area(s).

New Development. Any newly constructed facility, street, road, highway or contiguous road surface installed as part of a street, road or highway project within the Department's right-of-way.

Non-Department Activities. Third party activities that are primarily controlled by encroachment permits, leases, and rental agreements. They include both construction activities and non-construction activities.

Non-Department Projects. Same as Non-Department Activities.

Non-storm Water. Discharges that are not induced by precipitation events and are not composed entirely of storm water. These discharges include, but are not limited to, discharges of process water, air conditioner condensate, non-contact cooling water, vehicle wash water, concrete washout water, paint wash water, irrigation water, pipe testing water, lawn watering overspray, hydrant flushing, and fire fighting activities.

Nonpoint Source. Pollution that is not released through a discrete conveyance but rather originates from multiple sources over a relatively large area. Nonpoint sources can be divided into source activities related to either land or water use, including failing septic tanks, animal agriculture, forest practices, and urban and rural runoff.

Nuisance. Anything that meets all of the following requirements: (1) is injurious to health, or is indecent or offensive to the senses, or an obstruction to the free use of property, so as to interfere with the comfortable enjoyment of life or property; (2) affects at the same time an entire community or neighborhood, or any considerable number of persons, although the extent of the annoyance or damage inflicted upon individuals may be unequal; (3) occurs during, or as a result of, the treatment or disposal of wastes.

Perennial Stream. Any stream shown as a solid blue line on the latest version of the U.S. Geological Survey (USGS) 7.5 minute series quadrangle map (sometimes referred to as a blue-line stream). Where 7.5 minute series maps have not been prepared by USGS, 15 minute series maps are used.

Pesticide. Substances intended to repel, kill, or control any species designated a "pest" including weeds, insects, rodents, fungi, bacteria, or other organisms. The family of pesticides includes [herbicides](#), [insecticides](#), [rodenticides](#), [fungicides](#), algicides, and [bactericides](#).

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Algicide. A pesticide that controls algae in swimming pools and water tanks.

Herbicide. A pesticide designed to control or kill plants, weeds, or grasses.

Insecticide. A pesticide compound specifically used to kill or prevent the growth of insects.

Rodenticide. A pesticide or other agent used to kill rats and other rodents or to prevent them from damaging food, crops, or forage.

Fungicide. A pesticide used to control or destroy fungi on food or grain crops.

Bactericide. A pesticide used to control or destroy bacteria, typically in the home, schools, or on hospital equipment.

pH. A measure of the degree of acidity or alkalinity in a water sample. The pH of natural waters tends to range between six (6) and nine (9), with neutral being seven (7). Extremes of pH can have deleterious effects on aquatic systems.

Point source. Any discernible, confined, and discrete conveyance, including but not limited to, any pipe, ditch, channel, tunnel, conduit, well, discrete fissure, container, rolling stock, concentrated animal feeding operation, landfill leachate collection system, vessel or other floating craft from which pollutants are or may be discharged.

Pollutant. Dredged spoil, solid waste, incinerator residue, filter backwash, sewage, garbage, sewage sludge, munitions, chemical wastes, biological materials, radioactive materials (except those regulated under the Atomic Energy Act of 1954, as amended (42 U.S.C. 2011 *et seq.*)), heat, wrecked or discarded equipment, rock, sand, cellar dirt and industrial, municipal, and agricultural waste discharged into water.

Pollutants of Concern. Pollutants in a discharge with potential to cause a condition of pollution or nuisance due to the discharge of excessive amounts, proximity to receiving waters, or the properties of the pollutant. Pollutants that impair waterbodies listed under CWA section 303(d) are also Pollutants of Concern. Pollutants in the Department's discharge that may be Pollutants of Concern include, but are not limited to, total suspended solids; sediment; pathogens (e.g., bacteria, viruses, protozoa); heavy metals (e.g., copper, lead, zinc, and cadmium); petroleum products and polynuclear aromatic hydrocarbons; synthetic organics (e.g., pesticides, herbicides, and PCBs); nutrients (e.g., nitrogen and phosphorus fertilizers); oxygen-demanding substances (e.g., decaying vegetation and animal waste), and litter and trash.

Pollution. An alteration of the quality of the waters of the state by waste to a degree which unreasonably affects the beneficial uses of the water or facilities which serve those beneficial uses (Porter-Cologne Water Quality Control Act, section 13050(l)(1)).

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Redevelopment. The creation, addition, and/or replacement of impervious surface on an already developed site. Examples include the expansion of a building footprint, road widening, the addition or replacement of a structure, and creation or addition of impervious surfaces. Replacement of impervious surfaces includes any activity that removes impervious materials and exposes the underlying soil or pervious subgrade. Redevelopment does not include trenching and resurfacing associated with utility work; pavement grinding and resurfacing of existing roadways; construction of new sidewalks, pedestrian ramps, or bike lanes on existing roadways; or routine replacement of damaged pavement such as pothole repair or replacement of short, non-contiguous sections of roadway. Redevelopment does include replacement of existing roadway surfaces where the underlying soil or pervious subgrade is exposed during construction. Replaced impervious surfaces of this type shall be considered "new impervious surfaces" for purposes of determining the applicability of post-construction treatment controls as provided in provision E.2.d.2).

Roadway. Any road within the Department's right-of-way.

Routine Maintenance. Activities intended to maintain the original line and grade, hydraulic capacity, or original purpose of a facility. Routine maintenance does not include replacement of existing roadway surfaces where the underlying soil or pervious subgrade is exposed.

Right-of-Way (ROW). Real property that is either owned or controlled by the Department or subject to a property right of the Department. Right-of-way that is in current use is referred to as operating ROW.

Sediment. Soil, sand, and minerals washed from land into water, usually after rain.

Slope Lateral Drainage. Horizontal drains placed in hillside embankments to intercept groundwater and direct it away from slopes to provide stability.

Spill. The sudden release of a potential pollutant to the environment.

Storm Water. Storm water runoff, snowmelt runoff, and surface runoff and drainage, as defined in 40 CFR 122.26 (b)(13).

Storm Water Runoff. The portion of precipitation that does not naturally percolate into the ground or evaporate, but flows via overland flow, interflow, channels or pipes.

Standard Urban Storm Water Mitigation Plan (SUSMP). Plans designating the Best Management Practices that must be used in specified categories of development and redevelopment. The State Water Board adopted a precedential decision (Order WQ 2000-11) upholding a SUSMP requirement imposed under a Phase I MS4 permit and requiring SUSMPs in all MS4 permits.

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Storm Water Management Plan (SWMP). Description of the procedures and practices used to reduce or eliminate the discharge of pollutants to storm drain systems and receiving waters.

Surface Water Ambient Monitoring Program (SWAMP). The State Water Board's monitoring, assessment, and reporting program for ambient surface water.

Threshold Drainage Area (TDA). The area draining to a location 20 channel widths downstream (representative reach) of a stream crossing (pipe, swale, culvert, or bridge) within Project Limits.

Threatened Non-compliance. Any planned changes in the permitted facility or activity which may result in noncompliance with permit requirements.

Total Dissolved Solids (TDS). A quantitative measure of the residual minerals dissolved in water that remain after evaporation of a solution and used to evaluate the quality of freshwater systems.

Total Kjeldahl Nitrogen (TKN). The sum of organic nitrogen and total ammonia nitrogen.

Total Maximum Daily Load (TMDL). The sum of the individual WLAs for point sources and LAs for nonpoint sources and natural background. If a receiving water has only one point source discharger, the TMDL is the sum of that point source WLA plus the LAs for any nonpoint sources of pollution and natural background sources, tributaries, or adjacent segments. TMDLs can be expressed in terms of either mass per time, toxicity, or other appropriate measure. If Best Management Practices (BMPs) or other nonpoint source pollution controls make more stringent load allocations practicable, then wasteload allocations can be made less stringent. Thus, the TMDL process provides for nonpoint source control tradeoffs (40 CFR 130.2(i)).

Total Petroleum Hydrocarbon (TPH). A measure of the concentration or mass of petroleum hydrocarbons in a given amount of soil or water. TPH is a mixture of different compounds from different sources.

Total Suspended Solids (TSS). Suspended particulate matter: Fine material or soil particles that remain suspended by the water column. They create turbidity and, when deposited, can smother fish eggs or alevins.

Toxicity. The adverse response(s) of organisms to chemicals or physical agents ranging from mortality to physiological responses such as impaired reproduction or growth anomalies.

Trash. All improperly discarded waste material associated with human habitation, of human origin; or from any producing, manufacturing, or processing operation including, but not limited to, product packaging or containers constructed of steel,

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aluminum, glass, paper, plastic, and other natural and synthetic materials that are thrown or deposited in waters or where it could be transported, as floating, suspended, and/or settleable materials, to waters of the State, including watersheds. (SWRCB Trash Policy).

Turbidity. Murkiness or cloudiness of water, indicating the presence of suspended solids.

United States Environmental Protection Agency (U.S. EPA). U.S. EPA works to develop and enforce regulations that implement environmental laws enacted by the United States Congress. U.S. EPA is responsible for researching and setting national standards for the Storm Water Program.

Waste. Includes sewage and any and all other waste substances, liquid, solid, gaseous, or radioactive, associated with human habitation, or of human or animal origin, or from any producing, manufacturing, or processing operation, including waste placed within containers of whatever nature prior to, and for purposes of, disposal.

Wasteload Allocation (WLA). The portion of a receiving water's total maximum daily load that is allocated to one of its existing or future point sources of pollution. Waste load allocations constitute a type of water quality-based effluent limitation.

Water Quality Objectives (WQO). The limits or levels of water quality elements or biological characteristics established to reasonably protect the beneficial uses of water or to prevent nuisance within a specific area. Water quality objectives may be numeric or narrative.

Water Quality Standards (WQS). State-adopted and U.S. EPA-approved water quality standards for surface water bodies. The standards prescribe the beneficial uses (swimmable, fishable, drinkable, etc.) of the water body and establish the WQOs that must be met to protect designated uses.

Waters of the State. Any surface water or groundwater, including saline waters, within boundaries of the state, as defined in CWC 13050(e). This Order contains requirements to protect the beneficial uses of waters of the State.

Waters of the United States. All waters that are currently used, were used in the past, or may be susceptible to use in interstate or foreign commerce, including all waters subject to the ebb and flow of the tide. Waters of the United States [as defined in 40 CFR 230.3(s)] include all interstate waters and intrastate lakes, rivers, streams (including intermittent streams), mudflats, sand flats, wetlands, sloughs, prairie potholes, wet meadows, playa lakes, or natural ponds the use of which would affect or could affect interstate or foreign commerce. The definition also applies to tributaries of the aforementioned waters. See 40 CFR 122.2 for the complete definition, which is hereby incorporated by reference.

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Watershed. A drainage area or basin in which all water drains or flows toward a central collector such as a stream, river, or lake at a lower elevation.

Wetlands. Areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs, and similar areas.

Workplans. See District Workplans.

ATTACHMENT IX

Attachment IX: Reporting Requirements

Reporting Requirement	Permit Section	Due Date	Frequency
Annual Report	E.3.	October 1, 2013	Annually
Draft ASBS Compliance Plan	E.5.c.2)	September 20, 2013	18 months after the General Exception effective date
Final ASBS Compliance Plan	E.5.c.2)	September 20, 2015	30 months after the General Exception effective date
Budget Analysis	E.2.b.3)c)	October 1, 2017	Year 4 of Permit Cycle
Certification of the Adequacy of Legal Authority	E.2.b.2)b)	October 1, 2013	Annually as part of the Annual Report
District Workplans	E.3.b.	October 1, 2013	Annually as part of the Annual Report
Facility Pollution Prevention Plan (FPPP)	E.2.h.2)	October 1, 2013	Annually as part of the Annual Report and as required by the Regional Water Board
Fiscal Analysis	E.2.b.3)b)	October 1, 2013	Annually as part of the Annual Report
IC/ID & Illegal Dumping Response Plan	E.2.h.4)b)ii)	December 31, 2013	Update as needed annually
Incident Report Form	E.2.b.6)and Attachment I	October 1, 2013	As Needed
Landslide Management Plan	E.2.h.3)d)	October 1, 2013	Year 1 Annual Report
Monitoring Results Report (MRR)	E.2.c.5)	October 1, 2013	Annually
Monitoring Site Prioritization (Tier 2)	E.2.c.1)	March 1, 2014	Within 8 months of the effective date
Municipal Coordination Plan	E.2.b.1)b)	October 1, 2013	To be Included in the SWMP and Progress Report as part of the Annual Report
Overall Program Effectiveness Evaluation	E.2.m.3)	October 1, 2013	Annually as part of the Annual Report
Public Education Program Progress Report	E.2.l.2)	October 1, 2013	Annually as part of the Annual Report
Self-Audit - (includes construction activities)	E.2.m.2)	October 1, 2013	Annually as part of the Annual Report
Stormwater Monitoring & BMP Development Status Report	E.2.e.	October 1, 2013	Annually as part of the Annual Report
Stormwater Treatment BMP Technology Report	E.2.e.	October 1, 2013	Annually as part of the Annual Report
TMDL Status Review Report	E.4.b.	October 1, 2015	Annually as part of the Annual Report
Updated Stormwater Management Plan (SWMP)	E.1.a.	October 1, 2013	Revisions as part of the Annual Report
Waste Management Plan	E.2.h.3)c)iii)	July 1, 2014	Within 1 year of the Effective Date

Note: This table is a partial list of reporting requirements. The Department shall submit all required reports as provided in the Order. Any discrepancy between the text of the NPDES Permit and this table will be resolved in favor of the Permit.

Effective Date of this Order is July 1, 2013

Effective Date of the ASBS Special Protections (General Exception) is March 20, 2012

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State Water Resources Control Board

MAY 28 2015

[via U.S. Mail and email]

Jeremy N. Jungreis, Esq.
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jjungreis@rutan.com

Dear Mr. Jungreis:

PETITION OF CITY OF SAN JUAN CAPISTRANO (WASTE DISCHARGE REQUIREMENTS ORDER NO. R9-2009-0002 [NPDES NO. CAS0108740] FOR DISCHARGES OF RUNOFF FROM THE MUNICIPAL SEPARATE STORM SEWER SYSTEMS (MS4S) WITHIN THE SAN DIEGO REGION), SAN DIEGO WATER BOARD: APPROVAL OF REQUEST TO CONTINUE TO BE HELD IN ABEYANCE
SWRCB/OCC FILE A-2073(b)

Pursuant to your request, the State Water Resources Control Board (State Water Board) will continue to hold this petition in abeyance until January 14, 2017. Please pay careful attention to this date, because the State Water Board is not responsible for reminding petitioners that their abeyance periods are about to expire. If the State Water Board does not receive prior to 5:00 p.m. on the last business day before January 14, 2017, either (1) a written request to further extend the abeyance period, or (2) a written request to remove the petition from abeyance and activate the petition, then this petition will be deemed withdrawn as of January 14, 2017. If the petition is deemed withdrawn, you will not be able to seek judicial review of the regional water quality control board's action or inaction. Requests to extend abeyance periods or to remove petitions from abeyance should be sent to waterqualitypetitions@waterboards.ca.gov or to the mailing address below. A copy of the request must be sent to the other parties to the petition, including the regional water quality control board.

If you decide that you would like to remove this petition from abeyance and activate it at some time in the future, it is important that you carefully consult the State Water Board's regulations. (See Cal. Code Regs., tit. 23, § 2050.5) If you request that this petition be removed from abeyance and activated, the petition will be dismissed on the 91st day following the State Water Board's receipt of your written request to remove the petition from abeyance unless:

- (1) the State Water Board has notified you, the regional water quality control board and interested persons that the regional water quality control board and interested persons have 30 days to respond to the petition;
- (2) the State Water Board has received a written request from you to place this petition back in abeyance; or

FELICIA MARCUS, CHAIR | THOMAS HOWARD, EXECUTIVE DIRECTOR

1001 I Street, Sacramento, CA 95814 | Mailing Address: P.O. Box 100, Sacramento, Ca 95812-0100 | www.waterboards.ca.gov

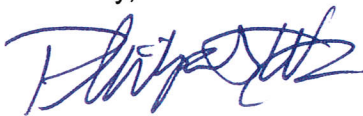
(3) the State Water Board has notified you prior to 91st day that the petition is dismissed.

If none of these events occurs prior to 5:00 p.m. on the last business day before the 91st day after the State Water Board receives your written request to remove the petition from abeyance, this petition will be automatically dismissed without further action by the State Water Board. Dismissal of a petition, whether done by operation of law or by a letter issued by the State Water Board, is a final agency action for purposes of seeking judicial review of the regional water quality control board's action or inaction.

If you have any questions regarding this letter, please contact me at (916) 341-5178.

**IN ALL FUTURE CORRESPONDENCE, PLEASE REFER TO
SWRCB/OCC FILE A-2073(b)**

Sincerely,



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Assistant Chief Counsel

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Continued next page

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State Water Resources Control Board

MAY 28 2015

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Dear Messrs. Montevideo, Muñoz and Howell:

PETITION OF CITY OF DANA POINT (WASTE DISCHARGE REQUIREMENTS ORDER NO. R9-2009-0002 [NPDES NO. CAS0108740] FOR DISCHARGES OF RUNOFF FROM THE MUNICIPAL SEPARATE STORM SEWER SYSTEMS (MS4S) WITHIN THE SAN DIEGO REGION), SAN DIEGO WATER BOARD: APPROVAL OF REQUEST TO CONTINUE TO BE HELD IN ABEYANCE
SWRCB/OCC FILE A-2073(e)

Pursuant to your request, the State Water Resources Control Board (State Water Board) will continue to hold this petition in abeyance until January 14, 2017. Please pay careful attention to this date, because the State Water Board is not responsible for reminding petitioners that their abeyance periods are about to expire. If the State Water Board does not receive prior to 5:00 p.m. on the last business day before January 14, 2017, either (1) a written request to further extend the abeyance period, or (2) a written request to remove the petition from abeyance and activate the petition, then this petition will be deemed withdrawn as of January 14, 2017. If the petition is deemed withdrawn, you will not be able to seek judicial review of the regional water quality control board's action or inaction. Requests to extend abeyance periods or to remove petitions from abeyance should be sent to waterqualitypetitions@waterboards.ca.gov or to the mailing address below. A copy of the request must be sent to the other parties to the petition, including the regional water quality control board.

If you decide that you would like to remove this petition from abeyance and activate it at some time in the future, it is important that you carefully consult the State Water Board's regulations. (See Cal. Code Regs., tit. 23, § 2050.5) If you request that this petition be removed from abeyance and activated, the petition will be dismissed on the 91st day following the State Water Board's receipt of your written request to remove the petition from abeyance unless:

- (1) the State Water Board has notified you, the regional water quality control board and interested persons that the regional water quality control board and interested persons have 30 days to respond to the petition;

- (2) the State Water Board has received a written request from you to place this petition back in abeyance; or
- (3) the State Water Board has notified you prior to 91st day that the petition is dismissed.

If none of these events occurs prior to 5:00 p.m. on the last business day before the 91st day after the State Water Board receives your written request to remove the petition from abeyance, this petition will be automatically dismissed without further action by the State Water Board. Dismissal of a petition, whether done by operation of law or by a letter issued by the State Water Board, is a final agency action for purposes of seeking judicial review of the regional water quality control board's action or inaction.

If you have any questions regarding this letter, please contact me at (916) 341-5178.

**IN ALL FUTURE CORRESPONDENCE, PLEASE REFER TO
SWRCB/OCC FILE A-2073(e)**

Sincerely,



Philip G. Wyels
Assistant Chief Counsel

cc: **[via U.S. Mail and email]**
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GOVERNOR



MATTHEW RODRIGUEZ
SECRETARY FOR
ENVIRONMENTAL PROTECTION

State Water Resources Control Board

May 27, 2015

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Dear Messrs. Simonian and Eggart:

PETITION OF CITY OF LAGUNA HILLS (WASTE DISCHARGE REQUIREMENTS ORDER NO. R9-2009-0002 [NPDES NO. CAS0108740] FOR DISCHARGES OF RUNOFF FROM THE MUNICIPAL SEPARATE STORM SEWER SYSTEMS (MS4S) WITHIN THE SAN DIEGO REGION), SAN DIEGO WATER BOARD: APPROVAL OF REQUEST TO CONTINUE TO BE HELD IN ABEYANCE
SWRCB/OCC FILE A-2073

Pursuant to your request, the State Water Resources Control Board (State Water Board) will continue to hold this petition in abeyance until January 14, 2017. Please pay careful attention to this date, because the State Water Board is not responsible for reminding petitioners that their abeyance periods are about to expire. If the State Water Board does not receive prior to 5:00 p.m. on the last business day before January 14, 2017, either (1) a written request to further extend the abeyance period, or (2) a written request to remove the petition from abeyance and activate the petition, then this petition will be deemed withdrawn as of January 14, 2017. If the petition is deemed withdrawn, you will not be able to seek judicial review of the regional water quality control board's action or inaction. Requests to extend abeyance periods or to remove petitions from abeyance should be sent to waterqualitypetitions@waterboards.ca.gov or to the mailing address below. A copy of the request must be sent to the other parties to the petition, including the regional water quality control board.

If you decide that you would like to remove this petition from abeyance and activate it at some time in the future, it is important that you carefully consult the State Water Board's regulations. (See Cal. Code Regs., tit. 23, § 2050.5) If you request that this petition be removed from abeyance and activated, the petition will be dismissed on the 91st day following the State Water Board's receipt of your written request to remove the petition from abeyance unless:

- (1) the State Water Board has notified you, the regional water quality control board and interested persons that the regional water quality control board and interested persons have 30 days to respond to the petition;

FELICIA MARCUS, CHAIR | THOMAS HOWARD, EXECUTIVE DIRECTOR

1001 I Street, Sacramento, CA 95814 | Mailing Address: P.O. Box 100, Sacramento, Ca 95812-0100 | www.waterboards.ca.gov

(2) the State Water Board has received a written request from you to place this petition back in abeyance; or

(3) the State Water Board has notified you prior to 91st day that the petition is dismissed.

If none of these events occurs prior to 5:00 p.m. on the last business day before the 91st day after the State Water Board receives your written request to remove the petition from abeyance, this petition will be automatically dismissed without further action by the State Water Board. Dismissal of a petition, whether done by operation of law or by a letter issued by the State Water Board, is a final agency action for purposes of seeking judicial review of the regional water quality control board's action or inaction.

If you have any questions regarding this letter, please contact me at (916) 341-5178.

**IN ALL FUTURE CORRESPONDENCE, PLEASE REFER TO
SWRCB/OCC FILE A-2073**

Sincerely,



Philip G. Wyels
Assistant Chief Counsel

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EDMUND G. BROWN JR.
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MATTHEW RODRIGUEZ
SECRETARY FOR
ENVIRONMENTAL PROTECTION

State Water Resources Control Board

MAY 28 2015

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Dear Mr. Hagerty and Ms. Andrews:

PETITION OF CITY OF SAN CLEMENTE (WASTE DISCHARGE REQUIREMENTS ORDER NO. R9-2009-0002 [NPDES NO. CAS0108740] FOR DISCHARGES OF RUNOFF FROM THE MUNICIPAL SEPARATE STORM SEWER SYSTEMS (MS4S) WITHIN THE SAN DIEGO REGION), SAN DIEGO WATER BOARD: APPROVAL OF REQUEST TO CONTINUE TO BE HELD IN ABEYANCE
SWRCB/OCC FILE A-2073(d)

Pursuant to your request, the State Water Resources Control Board (State Water Board) will continue to hold this petition in abeyance until January 14, 2017. Please pay careful attention to this date, because the State Water Board is not responsible for reminding petitioners that their abeyance periods are about to expire. If the State Water Board does not receive prior to 5:00 p.m. on the last business day before January 14, 2017, either (1) a written request to further extend the abeyance period, or (2) a written request to remove the petition from abeyance and activate the petition, then this petition will be deemed withdrawn as of January 14, 2017. If the petition is deemed withdrawn, you will not be able to seek judicial review of the regional water quality control board's action or inaction. Requests to extend abeyance periods or to remove petitions from abeyance should be sent to waterqualitypetitions@waterboards.ca.gov or to the mailing address below. A copy of the request must be sent to the other parties to the petition, including the regional water quality control board.

If you decide that you would like to remove this petition from abeyance and activate it at some time in the future, it is important that you carefully consult the State Water Board's regulations. (See Cal. Code Regs., tit. 23, § 2050.5) If you request that this petition be removed from abeyance and activated, the petition will be dismissed on the 91st day following the State Water Board's receipt of your written request to remove the petition from abeyance unless:

- (1) the State Water Board has notified you, the regional water quality control board and interested persons that the regional water quality control board and interested persons have 30 days to respond to the petition;

FELICIA MARCUS, CHAIR | THOMAS HOWARD, EXECUTIVE DIRECTOR

1001 I Street, Sacramento, CA 95814 | Mailing Address: P.O. Box 100, Sacramento, Ca 95812-0100 | www.waterboards.ca.gov

(2) the State Water Board has received a written request from you to place this petition back in abeyance; or

(3) the State Water Board has notified you prior to 91st day that the petition is dismissed.

If none of these events occurs prior to 5:00 p.m. on the last business day before the 91st day after the State Water Board receives your written request to remove the petition from abeyance, this petition will be automatically dismissed without further action by the State Water Board. Dismissal of a petition, whether done by operation of law or by a letter issued by the State Water Board, is a final agency action for purposes of seeking judicial review of the regional water quality control board's action or inaction.

If you have any questions regarding this letter, please contact me at (916) 341-5178.

**IN ALL FUTURE CORRESPONDENCE, PLEASE REFER TO
SWRCB/OCC FILE A-2073(d)**

Sincerely,



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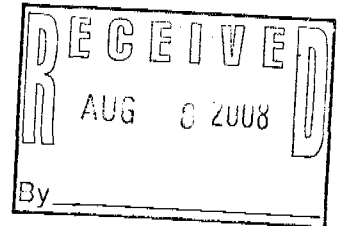
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ATTACHMENT 26



POLLUTION CONTROL HEARINGS BOARD
STATE OF WASHINGTON

PUGET SOUNDKEEPER ALLIANCE;
PEOPLE FOR PUGET SOUND; PIERCE
COUNTY PUBLIC WORKS AND
UTILITIES DEPARTMENT; CITY OF
TACOMA; PORT OF SEATTLE;
SNOHOMISH COUNTY; CLARK
COUNTY; PACIFICORP; and PUGET
SOUND ENERGY,

Appellants,

v.

STATE OF WASHINGTON,
DEPARTMENT OF ECOLOGY,

Respondent,

CITY OF SEATTLE; KING COUNTY;
PORT OF TACOMA; PACIFICORP;
PUGET SOUND ENERGY; STATE OF
WASHINGTON, DEPARTMENT OF
TRANSPORTATION,

Intervenors.

FINDINGS OF FACT, CONCLUSIONS
OF LAW, AND ORDER

PHASE I

PCHB NOS. 07-021, 07-026, 07-027
07-028, 07-029, 0-030,
07-037

These consolidated appeals involve the regulation of stormwater discharges from municipal storm sewer systems under a National Pollutant Discharge Elimination System (NPDES) and State Waste Discharge General Permit (State Waste Permit). In these appeals, multiple parties challenge the validity of the Department of Ecology's (Ecology) 2007 Phase I Municipal Stormwater General Permit (Phase I Permit). This permit was issued pursuant to the

1 Federal Water Pollution Control Act, commonly known as the "Clean Water Act" (CWA), 33
2 U.S.C. § 1251 *et seq.* and the state Water Pollution Control Act, (WPCA), Chapter 90.48 RCW.

3 The Pollution Control Hearings Board (Board) held a multiple day hearing between April
4 29, 2008 and May 8, 2008. Attorneys Todd True and Jan Hasselman represented Appellants
5 Puget Soundkeeper Alliance and People for Puget Sound (PSA). Attorney Tad H. Shimazu
6 represented Appellant Pierce County. Assistant City Attorney Doug Mosich represented
7 Appellant City of Tacoma. Attorneys Susan Ridgley and Tanya Barnett represented Appellant
8 Port of Seattle. Catherine A. Drews and Elizabeth E. Anderson, Deputy Prosecuting Attorneys,
9 represented Appellant Snohomish County. E. Bronson Potter, Senior Deputy Prosecuting
10 Attorney and Rodney Swanson, Clark County Department of Public Works represented
11 Appellant Clark County. Attorneys Loren R. Dunn and Blake Mark-Dias represented Appellants
12 Pacificorp and Puget Sound Energy (Utilities). Ronald L. Lavigne, Senior Counsel, and Thomas
13 J. Young, Assistant Attorney General represented Respondent Ecology. Assistant City Attorney
14 Theresa R. Wagner represented Intervenor City of Seattle. Senior Deputy Prosecuting Attorney
15 Joseph B. Rochelle and Deputy Prosecutor Verna P. Bromley represented Intervenor King
16 County. Attorney Carolyn Lake represented Intervenor Port of Tacoma. Stephen Klasinski,
17 Assistant Attorney General represented Intervenor Washington State Department of
18 Transportation (WSDOT).

19 Chair, Kathleen D. Mix, William H. Lynch, and Andrea McNamara Doyle comprised the
20 Board. Administrative Appeals Judge Kay M. Brown, presided for the Board. Randi Hamilton
21

1 and Kim L. Otis of Gene Barker and Associates of Olympia, Washington provided court
2 reporting services.

3 PROCEDURAL BACKGROUND

4 On January 17, 2007, Ecology issued the Phase I Permit for discharges from large and
5 medium municipal separate storm sewer systems (called MS4s). The Phase I Permit went into
6 effect on February 16, 2007.

7 PSA, Pierce County, City of Tacoma, Port of Seattle, Snohomish County, Clark County,
8 and the Utilities appealed the Phase I Permit.¹ The Board conducted pre-hearing conferences,
9 and entered pre-hearing orders for the Phase I Appeal. The parties raised multiple issues. The
10 Board addressed many of these issues in a separate summary judgment order² and has resolved
11 others through orders on summary judgment and after a hearing on the merits related to the
12 Permit's Special Condition S4.³ The parties also withdrew some of the issues. This decision
13 resolves the remaining issues, which include the following:⁴

14 C. Special Condition 8 re: Monitoring (challenged only by Clark and Pierce
15 County)⁵

17 ¹ City of Pacific (PCHB No. 07-031), Whatcom County (PCHB No. 07-032), and Sammamish Plateau Water &
18 Sewer District (PCHB No. 07-024) filed additional appeals, but they are not part of this consolidated action.

² See Order on Dispositive Motions (Phase I Municipal Stormwater Permit), issued on April 7, 2008.

³ See Order on Dispositive Motions: Condition S4, issued on April 2, 2008 and Findings of Fact, Conclusions of
19 Law and Order, Condition S4, issued on August 7, 2008.

⁴ The numbering of these issues was retained from the numbering system used in the Third Pre-Hearing Order
20 issued on December 11, 2007.

⁵ All of the permittee appellants initially raised issues related to the S8 monitoring provisions. These issues were
21 resolved through an agreement between Ecology and all of the permittee appellants except Clark and Pierce County.
See Ex. Ecy 11 (Phase I). The agreement also resolves issues raised by Snohomish County related to Special
Condition S7.

1 1. Whether the requirements imposed in Special Condition S8 are lawful,
2 practicable, reasonable, and/or designed to achieve the goals of the statutory
municipal stormwater permit program?

3 3. Whether the monitoring requirements imposed in Special Condition S8 are
4 overly broad, overly prescriptive, and cost-ineffective so that requiring
5 implementation of such requirements as written is unlawful, impracticable,
and/or unreasonable?

6 E. Issues Specific to the Ports of Seattle and Tacoma

7 5. Whether the requirement in Special Condition S6.E.7 to prepare and
8 implement SWPPP(s) for "all Port-owned lands," regardless of their capacity
to generate pollutants or other site-specific characteristics, is unlawful,
unreasonable, unjust, or invalid?

9 F. Joint Environmental Legal Issues

10 1. Low-Impact Development:

11 a. Does the permit fail to require maximum on site dispersion and
12 infiltration of stormwater, through the use of "low impact
13 development" techniques, basin planning, and other appropriate
technologies, and if so, does that failure unlawfully cause or contribute
to violations of water quality standards?

14 b. Does the permit fail to require maximum onsite dispersion and
15 infiltration of stormwater, through the use of "low impact
16 development" techniques, basin planning, and other appropriate
17 technologies, and if so, does that failure unlawfully allow permittees to
discharge pollutants that have not been treated with all known
available and reasonable methods of treatment ("AKART"), and/or fail
to reduce the discharge of pollutants to the maximum extent
practicable ("MEP")?

18 2. Existing Development:

19 a. Does the absence of any standard and/or technology requirements for
20 reducing stormwater discharges from existing development and
21 existing stormwater systems unlawfully cause or contribute to
violations of water quality standards?

1 b. Does the absence of any standard and/or technology requirements for
2 reducing stormwater discharges from existing development and
3 existing stormwater systems unlawfully allow permittees to discharge
pollutants that have not been treated with AKART, and/or fail to
reduce the discharge of pollutants to MEP?

4 3. Monitoring: Is the monitoring required under Permit Condition S.8 unlawful
5 because it is inadequate to determine whether: (i) the permittee is in
6 compliance with water quality standards; (ii) discharges are causing or
contributing to violations of water quality standards; or (iii) discharges are
being treated with AKART and/or MEP?⁶

7 4. Water Quality Standards Violations:

8 a. Does the Phase I permit fail to ensure that discharges will not cause or
9 contribute to violations of water quality standards?⁷

10 5. Compliance:

11 a. Does the permit unlawfully provide for compliance with permit terms
12 on a schedule that is indefinite and unenforceable, not as expeditious
as possible, and/or in excess of statutory deadlines?

13 b. Does the permit unlawfully allow a permittee to create and implement
14 permit requirements without Ecology's oversight or involvement?

15 Based on pre-filed testimony, multiple days of sworn testimony of witnesses, extensive
16 exhibits submitted into the record, and argument from counsel representing the numerous parties
17 that participated in these consolidated appeals, and having fully considered the record, the Board
18 enters the following decision:

19 _____
20 ⁶ PSA is not challenging the monitoring provisions of the permit. This issue is brought by the Utilities only.

21 ⁷ This issue also includes the issue originally stated as S4.6: Does the prohibition on violations of water quality standards contained in Permit Condition S4 unlawfully or unreasonably conflict with the other provisions of the permit?

1 SUMMARY OF THE DECISION

2 The Board concludes that the monitoring program established in Special Condition S8
3 and required of all permittees is a valid exercise of Ecology's technical expertise and discretion.
4 (Issues C.1 and 3, and F.5). The Board upholds the permit term requiring that Stormwater
5 Pollution Prevention Plans (SWPPPs) be prepared on all port-owned lands, but directs that
6 Ecology modify the condition to exempt environmental mitigation sites owned by the Port of
7 Tacoma from the SWPPP preparation requirement. (Issue E.5). The Board concludes that the
8 Phase I Permit fails to require that the municipalities control stormwater discharges to the
9 maximum extent practicable, and does not require application of all known, available, and
10 reasonable methods to prevent and control pollution, because it fails to require more extensive
11 use of low impact development (LID) techniques. (Issue F.1.b). To remedy this problem, the
12 Board directs Ecology to make specific changes to some provisions in the permit, and also
13 remands the permit with direction to Ecology to require the permittees to develop methods for
14 use of low impact development at parcel and subdivision levels in their jurisdictions. The Board
15 concludes that permittees must provide information in their annual report to Ecology on the
16 extent to which basin planning is being undertaken or should be considered in their jurisdiction
17 in order to assist with future phases of the permit. The areas identified should be relatively
18 undeveloped where new development is occurring, and from which discharges may impact
19 aquatic resources. The Board concludes that the structural stormwater control program
20 provisions of the permit, as drafted, constitute impermissible self regulation. (Issues F.2 and
21 F.5.b). To remedy this deficiency, the Board directs modification of the permit to require

1 permittees to describe the prioritization of their selected structural control projects. The Board
2 affirms the source control program requirements without change. Finally, the Board concludes
3 that PSA and the Utilities failed to prove that any of the conditions of the permit violate the
4 timing requirements of 33 U.S.C. § 1342 (p)(4)(A) (Issue F.5.a).

5 FINDINGS OF FACT

6 A. History of Phase I Permit

7 1.

8 Ecology developed the current Phase I Permit through an eight year long process. The
9 2007 Phase I Permit replaced the first municipal stormwater NPDES and State Waste Permits,
10 which were issued in 1995 and expired in July of 2000. *Testimony of Wessel, Moore, Exs. Muni*
11 *0002, p. 17, 0006, 0007, 0008, 0009.*

12 2.

13 On January 19, 1999, Ecology filed a Notice of Intent to reissue the 1995 permits. *Ex.*
14 *Muni 0002, p. 6.* Ecology formed an advisory committee, which included representatives from
15 cities, counties, state and federal agencies, environmental groups, and the public, to assist with
16 development of the revised permit. This committee met several times during 1999 and 2000.
17 *Testimony of Wessel, Moore, Exs. Muni 0002, p. 6-7.* The 1995 Phase I Permit closely followed
18 the EPA Phase I Regulations, which allowed the permittees to propose what was contained
19 within their own stormwater programs. Ecology was dissatisfied with this approach and decided
20 that more detailed requirements were needed for the 2007 Phase I Permit. *Testimony of Moore.*

1 3.

2 Completion of the new permit was delayed at several junctures as a result of a number of
3 intervening events and shifting priorities, including the federal listing of Puget Sound Chinook
4 Salmon in 1999, the adoption of EPA's Phase II rules, and Ecology's decision to revise the
5 state's Stormwater Management Manuals and develop the first Phase II municipal stormwater
6 permits in tandem with the Phase I permit update. *Testimony of Wessel, Moore, Exs. ECY 6*
7 *(Phase I), Muni 0002, p. 7.*

8 4.

9 In response to legislative interest in the new federal requirements for municipal
10 stormwater permits, Ecology convened two advisory groups during the summer of 2003: one for
11 Eastern Washington and one for Western Washington. Each advisory group submitted a report
12 of its findings to Ecology in early December, 2003. Ecology developed its own
13 recommendations and published these, together with the recommendations from both advisory
14 groups, in a report to the Legislature dated January, 2004. *Testimony of Moore, Exs. ECY 6*
15 *(Phase I), Muni 0002, p. 7.*

16 5.

17 Ecology filed a notice of intent to issue the Phase I and Phase II Permits in June of 2004.
18 The agency released the first preliminary draft of the Phase I Permit for public comment in May,
19 2005, and the first formal draft in February, 2006. *Exs. PSA 018, Muni-0100.* Ecology received
20 and reviewed thousands of pages of public comment, and responded to those comments in a 205
21 page document when it released the revised, final permit in January, 2007. *Exs. Muni 002, p. 7-*

1 8, *ECY 3 (Phase I)*. Ecology issued the Phase I permit, in its current form, on January 17, 2007.
2 It became effective on February 16, 2007, and expires on February 15, 2012. *Ex. Muni 001,*
3 *Testimony of Moore.*

4 B. Overview of the permit

5 6.

6 The Phase I Permit regulates discharges from municipal separate storm sewer systems
7 (MS4s) owned or operated by the following large and medium municipalities statewide: City of
8 Seattle, City of Tacoma, Clark County, King County,⁸ Pierce County and Snohomish County.⁹ It
9 also allows coverage of “secondary permittees,” including the Ports of Seattle and Tacoma, for
10 discharges from other publicly owned or operated municipal separate sewer systems located
11 within the primary permittee cities and counties. Secondary permittees as a group are subject to
12 somewhat different terms under the permit than primary permittees, and the permit also has
13 specific terms applicable only to the Ports of Seattle and Tacoma and not other secondary
14 permittees. The Phase I permit does not cover direct discharges into waters of the state from
15 privately owned stormwater systems, nor does it cover the storm sewers owned and operated by
16 the Washington State Department of Transportation (WSDOT).¹⁰ Unlike traditional NPDES
17 permits, the Phase I permit is a “programmatic permit,” meaning it requires the municipal

18 ⁸ King County Department of Metropolitan Services (METRO) is covered as a “co-permittee” with the City of
19 Seattle for discharges from outfalls King County owns or operates in the City of Seattle. *Special Condition S1.C.,*
Exs. Muni 0001, p. 1, Muni 0002, p. 21.

20 ⁹ An MS4 consists of all of the conveyances, or systems of conveyances (including roads with drainage systems,
21 municipal streets, catch basins, curbs gutters, ditches manmade channels or storm drains) designed or used for
collecting or conveying stormwater. By definition, these systems cannot be combined with sanitary sewer systems.
Exs. Muni 0001, p. 61, 63, Muni 0002, p. 22-24.

¹⁰ The Phase I permit does not cover the storm sewers owned and operated by the Washington State Department of
Transportation (WSDOT). WSDOT’s system is covered under an individual permit. *Ex. Muni 0002, p. 19, 21.*

1 permittees to implement area-wide stormwater management programs rather than establishing
2 benchmarks or other numeric or narrative effluent limits for stormwater discharges from
3 individual outfalls. *Testimony of Moore, Exs. Muni 0001, p. 1, 2, 60-65, Muni 0002, p 20-24.*

4 7.

5 The heart of the Phase I Permit requires that permittees implement a Stormwater
6 Management Program (SWMP). Special Condition S5 contains the SWMP requirements for the
7 primary permittees, and Special Condition S6 sets out the SWMP requirements for secondary
8 and co-permittees. The required elements of the SWMP track closely with EPA's Part II
9 Application rules but contain much more detailed minimum performance standards for the
10 municipalities' programs. This approach avoids the need for separate review and approval by
11 Ecology of each SWMP prior to coverage under the Phase I Permit. Instead, a permittee is
12 required to submit the SWMP with the permittee's first year annual report. S5.A. *Testimony of*
13 *Moore, Wessel; Exs. Muni 0001, p. 6-25; Muni 0002, p. 18, 28-42.*

14 8.

15 Ecology views these SWMP requirements, in the aggregate, to represent the MEP
16 standard; that is, permittees who implement all of the program requirements in combination with
17 one another are considered by Ecology to be reducing the discharge of pollutants to the
18 maximum extent practicable, even though it may be possible for a permittee to do more in a
19 specific program element or at a specific outfall if the individual requirements were evaluated in
20 isolation from the rest of the program requirements. *Testimony of Moore.*

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9.

Under Special Condition S5 the SWMP must include ten component parts, which are mandatory to the extent allowable under state and federal law. These program components address the following topics, and the minimum requirements for each are set out in S5.C. 1 through 10 of the Phase I Permit: (1) Legal authority; (2) System mapping and documentation; (3) Coordination; (4) Public involvement; (5) Controlling runoff from new development, redevelopment, and construction; (6) Structural stormwater controls (retrofits); (7) Source control for existing development; (8) Illicit connections, illicit discharge detection and elimination; (9) Operations and maintenance; and (10) Education and outreach. *Muni 0001, p. 6-25.*

10.

More specifically, S5.C.1 requires the permittee to demonstrate by the effective date of the Phase I Permit that it has the legal authority to control discharges to and from its MS4s. S5.C.2 requires the permittee to map, by specific dates, prescribed parts of its MS4. S5.C.3 requires the permittee to establish coordination mechanisms to remove barriers to stormwater management created by the need to coordinate efforts both internally within one governmental entity, and externally with jurisdictions that share drainage basins. S5.C.4 requires the permittee to provide ongoing opportunities for public involvement in its stormwater management program. S5.C.5 requires the permittee to develop a program to prevent and control impacts of runoff from new development, redevelopment, and construction activities. S5.C.6 requires the permittee to

1 include a program to construct structural stormwater controls to prevent or reduce impacts from
2 discharges from its MS4s. This element is applicable to existing development, as well as new
3 development, and addresses impacts that are not already adequately controlled by other required
4 actions under the SWMP. S5.C.7 requires the permittee to include a source control program for
5 existing development that reduces pollutants in runoff from these areas. S5.C.8 requires the
6 permittee to have an ongoing program to detect, remove and prevent illicit connections and illicit
7 discharges, including spills, into its MS4s.¹¹ S5.C.9 requires the inclusion of a program to
8 regulate maintenance activities and to conduct maintenance activities by the permittee that
9 prevent or reduce stormwater impacts. S5.C.10 requires that the permittee's SWMP include an
10 education program with the goal of reducing or eliminating behaviors and practices that cause or
11 contribute to adverse stormwater impacts. The performance measures associated with S5.C.2
12 through 10 must be completed within specific time periods. *Testimony of Moore, Wessel, Exs.*
13 *Muni 0001, p. 6-25, Muni 0002, p. 28-42.*

14
15 11.

16 Special Condition S6 (S6), which is similar but not identical to S5, establishes the
17 components required for SWMPs from secondary permittees. Parts of this condition apply to all
18 secondary permittees (S6.A, B and C), all secondary permittees other than the Ports of Seattle
19

20 ¹¹ An illicit connection is any man-made conveyance that is connected to a MS4 without a permit, excluding roof
21 drains and other similar type connections. An illicit discharge is any discharge to a MS4 that is not composed
entirely of stormwater except discharges pursuant to a NPDES permit and discharges resulting from fire fighting
activities. *Ex. Muni 0001, p. 61.*

1 and Tacoma (S6.D), and just the Ports of Seattle and Tacoma (S6.E). *Testimony of Moore, Exs.*
2 *Muni 0001, p. 25-39, Muni 0002, p. 42-47.*

3 12.

4 Special Condition S8 (S8) addresses monitoring. It requires the primary permittees and
5 the Ports to develop and implement long-term monitoring programs for the purpose of meeting
6 two of the four monitoring objectives identified in the first round of the Phase I municipal
7 stormwater permits issued in 1995: (1) estimating pollutant concentrations and loads from
8 representative areas or basins; and (2) evaluating the effectiveness of selected Best Management
9 Practices (BMP). The permit does not require monitoring to identify specific sources of
10 pollutants or the degree to which stormwater discharges are impacting selected receiving waters
11 and sediments. *Testimony of Moore, O'Brien, Exs. Muni 0001 p. 40-49; Muni 0002, p. 49-50.*

12 C. Monitoring provisions in S8

13 13.

14 Special Condition S8.C.1 specifies that the primary permittees' and the Ports' monitoring
15 programs must contain three components: 1) stormwater outfall monitoring, which is intended to
16 characterize stormwater runoff quantity and quality at a limited number of locations 2) Targeted
17 stormwater management program effectiveness monitoring, which is intended to improve
18 stormwater management efforts by evaluating at least two stormwater management practices that
19 significantly affect the success of, or confidence in, stormwater controls, and 3) BMP evaluation
20 monitoring, which is intended to evaluate the effectiveness and operation and maintenance
21 requirements of stormwater treatment and hydrologic management BMPs. S8.D, E, and F set out

1 the requirements for each of the three components. *Testimony of Moore, O'Brien, Exs. Muni*
2 *0001, p. 40-49; Muni 0002, p. 49-56.* A Quality Assurance Project Plan (QAPP) must be
3 prepared for each of the components of the monitoring program in accordance with Ecology
4 guidelines and submitted to Ecology for review. Ecology must review and approve the QAPPs
5 for stormwater monitoring conducted under S8.D and F prior to monitoring. *Ex. Muni 0001, p.*
6 *40-41.*

7 14.

8 The first component of the Special Condition S8 monitoring involves outfall monitoring
9 for the purpose of developing local knowledge of pollutant loads and average event mean
10 concentrations from representative areas drained by MS4s. Developing a baseline of local data
11 is important because some variations are emerging between stormwater characterization data
12 from the Pacific Northwest and other areas around the county and world, with examples of both
13 higher and lower concentration levels present regionally, differing from national averages. To
14 accomplish this objective, the Permit requires permittees to select three sites that represent
15 different land uses and then to monitor a certain percentage of storm events per year for a wide
16 range of constituents and parameters. The permit requires storm events to be sampled using
17 flow-weighted composite storm sampling. S8.D.2.b. The seasonal first-flush must be tested for
18 toxicity. S8.D.2.d. Grab samples from each storm must be taken and tested for total petroleum
19 hydrocarbon and fecal coliform bacteria, and one to three sediment samples must be collected
20 each year at each site and analyzed for a variety of parameters. S8.D.2.e, f. *Testimony of*
21 *O'Brien, Moore, Ex. Muni 0001, p. 41-45.*

1 15.

2 The number of samples is intended to establish a sufficient database from which to
3 discern annual and seasonal loading trends over a long time period. Performing a toxicity test on
4 the "seasonal first-flush storm" provides an annual worst case scenario. Ecology believes this
5 data is necessary to evaluate whether stormwater management programs are making progress
6 towards the goal of reducing pollutants discharged and protecting water quality. The data would
7 also be useful when establishing Water Clean-up Plans (TMDLs) for water bodies not currently
8 achieving water quality standards, and in other efforts to identify sources of toxicant loading to
9 Puget Sound. *Testimony of O'Brien, Ex. Muni 0002, p. 49-53.*

10 16.

11 The second component of the S8 required monitoring, described in detail in S8.E, is the
12 targeted stormwater management program effectiveness monitoring. In this section, each
13 permittee must conduct monitoring designed to determine the effectiveness of (1) a targeted
14 action (or narrow suite of actions) from their SWMP, and (2) achieving a targeted environmental
15 outcome. The monitoring must, at a minimum, include stormwater, sediment or receiving water
16 monitoring of physical, chemical and/or biological characteristics, and may also include other
17 kinds of data collection and analysis. Ecology anticipates that the targeted environmental
18 outcomes permittees will chose to evaluate will be measured in the receiving water and,
19 therefore, may involve receiving water monitoring. *Testimony of O'Brien, Moore, Exs. Muni*
20 *0001, p. 45-46; Muni 0002, p. 53-54.*

1 17.

2 The third component of the S8 monitoring provisions is BMP effectiveness monitoring,
3 the requirements of which are set out in S8.F. The purpose of this third component of the S8
4 monitoring is to develop local performance data on the effectiveness of specific treatment BMPs
5 in reducing pollutant discharges and the effectiveness of various low impact development (LID)
6 practices in reducing the quantity of runoff. This section requires the primary permittees and
7 Ports to select and monitor two treatment BMPs in use at a minimum of two sites in their
8 jurisdiction. S8.F.2. The permittees are also required to monitor the effectiveness of one flow
9 reduction strategy¹² that is in use or planned for installation in their jurisdiction. S8.F.7. Though
10 many of these treatment BMPs have been in common use for many years, and the 2005
11 Stormwater Management Manual for Western Washington relies on them as presumptively
12 effective, Ecology has only incomplete information about their actual pollutant removal
13 capabilities. *Testimony of O'Brien, Exs. Muni 0001, p. 46-47; Muni 0002, p. 54-56.*

14 18.

15 In the absence of local data, Ecology had relied on an existing national stormwater
16 treatment BMP database,¹³ as its primary source of BMPs for the 2005 Stormwater Management
17 Manual for Western Washington (The Manual) *Testimony of O'Brien, Tobiason, Exs. PI 0059,*
18 *0060, 0064 and 0065.* The national database is of limited utility, however, in evaluating the
19

20 ¹² A flow reduction strategy is an approach that reduces the volume of runoff coming off a landscape. Ecology
witness Ed O'Brien indicated in his testimony that this referred to the use of low impact development techniques.

21 ¹³ The purpose of the database, called the International Stormwater Treatment Database, is to facilitate
understanding about how particular BMPs perform database and contains studies from both inside and outside the
United States. *Testimony of O'Brien.*

1 effectiveness of BMPs because the performance of treatment BMPs varies greatly depending on
2 specific design criteria, loading criteria, different rainfall patterns, and the types and sizes of
3 solids to which a site gets exposed. These factors vary widely across the country, and therefore
4 BMP performance data from one area is not always useful for another area. This has been a
5 specific concern for Washington because, until recently, there has been little Washington data in
6 the database. In some instances, this national database lacks also data quality, and relies on an
7 insufficient number of samples at a particular site or from a particular BMP to be statistically
8 useful. So, while there exists national data that allows Ecology to make some general
9 assumptions about how well BMPs perform, Ecology still lacks site-specific, region-specific data
10 to verify that the BMPs perform the way Ecology anticipates they will perform. As a result,
11 Ecology required permittees to evaluate BMP effectiveness in an effort to learn and apply the
12 information in future settings and permit iterations. *Testimony of O'Brien, Tobiason, Kibbey,*
13 *Exs. PI 0059, 0060, 0064, 0065, Muni 0002, p. 54-56.*

14 19.

15 Ecology considered requiring receiving water monitoring in the Phase I Permit, but the
16 municipalities as a group opposed the requirement. The 1995 Phase I Permit identified one
17 monitoring objective as evaluating the degree to which stormwater discharges impact selected
18 receiving waters and sediments, and Ecology concedes this continues to be a valid long-term
19 objective for the municipal stormwater general permits. In the current iteration of the Phase I
20 Permit Ecology decided, however, that receiving water monitoring data would not be the most
21 helpful monitoring data because 1) receiving water monitoring data is more complex data to

1 obtain, 2) samples can be hard to collect during storms, and 3) it is difficult to tie the receiving
2 water data back to a specific discharger. Ecology agreed with the municipalities that certain
3 receiving waters may receive pollution from multiple upland sources, and monitoring the
4 receiving water would not provide permittees with useful data by which they could develop or
5 tailor their stormwater management programs. Ecology also does not typically require receiving
6 water monitoring under several other general stormwater discharge permits, including the
7 construction and industrial permits, except for certain impaired water bodies where there have
8 been violations of discharge limitations. *Testimony of Moore, O'Brien. Ex. Muni 0002, p. 49.*

9 20.

10 The monitoring required by S8 is primarily aimed at developing a uniform baseline of
11 information about the pollutant loading discharging from MS4s, and evaluating the effectiveness
12 of the BMPs that permittees use to control and reduce the pollutants discharging from those
13 systems. Ecology determined this data will be the most useful for establishing what constitutes
14 maximum extent practicable reduction in pollutants from MS4 discharges for future iterations of
15 the municipal stormwater permits. Allowing some municipalities to opt out of these
16 requirements, by substituting different kinds of monitoring, would reduce the robustness of the
17 data set Ecology seeks for establishing this baseline for future permits. *Testimony of Moore,*
18 *O'Brien.*

19 21.

20 Ecology intends to rely on its own monitoring programs, coordinated with and
21 supplemented by other monitoring efforts, to accomplish the receiving water monitoring

1 objectives identified in the 1995 permit. Ecology received an \$800,000 state appropriation to
2 begin work with a collaborative monitoring consortium to identify the elements of a
3 comprehensive receiving water monitoring program, outside of the permit process. Such a
4 monitoring consortium could more fairly distribute the cost of monitoring among all of the
5 entities with an interest in receiving water data and form the basis for effective, region-wide
6 monitoring of receiving water quality in relation to discharge points. Although Ecology is
7 currently organizing the consortium, no water monitoring has been started to date through this
8 program, and inadequate funding currently exists to do so. Outside the consortium, some
9 receiving water monitoring occurs through statewide ambient water quality monitoring and
10 pollutant specific monitoring where a water body is subject to a TMDL. *Testimony of Moore,*
11 *O'Brien, Wessel.*

12 D. Pierce and Clark Counties Monitoring Plans

13 22.

14 Two primary permittees, Pierce and Clark Counties, already have water quality
15 monitoring programs which differ significantly from the monitoring required in the Phase I
16 Permit. The key difference between both of the counties' programs, and the Phase I Permit
17 monitoring requirements, is that the county programs focus on monitoring in the receiving water
18 environment. However, neither of the County programs monitors the chemical composition or
19 toxicity of stormwater discharges from their MS4, nor relates stormwater management actions to
20 a reduction in the pollutant characteristics of stormwater. *Testimony of Tobiason, O'Brien, Exs.*
21 *PSA 018, PI 0042.*

1 23.

2 Pierce County began working with a consultant in 2004 to develop its monitoring
3 program. The County developed the program based on the proposed monitoring requirements in
4 an early draft of the Phase I permit, which included a receiving water monitoring component, as
5 well as ongoing communications with Ecology personnel. The 2005 draft of the Phase I permit
6 prescribed two of the five monitoring methods that Pierce County incorporated into its
7 monitoring plan. *Ex. PI 0041*. Pierce County published its final program in March, 2007.

8 *Testimony of Tobiason, O'Brien, Ex. PI 0042.*

9 24.

10 The overall goal of the Pierce County monitoring program is to implement a
11 comprehensive monitoring program that will provide meaningful data to support the County's
12 efforts to protect receiving waters from stormwater impacts. Although developed primarily in
13 anticipation of the NPDES permit requirements, it also serves other county water quality
14 objectives. In order to accomplish its goal, the program uses a three level receiving water
15 monitoring approach. It includes long term status and trends monitoring, which includes a triad
16 of bioassessments, physical channel characterization, and in-situ bioassays at existing County
17 monitoring sites in selected streams, and may also include flow monitoring where gauges exist.
18 Pierce County includes the sampling of the stream bottom as part of this long-term monitoring in
19 order to determine the presence and health of benthic invertebrates. Monitoring benthic
20 invertebrates provides a good indicator of watershed health because these organisms respond to
21 physical and chemical stresses at the stream bottom. Pierce County applies these monitoring

1 methods over a five year period to characterize the receiving waters in up to nine watersheds
2 with regards to the receiving waters' physical stability, habitat, biological health, and
3 susceptibility to toxicants in stormwater. This will enable Pierce County to prioritize responses
4 to watersheds that exhibit vulnerability. It also includes targeted development monitoring, which
5 compares upstream and downstream conditions to assess impacts of stormwater discharges on
6 the receiving waters over finite periods before and after specific development. Targeted
7 development monitoring includes continuous turbidity, conductivity and hydraulic stage
8 monitoring and *in-situ* bioassay upstream and downstream of discharges from targeted
9 development, and assessment of physical channel conditions downstream. Some aspects of the
10 County's monitoring program, particularly the real-time data, will also assist the county in
11 detecting spills and illicit discharges. The third level of receiving water monitoring included is a
12 special studies monitoring. This method provides for adaptive management to be employed as
13 needed on a site specific basis to develop cause-effect relationships that lead to focused
14 stormwater management response. As part of this method, chemical analysis may be conducted
15 if other programs indicate a need for such study to determine the cause of a problem discovered
16 through receiving water monitoring. This is the only aspect of the Pierce County Program that
17 provides for the use of chemical analysis. *Testimony of Tobiason, Kibbey, Exs. PI 0042, Ex. PI*
18 *0055, PI 0094.*

19 25.

20 Clark County, like Pierce County, has its own monitoring plan which is focused on
21 receiving water monitoring. Clark County developed its plan in response to its first

1 NPDES/State Waste permit which was issued July, 1999 and expired December, 2000.¹⁴ *Muni*
2 *0140, Special Condition S5.B.4, p. 7, 8.* Its plan has three elements: a long-term index site
3 project, hydrologic monitoring, and a stormwater needs assessment program. The index site
4 project involves nine stream stations which are influenced by stormwater, and a forested
5 reference site. A suite of stream health characteristics are monitored at each site. Water quality
6 monitoring takes place on a monthly basis. The hydrologic monitoring consists of monitoring
7 stream flow continuously through the use of storm gauges at several locations, including some of
8 the site index locations. The stormwater needs assessment program is a system created to make
9 an assessment of needs for each sub-basin in the county that contains parts of the MS4.
10 Currently, Clark County is in the process of completing reports on 12 urbanizing and rural sub-
11 watersheds. *Testimony of Swanson, Ex. Muni 0140, p. 7-8.*

12 26.

13 The monitoring required under the Phase I Permit is fundamentally different than the
14 monitoring contained in the Pierce and Clark County monitoring programs. The Counties'
15 monitoring programs do not routinely look at the chemical content or toxicity of stormwater
16 discharges, nor do they look at the effectiveness of treatment BMPs. *Testimony of O'Brien,*
17 *Tobiason, Kibbey.*

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19
20

21 ¹⁴ Clark County was not informed of the need to submit a permit application until January of 1995, because of confusion over whether Clark County met the requirements of the Phase I Permit, i.e. urbanized area with a population greater than 100,000. *Ex. Muni 0141, p. 8.*

1 27.

2 Ecology stated that it was extremely important to be able to answer whether our
3 stormwater programs are adequate to protect aquatic resources and uses in its 2004 report to the
4 Legislature. Therefore, Ecology included recommendations that certain types of environmental
5 monitoring be conducted at the local and regional levels, including monitoring of the biological,
6 chemical, and physical health of receiving waters. *Ex. ECY 6 (Phase I), p. 31-32.*

7 28.

8 Ecology does not oppose the Counties continuing on with their own monitoring programs
9 in addition to the S8 monitoring. However, it has not allowed Pierce and Clark Counties to
10 substitute their programs for the required S8 monitoring. Ecology witness Edward O'Brien did
11 not rule out the possibility that Ecology could allow Pierce and Clark to substitute their
12 monitoring programs for some parts of the required S8 monitoring. Pierce County witness
13 Heather Kibbey testified that Pierce County could not afford to do both its receiving monitoring
14 program and the required S8 monitoring. *Testimony of O'Brien, Tobiasson, Kibbey.*

15 E. Ports

16 29.

17 One of the required elements of the SWMP for all Phase I permittees is the preparation of
18 a stormwater pollution prevention plan (SWPPP). The permit requires all primary permittees to
19 prepare SWPPS for "all heavy equipment maintenance or storage yards, and material storage
20 facilities owned or operated by the Permittee(s)" that are not already covered by another
21 stormwater discharge permit. S5.C.9.b.xi, p. 23, 24. The primary permittees are allowed 24

1 months to complete the development of their SWPPPs. The secondary permittees, other than the
2 Ports, are required to prepare SWPPPS for “material storage areas, heavy equipment storage
3 areas, and maintenance areas” not covered by another stormwater discharge permit. S6.D.6.a.vi,
4 p. 32. Their SWPPPs must also be completed within three years from the date of permit
5 coverage. *Testimony of Moore, Ex. Muni 0001, p. 23, 24, 32.* In contrast, the Ports’ SWPPP
6 preparation requirement, found in S6.E.7, requires the Ports to prepare SWPPPs “all Port-owned
7 lands” that are not covered by another stormwater discharge permit. The Ports are allowed 24
8 months to develop and implement their SWPPPs. *Ex. Muni 0001, p. 38.*

9 30.

10 The Port of Seattle estimates this requirement will involve the preparation of SWPPPs for
11 approximately 44 properties covering approximately 27 percent of its total Seaport acreage (286
12 acres).¹⁵ Some of these sites include port-controlled and operated facilities with multiple tenants,
13 such as Shilshole Marina and Fisherman’s Terminal, and several others consist of tenant-
14 controlled container areas. *Testimony of Guthrie, Exs. PI 0020, 0022.* The Port of Tacoma has
15 identified several port-owned sites that are not covered by other stormwater discharge permits,
16 some of which include buildings and parking lots leased to other businesses, others of which
17 consist of environmental mitigation sites. *Testimony of Graves, Ex. PI 0039.*

18 31.

19 The Phase I fact sheet explains Ecology’s general thinking regarding SWPPP preparation
20

21 ¹⁵ By agreement with Ecology, SWPPPs will not be required on “no discharge” properties, which include Port-
owned parks and properties with connections to Metro Stormwater Conveyances.

1 for the primary permittees. It states:

2 Ecology has determined that activities at certain sites owned or operated by permittees
3 are potentially similar to activities at sites regulated under the Industrial Stormwater
4 General Permit. For this reason this provision of the permit calls for developing
5 Stormwater Pollution Prevention Plans (SWPPPs) for these sites.

6 *Ex. Muni 0002, p. 41.*

7 32.

8 In the 2005 draft of the Phase I Permit, Ecology required SWPPP preparation for “all
9 Port-owned lands with potential pollutant-generating sources.” *Ex. PSA 018, p. 37.* The final
10 permit eliminated the qualifier because Ecology expected that all port-owned lands would be
11 pollutant-generating sources, although Ecology did not consider wetland mitigation areas owned
12 by the Port of Tacoma when it made this decision. *Testimony of Graves, Moore, Exs. PSA 018,*
13 *p. 37; PI 0022, 0025-0027.*

14 33.

15 The Port of Tacoma owns several environmental mitigation sites (i.e. wetlands). Most of
16 these sites probably discharge directly to surface or ground waters of the state, and not to the
17 MS4. For the ones that do discharge to the MS4, there is only a small potential that the
18 discharges would carry pollutants. Therefore, preparation of SWPPPs on these sites is unlikely
19 to result in any corresponding water-quality benefits. *Testimony of Moore, Graves.*

20 34.

21 Ecology also explains in the fact sheet its reasons for providing a slightly different

1 standard for the Ports regarding SWPPP preparation. It states:

2 Ecology has determined that special consideration is needed for the Ports of Seattle and
3 Tacoma, distinguishing them from the broader group of Secondary permittees such as
4 diking and drainage districts and public universities. These ports are both located on
5 urban bays with documented water quality and sediment contamination problems that
6 may be linked to stormwater discharges. The infrastructure in both Seattle and Tacoma is
fairly old and the MS4s are heavily interconnected between each port and the respective
city. Also, both ports lease properties to tenants, of whom many, but not all, are required
to have coverage under the Industrial Stormwater General Permit. For these reasons this
permit establishes SWMP components that are specific to these two entities.

7 *Ex. Muni 0002, p. 43.*

8 35.

9 In general, the permit has more requirements for primary permittees SWMPs than it does
10 for the Ports. *Contrast* S5.C. 1 through 10 (establishing 10 components for primary permittees
11 SWMPs) p. 6-25 with S6.E (establishing 7 components for Ports SWMPs) p. 32-39. The source
12 control program for existing development, which is a component of both primary permittees and
13 the Ports SWMPs, also imposes more requirements on the primary permittees than it does the
14 Ports. *Contrast* S5.C.7, p. 13-15, with S6.E.7, p. 38-39. Further, the scope of the primary
15 permittees source control obligation is much wider than that of the Ports, because the primary
16 permittees are dealing with thousands of different sources, compared to a much more limited
17 number for the Ports. Therefore, the Ports will be preparing a much smaller number of SWPPPs
18 than the primary permittees. While Ecology suggests that the Guidance Manual for Preparation
19 of SWPPPs for Industrial Facilities can be used to assist in preparation of Port SWPPPs, it also
20 encourages the use of generic SWPPP provisions for sites grouped by type of activity, such as
21

1 parking lots. *Testimony of Moore, Guthrie, Exs. Muni 0001, p. 6-25, 33-39, Muni 0002, p. 44, PI*
2 *0021.*

3 36.

4 The Port of Seattle expects its tenant businesses to be involved in the preparation of the
5 required SWPPPs because they have the most familiarity with the pollution-generating activities
6 and source control opportunities at the individual sites, but the port, in its role as property
7 manager, will work cooperatively with tenants through its routine compliance assessment
8 process. For example, it has already provided its tenants with templates for preparing the
9 SWPPPs. This process will involve some cost and effort on the part of the tenants, but can also
10 serve as an opportunity for educating and training tenants in issues related to stormwater
11 management. *Testimony of Guthrie.* The Port of Tacoma intends to prepare the SWPPPS for its
12 existing tenant facilities which will require the port to become better informed about the details
13 of its tenant operations and pollutant-generating activities. For new facilities, the Port of Tacoma
14 intends to direct tenants to prepare the SWPPPs. *Testimony of Graves.*

15 F. Low Impact Development (LID)

16 37.

17 The major contention of PSAs' challenge to the Phase I permit is that traditional
18 structural engineered stormwater management practices are inadequate to address the municipal
19 stormwater problem and that the Permit should have also required greater use of Low Impact
20 Development (LID) practices on a broader and more comprehensive scale.
21

1
2 In the Phase I Permit, Ecology chose to regulate stormwater discharges from new
3 development and redevelopment primarily through the imposition of a flow control standard.
4 S5.C.5.b.i. *Ex. Muni 0001, p. 9, Testimony of O'Brien*. The flow control standard generally
5 requires new and redeveloped sites that discharge to surface waters to control the rate at which
6 stormwater is released from their sites so that the discharges do not cause accelerated stream
7 channel erosion. The flow control standard is not a LID concept, because, in contrast to LID
8 techniques, it is based on the premise that there will be discharges of stormwater from particular
9 sites, and it attempts to control the duration and frequency of high stormwater runoff flows.
10 Conventional stormwater management criteria frequently incorporate a post development peak
11 discharge rate for a 2- and 10-year storm event based upon possible property damage due to
12 flooding and stream bank erosion. These are becoming more recognized as insufficient because
13 they do not address the loss of storage volume to provide for groundwater recharge, they do not
14 adequately protect downstream channels from accelerated erosion, and the inspection and
15 maintenance costs are an increasing burden for local governments. The goal of LID, on the
16 other hand, is to minimize or prevent entirely the discharge of stormwater from the site. While
17 utilization of LID techniques may be useful (or even in some cases necessary) to meet the flow
18 control standard on a particular site, the flow control standard does not require the use of LID
19 techniques. *Testimony of O'Brien, Booth, Exs. ECY 4 (Phase I) p. 2-30 through 2-35, Ex. PSA-*
20 *053, p. 7.*
21

1
2 In order to meet the Permit's flow control standard(s), facilities must be engineered so
3 that discharges are not predicted to exceed the predevelopment flow "durations" for a range of
4 storm events. The Stormwater Management Manual gives detailed design specifications for
5 sizing and constructing detention/retention facilities to meet the flow control standard. The
6 Manual itself recognizes the shortcomings of the use of engineered stormwater conveyance,
7 treatment and detention systems to control stormwater. It states, at page 1-25:

8 [These techniques] can reduce the impacts of development to water quality and
9 hydrology. But they cannot replicate the natural hydrologic functions of the natural
10 watershed that existed before development, nor can they remove sufficient pollutants to
11 replicate the water quality of pre-development conditions.

12 The primary focus of detention standards is on mitigating the worst impacts of large storm
13 events. These standards have little or no effect on small storm events, which can also cause
14 damaging increase in flows. Stated another way, the flow control standard addresses large
15 stormwater flow rates only, which occur only a small percentage of time (1%), and provides only
16 residual control to runoff the remainder of the time. *Testimony of O'Brien, Booth, Ex. ECY 4*
(Phase I), p. 1-25, 2-30 through 2-35.

17 Another limitation of the flow control standard comes from a significant exception to the
18 requirement to achieve pre-developed discharge rates for basins that have had at least 40 percent
19 total impervious area since 1985. Phase I permit, Appendix 1, p. 25-27, and Manual, Section
20 2.5.7 Minimum Requirement # 7, pp. 2-33. For sites in these basins, the pre-developed condition
21

1 to be matched is the existing land cover. Most areas located within the Seattle city limits, many
2 areas within the City of Tacoma, and some areas in Bellevue and Everett would qualify for this
3 exception. *Testimony of O'Brien, Booth, Exs. ECY 4 (Phase I), p. 2-33, Muni 0001, Appendix 1,*
4 *p. 25-27.*

5 41.

6 The Phase I Permit defines LID as follows:

7 stormwater management and land development strategy applied at the parcel and
8 subdivision scale that emphasizes conservation and use of on-site natural features
9 integrated with engineered, small-scale hydrologic controls to more closely mimic pre-
10 development hydrologic functions.

11 *Ex. Muni 0001, p. 62.* Ecology adopted this definition from the Puget Sound Action Team's
12 Low Impact Development Manual (PSAT Manual), which is a technical manual published in
13 2005 to "provide stormwater managers and site designers with a common understanding of LID
14 goals, objectives, specifications for individual practices, and flow reduction credits that are
15 applicable to the Puget Sound region." *Ex. PSA 050, p.2.*¹⁶ Other definitions of LID offered in
16 testimony at the hearing differ from this definition primarily in the scale of application of LID.
17 Thomas Holz offers an almost identical definition to the one quoted above, but includes
18 application at the watershed scale in addition to the parcel or subdivision scale. *Testimony of*
19 *Holz, Ex. PSA 050, p.11.*

20 _____
21 ¹⁶ The advisory committee for the development of the PSAT Manual included Edward O'Brien, Tom Holz, and
Derek Booth. These three experts also testified at the Phase I hearing, *Testimony of Moore, Ex. PSA 050,*
Acknowledgements page and p. 2.

1 42.

2 While specific definitions of LID may vary, the concept of LID is well-established, and
3 the basic BMPs that constitute LID are well-defined. LID techniques emphasize protection of
4 the natural vegetated state, relying on the natural properties of soil and vegetation to remove
5 pollutants. LID techniques seek to mimic natural hydraulic conditions, reducing pollutants that
6 go into stormwater in the first instance, by reducing the amount of stormwater that reaches
7 surface waters. *Testimony of Horner, Booth, Holz.*

8 43.

9 LID techniques store, infiltrate and evaporate stormwater where it falls rather than collect
10 and convey it to surface waters off site, and can be implemented at an individual development
11 site level, as well as part of a broader strategy employed at a basin or watershed level. Site-level
12 LID BMPs include, but are not limited to, maintenance of natural vegetation on site; reduction of
13 impervious surfaces; protection of natural drainage patterns, use of minimal excavation
14 foundations such as pin foundation for structures; use of vegetated swales to capture and retain
15 runoff; use of green roofs, and storage and reuse of runoff. At a watershed or landscape scale,
16 LID strategies can include basin planning, watershed-wide limits on imperviousness, and
17 protection of sensitive areas like riparian zones, wetland and steep slopes. *Testimony of Holz,*
18 *Booth, Ex. PSA 050.*

19 44.

20 Although many LID techniques are not new ideas (i.e. grass roofs, rain gardens), LID as
21 a formal stormwater management concept was developed in the late 1980's. *Testimony of Booth,*

1 *Holz*. Prince George's County, Maryland, a pioneer in the area of LID in the United States,
2 began working on bioretention or rain gardens during the 1980's, and published a comprehensive
3 LID technical manual and an accompanying volume providing detailed hydrologic analysis and
4 computational procedures in 1999. *Exs. PSA 052 and 053*. Two federal agencies, the U.S.
5 Department of Defense and Department of Housing and Urban Development, adopted LID
6 Manuals in 2003 and 2004. *Exs. PSA 054 and 055*. The Puget Sound Action Team and the
7 Washington State University Pierce County Extension published The PSAT Manual, a 247 page,
8 comprehensive, technical guidance manual for the use of LID in the Puget Sound Area, in
9 January of 2005 with funding provided by the Ecology. *Ex. PSA 050*. The PSAT Manual was
10 intended to provide a menu of treatment options and direction for site design techniques, but it
11 does not attempt to identify a performance standard for any of the included LID strategies.

12 *Testimony of O'Brien.*

13 45.

14 The Environmental Protection Agency (EPA) has not required the use of LID in its
15 stormwater rules or EPA permits, but it is increasingly supporting and encouraging the use of
16 LID approaches in municipal stormwater programs on its website and through numerous
17 publications. *See for example, Ex. PSA 057(EPA National Pollutant Discharge Elimination*
18 *System (NPDES), Post-Construction Stormwater Management in New Development and*
19 *Redevelopment)(posted on EPA's website); PSA Ex. 058, (EPA National Pollutant Discharge*
20 *Elimination System (NPDES), Low Impact Development (LID) and Other Green Design*
21 *Strategies)(posted on EPA's website); PSA 056 (EPA Fact Sheet for Stormwater Phase II Final*

1 *Rule, Post-Construction Runoff Control Minimum Control Measure (Jan. 2000, rev'd 2005); Ex.*
2 *PSA 066 (EPA Low Impact Development (LID), A Literature Review (Oct. 2000); Ex. PSA 059*
3 *(EPA 833-F-04-033, Resource List for Stormwater Management Programs (May 2004); Ex.*
4 *PSA 060 (EPA National Management Measures to Control Nonpoint source Pollution for Urban*
5 *Areas (Excerpts: Cover, Table of Content, Chapters 1-4, 10); Ex. PSA 061 (Memorandum from*
6 *Benjamin Grumbles (Assistant Administrator, EPA) to EPA Regional Administrators Re: Using*
7 *Green Infrastructure to Protect Water Quality in Stormwater, CSO, Nonpoint Source and Other*
8 *Water Programs (Mar. 5, 2007); Testimony of Holz.*

9 46.

10 Ecology's 2005 Stormwater Management Manual addresses the use of LID techniques in
11 several ways, as part of the manual's Minimum Technical Requirements and Site Planning
12 (Volume I), its Hydrologic Analysis and Flow Control Design/BMPs (Volume III), and its
13 Runoff Treatment BMPs (Volume V). *Ex. ECY 4.*¹⁷ One of the most significant changes during
14 the 2005 update to the Manual included the addition of a "credit" system for projects that use
15 LID techniques. *Ex. PSA 064.*

16
17
18 ¹⁷ The Manual is not a regulation but rather a guidance document that presents a presumptive approach to meeting
19 requirements established through other means, such as permits. Washington is somewhat unique in its reliance on
20 the Stormwater Management Manual for directing how stormwater management is to be conducted. *Testimony of*
21 *Moore. Testimony of O'Brien.* The Manual represents Ecology's generalized determination of what constitutes
AKART for stormwater management, without regard to how much horizontal development should be allowed (*i.e.*,
whether a particular parcel, subdivision, or watershed should be developed or a particular project should be
undertaken). The manual is also considered by the Department of Community, Trade, and Economic Development,
the agency charged with state oversight of the implementation of the GMA, to constitute the best available science
for use by local governments planning under the GMA. *Testimony of O'Brien.*

1 47.

2 Volume I covers several key elements of developing a stormwater site plan, including
3 identifying the minimum requirements for stormwater management at all new development and
4 redevelopment projects. Minimum Requirement #5, which directs on-site stormwater
5 management for the purpose of using inexpensive practices on individual properties to reduce the
6 amount of disruption of the natural hydrological characteristics of the site, requires the use of
7 certain LID BMPs such as roof downspout control and dispersion and soil quality BMPs. This
8 minimum requirement applies to single-family home sites and larger properties. *Testimony of*
9 *O'Brien, Ex. ECY 4 (Phase 1), Vol I, at 2-26; Ex. Muni 0001, Appendix I at p.10 and 19.* The
10 Phase I permit requires that permittees' local ordinances must meet Minimum Requirement #5,
11 including requiring specified LID BMPs to reduce the hydrologic disruption of developed sites.
12 *Testimony of O'Brien, Ex. Muni 0001, Condition S5.C.5 (at p. 9) and Appendix 1(at p.19).*

13 48.

14 Stormwater site planning requirements, also contained in Volume I, direct that site
15 layouts minimize land disturbance and maximize on-site filtration by considering a number of
16 LID strategies and techniques such as preserving areas with natural vegetation (especially
17 forested areas) as much as possible, minimizing impervious areas, and maintaining and utilizing
18 natural drainage patterns. *Testimony of O'Brien, Ex. ECY 4 (Phase I), Vol I, at 3-2.*

19 49.

20 Volume III of the Manual focuses primarily on BMPs to address the volume and timing
21 of stormwater flows from developed sites, for the purpose of providing guidance on the

1 estimation and control of stormwater runoff quantity. Appendix III-C of this volume is
2 Ecology's guidance explaining how Low Impact Development techniques can be represented in
3 approved runoff models so that their benefits in reducing surface runoff can be estimated and
4 credited in the flow duration model. It identifies seven categories of LID techniques, including
5 permeable pavements, vegetated roofs, rainwater harvesting, reverse slope sidewalks, minimal
6 excavation foundations, and rain gardens, and lists the basic design criteria Ecology considers
7 necessary in order to justify use of the suggested runoff credit. *Testimony of O'Brien, Ex. ECY 4*
8 *(Phase I), Vol III, at Appendix III-C.*

9 50.

10 Finally, Volume V of the Manual identifies and discusses BMPs designed to treat runoff
11 to remove sediment and other pollutants at developed sites, for the purpose of providing
12 guidance on the selection, design and maintenance of permanent runoff treatment facilities. LID
13 techniques are included in both the basic and advanced treatment options available to developers,
14 and the method for determining the treatment credits for each technique is explained. Chapter 5
15 of this volume is devoted to the methods for analysis and design of on-site LID BMPs that serve
16 to both control runoff flow rates as well as provide runoff treatment and, since 2005, has directed
17 readers to use the PSAT Manual for various LID BMPs. *Testimony of O'Brien, Ex. ECY 4, Vol*
18 *V.*

19 51.

20 Ecology wrote the first draft of the current Phase I Permit in 1999. At that time, LID was
21 recognized as a stormwater management strategy, but there was not the same body of work

1 available on its use as there is today. Although much of the work and literature cited above post-
2 dated the initial draft of the current Phase I Permit, Ecology recognized that a large body of work
3 existed on LID as it finalized the Phase I permit. Despite the existence of many LID source or
4 reference materials, Ecology believed that it could not at that time define minimum LID
5 requirements, and was unable to define a regulatory performance standard to hold municipalities
6 to, should LID requirements be imposed by the permit. The agency also recognized that local
7 governments had adopted other land use and development standards that were obstacles to the
8 implementation of LID on a broader scale. Some local governments also have limited
9 experience with LID techniques and are reluctant to approve them. *Testimony of O'Brien.*

10 52.

11 Early drafts of the permit included requirements for basin or watershed planning as a LID
12 technique. Use of a basin planning approach in the permit would, among other things, require
13 municipalities to consider the effects of loss of impervious cover to water quality in larger,
14 watershed, basin, and sub-basin areas (potentially measured in many square miles). The ideal
15 area size for basin planning is two to ten acres. WRIA-scale (Water Resources Inventory Area)
16 planning efforts are too large to address the impervious surface problem. *Testimony of Wessel.*
17 Basin planning can also lead to the development of better site specific strategies, and some
18 Ecology staff advocated for its inclusion into the Permit. *Testimony of O'Brien.*

19 53.

20 Ultimately, Ecology drafted a permit that requires municipalities to identify barriers to
21 use of LID, and to take steps to also "allow" LID. Specific requirements for basin planning were

1 not included in the final permit, although the Endangered Species Act listing of various salmon
2 species, and efforts of the Puget Sound Partnership are reasons to reexamine the need for basin
3 planning as a permit requirement. *Testimony of Wessel, Moore; Ex. PSA 31.* Ecology rejected
4 basin or watershed planning as a permit requirement, in part because the agency could not
5 require a comprehensive planning effort, given that not all jurisdictions within a given watershed
6 or basin were covered by the Phase I permit. Ecology also concluded that imposing both site
7 level LID and basin planning requirements would move the agency too far into the land use
8 regulatory arena, although Ecology witnesses conceded that imposition of more detailed LID
9 requirements and a basin planning process could be harmonized with a parallel Growth
10 Management Act land use process, thereby elevating water quality as a growth management
11 planning priority. *Testimony of Moore, Wessel, O'Brien.*

12 54.

13 Ecology stated in its 2004 report to the Legislature that:

14 Compact style development, with a smaller footprint, reduced impervious surfaces,
15 natural areas within the urban core, and improved water detention can help local
16 communities meet the Growth Management Act's goals of accommodating growth while
17 protecting the environment.

18 *Ex. ECY 6 (Phase I), p. 31.* This same 2004 report to the Legislature highlighted the importance
19 of stormwater basin planning in areas which are relatively undeveloped where new development
20 is occurring. Ecology stated that in these areas:

21 site specific controls alone cannot prevent impacts and preserve aquatic resources.
Recent research should be used to identify development strategies that may protect the
resources. Scientific modeling of the basin can help predict the extent of potential

1 impacts and the effectiveness of alternative land development options to help avoid or
2 minimize those impacts.

3 *Id. at 28.* Ecology also recommended in its report to the Legislature that state and local
4 governments consider basin planning to address the known shortcomings of the stormwater
5 permits. Ecology stated that:

6 Stormwater basin planning is needed to quantify flow-related impacts and sources of
7 pollution to urban water bodies. This information is needed to target resources spent on
8 structural and non-structural controls (such as maintenance and public education) so that
9 goals for urban water bodies can be met. In many basins, this planning can be combined
10 with the planning for new development described earlier.

11 *Id. at 30.* Other types of water quality planning are taking place on a WRIA basis. The Board
12 finds that information developed by permittees regarding their use of basin planning, and its
13 possible interface with other planning efforts, would be very valuable to Ecology in its
14 development of the next phase of the Permit.

15 55.

16 The Phase I Permit includes several conditions that address LID in various ways, nearly
17 all of which are in the nature of encouraging or promoting rather than requiring LID by
18 municipalities. In contrast to other permit terms, the final permit does not require municipalities
19 to implement ordinances or other measures to use LID as a primary tool to manage stormwater
20 within their jurisdictions. *See* S5.C.5.b.i (allowing local governments to tailor certain
21 requirements applicable to new development through the use of basin plans or other similar
water quality and quantity planning efforts); S5.C.5.b.iii (requiring SWMPs to allow non-
structural preventative actions and source reduction approaches such as LID techniques);

1 S5.C.6.a (stating that permittees should consider other means to address impacts from existing
2 development “such as reduction or prevention of hydrologic changes through the use of on-site
3 (infiltration and dispersion) stormwater management BMPs and site design techniques, riparian
4 habitat acquisition, or restoration of forest cover and riparian buffers . . .”); S5.C.10.b.(3) and (4)
5 (requiring the inclusion of LID techniques in education and outreach programs); S8.F.1 and 7
6 (requiring monitoring of the effectiveness of one flow reduction strategy that is in use or planned
7 for installation in their jurisdiction); and Appendix 1 § 4.5 (imposing, as a minimum
8 requirement, on-site stormwater management where feasible, including use of roof downspout
9 controls and dispersion and soil quality BMPs or their functional equivalent).¹⁸ *Exs. Muni 0001,*
10 *p. 9, 10, 12, 24, 25, 46, 47, and Appendix 1, p. 19.*

11 56.

12 Some commentors on the draft Phase I Permit criticized the lack of more mandatory LID
13 requirements. The National Marine Fisheries Service and the U.S. Fish and Wildlife Service
14 (jointly the Services) offered comments on the Draft Phase I Permit in May, 2006. While they
15 supported many elements of the draft Permit, the Services recommended that the Permit employ
16 methods to help ensure that several LID projects are completed within the permit term and
17 strongly encouraged the use of basin planning to make better linkage with salmonid recovery
18 plans organized at the watershed level. *Ex. PSA 030.* EPA offered its comments on the draft
19 Phase I Permit in October, 2006. *Ex. PSA 067.* While EPA praised many aspects of the permit,
20 it also recommended strengthening the permit by “promot[ing] the implementation of low impact

21 _____
¹⁸ This same requirement is included in The Manual. *Ex. ECY 0004 (Phase I), Vol. 1, p. 2-26.*

1 development and non-structural best management practices,” and “add[ing] a basin planning
2 program requirement.” Similarly, a group of Washington Scientists sent an “open letter” to
3 Ecology on October 26, 2006, in which they criticized the draft Phase I Permit for its continued
4 focus on “end of pipe” management of stormwater, emphasizing the need to preserve existing
5 “least-disturbed” watersheds, to limit forest loss, and to halt runoff from new impervious areas in
6 the Puget Sound Basin. They recommended broad application of LID principles within the
7 context of land use planning and development regulations efforts to prevent runoff to surface
8 water. *Ex. PSA 010.*

9 57.

10 Ecology staff who developed the Phase I permit, as well as a number of stormwater
11 experts who testified before the Board, agreed that no one stormwater management technique
12 could solve the problem of polluted runoff from municipal stormwater systems. Even the
13 extensive use of site-level LID is not sufficient, on its own, to fully protect aquatic resources.
14 Rather, a combination of aggressive use of LID techniques, best conventional engineering
15 techniques to manage high flows (such as the flow duration standard), and land use actions to
16 preserve a high percentage of native land cover, are necessary to reduce pollutants in stormwater
17 to the maximum extent, and to preserve water quality. Although there is considerable dispute
18 about the attainable performance of particular LID strategies and engineering techniques, there is
19 no dispute that *in combination* these approaches offer the best available, known and tested
20 methods to address stormwater runoff. *Testimony of O'Brien, Holtz, Booth.*

1 58.

2 There are existing design criteria for many LID techniques, just as there are for
3 traditional BMPs employed to manage stormwater run-off used at the parcel or subdivision scale
4 (for example, pond size or thickness of a liner). These aspects of LID can be employed at a site
5 specific level. However, at this time there are no universal or broadly endorsed performance
6 standards for LID, at either the parcel, subdivision, or watershed scale. Nor were experts before
7 the Board willing to endorse or recommend such standards from among the many potential
8 options identified, although it was undisputed that any permit condition requiring permittees to
9 meet a new stormwater performance standard based on LID would implicate many other local
10 government regulatory schemes, and require modification to local government GMA planning
11 processes and requirements, zoning and development regulations, and building codes. *Testimony*
12 *of Holz.*

13 59.

14 A zero runoff outcome from the use of LID techniques is one such performance standard,
15 but actions to meet that standard would implicate a range of land use planning actions and
16 watershed level assessments. It is possible to create other, more specific performance standards
17 for LID, although the process would involve time and effort. Other jurisdictions are currently
18 using such standards, or have proposed standards for use. For example, jurisdictions can require
19 that LID BMPs be designed in accordance with guidelines in technical manuals, impose specific
20 minimum technical requirements for buildings or roads, require protection of a specific amount
21 of native vegetation at the site or basin level, limit the amount of effective impervious surface,

1 protect the natural hydrograph through various parameters, require maintenance of a certain
2 percentage of predevelopment evapotranspiration capacity or minimize or eliminate surface
3 runoff, or require that developers prioritize LID BMPs as the first choice before conventional
4 BMPs. The Phase I Municipal Stormwater Permit for San Diego County, which was reissued in
5 January, 2007, requires all new and redevelopment projects to implement LID BMPs where
6 feasible. The Permittees are given the responsibility of defining the applicability and feasibility
7 of LID BMPs, including the minimum standards to ensure maximum implementation. Another
8 example of an NPDES permit from another jurisdiction that incorporates a LID performance
9 criteria is the Ventura County MS4 Permit. This permit, which was in draft form at the time of
10 the hearing, requires that developers prioritize LID BMPs as the first choice before conventional
11 BMPS. *Testimony of Booth, Holz, Horner, Exs. PSA 048, p. 13-18; PSA 069, p. 49; PSA 070,*
12 *072, 080, Snohomish County Code 30.63C.*

13 60.

14 Requiring municipalities to impose parcel and subdivision-level LID best management
15 practices represents a cost effective, practical advancement in stormwater management. Use of
16 LID techniques at the parcel and subdivision level would not be feasible on every type of site, or
17 under all rainfall conditions present in Western Washington. Use of LID techniques could in
18 some instances allow pollutants to enter groundwater. LID BMPs require maintenance. All of
19 these limitations are also applicable to the more traditional end of pipe BMPs. In fact, site
20 attributes that make implementation of LID techniques difficult also typically make
21 implementation of conventional techniques difficult. In the absence of watershed or basin level

1 efforts to utilize LID, parcel and subdivision-level use of LID will be less effective in overall
2 stormwater management efforts, but still a substantial advancement. *Testimony of O'Brien,*
3 *Booth, Holz, Horner, Exs. ECY 3 (Phase I), p. 34-36, PSA 066, p. 2, 3.*

4 61.

5 In many cases, implementation of LID techniques on the ground for new or
6 redevelopment, or even retrofitting existing development, is less costly, or no more costly, than
7 conventional engineered BMPS. Structural stormwater controls, such as detention ponds, curbs,
8 gutters and pipes, require significant hardware and capital investment. LID techniques eliminate
9 or reduce the need for these structural controls by reducing the volume of water to be managed.
10 LID techniques may also require less space than these traditional methods. *Testimony of Holz,*
11 *Booth, Horner, Exs. PSA 047, p. 6-10, PSA 066, p.1, ECY 3 (Phase I), p. 35-36.*

12 62.

13 A major cost consideration in utilizing LID techniques at a site level is not the
14 engineering or construction associated with the LID techniques, but rather the costs associated
15 with navigating a system of regulation and development that was not created with LID in mind.
16 To fully incorporate LID principles into this system will require review, consideration, and in
17 some instances modification, of existing zoning and building regulations that create obstacles to
18 the use of LID. Some examples of common local government ordinances that could make it
19 difficult to utilize certain LID techniques include requirements related to road width, curbs and
20 gutters, vegetation clearing, and parking spaces. *Testimony of Holz, Horner.* The cost of
21 implementing LID across a broader land use spectrum, through basin or watershed planning is

1 more speculative, and the Board was presented with no clear evidence on costs associated with
2 broader scale implementation of LID in this manner. Although such planning is underway in
3 certain areas, a longer public and political process could be expected to accompany such an
4 effort.

5 63.

6 The cost of not expanding the application of LID strategies to manage municipal
7 stormwater is very high. The biological health of Puget Sound is declining, and a significant
8 cause of the decline is stormwater run-off. This decline carries with it a variety of
9 environmental, economic, and social costs. *Ex. PSA 087, p. 1.* The Puget Sound Water Quality
10 Plan, which is a plan mandated by the Legislature to be the state's long term strategy for
11 protecting and restoring the Puget Sound, stated as early as 2000 that local governments needed
12 to adopt ordinances that allow and encourage LID practices. *Ex. PSA 078, p. 101.* Many leading
13 scientists concluded, in a paper submitted to the Puget Sound Partnership in July of 2007, that
14 the problem of stormwater must be addressed in the land use context if the health of Puget
15 Sound, the species that inhabit it, and its various important beneficial uses to the region, are to be
16 protected and/or recovered. The group concluded that:

17 We have well documented evidence that the impairment associated with stormwater
18 runoff is primarily a **land use problem**, and that we cannot fully mitigate its effects if we
19 approach it only site-by-site. We know that the problems must be addressed at a basin or
20 landscape level-but we continue to manage land use and stormwater primarily on a site-
21 by-site, end of pipe basis. At the same time, we also know that current site-by-site
development techniques that result typically in wholesale loss of vegetation, compaction
of native soils and connected impervious surfaces, can and should be improved upon
significantly if we are to address stormwater problems.

Ex. PSA -012, p. 3 (emphasis in original).

1
2 Recently, many local governments have begun incorporating LID techniques into their
3 stormwater manuals, and/or adopting LID stormwater requirements. Exs. PSA 072 (*City of*
4 *Olympia, Engineering Design and Development Standards, Ch. 9, Green Cove Basin*); PSA 073
5 (*Graham Community Plan, A Component of the Pierce County Comprehensive Plan, Excerpts:*
6 *pp. Cover, Table of Contents, p. 70, 87, 109, 149, 208*); PSA 074 (*Gig Harbor Peninsula*
7 *Community Plan, Excerpts: pp. cover, 29, 41, 63, 117, 210*); PSA 076 (*King County,*
8 *Washington, Surface Water Design Manual, Jan. 4, 2005, Excerpts: pp. cover, Table of*
9 *Contents, 5-1 through 5-16*); PSA 051 (*Pierce County, Stormwater Management and Site*
10 *Development Manual, Excerpts: Ch. 10, p. 10-1 to 10-82*).

11
12 Examples of the approaches already being used by Phase I Permittees to encourage or
13 require the use of LID techniques include reducing charges for surface water rates with the use of
14 an approved LID stormwater and surface water runoff systems (*City of Tacoma, Ex. PSA 085, p.*
15 *4*); promoting LID during project scoping meetings with potential developers (*City of Tacoma,*
16 *Ex. PSA 085, p. 4*); adopting LID Ordinances (*Snohomish County, PSA Ex. 077, p. 8*);
17 incorporating LID Development Design concepts into existing regulations (*Snohomish County,*
18 *Ex. PSA 077, p. 9*); and providing public outreach and education about LID (*City of Tacoma, Ex.*
19 *PSA 085, p. 5, Snohomish County, Ex. PSA 077, p. 10-14, City of Seattle, Ex. PSA 079, p. 12, 13*).
20 Other, more stringent examples include requiring project proponents to use LID techniques for
21 all proposed Fully Contained Community developments in rural areas (*Snohomish County, Ex.*

1 *PSA 077, p. 9*); requiring LID for any UGA docket expansions proposals within the Little Bear
2 Creek watershed (*Snohomish County, Ex. PSA 077, p. 10*); and requiring LID to be used on a
3 large project in the Mill Creek pocket expansion (*Snohomish County, Ex. PSA 077, p. 9*).

4 66.

5 The Board finds that LID methods are at this time a known and available method to
6 address stormwater runoff at the site, parcel, and subdivision level. Numerous reference
7 documents, technical manuals, expert testimony, and Ecology's own Stormwater Management
8 Manual, discussed above, support this finding. The Board also finds that LID methods are
9 technologically and economically feasible and capable of application at the site, parcel, and
10 subdivision level at this time. Because application of these methods at the basin and watershed
11 level involves additional cost and practical considerations, we find Ecology must be ready for the
12 eventual use of this known and available method of stormwater treatment for future iterations of
13 the permit, consistent with its obligation to impose increasingly stringent requirements on
14 discharges covered by NPDES permits.

15 G. Existing development

16 67.

17 The Phase I Permit addresses stormwater runoff from existing development through the
18 implementation of structural stormwater controls and source controls. Both of these are required
19 components of Permittees' SWMPs, and the Permit includes minimum requirements for each
20
21

1 which are based on EPA's stormwater rules.¹⁹ *Testimony of Wessel, Ex. Muni 0001, p. 12-15,*
2 *Ex. Muni 0002, p. 34-36.*

3 68.

4 The structural stormwater control program, also referred to as the "retrofit" component, is
5 targeted at discharges not adequately controlled by other aspects of the SWMP. S5.C.6.

6 Through this program, permittees must consider construction of stormwater control projects, as
7 well as other means to address impacts to state waters caused by MS4 discharges. The permit
8 directs that the program "shall consider the construction of projects such as: regional flow
9 control facilities; water quality treatment facilities; facilities to trap and collect contaminated
10 particulates, retrofitting of existing stormwater facilities; and rights-of-way, or other property
11 acquisition to provide additional water quality and flow control benefits." The Permit also
12 provides that permittees "should consider" other means to address impacts, including LID
13 techniques such as "reduction or prevention of hydrologic changes through the use of on-site
14 (infiltration and dispersion) stormwater management BMPs and site design techniques. . ."

15 S5.C.6.a. *Testimony of Wessel, Ex. Muni 0001, p. 12, 13.*

16 69.

17 The permit establishes minimum performance measures for the structural stormwater
18 control program, including development of the program within 1 year of the effective date of the
19

20 ¹⁹ The Fact Sheet's reference to 40 C.F.R. 122.26(b)(2) appears to be a typographical error. Ecology's pre-hearing
21 brief properly cites the applicable federal regulation for these program elements as 40 C.F.R. 122.26(d)(2). A
portion of this federal rule, unrelated to municipal stormwater, was recently invalidated in *Natural Resources
Defense Council v. U.S. E.P.A.*, 526 F.3d 591 (9th Cir. 2008).

1 permit, and implementation of the program within 18 months from the effective date of the
2 permit. S5.C.6.b.i. Permittees are required to provide a list of planned individual projects that
3 are scheduled for implementation during the term of the permit. Municipalities are not required
4 to prioritize the planned projects in any manner. Permittees are required to submit a description
5 of their structural stormwater control program to Ecology along with the written documentation
6 of their SWMP, but the permit does not set a minimum level of effort for this requirement or
7 provide for Ecology review and/or approval of the structural stormwater control program.

8 *S5.C.6.b.ii. Testimony of Wessel, Dalton, Ex. Muni 0001, p. 12, 13, Ex. Muni 0002, p. 35.*

9 70.

10 The requirements for the Source Control Program for existing development are set out in
11 S5.C.7. Through this program, the permittee must “reduce” pollutants in runoff from areas that
12 discharge to MS4s, through application of operational and structural source control BMPs, and if
13 necessary treatment BMPs to pollution generating sources associated with existing land uses and
14 activities. S5.C.7.a. The program required in this section also must include inspections,
15 application and enforcement of local ordinances at applicable sites, and reduction of pollutants
16 associated with application of pesticides, herbicides and fertilizer discharging to MS4s.

17 S5.C.7.b.ii-iv. While reduction of pollutants is mandated, no objective standard is set for the
18 amount of reduction, although Ecology must review and approve the source control program.

19 S5.C.7.b.i. *Testimony of Wessel, Muni 0001, p. 13-15.* Under this section of the permit,
20 permittees must also implement a progressive enforcement policy to assure compliance with
21

1 stormwater requirements within a reasonable time period. S5.C.7.b.iv. *Testimony of Wessel, Ex.*
2 *Muni 0001, p. 13-15.*

3 H. Timing of Compliance

4 71.

5 PSA challenges the validity of several Phase I Permit provisions on the grounds that they
6 do not require implementation of the permit within three years. PSA provides several examples
7 of permit conditions that allow implementation after three years. Some of these examples
8 include S5.C.2.b.ii (requiring outfalls to be mapped no later than four years from the effective
9 date of the permit); S5.C.8.b.vi (requiring screening for illicit discharges in portion of each
10 jurisdictions to be completed within four years.); and S.5.C.9.b.ii (3) (allowing permittees up to
11 four years after the effective date of the permit to develop a schedule to inspect treatment and
12 flow control facilities). PSA also provides examples of conditions that impose duties that are
13 tied to the expiration of the permit. Some examples of these conditions include Condition
14 S6.A.3 (full development of the co-permittee and secondary permittees' SWMPs no later than
15 180 days prior to the expiration of the permit); and S6.D.1. a.ii (Secondary permittees shall label
16 all inlets 180 days prior to expiration of the permit). *Ex. Muni 0001, p. 7, 18, 20-21, 25, and 27.*

17 72.

18 Any Conclusion of Law deemed to be a Finding of Fact is hereby adopted as such.
19
20
21

1 CONCLUSIONS OF LAW

2 1.

3 The Board has jurisdiction over the parties and the issues in the case pursuant to RCW
4 43.21B.110(1)(c). The burden of proof is on the appealing party(s) as to each of the legal issues,
5 and the Board considers the matter *de novo*, giving deference to Ecology's expertise in
6 administering water quality laws and on technical judgments, especially where they involve
7 complex scientific issues. *Port of Seattle v. Pollution Control Hearings Board*, 151 Wn.2d 568,
8 593-594, 90 P.3d 659 (2004). Pursuant to WAC 371-08-540(2), "In those cases where the board
9 determines that the department issued a permit that is invalid in any respect, the board shall order
10 the department to reissue the permit as directed by the board and consistent with all applicable
11 statutes and guidelines of the state and federal governments."

12 A. Monitoring (Issues C.1, C3, and F.3.)

13 2.

14 Two counties, Pierce and Clark, challenge the monitoring requirements imposed by
15 Special Condition S8.²⁰ They contend that their own monitoring programs, which focus on
16 receiving water monitoring, are more advanced than the monitoring required by S8. While they
17 support Ecology's S8 monitoring approach as a starting point for municipalities that do not
18 already have well developed receiving water monitoring programs, Pierce and Clark Counties
19
20

21 ²⁰ Issues C.1 and C.3.

1 argue that compliance with the S8 monitoring will hinder their own efforts to protect water
2 quality.

3 3.

4 The Utilities also challenge the validity of the S8 monitoring program. They contend that
5 it is deficient because it does not require receiving water or “compliance” monitoring. They
6 argue that receiving water monitoring is necessary to establish whether the permittees have
7 complied with water quality standards and whether they have treated their discharges with
8 AKART or to the maximum extent practicable.²¹

9 4.

10 WAC 173-226-090(1) establishes monitoring requirements for general waste discharge
11 permits. The Board has concluded in its past decisions that this regulation provides Ecology with
12 the discretion to impose *reasonable* monitoring requirements. WAC 173-226-090(1); *Puget*
13 *Soundkeeper Alliance v. Ecology*, PCHB Nos. 05-150, 0151, 06-034, -040 (Jan. 26, 2007) (CL
14 22). Further, since a decision pertaining to monitoring requirements in a general permit falls within
15 an area of Ecology’s technical expertise, and involves complex scientific issues, the agency’s
16 decision is entitled to deference. *Port of Seattle* at 593-594. The disagreement between appellants
17 and Ecology reflects different sides of a long-standing debate regarding the relative merits of
18 instream versus outfall monitoring, and the most advantageous sequencing of the two. *Ex. PI*
19 *0048*. It is clear there is no one right approach, as the type and timing of monitoring that is best

20
21

²¹ Issue F.3.

1 in any given situation depends on the particular purpose, context, and available resources, among
2 other factors.

3 5.

4 Neither the Utilities nor the Counties have cited to any law requiring the Phase I Permit
5 to require receiving water monitoring. The federal stormwater rules require only that
6 municipalities propose a monitoring program for the term of the permit, but list few specific
7 requirements. 40 C.F.R. 122.26(d)(2)(iii)(D).²² The Board concludes that Ecology's decision
8 not to require receiving water monitoring during this permit cycle is lawful and reasonable.
9 Ecology's decision to require monitoring designed to understand the pollutants discharging from
10 MS4s, and to evaluate the effectiveness of the BMP's in use, will provide the most useful data to
11 establish what constitutes maximum extent practicable reduction in pollutants in discharges from
12 MS4s for future permits. Further, as pointed out by Ecology, the counties are not prohibited
13 from conducting receiving water monitoring in addition to the S8 monitoring required under the
14 permit.²³

15 6.

16 In light of the discretion Ecology has in this area, the deference its technical decisions are
17 entitled to, and the fact that the burden of proof rests on the party challenging the permit, neither
18 the Counties nor the Utilities have presented a sufficient case to convince the Board that it should

19 ²² A portion of this federal rule, unrelated to municipal stormwater, was recently invalidated in *Natural Resources
20 Defense Council v. U.S. E.P.A.*, 526 F.3d 591 (9th Cir. 2008).

21 ²³ It is also possible that parts of the Pierce and Clark County programs could be used to satisfy the targeted
effectiveness component of the S8 monitoring (S8.E). *Ex. Muni 0001, p. 45-46*. The Board encourages Ecology to
work with Pierce and Clark Counties to find ways to make parts of their current monitoring programs satisfy some
of the requirements under S8.

1 reverse Ecology's decision to select the S8 monitoring program and require all permittees to
2 participate in it.

3 B. Ports (Issue E.5)

4 7.

5 The Ports contend that it is "unlawful, unreasonable, unjust, or invalid" to require them to
6 prepare SWPPPs on all port owned land not covered by another discharge permit. The Ports
7 argue that the primary permittees have to prepare SWPPPs only on areas on which industrial
8 type activities occur (maintenance areas and material and heavy equipment storage) that are not
9 covered by another discharge permit. The Ports assert that it is unreasonable to require SWPPPs
10 without consideration to how property is used, it is unreasonably burdensome to the Ports
11 because of the cost to prepare SWPPPs, and it is unnecessary because not all port-owned lands
12 have polluting generating characteristics. The evidence presented, however, does not support
13 these arguments.

14 8.

15 The evidence presented at the hearing establishes that lands owned by the Ports of Seattle
16 and Tacoma are located close to vulnerable urban waters with documented water quality and
17 sediment contamination problems. Almost all of the port-owned lands that discharge to MS4s
18 have pollutant-generating characteristics. Therefore preparation of SWPPPs for these properties
19 will have environmental benefits. The only exception is those few environmental mitigation
20 sites owned by the Port of Tacoma. Most of these environmental mitigation sites probably do
21 not discharge to the MS4s, and therefore would not require coverage under the Phase I Permit.

1 For the ones that do, however, there is no environmental benefit gained by requiring the
2 preparation of a SWPPP, and it is appropriate to exempt these sites from preparation of SWPPPs.

3 9.

4 The Board concludes that it not an unreasonable burden to require the Ports to prepare a
5 SWPPP for all port-owned lands which discharge to the MS4 and are not already covered by
6 another discharge permit. Based on the permit's inventory of types of sites with potential
7 pollutant generating sources (*Muni 0001, Appendix 8*), it was reasonable for Ecology to conclude
8 that the Ports owned most or all of these type of pollution sources, and that the Ports needed to
9 prepare plans to manage stormwater from such port-owned property. The Ports also have fewer
10 requirements under the Phase I Permits than other primary permittees. They will have fewer
11 SWPPPs to prepare than the primary permittees. For SWPPP preparation, they can use some
12 generic conditions for sites with identical uses, such as commercial buildings or parking lots.
13 This will reduce the amount of time it takes to prepare each SWPPP and the cost of preparation.
14 The ports can also work cooperatively with their tenants who share some responsibility for the
15 proper management of stormwater on port-owned properties, which will have the added
16 environmental benefit of educating site operators about stormwater BMPs.

17 10.

18 The Board concludes that Special Condition S6.E.7, which requires the Ports to prepare
19 SWPPPs on all port-owned lands is appropriate and valid. However, the permit should not
20 mandate SWPPP preparation for environmental mitigation sites owned by the Port of Tacoma, as
21

1 the Port of Tacoma has shown that such sites are unlikely to generate untreated stormwater
2 pollution.

3 C. LID (Issue F.1.a & .b)

4 11.

5 The LID issues raised in this appeal involve the question of whether the Phase I Permit fails
6 to meet the required treatment standard of reducing pollutants to the “maximum extent
7 practicable”(MEP) and applying “all known, available and reasonable methods of treatment”
8 (AKART), because the permit does not require more extensive use of LID techniques.

9 12.

10 The Board has previously ruled in this appeal (on summary judgment in the Special
11 Condition S4 proceeding) the CWA requires that NPDES permits issued for discharges from
12 MS4s must reduce pollution to the maximum extent practicable (the “MEP” standard). The
13 Board also concluded the WPCA contains a similar requirement, in that all wastewater discharge
14 permits must incorporate permit conditions requiring all known, available and reasonable
15 methods of treatment to control the discharge of toxicants and protect water quality (the
16 “AKART” standard). Order on Dispositive Motions: S.4 issued on April 2, 2008.

17 13.

18 The MEP standard in the CWA provides:

19 Permits for discharges from municipal stormsewers . . . (iii) shall require controls to
20 reduce the discharge of pollutants to the maximum extent practicable, including
21 management practices, control techniques and system, design and engineering methods,
and such other provisions as the Administrator or the State determines appropriate for the
control of such pollutants.

1 33 U.S.C. § 1342(p)(3)(B)(iii).

2
3 Neither Congress nor the EPA have defined the meaning of MEP in the municipal
4 stormwater context, nor do the parties cite to federal court cases interpreting the MEP standard in
5 the municipal stormwater context.²⁴ The Board, in a prior decision pertaining to the first round
6 of the municipal stormwater permits, stated:

7 The MEP standard is unique under water pollution laws and applicable only to municipal
8 stormwater discharges. MEP reflects the difficulty of addressing stormwater on a system
9 wide basis and the focus of regulating municipal stormwater discharges on prevention
and control. This approach by its nature requires extensive planning and *prioritization* to
achieve the underlying goal of meeting water quality standards.

10 *Save Lake Sammamish v. Ecology*, PCHB Nos. 95-78 & 121, Order Granting Summary
11 Judgment (Dec. 12, 1995) (emphasis added).

12 14.

13 The AKART standard originates in state law, but the Legislature has not explicitly
14 defined the term. Ecology has incorporated the state AKART standard into several of its
15 regulatory programs (*e.g.*, the state surface and ground water quality standards, state waste
16 discharge and NPDES permit programs, sediment management standards, and domestic
17 wastewater facilities regulations), and has defined the AKART standard through rulemaking.

18 In the state's surface water quality standards, "AKART" is defined as "the most current
19 methodology that can be reasonably required for preventing, controlling, or abating the
20

21 ²⁴ The term "practicable" as used in a different section of the CWA, 33 USC § 1311(b)(1)(a), has been defined as
meaning that technology is required unless the costs are "wholly disproportionate" to pollution reduction benefits.
Rybachek v. U.S. EPA, 904 F.2d 1276, 1289 (9th Cir. 1990).

1 pollutants associated with a discharge.” WAC 173-201A-020. The Washington Supreme Court
2 has further clarified that the “reasonableness” prong of AKART involves both technological and
3 economic feasibility. *Puget Soundkeeper Alliance v. Ecology*, 102 Wn. App. 783, 792-793, 9
4 P.3d 892, 897 (2000).

5 15.

6 In evaluating MEP and AKART for the Phase I Permit, we start with the context that this
7 is a “programmatic” permit that regulates the discharge from MS4 systems on a jurisdiction-wide
8 basis, through the municipalities’ implementation of their Stormwater Management Programs.
9 In several instances the permit requires that through these Stormwater Management Programs,
10 municipalities enact ordinances or orders, or adopt other enforceable documents, to control
11 pollution in stormwater. *See, e.g.*, Condition S5.C.1. The nature and scope of the LID
12 provisions in the Permit, and what can be required through the permit, must therefore be
13 evaluated within the broader context of the SWMP requirements and the programmatic nature of
14 this permit.

15 16.

16 The permit’s reliance on a flow control standard as the primary method to control
17 stormwater runoff from MS4s fails to reduce pollutants to the federal MEP standard, and without
18 greater reliance on LID, does not represent AKART under state law. The permit’s reliance on
19 terms that simply require “removal of obstacles” and actions to “allow” use of LID is insufficient
20 to meet these same federal and state pollution control standards. The testimony presented by
21 PSA, the Utilities, and Ecology’s technical experts leads to the indisputable conclusion that

1 application of LID techniques, at the parcel and subdivision level, is a currently known and
2 existing methodology that is reasonable both technologically and economically to control
3 discharges entering into MS4s covered by the Phase I Permit. The great weight of testimony
4 before the Board, from various experts and Ecology witnesses, was that in order to reduce
5 pollution in urban stormwater to the maximum extent practicable, and to apply AKART, it is
6 necessary to aggressively employ LID practices *in combination with* conventional stormwater
7 management methods. Thus, we conclude that under state law, the permit must require greater
8 application of LID techniques, where feasible, in combination with the flow control standard, to
9 meet the AKART standard. The permit must also require the application of LID, where feasible,
10 and conventional engineered stormwater management techniques to remove pollutants from
11 stormwater to the maximum extent practicable in order to comply with federal law. Our
12 recognition that use of LID is to be employed where feasible recognizes that, like all stormwater
13 management tools, it too is subject to limitations in its practical application by site or other
14 constraints. See Findings of Fact 49-51. We do not change the applicable legal standard by use
15 of this term. Accordingly, the permit must be remanded for modification in light of this
16 conclusion.

17 17.

18 Although we conclude that the permit must require municipalities to employ broader use
19 of LID at the parcel and subdivision level, we stop short of concluding that the permit must, at
20 this time, require use of LID at a basin and watershed level. Based on the evidence before the
21 Board, we cannot conclude that the current iteration of the permit must require implementation

1 of LID on a basin or watershed scale in order to meet federal and state water quality standards.
2 Little evidence was presented as to the elements and cost of basin or watershed planning that
3 would be necessary to implement LID at this level. Ecology testified that the current Phase I and
4 Phase II permits result in a patchwork of regulation of municipal stormwater, and jurisdictions
5 are at greatly varying degrees of readiness to manage stormwater on basin or watershed levels.
6 The Phase II permittees themselves are at greatly varying degrees of readiness and capacity to
7 undertake LID on a basin and watershed level, and would need to work with Phase I and other
8 jurisdictions to do so. Given these several factors, the Board concludes that a permit condition
9 requiring municipalities to implement LID at a basin or watershed level is not, at this time,
10 reasonable or practicable. This is not to say that no steps can or should be taken at this time.
11 Ecology has identified the particular importance of basin planning in areas which are relatively
12 undeveloped where new development is occurring. The Board concludes that city and county
13 permittees should identify such areas where potential basin planning would assist in reducing the
14 harmful impacts of stormwater discharges upon aquatic resources. This will assist Ecology in
15 readying for the next round of permits when such a requirement may be necessary to meet the
16 state AKART standard and, under federal law, to reduce pollutants in municipal stormwater to
17 MEP. As we discuss in further conclusions, we do not find the Growth Management Act to be
18 an impediment to Ecology requiring greater use of LID than represented by the current permit,
19 including at the basin and watershed planning level. Because the CWA and state water quality
20 laws anticipate that there will be increasingly stringent requirements imposed on those that
21 discharge pollutants to the state's waters, including municipalities, efforts to further basin and

1 watershed planning efforts in order to incorporate the known and available LID techniques
2 should begin in anticipation of the next permit cycle.

3 18.

4 No party challenges Ecology's authority to require LID techniques if they are necessary
5 to meet the AKART or MEP standards. The Board affirmed this point in its summary judgment
6 order. Order on Dispositive Motions: (Phase I Municipal Stormwater Permit) (April 8, 2008).

7 The Board further stated:

8 As pointed out by PSA, it is impossible to untangle stormwater management from land
9 use. Even the commonly accepted water quality technique of requiring a stormwater
10 retention pond at a site takes up significant area in a development, potentially reducing
11 the number of buildable sites and constituting a land use restriction. The challenge, as
12 recognized by both Ecology and PSA, is to most effectively harmonize Ecology's
13 authority over site design and land use standards under the water pollution laws with
14 other state laws that are specifically aimed at addressing land use on a broader scale.

15 *Id.* While Ecology does not dispute that it has the authority to require the use of LID techniques,
16 it was constrained in the full exercise of this authority because of concerns about intruding too
17 far into local government land use planning efforts under the Growth Management Act.

18 Ecology's position is somewhat puzzling, as it has, through various requirements of its
19 Stormwater Management Manual, and the permit itself, already required a number of LID
20 techniques, and has required local government to remove obstacles to use of the same.²⁵ The

21 ²⁵ We also note that, in another context, Ecology has recently adopted rules for the implementation of the Shoreline
Management Act which outline a comprehensive process for preparing or amending shoreline master programs that
requires, among other things, local governments to incorporate the most current, accurate, and complete scientific
and technical information available that is applicable to the issues of concern; prepare a characterization of shoreline
ecological functions, including hydrologic functions; identify water quality and quantity issues relevant to master

1 Board concludes that contrary to the concerns raised by Ecology during permit development, that
2 the GMA is not a barrier to greater use of LID but rather complements the efforts of Ecology to
3 move forward with requiring the use of LID techniques under the Phase I Permit.

4 19.

5 The Legislature enacted the Growth Management Act (GMA), Ch. 36.70A RCW in 1990
6 and 1991, largely “in response to public concerns about rapid population growth and increasing
7 development pressures in the state, especially in the Puget Sound region.” *Quadrant Corp. v.*
8 *State Growth Management Hearings Bd.*, 154 Wn.2d 224, 231-232, 110 P.3d 1132, 1136 (2005)
9 (citations deleted). The GMA includes a broad statement of goals to guide local governments in
10 their development and adoption of comprehensive plans including a goal to “Protect the
11 environment and enhance the state’s high quality of life, including air and water quality. . .”
12 RCW 36.70A.020(10).

13 20.

14 The GMA mandates that local governments adopt comprehensive plans which include,
15 among other elements, a land use element addressing, “drainage, flooding, and stormwater run-
16 off in the area and nearby jurisdictions” and providing “guidance for corrective action to mitigate
17 or cleanse those discharges that pollute waters of the state, including Puget Sound or waters
18 entering Puget Sound.” RCW 36.70A.070(1); *Swinomish Indian Tribal Community v. Skagit*

19
20
21 program provisions; identify important ecological functions that have been degraded through loss of vegetation; and
identify measures to ensure that new development meets vegetation conservation objectives. WAC 173-26-201.

1 Co., 138 Wn. App. 771, 774, 158 P.3d 1179 (2007) (concluding that the GMA mandates that
2 local governments adopt comprehensive plans to protect surface and ground water resources.)

3 21.

4 The state WPCA predated the GMA, with the specific purpose of protecting the waters of
5 the state. RCW 90.48.010. The Legislature tasked Ecology with the job of implementing the
6 WPCA. RCW 90.48.030, .035. Clearly, there is an area of interface and overlap between the
7 GMA and the WPCA.

8 22.

9 The Washington Courts have stated that statutes are to be read together harmoniously
10 whenever possible. “The construction of two statutes shall be made with the assumption that the
11 Legislature does not intend to create an inconsistency.” *Peninsula Neighborhood Ass'n v. Dep't*
12 *of Transportation*, 142 Wn.2d 328, 342, 12 P.3d 134 (2000). Further, as the Washington
13 Supreme Court recently stated: “We do not favor repeal by implication, and where potentially
14 conflicting acts can be harmonized, we construe each to maintain the integrity of the other”.
15 *Anderson v. State, Dept. of Corrections*, 159 Wash.2d 849, 859, 154 P.3d 220, 225 (2007)(citing
16 *Misterek v. Washington Mineral Products, Inc.*, 85 Wn.2d 166, 168, 531 P.2d 805 (1975)). See
17 also *Kariah Enterprises, LLC v. Ecology*, PCHB No. 05-021, Corrected Order Granting Partial
18 Summary Judgment (Jan. 6, 2005).

19 23.

20 The Board has addressed the interface between the GMA and the WPCA in the *Kariah*
21 decision, cited above. In that case, the appellant challenged Ecology’s denial of a CWA Section

1 401 Water Quality Certification for a proposed residential development. The Appellant argued
2 that the Legislature, through GMA, had delegated Ecology's authority over wetlands under the
3 WPCA to local governments. The Board rejected this argument, concluding that neither chapter
4 90.48 RCW nor 36.70A RCW contained any express provisions delegating Ecology's authority
5 over protecting water quality in wetlands to cities and counties. The Board went on to conclude
6 that the WPCA and the GMA should be harmonized, and that:

7 The legislative policy articulated in RCW 36.70A.010 indicates the GMA was directed at
8 addressing uncoordinated and unplanned growth, not at shifting the responsibility to
regulate wetlands from the state government to local governments.

9 *Kariah*, CL 33.

10 24.

11 Similarly, in a Shoreline Hearings Board decision addressing the interaction between the
12 Shoreline Management Act (SMA) and the GMA, the Board concluded that Ecology's newly
13 adopted shoreline rules did not improperly usurp the authority of local governments planning
14 under the GMA, despite venturing into land use controls. *Association of Washington Businesses*
15 *v. Ecology*, SHB No. 00-037, Order granting and denying appeal (2001)(Issue 9).²⁶

17 _____
18 ²⁶ Although this decision was split on several issues, the holding on the GMA issue was unanimous. We note that
19 even prior to the GMA, the Shoreline Management Act (SMA), Ch. 90.58 RCW, was enacted by initiative of the
20 people in 1971 after recognizing the "ever increasing pressures of additional uses ... being placed on the shorelines
21 necessitate[e] increased coordination in the management and development of the shorelines of the state." RCW
90.58.020. The SMA includes a broad policy to protect the waters of the state and gives preference to uses that
protect water quality and the natural environment. *Id.* The SMA establishes a balance of authority between local
and state government, where cities and counties have the primary responsibility for initiating the planning required
by the Act and administering the regulatory program, and Ecology is tasked with providing assistance to local
governments in the development of their shoreline master programs and "insuring compliance with the policy and
provisions of [the Act]." RCW 90.58.050.

1
2 The Legislature has not expressed any intent, either through the GMA, SMA, or
3 amendments to the WPCA, to redirect Ecology's role in water quality protection to the local
4 governments. The Department of Community, Trade and Economic Development (CTED), the
5 agency charged with implementing and interpreting the GMA, has considered the interaction
6 between the GMA and pre-existing laws not specifically addressed in the GMA. In WAC 365-
7 195-700, CTED's GMA regulations state:

8 For local jurisdictions subject to its terms, the Growth Management Act mandates the
9 development of comprehensive plans and development regulations that meet statutory
10 goals and requirements. These plans and regulations will take their place among existing
11 laws relating to resource management, environmental protection, regulation of land use,
12 utilities and public facilities. Many of these existing laws were neither repealed nor
13 amended by the act.

14 This circumstance places responsibilities both on local growth management planners and
15 on administrators of preexisting programs to work toward producing a single harmonious
16 body of law.

17 WAC 365-195-700 (emphasis added).²⁷

18 CTED's regulations further explain that:

19 Overall, the broad sweep of policy contained in the act implies a requirement that all
20 programs at the state level accommodate the outcomes of the growth management
21 process wherever possible. State agencies are rarely concerned solely with the rote
application of fixed standards. The exercise of statutory powers, whether in permit
functions, grant funding, property acquisition or otherwise, routinely involves such
agencies in discretionary decision-making. The discretion they exercise should now take
into account the new reality of legislatively mandated local growth management

²⁷ Ecology's SMA rules recognize a similar responsibility to harmonize overlapping bodies of law and regulation, which now provide: "It is the responsibility of the local government to assure consistency between the master program and other elements of the comprehensive plan and development regulations." WAC 173-26-191(e).

1 programs.

2 WAC 365-195-765(4).

3
4 26.

5 The Phase I permittees are all cities and counties required to plan under the GMA. RCW
6 36.70A.040. Their planning must address protection of surface and ground water. RCW
7 36.70A.070(1). CTED has identified the Ecology Stormwater Management Manual as best
8 available science in regard to stormwater management under the GMA. Ecology, as a state
9 agency, must also work toward implementation of the GMA. We conclude that there is no
10 conflict between GMA and the WPCA, nor the roles of local governments and Ecology under
11 these statutes. These roles support and complement each other and can be harmonized to allow
12 water quality efforts to be considered and integrated into the growth management process
13 outlined in the GMA.

14 27.

15 The Board concludes Ecology may, within the bounds of the GMA, require use of LID as
16 a water quality management tool. The Board further concludes that the Phase I Permit must be
17 modified to require use of LID where feasible, as it is necessary to meet the MEP and AKART
18 standards of federal and state law, respectively. RCW 36.70A.070(1) already provides the
19 mandate for local governments planning under the GMA to address drainage, flooding, and
20 stormwater runoff in order to mitigate or cleanse discharges of water pollution. The Permit,
21 including the Manual, merely sets forth the methods to accomplish this requirement.

1 for implementation” during the term of the permit. S5.C.6.b.i. While initial project selection is
2 presumably subject to the MEP and AKART standard of the permit, Ecology plays no role in
3 ensuring these standards are met, even through simple review of the selected projects. The
4 permit does not contain any requirement that permittees describe their project priorities or
5 require that Ecology review the permittees’ structural stormwater control program. Ecology is
6 not expected to approve the municipalities’ prioritization of projects in relation to the pollution
7 reduction requirements of the permit. While Ecology testified that the permit “implied” there
8 needs to be a prioritization of planned structural stormwater control projects, and a schedule
9 reviewed by Ecology (*Moore testimony*), the permit does not expressly state this requirement and
10 the fact sheet explicitly states that “review and approval by Ecology is not a permit requirement.”
11 *Ex. Muni 0002, p. 35.* Thus, the structural stormwater control program is left entirely to the
12 discretion of the municipalities, not only with respect to which projects they initially select, but
13 also in the timing and manner in which they implement the selected projects. Prioritization of
14 projects is particularly important given that Conditions S5 and S6 are based upon actions taken
15 by the permittees and not outcomes, and this structural stormwater control provision is to
16 “address impacts that are not adequately controlled by the other required actions of the SWMP.”
17 Prioritization helps to ensure that the sites where the permittees choose to “act” are meaningful
18 in providing environmental protection. It can also assist to engage the public as a partner in
19 reducing pollutants in discharges and the overall volume of discharges. A community, for
20 example, could request a permittee to focus a project in an area which discharges near shellfish
21 beds. While the Board recognizes that local funding will influence the selection of planned

1 projects and that municipalities must therefore retain local control in the selection process, we
2 conclude that the permit must require permittees to describe the prioritization of their selected
3 projects in order to comply with federal rules, demonstrate compliance with the MEP and
4 AKART standards, and facilitate oversight by Ecology to ensure the legal standards of the permit
5 are applied on a programmatic level. *See Save Lake Sammamish v. Ecology*, PCHB Nos. 95-78
6 & -121, Order Granting Summary Judgment (Dec. 12, 1995).

7 30.

8 In contrast to the structural stormwater control program provisions, the source control
9 program for existing development requires a more rigorous program to reduce pollutants in
10 runoff from areas that discharge to MS4s owned or operated by the permittee, and does not
11 suffer from the same flaws as the structural stormwater control program. The permit requires
12 that Ecology must review and approve the source control program. S5.C.7.b.i. Therefore, the
13 Board concludes that the source control program as drafted meets the MEP and AKART
14 standard.

15 E. Water quality violations (Issues F.1.a., F.2.a., and F.4)

16 PSA and PSE argue, through several different issues, that the permit fails to prevent
17 discharges that violate water quality. *See* F.1.a (permit fails to require LID techniques which
18 results in discharges that violate water quality); F.2.a (permit allows discharges from existing
19 development that violate water quality); F.4 (Permit as a whole allows discharges that violate
20 water quality standards; Prohibition on violations of water quality standards contained in Special
21 Condition S4 conflicts with other provisions of the permit). The Board concludes that the

1 permit, with the amendments directed by the Board to meet AKART and MEP, and with the
2 amendments directed by the Board to the S4.F compliance process,²⁸ is adequately conditioned
3 to comply with state law.

4 F. Timelines for Compliance (Issue F.5)

5 31.

6 The CWA sets out a number of deadlines related to NPDES permits for industrial and
7 large municipal dischargers, including a deadline for EPA to establish regulations setting forth
8 permit application requirements, a deadline for filing permit applications, and a deadline for
9 EPA's approval or denial of the permits. 33 U.S.C. § 1342 (p)(4)(A). The final sentence in 33
10 U.S.C. § 1342 (p)(4)(A) states: "Any such permit shall provide for compliance as expeditiously
11 as practicable, but in no event later than 3 years after the date of issuance of such permit." PSA
12 contends that the Phase I Permit violates this provision.

13 32.

14 The Board has addressed this specific sentence before, in a case involving a challenge to
15 a renewal of the Industrial Stormwater General NPDES Permit. *PSA v. Ecology*, PCHB Nos. 02-
16 162, -163, -164, Order Granting Partial Summary Judgment (June 6, 2003). In that case,
17 involving industrial stormwater discharges, the Board concluded that the reference to
18 "compliance" in the sentence referred to compliance with the permit requirement contained in 33
19 U.S.C. § 1342 (p)(3)(A)(the provision pertaining to industrial stormwater discharges). *PSA* at
20 CL XXI. Applying that same analysis to this case, involving municipal stormwater discharges,

21 _____
²⁸ These modifications are ordered in the Board's Findings, Conclusions and Order on S4, issued on August 7, 2008.

1 the reference to "compliance" is to 33 U.S.C. § 1342 (p)(3)(B)(the provision establishing the
2 MEP standard for municipal stormwater discharges). Therefore, the question becomes whether
3 the permit allows any actions to occur later than three years after the date of issuance of the
4 permit that are necessary to reduce discharges of pollutants to the maximum extent practicable.

5 33.

6 Several of the conditions of the Phase I Permit allow actions required by the permit to
7 occur more than three years after the date of issuance of the permit. PSA and the Utilities
8 contend that this establishes that the permit violates 33 U.S.C. § 1342 (p)(4)(A). However, this
9 fact alone does not establish a violation of 33 U.S.C. § 1342 (p)(4). PSA and the Utilities, as the
10 parties with the burden of proof, must bring forth evidence establishing that earlier compliance
11 with one of the permit provisions currently allowing implementation outside of the three year
12 statutory window is necessary to meet the MEP standard. Ecology has developed a
13 programmatic permit with multiple components to be implemented throughout the permit cycle
14 which, collectively, represent MEP and AKART. To read the statute as suggested by PSA and
15 the Utilities would inappropriately limit Ecology's ability to include within the permit additional
16 conditions or requirements that may not be practicable within three years but which are
17 reasonable within a longer time frame. The Board concludes that PSA and the Utilities have
18 failed to meet their burden on this issue. The record does not contain sufficient evidence on any
19 specific permit condition to convince the Board that the permit violates 33 U.S.C. § 1342
20 (p)(4)(A).

1 34.

2 Any Finding of Fact deemed to be a Conclusion of Law is hereby adopted as such.

3 Having so found and concluded, the Board enters the following

4 ORDER

5 Having concluded that portions of the Phase I Permit are invalid, the Board remands the
6 Phase I Permit to Ecology pursuant to WAC 371-08-540, for modifications consistent with this
7 opinion.

8 1. Ecology shall modify Special Condition S6.E.7 as follows:

9 7. Source Control in existing Developed Areas

10 The SWMP shall include the development and implementation of one or more
11 Stormwater Pollution Prevention Plans (SWPPPs). A SWPPP is a documented
12 plan to identify and implement measures to prevent and control the contamination
13 of discharges of stormwater to surface or ground water. SWPPP(s) shall be
14 prepared and implemented for all Port-owned lands, **except environmental
mitigation sites owned by the Port of Tacoma**, that are not covered by either a
15 General Permit or an individual NPDES permit issued by Ecology that covers
16 stormwater discharges.

17 (modified language is in bold and underlined)

18 2. With respect to the use of LID, in addition to the specific modifications identified in

19 No. 1 above, Ecology shall also modify the permit consistent with this opinion as follows :

20 a. Modify Permit Condition S5.C.5.b to read as follows:

21 iii. The program must ~~((allow))~~ **require** non-structural preventive actions
and source reduction approaches ~~((such as))~~, **including** Low Impact
Development Techniques (LID), to minimize the creation of impervious
surfaces, and measures to minimize the disturbance of soils and vegetation
where feasible.

- 1 b. Require permittees to identify barriers to implementation of LID and, in each
2 annual report, identify actions taken to remove barriers identified.
- 3 c. Require permittees to adopt enforceable ordinances that require use of LID
4 techniques where feasible in conjunction with conventional stormwater
5 management methods.
- 6 d. Require permittees to address in their annual report to Ecology under the
7 Phase I Permit, information on the extent to which basin planning is being
8 conducted in their jurisdiction, either voluntarily, or pursuant to GMA or any
9 other requirement.
- 10 e. Require permittees to identify, prior to the next permit cycle or renewal, areas
11 for potential basin or watershed planning that can incorporate development
12 strategies as a water quality management tool to protect aquatic resources.

13 3. Ecology shall modify Special Condition S5.C.6.b.ii, related to structural Stormwater
14 control programs minimum performance measures, to require that permittees describe the
15 prioritization of their selected projects as required by federal rules, in order to facilitate oversight
16 by Ecology to ensure that the MEP and AKART standards are met on a programmatic level.

1 SO ORDERED this 7th day of August, 2008.

2
3 POLLUTION CONTROL HEARINGS BOARD

4 Kathleen D. Mix
5 Kathleen D. Mix, Chair

6 see concurrence/dissent
7 William H. Lynch, Member

8 Andrea M. Doyle
9 Andrea McNamara Doyle, Member

10 Ky M. B.
11 Kay M. Brown, Presiding
12 Administrative Appeals Judge

POLLUTION CONTROL HEARINGS BOARD
STATE OF WASHINGTON

PUGET SOUNDKEEPER ALLIANCE;
PEOPLE FOR PUGET SOUND; PIERCE
COUNTY PUBLIC WORKS AND
UTILITIES DEPARTMENT; CITY OF
TACOMA; PORT OF SEATTLE;
SNOHOMISH COUNTY; CLARK
COUNTY; PACIFICORP; and PUGET
SOUND ENERGY,

Appellants,

v.

STATE OF WASHINGTON,
DEPARTMENT OF ECOLOGY,

Respondent,

CITY OF SEATTLE; KING COUNTY;
PORT OF TACOMA; PACIFICORP;
PUGET SOUND ENERGY; STATE OF
WASHINGTON, DEPARTMENT OF
TRANSPORTATION,

Intervenors.

FINDINGS OF FACT, CONCLUSIONS OF
LAW, AND ORDER

PHASE I

PCHB NOS. 07-021, 07-026, 07-027
07-028, 07-029, 0-030,
07-037

CONCURRENCE AND DISSENT

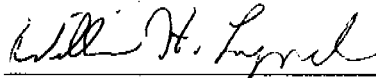
I write separately for the purpose of disagreeing with my colleagues on one portion of the decision. I would allow Pierce County to substitute its monitoring program for the monitoring required under Special Condition S8 (S8). Pierce County provided testimony that it was unable to afford both monitoring programs. Pierce County has established an extensive monitoring program that will allow the County to assess the impacts of stormwater discharges in the

1 receiving water over an extended period of time. Portions of the monitoring program include
2 continuous monitoring, so that a more accurate assessment can be made of the impact of
3 development on the physical channel conditions and aquatic organisms. Ecology has recognized
4 the importance of this type of monitoring in its 2004 report to the Legislature. Ecology's efforts
5 to collect data regarding the effectiveness of BMPs would not significantly suffer from the
6 absence of BMP effectiveness data from Pierce County. To the contrary, I believe that Pierce
7 County's monitoring program would yield information that would be quite valuable to Ecology
8 and assist in the development of future phases of the permit. The one modification I would
9 require to Pierce County's monitoring regime is for Pierce County to test for the full range of
10 chemical pollutants required of other permittees under S8.

11 For this reason, I concur with the remainder of the decision but respectfully dissent
12 regarding Pierce County's monitoring program.

13
14 Dated this 7th day of August 2008.

15
16 **POLLUTION CONTROL HEARINGS BOARD**

17
18 
19 William H. Lynch, Member

20
21

ATTACHMENT 27

BEFORE THE
COMMISSION ON STATE MANDATES
STATE OF CALIFORNIA

IN RE TEST CLAIM ON:

San Diego Regional Quality Control Board
Order No. R9-2007-0001
Permit CAS0108758
Parts D.1.d.(7)-(8), D.1.g., D.3.a.(3), D.3.a.(5),
D.5, E.2.f, E.2.g, F.1, F.2, F.3, I.1, I.2, I.5,
J.3.a.(3)(c)iv-viii & x-xv, and L.

Filed June 20, 2008, by the County of
San Diego, Cities of Carlsbad, Del Mar, Imperial
Beach, Lemon Grove, Poway, San Marcos,
Santee, Solana Beach, Chula Vista, Coronado,
Del Mar, El Cajon, Encinitas, Escondido,
Imperial Beach, La Mesa, Lemon Grove,
National City, Oceanside, San Diego, and
Vista, Claimants.

Case No.: 07-TC-09

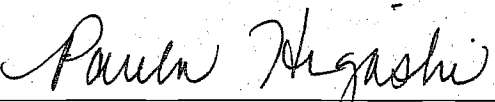
*Discharge of Stormwater Runoff -
Order No. R9-2007-0001*

STATEMENT OF DECISION PURSUANT
TO GOVERNMENT CODE SECTION
17500 ET SEQ.; TITLE 2, CALIFORNIA
CODE OF REGULATIONS, DIVISION 2,
CHAPTER 2.5, ARTICLE 7.

(Adopted on March 26, 2010)

STATEMENT OF DECISION

The attached Statement of Decision of the Commission on State Mandates is hereby adopted in the above-entitled matter.



PAULA HIGASHI, Executive Director

Dated: March 30, 2010

BEFORE THE
COMMISSION ON STATE MANDATES
STATE OF CALIFORNIA

IN RE TEST CLAIM ON:

San Diego Regional Quality Control Board
Order No. R9-2007-0001
Permit CAS0108758
Parts D.1.d.(7)-(8), D.1.g., D.3.a.(3), D.3.a.(5),
D.5, E.2.f, E.2.g, F.1, F.2, F.3, I.1, I.2, I.5,
J.3.a.(3)(c)iv-viii & x-xv, and L.

Filed June 20, 2008, by the County of
San Diego, Cities of Carlsbad, Del Mar,
Imperial Beach, Lemon Grove, Poway,
San Marcos, Santee, Solana Beach, Chula
Vista, Coronado, Del Mar, El Cajon, Encinitas,
Escondido, Imperial Beach, La Mesa, Lemon
Grove, National City, Oceanside, San Diego,
and Vista, Claimants.

Case No.: 07-TC-09

*Discharge of Stormwater Runoff -
Order No. R9-2007-0001*

STATEMENT OF DECISION
PURSUANT TO GOVERNMENT CODE
SECTION 17500 ET SEQ.; TITLE 2,
CALIFORNIA CODE OF
REGULATIONS, DIVISION 2,
CHAPTER 2.5, ARTICLE 7.

(Adopted on March 26, 2010)

STATEMENT OF DECISION

The Commission on State Mandates ("Commission") heard and decided this test claim during a regularly scheduled hearing on March 26, 2010. Tim Barry, John VanRhyn, Helen Peak, Shawn Hagerty and James Lough appeared on behalf of the claimants. Elizabeth Jennings appeared on behalf of the State Water Resources Control Board. Carla Shelton and Susan Geanacou appeared on behalf of the Department of Finance.

The law applicable to the Commission's determination of a reimbursable state-mandated program is article XIII B, section 6 of the California Constitution, Government Code section 17500 et seq., and related case law.

The Commission adopted the staff analysis to partially approve the test claim at the hearing by a vote of 6-1.

Summary of Findings

The test claim, filed by the County of San Diego and several cities, alleges various activities related to reducing stormwater pollution in compliance with a permit issued by the San Diego Regional Water Quality Control Board, a state agency.

The Commission finds that the following activities in the permit (as further specified on pp. 122-132 below) are a reimbursable state-mandated new program or higher level of service within the meaning of article XIII B, section 6 of the California Constitution:

- street sweeping (permit part D.3.a(5));
- street sweeping reporting (part J.3.a.(3)(c) x-xv);
- conveyance system cleaning (part D.3.a.(3));
- conveyance system cleaning reporting (J.3.a.(3)(c)(iv)-(viii));
- educational component (part D.5.a.(1)-(2) & D.5.b.(1)(c)-(d) & D.5.(b)(3));
- watershed activities and collaboration in the Watershed Urban Runoff Management Program (part E.2.f & E.2.g);
- Regional Urban Runoff Management Program (parts F.1., F.2. & F.3);
- program effectiveness assessment (parts I.1 & I.2);
- long-term effectiveness assessment (part I.5) and
- all permittee collaboration (part L.1.a.(3)-(6)).

The Commission also finds that the following test claim activities are not reimbursable because the claimants¹ have fee authority sufficient (within the meaning of Gov. Code § 17556, subd. (d)) to pay for them: hydromodification management plan (part D.1.g) and low-impact development (parts D.1.d.(7) & D.1.d.(8)), as specified below.

Further, the Commission finds the following would be identified as offsetting revenue in the parameters and guidelines:

- Any fees or assessments approved by the voters or property owners for any activities in the permit, including those authorized by Public Resources Code section 40059 for street sweeping or reporting on street sweeping, and those authorize by Health and Safety Code section 5471, for conveyance-system cleaning, or reporting on conveyance-system cleaning; and
- Any proposed fees that are not subject to a written protest by a majority of parcel owners and that are imposed for street sweeping.
- Effective January 1, 2010, fees imposed pursuant to Water Code section 16103 only to the extent that a local agency voluntarily complies with Water Code section 16101 by developing a watershed improvement plan pursuant to Statutes 2009, chapter 577, and the Regional Board approves the plan and incorporates it into the test claim permit to satisfy the requirements of the permit.

BACKGROUND

The claimants allege various activities for reducing stormwater pollution in compliance with a permit issued by the California Regional Water Quality Control Board, San Diego Region, (Regional Board), a state agency. Before discussing the specifics of the permit, an overview of the permit's purpose, and municipal stormwater pollution in general, puts the permit in context.

¹ In this analysis, claimants and the permit term "copermittees" are used interchangeably, even though two of the copermittees (the San Diego Unified Port District and San Diego County Regional Airport Authority) are not claimants. The following are the claimants and copermittees that are subject to the permit requirements: Carlsbad, Chula Vista, Coronado, Del Mar, El Cajon, Encinitas, Escondido, Imperial Beach, La Mesa, Lemon Grove, National City, Oceanside, Poway, San Diego, San Marcos, Santee, Solana Beach, Vista, County of San Diego.

Municipal Stormwater

The purpose of the permit is to specify “requirements necessary for the copermitees² to reduce the discharge of pollutants in urban runoff to the maximum extent practicable (MEP).” Each of the copermitees or dischargers “owns or operates a municipal separate storm sewer system (MS4),³ through which it discharges urban runoff into waters of the United States within the San Diego region.”

Stormwater⁴ runoff flowing untreated from urban streets directly into creeks, streams, rivers, lakes and the ocean, creates pollution, as the Ninth Circuit Court of Appeal has stated:

Storm water runoff is one of the most significant sources of water pollution in the nation, at times “comparable to, if not greater than, contamination from industrial and sewage sources.” [Citation omitted.] Storm sewer waters carry suspended metals, sediments, algae-promoting nutrients (nitrogen and phosphorus), floatable trash, used motor oil, raw sewage, pesticides, and other toxic contaminants into streams, rivers, lakes, and estuaries across the United States. [Citation omitted.] In 1985, three-quarters of the States cited urban storm water runoff as a major cause of waterbody impairment, and forty percent reported construction site runoff as a major cause of impairment. Urban runoff has been named as the foremost cause of impairment of surveyed ocean waters. Among the sources of storm water contamination are urban development, industrial facilities, construction sites, and illicit discharges and connections to storm sewer systems.⁵

Because of these stormwater pollution problems described by the Ninth Circuit, both California and the federal government regulate stormwater runoff.

California Law

The California Supreme Court summarized the state statutory scheme and regulatory agencies applicable to this test claim as follows:

² “Copermitees” are entities responsible for National Pollutant Discharge Elimination System (NPDES) permit conditions pertaining to their own discharges. (40 C.F.R. § 122.26 (b)(1).)

³ Municipal separate storm sewer system means a conveyance or system of conveyances (including roads with drainage systems, municipal streets, catch basins, curbs, gutters, ditches, man-made channels, or storm drains): (i) Owned or operated by a State, city, town, borough, county, parish, district, association, or other public body (created by or pursuant to State law) having jurisdiction over disposal of sewage, industrial wastes, storm water, or other wastes, including special districts under State law such as a sewer district, flood control district or drainage district, or similar entity, or an Indian tribe or an authorized Indian tribal organization, or a designated and approved management agency under section 208 of the CWA that discharges to waters of the United States; (ii) Designed or used for collecting or conveying storm water; (iii) Which is not a combined sewer; and (iv) Which is not part of a Publicly Owned Treatment Works (POTW) as defined at 40 CFR 122.2. (40 C.F.R. § 122.26 (b)(8).)

⁴ Storm water means “storm water runoff, snow melt runoff, and surface runoff and drainage.” (40 C.F.R. § 122.26 (b)(13).)

⁵ *Environmental Defense Center, Inc. v. U.S. E.P.A.* (2003) 344 F.3d 832, 840-841.

In California, the controlling law is the Porter-Cologne Water Quality Control Act (Porter-Cologne Act), which was enacted in 1969. (Wat. Code, § 13000 et seq., added by Stats.1969, ch. 482, § 18, p. 1051.) Its goal is “to attain the highest water quality which is reasonable, considering all demands being made and to be made on those waters and the total values involved, beneficial and detrimental, economic and social, tangible and intangible.” (§ 13000.) The task of accomplishing this belongs to the State Water Resources Control Board (State Board) and the nine Regional Water Quality Control Boards; together the State Board and the regional boards comprise “the principal state agencies with primary responsibility for the coordination and control of water quality.” (§ 13001.)

Whereas the State Board establishes statewide policy for water quality control (§ 13140), the regional boards “formulate and adopt water quality control plans for all areas within [a] region” (§ 13240).⁶

In California, wastewater discharge requirements established by the regional boards are the equivalent of the NPDES permits [national pollutant discharge elimination system] required by federal law. (§ 13374).⁷

As to waste discharge requirements, section 13377 of the California Water Code states:

Notwithstanding any other provision of this division, the state board or the regional boards shall, as required or authorized by the Federal Water Pollution Control Act, as amended, issue waste discharge requirements and dredged or fill material permits which apply and ensure compliance with all applicable provisions of the act and acts amendatory thereof or supplementary, thereto, together with any more stringent effluent standards or limitations necessary to implement water quality control plans, or for the protection of beneficial uses, or to prevent nuisance.

Much of what the Regional Board does, especially that pertains to permits like the one in this claim, is based in the federal Clean Water Act.

Federal Law

The Federal Clean Water Act (CWA) was amended in 1972 to implement a permitting system for all discharges of pollutants⁸ from point sources⁹ to waters of the United States, since

⁶ *City of Burbank v. State Water Resources Control Bd.* (2005) 35 Cal.4th 613, 619.

⁷ *Id.* at page 621. State and regional board permits allowing discharges into state waters are called “waste discharge requirements.” (Wat. Code, § 13263).

⁸ According to the federal regulations, “Discharge of a pollutant” means: (a) Any addition of any “pollutant” or combination of pollutants to “waters of the United States” from any “point source,” or (b) Any addition of any pollutant or combination of pollutants to the waters of the “contiguous zone” or the ocean from any point source other than a vessel or other floating craft which is being used as a means of transportation. This definition includes additions of pollutants into waters of the United States from: surface runoff which is collected or channeled by man; discharges through pipes, sewers, or other conveyances owned by a State, municipality, or other person which do not lead to a treatment works; and discharges through pipes, sewers, or other

discharges of pollutants are illegal except under a permit.¹⁰ The permits, issued under the national pollutant discharge elimination system, are called NPDES permits. Under the CWA, each state is free to enforce its own water quality laws so long as its effluent limitations¹¹ are not "less stringent" than those set out in the CWA (33 USCA 1370). The California Supreme Court described NPDES permits as follows:

Part of the federal Clean Water Act is the National Pollutant Discharge Elimination System (NPDES), "[t]he primary means" for enforcing effluent limitations and standards under the Clean Water Act. (*Arkansas v. Oklahoma*, *supra*, 503 U.S. at p. 101, 112 S.Ct. 1046.) The NPDES sets out the conditions under which the federal EPA or a state with an approved water quality control program can issue permits for the discharge of pollutants in wastewater. (33 U.S.C. § 1342(a) & (b).) In California, wastewater discharge requirements established by the regional boards are the equivalent of the NPDES permits required by federal law. (§ 13374.)¹²

In the Porter-Cologne Water Quality Control Act (Wat. Code, §§ 13370 et seq.), the Legislature found that the state should implement the federal law in order to avoid direct regulation by the federal government. The Legislature requires the permit program to be consistent with federal law, and charges the State and Regional Water Boards with implementing the federal program (Wat. Code, §§ 13372 & 13370). The State Water Resources Control Board (State Board) incorporates the regulations from the U.S. EPA for implementing the federal permit program, so both the Clean Water Act and U.S. EPA regulations apply to California's permit program (Cal.Code Regs., tit. 23, § 2235.2).

When a Regional Board adopts an NPDES permit, it must adopt as stringent a permit as U.S. EPA would have (federal Clean Water Act, § 402 (b)). As the California Supreme Court stated:

The federal Clean Water Act reserves to the states significant aspects of water quality policy (33 U.S.C. § 1251(b)), and it specifically grants the states authority

conveyances, leading into privately owned treatment works. This term does not include an addition of pollutants by any "indirect discharger." (40 C.F.R. § 122.2.)

⁹ A point source is "any discernible, confined and discrete conveyance, including but not limited to any pipe, ditch, channel, tunnel, conduit, well, discrete fissure, container, rolling stock, concentrated animal feeding operation, or vessel or other floating craft, from which pollutants are or may be discharged." 33 U.S.C. § 1362(14).

¹⁰ 40 Code of Federal Regulations, section 122.21 (a). The section applies to U.S. EPA-issued permits, but is incorporated into section 123.25 (the state program provision) by reference.

¹¹ *Effluent limitation* means any restriction imposed by the Director on quantities, discharge rates, and concentrations of "pollutants" which are "discharged" from "point sources" into "waters of the United States," the waters of the "contiguous zone," or the ocean. (40 C.F.R. § 122.2.)

¹² *City of Burbank v. State Water Resources Control Bd.*, *supra*, 35 Cal.4th 613, 621. State and regional board permits allowing discharges into state waters are called "waste discharge requirements" (Wat. Code, § 13263).

to “enforce any effluent limitation” that is not “*less stringent*” than the federal standard (*id.* § 1370, italics added). It does not prescribe or restrict the factors that a state may consider when exercising this reserved authority, and thus it does not prohibit a state when imposing effluent limitations that are *more stringent* than required by federal law—from taking into account the economic effects of doing so.¹³

Actions that dischargers must implement as prescribed in permits are commonly called “best management practices” or BMPs.¹⁴

Stormwater was not regulated by U.S. EPA in 1973 because of the difficulty of doing so. This exemption from regulation was overturned in *Natural Resources Defense Council v. Costle* (1977) 568 F.2d 1369, which ordered U.S. EPA to require NPDES permits for stormwater runoff. By 1987, U.S. EPA still had not adopted regulations to implement a permitting system for stormwater runoff. The Ninth Circuit Court of Appeals explained the next step as follows:

In 1987, to better regulate pollution conveyed by stormwater runoff, Congress enacted Clean Water Act § 402(p), 33 U.S.C. § 1342(p), “Municipal and Industrial Stormwater Discharges.” Sections 402(p)(2) and 402(p)(3) mandate NPDES permits for stormwater discharges “associated with industrial activity,” discharges from large and medium-sized municipal storm sewer systems, and certain other discharges. Section 402(p)(4) sets out a timetable for promulgation of the first of a two-phase overall program of stormwater regulation.¹⁵

NPDES permits are required for “A discharge from a municipal separate storm sewer system serving a population of 250,000 or more.”¹⁶ The federal Clean Water Act specifies the following criteria for municipal storm sewer system permits:

- (i) may be issued on a system- or jurisdiction-wide basis;
- (ii) shall include a requirement to effectively prohibit non-stormwater discharges into the storm sewers; and
- (iii) shall require controls to reduce the discharge of pollutants to the maximum extent practicable, including management practices, control techniques and system, design and engineering methods, and such other provisions as the Administrator or the State determines appropriate for the control of such pollutants.¹⁷

¹³ *City of Burbank v. State Water Resources Control Bd.*, *supra*, 35 Cal.4th 613, 627-628.

¹⁴ Best management practices are “schedules of activities, prohibitions of practices, maintenance procedures, and other management practices to prevent or reduce the pollution of “waters of the United States.” BMPs also include treatment requirements, operating procedures, and practices to control plant site runoff, spillage or leaks, sludge or waste disposal, or drainage from raw material storage.” (40 CFR § 122.2.)

¹⁵ *Environmental Defense Center, Inc. v. U.S. E.P.A.*, *supra*, 344 F.3d 832, 841-842.

¹⁶ 33 USCA section 1342 (p)(2)(C).

¹⁷ 33 USCA section 1342 (p)(3)(B).

In 1990, U.S. EPA adopted regulations to implement Clean Water Act section 402(p), defining which entities need to apply for permits and the information to include in the permit application. The permit application must propose management programs that the permitting authority will consider in adopting the permit. The management programs must include the following:

[A] comprehensive planning process which involves public participation and where necessary intergovernmental coordination, to reduce the discharge of pollutants to the maximum extent practicable using management practices, control techniques and system, design and engineering methods, and such other provisions which are appropriate.¹⁸

General State-Wide Permits

In addition to the regional stormwater permit at issue in this claim, the State Board has issued two general statewide permits,¹⁹ as described in the permit as follows:

In accordance with federal NPDES regulations and to ensure the most effective oversight of industrial and construction site discharges, discharges of runoff from industrial and construction sites are subject to dual (state and local) storm water regulation. Under this dual system, the Regional Board is responsible for enforcing the General Construction Activities Storm Water Permit, SWRCB Order 99-08 DWQ, NPDES No. CAS000002 (General Construction Permit) and the General Industrial Activities Storm Water Permit, SWRCB Order 97-03 DWQ, NPDES No. CAS000001 (General Industrial Permit), and each municipal Copermittee is responsible for enforcing its local permits, plans, and ordinances, which may require the implementation of additional BMPs than required under the statewide general permits.

The State and Regional Boards have statutory fee authority to conduct inspections to enforce the general statewide permits.²⁰

The Regional Board Permit (Order No. R9-2007-001, Permit CAS0108758)

Under Part A, "Basis for the Order," the permit states:

This Order Renews National Pollutant Discharge Elimination System (NPDES) Permit No. CAS0108758, which was first issued on July 16, 1990 (Order No. 90-42), and then renewed on February 21, 2001 (Order No. 2001-01). On August 25, 2005, in accordance with Order NO. 2001-01, the County of San Diego, as the Principal Permittee, submitted a Report of Waste Discharge (ROWD) for renewal of their MS4 Permit.

Attachment B of the permit (part 7(q)) states that "This Order expires five years after adoption." Attachment B also says (part 7 (r)) that the terms and conditions of the permit "are automatically

¹⁸ 40 Code of Federal Regulations section 122.26 (d)(2)(iv).

¹⁹ A general permit means "an NPDES 'permit' issued under [40 CFR] §122.28 authorizing a category of discharges under the CWA within a geographical area." (40 CFR § 122.2.)

²⁰ Water Code section 13260, subdivision (d)(2)(B)(i) - (iii).

continued pending issuance of a new permit if all requirements of the federal NPDES regulations on the continuation of the expired permits (40 CFR 122.6) are complied with.”²¹

Part J.2.d. of the permit requires the Principal Permittee (County of San Diego) to “submit to the Regional Board, no later than 210 days in advance of the expiration of this order, a report of Waste Discharge (ROWD) as an application for issuance of new waste discharge requirements.” The permit specifies the contents of the ROWD.

The permit is divided into 16 sections. It prohibits discharges from MS4s that contain pollutants that “have not been reduced to the maximum extent practicable” as well as discharges “that cause or contribute to the violation of water quality standards.” The permit also prohibits non-storm water discharges unless they are authorized by a separate NPDES permit, or fall within specified exemptions. The copermitees are required to “establish, maintain, and enforce adequate legal authority to control pollutant discharges into and from its MS4 through ordinance, statute, permit, contract or similar means.” The copermitees are also required to develop and implement an updated Jurisdictional Urban Runoff Management Program (JURMP) for their jurisdictions that meets the requirements specified in the permit as well as a Watershed Urban Runoff Management Program (watersheds are defined in the permit) and a Regional Urban Runoff Management Program, each of which are to be assessed annually and reported on. Annual fiscal analyses are also required of the copermitees. The principal permittee has additional responsibilities, as specified.

The Regional Board prepared a 115-page Fact Sheet/Technical Report for this permit in which are listed, among other things, Regional Board findings, the federal law, and the reasons for the various permit requirements.

The 2001 version of the Regional Board’s permit (treated as prior law in this analysis) was challenged by the Building Industry Association of San Diego County, among others. They alleged that the permit provisions violate federal law because they prohibit the municipalities from discharging runoff from storm sewers if the discharge would cause a water body to exceed the applicable water quality standard established under state law.²² The court held that the Clean Water Act’s “maximum extent practicable” standard did not prevent the water boards from including provisions in the permit that required municipalities to comply with state water quality standards.²³

Attached to the claimants’ February 2009 comments is a document entitled “Comparison Between the Requirement of Tentative Order 2001-01, the Federal NPDES Storm Water Regulations, the Existing San Diego Municipal Storm Water Permit (Order 90-42), and Previous Drafts of the San Diego Municipal Stormwater Permit” that compares the 2001 permit with the 1990 and earlier permits. One of the document’s conclusions regarding the 2001 permit is: “40% of the requirements in Tentative Order 2001-01 which ‘exceed the federal regulations’ are based

²¹ California Code of Regulations, title 23, section 2235.4.

²² *Building Industry Assoc. of San Diego County v. State Water Resources Control Board* (2004) 124 Cal.App.4th 866, 880.

²³ *Id.* at page 870.

almost exclusively on (1) guidance documents developed by USEPA and (2) SWRCB's [State Board's] orders describing statewide precedent setting decision on MS4 permits."

Claimants' Position

Claimants assert that various parts of the Regional Board's 2007 permit constitute a reimbursable state mandate within the meaning of article XIII B, section 6, and Government Code section 17514. The parts of the permit pled by claimants are quoted below:

I. Regional Requirements for Urban Runoff Management Programs

A. Copermittee collaboration

Parts F.2. and F.3. (F. Regional Urban Runoff Management Program) of the permit provide:

Each Copermittee shall collaborate with the other Copermittees to develop, implement, and update as necessary a Regional Urban Runoff Management Program. The Regional Urban Runoff Management Program shall meet the requirements of section F of this Order, reduce the discharge of pollutants²⁴ from the MS4 to the MEP, and prevent urban runoff²⁵ discharges from the MS4 from causing or contributing to a violation of water quality standards.²⁶ The Regional Urban Runoff Management Program shall, at a minimum: [¶]...[¶]

2. Develop the standardized fiscal analysis method required in section G of this Order.²⁷

3. Facilitate the assessment of the effectiveness of jurisdictional, watershed,²⁸ and regional programs.

²⁴ Pollutant is defined in Attachment C of the permit as "Any agent that may cause or contribute to the degradation of water quality such that a condition of pollution or contamination is created or aggravated."

²⁵ Urban Runoff is defined in Attachment C of the permit as "All flows in a storm water conveyance system and consists of the following components: (1) storm water (wet weather flows) and (2) non-storm water illicit discharges (dry weather flows).

²⁶ Water Quality Standards is defined in Attachment C of the permit as "The beneficial uses (e.g., swimming, fishing, municipal drinking water supply, etc.) of water and the water quality objectives necessary to protect those uses.

²⁷ Section G requires the permittees to "collectively develop a standardized method and format for annually conducting and reporting fiscal analyses of their urban runoff management programs in their entirety (including jurisdictional, watershed, and regional activities)." Specific components of the method and time tables are specified in the permit (Permit parts G.2 & G.3).

²⁸ Watershed is defined in Attachment C of the permit as "That geographical area which drains to a specified point on a water course, usually a confluence of streams or rivers (also known as a drainage area, catchment, or river basin)."

Part L (All Copermittee Collaboration) of the Permit states:

1. Each Copermittee collaborate [sic] with all other Copermittees regulated under this Order to address common issues, promote consistency among Jurisdictional Urban Runoff Management Programs and Watershed Urban Runoff Management Programs, and to plan and coordinate activities required under this Order.

a. Management structure – All Copermittees shall jointly execute and submit to the Regional Board no later than 180 days after adoption of this Order, a Memorandum of Understanding, Joint Powers Authority, or other instrument of formal agreement which at a minimum:

- (1) Identifies and defines the responsibilities of the Principal Permittee²⁹ and Lead Watershed Permittees;³⁰
- (2) Identifies Copermittees and defines their individual and joint responsibilities, including watershed responsibilities;
- (3) Establishes a management structure to promote consistency and develop and implement regional activities;
- (4) Establishes standards for conducting meetings, decision-making, and cost-sharing.
- (5) Provides guidelines for committee and workgroup structure and responsibilities;
- (6) Lays out a process for addressing Copermittee non-compliance with the formal agreement;
- (7) Includes any and all other collaborative arrangements for compliance with this order.

Claimants stated that the Copermittees' costs to comply with this activity for fiscal year 2007-2008 was \$260,031.29.

B. Copermittee collaboration – Regional Residential Education Program Development and Implementation

Part F.1 of the Permit provides:

The Regional Urban Runoff Management Program shall, at a minimum:

1. Develop and implement a Regional Residential Education Program. The program shall include:
 - a. Pollutant specific education which focuses educational efforts on bacteria, nutrients, sediment, pesticides, and trash. If a different pollutant is determined to be more critical for the education program, the pollutant can be substituted for one of these pollutants.
 - b. Education efforts focused on the specific residential sources of the pollutants listed in section F.1.a.

²⁹ The Principal Permittee is the County of San Diego.

³⁰ According to the permit: "Watershed Copermittees shall identify the Lead Watershed Permittee for their WMA [Watershed Management Area]."

Claimants stated that the Copermittees' costs to comply with this activity was \$131,250 in fiscal year 2007-2008.

C. Hydromodification³¹

Part D.1.g. of the Permit (D. Jurisdictional Urban Runoff Management Program, 1. Development Planning Component, g. Hydromodification – Limits on Increases of Runoff Discharge Rates and Durations) states:

g. HYDROMODIFICATION – LIMITATIONS ON INCREASES OF RUNOFF DISCHARGE RATES AND DURATIONS

Each Copermittee shall collaborate with the other Copermittees to develop and implement a hydromodification management plan (HMP) to manage increases in runoff discharge rates and durations from all priority development projects,³²

³¹ Hydromodification is defined in Attachment C of the permit as “The change in the natural watershed hydrologic processes and runoff characteristics (i.e., interception, infiltration, overland flow, interflow and groundwater flow) caused by urbanization or other land use changes that result in increased stream flows and sediment transport. In addition, alteration of stream and river channels, installation of dams and water impoundments, and excessive streambank and shoreline erosion are also considered hydromodification, due to their disruption of natural watershed hydrologic processes.”

Hydromodification is also defined as changes in the magnitude and frequency of stream flows as a result of urbanization, and the resulting impacts on the receiving channels in terms of erosion, sedimentation and degradation of in-stream habitat.” *Draft Hydromodification Management Plan for San Diego County*, page 4. <http://www.projectcleanwater.org/pdf/susmp/sd_hmp_2009.pdf> as of May 28, 2009 .

³² According to the permit, “Priority Development Projects” are: a) all new Development Projects that fall under the project categories or locations listed in section D.1.d.(2), and b) those redevelopment projects that create, add or replace at least 5,000 square feet of impervious surfaces on an already developed site that falls under the project categories or locations listed in section D.1.d.(2).

[¶]...[¶] [Part D.1.d.(2):] (2) Priority Development Project Categories (a) Housing subdivisions of 10 or more dwelling units. This category includes single-family homes, multi-family homes, condominiums, and apartments. (b) Commercial developments greater than one acre. This category is defined as any development on private land that is not for heavy industrial or residential uses where the land area for development is greater than one acre. The category includes, but is not limited to: hospitals; laboratories and other medical facilities; educational institutions; recreational facilities; municipal facilities; commercial nurseries; multi-apartment buildings; car wash facilities; mini-malls and other business complexes; shopping malls; hotels; office buildings; public warehouses; automotive dealerships; airfields; and other light industrial facilities. (c) Developments of heavy industry greater than one acre. This category includes, but is not limited to, manufacturing plants, food processing plants, metal working facilities, printing plants, and fleet storage areas (bus, truck, etc.). (d) Automotive repair shops. This category is defined as a facility that is categorized in any one of the following Standard Industrial Classification (SIC) codes: 5013, 5014, 5541, 7532-7534, or 7536-7539. (e) Restaurants. This

where such increased rates and durations are likely to cause increased erosion³³ of channel beds and banks, sediment pollutant generation, or other impacts to beneficial uses³⁴ and stream habitat due to increased erosive force. The HMP, once approved by the Regional Board, shall be incorporated into the local SUSMP [Standard Urban Storm Water Mitigation Plan]³⁵ and implemented by each Copermittee so that post-project runoff discharge rates and durations shall not exceed estimated pre-project discharge rates and durations where the increased discharge rates and durations will result in increased potential for

category is defined as a facility that sells prepared foods and drinks for consumption, including stationary lunch counters and refreshment stands selling prepared foods and drinks for immediate consumption (SIC code 5812), where the land area for development is greater than 5,000 square feet. Restaurants where land development is less than 5,000 square feet shall meet all SUSMP requirements except for structural treatment BMP and numeric sizing criteria requirement D.1.d.(6)(c) and hydromodification requirement D.1.g. (f) All hillside development greater than 5,000 square feet. This category is defined as any development which creates 5,000 square feet of impervious surface which is located in an area with known erosive soil conditions, where the development will grade on any natural slope that is twenty-five percent or greater. (g) Environmentally Sensitive Areas (ESAs). All development located within or directly adjacent to or discharging directly to an ESA (where discharges from the development or redevelopment will enter receiving waters within the ESA), which either creates 2,500 square feet of impervious surface on a proposed project site or increases the area of imperviousness of a proposed project site to 10% or more of its naturally occurring condition. "Directly adjacent" means situated within 200 feet of the ESA. "Discharging directly to" means outflow from a drainage conveyance system that is composed entirely of flows from the subject development or redevelopment site, and not commingled with flows from adjacent lands. (h) Parking lots 5,000 square feet or more or with 15 or more parking spaces and potentially exposed to urban runoff. Parking lot is defined as a land area or facility for the temporary parking or storage of motor vehicles used personally, for business, or for commerce. (i) Street, roads, highways, and freeways. This category includes any paved surface that is 5,000 square feet or greater used for the transportation of automobiles, trucks, motorcycles, and other vehicles. (j) Retail Gasoline Outlets (RGOs). This category includes RGOs that meet the following criteria: (a) 5,000 square feet or more or (b) a projected Average Daily Traffic (ADT) of 100 or more vehicles per day.

³³ Erosion is defined in Attachment C of the permit as "When land is diminished or worn away due to wind, water, or glacial ice. Often the eroded debris (silt or sediment) becomes a pollutant via storm water runoff. Erosion occurs naturally but can be intensified by land clearing activities such as farming, development, road building and timber harvesting."

³⁴ Beneficial Uses is defined in Attachment C of the permit as "the uses of water necessary for the survival or well being of man, plants, and wildlife. These uses of water serve to promote tangible and intangible economic, social, and environmental goals. ... "Beneficial Uses" are equivalent to "Designated Uses" under federal law." (Wat. Code, § 13050, subd. (f).)

³⁵ The Standard Urban Storm Water Mitigation Plan is defined in Attachment C of the permit as "A plan developed to mitigate the impacts of urban runoff from Priority Development Projects."

erosion or other significant adverse impacts to beneficial uses, attributable to changes in the discharge rates and durations.

(1) The HMP shall:

(a) Identify a standard for channel segments which receive urban runoff discharges from Priority Development Projects. The channel standard shall maintain the pre-project erosion and deposition characteristics of channel segments receiving urban runoff discharges from Priority Development Projects as necessary to maintain or improve the channel segments' stability conditions.

(b) Utilize continuous simulation of the entire rainfall record to identify a range of runoff flows for which Priority Development Project post-project runoff flow rates and durations³⁶ shall not exceed pre-project runoff flow rates and durations,³⁷ where the increased flow rates and durations will result in increased potential for erosion or other significant adverse impacts to beneficial uses, attributable to changes in the flow rates and durations. The lower boundary of the range of runoff flows identified shall correspond with the critical channel flow³⁸ that produces the critical shear stress that initiates channel bed movement or that erodes the toe of channel banks. The identified range of runoff flows may be different for specific watersheds, channels, or channel reaches.

(c) Require Priority Development Projects to implement hydrologic control measures so that Priority Development Projects' post-project runoff flow rates and durations (1) do not exceed pre-project runoff flow rates and durations for the range of runoff flows identified under section D.1.g.(1)(b), where the increased flow rates and durations will result in increased potential for erosion or other significant adverse impacts to beneficial uses, attributable to changes in the flow rates and durations, and (2) do not result in channel conditions which do not meet the channel standard developed under section D.1.g.(1)(a) for channel segments downstream of Priority Development Project discharge points.

³⁶ Flow duration is defined in Attachment C of the permit as "The long-term period of time that flows occur above a threshold that causes significant sediment transport and may cause excessive erosion damage to creeks and streams (not a single storm event duration). ... Flow duration within the range of geomorphologically significant flows is important for managing erosion.

³⁷ Attachment C of the permit defines "Pre-project or pre-development runoff conditions (discharge rates, durations, etc.) as "Runoff conditions that exist onsite immediately before the planned development activities occur. This definition is not intended to be interpreted as that period before any human-induced land activities occurred. This definition pertains to redevelopment as well as initial development."

³⁸ Critical channel flow, according to Attachment C of the permit, is "the channel flow that produces the critical shear stress that initiates bed movement or that erodes the toe of channel banks. When measuring Q_c [critical channel flow], it should be based on the weakest boundary material – either bed or bank."

- (d) Include other performance criteria (numeric or otherwise) for Priority Development Projects as necessary to prevent urban runoff from the projects from increasing erosion of channel beds and banks, silt pollutant generation, or other impacts to beneficial uses and stream habitat due to increased erosive force.
- (e) Include a review of pertinent literature.
- (f) Include a protocol to evaluate potential hydrograph change impacts to downstream watercourses from Priority Development Projects.
- (g) Include a description of how the Copermittees will incorporate the HMP requirements into their local approval processes.
- (h) Include criteria on selection and design of management practices and measures (such as detention, retention, and infiltration) to control flow rates and durations and address potential hydromodification impacts.
- (i) Include technical information supporting any standards and criteria proposed.
- (j) Include a description of inspections and maintenance to be conducted for management practices and measures to control flow rates and durations and address potential hydromodification impacts.
- (k) Include a description of pre- and post-project monitoring and other program evaluations to be conducted to assess the effectiveness of implementation of the HMP.
- (l) Include mechanisms for addressing cumulative impacts within a watershed on channel morphology.
- (m) Include information on evaluation of channel form and condition, including slope, discharge, vegetation, underlying geology, and other information, as appropriate.
- (2) The HMP may include implementation of planning measures (e.g., buffers and restoration activities, including revegetation, use of less-impacting facilities at the point(s) of discharge, etc.) to allow expected changes in stream channel cross sections, vegetation, and discharge rates, velocities, and/or durations without adverse impacts to channel beneficial uses. Such measures shall not include utilization of non-naturally occurring hardscape materials such as concrete, riprap, gabions, etc.
- (3) Section D.1.g.(1)(c) does not apply to Development Projects³⁹ where the project discharges stormwater runoff into channels or storm drains where the preexisting channel or storm drain conditions result in minimal potential for erosion or other impacts to beneficial uses. Such situations may include discharges into channels that are concrete-lined or significantly hardened (e.g.,

³⁹ Development projects, according to Attachment C of the permit, are “New development or redevelopment with land disturbing activities; structural development, including construction or installation of a building or structure, the creation of impervious surfaces, public agency projects, and land subdivision.”

with rip-rap, sackrete, etc.) downstream to their outfall in bays or the ocean; underground storm drains discharging to bays or the ocean; and construction of projects where the sub-watersheds below the projects' discharge points are highly impervious (e.g., >70%) and the potential for single-project and/or cumulative impacts is minimal. Specific criteria for identification of such situations shall be included as a part of the HMP. However, plans to restore a channel reach may reintroduce the applicability of HMP controls, and would need to be addressed in the HMP.

(4) HMP Reporting

The Copermitees shall collaborate to report on HMP development as required in section J.2.a of this Order.⁴⁰

(5) HMP Implementation

180 days after approval of the HMP by the Regional Board, each Copermitee shall incorporate into its local SUSMP and implement the HMP for all applicable Priority Development Projects. Prior to approval of the HMP by the Regional Board, the early implementation of measures likely to be included in the HMP shall be encouraged by the Copermitees.

(6) Interim Hydromodification Criteria for Projects Disturbing 50 Acres or More

Within 365 days of adoption of this Order, the Copermitees shall collectively identify an interim range of runoff flow rates for which Priority Development Project post-project runoff flow rates and durations shall not exceed pre-project runoff flow rates and durations (Interim Hydromodification Criteria), where the increased discharge flow rates and durations will result in increased potential for erosion or other significant adverse impacts to beneficial uses, attributable to changes in flow rates and durations. Development of the Interim Hydromodification Criteria shall include identification of methods to be used by Priority Development Projects to exhibit compliance with the criteria, including continuous simulation of the entire rainfall record. Starting 365 days after adoption of this Order and until the final Hydromodification Management Plan standard and criteria are implemented, each Copermitee shall require Priority Development Projects disturbing 50 acres or more to implement hydrologic controls to manage post-project runoff flow rates and durations as required by the Interim Hydromodification Criteria. Development Projects disturbing 50 acres or more are exempt from this requirement when:

- (a) the project would discharge into channels that are concrete-lined or significantly hardened (e.g., with rip-rap, sackrete, etc.) downstream to their outfall in bays or the ocean;

⁴⁰ Section J.2.a of the permit requires collaborating with other copermitees to develop the HMP, and submitting it for approval by the Regional Board. Part J.2.a also includes timelines for HMP completion and approval.

(b) the project would discharge into underground storm drains discharging directly to bays or the ocean; or

(c) the project would discharge to a channel where the watershed areas below the project's discharge points are highly impervious (e.g. >70%).

Claimants stated that the total cost of this activity is \$1.05 million, of which \$630,000 was spent in fiscal year 2007-2008, and the remaining \$420,000 will be spent in fiscal year 2008-2009.

D. Low-Impact Development⁴¹ (“LID”) and Standard Urban Storm Water Mitigation Plan (“SMUSP”)

Part D.1.d. of the Permit (D. Jurisdictional Urban Runoff Management Program, 1. Development Planning Component, d. Standard Urban Storm Water Mitigation Plans – Approval Process Criteria and Requirements for Priority Development Projects), paragraphs (7) and (8) state as follows:

(7) Update of SUSMP BMP Requirements

The Copermittees shall collectively review and update the BMP requirements that are listed in their local SUSMPs. At a minimum, the update shall include removal of obsolete or ineffective BMPs, addition of LID and source control BMP⁴² requirements that meet or exceed the requirements of sections D.1.d.(4)⁴³ and D.1.d.(5),⁴⁴ and addition of LID BMPs that can be used for treatment, such as bioretention cells, bioretention swales, etc. The update shall also add appropriate LID BMPs to any tables or discussions in the local SUSMPs addressing pollutant removal efficiencies of treatment control BMPs.⁴⁵ In addition, the update shall

⁴¹ Low Impact Development (LID) is defined in Attachment C of the permit as “A storm water management and land development strategy that emphasizes conservation and the use of on-site natural features integrated with engineered, small-scale hydrologic controls to more closely reflect pre-development hydrologic functions.”

⁴² Source Control BMPs are defined in Attachment C of the permit as “Land use or site planning practices, or structural or nonstructural measures that aim to prevent urban runoff pollution by reducing the potential for contamination at the source of pollution. Source control BMPs minimize the contact between pollutants and urban runoff.”

⁴³ Part D.1.d.(4) of the permit includes LID BMP requirements: “Each Copermittee shall require each Priority Development Project to implement LID BMPs which will collectively minimize directly connected impervious areas and promote infiltration at Priority Development Projects.” The Permit lists various LID site design BMPs that must be implemented at all Priority Development Projects, and other LID BMPs that must be implemented at all Priority Development Projects “where applicable and feasible.”

⁴⁴ Part D.1.d.(5), regarding “Source control BMP Requirements” requires permittees to require each Priority Development Project to implement source control BMPs that must “Minimize storm water pollutants of concern in urban runoff” and include five other specific criteria.

⁴⁵ A treatment control BMP, according to Attachment C of the permit, is “Any engineered system designed to remove pollutants by simple gravity settling of particulate pollutants,

include review, and revision where necessary, of treatment control BMP pollutant removal efficiencies.

(8) Update of SUSMPs to Incorporate LID and Other BMP Requirements

(a) In addition to the implementation of the BMP requirements of sections D.1.d.(4-7) within one year of adoption of this Order, the Copermittees shall also develop and submit an updated Model SUSMP that defines minimum LID and other BMP requirements to be incorporated into the Copermittees' local SUSMPs for application to Priority Development Projects. The purpose of the updated Model SUSMP shall be to establish minimum standards to maximize the use of LID practices and principles in local Copermittee programs as a means of reducing stormwater runoff. It shall meet the following minimum requirements:

- i. Establishment of LID BMP requirements that meet or exceed the minimum requirements listed in section D.1.d.(4) above.
- ii. Establishment of source control BMP requirements that meet or exceed the minimum requirements listed in section D.1.d.(5) above.
- iii. Establishment of treatment control BMP requirements that meet or exceed the minimum requirements listed in section D.1.d.(6) above.
- iv. Establishment of siting, design, and maintenance criteria for each LID and treatment control BMP listed in the Model SUSMP, so that implemented LID and treatment control BMPs are constructed correctly and are effective at pollutant removal and/or runoff control. LID techniques, such as soil amendments, shall be incorporated into the criteria for appropriate treatment control BMPs.
- v. Establishment of criteria to aid in determining Priority Development Project conditions where implementation of each LID BMP listed in section D.1.d.(4)(b) is applicable and feasible.
- vi. Establishment of a requirement for Priority Development Projects with low traffic areas and appropriate or amendable soil conditions to construct a portion of walkways, trails, overflow parking lots, alleys, or other low-traffic areas with permeable surfaces, such a pervious concrete, porous asphalt, unit pavers, and granular materials.
- vii. Establishment of restrictions on infiltration of runoff from Priority Development Project categories or Priority Development Project areas that generate high levels of pollutants, if necessary.

(b) The updated Model SUSMP shall be submitted within 18 months of adoption of this Order. If, within 60 days of submittal of the updated Model SUSMP, the Copermittees have not received in writing from the Regional Board either

(1) a finding of adequacy of the updated Model SUSMP or (2) a modified schedule for its review and revision, the updated Model SUSMP shall be deemed adequate, and the Copermittees shall implement its provisions in accordance with section D.1.d.(8)(c) below.

filtration, biological uptake, media absorption or any other physical, biological, or chemical process.”

(c) Within 365 days of Regional Board acceptance of the updated Model SUSMP, each Copermitttee shall update its local SUSMP to implement the requirements established pursuant to section D.1.d.(8)(a). In addition to the requirements of section D.1.d.(8)(a), each Copermitttee's updated local SUSMP shall include the following:

- i. A requirement that each Priority Development Project use the criteria established pursuant to section D.1.d.(8)(a) to demonstrate applicability and feasibility, or lack thereof, of implementation of the LID BMPs listed in section D.1.d.(4)(b).
- ii. A review process which verifies that all BMPs to be implemented will meet the designated siting, design, and maintenance criteria, and that each Priority Development Project is in compliance with all applicable SUSMP requirements.

Claimants stated that the total cost of this activity is \$52,200 to be spent in fiscal year 2007-2008.

E. Long Term Effectiveness Assessment

Part I.5 (I. Program Effectiveness Assessment) of the permit states:

5. Long-term Effectiveness Assessment

- a. Each Copermitttee shall collaborate with the other Copermitttees to develop a Longterm Effectiveness Assessment (LTEA), which shall build on the results of the Copermitttees' August 2005 Baseline LTEA. The LTEA shall be submitted by the Principal Permittee to the Regional Board no later than 210 days in advance of the expiration of this Order.
- b. The LTEA shall be designed to address each of the objectives listed in section I.3.a.(6) of this Order, and to serve as a basis for the Copermitttees' Report of Waste Discharge for the next permit cycle.
- c. The LTEA shall address outcome levels 1-6, and shall specifically include an evaluation of program implementation to changes in water quality (outcome levels 5 and 6).⁴⁶
- d. The LTEA shall assess the effectiveness of the Receiving Waters Monitoring Program in meeting its objectives and its ability to answer the five core management questions. This shall include assessment of the frequency of monitoring conducted through the use of power analysis and other pertinent statistical methods. The power analysis shall identify the frequency and intensity of sampling needed to identify a 10% reduction in the concentration of constituents causing the high priority water quality problems within each watershed over the next permit term with 80% confidence.
- e. The LTEA shall address the jurisdictional, watershed, and regional programs, with an emphasis on watershed assessment.

The claimants state that this activity is budgeted to cost \$210,000.

⁴⁶ See footnote 50, page 21.

II. Jurisdictional Urban Runoff Management Program

A. Street Sweeping

Part D.3.a.(5) of the Permit (D.3 Existing Development Component, a. Municipal) provides:

(5) Sweeping of Municipal Areas

Each Copermittee shall implement a program to sweep improved (possessing a curb and gutter) municipal roads, streets, highways, and parking facilities. The program shall include the following measures:

- (a) Roads, streets, highways, and parking facilities identified as consistently generating the highest volumes of trash and/or debris shall be swept at least two times per month.
- (b) Roads, streets, highways, and parking facilities identified as consistently generating moderate volumes of trash and/or debris shall be swept at least monthly.
- (c) Roads, streets, highways, and parking facilities identified as generating low volumes of trash and/or debris shall be swept as necessary, but no less than once per year.

Part J.3.a.(3)(c)x-xv (J. Reporting, 3. Annual Reports, a. jurisdictional urban runoff management program annual reports (3) Minimum contents (c) Municipal) requires annual reports to include the following:

- x. Identification of the total distance of curb-miles of improved roads, streets, and highways identified as consistently generating the highest volumes of trash and/or debris, as well as the frequency of sweeping conducted for such roads, streets, and highways.
- xi. Identification of the total distance of curb-miles of improved roads, streets, and highways identified as consistently generating moderate volumes of trash and/or debris, as well as the frequency of sweeping conducted for such roads, streets, and highways.
- xii. Identification of the total distance of curb-miles of improved roads, streets, and highways identified as consistently generating low volumes of trash and/or debris, as well as the frequency of sweeping conducted for such roads, streets, and highways.
- xiii. Identification of the total distance of curb-miles swept.
- xiv. Identification of the number of municipal parking lots, the number of municipal parking lots swept, and the frequency of sweeping.
- xv. Amount of material (tons) collected from street and parking lot sweeping.

Claimants state the following costs for this activity: in fiscal year 2007-2008: Equipment: \$2,080,245, Staffing: \$1,014,321, Contract costs: \$382,624; for 2008-2009: Equipment: \$3,566,139 (for 2008-2012), Staffing \$1,054,893 (4% increase), Contract costs: \$382,624.

B. Conveyance System Cleaning

Part D.3.a.(3) of the Permit (D.3. Existing Development Component, a. Municipal) provides:

(3) Operation and Maintenance of Municipal Separate Storm Sewer System and Structural Controls

(a) Each Copermitttee shall implement a schedule of inspection and maintenance activities to verify proper operation of all municipal structural treatment controls designed to reduce pollutant discharges to or from its MS4s and related drainage structures.

(b) Each Copermitttee shall implement a schedule of maintenance activities for the MS4 and MS4 facilities (catch basins, storm drain inlets, open channels, etc). The maintenance activities shall, at a minimum, include:

i. Inspection at least once a year between May 1 and September 30 of each year⁴⁷ for all MS4 facilities that receive or collect high volumes of trash and debris. All other MS4 facilities shall be inspected at least annually throughout the year.

ii. Following two years of inspections, any MS4 facility that requires inspection and cleaning less than annually may be inspected as needed, but not less than every other year.

iii. Any catch basin or storm drain inlet that has accumulated trash and debris greater than 33% of design capacity shall be cleaned in a timely manner. Any MS4 facility that is designed to be self cleaning shall be cleaned of any accumulated trash and debris immediately. Open channels shall be cleaned of observed anthropogenic litter⁴⁸ in a timely manner.

iv. Record keeping of the maintenance and cleaning activities including the overall quantity of waste removed.

v. Proper disposal of waste removed pursuant to applicable laws.

vi. Measures to eliminate waste discharges during MS4 maintenance and cleaning activities.

Part J.3.a.(3)(c) iv-viii (J. Reporting, 3. Annual Reports, a. jurisdictional urban runoff management program annual reports (3) Minimum contents (c) Municipal) requires annual reports to include the following:

iv. Identification of the total number of catch basins and inlets, the number of catch basins and inlets inspected, the number of catch basins and inlets found with accumulated waste exceeding cleaning criteria, and the number of catch basins and inlets cleaned.

v. Identification of the total distance (miles) of the MS4, the distance of the MS4 inspected, the distance of the MS4 found with accumulated waste exceeding cleaning criteria, and the distance of the MS4 cleaned.

⁴⁷ According to Attachment C of the permit, May 1 through September 30 is the dry season.

⁴⁸ Attachment C of the permit defines "anthropogenic litter" as "trash generated from human activities, not including sediment."

- vi. Identification of the total distance (miles) of open channels, the distance of the open channels inspected, the distance of the open channels found with anthropogenic litter, and the distance of open channels cleaned.
- vii. Amount of waste and litter (tons) removed from catch basins, inlets, the MS4, and open channels, by category.
- viii. Identification of any MS4 facility found to require inspection less than annually following two years of inspection, including justification for the finding.

The claimants state that this activity costs \$3,456,087 in fiscal year 2007-2008, and increases 4% in subsequent years.

C. Program Effectiveness Assessment

Part I.1 and I.2 of the permit states:

1. Jurisdictional

a. As part of its Jurisdictional Urban Runoff Management Program, each Copermitttee shall annually assess the effectiveness of its Jurisdictional Urban Runoff Management Program implementation. At a minimum, the annual effectiveness assessment shall:

(1) Specifically assess the effectiveness of each of the following:

(a) Each significant jurisdictional activity/BMP or type of jurisdictional activity/BMP implemented;

(b) Implementation of each major component of the Jurisdictional Urban Runoff Management Program (Development Planning, Construction, Municipal, Industrial/Commercial, Residential, Illicit Discharge⁴⁹ Detection and Elimination, and Education); and

(c) Implementation of the Jurisdictional Urban Runoff Management Program as a whole.

(2) Identify and utilize measurable targeted outcomes, assessment measures, and assessment methods for each of the items listed in section I.1.a.(1) above.

(3) Utilize outcome levels 1-6⁵⁰ to assess the effectiveness of each of the items listed in section I.1.a.(1) above, where applicable and feasible.

⁴⁹ Illicit discharge, as defined in Attachment C of the permit, is “any discharge to the MS4 that is not composed entirely of storm water except discharges pursuant to a NPDES permit and discharges resulting from firefighting activities [40 C.F.R. 122.26 (b)(2)].”

⁵⁰ Effectiveness assessment outcome levels are defined in Attachment C of the permit as follows: Effectiveness assessment outcome level 1 – Compliance with Activity-based Permit Requirements – Level 1 outcomes are those directly related to the implementation of specific activities prescribed by this Order or established pursuant to it. Effectiveness assessment outcome level 2 – Changes in Attitudes, Knowledge, and Awareness – Level 2 outcomes are measured as increases in knowledge and awareness among target audiences such as residents, business, and municipal employees. Effectiveness assessment outcome level 3 – Behavioral

(4) Utilize monitoring data and analysis from the Receiving Waters Monitoring Program to assess the effectiveness each of the items listed in section I.1.a.(1) above, where applicable and feasible.

(5) Utilize Implementation Assessment,⁵¹ Water Quality Assessment,⁵² and Integrated Assessment,⁵³ where applicable and feasible.

b. Based on the results of the effectiveness assessment, each Copermittee shall annually review its jurisdictional activities or BMPs to identify modifications and improvements needed to maximize Jurisdictional Urban Runoff Management Program effectiveness, as necessary to achieve compliance with section A of this Order. The Copermittees shall develop and implement a plan and schedule to address the identified modifications and improvements. Jurisdictional activities/BMPs that are ineffective or less effective than other comparable jurisdictional activities/BMPs shall be replaced or improved upon by implementation of more effective jurisdictional activities/BMPs. Where monitoring data exhibits persistent water quality problems that are caused or contributed to by MS4 discharges, jurisdictional activities or BMPs applicable to the water quality problems shall be modified and improved to correct the water quality problems.

c. As part of its Jurisdictional Urban Runoff Management Program Annual Reports, each Copermittee shall report on its Jurisdictional Urban Runoff

Changes and BMP Implementation – Level 3 outcomes measure the effectiveness of activities in affecting behavioral change and BMP implementation. Effectiveness assessment outcome level 4 – Load Reductions – Level 4 outcomes measure load reductions which quantify changes in the amounts of pollutants associated with specific sources before and after a BMP or other control measure is employed. Effectiveness assessment outcome level 5 – Changes in Urban Runoff and Discharge Quality – Level 5 outcomes are measured as changes in one or more specific constituents or stressors in discharges into or from MS4s. Effectiveness assessment outcome level 6 – Changes in Receiving Water Quality – Level 6 outcomes measure changes to receiving water quality resulting from discharges into and from MS4s, and may be expressed through a variety of means such as compliance with water quality objectives or other regulatory benchmarks, protection of biological integrity [i.e., ecosystem health], or beneficial use attainment.

⁵¹ Implementation Assessment is defined in Attachment C of the permit as an “Assessment conducted to determine the effectiveness of copermittee programs and activities in achieving measureable targeted outcomes, and in determining whether priority sources of water quality problems are being effectively addressed.”

⁵² Water Quality Assessment is defined in Attachment C of the permit as an “Assessment conducted to evaluate the condition of non-storm water discharges, and the water bodies which receive these discharges.”

⁵³ Integrated Assessment is defined in Attachment C of the permit as an “Assessment to be conducted to evaluate whether program implementation is properly targeted to and resulting in the protection and improvement of water quality.”

Management Program effectiveness assessment as implemented under each of the requirements of sections I.1.a and I.1.b above.

2. Watershed

a. As part of its Watershed Urban Runoff Management Program, each watershed group of Copermittees (as identified in Table 4)⁵⁴ shall annually assess the effectiveness of its Watershed Urban Runoff Management Program implementation. At a minimum, the annual effectiveness assessment shall:

(1) Specifically assess the effectiveness of each of the following:

(a) Each Watershed Water Quality Activity implemented;
(b) Each Watershed Education Activity implemented; and
(c) Implementation of the Watershed Urban Runoff Management Program as a whole.

(2) Identify and utilize measurable targeted outcomes, assessment measures, and assessment methods for each of the items listed in section I.2.a.(1) above.

(3) Utilize outcome levels 1-6 to assess the effectiveness of each of the items listed in sections I.2.a.(1)(a) and I.2.a.(1)(b) above, where applicable and feasible.

(4) Utilize outcome levels 1-4 to assess the effectiveness of implementation of the Watershed Urban Runoff Management Program as a whole, where applicable and feasible.

(5) Utilize outcome levels 5 and 6 to qualitatively assess the effectiveness of implementation of the Watershed Urban Runoff Management Program as a whole, focusing on the high priority water quality problem(s) of the watershed. These assessments shall attempt to exhibit the impact of Watershed Urban Runoff Management Program implementation on the high priority water quality problem(s) within the watershed.

(6) Utilize monitoring data and analysis from the Receiving Waters Monitoring Program to assess the effectiveness each of the items listed in section I.2.a.(1) above, where applicable and feasible.

(7) Utilize Implementation Assessment, Water Quality Assessment, and Integrated Assessment, where applicable and feasible.

b. Based on the results of the effectiveness assessment, the watershed Copermittees shall annually review their Watershed Water Quality Activities, Watershed Education Activities, and other aspects of the Watershed Urban Runoff Management Program to identify modifications and improvements needed to maximize Watershed Urban Runoff Management Program effectiveness, as

⁵⁴ Table 4 of the permit divides the copermittees into nine watershed management areas. For example, the San Luis Rey River watershed management area lists the city of Oceanside, Vista and the County of San Diego as the responsible watershed copermittees. Table 4 also lists the hydrologic units and major receiving water bodies.

necessary to achieve compliance with section A of this Order.⁵⁵ The Copermittees shall develop and implement a plan and schedule to address the identified modifications and improvements. Watershed Water Quality Activities/Watershed Education Activities that are ineffective or less effective than other comparable Watershed Water Quality Activities/Watershed Education Activities shall be replaced or improved upon by implementation of more effective Watershed Water Quality Activities/Watershed Education Activities. Where monitoring data exhibits persistent water quality problems that are caused or contributed to by MS4 discharges, Watershed Water Quality Activities and Watershed Education Activities applicable to the water quality problems shall be modified and improved to correct the water quality problems.

c. As part of its Watershed Urban Runoff Management Program Annual Reports, each watershed group of Copermittees (as identified in Table 4) shall report on its Watershed Urban Runoff Management Program effectiveness assessment as implemented under each of the requirements of section I.2.a and I.2.b above.

Claimants state that this activity in I.1. and I.2 costs \$392,363 in fiscal year 2007-2008, is expected to increase to \$862,293 in fiscal year 2008-2009, and is expected to increase 4% annually thereafter.

D. Educational Surveys and Tests

Part D.5 of the permit (under D. Jurisdictional Urban Runoff Management Program) states:

5. Education Component

Each Copermittee shall implement an education program using all media as appropriate to (1) measurably increase the knowledge of the target communities regarding MS4s, impacts of urban runoff on receiving waters, and potential BMP solutions for the target audience; and (2) to measurably change the behavior of target communities and thereby reduce pollutant releases to MS4s and the environment. At a minimum, the education program shall meet the requirements of this section and address the following target communities:

- Municipal Departments and Personnel
- Construction Site Owners and Developers
- Industrial Owners and Operators
- Commercial Owners and Operators
- Residential Community, General Public, and School Children

a. GENERAL REQUIREMENTS

(1) Each Copermittee shall educate each target community on the following topics where appropriate:

⁵⁵ Section A is "Prohibitions and Receiving Water Limitations."

Table 3. Education

Laws, Regulations, Permits, & Requirements	Best Management Practices
<ul style="list-style-type: none"> • Federal, state, and local water quality laws and regulations • Statewide General NPDES Permit for Storm Water Discharges Associated with Industrial Activities (Except Construction). • Statewide General NPDES Permit for Storm Water Discharges Associated with Construction Activities • Regional Board's General NPDES Permit for Ground Water Dewatering • Regional Board's 401 Water Quality Certification Program • Statewide General NPDES Utility Vault Permit • Requirements of local municipal permits and ordinances (e.g., storm water and grading ordinances and permits) 	<ul style="list-style-type: none"> • Pollution prevention and safe alternatives • Good housekeeping (e.g., sweeping impervious surfaces instead of hosing) • Proper waste disposal (e.g., garbage, pet/animal waste, green waste, household hazardous materials, appliances, tires, furniture, vehicles, boat/recreational vehicle waste, catch basin/ MS4 cleanout waste) • Non-storm water disposal alternatives (e.g., all wash waters) • Methods to minimized the impact of land development and construction • Erosion prevention • Methods to reduce the impact of residential and charity car-washing • Preventive Maintenance • Equipment/vehicle maintenance and repair • Spill response, containment, and recovery • Recycling • BMP maintenance
General Urban Runoff Concepts	Other Topics
<ul style="list-style-type: none"> • Impacts of urban runoff on receiving waters • Distinction between MS4s and sanitary sewers • BMP types: facility or activity specific, LID, source control, and treatment control • Short-and long-term water quality impacts associated with urbanization (e.g., land-use decisions, development, construction) • Non-storm water discharge prohibitions • How to conduct a storm water inspections 	<ul style="list-style-type: none"> • Public reporting mechanisms • Water quality awareness for Emergency/ First Responders • Illicit Discharge Detection and Elimination observations and follow-up during daily work activities • Potable water discharges to the MS4 • Dechlorination techniques • Hydrostatic testing • Integrated pest management • Benefits of native vegetation • Water conservation • Alternative materials and designs to maintain peak runoff values • Traffic reduction, alternative fuel use

(2) Copermittee educational programs shall emphasize underserved target audiences, high-risk behaviors, and "allowable" behaviors and discharges, including various ethnic and socioeconomic groups and mobile sources.

b. SPECIFIC REQUIREMENTS

(1) Municipal Departments and Personnel Education

(a) Municipal Development Planning – Each Copermittee shall implement an education program so that its planning and development review staffs (and Planning Boards and Elected Officials, if applicable) have an understanding of:

- i. Federal, state, and local water quality laws and regulations applicable to Development Projects;
- ii. The connection between land use decisions and short and long-term water quality impacts (i.e., impacts from land development and urbanization);
- iii. How to integrate LID BMP requirements into the local regulatory program(s) and requirements; and
- iv. Methods of minimizing impacts to receiving water quality resulting from development, including:

- [1] Storm water management plan development and review;
- [2] Methods to control downstream erosion impacts;
- [3] Identification of pollutants of concern;
- [4] LID BMP techniques;
- [5] Source control BMPs; and
- [6] Selection of the most effective treatment control BMPs for the pollutants of concern.

(b) Municipal Construction Activities – Each Copermittee shall implement an education program that includes annual training prior to the rainy season so that its construction, building, code enforcement, and grading review staffs, inspectors, and other responsible construction staff have, at a minimum, an understanding of the following topics, as appropriate for the target audience:

- i. Federal, state, and local water quality laws and regulations applicable to construction and grading⁵⁶ activities.
- ii. The connection between construction activities and water quality impacts (i.e., impacts from land development and urbanization and impacts from construction material such as sediment).
- iii. Proper implementation of erosion and sediment control and other BMPs to minimize the impacts to receiving water quality resulting from construction activities.
- iv. The Copermittee's inspection, plan review, and enforcement policies and procedures to verify consistent application.
- v. Current advancements in BMP technologies.
- vi. SUSMP Requirements including treatment options, LID BMPs, source control, and applicable tracking mechanisms.

⁵⁶ Attachment C of the permit defines grading as “the cutting and/or filling of the land surface to a desired slope or elevation.”

(c) Municipal Industrial/Commercial Activities - Each Copermittee shall train staff responsible for conducting storm water compliance inspections and enforcement of industrial and commercial facilities at least once a year. Training shall cover inspection and enforcement procedures, BMP implementation, and reviewing monitoring data.

(d) Municipal Other Activities – Each Copermittee shall implement an education program so that municipal personnel and contractors performing activities which generate pollutants have an understanding of the activity specific BMPs for each activity to be performed.

(2) New Development and Construction Education

As early in the planning and development process as possible and all through the permitting and construction process, each Copermittee shall implement a program to educate project applicants, developers, contractors, property owners, community planning groups, and other responsible parties. The education program shall provide an understanding of the topics listed in Sections D.5.b.(1)(a) and D.5.b.(1)(b) above, as appropriate for the audience being educated. The education program shall also educate project applicants, developers, contractors, property owners, and other responsible parties on the importance of educating all construction workers in the field about stormwater issues and BMPs through formal or informal training.

(3) Residential, General Public, and School Children Education

Each Copermittee shall collaboratively conduct or participate in development and implementation of a plan to educate residential, general public, and school children target communities. The plan shall evaluate use of mass media, mailers, door hangers, booths at public events, classroom education, field trips, hands-on experiences, or other educational methods.

Claimants state that this activity in D.5 will cost \$62,617 in fiscal year 2007-2008, and is expected to increase to \$171,319 in fiscal year 2008-2009, and rise 4% annually thereafter.

III. Watershed Urban Runoff Management Program

A. Copermittee Collaboration

Parts E.2.f and E.2.g of the permit state:

2. Each Copermittee shall collaborate with other Copermittees within its WMA(s) [Watershed Management Area] as in Table 4 below to develop and implement an updated Watershed Urban Runoff Management Program for each watershed. Each updated Watershed Urban Runoff Management Program shall meet the requirements of section E of this Order, reduce the discharge of pollutants from the MS4 to the MEP, and prevent urban runoff discharges from the MS4 from causing or contributing to a violation of water quality standards. At a minimum, each Watershed Urban Runoff Management Program shall include the elements described below: [¶]...[¶]

f. Watershed Activities⁵⁷

(1) The Watershed Copermittees shall identify and implement Watershed Activities that address the high priority water quality problems in the WMA. Watershed Activities shall include both Watershed Water Quality Activities and Watershed Education Activities. These activities may be implemented individually or collectively, and may be implemented at the regional, watershed, or jurisdictional level.

(a) Watershed Water Quality Activities are activities other than education that address the high priority water quality problems in the WMA. A Watershed Water Quality Activity implemented on a jurisdictional basis must be organized and implemented to target a watershed's high priority water quality problems or must exceed the baseline jurisdictional requirements of section D of this Order.

(b) Watershed Education Activities are outreach and training activities that address high priority water quality problems in the WMA.

(2) A Watershed Activities List shall be submitted with each updated Watershed Urban Runoff Management Plan (WURMP) and updated annually thereafter. The Watershed Activities List shall include both Watershed Water Quality Activities and Watershed Education Activities, along with a description of how each activity was selected, and how all of the activities on the list will collectively abate sources and reduce pollutant discharges causing the identified high priority water quality problems in the WMA.

(3) Each activity on the Watershed Activities List shall include the following information:

(a) A description of the activity;

(b) A time schedule for implementation of the activity, including key milestones;

(c) An identification of the specific responsibilities of Watershed Copermittees in completing the activity;

(d) A description of how the activity will address the identified high priority water quality problem(s) of the watershed;

(e) A description of how the activity is consistent with the collective watershed strategy;

(f) A description of the expected benefits of implementing the activity; and

(g) A description of how implementation effectiveness will be measured.

(4) Each Watershed Copermittee shall implement identified Watershed Activities pursuant to established schedules. For each Permit year, no less than two Watershed Water Quality Activities and two Watershed Education Activities shall be in an active implementation phase. A Watershed Water Quality Activity is in an active implementation phase when significant pollutant load reductions, source

⁵⁷ In their rebuttal comments submitted in February 2009, claimants mention part E.(3) of the permit that requires a detailed description of each activity on the Watershed Activities List. Part E.(3), however, was not in the test claim so staff makes no findings on it.

abatement, or other quantifiable benefits to discharge or receiving water quality can reasonably be established in relation to the watershed's high priority water quality problem(s). Watershed Water Quality Activities that are capital projects are in active implementation for the first year of implementation only. A Watershed Education Activity is in an active implementation phase when changes in attitudes, knowledge, awareness, or behavior can reasonably be established in target audiences.

g. Copermittee Collaboration

Watershed Copermittees shall collaborate to develop and implement the Watershed Urban Runoff Management Programs. Watershed Copermittee collaboration shall include frequent regularly scheduled meetings.

Claimants state that the copermittees' staffing costs for watershed program implementation in fiscal year 2007-2008 is \$1,033,219 and is expected to increase to \$1,401,765 in fiscal year 2008-2009, and are expected to increase four percent annually. For consultant services, the costs are \$599,674 in fiscal year 2007-2008 and are expected to be \$657,101 in 2008-2009, and are expected to rise five percent annually. For Watershed Urban Runoff Management Program implementation, claimants allege that the cost in fiscal year 2008-2009 is \$1,053,880.

Claimants filed a 60-page rebuttal to Finance's and the State Board's comments on February 9, 2009, which is addressed in the analysis below.

Claimant County of San Diego filed comments on the draft staff analysis in January 2010 that disagrees with the findings regarding fee authority for certain permit activities involving development. These arguments are discussed further below.

State Agency Positions

Department of Finance: In comments filed November 16, 2008, Finance alleges that the permit does not impose a reimbursable mandate within the meaning of section 6 of article XIII B of the California Constitution because the permit conditions are required by federal laws so they are not reimbursable pursuant to Government Code section 17556, subdivision (c). Finance asserts that the State and Regional Water Boards "act on behalf of the federal government to develop, administer, and enforce the NPDES program in compliance with Section 402 of the CWA." Finance also states that more activities were included in the 2007 permit than the prior permit because "it appears ... they were necessary to comply with federal law."

Finance also argues that the claimants had discretion over the activities and conditions to include in the permit application. The copermittees elected to use "best management practices" to identify alternative practices to reduce water pollution. Since the local agencies proposed the activities to be included in the permit, the requirements are a downstream result of the local agencies' decision to include the particular activities in the permit. Finance cites the *Kern* case,⁵⁸ which held that if participation in the underlying program is voluntary, the resulting new consequential requirements are not reimbursable mandates.

⁵⁸ *Department of Finance v. Commission on State Mandates (Kern High School Dist.)* (2003) 30 Cal.4th 727.

As to the claimants' identifying NPDES permits approved by other states to show the permit exceeds federal law, Finance states that this "demonstrates the variation envisioned by the federal authority in granting the administering agencies flexibility to address specific regional needs in the most practical manner."

Finally, Finance states that some local agencies are using fees for funding the claimed permit activities, so should the Commission find that the permit constitutes a reimbursable mandate, the fees should be considered as offsetting revenues.

Finance commented on the draft staff analysis in February 2010, echoing the comments of the State Board, which are summarized and addressed below.

State Water Resources Control Board: The State Board and Regional Board filed joint comments on the test claim on October 27, 2008, alleging that the permit is mandated on the local agencies by federal law, and that it is not unique to government because NPDES permits apply to private dischargers also. The State Board also states that the requirements are consistent with the minimum requirements of federal law, but even if the permit is interpreted as going beyond federal law, any additional state requirements are de minimis. In addition, the State Board alleges that the costs are not subject to reimbursement because most of the programs were proposed by the cities and County themselves, and because the claimants may comply with the permit requirements by charging fees and are not required to raise taxes.

The State Board further comments that the 2007 permit mirrors or is identical to the requirements in the 2001 permit, only providing more detail to the requirements already in existence and to implement the MEP performance standard. Like earlier permits, the 2007 permit implements the federal standard of reducing pollutants from the MS4 to the MEP (maximum extent practicable), but according to the State Board, "what *has* changed in successive permits is the level of specificity included in the permit to define what constitutes MEP." [Emphasis in original.] The State Board asserts that this level of specificity does not make the permit a state mandate, but that even if it is, the additional requirements are de minimis. The State Board also states that the local agencies have fee authority to pay for the permit requirements.

The State Board also addresses specific allegations in the test claim, as discussed below.

The State Board submitted comments on the draft staff analysis in January 2010, arguing that the test claim should not be reimbursable because (1) federal law requires local agencies to obtain NPDES permits from California Water Boards; (2) federal law mandates the permit that was issued, which is less stringent than permits for private industry; (3) the draft staff analysis incorrectly applies the *Hayes* case because the state did not shift the cost of the federal mandate to the local agencies; rather the federal mandate was imposed directly on local agencies and not on the state; (4) the permit provisions are not in addition to, but are required by federal law; (5) even though municipalities are singled out in the federal storm water law, the law is one of general application; and (6) potential limitations on the exercise of fee authority due to Proposition 218 do not invalidate claimants' fee authority because Government Code section 17556, subdivision (d), does not require unlimited or unilateral fee authority. These arguments are addressed below.

Interested Party Comments

Bay Area Stormwater Management Agencies Association (BASMAA): In comments submitted February 4, 2009, BASMAA speaks generally about California's municipal stormwater permitting program, stating that "increased requirements entail both new programs and higher levels of service." BASMAA also states:

[T]he State essentially asserts that the federal minimum for stormwater permitting is anything one of its Water Boards says it is. Likewise, the State's assertion that its 'discretion to exceed MEP [the maximum extent practicable standard] originates in federal law' and 'requires [it], as a matter of law, to include other such permit provisions as it deems appropriate' is nothing more than an oxymoron that begs the question of what the federal Clean Water Act actually mandates rather than allows a delegated state permit writer to require as a matter of discretion. [Emphasis in original.]

BASMAA emphasizes that the water boards have wide discretion in determining the content of a municipal stormwater permit beyond the federal minimum requirements, and says that the boards need to work "proactively and collaboratively" with local governments in "prioritizing and phasing in actions that realistically can be implemented given existing and projected local revenues."

League of California Cities (League) and California State Association of Counties (CSAC): The League and CSAC filed joint comments on the draft staff analysis on January 26, 2010, expressing support for it "and its recognition of the constraints placed on cities and counties with respect to adopting new or increased property-related fees."

The League and CSAC disagree, however, with the finding that the hydromodification management plan (HMP, part D.1.g.), the requirement to include low impact development (LID) in the Standard Urban Stormwater Mitigation Plans (SUSMPs) (part D.1.d.(7)-(8)), and parts of the education component (part D.5) are not reimbursable because the claimants have fee authority (under Gov. Code, § 66000 et seq., The Mitigation Fee Act) sufficient to pay for them. The League and CSAC point out examples where a city or county constructs a priority development project for which no third party is available upon whom to assess a fee. They also assert that for these city or county projects, a nexus requirement cannot be demonstrated "because no private development impact have generated the need for the projects."

COMMISSION FINDINGS

The courts have found that article XIII B, section 6 of the California Constitution⁵⁹ recognizes the state constitutional restrictions on the powers of local government to tax and spend.⁶⁰ "Its

⁵⁹ Article XIII B, section 6, subdivision (a), provides:

(a) Whenever the Legislature or any state agency mandates a new program or higher level of service on any local government, the State shall provide a subvention of funds to reimburse that local government for the costs of the program or increased level of service, except that the Legislature may, but need not, provide a subvention of funds for the following mandates: (1) Legislative mandates requested by the local agency affected. (2) Legislation defining a new

purpose is to preclude the state from shifting financial responsibility for carrying out governmental functions to local agencies, which are 'ill equipped' to assume increased financial responsibilities because of the taxing and spending limitations that articles XIII A and XIII B impose."⁶¹ A test claim statute or executive order may impose a reimbursable state-mandated program if it orders or commands a local agency or school district to engage in an activity or task.⁶²

In addition, the required activity or task must be new, constituting a "new program," or it must create a "higher level of service" over the previously required level of service.⁶³

The courts have defined a "program" subject to article XIII B, section 6, of the California Constitution, as one that carries out the governmental function of providing public services, or a law that imposes unique requirements on local agencies or school districts to implement a state policy, but does not apply generally to all residents and entities in the state.⁶⁴ To determine if the program is new or imposes a higher level of service, the test claim legislation must be compared with the legal requirements in effect immediately before the enactment of the test claim legislation.⁶⁵ A "higher level of service" occurs when the new "requirements were intended to provide an enhanced service to the public."⁶⁶

Finally, the newly required activity or increased level of service must impose costs mandated by the state.⁶⁷

The Commission is vested with exclusive authority to adjudicate disputes over the existence of state-mandated programs within the meaning of article XIII B, section 6.⁶⁸ In making its

crime or changing an existing definition of a crime. (3) Legislative mandates enacted prior to January 1, 1975, or executive orders or regulations initially implementing legislation enacted prior to January 1, 1975.

⁶⁰ *Kern High School Dist.*, *supra*, 30 Cal.4th 727, 735.

⁶¹ *County of San Diego v. State of California (County of San Diego)*(1997) 15 Cal.4th 68, 81.

⁶² *Long Beach Unified School Dist. v. State of California* (1990) 225 Cal.App.3d 155, 174.

⁶³ *San Diego Unified School Dist. v. Commission on State Mandates* (2004) 33 Cal.4th 859, 878 (*San Diego Unified School Dist.*); *Lucia Mar Unified School District v. Honig* (1988) 44 Cal.3d 830, 835-836 (*Lucia Mar*).

⁶⁴ *San Diego Unified School Dist.*, *supra*, 33 Cal.4th 859, 874, (reaffirming the test set out in *County of Los Angeles v. State of California* (1987) 43 Cal.3d 46, 56; *Lucia Mar*, *supra*, 44 Cal.3d 830, 835.)

⁶⁵ *San Diego Unified School Dist.*, *supra*, 33 Cal.4th 859, 878; *Lucia Mar*, *supra*, 44 Cal.3d 830, 835.

⁶⁶ *San Diego Unified School Dist.*, *supra*, 33 Cal.4th 859, 878.

⁶⁷ *County of Fresno v. State of California* (1991) 53 Cal.3d 482, 487; *County of Sonoma v. Commission on State Mandates* (2000) 84 Cal.App.4th 1265, 1284 (*County of Sonoma*); Government Code sections 17514 and 17556.

decisions, the Commission must strictly construe article XIII B, section 6, and not apply it as an “equitable remedy to cure the perceived unfairness resulting from political decisions on funding priorities.”⁶⁹

The permit provisions in the test claim are discussed separately to determine whether they are reimbursable state-mandates.

Issue 1: Is the permit subject to article XIII B, section 6, of the California Constitution?

The issues discussed here are whether the permit provisions are an executive order within the meaning of Government Code section 17516, whether they are discretionary, whether they constitute a program, and whether they are a federal mandate or a state-mandated new program or higher level of service.

A. Is the permit an executive order within the meaning of Government Code section 17516?

The Commission has jurisdiction over test claims involving statutes and executive orders as defined by Government Code section 17516, which describes “executive order” for purposes of state mandates, as “any order, plan, requirement, rule, or regulation issued by any of the following: (a) The Governor. (b) Any officer or official serving at the pleasure of the Governor. (c) Any agency, department, board, or commission of state government.”⁷⁰

The California Regional Water Board, San Diego Region, is a state agency.⁷¹ The permit it issued is a plan for reducing water pollution, and contains requirements for local agencies toward that end. Therefore, the Commission finds that the permit is an executive order within the meaning of article XIII B, section 6 and Government Code section 17516.

B. Is the permit the result of claimants’ discretion?

The permit requires claimants to undertake various activities to reduce stormwater pollution in compliance with a permit issued by the Regional Board.

The Department of Finance, in comments submitted November 6, 2008, asserts that the claimants “had the option to use best management practices that would identify alternative practices to reduce pollution in water to the maximum extent practicable” Finance asserts that the claimants proposed permit requirements when they submitted the application for the permit,

⁶⁸ *Kinlaw v. State of California* (1991) 54 Cal.3d 326, 331-334; Government Code sections 17551, 17552.

⁶⁹ *County of Sonoma, supra*, 84 Cal.App.4th 1265, 1280, citing *City of San Jose v. State of California* (1996) 45 Cal.App.4th 1802, 1817.

⁷⁰ Section 17516 also states: ““Executive order” does not include any order, plan, requirement, rule, or regulation issued by the State Water Resources Control Board or by any regional water quality control board pursuant to Division 7 (commencing with Section 13000) of the Water Code.” The Second District Court of Appeal has held that this statutory language is unconstitutional. *County of Los Angeles v. Commission on State Mandates, supra*, 150 Cal.App.4th 898, 904.

⁷¹ Water Code section 13200 et seq.

and that increased costs due to downstream activities of an underlying discretionary activity are not reimbursable.

Similarly, the State Board, in its October 27, 2008 comments, states that the copermitees proposed the concepts that were incorporated into and form the basis of the permit provisions for which they now seek reimbursement.

In rebuttal comments submitted February 9, 2009, claimants dispute that the Report of Waste Discharge (ROWD, or permit application) “represents a copermitee proposal for 2007 Permit content or that the adopted 2007 Permit is ‘based on the ROWD.’” According to claimants, the 2007 permit provisions “were not taken directly from, nor are they generally consistent with the intent of, most of the specific ROWD content upon which the state contends they are based.”

In determining whether the permit provisions at issue are a downstream activity resulting from the discretionary decision by the local agencies, the following rule stated by the Supreme Court in the *Kern High School Dist.* case applies:

[A]ctivities undertaken at the option or discretion of a local government entity ... do not trigger a state mandate and hence do not require reimbursement of funds—even if the local entity is obliged to incur costs as a result of its discretionary decision to participate in a particular program or practice.⁷²

The Commission finds that the permit activities at issue were not undertaken at the option or discretion of the claimants. The claimants are required by law to submit the NPDES permit application in the form of a Report of Waste Discharge.⁷³ Submitting it is not discretionary, as shown in the following federal regulation:

a) *Duty to apply.* (1) Any person⁷⁴ who discharges or proposes to discharge pollutants ... and who does not have an effective permit ... must submit a complete application to the Director in accordance with this section and part 124 of this chapter.⁷⁵

Moreover, the ROWD (tantamount to an NPDES permit application) is required by California law, as follows: “Any person discharging pollutants or proposing to discharge pollutants to the navigable water of the United States within the jurisdiction of this state ... shall file a report of the discharge in compliance with the procedures set forth in Section 13260 ...”⁷⁶ Thus, submitting the ROWD is not discretionary because the claimants are required to do so by both federal and California law.

⁷² *Kern High School Dist.*, *supra*, 30 Cal.4th 727, 742.

⁷³ The Report of Waste Discharge is attachment 36 of the State Water Resources Control Board comments submitted October 2008.

⁷⁴ *Person* means an individual, association, partnership, corporation, municipality, State or Federal agency, or an agent or employee thereof (40 CFR § 122.2).

⁷⁵ 40 Code of Federal Regulations, section 122.21 (a). The section applies to U.S. EPA-issued permits, but is incorporated into section 123.25 (the state program provision) by reference.

⁷⁶ Water Code section 13376.

In addition to federal and state law, the 2001 permit required submission of the ROWD. The 2007 permit, under Part A "Basis for the Order," states: "On August 25, 2005, in accordance with Order No. 2001-01 [the 2001 Permit], the County of San Diego, as the Principal Permittee, submitted a Report of Waste Discharge (ROWD) for renewal of their MS4 Permit."⁷⁷

And although the ROWD provides a basis for some (but not all) of the 2007 permit provisions at issue in this test claim, there is a substantial difference between what was included in the claimants' ROWD and the specific requirements the Regional Board adopted (e.g., copermittee collaboration, parts F.2., F.3 & L, Regional Residential Education Program Development, part F.1., Low Impact Development, part D.1.d(7)-(8), long-term effectiveness assessment, part I.5, program effectiveness assessment, parts I.1 & I.2, educational surveys and tests, part D.5, and the Watershed Urban Runoff Management Program, parts E.2.f & E.2.g). Other permit activities were not proposed in the ROWD (e.g., hydromodification, part D.1.g., street sweeping, parts D.2.a(5) & J.3.a(3)(c)x-xv, conveyance system cleaning, part D.3.a(3) & J.3.a(3)(c)iv-viii).

Because the claimants do not voluntarily participate in the NPDES program, the Commission finds that the *Kern High School Dist.* case does not apply to the permit, the contents of which are not the result of the claimants' discretion.

C. Does the permit constitute a program within the meaning of article XIII B, section 6 of the California Constitution?

As to whether the permit provisions in the test claim constitute a "program," courts have defined a "program" for purposes of article XIII B, section 6, of the California Constitution, as one that carries out the governmental function of providing public services, or a law that imposes unique requirements on local agencies or school districts to implement a state policy, but does not apply generally to all residents and entities in the state.⁷⁸

The State Board, in its October 2008 comments, argues that the NPDES program is not a program because the NPDES permit program, and the stormwater requirements specifically, are not peculiar to local government in that industrial and construction facilities must also obtain NPDES stormwater permits.

The State Board reiterates this argument in its January 2010 comments, asserting that the draft analysis "fails to consider that private entities, as well as certain state ... and ... federal agencies also receive NPDES permits for storm water discharges." The State Board and Finance also cite *City of Richmond v. Commission on State Mandates* (1998) 64 Cal.App.4th 1190, for the proposition that "where municipalities have separate but not more stringent requirements than private entities, there is no program subject to reimbursement." Finance, in its February 2010 comments, asserts that "the requirements within the test claim permit apply generally to state and private dischargers."

⁷⁷ The 2001 Permit is attached to the State Water Resources Control Board, comments submitted October 2008, Attachment 25.

⁷⁸ *San Diego Unified School Dist.*, *supra*, 33 Cal.4th 859, 874, (reaffirming the test set out in *County of Los Angeles v. State of California*, *supra*, 43 Cal.3d 46, 56; *Lucia Mar*, *supra*, 44 Cal.3d 830, 835.)

Claimants, in their February 2009 rebuttal comments, disagree with the State Board and assert that an MS4 permit is unique to government and subject to unique regulations. Claimants cite the definition of an MS4 in 40 C.F.R. § 122.26(b)(8) as “a conveyance or system of conveyances ... owned or operated by a State, city, town, borough, county, parish, district, association, or other public body ...” Claimants argue that prohibiting “non-stormwater discharges into the storm sewers”⁷⁹ is a uniquely government function that provides for the health, safety, and welfare of the citizens in a community. Claimants also point out that the federal regulations for MS4 permits are in 40 C.F.R. § 122.26(d), while the regulations pertaining to private industrial dischargers are in 40 C.F.R. § 122.26(c), different regulations that apply the Best Available Technology standard rather than the Maximum Extent Practicable standard imposed on MS4s.

The Commission finds that the permit activities constitute a program within the meaning of article XIII B, section 6. In *County of Los Angeles v. Commission on State Mandates*, the State Board argued that an NPDES permit⁸⁰ issued by the Los Angeles Regional Water Quality Control Board does not constitute a “program.” The court dismissed this argument, stating: “[T]he applicability of permits to public and private dischargers does not inform us about whether a particular permit or an obligation thereunder imposed on local governments constitutes a state mandate necessitating subvention under article XIII B, section 6.”⁸¹ In other words, whether the law regarding NPDES permits generally constitute a “program” within the meaning of article XIII B, section 6 is not relevant. The only issue before the Commission is whether the permit in this test claim constitutes a program.

The permit activities in this claim (order no. R9-2007-001, NPDES no. CAS0108758) are limited to the local governmental entities specified in the permit. The permit defines the “permittees” as the County of San Diego and 18 incorporated cities, along with the San Diego Unified Port District and San Diego County Regional Airport Authority.⁸² No private entities are regulated under this permit, so it is not a law (or executive order) of general application. That fact distinguishes this claim from the *City of Richmond* case cited by Finance and the State Board, in which the workers’ compensation law was found to be one of general application. The same cannot be said of the permit in this claim (order no. R9-2007-001, NPDES no. CAS0108758) because no private entities are regulated by it.

Moreover, the permit provides a service to the public by preventing or abating pollution in waterways and beaches in San Diego County. As stated in the permit: “This order specifies requirements necessary for the Copermittees to reduce the discharge of pollutants in urban runoff to the maximum extent practicable.”

⁷⁹ 33 U.S.C. § 1342(p)(3).

⁸⁰ Los Angeles Regional Quality Control Board Order No. 01-182, Permit CAS004001. The Commission issued a decision on parts 4C2a, 4C2b, 4E and 4Fc3 of this permit (test claims 03-TC-09, 03-TC-19, 03-TC-20, 03-TC-21) at its July 31, 2009 hearing.

⁸¹ *County of Los Angeles v. Commission on State Mandates* (2007) 150 Cal.App.4th 898, 919.

⁸² The cities are Carlsbad, Chula Vista, Coronado, Del Mar, El Cajon, Encinitas, Escondido, Imperial Beach, La Mesa, Lemon Grove, National City, Oceanside, Poway, San Diego, San Marcos, Santee, Solana Beach, and Vista.

Thus, the permit carries out the governmental function of providing public services, and also imposes unique requirements on local agencies in San Diego County to implement a state policy that does not apply generally to all residents and entities in the state. Therefore, the Commission finds that the permit is a program within the meaning of article XIII B, section 6.

D. Are the permit provisions in the test claim a federal mandate or a state-mandated new program or higher level of service?

The next issue is whether the parts of the permit alleged in the test claim are a state mandate, or federally mandated, as asserted by the State Board and the Department of Finance. If so, the permit would not constitute a state mandate. The California Supreme Court has stated that “article XIII B, section 6, and the implementing statutes ... by their terms, provide for reimbursement only of *state-mandated* costs, not *federally* mandated costs.”⁸³

Also discussed is whether the permit is a new program or higher level of service. To determine whether the permit is a new program or higher level of service, the permit is compared to the legal requirements in effect immediately before its adoption, in this case, the 2001 permit.⁸⁴

When analyzing federal law in the context of a test claim under article XIII B, section 6, the court in *Hayes v. Commission on State Mandates* held that “[w]hen the federal government imposes costs on local agencies those costs are not mandated by the state and thus would not require a state subvention. Instead, such costs are exempt from local agencies’ taxing and spending limitations” under article XIII B.⁸⁵ When federal law imposes a mandate on the state, however, and the state “freely [chooses] to impose the costs upon the local agency as a means of implementing a federal program, then the costs are the result of a reimbursable state mandate regardless whether the costs were imposed upon the state by the federal government.”⁸⁶

Similarly, Government Code section 17556, subdivision (c), states that the Commission shall not find “costs mandated by the state” if “[t]he statute or executive order imposes a requirement that is mandated by a federal law or regulation and results in costs mandated by the federal government, unless the statute or executive order mandates costs that exceed the mandate in that federal law or regulation.”

In *Long Beach Unified School Dist. v. State of California*,⁸⁷ the court considered whether a state executive order involving school desegregation constituted a state mandate. The regulations required, for example, conducting mandatory biennial racial and ethnic surveys, developing a reasonably feasible plan every four years to alleviate and prevent segregation to include specifics

⁸³ *San Diego Unified School Dist. v. Commission on State Mandates*, *supra*, 33 Cal.4th 859, 879-880, emphasis in original.

⁸⁴ *San Diego Unified School Dist.*, *supra*, 33 Cal.4th 859, 878; *Lucia Mar*, *supra*, 44 Cal.3d 830, 835.

⁸⁵ *Hayes v. Commission on State Mandates* (1992) 11 Cal. App. 4th 1564, 1593, citing *City of Sacramento v. State of California*, *supra*, 50 Cal.3d 51, 76; see also, Government Code sections 17513 and 17556, subdivision (c).

⁸⁶ *Hayes v. Commission on State Mandates*, *supra*, 11 Cal. App. 4th 1564, 1594.

⁸⁷ *Long Beach Unified School Dist. v. State of California*, *supra*, 225 Cal.App.3d 155.

elements, and taking mandatory steps to involve the community including public hearings. The state argued that its Executive Order did not mandate a new program because school districts in California have a constitutional duty to make an effort to eliminate racial segregation in the public schools. The court held that the executive order did require school districts to provide a higher level of service than required by federal constitutional or case law because the state requirements went beyond federal requirements imposed on school districts.⁸⁸ The court stated:

A review of the Executive Order and guidelines shows that a higher level of service is mandated because their requirements go beyond constitutional and case law requirements. ...[T]he executive Order and guidelines require specific actions ... [that were] required acts. These requirements constitute a higher level of service.”⁸⁹

In analyzing the permit under the federal Clean Water Act, we keep the following in mind. First, each state is free to enforce its own water quality laws so long as its effluent limitations are not “less stringent” than those set out in the Clean Water Act.⁹⁰ The federal Clean Water Act allows for more stringent state-imposed measures, as follows:

Permits for discharges from municipal storm sewers [¶]... [¶] (iii) shall require controls to reduce the discharges of pollutants to the maximum extent practicable, including management practices, control techniques and system, design and engineering methods, and such other provisions as the ... State determines appropriate for the control of such pollutants. (33 U.S.C.A. 1342 (p)(3)(B)(iii).)

Second, the California Supreme Court has acknowledged that an NPDES permit may contain terms that are federally mandated and terms that exceed federal law.⁹¹

California in the NPDES program: Under the federal statutory scheme, a stormwater permit may be administered by the Administrator of U.S. EPA or by a state-designated agency, but states are not required to have an NPDES program. Subdivision (b) of section 1324 of the federal Clean Water Act, which describes the NPDES program (and subdivision (p), which describes the requirements for the municipal stormwater system permits) states in part:

At any time after the promulgation of the guidelines required by subsection (i)(2) of section 1314 of this title, the Governor of each State desiring to administer its own permit program for discharges into navigable waters within its jurisdiction may submit to the Administrator [of U.S. EPA] a full and complete description of the program it proposes to establish and administer under State law or under an interstate compact. [Emphasis added.]

And the federal stormwater statute states that the permits:

[S]hall require controls to reduce the discharge of pollutants to the maximum extent practicable, including management practices, control techniques and

⁸⁸ *Id.* at 173.

⁸⁹ *Ibid.*

⁹⁰ 33 U.S.C. section 1370.

⁹¹ *City of Burbank v. State Water Resources Control Board, supra*, 35 Cal.4th 613, 618, 628.

system, design and engineering methods, and such other provisions as the Administrator or the State determines appropriate for the control of such pollutants. (33 USCA § 1342 (p)(3)(B)(iii). [Emphasis added].)

The federal statutory scheme indicates that California is not required to have its own NPDES program nor to issue stormwater permits. According to section 1342 (p) quoted above, the Administrator of U.S. EPA would do so if California had no program. The California Legislature, when adopting the NPDES program⁹² to comply with the Federal Water Pollution Control Act of 1972, stated the following findings and declaration in Water Code section 13370:

- (a) The Federal Water Pollution Control Act [citation omitted] as amended, provides for permit systems to regulate the discharge of pollutants ... to the navigable waters of the United States and to regulate the use and disposal of sewage sludge.
- (b) The Federal Water Pollution Control Act, as amended, provides that permits may be issued by states which are authorized to implement the provisions of that act.
- (c) It is in the interest of the people of the state, in order to avoid direct regulation by the federal government, of persons already subject to regulation under state law pursuant to this division, to enact this chapter in order to authorize the state to implement the provisions of the Federal Water Pollution Control Act and acts amendatory thereof or supplementary thereto, and federal regulations and guidelines issued pursuant thereto, provided, that the state board shall request federal funding under the Federal Water Pollution Act for the purpose of carrying out its responsibilities under this program.

Based on this statute, in which California voluntarily adopts the permitting program, and on the federal statutes quoted above that authorize but do not expressly require states to have this program, the state has freely chosen⁹³ to effect the stormwater permit program. Further discussion in this analysis of federal "requirements" should be construed in the context of California's choice to participate in the federal regulatory NPDES program.

Finance, in its February 2010 comments on the draft staff analysis, states:

The state's role as a permitting authority acting on behalf of the federal government negates the existence of a state mandate because the test claim permit is issued in compliance with federal law. ...[N]o state mandate exists if the state requirements, in the absence of state statute, would still be imposed upon local agencies by federal law.

Similarly, the State Board's January 2010 comments argue that the *Hayes* case is distinguishable from this test claim because NPDES permits do not impose a federal mandate on the state. Rather, federal law requires municipalities to comply with the permit. The State Board also states:

⁹² Water Code section 13374 states: "The term 'waste discharge requirements' as referred to in this division is the equivalent of the term 'permits' as used in the Federal water Pollution Control Act, as amended."

⁹³ *Hayes v. Commission on State Mandates, supra*, 11 Cal. App. 4th 1564, 1593-1594.

This [draft staff analysis'] approach fails to recognize that NPDES storm water permits, whether issued by U.S. EPA or California's Water Boards, are designed to translate the general federal mandate into specific programs and enforceable requirements. Whether issued by U.S. EPA or the California's Water Boards, the federal NPDES permit will identify specific requirements for municipalities to reduce pollutants in their storm water to the maximum extent practicable. The federally required pollutant reduction is a federal mandate. ... The fact that state agencies have responsibility for specifying the federal permit requirements for municipalities does not indicate that requirements extend beyond federal law, as in *Long Beach*, or convert the federal mandate into a state mandate.⁹⁴

The Commission disagrees. As discussed above, the federal Clean Water Act⁹⁵ authorizes states to impose more stringent measures than required by federal law. The California Supreme Court has also recognized that permits may include state-imposed, in addition to federally required measures.⁹⁶ Those state measures that may constitute a state mandate if they "exceed the mandate in ... federal law."⁹⁷ Thus, although California opted into the NPDES program, further analysis is needed to determine whether the state requirements exceed the federal requirements imposed on local agencies.

The permit provisions are discussed below in context of the following federal law governing stormwater permits: Clean Water Act section 402 (p) (33 USCA 1342 (p)(3)(B)) and Code of Federal Regulations, title 40, section 122.26. The federal stormwater statute states:

Permits for discharges from municipal storm sewers--

- (i) may be issued on a system- or jurisdiction-wide basis;
- (ii) shall include a requirement to effectively prohibit non-stormwater discharges into the storm sewers; and
- (iii) shall require controls to reduce the discharge of pollutants to the maximum extent practicable, including management practices, control techniques and system, design and engineering methods, and such other provisions as the Administrator⁹⁸ or the State determines appropriate for the control of such pollutants. (33 USCA § 1342 (p)(3)(B)).

The issues are whether the parts of the permit in the test claim are federal mandates or state mandates, and whether they are a new program or higher level of service.

⁹⁴ State Board comments submitted January 2010.

⁹⁵ 33 U.S.C. sections 1370 and 1342 (p)(3)(B)(iii).

⁹⁶ *City of Burbank v. State Water Resources Control Board*, *supra*, 35 Cal.4th 613, 618, 628.

⁹⁷ Government Code section 17556, subdivision (b). *Long Beach Unified School Dist. v. State of California*, *supra*, 225 Cal.App.3d 155, 173.

⁹⁸ Administrator means the Administrator of the United States Environmental Protection Agency, or an authorized representative. (40 CFR § 122.2.)

I. Jurisdictional Urban Runoff Management Program and Reporting (Parts D & J)

Part D of the permit describes the Jurisdictional Urban Runoff Management Program (JURMP) of which each copermitee "shall develop and implement" an updated version (p.15). Part J of the permit ("Reporting") requires the JURMP to be updated and revised to include specified information. The test claim includes parts D.1.g (hydromodification management plan), D.1.d.(7)-(8) (low-impact development or LID), D3a(5) (street sweeping) and J.3.a(3)x-xv (reporting on street sweeping), D.3.a.(3) (conveyance system cleaning) and J.3.a.(3)(c)(iv)-(viii) (reporting on conveyance system cleaning), and D.5 (educational surveys and tests).

Hydromodification (part D.1.g.): Part D.1 of the permit is entitled "Development Planning." Part D.1.g. requires developing and implementing, in collaboration with other copermitees, a hydromodification management plan (HMP) "to manage increases in runoff discharge rates and durations from all Priority Development Projects."⁹⁹ Priority development projects can include both private projects, and municipal (city or county) projects. The purpose of the HMP is:

⁹⁹ According to the permit, Priority Development Projects are: a) all new Development Projects that fall under the project categories or locations listed in section D.1.d.(2), and b) those redevelopment projects that create, add or replace at least 5,000 square feet of impervious surfaces on an already developed site that falls under the project categories or locations listed in section D.1.d.(2)..

[¶]... [¶] [Section D.1.d.(2):] (2) Priority Development Project Categories (a) Housing subdivisions of 10 or more dwelling units. This category includes single-family homes, multi-family homes, condominiums, and apartments. (b) Commercial developments greater than one acre. This category is defined as any development on private land that is not for heavy industrial or residential uses where the land area for development is greater than one acre. The category includes, but is not limited to: hospitals; laboratories and other medical facilities; educational institutions; recreational facilities; municipal facilities; commercial nurseries; multi-apartment buildings; car wash facilities; mini-malls and other business complexes; shopping malls; hotels; office buildings; public warehouses; automotive dealerships; airfields; and other light industrial facilities. (c) Developments of heavy industry greater than one acre. This category includes, but is not limited to, manufacturing plants, food processing plants, metal working facilities, printing plants, and fleet storage areas (bus, truck, etc.). (d) Automotive repair shops. This category is defined as a facility that is categorized in any one of the following Standard Industrial Classification (SIC) codes: 5013, 5014, 5541, 7532-7534, or 7536-7539. (e) Restaurants. This category is defined as a facility that sells prepared foods and drinks for consumption, including stationary lunch counters and refreshment stands selling prepared foods and drinks for immediate consumption (SIC code 5812), where the land area for development is greater than 5,000 square feet. Restaurants where land development is less than 5,000 square feet shall meet all SUSMP requirements except for structural treatment BMP and numeric sizing criteria requirement D.1.d.(6)(c) and hydromodification requirement D.1.g. (f) All hillside development greater than 5,000 square feet. This category is defined as any development which creates 5,000 square feet of impervious surface which is located in an area with known erosive soil conditions, where the development will grade on any natural slope that is twenty-five percent or greater. (g) Environmentally Sensitive Areas (ESAs). All development located within or directly adjacent to or discharging directly to an ESA (where discharges from the development or redevelopment

[T]o manage increases in runoff discharge rates and durations from all Priority Development Projects, where such rates and durations are likely to cause increased erosion of channel beds and banks, sediment pollutant generation, or other impacts to beneficial uses and stream habitat due to increased erosive force.

Hydromodification is defined in Attachment C of the permit as “The change in the natural watershed hydrologic processes and runoff characteristics (i.e., interception, infiltration, overland flow, interflow and groundwater flow) caused by urbanization or other land use changes that result in increased stream flows and sediment transport. In addition, alteration of stream and river channels, installation of dams and water impoundments, and excessive streambank and shoreline erosion are also considered hydromodification, due to their disruption of natural watershed hydrologic processes.”¹⁰⁰

As detailed in the permit and on pages 12-17 above, the HMP must have specified content, including “a description of how the copermitees will incorporate the HMP requirements into their local approval processes.” Also required is collaborative reporting on the HMP and implementation 180 days after the HMP is approved by the Regional Water Board, with earlier implementation encouraged.

According to the State Board’s comments submitted in October 2008 the requirement to develop and implement a HMP is necessary to meet the minimum federal MEP standard. The Board states that “broad federal legal authority is contained in CWA sections 402(p)(3)(B)(ii)-(iii), CWA section 402(a), and in 40 C.F.R. sections 122.26 (d)(2)(i)(B)-(C), (E), and (F), 131.12, and 122.26(d)(2)(iv)(A)(2), which states:

will enter receiving waters within the ESA), which either creates 2,500 square feet of impervious surface on a proposed project site or increases the area of imperviousness of a proposed project site to 10% or more of its naturally occurring condition. “Directly adjacent” means situated within 200 feet of the ESA. “Discharging directly to” means outflow from a drainage conveyance system that is composed entirely of flows from the subject development or redevelopment site, and not commingled with flows from adjacent lands. (h) Parking lots 5,000 square feet or more or with 15 or more parking spaces and potentially exposed to urban runoff. Parking lot is defined as a land area or facility for the temporary parking or storage of motor vehicles used personally, for business, or for commerce. (i) Street, roads, highways, and freeways. This category includes any paved surface that is 5,000 square feet or greater used for the transportation of automobiles, trucks, motorcycles, and other vehicles. (j) Retail Gasoline Outlets (RGOs). This category includes RGOs that meet the following criteria: (a) 5,000 square feet or more or (b) a projected Average Daily Traffic (ADT) of 100 or more vehicles per day.

¹⁰⁰ It is also defined as “changes in the magnitude and frequency of stream flows as a result of urbanization, and the resulting impacts on the receiving channels in terms of erosion, sedimentation and degradation of in-stream habitat.” Draft Hydromodification Management Plan for San Diego County, page 4. <http://www.projectcleanwater.org/pdf/susmp/sd_hmp_2009.pdf> as of May 28, 2009.

(d) Application requirements for large and medium municipal separate storm sewer discharges. The operator¹⁰¹ of a discharge¹⁰² from a large or medium municipal separate storm sewer or a municipal separate storm sewer that is designated by the Director under paragraph (a)(1)(v) of this section, may submit a jurisdiction-wide or system-wide permit application. ... Permit applications for discharges from large and medium municipal storm sewers or municipal storm sewers designated under paragraph (a)(1)(v) of this section shall include; [¶]...[¶]

(2) *Part 2.* Part 2 of the application shall consist of: [¶]...[¶]

(iv) *Proposed management program.* A proposed management program covers the duration of the permit. It shall include a comprehensive planning process which involves public participation and where necessary intergovernmental coordination, to reduce the discharge of pollutants to the maximum extent practicable using management practices, control techniques and system, design and engineering methods, and such other provisions which are appropriate. The program shall also include a description of staff and equipment available to implement the program. Separate proposed programs may be submitted by each coapplicant. Proposed programs may impose controls on a systemwide basis, a watershed basis, a jurisdiction basis, or on individual outfalls. Proposed programs will be considered by the Director when developing permit conditions to reduce pollutants in discharges to the maximum extent practicable. Proposed management programs shall describe priorities for implementing controls. Such programs shall be based on:

(A) A description of structural and source control measures to reduce pollutants from runoff from commercial and residential areas that are discharged from the municipal storm sewer system that are to be implemented during the life of the permit, accompanied with an estimate of the expected reduction of pollutant loads and a proposed schedule for implementing such controls. At a minimum, the description shall include: [¶]...[¶]

¹⁰¹ "Owner or operator means the owner or operator of any "facility or activity" subject to regulation under the NPDES program." (40 CFR § 122.2)

¹⁰² "Discharge when used without qualification means the "discharge of a pollutant. *Discharge of a pollutant* means: (a) Any addition of any "pollutant" or combination of pollutants to "waters of the United States" from any "point source," or (b) Any addition of any pollutant or combination of pollutants to the waters of the "contiguous zone" or the ocean from any point source other than a vessel or other floating craft which is being used as a means of transportation.

This definition includes additions of pollutants into waters of the United States from: surface runoff which is collected or channeled by man; discharges through pipes, sewers, or other conveyances owned by a State, municipality, or other person which do not lead to a treatment works; and discharges through pipes, sewers, or other conveyances, leading into privately owned treatment works. This term does not include an addition of pollutants by any "indirect discharger." (40 CFR § 122.2.)

(2) A description of planning procedures including a comprehensive master plan to develop, implement and enforce controls to reduce the discharge of pollutants from municipal separate storm sewers which receive discharges from areas of new development and significant redevelopment. Such plan shall address controls to reduce pollutants in discharges from municipal separate storm sewers after construction is completed. ...

The State Board also cited the U.S. Supreme Court decision, *P.U.D. No. 1 v. Washington Department of Ecology* (1994) 511 U.S. 700, for the state's authority to regulate flow under the federal Clean Water Act in order to protect water quality standards.

In response, the claimants' February 2009 comments state that the permit's Fact Sheet did not cite any federal authorities to justify the HMP portion of the permit, and that none exists. Claimants also assert that no other jurisdiction in the United States that was surveyed for the claim has a permit that requires a HMP. Claimants call the HMP requirement a flood control measure that is not a requirement in any other permit outside of California, and that the HMP exceeds the federal requirements and constitutes a state mandate. Claimants also point to the language in section 122.26(d)(2)(iv)(A)(2) that they say is:

[A]imed directly at controlling pollutant discharges from an MS4 that originate in areas of new development. [The regulation] does not mention the need to include controls to reduce the *volume* of storm water discharged from these areas. ... controls designed only to limit volume are not expressly required.

As to the *P.U.D. No. 1 v. Washington Department of Ecology* decision cited by the State Board, the claimants distinguish it as being decided under section 401 of the Clean Water Act, wherein the permit was issued under section 402. Claimants state that the *P.U.D.* case recognized state authority under the Clean Water Act rather than a federal mandate.

The Commission agrees with claimants about the applicability of the *P.U.D.* case, which determined whether the state of Washington's environmental agency properly conditioned a permit for a federal hydroelectric project on the maintenance of specific minimum stream flows to protect salmon and steelhead runs. The U.S. Supreme Court determined that Washington could do so, but the decision was based on section 401 of the Clean Water Act, which involves certifications and wetlands. Even if the decision could be applied to section 402 NPDES permits, it merely recognized state authority to regulate flows. The issue here is not whether the state has authority to regulate flows, but whether a federal mandate requires it. This was not addressed in the *P.U.D.* decision.

Overall, there is nothing in the federal regulations that requires a municipality to adopt or implement a hydromodification plan. Thus, the HMP requirement in the permit "exceed[s] the mandate in that federal law or regulation."¹⁰³ As in *Long Beach Unified School Dist. v. State of California*,¹⁰⁴ the permit requires specific actions, i.e., required acts that go beyond the requirements of federal law. In adopting these permit provisions, the state has freely chosen¹⁰⁵ to

¹⁰³ Government Code section 17556, subdivision (c).

¹⁰⁴ *Long Beach Unified School Dist. v. State of California*, *supra*, 225 Cal.App.3d 155.

¹⁰⁵ *Hayes v. Commission on State Mandates*, *supra*, 11 Cal. App. 4th 1564, 1593-1594.

impose these requirements. Thus, the Commission finds that part D.1.g. of the permit is not a federal mandate.

All of part D.1.g. of the permit requires the HMP to have specified contents except part D.1.g.(2), which states that the HMP “*may* include implementation of planning measures ...” as specified. As the plain language of this part does not require the implementation of planning measures, the Commission finds that part D.1.g.(2) of the permit is not a state mandate.

The Commission also finds that HMP is not a state mandate for municipal (city or county) projects that are priority development projects, such as a hospital, laboratory or other medical facility, recreational facility, airfield, parking lot, street, road, highway, and freeway, a project over an acre, and a project located in an environmentally sensitive area.¹⁰⁶ Although these projects would be subject to the compliance with HMP requirements, there is no legal requirement to build municipal projects.¹⁰⁷ Thus, municipal projects are built by cities or counties voluntarily, and their decision triggers the requirements to comply with the HMP. In *Kern High School Dist.*,¹⁰⁸ the California Supreme Court decided whether the state must reimburse the costs of school site councils and advisory committees complying with the Brown (Open Meetings) Act for schools who participate in various school-related education programs. The court determined that participation in the underlying school site council program was not legally compelled and so mandate reimbursement was not required for the downstream compliance with the Brown Act. The court said:

Activities undertaken at the option or discretion of a local government entity (that is, actions undertaken without any legal compulsion or threat of penalty for nonparticipation) do not trigger a state mandate and hence do not require reimbursement of funds—even if the local entity is obliged to incur costs as a result of its discretionary decision to participate in a particular program or practice.¹⁰⁹

As with the voluntary programs in *Kern*, there is no requirement for municipalities to undertake any of the priority development projects described in the permit. Thus, the Commission finds that the costs of complying with the HMP in part D.1.g., is not a state mandate for priority development projects undertaken by a city or county.

Based on the mandatory language of the remainder of part D.1.g. of the permit (except part D.1.g.(2) and except for municipal projects), the Commission finds that it is a state mandate on the claimants to do the following:

¹⁰⁶ The County of San Diego, in its January 2010 comments on the draft staff analysis, raises the issue of its fee authority for municipal projects. The League of California Cities, in its January 2010 comments on the draft staff analysis, also discusses municipal projects, citing examples “where a city or county constructs a Priority Development Project for which no third party is available to assess a fee against.”

¹⁰⁷ California Constitution, article XI, section 7. “A county or city may make and enforce within its limits all local, police, sanitary, and other ordinances and regulations not in conflict with general laws.”

¹⁰⁸ *Kern High School Dist.*, *supra*, 30 Cal.4th 727.

¹⁰⁹ *Kern High School Dist.*, *supra*, 30 Cal.4th 727, 742.

Each Copermittee shall collaborate with the other Copermittees to develop and implement a Hydromodification Management Plan (HMP) to manage increases in runoff discharge rates and durations from all Priority Development Projects, where such increased rates and durations are likely to cause increased erosion of channel beds and banks, sediment pollutant generation, or other impacts to beneficial uses and stream habitat due to increased erosive force. The HMP, once approved by the Regional Board, shall be incorporated into the local SUSMP [Standard Urban Storm Water Mitigation Plan] and implemented by each Copermittee so that post-project runoff discharge rates and durations shall not exceed estimated pre-project discharge rates and durations where the increased discharge rates and durations will result in increased potential for erosion or other significant adverse impacts to beneficial uses, attributable to changes in the discharge rates and durations.

(1) The HMP shall:

(a) Identify a standard for channel segments which receive urban runoff discharges from Priority Development Projects. The channel standard shall maintain the pre-project erosion and deposition characteristics of channel segments receiving urban runoff discharges from Priority Development Projects as necessary to maintain or improve the channel segments' stability conditions.

(b) Utilize continuous simulation of the entire rainfall record to identify a range of runoff flows for which Priority Development Project post-project runoff flow rates and durations shall not exceed pre-project runoff flow rates and durations, where the increased flow rates and durations will result in increased potential for erosion or other significant adverse impacts to beneficial uses, attributable to changes in the flow rates and durations. The lower boundary of the range of runoff flows identified shall correspond with the critical channel flow that produces the critical shear stress that initiates channel bed movement or that erodes the toe of channel banks. The identified range of runoff flows may be different for specific watersheds, channels, or channel reaches.

(c) Require Priority Development Projects to implement hydrologic control measures so that Priority Development Projects' post-project runoff flow rates and durations (1) do not exceed pre-project runoff flow rates and durations for the range of runoff flows identified under section D.1.g.(1)(b), where the increased flow rates and durations will result in increased potential for erosion or other significant adverse impacts to beneficial uses, attributable to changes in the flow rates and durations, and (2) do not result in channel conditions which do not meet the channel standard developed under section D.1.g.(1)(a) for channel segments downstream of Priority Development Project discharge points.

(d) Include other performance criteria (numeric or otherwise) for Priority Development Projects as necessary to prevent urban runoff from the projects from increasing erosion of channel beds and banks, silt pollutant generation, or other impacts to beneficial uses and stream habitat due to increased erosive force.

- (e) Include a review of pertinent literature.
- (f) Include a protocol to evaluate potential hydrograph change impacts to downstream watercourses from Priority Development Projects.
- (g) Include a description of how the Copermittees will incorporate the HMP requirements into their local approval processes.
- (h) Include criteria on selection and design of management practices and measures (such as detention, retention, and infiltration) to control flow rates and durations and address potential hydromodification impacts.
- (i) Include technical information supporting any standards and criteria proposed.
- (j) Include a description of inspections and maintenance to be conducted for management practices and measures to control flow rates and durations and address potential hydromodification impacts.
- (k) Include a description of pre- and post-project monitoring and other program evaluations to be conducted to assess the effectiveness of implementation of the HMP.
- (l) Include mechanisms for addressing cumulative impacts within a watershed on channel morphology.
- (m) Include information on evaluation of channel form and condition, including slope, discharge, vegetation, underlying geology, and other information, as appropriate.

¶...¶

(3) Section D.1.g.(1)(c) does not apply to Development Projects where the project discharges stormwater runoff into channels or storm drains where the preexisting channel or storm drain conditions result in minimal potential for erosion or other impacts to beneficial uses. Such situations may include discharges into channels that are concrete-lined or significantly hardened (e.g., with rip-rap, sackrete, etc.) downstream to their outfall in bays or the ocean; underground storm drains discharging to bays or the ocean; and construction of projects where the sub-watersheds below the projects' discharge points are highly impervious (e.g., >70%) and the potential for single-project and/or cumulative impacts is minimal. Specific criteria for identification of such situations shall be included as a part of the HMP. However, plans to restore a channel reach may reintroduce the applicability of HMP controls, and would need to be addressed in the HMP.

(4) HMP Reporting

The Copermittees shall collaborate to report on HMP development as required in section J.2.a of this Order.¹¹⁰

¹¹⁰ Section J.2.a of the permit requires collaborating with other copermittees to develop the HMP, and submitting it for approval by the Regional Board. Part J.2.a also includes timelines for HMP completion and approval.

(5) HMP Implementation

180 days after approval of the HMP by the Regional Board, each Copermittee shall incorporate into its local SUSMP and implement the HMP for all applicable Priority Development Projects. Prior to approval of the HMP by the Regional Board, the early implementation of measures likely to be included in the HMP shall be encouraged by the Copermittees.

(6) Interim Hydromodification Criteria for Projects Disturbing 50 Acres or More

Within 365 days of adoption of this Order, the Copermittees shall collectively identify an interim range of runoff flow rates for which Priority Development Project post-project runoff flow rates and durations shall not exceed pre-project runoff flow rates and durations (Interim Hydromodification Criteria), where the increased discharge flow rates and durations will result in increased potential for erosion or other significant adverse impacts to beneficial uses, attributable to changes in flow rates and durations. Development of the Interim Hydromodification Criteria shall include identification of methods to be used by Priority Development Projects to exhibit compliance with the criteria, including continuous simulation of the entire rainfall record. Starting 365 days after adoption of this Order and until the final Hydromodification Management Plan standard and criteria are implemented, each Copermittee shall require Priority Development Projects disturbing 50 acres or more to implement hydrologic controls to manage post-project runoff flow rates and durations as required by the Interim Hydromodification Criteria. Development Projects disturbing 50 acres or more are exempt from this requirement when:

- (a) The project would discharge into channels that are concrete-lined or significantly hardened (e.g., with rip-rap, sackcrete, etc.) downstream to their outfall in bays or the ocean;
- (b) The project would discharge into underground storm drains discharging directly to bays or the ocean; or
- (c) The project would discharge to a channel where the watershed areas below the project's discharge points are highly impervious (e.g. >70%).

As to whether part D.1.g. of the permit (except for D.1.g.(2)) is a new program or higher level of service, the claimants, in their February 2009 comments, assert that it is.

The 2001 Permit only included general statements regarding the need to control downstream erosion with post construction BMPs. The 2007 Permit increased these requirements by requiring the copermittees to, among other things, draft and implement interim and long-term hydromodification plans, and impose specific, strict post construction BMPs on new development projects within their jurisdiction.

The State Board, in its October 2008 comments, argues that part D.1 "expands upon and makes more specific the hydromodification requirements in the 2001 Permit."

Finance argues, in its February 2010 comments on the draft staff analysis, that the entire permit is not a new program or higher level of service because additional activities, beyond those

required by the 2001 permit, are necessary for the claimants to continue to comply with the federal Clean Water Act and reduce pollutants to the Maximum Extent Practicable.

The Commission disagrees with Finance. This analysis measures the 2007 permit against the 2001 permit to determine which provisions are a new program or higher level of service. Under the standard urged by Finance, anything the state imposes under the permit would not be a new program or higher level of service. The Commission does not read the federal Clean Water Act so broadly. In *Building Industry Assoc. of San Diego County v. State Water Resources Control Board* (2004) 124 Cal.App.4th 866, the court held that the Clean Water Act's "maximum extent practicable" standard did not prevent the water boards from including provisions in the permit that required municipalities to comply with state water quality standards.¹¹¹

The Regional Board prepared a Fact Sheet/Technical Report¹¹² for the permit that lists the federal authority and reasons the permit provisions were adopted. Regarding part D.1.g. of the permit, the Fact Sheet/Technical Report does not expressly mention the 2001 permit, but states:

This section of the Order expands the requirements for control of hydromodification caused by changes in runoff resulting from development and urbanization. Expansion of these requirements is needed due to the current lack of a clear standard for controlling hydromodification resulting from modification. While the Model SUSMP¹¹³ [adopted in 2002] developed by the Copermittees requires project proponents to control hydromodification, it provides no standard or performance criteria for how this is to be achieved.

The Commission finds that part D.1.g. of the permit (except for D.1.g.(2)) with respect to private priority development projects is a new program or higher level of service. The Fact Sheet/Technical Report describes the section as an "expansion" of hydromodification control requirements. The 2001 permit (in part F.1.b.(2)(j)) included only the following on hydromodification:

Downstream Erosion – As part of the model SUSMP [Standard Urban Storm Water Mitigation Plan] and the local SUSMPs, the Copermittees shall develop criteria to ensure that discharges from new development and significant redevelopment maintain or reduce pre-development downstream erosion and protect stream habitat. At a minimum, criteria shall be developed to control peak storm water discharge rates and velocities in order to maintain or reduce pre-development downstream erosion and protect stream habitat. Storm water discharge volumes and durations should also be considered.

The requirements in the 2007 permit, however, are much more expansive and detailed, requiring development and implementation of a hydromodification management plan (HMP) to be approved by the Regional Board. And while the 2001 permit contained a broad description of

¹¹¹ *Building Industry Assoc. of San Diego County v. State Water Resources Control Board, supra*, 124 Cal.App.4th 866, 870.

¹¹² The Fact Sheet/Technical Report was attached to the test claim.

¹¹³ According to the Fact Sheet/Technical Report, the Model SUSMP was completed and adopted in 2002.

the criteria required, part D.1.g. of the 2007 permit contains a detailed description of the contents of the HMP, including identifying standards for channel segments, using continuous simulation of the entire rainfall record to identify runoff flows, requiring priority development projects to implement hydrologic control measures, including other performance criteria for priority development projects to prevent urban runoff from the projects, and 9 other components to include in the HMP. Therefore, the Commission finds that part D.1.g. of the permit (except for D.1.g.(2)) is a new program or higher level of service over the 2001 permit.

In sum, the Commission finds that part D.1.(g) of the permit (except for D.1.g.(2)) is a state-mandated new program or higher level of service for private priority development projects. Reimbursement is not required for complying with the HMP for municipal priority development projects.

B. Low Impact Development (LID) and Standard Urban Storm Water Mitigation Plan (part D.1.d.): Also under part D.1 “Development Planning” is part D.1.d, which requires the copermittees to review and update their SUSMPs (Standard Urban Storm Water Mitigation Plans)¹¹⁴ and (in paragraphs 7 and 8) add low impact development (LID) and source control BMP requirements for each priority development project, and to implement the updated SUSMP, as specified on pages 17-19 above. The purpose of LID is to “collectively minimize directly connected impervious areas and promote infiltration at Priority Development Projects.” LID best management practices include draining a portion of impervious areas into pervious areas prior to discharge into the storm drain, and constructing portions of priority development projects with permeable surfaces (*Id.*)

According to the State Board’s comments submitted in October 2008, the requirement in part D.1.d. is necessary to meet the minimum federal MEP standard, and is supported by 40 C.F.R. section 122.26 (d)(2)(iv)(A)-(D), part of which is quoted in the discussion of hydromodification above. Part (d)(2)(iv)(A)(2) of the regulation requires part of the permit application to include:

(2) A description of planning procedures including a comprehensive master plan to develop, implement and enforce controls to reduce the discharge of pollutants from municipal separate storm sewers which receive discharges from areas of new development and significant redevelopment. Such plan shall address controls to reduce pollutants in discharges from municipal separate storm sewers after construction is completed.

The State Board asserts that these regulations “require municipalities to implement controls to reduce pollutants in urban runoff from new development and significant redevelopment, construction, and commercial, residential, industrial and municipal land uses or activities.” The Board cites a decision of the Washington Pollution Control Hearings Board that found that permit provisions to promote but not require low impact development “failed to satisfy the federal MEP standard and Washington state law because it ... did not require LID at the parcel and subdivision level.”

In their February 2009 rebuttal comments, the claimants assert: “while federal regulations require the large MS4 permits to include programs to reduce the discharge of pollutants from the

¹¹⁴ The Permit defines the Standard Urban Storm Water Mitigation Plan as “A plan developed to mitigate the impacts of urban runoff from Priority Development Projects.”

MS4 that originate in areas of new development, federal regulations do not require or even mention LID or LID principles.” And “while requiring post-construction controls that limit pollutant discharges originating in areas of new development is clearly within the requirements of Section 122.26(d)(2)(iv)(A), the 2007 Permit’s specific LID requirements are not.” Claimants also address the Washington State Pollution Control Board decision by noting that the Board’s decision “explicitly recognized that LID requirements are not federally mandated.” The claimants also point out EPA-issued NPDES permits in Washington, D.C. and Albuquerque, New Mexico that make no reference to LID.

The Commission finds nothing in the federal regulation (40 C.F.R. § 122.26) that requires local agencies to collectively review and update the BMP requirements listed in their SUSMPs, or to develop, submit and implement “an updated Model SUSMP” that defines minimum LID and other BMP requirements for incorporation into the SUSMPs. Thus, the LID requirements in the permit “exceed the mandate in that federal law or regulation.”¹¹⁵ As in *Long Beach Unified School Dist. v. State of California*,¹¹⁶ the permit requires specific actions, i.e., required acts that go beyond the requirements of federal law. In adopting these permit provisions, the state has freely chosen¹¹⁷ to impose these requirements. Thus, the Commission finds that part D.1.d. of the permit is not a federal mandate.

The Commission further finds that the LID requirements are not a state-mandated program for municipal projects for the same reason as discussed in the HMP discussion above: there is no requirement for cities or counties to build priority development projects, which would trigger the downstream requirement to comply with parts D.1.d.(7) and D.1.d.(8) of the permit, the LID portions of the permit.

As to non-municipal projects, however, because of the mandatory language on the face of the permit, the Commission finds that part D.1.d. of the permit is a state mandate for the claimants to do all of the following:

(7) Update of SUSMP BMP Requirements

The Copermittees shall collectively review and update the BMP requirements that are listed in their local SUSMPs. At a minimum, the update shall include removal of obsolete or ineffective BMPs, addition of LID and source control BMP requirements that meet or exceed the requirements of sections D.1.d.(4) and D.1.d.(5), and addition of LID BMPs that can be used for treatment, such as bioretention cells, bioretention swales, etc. The update shall also add appropriate LID BMPs to any tables or discussions in the local SUSMPs addressing pollutant removal efficiencies of treatment control BMPs. In addition, the update shall include review, and revision where necessary, of treatment control BMP pollutant removal efficiencies.

¹¹⁵ Government Code section 17556, subdivision (c).

¹¹⁶ *Long Beach Unified School Dist. v. State of California*, *supra*, 225 Cal.App.3d 155.

¹¹⁷ *Hayes v. Commission on State Mandates*, *supra*, 11 Cal. App. 4th 1564, 1593-1594.

(8) Update of SUSMPs to Incorporate LID and Other BMP Requirements

(a) In addition to the implementation of the BMP requirements of sections D.1.d.(4-7) within one year of adoption of this Order, the Copermittees shall also develop and submit an updated Model SUSMP that defines minimum LID and other BMP requirements to be incorporated into the Copermittees' local SUSMPs for application to Priority Development Projects. The purpose of the updated Model SUSMP shall be to establish minimum standards to maximize the use of LID practices and principles in local Copermittee programs as a means of reducing stormwater runoff. It shall meet the following minimum requirements:

- i. Establishment of LID BMP requirements that meet or exceed the minimum requirements listed in section D.1.d.(4) above.¹¹⁸
- ii. Establishment of source control BMP requirements that meet or exceed the minimum requirements listed in section D.1.d.(5) above.¹¹⁹
- iii. Establishment of treatment control BMP requirements that meet or exceed the minimum requirements listed in section D.1.d.(6) above.¹²⁰
- iv. Establishment of siting, design, and maintenance criteria for each LID and treatment control BMP listed in the Model SUSMP, so that implemented LID and treatment control BMPs are constructed correctly and are effective at pollutant removal and/or runoff control. LID techniques, such as soil amendments, shall be incorporated into the criteria for appropriate treatment control BMPs.
- v. Establishment of criteria to aid in determining Priority Development Project conditions where implementation of each LID BMP listed in section D.1.d.(4)(b) is applicable and feasible.
- vi. Establishment of a requirement for Priority Development Projects with low traffic areas and appropriate or amendable soil conditions to construct a portion of walkways, trails, overflow parking lots, alleys, or other low-traffic areas with permeable surfaces, such as pervious concrete, porous asphalt, unit pavers, and granular materials.
- vii. Establishment of restrictions on infiltration of runoff from Priority Development Project categories or Priority Development Project areas that generate high levels of pollutants, if necessary.

¹¹⁸ Part D.1.d.(4) of the permit includes LID BMP requirements: "Each Copermittee shall require each Priority Development Project to implement LID BMPs which will collectively minimize directly connected impervious areas and promote infiltration at Priority Development Projects." The Permit lists various LID site design BMPs that must be implemented at all Priority Development Projects, and other LID BMPs that must be implemented at all Priority Development Projects "where applicable and feasible."

¹¹⁹ Part D.1.d.(5) of the permit lists source control BMP requirements.

¹²⁰ Part D.1.d.(6) of the permit lists treatment control BMP requirements.

(b) The updated Model SUSMP shall be submitted within 18 months of adoption of this Order. If, within 60 days of submittal of the updated Model SUSMP, the Copermittees have not received in writing from the Regional Board either (1) a finding of adequacy of the updated Model SUSMP or (2) a modified schedule for its review and revision, the updated Model SUSMP shall be deemed adequate, and the Copermittees shall implement its provisions in accordance with section D.1.d.(8)(c) below.

(c) Within 365 days of Regional Board acceptance of the updated Model SUSMP, each Copermittee shall update its local SUSMP to implement the requirements established pursuant to section D.1.d.(8)(a). In addition to the requirements of section D.1.d.(8)(a), each Copermittee's updated local SUSMP shall include the following:

- i. A requirement that each Priority Development Project use the criteria established pursuant to section D.1.d.(8)(a) to demonstrate applicability and feasibility, or lack thereof, of implementation of the LID BMPs listed in section D.1.d.(4)(b).
- ii. A review process which verifies that all BMPs to be implemented will meet the designated siting, design, and maintenance criteria, and that each Priority Development Project is in compliance with all applicable SUSMP requirements.

The State Board, in its October 2008 comments on the test claim, argues that the requirements in part D.1.d.(7) of the permit are not a new program or higher level of service because they "merely add definition to the scope of the local SUSMP already required in the 2001 Permit (see Section F.1.b.(2))." As to part D.1.d.(8), the State Board asserts that it:

[P]rovides a framework for the Copermittees to develop criteria to be used in the application of LID requirements to Priority Development Projects. The Copermittees must develop their LID programs through an update to the Model SUSMP, the document that guides (and guided the 2001 Permit cycle) post-construction BMP implementation at Priority Development Projects.

According to the State Board, these parts of the permit are not a new program or higher level of service because they merely add additional detail in implementing the same minimum federal MEP standard and add specificity to already existing BMPs.

The claimants, in their February 2009 comments, assert that by adding requirements and increasing the specificity of existing requirements, the 2007 LID permit requirements are a new program or higher level of service.

The Commission finds that part D.1.d.(7) is a new program or higher level of service because it calls for a collective review and update of BMP requirements listed in the claimants' SUSMPs (presumably those drafted under the 2001 permit) that was not required under the 2001 permit.

The Commission also finds that part D.1.d.(8) is a new program or higher level of service because it requires developing, submitting, and implementing "an updated Model SUSMP" that defines minimum LID and other BMP requirements for incorporation into the copermittees SUSMPs. Although the 2001 permit required adopting a Model SUSMP and local SUSMP, it

did not require developing and submitting an updated Model SUSMP with the specified LID BMP requirements.

In sum, the Commission finds that parts D.1.d.(7) and D.1.d.(8) of the 2007 permit constitute a state-mandated new program or higher level of service for private priority development projects. Reimbursement is not required for complying with the LID requirements for municipal priority development projects.

C. Street sweeping and reporting (parts D.3.a.(5) & J.3.a(3)x-xv): Part D.3 is entitled “Existing Development.” Part D.3.a.(5) requires regular street sweeping based on the amount of trash generated on the road, street, highway, or parking facility. Those identified as generating the highest volumes of trash are to be swept at least two times per month, those generating moderate volumes of trash are to be swept at least monthly, and those generating low volumes of trash are to be swept as necessary, but not less than once per year. The copermitees determine what constitutes high, moderate, and low trash generation.

In addition, section J.3.a.(3)(c) x-xv requires the copermitees, as part of their annual reporting, to identify the total distance of curb-miles of improved roads in each priority category, the total distance of curb-miles swept, the number of municipal parking lots and the number swept, the frequency of sweeping, and the tons of material collected from street and parking lot sweeping.

The State Board, in its comments submitted in October 2008, states that requiring minimum sweeping frequencies for streets determined by the copermitees to have high volumes of trash or debris is necessary to meet the minimum federal MEP standard. The State Board cites C.F.R. section 122.26(d)(2)(i)(B)-(C), (E) and (F) and 40 C.F.R. section 122.26(d)(2)(iv), and more specifically, section 122.26(d)(2)(iv)(A)(1), which states that the proposed management program include “[a] description of maintenance activities and a maintenance schedule for structural controls to reduce pollutants (including floatables) in discharges from municipal separate storm sewers.” Also, section 122.26(d)(2)(iv)(A)(6) provides that the proposed management program include:

[a] description of a program to reduce to the maximum extent practicable, pollutants in discharges from municipal separate storm sewers associated with the application of pesticides, herbicides, and fertilizer which will include, as appropriate, controls such as educational activities, permits, certifications, and other measures for commercial applicators and distributors, and controls for application in public right-of-ways and at municipal facilities.

The State Board also cites section 122.44(d)(1)(i), which states as follows regarding NPDES permits: “limitations must control all pollutants or pollutant parameters (either conventional, nonconventional, or toxic pollutants) which the Director determines are or may be discharged at a level which will cause, have reasonable potential to cause, or contribute to an excursion above any State Water quality standard, including narrative criteria for water quality.” And section 122.26(d)(2)(iv)(A)(3) states that the proposed management program include “A description for operating and maintaining public streets, roads and highways and procedures for reducing the impact on receiving waters of discharges from municipal storm sewer systems, including pollutants discharged as a result of deicing activities.”

In their February 2009 rebuttal comments, the claimants point out that street sweeping as a BMP to control “floatables” is not required by federal law in that none of the federal regulations

specifically require street sweeping. The claimants quote the following from *Hayes v. Commission on State Mandates*:¹²¹ “if the state freely chose to impose the costs upon the local agency as a means of implementing a federal program then the costs are the result of a reimbursable state mandate.”

The Commission agrees with claimants. The permit requires activities that fall within the federal regulations to include: “[a] description of maintenance activities and a maintenance schedule for structural controls to reduce pollutants (including floatables) in discharges from municipal separate storm sewers.”¹²² And they also require: “A description for operating and maintaining public streets, roads and highways and procedures for reducing the impact on receiving waters of discharges from municipal storm sewer systems...”¹²³

Yet the more specific requirements in the permit include variable street sweeping schedules for areas impacted by different amounts of trash. They also require reporting on the amount of trash collected, which is not required by the federal regulations. These activities “exceed the mandate in that federal law or regulation.”¹²⁴ As in *Long Beach Unified School Dist. v. State of California*,¹²⁵ the permit requires specific actions, i.e., required acts that go beyond the requirements of federal law. In adopting these permit provisions, the state has freely chosen¹²⁶ to impose these requirements. Therefore, the Commission finds that parts D.3.a.(5) and J.3.a.(3)(c)x-xv of the permit are not a federal mandate.

Because of the mandatory language on the face of the permit, the Commission also finds part D.3.a(5) of the permit is a state mandate for the claimants to do all of the following:

(5) Sweeping of Municipal Areas

Each Copermittee shall implement a program to sweep improved (possessing a curb and gutter) municipal roads, streets, highways, and parking facilities. The program shall include the following measures:

(a) Roads, streets, highways, and parking facilities identified as consistently generating the highest volumes of trash and/or debris shall be swept at least two times per month.

(b) Roads, streets, highways, and parking facilities identified as consistently generating moderate volumes of trash and/or debris shall be swept at least monthly.

(c) Roads, streets, highways, and parking facilities identified as generating low volumes of trash and/or debris shall be swept as necessary, but no less than once per year.

¹²¹ *Hayes v. Commission on State Mandates, supra*, 11 Cal.App.4th 1564.

¹²² 40 Code of Federal Regulations, section 122.26(d)(2)(iv)(A)(1).

¹²³ 40 Code of Federal Regulations, section 122.26(d)(2)(iv)(A)(3).

¹²⁴ Government Code section 17556, subdivision (c).

¹²⁵ *Long Beach Unified School Dist. v. State of California, supra*, 225 Cal.App.3d 155.

¹²⁶ *Hayes v. Commission on State Mandates, supra*, 11 Cal. App. 4th 1564, 1593-1594.

And as stated in part J.3.a(3)(c)x-xv (on p. 68) of the permit, the claimants report annually on:

x. Identification of the total distance of curb-miles of improved roads, streets, and highways identified as consistently generating the highest volumes of trash and/or debris, as well as the frequency of sweeping conducted for such roads, streets, and highways.

xi. Identification of the total distance of curb-miles of improved roads, streets, and highways identified as consistently generating moderate volumes of trash and/or debris, as well as the frequency of sweeping conducted for such roads, streets, and highways.

xii. Identification of the total distance of curb-miles of improved roads, streets, and highways identified as consistently generating low volumes of trash and/or debris, as well as the frequency of sweeping conducted for such roads, streets, and highways.

xiii. Identification of the total distance of curb-miles swept.

xiv. Identification of the number of municipal parking lots, the number of municipal parking lots swept, and the frequency of sweeping.

xv. Amount of material (tons) collected from street and parking lot sweeping.

The State Board, in its October 2008 comments, argues that requiring minimum street sweeping frequencies does not result in a new program or higher level of service. According to the State Board:

The 2001 Permit required Copermittees to perform street sweeping, but did not specify minimum frequencies. While the minimum frequencies may exceed some Copermittees' existing programs, the Claimants acknowledge that many Copermittees meet or exceed the mandatory requirements on a voluntary basis. To the extent the frequencies are already being met and the Permit imposes the same MEP standard as its predecessor ... the 2007 Permit does not impose a higher level of service.

In their February 2009 rebuttal comments, the claimants cite Government Code section 17565 to argue that whether or not they were sweeping streets at frequencies equal or more than the permit requires is not relevant. Government Code section 17565 states: "If a local agency ... at its option, has been incurring costs which are subsequently mandated by the state, the state shall reimburse the local agency ... for those costs incurred after the operative date of the mandate." The claimants also state that the 2001 permit did not in fact require street sweeping, "[a]t best it only included general statements regarding the need to control pollutants in streets and other impervious areas and, in any event, minimum frequencies were not required."

The Regional Board's Fact Sheet/Technical Report on part D.3.a.(5) of the 2007 permit states that street sweeping "has been added to ensure that the Copermittees are implementing this effective BMP at all appropriate areas."

The Commission finds that the street sweeping provision (part D.3.a.(5)) in the permit is a new program or higher level of service. The Commission agrees that Government Code section 17565 makes it irrelevant (for purposes of mandate reimbursement) whether or not claimants

were performing the activity prior to the permit, since voluntary activities do not affect reimbursement of an activity that is subsequently mandated by the state.

The 2001 permit, in part F.3.a.(3) and (4) stated:

(a) To establish priorities for oversight of municipal areas and activities required under this Order, each Copermittee shall prioritize each watershed inventory in F.3.a.2. above by threat to water quality and update annually. Each municipal area and activity shall be classified as high, medium, or low threat to water quality. In evaluating threat to water quality, each Copermittee shall consider (1) type of municipal area or activity; (2) materials used (3) wastes generated; (4) pollutant discharge potential; (5) non-storm water discharges; (6) size of facility or area; (7) proximity to receiving water bodies; (8) sensitivity of receiving water bodies; and (9) any other relevant factors.

(b) At a minimum, the high priority municipal areas and activities shall include the following:

(i) Roads, Streets, Highways, and Parking Facilities. [¶]...[¶]

F.3.a.(4) BMP Implementation (Municipal)

(a) Each Copermittee shall designate a set of minimum BMPs for high, medium, and low threat to water quality municipal areas and activities (as determined under section F.3.a.(3)). The designated minimum BMPs for high threat to water quality municipal areas and activities shall be area or activity specific as appropriate.

Street sweeping is not expressly required in this 2001 permit provision, nor does it specify any frequencies or required reporting. Thus, the Commission finds that part D.3.a.(5) of the 2007 permit that requires street sweeping, as specified, is a new program or higher level of service, as well as part J.3.a(3)x-xv that requires reporting on street-sweeping activities.

D. Conveyance system cleaning and reporting (parts D.3.a.(3) & J.3.a.(3)(c)(iv)-(viii)): Also under part D.3 "Existing Development," part D.3.a.(3) requires conveyance system cleaning, including the following:

- Verifying proper operation of all municipal structural treatment controls designed to reduce pollutant discharges to or from the MS4s and related drainage structures.
- Cleaning any catch basin or storm drain inlet that has accumulated trash and debris greater than 33% of the design capacity in a timely manner.
- Cleaning any MS4 facility that is designed to be self cleaning of any accumulated trash and debris immediately.
- Cleaning open channels of observed anthropogenic litter in a timely manner.

In J.3.a.(3)(c)(iv)-(viii), as part of the annual reporting requirements, copermittees shall provide a detailed accounting of the numbers of MS4 facilities in inventory, and the numbers of facilities inspected, exceeding cleaning criteria, and cleaned. In addition, copermittees must report by category tons of waste and litter removed from the facilities.

The State Board, in its comments submitted in October 2008, disagrees that the requirements exceed federal law, saying that “the same broad authorities applicable to the street sweeping requirement also apply to the conveyance system cleaning requirements.” According to the State Board, specificity in inspection and cleaning requirements is consistent with and supported by U.S. EPA guidance. Also, to the extent that permit requirements are more specific than the federal regulations, the State Board asserts that the requirements are an appropriate exercise of the San Diego Water Board’s discretion to define the MEP standard.

The claimants, in their February 2009 comments, state that “the requirements to inspect and perform maintenance to insure compliance with these standards is not limited by the ‘regular schedule of maintenance’ obligation but rather must be done as frequently as is necessary to comply with these specific standards.” Also, claimants note that the content and detail in the reporting is more than required by the 2001 permit. As to the MEP standard required by the federal regulations, claimants assert that the U.S. EPA documents cited by the State Board provide guidance, not mandates, and the permit Fact Sheet does not specifically set forth mandatory annual inspection and maintenance requirements. According to the claimants, the only mandatory requirement is that a maintenance program exist, and that the applicant provide an inspection schedule if maintenance depends on the results of inspections or occurs infrequently. Yet the 2007 permit includes “very specific requirements that go beyond the U.S. EPA guidance and are not included within the federal regulations.” Finally, claimants note that the State Board has acknowledged that the 2007 permit requirements are more specific than federal regulations, and cites the *Long Beach Unified School District* case to conclude that the specificity makes the requirements state mandates.

The Commission agrees with claimants. Like street sweeping, the permit requires conveyance system cleaning activities that fall within the federal regulations to include: “[a] description of maintenance activities and a maintenance schedule for structural controls to reduce pollutants (including floatables) in discharges from municipal separate storm sewers.”¹²⁷ And they also require: “A description for operating and maintaining public streets, roads and highways and procedures for reducing the impact on receiving waters of discharges from municipal storm sewer systems...”¹²⁸

Yet the permit requirements are more specific. Part D.3.a.(3) requires verifying proper operation of all municipal structural treatment controls, cleaning any catch basin or storm drain inlet that has accumulated trash and debris greater than 33% of the design capacity in a timely manner, cleaning any MS4 facility that is designed to be self cleaning of any accumulated trash and debris immediately, and cleaning open channels of observed anthropogenic litter in a timely manner. In addition, the reporting in part J requires a detailed accounting of the numbers of MS4 facilities in inventory, and the numbers of facilities inspected, exceeding cleaning criteria, and cleaned, and reporting by category tons of waste and litter removed from the facilities. These activities, “exceed[s] the mandate in that federal law or regulation.”¹²⁹ As in *Long Beach*

¹²⁷ 40 Code of Federal Regulations, section 122.26(d)(2)(iv)(A)(1).

¹²⁸ 40 Code of Federal Regulations, section 122.26(d)(2)(iv)(A)(3).

¹²⁹ Government Code section 17556, subdivision (c).

Unified School Dist. v. State of California,¹³⁰ the permit requires specific actions, i.e., required acts that go beyond the requirements of federal law. In adopting these permit provisions, the state has freely chosen¹³¹ to impose these requirements. Therefore, the Commission finds that parts D.3.a.(3) and J.3.a.(3)(c)iv-viii of the permit are not a federal mandate.

Rather, the Commission finds that part D.3.a.(3) of the 2007 permit is a state mandate on the claimants to do the following:

(a) Implement a schedule of inspection and maintenance activities to verify proper operation of all municipal structural treatment controls designed to reduce pollutant discharges to or from its MS4s and related drainage structures.

(b) Implement a schedule of maintenance activities for the MS4 and MS4 facilities (catch basins, storm drain inlets, open channels, etc). The maintenance activities shall, at a minimum, include:

i. Inspection at least once a year between May 1 and September 30 of each year for all MS4 facilities that receive or collect high volumes of trash and debris. All other MS4 facilities shall be inspected at least annually throughout the year.

ii. Following two years of inspections, any MS4 facility that requires inspection and cleaning less than annually may be inspected as needed, but not less than every other year.

iii. Any catch basin or storm drain inlet that has accumulated trash and debris greater than 33% of design capacity shall be cleaned in a timely manner. Any MS4 facility that is designed to be self cleaning shall be cleaned of any accumulated trash and debris immediately. Open channels shall be cleaned of observed anthropogenic litter in a timely manner.

iv. Record keeping of the maintenance and cleaning activities including the overall quantity of waste removed.

v. Proper disposal of waste removed pursuant to applicable laws.

vi. Measures to eliminate waste discharges during MS4 maintenance and cleaning activities.

The Commission also finds that part J.3.a.(3)(c) iv-viii is a state mandate to report the following information in the JURMP annual report:

iv. Identification of the total number of catch basins and inlets, the number of catch basins and inlets inspected, the number of catch basins and inlets found with accumulated waste exceeding cleaning criteria, and the number of catch basins and inlets cleaned.

v. Identification of the total distance (miles) of the MS4, the distance of the MS4 inspected, the distance of the MS4 found with accumulated waste exceeding cleaning criteria, and the distance of the MS4 cleaned.

¹³⁰ *Long Beach Unified School Dist. v. State of California*, *supra*, 225 Cal.App.3d 155.

¹³¹ *Hayes v. Commission on State Mandates*, *supra*, 11 Cal. App. 4th 1564, 1593-1594.

vi. Identification of the total distance (miles) of open channels, the distance of the open channels inspected, the distance of the open channels found with anthropogenic litter, and the distance of open channels cleaned.

vii. Amount of waste and litter (tons) removed from catch basins, inlets, the MS4, and open channels, by category.

viii. Identification of any MS4 facility found to require inspection less than annually following two years of inspection, including justification for the finding.

As to whether these provisions are a new program or higher level of service, the State Board, in its October 2008 comments, states that the 2001 permit contained “*more* frequent inspection and removal requirements than required in the 2007 Permit. It also contained record keeping requirements to document the facilities cleaned and the quantities of waste removed.” [Emphasis in original.]

Claimants, in their February 2009 comments, argue that the 2001 permit, in part F.3.a.(5) required each copermitttee to ‘implement a schedule of maintenance activities at all structural controls designed to reduce pollutant discharges. By contrast, the 2007 permit requires each copermitttee to ‘implement a schedule of **inspection and maintenance**’ and to ‘**verify proper operation of all municipal** structural controls....’ [Emphasis in original.] Claimants also point out that the 2007 permit requires copermitttees to:

- Clean any catch basin or storm drain inlet that has accumulated trash and debris greater than 33% of the design capacity in a timely manner.
- Clean any MS4 facility that is designed to be self cleaning of any accumulated trash and debris immediately.
- Clean open channels of observed anthropogenic litter in a timely manner.

According to claimants, these requirements were not included in the 2001 permit. Claimants also state that the requirement to inspect and perform maintenance “is not limited by the ‘regular schedule of maintenance’ obligation but rather must be done as frequently as is necessary to comply with these specific standards.”

As to reporting, claimants state that the language in part D.3.a.(3)(b)(iv),(v) and (vi) of the 2007 permit and part F.3.a.(5)(c)(iii), (iv) and (v) of the 2001 permit track each other, but part J.3.a.(3)(c) iv through viii detail the information that the reports must now contain that was not in the 2001 permit, such as identifying the number of catch basins and inlets, the number inspected, the number found with accumulated waste exceeding the cleaning criteria, the distance of the MS4 cleaned, and other detail.

In analyzing whether parts D.3.a.(3) and J.3.a.(3)(c)(iv) – (viii) are a new program or higher level of service, we compare those provisions to the prior permit and look at the Regional Board’s Fact Sheet/Technical Report, which states why Part D.3.a.(3) was added:

Section D.3.a.(3) ... requires the Copermitttees to inspect and remove waste from their MS4s prior to the rainy season. Additional wording has been added to clarify the intent of the requirements. The Copermitttees will be required to inspect all storm drain inlets and catch basins. This change will assist the Copermitttees in determining which basins/inlets need to be cleaned and at what

priority. Removal of trash has been identified by the copermittees as a priority issue in their long-term effectiveness assessment. To address this issue, wording has been added to require the Copermittees, at a minimum, inspect [sic] and remove trash from all their open channels at least once a year.

The 2001 permit contained the following in part F.3.a.(5)(b) and (c):

(b) Each Copermittee shall implement a schedule of maintenance activities for the municipal separate storm sewer system.

(c) The maintenance activities must, at a minimum, include:

- i. Inspection and removal of accumulated waste (e.g., sediment, trash, debris and other pollutants) between May 1 and September 30 of each year;
- ii. Additional cleaning as necessary between October 1 and April 30 of each year;
- iii. Record keeping of cleaning and the overall quantity of waste removed;
- iv. Proper disposal of waste removed pursuant to applicable laws;
- v. Measures to eliminate waste discharges during MS4 maintenance and cleaning activities.

The Commission finds that some provisions in the 2007 permit are the same as in the 2001 permit. Specifically, part D.3.a(3)(a) is not a new program or higher level of service because the 2001 permit also required maintenance and inspection in part F.3.a.(5)(b) and (c). The Commission also finds that part D.3.a.(3)(b)(i),(iv)- (vi) of the 2007 permit is the same as part F.3.a.(5)(c)(i)(iii) - (v) in the 2001 permit, both of which require:

- Annual inspection of MS4 facilities (D.3.a(3)(b)(i));
- Record keeping of the maintenance and cleaning activities including the overall quantity of waste removed (D.3.a(3)(b)(iv));
- Proper disposal of waste removed pursuant to applicable laws (D.3.a(3)(b)(v)); and
- Measures to eliminate waste discharges during MS4 maintenance and cleaning activities (D.3.a(3)(b)(vi)).

Therefore, the Commission finds that these provisions are not a new program or higher level of service.

The Commission also finds that part D.3.a.(3)(b)(ii) is not a new program or higher level of service. It gives the claimants the flexibility, after two years of inspections, to inspect MS4 facilities that require inspection and cleaning less than annually, but not less than every other year. Part F.3.a.(5)(c)(i) of the 2001 permit stated: "The maintenance activities must, at a minimum, include: i. inspection and removal of accumulated waste (e.g., sediment, trash, debris and other pollutants) between May 1 and September 30 of each year." Potentially less frequent inspections under the 2007 permit is not a new program or higher level of service.

The Commission finds that part D.3.a.(3)(b)(iii) of the 2007 permit is a new program or higher level of service on claimants to clean in a timely manner "Any catch basin or storm drain inlet that has accumulated trash and debris greater than 33% of design capacity.... Any MS4 facility that is designed to be self cleaning shall be cleaned of any accumulated trash and debris immediately. Open channels shall be cleaned of observed anthropogenic litter in a timely

manner.” This part contains specificity, e.g., a standard of accumulation greater than 33% of design capacity, which was not in the 2001 permit.

Further, the Commission finds that the reporting in part J.3.a.(3)(c) (iv) – (viii) is a new program or higher level of service. The 2001 permit did not require this information in the content of the annual reports.

E. Educational component (part D.5): Part D.5 requires the copermittees to perform the activities on pages 25-28 above, which can be summarized as:

- Implement an educational program so that copermittees’ planning and development review staffs (and planning board/elected officials, if applicable) understand certain laws and regulations related to water quality.
- Implement an educational program that includes annual training before the rainy season so that the copermittees’ construction, building, code enforcement, and grading review staffs, inspectors, and others will understand certain specified topics.
- At least annually, train staff responsible for conducting stormwater compliance inspections and enforcement of industrial and commercial facilities on specified topics.
- Implement an education program so that municipal personnel and contractors performing activities that generate pollutants understand the activity specific BMPs for each activity to be performed.
- Implement a program to educate project applicants, developers, contractors, property owners, community planning groups, and others relating to specified topics.

The State Board, in its October 2008 comments on the test claim, states that federal regulations authorize the inclusion of an education component, in that the proposed management program must “include a description of appropriate educational and training measures for construction site operations” (40 C.F.R. § 122.26(d)(2)(iv)(D)(4)) and a “description of a program to reduce to the maximum extent practicable, pollutants in discharges from municipal separate storm sewers associated with the application of pesticides, herbicides, and fertilizer which will include, as appropriate, controls such as educational activities, permits, certifications, and other measures for commercial applicators and distributors...” (40 C.F.R. § 122.26(d)(2)(iv)(A)(6)). The federal regulations also require a “description of a program to promote, publicize, and facilitate public reporting of the presence of illicit discharges or water quality impacts associated with discharges from municipal separate storm sewers” (40 C.F.R. § 122.26(d)(2)(iv)(B)(5)) and a “description of educational activities, public information activities, and other appropriate activities to facilitate the proper management and disposal of used oil and toxic materials.” (40 C.F.R. § 122.26(d)(2)(iv)(B)(6)). The State Board also says that according to the U.S. EPA’s Phase II stormwater regulations, the MEP standard requires the copermittees to implement public education programs. According to the State Board, the regulations apply to copermittees with less developed storm water programs, and require the programs to include a public education and outreach program (40 C.F.R. § 122.34(b)(1)) and a public involvement/participation program (40 C.F.R. § 122.26(b)(2)). To the extent the permit requirements are more specific than federal law, the State Board calls them an appropriate use of the Regional Board’s discretion “to require more specificity in establishing the MEP standard.”

Claimants, in their February 2009 comments, characterize the federal regulations as only requiring them “to describe educational, public information, and other appropriate activities associated with their jurisdictional, watershed or stormwater management programs.” By contrast, under the permit claimants argue that they are required to “implement specific educational and training programs that achieve measurable increases in specific target community knowledge and to ensure a measurable change in the behavior of such target communities rather than simply report on the ... educational programs on an annual basis.” Claimants state that they are required to perform testing and surveys and “new program elements to secure the measureable changes in knowledge and behavior.”

The Commission agrees with claimants. As quoted in the State Board’s comments, the federal regulations require nonspecific descriptions of educational programs, for example, requiring the permit application to “include appropriate educational and training measures for construction site operations” and “controls such as educational activities.” The permit, on the other hand, requires implementation of an educational program with target communities and specified topics. These requirements “exceed the mandate in that federal law or regulation.”¹³² As in *Long Beach Unified School Dist. v. State of California*,¹³³ the permit requires specific actions, i.e., required acts that go beyond the requirements of federal law. In adopting these permit provisions, the state has freely chosen¹³⁴ to impose these requirements. Thus, the Commission finds that part D.5 of the permit is not federally mandated.

Based on the mandatory language on the face of the permit, the Commission finds that part D.5 of the permit constitutes a state mandate on the copermitees to do all of the following:

Each Copermitee shall implement an education program using all media as appropriate to (1) measurably increase the knowledge of the target communities regarding MS4s, impacts of urban runoff on receiving waters, and potential BMP solutions for the target audience; and (2) measurably change the behavior of target communities and thereby reduce pollutant releases to MS4s and the environment. At a minimum, the education program shall meet the requirements of this section and address the following target communities:

- Municipal Departments and Personnel
- Construction Site Owners and Developers
- Industrial Owners and Operators
- Commercial Owners and Operators
- Residential Community, General Public, and School Children

a. GENERAL REQUIREMENTS

(1) Each Copermitee shall educate each target community on the following topics where appropriate:

¹³² Government Code section 17556, subdivision (c).

¹³³ *Long Beach Unified School Dist. v. State of California*, *supra*, 225 Cal.App.3d 155.

¹³⁴ *Hayes v. Commission on State Mandates*, *supra*, 11 Cal. App. 4th 1564, 1593-1594.

Table 3. Education

Laws, Regulations, Permits, & Requirements	Best Management Practices
<ul style="list-style-type: none"> • Federal, state, and local water quality laws and regulations • Statewide General NPDES Permit for Storm Water Discharges Associated with Industrial Activities (Except Construction). • Statewide General NPDES Permit for Storm Water Discharges Associated with Construction Activities • Regional Board’s General NPDES Permit for Ground Water Dewatering • Regional Board’s 401 Water Quality Certification Program • Statewide General NPDES Utility Vault Permit • Requirements of local municipal permits and ordinances (e.g., storm water and grading ordinances and permits) 	<ul style="list-style-type: none"> • Pollution prevention and safe alternatives • Good housekeeping (e.g., sweeping impervious surfaces instead of hosing) • Proper waste disposal (e.g., garbage, pet/animal waste, green waste, household hazardous materials, appliances, tires, furniture, vehicles, boat/recreational vehicle waste, catch basin/ MS4 cleanout waste) • Non-storm water disposal alternatives (e.g., all wash waters) • Methods to minimized the impact of land development and construction • Erosion prevention • Methods to reduce the impact of residential and charity car-washing • Preventive Maintenance • Equipment/vehicle maintenance and repair • Spill response, containment, and recovery • Recycling • BMP maintenance
General Urban Runoff Concepts	Other Topics
<ul style="list-style-type: none"> • Impacts of urban runoff on receiving waters • Distinction between MS4s and sanitary sewers • BMP types: facility or activity specific, LID, source control, and treatment control • Short-and long-term water quality impacts associated with urbanization (e.g., land-use decisions, development, construction) • Non-storm water discharge prohibitions • How to conduct a storm water inspections 	<ul style="list-style-type: none"> • Public reporting mechanisms • Water quality awareness for Emergency/ First Responders • Illicit Discharge Detection and Elimination observations and follow-up during daily work activities • Potable water discharges to the MS4 • Dechlorination techniques • Hydrostatic testing • Integrated pest management • Benefits of native vegetation • Water conservation • Alternative materials and designs to maintain peak runoff values • Traffic reduction, alternative fuel use

(2) Copermittee educational programs shall emphasize underserved target audiences, high-risk behaviors, and “allowable” behaviors and discharges, including various ethnic and socioeconomic groups and mobile sources.

b. SPECIFIC REQUIREMENTS

(1) Municipal Departments and Personnel Education

(a) Municipal Development Planning – Each Copermittee shall implement an education program so that its planning and development review staffs (and Planning Boards and Elected Officials, if applicable) have an understanding of:

- i. Federal, state, and local water quality laws and regulations applicable to Development Projects;
- ii. The connection between land use decisions and short and long-term water quality impacts (i.e., impacts from land development and urbanization);
- iii. How to integrate LID BMP requirements into the local regulatory program(s) and requirements; and
- iv. Methods of minimizing impacts to receiving water quality resulting from development, including:
 - [1] Storm water management plan development and review;
 - [2] Methods to control downstream erosion impacts;
 - [3] Identification of pollutants of concern;
 - [4] LID BMP techniques;
 - [5] Source control BMPs; and
 - [6] Selection of the most effective treatment control BMPs for the pollutants of concern.

(b) Municipal Construction Activities – Each Copermittee shall implement an education program that includes annual training prior to the rainy season so that its construction, building, code enforcement, and grading review staffs, inspectors, and other responsible construction staff have, at a minimum, an understanding of the following topics, as appropriate for the target audience:

- i. Federal, state, and local water quality laws and regulations applicable to construction and grading¹³⁵ activities.
- ii. The connection between construction activities and water quality impacts (i.e., impacts from land development and urbanization and impacts from construction material such as sediment).
- iii. Proper implementation of erosion and sediment control and other BMPs to minimize the impacts to receiving water quality resulting from construction activities.
- iv. The Copermittee's inspection, plan review, and enforcement policies and procedures to verify consistent application.
- v. Current advancements in BMP technologies.
- vi. SUSMP Requirements including treatment options, LID BMPs, source control, and applicable tracking mechanisms.

¹³⁵ Attachment C of the permit defines grading as “the cutting and/or filling of the land surface to a desired slope or elevation.”

(c) Municipal Industrial/Commercial Activities - Each Copermittee shall train staff responsible for conducting storm water compliance inspections and enforcement of industrial and commercial facilities at least once a year. Training shall cover inspection and enforcement procedures, BMP implementation, and reviewing monitoring data.

(d) Municipal Other Activities – Each Copermittee shall implement an education program so that municipal personnel and contractors performing activities which generate pollutants have an understanding of the activity specific BMPs for each activity to be performed.

(2) New Development and Construction Education

As early in the planning and development process as possible and all through the permitting and construction process, each Copermittee shall implement a program to educate project applicants, developers, contractors, property owners, community planning groups, and other responsible parties. The education program shall provide an understanding of the topics listed in Sections D.5.b.(1)(a) and D.5.b.(1)(b) above, as appropriate for the audience being educated. The education program shall also educate project applicants, developers, contractors, property owners, and other responsible parties on the importance of educating all construction workers in the field about stormwater issues and BMPs through formal or informal training.

(3) Residential, General Public, and School Children Education

Each Copermittee shall collaboratively conduct or participate in development and implementation of a plan to educate residential, general public, and school children target communities. The plan shall evaluate use of mass media, mailers, door hangers, booths at public events, classroom education, field trips, hands-on experiences, or other educational methods.

The State Board, in its October 2008 comments, states that the education requirement in part D.5. does not amount to a new program or higher level of service because the 2007 permit “includes education topics from the 2001 permit with minor wording and formatting changes. Additionally, the requirements were adopted to implement the same federal MEP standard as established in the CWA and in the 2001 Permit.”

In their February 2009 comments, the claimants state that the 2001 permit did not require:

- Implementation of an education program so that the copermittee’s planning and development review staff (and Planning Boards and Elected Officials, if applicable) understand certain specified laws and regulations related to water quality. (D.5.b.(1)(a).)
- Implementation of an education program that includes annual training prior to the rainy season so that the copermittee’s construction, building, code enforcement, and grading review staffs, inspectors, and other responsible construction staff have, at a minimum, an understanding of certain specified topics. (D.5.b.(1)(b).)
- Training of staff responsible for conducting storm water compliance inspections and enforcement of industrial and commercial facilities at least once a year relating to certain specified topics (D.5.b.(1)(c).)

- Implementation of an education program so that municipal personnel and contractors performing activities which generate pollutants have an understanding of the activity specific BMPs for each activity to be performed. (D.5.b.(1)(d).)
- Implementation of a program to educate project applicants, developers, contractors, property owners, community planning groups, and other responsible parties relating to certain specified topics. (D.5.b.(2).)

This analysis of whether the permit is a new program or higher level of service is in the order presented in the permit. The Commission finds that nearly all of the educational topics in part D.5.a. are the same as those in the 2001 permit (part F.4). Both the 2001 and 2007 permits require the claimants to “educate” each specified target community on the following topics (Table 3 in the 2007 permit):

Laws, Regulations, Permits, & Requirements: Federal, state, and local water quality laws and regulations; Statewide General NPDES Permit for Storm Water Discharges Associated with Industrial Activities (Except Construction); Statewide General NPDES Permit for Storm Water Discharges Associated with Construction Activities; Regional Board’s General NPDES Permit for Ground Water Dewatering; Regional Board’s 401 Water Quality Certification Program; Statewide General NPDES Utility Vault Permit; Requirements of local municipal permits and ordinances (e.g., storm water and grading ordinances and permits).

Best Management Practices: Pollution prevention and safe alternatives; Good housekeeping (e.g., sweeping impervious surfaces instead of hosing); Proper waste disposal (e.g., garbage, pet/animal waste, green waste, household hazardous materials, appliances, tires, furniture, vehicles, boat/recreational vehicle waste, catch basin/ MS4 cleanout waste); Non-storm water disposal alternatives (e.g., all wash waters); Methods to minimized the impact of land development and construction; Methods to reduce the impact of residential and charity car-washing; Preventive Maintenance; Equipment/vehicle maintenance and repair; Spill response, containment, and recovery; Recycling; BMP maintenance.

General Urban Runoff Concepts: Impacts of urban runoff on receiving waters; Distinction between MS4s and sanitary sewers; Short-and long-term water , quality impacts associated with urbanization (e.g., land-use decisions, development, construction); How to conduct a storm water inspection.

Other Topics: Public reporting mechanisms; Water quality awareness for Emergency/ First Responders; Illicit Discharge Detection and Elimination observations and follow-up during daily work activities; Potable water discharges to the MS4; Dechlorination techniques; Hydrostatic testing; Integrated pest management; Benefits of native vegetation; Water conservation; Alternative materials and designs to maintain peak runoff values; Traffic reduction, alternative fuel use.

Because the requirement to educate the target communities on these topics was in the 2001 permit, as well as the 2007 permit, the Commission finds that doing so, as required by part D.5.a(1), table 3, is not a new program or higher level of service.

Under the 2007 permit, the copermittees are required to “educate each target community” on the following educational topics that were not in the 2001 permit: (1) Erosion prevention, (2) Non storm water discharge prohibitions, and (3) BMP types: facility or activity specific, LID [low-impact development], source control, and treatment control. Thus, the Commission finds that the part D.5.a.(1) is a new program or higher level of service to educate each target community on only the following topics: (1) Erosion prevention, (2) Non storm water discharge prohibitions, and (3) BMP types: facility or activity specific, LID, source control, and treatment control.

Part D.5.a.(2) states: “(2) Copermittee educational programs shall emphasize underserved target audiences, high-risk behaviors, and ‘allowable’ behaviors and discharges, including various ethnic and socioeconomic groups and mobile sources.” This provision was not in the 2001 permit, so the Commission finds that part D.5.a.(2) is a new program or higher level of service.

In part D.5.b.(1)(a) (Municipal Development Planning) the permit requires implementing an education program for “municipal planning and development review staffs (and Planning Board and Elected Officials, if applicable)” on specified topics. The 2001 permit required implementing an educational program for “Municipal Departments and Personnel” that would include planning and development review staffs, but not planning boards and elected officials. So the Commission finds that part D.5.b.(1)(a)(i) and (ii) is a new program or higher level of service for planning boards and elected officials.

Certain topics in part D.5.b.(1)(a) are a new program or higher level of service for both planning and development review staffs as well as planning boards and elected officials. Under both part F.4.a. of the 2001 permit, and D.5.b.(1)(a) of the 2007 permit, the copermittees are required to implement an educational program on the following topics:

- i. Federal, state, and local water quality laws and regulations applicable to Development Projects; [The 2001 permit, in F.4.a. (p. 35) says: “Federal, state and local water quality regulations that affect development projects.”]
- ii. The connection between land use decisions and short and long-term water quality impacts (i.e., impacts from land development and urbanization); [The 2001 permit, in F.4.a (p. 35) calls this “Waters Quality Impacts associated with land development.”]

Thus the Commission finds that implementing an educational program on these topics is not a new program or higher level of service for municipal departments, but is for planning boards and elected officials.

The following topics were not listed in the 2001 permit, so the Commission finds that part D.5.b.(1)(a) is a new program or higher level of service to implement these in an educational program for all target communities:

- (iii) How to integrate LID BMP requirements into the local regulatory program(s) and requirements;
- (iv) Methods of minimizing impacts to receiving water quality resulting from development, including: [1] Storm water management plan development and review; [2] Methods to control downstream erosion impacts; [3] Identification of pollutants of concern; [4] LID BMP techniques; [5] Source control BMPs; and

[6] Selection of the most effective treatment control BMPs for the pollutants of concern.

Part D.5.b.(1)(b) (Municipal Construction Activities) of the permit requires implementing an educational program for municipal “construction, building, code enforcement, and grading review staffs.” Again, this is not a new program or higher level of service for those topics in which the 2001 permit also required an education program for “Municipal Departments and Personnel,” such as:

- i. Federal, state, and local water quality laws and regulations applicable to construction and grading activities. [The 2001 permit, in F.4.a. (p. 35) says: “Federal, state and local water quality regulations that affect development projects.”]
- ii. The connection between construction activities and water quality impacts (i.e., impacts from land development and urbanization and impacts from construction material such as sediment. [The 2001 permit, in F.4.a (p. 35) calls this “Water Quality Impacts associated with land development.”]

The timing of the educational program specified in D.5.b.(1)(b) requires it to be implemented “prior to the rainy season.” There is no evidence in the record, however, that this timing requirement is a new program or higher level of service compared with the 2001 permit. Thus the Commission finds that part D.5.b.(1)(b)(i) and (ii) are not a new program or higher level of service.

Municipal construction activity education topics were added to the 2007 permit, however, that were not in the 2001 permit, in paragraphs (iii) to (vi) as follows:

- (b) Municipal Construction Activities – Each Copermittee shall implement an education program that includes annual training prior to the rainy season so that its construction, building, code enforcement, and grading review staffs, inspectors, and other responsible construction staff have, at a minimum, an understanding of the following topics, as appropriate for the target audience:
- iii. Proper implementation of erosion and sediment control and other BMPs to minimize the impacts to receiving water quality resulting from construction activities.
 - iv. The Copermittee’s inspection, plan review, and enforcement policies and procedures to verify consistent application.
 - v. Current advancements in BMP technologies.
 - vi. SUSMP Requirements including treatment options, LID BMPs, source control, and applicable tracking mechanisms.

Thus, the Commission finds that part D.5.b.(1)(b)(iii) - (vi) of the 2007 permit is a new program or higher level of service.

Part D.5.b.(1)(c) of the 2007 permit (Municipal Industrial/Commercial Activities) requires the following:

- (c) Each Copermittee shall train staff responsible for conducting storm water compliance inspections and enforcement of industrial and commercial facilities at

least once a year. Training shall cover inspection and enforcement procedures, BMP implementation, and reviewing monitoring data.

The 2001 permit included (in F.4.b.) the topic “How to conduct a stormwater inspection” but did not specify that the training was to be annual, and did not require the training to cover inspection and enforcement procedures, BMP Implementation, or reviewing monitoring data. Thus, the Commission finds that part D.5.(b)(1)(c) is a new program or higher level of service.

Part D.5.b.(1)(d) of the 2007 permit requires the following:

(d) Municipal Other Activities – Each Copermitttee shall implement an education program so that municipal personnel and contractors performing activities which generate pollutants have an understanding of the activity specific BMPs for each activity to be performed.

Regarding part D.5.b.(1)(d), the 2007 Fact Sheet/Technical Report states:

A new requirement has also been added for education of activity specific BMPs for municipal personnel and contractors performing activities that generate pollutants. Education is required at all levels of municipal staff and contractors. Education is especially important for the staff in the field performing activities which might result in discharges of pollutants if proper BMPs are not used.

Because part D.5.b.(1)(d) was not in the 2001 permit, and because the Regional Board called it a “new requirement” the Commission finds that part D.5.(b)(1)(d) of the 2007 permit is a new program or higher level of service.

Part D.5.(b)(2) of the 2007 permit requires an education program for “project applicants, developers, contractors, property owners, community planning groups, and other responsible parties.” Parts F.4.a and F4.b. of the 2001 permit required a similar education program for “construction site owners and developers.” The Fact Sheet/Technical Report for the 2007 permit states:

Different levels of training will be needed for planning groups, owners, developers, contractors, and construction workers, but everyone should get a general education of stormwater requirements. Education of all construction workers can prevent unintentional discharges, such as discharges by workers who are not aware that they are not allowed to wash things down the storm drains. Training for BMP installation workers is imperative because the BMPs will not fail if not properly installed and maintained. Training for field level workers can be formal or informal tail-gate format.

Thus, the Commission finds that part D.5.(b)(2) of the 2007 permit is a new program or higher level of service for project applicants, contractors, or community planning groups who are not developers or construction site owners.

The final part of the education programs in the 2007 permit is D.5.(b)(3) regarding “Residential, General Public, and School Children.”

Each Copermitttee shall collaboratively conduct or participate in development and implementation of a plan to educate residential, general public, and school children target communities. The plan shall evaluate use of mass media, mailers,

door hangers, booths at public events, classroom education, field trips, hands-on experiences, or other educational methods.

The 2001 permit (part F.4.c.) stated the following:

In addition to the topics listed in F.4.a. above, the Residential, General Public, and School Children communities shall be educated on the following topics where applicable:

- Public reporting information resources
- Residential and charity car-washing
- Community activities (e.g., "Adopt a Storm Drain, Watershed, or Highway" Programs, citizen monitoring, creek/beach cleanups, environmental protection organization activities, etc..

The 2001 permit did not require claimants to "collaboratively conduct or participate in development ... of a plan to educate residential, general public, and school children target communities." The 2001 permit also did not require the plan to "evaluate use of mass media, mailers, door hangers, booths at public events, classroom education, field trips, hands-on experiences, or other educational methods." Thus, the Commission finds that part D.5.(b)(3) of the 2007 permit is a new program or higher level of service.

In sum, as to part D.5 of the 2007 permit that requires implementing educational programs, the Commission finds that the following subparts are new programs or higher levels of service:

- D.5.a.(1): Each copermitttee shall educate each target community, as specified, on the following topics: erosion prevention, nonstorm waters discharge prohibitions, and BMP types: facility or activity specific, LID, source control, and treatment control.
- D.5.a.(2): Copermitttee educational programs shall emphasize underserved target audiences, high-risk behaviors, and "allowable" behaviors and discharges, including various ethnic and socioeconomic groups and mobile sources.
- D.5.b.(1)(a): Implement an education program so that planning boards and elected officials, if applicable, have an understanding of: (i) Federal, state, and local water quality laws and regulations applicable to Development Projects; (ii) The connection between land use decisions and short and long-term water quality impacts (i.e., impacts from land developments and urbanization).
- D.5.b.(1)(a): Implement an education program so that planning and development review staffs as well as planning boards and elected officials have an understanding of: (iii) How to integrate LID BMP requirements into the local regulatory program(s) and requirements; (iv) Methods of minimizing impacts to receiving water quality resulting from development, including: [1] Storm water management plan development and review; [2] Methods to control downstream erosion impacts; [3] Identification of pollutants of concern; [4] LID BMP techniques; [5] Source control BMPs; and [6] Selection of the most effective treatment control BMPs for the pollutants of concern."
- D.5.b.(1)(b)(iii) - (vi): Implement an education program that includes annual training prior to the rainy season for its construction, building, code enforcement, and grading review staffs, inspectors, and other responsible construction staff have, at a minimum, an

understanding of the topics in parts D.5.b.(1)(b)(iii), (iv), (v), and (vi) of the permit, as follows:

- iii. Proper implementation of erosion and sediment control and other BMPs to minimize the impacts to receiving water quality resulting from construction activities.
 - iv. The Copermittee's inspection, plan review, and enforcement policies and procedures to verify consistent application.
 - v. Current advancements in BMP technologies.
 - vi. SUSMP Requirements including treatment options, LID BMPs, source control, and applicable tracking mechanisms.
- D.5.(b)(1)(c) and (d) as follows:

Each Copermittee shall train staff responsible for conducting storm water compliance inspections and enforcement of industrial and commercial facilities at least once a year. Training shall cover inspection and enforcement procedures, BMP implementation, and reviewing monitoring data.
 - Municipal Other Activities – Each Copermittee shall implement an education program so that municipal personnel and contractors performing activities which generate pollutants have an understanding of the activity specific BMPs for each activity to be performed.
 - D.5.(b)(2), As early in the planning and development process as possible and all through the permitting and construction process, to implement a program to educate project applicants, contractors, property owners, community planning groups, and other responsible parties. The education program shall provide an understanding of the topics listed in Sections D.5.b.(1)(a) [Municipal Development Planning] and D.5.b.(1)(b) [Municipal construction Activities] above, as appropriate for the audience being educated. The education program shall also educate project applicants, contractors, property owners, and other responsible parties on the importance of educating all construction workers in the field about stormwater issues and BMPs through formal or informal training.
 - D.5.(b)(3), Each Copermittee shall collaboratively conduct or participate in development and implementation of a plan to educate residential, general public, and school children target communities. The plan shall evaluate use of mass media, mailers, door hangers, booths at public events, classroom education, field trips, hands-on experiences, or other educational methods.

II. Watershed Urban Runoff Management Program (Part E)

Part E of the permit is the Watershed Urban Runoff Management Program (WURMP). The permit (Table 4) divides the copermittees into nine watershed management areas (WMAs) by "major receiving water bodies." The 2001 permit also had a WURMP component (in part J).

A. Watershed Urban Runoff Management Program copermittee collaboration (parts E.2.f & E.2.g): These provisions require the copermittees to do the activities on pages 28-29 above, including the following:

- Collaborating with other copermittees within their watershed management areas (WMAs) to develop and implement an updated Watershed Urban Runoff Management Program for each watershed that prevents urban runoff discharges from the MS4 from causing or contributing to a violation of water quality standards which at a minimum includes:
 - Identifying and implementing watershed activities that address the high priority water quality problems in the watershed management areas that include both watershed water quality activities¹³⁶ and watershed education activities.¹³⁷
 - Creating a watershed activities list that includes certain specified information to be submitted with each updated Watershed Urban Runoff Management Plan (WURMP) and updated annually thereafter.
 - Implementing identified watershed activities within established schedules.
 - Collaborating to develop and implement the Watershed Urban Runoff Management Program, including frequent regularly scheduled meetings.¹³⁸

In its October 2008 comments, the State Board asserts that the Watershed Urban Runoff Management Program activities are necessary to meet the minimum federal MEP standard. The State Board quotes the following federal regulations: “The Director may ... issue distinct permits for appropriate categories of discharges ... including, but not limited to ... all discharges within a system that discharge to the same watershed...” (40 C.F.R. 122.26(a)(3)(ii).) The State Board also quotes more specific federal regulations:

Permits for all or a portion of all discharges from large or medium municipal separate storm sewer systems that are issued on a system-wide, jurisdiction-wide, watershed, or other basis may specify different conditions relating to different discharges covered by the permit, including different management programs for different drainage areas [watersheds] which contribute storm water to the system. (40 C.F.R. § 122.26 (a)(3)(v).)

The Director may issue permits for municipal separate storm sewers that are designated under paragraph (a)(1)(v) of this section on a system-wide basis, a

¹³⁶ Watershed Water Quality Activities are activities other than education that address the high priority water quality problems in the WMA. A Watershed Water Quality Activity implemented on a jurisdictional basis must be organized and implemented to target a watershed’s high priority water quality problems or must exceed the baseline jurisdictional requirements of section D of the permit (Part E.2.f).

¹³⁷ Watershed Education Activities are outreach and training activities that address high priority water quality problems in the WMA (Part E.2.f).

¹³⁸ In their February 2009 comments, the claimants also list the following activities: (1) Annual review of WURMPs to identify needed modifications and improvements (part E.2.i); (2) Develop and periodically update watershed maps (part E.2.b); (3) Develop and implement a program for encouraging collaborative watershed-based land-use planning (part E.2.d); (4) Develop and implement a collective watershed strategy (part E.2.e). These parts of the permit, however, were not pled in the test claim so the Commission makes no findings on them.

jurisdiction-wide basis, watershed basis, or other appropriate basis;" (40 C.F.R. § 122.26 (a)(5).)

Proposed programs may impose controls on a systemwide basis, a watershed basis, a jurisdiction basis, or on individual outfalls. (40 C.F.R. § 122.26 (d)(2)(iv).)

The State Board argues that the regional board "determined that the inclusion of the requirement to formalize the Watershed Water Qualities Activities List was appropriate to further the goal of the WURMPS in achieving compliance with federal law." Based on some reports it received, the Regional Board determined that "many of the watershed water quality activities had no clear connection to the high priority water quality problems in the area of implementation." The Board determined it was therefore necessary and appropriate to require development of an implementation strategy to maximize WURMP effectiveness.

Claimants, in their February 2009 comments, point out that while cooperative agreements may be required by 40 C.F.R. § 122.26(d)(2)(i)(D), "each copermitee is only responsible for their own systems." Claimants quote another federal regulation: "Copermitees need only comply with permit conditions relating to discharges from the municipal separate storm sewers for which they operate." (40 C.F.R. § 122.26(a)(3)(vi).) Claimants argue that the 2007 permit:

[R]equires the copermitees to engage in specific programmatic activities that are duplicative of the activities that were not required under the 2001 Permit and that are already required of them on a jurisdictional basis within the boundaries of the same watershed. These new requirements include no less than two watershed water quality activities and two watershed education activities per year.

Claimants also state that the permit "mandates that watershed quality activities implemented on a jurisdictional basis must exceed the baseline jurisdictional requirements under Section D of the Order." (part E.2.f.(1)(a).) According to what the claimants call these "dual baseline standards, jurisdictional and watershed, the copermitees are required to perform more and duplicative work."

The Commission finds that the permit requirements in sections E.2.f and E.2.g. are not federal mandates. As with the other requirements in the permit, the federal regulations authorize but do not require the specificity regarding whether collaboration occurs on a jurisdictional, watershed or other basis. These requirements "exceed the mandate in that federal law or regulation."¹³⁹ As in *Long Beach Unified School Dist. v. State of California*,¹⁴⁰ the permit requires specific actions, i.e., required acts that go beyond the requirements of federal law. In adopting these permit provisions, the state has freely chosen¹⁴¹ to impose these requirements.

Based on the mandatory language in the permit, the Commission finds that the following in part E are a state mandate on the copermitees:

¹³⁹ Government Code section 17556, subdivision (c).

¹⁴⁰ *Long Beach Unified School Dist. v. State of California*, *supra*, 225 Cal.App.3d 155.

¹⁴¹ *Hayes v. Commission on State Mandates*, *supra*, 11 Cal. App. 4th 1564, 1593-1594.

2. Each Copermittee shall collaborate with other Copermittees within its WMA(s) as in Table 4 [of the permit] to develop and implement an updated Watershed Urban Runoff Management Program for each watershed. Each updated Watershed Urban Runoff Management Program shall meet the requirements of section E of this Order, reduce the discharge of pollutants from the MS4 to the MEP, and prevent urban runoff discharges from the MS4 from causing or contributing to a violation of water quality standards. At a minimum, each Watershed Urban Runoff Management Program shall include the elements described below:

[¶]...[¶]

f. Watershed Activities¹⁴²

(1) The Watershed Copermittees shall identify and implement Watershed Activities that address the high priority water quality problems in the WMA. Watershed Activities shall include both Watershed Water Quality Activities and Watershed Education Activities. These activities may be implemented individually or collectively, and may be implemented at the regional, watershed, or jurisdictional level.

(a) Watershed Water Quality Activities are activities other than education that address the high priority water quality problems in the WMA. A Watershed Water Quality Activity implemented on a jurisdictional basis must be organized and implemented to target a watershed's high priority water quality problems or must exceed the baseline jurisdictional requirements of section D of this Order.

(b) Watershed Education Activities are outreach and training activities that address high priority water quality problems in the WMA.

(2) A Watershed Activities List shall be submitted with each updated Watershed Urban Runoff Management Plan (WURMP) and updated annually thereafter. The Watershed Activities List shall include both Watershed Water Quality Activities and Watershed Education Activities, along with a description of how each activity was selected, and how all of the activities on the list will collectively abate sources and reduce pollutant discharges causing the identified high priority water quality problems in the WMA.

(3) Each activity on the Watershed Activities List shall include the following information:

- (a) A description of the activity;
- (b) A time schedule for implementation of the activity, including key milestones;
- (c) An identification of the specific responsibilities of Watershed Copermittees in completing the activity;
- (d) A description of how the activity will address the identified high priority water quality problem(s) of the watershed;

¹⁴² In their rebuttal comments submitted in February 2009, claimants mention part E.(3) of the permit that requires a detailed description of each activity on the Watershed Activities List. Part E.(3), however, was not in the test claim so staff makes no findings on it.

(e) A description of how the activity is consistent with the collective watershed strategy;

(f) A description of the expected benefits of implementing the activity; and

(g) A description of how implementation effectiveness will be measured.

(4) Each Watershed Copermittee shall implement identified Watershed Activities pursuant to established schedules. For each Permit year, no less than two Watershed Water Quality Activities and two Watershed Education Activities shall be in an active implementation phase. A Watershed Water Quality Activity is in an active implementation phase when significant pollutant load reductions, source abatement, or other quantifiable benefits to discharge or receiving water quality can reasonably be established in relation to the watershed's high priority water quality problem(s). Watershed Water Quality Activities that are capital projects are in active implementation for the first year of implementation only. A Watershed Education Activity is in an active implementation phase when changes in attitudes, knowledge, awareness, or behavior can reasonably be established in target audiences.

g. Copermittee Collaboration

Watershed Copermittees shall collaborate to develop and implement the Watershed Urban Runoff Management Programs. Watershed Copermittee collaboration shall include frequent regularly scheduled meetings.

As to the issue of new program or higher level of service, the State Board, in its October 2008 comments, states:

Although Section E.2.f. requires development and implementation of a list of Watershed Water Quality Activities for potential implementation that was not specifically required in the 2001 Permit, the Copermittees were previously required to identify priority water quality issues and identify recommended activities to address the priority water quality problems (See 2001 Permit, section J.1 and J.2.d.)

The State Board asserts that Copermittees were already required to collaborate with other Copermittees, and that "Section E.2.g. merely adds effectiveness strategies to the collaboration requirements." ... Other requirements challenged by the Claimants exist in the 2001 Permit, but with minor wording changes (e.g., the requirement to update watershed maps, which exists in both permits).

Claimants, in their February 2009 comments, assert that parts E.2.f. and E.2.g do impose a new program or higher level of service. According to the claimants:

Under the 2001 Permit the watershed requirements were essentially limited to mapping, assessment and identification of short and long term issues. Collaboration included mapping (J.2.a.), assessment of receiving waters (J.2.b); identification and prioritization of water quality problems (J.2.c); implementation of time schedules (J.2.d) and identification of copermittee responsibilities for each recommended activity including a time schedule.

[9]...[9]

The 2007 Permit imposes standards far beyond those listed in ... the 2001 Permit The 2007 Permit now requires the copermittees to engage in specific programmatic activities that are duplicative of the activities that were not required under the 2001 Permit and that are already required of them on a jurisdictional basis within the boundaries of the same watershed. These new requirements include no less than two watershed water quality activities and two watershed education activities per year. The two-activity watershed requirement is a condition of all copermittees regardless of whether the activity is within their jurisdictional authority or not.

In addition, while the 2007 Permit states that activities can be implemented at a regional, watershed or jurisdictional level, it mandates that watershed quality activities implemented on a jurisdictional basis must exceed the baseline jurisdictional requirements under Section D of the Order. By reason of the dual baseline standards, jurisdictional and watershed, the copermittees are required to perform more and duplicative work.

The Commission finds that E.2.f. and E.2.g of the permit are a new program or higher level of service.

As to watershed education in part E.2.f, the 2001 permit (in part J.2.g.) stated that the WURMP shall contain "A watershed based education program." The 2007 permit states that the WURMP shall include "watershed education activities" defined as "outreach and training activities that address high priority water quality problems in the WMA [Watershed Management Area(s)]." Moreover, in part E.f.(4), the 2007 permit states: "A Watershed Education Activity is in an active implementation phase when changes in attitudes, knowledge, awareness, or behavior can reasonably be established in target audiences." Because of this increased requirement for implementation of watershed education, the Commission finds that watershed education activities, as defined in part E.2.f, is a new program or higher level of service.

Additionally, the Commission finds that the rest of part E.2.f. is a new program or higher level of service because it includes elements not in the 2001 permit, such as:

- A definition of watershed water quality activities (part E.2.f.(1)(a)).
- Submission of a watershed activities list, with specified contents (part E.2.f.(2)).
- A detailed description of each activity on the watershed activities list, with seven specific components (part E.2.f.(3)).
- Implementation of watershed activities pursuant to established schedules, including definitions of when activities are in an active implementation phase (part E.2.f.(4)).

As to part E.2.g., although the 2001 (in parts J.1. & J.2.) and 2007 permits both require copermittee collaboration in developing and implementing the Watershed Urban Runoff Management Plan, copermittee collaboration is a new program or higher level of service because the WURMP is greatly expanded over the 2001 permit in part E.2.f as discussed above. This means that new collaboration is required to develop and implement the watershed activities in part E.2.f.

The 2007 permit (in part E.2.g) also states that "Watershed Copermittee collaboration shall include frequent regularly scheduled meetings." This requirement for meetings was not in the 2001 permit. The Fact Sheet/Technical Report states:

The requirement for regularly scheduled meetings has been added based on Regional Board findings that watershed groups which hold regularly scheduled meetings (such as for San Diego Bay) typically produced better programs and work products than watershed groups that went for extended periods of time without scheduled meetings.¹⁴³

Therefore, the Commission finds that part E.2.g. of the 2007 permit is a new program or higher level of service.

Regarding watershed water quality activities in part E.2.f, the Fact Sheet/Technical Report the Regional Board stated:

This requirement developed over time while working with the Copermittees on their WURMP implementation under Order No. 2001-01. In October 2004 letters, the Regional Board recommended the Copermittees develop a list of Watershed Water Quality Activities for potential implementation. Following receipt of the Regional Board letters, the Copermittees created the Watershed Water Quality Activity lists. Although the Copermittees' lists needed improvement, the Regional Board found the lists to be useful planning tools that can be evaluated to identify effective and efficient Watershed Water Quality Activities. Because the lists are useful and have become a part of the WURMP implementation process, a requirement for their development has been written into the Order.

Thus, the Commission finds that part E.2.f. of the permit is a new program or higher level of service, in that it requires the following not required in the 2001 permit:

- Identification and implementation of watershed activities that address the high priority water quality problems in the WMA (Watershed Management Area), as specified (part E.2.f.(1)).
- Submission of a watershed activities list with each updated WURMP and updated annually thereafter, as specified (part E.2.f.(2)-(3)).
- Implementation of watershed activities pursuant to established schedules: no less than two watershed water quality activities and two watershed education activities in active implementation phase, as defined, per permit year (part E.2.f.(4)).

III. Regional Urban Runoff Management Program (Part F)

Part F of the permit describes the Regional Urban Runoff Management Program (RURMP). It was included because "some aspects of urban runoff management can be effectively addressed at a regional level. ... However, significant flexibility has been provided to the Copermittees for new regional requirements."¹⁴⁴

¹⁴³ For an inexplicable reason, the Fact Sheet/Technical Report lists this collaboration activity under Section E.2.m of the permit rather than E.2.g.. The permit at issue has no section E.2.m.

¹⁴⁴ San Diego Regional Water Quality Control Board, "Fact Sheet/Technical Report for Order No. R9-2007-0001."

A. Copermitttee collaboration – Regional Residential Education Program Development and Implementation (part F.1): Part F.1 requires the copermitttees to develop and implement a Regional Residential Education Program, with specified contents (see p. 12 above). In the test claim the claimants discuss hiring a consultant to develop the educational program that “will generally educate residents on: 1) the difference between stormwater conveyance systems and sanitary sewer systems; 2) the connection of storm drains to local waterways; and 3) common residential sources of urban run-off.” Claimants allege activities to comply with section F.1 of the permit that include, but are not limited to: “development of materials/branding, a regional website, regional outreach events, regional advertising and mass media, partnership development, and the development of marketing and research tools, including regional surveys to be conducted in FY 2008-09 and again in FY 2011-12.”

In comments submitted in October 2008, the State Board asserts that the permit condition in section F.1. is necessary to meet the minimum federal MEP standard and that the requirement is supported by the Clean Water Act statutes and regulations. The State Board cites the following federal regulations:

(v) Permits for all or a portion of all discharges from large or medium municipal separate storm sewer systems that are issued on a system-wide, jurisdiction-wide, watershed or other basis may specify different conditions relating to different discharges covered by the permit, including different management programs for different drainage areas which contribute storm water to the system.¹⁴⁵ [¶]...[¶]

(5) The Director may issue permits for municipal separate storm sewers that are designated under paragraph (a)(1)(v) of this section on a system-wide basis, jurisdiction-wide basis, watershed basis or other appropriate basis, or may issue permits for individual discharges.¹⁴⁶ [¶]...[¶]

(2) *Part 2.* Part 2 of the application shall consist of:

(i) *Adequate legal authority.* A demonstration that the applicant can operate pursuant to legal authority established by statute, ordinance or series of contracts which authorizes or enables the applicant at a minimum to: [¶]...[¶]

(D) Control through interagency agreements among coapplicants the contribution of pollutants from one portion of the municipal system to another portion of the municipal system;¹⁴⁷

(iv) Proposed programs may impose controls on a systemwide basis, a watershed basis, a jurisdiction basis, or on individual outfalls. ...¹⁴⁸

In response, the claimants’ February 2009 comments state that the Regional Residential Education Program is not necessary to meet the minimum federal MEP standard. The regional nature of the education program, according to the claimants, is duplicative because it imposes the

¹⁴⁵ 40 Code of Federal Regulations section 122.26 (a)(3)(v).

¹⁴⁶ 40 Code of Federal Regulations section 122.26 (a)(5).

¹⁴⁷ 40 Code of Federal Regulations section 122.26 (d)(2)(i)(D).

¹⁴⁸ 40 Code of Federal Regulations section 122.26 (d)(iv).

education requirements at the regional and jurisdictional levels concurrently, and it exceeds federal law.

The Commission finds that the requirements in part F.1 of the permit do not constitute a federal mandate. There is no federal requirement to provide a regional educational program, so the education program, "exceed[s] the mandate in that federal law or regulation."¹⁴⁹ As in *Long Beach Unified School Dist. v. State of California*, the permit "requires specific actions ... [that are] required acts."¹⁵⁰ In adopting part F.1, the state has freely chosen¹⁵¹ to impose these requirements. Thus, the Commission finds that part F.1. of the permit does not constitute a federal mandate.

Based on the mandatory language on the face of the permit, the Commission finds that the permit constitutes a state mandate on the claimants to do all the following in part F.1 of the permit:

The Regional Urban Runoff Management Program shall, at a minimum:

1. Develop and implement a Regional Residential Education Program. The program shall include:
 - a. Pollutant specific education which focuses educational efforts on bacteria, nutrients, sediment, pesticides, and trash. If a different pollutant is determined to be more critical for the education program, the pollutant can be substituted for one of these pollutants.
 - b. Education efforts focused on the specific residential sources of the pollutants listed in section F.1.a (p. 50.)

As to whether this is a new program or higher level of service, the State Board, in its October 2008 comments, states that it is not because the claimants were already implementing a residential education program at a regional level before the permit was adopted.

In claimants' February 2009 rebuttal comments, they assert that it is irrelevant whether or not the copermittees voluntarily met or exceeded the now mandatory requirements imposed by the 2007 permit because Government Code section 17565 states: "If a local agency ... at its option, has been incurring costs which are subsequently mandated by the state, the state shall reimburse the local agency ... for those costs incurred after the operative date of the mandate."

The Commission finds that part F.1 of the permit is a new program or higher level of service. The 2001 permit required an educational component as part of the Jurisdictional Urban Runoff Management Program (part F.4) that contained a residential component, but not a Regional Residential Education Program, so the activities in this program are new. Also, the Commission agrees that whether or not claimants were engaged in an educational program is not relevant due to Government Code section 17565. The Regional Board, in requiring the regional educational program, leaves the local agencies with no choice but to comply.

¹⁴⁹ Government Code section 17556, subdivision (c).

¹⁵⁰ *Long Beach Unified School Dist. v. State of California, supra*, 225 Cal.App.3d 155, 173.

¹⁵¹ *Hayes v. Commission on State Mandates, supra*, 11 Cal. App. 4th 1564, 1593-1594.

B. Copermittee collaboration (parts F.2 & F.3): Parts F.2 and F.3 (quoted on p. 11 above) require the copermittees to collaborate to develop, implement, and update as necessary a Regional Urban Runoff Management Program, to include developing the standardized fiscal analysis method required in permit part G (part F.2) and facilitating the assessment of the effectiveness of jurisdictional, watershed, and regional programs (part F.3).

In comments submitted in October 2008, the State Board asserts that the permit conditions in sections F.2 and F.3 are necessary to meet the minimum MEP standard, quoting the following federal regulation regarding municipal stormwater permits:

(2) *Part 2.* Part 2 of the application shall consist of:

(i) *Adequate legal authority.* A demonstration that the applicant can operate pursuant to legal authority established by statute, ordinance or series of contracts which authorizes or enables the applicant at a minimum to: [¶]...[¶]

(D) Control through interagency agreements among coapplicants the contribution of pollutants from one portion of the municipal system to another portion of the municipal system;¹⁵²

The State Board also quotes section 122.26 (a)(3)(v) of the federal regulations as follows:

(v) Permits for all or a portion of all discharges from large¹⁵³ or medium¹⁵⁴ municipal separate storm sewer systems that are issued on a system-wide, jurisdiction-wide, watershed or other basis may specify different conditions relating to different discharges covered by the permit, including different

¹⁵² 40 Code of Federal Regulations section 122.26 (d)(2)(i)(D).

¹⁵³ “(4) Large municipal separate storm sewer system means all municipal separate storm sewers that are either: (i) Located in an incorporated place with a population of 250,000 or more as determined by the 1990 Decennial Census by the Bureau of the Census (Appendix F of this part); or (ii) Located in the counties listed in appendix H, except municipal separate storm sewers that are located in the incorporated places, townships or towns within such counties; or (iii) Owned or operated by a municipality other than those described in paragraph (b)(4)(i) or (ii) of this section and that are designated by the Director as part of the large or medium municipal separate storm sewer system due to the interrelationship between the discharges of the designated storm sewer and the discharges from municipal separate storm sewers described under paragraph (b)(4)(i) or (ii) of this section. ...” [40 CFR § 122.26 (b)(4).]

¹⁵⁴ “(7) Medium municipal separate storm sewer system means all municipal separate storm sewers that are either: (i) Located in an incorporated place with a population of 100,000 or more but less than 250,000, as determined by the 1990 Decennial Census by the Bureau of the Census (Appendix G of this part); or (ii) Located in the counties listed in appendix I, except municipal separate storm sewers that are located in the incorporated places, townships or towns within such counties; or (iii) Owned or operated by a municipality other than those described in paragraph (b)(7)(i) or (ii) of this section and that are designated by the Director as part of the large or medium municipal separate storm sewer system due to the interrelationship between the discharges of the designated storm sewer and the discharges from municipal separate storm sewers described under paragraph (b)(7)(i) or (ii) of this section. ...” [40 CFR § 122.26 (b)(7).]

management programs for different drainage areas which contribute storm water to the system.

The State Board also asserts:

To the extent the Clean Water Act and federal regulations do not identify all of the specificity required in Sections F.2, F.3 ..., the San Diego Water Board properly exercised its discretion under federal law to include specificity so that the federal MEP standard can be achieved. The San Diego Water Board exercised this duty under federal law and therefore the provisions of the 2007 Permit were adopted as federal requirements.

In the claimants' rebuttal comments submitted in February 2009, they state that "all of the authorities cited by the State merely acknowledge the State's authority to go beyond the federal regulations."

The Commission finds that the requirements in parts F.2 and F.3. of the permit do not constitute a federal mandate. There is no federal requirement to collaborate on, develop, or implement a Regional Urban Runoff Management Program (RURMP). The Commission finds that these RURMP activities "exceed the mandate in that federal law or regulation."¹⁵⁵ As in *Long Beach Unified School Dist. v. State of California*,¹⁵⁶ the permit requires specific actions, i.e., required acts that go beyond the requirements of federal law. In adopting these permit provisions, the state has freely chosen¹⁵⁷ to impose these requirements. Thus, the Commission finds that parts F.2 and F.3 of the permit do not constitute federal mandates.

Based on the mandatory language on the face of the permit, the Commission finds that parts F.2 and F.3 of the permit constitutes a state mandate on the claimants to do all the following:

Collaborate with the other Copermittees to develop, implement, and update as necessary a Regional Urban Runoff Management Program that meets the requirements of section F of the permit, reduces the discharge of pollutants from the MS4 to the MEP, and prevents urban runoff discharges from the MS4 from causing or contributing to a violation of water quality standards. The Regional Urban Runoff Management Program shall, at a minimum: [¶]... [¶]

(2) Develop the standardized fiscal analysis method required in section G of the permit, and,

(3) Facilitate the assessment of the effectiveness of jurisdictional, watershed, and regional programs.

As to whether these activities are a new program or higher level of service, the claimants state in the test claim:

"[W]hile the 2001 Permit required the copermittees to collaborate to address common issues and promote consistency among JURMPs and WURMPs and to

¹⁵⁵ Government Code section 17556, subdivision (c).

¹⁵⁶ *Long Beach Unified School Dist. v. State of California*, *supra*, 225 Cal.App.3d 155.

¹⁵⁷ *Hayes v. Commission on State Mandates*, *supra*, 11 Cal. App. 4th 1564, 1593-1594.

establish a management structure for this purpose, it lacked the detail, specificity and level of effort now mandated by the 2007 Permit.”

In their February 2009 rebuttal comments, claimants assert that the 2001 and 2007 permits contain major substantive differences in their requirements for fiscal analyses of their jurisdictional programs.

The State Board, in its October 2008 comments, states that the 2001 permit required that “the Copermittees enter into a formal agreement to provide, at a minimum, a management structure for designating joint responsibilities, decision making, watershed management, information management of data and reports” and other collaborative arrangements to comply with the permit.

According to the State Board, parts F.2 and F.3 are not a new program or higher level of service because the copermittees “were already conducting multiple efforts on a regional level under the 2001 permit. The inclusion of the RURMP is designed to organize these efforts into one framework to improve Copermittee and Regional Board tracking of regional efforts.” The State Board also asserts that the requirements were intended to reduce redundant reporting and improve efficiency and streamline regional program implementation. The State Board describes the 2007 permit as merely elaborating on and refining the 2001 requirements.

The permit itself states: “This Order contains new or modified requirements that are necessary to improve Copermittees’ efforts to reduce the discharge of pollutants in urban runoff to the MEP and achieve water quality standards.” [Emphasis added.] The permit also describes the Regional Urban Runoff Management Plan as new.

While the 2001 permit contained requirements for a fiscal analysis (part F.8) and an assessment of effectiveness (part F.7), it did so only as components of a Jurisdictional Urban Runoff Management Program. The Regional Urban Runoff Management Program, required in part F.2 of the 2007 permit, is new. The fiscal analysis in part G is incorporated by reference into part F.2, and the effectiveness assessment is incorporated into part F.3. Thus, the Commission finds that the requirements in parts F.2 and F.3 are a new program or higher level of service.

IV. Program Effectiveness Assessment (Part I)

Part I of the permit is called “Program Effectiveness Assessment” and includes subparts for Jurisdictional (I.1), Watershed (I.2) and Regional (I.3) assessment, in addition to a Long Term Effectiveness Assessment (I.5). Of these, claimants pled subparts I.1, I.2 and I.5.

A. Jurisdictional and Watershed Program effectiveness assessment (parts I.1 & I.2): As more specifically stated on pages 22-24 above, the permit requires the copermittees to do the following:

- Annually assess the effectiveness of the Jurisdictional Urban Runoff Management Program (JURMP) that includes specifically assessing the effectiveness of specified components of the JURMP and the effectiveness of the JURMP as a whole.
- Identify measureable targeted outcomes, assessment measures, and assessment methods for each jurisdictional activity/BMP implemented, each major JURMP component, and the JURMP as a whole.

- Development and implement a plan and schedule to address the identified modifications and improvements.
- Annually report on the effectiveness assessment as implemented under each of the specified requirements.
- As a watershed group of copermittees, annually assess the effectiveness of the Watershed Urban Runoff Management Program (WURMP) implementation, including each water quality activity and watershed education activity, and the program as a whole.
- Determine source load reductions resulting from WURMP implementation and utilize water quality monitoring results and data to determine whether implementation is resulting in changes to water quality.
- As with the JURMP, annually review WURMP jurisdictional activities or BMPs to identify modifications and improvements needed to maximize the program's effectiveness, develop and implement a plan and schedule to address the identified modifications and improvements to the programs, and annually report on the program's effectiveness assessment as implemented under each of the requirements.

Regarding parts I.1.a. and I.2.a. of the permit, the Fact Sheet/Technical Report states: "The section requires both specific activities and broader programs to be assessed since the effectiveness of jurisdictional [or watershed] efforts may be evident only when considered at different scales."¹⁵⁸

The State Board, in its comments submitted in October 2008, cites section 402(p)(3)(B)(ii)-(iii) of the Clean Water Act, as well as 40 C.F.R. sections 122.26(d)(2)(i)(B)-(C), (E) and (F) and subdivision (d)(2)(iv) of the same section to show the "broad federal authorities relied upon by the San Diego Water Board to support Section I ... [that] ... support inclusion of the JURMP and WURMP effectiveness assessments under federal law." The State Board also quotes section 122.26(d)(2)(v) that the copermittees must include in part 2 of their application for a permit:

Assessment of controls. Estimated reductions in loadings of pollutants from discharges of municipal storm sewer constituents from municipal storm sewer systems expected as the result of the municipal storm water quality management program. The assessment shall also identify known impacts of storm water controls on ground water.

The State Board also says that "under 40 C.F.R. section 122.42(c), applicants must provide annual reports on the progress of their storm water management programs. The federal law behind the JURMP and WURMP effectiveness assessment requirements were discussed at great length in the 2001 Permit Fact Sheet."¹⁵⁹ The State Board quotes a lengthy portion of the 2001

¹⁵⁸ Fact Sheet/Technical Report for Order No. R9-2007-0001, Parts I.1.a. and I.2.a.. Two identical paragraphs describe the JURMP on page 319 and the WURMP on page 320.

¹⁵⁹ 40 C.F.R. section 122.42(c) states:

Municipal separate storm sewer systems. The operator of a large or medium municipal separate storm sewer system or a municipal separate storm sewer that has been designated by the Director under §122.26(a)(1)(v) of this part must

Fact Sheet, which states that the U.S. EPA requires applicants to submit estimated reductions in pollutant loads expected to result from implemented controls and describe known impacts of storm water controls on groundwater. The 2001 Fact Sheet also includes "Throughout the permit term, the municipality must submit refinements to its assessment or additional direct measurements of program effectiveness in its annual report." It also lists a number of U.S. EPA suggestions, recommendations, and encouraged actions.

The State Board also quotes at length from the 2007 Permit Fact Sheet/Technical Report regarding why the effectiveness assessments are required under the permit, including the need for them and the benefits of including them. According to the State Board, the federal authorities support including the effectiveness assessments, and the Regional Board appropriately exercised discretion under federal law to include them, finding them necessary to implement the MEP standard. Thus, the State Board asserts that sections I.1 and I.2 do not exceed federal law.

The claimants, in their February 2009 comments, state that neither the broad nor the specific legal authority cited in the permit Fact Sheet "contains the above-referenced mandates required under the 2007 Permit." Claimants characterize the federal regulations as only requiring "program descriptions, estimated reductions, known impacts, and an annual report on progress. Federal law does not mandate the specific activities mandated by the 2007 Permit." Claimants also argue that the permit requirements are not necessary to meet the federal MEP standard, and point out that the 2001 Permit Fact Sheet cited by the State Board describes actions recommended or encouraged by the U.S. EPA, but not required. As claimant says: "they simply authorize applicants to go beyond minimum federal requirements." Claimants also quote the State Board's comment on "the need for and benefits of assessment requirements," noting that needs and benefits "constitute an insufficient basis for the imposition of a mandated requirement without subvention."

Although the federal regulations require assessment of controls and annual reports, they do not require the detailed assessment in the 2007 permit. The regulations do not require, for example, assessments of the effectiveness of each significant jurisdictional activity/BMP or watershed

submit an annual report by the anniversary of the date of the issuance of the permit for such system. The report shall include:

- (1) The status of implementing the components of the storm water management program that are established as permit conditions;
- (2) Proposed changes to the storm water management programs that are established as permit condition. Such proposed changes shall be consistent with §122.26(d)(2)(iii) of this part; and
- (3) Revisions, if necessary, to the assessment of controls and the fiscal analysis reported in the permit application under §122.26(d)(2)(iv) and (d)(2)(v) of this part;
- (4) A summary of data, including monitoring data, that is accumulated throughout the reporting year;
- (5) Annual expenditures and budget for year following each annual report;
- (6) A summary describing the number and nature of enforcement actions, inspections, and public education programs;
- (7) Identification of water quality improvements or degradation.

quality activity, or of the implementation of each major component of the JURMP or WURMP, or identification of modifications and improvements to maximize the JURMP or WURMP effectiveness. These requirements, “exceed the mandate in that federal law or regulation.”¹⁶⁰ As in *Long Beach Unified School Dist. v. State of California*,¹⁶¹ the permit requires specific actions, i.e., required acts that go beyond the requirements of federal law. In adopting these permit provisions, the state has freely chosen¹⁶² to impose these requirements. Thus, the Commission finds that parts I.1 and I.2 of the permit are not federal mandates.

Based on the mandatory language on the face of the permit, the Commission finds that parts I.1 and I.2 of the permit are a state mandate on the copermittees to do all of the following:

1. Jurisdictional

a. As part of its Jurisdictional Urban Runoff Management Program, each Copermittee shall annually assess the effectiveness of its Jurisdictional Urban Runoff Management Program implementation. At a minimum, the annual effectiveness assessment shall:

(1) Specifically assess the effectiveness of each of the following:

(a) Each significant jurisdictional activity/BMP or type of jurisdictional activity/BMP implemented;

(b) Implementation of each major component of the Jurisdictional Urban Runoff Management Program (Development Planning, Construction, Municipal, Industrial/Commercial, Residential, Illicit Discharge¹⁶³ Detection and Elimination, and Education); and

(c) Implementation of the Jurisdictional Urban Runoff Management Program as a whole.

(2) Identify and utilize measurable targeted outcomes, assessment measures, and assessment methods for each of the items listed in section I.1.a.(1) above.

(3) Utilize outcome levels 1-6¹⁶⁴ to assess the effectiveness of each of the items listed in section I.1.a.(1) above, where applicable and feasible.

(4) Utilize monitoring data and analysis from the Receiving Waters Monitoring Program to assess the effectiveness each of the items listed in section I.1.a.(1) above, where applicable and feasible.

(5) Utilize Implementation Assessment,¹⁶⁵ Water Quality Assessment,¹⁶⁶ and Integrated Assessment,¹⁶⁷ where applicable and feasible.

¹⁶⁰ Government Code section 17556, subdivision (c).

¹⁶¹ *Long Beach Unified School Dist. v. State of California*, *supra*, 225 Cal.App.3d 155.

¹⁶² *Hayes v. Commission on State Mandates*, *supra*, 11 Cal. App. 4th 1564, 1593-1594.

¹⁶³ Illicit discharge, as defined in Attachment C of the permit, is “any discharge to the MS4 that is not composed entirely of storm water except discharges pursuant to a NPDES permit and discharges resulting from firefighting activities [40 C.F.R. 122.26 (b)(2)].”

¹⁶⁴ See footnote 50, page 21.

b. Based on the results of the effectiveness assessment, each Copermittee shall annually review its jurisdictional activities or BMPs to identify modifications and improvements needed to maximize Jurisdictional Urban Runoff Management Program effectiveness, as necessary to achieve compliance with section A of this Order. The Copermittees shall develop and implement a plan and schedule to address the identified modifications and improvements. Jurisdictional activities/BMPs that are ineffective or less effective than other comparable jurisdictional activities/BMPs shall be replaced or improved upon by implementation of more effective jurisdictional activities/BMPs. Where monitoring data exhibits persistent water quality problems that are caused or contributed to by MS4 discharges, jurisdictional activities or BMPs applicable to the water quality problems shall be modified and improved to correct the water quality problems.

c. As part of its Jurisdictional Urban Runoff Management Program Annual Reports, each Copermittee shall report on its Jurisdictional Urban Runoff Management Program effectiveness assessment as implemented under each of the requirements of sections I.1.a and I.1.b above.

2. Watershed

a. As part of its Watershed Urban Runoff Management Program, each watershed group of Copermittees (as identified in Table 4)¹⁶⁸ shall annually assess the effectiveness of its Watershed Urban Runoff Management Program implementation. At a minimum, the annual effectiveness assessment shall:

(1) Specifically assess the effectiveness of each of the following:

- (a) Each Watershed Water Quality Activity implemented;
- (b) Each Watershed Education Activity implemented; and
- (c) Implementation of the Watershed Urban Runoff Management Program as a whole.

¹⁶⁵ Implementation Assessment is defined in Attachment C of the permit as an "Assessment conducted to determine the effectiveness of copermittee programs and activities in achieving measureable targeted outcomes, and in determining whether priority sources of water quality problems are being effectively addressed."

¹⁶⁶ Water Quality Assessment is defined in Attachment C of the permit as an "Assessment conducted to evaluate the condition of non-storm water discharges, and the water bodies which receive these discharges."

¹⁶⁷ Integrated Assessment is defined in Attachment C of the permit as an "Assessment to be conducted to evaluate whether program implementation is properly targeted to and resulting in the protection and improvement of water quality."

¹⁶⁸ Table 4 of the permit divides the copermittees into nine watershed management areas. For example, the San Luis Rey River watershed management area lists the city of Oceanside, Vista and the County of San Diego as the responsible watershed copermittees. Table 4 also lists where the hydrologic units are and major receiving water bodies.

- (2) Identify and utilize measurable targeted outcomes, assessment measures, and assessment methods for each of the items listed in section I.2.a.(1) above.
- (3) Utilize outcome levels 1-6 to assess the effectiveness of each of the items listed in sections I.2.a.(1)(a) and I.2.a.(1)(b) above, where applicable and feasible.
- (4) Utilize outcome levels 1-4 to assess the effectiveness of implementation of the Watershed Urban Runoff Management Program as a whole, where applicable and feasible.
- (5) Utilize outcome levels 5 and 6 to qualitatively assess the effectiveness of implementation of the Watershed Urban Runoff Management Program as a whole, focusing on the high priority water quality problem(s) of the watershed. These assessments shall attempt to exhibit the impact of Watershed Urban Runoff Management Program implementation on the high priority water quality problem(s) within the watershed.
- (6) Utilize monitoring data and analysis from the Receiving Waters Monitoring Program to assess the effectiveness each of the items listed in section I.2.a.(1) above, where applicable and feasible.
- (7) Utilize Implementation Assessment, Water Quality Assessment, and Integrated Assessment, where applicable and feasible.

b. Based on the results of the effectiveness assessment, the watershed Copermittees shall annually review their Watershed Water Quality Activities, Watershed Education Activities, and other aspects of the Watershed Urban Runoff Management Program to identify modifications and improvements needed to maximize Watershed Urban Runoff Management Program effectiveness, as necessary to achieve compliance with section A of this Order.¹⁶⁹ The Copermittees shall develop and implement a plan and schedule to address the identified modifications and improvements. Watershed Water Quality Activities/Watershed Education Activities that are ineffective or less effective than other comparable Watershed Water Quality Activities/Watershed Education Activities shall be replaced or improved upon by implementation of more effective Watershed Water Quality Activities/Watershed Education Activities. Where monitoring data exhibits persistent water quality problems that are caused or contributed to by MS4 discharges, Watershed Water Quality Activities and Watershed Education Activities applicable to the water quality problems shall be modified and improved to correct the water quality problems.

c. As part of its Watershed Urban Runoff Management Program Annual Reports, each watershed group of Copermittees (as identified in Table 4) shall report on its Watershed Urban Runoff Management Program effectiveness assessment as implemented under each of the requirements of section I.2.a and I.2.b above.

¹⁶⁹ Section A is "Prohibitions and Receiving Water Limitations."

The State Board, in its October 2008 comments, states that the program effectiveness assessment is not a new program or higher level of service because the 2001 permit included a JURMP (in part F.7) and WURMP (in part J) effectiveness assessment requirements.

The claimants, in their February 2009 comments, state as follows:

The 2001 Permit only required the copermitees to develop a long term strategy for assessing the effectiveness of their individual JURMP using specific and indirect measurements to track the long term progress of their individual JURMPs towards achieving water quality. [part F.7.a. of the 2001 permit.] The 2001 Permit also only mandated that the long term strategy developed by the copermitees include an assessment of the effectiveness of their JURMP in an annual report using the direct and indirect assessment measurements and methods developed in the long-term strategy. [part F.7. of the 2001 permit.]

Part F.7 of the 2001 permit required developing the following on the topic of "Assessment of Jurisdictional URMP Effectiveness Component."

a. As part of its individual Jurisdictional URMP, each Copermitee shall develop a long-term strategy for assessing the effectiveness of its individual Jurisdictional URMP. The long-term assessment strategy shall identify specific direct and indirect measurements that each Copermitee will use to track the long-term progress of its individual Jurisdictional URMP towards achieving improvements in receiving water quality. Methods used for assessing effectiveness shall include the following or their equivalent: surveys, pollutant loading estimations, and receiving water quality monitoring. The long-term strategy shall also discuss the role of monitoring data in substantiating or refining the assessment.

b. As part of its individual Jurisdictional URMP Annual Report, each Copermitee shall include an assessment of the effectiveness of its Jurisdictional URMP using the direct and indirect assessment measurements and methods developed in its long-term assessment strategy.

The 2007 permit requires more detail in its assessments than the 2001 permit. The 2007 permit requires annual assessments and using outcome levels, among other things, to assess the effectiveness of (a) each significant jurisdictional activity/BMP, (b) implementation of each major component of the JURMP, and (c) implementation of the JURMP as a whole. The 2001 permit did not require assessments at these three levels. And for example, outcome level 4 in the 2007 permit is required for measuring load reductions.¹⁷⁰ This is a higher level of service than "pollutant loading estimations" to be used as an effectiveness strategy in the 2001 permit.¹⁷¹ Therefore, the Commission finds that section I.1 of the permit (Jurisdictional URMP effectiveness assessment) is a new program or higher level of service.

¹⁷⁰ There are six Effectiveness Assessments incorporated into part I.1.a.(3) of the permit and are defined in Attachment C. One of them is "Effectiveness Assessment Level 4 – Load Reductions – Level 4 outcomes measure load reductions which quantify changes in the amounts of pollutants associated with specific sources before and after a BMP or other control measure is employed."

¹⁷¹ See Fact Sheet/Technical Report for Order No. R9-2007-0001.

The assessment provisions of the Watershed Urban Runoff Management Program are in part J.2 of the 2001 permit, which requires each copermitttee to develop and implement a Watershed URMP that contains, among other things:

b. An assessment of the water quality of all receiving waters in the watershed based upon (1) existing water quality data; and (2) annual watershed water quality monitoring that satisfies the watershed monitoring requirements of Attachment B.

[¶]... [¶]

i. Long-term strategy for assessing the effectiveness of the Watershed URMP. The long-term assessment strategy shall identify specific direct and indirect measurements that will track the long-term progress of the Watershed URMP towards achieving improvements in receiving water quality. Methods used for assessing effectiveness shall include the following or their equivalent: surveys, pollutant loading estimations, and receiving water quality monitoring. The long-term strategy shall also discuss the role of monitoring data in substantiating or refining the assessment.

As with the JURMP, the 2001 permit required a “long-term strategy for assessing the effectiveness of the Watershed URMP” whereas the 2007 permit requires the annual assessment of more specific criteria: (a) each Watershed Water Quality Activity implemented; (b) Each Watershed Education Activity implemented; and (c) Implementation of the Watershed Urban Runoff Management program as a whole. And the 2007 permit requires assessing these activities using the same six effectiveness outcome levels as for the JURMP (defined in Attachment C), that were not in the 2001 permit.¹⁷²

¹⁷² Effectiveness assessment outcome levels are defined in Attachment C of the permit as follows: Effectiveness assessment outcome level 1 – Compliance with Activity-based Permit Requirements – Level 1 outcomes are those directly related to the implementation of specific activities prescribed by this Order or established pursuant to it. Effectiveness assessment outcome level 2 – Changes in Attitudes, Knowledge, and Awareness – Level 2 outcomes are measured as increases in knowledge and awareness among target audiences such as residents, business, and municipal employees. Effectiveness assessment outcome level 3 – Behavioral Changes and BMP Implementation – Level 3 outcomes measure the effectiveness of activities in affecting behavioral change and BMP implementation. Effectiveness assessment outcome level 4 – Load Reductions – Level 4 outcomes measure load reductions which quantify changes in the amounts of pollutants associated with specific sources before and after a BMP or other control measure is employed. Effectiveness assessment outcome level 5 – Changes in Urban Runoff and Discharge Quality – Level 5 outcomes are measured as changes in one or more specific constituents or stressors in discharges into or from MS4s. Effectiveness assessment outcome level 6 – Changes in Receiving Water Quality – Level 6 outcomes measure changes to receiving water quality resulting from discharges into and from MS4s, and may be expressed through a variety of means such as compliance with water quality objectives or other regulatory benchmarks, protection of biological integrity [i.e., ecosystem health], or beneficial use attainment.

Therefore, the Commission finds that section I.2. of the permit (the Watershed URMP effectiveness assessment) is a new program or higher level of service.

B. Long Term Effectiveness Assessment (part I.5): As stated on pages 19-20 above, part I.5 requires the copermitees to collaborate to develop a Long Term Effectiveness Assessment (LTEA) that evaluates the copermitee programs on a jurisdictional, watershed, and regional level, and that emphasizes watershed assessment. The LTEA must build on the results of the August 2005 Baseline LTEA, and must be submitted to the Regional Board no later than 210 days before the permit expires. The LTEA must address the Regional objectives listed in part I.3 of the permit, as well as assess the effectiveness of the Receiving Waters Monitoring Program, and address outcome levels 1-6 as specified in attachment C of the permit.

In its October 2008 comments on the test claim, the State Board says that the LTEA requirement was imposed "so that the San Diego Water Board could properly evaluate the Copermitees' storm water program during the reapplication process." The State Board asserts that the LTEA provision is a federal mandate, citing 40 C.F.R. section 122.26, subdivisions (d)(2)(iv) and (v), in which (v) states that a permit application must include:

Assessment of controls. Estimated reductions in loadings of pollutants from discharges of municipal storm sewer constituents from municipal storm sewer systems expected as the result of the municipal storm water quality management program. The assessment shall also identify known impacts of storm water controls on ground water.

According to the State Board, "Even if the requirements to develop an LTEA are not specifically required by the federal regulations, the general discussion of the federal MEP standard is applicable here and supports the San Diego Water Board's determination that the region-wide LTEAs are necessary to meet the federal MEP standard."

In their February 2009 rebuttal comments, the claimants state:

The program effectiveness component of the 2007 Permit mandates Jurisdictional (I.1), Watershed (I.2), Regional (I.3), Total Maximum Daily Loads ("TMDL") and BMP Implementation (I.4) and Long-term Effectiveness Assessment (I.5) requirements. This Section mandates multiple layers of program assessment, review and reporting. Such duplicative and collaborative efforts were not required under the 2001 Permit and are not required by federal law.

Claimants assert that there is no federal authority that states that the regional, jurisdictional and watershed program effectiveness training requirements are required to meet the minimum federal MEP standards. Claimants also state that permits in other jurisdictions do not have LTEA requirements. According to the claimants, "while portions of the federal regulations cited by the State permit region-wide or watershed-wide cooperation, there is no mandatory requirement for multiple layers of program effectiveness assessment."

Although the federal regulations require assessment of controls, they do not require the detailed assessment in the 2007 permit. They do not require, for example, collaboration with other copermitees, addressing specified objectives or outcome levels, or addressing jurisdictional, watershed, and regional programs. These requirements "exceed the mandate in that federal law

or regulation.”¹⁷³ As in *Long Beach Unified School Dist. v. State of California*,¹⁷⁴ the permit requires specific actions, i.e., required acts that go beyond the requirements of federal law. In adopting these permit provisions, the state has freely chosen¹⁷⁵ to impose these requirements. Thus, the Commission finds that part I.5 of the permit is not a federal mandate.

Because of the mandatory language on the face of the permit, the Commission finds that part I.5 of the permit is a state mandate for the claimants to do all of the following:

5. Long-term Effectiveness Assessment

- a. Each Copermittee shall collaborate with the other Copermittees to develop a Longterm Effectiveness Assessment (LTEA), which shall build on the results of the Copermittees’ August 2005 Baseline LTEA. The LTEA shall be submitted by the Principal Permittee to the Regional Board no later than 210 days in advance of the expiration of this Order.
- b. The LTEA shall be designed to address each of the objectives listed in section I.3.a.(6)¹⁷⁶ of this Order, and to serve as a basis for the Copermittees’ Report of Waste Discharge for the next permit cycle.
- c. The LTEA shall address outcome levels 1-6, and shall specifically include an evaluation of program implementation to changes in water quality (outcome levels 5 and 6).
- d. The LTEA shall assess the effectiveness of the Receiving Waters Monitoring Program in meeting its objectives and its ability to answer the five core management questions. This shall include assessment of the frequency of monitoring conducted through the use of power analysis and other pertinent statistical methods. The power analysis shall identify the frequency and intensity of sampling needed to identify a 10% reduction in the concentration of

¹⁷³ Government Code section 17556, subdivision (c).

¹⁷⁴ *Long Beach Unified School Dist. v. State of California*, *supra*, 225 Cal.App.3d 155.

¹⁷⁵ *Hayes v. Commission on State Mandates*, *supra*, 11 Cal. App. 4th 1564, 1593-1594.

¹⁷⁶ Part I.3.a.(6) of the permit states: At a minimum, the annual effectiveness assessment shall:
(6) Include evaluation of whether the Copermittees’ jurisdictional, watershed, and regional effectiveness assessments are meeting the following objectives: (a) Assessment of watershed health and identification of water quality issues and concerns. (b) Evaluation of the degree to which existing source management priorities are properly targeted to, and effective in addressing, water quality issues and concerns. (c) Evaluation of the need to address additional pollutant sources not already included in Copermittee programs. (d) Assessment of progress in implementing Copermittee programs and activities. (e) Assessment of the effectiveness of Copermittee activities in addressing priority constituents and sources. (f) Assessment of changes in discharge and receiving water quality. (g) Assessment of the relationship of program implementation to changes in pollutant loading, discharge quality, and receiving water quality. (h) Identification of changes necessary to improve Copermittee programs, activities, and effectiveness assessment methods and strategies.

constituents causing the high priority water quality problems within each watershed over the next permit term with 80% confidence.

e. The LTEA shall address the jurisdictional, watershed, and regional programs, with an emphasis on watershed assessment.

The next issue is whether the LTEA (part I.5) is a new program or higher level of service. The State Board, in its October 2008 comments, state as follows:

The LTEA does not impose a new program or higher level of service. Rather, it requires the Copermittees to conduct a long term effectiveness assessment prior to submitting an application for reissuance of the Order in the next permit term and is necessary to support proposed changes to the Copermittees' programs."

The claimants, in their February 2009 comments, argue that the LTEA requirement in part I.5 does impose a new program or higher level of service. According to the claimants:

Section F.7 of the 2001 Permit only required individual copermittees to develop long term effectiveness assessments for their Jurisdictional Urban Runoff Management Plan ("JURMP"). ... The 2001 Permit did not require the copermittees to collaborate to develop an overarching LTEA for regional, jurisdictional and watershed programs, and did not require the submission of a LTEA by a date certain in advance of the Permit expiration.

The Commission finds that the LTEA is a new program or higher level of service. The 2001 permit required JURMP assessment (in part F.7) and WURMP (in part J.2) as quoted above in the discussion on parts I.1 and I.2., but not an LTEA. The Fact Sheet/Technical Report for the 2007 permit states:

Section I.5 (Long-Term Effectiveness Assessment) requires the Copermittees to conduct a Long-Term Effectiveness Assessment prior to their submittal of an application for reissuance of the Order. The Long-Term Effectiveness Assessment is necessary to provide support for the Copermittees' proposed changes to their programs in their ROWD. It can also serve as the basis for changes to the Order's requirements.

The Commission finds that the LTEA (part I.5) is a new program or higher level of service for three reasons. First, the scope of the assessment in the 2001 permit addresses only the JURMP and WURMP rather than "jurisdictional, watershed, and regional programs, with an emphasis on watershed assessment" as in the 2007 permit (see the analysis of I.1 and I.2 above). Second, the 2001 permit did not require collaborating with all other copermittees on assessment. Third, the 2001 permit contains much less detail on what to include in the assessment, such as, for example, the eight regional objectives listed in I.3.a.(6), incorporated by reference in part I.5. Also, the LTEA must assess the "effectiveness of the Receiving Waters Monitoring Program ... [and] shall include assessment of the frequency of monitoring conducted through the use of power analysis and other pertinent statistical methods." These methods were not required under the 2001 permit.

V. All Copermittee Collaboration (Part L)

Part L, labeled "All Permittee Collaboration," requires the copermittees to collaborate to address common issues and plan and coordinate activities, including developing a Memorandum of

Understanding (MOU), as specified. The Copermittees entered into an MOU effective in January 2008, which is attached to the test claim. The Copermittees allege activities involved with working body support and working body participation.

In comments submitted in October 2008, the State Board asserts that the permit condition in part L is necessary to meet the minimum MEP standard, quoting the following federal regulation regarding municipal stormwater permits:

(2) *Part 2.* Part 2 of the application shall consist of:

(i) *Adequate legal authority.* A demonstration that the applicant can operate pursuant to legal authority established by statute, ordinance or series of contracts which authorizes or enables the applicant at a minimum to: [¶]...[¶]

(D) Control through interagency agreements among coapplicants the contribution of pollutants from one portion of the municipal system to another portion of the municipal system;¹⁷⁷

The Commission finds that there is no federal mandate to develop a management structure (memorandum of understanding, or MOU) as required in part L of the 2007 permit. The federal regulation most on point requires an applicant (claimant) to demonstrate adequate legal authority “which authorizes or enables the applicant at a minimum to: [¶]...[¶] (D) Control through interagency agreements among coapplicants the contribution of pollutants from one portion of the municipal system to another portion of the municipal system;”¹⁷⁸ All the federal regulations address is authority to establish an interagency agreement or memorandum of understanding, but do not require it to be implemented or specify its contents beyond “controlling ... the contribution of pollutants from one portion of the municipal system to another portion of the municipal system.”

By contrast, part L of the permit requires the copermittees to collaborate, promote consistency among JURMP and WURMP and plan and coordinate activities required under the permit. It also requires joint execution and submission to the Regional Board an MOU with a minimum of seven specified requirements.

Thus, this permit activity “exceed[s] the mandate in that federal law or regulation.”¹⁷⁹ As in *Long Beach Unified School Dist. v. State of California*,¹⁸⁰ the permit requires specific actions, i.e., required acts that go beyond the requirements of federal law. In adopting these permit provisions, the state has freely chosen¹⁸¹ to impose these requirements. Thus, the Commission finds that part L of the permit does not impose a federal mandate.

Based on the mandatory language in the permit, the Commission finds that part L of the permit is a state mandate on the claimants to do the following:

¹⁷⁷ 40 Code of Federal Regulations section 122.26 (d)(2)(i)(D).

¹⁷⁸ 40 Code of Federal Regulations section 122.26 (d)(2)(i)(D).

¹⁷⁹ Government Code section 17556, subdivision (c).

¹⁸⁰ *Long Beach Unified School Dist. v. State of California*, *supra*, 225 Cal.App.3d 155.

¹⁸¹ *Hayes v. Commission on State Mandates*, *supra*, 11 Cal. App. 4th 1564, 1593-1594.

1. Collaborate with all other Copermittees regulated under this Order to address common issues, promote consistency among Jurisdictional Urban Runoff Management Programs and Watershed Urban Runoff Management Programs, and to plan and coordinate activities required under this Order.

(a) Jointly execute and submit to the Regional Board no later than 180 days after adoption of the permit, a Memorandum of Understanding, Joint Powers Authority, or other instrument of formal agreement that at a minimum:

- (1) Identifies and defines the responsibilities of the Principal Permittee¹⁸² and Lead Watershed Permittees;¹⁸³
- (2) Identifies Copermittees and defines their individual and joint responsibilities, including watershed responsibilities;
- (3) Establishes a management structure to promote consistency and develop and implement regional activities;
- (4) Establishes standards for conducting meetings, decisions-making, and cost-sharing;
- (5) Provides guidelines for committee and workgroup structure and responsibilities;
- (6) Lays out a process for addressing Copermittee non-compliance with the formal agreement;
- (7) Includes any and all other collaborative arrangements for compliance with this order.

The State Board, in its October 2008 comments, asserts that the management structure framework in part L of the 2007 permit is not a new program or higher level of service because:

The 2001 permit required significant collaboration to address common issues and promote consistency across management programs [and] development of a management structure through execution of a formal agreement, meeting minimum specifications. It also required standardized reporting, including fiscal analysis.

The State Board also argues there is “minimal substantive difference” between the 2001 and 2007 permits in their requirements to establish “a formal cooperative arrangement and to implement regional urban runoff management activities. The 2007 Permit merely elaborates on and refines the 2001 requirements.”

In its February 2009 rebuttal comments, the claimants assert that the 2001 and 2007 permits contain major substantive differences in their requirements for fiscal analyses of their jurisdictional programs.

¹⁸² The Principal Permittee is the County of San Diego.

¹⁸³ According to the permit: “Watershed Copermittees shall identify the Lead Watershed Permittee for their WMA [Watershed Management Area].”

Part L.1 of the 2007 permit, the first paragraph in L requiring collaboration, is identical to part N of the 2001 permit. The Commission finds, however, that the collaboration is a new program or higher level of service because it now applies to all the activities that are found to be a new program or higher level of service in the analysis above (i.e, not in the 2001 permit) including the Regional Urban Runoff Management Program.

Part L.1.a, regarding the MOU or formal agreement, is similar but not identical to part N of the 2001 permit. Both permits require adoption of a "Memorandum of Understanding [MOU], Joint Powers Authority, or other instrument of formal agreement." The 2001 permit, in part N.1.a, required the MOU to provide a management structure with the following contents: "designation of joint responsibilities, decision making, watershed activities, information management of data and reports, including the requirements under this Order; and any and all other collaborative arrangements for compliance with this Order."

By contrast, the 2007 permit, requires the MOU to be submitted to the Regional Board within 180 days after adoption of the permit and requires that the MOU, at a minimum:

- (1) Identifies and defines the responsibilities of the principal Permittee and Lead Watershed Permittees;
- (2) Identifies Copermittees and defines their individual and joint responsibilities;
- (3) Establishes a management structure to promote consistency and develop and implement regional activities;
- (4) Establishes standards for conducting meetings, decision-making, and cost-sharing;
- (5) Provides guidelines for committee and workgroup structure and responsibilities;
- (6) Lays out a process for addressing Copermittee non-compliance with the formal agreement; and
- (7) Includes any and all other collaborative arrangements for compliance with this order.

The contents of the MOU specified in the 2001 permit, although stated with less specificity, are the same as those in the 2007 permit for numbers (1)-(2) and (7) above. Both permits require the MOU to contain "designation of joint responsibilities" and "collaborative arrangements for compliance with this order." Thus, the Commission finds that jointly executing and submitting those parts of the MOU to the Regional Board is not a new program or higher level of service.

The Commission finds that part L.1.a of the permit is a new program or higher level of service for all copermittees to do the following:

- Collaborate with all other Copermittees to address common issues, promote consistency among Jurisdictional Urban Runoff Management Programs and Watershed Urban Runoff Management Programs, and to plan and coordinate activities required under the permit.
- Jointly execute and submit to the Regional Board, no later than 180 days after adoption of the permit, a Memorandum of Understanding, Joint Powers Authority, or other instrument of formal agreement which at a minimum: (3) Establishes a management structure to promote consistency and develop and implement regional activities; (4) Establishes standards for conducting meetings, decision-making, and cost-sharing; (5) Provides guidelines for

committee and workgroup structure and responsibilities; and (6) Lays out a process for addressing copermitee non-compliance with the formal agreement.

Summary of Issue 1: The Commission finds that the following parts of the 2007 permit are a state-mandated, new program or higher level of service.

I. Jurisdictional Urban Runoff Management Program and Reporting (Parts D & J)

- Collaborate with other copermitees to develop and implement a hydromodification management plan, as specified (D.1.g.), for private priority development projects. Reimbursement is not required for this activity for municipal priority development projects.
- Develop and submit an updated Model SUSMP that defines minimum Low-impact Development and other BMPs as specified (D.1.d.(7)-(8)), for private priority development projects. Reimbursement is not required for this activity for municipal priority development projects.
- Street sweeping (D.3.a.(5)) and reporting on street sweeping (J.3.a(3)x-xv);
- Conveyance system cleaning (D.3.a.(3)(b)(iii)) and reporting on conveyance system cleaning (J.3.a.(3)(c)(iv)-(viii));
- Educational component (D.5).
 - Educate each specified target community on the following topics: (1) Erosion prevention, (2) Non storm water discharge prohibitions, and (3) BMP types: facility or activity specific, LID, source control, and treatment control (D.5.a.(1));
 - Educational programs shall emphasize underserved target audiences, high-risk behaviors, and 'allowable' behaviors and discharges, including various ethnic and socioeconomic groups and mobile sources (D.5.a.(2));
 - Implement an education program that includes annual training only for planning boards and elected officials, if applicable, to have an understanding of the topics in (i) and (ii) (D.5.b.(1)(a)(i) & (ii));
 - Implement an education program so that its planning and development review staffs (and Planning Boards and Election Officials, if applicable) have an understanding of the topics in (iii) and (iv) as specified (D.5.b.(1)(a)(iii) & (iv));
 - Implement an education program that includes annual training prior to the rainy season so that [the Copermitee's] construction, building, code enforcement, and grading review staffs, inspectors, and other responsible construction staff have, at a minimum, an understanding of the following topics, as appropriate for the target audience: the topics in (iii) to (vi), as specified (D.5.b.(1)(b)(iii) & (iv));
 - Municipal Industrial/Commercial Activities (D.5.b.(1)(c));
 - Municipal Other Activities (D.5.b.(1)(d));
 - New Development and Construction Education (D.5.(b)(2));
 - Residential, General Public, and School Children Education (D.5.(b)(3)).

II. Watershed Urban Runoff Management Program (Parts E.2.f & E.2.g.)

- Identify and implement the Watershed activities as specified (E.2.f.).
- Collaborate to develop and implement the Watershed Urban Runoff Management Programs. Watershed Copermittee collaboration shall include frequent regularly scheduled meetings. (E.2.g.)

III. Regional Urban Runoff Management Program (Parts F.1, F.2 & F.3)

- Include developing and implementing a Regional Residential Education Program development and implementation in the RURMP, as specified (F.1.).
- Include developing the standardized fiscal analysis method required in permit part G in the RURMP (F.2.).
- Facilitate the assessment of the effectiveness of jurisdictional, watershed, and regional programs in the RURMP (F.3.).

IV. Program Effectiveness Assessment (Parts I.1, I.2 & I.5)

- Annually assess the effectiveness of each copermittee's JURMP, as specified (I.1.).
- Annually assess the effectiveness of each watershed group's WURMP (I.2.).
- Collaborate with the other copermittees to develop a Long-term Effectiveness Assessment, as specified, and submit it to the Regional Board as specified (I.5.).

V. All Permittee Collaboration (Part L)

- Collaborate with all other copermittees to address common issues, promote consistency among the JURMP and WURMP, and to plan and coordinate activities required under the permit.
- Jointly execute and submit to the Regional Board, no later than 180 days after adoption of the permit, a Memorandum of Understanding, Joint Powers Authority, or other instrument of formal agreement as specified (L.1.a. (3)-(5)).

Any further reference to the test claim activities is limited to these parts of the permit found to be a new program or higher level of service.

Issue 2: Do the test claim activities impose costs mandated by the state within the meaning of Government Code sections 17514 and 17556?

The final issue is whether the permit provisions impose costs mandated by the state,¹⁸⁴ and whether any statutory exceptions listed in Government Code section 17556 apply to the test claim. Government Code section 17514 defines "cost mandated by the state" as follows:

[A]ny increased costs which a local agency or school district is required to incur after July 1, 1980, as a result of any statute enacted on or after January 1, 1975, or any executive order implementing any statute enacted on or after January 1, 1975, which mandates a new program or higher level of service of an existing program within the meaning of Section 6 of Article XIII B of the California Constitution.

¹⁸⁴ *Lucia Mar, supra*, 44 Cal.3d 830, 835; Government Code section 17514.

Government Code section 17564 requires reimbursement claims to exceed \$1000 to be eligible for reimbursement. In the test claim, the County of San Diego itemized the costs of complying with the permit conditions as follows:

Activity	Cost FY 2007-08
Regional Urban Runoff Management Program -Copermittee collaboration (F.2, F.3, L)	\$260,031.09
Copermittee collaboration, Regional Residential Education, Program Development and Implementation (F.1)	\$131,250.00
Jurisdictional Urban Runoff Management Program (JURMP) -hydromodification (D.1.g)	\$630,000.00
JURMP Standard Urban Storm Water Mitigation Plans -low impact development (D.1.d)	\$52,200.00
Long Term Effectiveness Assessment (I.5)	\$210,000.00
Street Sweeping (D.3.a.(5) Equipment, Staffing, Contract	\$3,477,190.00
Conveyance System Cleaning (D.3.a.(3)) and Reporting (J.2.a.(3)(c) iv – vii.	\$3,456,087.00
Program Effectiveness Assessment (I.1 & I.2)	\$392,363.00
Educational Surveys and Tests (D.5)	\$62,617.00
Watershed Urban Runoff Management Program -Copermittee collaboration (E.2.f., E.2.g)	\$1,632,893.00
Total	\$10,304,631.09

Claimants submitted documentation in February 2010 that show the 2008-2009 cost for the permit activities is \$18,014,213. These figures, along with those in the test-claim narrative and declarations submitted by the San Diego County and 18 cities,¹⁸⁵ illustrate that the costs to comply with the permit activities exceed \$1,000. The Commission, however, cannot find “costs mandated by the state” within the meaning of Government Code section 17514 if any exceptions in Government Code section 17556 apply, which is discussed below.

A. Claimants did not request the test claim activities within the meaning of Government Code section 17556, subdivision (a).

The first issue is whether the claimants requested or proposed the activities in the permit. The Department of Finance and the State Board both assert that claimants did so in their Report of

¹⁸⁵ The County and city declarations are attached to the test claim.

Waste Discharge. As discussed above, the claimants were required to submit a ROWD and Stormwater Quality Management Plan before the permit was issued.¹⁸⁶

Government Code section 17556, subdivision (a), provides that the Commission shall not find costs mandated by the state if:

(a) The claim is submitted by a local agency ... that requested legislative authority for that local agency ... to implement the program specified in the statute, and that statute imposes costs upon that local agency or school district requesting the legislative authority. A resolution from the governing body or a letter from a delegated representative of the governing body of a local agency ... that requests authorization for that local agency ... to implement a given program shall constitute a request within the meaning of this subdivision.

Based on the language of the statute, section 17556, subdivision (a), does not apply because the permit is not a statute, the claimants did not request “legislative authority” to implement the permit, and the record lacks any resolutions adopted by the claimants. Therefore, the Commission finds that the claimants did not request the activities in the permit within the meaning of Government Code section 17556, subdivision (a).

B. Claimants have fee authority under Government Code section 17556, subdivision (d), for the test claim activities that do not require voter approval under Proposition 218

Government Code section 17556, subdivision (d), states:

The commission shall not find costs mandated by the state, as defined in Section 17514, in any claim submitted by a local agency ... if, after a hearing, the commission finds any one of the following: [¶]...[¶] (d) The local agency ... has the authority to levy service charges, fees, or assessments sufficient to pay for the mandated program or increased level of service.

The California Supreme Court upheld the constitutionality of Government Code section 17556, subdivision (d), in *County of Fresno v. State of California*.¹⁸⁷ The court, in holding that the term “costs” in article XIII B, section 6, excludes expenses recoverable from sources other than taxes, stated:

Section 6 was included in article XIII B in recognition that article XIII A of the Constitution severely restricted the taxing powers of local governments. (See *County of Los Angeles, supra*, 43 Cal.3d at p. 61.) The provision was intended to preclude the state from shifting financial responsibility for carrying out governmental functions onto local entities that were ill equipped to handle the task. (*Ibid.*; see *Lucia Mar Unified School Dist. v. Honig* (1988) 44 Cal.3d 830, 836, fn. 6 [244 Cal.Rptr. 677, 750 P.2d 318].) Specifically, it was designed to protect the tax revenues of local governments from state mandates that would require expenditure of such revenues. Thus, although its language broadly

¹⁸⁶ Water Code section 13376; 40 Code of Federal Regulations, section 122.21 (a). The Federal regulation applies to U.S. EPA-issued permits, but is incorporated into section 123.25 (the state-program provision) by reference. Also see the 2007 permit, page 2, part A.

¹⁸⁷ *County of Fresno v. State of California, supra*, 53 Cal.3d 482.

declares that the “state shall provide a subvention of funds to reimburse ... local government for the costs [of a state-mandated new] program or higher level of service,” read in its textual and historical context section 6 of article XIII B requires subvention only when the costs in question can be recovered *solely from tax revenues*.

In view of the foregoing analysis, the question of the facial constitutionality of section 17556(d) under article XIII B, section 6, can be readily resolved. As noted, the statute provides that “The commission shall not find costs mandated by the state ... if, after a hearing, the commission finds that” the local government “has the authority to levy service charges, fees, or assessments sufficient to pay for the mandated program or increased level of service.” Considered within its context, the section effectively construes the term “costs” in the constitutional provision as excluding expenses that are recoverable from sources other than taxes. Such a construction is altogether sound. As the discussion makes clear, the Constitution requires reimbursement only for those expenses that are recoverable solely from taxes. It follows that section 17556(d) is facially constitutional under article XIII B, section 6.¹⁸⁸

In another case about subdivision (d) of section 17556, *Connell v. Superior Court*,¹⁸⁹ the dispute was whether local agencies had sufficient fee authority for a mandate involving increased purity of reclaimed wastewater used for certain types of irrigation. The court cited statutory fee authority for the reclaimed wastewater, and noted that the water districts did not dispute their fee authority. Rather, the water districts argued that they lacked “sufficient” fee authority in that it was not economically feasible to levy fees sufficient to pay the mandated costs. In finding the fee authority issue is a question of law, the court stated that Government Code section 17556, subdivision (d), is clear and unambiguous, in that its plain language precludes reimbursement where the local agency has the authority, i.e., the right or the power, to levy fees sufficient to cover the costs of the state-mandated program.” The court rejected the districts’ argument that “authority” as used in the statute should be construed as a “practical ability in light of surrounding economic circumstances” because that construction cannot be reconciled with the plain language of section 17556, and would create a vague standard not capable of reasonable adjudication. The court also said that nothing in the fee authority statute (Wat. Code, § 35470) limited the authority of the districts to levy fees “sufficient” to cover their costs. Thus, the court concluded that the plain language of section 17556 made the fee authority issue solely a question of law, and that the water districts could not be reimbursed due to that fee authority.¹⁹⁰

¹⁸⁸ *County of Fresno v. State of California*, *supra*, 53 Cal.3d 482, 487. Emphasis in original.

¹⁸⁹ *Connell v. Superior Court* (1997) 59 Cal.App.4th 382.

¹⁹⁰ *Connell v. Superior Court*, *supra*, 59 Cal.App.4th 382, 398-402.

1. Claimants' have regulatory fee authority (within the meaning of Gov. Code, § 17556, subd. (d)) under the police power sufficient to pay for the mandated activities that do not require voter approval under Proposition 218: the hydromodification plan and low-impact development.

In its October 2008 comments, the State Board asserted that the claimants have fee authority to pay for the permit activities. Although the Board recognizes "limitations on assessing fees and surcharges under California law ... [concerning] the percentage of voters who must approve the assessment" the Board points to examples of local agencies (Cities of Los Angeles, San Clemente, and Palo Alto) that have successfully adopted an assessment. The State Board also argues that the cities' trash collection responsibilities may also include street sweeping and conveyance system cleaning for which the city could charge fees, and that developer fees could be charged for hydromodification and low impact development.

Claimants, in comments submitted in February 2009, state that they cannot unilaterally impose a fee to recover the cost to comply with the 2007 permit on water or sewer bills sent to residents because of *Howard Jarvis Taxpayer Assoc. v. City of Salinas*,¹⁹¹ in which the court invalidated a stormwater management utility fee imposed by the city on all owners of developed parcels in the city. The court held that article XIII D (Proposition 218) of the California Constitution "required the city to subject the proposed storm drainage fee to a vote of the property owners or the voting residents of the affected area."¹⁹² As to the argument that claimants can put the fee to a vote in their jurisdictions, claimants state as follows:

Articles XIII C and XIII D, which were added to the Constitution by Proposition 218, regulate the imposition of general and special taxes as well as the imposition of special assessments and property related fees. In each of these cases the question of whether to impose a tax, special assessment or a property related fee must be submitted to and approved by the voters. And, in the case of a special tax, and in certain instances the imposition of a fee or charge, the tax or fee must be approved by a two-thirds vote of the resident voters. The State fails to cite any authority that requires the copermittees to first submit the question of whether to impose a tax or fee to the voters and have them reject the proposition. Such a requirement would render all mandate claims moot, without first submitting the question of whether to impose a tax or assessment to a vote of the electorate.

The issue of local fee authority for municipal stormwater permit activities in this permit cannot be answered without discussing regulatory fee authority under the police power and the limitations on that authority via the voter-approval requirement in article XIII D of the California Constitution (Proposition 218).

Case law has recognized three general categories of local agency fees or assessments: (1) special assessments, based on the value of benefits conferred on property; (2) development fees, exacted in return for permits or other government privileges; and (3) regulatory fees, imposed under the police power.¹⁹³ The regulatory and development fees are discussed below in the context of

¹⁹¹ *Howard Jarvis Taxpayers Assoc. v. City of Salinas* (2002) 98 Cal.App.4th 1351, 1358-1359.

¹⁹² *Id.* at page 1358-1359.

¹⁹³ *Sinclair Paint v. State Board of Equalization* (1997) 15 Cal.4th 866, 874.

XIII D (Proposition 218) that would allow the claimants to impose fees for the activities in the test claim related to development.

Regulatory fee authority under the police power: The law on local government fee authority begins with article XI, section 7, of the California Constitution, which states: “A county or city may make and enforce within its limits all local, police, sanitary, and other ordinances and regulations not in conflict with general laws.” Article XI, section 7, includes the authority to impose fees, and courts have held that “the power to impose valid regulatory fees does not depend on legislatively authorized taxing power but exists pursuant to the direct grant of police power under article XI, section 7, of the California Constitution.”¹⁹⁴

Water pollution prevention is also a valid exercise of government police power.¹⁹⁵

In *Sinclair Paint v. State Board of Equalization*,¹⁹⁶ the California Supreme Court upheld a fee on manufacturers of paint that funded a child lead-poisoning program that provided evaluation, screening, and medically necessary follow-up services for children who were deemed potential victims of lead poisoning. The program was entirely supported by fees assessed on manufacturers or other persons contributing to environmental lead contamination. In upholding the fee, the court ruled that it was a regulatory fee imposed under the police power and not a special tax requiring a two-thirds vote under article XIII A, section 4, of the California Constitution. The court stated:

From the viewpoint of general police power authority, we see no reason why statutes or ordinances calling on polluters or producers of contaminating products to help in mitigation or cleanup efforts should be deemed less “regulatory” in nature than the initial permit or licensing programs that allowed them to operate.

Viewed as a mitigating effects measure, [the fee] is comparable in character to several police power measures imposing fees to defray the actual or anticipated adverse effects of various business operations.¹⁹⁷ [Emphasis added.]

Regulatory fees also help to prevent or mitigate pollution, as the Court said: “imposition of ‘mitigating effects’ fees in a substantial amount ... also ‘regulates’ future conduct by deterring further manufacture, distribution, or sale of dangerous products, and by stimulating research and development efforts to produce safer or alternative products.”¹⁹⁸ The court also recognized that regulatory fees do not depend on government-conferred benefits or privileges.¹⁹⁹

¹⁹⁴ *Mills v. County of Trinity* (1980) 108 Cal.App.3d 656, 662, in which a taxpayer challenged a county ordinance that imposed new and increased fees for county services in processing subdivision, zoning, and other land-use applications that had been adopted without a two-thirds affirmative vote of the county electors.

¹⁹⁵ *Freeman v. Contra Costa County Water Dist.* (1971) 18 Cal.App.3d 404, 408.

¹⁹⁶ *Sinclair Paint v. State Board of Equalization* (1997) 15 Cal.4th 866.

¹⁹⁷ *Sinclair Paint v. State Board of Equalization, supra*, 15 Cal.4th 866, 877.

¹⁹⁸ *Sinclair Paint v. State Board of Equalization, supra*, 15 Cal.4th 866, 875-877.

¹⁹⁹ *Id.* at page 875.

Although the holding in *Sinclair Paint* applied to a state-wide fee, the court's language (treating "ordinances" the same as "statutes") recognizes that local agencies also have police power to impose regulatory fees, and it relied on local government police power cases in its analysis.²⁰⁰

Other cases have defined a regulatory fee as an imposition that funds a regulatory program²⁰¹ or that distributes the collective cost of a regulation²⁰² and is "enacted for purposes broader than the privilege to use a service or to obtain a permit. ...the regulatory program is for the protection of the health and safety of the public."²⁰³ Courts will uphold regulatory fees if they do not exceed the reasonable cost of providing services necessary to the activity on which the fee is based and are not levied for an unrelated revenue purpose.

In upholding regulatory fees for environmental review by the California Department of Fish and Game, the court of appeal summarized the following rules on regulatory fees:

A regulatory fee may be imposed under the police power when the fee constitutes an amount necessary to carry out the purposes and provisions of the regulation. [Citations omitted.] Such costs ... include all those incident to the issuance of the license or permit, investigation, inspection, administration, maintenance of a system of supervision and enforcement. [Citations omitted.] Regulatory fees are valid despite the absence of any perceived "benefit" accruing to the fee payers. [Citations omitted.] Legislators "need only apply sound judgment and consider 'probabilities according to the best honest viewpoint of informed officials' in determining the amount of the regulatory fee."²⁰⁴ [Emphasis added.]

In *Tahoe Keys Property Owner's Assoc. v. State Water Resources Control Board*,²⁰⁵ the court refused to issue a preliminary injunction against collecting a pollution mitigation fee of \$4000 for each lot developed in the Tahoe Keys subdivision of Lake Tahoe. The fees were to be used for mitigation projects designed to achieve a net reduction in nutrients generated by the Tahoe Keys development. The court said: "on the face of the regulation, there appears to be a sufficient

²⁰⁰ *Sinclair Paint v. State Board of Equalization*, *supra*, 15 Cal.4th 866, 873. The Court stated: "Because of the close, 'interlocking' relationship between the various sections of article XIII A (Citation omitted) we believe these "special tax" cases [under article XIII A, § 3, state taxes] may be helpful, though not conclusive, in deciding the case before us. The reasons why particular fees are, or are not, "special taxes" under article XIII A, section 4, [local government taxes] may apply equally to section 3 cases."

²⁰¹ *California Assn. of Prof. Scientists v. Dept. of Fish and Game* (2000) 79 Cal.App.4th 935, 950.

²⁰² *Id.* at 952.

²⁰³ *Ibid.*

²⁰⁴ *California Assn. of Prof. Scientists v. Dept. of Fish and Game*, *supra*, 79 Cal.App.4th 935, 945.

²⁰⁵ *Tahoe Keys Property Owner's Assn. v. State Water Resources Control Board* (1993) 23 Cal.App.4th 1459.

nexus between the effect of the regulation and the objectives it was supposed to advance to support the regulatory scheme [mitigation of pollution in Lake Tahoe].”²⁰⁶

A variety of local agency regulatory fees have been upheld for various programs, including: processing subdivision, zoning, and other land-use applications,²⁰⁷ art in public places,²⁰⁸ remedying substandard housing,²⁰⁹ recycling,²¹⁰ administrative hearings under a rent-control ordinance,²¹¹ signage,²¹² air pollution mitigation,²¹³ and replacing converted residential hotel units.²¹⁴ Fees on developers for environmental mitigation under the California Environmental Quality Act have also been upheld.²¹⁵

Given the variety of examples where regulatory fees have been upheld, and the broad range of costs to which they may be applied (including those for ‘administration’), the claimants have fee authority under the police power to impose fees for the permit activities that are a state-mandated new program or higher level of service. But a determination as to whether the claimants’ fee authority is sufficient, within the meaning of Government Code section 17556, subdivision (d), to pay for the mandated activities and deny the test claim, cannot be made without analysis of the limitations on the fee authority imposed by Proposition 218.

Regulatory fee authority is limited by voter approval under Proposition 218: With some exceptions, local government fees or assessments that are incident to property ownership are subject to voter approval under article XIII D of the California Constitution, as added by Proposition 218 in 1996. Article XIII D defines a fee as “any levy other than an ad valorem tax, a special tax, or an assessment, imposed by an agency on a parcel or a person as an incident of property ownership, including a user fee or charge for a property-related service.” It defines an assessment as “any levy or charge upon real property by an agency for a special benefit conferred upon the real property [and] includes, but is not limited to, ‘special assessment,’ ‘benefit assessment,’ ‘maintenance assessment,’ and ‘special assessment tax.’”

Among other procedures, new or increased property-related fees require a majority-vote of the affected property owners, or two-thirds registered voter approval, or weighted ballot approval by the affected property owners (art. XIII D, § 6, subd. (c)). Assessments must also be approved by owners of the affected parcels (art. XIII D, § 4, subd.(d)). Expressly exempt from voter

²⁰⁶ *Id.* at page 1480.

²⁰⁷ *Mills v. County of Trinity*, *supra*, 108 Cal.App.3d 656, 662.

²⁰⁸ *Ehrlich v. City of Culver City* (1996) 12 Cal.4th 854, 886.

²⁰⁹ *Apartment Assoc. of Los Angeles County v. City of Los Angeles* (2001) 24 Cal.4th 830.

²¹⁰ *City of Dublin v. County of Alameda* (1993) 14 Cal.App.4th 264.

²¹¹ *Pennell v. City of San Jose* (1986) 42 Cal.3d 365.

²¹² *United Business Communications v. City of San Diego* (1979) 91 Cal.App.3d 156.

²¹³ *California Building Industry Ass’n v. San Joaquin Valley Air Pollution Control Dist.* (2009) 178 Cal.App.4th 120.

²¹⁴ *Terminal Plaza Corp. v. City and County of San Francisco* (1986) 177 Cal.App.3d 892.

²¹⁵ *Environmental Council of Sacramento v. City of Sacramento* (2006) 142 Cal.App.4th 1018.

approval, however, are property-related fees for sewer, water, or refuse collection services (art. XIII D, § 6, subd. (c)).

In 2002, an appellate court in *Howard Jarvis Taxpayers Association v. City of Salinas*, *supra*, 98 Cal.App.4th 1351, found that a city's charges on developed parcels to fund stormwater management were property-related fees, and were not covered by Proposition 218's exemption for "sewer" or "water" services. This means that an election would be required to charge stormwater fees if they are imposed "as an incident of property ownership."

The issue of whether a local agency has sufficient fee authority for the mandated activities under Government Code section 17556, subdivision (d), in light of the voter approval requirement for fees under article XIII D (Proposition 218) is one of first impression for the Commission.

The Commission finds that a local agency does not have sufficient fee authority within the meaning of Government Code section 17556 if the fee or assessment is contingent on the outcome of an election by voters or property owners. The plain language of subdivision (d) of this section prohibits the Commission from finding that the permit imposes "costs mandated by the state" if "The local agency ... has the authority to levy service charges, fees, or assessments sufficient to pay for the mandated program or increased level of service." [Emphasis added.] Under Proposition 218, the local agency has no authority to impose the fee without the consent of the voters or property owners.

Additionally, it is possible that the local agency's voters or property owners may never adopt the proposed fee or assessment, but the local agency would still be required to comply with the state mandate. Denying reimbursement under these circumstances would violate the purpose of article XIII B, section 6, which is to "to preclude the state from shifting financial responsibility for carrying out governmental functions to local agencies, which are 'ill equipped' to assume increased financial responsibilities because of the taxing and spending limitations that articles XIII A and XIII B impose."²¹⁶

In its January 2010 comments on the draft staff analysis, the State Board disagrees that "the requirement to subject new or increased fees to these voting or protest requirements strips the claimants of 'fee authority' within the meaning of Government Code section 17556, subdivision (d)." The State Board cites *Connell v. Superior Court*,²¹⁷ in which the water districts argued that they lacked "sufficient" fee authority because it was not economically feasible for them to levy fees that were sufficient to pay the mandated costs. The *Connell* court determined that "the plain language of the statute [Gov. Code, § 17556, subd. (d)] precludes reimbursement where the local agency has the authority, i.e., the right or the power, to levy fees sufficient to cover the costs of the state-mandated program."²¹⁸ The State Board equates the Proposition 218 voting requirement with the economic impracticability faced by the water districts in *Connell*.

The claimants disagree, citing a lack of authority that requires them to first submit the question of whether to impose a tax or fee to the voters and have them reject the proposition. According

²¹⁶ *County of San Diego*, *supra*, 15 Cal.4th 68, 81.

²¹⁷ *Connell v. Superior Court*, *supra*, 59 Cal.App.4th 382.

²¹⁸ *Id.* at page 401.

to the claimants, such a requirement would render all mandate claims moot, without first submitting the question of whether to impose a tax or assessment to a vote of the electorate.

The Commission disagrees with the State Board. The Proposition 218 election requirement is not like the economic hurdle to fees in *Connell*. Absent compliance with the Proposition 218 election and other procedures, there is no legal authority to impose or raise fees within the meaning of Government Code section 17556, subdivision (d). The voting requirement of Proposition 218 does not impose a mere practical or economic hurdle, as in *Connell*, but a legal and constitutional one. Without voter or property owner approval, the local agency lacks the “authority, i.e., the right or power, to levy fees sufficient to cover the costs of the state-mandated program.”²¹⁹

In fact, the fee at issue in the *Connell* case (Wat. Code, § 35470) was amended by the Legislature in 2007 to conform to Proposition 218. Specifically, the Water Code statute now requires compliance with “the “notice, protest, and hearing procedures in Section 53753 of the Government Code.”²²⁰ This Government Code statute implements Proposition 218.

For these reasons, the Commission finds that local agencies do not have fee authority that is sufficient within the meaning of Government Code section 17556, subdivision (d) to deny the test claim for those activities that would condition the fee or assessment on voter or property-owner approval under Proposition 218 (article XIII D). The Commission finds that Proposition 218 applies to all the activities in this test claim (except for the hydromodification and LID activities that are related to priority development projects discussed below) so that they impose “costs mandated by the state” (within the meaning of Gov. Code, § 17556, subd. (d)). To the extent that property-owner or voter-approved fees or assessments are imposed to pay for any of the permit activities found above to be a state-mandated new program or higher level of service, the fee or assessment would be identified as offsetting revenue in the parameters and guidelines to offset the claimant’s costs in performing those activities.

Fees imposed for two of the test-claim activities, however, i.e., for the hydromodification management plan and low-impact development, would not be subject to voter approval under Proposition 218, as discussed below.

Fees as a condition of property development are not subject to Proposition 218: Proposition 218 does not apply to development fees, including those imposed on activities in part D of the permit. Article XIII D expressly states that it shall not be construed to “affect existing laws relating to the imposition of fees or charges as a condition of property development.”²²¹

Moreover, the California Supreme Court has ruled that fees imposed “as an incident to property ownership” are subject to Proposition 218, but fees that result from the owner’s voluntary

²¹⁹ *Connell v. Superior Court, supra*, 59 Cal.App.4th 382, 401.

²²⁰ Water Code section 35470, as amended by Statutes 2007, chapter 27. Section 53753 of the Government Code requires compliance with “the procedures and approval process set forth in Section 4 of Article XIII D of the California Constitution” for assessments.

²²¹ California Constitution, article XIII D, section 1, subdivision (b).

decision to seek a government benefit are not.²²² Thus, fees imposed as a result of the owner's voluntary decision to undertake a development project are not subject to Proposition 218, because they are not merely incident to property ownership.²²³

The final issue, therefore, is whether claimants may impose fees that are sufficient within the meaning of Government Code section 17556, subdivision (d), to pay for the activities in the permit related to development: the hydromodification management plan (part D.1.g), and low-impact development (part D.1.d.(7)&(8)). The Commission finds claimants have fee authority that is sufficient within the meaning of Government Code section 17556, subdivision (d), and that these activities do not impose costs mandated by the state and are not reimbursable.

Hydromodification management plan: Part D.1 of the permit describes the development planning component of the JURMP. Part D.1.g. requires each copermitee to collaborate with other copermitees to develop and implement and report on developing a hydromodification management plan (HMP) to manage increases in runoff discharge rates and durations from all priority development projects, as specified. As discussed above, the HMP is a state-mandated new program or higher level of service for only private priority development projects. The purpose of the HMP is:

[T]o manage increases in runoff discharge rates and durations from all Priority Development Projects, where such rates and durations are likely to cause increased erosion of channel beds and banks, sediment pollutant generation, or other impacts to beneficial uses and stream habitat due to increased erosive force.

According to the permit, priority development projects are:

- a) all new Development Projects that fall under the project categories or locations listed in section D.1.d.(2), and b) those redevelopment projects that create, add or replace at least 5,000 square feet of impervious surfaces on an already developed site that falls under the project categories or locations listed in section D.1.d.(2).

²²² In *Richmond v. Shasta Community Services Dist.* (2004) 32 Cal.4th 409, the court held that water service fees were subject to Proposition 218, but that water connection fees were not. In *Apartment Assoc. of Los Angeles County v. City of Los Angeles*, *supra*, 24 Cal.4th 830, 839-840, the court held that apartment inspection fees were not subject to Proposition 218 because they were not imposed on property owners as such, but in their capacity as landlords.

²²³ A recent report by the Office of the Legislative Analyst concurs with this conclusion: "Local governments finance stormwater clean-up services from revenues raised from a variety of fees and, less frequently, through taxes. Property owner fees for stormwater services typically require approval by two-thirds of the voters, or a majority of property owners. Developer fees and fees imposed on businesses that contribute to urban runoff, in contrast, are not restricted by Proposition 218 and may be approved by a vote of the governing body. Taxes for stormwater services require approval by two-thirds of the electorate." Office of the Legislative Analyst. *California's Water: An LAO Primer* (October 22, 2008) page 56. [Emphasis added.] See: <http://www.lao.ca.gov/2008/rsrc/water_primer/water_primer_102208.pdf> as of October 22, 2008.

The priority development project categories listed in part D.1.d.(2) are:

- (a) Housing subdivisions of 10 or more dwelling units. This category includes single-family homes, multi-family homes, condominiums, and apartments.
- (b) Commercial developments greater than one acre. [as specified]
- (c) Developments of heavy industry greater than one acre. This category includes, but is not limited to, manufacturing plants, food processing plants, metal working facilities, printing plants, and fleet storage areas (bus, truck, etc.).
- (d) Automotive repair shops. This category is defined as a facility that is categorized in any one of the following Standard Industrial Classification (SIC) codes: 5013, 5014, 5541, 7532-7534, or 7536-7539.
- (e) Restaurants. This category is defined as a facility that sells prepared foods and drinks for consumption, including stationary lunch counters and refreshment stands selling prepared foods and drinks for immediate consumption (SIC code 5812), where the land area for development is greater than 5,000 square feet. Restaurants where land development is less than 5,000 square feet shall meet all SUSMP requirements except ... hydromodification requirement D.1.g.
- (f) All hillside development greater than 5,000 square feet. This category is defined as any development which creates 5,000 square feet of impervious surface which is located in an area with known erosive soil conditions, where the development will grade on any natural slope that is twenty-five percent or greater.
- (g) Environmentally Sensitive Areas (ESAs). All development located within or directly adjacent to or discharging directly to an ESA (where discharges from the development or redevelopment will enter receiving waters within the ESA), which either creates 2,500 square feet of impervious surface on a proposed project site or increases the area of imperviousness of a proposed project site to 10% or more of its naturally occurring condition. "Directly adjacent" means situated within 200 feet of the ESA. "Discharging directly to" means outflow from a drainage conveyance system that is composed entirely of flows from the subject development or redevelopment site, and not commingled with flows from adjacent lands.
- (h) Parking lots 5,000 square feet or more or with 15 or more parking spaces and potentially exposed to urban runoff. Parking lot is defined as a land area or facility for the temporary parking or storage of motor vehicles used personally, for business, or for commerce.
- (i) Street, roads, highways, and freeways. This category includes any paved surface that is 5,000 square feet or greater used for the transportation of automobiles, trucks, motorcycles, and other vehicles.
- (j) Retail Gasoline Outlets (RGOs). This category includes RGOs that meet the following criteria: (a) 5,000 square feet or more or (b) a projected Average Daily Traffic (ADT) of 100 or more vehicles per day.

The Commission finds that claimants have authority to impose fees for complying with the HMP activities in permit part D.1.g. for priority development projects, and their authority is sufficient within the meaning of Government Code section 17556, subdivision (d), in that the fee would not be subject to Proposition 218 voter approval. These activities involve collaborating with other copermitees to develop and implement a hydromodification management plan, and reporting on it. Because regulatory fees, pursuant to article XI, section 7 of the California Constitution, could be imposed on these priority development projects to pay for the costs of HMP, the Commission finds that permit part D.1.g. does not impose costs mandated by the state.

Low impact development: Low impact development is defined in Attachment C of the permit as a “storm water management and land development strategy that emphasizes conservation and the use of on-site natural features integrated with engineered, small-scale hydrologic controls to more closely reflect pre-development hydrologic functions.” The purpose of LID is to “collectively minimize directly connected impervious areas and promote infiltration at Priority Development Projects.” LID best management practices include draining a portion of impervious areas into pervious areas prior to discharge into the storm drain, and constructing portions of priority development projects with permeable surfaces.

Part D.1.d.(7) requires updating the Standard Urban Storm Water Mitigation Plans (SUSMP) to include low impact development requirements, as specified, including BMP requirements that meet or exceed the requirements of sections D.1.d.(4)²²⁴ and D.1.d.(5).²²⁵ Both D.1.d.(4) and D.1.d.(5) are the LID requirement implemented at priority development projects.

Part D.1.d.(8) requires permittees to develop and submit an updated model SUSMP that defines minimum low impact development and other BMP requirements to incorporate into the permittees local SUSMPs for application to priority development projects.

The Commission finds that claimants have authority to impose fees for complying with the LID activities in parts D.1.d.(7) and D.1.d.(8) of the permit, and their authority is sufficient within the meaning of Government Code section 17556, subdivision (d), in that they are not subject to Proposition 218 voter approval. Because regulatory fees, pursuant to article XI, section 7 of the California Constitution, could be imposed on the priority development projects to pay for the costs associated with LID, the Commission finds that permit parts D.1.d.(7) and D.1.d.(8) do not impose costs mandated by the state.

²²⁴ Part D.1.d.(4) of the permit includes LID BMP requirements: “Each Copermitee shall require each Priority Development Project to implement LID BMPs which will collectively minimize directly connected impervious areas and promote infiltration at Priority Development Projects.” The Permit lists various LID site design BMPs that must be implemented at all Priority Development Projects, and other LID BMPs that must be implemented at all Priority Development Projects “where applicable and feasible.”

²²⁵ Part D.1.d.(5), regarding “Source control BMP Requirements” requires permittees to require each Priority Development Project to implement source control BMPs that must “Minimize storm water pollutants of concern in urban runoff” and include five other specific criteria.

2. Claimants also have fee authority regulated by the Mitigation Fee Act that is sufficient (within the meaning of Gov. Code, § 17556, subd. (d)) to pay for the hydromodification and low-impact development permit activities.

Development fees are also an exercise of the local police power under article XI, section 7 of the California Constitution.²²⁶ A fee is considered a development fee if it is exacted in return for building permits or other governmental privileges so long as the amount of the fee bears a reasonable relation to the development's probable costs to the community and benefits to the developer.²²⁷ Development fees are not restricted by Proposition 218 as discussed above.

Fees on developers as conditions of permit approval are governed by the Mitigation Fee Act (Gov. Code, §§ 66000-66025) which defines a "fee" as:

[A] monetary exaction other than a tax or special assessment, whether established for a broad class of projects by legislation of general applicability or imposed on a specific project on an ad hoc basis, that is charged by a local agency to the applicant in connection with approval of a development project for the purpose of defraying all or a portion of the cost of public facilities related to the development project, but does not include ... fees for processing applications for governmental regulatory actions or approvals²²⁸ [Emphasis added.]

Public facilities are defined in the Act as "public improvements, public services, and community amenities."²²⁹

When a local agency imposes or increases a fee as a condition of development approval, it must do all of the following: (1) Identify the purpose of the fee; (2) Identify the use to which the fee is to be put. If the use is financing public facilities, the facilities shall be identified. (3) Determine how there is a reasonable relationship between the fee's use and the type of development project on which the fee is imposed; and, (4) Determine how there is a reasonable relationship between the need for the public facility and the type of development project upon which the fee is imposed. (Gov. Code, § 66001, subd. (a).)

The city or county must also determine whether there is a reasonable relationship between the specific amount of the fee and the costs of building, expanding, or upgrading public facilities. These determinations, known as nexus studies, are in writing and must be updated whenever new fees are imposed or existing fees are increased.²³⁰ A fee imposed "as a condition of approval of

²²⁶ *California Building Industry Assoc. v. Governing Board* (1988) 206 Cal.App.3d 212, 234.

²²⁷ *Sinclair Paint, supra*, 15 Cal.4th at page 875.

²²⁸ Government Code section 66000, subdivision (b).

²²⁹ Government Code section 66000, subdivision (d).

²³⁰ Government Code section 66001, subdivision (b). The Act also requires cities to segregate fee revenues from other municipal funds and to refund them if they are not spent within five years. Any person may request an audit to determine whether any fee or charge levied by the city or county exceeds the amount reasonably necessary to cover the cost of the service provided (Gov. Code, §66006, subd. (d)). Under Government Code section 66014, fees charged for zoning changes, use permits, building permits, and similar processing fees are subject to the same nexus requirements as development fees. Lastly, under California Government Code

a proposed development or development project” is limited to the estimated reasonable cost of providing the service or facility.²³¹ This is in contrast to regulatory fees, which do not depend on government-conferred benefits or privileges.²³²

The Mitigation Fee Act defines a “development project” as “any project undertaken for the purpose of development ... includ[ing] a project involving the issuance of a permit for construction or reconstruction, but not a permit to operate.” (Gov. Code, § 66000, subd. (a).)

A fee does not become a development fee simply because it is made in connection with a development project. Approval of the development must be conditioned on the payment of the fee. The Mitigation Fee Act is limited to situations where the fee or exaction is imposed as a condition of approval of a development project.²³³

Because local agencies may make development of priority development projects conditional on the payment of a fee, the Commission finds that the claimants have fee authority, governed by the Mitigation Fee Act, that is sufficient within the meaning of Government Code section 17556, subdivision (d), to pay for the hydromodification management plan and low-impact development activities. As discussed below, HMP and LID are “public facilities,” which the Mitigation Fee Act defines as “public improvements, public services, and community amenities.”²³⁴

The County of San Diego, in its January 2010 comments on the draft staff analysis, disagrees that it can impose a fee for the hydromodification plan (HMP) activities in the permit, stating that development and implementation of the HMP does not constitute a “public facility.”

The Commission disagrees. The purpose of the permit is to prevent or abate pollution in waterways and beaches in San Diego County. More specifically, the purpose of the HMP is:

[T]o manage increases in runoff discharge rates and durations from all Priority Development Projects, where such increased rates and durations are likely to cause increased erosion of channel beds and banks, sediment pollutant generation, or other impacts to beneficial uses and stream habitat due to increased erosive force.

All these stated purposes of the HMP provide public services or improvements, or community amenities within the meaning of the Act.²³⁵ Moreover, the California Supreme Court stated that the Act “concerns itself with development fees; that is, fees imposed on development projects in

section 66020, agencies collecting fees must provide project applicants with a statement of the amounts and purposes of all fees at the time of fee imposition or project approval.

²³¹ Government Code section 66005, subdivision (a).

²³² *Sinclair Paint, supra*, 15 Cal.4th at page 875.

²³³ *California Building Industry Ass’n v. San Joaquin Valley Air Pollution Control Dist.* (2009) 178 Cal.App.4th, 130, 131.

²³⁴ Government Code section 66000, subdivision (d).

²³⁵ Government Code section 66000, subdivision (d).

order to finance public improvements or programs that bear a 'reasonable relationship' to the development at issue."²³⁶ The HMP is such a program.

Similarly, the purposes of LID are to "collectively minimize directly connected impervious areas and promote infiltration at Priority Development Projects" and to reduce stormwater runoff from priority development projects. These activities are public services or improvements that fall within the Act's definition of public facility.

The County also argues that under the Mitigation Fee Act, the local agency must determine that there is "a reasonable relationship between the fee's use and the type of development project on which the fee is imposed." The County argues that there is no reasonable relationship between the costs incurred by claimants to develop and implement the HMP and a particular development project on which the fee might be imposed.

Again, the Commission disagrees. Every time a developer proposes a project that falls within one of the "priority development project" categories listed above, and the developer has "not yet begun grading or construction activities at the time any updated SUSMP or hydromodification requirement commences," the local agency may impose a fee subject to the Mitigation Fee Act. The fee would be for the costs of developing and implementing the HMP to "manage increases in runoff discharge rates and durations from all Priority Development Projects [that] cause ... impacts to beneficial uses and stream habitat due to increased erosive force." The local agency may also impose a fee on priority development projects to comply with LID, the purpose of which is to "collectively minimize directly connected impervious areas and promote infiltration at Priority Development Projects" and to reduce stormwater runoff.

Finally, the County argues that assessing fees on a private developer who submits a project for approval to recover the costs of reviewing and approving a particular project is "specifically excluded from the definition of 'fee' under the Act." The definition of fee in the Act states that it "does not include ... fees for processing applications for governmental regulatory actions or approvals" (Gov. Code, § 66000, subd. (b).)

The Commission disagrees that an HMP fee would be for "processing applications for governmental regulatory actions or approvals." Rather, it would be for permit approval of priority development projects, and used to implement the HMP and LID requirements. In *Barratt American Inc. v. City of Rancho Cucamonga* (2005) 37 Cal.4th 685, 698, the California Supreme Court distinguished between regulatory fees that implement state and local building safety standards under the Health and Safety Code and developer fees subject to the Mitigation Fee Act by stating: "These regulatory fees fund a program that supervises how, not whether, a developer may build." Thus, the Commission finds that the developer fees may be imposed for permit approval for priority development projects if the permit is conditional on payment of the fee, and the fee is used for HMP and LID compliance.

In sum, the Commission finds that the claimants have fee authority governed by the Mitigation Fee Act that is sufficient (within the meaning of Gov. Code, § 17556, subd. (d), to pay for the following parts of the permit that are related to development: the hydromodification management plan (part D.1.g) and updating the Standard Urban Storm Water Mitigation Plans to include Low Impact Development requirements (part D.1.d.(7)&(8)).

²³⁶ *Utility Cost Management v. Indian Wells Valley Water Dist.* (2001) 26 Cal.4th 1185, 1191.

3. Claimants' fee authority under Public Resources Code section 40059, or via benefit assessments, is not sufficient to pay for street sweeping, and Government Code section 17556, subdivision (d), does not apply to reporting on street sweeping.

Street sweeping is one test claim activity that is typically funded by local agency fees or assessments. Fees and assessments are both governed by Proposition 218.

The permit (in part D.3.a.5) requires a program to sweep "improved (possessing a curb and gutter) municipal roads, streets, highways, and parking facilities" at intervals depending on whether they are identified as consistently generating the highest volumes, moderate volumes, or low volumes of trash and/or debris. Reporting on street sweeping, such as curb-miles swept and tons of material collected, is also required (part J.3.a.(3)(c)x-xv).

Some local agencies collect fees for street sweeping for their refuse fund, such as the City of Pasadena.²³⁷ Other local agencies, e.g., the County of Fresno²³⁸ and the City of La Quinta,²³⁹ collect an assessment for street sweeping as a street maintenance activity. Both approaches are discussed below in light of the procedural requirements under Proposition 218.

Fees for street sweeping as refuse collection/solid waste handling: Article XI, section 7 of the California Constitution states: "A county or city may make and enforce within its limits all local, police, sanitary or other ordinances and regulations not in conflict with general laws." Local agency fees for refuse collection are authorized by Public Resources Code section 40059, which states:

(a) Notwithstanding any other provision of law, each county, city, district, or other local governmental agency may determine all of the following:

(1) Aspects of solid waste handling which are of local concern, including, but not limited to, frequency of collection, means of collection and transportation, level of services, charges and fees, and nature, location, and extent of providing solid waste handling services. [Emphasis added.]

"Solid waste" is defined in Public Resources Code section 40191 as:

[A]ll putrescible and nonputrescible solid, semisolid, and liquid wastes, including garbage, trash, refuse, paper, rubbish, ashes, industrial wastes, demolition and construction wastes, abandoned vehicles and parts thereof, discarded home and industrial appliances, dewatered, treated, or chemically fixed sewage sludge

²³⁷ City of Pasadena, Agenda Report, Resolution Nos. 8942 and 8943, April 27, 2009, "Public Hearing: Amendment to the General Fee Schedule to Increase the Residential Refuse Collection Fees and Solid Waste Franchise Fees." One of the findings in the resolution is: "Whereas, street sweeping is a refuse collection service involving solely the collection, removal and disposal of solid waste from public rights of way, and is, therefore, properly allocated to the Refuse Fund."

²³⁸ County of Fresno, Resolution Nos. 8942 and 8943, adopted January 15, 2008.

²³⁹ City of La Quinta, Resolution No. 2009-035, adopted May 5, 2009.

which is not hazardous waste, manure, vegetable or animal solid and semisolid wastes and other discarded solid and semisolid wastes.²⁴⁰

“Solid waste handling” is defined in Public Resources Code section 40195 as “the collection, transportation, storage, transfer, or processing of solid wastes.” Given the nature of material swept from city streets, street sweeping falls under the rubric of ‘solid waste handling.’

Under Proposition 218, “refuse collection” is expressly exempted from the voter-approval requirement (article XIII D, § 6, subd. (c)). Although “refuse collection” has no definition in article XIII D, the plain meaning of refuse²⁴¹ collection is the same as solid waste handling, as the dictionary definition of “refuse” and the statutory definition of “solid waste” both refer to rubbish and trash as synonyms. Refuse is collected via solid waste handling.

To impose or increase refuse collection fees, the local agency must provide mailed written notice to each parcel owner on which the fee will be imposed, and conduct a public hearing not less than 45 days after mailing the notice. If written protests against the proposed fee are presented by a majority of the parcel owners, the local agency may not impose or increase the fee (article XIII D, § 6, subd. (a)(2)). In addition, revenues are: (1) not to exceed the funds required to provide the service, (2) shall not be used for any other purpose than to provide the property-related service, and the amount of the fee on a parcel shall not exceed the proportional cost of the service attributable to the parcel. And the service must be actually used by or immediately available to the property owner (article XIII D, § 6, subd. (b)).

Government Code, section 17556, subdivision (d), does not apply to street sweeping because the fee is contingent on the outcome of a written protest by a majority of the parcel owners. The plain language of subdivision (d) of this section prohibits the Commission from finding that the permit imposes “costs mandated by the state” if “The local agency ... has the authority to levy service charges, fees, or assessments sufficient to pay for the mandated program or increased level of service.” [Emphasis added.] Under Proposition 218, the local agency has no authority to impose the fee if it is protested by a majority of parcel owners.

Additionally, it is possible that a majority of land owners in the local agency may never allow the proposed fee, but the local agency would still be required to comply with the state mandate. This would violate the purpose of article XIII B, section 6, which is to “to preclude the state from shifting financial responsibility for carrying out governmental functions to local agencies, which are ‘ill equipped’ to assume increased financial responsibilities because of the taxing and spending limitations that articles XIII A and XIII B impose.”²⁴²

Thus, the Commission finds that fee authority under Public Resources Code section 40059 is not sufficient to pay for the mandated program or increased level of service in permit parts D.3.a.5 (street sweeping). Therefore, the Commission finds that street sweeping imposes costs mandated by the state and is reimbursable.

²⁴⁰ This definition also excludes hazardous waste, radioactive waste and medical waste, as defined.

²⁴¹ “Refuse” is defined as “ Items or material discarded or rejected as useless or worthless; trash or rubbish.” <<http://dictionary.reference.com/browse/refuse>> as of November 23, 2009.

²⁴² *County of San Diego, supra*, 15 Cal.4th 68, 81.

Any proposed fees that are not blocked by a majority of parcel owners for street sweeping must be identified as offsetting revenue in the parameters and guidelines.

Fees for street sweeping reports: Proposition 218 does not contain an express exemption on voter approval for reporting on street sweeping, only for “refuse collection.” Moreover, Proposition 218 (art. XIII D, § 6, subd. (b)(4)) states: “No fee or charge may be imposed for a service unless that service is actually used by, or immediately available to, the owner of the property in question.” The permit does not require the street sweeping reports be available to property owners, only that the reports be submitted to the Regional Board. For these reasons, the Commission finds that Government Code section 17556, subdivision (d), does not apply to reporting on street sweeping, so that part J.3.a.(3)(c)x-xv of the permit imposes costs mandated by the state and is reimbursable.

Assessments for street operation and maintenance: As mentioned above, some local agencies collect an assessment for street sweeping, e.g., the County of Fresno²⁴³ and the City of La Quinta.²⁴⁴ Assessments are defined as “any levy or charge upon real property by an agency for a special benefit conferred upon the real property. ‘Assessment’ includes, but is not limited to, ‘special assessment,’ ‘benefit assessment,’ ‘maintenance assessment’ and ‘special assessment tax.’” (article XIII D, § 2, subd. (b).) The terms “maintenance and operation” of “streets” and “drainage systems,” although used in article XIII D, are not defined in it. The plain meaning of maintenance of streets and drainage systems, however, would include street sweeping because “maintenance” means “the work of keeping something in proper condition; upkeep.”²⁴⁵ Clean streets are used not only for transportation, but for conveying storm water to storm drains.

The Supreme Court defined special assessments as follows:

A special assessment is a “compulsory charge placed by the state upon real property within a pre-determined district, made under express legislative authority for defraying in whole or in part the expense of a permanent public improvement therein...” [Citation.] [Citation.] In this regard, a special assessment is ‘levied against real property particularly and directly benefited by a local improvement in order to pay the cost of that improvement.’ [Citation.] ‘The rationale of special assessment[s] is that the assessed property has received a special benefit over and above that received by the general public. The general public should not be required to pay for special benefits for the few, and the few specially benefited should not be subsidized by the general public.’²⁴⁶

The Supreme Court summarized the constitutional procedures for creating an assessment district.

Under Proposition 218's procedures, local agencies must give the record owners of all assessed parcels written notice of the proposed assessment, a voting ballot, and a statement disclosing that a majority protest will prevent the assessment's

²⁴³ County of Fresno, Resolution Nos. 8942 and 8943, adopted January 15, 2008.

²⁴⁴ City of La Quinta, Resolution No. 2009-035, adopted May 5, 2009.

²⁴⁵ <<http://dictionary.reference.com/browse/maintenance>> as of December 7, 2009.

²⁴⁶ *Silicon Valley Taxpayers Ass'n. v. Santa Clara Open Space Authority* (2008) 44 Cal.4th 431, 442.

passage. (Art. XIII D, § 4, subs. (c), (d).) The proposed assessment must be “supported by a detailed engineer's report.” (Art. XIII D, § 4, subd. (b).) At a noticed public hearing, the agencies must consider all protests, and they “shall not impose an assessment if there is a majority protest.” (Art. XIII D, § 4, subd. (e).) Voting must be weighted “according to the proportional financial obligation of the affected property.” (*Ibid.*)²⁴⁷

Proposition 218 dictated that as of July 1, 1997, existing assessments were to comply with its procedural requirements, but an exception was created for “any assessment imposed exclusively to finance the capital costs or maintenance and operation expenses for sidewalks, streets, sewers, water, flood control, drainage systems or vector control.” (art. XIII D, § 5, subd. (a), emphasis added.) This means that the procedural requirements of Proposition 218 apply only to increases in assessments for street sweeping that were imposed after Proposition 218 was enacted.²⁴⁸

Absent any evidence in the record that assessments imposed before July 1, 1997 for street sweeping are sufficient to pay for the street sweeping specified in part D.3.a. of the permit, the Commission cannot find that assessments imposed before that date would pay for the costs mandated by the state for street sweeping within the meaning of Government Code section 17556, subdivision (d).

Should a local agency determine that its existing assessments are not sufficient to pay for the mandated street sweeping, it can raise assessments by following the article XIII D (Proposition 218) procedures detailed above. Those procedures, however, include an election and a protest, both of which were found above to extinguish local fee authority sufficient to pay for the mandate and to block the application of Government Code section 17556, subdivision (d).

Thus, to the extent that the claimants impose or increase assessments to pay for the street sweeping, they would be identified as offsetting revenue in the parameters and guidelines.

4. Claimants' fee or assessment authority under Health and Safety Code section 5471 is not sufficient to pay for conveyance-system cleaning, and Government Code section 17556, subdivision (d), does not apply to reporting on conveyance-system cleaning

Conveyance-system cleaning for operation and maintenance of the MS4 and MS4 facilities (catch basins, storm drain inlets, open channels, etc.) is required in the permit (part D.3.a.(3)). Specifically, claimants are required to clean in a timely manner “Any catch basin or storm drain inlet that has accumulated trash and debris greater than 33% of design capacity.... Any MS4 facility that is designed to be self cleaning shall be cleaned of any accumulated trash and debris immediately. Open channels shall be cleaned of observed anthropogenic litter in a timely manner.” Claimants are also required to report on the number of catch basins and inlets inspected and cleaned (J.3.a.(3)(c)iv-viii).

²⁴⁷ *Silicon Valley Taxpayers Ass'n v. Santa Clara Open Space Authority, supra*, 44 Cal.4th 431, 438.

²⁴⁸ See also *Howard Jarvis Taxpayers Ass'n. v. City of Riverside* (1999) 73 Cal.App.4th, 679, holding that a preexisting streetlighting assessment is ‘exempt under Proposition 218.’

Local agencies have fee authority under Health and Safety Code section 5471 to charge fees for storm drainage maintenance and operation as follows:

[A]ny entity²⁴⁹ shall have power, by an ordinance approved by a two-thirds vote of the members of the legislative body thereof, to prescribe, revise and collect, fees, tolls, rates, rentals, or other charges for services and facilities furnished by it, either within or without its territorial limits, in connection with its water, sanitation, storm drainage, or sewerage system. ... Revenues derived under the provisions in this section, shall be used only for the acquisition, construction, reconstruction, maintenance, and operation of water systems and sanitation, storm drainage, or sewerage facilities [Emphasis added.]

This plain meaning of this statutory fee for storm drain operation and maintenance would include conveyance-system cleaning as required in the permit (part D.3.a.(3)(iii)), which the permit specifies as cleaning “catch basins or storm drain inlets.” This cleaning is within the operation and maintenance of the storm drains.

The statutory fee, adopted in 1953, is now subject to the procedural requirements of Proposition 218. As it states in subdivision (d) of Health and Safety Code section 5471:

If the procedures set forth in this section as it read at the time a standby charge was established were followed, the entity may, by ordinance adopted by a two-thirds vote of the members of the legislative body thereof, continue the charge pursuant to this section in successive years at the same rate. If new, increased, or extended assessments are proposed, the entity shall comply with the notice, protest, and hearing procedures in Section 53753 of the Government Code [the codification of the Proposition 218 procedural requirements].

Proposition 218 does not exempt from voting requirements fees for storm drain maintenance like it does for “water, sewer, and refuse collection” in section 6 (c) of article XIII D. In fact, in *Howard Jarvis Taxpayers Ass’n. v. City of Salinas* (2002) 98 Cal.App.4th 1351, the court invalidated a local storm drain fee and held that the exemption from an election for sewer fees does not include storm drainage fees. As to new or increased assessments imposed for storm drainage operation and maintenance, they would be subject to the same election requirement of Proposition 218 (art. XIII D, § 4, subd. (e)) as for other assessments.

Therefore, the Commission finds that local agencies do not have sufficient authority under section 5471 of the Health and Safety Code to impose fees or assessments (under Gov. Code § 17556, subd. (d)) for conveyance system cleaning as required by part D.3.a.(3)(iii) of the permit or reporting as required by part J.3.a.(3)(c)iv-viii of the permit.

Fees or assessments for conveyance-system reports: The Commission also finds that local agencies do not have fee or assessment authority for reporting on conveyance-system (in part J.3.a.(3)(c)iv-viii) on the number of catch basins and inlets inspected and cleaned. Fees or

²⁴⁹ Entity is defined to include “counties, cities and counties, cities, sanitary districts, county sanitation districts, sewer maintenance districts, and other public corporations and districts authorized to acquire, construct, maintain and operate sanitary sewers and sewerage systems.” Health and Safety Code section 5470, subdivision (e).

assessments imposed for this reporting would be subject to a vote of parcel owners. Moreover, Proposition 218 (art. XIII D, § 6, subd. (b)(4)) states: "No fee or charge may be imposed for a service unless that service is actually used by, or immediately available to, the owner of the property in question." The permit does not require the reports on conveyance-system cleaning be available to property owners, only that the reports be submitted to the Regional Board. For these reasons, the Commission finds that Government Code section 17556, subdivision (d), does not apply to reporting on conveyance-system cleaning, and that part J.3.a.(3)(c)iv-viii of the permit imposes costs mandated by the state within the meaning of Government Code section 17556, subdivision (d), and is reimbursable.

Any revenue from existing assessments, or assessments obtained after voter approval, for conveyance system cleaning would be included in the parameters and guidelines as offsets to reimbursement.

C. Claimants have potential fee authority and offsetting revenue if they comply with the requirements of Senate Bill 310 (Stats. 2009, ch. 577)

Effective January 2010, Senate Bill 310 (Stats. 2009, ch. 577) was enacted to add Water Code provisions authorizing local agencies to adopt watershed improvement plans.

SB 310 is intended to establish multiple watershed-based pilot programs.²⁵⁰ The bill creates the California Watershed Improvement Act of 2009 (commencing with Wat. Code, § 16000). Pursuant to Water Code section 16101, each county, city, or special district that is a copermittee under a NPDES permit *may* develop either individually or jointly a watershed improvement plan. The process for developing a watershed improvement plan is to be conducted consistent with all applicable open meeting laws. Each county, city, or special district, or combination thereof, is to notify the appropriate Regional Board of its intention to develop a watershed improvement plan.

The watershed improvement plan is voluntary – it is not necessarily the same watershed activities required by the permit in the test claim.

SB 310 includes the following local agency fee authority:

16103. (a) In addition to making use of other financing mechanisms that are available to local agencies to fund watershed improvement plans and plan measures and facilities, a county, city, special district, or combination thereof may impose fees on activities that generate or contribute to runoff, stormwater, or surface runoff pollution, to pay the costs of the preparation of a watershed improvement plan, and the implementation of a watershed improvement plan if all of the following requirements are met:

- (1) The Regional Board has approved the watershed improvement plan.
- (2) The entity or entities that develop the watershed improvement plan make a finding, supported by substantial evidence, that the fee is reasonably related to the cost of mitigating the actual or anticipated past, present, or future adverse effects of the activities of the feepayer. "Activities," for the purposes of this paragraph,

²⁵⁰ Senate Rules Committee, Office of Senate Floor Analyses, Analysis of Senate Bill 310 (2009-2010 Reg. Sess.) as amended August 31, 2009, page 4.

means the operations and existing structures and improvements subject to regulation under an NPDES permit for municipal separate storm sewer systems.

(3) The fee is not imposed solely as an incident of property ownership.

(b) A county, city, special district, or combination thereof may plan, design, implement, construct, operate, and maintain controls and facilities to improve water quality, including controls and facilities related to the infiltration, retention and reuse, diversion, interception, filtration, or collection of surface runoff, including urban runoff, stormwater, and other forms of runoff, the treatment of pollutants in runoff or other waters subject to water quality regulatory requirements, the return of diverted and treated waters to receiving water bodies, the enhancement of beneficial uses of waters of the state, or the beneficial use or reuse of diverted waters.

(c) The fees authorized under subdivision (a) may be imposed as user-based or regulatory fees consistent with this chapter.

However, Water Code section 16102, subdivision (d), states: "A regional board may, if it deems appropriate, utilize provisions of the approved watershed improvement plan (approved under this new act) to promote compliance with one of more of the regional board's regulatory plans or programs." Subdivision (e) states "Unless a regional board incorporates the provisions of the watershed improvement plan into waste discharge requirements issued to a permittee, the implementation of a watershed improvement plan by a permittee shall not be deemed to be in compliance with those waste discharge requirements."

Therefore, the Commission finds that Water Code section 16103 may only provide offsetting revenue for this test claim to the extent that a local agency voluntarily complies with Water Code section 16101, the Regional Board approves the plan and incorporates it into the test claim permit to satisfy the requirements of the permit.

D. The holding in *San Diego Unified School Dist. v. Commission on State Mandates* does not apply to the test claim activities.

The State Board's January 2010 comments on the draft staff analysis cite *San Diego Unified v. Commission on States Mandates*,²⁵¹ arguing that the permit in this test claim, like the pupil expulsion hearings, are intended to implement a federal law, and has costs that are, in context, de minimis. In *San Diego Unified School District*, the California Supreme Court held costs for hearing procedures and notice are not reimbursable for pupil expulsions that are discretionary under state law. The court found that these hearing procedures are incidental to federal due process requirements and the costs are de minimis, and thus not reimbursable.

The Commission disagrees. The permit in this case does not meet the criteria in the *San Diego Unified School District* case. Unlike the discretionary expulsions in *San Diego Unified School District*, the permit imposes state-mandated activities. And although the permit is intended to implement the federal Clean Water Act, there is no evidence or indication that its costs are de minimis. Claimants submitted declarations of costs totaling over \$10 million for fiscal year

²⁵¹ *San Diego Unified School Dist.*, *supra*, 33 Cal.4th 859.

2007-2008 alone.²⁵² Claimants further submitted documentation of 2008-2009 costs of over \$18 million. The State Board offers no evidence or argument to refute these cost declarations, so the Commission finds that permit activities (except for LID and HMP discussed above) impose costs mandated by the state that are not de minimis.

Summary: To recap fee authority under issue 2, the Commission finds that, due to the fee authority under the police power generally, and as governed by the Mitigation Fee Act, there are no “costs mandated by the state” within the meaning of Government Code sections 17514 and 17556 for the following parts of the permit that have a reasonable relationship to property development:

- Hydromodification Management Plan (part D.1.g);
- Updating the Standard Urban Storm Water Mitigation Plans to include Low Impact Development requirements (parts D.1.d.(7) & D.1.d.(8));

The Commission also finds that the claimants’ fee or assessment authority is not sufficient within the meaning of Government Code section 17556, subdivision (d), and that there are costs mandated by the state within the meaning of Government Code section 17514 for all the activities in the permit, including:

- The fee authority in Public Resources Code section 40059 for the permit activities in parts D.3.a.5 (street sweeping) and J.3.a.(3)(c)x-xv (reporting on street sweeping);
- The fee authority in Health and Safety Code section 5471, for the permit activities in part D.3.a.(3)(iii) (conveyance system cleaning) or part J.3.a.(3)(c)iv-viii (reporting on conveyance system cleaning) of the permit.

Further, the Commission finds the following would be identified as offsetting revenue in the parameters and guidelines for this test claim:

- Any fees or assessments approved by the voters or property owners for any activities in the permit, including those authorized by Public Resources Code section 40059 for street sweeping or reporting on street sweeping, and those authorized by Health and Safety Code section 5471, for conveyance-system cleaning, or reporting on conveyance-system cleaning;
- Any proposed fees that are not subject to a written protest by a majority of parcel owners and that are imposed for street sweeping.
- Effective January 1, 2010, fees imposed pursuant to Water Code section 16103 only to the extent that a local agency voluntarily complies with Water Code section 16101 by developing a watershed improvement plan pursuant to Statutes 2009, chapter 577, and the Regional Board approves the plan and incorporates it into the test claim permit to satisfy the requirements of the permit.

²⁵² The County and city declarations are attached to the test claim.

CONCLUSION

For the reasons discussed above, the Commission finds that parts of 2007 permit issued by the California Regional Quality Control Board, San Diego Region (Order No. R9-2007-001, NPDES No. CAS0108758), are a reimbursable state-mandated program within the meaning of article XIII B, section 6 of the California Constitution for the claimants to perform the following activities.

The term of the permit is from January 24, 2007 – January 23, 2012.²⁵³ The permit terms and conditions are automatically continued, however, pending issuance of a new permit if all requirements of the federal NPDES regulations on the continuation of expired permits are complied with.²⁵⁴

I. Jurisdictional Urban Runoff Management Program and Reporting (parts D & J)

Street sweeping (part D.3.a.(5)): Sweeping of Municipal Areas

Each Copermittee shall implement a program to sweep improved (possessing a curb and gutter) municipal roads, streets, highways, and parking facilities. The program shall include the following measures:

- (a) Roads, streets, highways, and parking facilities identified as consistently generating the highest volumes of trash and/or debris shall be swept at least two times per month.
- (b) Roads, streets, highways, and parking facilities identified as consistently generating moderate volumes of trash and/or debris shall be swept at least monthly.
- (c) Roads, streets, highways, and parking facilities identified as generating low volumes of trash and/or debris shall be swept as necessary, but no less than once per year.

Street sweeping reporting (J.3.a.(3)(c)x-xv): Report annually on the following:

- x. Identification of the total distance of curb-miles of improved roads, streets, and highways identified as consistently generating the highest volumes of trash and/or debris, as well as the frequency of sweeping conducted for such roads, streets, and highways.
- xi. Identification of the total distance of curb-miles of improved roads, streets, and highways identified as consistently generating moderate volumes of trash and/or debris, as well as the frequency of sweeping conducted for such roads, streets, and highways.

²⁵³ According to attachment B of the permit: “*Effective Date*. This Order shall become effective on the date of its adoption provided the USEPA has no objection....” “(q) *Expiration*. This Order expires five years after adoption.”

²⁵⁴ According to attachment B of the permit: “(r) *Continuation of Expired Order* [23 CCR 2235.4]. After this Order expires, the terms and conditions of this Order are automatically continued pending issuance of a new permit if all requirements of the federal NPDES regulations on the continuation of expired permits (40 CFR 122.6) are complied with.”

- xii. Identification of the total distance of curb-miles of improved roads, streets, and highways identified as consistently generating low volumes of trash and/or debris, as well as the frequency of sweeping conducted for such roads, streets, and highways.
- xiii. Identification of the total distance of curb-miles swept.
- xiv. Identification of the number of municipal parking lots, the number of municipal parking lots swept, and the frequency of sweeping.
- xv. Amount of material (tons) collected from street and parking lot sweeping.

Conveyance system cleaning (D.3.a.(3)):

- (a) Implement a schedule of inspection and maintenance activities to verify proper operation of all municipal structural treatment controls designed to reduce pollutant discharges to or from its MS4s and related drainage structures.
- (b) Implement a schedule of maintenance activities for the MS4 and MS4 facilities (catch basins, storm drain inlets, open channels, etc). The maintenance activities shall, at a minimum, include: [¶]...[¶]
- iii. Any catch basin or storm drain inlet that has accumulated trash and debris greater than 33% of design capacity shall be cleaned in a timely manner. Any MS4 facility that is designed to be self cleaning shall be cleaned of any accumulated trash and debris immediately. Open channels shall be cleaned of observed anthropogenic litter in a timely manner.

Conveyance system cleaning reporting (J.3.a.(3)(c)(iv)-(viii)): Update and revise the copermittees' JURMPs to contain:

- iv. Identification of the total number of catch basins and inlets, the number of catch basins and inlets inspected, the number of catch basins and inlets found with accumulated waste exceeding cleaning criteria, and the number of catch basins and inlets cleaned.
- v. Identification of the total distance (miles) of the MS4, the distance of the MS4 inspected, the distance of the MS4 found with accumulated waste exceeding cleaning criteria, and the distance of the MS4 cleaned.
- vi. Identification of the total distance (miles) of open channels, the distance of the open channels inspected, the distance of the open channels found with anthropogenic litter, and the distance of open channels cleaned.
- vii. Amount of waste and litter (tons) removed from catch basins, inlets, the MS4, and open channels, by category.
- viii. Identification of any MS4 facility found to require inspection less than annually following two years of inspection, including justification for the finding.

Educational component (part D.5): To implement an education program using all media as appropriate to (1) measurably increase the knowledge of the target communities regarding MS4s, impacts of urban runoff on receiving waters, and potential BMP solutions for the target audience; and (2) measurably change the behavior of target communities and thereby reduce pollutant releases to MS4s and

the environment. At a minimum, the education program shall meet the requirements of this section and address the following target communities:

- Municipal Departments and Personnel
- Construction Site Owners and Developers
- Industrial Owners and Operators
- Commercial Owners and Operators
- Residential Community, General Public, and School Children

a.(1) Each Copermittee shall educate each target community on the following topics where appropriate: (i) Erosion prevention, (ii) Non storm water discharge prohibitions, and (iii) BMP types: facility or activity specific, LID,-source control, and treatment control.

a.(2) Copermittee educational programs shall emphasize underserved target audiences, high-risk behaviors, and “allowable” behaviors and discharges, including various ethnic and socioeconomic groups and mobile sources.

b. SPECIFIC REQUIREMENTS

(1) Municipal Departments and Personnel Education

(a) Municipal Development Planning – Each Copermittee shall implement an education program so that its Planning Boards and Elected Officials, if applicable, have an understanding of:

- i. Federal, state, and local water quality laws and regulations applicable to Development Projects;
- ii. The connection between land use decisions and short and long-term water quality impacts (i.e., impacts from land development and urbanization);
- iii. How to integrate LID BMP requirements into the local regulatory program(s) and requirements; and
- iv. Methods of minimizing impacts to receiving water quality resulting from development, including:

- [1] Storm water management plan development and review;
- [2] Methods to control downstream erosion impacts;
- [3] Identification of pollutants of concern;
- [4] LID BMP techniques;
- [5] Source control BMPs; and
- [6] Selection of the most effective treatment control BMPs for the pollutants of concern.

(b) Municipal Construction Activities – Each Copermittee shall implement an education program that includes annual training prior to the rainy season so that its construction, building, code enforcement, and grading review staffs, inspectors, and other responsible construction staff have, at a minimum, an understanding of the following topics, as appropriate for the target audience:

- iii. Proper implementation of erosion and sediment control and other BMPs to minimize the impacts to receiving water quality resulting from construction activities.
- iv. The Copermittee's inspection, plan review, and enforcement policies and procedures to verify consistent application.
- v. Current advancements in BMP technologies.
- vi. SUSMP Requirements including treatment options, LID BMPs, source control, and applicable tracking mechanisms.

(c) Municipal Industrial/Commercial Activities - Each Copermittee shall train staff responsible for conducting storm water compliance inspections and enforcement of industrial and commercial facilities at least once a year [except for staff who solely inspect new development]. Training shall cover inspection and enforcement procedures, BMP implementation, and reviewing monitoring data.

(d) Municipal Other Activities – Each Copermittee shall implement an education program so that municipal personnel and contractors performing activities which generate pollutants have an understanding of the activity specific BMPs for each activity to be performed.

(2) New Development and Construction Education

As early in the planning and development process as possible and all through the permitting and construction process, each Copermittee shall implement a program to educate project applicants, developers, contractors, property owners, community planning groups, and other responsible parties. The education program shall provide an understanding of the topics listed in Sections D.5.b.(1)(a) and D.5.b.(1)(b) above, as appropriate for the audience being educated. The education program shall also educate project applicants, developers, contractors, property owners, and other responsible parties on the importance of educating all construction workers in the field about stormwater issues and BMPs through formal or informal training.

(3) Residential, General Public, and School Children Education

Each Copermittee shall collaboratively conduct or participate in development and implementation of a plan to educate residential, general public, and school children target communities. The plan shall evaluate use of mass media, mailers, door hangers, booths at public events, classroom education, field trips, hands-on experiences, or other educational methods.

II. Watershed Urban Runoff Management Program (parts E.2.f & E.2.g.)

Each Copermittee shall collaborate with other Copermittees within its WMA(s) [Watershed Management Area] as in Table 4 [of the permit] to develop and implement an updated Watershed Urban Runoff Management Program for each watershed. Each updated Watershed Urban Runoff Management Program shall meet the requirements of section E of this Order, reduce the discharge of pollutants from the MS4 to the MEP, and prevent urban runoff discharges from the MS4 from causing or contributing to a violation of water quality standards. At

a minimum, each Watershed Urban Runoff Management Program shall include the elements described below: [¶]...[¶]

[Paragraphs (a) through (e) were not part of the test claim.]

f. Watershed Activities

(1) The Watershed Copermittees shall identify and implement Watershed Activities that address the high priority water quality problems in the WMA. Watershed Activities shall include both Watershed Water Quality Activities and Watershed Education Activities. These activities may be implemented individually or collectively, and may be implemented at the regional, watershed, or jurisdictional level.

(a) Watershed Water Quality Activities are activities other than education that address the high priority water quality problems in the WMA. A Watershed Water Quality Activity implemented on a jurisdictional basis must be organized and implemented to target a watershed's high priority water quality problems or must exceed the baseline jurisdictional requirements of section D of this Order.

(b) Watershed Education Activities are outreach and training activities that address high priority water quality problems in the WMA.

(2) A Watershed Activities List shall be submitted with each updated Watershed Urban Runoff Management Plan (WURMP) and updated annually thereafter. The Watershed Activities List shall include both Watershed Water Quality Activities and Watershed Education Activities, along with a description of how each activity was selected, and how all of the activities on the list will collectively abate sources and reduce pollutant discharges causing the identified high priority water quality problems in the WMA.

(3) Each activity on the Watershed Activities List shall include the following information:

- (a) A description of the activity;
- (b) A time schedule for implementation of the activity, including key milestones;
- (c) An identification of the specific responsibilities of Watershed Copermittees in completing the activity;
- (d) A description of how the activity will address the identified high priority water quality problem(s) of the watershed;
- (e) A description of how the activity is consistent with the collective watershed strategy;
- (f) A description of the expected benefits of implementing the activity; and
- (g) A description of how implementation effectiveness will be measured.

(4) Each Watershed Copermittee shall implement identified Watershed Activities pursuant to established schedules. For each Permit year, no less than two Watershed Water Quality Activities and two Watershed Education Activities shall

be in an active implementation phase. A Watershed Water Quality Activity is in an active implementation phase when significant pollutant load reductions, source abatement, or other quantifiable benefits to discharge or receiving water quality can reasonably be established in relation to the watershed's high priority water quality problem(s). Watershed Water Quality Activities that are capital projects are in active implementation for the first year of implementation only. A Watershed Education Activity is in an active implementation phase when changes in attitudes, knowledge, awareness, or behavior can reasonably be established in target audiences.

g. Watershed Copermittees shall collaborate to develop and implement the Watershed Urban Runoff Management Programs. Watershed Copermittee collaboration shall include frequent regularly scheduled meetings.

III. Regional Urban Runoff Management Program (parts F.1, F.2 & F.3)

The Regional Urban Runoff Management Program shall, at a minimum:

Each copermittee shall collaborate with the other Copermittees to develop, implement, and update as necessary a Regional Urban Runoff Management Program that meets the requirements of section F of the permit, reduces the discharge of pollutants from the MS4 to the MEP, and prevents urban runoff discharges from the MS4 from causing or contributing to a violation of water quality standards. The Regional Urban Runoff Management Program shall, at a minimum: []...[]

1. Develop and implement a Regional Residential Education Program. The program shall include:

a. Pollutant specific education which focuses educational efforts on bacteria, nutrients, sediment, pesticides, and trash. If a different pollutant is determined to be more critical for the education program, the pollutant can be substituted for one of these pollutants.

b. Education efforts focused on the specific residential sources of the pollutants listed in section F.1.a.

2. Develop the standardized fiscal analysis method required in section G of the permit, and,

3. Facilitate the assessment of the effectiveness of jurisdictional, watershed, and regional programs.

IV. Program Effectiveness Assessment (parts I.1 & I.2)

1. Jurisdictional

a. As part of its Jurisdictional Urban Runoff Management Program, each Copermittee shall annually assess the effectiveness of its Jurisdictional Urban Runoff Management Program implementation. At a minimum, the annual effectiveness assessment shall:

(1) Specifically assess the effectiveness of each of the following:

- (a) Each significant jurisdictional activity/BMP or type of jurisdictional activity/BMP implemented;
 - (b) Implementation of each major component of the Jurisdictional Urban Runoff Management Program (Development Planning, Construction, Municipal, Industrial/Commercial, Residential, Illicit Discharge²⁵⁵ Detection and Elimination, and Education); and
 - (c) Implementation of the Jurisdictional Urban Runoff Management Program as a whole.
- (2) Identify and utilize measurable targeted outcomes, assessment measures, and assessment methods for each of the items listed in section I.1.a.(1) above.
 - (3) Utilize outcome levels 1-6²⁵⁶ to assess the effectiveness of each of the items listed in section I.1.a.(1) above, where applicable and feasible.
 - (4) Utilize monitoring data and analysis from the Receiving Waters Monitoring Program to assess the effectiveness each of the items listed in section I.1.a.(1) above, where applicable and feasible.
 - (5) Utilize Implementation Assessment,²⁵⁷ Water Quality Assessment,²⁵⁸ and Integrated Assessment,²⁵⁹ where applicable and feasible.

²⁵⁵ Illicit discharge, as defined in Attachment C of the permit, is “any discharge to the MS4 that is not composed entirely of storm water except discharges pursuant to a NPDES permit and discharges resulting from firefighting activities [40 C.F.R. 122.26 (b)(2)].”

²⁵⁶ Effectiveness assessment outcome levels are defined in Attachment C of the permit as follows: Effectiveness assessment outcome level 1 – Compliance with Activity-based Permit Requirements – Level 1 outcomes are those directly related to the implementation of specific activities prescribed by this Order or established pursuant to it. Effectiveness assessment outcome level 2 – Changes in Attitudes, Knowledge, and Awareness – Level 2 outcomes are measured as increases in knowledge and awareness among target audiences such as residents, business, and municipal employees. Effectiveness assessment outcome level 3 – Behavioral Changes and BMP Implementation – Level 3 outcomes measure the effectiveness of activities in affecting behavioral change and BMP implementation. Effectiveness assessment outcome level 4 – Load Reductions – Level 4 outcomes measure load reductions which quantify changes in the amounts of pollutants associated with specific sources before and after a BMP or other control measure is employed. Effectiveness assessment outcome level 5 – Changes in Urban Runoff and Discharge Quality – Level 5 outcomes are measured as changes in one or more specific constituents or stressors in discharges into or from MS4s. Effectiveness assessment outcome level 6 – Changes in Receiving Water Quality – Level 6 outcomes measure changes to receiving water quality resulting from discharges into and from MS4s, and may be expressed through a variety of means such as compliance with water quality objectives or other regulatory benchmarks, protection of biological integrity [i.e., ecosystem health], or beneficial use attainment.

²⁵⁷ Implementation Assessment is defined in Attachment C of the permit as an “Assessment conducted to determine the effectiveness of copermitttee programs and activities in achieving

b. Based on the results of the effectiveness assessment, each Copermittee shall annually review its jurisdictional activities or BMPs to identify modifications and improvements needed to maximize Jurisdictional Urban Runoff Management Program effectiveness, as necessary to achieve compliance with section A of this Order. The Copermittees shall develop and implement a plan and schedule to address the identified modifications and improvements. Jurisdictional activities/BMPs that are ineffective or less effective than other comparable jurisdictional activities/BMPs shall be replaced or improved upon by implementation of more effective jurisdictional activities/BMPs. Where monitoring data exhibits persistent water quality problems that are caused or contributed to by MS4 discharges, jurisdictional activities or BMPs applicable to the water quality problems shall be modified and improved to correct the water quality problems.

c. As part of its Jurisdictional Urban Runoff Management Program Annual Reports, each Copermittee shall report on its Jurisdictional Urban Runoff Management Program effectiveness assessment as implemented under each of the requirements of sections I.1.a and I.1.b above.

2. Watershed

a. As part of its Watershed Urban Runoff Management Program, each watershed group of Copermittees (as identified in Table 4)²⁶⁰ shall annually assess the effectiveness of its Watershed Urban Runoff Management Program implementation. At a minimum, the annual effectiveness assessment shall:

(1) Specifically assess the effectiveness of each of the following:

(a) Each Watershed Water Quality Activity implemented;

(b) Each Watershed Education Activity implemented; and

(c) Implementation of the Watershed Urban Runoff Management Program as a whole.

measureable targeted outcomes, and in determining whether priority sources of water quality problems are being effectively addressed.”

²⁵⁸ Water Quality Assessment is defined in Attachment C of the permit as an “Assessment conducted to evaluate the condition of non-storm water discharges, and the water bodies which receive these discharges.”

²⁵⁹ Integrated Assessment is defined in Attachment C of the permit as an “Assessment to be conducted to evaluate whether program implementation is properly targeted to and resulting in the protection and improvement of water quality.”

²⁶⁰ Table 4 of the permit divides the copermittees into nine watershed management areas. For example, the San Luis Rey River watershed management area lists the city of Oceanside, Vista and the County of San Diego as the responsible watershed copermittees. Table 4 also lists where the hydrologic units are and major receiving water bodies.

- 2) Identify and utilize measurable targeted outcomes, assessment measures, and assessment methods for each of the items listed in section I.2.a.(1) above.
- 3) Utilize outcome levels 1-6 to assess the effectiveness of each of the items listed in sections I.2.a.(1)(a) and I.2.a.(1)(b) above, where applicable and feasible.
- 4) Utilize outcome levels 1-4 to assess the effectiveness of implementation of the Watershed Urban Runoff Management Program as a whole, where applicable and feasible.
- 5) Utilize outcome levels 5 and 6 to qualitatively assess the effectiveness of implementation of the Watershed Urban Runoff Management Program as a whole, focusing on the high priority water quality problem(s) of the watershed. These assessments shall attempt to exhibit the impact of Watershed Urban Runoff Management Program implementation on the high priority water quality problem(s) within the watershed.
- 6) Utilize monitoring data and analysis from the Receiving Waters Monitoring Program to assess the effectiveness each of the items listed in section I.2.a.(1) above, where applicable and feasible.
- 7) Utilize Implementation Assessment, Water Quality Assessment, and Integrated Assessment, where applicable and feasible.

b. Based on the results of the effectiveness assessment, the watershed Copermittees shall annually review their Watershed Water Quality Activities, Watershed Education Activities, and other aspects of the Watershed Urban Runoff Management Program to identify modifications and improvements needed to maximize Watershed Urban Runoff Management Program effectiveness, as necessary to achieve compliance with section A of this Order.²⁶¹ The Copermittees shall develop and implement a plan and schedule to address the identified modifications and improvements. Watershed Water Quality Activities/Watershed Education Activities that are ineffective or less effective than other comparable Watershed Water Quality Activities/Watershed Education Activities shall be replaced or improved upon by implementation of more effective Watershed Water Quality Activities/Watershed Education Activities. Where monitoring data exhibits persistent water quality problems that are caused or contributed to by MS4 discharges, Watershed Water Quality Activities and Watershed Education Activities applicable to the water quality problems shall be modified and improved to correct the water quality problems.

c. As part of its Watershed Urban Runoff Management Program Annual Reports, each watershed group of Copermittees (as identified in Table 4) shall report on its Watershed Urban Runoff Management Program effectiveness assessment as implemented under each of the requirements of section I.2.a and I.2.b above.

Long Term Effectiveness Assessment (I.5):

²⁶¹ Section A is "Prohibitions and Receiving Water Limitations."

a. Collaborate with the other Copermittees to develop a Longterm Effectiveness Assessment (LTEA), which shall build on the results of the Copermittees' August 2005 Baseline LTEA. The LTEA shall be submitted by the Principal Permittee to the Regional Board no later than 210 days in advance of the expiration of this Order.

b. The LTEA shall be designed to address each of the objectives listed in section I.3.a.(6)²⁶² of this Order, and to serve as a basis for the Copermittees' Report of Waste Discharge for the next permit cycle.

c. The LTEA shall address outcome levels 1-6, and shall specifically include an evaluation of program implementation to changes in water quality (outcome levels 5 and 6).

d. The LTEA shall assess the effectiveness of the Receiving Waters Monitoring Program in meeting its objectives and its ability to answer the five core management questions. This shall include assessment of the frequency of monitoring conducted through the use of power analysis and other pertinent statistical methods. The power analysis shall identify the frequency and intensity of sampling needed to identify a 10% reduction in the concentration of constituents causing the high priority water quality problems within each watershed over the next permit term with 80% confidence.

e. The LTEA shall address the jurisdictional, watershed, and regional programs, with an emphasis on watershed assessment.

1. Collaborate with all other Copermittees regulated under the permit to address common issues, promote consistency among Jurisdictional Urban Runoff Management Programs and Watershed Urban Runoff Management Programs, and to plan and coordinate activities required under this Order.

V. All Copermittee Collaboration (part L)

(a) Collaborate with all other Copermittees to address common issues, promote consistency among Jurisdictional Urban Runoff Management Programs and

²⁶² Part I.3.a.(6) of the permit states: At a minimum, the annual effectiveness assessment shall:
(6) Include evaluation of whether the Copermittees' jurisdictional, watershed, and regional effectiveness assessments are meeting the following objectives: (a) Assessment of watershed health and identification of water quality issues and concerns. (b) Evaluation of the degree to which existing source management priorities are properly targeted to, and effective in addressing, water quality issues and concerns. (c) Evaluation of the need to address additional pollutant sources not already included in Copermittee programs. (d) Assessment of progress in implementing Copermittee programs and activities. (e) Assessment of the effectiveness of Copermittee activities in addressing priority constituents and sources. (f) Assessment of changes in discharge and receiving water quality. (g) Assessment of the relationship of program implementation to changes in pollutant loading, discharge quality, and receiving water quality. (h) Identification of changes necessary to improve Copermittee programs, activities, and effectiveness assessment methods and strategies.

Watershed Urban Runoff Management Programs, and to plan and coordinate activities required under the permit.

Jointly execute and submit to the Regional Board no later than 180 days after adoption of the permit, a Memorandum of Understanding, Joint Powers Authority, or other instrument of formal agreement that at a minimum: [¶]...[¶]

3. Establishes a management structure to promote consistency and develop and implement regional activities;
4. Establishes standards for conducting meetings, decisions-making, and cost-sharing.
5. Provides guidelines for committee and workgroup structure and responsibilities;
6. Lays out a process for addressing Copermittee non-compliance with the formal agreement.

The Commission finds that due to the fee authority under the police power (Cal. Const. art. XI, § 7) and as governed by the Mitigation Fee Act, there are no “costs mandated by the state” within the meaning of Government Code sections 17514 and 17556 for the following parts of the permit that have a reasonable relationship to property development:

- Hydromodification Management Plan (part D.1.g);
- Updating the Standard Urban Storm Water Mitigation Plans to include Low Impact Development requirements (parts D.1.d.(7) & D.1.d.(8));

The Commission also finds that the claimants’ fee or assessment authority is not sufficient within the meaning of Government Code section 17556, subdivision (d), and that there are costs mandated by the state within the meaning of Government Code section 17514 for all the activities in the permit, including:

- The fee authority in Public Resources Code section 40059 for the permit activities in parts D.3.a.5 (street sweeping) and J.3.a.(3)(c)x-xv (reporting on street sweeping);
- The fee authority in Health and Safety Code section 5471, for the permit activities in part D.3.a.(3)(iii) (conveyance system cleaning) or part J.3.a.(3)(c)iv-viii (reporting on conveyance system cleaning) of the permit.

Further, the Commission finds the following would be identified as offsetting revenue in the parameters and guidelines for this test claim:

- Any fees or assessments approved by the voters or property owners for any activities in the permit, including those authorized by Public Resources Code section 40059 for street sweeping or reporting on street sweeping, and those authorize by Health and Safety Code section 5471, for conveyance-system cleaning, or reporting on conveyance-system cleaning;
- Any proposed fees that are not subject to a written protest by a majority of parcel owners and that are imposed for street sweeping.

- Fees imposed pursuant to Water Code section 16103 only to the extent that a local agency voluntarily complies with Water Code section 16101, the Regional Board approves the plan and incorporates it into the test claim permit to satisfy the requirements of the permit.

ATTACHMENT 28

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Attorneys for Petitioners

SUPERIOR COURT OF THE STATE OF CALIFORNIA
COUNTY OF SACRAMENTO

**STATE OF CALIFORNIA DEPARTMENT OF
FINANCE, STATE WATER RESOURCES
CONTROL BOARD, AND CALIFORNIA
REGIONAL WATER QUALITY CONTROL
BOARD, SAN DIEGO REGION,**

Petitioners,

v.

COMMISSION ON STATE MANDATES,

Respondent,

**COUNTY OF SAN DIEGO AND CITIES OF
CARLSBAD, CHULA VISTA, CORONADO, DEL
MAR, EL CAJON, ENCINITAS, ESCONDIDO,
IMPERIAL BEACH, LA MESA, LEMON
GROVE, NATIONAL CITY, OCEANSIDE,
POWAY, SAN DIEGO, SAN MARCOS, SANTEE,
SOLANA BEACH, AND VISTA,**

Real Parties In Interest.

CASE NO.:

**PETITION FOR WRIT OF
ADMINISTRATIVE MANDAMUS**

[Gov. Code, § 17559(b);
Code Civ. Proc., § 1094.5]

1 Petitioners State of California Department of Finance (“Department of Finance”), State
2 Water Resources Control Board (“State Water Board”), and California Regional Water Quality
3 Control Board, San Diego Region (“San Diego Regional Board”) hereby petition this Court for a
4 writ of administrative mandamus pursuant to Government Code section 17559, subsection (b) and
5 Code of Civil Procedure section 1094.5. Petitioners seek a writ directed at respondent
6 Commission on State Mandates (“Commission”), commanding it to set aside, in part, its
7 Statement of Decision relating to Test Claim No. 07-TC-09 (“Test Claim”), which was issued by
8 the Commission on March 30, 2010, and to issue a new decision.

9 Petitioners allege as follows:

10 1. Petitioner Department of Finance is the state government entity charged with
11 supervising the financial and business policies of the State of California. The Department of
12 Finance is given these fiscal supervisory powers in order to conserve the financial interests of the
13 State, to prevent improvidence, and to control the expenditure of State funds by various state
14 government entities. The Department of Finance is authorized to institute proceedings as it
15 deems proper in order to conserve the rights and interests of the State. Petitioner Department of
16 Finance is aggrieved by the decision of respondent Commission to grant the Test Claim, as
17 alleged herein. The Department of Finance is authorized to commence this proceeding to set
18 aside the decision of respondent Commission in part, on the grounds that it is not supported by
19 substantial evidence and is contrary to law.

20 2. Petitioner State Water Board is within the California Environmental Protection
21 Agency. Petitioner State Water Board, together with the nine Regional Water Quality Control
22 Boards, comprise the principal agencies with primary responsibility for coordination and control
23 of water quality in the State of California. Petitioner State Water Board is the state water
24 pollution control agency for all purposes stated in the Federal Water Pollution Control Act
25 (“Clean Water Act”). Petitioner State Water Board is aggrieved by the decision of respondent
26 Commission to grant the Test Claim, as alleged herein. The State Water Board is authorized to
27 commence this proceeding to set aside the decision of respondent Commission in part, on the
28 grounds that it is not supported by substantial evidence and is contrary to law.

1 3. Petitioner San Diego Regional Board is the state agency with primary
2 responsibility to protect water quality in the San Diego region. Whereas the State Water Board
3 establishes statewide policy for water quality control, the San Diego Regional Board formulates
4 and adopts water quality control plans for areas within its jurisdiction. The San Diego Regional
5 Board issues waste discharge requirements within the San Diego region, including waste
6 discharge requirements that serve as National Pollutant Discharge Elimination System (NPDES)
7 permits. Petitioner San Diego Regional Board is aggrieved by the decision of respondent
8 Commission to grant the Test Claim, as alleged herein. The San Diego Regional Board is
9 authorized to commence this proceeding to set aside the decision of respondent Commission in
10 part, on the grounds that it is not supported by substantial evidence and is contrary to law.

11 4. Respondent Commission is the quasi-judicial body charged with carrying out
12 the administrative procedures for resolving claims for reimbursement of state mandated local
13 costs arising out of article XIII B, section 6, of the California Constitution. The functions,
14 powers, and duties of respondent Commission are set out in Government Code section 17500, et
15 seq., and the Commission's implementing regulations, California Code of Regulations, title 2,
16 section 1181, et seq.

17 5. Real parties in interest, the County of San Diego and cities of Carlsbad, Chula
18 Vista, Coronado, Del Mar, El Cajon, Encinitas, Escondido, Imperial Beach, La Mesa, Lemon
19 Grove, National City, Oceanside, Poway, San Diego, San Marcos, Santee, Solana Beach, and
20 Vista (collectively, "San Diego Real Parties"), are "local governments" within the meaning of
21 article XIII B, section 6 of the California Constitution.

22 6. On or about June 20, 2008, the County of San Diego filed Test Claim No. 07-
23 TC-09.

24 7. Between July and August 2008, the cities of Carlsbad, Chula Vista, Coronado,
25 Del Mar, El Cajon, Encinitas, Escondido, Imperial Beach, La Mesa, Lemon Grove, National City,
26 Oceanside, Poway, San Diego, San Marcos, Santee, Solana Beach, and Vista joined the filing of
27 Test Claim No. 07-TC-09 and were added as co-claimants by the Commission.

28

1 8. The Test Claim is the subject of this proceeding and, therefore, the San Diego
2 Real Parties have an interest in the outcome of this petition to set aside a portion of the decision
3 of respondent Commission.

4 9. Venue is proper because the cause of action arose in Sacramento County.

5 10. The Test Claim pertains to a NPDES permit issued by the San Diego Regional
6 Board in 2007 (Board Order No. R9-2007-0001, NPDES Permit CAS0108758) ("San Diego
7 Permit") (attached hereto as Exhibit A).

8 11. Congress established the NPDES permit system as part of the 1972
9 amendments to the Clean Water Act, which prohibits all discharges of pollutants from point
10 sources to waters of the United States, unless specifically authorized by an NPDES permit.

11 12. Under the Clean Water Act, the U.S. Environmental Protection Agency ("U.S.
12 EPA") would issue the NPDES permits unless a state obtains authorization to issue them in lieu
13 of issuance by the U.S. EPA.

14 13. In 1972, the California Legislature enacted Chapter 5.5 of the Porter-Cologne
15 Water Quality Control Act (commencing at Water Code section 13370), which authorized the
16 State Water Board to apply to the U.S. EPA for authority to issue NPDES permits in lieu of
17 issuance by the U.S. EPA.

18 14. In 1973, California became the first state in the nation to obtain authorization to
19 issue NPDES permits. The State Water Board and the nine regional boards, including the San
20 Diego Regional Board, implement the NPDES program in California. Therefore, the U.S. EPA
21 does not directly issue NPDES permits to dischargers in California.

22 15. Separate storm sewer systems owned and/or operated by municipalities
23 ("MS4s") are covered "point sources" within the meaning of the Clean Water Act and its NPDES
24 program. Therefore, federal law requires municipalities, such as the San Diego Real Parties, to
25 obtain an NPDES permit before discharging pollutants from their systems. Federal regulations
26 further require permittees to apply for a new permit every five years.

27 16. Although the State Water Board and regional water boards are State agencies,
28 they issue NPDES permits that must be "no less stringent" than required by applicable federal law

1 and regulations. California regulations require that NPDES permits be issued in accordance with
2 the U.S. EPA's NPDES regulations.

3 17. U.S. EPA retains continuing jurisdiction and authority to disapprove specific
4 permits and to supplant the water boards as the permitting authority if State-issued permits do not
5 meet federal requirements.

6 18. The federal Clean Water Act mandates that NPDES permits issued for MS4s
7 "shall require controls to reduce the discharge of pollutants to the maximum extent practicable,
8 including management practices, control techniques and system, design and engineering methods,
9 and such other provisions as the Administrator or the State determines appropriate for the control
10 of such pollutants." 33 U.S.C. § 1342 (p)(3)(B)(iii).

11 19. U.S. EPA regulations further mandate that entities subject to the permitting
12 system must propose management programs that the permitting authority (i.e., the State Water
13 Board and the nine regional water boards) will consider "when developing permit conditions to
14 reduce pollutants in discharges to the maximum extent practicable." 40 C.F.R. § 122.26
15 (D)(2)(iv)(1998). The management programs must include "a comprehensive planning process .
16 . to reduce the discharge of pollutants to the maximum extent practicable using management
17 practices, control techniques and system, design and engineering methods, and such other
18 provisions which are appropriate." (*Ibid.*)

19 20. The San Diego Real Parties, among others, own and/or operate an MS4 that
20 discharges pollutants into waters of the United States, as defined by the Clean Water Act.

21 21. The San Diego Real Parties applied for, and received, their first NPDES permit
22 for the MS4 in 1990. They applied for, and received, their second NPDES permit for the MS4 in
23 2001.

24 22. In 2005, the San Diego Real Parties submitted another permit application to the
25 San Diego Regional Board. After receiving voluminous comments from stakeholders and
26 interested parties, holding public hearings, meetings and workshops, and after consulting with the
27 San Diego Real Parties, either directly or by proxy, the San Diego Regional Board issued the San
28 Diego Permit.

1 23. In the Test Claim, claimants asserted, among other things, that the following
2 parts of the San Diego Permit constitute reimbursable state mandated activities within the
3 meaning of Government Code section 17514 and article XIII B, section 6, of the California
4 Constitution:

- 5 (a) D.1.d.(7) and D.1.d.(8) (low-impact development) (Exhibit A at 21-22);
6 (b) D.1.g (hydromodification management plan) (Exhibit A at 25-28);
7 (c) D.3.a(5) and J.3.a(3)(c) x-xv of the San Diego Permit (street sweeping
8 and reporting thereof) (Exhibit A at 34 & 68, respectively)
9 (d) D.3.a(3) and J.3.a.(3)(c) iv-viii of the San Diego Permit (conveyance
10 system cleaning and reporting thereof) (Exhibit A at 33-34 & 67-68, respectively)
11 (e) D.5 (educational components) (Exhibit A at 44-46);
12 (f) E.2.f and E.2.g (watershed activities and collaboration in the Watershed
13 Urban Runoff Management Program) (Exhibit A at 48-49);
14 (g) F.1, F.2, and F.3 (Regional Urban Runoff Management Program) (Exhibit
15 A at 50);
16 (h) I.1 and I.2 (program effectiveness assessment) (Exhibit A at 52-54);
17 (i) I.5 of the (long-term effectiveness assessment) (Exhibit A at 57); and
18 (j) L (all permittee collaboration) (Exhibit A at 76).

19 24. Pursuant to article XIII B, section 6, whenever the Legislature or any state
20 agency mandates a new program or higher level of service on a local government, the state shall
21 provide a subvention of funds to reimburse the local government for the costs of such program or
22 increased level of service.

23 25. Government Code section 17514 provides that “[c]osts mandated by the state”
24 means any increased costs which a local agency is required to incur after July 1, 1980, as a result
25 of any statute enacted on or after January 1, 1975, or any executive order implementing any
26 statute enacted on or after January 1, 1975, which mandates a new program or higher level of
27 service of an existing program within the meaning of article XIII B, section 6.
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1 26. On March 30, 2010, respondent Commission issued its Statement of Decision
2 (attached hereto as Exhibit B), finding, among other things, that the following permit parts are
3 state mandates subject to article XIII B, section 6 (hereinafter referred to as "Commission-Found
4 Mandates"):

5 (a) D.1.g (except part D.1.g.(2) and except for municipal priority
6 development projects) (Exhibit B at 45);

7 (b) D.1.d.(7) and (8) for private priority development projects (Exhibit B at
8 51);

9 (c) D.3.a.(5) and J.3.a.(3)(c)x-xv (Exhibit B at 55);

10 (d) D.3.a.(3) and J.3.a.(3)(c)iv-viii (Exhibit B at 59);

11 (e) D.5 (Exhibit B at 63);

12 (f) E.2.f and E.2.g (Exhibit B at 74);

13 (g) F.1, F.2, and F.3 (Exhibit B at 80-83);

14 (h) I.1 and I.2 (Exhibit B at 86);

15 (i) I.5 (Exhibit B at 92); and

16 (i) L (Exhibit B at 94).

17 27. The Commission also found that the following permit parts impose a "new
18 program or higher level of service" within the meaning of article XIII B, section 6 (hereinafter
19 referred to as "Commission-Found New Programs"):

20 (a) D.1.g (except part D.1.g.(2) and except for municipal priority
21 development projects) (Exhibit B at 50);

22 (b) D.1.d.(7) and (8) for private priority development projects (Exhibit B at
23 53);

24 (c) D.3.a.(5) and J.3.a.(3)(c)x-xv (Exhibit B at 57);

25 (d) D.3.a.(3)(b)(iii) and J.3.a.(3)(c)iv-viii (Exhibit B at 61-62);

26 (e) D.5.a.(1), D.5.a.(2), D.5.b.(1)(a)(i) & (ii) for planning boards and elected
27 officials, D.5.b.(1)(a)(iii) & (iv), D.5.b.(1)(b)(iii)-(vi), D.5.(b)(1)(c) and (d), D.5.b.(2) for project
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1 applicants, contractors, or community planning groups who are not developers or construction
2 site owners, and D.5.b.(3) (Exhibit B at 68-71);

3 (f) E.2.f and E.2.g (Exhibit B at 77-78);

4 (g) F.1, F.2, and F.3 (Exhibit B at 80-83);

5 (h) I.1 and I.2 (Exhibit B at 89, 91);

6 (i) I.5 (Exhibit B at 93)

7 (i) L.1.a.(3)-(6) (Exhibit B at 96).

8 28. The Commission also found that the Commission-Found New Programs, except
9 permit parts D.1.g, D.1.d.(7), and D.1.d.(8), are reimbursable state mandates within the meaning
10 of article XIII B, section 6 and Government Code section 17514 due in part to the San Diego Real
11 Parties' lack of sufficient fee authority.

12 29. The Commission's finding that the Commission-Found Mandates are state
13 mandates subject to article XIII B, section 6 constitutes a prejudicial abuse of discretion within
14 the meaning of Code of Civil Procedure section 1094.5, subsection (b). The Commission did not
15 proceed in the manner required by law and the finding is not supported by substantial evidence
16 for the following reasons:

17 (a) The Commission-Found Mandates are federal, not state, mandates.
18 Article XIII B, section 6 requires state subvention only when the mandate is imposed by the
19 Legislature or a state agency. Government Code section 17556, subsection (c) further provides
20 that state subvention is not required when the federal government, rather than the state
21 government, imposes the costs on local agencies. Federal Clean Water Act and U.S. EPA
22 regulations mandate that the NPDES permits "shall require," at a minimum, controls to reduce the
23 discharge of pollutants to the "maximum extent practicable" using appropriate "management
24 practices, control techniques and system, design and engineering methods." (33 U.S.C. § 1342
25 (p)(3)(B)(iii).) The management practices set out in the San Diego Permit, including the
26 Commission-Found Mandates, collectively and individually, reduce pollutant discharges to the
27 "maximum extent practicable" as mandated by the federal law and regulations. The San Diego
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1 Regional Board, in issuing the San Diego Permit, implemented and did not exceed the
2 requirements of the Clean Water Act and the relevant U.S. EPA regulations;

3 (b) The Commission's finding that the Commission-Found Mandates are
4 activities that mandate costs that exceed the federal mandate because they are not "expressly
5 required" by the federal statutes and regulations is not supported by substantial evidence. Federal
6 law and regulations do not expressly provide for every management practice or control that they
7 require in an NPDES permit. Rather, federal law and regulations require that permitted
8 management practices and controls reduce the discharge of pollutants to the maximum extent
9 practicable, which specific practices are to be proposed by the municipalities, or, in the absence
10 of an acceptable proposal, defined by the federal or state permitting agency;

11 (c) The Commission's finding that the State freely chose to impose
12 Commission-Found Mandates on the San Diego Real Parties is not supported by substantial
13 evidence. As a matter of federal law, the State Water Board and the San Diego Regional Board
14 cannot adopt an NPDES permit that is "less stringent" than the federal "maximum extent
15 practicable" standard. Furthermore, had the San Diego Regional Board not issued the NPDES
16 permit at issue, or had the U.S. EPA disapproved of that permit, the San Diego Real Parties would
17 have had to obtain an NPDES permit directly from the U.S. EPA, which would prescribe specific
18 permit requirements using the same "maximum extent practicable" standard that the San Diego
19 Regional Board used in issuing the Permit;

20 (d) After erroneously concluding that the Commission-Found Mandates are
21 state mandates, the Commission failed to consider the incidental nature of these provisions to the
22 federal requirements, and that any costs imposed which exceed the federal requirements are
23 merely de minimis and nonreimbursable. As a matter of law, any state rule or procedure intended
24 to implement an applicable federal law, and whose costs are de minimis in the proper context, are
25 treated as part of the underlying federal mandate;

26 (e) The Commission's finding that the activities prescribed by the
27 Commission-Found Mandates were not undertaken at the option or discretion of the San Diego
28 Real Parties is not supported by substantial evidence. U.S. EPA regulations require the San

1 Diego Real Parties to propose management programs to the permitting authority. The San Diego
2 Real Parties, however, had discretion over which activities and conditions to propose as best
3 management practices to the San Diego Regional Board for adoption. Exercising that discretion,
4 the San Diego Real Parties proposed management practices, which the San Diego Regional Board
5 used as a basis for adopting the Commission-Found Mandates, with additions and revisions
6 necessary to meet the federal "maximum extent practicable" standard. Furthermore, if the San
7 Diego Real Parties had believed that the Commission-Found Mandates exceeded the maximum
8 extent practicable standard, they had the option to propose alternate management practices to the
9 San Diego Regional Board for implementation, but they chose not to do so; and

10 (f) The Commission's finding that Commission-Found Mandates are
11 "mandated costs" is not supported by substantial evidence. "Costs mandated by the state" are
12 increased costs incurred by local governments as a result of any statute enacted on or after
13 January 1, 1975. (Gov. Code, § 17514.) The State Water Board's and the regional water boards'
14 authority to issue NPDES permits in implementing the federal Clean Water Act is granted by
15 Chapter 5.5 of the Porter-Cologne Act. Chapter 5.5 of the Porter-Cologne Act was enacted in
16 1972. Any increased costs incurred by the San Diego Real Parties in implementing the San Diego
17 Permit are, therefore, not "costs mandated by the state."

18 30. The Commission's finding that the Commission-Found New Programs impose
19 "a new program or higher level of service" constitutes a prejudicial abuse of discretion within the
20 meaning of Code of Civil Procedure section 1094.5, subsection (b). The Commission did not
21 proceed in the manner required by law and the finding is not supported by substantial evidence
22 for the following reasons:

23 (a) The State need only reimburse a local agency for "a new program or
24 higher level of service." A "program" under article XIII B, section 6 is one that carries out the
25 governmental function of providing services to the public, or a law which, to implement a state
26 policy, imposes unique requirements on local governments and does not apply generally to all
27 residents and entities in the state. The State Water Board and the regional water boards issue
28 NPDES permits to both public and private entities subject to the Clean Water Act. As required

1 by the Clean Water Act and U.S. EPA regulations, the State Water Board and the regional water
2 boards actually impose more stringent requirements on private entities than on public entities.
3 The permit at issue, therefore, does not impose “a new program or higher level of service”
4 because it does not force the San Diego Real Parties to carry out any public service peculiar to
5 governments and imposes no requirements unique to the San Diego Real Parties; and

6 (b) The Commission’s finding that the requirements of the Commission-
7 Found New Programs constitute “a new program or higher level of service” is incorrect. The
8 requirements imposed by the San Diego Permit are the same as or similar to those of the permit in
9 effect immediately before, but with more specificity, and thus do not impose “a new program or
10 higher level of service.”

11 31. The Commission’s finding that the San Diego Real Parties lack appropriate
12 authority to levy fees sufficient to pay for the Commission-Found New Programs, other than for
13 permit parts D.1.g, D.1.d.(7), and D.1.d.(8), constitutes a prejudicial abuse of discretion within
14 the meaning of Code of Civil Procedure section 1094.5, subsection (b). The Commission did not
15 proceed in the manner required by law and the finding is not supported by substantial evidence:

16 (a) The Commission’s finding that the San Diego Real Parties do not have
17 fee authority within the meaning of Government Code section 17556, subsection (d) if adoption
18 of the fee is contingent on the outcome of an election is contrary to law. As a matter of law, costs
19 are not deemed to be mandated by the state if the San Diego Real Parties have the authority to
20 levy service charges, fees, or assessments sufficient to pay for the mandated program or increased
21 level of service. Whether the San Diego Real Parties actually levy the charges, fees, or
22 assessment to pay for the Commission-Found New Programs does not affect the determination of
23 whether costs are mandated by the state. Section 6 of article XIII B requires subvention only
24 when the costs in question can be recovered solely from tax revenues. When the local agencies
25 have the legal authority to levy charges, fees, or assessments, as the San Diego Real Parties do in
26 this case, they do not have to expend proceeds of taxes and no subvention is required;

27 (b) The Commission’s determination that the Commission-Found New
28 Programs, except for permit parts D.1.g, D.1.d.(7), and D.1.d.(8), impose “costs mandated by the

1 state” is not supported by its own finding that the San Diego Real Parties have authority under the
2 police power to impose fees for all Commission-Found New Programs. Government Code
3 section 17556, subsection (d) provides that the Commission “shall not find costs mandated by the
4 state” if the local agency has “the authority to levy service charges, fees, or assessments sufficient
5 to pay for the mandated program or increased level of service,” which the Commission found in
6 this case;

7 (c) The Commission’s finding that the Real Parties lack the fee authority
8 under Public Resources Code section 40059 sufficient to pay for the permit part D.3.a.(5) activity
9 is not supported by substantial evidence. The San Diego Real Parties have the authority to levy
10 fees sufficient to pay for cost associated with implementing permit part D.3.a.(5) under Public
11 Resources Code section 40059;

12 (d) The Commission’s finding that the Real Parties lack the fee authority
13 under Health and Safety Code section 5471 sufficient to pay for the permit part D.3.a.(3) activity
14 is not supported by substantial evidence. The San Diego Real Parties have the authority to levy
15 fees sufficient to pay for cost associated with implementing permit part D.3.a.(3) under Health
16 and Safety Code section 5471.

17 32. Petitioners have no plain, speedy, and adequate remedy in the ordinary course
18 of law.

19 33. Petitioners have requested that respondent Commission prepare a true and
20 correct copy of the administrative record of all proceedings in connection with the Test Claim. A
21 true and correct copy of the administrative record will be lodged with the Court prior to the
22 hearing on this petition.

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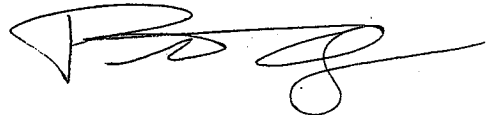
1 WHEREFORE, petitioners Department of Finance, State Water Board, and San Diego
2 Regional Board pray as follows:

- 3 1. That a writ of mandate issue pursuant to Government Code section 17559,
4 subsection (b) and Code of Civil Procedure section 1094.5, directed to respondent Commission
5 on State Mandates, commanding it to set aside its decision granting Test Claim No. 07-TC-09, in
6 part, and to issue a new decision consistent with the Court's opinion and judgment;
- 7 2. That petitioners recover their costs incurred in this proceeding; and,
- 8 3. For such other relief that the Court considers proper.

9
10 Dated: July 20, 2010

Respectfully Submitted,

EDMUND G. BROWN JR.
Attorney General of California
ZACKERY P. MORAZZINI
Supervising Deputy Attorney General
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18 *Attorneys for Petitioners*

ATTACHMENT 29

**SUPERIOR COURT OF CALIFORNIA
COUNTY OF SACRAMENTO**

DATE/TIME	November 4, 2011 1:30 p.m.	DEPT. NO	42
JUDGE	HON. ALLEN SUMNER	CLERK	J. ZGRAGGEN
STATE OF CALIFORNIA, DEPARTMENT OF FINANCE, et al., Petitioners v. COMMISSION ON STATE MANDATES, Respondent		Case No.: 34-2010-80000604	
<hr/> COUNTY OF SAN DIEGO, et al., Real Parties in Interest			
Nature of Proceedings:		WRIT OF MANDATE	

The petition for writ of mandate by the State Department of Finance, et al., challenging the decision by the Commission on State Mandates is GRANTED.

INTRODUCTION

At issue is whether the conditions that the San Diego Regional Quality Control Board imposed on a permit allowing the County of San Diego and eighteen cities within San Diego County to discharge storm water runoff constitutes a "state mandate" within the meaning of article XIII B of the California Constitution requiring the State to reimburse the County and cities for their cost in complying. Specifically, did the State require the County and cities to meet conditions beyond what is required by the federal Clean Water Act?

The court's tentative ruling was heard November 4, 2011. Petitioners, the Department of Finance, State Water Resources Control Board and San Diego Regional Water Quality Control Board (collectively "State") were represented by Deputy Attorney General Kathleen Lynch. Respondent Commission on State Mandates ("Commission") was represented by Eric Feller. The real parties in interest, the County of San Diego and eighteen cities within San Diego County (collectively "Permittees") were represented by James O'Day, Helen Peak and Shawn Hagerty.

BACKGROUND

In 2007 the San Diego Regional Water Quality Control Board issued a permit to Permittees allowing the discharge of storm water runoff.

The Permittees filed a test claim with the Commission seeking reimbursement from the State for costs incurred in complying with the permit. The Commission concluded several conditions of the permit imposed new programs, or higher levels of service, for which reimbursement is required under article XIII B, section 6.

The State filed a petition for writ of administrative mandamus to overturn the Commission's decision.¹

The court finds the Commission erred in concluding the challenged provisions of the permit are state-mandated programs merely because the permit conditions are not expressly required by federal statute or regulation. The relevant inquiry is whether the conditions are required by federal law, not whether they are explicitly described in federal statute or regulation. Because the Commission failed to apply the proper standard, the petition for writ is granted and the matter remanded to the Commission for proceedings consistent with this decision and judgment.

¹ The Permittees filed a cross-petition challenging the Commission's finding that Permittees are not entitled to reimbursement for some of the alleged mandates because they have authority to levy fees sufficient to recoup their costs. Given the court's conclusion the Commission erred in determining these were state-mandated costs, the court need not address Permittees' ability to recover the costs through local fees.

STATEMENT OF THE CASE

A. Federal Regulation of Storm Water Pollution

Background

The federal Water Pollution Control Act, enacted in 1948, initially relied primarily on state and local enforcement efforts to remedy water pollution problems. (*Building Industry Association v. State Water Resources Control Board* (2004) 124 Cal.App.4th 866, 872.) However, by the early 1970's it was apparent local enforcement was ineffective, resulting in "accelerating environmental degradation of rivers, lakes, and streams . . ." (*ibid.* [citing *Natural Resources Defense Council, Inc. v. Costle* (D.C. Cir. 1977) 568 F.2d 1369, 1371].) In response, Congress adopted the Water Pollution Control Amendments of 1972, commonly known as the Clean Water Act.

The Clean Water Act is a comprehensive water quality statute intended to "restore and maintain the chemical, physical, and biological integrity of the Nation's waters." (*City of Burbank v. State Water Resources Control Board* (2005) 35 Cal.4th 613, 620.) The Act seeks to eliminate discharge of pollutants into navigable waters of the United States. (*ibid.*) To accomplish this, the Act requires compliance with "effluent limitations" which restrict the quantities, rates or concentrations of chemical, physical, biological and other constituents discharged into navigable waters. (*ibid.*)

The Act provides two sets of effluent limitations: First, "technology-based" effluent limitations, based on the best available or practical technology for reduction of water pollution. (*Communities for a Better Environment v. State Water Resources Control Board* (2003) 109 Cal.App.4th 1089, 1093.) Second, "water quality" effluent limitations, assuring that pollution will not fall below acceptable water quality standards. (*ibid.*)

The primary means of enforcing the Clean Water Act's effluent limitations and water quality standards is the National Pollutant Discharge Elimination System ("NPDES") permit. Generally, it is unlawful for any person to discharge a pollutant from a "point source" without first obtaining a NPDES permit. (*Building Industry Association,*

supra, 124 Cal.App.4th at p.872.) The NPDES permit sets specific terms and conditions for each source discharging pollutants. The NPDES permit also sets any technology-based or water quality effluent limitations necessary to meet water quality standards. (*Communities for a Better Environment, supra*, 109 Cal.App.4th at p.1093.)

State Authorization

Under the Clean Water Act, the EPA may authorize a state with an EPA-approved water quality control program to issue NPDES permits. (*Communities for a Better Environment, supra*, at p.1092; 33 U.S.C. § 1342(a) & (b).) A state requesting authorization to administer its own permit program must demonstrate its state program meets federal requirements. (33 U.S.C. § 1342(b); 40 C.F.R. § 123.25; see also *Shell Oil Co. v. Train* (9th Cir. 1978) 585 F.2d 408, 410.) Once approved by the EPA, the state program is operated in lieu of the federal permit program. (33 U.S.C. § 1342(c); 40 C.F.R. §§ 123.22, 123.61.) Suspension of the federal program creates a separate and independent state authority to administer the NPDES pollution controls. (*Shell Oil, supra*, 585 F.2d at p.410.) A state authorized to administer the federal Clean Water Act may also adopt state water quality restrictions more stringent than those required by federal law. (*City of Burbank, supra*, at pp.627-628; 33 U.S.C. § 1370; 40 C.F.R. § 123.1.)

If an authorized state fails meet federal requirements, the EPA may withdraw approval and administer the federal permit program in that state. (33 U.S.C. § 1342(c).)

Discharge of Storm Waters

Shortly after the Clean Water Act was enacted, the EPA adopted regulations exempting most municipal storm sewer systems from NPDES permit requirements. This exemption was overturned in *Natural Resources Defense Council v. Costle* (1977) 568 F.2d 1369, and the EPA was ordered to require NPDES permits for storm water runoff. When the EPA failed to adopt regulations implementing a permitting system for

storm water runoff, Congress adopted the Water Quality Act of 1987, amending the Clean Water Act to impose NPDES permit requirements for storm water discharges.

Congress distinguished between industrial and municipal storm water discharges, establishing a lower bar for discharges from municipal storm sewer systems: Industrial NPDES permits are required to meet applicable effluent limitations, while municipal NPDES permits are generally required to control pollutants to the "**maximum extent practicable**." (See *Building Industry Association, supra*, 124 Cal.App.4th at pp.874, 884.) The Act provides:

Permits for discharges from municipal storm sewers . . . shall require controls to reduce the discharge of pollutants to the maximum extent practicable, including management practices, control techniques and system, design and engineering methods, and such other provisions as the Administrator or the State determines appropriate for the control of such pollutants. (33 U.S.C. § 1342(p)(3)(B)(iii).)

B. California's Regulation of Storm Water Pollution

In 1969, three years before Congress enacted the Clean Water Act, California enacted its own water quality protection legislation, the Porter-Cologne Water Quality Control Act ("Porter-Cologne Act"). The Porter-Cologne Act seeks to attain the highest reasonable quality water, considering all demands made on those waters and the total value involved: beneficial and detrimental, economic and social, tangible and intangible. (Water Code § 13000.) The Porter-Cologne Act requires water quality plans to ensure the reasonable protection of beneficial uses and prevent nuisance. (Water Code §§ 13050(f), 13241.)

The Porter-Cologne Act makes the State Water Resources Control Board and the nine Regional Water Quality Control Boards responsible for establishing water quality standards. Together the State and regional boards are the state agencies with primary responsibility for coordination and control of California's water quality. (Water Code § 13001.)

The Porter-Cologne Act requires regional boards to establish water quality objectives (standards) and a program to achieve these objectives through regional water quality control plans. The regional board's program must describe the actions necessary to achieve its objectives, including recommendations for appropriate action by regulated entities; a schedule for actions to be taken; and a description of the surveillance to be undertaken to determine compliance. (Water Code § 13242.)

Under the Porter-Cologne Act, any person or entity discharging "waste" that could affect the quality of the state's waters is required to file a Report of Waste Discharge. (Water Code §§ 13260, 13263.) The regional water board may then issue a permit, known as a Waste Discharge Requirement, allowing the discharge. In issuing a Waste Discharge Requirement, the regional board sets conditions for the discharge. (Water Code § 13263.)

Shortly after Congress enacted the Clean Water Act in 1972, California took steps to implement the new federal requirements. California sought EPA approval to issue NPDES permits "in order to avoid direct regulation by the federal government of persons already subject to regulation under state law pursuant to [the Porter-Cologne Act]." (Water Code § 13370(c).) To ensure California meets federal requirements to issue NPDES permits, the Legislature added chapter 5.5 to the Porter-Cologne Act requiring the state and regional water boards to satisfy federal Clean Water Act requirements when issuing Waste Discharge Requirements. (Water Code § 13377.) As a result, Waste Discharge Requirements are the equivalent of NPDES permits required by the Clean Water Act. (Water Code § 13374.)

The EPA thereafter granted California approval to issue NPDES permits. Thus, Waste Discharge Requirements issued by California's regional water boards ordinarily serve as NPDES permits under federal law. (*Building Industry Association, supra*, 124 Cal.App.4th at p.875; *City of Burbank, supra*, 35 Cal.4th at p.631.)

C. Reimbursement for State Mandated Programs

In June 1978, the voters adopted Proposition 13, adding article XIII A to the California Constitution limiting the authority of local governments to impose *ad valorem*

property taxes or new special taxes. (*County of Fresno v. State of California* (1991) 53 Cal.3d 482, 486.) In November of 1979 the voters adopted Proposition 4, adding article XIII B to the California Constitution imposing the "Gann Limit" on local expenditures. The voters intended articles XIII A and XIII B to work in tandem, restricting the power of local government to both levy and spend taxes. (*County of Fresno, supra*, 53 Cal.3d at p.486.)

Recognizing that article XIII A severely restricted the taxing powers of local government, article XIII B prevents the State from transferring the cost of governmental programs from the State to local governments. (*County of Fresno, supra*, 53 Cal.3d at p.487.) Article XXII B generally requires the State to reimburse local governments for the cost of governmental services which the State mandates local governments provide. (*County of Los Angeles v. Commission on State Mandates* (2007) 150 Cal.App.4th 898, 906.) Although the State may require local entities to provide new programs or services, it may not require local entities to use their own tax revenues to pay for the programs or services. (*California School Boards Assn. v. State of California* (2011) 192 Cal.App.4th 770, 787.) Specifically, article XIII B, section 6, provides in relevant part:

Whenever the Legislature or any state agency mandates a new program or higher level of service on any local government, the state shall provide a subvention of funds to reimburse such local government for the costs of such program or increased level of service (Cal. Const, art. XIII B, § 6.)

Article XIII B, section 6, requires the State to reimburse local agencies for the cost of any new governmental program, or higher level of service, that the State imposes. (*County of Los Angeles, supra*, 150 Cal.App.4th at pp.906-907.) However, section 6 applies only to costs mandated by the State; the State is not required to reimburse costs mandated by federal law. (See *County of Los Angeles, supra*, 150 Cal.App.4th at p.907; see also Gov. Code §§ 17513, 17514, 17556(c).)

To implement article XIII B, the Legislature created the Commission on State Mandates. (Gov't. Code § 17500 et seq.) The Commission is a quasi-judicial body

charged with resolving state mandate claims. (*Kinlaw v. State of California* (1991) 54 Cal.3d 326, 331; see Gov. Code § 17500 *et seq.*) The Commission determines whether the State has imposed a reimbursable mandate. (*County of Los Angeles, supra*, 150 Cal.App.4th at pp.907-908.) The Commission has exclusive authority to make this determination. (*Redevelopment Agency v. Commission on State Mandates* (1996) 43 Cal.App.4th 1180, 1193; *County of Los Angeles, supra*, 150 Cal.App.4th at p.908; Gov. Code § 17552.)

A local government initiates the process for reimbursement under article XIII B, section 6, by filing a "test claim" with the Commission. The Commission must then determine whether a state mandate exists and, if so, the amount of reimbursement due the local entity. (Gov. Code §§ 17551, 17557, 17558.) Judicial review of the Commission's decision is available through a petition for writ of mandate under Code of Civil Procedure section 1094.5. (*Kinlaw, supra*, 54 Cal.3d at p.332; Gov. Code § 17559.)

D. Permittees' Test Claim

The Permittees filed a test claim with the Commission seeking reimbursement for various requirements imposed by NPDES Permit No. CAS0108758.² After hearing, the Commission issued a 133-page decision partially approving the claim. The Commission concluded the following requirements in the permit imposed reimbursable state-mandated new programs or higher levels of service within the meaning of article XIII B, section 6:

- Street sweeping and reporting (parts D.3.a(5), J.3.a(3)(c) x-xv);
- Conveyance system cleaning and reporting (parts D.3.a(3), J.3.a(3)(c)(iv)-(viii));
- Educational components of the Jurisdictional Urban Runoff Management Program (parts D.5.a(1)-(2), D.5.b(1)(c)-(d), D.5(b)(3));

² That NPDES permit was first issued in 1990 (Order No. 90-42), and renewed in 2001. (Order No. 2001-01.) In 2005, the County of San Diego submitted the required Report of Waste Discharge to renew the permit.

- Provisions of the Watershed Urban Runoff Management Program (parts E.2.f, E.2.g);
- Provisions of the Regional Urban Runoff Management Program (parts F.1, F.2, F.3);
- The program and long term effectiveness assessments (parts I.1, I.2, I.5); and
- The "all permittee collaboration" requirements (parts L.1.a(3)-(6)).³

F. Petition and Cross-Petition

On July 20, 2010, the State filed a petition for writ of administrative mandate challenging the Commission's finding that the above permit requirements are reimbursable state mandates. The State argues the Commission's decision is erroneous because (1) the NPDES permit and its conditions are required by federal law; (2) California's administration of the NPDES permit program does not transform the federal requirements into a state mandate; (3) the permit does not impose a new program or higher level of service under an existing program; and (4) even if the challenged activities are state mandates, they are not reimbursable because the Permittees have authority to levy fees to recover their costs.

DISCUSSION

The State challenges three aspects of the Commission's decision: the permit requirements are not federal mandates; the permit requirements impose new programs or higher levels of service; and the Permittees lack sufficient fee authority to recover the costs of the program.

³ The Commission also found the hydromodification management plan and low-impact development requirements of the Jurisdictional Urban Runoff Management Program (parts D.1.d(7)-(8), D.1.g) are state-mandated new programs or higher levels of service. However, the Commission concluded the Permittees are not entitled to reimbursement for these costs because they have sufficient authority to levy fees to pay these expenses.

The Permittees' cross-petition challenges this portion of the Commission's decision. Because the matter is remanded to the Commission for further procedures on the threshold question of whether these are state-mandated costs, the Permittees' cross-petition is not addressed.

The court concludes the Commission applied the wrong legal standard in addressing the first question, whether the permit conditions exceed federal requirements. Accordingly, the court concludes that a writ should issue remanding this matter to the Commission for further proceedings consistent with this court's decision and judgment.

Given this determination, it is unnecessary to address the other issues raised by the petition and cross-petition

Standard of Review

The court must determine whether the Commission proceeded without, or in excess of, jurisdiction; whether the parties received a fair hearing; and whether there was prejudicial abuse of discretion. (Code Civ. Proc. § 1094.5) Abuse of discretion is established if the Commission did not proceed in the manner required by law, its order or decision is not supported by the findings, or the findings are not supported by the evidence. (*Ibid.*)

Whether the State imposed conditions exceeding the requirements of the federal Clean Water Act is an issue of fact. (*City of Burbank, supra*, 35 Cal.4th at p.628.)

The Commission's factual findings are reviewed under the substantial evidence test. (*City of Richmond v. Commission on State Mandates* (1998) 64 Cal.App.4th 1190, 1194-1195; Cal. Gov. Code § 17559.) Under the substantial evidence test, the court does not reweigh the evidence, views the evidence in the light most favorable to the Commission's findings, and indulges all reasonable inferences in support thereof. (*Camarena v. State Personnel Bd.* (1997) 54 Cal.App.4th 698, 701; *Hosford v. State Personnel Bd.* (1977) 74 Cal.App.3d 302, 306-07.) The court may not overturn the Commission's finding of fact simply because a contrary finding would have been more reasonable. (*Boreta Enterprises, Inc. v. Department of Alcoholic Beverage Control* (1970) 2 Cal.3d 85, 94; *Wilson v. State Personnel Bd.* (1976) 58 Cal.App.3d 865, 870.)

However, in addition to examining whether the Commission's findings are supported by substantial evidence, the court must determine whether the Commission committed any errors of law. The Commission's legal conclusions are reviewed de

novo. (*Jenron Corp. v. Dept. of Social Services* (1997) 54 Cal.App.4th 1429, 1434.) This includes the Commission's interpretation of a regulation or statute. (*Samples v. Brown* (2007)) 146 Cal.App.4th 787, 799.)

While an agency's interpretation of a statute or regulation it is charged with enforcing is entitled to deference, the court makes the ultimate interpretation of the law. (See, *Family Planning Associates Med. Group, Inc. v. Belshe* (1998) 62 Cal.App.4th 999, 1004.) The California Supreme Court explained:

[T]he standard of judicial review of an agency interpretation of law is the independent judgment of the court, giving deference to the determination of the agency appropriate to the circumstances of the agency action. (*Yamaha Corp. of America v. State Board of Equalization* (1998) 19 Cal.4th 1, 8.)

The weight to be given an agency's interpretation will depend upon the thoroughness of its consideration, the validity of its reasoning, and its consistency with earlier and later pronouncements. (*Yamaha, supra*, at p.14.) However, final responsibility for interpreting the law rests with the court. (*Id.* at p.7.)

Here, we have conflicting interpretations of what the federal Clean Water Act requires for the Permittees' permit. The San Diego Regional Water Quality Control Board concluded the permit conditions are required by the Clean Water Act. The Regional Board is charged with administering the Clean Water Act and approving the NPDES permit program in San Diego County. The court must accord appropriate deference to the Regional Board's construction of the Clean Water Act. (See *Building Industry Association, supra*, 124 Cal.App.4th at pp.873, 879 fn.9; *County of Los Angeles v. California State Water Resources Control Board* (2006) 143 Cal.App.4th 985, 997.)

The Commission disagreed with the Regional Board's construction, concluding the permit conditions go beyond what is required by the Clean Water Act. The Commission thus concluded the permit conditions imposed state-mandated costs within the meaning of article XIII B. The Commission has exclusive authority for enforcing article XIII B, including determining if the State has imposed a mandate requiring reimbursement. (See *Redevelopment Agency v. Commission on State Mandates*,

supra, 43 Cal.App.4th at p.1193.) The court must accord appropriate deference to the Commission's construction of whether there is a state mandate within the meaning of article XIII B.

1. State administration of the federal Clean Water Act does not make the permits a state-mandated program

The fact that the State chose to administer the federal NPDES permit program does not make the permit requirements a state-mandated program. In the seminal case of *Hayes v. Commission on State Mandates* (1992) 11 Cal.App.4th 1564, school districts sought reimbursement for costs incurred in providing special education programs implementing the federal Education of the Handicapped Act. The State argued these programs were required by federal law, and thus article XIII B did not require reimbursement.

The court agreed the federal Act required the State to provide the programs. However, under federal law, the State itself could have provided the programs. The court in *Hayes* concluded that if the State decided to shift the costs to local agencies, the State cannot claim the costs are a federal mandate because, "as far as the local agency is concerned, the burden is imposed by a state rather than a federal mandate." (*Id.* at p.1594.)

Here, in contrast, the federal government has imposed the NPDES requirements directly on local agencies that discharge pollutants. Federal law requires the Permittees to obtain a NPDES permit in order to discharge pollutants. Federal law also requires the permit to include controls reducing the discharge of pollutants "to the maximum extent practicable." (33 U.S.C. § 1342(p)(3)(B); See *Building Industry Association, supra*, 124 Cal.App.4th at pp.874, 884.)

Unlike *Hayes*, the State is not shifting federally-mandated costs to local agencies. Even if the State had not been approved to issue the NPDES permit, the Permittees would still have to comply with federal requirements to reduce their discharge of pollutants to the "maximum extent practicable." Californians choice to

administer the NPDES permit program did not transform the federal NPDES requirements into a state-mandated program.

2. The Commission failed to apply the federal standard requiring that discharge of pollutants must be reduced to the "maximum extent practicable."

The parties agree the issue is whether the State required Permittees to comply with conditions beyond those required by federal law. (See, e.g., *Long Beach Unified School District v. State of California* (1990) 225 Cal.App.3d 155, 173 [State Executive Order requiring school districts to adopt plans to alleviate segregation went beyond constitutional requirements and thus imposed a state-mandated program].) The Permittees argue the court must take a "comparative approach" – comparing the permit conditions to what is required by the federal Clean Water Act. But this begs the question – what is required by the federal Clean Water Act?

The Commission provided a lengthy discussion of whether the various permit conditions are required by federal law. However, the Commission looked only to whether federal law expressly requires the particular conditions specified in the permit. The Commission concluded that since nothing in federal statute or regulation expressly requires the conditions specified in the NPDES permit, the permit must therefore exceed the requirements of federal law. This was error.

As discussed above, the Clean Water Act requires every NPDES permit to include controls reducing discharge of pollutants to the "maximum extent practicable." The Clean Water Act uses a *flexible standard*, requiring each permitting agency to develop conditions based on the unique circumstances of the water affected. (*Building Industry Association, supra*, 124 Cal.App.4th at pp.873, 889.) The "maximum extent practicable" standard balances numerous factors, including technical feasibility, cost, public acceptance, regulatory compliance and effectiveness. (*Ibid.*)

In evaluating whether the challenged NPDES permit exceeds the requirements of federal law, the Commission must determine whether any of the permit conditions exceed the "maximum extent practicable" standard. The Commission never undertook

this inquiry. Instead, it simply asked whether the permit conditions are expressly specified in federal regulations or guidelines. This is not the test. The fact that a permit condition is not specified in a federal regulation or guideline does not determine whether the condition is "practicable," and thus required by federal law. The mere fact that a permit condition is not promulgated as a federal regulation does not mean it exceeds the federal standard.⁴

By failing to consider whether the permit requirements exceed the "maximum extent practicable" standard, the Commission failed to proceed in the manner required by law. As a result, there is nothing in the record to support the Commission's finding that the permit requirements exceed the "maximum extent practicable" standard. The Commission's conclusion that the permit goes beyond federal law must be set aside and the matter remanded to the Commission to reconsider its Decision. (*Voices of the*

⁴ The court appreciates the Commission's difficulty given the flexible test under the federal Clean Water Act. The Commission faced a similar challenge in *San Diego Unified School Dist. v. Commission on State Mandates* (2004) 33 Cal.4th 859, where the Commission was required to determine if state procedures requiring hearing when a student was being expelled exceeded federal due process requirements. Our Supreme Court sympathized with the challenge posed to the Commission attempting to resolve the exact extent of nebulous federal law in the context of a state mandate proceeding:

The record reveals that in the extended proceedings before the Commission, the parties spent numerous hours producing voluminous pages of analysis directed toward determining whether various provisions of Education Code section 48918 exceed federal due process requirements. The task below was complicated by the circumstance that this area of federal due process law is not well developed. The Commission, which is not a judicial body, did as best it could and concluded that in certain respects the various provisions . . . 'exceeded' the requirements of federal due process.

Even for an appellate court, it would be difficult and problematic in this setting to categorize the various . . . requirements here at issue as falling within or without the general federal due process mandate. The difficulty results not only from the circumstance that . . . the case law in the area of due process procedures concerning expulsion matters is relatively undeveloped, but also from the circumstance that when such an issue is raised in an action for reimbursement, as opposed to its being raised in litigation challenging an actual expulsion on the grounds of allegedly inadequate hearing procedures, the issue inevitably is presented in the abstract, without any factual context that might help frame the legal issue. (*Id.* at 889-890.)

Wetlands v. State Water Resources Control Bd. (2011) 52 Cal.4th 499, 534-535; *Fascination, Inc. v. Hoover* (1952) 39 Cal.2d 260, 268.)⁵

Remand

The State argues remand is unnecessary. The State argues the Regional Board's determination that the permit requirements are necessary to comply with the federal Clean Water Act must be given preclusive effect, and that the Permittees may not "collaterally attack" the Regional Board's findings before the Commission. In short, the State insists the federal requirements are whatever the Water Board says they are. With this the court does not agree.

In addition to administering the federal Clean Water Act, the Regional Board has authority under state law to impose requirements beyond the federal "maximum extent practicable" standard of federal law. (See *Building Industry Association, supra*, 124 Cal.App.4th at p.889 ["practicable" does not simply equate to "possible"].) If the Regional Board requires the Permittees to meet standards beyond those mandated by federal law, the additional costs would be a state mandate requiring reimbursement under article XIII B. (See *Hayes v. Commission on State Mandates, supra*, 11 Cal.App.4th at p.1564) The Commission has exclusive authority to determine whether the Regional Board has imposed a state mandate. (*Redevelopment Agency v. Commission on State Mandates, supra*, 43 Cal.App.4th at p.1188.)

⁵ The State asks this court to take judicial notice that the Los Angeles County Superior Court reached the same conclusion in a case reviewing the Commission's finding that similar conditions imposed in the NPDES permit for the County of Los Angeles constituted a state mandate requiring reimbursement. (*State of California v. County of Los Angeles* (Super. Ct. Los Angeles County, 2011, No. B5130730.) The State also asks this court to take judicial notice of a decision by the United States Environmental Protection Agency entitled *In re City of Irving, Texas, Municipal Separate Storm Sewer System* (July 16, 2001) 10 E.A.D. 111 (E.P.A.), allegedly showing the Clean Water Act allows permit writers to use a combination of pollution controls that may be different in different permits.

Permittees oppose the State's request for judicial notice of the Los Angeles Superior Court and EPA decisions, contending that neither decision is relevant and that the court is prohibited from citing to or relying on the Los Angeles Superior Court decision under California Rule of Court, Rule 8.1115.

The objection to the Los Angeles Superior Court decision is granted. (*Schmier v. Supreme Court* (2002) 96 Cal.App.4th 873, 881-882.) In contrast, the objection to the EPA decision is denied. (*County of Stanislaus v. Pacific Gas & Elec. Co.* (E.D. Cal. 1995) 1995 U.S. Dist. LEXIS 21411, 22; *Smiley v. Citibank (S.D.), N.A.* (1995) 11 Cal.4th 138, 145.) Although the EPA decision is not binding, it qualifies for judicial notice. Accordingly, the court grants the request for judicial notice of the EPA decision, but denies the request for judicial notice of the Los Angeles Superior Court decision.

Because the Commission failed to properly address this question, the court grants the writ and remands this matter for further proceedings consistent with this decision. This, however, does not mean the Commission is precluded from determining if the Regional Board has imposed a state-mandated program.

The Commission's Other Findings

Having concluded the writ should be granted because the Commission applied the wrong legal standard in determining whether the permit exceeded federal requirements, it is unnecessary to review the Commission's other findings at this time, including those raised in the cross-petition. (See *Gruschka v. Unemployment Ins. Appeals Bd.* (1985) 169 Cal.App.3d 789, 793 [use of wrong standard constituted error of law necessitating remand]; *County of Stanislaus v. Assessment Appeals Bd.* (1989) 213 Cal.App.3d 1445, 1450, 1452 [same].)

DISPOSITION

For the foregoing reasons, the State's petition for writ of mandate is GRANTED. A writ shall issue directing the Commission to set aside its decision and remanding this matter to the Commission for further proceedings consistent with this court's decision and judgment.

Counsel for the State is directed to prepare a formal judgment incorporating this ruling as an exhibit; submit it to opposing counsel for approval as to form; and thereafter submit it to the court for signature and entry of judgment in accordance with California Rule of Court, rule 3.1312.

The State is entitled to recover its costs upon appropriate application. The State shall recover any fees waived pursuant to Government Code section 6103, and reimbursed the clerk of the court pursuant to Government Code section 6103.5.

CERTIFICATE OF SERVICE BY MAILING

(C.C.P. Sec. 1013a(3))

**Case Name: State of California, Department of Finance vs Commission on State Mandates
Case Number: Case No.: 34-2010-8000604**

I, the Clerk of the Superior Court of California, County of Sacramento, certify that I am not a party to this cause, and on the date shown below I served the foregoing *Writ of Mandate Ruling on Submitted Matter* (Taken Under Submission on November 4, 2011) by depositing true copies thereof, enclosed in separate, sealed envelopes causing postage to be fully prepaid, in the United States Mail at Sacramento, California, each of which envelopes was addressed respectively to the persons and addresses shown below:

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I, the undersigned deputy clerk, declare under penalty of perjury that the foregoing is true and correct.

Dated: December 2, 2011

Superior Court of California, County of
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By: J. Zraggen
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11 SUPERIOR COURT OF THE STATE OF CALIFORNIA
12 COUNTY OF SACRAMENTO

13
14
15 **STATE OF CALIFORNIA DEPARTMENT**
OF FINANCE, STATE WATER
16 **RESOURCES CONTROL BOARD, AND**
17 **CALIFORNIA REGIONAL WATER**
QUALITY CONTROL BOARD, SAN
18 **DIEGO REGION,**

Petitioners,

19 v.

20 **COMMISSION ON STATE MANDATES,**

21 Respondent.

22 **COUNTY OF SAN DIEGO AND CITIES**
OF CARLSBAD, CHULA VISTA,
23 **CORONADO, DEL MAR, EL CAJON,**
24 **ENCINITAS, ESCONDIDO, IMPERIAL**
BEACH, LA MESA, LEMON GROVE,
25 **NATIONAL CITY, OCEANSIDE,**
POWAY, SAN DIEGO, SAN MARCOS,
26 **SANTEE, SOLANA BEACH, AND VISTA,**

27 Real Parties in Interest.
28

Case No. 34-2010-80000604

**CROSS-REAL PARTIES IN INTEREST'S
MEMORANDUM OF POINTS AND
AUTHORITIES IN OPPOSITION TO
CROSS-PETITION FOR WRIT OF
ADMINISTRATIVE MANDAMUS**

Date: September 9, 2011
Time: 11:00 a.m.
Dept: 42
Judge: Hon. Alan H. Sumner

Action Filed: July 20, 2010

1 **COUNTY OF SAN DIEGO AND CITIES**
2 **OF CARLSBAD, CHULA VISTA,**
3 **CORONADO, DEL MAR, EL CAJON,**
4 **ENCINITAS, ESCONDIDO, IMPERIAL**
5 **BEACH, LA MESA, LEMON GROVE,**
6 **NATIONAL CITY, OCEANSIDE,**
7 **POWAY, SAN DIEGO, SAN MARCOS,**
8 **SANTEE, SOLANA BEACH, AND VISTA,**

9 Cross-Petitioners,

10 v.

11 **COMMISSION ON STATE MANDATES,**

12 Cross-Respondent.

13 **STATE OF CALIFORNIA DEPARTMENT**
14 **OF FINANCE, STATE WATER**
15 **RESOURCES CONTROL BOARD, AND**
16 **CALIFORNIA REGIONAL WATER**
17 **QUALITY CONTROL BOARD, SAN**
18 **DIEGO REGION,**

19 Cross-Real Parties in Interest
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1

INTRODUCTION

2 The Commission on State Mandates properly found that the County of San Diego and
3 several cities named in the petition (referred to below collectively as the “County of San Diego”)
4 are authorized to impose fees for the hydromodification management plan and low impact
5 development permit requirements that are the subject of this proceeding.¹ Reimbursement by the
6 state is not required where the local agency may impose fees to cover its costs, instead of raising
7 taxes. Since the County has statutory authority to impose fees, if the County chooses to do so, the
8 Commission properly found that the permit requirements for hydromodification and low impact
9 development are not reimbursable.

10 The County argues that despite the explicit statutory authority to impose a fee, any fee that
11 might be imposed under the statute would be unconstitutional. Since no fee has yet been enacted,
12 the County’s argument is purely hypothetical. Furthermore, the County’s argument relies on
13 erroneous interpretations of the governing law. Nothing prevents the County from imposing a fee
14 on developers for governmental costs reasonably associated with preventing or mitigating
15 environmental harm caused by the developers’ projects.

16 In addition, the Commission properly found that under the California Watershed
17 Improvement Act of 2009 the County of San Diego has fee authority and offsetting revenue if
18 they complied with the Act’s voluntary requirements.

19

BACKGROUND

20 **I. CHALLENGED PERMIT PROVISIONS FOR REDEVELOPMENT AND SIGNIFICANT**
21 **REDEVELOPMENT**

22 The challenged permit requirements for the hydromodification management plan and low
23 impact development arise in the context of managing increases in runoff discharge rates and
24 durations from new development and significant redevelopment. (AR 269, 271-272, 275-278.)
25 Generally speaking, part D.1 of the permit, Development Planning Component, requires each

26 _____
27 ¹ The other fee issues related to the challenged permit requirements are addressed in the
28 state’s petition and related briefing as well as issues surrounding whether the permit and the
particular permit requirements are state mandates.

1 Copermittee to implement a program in its jurisdiction that includes managing “increases in
2 runoff discharge rates and durations from Development Projects that are likely to cause increased
3 erosion of stream, beds and banks, silt pollutant generation, or other impacts to beneficial users
4 and stream habitat due to increased erosive force.” (AR 266.)

5 “Development Projects” is defined in the permit as “[n]ew development or redevelopment
6 with land disturbing activities; structural development, including construction or installation of a
7 building or structure, the creation of impervious surfaces, public agency projects, and land
8 subdivision.” (AR 341.)

9 **A. Hydromodification Management Plan**

10 Section g of part D.1 requires Copermittees to collaborate with each other to “develop and
11 implement a Hydromodification Management Plan (HMP) to manage increases in runoff
12 discharge rates and durations from all Priority Development Projects, where such increased rates
13 and durations are likely to cause increased erosion of channel beds and banks, sediment pollutant
14 generation, or other impacts to beneficial uses and stream habitat due to increased erosive force.”
15 (AR 275-276.) The specific permit requirements are found on pages 275 through 278 of the
16 administrative record.

17 “Hydromodification” is defined in the permit to mean, in part, the “change in the natural
18 watershed hydrologic processes and runoff characteristics (i.e., interception, infiltration, overland
19 flow and ground water flow) caused by urbanization or other land use changes that result in
20 increased stream flows and sediment transport.” (AR 343.)

21 “Priority Development Projects” is defined in the permit as “[n]ew development and
22 redevelopment project categories listed in section D.1.d(2) of the permit and includes certain
23 housing subdivisions; commercial, industry, and hillside development; automotive repair shops;
24 restaurants; environmentally sensitive areas; parking lots; streets, roads, highways, and freeways,
25 and retail gasoline outlets. (AR 346, 268-269.)

26 The need for hydromodification in the development and significant redevelopment of
27 property is both well-established and undisputed. (AR 432-435.) “As the total area of
28 impervious surfaces increases in previously undeveloped areas, infiltration of rainfall decreases,

1 causing more water to run off the surface at a higher rate. Runoff from developed areas can
2 produce erosive flows in channels under rainfall conditions where previously they did not exist.
3 Moreover, runoff from developed areas increases the duration and the length that channels are
4 exposed to erosive flows. The increase in the volume of runoff and the length of time that erosive
5 flows occur ultimately intensify sediment transport, causing changes in sediment transport
6 characteristics and the hydraulic geometry (width, depth, slope) of channels.” (AR 432.)

7 The hydromodification permit requirement only applies to development “projects which
8 have not yet begun grading or construction activities at the time” the requirement commences.
9 (AR 275.) And certain aspects of the hydromodification plan do not apply if there is “minimal
10 potential for erosion or other impacts to beneficial uses.” (AR 277.)

11 **B. Low Impact Development**

12 Relevant to this litigation, part of this land use planning for new development and
13 significant redevelopment includes low impact development (LID) best management practices
14 (BMP). (AR 269-275.) “Low Impact Development” is defined in the permit as “[a] storm water
15 management and land development strategy that emphasizes conservation and the use of on-site
16 natural features integrated with engineered, small-scale hydrologic controls to more closely
17 reflect pre development hydrologic functions.” (AR 343.) “Site design BMPs are a critical
18 component to urban runoff management at new development projects, since the BMPs provide
19 multiple benefits including preservation of hydrologic conditions, reduction of pollutant
20 discharges, cost effectiveness, and green space.” (AR 283.)

21 The County of San Diego only challenges two of the permit requirements related to low
22 impact development, paragraphs 7 and 8. Paragraph 7 requires that Copermittees “collectively
23 review and update the BMP requirements that are listed in their local SUSMPs.” (AR 271.) And
24 paragraph 8 of section d requires the Copermittees to “develop and submit an updated Model
25 SUSMP that defines minimum LID and other BMP requirements to be incorporated into the
26 Copermittees’ local SUSMPs for application to Priority Development Projects.” (AR 271.) The
27 specific permit requirements for the Model SUSMP are found on pages 271-272 of the
28 administrative record.

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LEGAL ANALYSIS

I. IF A LOCAL AGENCY HAS FEE AUTHORITY TO PAY FOR MANDATED PROGRAMS, THEN SUCH PROGRAMS ARE NOT SUBJECT TO REIMBURSEMENT UNDER ARTICLE XIII B, SECTION 6.²

Under Government Code section 17556, subdivision (d), a state mandate is not subject to reimbursement if the local agency has the authority to charge a fee. Specifically, subdivision (d) provides that a state mandate does not exist if:

The local agency or school district *has the authority* to levy service charges, fees, or assessments sufficient to pay for the mandated program or increased level of service. This subdivision applies regardless of whether the authority to levy charges, fees, or assessments was enacted or adopted prior to or after the date on which the statute or executive order was enacted or issued.

(Emphasis added.)

[T]he plain language of section 17556, subdivision (d), precludes reimbursement where the local agency has the authority, *i.e., the right or the power, to levy fees sufficient to cover the costs of the state-mandated program.*” (*Clovis Unified School Dist. v. Chiang* (2010) 188 Cal.App.4th 794, 812, quoting *Connell v. Superior Court* (1997) 59 Cal.App.4th 382, 401, emphasis added.)

In interpreting subdivision (d), the courts examine the existence or nonexistence of fee authority. Courts do not speculate as to the wisdom or practicability of the fee. For example, in *Connell, supra*, several water districts alleged that a state regulation requiring an increased level of water purity was a state mandate. (59 Cal.App.4th 382.) The Third District Court of Appeal found that Water Code section 35470 “on its face authorizes the [water] districts to levy fees sufficient to pay for the costs involved in the regulatory amendment.” (*Id.* at p. 398.) The water districts argued that the fee authority is not “sufficient” because it was politically impracticable to impose the fees. (*Id.* at p. 401.) The court held that it was irrelevant whether it was practicable to impose the fees, rather, “[t]he question is whether the Districts have authority, *i.e., the right or power, to levy fees sufficient to cover the costs.*” (*Ibid.*)

² The state does not concede that the hydromodification management plan and low impact development requirements in the permit are state mandates. As explained in the state’s opening brief, these permit requirements as well as the other challenged provisions are federal mandates and not subject to subvention.

1 And in *Clovis, supra*, the college districts challenged the Controller’s claiming instruction
2 that automatically reduced reimbursement claims by the amount the districts are statutorily
3 authorized to charge students for health fees, even when a district chooses not to charge its
4 students those fees. (188 Cal.App.4th at p. 812.) The Third District Court of Appeal disagreed
5 with the districts, holding that “[to] the extent a local agency or school district ‘has the authority’
6 to charge for the mandated program or increased level of service, that charge cannot be recovered
7 as a state-mandated cost.” (*Ibid.*) The court explained that “this basic principle flows from
8 common sense as well. As the Controller succinctly puts it, ‘Claimants can choose not to require
9 these fees, but not at the state’s expense.’” (*Ibid.*)

10 The only relevant issue here is whether the County of San Diego has fee authority for the
11 hydromodification management plan and low impact development permit requirements. Once the
12 court finds that the County has this authority, section 17556, subdivision (d), precludes
13 reimbursement. Issues surrounding the amount or allocation of any proposed fees are not before
14 this court until some plan for the amount and allocation of the fees is in place. For the court to
15 decide those issues at this time would amount to an improper advisory opinion. (*Pacific Legal
16 Foundation v. California Coastal Com.* (1982) 33 Cal.3d 158, 173, [courts will “not be drawn
17 into disputes which depend for their immediacy on speculative future events”].)

18 **II. THE COUNTY OF SAN DIEGO HAS FEE AUTHORITY TO PAY FOR THE
19 HYDROMODIFICATION MANAGEMENT PLAN AND LOW IMPACT DEVELOPMENT
20 PERMIT REQUIREMENTS UNDER THEIR POLICE POWER.**

21 **A. Regulatory Fee Authority Under the Police Power**

22 “As long as the local enactments are not in conflict with general laws, the power to impose
23 valid regulatory fees is not dependent on any legislatively authorized taxing power but exists
24 pursuant to the direct grant of police power under article XI, section 7, of the California
25 Constitution.” (*Mills v. County of Trinity* (1980) 108 Cal.App.3d 656, 662.) Section 7 states: “A
26 county or city may make and enforce within its limits all local, police, sanitary, and other
27 ordinances and regulations not in conflict with general laws.” (Cal. Const., art. XI, § 7.)

28 A fee is permissible under Proposition 13 if the County can show “(1) the estimated costs of
the service or regulatory activity, and (2) the basis for determining the manner in which the costs

1 are apportioned, so that charges allocated to a payor bear a fair or reasonable relationship to the
2 payor's burdens on or benefits from the regulatory activity." (*Sinclair Paint Co. v. State Bd. of*
3 *Equalization* (1997) 15 Cal.4th 866, 878, quoting *San Diego Gas & Electric Co. v. San Diego*
4 *County Air Pollution Control Dist.* (1988) 203 Cal.App.3d 1132, 1146, emphasis added.) The fee
5 must "not exceed the reasonable cost of providing services necessary to regulate the activity for
6 which the fee is charged." (*Id.* at p. 876.) "A valid fee may not be imposed for unrelated revenue
7 purposes." (*Ibid.*)

8 "The scope of a regulatory fee is somewhat flexible and is related to the overall purposes of
9 the regulatory governmental action." (*California Farm Bureau Federation v. State Water*
10 *Resources Control Board* (2011) 51 Cal.4th 421, 438.) Costs may "include all those incident to
11 the issuance of the license or permit, investigation, inspection, administration, maintenance of a
12 system of supervision and enforcement." [Citation.] (*California Association of Professional*
13 *Scientists et al. v. Department of Fish and Game, et al.* (2000) 79 Cal.App.4th 935, 945.)

14 In this case, the "burden" is pollution, and the "regulatory activity" is mitigating pollution,
15 not solely the creation of the hydromodification management plan. The County of San Diego, if
16 it chooses, can enact an ordinance charging developers of specific property whose increases in
17 runoff discharge rates and durations "are likely to cause increased erosion of channel beds and
18 banks, sediment pollutant generation, or other impacts to beneficial uses and stream habitat due to
19 increased erosive force." (AR 275-276.) Those developers can be charged the costs to
20 implement and develop the hydromodification management plan because their development
21 properties are likely to increase erosion and sediment pollutant generation. In other words, the
22 fee is reasonably related to the "burdens" that are imposed by the developers on the environment
23 that make the hydromodification management plan necessary.

24 Another way of analyzing the possible fee is in terms of the "benefit" that the fee payers
25 receive from the regulatory program. (See *Sinclair Paint Co.*, *supra*, 15 Cal.4th at p. 878
26 ["charges allocated to a payor bear a fair or reasonable relationship to the payor's burdens on or
27 benefits from the regulatory activity"].) Here, the developers are receiving a benefit: the right to
28 develop their land in exchange for paying the fee.

1 And the impact or relationship of development and redevelopment of property on
2 downstream erosion is undisputed. “As the total area of impervious surfaces increases in
3 previously undeveloped areas, infiltration of rainfall decreases, causing more water to run off the
4 surface at a higher rate. Runoff from developed areas can produce erosive flows in channels
5 under rainfall conditions where previously they did not exist.” (AR 288.) The developers of the
6 designated property are responsible for the downstream erosion and should share the costs to
7 prevent that erosion.

8 The pool of individuals that will be assessed the fee is limited. The potential fee payers
9 include only those developers of new development and significant redevelopment that have not
10 begun “grading or construction activities at the time” the hydromodification requirement was
11 imposed. (AR 275.) And the relevant part of the plan does not apply “where the pre-existing
12 channel or storm drain conditions result in minimal potential for erosion or other impacts to
13 beneficial uses.” (AR 277.) And the potential fee would cover the County of San Diego’s
14 administrative costs for developing and implanting the plan, which are certainly costs that may be
15 included in a regulatory fee. (*California Association of Professional Scientists, supra*,
16 79 Cal.App.4th at p. 945.)

17 The County of San Diego assumes that the “burden” is the creation of the
18 hydromodification management plan. The County asserts that a fee based on the implementation
19 and development of the hydromodification management plan is impermissible because it “would
20 be akin to charging developers for infrastructure that is already built which would serve the
21 project” and would not be based on “a specific environmental impact, an actual fee processing
22 requirement, or to mitigate the impacts to newly built public facilities.” (Cross-Petitioners and
23 Real Parties Points and Authorities in Support of Cross Petition (“Cross-Pet. P&A”) p. 12, ll. 20-
24 21, p. 13, ll. 3-4.)

25 The County is not only mischaracterizing any potential fee in order to disclaim their fee
26 authority, but they are also erroneously interpreting fee law. The County of San Diego relies on
27 cases that suggest that you cannot charge a fee for something that has already been done—such as
28 the creation of a regulatory plan. But none of these cases addressed that issue; it simply was not

1 presented. And while it is true that the programs involved in those cases might not have charged
2 a fee for the creation of regulations, that does not mean it could not be lawfully done under the
3 authorities cited herein.

4 Charging developers for a plan that has already been developed and implemented by the
5 County of San Diego is permissible as it will help mitigate the effects of future downstream
6 erosion. This is illustrated by *Sinclair Paint Co., supra*, in which the Supreme Court upheld a fee
7 for the costs of mitigating the adverse effects of lead contamination on manufacturers and other
8 persons whose products exposed children to lead-poisoning. (15 Cal.4th at p. 866.) The fee was
9 imposed on companies responsible for dispersing lead contamination in the environment, even
10 though 99 percent of the fees were imposed on companies that had stopped engaging in their
11 harmful activities decades earlier. The Supreme Court explained:

12 Viewed as a ‘mitigating effects’ measure, it is comparable in character to similar
13 police power measures imposing fees to defray the actual or *anticipated adverse*
effects of various business operations.

14 From the viewpoint of general police power authority, we see no reason why statutes
15 or ordinances calling on polluters or producers of contaminating products to help in
16 mitigation or cleanup efforts should be deemed less “regulatory” in nature than the
initial permit or licensing programs that allowed them to operate.

17 (*Id.* at p. 877, emphasis added.) Thus, as in the present case, the fee was not being charged at the
18 same time as the activities that made the fee necessary.

19 And this type of mitigation fee has already been upheld in the context of air emissions. In
20 *California Bldg. Industry Ass’n v. San Joaquin Valley Air Pollution Control Dist.* (2009)
21 178 Cal.App.4th 120, the air pollution district adopted an indirect source review program to
22 reduce certain emissions from new development projects, which included a fee to recover its costs
23 of administering and operating program. (178 Cal.App.4th at pp. 127-128.) Among other things,
24 the court found that a fee to support air pollution mitigation was proper, as there was a nexus
25 between the fee charged and the burden posed by the development contributing to the emissions.
26 (*Id.* at p. 131-132.) The same is true here. The County of San Diego can, if it chooses, charge the
27 developers of new development of significant development a fee to cover the overall cost of the
28 hydromodification management plan.

1 The County of San Diego has failed to establish that any barriers exist preventing it from
2 imposing a regulatory fee to cover the administrative costs to implement and develop the
3 hydromodification management plan required under the permit. Thus, under section 17556,
4 subdivision (d), the plan is not subject to reimbursement.

5 For the same reasons, the County of San Diego could also impose a fee on developers for
6 the County's costs in developing low impact development best management practices. These are
7 practices that address "[a] storm water management and land development strategy that
8 emphasizes conservation and the use of on-site natural features integrated with engineered, small-
9 scale hydrologic controls to more closely reflect pre development hydrologic functions."
10 (AR 343.) As above, the purpose of low impact development is to "collectively minimize directly
11 connected impervious areas and promote infiltration at Priority Development Projects." (AR 269.)
12 The permit requirements for complying with low impact development can be assessed against the
13 developers to mitigate downstream erosion.

14 Because the County of San Diego has fee authority to cover the costs of the
15 hydromodification management plan and low impact development, these permit requirements are
16 not subject to reimbursement under article XIII B, section 6 as they do not impose costs mandated
17 by the state. The Commission's decision to that effect should be affirmed. (AR 3930-3932.)

18 **B. Development Fee Authority Under the Police Power**

19 Courts have found that "[d]evelopment fees are an exercise of the local police power
20 granted to cities and counties by article XI, section 7, of the California Constitution." (*California*
21 *Building Industry Assoc. v. Governing Board of the Newhall School District of Los Angeles*
22 *County* (1988) 206 Cal. App.3d 212, 234.)

23 A fee is considered a development fee if it is exacted in return for building permits or other
24 governmental privileges so long as the amount of the fee bears a reasonable relation to the
25 development's probable costs to the community and benefits to the developer. (*Sinclair Paint,*
26 *supra*, 15 Cal.4th at p. 875.) In other words, development fees are fees "that alleviate the effects
27 of development on the community." (*Barratt American, Inc. v. City of Rancho Cucamonga* (2005)
28 37 Cal.4th 685, 696.) However, "a fee does not become a 'development fee' simply because it is

1 made in connection with a development project.” (*Id.* at p. 699.) Rather, approval of the
2 development project must be conditioned on payment of the fee. (*Ibid.*; see also *Capistrano*
3 *Beach Water Dist. v. Taj Development Corp.* (1999) 72 Cal.App.4th 524, 529-530.)

4 The County of San Diego could impose the fee in such a manner that development of a
5 specific project is conditioned on the payment of the hydromodification management plan and
6 low impact development fees. This is another basis that supports the County of San Diego’s
7 ability to charge a fee and precludes reimbursement under article XIII B, section 6. (See
8 discussion of development fees in section III below.)

9 **C. Proposition 26 Does Not Apply to the Hydromodification Management**
10 **Plan and Low Impact Development Permit Requirements.**

11 The County of San Diego does not really dispute that it has the authority to impose fees for
12 the hydromodification management plan and low impact development permit requirements under
13 the police power. Rather, the County claims that this authority has been limited by Proposition
14 26 or article XIII C, section 1, subdivision (e), paragraphs (1) and (3). (Cross-Pet. P&A p.17,
15 ll.10-18.) According to the County of San Diego, the constitution “now prohibits user fees that
16 do not provide benefits directly to the entity paying the user fee.” (Cross-Pet P&A p. 17, ll. 17-
17 19.) The County has misapplied Proposition 26 to this case.

18 First, it is important to understand the context of subdivision (e) as well as the other
19 subdivisions in article XIII C, section 1. This subdivision simply lists the various charges that a
20 local agency *can* impose without creating a tax. Subdivision (e)(1) exempts a “charge imposed
21 for a specific benefit conferred or privilege granted directly to the payor that is not provided to
22 those not charged, and which does not exceed the reasonable costs to the local government of
23 conferring the benefit or granting the privilege.” Similarly, subdivision (e)(3) exempts a “charge
24 imposed for the reasonable regulatory costs to a local government for issuing licenses and permits,
25 performing investigations, inspections, and audits, enforcing agricultural marketing orders, and
26 the administrative enforcement and adjudication thereof.”

27 As discussed above, the County of San Diego, if it chooses, can impose fees for the
28 hydromodification management plan and low impact development permit requirements within

1 these exemptions. The regulatory fees could be imposed only on those developers of new
2 development and significant redevelopment in exchange for the benefit of developing the land.
3 The nexus between the developer and the possible fees is clear, the class of fee payers is narrow,
4 and the fees could be established and allocated in a reasonable manner, again if the County
5 chooses to do so.

6 Second, the County of San Diego completely ignores that they could establish the fees as
7 development fees, which are also exempted under subdivision (e)(6). It specifically excludes as a
8 tax a “charge imposed as a condition of property development.”

9 Last, the County of San Diego restates its argument that they could not charge a fee to pay
10 for “infrastructure” that is already in place. (Cross-Pet. P&A p.18, ll. 14-21) Charging
11 developers fees for the administrative cost for plans that have already been developed and
12 implemented by the County of San Diego is permissible as the plans will help mitigate the effects
13 of future downstream erosion.

14 Accordingly, Proposition 26 has no impact on the County of San Diego’s ability to impose
15 fees for the hydromodification management plan or low impact development best management
16 practices as either regulatory or development fees under the County’s police power.

17 **D. The County of San Diego’s Proposition 26 Argument Is Not Properly**
18 **Before the Court.**

19 It is undisputed that the Commission’s decision does not address the effect of Proposition
20 26 on the County’s fee authority because the Commission’s decision was adopted on March 26,
21 2010, over seven months before Proposition 26 was passed by the voters. (AR 3823.)
22 Government Code section 17570, subdivision (c), provides an administrative process through
23 which the County of San Diego may seek to obtain a new test claim decision from the
24 Commission based upon a subsequent change in the law. Thus, to the extent that the County of
25 San Diego is claiming that Proposition 26 limits its fee authority here, this must first be decided
26 by the Commission. The County must first pursue this administrative remedy prior to bringing
27 their claims. (*In re Strick* (1983) 148 Cal.App.3d 906, 911 [“a litigant will not be afforded relief
28 in the courts unless and until he has exhausted available administrative remedies”].)

1 For the same reason, a court cannot grant relief based on a legal theory not presented at the
2 administrative hearing. (*NBS Imaging Sys., Inc. v. Reed* (1997) 60 Cal.App.4th 328, 336-337 &
3 fn. 11 [holding that the superior court had no authority to consider petitioner's new legal theories
4 not raised in the administrative proceeding and thus erred in granting relief based on such
5 theories].) For these reasons, the County cannot press its Proposition 26 argument in this forum.

6 **III. THE COUNTY OF SAN DIEGO HAS FEE AUTHORITY TO PAY FOR THE**
7 **HYDROMODIFICATION MANAGEMENT PLAN AND LOW IMPACT DEVELOPMENT PERMIT**
8 **REQUIREMENTS UNDER THE MITIGATION FEE ACT.**

9 The Mitigation Fee Act was passed by the Legislature "in response to concerns among
10 developers that local agencies were imposing development fees for purposes unrelated to
11 development projects." (*Ehrlich v. City of Culver City* (1996) 12 Cal.4th 854, 864.) Under the
12 Act, a fee is defined as:

13 [A] monetary exaction other than a tax or special assessment, whether established for
14 a broad class of projects by legislation of general applicability or imposed on a
15 specific project on an ad hoc basis, that is charged by a local agency to the applicant
16 in connection with approval of a development project for the purpose of defraying all
17 or a portion of the cost of public facilities related to the development project, but does
18 not include fees specified in Section 66477, fees for processing applications for
19 governmental regulatory actions or approvals, fees collected under development
20 agreements adopted pursuant to Article 2.5 (commencing with Section 65864) of
21 Chapter 4, or fees collected pursuant to agreements with redevelopment agencies that
22 provide for the redevelopment of property in furtherance or for the benefit of a
23 redevelopment project for which a redevelopment plan has been adopted pursuant to
24 the Community Redevelopment Law (Part 1 (commencing with Section 33000) of
25 Division 24 of the Health and Safety Code).

26 (Gov. Code, § 66000, subd. (b).)

27 The Act defines "Public facilities" to include "public improvements, public services, and
28 community amenities." (Gov. Code, § 66000, subd. (d).)

When a local agency establishes, imposes, or increases a fee as a condition of development
approval, it must do all of the following: (1) "Identify the purpose of the fee" (Gov. Code,
§ 66001, subd. (a).); (2) "Identify the use to which the fee is to be put. If the use is financing
public facilities, the facilities shall be identified" (*Ibid.*); (3) "Determine how there is a reasonable
relationship between the fee's use and the type of development project on which the fee is
imposed" (*Ibid.*); and (4) "Determine how there is a reasonable relationship between the need for
the public facility and the type of development project on which the fee is imposed." (*Ibid.*)

1 For the same reasons the County of San Diego has fee authority under the police power, the
2 County also, if it chooses, can enact an ordinance addressing these requirements for the
3 hydromodification management plan under the Mitigation Fee Act. The County can easily
4 identify the purpose and use of the proposed fee. The proposed fee would impose the costs to
5 implement and develop the hydromodification management plan on certain developers of specific
6 property whose increases in runoff discharge rates and durations “are likely to cause increased
7 erosion of channel beds and banks, sediment pollutant generation, or other impacts to beneficial
8 uses and stream habitat due to increased erosive force.” (AR 275-276.)

9 Next, the County of San Diego can effortlessly show that there is a reasonable relationship
10 between the use of the fee and the type of development. The proposed fee would be used to cover
11 the administrative costs to develop and implement the plan, which is needed to address the effects
12 of downstream erosion from new development and urbanization. (AR 275-276.) And the need
13 for the plan is reasonably related to the type of development: new development and
14 redevelopment “projects which have not yet begun grading or construction activities at the time”
15 the hydromodification requirement commences. (AR 275.)

16 Last, the hydromodification management plan meets the definition of “public facilities.”
17 The definition specifically includes “public improvements, public services, and community
18 amenities.” (Gov. Code, § 66000, subd. (d).) The Supreme Court explained that the Act
19 “concerns itself with development fees; that is, fees imposed on development projects in order to
20 finance public improvements or programs that bear a ‘reasonable relationship’ to the development
21 at issue.” [Citation omitted.] (*Utility Cost Management v. Indian Wells Valley Water Dist.* (2001)
22 26 Cal.4th 1185, 1191; *Barratt American, Inc, supra*, 37 Cal.4th at p. 696.)

23 The County of San Diego could also impose a fee on certain future developers for the
24 County’s costs in developing low impact development best management practices. The purpose
25 of low impact development is to “collectively minimize directly connected impervious areas and
26 promote infiltration at Priority Development Projects.” (AR 269) The permit requirements for
27 complying with low impact development can be assessed against the developers to mitigate
28 downstream erosion.

1 Thus, because the County of San Diego has fee authority to cover the costs of the
2 hydromodification management plan and low impact development, these permit requirements are
3 not subject to reimbursement under article XIII B, section 6, and the Commission's decision to
4 that effect should be affirmed.

5 As with the discussion related to the County of San Diego's fee authority under the police
6 power, the County continues to cast the possible fees in a light that would undercut their fee
7 authority in an effort to get around section 17556, subdivision (d). With respect to a development
8 fee under the Mitigation Fee Act, the County objects to the possible fees primarily on the theory
9 that the permit requirements for hydromodification and low impact development are not public
10 facilities and thus are being imposed for general revenue raising purposes. (Cross-Pet P&A
11 pp. 13-16.) The County is wrong.

12 The County of San Diego claims that the hydromodification and low impact development
13 requirements do not meet the definition of public facilities under the Act, because the
14 Commission and the Supreme Court read the term "program" into the definition. (Cross-Pet P&A
15 p. 13, ll. 20-27.) The definition includes "public improvements, public services, and community
16 amenities." (Gov. Code, § 66000, subd. (d).) The Supreme Court read the term "public
17 improvements" broadly to include programs that concern themselves "with development fees."
18 (*Utility Cost Management, supra*, 26 Cal.4th at p. 1191.)

19 The County is trying to limit the term "public improvements" to "capital facilities" or
20 physical assets to exclude the permit requirements for hydromodification and low impact
21 development. (Cross-Pet P&A p. 14, ll. 1-13.) To support this argument the County cites to
22 *Homebuilders Association of Tulare/Kings Counties, Inc. v. City of Lemoore* (2010)
23 185 Cal.App.4th 554 in which the court excluded some fees because there was no nexus between
24 the fees and the burdens imposed by the new housing. (*Ibid.*) This case has absolutely nothing to
25 do with the term "public improvements" or its interpretation by our Supreme Court.

26 Moreover, the term "public improvements" has been consistently applied to include
27 programs related to development. In *California Bldg. Industry Ass'n, supra*, 178 Cal.App.4th
28 120, the court found that the indirect source review fees to fund off-site mobile source emission

1 reducing projects were public facilities. (*Id.* at pp. 131-132.) But the court rejected that the fee
2 was a development fee since approval of a development project was not conditioned on the
3 developer's payment of the fees. (*Ibid.*) This is not the case here, the County can impose the fees
4 as a condition of development if it so chooses.

5 There is nothing stopping the County from imposing fees on specific developers to cover
6 the costs of the hydromodification and low impact development requirements in the permit in
7 exchange for the privilege of developing the land. And because there is fee authority, there are no
8 costs mandated by state for these permit requirements.

9 **IV. THE COUNTY OF SAN DIEGO HAS POTENTIAL FEE AUTHORITY AND OFFSETTING**
10 **REVENUE IF THEY COMPLY WITH THE CALIFORNIA WATERSHED IMPROVEMENT ACT OF**
11 **2009.**

12 Water Code section 16103, subdivision (a) provides that a local agency "may impose fees
13 on activities that generate or contribute to runoff, stormwater, or surface runoff pollution, to pay
14 the costs of the preparation of a watershed improvement plan, and the implementation of a
15 watershed improvement plan" subject to the following requirements:

16 (1) The regional board has approved the watershed improvement plan.

17 (2) The entity or entities that develop the watershed improvement plan make a finding,
18 supported by substantial evidence, that the fee is reasonably related to the cost of
19 mitigating the actual or anticipated past, present, or future adverse effects of the
20 activities of the feepayer. "Activities," for the purposes of this paragraph, means the
operations and existing structures and improvements subject to regulation under an
NPDES permit for municipal separate storm sewer systems.

(3) The fee is not imposed solely as an incident of property ownership.

21 (Wat. Code, § 16103, subd. (a), (1)-(3).) "The fees authorized under subdivision (a) may be
22 imposed as user-based or regulatory fees consistent with this chapter." (Wat. Code, § 16103,
23 subd. (c).)

24 The Commission found that section 16103 may provide offsetting savings to the extent that
25 the local agency complies with its provisions. (AR 3942.) This means that if the County of San
26 Diego can charge a fee for any activities consistent with the section 16103, the County must
27 deduct said fees from their reimbursement claims.

1 The County of San Diego is critical of the Commission's finding in that the Commission
2 did not define the specific offsetting fees. (Cross-Pet P&A p. 19, ll. 17-21.) The County misses
3 the point of the offsetting finding: it only applies if *all* of the provisions of section 16103 are met.
4 This would be determined on a case-by-case basis when the County submits their reimbursement
5 claims.

6 In addition, the County of San Diego seems to suggest that all permit requirements would
7 be excluded under section 16103 because in one case a court found that a specific stormwater
8 user fee was based on an incident of property ownership. (See *Howard Jarvis Taxpayer Assoc. v.*
9 *City of Salinas* (2002) 98 Cal.app.4th 1351, 1354-1356) According to the County, certain
10 stormwater user fees have been found to be based on an incident of property ownership, which in
11 the County's view would be excluded under section 16103, subdivision (a)(3). (Cross-Pet P&A
12 p. 9, ll. 22-25, p. 20, ll. 1-15.) This reading of section 16103 is too narrow. Section 16103,
13 subdivision (a) applies broadly to activities related to "the operations and existing structures and
14 improvements subject to regulation under an NPDES permit for municipal separate storm sewer
15 systems." And a fee is only excluded if it is "imposed *solely* as an incident of property
16 ownership." (Wat. Code, § 16103, subd. (a) (3), emphasis added.) Again, whether or not a
17 particular fee is consistent with section 16103 and subject to the offsetting provision is a factual
18 question to be resolved at the auditing stage of the County's reimbursement claims and is not a
19 proper legal issue before this court. The Commission's offsetting finding is proper.

20 Last, the County of San Diego again asserts that Proposition 26 limits the County's fee
21 authority under section 16103. (Cross-Pet P&A p. 21, ll. 1-14.) This is pure conjecture. In any
22 event, Proposition 26 was not before the Commission when it adopted its decision and thus is not
23 properly before this court.

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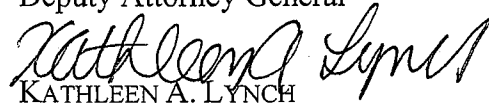
CONCLUSION

The County of San Diego has the authority to impose fees for the hydromodification and low impact development permit requirements and thus the Commission's decision finding that the requirements were not reimbursable should be affirmed. Further, the County of San Diego has potential fee authority and offsetting revenue if they comply with the California Watershed Improvement Act and the Commission's finding providing for an offset should also be affirmed.

Dated: August 15, 2011

Respectfully submitted,

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DECLARATION OF SERVICE BY OVERNIGHT COURIER

Case Name: **State of California Department of Finance, et al. v. Commission on State Mandates**

No.: **34-2010-80000604**

I declare:

I am employed in the Office of the Attorney General, which is the office of a member of the California State Bar, at which member's direction this service is made. I am 18 years of age or older and not a party to this matter; my business address is: 1300 I Street, Suite 125, P.O. Box 944255, Sacramento, CA 94244-2550.

On August 15, 2011, I served the attached **Cross-Real Parties in Interest's Memorandum of Points and Authorities in Opposition to Cross-Petition for Writ of Administrative Mandamus** by placing a true copy thereof enclosed in a sealed envelope with the **Golden State Overnight courier service**, addressed as follows:

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I declare under penalty of perjury under the laws of the State of California the foregoing is true and correct and that this declaration was executed on August 15, 2011, at Sacramento, California.

Scott De Medeiros
Declarant


Signature

IN THE COURT OF APPEAL OF THE STATE OF CALIFORNIA

THIRD APPELLATE DISTRICT

DEPARTMENT OF FINANCE, et al.,

Plaintiffs and Respondents,

Case No. C070357

v.

COMMISSION ON STATE MANDATES,

Defendant,

COUNTY OF SAN DIEGO, et al.,

Real Parties in Interest and Appellants.

Sacramento County Superior Court, Case No. 34-2010-80000604

Allen H. Sumner, Judge

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THIRD APPELLATE DISTRICT

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Plaintiffs and Respondents,

Case No. C070357

v.

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Real Parties in Interest and Appellants.

Sacramento County Superior Court, Case No. 34-2010-80000604
Allen H. Sumner, Judge

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TO BE FILED IN THE COURT OF APPEAL

APP-008

<p>COURT OF APPEAL, Third APPELLATE DISTRICT, DIVISION</p>	<p>Court of Appeal Case Number: C070357</p>
<p>ATTORNEY OR PARTY WITHOUT ATTORNEY (Name, State Bar number, and address): Kathleen A. Lynch, Deputy Attorney General (State Bar No. 171901) Attorney General of California 1300 I Street, Suite 125 / P.O. Box 944255 Sacramento, CA 94244-2550 TELEPHONE NO.: (916) 445-7480 FAX NO. (Optional): (916) 324-8835 E-MAIL ADDRESS (Optional): Kathleen.Lynch@doj.ca.gov ATTORNEY FOR (Name): Plaintiffs and Respondents</p>	<p>Superior Court Case Number: 34-2010-80000604</p>
<p>APPELLANT/PETITIONER: Department of Finance, et al.</p> <p>RESPONDENT/REAL PARTY IN INTEREST: Commision on State Mandates</p>	<p style="text-align: center;">FOR COURT USE ONLY</p>
<p style="text-align: center;">CERTIFICATE OF INTERESTED ENTITIES OR PERSONS</p> <p>(Check one): <input checked="" type="checkbox"/> INITIAL CERTIFICATE <input type="checkbox"/> SUPPLEMENTAL CERTIFICATE</p>	
<p>Notice: Please read rules 8.208 and 8.488 before completing this form. You may use this form for the initial certificate in an appeal when you file your brief or a prebriefing motion, application, or opposition to such a motion or application in the Court of Appeal, and when you file a petition for an extraordinary writ. You may also use this form as a supplemental certificate when you learn of changed or additional information that must be disclosed.</p>	

1. This form is being submitted on behalf of the following party (name): Plaintiffs and Respondents Dept. of Finance, et al.

2. a. There are no interested entities or persons that must be listed in this certificate under rule 8.208.
 b. Interested entities or persons required to be listed under rule 8.208 are as follows:

Full name of interested entity or person	Nature of interest (Explain):
--	-------------------------------

- (1)
- (2)
- (3)
- (4)
- (5)

Continued on attachment 2.

The undersigned certifies that the above-listed persons or entities (corporations, partnerships, firms, or any other association, but not including government entities or their agencies) have either (1) an ownership interest of 10 percent or more in the party if it is an entity; or (2) a financial or other interest in the outcome of the proceeding that the justices should consider in determining whether to disqualify themselves, as defined in rule 8.208(e)(2).

Date: November 19, 2012

Kathleen A. Lynch
 (TYPE OR PRINT NAME)

▶ *Kathleen A Lynch*
 (SIGNATURE OF PARTY OR ATTORNEY)

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INTRODUCTION

The federal Clean Water Act prohibits appellants/real parties in interest (San Diego County and certain cities in that county) from discharging pollutants from their municipal storm sewer systems into waterbodies unless pursuant to a permit issued in compliance with the National Pollutant Discharge Elimination System ("NPDES"). The Commission on State Mandates erroneously determined that certain stated conditions of the NPDES permit issued to appellants (collectively, "County of San Diego") were mandates imposed by the State (rather than federal law) simply because respondent California Regional Water Quality Control Board, San Diego Region ("Regional Board") administers that federal permitting scheme.

The Clean Water Act and implementing federal regulations required that the County of San Diego obtain an NPDES permit and that the permit include actions to reduce the discharge of pollutants "to the maximum extent practicable, including management practices, control techniques and system, design and engineering methods." (33 U.S.C § 1342(p)(3)(B); see 40 C.F.R. § 122.26.) Under article XIII B, section 6 of the California Constitution, the only way this federal standard could constitute a state mandate would be if the State *voluntarily elected* to require local agencies to implement state obligations under the Clean Water Act, or if the State took action to *exceed* the Act's requirements. The trial court correctly found that the Commission applied the wrong legal analysis to decide both issues.

First, given that NPDES permits are required by federal law, the State had "no real choice" in deciding to implement the Clean Water Act. Almost immediately upon enactment of the Clean Water Act, the State has administered the NPDES program in California in place of the federal Environmental Protection Agency. Regardless of the administering agency,

however, the County of San Diego was still required to obtain an NPDES permit and the same federal law governed its contents. The Regional Board's involvement added nothing to the County of San Diego's burdens. The State had no practical choice but to administer the Clean Water Act in lieu of direct regulation by the federal government.

Second, the Commission's finding that certain stated NPDES permit conditions were state mandates was based on a faulty reading of the applicable Clean Water Act provisions. As the lower court recognized, federal law and decisions make clear that the Clean Water Act's technology-forcing requirement to reduce pollutants in storm water from the County's municipal storm waters systems "to the maximum extent practicable" is comprehensive and flexible. NPDES permitting agencies, whether federal or state, must impose specific permit conditions on a case-by-case basis to meet that federal standard for a particular municipal system.

The County's counter-assertion, that states cannot impose permit conditions under that flexible federal standard, because they are somehow not exercising "delegated" federal authority, is incorrect. The County of San Diego's related argument, that the Regional Board was confined to a checklist of permit conditions explicitly set forth in federal regulations, is likewise incorrect. Both of these arguments are fundamentally out of sync with the actual federal standard, as written and as interpreted in federal regulations and judicial decisions.

And while the Commission may be an expert in state mandates, it has no expertise in the field of water quality permitting law. The Commission erroneously failed to give appropriate deference to the Regional Board's implementation of the Clean Water Act, including its findings that the challenged conditions (hydromodification, low-impact development, street sweeping and reporting, storm sewer cleaning and reporting, education,

watershed activities and collaboration, regional urban runoff management program, long-term effectiveness assessment, and all permittee collaboration) are within the federal maximum extent practicable standard. The Commission also incorrectly ignored that the County of San Diego administratively challenged these findings, but did not seek direct administrative mandamus review of whether the conditions were properly required under the Clean Water Act. Rather than seeking this direct judicial review, the County chose to contest these findings in the context of this state mandates action.

Because the Commission applied the wrong legal standard in determining whether the challenged permit requirements exceeded federal law, the trial court correctly granted the writ petition and ordered remand of the matter back to the Commission with instructions to issue a new decision (i.e., addressing relevant federal law) consistent with the court's decision and judgment.

Accordingly, respondents California Department of Finance, State Water Resources Control Board, and the Regional Board ask this Court to affirm the judgment below.

STATEMENT OF FACTS

I. FEDERAL REQUIREMENTS FOR NPDES PERMITS AT ISSUE

A. Federal Nature of NPDES Permits

In a "dramatic response to accelerating environmental degradation of rivers, lakes and streams in this country," Congress passed the Clean Water Act in 1972 to eliminate the discharge of pollution into the nation's waters. (33 U.S.C. § 1251, et seq.; *Natural Resources Defense Council, Inc. v. Costle* (D.C. Cir. 1977) 568 F.2d 1369, 1371.) The Clean Water Act seeks to "restore and maintain the chemical, physical, and biological integrity of the Nation's waters," and is recognized by courts as a demanding law or

“strong medicine.” (33 U.S.C. § 1251(a); *Texas Mun. Power Agency v. Administrator of U.S. E.P.A.* (5th Cir. 1988) 836 F.2d 1482, 1488.)

The primary means for achieving the goals of the Clean Water Act is the NPDES program. (*Arkansas v. Oklahoma* (1992) 503 U.S. 91, 101-102.) The Act prohibits pollutant discharge from “point sources” unless provided for under an NPDES permit. (33 U.S.C. §§ 1311, 1342; see also *Communities for a Better Environment v. State Water Resources Control Bd.* (2003) 109 Cal.App.4th 1089, 1092-1093.)

NPDES permits are issued by either the United States Environmental Protection Agency (U.S. EPA) or a U.S. EPA-approved state. (33 U.S.C. § 1342(a)(1) & (b).) Congress provided that the U.S. EPA or an approved state could issue permits for all dischargers and could translate the Clean Water Act’s requirements into the conditions of individual permits for dischargers. (*Environmental Protection Agency v. California ex rel. State Water Resources Control Bd.* (1976) 426 U.S. 200, 219.) California has the U.S. EPA’s approval to issue NPDES permits, as do 45 other states. (*Building Industry Association of San Diego County v. State Water Resources Control Bd.* (2004) 124 Cal.App.4th 866, 875.)

When a state issues an NPDES permit, it must generally ensure that the permit complies with many federal requirements, including effluent limitations, national standards of performance, and toxic and pretreatment effluent standards. (33 U.S.C. §§ 1342(b)(1), 1311, 1312, 1316, 1317.) States must also provide for the continued inspection and monitoring of pollutants into our nation’s waters. (*Id.* § 1342(b)(2)(B).) NPDES permit requirements may be enforced as a matter of federal law by either the U.S. EPA or private citizens. (*Id.* §§ 1319(a)(1) & (3), 1365(a)(1).)

To ensure that state-authorized programs comply with the U.S. EPA’s mandates and federal law, the U.S. EPA maintains oversight and supervision. The state must provide the U.S. EPA with proposed permits

and notice of any action related to a discharger's permit application. (33 U.S.C. § 1342(d)(1).) The U.S. EPA may object to a permit, finding that it violates the Clean Water Act's guidelines and requirements. (*Id.* § 1342(d)(2).) Should the U.S. EPA determine that a state program does not comply with federal NPDES program guidelines, it may withdraw approval for the state program. (*Id.* § 1342(c)(3).)

When an NPDES permit is renewed, reissued, or modified, it generally must be at least as stringent as the prior permit. (33 U.S.C. § 1342(o); 40 C.F.R. § 122.44(l).) This is consistent with Congress' intent that state management programs evolve based on changing conditions due to program development and implementation, and corresponding improvements in water quality. (55 Fed.Reg. 47990, 48052 (Nov. 16, 1990).)

B. Federal Law Governing NPDES Permits for Municipal Separate Storm Sewer Systems (MS4)

While there are many types of discharges requiring NPDES permits under the Clean Water Act, this case is very specific, pertaining to the discharge of pollutants through municipal separate storm sewer systems. Those systems are often referred to as "MS4" (including in materials quoted in this Brief), and respondents will use that term hereafter. Congress has established a distinct technology standard that applies to NPDES permits for MS4s. (33 U.S.C. § 1342(p)(3)(B).) Further, unlike many other categories of point source discharges, U.S. EPA has not established any uniform national effluent limitation guidelines or standards for MS4 discharges. (Compare 40 C.F.R. § 122.26 [MS4 permit requirements] with 40 C.F.R. Parts 405-471 [various effluent limitation guidelines].) Instead, U.S. EPA required individual permit issuers at the federal or state level to develop the necessary MS4 controls to reduce

pollutants to the federal standards. (40 C.F.R. § 122.26(d); 55 Fed.Reg. 47990, 48043 (Nov. 16, 1990).)

Controlling discharges of municipal storm water and non-storm water is important because such discharges are one of the most significant sources of water pollution in the nation. (*Environmental Defense Center, Inc. v. U.S. E.P.A.* (9th Cir. 2003) 344 F.3d 832, 840.) These discharges carry “suspended metals, sediments, algae-promoting nutrients (nitrogen and phosphorus), floatable trash, used motor oil, raw sewage, pesticides, and other toxic contaminants into streams, rivers, lakes, and estuaries across the United States.” (*Id.* at pp. 840-841.) “Among the sources of stormwater contamination are urban development, industrial facilities, construction sites, and illicit discharges and connections to storm sewer systems.” (*Id.* at p. 841.)

The Clean Water Act requires NPDES permits for MS4 dischargers such as the County of San Diego “to include a requirement to effectively prohibit non-stormwater discharges into the storm sewers” and “shall require controls¹ to reduce the discharge of pollutants to the *maximum extent practicable*, including management practices, control techniques and system, design and engineering methods, and such other provisions as the Administrator or the State determines appropriate for the control of such pollutants.” (33 U.S.C. § 1342(p)(3)(B), emphasis added.) Congress established the maximum extent practicable standard (as opposed to the blanket effluent limitations approach, which was impractical and

¹ The County of San Diego claims that at the trial level the State somehow purposefully omitted the phrase “shall require controls” from the maximum extent practicable standard. (AB p. 8, fn. 3.) Not true. In any event, this language of the Clean Water Act speaks for itself, the point does not affect the meaning of this clause, and the County never explains why the distinction would matter.

administratively burdensome in the context of storm water pollution) so that municipalities would have “the tools to meet the fundamental goals of the Clean Water Act.” (*Building Industry Ass’n of San Diego County, supra*, 124 Cal.App.4th at p. 884.)

The Clean Water Act’s technology-forcing requirements are designed to foster innovation. (See, e.g., *Chemical Mfrs. Ass’n v. Natural Resources Defense Council, Inc.* (1985) 470 U.S. 116, 155-56.) Permit writers (U.S. EPA and federally approved states) identify the MS4 requirements on a permit-by-permit basis. (*Natural Resources Defense Council, Inc. v. U.S. E.P.A.* (9th Cir. 1992) 966 F.2d 1292, 1308, fn. 17; see also 55 Fed.Reg. 47990, 48043 (Nov. 16, 1990).) To implement this maximum extent practicable standard for stormwater, MS4 permits usually require “best management practices” that reflect the technology-based effluent limitation. (See *Defenders of Wildlife v. Browner* (9th Cir. 1999) 191 F.3d 1159, 1166-1167.) Federal law defines these practices to mean, in part, “schedules of activities, prohibitions of practices, maintenance procedures, and other management practices to prevent or reduce the pollution of ‘waters of the United States.’” (40 C.F.R. § 122.2.)²

Large municipal storm water system operators must apply for an NPDES permit pursuant to U.S. EPA-promulgated regulations.

² As noted, the Clean Water Act imposes at least three distinct obligations on municipalities subject to MS4 permitting. One is “to effectively prohibit non-stormwater discharges into the storm sewers.” (33 U.S.C. § 1342(p)(3)(B)(ii).) A second is “to reduce the discharge of pollutants to the maximum extent practicable.” (*Id.* § 1342(p)(3)(B)(iii).) The third is the requirement to include “such other provisions as the Administrator or the State determines appropriate for the control of such pollutants.” (*Ibid.*; *Building Industry Ass’n of San Diego County, supra*, 124 Cal.App.4th at p. 887.) While each of these separate bases would provide the foundation for a federal mandate, the discussion throughout this brief focuses on the “maximum extent practicable” standard.

(33 U.S.C. § 1342(p)(4)(A).) Those regulations specify the information that applicants for storm sewer permits must include in their applications. (40 C.F.R. § 122.26(d).) This application is extensive and represents the applicant's view of the required NPDES permit. (*Id.* § 122.26(d)(2)(iv).) The application, and ultimately the permit itself, must address management programs to reduce the discharge of pollutants using the maximum extent practicable standard. (*Ibid.*) These programs include practices for operating and maintaining public streets, roads, and highways (*id.* § 122.26(d)(2)(iv)(A)(3)); procedures to control pollution resulting from development and significant redevelopment, construction, and commercial, residential, industrial, and municipal land use activities (*id.* § 122.26(d)(2)(iv)(A)-(D)); processes to educate the public on the danger of urban runoff to our nation's waters and changing behavior to reduce pollutant releases to the environment (*id.* § 122.26(d)(2)(iv)(A)(5),(6), (D)(4)); and ways to address water quality and the discharge of pollutants through storm sewers on system-wide, jurisdictional-wide, watershed, or other basis, and through interagency agreements. (*Id.* § 122.26(a)(3)(ii), (d)(2)(i)(D), (iv).)

The U.S. EPA has also issued guidance documents that discuss the types of best management practices that may be included in MS4 storm water permits in order to reduce the discharge of pollutants in storm water to the maximum extent practicable. At the time that the subject test claim was considered by the Commission, the U.S. EPA had issued a Program Evaluation Guide for NPDES permits for large and medium MS4s, which addresses inspections of businesses and litter-related issues.

(Administrative Record ("AR") 1853-2058.)

II. CALIFORNIA'S ROLE IN IMPLEMENTING FEDERAL REQUIREMENTS FOR STORM WATER PERMITS

"[O]n May 14, 1973, California became the first state to be approved by the EPA to administer the NPDES permit program." (*County Sanitation*

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Cal.App.4th 1544, 1565-1566.)³ The Legislature did so by amending the Porter-Cologne Water Quality Control Act (Porter-Cologne Act) to add Chapter 5.5 to implement federal law, and thereby avoided direct regulation by the federal government. (Wat. Code, § 13370; see generally Wat. Code, §§ 13370-13389.) Specifically, the legislative findings and declarations state, in relevant part:

It is in the interest of the people of the state, in order to avoid direct regulation by the federal government of persons already subject to regulation under state law pursuant to this division, to enact this chapter in order to authorize the state *to implement the provisions of the Federal Water Pollution Control Act* [Clean Water Act] and acts amendatory thereof or supplementary thereto, and federal regulations and guidelines issued pursuant thereto, provided, that the state board shall request federal funding under the Federal Water Pollution Control Act for the purpose of carrying out its responsibilities under this program.

(Wat. Code, § 13370, subd. (c), emphasis added.)

Additionally, the Porter-Cologne Act mandates that California's NPDES permit program be consistent with federal law. (Wat. Code, §§ 13372, 13377.) Section 2235.2 of title 23 of the California Code of Regulations states that "[w]aste discharge requirements for discharge from point sources to navigable waters shall be issued and administered in accordance with the currently *applicable federal regulations for the National Pollutant Discharge Elimination System (NPDES) program.*"

(Emphasis added.) Moreover, there are numerous federal requirements that the State must first comply with in issuing NPDES permits or risk the U.S. EPA taking over California's NPDES program.

³ Nine regional boards administer the program, overseen by the State Water Resources Control Board. (Wat. Code, §§ 13140, 13200, et seq.)

The federal Clean Water Act allows a state to establish more stringent requirements (33 U.S.C. § 1370), and nothing in the Porter-Cologne Act precludes the State from establishing more stringent requirements. (*City of Burbank v. State Water Resources Control Bd.* (2005) 35 Cal.4th 613, 627.) As will be shown, however, the Regional Board applied relevant *federal* law to impose the requirements at issue. (33 U.S.C § 1342(p)(3)(B)(iii).)

III. RELEVANT NPDES PERMITS AND THE COUNTY OF SAN DIEGO'S APPLICATION

Starting in 1990 and pursuant to the Clean Water Act amendments of 1987, the permitting agency, the Regional Board, issued municipal storm water permits to the County of San Diego. Prior to the Clean Water Act amendments of 1987 and the U.S. EPA's issuance of regulations to implement those amendments, the Regional Board did not regulate the County's storm water discharges under either state or federal law. The order that is the subject of this litigation, Regional Order No. R9-2007-0001, NPDES permit number CAS0108758, is the third iteration of the permit issued since the 1987 amendments and was adopted on January 24, 2007. (AR 251-369, 1191.)⁴

Before the permit was reissued, and pursuant to federal law, the County of San Diego submitted a permit application to the Regional Board on August 25, 2005. (33 U.S.C. §1342(b)(2)(B)(3); 40 C.F.R. §§ 122.26(a)(4) [requiring initial application], 122.21(d)(2) [duty to reapply

⁴ The County of San Diego challenged order number R9-2007-001 by seeking administrative review by the State Water Board. The Board dismissed the challenge and no administrative mandamus action was filed to challenge whether the permit requirements were required by the Clean Water Act. (AB p. 22) The permit is no longer subject to legal challenge. (AR 1192; see Wat. Code, § 13330, subd. (d) [renumbered from subdivision (c), but otherwise unchanged from the applicable law at the time the Regional Board adopted the permit (Stats. 2010, ch. 288, § 31)].)

180 days before prior NPDES permit expired].) This application is entitled “Report of Waste Discharge (ROWD)” and represents the County of San Diego’s proposals for best management practices (sometimes referred to as “BMPs”) that would ultimately be required in the NPDES permit. (AR 2101-2367.) The permit that was adopted was based on the ROWD and the previous 2001 NPDES permit issued to the County of San Diego, with some revisions and additions necessary to meet minimum federal requirements.⁵ (AR 2101-2102.) A summary of the relevant permit provisions are as follows:

General Permit Provisions

The NPDES permit, as a whole, is designed to comply with the maximum extent practicable standard. Referring to the various County appellants as “Copermittees,” the permit states:

This Order specifies requirements necessary for the Copermittees to reduce the discharge of pollutants in urban runoff to the maximum extent practicable (MEP). However, since MEP is a dynamic performance standard which evolves over time as urban runoff management knowledge increases, the Copermittees’ urban runoff management programs must continually be assessed and modified to incorporate improved programs, control measures, best management practices (BMPs), etc. in order to achieve the evolving MEP standard.

(AR 255.)

⁵ The County argues in its background section that the challenged permit requirements “were *not* required by the 2001 Permit, [so] they must *not* have been federal mandates at that time.” (AB p. 14, emphasis added.) Putting aside that such an ostensibly fundamental point would seem oddly placed in a “background section,” it is not true. The 2001 NPDES permit did provide for some of the challenged permit conditions, generally speaking. In any event, the County’s assertion as to what may have been federal mandates in 2001 is not relevant to determining whether the current permit conditions challenged here exceed federal law, because of the Clean Water Act’s mandate to incorporate developing practices and technologies into permits as they are issued. (33 U.S.C. § 1342(o); 40 C.F.R. 122.44(l).)

The permit explains the flexible nature of the maximum extent practicable standard and the Regional Board's duty to define the same based on the waterways subject to the permit as follows:

A definition for MEP is not provided either in the statute or in the regulations. Instead the definition of MEP is dynamic and will be defined by the following process over time: municipalities propose their definition of MEP by way of their urban runoff management programs. Their collective and individual activities conducted pursuant to the urban runoff management programs becomes their proposal for MEP as it applies both to their overall effort, as well as to specific activities (e.g., MEP for street sweeping, or MEP for MS4 maintenance). In the absence of a proposal acceptable to the Regional Board, the Regional Board defines MEP.

(AR 343-345.)

Permit Provisions Challenged in the State Mandates Claim

Respondents defer a highly detailed discussion of the challenged permit conditions until Section V of this Brief, where it is presented in conjunction with the substantial evidence and specific federal regulations and materials showing the permit conditions are within the maximum extent practicable standard. The following is a general overview, sufficient to provide a basic foundation for critical evaluation of whether the Commission applied the correct federal standard in the first place when it found the permit conditions were not required under the Clean Water Act.

A. Jurisdictional Urban Runoff Management Program and Related Reporting

The portion of the permit that generally relates to each Copermittee's duty to manage and report urban runoff in its specific jurisdiction is found in Part D of the permit. (AR 265.) While this part of the permit imposes numerous duties on the County of San Diego to comply with the maximum extent practicable standard under the Clean Water Act, the County of San Diego has limited its state mandate claims to four permit requirements:

hydromodification management plan, low-impact development in local management plans, street sweeping and conveyance system cleaning and related reporting, and educational surveys and tests. (AR 3863.)

1. Hydromodification Management Plan

Part D.1 of the permit addresses hydromodification management plans (and related collaboration among Copermittees) for development and significant redevelopment projects. Plans must reduce discharges of pollutants from the MS4 to the maximum extent practicable standard, prevent discharges from these systems from causing or contributing to a violation of water quality standards, and manage increases in runoff discharge rates and durations from projects that are likely to cause increased erosion. (AR 275-276, 314-315.)

2. Low Impact Development Plans and Standard Urban Storm Water Mitigation

Similar to the above, section D.1.d of the permit generally requires that each Copermittee implement an updated Standard Urban Storm Water Mitigation Plan (SUSMP) for certain projects that reduces discharges of pollutants from the MS4 to the maximum extent practicable, that prevents runoff discharges from the storm sewers from causing or contributing to a violation of water quality standards, and that manages increases in runoff discharge rates and durations that are likely to cause increased erosion. (AR 267.)

Part of this planning for new development and redevelopment includes low impact development best management practices, such as treatment control for volume or flow of runoff. (AR 269-275.) The County of San Diego only challenges two of the permit requirements related to low impact development, paragraphs 7 and 8. Paragraph 7 requires that Copermittees collectively review and update best management practices that are listed in their local SUSMPs. (AR 271.) Paragraph 8 requires that

Copermittees develop and submit an updated Model SUSMP that defines minimum low impact development and best management practices to be incorporated into the Copermittees' local SUSMPs for certain projects. (AR 271.)

3. Street Sweeping and Maintaining and Cleaning Municipal Storm Sewer Systems

Existing development as it relates to municipalities is addressed in part D.3.a of the permit and generally requires that each Copermittee implement a municipal program that reduces municipal discharges of pollutants from the storm sewers to the maximum extent practicable. (AR 282.) Two sections of this part are relevant here: section 3, the operation and maintenance of storm sewer systems, and section 5, street sweeping. (AR 283-284.)

Section 3 requires each Copermittee to "implement a schedule of inspection and maintenance activities to verify proper operation of all municipal structural treatment controls designed to reduce pollutants to or from its MS4 and related drainage structures." (AR 283.) The frequency of maintenance depends on the volume of trash and debris found in the MS4 and includes proper disposal of the trash and debris and reporting of maintenance and cleaning activities. (AR 283-284.)

Section 5 requires each Copermittee to "implement a program to sweep improved (possessing a curb and gutter) municipal roads, streets, highways, and parking facilities" at certain times depending on the volume of litter and debris generated. (AR 284.) There are also reporting requirements for street sweeping in the permit. (AR 318.)

4. Public Education of Impact of Urban Runoff

The educational component of the permit is found in part D.5 of the permit and requires each Copermittee to implement an education program using the media as appropriate to increase the knowledge and change the

behavior of certain communities regarding urban runoff, its impact on receiving waters, and potential solutions to reduce pollutant discharges to storm sewers and the environment. (AR 293-294.) Target communities include municipal departments and personnel, construction site owners and developers, industrial owners and operators, residential community, general public, and school children. (AR 294.)

B. Watershed Urban Runoff Management Program

Part E of the permit addresses the Watershed Urban Management Program and requires each Copermittee to collaborate with other Copermittees within its Watershed Management Area(s) “to develop and implement an updated Watershed Urban Runoff Management Program for each watershed.” (AR 296-297.) Each program must reduce the discharge of pollutants from the storm sewers to the maximum extent practicable. (AR 297.) The specific programs should include elements such as lead watershed permittee identification, watershed map, watershed water quality assessment, watershed-based land use planning, watershed strategy, watershed activities, Copermittee collaboration, public participation, and review and updates of the programs. (AR 297-300.)

C. Regional Urban Runoff Management Program

Part F of the permit addresses the Regional Urban Runoff Management Program and requires each Copermittee to collaborate with the other Copermittees “to develop, implement, and update as necessary a Regional Urban Management Program.” (AR 300.) As with part E of the permit, the program must reduce the discharge of pollutants from the storm sewers to the maximum extent practicable. (AR 300.) At a minimum, the program must address the development and implementation of a Regional Residential Education Program, which includes pollutant specific education, development of a standard fiscal analysis for the educational program, and

the assessment of the effectiveness of jurisdictional, watershed, and regional programs. (AR 300.)

D. Program Effectiveness Assessment

Assessment of the effectiveness of the permit programs is addressed in part I of the permit and requires each Copermittee to annually assess the effectiveness of the above jurisdictional, watershed, and regional urban runoff programs. (AR 302-306.) Additionally, subsection I.5 requires that the Copermittees collaborate with each other to develop a long term effectiveness assessment, building on baseline results previously established by the Copermittees in August 2005. (AR 307.)

E. Collaboration Among Copermittees

Collaboration of the Copermittees is addressed in part L of the permit, which seeks collaboration to “address common issues, promote consistency among Jurisdictional Urban Runoff Management Programs and Watershed Urban Runoff Management Programs, and to plan and coordinate activities required under this Order.” (AR 325.) This includes developing a Memorandum of Understanding that defines Copermittees’ responsibilities, establishes a management structure and standards for conducting meetings, provides guidelines for work groups, lays out the process for non-compliance issues, and includes all other collaborative agreements for compliance with the permit. (AR 326.)

IV. OVERVIEW OF THE COMMISSION AND PRINCIPLES OF SUBVENTION AS IT PERTAINS TO FEDERAL REQUIREMENTS

The County filed a claim with the Commission, claiming that the above-described conditions in its NPDES permit were state mandates. The Commission is a quasi-judicial agency vested with the sole and exclusive authority to adjudicate all disputes over the existence and reimbursement of state-mandated programs within the meaning of article XIII B, section 6 of the California Constitution. (*Kinlaw v. State of California* (1991) 54 Cal.3d

326; Gov. Code, §§ 17551, 17552.) Article XIII B, section 6 of the California Constitution and Government Code section 17514 provide for the reimbursement of local government costs of carrying out new programs or higher levels of service that are mandated by the State. Article XIII B, section 6 provides, in part, as follows:

Whenever the Legislature or any state agency mandates a new program or higher level of service on any local government, the state shall provide a subvention of funds to reimburse such local government for the costs of such program or increased level of service. . . .

Government Code section 17514 defines “[c]osts mandated by the state” to mean:

any increased costs which a local agency or school district is required to incur . . . which mandates a new program or higher level of service of an existing program within the meaning of Section 6 of Article XIII B of the California Constitution.

But constitutional subvention is not required when the costs arise from implementing federal law. “[A]rticle XIII B, section 6, and the implementing statutes . . . provide for reimbursement only of *state-*mandated costs, not *federally* mandated costs.” (*San Diego Unified School Dist. v. Commission on State Mandates* (2004) 33 Cal.4th 859, 880, emphasis in original.)⁶

This constitutional limitation on providing state reimbursement for activities imposed by federal law is specifically spelled out in Government

⁶ One reason that State reimbursement of federally mandated costs is not required is that local governments are not subject to constitutional spending constraints in the face of federal mandates. Article XIII B, section 9, subdivision (b), excludes from calculation of the state or local spending limit any “appropriations required for purposes of complying with mandates of the . . . federal government.” (See *City of Sacramento v. State of California* (1990) 50 Cal.3d 51, 57-58.)

Code section 17556, subdivision (c). This subdivision states that the Commission shall not find “costs mandated by the state” if “[t]he statute or executive order imposes a requirement that is mandated by a federal law or regulation and results in costs mandated by the federal government, unless the statute or executive order mandates costs that exceed the mandate in that federal law or regulation.” Government Code section 17513 defines “costs mandated by the federal government” to mean, in relevant part, “any increased costs incurred by a local agency or school district after January 1, 1973, in order to comply with the requirements of a federal statute or regulation.”

V. SUMMARY OF THE COMMISSION’S DECISION

Local agencies file claims with the Commission for reimbursement of state-mandated costs. (Gov. Code, §§ 17551, 17560.) The first claim filed by a local agency alleging that a statute or an executive order imposes a reimbursable state-mandated program is a “test claim.” (Gov. Code, § 17521.) The test claim filed by the County of San Diego alleges “various activities related to reducing stormwater pollution in compliance with a permit issued by” the Regional Board. (AR 3823.) The Commission found that the permit requirements related to street sweeping and reporting, storm sewer cleaning and reporting, education, watershed activities, regional urban runoff management program, long-term effectiveness assessment, and permittee collaboration were reimbursable state mandates. (AR 3824.) The Commission also found that the permit requirements associated with hydromodification and low impact development, while state mandates, were not reimbursable because the County of San Diego has sufficient fee authority to pay for the permit requirements. (AR 3824.)

The Commission’s statement of decision is lengthy and can be found in the administrative record at pages 3823-3960. This appeal only addresses the Commission’s findings that the claimed permit requirements

are not federal mandates. (AR 3859-3920.) The Commission's analysis is long but is based primarily on the theory that the specific permit activities are not federal mandates because they go beyond the requirements of the Clean Water Act. (AR 3866-3867, 3873, 3877, 3880-3881, 3885, 3896, 3902, 3904, 3908, 3913-3914, 3916.)

STATEMENT OF THE CASE

I. RELEVANT PROCEDURAL HISTORY IN LOWER COURT

The respondents filed a petition for writ of mandate against the Commission and the County of San Diego in the Sacramento Superior Court, seeking an order setting aside part of the Commission's Statement of Decision for Test Claim 07-TC-09 issued by the Commission on March 30, 2010 and asking the court to direct the Commission to issue a new decision consistent with the petition. (Official Court File ("OCF") Volume ("V") 1, pp. 00001-00252.)

Relevant to this litigation, the petition challenges the Commission's findings that the permit requirements related to hydromodification management plans, low-impact development in local management plans, street sweeping and conveyance system cleaning and related reporting, educational surveys and tests, watershed and regional urban runoff management programs, program effectiveness assessment, and collaboration among Copermittees are state mandates. (OCF V1, pp. 00007-00011.) More specifically, the petition alleges that these findings are contrary to law because the permit requirements are federal mandates, not state mandates, and because the permit requirements are not "a new program or higher level of service." (*Ibid.*)

The petition also challenges the Commission's finding that the County of San Diego does not have fee authority to pay for the challenged permit requirements as to the parts of the permit not related to hydromodification and low impact development, which the Commission found were state

mandates, but not reimbursable state mandates. (OCF V1, pp. 00011-00012.)

The County of San Diego filed a cross-petition for writ of mandate and declaratory relief challenging the part of the Commission's decision that found the sections of the permit related to hydromodification and low impact development were not reimbursable state mandates because real parties have the ability to levy fees for these programs.⁷ (OCF V1, pp. 00272-00299.)

II. LOWER COURT'S STATEMENT OF DECISION, WRIT, AND JUDGMENT

The trial court found that the Commission applied the wrong legal standard and acted contrary to law in finding that the challenged permit requirements were state mandates and remanded the matter to the Commission for further proceedings consistent with the statement of decision and the judgment. (OCF V4, p. 01024.) Specifically, the trial court found that "the Commission erred in concluding the challenged provisions of the permit are state-mandated programs merely because the permit conditions are not expressly required by federal statute or regulation." (OCF V4, p. 01010.) The court explained:

The relevant inquiry is whether the conditions are required by federal law, not whether they are explicitly described in federal statute or regulation. Because the Commission failed to apply the proper standard, the petition for writ is granted and the matter remanded to the Commission for proceedings consistent with the decision and judgment.

(OCF V4, p. 01010.)

In finding that the Commission erred in concluding the challenged permit requirements were state mandates, the court first looked at whether

⁷ The State successfully demurred to the declaratory relief cause of action in the cross-petition. (OCF V2, pp. 00523-00529.)

the State had directly imposed the permit requirements on the County of San Diego, and found that it had not. (OCF V4, pp. 01020-01021.) According to the court, “the federal government has imposed the NPDES requirements directly on local agencies that discharge pollutants.” (OCF V4, p. 01020.) The court explained that “[f]ederal law requires the Permittees to obtain a NPDES permit in order to discharge pollutants. Federal law also requires the permit to include controls reducing the discharge of pollutants ‘to the maximum extent practicable.’” (*Ibid.*) Thus, the court held that by administering the NPDES permit program the State “did not transform federal NPDES requirements into a state-mandated program.” (OCF V4, pp. 01020-01021.)

The court then addressed whether the challenged permit requirements exceeded federal law, finding that the Commission failed to undertake the proper analysis and remanding the matter back to the Commission for further consideration. (OCF V4, pp. 01021-01023.) The court found that in analyzing this issue the Commission erred because it “looked only to whether federal law expressly requires the particular conditions specified in the permit” and simply ignored the maximum extent practicable standard in the Clean Water Act. (OCF V4, p. 01021.) The court explained:

In evaluating whether the challenged NPDES permit exceeds the requirements of federal law, the Commission must determine whether any of the permit conditions exceed the “maximum extent practicable” standard. The Commission never undertook this inquiry. Instead, it simply asked whether the permit conditions are expressly specified in a federal regulation or guideline. The fact that a permit condition is not specified in a federal regulation or guideline does not determine whether the condition is “practicable,” and thus required by federal law. The mere fact that a permit condition is not promulgated as a federal regulation does not mean it exceeds the federal standard.

(OCF V4, pp. 01021-01022.)

Thus, the court held that “[b]y failing to consider whether the permit requirements exceed the ‘maximum extent practicable’ standard, the Commission failed to proceed in the manner required by law.” (OCF V4, p. 01022.) Because “there is nothing in the record to support the Commission’s finding that the permit requirements exceed the ‘maximum extent practicable’ standard,” the court set aside the decision and remanded the matter to the Commission to reconsider. (OCF V4, pp. 01022-01023.)

In reaching its decision, the trial court recognized that it “must accord appropriate deference to the Commission’s construction of whether there is a state mandate within the meaning of article XIII B.” (OCF V4, p. 1020.) However, the court also recognized that it “must accord appropriate deference to the Regional Board’s construction of the Clean Water Act. [Citations.]” (OCF V4, p. 1019.) As the court explained, “[t]he San Diego Regional Water Quality Control Board concluded the permit conditions are required by the Clean Water Act. The Regional Board is charged with administering the Clean Water Act and approving the NPDES permit program in San Diego County.” (*Ibid.*)

The lower court did not address the fee issue raised by the petition and the cross-petition. (OCF V4, p. 01010, fn. 1.) In the court’s view, because “the Commission erred in determining these were state-mandates costs, the court need not address Permittees’ ability to recover the costs through local fees.” (*Ibid.*)

Consistent with the above Statement of Decision, the lower court entered judgment in favor of the State and granted the writ of mandate. (OCF V4, pp. 1080-1086.)

STANDARDS OF REVIEW

Pursuant to Government Code section 17559, subdivision (b), a proceeding may be brought under Code of Civil Procedure section 1094.5 “to set aside a decision of the commission on the ground that the

commission's decision is not supported by substantial evidence." Code of Civil Procedure section 1094.5, in turn, provides that the court's inquiry "shall extend to the questions whether the respondent has proceeded without, or in excess of jurisdiction; whether there was a fair trial; and whether there was any prejudicial abuse of discretion. Abuse of discretion is established if the respondent has not proceeded in the manner required by law, the order or decision is not supported by the findings, or the findings are not supported by the evidence." (Subd. (b).)

At the trial level and on appeal, the review of the Commission's factual determinations proceeds under the substantial evidence test. (*City of Richmond v. Commission on State Mandates* (1998) 64 Cal.App.4th 1190, 1194-1195.) Where the substantial evidence test applies, the court is under a duty to see that findings are legally relevant as well as supported by the evidence in order to support agency action. (*City and County of San Francisco v. Board of Permit Appeals* (1989) 207 Cal.App.3d 1099, 1110.) Substantial evidence review also includes a duty to determine whether the agency committed errors of law in applying the facts before it. (*Id.* at p. 1111.) Whether a statute creates a reimbursable state mandate is a pure question of law. (*Connell v. Superior Court* (1997) 59 Cal.App.4th 382, 395.) Questions of law are subject to de novo review. (*City of Richmond, supra*, 64 Cal.App.4th at p. 1195.)

ARGUMENT

I. THE CHALLENGED PERMIT REQUIREMENTS ARE FEDERAL MANDATES NOT SUBJECT TO STATE SUBVENTION.

The California Constitution is clear that state subvention is not required when the federal government imposes new costs on local governments. (Cal. Const., art. XIII B, § 9, subd. (b); Gov. Code, §§ 17556, subd. (c), 17513.) This is because federal costs are exempt from local agencies' taxing and spending limitations and is true "even though the

state has adopted an implementing statute or regulation pursuant to the federal mandate so long as the state had no 'true choice' in the manner of implementation of the federal mandate. [Citation.]" (*Hayes v. Commission on State Mandates* (1992) 11 Cal.App.4th 1564, 1593.) State subvention only comes into play when the state is required "to reimburse local governments for their costs resulting from *state* laws 'which mandate . . . new program[s] or . . . increased level[s] of service' at the local level." (*City of Sacramento, supra*, 50 Cal.3d 51, 57-58, emphasis added.)

The central question in this case is whether the NPDES program and the challenged permit requirements are federal mandates and not subject to state subvention. In making this determination, the Court must consider whether the federal program imposes a mandate on the State. (*City of Sacramento, supra*, 50 Cal.3d 51; *Hayes, supra*, 11 Cal.App.4th 1564.) Most relevant to this case, the Court must also consider whether there are state-mandated activities that exceed federal requirements. (*Long Beach Unified School Dist. v. State of California* (1990) 225 Cal.App.3d 155; *San Diego Unified School Dist., supra*, 33 Cal.4th 859; Gov. Code, § 17556, subd. (c).)

As explained in detail below, the trial court correctly found that the NPDES program is a mandatory federal program and that the Commission failed to analyze whether the challenged permit requirements exceed the federally required maximum extent practicable standard. (OCF V4, pp. 01020-01023.)

II. THE TRIAL COURT PROPERLY FOUND THAT CALIFORNIA'S ADMINISTRATION OF THE NPDES PROGRAM DOES NOT TRANSFORM CLEAN WATER ACT REQUIREMENTS INTO A STATE MANDATE.

"The test for determining whether there is a federal mandate is whether compliance with federal standards 'is a matter of true choice,' that is, whether participation in the federal program 'is truly voluntary.'" (*City*

of Sacramento, supra, 50 Cal.3d at p. 76.) A federal mandate exists, even if “the state has adopted an implementing statute or regulation pursuant to the federal mandate so long as the state had no ‘true choice’ in the manner of implementation of the federal mandate.” (*Hayes, supra*, 11 Cal.App.4th at p. 1593.) But “[t]his reasoning would not hold true where the manner of implementation of the federal program was left to the true discretion of the state.” (*Ibid.*)

The NPDES program is not optional; it is coercive on states, local governments, and private parties in every legal and practical sense. As a preliminary matter, the Commission found that because California “voluntarily adopts the [NPDES] permitting program” and because federal law “does not expressly require states to have this program, the state has freely chosen to effect the stormwater permit program.” (AR 3861.) What the Commission overlooked is given the complex, coordinated, and wide-ranging nature of the rules governing federal, state, and local agencies and private parties under the Clean Water Act, California had no practical choice but to administer the NPDES program, rather than have the federal government issue the permits.

In any event, regardless of which entity implements NPDES, *neither the requirement for a permit nor the actions required to meet the required standard for reduction in discharges was voluntary*. The Clean Water Act requires the County of San Diego to have an NPDES permit for MS4 discharges, and compels the County under the permit to effectively prohibit non-storm water discharges to the storm sewers, to reduce the discharge of pollutants in storm water to the maximum extent practicable, and to comply with any other requirements the Regional Board may deem appropriate to control pollutants. Neither the State nor the County of San Diego has any choice in complying with those requirements. (See *City of Sacramento, supra*, 50 Cal.3d at p. 76.) Further, unlike the situation addressed in *Hayes*,

the State is not “shift[ing] state costs to local agencies,” but instead is implementing federal law that MS4 owners and operators obtain an NPDES permit that reduces pollutants in storm water to the maximum extent practicable. (Cf. *Hayes, supra*, 11 Cal.App.4th at p. 1593.)

If California did not issue NPDES permits, California’s dischargers, both private and governmental, would still have to comply with the same federal law, just administered then by direct regulation from the federal government. California’s decision to take on administration of the federal law meant nothing in terms of any additional requirements. “It is in the interest of the people of the state, in order to avoid direct regulation by the federal government of persons already subject to regulation under state law pursuant to this division, to enact this chapter in order to authorize the state to implement the provisions of the Federal Water Pollution Control Act [Clean Water Act].” (Wat. Code, § 13370, subd. (c).) Faced with the federal requirements to obtain NPDES permits, 46 of the 50 states (including California) have implemented NPDES through a federally approved state agency process.

Moreover, the California Supreme Court has rejected the Commission’s narrow analysis that a state mandate is created when a state enacts its own laws to implement federal law. In *City of Sacramento, supra*, the Supreme Court found that the joint federal-state operation of a system of unemployment compensation was not a state mandate, but rather a federal one. (50 Cal.3d at pp. 75-76.) The Court rejected the idea that “California could have chosen to terminate its own unemployment insurance system, thus leaving the state’s employers faced only with the federal tax.” (*Id.* at p. 74.) The Court stated that “we cannot imagine the drafters and adopters of article XIII B intended to force the state to such draconian ends.” (*Ibid.*) The Court explained that “the state simply did what was necessary to avoid certain and severe federal penalties upon its

resident businesses. The alternatives were so far beyond the realm of practical reality that they left the state ‘without discretion’ to depart from federal standards.” (*Ibid.*)

Under *City of Sacramento*, a federal mandate exists where the federal government leaves the state with little or no practical choice. Adoption of the Commission’s analysis here would eviscerate that rule. Under the Commission’s analysis, a state mandate would exist anytime federal law gives the state any potential role in administering or enforcing federal requirements.

Accordingly, the trial court properly found that “the federal government has imposed the NPDES requirements directly on local agencies that discharge pollutants.” (OCF V4, p. 01020.) The court explained that “[f]ederal law requires the Permittees to obtain a NPDES permit in order to discharge pollutants. Federal law also requires the permit to include controls reducing the discharge of pollutants ‘to the maximum extent practicable.’” (*Ibid.*) Thus, the court held that by administering the NPDES permit program the state “did not transform federal NPDES requirements into a state-mandated program.” (OCF V4, pp. 01020-01021.) Since the County and the State had “no real choice” but to comply with the Clean Water Act in establishing NPDES permits that require pollutant reductions to the maximum extent practicable, such permits are based on federal requirements and are not state mandates. (*San Diego Unified School Dist., supra*, 33 Cal.4th at p. 880.)

The County of San Diego does not address the above analysis, the related lower court’s findings, or even the incorrect *Commission* finding that the State chose to participate in the NPDES program, in its appellants’ brief. (See AB p. 36.) Rather, the County haphazardly claims that California, as an “authorized state,” “is not delegated with federal authority to define what is required” in the permit. (AB pp. 35-39.) In the County’s

view, this means that California's decision to participate in the NPDES program was voluntary, and more broadly, that the challenged requirements were implemented pursuant to state law. (See AB pp. 35-39.) While it is true that the NPDES program is not a "delegated" federal program as that term of art is strictly understood in other contexts, the fact that the Regional Board issues the federally required permit pursuant to state administrative processes and law in lieu of U.S. EPA is of no moment for mandates analysis.

As explained in detail below, the County just does not come to grips with the federal nature of the Clean Water Act, the role of a state administrator under the Act, and the Act's standards, including the maximum extent practicable standard.

III. THE CLEAN WATER ACT'S MAXIMUM EXTENT PRACTICABLE STANDARD IS ONE OF THE FEDERAL REQUIREMENTS IMPOSED ON THE COUNTY OF SAN DIEGO AS THE DISCHARGER.

The County of San Diego claims that the State does not have the authority to implement federal law or more specifically, the maximum extent practicable standard because the State, as opposed to the U.S. EPA, is the governmental body that administers the NPDES program in California. (See AB 35-39.) According to the County, California "cannot independently define what is mandated by federal law." (AB p. 36.) As noted above, this is the County's fallback position throughout its brief in an effort to separate administering a permit program under state law, which California does, from complying with the permit requirements themselves, which the Clean Water Act compels the County to do. (See AB pp. 35-36.)

The Clean Water Act prohibits the County of San Diego from discharging pollutants from its MS4 unless it does so through an NPDES permit. (33 U.S.C. § 1342(p)(3)(B).) Under the Clean Water Act, the permit must contain controls "to effectively prohibit non-stormwater discharges into the storm sewers" and "controls to reduce the discharge of

pollutants to the maximum extent practicable, including management practices, control techniques and system, design and engineering methods, and such other provisions as the Administrator or the State determines appropriate for the control of such pollutants.” (*Ibid.*)

Congress established the maximum extent practicable standard because municipal storm water runoff, unlike other pollutant discharges, could not be adequately addressed by blanket effluent limitations. (*Building Industry Ass'n of San Diego County, supra*, 124 Cal.App.4th at p. 884.) The understanding was that numeric effluent limitations were infeasible and administratively burdensome when addressing municipal urban storm water runoff due to the physical difference between runoff and other pollutants. (*Ibid.*) Congress determined that the maximum extent practicable standard is a “necessary and workable enforcement mechanism to achieving the goals of the Clean Water Act.” (*Ibid.*)

The Clean Water Act’s NPDES permit system requires the permitting agency, typically state agencies, to develop standards based on the unique conditions of particular waterways. Thus, the maximum extent practicable standard is necessarily flexible, rather than a one-size-fits-all standard, and contemplates that specific measures will be implemented to meet the unique requirements of any particular waterway and water quality. (*Building Industry Ass'n of San Diego County, supra*, 124 Cal.App.4th at p. 874.) The U.S. EPA expects individual permit writers to develop the practices that reflect the maximum extent practicable standard on a permit-by-permit basis. (*Natural Resources Defense Council, Inc. v. U.S. E.P.A., supra*, 966 F.2d at p. 1308, n. 17; see also 55 Fed.Reg. 47990, 48043 (Nov. 16, 1990).)

Moreover, when an NPDES permit is renewed, reissued, or modified, it must generally be at least as stringent as the prior permit. (33 U.S.C. § 1342(o); 40 C.F.R. § 122.44(l).) The U.S. EPA “anticipates that storm

water management programs will evolve and mature over time” and that NPDES permits “will be written to reflect changing conditions that result from program development and implementation and corresponding improvements over time.” (55 Fed.Reg. 47990, 48052 (Nov. 16, 1990).) Strategies for reducing pollutants should be “flexible enough to allow for consideration of what is attainable on the area’s climate, vegetation, hydrology, and land uses.” (*Id.* at p. 48053.)⁸

In an effort to avoid the Clean Water Act’s maximum extent practicable standard and to turn a federal program into a state mandate, the County of San Diego makes three interrelated arguments: (1) because state, not federal, courts review challenges to Regional Board NPDES permits, the State is not delegated federal authority to define the maximum extent practicable standard in the context of the challenged permit requirements, (2) the U.S. EPA has expressly stated the standards required to implement the maximum extent practicable standard through narrow and prescriptive federal regulations, and (3) specific federal regulations supplant the maximum extent practicable standard. All three of these theories are fundamentally wrong.

A. California’s Administration of the NPDES Program Does Not Remove the Federal Maximum Extent Practicable Requirement Imposed on the County of San Diego.

The County of San Diego improperly relies on two subject matter jurisdiction cases to support its theory that, although the State administers the NPDES permit program in California, the Regional Board cannot implement the federal maximum extent practicable standard. (See AB pp. 31-35.) The County has misconstrued these cases. In *Shell Oil*

⁸ The County’s argument that the challenged conditions are not required by federal law because they were purportedly not in the prior 2001 permit is meritless. (See fn. 5.)

Company v. Train (9th Cir, 1978) 585 F.2d 408, Shell brought an action against the U.S. EPA and its Administrator challenging various decisions of a state regional board concerning a NPDES permit. While the court dismissed the case for lack of subject matter jurisdiction, holding that “[j]urisdiction to review the State Board’s decision is specifically conferred on the states’ courts of general jurisdiction [citation],” the Ninth Circuit in no way held that California cannot apply federal law, including the maximum extent practicable standard, when implementing federal law through a NPDES permit. (*Id.* at p. 409.) The court explained that “Congress clearly intended that the states would eventually assume the major role *in the operation of the NPDES program.*” (*Id.* at p. 411, emphasis added.) However, “the EPA does retain a review authority over the states. *The EPA may veto particular permits issued by the state if it finds that federal requirements have not been met,* or it may withdraw approval of the entire state program upon a determination, after notice and an opportunity to respond, that the program is not being administered in compliance with the mandates of federal law.” (*Ibid.*, citations omitted, emphasis added.) Thus, the Clean Water Act created “a separate and independent State authority to administer the NPDES pollution controls” consistent with federal law. (*Ibid.*)

And in *State of California v. U.S. Department of the Navy* (9th Cir. 1988) 845 F.2d 222, California brought an action against the United States Department of Navy to recover civil penalties for the alleged violations of a state-issued NPDES permit. The court held that the State had jurisdiction over the matter because “Congress intended to grant states an active role in the enforcement process.” (*Id.* at p. 225.) As above, the court noted that the state’s NPDES program is separate and independent from the federal program; however, this does not mean that the State is not required to

follow or implement federal law or the maximum extent practicable standard, which is required by the Clean Water Act. (*Ibid.*)

Moreover, the California Supreme Court recently rejected a similar argument and underscored that while California administers aspects of the NPDES program in California, the program must conform to federal standards and be approved by a federal agency. (*Voices of the Wetlands v. State Water Resources Control Bd.* (2011) 52 Cal.4th 499, 522.)

Administering the program in lieu of the federal government does not alter the flexible federal requirement on municipalities to reduce pollutants in storm water discharges to the maximum extent practicable. Indeed, were the State to refrain from recognizing and implementing the flexible nature of the maximum extent practicable standard in MS4 permits, it would place its NPDES program approval at risk by failing to implement federal requirements. The County of San Diego's focus on the word "delegate" is simply not relevant to this case. As far as mandates law goes, it is a distinction without a difference. The Clean Water Act, and its implementing regulations, requires dischargers such as the County of San Diego "to reduce the discharge of pollutants to the maximum extent practicable."

B. Limiting Permit Conditions to Only Those Stated in Express Federal Regulations as Proposed by the County of San Diego and the Commission Cannot Be Reconciled with the Clean Water Act's Maximum Extent Practicable Standard.

The federal Clean Water Act requires municipalities to apply for a NPDES permit that requires pollutant reductions to the maximum extent practicable. (33 U.S.C. § 1342(p)(3)(B).) Despite the undisputed flexible nature of the maximum extent practicable standard, the County continues to search for prescriptive requirements in federal regulations to support its (and the Commission's) view that federal mandates only exist if expressly provided for in federal regulations. However, a flexible standard is not

amenable to the exclusive checklist of specific permit conditions that the County of San Diego argues can be the only federal mandate here. (See AB pp. 35-40.)

To support its erroneous theory, the County points to the Phase II regulations related to small storm sewer systems, and claims that the U.S. EPA has expressly stated that there are “six minimum control measures that constitute the framework for a storm water discharge control program for regulated small MS4s that, when properly implemented, will reduce pollutants to the maximum extent practicable (MEP) [citations omitted].” (AB pp. 38, 48.) This attempt is misguided.

First, the U.S. EPA quote relied on relates only to the regulations that address *small* storm sewers systems. The County of San Diego’s permit is actually governed by the Phase I regulations, covering medium or large MS4s. (AR 252.) The federal regulations relevant to this case require the County of San Diego’s NPDES permit to address management programs to reduce the discharge of pollutants using the maximum extent practicable standard (40 C.F.R § 122.26(d)(2)(iv)) and includes procedures to control pollution resulting from development and significant redevelopment, construction, and commercial, residential, industrial, and municipal land use activities; (*id.* § 122.26 (d)(2)(iv)(A)-(D)); to address the operation and maintenance of public streets, roads, highways, and parking facilities as well as MS4s (*id.* § 122.26 (d)(2)(iv)(A)(1)(3)(6)); to educate the public on the danger of urban runoff to our nation’s waters and to reduce pollutant releases to the environment (*id.* § 122.26(d)(2)(iv)(A)(5),(6), (D)(4)); and to address water quality and the discharge of pollutants through MS4s on system-wide, jurisdictional-wide, watershed, or other basis, and through interagency agreements. (*Id.*, § 122.26(a)(3)(ii), (d)(2)(i)(D), (iv).) These requirements, not the Phase II regulations and their “six minimum measures” for small MS4s, govern the permit at issue here.

Second, the County does not disclose that the requirements applicable under the Phase II regulations are also flexible: section 122.34(a) requires that dischargers into small sewer systems reduce pollutants to the maximum extent practicable standard! And then subsection (b), only emphasized by the County, outlines the “six *minimum* control measures.” (64 Fed.Reg. 68752 (Dec. 8, 1999) [six minimum control measures are specified in §122.34(b)].) Similar to the San Diego permit issued here and as explained by the U.S. EPA, “[t]hese minimum control measures are public education and outreach on storm water impacts, public involvement participation, illicit discharge detection and elimination, construction site storm water runoff control, post-construction storm water management in new development and redevelopment, and pollution prevention/good housekeeping for municipal operations.” (*Id.* at p. 68748.) The U.S. EPA disagrees with the notion that these federal regulations should create exclusive permit requirements, stating that “[t]he whole point of the permit scheme for these discharges is to avoid inflexibility in the types and levels of control.” (55 Fed.Reg. 47990, 48053 (Nov. 16, 1990).)⁹

To the extent, the Phase II regulations for small MS4s are relevant, they support the State’s case more than the County’s, as they show that the federal maximum extent practicable standard is a flexible standard and is imposed in different ways based on the water quality issues presented. Requirements in one permit would logically be different than the requirements in other permits. The regulations for storm water sewer

⁹ The County of San Diego states the U.S. EPA “is currently engaged in rulemaking to expand the federal NPDES program as it applies to storm water regulations,” which in their view creates a “reasonable inference” that “federal regulations establish the baseline federal requirements that are mandated by federal law.” (AB p. 38, fn. 10.) There is no basis for any such inference; it is pure speculation.

systems, whether large or small, simply do not explicitly prescribe a limited number of permit conditions as claimed by the County of San Diego.

Third, to support its prescriptive regulation theory, the County relies on a statement from the Ninth Circuit in *Environmental Defense Center v. United States Environmental Protection Agency* (2003) 344 F.3d 832 that spoke to the “Minimum Measures” discussed above in the overall context of general permits and notices of intent to seek coverage under a general permit for discharge purposes. In discussing an individual NPDES permit issued to a discharger, as opposed to a general NPDES permit issued to the State, the court noted that a discharger through a small sewer system “has complied with the requirement of reducing discharges to the ‘maximum extent practicable’ when it implements its stormwater management program, i.e., when it implements its Minimum Measures. [Citations.]” (*Id.* at p. 855.) While these “Minimum Measures” collectively establish the maximum extent practicable standard, there is no suggestion in the case that they are prescriptive requirements; they are simply based on the circumstances surrounding the issuance of the permit. This case does nothing to aid the County or the Commission in their quest for narrow and rigid regulations amounting to a checklist.

Finally, the County of San Diego claims that one U.S. EPA guidance document expressly states what NPDES requirements are mandated by law. (See AB p. 39.) As above, there is nothing to support this theory. The document relied upon is very simply a guide to “assist State and NPDES permitting authority.” (AR 1857.) Specifically, it states that “[t]he questions and issues addressed in this MS4 Evaluation Guidance are intended to be used as a reference during an MS4 program evaluation, not as a checklist during review. [¶] Each evaluation should be customized to the issues and requirements specific to that MS4.” (*Ibid.*) In any event, references to the contents of the guidance document is alone sufficient to

defeat the County's argument here, as the key regulation noted in the document is the flexible maximum extent practicable standard found in title 40, Code of Federal Regulations, section 122.26(d)(2)(iv). (See AR 1903.)

The Clean Water Act and its implementing regulations require dischargers such as the County of San Diego "to reduce the discharge of pollutants to the maximum extent practicable." This is a flexible standard not suited for reduction to a limited checklist of prescriptive regulations as advocated by the County of San Diego and the Commission.

C. Federal Regulations Do Not Supplant the Maximum Extent Practicable Standard in the Clean Water Act.

The County of San Diego's third and final broad-based argument is premised on the view that prescriptive federal regulations somehow replace the Clean Water Act's maximum extent practicable standard. (See AB pp. 48-54.) However, as just discussed in the previous point, supplanting the maximum extent practicable standard with various enumerated, specific permit application requirements is at odds with and not supported by the Clean Water Act, its implementing regulations, or the permit issued in this case. While regulations setting forth the required contents of permit applications provide general guidance for areas that must be addressed in NPDES permits, they are not a substitute for the Clean Water Act's maximum extent practicable standard.

Moreover, the flexibility of the maximum extent practicable standard does not equate to irrelevance as claimed by the County of San Diego. According to the County, this federal standard is not relevant because it "tells one nothing about whether a condition is mandated by federal law." (AB p. 49.) In the County's view, "whether a condition is 'practicable' sheds no light on whether such a condition is consistent with the MEP standard." (*Ibid.*) But the County misses the point. By definition, a flexible standard is not intended to be applied in the same manner under

circumstances that are not the same. And it does not matter if this standard amounts to a “lesser standard than other standards found in the Clean Water Act” as claimed by the County. (AB p. 50.) It is the federal standard required under the Clean Water Act. As above, to conclude that “[w]hen federal law requires specific controls, those controls are set forth in federal regulations,” completely ignores and misconstrues the Clean Water Act’s maximum extent practicable mandate. (AB pp. 51-52.)

Furthermore, if one takes the County’s argument to its logical conclusion, then every condition in every permit issued under state law is a state mandate, even if it is within the federally required maximum extent practicable standard, simply because it is not expressed in federal law. This reasoning is contrary to federal law and defies commonsense. Under the County’s analysis, a permit requirement that was merely practicable or easy (well short of practicable to the “maximum extent”) would be a state mandate if the U.S. EPA failed to express the requirement in a regulation.

The Clean Water Act’s maximum extent practicable standard is the key to understanding the NPDES permit requirements in this case. Simply because a federal law is flexible does not mean there is no federal mandate

IV. THE TRIAL COURT PROPERLY HELD THAT THE COMMISSION’S FINDINGS THAT THE CHALLENGED PERMIT REQUIREMENTS ARE STATE MANDATES APPLIED THE WRONG LEGAL STANDARD.

Government Code section 17556, subsection (c), states that the Commission shall not find “costs mandated by the state” if “[t]he statute or executive order imposes a requirement that is mandated by a federal law or regulation and results in costs mandated by the federal government, unless the statute or executive order mandates costs that exceed the mandate in that federal law or regulation.” (*San Diego Unified School Dist.*, *supra*, 33 Cal.4th at p. 880.) Under this statutory standard, the Commission is tasked with reviewing the applicable federal law, the maximum extent

practicable standard, and determining whether each challenged permit requirement exceeded this standard. The Commission did not attempt to meet this burden, and instead completely disregarded the maximum extent practicable standard, the flexible nature of this standard, and the Regional Board's exclusive authority in the area of water law.

A. The Commission Disregarded the Required Maximum Extent Practicable Standard.

Rather than addressing whether the challenged permit provisions exceeded the maximum extent practicable standard imposed by federal law, the Commission erroneously assumed that whenever the federal government imposes a standard that allows an individualized approach to be taken to meet federal requirements, there can be no federal mandate, and any act taken by the State to implement the federal standard is transformed into a state mandate. As explained by the lower court, the law is otherwise:

In evaluating whether the challenged NPDES permit exceeds the requirements of federal law, the Commission must determine whether any of the permit conditions exceed the "maximum extent practicable" standard. The Commission never undertook this inquiry. Instead, it simply asked whether the permit conditions are expressly specified in a federal regulation or guideline. The fact that a permit condition is not specified in a federal regulation or guideline does not determine whether the condition is "practicable," and thus required by federal law. The mere fact that a permit condition is not promulgated as a federal regulation does not mean it exceeds the federal standard.

(OCF V4, pp. 01021-01022.)

The County of San Diego sidesteps this proper analysis by essentially arguing quantity over quality. In the County's view, the Commission analyzed the maximum extent practicable standard because the decision was lengthy (over one hundred pages) and because the decision restated relevant federal law, state law, and the parties' positions. (See AB pp. 46-47.) Providing background information is not a substitute for analysis. A

simple review of the Commission's findings shows that the Commission did not analyze, and in fact ignored, the maximum extent practicable standard and simply found that state mandates exist because the challenged permit requirements are not provided for in federal law. Specifically, the Commission found:

- Hydromodification Management Plan – “Overall, there is nothing in the federal regulations that requires a municipality to adopt or implement a hydromodification plan. Thus, the HMP requirement in the permit ‘exceed[s] the mandate in that federal law or regulation.’” (AR 3866.)
- Low Impact Development – “The Commission finds nothing in the federal regulations (40 C.F.R. § 122.26) that requires local agencies to collectively review and update the BMP requirements listed in their SUSMPs, or to develop, submit and implement ‘an updated Model SUSMP’ that defines minimum LID and other BMP requirements for incorporation into the SUSMPs. Thus the LID requirements in the permit ‘exceed the mandate in that federal law or regulation.’” (AR 3873.)
- Street Sweeping – While the Commission acknowledges that the “permit requires activities that fall within the federal regulations [i.e., routine maintenance of public streets, roads, and highways to prevent the discharge of pollutants into storm drains],” it found that “the more specific requirements in the permit include variable street sweeping schedules for areas impacted by different amounts of trash” and “reporting on the amount of trash collected, which is [are] not required by the federal regulation.” (AR 3877.) “These activities ‘exceed the mandate in that federal law or regulation.’” (AR 3877.)
- Conveyance System Cleaning – “Like street sweeping, the permit requires conveyance system cleaning activities that fall within the federal regulations.” (AR 3880.) “Yet the permit requirements are more specific [than the federal regulations].” (AR 3880.) “These

activities, 'exceed[s] the mandate in that federal law or regulation.'" (AR 3881.)

- Educational Component – “[T]he federal regulations require nonspecific descriptions of educational programs, for example, requiring the permit application to ‘include appropriate educational and training measures for construction site operations’ and ‘controls such as educational activities.’” (AR 3885.) “The permit, on the other hand, requires implementation of an educational program with target communities and specific topics. These requirements ‘exceed the mandate in that federal law or regulation.’” (AR 3885.)
- Watershed Urban Runoff Management Program – “The Commission finds that the permit requirements in sections E.2.f and E.2.g are not federal mandates.” (AR 3896.) “As with the other requirements in the permit, the federal regulations authorize but do not require the specificity regarding whether collaboration occurs on a jurisdictional, watershed or other basis. These requirements ‘exceed the mandate in that federal law or regulation.’” (AR 3896.)
- Regional Urban Runoff Management Program – “The Commission finds that the requirements in part F.1 of the permit do not constitute a federal mandate. There is no federal requirement to provide a regional educational program, so the education program, ‘exceed[s] the mandate in that federal law or regulation.’” (AR 3902.)

“The Commission finds that the requirements in part F.2 and F.3 of the permit do not constitute a federal mandate. There is no federal requirement to collaborate on, develop, or implement a Regional Urban Runoff Management Program (RURMP). The Commission finds that these RURMP activities ‘exceed the mandate in that federal law or regulation.’” (AR 3904.)
- Program Effectiveness Assessment – “Although the federal regulations require assessment of controls and annual reports, they do not require the detailed assessment in the 2007 permit. The regulations do not require, for example, assessments of the effectiveness of

each significant jurisdictional activity/BMP or watershed quality activity, or the implementation of each major component of the JURMP or WURMP, or identification of modifications and improvements to maximize the JURMP and WURMP effectiveness. These requirements, ‘exceed the mandate in that federal law or regulation.’” (AR 3907-3908.)

“Although the federal regulations require assessment controls, they do not require the detailed assessment in the 2007 permit. They do not require, for example, collaboration with other copermittees, addressing specified objectives or outcome levels, or addressing jurisdictional, watershed, and regional programs. These requirements ‘exceed the mandate in that federal law or regulation.’” (AR 3913-3914.)

- All Copermittee Collaboration – “The Commission finds that there is no federal mandate to develop a management structure (memorandum of understanding or MOU) as required by part L of the 2007 permit.” (AR 3916.) “All the federal regulations address is authority to establish an interagency agreement or memorandum of understanding, but do not require it to be implemented or specify its contents beyond ‘controlling . . . the contribution of pollutants from one portion of the municipal system to another portion of the municipal system.’” (AR 3916.) “Thus, the permit activity ‘exceed[s] the mandate in that federal law or regulation.’” (AR 3916.)

The trial court correctly held that by taking this approach and “failing to consider whether the permit requirements exceed the ‘maximum extent practicable’ standard, the Commission failed to proceed in the manner required by law.” (OCF V4, p. 01022.) The trial court decision should be affirmed.

B. The Clean Water Act Required Unequivocally, but in Flexible Terms, the Regional Board to Specify the Permit's Comprehensive Measures to Reduce Pollutants to the Maximum Extent Practicable.

The Commission failed to consider and recognize the Regional Board's legal duty to prescribe controls to reduce the discharge of pollutants to the maximum extent practicable under the Clean Water Act. In issuing Clean Water Act large municipal storm water permits, "[t]he permitting agency has discretion to decide what practices, techniques, methods and other provisions are appropriate and necessary to control the discharge of pollutants. [Citation.]" (*City of Rancho Cucamonga v. Regional Water Quality Control Bd.-Santa Ana Region* (2006) 135 Cal.App.4th 1377, 1389.) However, the "Regional Board must comply with federal law requiring detailed conditions for NPDES permits." (*Ibid.*) Further, the U.S. EPA expects individual permit writers to develop the practices that reflect the maximum extent practicable standard on a permit-by-permit basis. (*Natural Resources Defense Council, Inc. v. U.S. E.P.A.*, *supra*, 966 F.2d at p. 1308, fn. 17; see also 55 Fed.Reg. 47990, 48043 (Nov. 16, 1990).)

And consistent with federal law, the permit at issue here makes clear that the challenged permit requirements are intended to reduce the discharge of pollutants in storm water in the County of San Diego to the maximum extent practicable under the Clean Water Act. (AR 3527.) It states:

[The permit] specifies requirements necessary for the Copermittees to reduce the discharge of pollutants in urban runoff to the maximum extent practicable (MEP). However, since MEP is a dynamic performance standard which evolves over time as urban runoff management knowledge increases, the Copermittees' urban runoff management programs must continually be assessed and modified to incorporate improved programs, control measures, best management practices (BMPs), etc. in order to achieve the evolving MEP standard.

(AR 255.) By definition, a flexible standard is not intended to be applied in the same manner under different circumstances.

The permit provides the County of San Diego the flexibility to substitute another best management practice, if proposed modification complies with all discharge prohibitions. (AR 325.) Thus, the NPDES permit that was actually issued to the County of San Diego is the best measure of what is required to comply with the maximum extent practicable standard.

Unlike the Commission, the trial court correctly interpreted federal law as requiring a flexible, comprehensive set of permit conditions and ruled that state mandate claims must be analyzed against this federal mandate, not the presence or absence of federal regulations specifically requiring particular permit conditions. (OCF V4, p. 01010.) The Commission failed to consider and recognize the Regional Board's legal duty to prescribe controls to reduce the discharge of pollutants to the maximum extent practicable under the Clean Water Act.

C. The Commission Should Have Deferred to the Regional Board's Findings and Considered the County's Failure to Seek Judicial Review.

The Regional Board's findings that the permit reflects the maximum extent practicable standard are not idle ruminations from an administrative agency. Instead, those findings and requirements are the expert conclusions of the principal state agency charged with implementing the NPDES program in San Diego. (Wat. Code, §§ 13001, 13200.) Courts have recognized that the regional boards are entitled to considerable deference in applying the statutes they implement, especially in the area of storm water regulation. (*County of Los Angeles v. California State Water Resources Control Bd.* (2006) 143 Cal.App.4th 985, 997 ["we defer to the regional board's expertise in construing language which is not clearly defined in statutes involving pollutant discharge into storm drain sewer systems"]);

City of Rancho Cucamonga, supra, 135 Cal.App.4th at p. 1384; *Building Industry Ass'n of San Diego County, supra*, 124 Cal.App.4th at p. 879.)

The Regional Board found the permit “specifies requirements necessary for the Copermitees to reduce the discharge of pollutants in urban runoff to the maximum extent practicable (MEP).” (AR 255.) In reaching its decision, the trial court recognized that it “must accord appropriate deference to the Regional Board’s construction of the Clean Water Act. [Citations.]” (OCF V4, p. 1020.) (*Ibid.*) As the court explained, “[t]he San Diego Regional Water Quality Control Board concluded the permit conditions are required by the Clean Water Act and approving the NPDES permit program in San Diego County.” (*Ibid.*) The Commission, while an expert in mandates, is not an expert in water quality law and should have deferred to the Regional Board’s findings that the challenged permit requirements are within the federal requirements of the Clean Water Act.

The Commission also missed another key point. The County chose not to seek review of the permit itself, the expert conclusion of the Regional Board, directly in court. The Regional Board’s decision was quasi-adjudicative in nature, and the County was entitled to procedural protections set forth in the Administrative Procedures Act, which provide a clear process for administrative and judicial resolution. (See *City of Rancho Cucamonga v. Regional Water Quality Control Bd.-Santa Ana Region, supra*, 135 Cal.App.4th at p. 1385; Wat. Code, § 13330.) If the County had disagreement with the scope of the permit conditions as being in excess of what was required or allowed under federal law, it should have challenged the permit during judicial review of the Regional Board’s permit decision under the applicable regulatory laws. (*Y.K.A. Industries, Inc. v. Redevelopment Agency of City of San Jose, supra*, 174 Cal.App.4th 339, 356.) Instead, the County of San Diego proceeded with a challenge only

through administrative review by the State Water Board. The Board dismissed the challenge, no lawsuit was subsequently filed to determine if the permit conditions were required by the Clean Water Act, and the permit may no longer be challenged. (See AB p. 22; Wat. Code, § 13330, subd. (d).) The County of San Diego should not now be allowed to collaterally attack the Regional Board's findings under the guise of the present state mandates claims. The doctrine of exhaustion of judicial remedies prevents an aggrieved party from being able to avoid the preclusive effects of an adverse administrative action by simply forgoing the right to judicial review. (*Y.K.A. Industries, Inc. v. Redevelopment Agency of City of San Jose* (2009) 174 Cal.App.4th 339, 356.) The County of San Diego could have argued that the permit requirements at issue in this appeal exceeded federal requirements under administrative mandamus review of the Regional Board's decision, but chose not to.

In summary, the Commission's decision here ignored two fundamental rules governing review of administrative decisions. First, it failed to afford the Regional Board the considerable deference due when that expert agency imposed the permit conditions at issue as being required under federal law. (*County of Los Angeles v. California State Water Resources Control Bd.*, *supra*, 143 Cal.App.4th 985, 997.) Second, the County forfeited any arguments it had on that point by failure to raise them through judicial review of the Regional Board's permit decision under the applicable regulatory laws. (*Y.K.A. Industries, Inc.*, *supra*, 174 Cal.App.4th 339, 356.) Instead, the Commission allowed the County to attempt to second-guess the Regional Board's permit and ignore proper judicial review under the ordinary governing water quality law.

D. The Trial Court Correctly Found That the Commission's Application of *Long Beach School Dist. v. State of California* Was Misplaced.

In support of its erroneous state mandates determination, the Commission relied incorrectly (and almost exclusively) on *Long Beach School Dist. v. State of California, supra*, 225 Cal.App.3d 155. In *Long Beach*, the court considered whether a state executive order setting forth specific measures to desegregate schools constituted a state mandate. The executive order required school districts to provide a higher level of service than required by judicial decisions recognizing a general federal constitutional duty to desegregate schools, an area in which courts "have been wary of requiring specific steps." (*Id.* at p. 173.) A state mandate was found based on the absence of any federal law that specified how the schools should implement their desegregation procedures. (*Ibid.*)

Here, as explained by the trial court, there is a specific federal statute, the Clean Water Act, including its maximum extent practicable standard for MS4 permits, that directly applies to the County of San Diego. (OCF V4, pp. 01021-01022.) Moreover, unlike in *Long Beach*, this federal statutory standard by definition must be implemented in terms more specific than the standard itself when applied to NPDES permits issued to dischargers. In *Long Beach*, there was no even remotely analogous express constitutional or federal requirement that a federal agency or a state intercede and develop desegregation procedures for school districts.

And while the Regional Board has some flexibility in implementing the maximum extent practicable standard, it is guided by the Clean Water Act and the U.S. EPA. The Clean Water Act explicitly imposes the "maximum extent practicable" standard and states that it will include "management practices, control techniques and system, design and engineering methods, and such other provisions as the Administrator or the State determines appropriate for the control of such pollutants."

(33 U.S.C. § 1342(p)(3)(B).) Federal law further defines these practices to mean, in part, “schedules of activities, prohibitions of practices, maintenance procedures, and other management practices to prevent or reduce the pollution of ‘waters of the United States.’” (40 C.F.R. § 122.2.) And the U.S. EPA has provided substantial guidance on how that federal law is to be implemented and specifically required permitting agencies to specify in NPDES permits the controls necessary to implement the federal standard. (40 C.F.R. § 122.26; *Natural Resources Defense Council, Inc. v. U.S. E.P.A.*, *supra*, 966 F.2d at p. 1308, fn. 17; see also 55 Fed.Reg. 47990, 48043 (Nov. 16, 1990).)

Moreover, California administers the NPDES program to follow federal requirements as closely as possible. For example, the federally required permit process starts with the discharger submitting a proposed application to the permitting authority, which must comply with all federal requirements, including effluent limitations, national standards of performance, and toxic and pretreatment effluent standards. (33 U.S.C. §§ 1342 (b)(1), 1311, 1312, 1316, 1317.) And federal law requires that the U.S. EPA be provided with the proposed permit and notice of any action related to the same, such as a hearing on the proposed requirements. (33 U.S.C. § 1342(d)(1).) The U.S. EPA may object to a permit and find that it is inconsistent with federal law. (*Id.* § 1342(d)(2).) This type of finding could result in the U.S. EPA determining that a state program does not comply with federal NPDES program guidelines and could be a reason for the U.S. EPA to withdraw approval for the state program. (*Id.* § 1342(c)(3).) The “Regional Board must comply with federal law requiring detailed conditions for NPDES permits.” (*City of Rancho Cucamonga, supra*, 135 Cal.App.4th at p. 1389.)

At most, the teachings of *Long Beach* tell us that the Commission should have compared the permit requirements to the federal Clean Water

Act standards and then determined whether they went beyond federal law. While the Commission provided a lengthy discussion of whether various permit conditions are expressed verbatim in federal law, it failed to consider whether the requirements were within the federally required maximum extent practicable standard set forth in the federal statute and regulations.

This true “comparative” approach was endorsed by the Supreme Court in *San Diego Unified School Dist. v. Commission on State Mandates*, *supra*, 33 Cal.4th 859, where the Commission was required to determine if state procedures requiring a hearing when a student was being expelled exceeded federal due process requirements. While the Supreme Court sympathized with the challenge presented to the Commission in attempting to resolve the extent of imprecise federal law in the context of a state mandates proceeding, the Court nonetheless stated that such an analysis was required. (*Id.* at pp. 889-890.) The Commission was likewise required to engage in such analysis here, but its task was easier, given the more explicit, detailed, and comprehensive federal law on permitting MS4s under the Clean Water Act.

The County of San Diego, like the Commission, simply ignores that in *Long Beach* there was no federal standard and that here there is: the flexible maximum extent practicable standard. (See AB pp. 43-45.) To be sure, the standard is flexible, requiring further explication and implementation by the Regional Board, but the federal standard is there which is sufficient to distinguish *Long Beach* from the present case.

V. SUBSTANTIAL EVIDENCE IN THE ADMINISTRATIVE RECORD SHOWS THAT THE CHALLENGED PERMIT REQUIREMENTS DO NOT EXCEED THE MAXIMUM EXTENT PRACTICABLE STANDARD.

A. It Was Within the Lower Court's Discretion To Remand the Case to the Commission for Further Consideration.

The lower court did not address whether the challenged permit requirements exceeded federal law. Instead, it set aside the decision and remanded the matter to the Commission to reconsider the requirements in light of the federal standards, including the maximum extent practicable standard. According to the court, "there is nothing in the record to support the Commission's finding that the permit requirements exceed the 'maximum extent practicable' standard." (OCF V4, pp. 01022-01023.) While the lower court could have decided (and this Court could decide on review) whether the challenged permit requirements are federal mandates and not subject to state subvention as a matter of law, respondents do not challenge the scope of the court's remand. Since the County of San Diego has addressed this issue in its brief (see AB pp. 54-59), however, respondents are left with no choice but to do the same. With that said, if this Court agrees with the lower court's remand, the following pages (addressing whether the permit requirements are specifically supported under the correct analysis of federal law) can be disregarded.¹⁰

B. The Challenged Permit Requirements

1. Hydromodification Management Plan

The permit imposes requirements for the control of hydromodification or the erosion of downstream channels caused by changes in runoff

¹⁰ As a side note, the individual analysis of each challenged permit requirement illustrates the analysis that the Commission should have undertaken when addressing the federal mandates issue instead of simply concluding that no federal mandates existed because the requirements were not expressed in federal law.

resulting from development and urbanization. (AR 275-278.) These controls are well within the scope of the maximum extent practicable standard imposed on the County of San Diego under the Clean Water Act, and neither the County, nor the Commission, have cited to any contradicting evidence. Instead, the Commission found that because the concept of hydromodification is not expressly set forth in detail in federal law, it must somehow exceed the maximum extent practicable standard. (AR 3866.) However, the maximum extent practicable standard requires flexible, best management practices, to eliminate or reduce the discharge of pollutants in storm water or runoff through MS4. (33 U.S.C. § 1342(p)(3)(B); 40 C.F.R. § 122.26(d)(2)(iv).) The Clean Water Act need not, nor could it in all practicality, set forth a specific plan for addressing the impact of downstream erosion from runoff from development and urbanization for each specific waterbody in order to require its implementation under the maximum extent practicable standard.

Runoff from newly developed areas can produce erosive flows in channels under rainfall conditions that previously did not exist. (AR 432.) As the total area of impervious surfaces increases from development, infiltration of rainfall decreases, causing more water to runoff the surface at a higher rate. (AR 432.) Among other things, this increase in runoff can adversely affect water quality, leading to the discharges of pollutants in the nearby waterbodies. The Regional Board reached this conclusion in its quasi-adjudicative permitting proceeding. (AR 259-261.) Designing, implementing, and monitoring a hydromodification management plan will help prevent runoff from new development and urbanization and will decrease pollutants escaping into the water to the maximum extent practicable. (*Building Industry Ass'n of San Diego County, supra*, 124 Cal.App.4th at p. 889 [“practicable does not necessarily mean the most that can possibly be done”].) And, as discussed above, the Commission is in no

position to determine what activities meet the maximum extent practicable standard. That expertise lies with the Regional Board. (*County of Los Angeles v. California State Water Resources Control Bd.*, *supra*, 143 Cal.App.4th at p. 997; *Divers' Environmental Conservation Organization* (2006) 145 Cal.App.4th 246, 252.)

Federal law also requires that permits include a comprehensive master plan to address storm water runoff from new development and significant redevelopment as follows:

[The plan should include a] description of planning procedures including a comprehensive master plan to develop, implement and enforce controls to reduce the discharge of pollutants from municipal separate storm sewers which receive discharges from areas of new development and significant redevelopment. Such plan shall address controls to reduce pollutants in discharges from municipal separate storm sewers after construction is completed.

(40 C.F.R. § 122.26(d)(2)(iv)(A)(2).) And regulating the flow of runoff is authorized by the Clean Water Act. (*PUD No. 1 v. Washington Department of Ecology* (1994) 511 U.S. 700, 714-715.)

The restrictions on effluent flows are also supported by the U.S. EPA in the Preamble to the Phase II federal storm water regulations, which states:

EPA intends to prevent water quality impacts resulting from increased discharges of pollutants, which may result from increased volume of runoff. In many cases, consideration of the increased flow rate, velocity and energy of storm water discharges following development unavoidably must be taken into consideration in order to reduce the discharge of pollutants, to meet water quality standards and to prevent degradation of receiving streams. EPA recommends that municipalities consider these factors when developing their post-construction storm water management program.

(64 Fed. Reg. 68761 (Dec. 8, 1999).)

Moreover, the County of San Diego has implicitly conceded that the Clean Water Act requires that steps be taken to prevent downstream erosion

from runoff from new development or significant redevelopment. The County's own ROWD recommends various activities to address downstream erosion and the discharge of pollutants into the nation's water as follows:

- Re-issued permit should require improved procedures for analyzing downstream conditions of concern, including developing minimum criteria for conducting an analysis of downstream conditions, analyzing downstream conditions of concern, and developing methodologies for addressing such areas of concern. (AR 2197-2199.)
- Priority projects should "prepare a project-specific drainage study demonstrating that discharge flow rates, and velocities from a 2-year and 10-year, 24-hour rainfall event will not significantly impact downstream erosion or stream habitat." (AR 2197.)
- Project applicants should demonstrate that the project will not cause significant adverse impacts on downstream erosion or stream habitat or that the impact has been mitigated. (AR 2197.)
- Drainage studies must be conducted to determine the regional effect of a detention basin, if storm water detention is used to mitigate significant impacts to downstream erosion or stream habitat. (AR 2197-2199.)
- "[I]dentify multiple methods to address identified downstream conditions of concern. Examples of such methods include: detention; implementation of site design, source control (such as LID controls) or treatment control BMPS that would mitigate the potential impacts; project compliance with a jurisdictionally approved master drainage plan (or similar plan) or similar method acceptable to the Copermittee." (AR 2199.)

Since the hydromodification requirement in the permit is within the maximum extent practicable standard under the Clean Water Act, as the County of San Diego effectively concedes, as a matter of law it is imposed

by federal law, not state law, and is not a state mandate subject to reimbursement under article XIII B, section 6 of the California Constitution.

2. Low Impact Development and SUSMP Updates

Similar to hydromodification, the low impact development portion of the permit addresses the reduction of urban storm water runoff in land use planning for new development and significant redevelopment through low impact development strategies and updating storm water mitigation plans accordingly. (AR 269-271.) The same management practices that support the implementation of a hydromodification management plan also support the development of low impact strategies to avoid downstream erosion. Municipalities such as the County of San Diego are required to implement controls to reduce pollutants in urban runoff from new development and significant redevelopment, construction, and commercial, residential, industrial, and municipal land use activities. (40 C.F.R. § 122.26 (d)(2)(iv)(A)-(D).)

Requiring the development and updating of low impact development best management practices to reduce pollutants in storm water runoff from new development and significant redevelopment is within the maximum extent practicable standard imposed on the County of San Diego by the Clean Water Act. Such strategies confirm that best management practices are being effectively implemented in compliance with federal law.

The County of San Diego must have understood the importance of low impact development strategies because the proposed permit recommended such development and implementation. According to the proposed permit, low impact development best management practices “might be given increased emphasis in future program requirements.” (AR 2193.) “Site design and source control solutions are often more effective than many types of structural treatment for protecting water quality since design considerations eliminate the necessity of addressing

sources of pollution, rather than attempting to remove a percentage of the pollution after it has entered stormwater runoff.” (AR 2193.) In addition, the County acknowledged in its application that low impact development “controls may often be more effective than conventional structure treatment controls because maintenance is more assured (due to decreased maintenance requirement and because the maintenance is incorporated into the normal operations of a site, such as landscape maintenance).” (AR 2193)

Rather than addressing whether the permit’s low impact development best management practices and strategies exceed the federal maximum extent practicable standard, the Commission simply concluded that they did, because the requirements are not expressly stated in federal law. (AR 3873.)

3. Street Sweeping and Maintenance and Cleaning of Storm Sewer Systems

The street sweeping portion of the permit requires the implementation and monitoring of “a program to sweep improved (possessing a curb and gutter) municipal roads, streets, highways, and parking facilities” at certain times depending on the volume of litter and debris generated. (AR 284.) It generally includes identifying the distance of the street sweeping as well as the related frequency of sweeping, the total distance of curb-miles swept, the number and frequency of municipal parking lots, and the total amount of materials collected from the street and parking lot sweeping. (AR 318.)

In addition to the maximum extent practicable standard under the Clean Water Act, best management practices under federal law require dischargers to adopt plans “to reduce the discharge of pollutants to the maximum extent practicable using management practices, control techniques and system, design and engineering methods, and such other provisions which are appropriate.” (40 C.F.R. § 122.26(d)(2)(iv).) Other federal regulations also require dischargers to address activities such as

street sweeping in their permits to reduce the discharge of pollutants through storm sewer systems as follows:

- “A description of practices for operating and maintaining public streets, roads and highways and procedures for reducing the impact on receiving waters of discharges from municipal storm sewer systems, including pollutants discharged as a result of deicing activities.” (40 C.F.R. § 122.26(d)(2)(iv)(A)(3).)
- “A description of maintenance activities and a maintenance schedule for structural controls to reduce pollutants (including floatables) in discharges from municipal separate storm sewers.” (40 C.F.R. § 122.26(d)(2)(iv)(A)(1).)
- “A description of a program to reduce to the maximum extent practicable, pollutants in discharges from municipal separate storm sewers associated with the application of pesticides, herbicides and fertilizer which will include, as appropriate, controls such as educational activities, permits, certifications and other measures for commercial applicators and distributors, and controls for application in public right-of-ways and at municipal facilities.” (40 C.F.R. § 122.26(d)(2)(iv)(A)(6).)

If litter and debris are left to pile up on roads and parking facilities, the downstream effect is the introduction of pollutants into the storm sewer or drain systems, leading to the discharges of pollutants in the nearby waterways. Without question, street sweeping will help prevent this known source of pollutants from escaping into the water. To claim otherwise would defy common sense. Indeed, the County of San Diego agreed with the Regional Board and recommended street sweeping as a best management practice to reduce the discharge of pollutants from roads, streets, highways, and parking facilities. (AR 2229.) While the County did not identify baseline sweeping or reporting, and merely recommended street sweeping be addressed on an as-needed basis determined by the discharger, the State is not required to adopt a less stringent practicable

standard, but rather is obligated to protect the waterways to the maximum extent practicable. (AR 2229.)

The Commission did not dispute the above, but relied on its standard position that street sweeping is not a federal mandate because it is not expressly specified in federal law. (AR 3879.) As discussed above, to find a federal mandate does not require an explicit mention of every mandated activity required to comply with federal law.

The above analysis applies equally to the requirement for MS4 conveyance system cleaning and maintenance. (AR 1595.) The maintenance activities included, at a minimum, inspection and removal of waste, additional cleaning, record keeping, proper disposal of waste, and measures to eliminate waste discharge during storm sewer system maintenance and cleaning activities. (AR 1596.) Federal regulations and common sense dictate that cleaning and maintaining storm sewers on a regular basis reduces the discharge of pollutants to the nearby waterways. If not, the County of San Diego would not have recommended the continued maintenance and cleaning of these systems. (AR 2229.) And instead of addressing the maximum extent practicable standard or citing to any evidence contradicting that storm sewer maintenance and cleaning would be within the scope of this standard, the Commission summarily concluded that this requirement was not a federal mandate because it is not expressly provided for in the Clean Water Act or its implementing regulations. (AR 3880-3881.)

For these reasons, street sweeping and maintaining and cleaning storm sewer systems to reduce the discharge of pollutants through these systems to nearby waterways do not exceed the maximum extent practicable standard under the Clean Water Act. These activities are mandated by federal law and do not require state subvention.

4. Public Education About the Impact of Urban Runoff

This part of the permit generally requires an education program to increase the knowledge of certain communities regarding the impact of storm sewer urban runoff on receiving waters and potential solutions, in an effort to change the behavior of target communities and thereby to reduce pollutant releases. (AR 293-294.) Public education on the impact of urban runoff is consistent with the Clean Water Act's maximum extent practicable standard. (33 U.S.C. § 1342(p)(3)(B); 40 C.F.R. § 122.26(d)(2)(iv).) Indeed, education and knowledge about urban runoff and its effect on water quality go a long way in preventing pollutants from entering the MS4s and ultimately the nation's waterways.

Federal regulations provide for management practices to educate the public on the impact of urban runoff on water quality and generally include "educational activities, public information activities, and other appropriate activities to facilitate the proper management and disposal of used oil and toxic materials" (40 C.F.R. § 122.26(d)(2)(iv)(A)(6)), "educational programs to promote, publicize, and facilitate public reporting of the presence of illicit discharges or water quality impacts associated with discharges from municipal separate storm sewers" (*id.* § 122.26(d)(2)(iv)(A)(5)), and "educational and training measures for construction site operators" (*id.* § 122.26(d)(2)(iv)(D)(4)).

The County of San Diego cannot reasonably dispute that the education component is within the maximum extent practicable standard because their proposed permit itself addressed public education. Consistent with the permit that was issued, the County proposed the education of target communities regarding the impact of MS4 on receiving waters and potential best management practices, and changing the behavior of target communities to reduce pollutant releases to these systems and the

environment. (AR 1602.) The proposal went on to make additional recommendations such as focusing education on the highest priorities, ensuring the most efficient use of educational resources, measuring progress and effectiveness, regional education program planning, and requirements to educate quasi-governmental entities. (AR 2261-2273.)

The Commission did not attempt to reconcile the education component in the permit with the maximum extent practicable standard. It simply concluded that the education requirements are not expressly stated in federal law and thus must be a state mandate. (AR 3885.) Once again, this flawed analysis is too narrow and fails to understand the requirements of the Clean Water Act or to defer to the Regional Board's expertise in applying the same.

**5. Watershed Urban Runoff Management Program
and Regional Urban Runoff Management
Program**

The Watershed Urban Runoff Management Program part of the permit divides the Copermittees into nine management areas by "major receiving bodies" and requires them "to develop and implement an updated Watershed Urban Runoff Management Program for each watershed." (AR 296-297.) Specifically, each program must reduce the discharge of pollutants from the storm sewer systems to the maximum extent practicable standard under the Clean Water Act. (AR 297.) The specific programs should include elements such as lead watershed permittee identification, watershed map, watershed water quality assessment, watershed-based land use planning, watershed strategy, watershed activities, Copermittee collaboration, public participation, and review and updates of the programs. (AR 297-300.)

Permits can be issued either separately or on a system-wide, jurisdiction-wide, watershed or other basis. (40 C.F.R. § 122.26(a)(3)(ii).) Permits "may specify different conditions relating to different discharges

covered by the permit, including different management programs for different drainage areas which contribute storm water to the system.” (40 C.F.R. § 122.26(a)(3)(v).) “Proposed programs may impose controls on a systemwide basis, a watershed basis, a jurisdiction basis, or on individual outfalls.” (40 C.F.R. § 122.26(d)(2)(iv).)

Because the watershed-based management program is based on federal law and within the maximum extent practicable standard to reduce the discharge of pollutants through MS4s, the County of San Diego agreed that such a program should be part of the permit. (AR 2161-2181.) The County made recommendations related to watershed permitting approach, identification of watershed water quality assessment data, identification of priority watershed pollutants and issues, identification of known pollutant sources, watershed coordination, and identification of watershed activities and education activities. (AR 2161-2181.)

Similar to the watershed-based program, the Regional Urban Runoff Management Program part of the permit requiring Copermittees “to develop, implement, and update as necessary a Regional Urban Management Program” is also within the scope of the maximum extent practicable standard and its implementing regulations. (AR 300.) The program must reduce the discharge of pollutants from the storm sewers to the maximum extent practicable standard and prevent urban runoff discharges from these systems from causing or contributing to a violation of water quality standards. (AR 300.) At a minimum, the program must address the development and implementation of a Regional Residential Education Program, which includes pollutant-specific education, development of a standard fiscal analysis for the educational program, and the assessment of the effectiveness of jurisdictional, watershed, and regional programs. (AR 300.)

The County of San Diego's permit proposal focused on an educational aspect and identified residential sources of pollution as their highest regional priority, and public education as the most important component of their program. (AR 2255.) The proposal recommends that efforts "must also be expended on better defining the links between residential activities and water quality and if necessary, development of alternative strategies to better address these sources of residential pollution." (AR 2255.)

As mentioned throughout this Brief, it is of no consequence that the watershed and regional residential programs are not expressly provided for in federal law or that the requirements go beyond the specific activities proposed by the County of San Diego. The maximum extent practicable standard is a flexible standard. The Regional Board had the discretion to determine that the programs are within the standard, and the Commission had no basis to conclude otherwise simply because the requirements are not spelled out in a federal statute or regulation. (AR 3896, 3902, 3904.) Thus, the watershed and regional education programs are required by federal law and are not a state mandate subject to reimbursement.

6. Program Effectiveness Assessment

This part of the permit requires each Copermittee to annually assess the effectiveness of the above jurisdictional, watershed, and regional urban runoff programs, and there are specific assessment requirements for each program. (AR 302-306.) Additionally, the permit requires that "[e]ach Copermittee shall collaborate with the other Copermittees to develop a Long Term Effectiveness Assessment (LTEA), which shall build on the results of the Copermittees' August 2005 Baseline LTEA." (AR 307.) The LTEA should be designed to meet many specified objectives related to the jurisdictional, watershed, and regional effectiveness assessments. (AR 307.)

The maximum extent practicable standard in the Clean Water Act and its implementing regulations require dischargers like the County of San

Diego to assess the effectiveness of their water quality programs. A proposed management program must be comprehensive “to reduce the discharge of pollutants to the maximum extent practicable using management practices, control techniques and system, design and engineering methods, and such other provisions which are appropriate.” (40 C.F.R. § 122.26(d)(2)(v).) And Copermittees must estimate “reductions in loadings of pollutants from discharges of municipal storm sewer constituents from municipal storm sewer systems expected as the result of the municipal storm water quality management program. The assessment shall also identify known impacts of storm water controls on ground water.” (40 C.F.R. § 122.26(d)(2)(iv).)

It would make little sense for federal law to require water quality management programs to assess their effectiveness through best management practices, but then to exclude the assessment of the effectiveness of these programs on either a short-term or long-term basis. As such, the County of San Diego recommended the continued short-term and long-term effectiveness assessment of jurisdictional, watershed, and regional urban runoff programs. (AR 2312, 2323-2325.)

The Commission agreed that effectiveness assessments are part of federal law but did not agree with the “details” in the permit, concluding once again that if the permit requirements are not expressly provided for in federal law, they are state mandates. (AR 3907.) This conclusion is wrong; the permit requirements are federal mandates and not subject to state subvention.

7. Collaboration Among Copermittees

This part of the permit requires Copermittees to collaborate to “address common issues, promote consistency among Jurisdictional Urban Runoff Management Programs and Watershed Urban Runoff Management Programs, and to plan and coordinate activities required under this Order.”

(AR 325.) This includes developing a Memorandum of Understanding that defines Copermittees' responsibilities, establishes a management structure and standards for conducting meetings, provides guidelines for work groups, lays out the process for non-compliance issues, and includes all other collaborative agreements for compliance with the permit. (AR 326.)

Federal law requires "control through interagency agreements among coapplicants the contribution of pollutants from one portion of the municipal system to another portion of the municipal system." (40 C.F.R. § 122.26(d)(2)(i)(D).) The Copermittees have been collaborating and working together under a memorandum of understanding since at least the time the 2001 NPDES permit was issued. (AR 1614.) And consistent with the 2001 NPDES permit, the County of San Diego in its permit proposal recommended the continued collaboration among the Copermittees and listed the following general areas of recommended Copermittee collaboration: water quality assessment, source identification and prioritization, establishment of program requirements (BMPs and discharge prohibitions), strategies for program implementation, and reporting and assessment. (AR 2157.) It also recommended the continued use of a memorandum of understanding and the formal establishment of subcommittees and working bodies to address budget and fiscal issues, data collection, management, and analysis, regional watershed activities, and source management programs. (AR 2157.)

This collaborative approach to managing and addressing common water quality issues falls squarely within the maximum extent practicable standard in the Clean Water Act, to prevent the discharge of pollutants through MS4 to nearby waterways. But despite this continued agreed-upon practice to implement federal law, the Commission still found a state mandate because the specific contents of the memorandum of understanding are not expressly provided for in federal law. (AR 3918.)

This is an incorrect application of federal law. The permit requirements are not state mandates.

VI. THERE IS NO EVIDENCE IN THE ADMINISTRATIVE RECORD THAT THE CHALLENGED PERMIT REQUIREMENTS GO BEYOND FEDERAL LAW.

The County of San Diego claims that certain evidence in the administrative record relied on by the Commission shows that the challenged permit requirements exceed federal law and are state mandates. (See AB pp. 54-59.) However, as discussed above, the Commission did not make any factual findings. It merely concluded as a matter of law that the specific permit requirements were not expressly provided for in federal law and thus were not federal mandates. In any event, the evidence does not show or even suggest that the specific permit requirements exceed federal law.

A. Street Sweeping

While the County of San Diego alleges that the street sweeping permit requirement exceeds the maximum extent practicable standard, the County does not explain its position. The County simply cites to eight documents in the administrative record in ostensibly support of its claim. (See AB pp. 54-55.) A cursory review of these documents is sufficient to conclude that they do not support the County's view of this permit requirement.

- Declaration of James P. Lough in Support of Test Claim (AR 945-1011.)

This document is self-explanatory, a declaration from counsel for the County of San Diego. The opinions and arguments of counsel are not evidence and should be disregarded.

- NPDES Permits for the City of Atlanta, Georgia, (AR 1125-1139); the District of Columbia (AR 2608-2658); Albuquerque, New Mexico, (AR 2659-2725); and Worcester, Massachusetts, draft permit, (AR 2727-2802.)

Although not stated, the County of San Diego seems to offer these permits as evidence that the street sweeping requirement in the permit exceeds federal law because the requirement is not found in U.S. EPA-issued permits or other state-issued permits. But NPDES permits “evolve and mature over time” and must be flexible to reflect changing conditions that result from program development and implementation and corresponding improvements in water quality.” (55 Fed.Reg. 47990, 48052; see also *In re City of Irving* (July 16, 2001) 10 E.A.D. 111 at *6; OCF IV, pp. 972-984.) Under federal law, each NPDES permit must be tailored to the unique characteristics of the surrounding waterways and communities. Thus, there is no reason to expect requirements in one permit would be the same as requirements in other permits unless of course the surrounding circumstances were identical. As U.S. EPA stated when establishing the municipal storm water permitting regulations: “The language of [Clean Water Act] section 402(p)(3) contemplates that, because of the fundamentally different characteristics of many municipalities, municipalities will have permits tailored to meet particular geographical, hydrological, and climatic conditions.” (55 Fed.Reg. 47990, 48053. (Nov. 16, 1990).)

Water quality issues in southern California cannot realistically be assumed to be the same or similar to water quality issues in Atlanta, the District of Columbia, Albuquerque, or Worcester. Thus, it is of no consequence that U.S. EPA issued permits or other state-issued permits in such diverse parts of the country do not include a specific requirement regarding street sweeping matching the County of San Diego’s. The only relevant considerations are the best management practices that implement

the maximum extent practicable standard for the County of San Diego's discharges through its storm systems.

- Excerpt from the U.S. EPA's MS4 Program Evaluation Guide (AR 1939.)

Contrary to the County of San Diego's suggestion, this part of the Guide supports treating the street sweeping permit condition at issue as a federal mandate. It states that permits "should address and include various practices for operating and maintaining public streets, roads, and highways that reduce the impact of receiving waters of discharges from municipal storm sewer systems. These practices should include regular street sweeping and proper use of BMPs during street Maintenance activities." (AR 1939.) The street sweeping requirement falls well within this federal guidance.

- Comparison of the 2001 permit to the then-existing permit (AR 2575-2606.)

This document compares the 2001 permit to the permit requirements in its predecessor permit. Presumably, it is used by the County to show that new permit requirements, by virtue of being "new," always exceed the maximum extent practicable standard. Once again, the County of San Diego seems to misunderstand the NPDES program and the Clean Water Act. When an NPDES permit is renewed, reissued, or modified, it generally must be at least as stringent as the prior permit. (33 U.S.C. § 1342 (o); 40 C.F.R. 122.44(l).) This is consistent with Congress' intent that state management programs evolve based on changing conditions from program development and implementation and corresponding improvements in water quality. (55 Fed.Reg. 48052 (Nov. 16, 1990).) The U.S. EPA "anticipates that storm water management programs will evolve and mature over time. The permits for discharges from municipal separate storm sewer systems will be written to reflect changing conditions that

result from program development and implementation and corresponding improvements in water quality.” (*Ibid.*) Thus, federal law anticipates that permit requirements will change over time and become more stringent. A new requirement in a permit does not alone mean (or even suggest) that the requirement is beyond the maximum extent practicable standard in federal law.

In any event, this document is not relevant to the challenged permit requirements in the 2007 permit. It concerns the 2001 permit and permit requirements in its predecessor permit.

- Commission’s Statement of Decision (AR 3877-3878.)

The County of San Diego, similar to the Commission, concludes that the street sweeping requirement goes beyond federal law because it is not specifically required under the Clean Water Act or its implementing regulations. As explained in this Brief in detail, the Clean Water Act’s NPDES permit system requires states to develop standards based on the unique conditions of particular waterways. Thus, the maximum extent practicable standard is necessarily flexible, rather than a one-size-fits-all standard. (*Building Industry Ass’n of San Diego County, supra*, 124 Cal.App.4th at p. 874.)

B. Other Challenged Permit Requirements

The County of San Diego identifies certain documents in the record as ostensible evidence that the remaining permit requirements exceed the maximum extent practicable standard. (OB 55-58.) None of the purported documents support any conclusion that the permit is a state mandate. The majority of the referenced documents are simply additional citations to the documents identified above concerning the street sweeping requirement. The respondents will not repeat the above discussion here and will only discuss the additional documentation, organized here with respect to each permit requirement.

- Storm Drain Cleaning and Maintenance and Regional Urban Runoff Management Program

There are no additional documents referenced for these requirements.

- Educational Component

The County of San Diego references an excerpt from the U.S. EPA's MS4 Program Evaluation Guide. (AR 1927.) As with the street sweeping requirement, this part of the Guide supports public education and participation as an important component of the municipal storm water permit program. (AR 1927.)

- Watershed Activities and Collaboration, Program Effectiveness Assessment, Long Term Effectiveness Assessment, and All Permittee Collaboration

The County of San Diego references an excerpt from the U.S. EPA's MS4 Program Evaluation Guide. (AR 1903.) This part of the Guide supports including comprehensive stormwater management planning, assessment, and collaboration as part of a municipal storm water permit. (AR 1903.)

- Hydromodification Management Plan and Low Impact Development

Again, the County of San Diego references an excerpt from the U.S. EPA's MS4 Program Evaluation Guide. (AR 1985.) As above, this part of the Guide supports the development and implementation of controls in a municipal storm water permit to address downstream erosion. (AR 1985.) The County also references an administrative statement of decision from a Washington case but does not explain why it is relevant. (AR 2389-2346.)

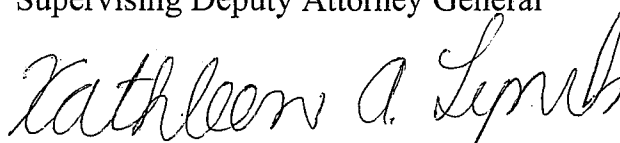
CONCLUSION

The trial court properly found that the permit is not a state mandate, because California must implement the federal NPDES program. The court also correctly found that the Commission failed to analyze the Clean Water

Act's maximum extent practicable standard, and remanded the matter back to the Commission for further consideration. Accordingly, the lower court's decision should be affirmed.

Dated: November 19, 2012 Respectfully submitted,

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A handwritten signature in cursive script that reads "Kathleen A. Lynch". The signature is written in dark ink and is positioned above the printed name and title of the signatory.

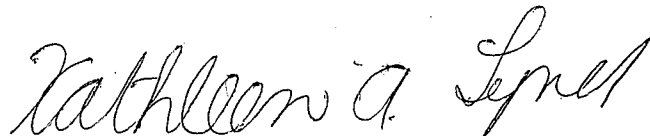
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CERTIFICATE OF COMPLIANCE

I certify that the attached **RESPONDENTS' BRIEF** uses a 13 point Times New Roman font and contains 17518 words, including footnotes, which is the amount of words requested in Respondents' Application to File an Oversized Brief, submitted herewith pursuant to Rule 8.204(c)(5) of the California Rules of Court. Counsel relies on the count of the computer program used to prepare this Brief.

Dated: November 19, 2012

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Attorney General of California

A handwritten signature in cursive script that reads "Kathleen A. Lynch".

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DECLARATION OF SERVICE BY OVERNIGHT COURIER

Case Name: **State of California Department of Finance, et al. v. Commission on State Mandates**

No.: **C070357**

I declare:

I am employed in the Office of the Attorney General, which is the office of a member of the California State Bar, at which member's direction this service is made. I am 18 years of age or older and not a party to this matter; my business address is: 1300 I Street, Suite 125, P.O. Box 944255, Sacramento, CA 94244-2550.

On November 19, 2012, I served the attached **Respondents' Brief** by placing a true copy thereof enclosed in a sealed envelope with the **Golden State Overnight courier service**, addressed as follows:

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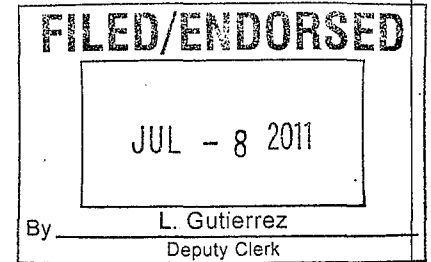
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I declare under penalty of perjury under the laws of the State of California the foregoing is true and correct and that this declaration was executed on November 19, 2012, at Sacramento, California.

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11 SUPERIOR COURT OF THE STATE OF CALIFORNIA
12 COUNTY OF SACRAMENTO
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15 **STATE OF CALIFORNIA DEPARTMENT**
16 **OF FINANCE, STATE WATER**
17 **RESOURCES CONTROL BOARD, AND**
18 **CALIFORNIA REGIONAL WATER**
19 **QUALITY CONTROL BOARD, SAN**
20 **DIEGO REGION,**

Petitioners,

v.

21 **COMMISSION ON STATE MANDATES,**

Respondent.

23 **COUNTY OF SAN DIEGO AND CITIES**
24 **OF CARLSBAD, CHULA VISTA,**
25 **CORONADO, DEL MAR, EL CAJON,**
26 **ENCINITAS, ESCONDIDO, IMPERIAL**
27 **BEACH, LA MESA, LEMON GROVE,**
28 **NATIONAL CITY, OCEANSIDE,**
POWAY, SAN DIEGO, SAN MARCOS,
SANTEE, SOLANA BEACH, AND VISTA,

Real Parties in Interest.

Case No. 34-2010-80000604

**PETITIONERS' MEMORANDUM OF
POINTS AND AUTHORITIES IN
SUPPORT OF PETITION FOR WRIT OF
ADMINISTRATIVE MANDAMUS**

Date: September 9, 2011
Time: 11:00 a.m.
Dept: 42
Judge: Hon. Alan H. Sumner

Action Filed: July 20, 2010

1 **COUNTY OF SAN DIEGO AND CITIES**
2 **OF CARLSBAD, CHULA VISTA,**
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7 **POWAY, SAN DIEGO, SAN MARCOS,**
8 **SANTEE, SOLANA BEACH, AND VISTA,**

9 Cross-Petitioners,

10 v.

11 **COMMISSION ON STATE MANDATES,**

12 Cross-Respondent.

13 **STATE OF CALIFORNIA DEPARTMENT**
14 **OF FINANCE, STATE WATER**
15 **RESOURCES CONTROL BOARD, AND**
16 **CALIFORNIA REGIONAL WATER**
17 **QUALITY CONTROL BOARD, SAN**
18 **DIEGO REGION,**

19 Cross-Real Parties in Interest
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1 INTRODUCTION

2 This case is about the Commission on State Mandates treating a mandatory federal
3 pollutant discharge requirement under the Clean Water Act as a state mandate simply because the
4 state administers the Act. The Commission’s decision is contrary to California law prohibiting
5 state subvention for federal mandates and should be reversed.

6 The Clean Water Act prohibits real parties in interest County of San Diego and several
7 cities named in the petition (referred to below collectively as the “County of San Diego”) from
8 discharging pollutants from their municipal storm sewer systems into nearby waterways unless
9 they do so under a permit issued in compliance with the National Pollutant Discharge Elimination
10 System (NPDES). The Clean Water Act requires the County of San Diego’s NPDES permit to
11 reduce the discharge of pollutants from its storm drains to the *maximum extent practicable*.
12 Under article XIII B, section 6, of the California Constitution, the only way this federal standard
13 could constitute a state mandate would be if the state *voluntarily elected* to require local agencies
14 to implement state obligations under the Clean Water Act, or if the state took action to *exceed* the
15 Act’s “maximum extent practicable” standard. Neither occurred here.

16 Since 1973, the state¹ has administered the Clean Water Act’s NPDES program in
17 California, so it was the state that issued the NPDES permit to the County of San Diego.
18 However, with or without state action, the County of San Diego had no choice but to comply with
19 the Clean Water Act, and its maximum extent practicable standard, and the state added nothing to
20 the County of San Diego’s burdens. As such, the state had little practical choice but to implement
21 the Clean Water Act in lieu of direct regulation from the federal government.

22 The permit as a whole, including the more particular requirements challenged in this
23 litigation, merely applied the federal standard. While the Commission may be an expert in state
24 mandates, it has no expertise in the field of water law. The Commission erroneously failed to
25 defer to the San Diego Regional Water Quality Control Board’s (“Regional Board”)

26 _____
27 ¹ “State” refers collectively to the State Water Resources Control Board and the San
28 Diego Regional Water Quality Control Board, and “petitioners” refers to the two Boards as well
as the State of California Department of Finance.

1 implementation of federal water quality law. More specifically, the Commission failed to defer to
2 the Regional Board's determination that the permit as a whole and the more particular permit
3 requirements implement the Clean Water Act's maximum extent practicable standard.

4 Consequently, petitioners ask the court to reverse the Commission's findings of state mandates.

5 Further, because the federal maximum extent practicable standard and the specific permit
6 requirements are not new, there is no new program or higher level of service. The Commission's
7 decision to the contrary should be reversed as well.

8 Finally, even if this court were to find that the permit requirements are state mandates, they
9 are still not subject to reimbursement under article XIII B, section 6. Reimbursement is not
10 required where the local agency may impose fees to cover its costs, instead of raising taxes. The
11 County of San Diego has the necessary fee authority to impose fees for the permit requirements,
12 and the Commission's finding to the contrary should be reversed.

13 BACKGROUND

14 I. FEDERAL REQUIREMENTS FOR STORM WATER PERMITS

15 A. Federal Nature of NPDES Permits

16 In a "dramatic response to accelerating environmental degradation of rivers, lakes and
17 streams in this country," Congress passed the Clean Water Act in 1972 to eliminate the discharge
18 of pollution into the nation's waters by 1985. (33 U.S.C. § 1251, et. seq.; *Natural Resources*
19 *Defense Council, Inc. v. Costle* (D.C. Cir. 1977) 568 F.2d 1369, 1371.) The Clean Water Act
20 seeks to "restore and maintain the chemical, physical, and biological integrity of the Nation's
21 waters." (33 U.S.C. § 1251(a).) It prohibits the discharge of pollutants from "point sources" to
22 waters of the United States unless provided for under an NPDES permit.² (33 U.S.C. §§ 1311,
23 1342; see also *Communities for a Better Environment v. State Water Resources Control Bd.* (2003)
24 109 Cal.App.4th 1089, 1092-1093.)

25 ² "The term 'point source' means any discernible, confined and discrete conveyance,
26 including but not limited to any pipe, ditch, channel, tunnel, conduit, well, discrete fissure,
27 container, rolling stock, concentrated animal feeding operation, or vessel or other floating craft,
28 form which pollutants are or may be discharged. This term does not include agricultural
stormwater dischargers and return from irrigated agriculture." (33 U.S.C. § 1362(14).)

1 Either the United States Environmental Protection Agency (U.S. EPA) or a U.S. EPA-
2 approved state may issue NPDES permits. (33 U.S.C. § 1342(a)(1) & (b).) Congress concluded
3 that the U.S. EPA could issues permits for all dischargers and translate the Clean Water Act's
4 requirements into the conditions of individual permits for individual dischargers, but states may
5 elect to take on that federal responsibility. (*Environmental Protection Agency v. California ex rel.*
6 *State Water Resources Control Bd.* (1976) 426 U.S. 200, 219.) California has the U.S. EPA's
7 approval to issue NPDES permits, as do 45 other states.³ (*Building Industry Ass'n of San Diego*
8 *County v. State Water Resources Control Bd.* (2004) 124 Cal.App.4th 866, 875.)

9 If a state elects to issue NPDES permits, it must ensure that the permits comply with many
10 federal requirements, including effluent limitations, national standards of performance, and toxic
11 and pretreatment effluent standards. (33 U.S.C. §§ 1342(b)(1), 1311, 1312, 1316, 1317.) States
12 must also provide for the continued inspection and monitoring of pollutants into our nation's
13 waters. (33 U.S.C. § 1342(b)(2)(B).) NPDES permit requirements, including those that
14 implement state water quality standards, may be enforced as a matter of federal law by either the
15 U.S. EPA or private citizens. (33 U.S.C. §§ 1319(a)(1), (3), 1365(a)(1).)

16 To ensure that state-authorized programs comply with the U.S. EPA's mandates and federal
17 law, the U.S. EPA maintains oversight and supervision of these programs. The state must provide
18 the U.S. EPA with proposed permits and notice of any action related to a discharger's permit
19 application. (33 U.S.C. § 1342(d)(1).) The U.S. EPA may object to a permit, finding that it
20 violates the Clean Water Act's guidelines and requirements. (*Id.*, § 1342(d)(2).) Should the U.S.
21 EPA determine that a state program does not comply with federal NPDES program guidelines, it
22 may withdraw approval for the state program. (*Id.*, § 1342(c)(3).)

23 When an NPDES permit is renewed, reissued or modified, it generally must be at least as
24 stringent as the prior permit. (33 U.S.C. § 1342(o); 40 C.F.R. 122.44(l).) This is consistent with
25 Congress' intent that state management programs evolve based on changing conditions from
26

27 ³ The list of states with the U.S. EPA approval to issue NPDES permits can be found at
28 http://cfpub1.epa.gov/npdes/statestats.cfm?program_id=12

1 program development and implementation and corresponding improvements in water quality.
2 (55 Fed.Reg. 47990, 48052.)

3 **B. State Required Compliance with Federal Law With Respect to Municipal**
4 **Separate Storm Sewer Systems.**

5 While many types of discharges require NPDES permits under the Clean Water Act, this
6 case is very specific, pertaining to the discharge of pollutants through municipal separate storm
7 sewer systems (referred to as either “MS4” or storm sewer systems).

8 Controlling municipal urban storm water runoff is important, because it is one of the most
9 significant sources of water pollution in the nation. (*Environmental Defense Center, Inc. v. EPA*
10 (9th Cir. 2003) 344 F.3d 832, 840.) It carries “suspended metals, sediments, algae-promoting
11 nutrients (nitrogen and phosphorus), floatable trash, used motor oil, raw sewage, pesticides, and
12 other toxic contaminants into streams, rivers, lakes, and estuaries across the United States.” (*Id.*
13 at pp. 840-841.) “Among the sources of stormwater contamination are urban development,
14 industrial facilities, construction sites, and illicit discharges and connections to storm sewer
15 systems.” (*Id.* at p. 841.)

16 The Clean Water Act requires dischargers such as the County of San Diego “to reduce the
17 discharge of pollutants to the *maximum extent practicable*, including management practices,
18 control techniques and system, design and engineering methods, and such other provisions as the
19 Administrator or the State determines appropriate for the control of such pollutants.”
20 (33 U.S.C. § 1342(p)(3)(B), emphasis added.) Congress established this flexible maximum extent
21 practicable standard so that administrative bodies would have “the tools to meet the fundamental
22 goals of the Clean Water Act in the context of storm water pollution.” (*Building Industry Ass'n of*
23 *San Diego County, supra*, 124 Cal.App.4th at p. 884.)

24 The maximum extent practicable standard is one of the Clean Water Act’s technology-
25 forcing requirements designed to foster innovation. (See, e.g., *Chemical Mfrs. Ass'n v. Natural*
26 *Resources Defense Council, Inc.* (1985) 470 U.S. 116, 155-56 [discussing technology-forcing
27 aspects of the Clean Water Act].) Unlike many other technology-based requirements, though, the
28 U.S. EPA articulated that permit writers would identify the municipal storm water requirements

1 on a permit-by-permit basis. (*Natural Resources Defense Council, Inc. v. U.S. E.P.A.* (9th Cir.
2 1992) 966 F.2d 1292, 1308, n. 17; see also, 55 Fed.Reg. 47990, 48043 (Nov. 16, 1990).) To
3 implement this maximum extent practicable standard, municipal storm water permits usually
4 require “best management practices” that reflect the technology-based effluent limitation. (See
5 *Natural Resources Defense Council, supra*, 568 F.2d at p. 1380; Administrative Record (“AR”)
6 340.) Federal law defines these practices to mean, in part, “schedules of activities, prohibitions of
7 practices, maintenance procedures, and other management practices to prevent or reduce the
8 pollution of ‘waters of the United States.’” (40 C.F.R. § 122.2.)

9 In order to legally discharge pollutants from point sources under an NPDES permit, entities,
10 both public and private, must file an application with the permitting authority.
11 (33 U.S.C. § 1342(B)(3).) The U.S. EPA regulations specify the information that applicants for
12 MS4 permits must include in their applications. (40 C.F.R. § 122.26(a)(4).) This application is
13 extensive and represents the applicant’s view of the required NPDES permit. (*Id.*,
14 § 122.26(d)(2)(iv).) Relevant to our case, federal regulations require that an application, and
15 ultimately the permit itself, address management programs to reduce the discharge of pollutants
16 using the maximum extent practicable standard (*id.*, § 122.26(d)(2)(iv)) and includes procedures
17 to control pollution resulting from development and significant redevelopment, construction, and
18 commercial, residential, industrial, and municipal land use activities; (*id.*, § 122.26 (d)(2)(iv)(A)-
19 (D)); to address the operation and maintenance of public streets, roads, highways, and parking
20 facilities as well as MS4s (*id.*, § 122.26(d)(2)(iv)(A)(1)(3)(6)); to educate the public on the danger
21 of urban runoff to our nation’s waters and changing behavior to reduce pollutant releases to the
22 environment (*id.*, § 122.26(d)(2)(iv)(A)(5)(6),(D)(4)); and to address water quality and the
23 discharge of pollutants through MS4s on system-wide, jurisdictional-wide, and watershed, or
24 other basis, and through interagency agreements (*id.*, § 122.26(a)(3)(ii), (d)(2)(i)(D), (iv)).

25 The U.S. EPA has also issued guidance documents that discuss the types of best
26 management practices that must be included in municipal storm water permits in order to reduce
27 the discharge of pollutants in storm water to the “maximum extent practicable.” At the time that
28 the subject test claims were considered by the Commission, the U.S. EPA had issued an MS4

1 Program Evaluation Guide, which addresses inspections of businesses and litter related issues.
2 (AR 1853-2058.) Most recently, in April of 2010, the U.S. EPA issued an updated guide, MS4
3 Permit Improvement Guide, that also provides guidance to federal and state permit writers on the
4 requirements for permitting discharges from municipal storm sewer systems under an NPDES
5 permit.⁴

6 **II. CALIFORNIA'S ROLE IN IMPLEMENTING FEDERAL REQUIREMENTS FOR STORM** 7 **WATER PERMITS**

8 “[O]n May 14, 1973, California became the first state to be approved by the EPA to
9 administer the NPDES permit program.” (*County Sanitation Dist. No. 2 of Los Angeles County v.*
10 *County of Kern* (2005) 127 Cal.App.4th 1544, 1565-1566.)⁵ The Legislature amended the Porter-
11 Cologne Water Quality Control Act (Porter-Cologne Act) by adding Chapter 5.5 to implement
12 federal law in order to avoid direct regulation by the federal government. (Wat. Code, § 13370;
13 see generally Wat. Code, §§ 13370-13389.) Specifically, the legislative findings and declarations
14 state, in relevant part:

15 It is in the interest of the people of the state, in order to avoid direct regulation by the
16 federal government of persons already subject to regulation under state law pursuant
17 to this division, to enact this chapter in order to authorize the state *to implement the*
18 *provisions of the Federal Water Pollution Control Act* [Clean Water Act] and acts
19 amendatory thereof or supplementary thereto, and federal regulations and guidelines
issued pursuant thereto, provided, that the state board shall request federal funding
under the Federal Water Pollution Control Act for the purpose of carrying out its
responsibilities under this program.

20 (Wat. Code, § 13370, subd. (c), emphasis added.)

21 Additionally, the Porter-Cologne Act mandates that California's NPDES permit program be
22 consistent with federal law. (Wat. Code, § 13372.) Section 2235.2 of title 23 of the California
23 Code of Regulations implements the Act stating that “[w]aste discharge requirements for
24 discharge from point sources to navigable waters shall be issued and administered in accordance
25 with the currently *applicable federal regulations for the National Pollutant Discharge*

26 ⁴ The Guide is available at www.epa.gov/npdes/pubs/ms4permit_improvement_guide.pdf.

27 ⁵ Nine regional boards administer the program, overseen by the State Water Resources
28 Control Board. (Wat. Code, §§ 13140, 13200, et. seq.)

1 *Elimination System (NPDES) program.*” (Emphasis added.) While the federal Clean Water Act
2 allows a state to establish more stringent requirements (33 U.S.C. § 1370) and nothing in the
3 Porter-Cologne Act precludes the state from establishing more stringent requirements (*City of*
4 *Burbank v. State Water Resources Control Bd.* (2005) 35 Cal.4th 613, 627), this case does not
5 involve more stringent requirements than federal law. As explained in detail above, there are
6 numerous federal requirements that the state must comply with in issuing NPDES permits or risk
7 the U.S. EPA taking over California’s NPDES program. Among the federal requirements is the
8 mandate that NPDES permits for municipal storm sewers “require controls to reduce the
9 discharge of pollutants to the maximum extent practicable.” (33 U.S.C. § 1342(p)(3)(B)(iii).)

10 **III. NPDES PERMIT NUMBER CAS0108758, REGIONAL BOARD ORDER NUMBER R9-**
11 **2007-0001; 2001 NPDES PERMIT, REGIONAL BOARD ORDER NO. 2001-01; AND**
12 **COUNTY OF SAN DIEGO’S APPLICATION TO REISSUE PERMIT.**

13 Starting in 1990 and pursuant to the Clean Water Act amendments of 1987, the permitting
14 agency, the Regional Board, issued municipal storm water permits to the County of San Diego.
15 Prior to the Clean Water Act amendments of 1987 and the U.S. EPA’s issuance of regulations to
16 implement those amendments, the Regional Board did not regulate the County’s storm water
17 discharges under either state or federal law. The order that is the subject of this litigation is the
18 third, Regional Order No. R9-2007-0001, NPDES permit number CAS0108758, and was adopted
19 on January 24, 2007. (AR 251-369, 1191.)

20 Before the permit was reissued, and pursuant to federal law, the County of San Diego
21 submitted a permit application to the Regional Board on August 25, 2005. (33 U.S.C.
22 §1342(b)(2)(B)(3); 40 C.F.R. §§ 122.26(a)(4) [requiring initial application], 122.21(d)(2) [duty to
23 reapply 180 days before prior NPDES permit expired].) This application is entitled “Report of
24 Waste Discharge (ROWD)” and represents the County of San Diego’s proposals for best
25 management practices (sometimes referred to as “BMPs”) that would ultimately be required in
26 the NPDES permit. (AR 2101-2367.) The permit that was adopted was based on the ROWD and
27 the previous 2001 NPDES permit⁶ issued to the County of San Diego, with some revisions and

28 ⁶ The current NPDES permit, order number R9-2007-001, and the previous NPDES
permit, order number 2001-01, have the same NPDES permit number CAS0108758. Thus,
(continued...)

1 additions necessary to meet minimum federal requirements.⁷ (AR 2101-2102.) Because the
2 permit, the 2001 NPDES permit, and the ROWD are voluminous, stating the conditions
3 necessitating the permit and applying the mandatory federal requirements, we have summarized
4 the relevant provisions below. For readability and a better understanding of the overlap between
5 the specific permit requirements, the 2001 NPDES permit, and the County of San Diego's
6 ROWD, we have grouped the related discussion in all three documents by permit activity or
7 claimed state mandate.

8 **A. General Provisions**

9 Before summarizing the portions of the permit that pertain to the claimed state mandates,
10 there are some general provisions relating to the Clean Water Act's maximum extent practicable
11 standard that are worth noting. First and foremost, the permit as a whole is designed to comply
12 with the maximum extent practicable standard. The permit states:

13 *This Order specifies requirements necessary for the Copermittees to reduce the*
14 *discharge of pollutants in urban runoff to the maximum extent practicable (MEP).*
15 *However, since MEP is a dynamic performance standard which evolves over time as*
16 *urban runoff management knowledge increases, the Copermittees' urban runoff*
17 *management programs must continually be assessed and modified to incorporate*
18 *improved programs, control measures, best management practices (BMPs), etc. in*
order to achieve the evolving MEP standard. Absent evidence to the contrary, this
continual assessment, revision, and improvement of urban runoff management
program implementation is expected to ultimately achieve compliance with water
quality standards.

19 (AR 255, emphasis added.)

20 Second, the maximum extent practicable standard was established by the Clean Water Act
21 and requires dischargers like the County of San Diego to comply with this standard when

22 (...continued)

23 petitioners will refer to order number 2001-01 as the "2001 NPDES permit." The 2001 NPDES
24 permit was administratively appealed to the State Water Board and then challenged in the
25 Superior Court and Court of Appeal. The Fourth Appellate District found in favor of the
26 Regional Board, upholding all requirements in the permit. The Supreme Court denied review of
27 the matter. (See *Building Industry Ass'n of San Diego County, supra*, 124 Cal.App.4th 866.)

28 ⁷The County of San Diego challenged order number R9-2007-001 by seeking
administrative review by the State Water Board. The Board dismissed the challenge and no
lawsuit was subsequently filed challenging the permit. The permit remains in effect and is no
longer subject to legal challenge. (AR 1192; see Wat. Code, § 13330, subd. (d) [renumbered
from subdivision (c), but otherwise unchanged from the applicable law at the time the Regional
Board adopted the permit (Stats. 2010, ch. 288, § 31)].)

1 discharging through MS4s. The permit explains the purpose of the maximum extent practicable
2 standard and its mandatory use by the County of San Diego as follows:

3 **Maximum Extent Practicable (MEP)** — The technology-based standard established
4 by Congress in CWA section 402(p)(3)(B)(iii) that operators of MS4s must meet.
5 Technology-based standards establish the level of pollutant reductions that
6 dischargers must achieve, typically by treatment or by a combination of source
7 control and treatment control BMPs. MEP generally emphasizes pollution prevention
8 and source control BMPs primarily (as the first line of defense) in combination with
9 treatment methods serving as a backup (additional line of defense). MEP considers
10 economics and is generally, but not necessarily, less stringent than BAT.⁸ A
11 definition for MEP is not provided either in the statute or in the regulations. Instead
12 the definition of MEP is dynamic and will be defined by the following process over
13 time: municipalities propose their definition of MEP by way of their urban runoff
14 management programs. Their collective and individual activities conducted pursuant
15 to the urban runoff management programs becomes their proposal for MEP as it
16 applies both to their overall effort, as well as to specific activities (e.g., MEP for
17 street sweeping, or MEP for MS4 maintenance). In the absence of a proposal
18 acceptable to the Regional Board, the Regional Board defines MEP.

12 (AR 343-345.)

13 This explanation of the maximum extent practicable standard was also part of the 2001
14 NPDES permit. (AR 1641.)

15 Third, the permit defines best management practices consistent with federal law as follows:

16 **Best Management Practices (BMPs)** — Defined in 40 CFR 122.2 as schedules of
17 activities, prohibitions of practices, maintenance procedures, and other management
18 practices to prevent or reduce the pollution of waters of the United States. BMPs also
19 include treatment requirements, operating procedures and practices to control plant
20 site runoff, spillage or leaks, sludge or waste disposal, or drainage from raw material
21 storage. In the case of municipal storm water permits, BMPs are typically used in
22 place of numeric effluent limits.

20 (AR 340.)

21 As with the maximum extent practicable standard above, the explanation of best
22 management practices was also in the 2001 NPDES permit. (AR 1641.)

23 **B. Jurisdictional Urban Runoff Management Program and Related Reporting**

24 Part D of the permit, Jurisdictional Urban Runoff Management Program, generally relates
25 to each Copermittee's duty to manage and report urban runoff in its specific jurisdiction to
26

27 ⁸ "BAT" is an acronym for best available technology that was established by Congress in
28 title 33, section 1311 and made application to industrial dischargers of storm water through
section 1342(p)(3)(a).

1 “reduce the discharge of pollutants from the MS4 to the MEP, and prevent urban runoff
2 discharges from the MS4 from causing or contributing to a violation of water quality standards.”
3 (AR 265.) While Part D imposes numerous duties on the County of San Diego to comply with
4 the maximum extent practicable standard under the Clean Water Act, the County of San Diego
5 has limited its state mandate claims to certain permit requirements: hydromodification
6 management plan, low-impact development in local management plans, street sweeping and
7 conveyance system cleaning and related reporting, and educational surveys and tests. (AR 3863.)

8 **1. Hydromodification Management Plan (Decrease Erosion From MS4**
9 **Discharges) for New Development and Redevelopment**

10 Part D.1, of the permit, Development Planning Component, requires each Copermittee to
11 implement a program in its jurisdiction that “(1) reduces Development Project discharges of
12 pollutants from the MS4 to the MEP, (2) prevents Development Project discharges from the MS4
13 from causing or contributing to a violation of water quality standards, and (3) manages increases
14 in runoff discharge rates and durations from Development Projects that are likely to cause
15 increased erosion of stream, beds and banks, silt pollutant generation, or other impacts to
16 beneficial users and stream habitat due to increased erosive force.”⁹ (AR 266)

17 Section g of Part D.1, Hydromodification, Limitations on Increases of Runoff Discharge
18 Rates and Durations, requires the Copermittees to collaborate with each other to “develop and
19 implement a Hydromodification Management Plan (HMP) to manage increases in runoff
20 discharge rates and durations from all Priority Development Projects, where such increased rates
21 and durations are likely to cause increased erosion of channel beds and banks, sediment pollutant
22 generation, or other impacts to beneficial uses and stream habitat due to increased erosive
23 force.”¹⁰ (AR 275-276.) Hydromodification is defined in the permit to mean, in part, the “change

24 ⁹ “Development Projects” is defined in the permit as “[n]ew development or
25 redevelopment with land disturbing activities; structural development, including construction or
26 installation of a building or structure, the creation of impervious surfaces, public agency projects,
27 and land subdivision.” (AR 341.)

26 ¹⁰ “Priority Development Projects” is defined in the permit as “[n]ew development and
27 redevelopment project categories listed in Section D.1.d(2) of Order No. R9-2007-001” and
28 include certain housing subdivisions; commercial, industry, and hillside development; automotive
repair shops; restaurants; environmentally sensitive areas; parking lots; streets, roads, highways,
(continued...)

1 in the natural watershed hydrologic processes and runoff characteristics (i.e., interception,
2 infiltration, overland flow and ground water flow) caused by urbanization or other land use
3 changes that result in increased stream flows and sediment transport.” (AR 343.) The specific
4 permit requirements are found on pages 275 through 278 of the administrative record.

5 Part D.1.g, 4 requires the Copermittees to “collaborate on HMP development as required in
6 section J.2.a of this Order.” (AR 277, 314-315.)

7 The 2001 NPDES permit does not speak explicitly in terms of hydromodification, but it
8 does address downstream erosion. Section F.1.b(2)(j) of the 2001 NPDES permit requires the
9 Copermittees to “develop criteria to ensure that discharges from new development and significant
10 redevelopment maintain or reduce pre-development downstream erosion and protect stream
11 habitat. At a minimum, criteria shall be developed to control peak storm water discharge rates
12 and velocities in order to maintain or reduce pre-development downstream erosion and protect
13 stream habitat. Storm water discharge volumes and durations should also be considered.”

14 (AR 1589.)

15 The ROWD also addresses the issue and prevention of hydromodification or downstream
16 erosion extensively. Recommendation D.2.4 states that the re-issued permit “should require
17 Copermittees to improve procedures for analyzing downstream conditions of concern,” including
18 developing minimum criteria for conducting an analysis of downstream conditions, analyzing
19 downstream conditions of concern, and developing methodologies for addressing such areas of
20 concern. (AR 2197-2199.)

21 In conducting an analysis of downstream conditions of concern, the ROWD recommends
22 that priority projects “prepare a project-specific drainage study demonstrating that discharge flow
23 rates, and velocities from a 2-year and 10-year, 24-hour rainfall event will not significantly
24 impact downstream erosion or stream habitat.” (AR 2197.) The ROWD also recommends that
25 project applicants demonstrate to the Copermittee that the project will not cause significant
26 adverse impacts on downstream erosion or stream habitat or that the impact has been mitigated.

27 (...continued)

28 and freeways, and retail gasoline outlets. (AR 346, 268-269.)

1 (AR 2197.) If stormwater detention is used to mitigate significant impacts to downstream erosion
2 or stream habitat, drainage studies must be conducted to determine the regional effect of a
3 detention basin. (AR 2197-2199.)

4 And the ROWD recommends that the “Copermittees should identify multiple methods to
5 address identified downstream conditions of concern. Examples of such methods include:
6 detention; implementation of site design, source control (such as LID controls) or treatment
7 control BMPS that would mitigate the potential impacts; project compliance with a
8 jurisdictionally approved master drainage plan (or similar plan) or similar method acceptable to
9 the Copermittee.” (AR 2199.)

10 **2. Low Impact Development Plans and Standard Urban Storm Water**
11 **Mitigation Plans Updates for New Development and Redevelopment**

12 Similar to part D.1 of the permit, section D.1.d generally requires that each Copermittee
13 implement an updated Standard Urban Storm Water Mitigation Plan (SUSMP) that “(1) reduces
14 Priority Development Project discharges of pollutants from the MS4 to the MEP (2) prevents
15 Priority Development Project runoff discharges from the MS4 from causing or contributing to a
16 violation of water quality standards, and (3) manages increases in runoff discharge rates and
17 durations from Priority Development Projects that are likely to cause increased erosion of stream,
18 beds and banks, silt pollutant generation, or other impacts to beneficial users and stream habitat
19 due to increased erosive force.” (AR 267.)

20 Relevant to this litigation, part of this land use planning for new development and
21 redevelopment includes Low Impact Development (LID) best management practices such as
22 treatment control best management practices for volume or flow of runoff.¹¹ (AR 269-275.) The
23 County of San Diego only challenges two of the permit requirements related to Low Impact
24 Development, paragraphs 7 and 8.

25
26 ¹¹ Low Impact Development is defined in the permit as “[a] storm water management and
27 land development strategy that emphasizes conservation and the use of on-site natural features
28 integrated with engineered, small-scale hydrologic controls to more closely reflect pre
development hydrologic functions.” (AR 343.)

1 Paragraph 7 of section d, Update of SUSMP BMP Requirements, requires that
2 Copermittees “collectively review and update the BMP requirements that are listed in their local
3 SUSMPs.” (AR 271.) This update includes updating or including LID best management
4 practices “in the local SUSMPs addressing pollutant removal efficiencies of treatment control
5 BMPs” and “review, and revision where necessary, of treatment control BMP pollutant removal
6 efficiencies.” (AR 271.)

7 And paragraph 8 of section d, Update to Incorporate LID and other BMP Requirements,
8 requires the Copermittees to “develop and submit an updated Model SUSMP that defines
9 minimum LID and other BMP requirements to be incorporated into the Copermittees’ local
10 SUSMPs for application to Priority Development Projects.” (AR 271.) “The purpose of the
11 updated Model SUSMP shall be to establish minimum standards to maximize the use of LID
12 practices and principles in local Copermittee programs as a means of reducing stormwater
13 runoff.” (AR 271.) The specific permit requirements for the Model SUSMP are found on pages
14 271-272 of the administrative record.

15 The 2001 NPDES permit does not use the term “Low Impact Development,” but it
16 nonetheless addresses the issue of reducing urban runoff in land use planning for new
17 development and redevelopment. Section F.1, Land Use Planning for New Development and
18 Redevelopment Component, states that “[e]ach Copermittee shall minimize the short and long-
19 term impacts on receiving water quality from new development and redevelopment” to “reduce
20 pollutants and runoff flows from new development and redevelopment to the maximum extent
21 practicable.” (AR 1582.) Indeed, section F.1.a requires “Copermittees to assess and modify their
22 general plans, or equivalent documents, to ensure that land use decisions are adequately guided
23 by water quality and watershed protection principles.” (AR 1582, 2185.)

24 And section F.1.b requires Copermittees to modify their development project approval
25 procedures “to ensure that pollutants and runoff from the development will be reduced to the
26 maximum extent practicable and will not cause or contribute to an exceedance of receiving water
27 quality objectives.” (AR 1583.)
28

1 Section F.1.b(2) addresses the Copermittees' Standard Urban Water Mitigation Plans with
2 respect to new development and redevelopment. Subsection (2) requires Copermittees to develop
3 and enforce a "model Standard Urban Storm Water Mitigation Plan to reduce pollutants and
4 runoff flows from new development and significant redevelopment projects." (AR 1583.) And
5 subsection (2)(b) requires the County of San Diego to develop "a list of recommended source
6 control and structural BMPs for new development and significant redevelopment," which
7 includes minimizing storm water runoff. (AR 1585.)

8 While the ROWD did not propose the specific best management practices for Low Impact
9 Development ultimately included in the permit, it did address the effectiveness of water quality
10 based land use policies such as Low Impact Development techniques during the planning process.
11 Specifically, the ROWD states: "If sound land use policies are adopted during the planning phase,
12 the need for source control or treatment BMPs for a site (which are always less effective) may be
13 avoided. With this in mind, water quality-based land use policies and decisions can be thought of
14 as the 'ultimate pollution prevention BMP.'" (AR 2185.)

15 The ROWD also recognizes that Low Impact Development BMPs "might be given
16 increased emphasis in future program requirements." (AR 2193.) It acknowledges that "[s]ite
17 design and source control solutions are often more effective than many types of structural
18 treatment for protecting water quality since design considerations eliminate the necessity of
19 addressing sources of pollution, rather than attempting to remove a percentage of the pollution
20 after it has entered stormwater runoff." (AR 2193.) In addition, the ROWD states that "LID
21 controls may often be more effective than conventional structure treatment controls because
22 maintenance is more assured (due to decreased maintenance requirement and because the
23 maintenance is incorporated into the normal operations of a site, such as landscape
24 maintenance)." (AR 2193.)

25 **3. Street Sweeping and Maintaining and Cleaning Municipal Storm**
26 **Sewer Systems**

27 Part D.3.a of the permit, Existing Development Component, Municipal, requires each
28 Copermittee to "implement a municipal program that reduces municipal discharges of pollutants

1 from the MS4 to the MEP, and prevents municipal discharges from the MS4 from causing or
2 contributing to a violation of water quality standards.” (AR 282.) Two sections of this part are
3 relevant here: section 3, Operation and Maintenance of Municipal Storm Sewer System and
4 Structural Controls, and section 5, Sweeping of Municipal Areas. (AR 283-284.)

5 Section 3 requires each Copermittee to “implement a schedule of inspection and
6 maintenance activities to verify proper operation of all municipal structural treatment controls
7 designed to reduce pollutant to or from its MS4 and related drainage structures.” (AR 283.) The
8 frequency of maintenance depends on the volume of trash and debris found in the MS4 and
9 includes proper disposal of the trash and debris and reporting of maintenance and cleaning
10 activities. (AR 283-284.)

11 Section 5 requires each Copermittee to “implement a program to sweep improved
12 (possessing a curb and gutter) municipal roads, streets, highways, and parking facilities” at
13 certain times depending on the volume of litter and debris generated. (AR 284.) The reporting
14 requirements for street sweeping are laid out in Part J.3.a.c. (x-xv) and includes identifying the
15 distance of the street sweeping as well as the related frequency of sweeping, the total distance of
16 curb-miles swept, the number of municipal parking lots swept and the frequency of sweeping, and
17 the total amount of materials collected from the street and parking lot sweeping. (AR 318.)

18 The 2001 NPDES permit also addresses the maintenance and cleaning of the MS4. Section
19 F.3.a.(5) requires each Copermittee to “implement a schedule of maintenance activities at all
20 structural controls designed to reduce pollutant discharges to or from its MS4 and related
21 drainage structures.” (AR 1595.) The maintenance activities included, at a minimum, inspection
22 and removal of waste, additional cleaning, record keeping, proper disposal of waste, and
23 measures to eliminate waste discharge during MS4 maintenance and cleaning activities.
24 (AR 1596.)

25 And while street sweeping is not expressly provided for in the 2001 NPDES permit,
26 sections F.3.a.(3) and (4) require Copermittees to develop best management practices to reduce
27 the discharge of pollutants from roads, streets, highways, and parking facilities. (AR 1594-1595.)
28 Copermittees implemented this provision by providing street sweeping of their roads, streets,

1 highways, and parking facilities. (AR 3878.) In other words, Copermittees determined that street
2 sweeping was a best management practice to reduce the discharge of pollutants to MS4 to the
3 maximum extent practicable, in compliance with the federal mandate.

4 Consistent with the 2001 NPDES permit, the ROWD recommends the continuation of street
5 sweeping as a best management practice to reduce the discharge of pollutants from roads, streets,
6 highways, and parking facilities. (AR 2229.) It also recommends the continued maintenance and
7 cleaning of MS4s consistent with the terms of the 2001 NPDES permit. (AR 2229.)

8 **4. Public Education of Impact of Urban Runoff**

9 Part D.5 of the permit, Educational Component, requires each Copermittee to “implement
10 an education program using the media as appropriate to (1) measurably increase the knowledge of
11 the target communities regarding MS4s, impacts of urban runoff on receiving waters, and
12 potential BMP solutions for the target audience; and (2) to measurably change the behavior of
13 target communities and thereby reduce pollutant discharges to MS4s and the environment.”

14 (AR 293-294.) Target communities include municipal departments and personnel, construction
15 site owners and developers, industrial owners and operators, residential community, general
16 public, and school children. (AR 294.) The educational topics generally include federal, state
17 and local laws related to water quality, best management practices, urban runoff concepts, and
18 public awareness and reporting. (AR 294.) There are also specific requirements as to each target
19 group. All of the general and specific requirements can be found on pages 295 through 296 of
20 the administrative record.

21 Similar to the permit requirements in question in this litigation, section F.4 of the 2001
22 NPDES permit requires that “[e]ach Copermittee shall implement an Education Component using
23 all media as appropriate to (1) measurably increase the knowledge of the target communities
24 regarding MS4s, impacts of urban runoff on receiving waters, and potential BMP solutions for
25 target audience; and (2) to measurably change the behavior of target communities and thereby
26 reduce pollutant releases to MS4s and the environment.” (AR 1602.) Target communities
27 include municipal departments and personnel, construction site owners and developers, industrial
28 owners and operators, residential community, general public, school children, and quasi-

1 governmental agencies. (AR 1602.) The educational topics generally include federal, state and
2 local laws related to water quality, best management practices, urban runoff concepts, and public
3 awareness and reporting. (AR 1602-1603.)

4 The ROWD, section D.7, addresses public education consistent with the 2001 NPDES
5 permit and makes additional recommendations such as focusing education on the highest
6 priorities, ensuring the most efficient use of educational resources, measuring progress and
7 effectiveness, regional education program plan, and requirements to educate quasi-governmental
8 entities. (AR 2261-2273.)

9 **C. Watershed Urban Runoff Management Program**

10 Part E of the permit, Watershed Urban Management Program, requires each Copermittee to
11 collaborate with other Copermittees within its Watershed Management Area(s) “to develop and
12 implement an updated Watershed Urban Runoff Management Program for each watershed.”
13 (AR 296-297.) Each program must “reduce the discharge of pollutants from the MS4 to the MEP,
14 and prevent urban runoff discharges from the MS4 from causing or contributing to a violation of
15 water quality standards.” (AR 297.) The specific programs should include elements such as lead
16 watershed permittee identification, watershed map, watershed water quality assessment,
17 watershed-based land use planning, watershed strategy, watershed activities, Copermittee
18 collaboration, public participation, and review and updates of the programs. (AR 297-300.)¹²

19 Section J of the 2001 NPDES permit requires Copermittees to “collaborate with other
20 Copermittees discharging urban runoff into the same watershed to develop and implement a
21 Watershed Urban Runoff Management Program.” (AR 1611.) This program includes, at a
22 minimum, map of the watershed, assessment of the water quality of receiving waters,
23 identification of water quality problems related to MS4 discharges, implementation schedule,
24 identification of responsible Copermittees, a mechanism for public participation, a mechanism to
25

26
27 ¹² A “watershed” is “[t]hat geographical area which drains to a specified point on a water
28 course, usually a confluence of streams or rivers (also known as drainage area, catchment, or river
basin.” (AR 349.)

1 facilitate collaboration among with neighboring governments, and a long-term strategy assessing
2 the effectiveness of the program. (AR 1611-1612.)

3 Section D.7 of the ROWD addresses the Watershed Urban Runoff Management Program
4 consistent with the 2001 NPDES permit and makes additional recommendations related to
5 watershed permitting approach, identification or watershed water quality assessment data,
6 identification of priority watershed pollutants and issues, identification of known pollutant
7 sources, watershed coordination, and identification of watershed activities and education
8 activities. (AR 2161-2181.)

9 **D. Regional Urban Runoff Management Program**

10 Part F of the permit, Regional Urban Runoff Management Program, requires each
11 Copermittee to collaborate with the other Copermittees “to develop, implement, and update as
12 necessary a Regional Urban Management Program.” (AR 300.) The program must “reduce the
13 discharge of pollutants from the MS4 to the MEP, and prevent urban runoff discharges from the
14 MS4 from causing or contributing to a violation of water quality standards.” (AR 300.) At a
15 minimum, the program must address the development and implementation of a Regional
16 Residential Education Program, which includes pollutant specific education, development of a
17 standard fiscal analysis for the educational program, and the assessment of the effectiveness of
18 jurisdictional, watershed, and regional programs. (AR 300.) Copermittees can go beyond the
19 residential component and develop and implement urban runoff management activities on a
20 regional level if they so choose, but regional plans are not required under the permit. (AR 300.)

21 Section F.3 of the 2001 NPDES permit requires Copermittees to implement a residential
22 component “to reduce pollutants in runoff from all residential land use areas and activities.”
23 (AR 1601.) At a minimum, this includes pollution prevention, threat to water quality
24 prioritization, implementation of best management practices, and enforcement of residential
25 activities. (AR 1601.)

26 Section D.6 of the ROWD addresses a residential component to prevent and reduce
27 pollutants in runoff from residential land use areas and activities consistent with the 2001 NPDES
28 permit. (AR 2249.) In their ROWD, Copermittees state that because of the unique characteristics

1 of residential sources of pollution, they have generally focused their residential component on
2 public education and response to complaints. (AR 2249) As such, the ROWD identifies
3 residential sources of pollution as their highest regional priority and public education as the most
4 important component of their program. (AR 2255.) It states that efforts “must also be expended
5 on better defining the links between residential activities and water quality and if necessary,
6 development of alternative strategies to better address these sources of residential pollution.
7 (AR 2255.)

8 **E. Program Effectiveness Assessment**

9 Part I of the permit, Program Effectiveness Assessment, requires each Copermittee to
10 annually assess the effectiveness of the above jurisdictional, watershed, and regional urban runoff
11 programs. (AR 302-306.) There are specific assessment requirements for each program, which
12 can be found in the administrative record at pages 302 through 306.

13 Additionally, subsection I.5 requires that “[e]ach Copermittee shall collaborate with the
14 other Copermittees to develop a Long Term Effectiveness Assessment (LTEA), which shall build
15 on the results of the Copermittees’ August 2005 Baseline LTEA.” (AR 307.) The LTEA should
16 be designed to address the following objectives related to the jurisdictional, watershed, and
17 regional effectiveness assessments above: (1) assessment of watershed health and water quality
18 issues and concerns; (2) evaluation of source management priorities; (3) evaluation of the need to
19 address additional pollutant sources; (4) assessment of progress in implementing programs; (5)
20 assessment of the effectiveness of activities addressing priority constituents and sources; (6)
21 assessment of change in discharge and receiving water quality; (7) assessment of the relationship
22 of program implementation to changes in pollutant loading, discharge quality, and receiving
23 water quality; and (8) identification of changes necessary to improve programs. (AR 305-306.)
24 The LTEA should also address outcome levels, the effectiveness of the Receiving Waters
25 Monitoring Program, and the jurisdictional, watershed, and regional programs. (AR 307.)

26 Sections F.7 and J of the 2001 NPDES permit require Copermittees to assess the
27 effectiveness of their jurisdictional and watershed runoff programs. (AR 1606, 1611.) It also
28

1 requires Copermittees to develop long-term strategies for assessing the effectiveness of these
2 programs. (AR 1606, 1611.)

3 As with the 2001 NPDES permit, the ROWD recommends the continued effectiveness
4 assessment of jurisdictional, watershed, and regional urban runoff programs. (AR 2321.) It also
5 recommends long-term effectiveness assessment of these programs. (AR 2323-2325.)

6 **F. Collaboration Among Copermittees**

7 Part L of the permit, All Copermittee Collaboration, provides that the Copermittees should
8 collaborate to “address common issues, promote consistency among Jurisdictional Urban Runoff
9 Management Programs and Watershed Urban Runoff Management Programs, and to plan and
10 coordinate activities required under this Order.” (AR 325.) This includes developing a
11 Memorandum of Understanding that defines Copermittees’ responsibilities, establishes a
12 management structure and standards for conducting meetings, provides guidelines for work
13 groups, lays out the process for non-compliance issues, and includes all other collaborative
14 agreements for compliance with the permit. (AR 326.)

15 Part N of the 2001 NPDES permit requires that “[e]ach Copermittee shall collaborate with
16 all other Copermittees regulated under this Order to address common issues, promote consistency
17 among Jurisdictional Urban Runoff Management Programs (Jurisdictional URMPs) and
18 Watershed Urban Runoff Management Programs (Watershed URMPs), and to plan and
19 coordinate activities required under this Order.” (AR 1614.) This includes a Memorandum of
20 Understanding addressing designation of joint responsibilities, decision making, watershed
21 activities, information management of data and reports, all other collaborative arrangements
22 between the Copermittees, and the development of a standardized form for all required reports.
23 (AR 1614.)

24 Consistent with the 2001 NPDES permit, the ROWD recommends the continued
25 collaboration among the Copermittees and lists the following general areas of recommended
26 Copermittee collaboration: water quality assessment; source identification and prioritization;
27 establishment of program requirements (BMPs and discharge prohibitions); strategies for
28 program implementation, and reporting and assessment. (AR 2157.) It also recommends the

1 continued use of a Memorandum of Understanding established in the 2001 NPDES permit, and
2 the formal establishment of subcommittees and working bodies to address budget and fiscal
3 issues, data collection, management, and analysis, regional watershed activities, source
4 management programs, and monitoring programs. (AR 2157.)

5 **IV. PRINCIPLES OF SUBVENTION AS IT PERTAINS TO FEDERAL LAW**

6 “In 1972, and again in 1973, the Legislature enacted comprehensive schemes for local
7 property tax relief. Though frequently amended thereafter, these statutes retained three principal
8 features. First, they placed a limit on the local property tax rate. Second, they required the state
9 to reimburse local governments for their costs resulting from state laws ‘which mandate ... new
10 program[s] or ... increased level[s] of service’ at the local level. Finally, they allowed local
11 governments to exceed their property taxation limits to fund certain other nondiscretionary
12 expenses, including ‘costs mandated by the federal government.’” (*City of Sacramento v. State of*
13 *California* (1990) 50 Cal.3d 51, 57 -58.)

14 In November 1979, the voters adopted Proposition 4, adding article XIII B to the state
15 Constitution. “Article XIII B - the so-called ‘Gann limit’ - restricts the amounts state and local
16 governments may appropriate and spend each year from the ‘proceeds of taxes’ [citations
17 omitted].” (*City of Sacramento, supra*, 50 Cal.3d at pp. 57 -58.) Section 6 of article XIII B calls
18 for state subvention by requiring the state to pay for any new governmental programs, or for
19 higher levels of service under existing programs, that it imposes upon local governmental
20 agencies. (*County of Los Angeles v. State of California* (1987) 43 Cal.3d 46, 56.) “[M]andatory
21 state subventions are excluded from the local agency’s spending limit, but included within the
22 state’s.” (*City of Sacramento, supra*, 50 Cal.3d at p. 59.) This does not mean that the state is
23 required to reimburse local agencies for all incidental costs that may result from the enactment of
24 a state law. Rather, the subvention requirement is restricted to governmental services which the
25 local agency is required to provide by state law as opposed to federal law. (*Id.* at p. 76.)

26 Article XIII B, section 6 of the California Constitution and Government Code section
27 17514, provide for the reimbursement of local government’s costs of carrying out new programs
28

1 or higher levels of service that are mandated by the State. Article XIII B, section 6 provides, in
2 part, as follows:

3 Whenever the Legislature or any state agency mandates a new program or higher
4 level of service on any local government, the state shall provide a subvention of funds
5 to reimburse such local government for the costs of such program or increased level
of service. . . .

6 (Cal. Const., art. XIII B, § 6.)

7 Government Code section 17514 defines “[c]osts mandated by the state” to mean:

8 . . . any increased costs which a local agency or school district is required to incur
9 after July 1, 1980, as a result of any statute enacted on or after January 1, 1975, or any
10 executive order implementing any statute enacted on or after January 1, 1975, which
mandates a new program or higher level of service of an existing program within the
meaning of Section 6 of Article XIII B of the California Constitution.

11 But constitutional subvention is not required when the costs implement federal law. Article
12 XIII B, section 9, subdivision (b), excludes from the state or local spending limit any

13 “appropriations required for purposes of complying with mandates of the . . . federal government.”

14 As the California Supreme Court stated recently, “article XIII B, section 6, and the implementing
15 statutes . . . provide for reimbursement only of state-mandated costs, not federally mandated costs.”

16 (*San Diego Unified School Dist. v. Commission on State Mandates* (2004) 33 Cal. 4th 859, 880.)

17 This constitutional prohibition against providing state reimbursement for activities imposed
18 by federal law is specifically spelled out in Government Code section 17556, subdivision (c).

19 (*Redevelopment Agency of the City of San Marcos v. Commission on State Mandates* (1996)

20 55 Cal.App.4th 976, 984 [article XIII B, section 6 creates “several classes of state-mandated

21 programs for which no state reimbursement of local agencies is required”].) Subdivision (c)

22 states that the Commission shall not find “costs mandated by the state” if “[t]he statute or

23 executive order imposes a requirement that is mandated by a federal law or regulation and results

24 in costs mandated by the federal government, unless the statute or executive order mandates costs

25 that exceed the mandate in that federal law or regulation.” Section 17513 defines “costs

26 mandated by the federal government” to mean, in relevant part “. . . any increased costs incurred

27 by a local agency or school district after January 1, 1973, in order to comply with the

28 requirements of a federal statute or regulation.”

1 Finally, if a local agency has sufficient fee authority to pay for mandated programs, then
2 such programs are not subject to reimbursement under article XIII B, section 6. (Gov. Code,
3 § 17556, subd. (d).) Specifically, subdivision (d) states that the Commission shall not find “costs
4 mandated by the state” if:

5 The local agency or school district has the authority to levy service charges, fees, or
6 assessments sufficient to pay for the mandated program or increased level of service.
7 This subdivision applies regardless of whether the authority to levy charges, fees, or
8 assessments was enacted or adopted prior to or after the date on which the statute or
9 executive order was enacted or issued.

8 **V. OVERVIEW OF THE COMMISSION ON STATE MANDATES**

9 The Commission is a quasi-judicial agency vested with the sole and exclusive authority to
10 adjudicate all disputes over the existence and reimbursement of state-mandated programs within
11 the meaning of article XIII B, section 6 of the California Constitution. (*Kinlaw v. State of*
12 *California* (1991) 54 Cal.3d 326; Gov. Code, §§ 17551, 17552.)

13 Local agencies and school districts file claims with the Commission for reimbursement of
14 state-mandated costs under article XIII B, section 6. (Gov. Code, §§ 17551, 17560.) The first
15 claim filed by a local agency or school district alleging that a statute or an executive order
16 imposes a reimbursable state-mandated program is a “test claim.” (Gov. Code, § 17521.) A
17 public hearing is held on the test claim, at which time evidence may be presented by the claimant,
18 the Department of Finance, any other state department or agency affected by the claim, and any
19 interested organization or individual. (Gov. Code, § 17555.)

20 The Commission must first determine if a state-mandated program exists. (Gov. Code,
21 § 17551.) If so, the Commission adopts parameters and guidelines for the reimbursement of
22 claims submitted by eligible claimants. (Gov. Code, § 17557, subd. (a).) The Commission
23 submits the adopted parameters and guidelines to the Controller, and the Controller issues
24 claiming instructions for each mandate that requires reimbursement. (Gov. Code, § 17558, subds.
25 (a),(c).) Judicial review of a final Commission decision is available through a petition for writ of
26 mandate filed pursuant to Code of Civil Procedure section 1094.5. (Gov. Code, § 17559.)

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1 **VI. SUMMARY OF THE COMMISSION'S DECISION**

2 The test claim filed by the County of San Diego alleges "various activities related to
3 reducing stormwater pollution in compliance with a permit issued by" the Regional Board.
4 (AR 3823.) The Commission found that the permit requirements related to street sweeping and
5 reporting, MS4 cleaning and reporting, education, watershed activities, Regional Urban Runoff
6 Management Program, program and long-term effectiveness assessment, and permittee
7 collaboration were reimbursable state mandates. (AR 3824.) The Commission also found that
8 the permit requirements associated with the Hydromodification Management Plan and Low
9 Impact Development, while state mandates, were not reimbursable because the County of San
10 Diego has sufficient fee authority to pay for the permit requirements. (AR 3824.)

11 The Commission's statement of decision is lengthy and can be found in the administrative
12 record at pages 3823-3960. This petition does not address the entire statement of decision but
13 only three parts:

- 14 (1) The Commission's findings that the claimed permit requirements are not federal
15 mandates. (AR 3859-3920; Petition for Writ of Administrative Mandate ("Pet.") ¶ 26,
16 subsections (a)-(i).)
- 17 (2) The Commission's findings that certain permit requirements impose new programs or
18 higher levels of services on the County of San Diego. (AR 3859-3920; ¶ 27,
19 subsections (a)-(i).)
- 20 (3) The Commission's findings that the County of San Diego lacks sufficient fee authority
21 to pay for certain permit requirements. (AR 3922-3943; ¶ 31, subsections (a)-(d).)

22 With respect to the federal mandate findings, the Commission's analysis is long but is
23 based primarily on the theory that the specific permit activities are not federal mandates because
24 they go beyond the requirements of the Clean Water Act. (AR 3866-3867, 3873, 3877, 3880-
25 3881, 3885, 3896, 3902, 3904, 3908, 3913-3914, 3916.) The findings that the permit activities
26 are new programs or higher level of services are based on the assertion that the activities were not
27 contained in the 2001 NPDES permit issued to the County of San Diego and that the activities
28 were only imposed on local agencies and not the general public. (AR 3872, 3876, 3879, 3883-

1 3884, 3891-3892, 3899-3900, 3902, 3904-3905, 3911-3912, 3915, 3918-3921.) The findings that
2 the County of San Diego's fee authority is insufficient to pay for certain permit requirements are
3 based on the voter-approval provisions related to fees in article XIII D, section 6, subdivision (e)
4 of the California Constitution. (AR 3927-3929.)

5 STANDARD OF REVIEW

6 Pursuant to Government Code section 17559, subdivision (b), a proceeding may be brought
7 under Code of Civil Procedure section 1094.5 "to set aside a decision of the commission on the
8 ground that the commission's decision is not supported by substantial evidence." Code of Civil
9 Procedure section 1094.5, in turn, provides that the court's inquiry "shall extend to the questions
10 whether the respondent has proceeded without, or in excess of jurisdiction; whether there was a
11 fair trial; and whether there was any prejudicial abuse of discretion. Abuse of discretion is
12 established if the respondent has not proceeded in the manner required by law, the order or
13 decision is not supported by the findings, or the findings are not supported by the evidence."

14 The review of the Commission's factual determinations proceeds under the substantial
15 evidence test. (*City of Richmond v. Commission on State Mandates* (1998) 64 Cal.App.4th 1190,
16 1194-95.) Where the substantial evidence test applies, the court is under a duty to see that
17 findings are legally relevant as well as supported by the evidence in order to support agency
18 action. (*City and County of San Francisco v. Board of Permit Appeals* (1989) 207 Cal.App.3d
19 1099, 1110.) Substantial evidence review also includes a duty to determine whether the agency
20 committed errors of law in applying the facts before it. (*Id.* at p. 1111.) Whether a statute creates
21 a reimbursable state mandate is a pure question of law. (*Connell v. Superior Court* (1997)
22 59 Cal.App.4th 382, 395.) Questions of law are subject to de novo review. (*City of Richmond,*
23 *supra*, 64 Cal.App.4th at p. 1105.)

24 LEGAL ANALYSIS

25 I. THE PERMIT IS A FEDERAL MANDATE AND NOT SUBJECT TO REIMBURSEMENT 26 UNDER ARTICLE XIII B, SECTION 6, OF THE CALIFORNIA CONSTITUTION.

27 The California Constitution is clear that state subvention is not required when the federal
28 government imposes new costs on local governments. (Cal. Const., art. XIII B, § 9, subd. (b);

1 Gov. Code, §§ 17556, subd. (c), 17514.) There is a two-step process to determine whether a
2 program is mandated by federal law and thus not subject to state subvention. First, did the state
3 have “no real choice in deciding whether to comply with the federal act.” (*Hayes v. Commission*
4 *on State Mandates* (1992) 11 Cal.App.4th 1564, 1594.) Second, did the program exceed the
5 requirements of federal law. (Gov. Code, § 17556; *San Diego Unified School Dist, supra*, 33
6 Cal.4th at p. 880.) As explained below, the answer to both of these questions shows that the
7 permit is a federal mandate and not subject to state subvention.

8 **II. CALIFORNIA’S ADMINISTRATION OF THE NPDES PERMIT PROGRAM DOES NOT**
9 **TRANSFORM CLEAN WATER ACT REQUIREMENTS INTO A STATE MANDATE.**

10 “The test for determining whether there is a federal mandate is whether compliance with
11 federal standards ‘is a matter of true choice,’ that is, whether participation in the federal program
12 ‘is truly voluntary.’” (*City of Sacramento, supra*, 50 Cal.3d at p. 76.) A federal mandate exists,
13 even if “the state has adopted an implementing statute or regulation pursuant to the federal
14 mandate so long as the state had no ‘true choice’ in the manner of implementation of the federal
15 mandate.” (*Hayes, supra*, 11 Cal.App.4th at p. 1593.) But “[t]his reasoning would not hold true
16 where the manner of implementation of the federal program was left to the true discretion of the
17 state.” (*Ibid.*)

18 In *City of Sacramento, supra*, the state extended mandatory coverage under the state’s
19 unemployment insurance law to local governments and others. (50 Cal.3d 51.) The lower court
20 and the Court of Appeal found that the program was not so coercive as to constitute a federal
21 mandate, even though failure to implement the law would result in the potential loss of federal
22 funds and tax credits. (*Id.* at pp. 59 -60.) The California Supreme Court reversed, explaining that
23 “the drafters and adopters of article XIII B must have understood [that] certain regulatory
24 standards imposed by the federal government under ‘cooperative federalism’ schemes are
25 coercive on the states and localities in every practical sense.” (*Id.* at pp. 73-74.) Thus, federal
26 mandates are not limited to programs or activities resulting from “strict legal compulsion by the
27 federal government.” (*Id.* at p. 73.) Moreover, there is “no final test for ‘mandatory’ versus
28 ‘optional’ compliance with federal law.” (*Id.* at p. 76.) Rather, the standard is flexible and

1 depends on a number of factors such as “the nature and purpose of the federal program; whether
2 its design suggests an intent to coerce; when state and/or local participation began; the penalties,
3 if any, assessed for withdrawal or refusal to participate or comply; and any other legal and
4 practical consequences of nonparticipation, noncompliance, or withdrawal.” (*Ibid.*)

5 The NPDES program is not optional; it is coercive on the states and localities in every legal
6 and practical sense. The Commission did not find otherwise. Instead, the Commission found that
7 because California “voluntarily adopts the [NPDES] permitting program” and because federal law
8 does not “expressly require states to have *this* program, the state has freely chosen to effect the
9 stormwater permit program.” (AR 3861, emphasis added.) What the Commission overlooked is
10 that given the complex, coordinated, and interactive nature of the rules governing federal, state,
11 and local agencies under the Clean Water Act, California had little practical choice.

12 Initially, the Commission’s analysis distorts the holdings of *Hayes* and *City of Sacramento*.
13 Regardless of whether the state or the U.S. EPA issues an NPDES permit, the permit was not
14 voluntary. (*City of Sacramento, supra*, 50 Cal.3d at p. 76.) The federal Clean Water Act requires
15 the County of San Diego to have an NPDES permit for municipal storm water discharges and
16 compels those permittees to reduce the discharge of pollutants to the maximum extent practicable.
17 Neither the state nor the County of San Diego has a true choice in the permit or the requirement to
18 reduce pollutants to the maximum extent practicable. (*City of Sacramento, supra*, 50 Cal.3d at
19 p. 76.) Further, unlike the situation discussed in *Hayes*, the state is not “shift[ing] state costs to
20 local agencies,” but instead the federal municipal storm water program requires the County of San
21 Diego to obtain an NPDES permit that reduces pollutants to the maximum extent practicable.
22 (Cf. *Hayes, supra*, 11 Cal.App.4th at p. 1593.)¹³

23 ¹³ By way of contrast, the federal definition of municipal separate storm sewer system also
24 requires state agencies, such as CalTrans to obtain a municipal storm water permit for their
25 separate storm sewer discharges. (40 C.F.R. § 122.26(b)(8).) The State Water Resources Control
26 Board issues a municipal storm water permit to CalTrans for all of its storm sewers subject to the
27 Clean Water Act. (State Board Order No. 99-06-DWQ available at:
28 http://www.waterboards.ca.gov/water_issues/programs/stormwater/docs/caltrans/caltranspmt.pdf.)
Hayes and *City of Sacramento* would yield the result sought by the County of San Diego if the
state freely choose to either (1) require the County to administer the NPDES program (something
the state does), or (2) require the County to implement the CalTrans permit (something the state
does).

1 California administers the NPDES program to follow federal requirements as closely as
2 possible. For example, the federally required permit process starts with the discharger submitting
3 a proposed application to the permitting authority, which must comply with all federal
4 requirements, including effluent limitations, national standards of performance, and toxic and
5 pretreatment effluent standards. (33 U.S.C. §§ 1342 (b)(1), 1311, 1312, 1316, 1317.) And
6 federal law requires that the U.S. EPA be provided with the proposed permit and notice of any
7 action related to the same, such as a hearing on the proposed requirements.
8 (33 U.S.C. § 1342(d)(1).) The U.S. EPA may object to a permit and find that it is inconsistent
9 with federal law. (*Id.*, § 1342(d)(2).) This type of finding could result in the U.S. EPA
10 determining that a state program does not comply with federal NPDES program guidelines and
11 could be a reason for the U.S. EPA to withdraw approval for the state program. (*Id.*,
12 § 1342(c)(3).)

13 These federal laws would mandate NPDES permitting even if California took no action at
14 all and played no role in the process. Furthermore, if California did not administer its own water
15 quality program through the Porter-Cologne Act, California's dischargers, both private and
16 governmental, would still have to comply with federal law, but would also be subject to direct
17 regulation from the federal government. This result would be directly contrary to the intent of the
18 California Legislature. As explained by the Legislature: "It is in the interest of the people of the
19 state, in order to avoid direct regulation by the federal government of persons already subject to
20 regulation under state law pursuant to this division, to enact this chapter in order to authorize the
21 state to implement the provisions of the Federal Water Pollution Control Act [Clean Water Act]." (*Wat. Code*, § 13370, subd. (c), emphasis added.) The lack of any practical alternative explains
22 why 46 of the 50 states, including California, have implemented the Clean Water Act by creating
23 a program to issue NPDES permits.

24
25 The California Supreme Court has rejected the Commission's narrow analysis that a state
26 mandate exists when a state enacts its own laws consistent with federal law. In *City of*
27 *Sacramento, supra*, the Supreme Court found that the joint federal-state operation of a system of
28 unemployment compensation was not a state-mandate, but a federal mandate. (50 Cal.3d at

1 pp. 75-76.) The Court rejected the idea that “California could have chosen to terminate its own
2 unemployment insurance system, thus leaving the state’s employers faced only with the federal
3 tax.” (*Id.* at p. 74.) The Court stated that “we cannot imagine the drafters and adopters of article
4 XIII B intended to force the state to such draconian ends.” (*Ibid.*) The Court explained that “the
5 state simply did what was necessary to avoid certain and severe federal penalties upon its resident
6 businesses. The alternatives were so far beyond the realm of practical reality that they left the
7 state ‘without discretion’ to depart from federal standards.” (*Ibid.*)

8 Thus, under *City of Sacramento*, a federal mandate exists where the federal government
9 leaves the state with little or no practical choice to participate in a federal program or otherwise
10 comply with federal law. The Commission’s analysis eviscerates that rule. Under the
11 Commission’s analysis, a state mandate would exist anytime federal law gives the state any
12 flexibility at all as to how it will comply with federal law.

13 Since the state has no true choice but to comply with the Clean Water Act in issuing
14 NPDES permits, such permits are based on federal requirements and are not state mandates. The
15 Commission’s decision holding to the contrary was erroneous and should be reversed.

16 **III. THE NPDES PERMIT DOES NOT GO BEYOND THE REQUIREMENTS OF THE CLEAN**
17 **WATER ACT.**

18 The second part of the analysis in determining if a program is a state mandate versus a
19 federal mandate focuses on whether the program goes beyond the requirements of federal law.
20 Government Code section 17556, subsection (c), states that the Commission shall not find “costs
21 mandated by the state” if “[t]he statute or executive order imposes a requirement that is mandated
22 by a federal law or regulation and results in costs mandated by the federal government, unless the
23 statute or executive order mandates costs that exceed the mandate in that federal law or
24 regulation.” (See *San Diego Unified School Dist.*, *supra*, 33 Cal.4th at p. 880.) As explained
25 below, the permit in question does not exceed the applicable federal standard.

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1 **A. The Clean Water Act Required the Regional Board to Specify the Permit's**
2 **Pollutant Reduction Requirements.**

3 The Clean Water Act prohibits the County of San Diego from discharging pollutants from
4 its MS4 unless it does so through an NPDES permit. And under the Clean Water Act, the permit
5 must include “controls to reduce the discharge of pollutants to the *maximum extent practicable*,
6 including management practices, control techniques and system, design and engineering methods,
7 and such other provisions as the Administrator or the State determines appropriate for the control
8 of such pollutants.” (33 U.S.C. § 1342(p)(3)(B), emphasis added.)

9 “The permitting agency has discretion to decide what practices, techniques, methods and
10 other provisions are appropriate and necessary to control the discharge of pollutants [citation
11 omitted].” (*City of Rancho Cucamonga v. Regional Water Quality Control Bd.-Santa Ana Region*
12 (2006) 135 Cal.App.4th 1377, 1389.) However, the “Regional Board must comply with federal
13 law requiring detailed conditions for NPDES permits.” (*Ibid.*) Further, it is because of the
14 unique nature of the federal municipal storm water program that the U.S. EPA expects individual
15 permit writers to develop the practices that reflect the maximum extent practicable standard on a
16 permit-by-permit basis. (*Natural Resources Defense Council, Inc. v. U.S. E.P.A., supra*, 966 F.2d
17 at p. 1308, n. 17; see also, 55 Fed.Reg. 47990, 48043.)

18 The NPDES permit that was issued to the County of San Diego is the best measure of what
19 is required to comply with the federally mandated maximum extent practicable standard.
20 Consistent with federal law, the permit makes clear that it is intended to reduce the discharge of
21 pollutants in storm water in the County of San Diego to the maximum extent practicable under
22 the Clean Water Act. (AR 3527.) The permit states:

23 *This Order specifies requirements necessary for the Copermittees to reduce the*
24 *discharge of pollutants in urban runoff to the maximum extent practicable (MEP).*
25 However, since MEP is a dynamic performance standard which evolves over time as
26 urban runoff management knowledge increases, the Copermittees’ urban runoff
27 management programs’ must continually be assessed and modified to incorporate
28 improved programs, control measures, best management practices (BMPs), etc. in
 order to achieve the evolving MEP standard. Absent evidence to the contrary, this
 continual assessment, revision, and improvement or urban runoff management

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1 program implementation is expected to ultimately achieve compliance with water
2 quality standards.

3 (AR 255, emphasis added.)

4 The permit requirements, taken as a whole rather than individually, “are necessary to
5 improve Copermittees’ efforts to reduce the discharge of pollutants to the MEP and achieve water
6 quality standards.” (AR 255-256.) “Pollutants can be effectively reduced in urban runoff by the
7 application of a combination of pollution prevention, source control, and treatment control
8 BMPs.” (AR 256.) The permit provides the County of San Diego the flexibility to substitute
9 another best management practice, if proposed modification complies with all discharge
10 prohibitions.” (AR 325.)

11 The foregoing findings that the permit reflects the maximum extent practicable standard are
12 not idle ruminations from an administrative agency. Instead, those findings and requirements are
13 the expert conclusions of the principal state agency charged with implementing the NPDES
14 program in San Diego County. (Wat. Code, §§ 13001, 13200.) Courts have recognized that the
15 regional boards are entitled to considerable deference on the statutes they implement, especially
16 in the area of storm water regulation. (*County of Los Angeles v. California State Water*
17 *Resources Control Bd.* (2006) 143 Cal.App.4th 985, 997 [“we defer to the regional board’s
18 expertise in construing language which is not clearly defined in statutes involving pollutant
19 discharge into storm drain sewer systems”]; *City of Rancho Cucamonga, supra*, 135 Cal.App.4th
20 at p. 1384; *Building Industry Ass’n of San Diego County, supra*, 124 Cal.App.4th at p. 879.) The
21 Commission cannot disregard the Regional Board’s conclusions and find that the permit exceeds
22 the federal requirements. It is the Board’s prerogative, not the Commission’s, to ensure that the
23 permit meets federal requirements.

24 Further, the Regional Board’s findings are entitled to preclusive effect. The Regional
25 Board found the permit “specifies requirements necessary for the Copermittees to reduce the
26 discharge of pollutants in urban runoff to the maximum extent practicable (MEP).” (AR 255.)
27 This expert conclusion was not challenged in court. Further, that conclusion may no longer be
28 challenged in superior court. (Wat. Code, § 13330, subd. (d).) An administrative agency’s

1 adjudicative decision, such as the permit, has preclusive effect for purposes of subsequent
2 administrative and judicial proceedings. (*People v. Sims* (1982) 32 Cal.3d 468, 489-90; *cf.*
3 *Pacific Lumber Co. v. State Water Resources Control Bd.* (2006) 37 Cal.4th 921, 944 [noting the
4 absence of a judicial character to certain Forest Practices Act proceedings].) Here, the Regional
5 Board's decision was judicial in nature, subject to procedural protections of the Administrative
6 Procedures Act, and had a clear process for administrative and judicial resolution. (See, *City of*
7 *Rancho Cucamonga v. Regional Water Quality Control Bd.-Santa Ana Region, supra*,
8 135 Cal.App.4th at p. 1385; Wat. Code, § 13330.) The Regional Board found that the permit was
9 necessary to satisfy the federal maximum extent practicable standard. That is the pivotal issue in
10 whether the permit exceeds the requirements of federal law. The County of San Diego cannot
11 collaterally attack the Regional Board's findings either before the Commission or in superior
12 court.

13 **B. The Commission Incorrectly Construed the Nature of the Federal Mandate.**

14 Congress established the maximum extent practicable standard because municipal storm
15 water runoff, unlike other pollutant discharges, could not be adequately addressed by blanket
16 effluent limitations. (*Building Industry Ass'n of San Diego County, supra*, 124 Cal.App.4th at
17 p. 884.) Numeric effluent limitations may be infeasible and administratively burdensome when
18 addressing municipal urban storm water runoff due to the physical difference between runoff and
19 other pollutants. (*Ibid.*) Congress determined that the maximum extent practicable standard is a
20 "necessary and workable enforcement mechanism to achieving the goals of the Clean Water Act."
21 (*Ibid.*) Specifically, the permit explains that the maximum extent practicable standard is a
22 flexible standard and changes as water quality issues evolve. It states:

23 The [maximum extent practicable standard is a] technology-based standard
24 established by Congress in CWA section 402(p)(3)(B)(iii) that operators of MS4s
25 must meet. Technology-based standards establish the level of pollutant reductions
26 that dischargers must achieve, typically by treatment or by a combination of source
27 control and treatment control BMPs. MEP generally emphasizes pollution prevention
28 and source control BMPs primarily (as the first line of defense) in combination with
treatment methods serving as a backup (additional line of defense). MEP considers
economics and is generally, but not necessarily, less stringent than BAT. *A definition
for MEP is not provided either in the statute or in the regulations. Instead the
definition if MEP is dynamic and will be defined by the following process over time:
municipalities propose their definition of MEP by way of their urban runoff*

1 *management programs. Their collective and individual activities conducted pursuant*
2 *to the urban runoff management programs becomes their proposal for MEP as it*
3 *applies both to their overall effort, as well as to specific activities (e.g., MEP for*
 street sweeping, or MEP for MS4 maintenance). In the absence of a proposal
 acceptable to the Regional Board, the Regional Board defines MEP.

4 (AR 343-345, emphasis added.)

5 Rather than addressing whether the NPDES permit exceeded the maximum extent
6 practicable standard imposed by federal law, the Commission's analysis ignored that standard
7 altogether. Instead, the Commission looked only to whether federal law required the *particular*
8 *measures* specified in the County of San Diego's permit. However, the Clean Water Act's
9 NPDES permit system requires the permitting agency, typically state agencies, to develop
10 standards based on the unique conditions of particular waterways. Thus, the maximum extent
11 practicable standard is necessarily flexible, rather than a one-size-fits-all standard, and
12 contemplates that specific measures will be implemented to meet the unique requirements of any
13 particular waterway and water quality. (*Building Industry Ass'n of San Diego County, supra*,
14 124 Cal.App.4th at p. 874.) The Commission's analysis erroneously assumes that whenever the
15 federal government imposes a standard that allows an individualized approach to be taken to meet
16 federal requirements, there can be no federal mandate, and any act taken by the state to
17 implement the federal standard is a state mandate. The law is otherwise.

18 While the Commission may be considered an expert in mandates law, it is certainly not an
19 expert in applying and interpreting the Clean Water Act. The court should defer to the Regional
20 Board's determination that the permit is consistent with the maximum extent practicable standard.
21 (*Divers' Environmental Conservation Organization v. State Water Resources Control Bd.* (2006)
22 145 Cal.App.4th 246, 252 [courts must defer to an administrative agency's interpretation of a
23 statute or regulation involving its area of expertise]; see also *ante*, pp. 22-23 [discussing prior
24 litigation].)

25 Finally, the Commission's reliance on *Long Beach School Dist. v. State of California* (1990)
26 225 Cal.App.3d 155 is misplaced. In *Long Beach*, the court considered whether a state executive
27 order involving school desegregation constituted a state mandate. The court held that the
28 executive order required school districts to provide a higher level of service than required by the

1 federal constitution or case law because state requirements went beyond federal requirements. (*Id.*
2 at p. 173.) This reasoning was based on the absence of any federal law that specified how the
3 schools should implement their desegregation plans. (*Ibid.*) Here, there is federal law on point --
4 the maximum extent practicable standard -- that directly applies to the County of San Diego.
5 Moreover, the U.S. EPA has provided substantial guidance on how that federal law is to be
6 implemented, and it expressly required NPDES permitting agencies to specify in NPDES permits
7 the controls necessary to implement the federal standard. (40 C.F.R. § 122.26; *Natural Resources*
8 *Defense Council, Inc. v. U.S. E.P.A.*, *supra*, 966 F.2d at p. 1308, n. 17; see also,
9 55 Fed.Reg. 47990, 48043.) Thus, unlike the situation in *Long Beach School District*, *supra*, here
10 the federal government has specified a roadmap for compliance with the federal laws and
11 regulations at issue.

12 The same is true in *San Diego Unified School Dist.*, *supra*, where the Supreme Court found
13 that the state law exceeded federal due process requirements, because the state law required
14 expulsion recommendations or expulsion for firearm possession beyond federal law.
15 (33 Cal.4th at p. 880.)

16 Based on the foregoing, it is clear that the maximum extent practicable standard is imposed
17 on the County of San Diego under a federal mandate -- the Clean Water Act -- and the permit
18 issued pursuant to this federal mandate is thus not reimbursable under article XIII B, section 6.
19 The Commission's decision to the contrary in this regard should be reversed as a matter of law.

20 **IV. THE CLAIMED ACTIVITIES DO NOT EXCEED THE MAXIMUM EXTENT PRACTICABLE**
21 **STANDARD.**¹⁴

22 **A. Land Use Planning for Redevelopment and Significant Redevelopment to**
23 **Prevent the Discharge of Pollutants into Waterways.**

24 **1. Hydromodification Management Plan**

25 The permit imposes requirements for the control of hydromodification or the erosion of
26 downstream channels caused by changes in runoff resulting from development and urbanization.
27 (AR 275-278.) The Hydromodification Management Plan is necessary to meet the maximum
28

¹⁴ Because many of the legal arguments addressing the Clean Water Act's maximum extent practicable standard are the same for all of the permit requirements, the arguments referenced in the first few requirements apply equally to all of the remaining permit requirements and have not been repeated.

1 extent practicable standard imposed on the County of San Diego under the Clean Water Act, and
2 the Commission has not cited any contradicting evidence. Instead, the Commission found that
3 because the Plan or concept of hydromodification is not expressly set forth in detail in federal law,
4 it must somehow exceed the maximum extent practicable standard. (AR 3866.) However, as
5 explained above, the maximum extent practicable standard requires flexible, best management
6 practices, to eliminate or reduce the discharge of pollutants in storm water or runoff through MS4.
7 (33 U.S.C. § 1342(p)(3)(B); 40 C.F.R. § 122.26 (d)(2)(iv).) The Clean Water Act need not, nor
8 could it in all practicality, set forth a specific plan for addressing the impact of downstream
9 erosion from runoff from development and urbanization for each specific waterway in order to
10 require its implementation under the maximum extent practicable standard.

11 Runoff from newly developed areas can produce erosive flows in channels under rainfall
12 conditions that previously did not exist. (AR 432.) As the total area of impervious surfaces
13 increases from development, infiltration of rainfall decreases, causing more water to runoff the
14 surface at a higher rate. (AR 432.) Among other things, this increase in runoff can adversely
15 affect water quality, leading to the discharges of pollutants in the nearby waterways. The
16 Regional Board reached this conclusion in its quasi-judicial permitting proceeding, specifically
17 finding that the permit requirements, taken as a whole, reflect the maximum extent practicable
18 standard. (AR 259-261.) Designing, implementing, and monitoring a Hydromodification
19 Management Plan will help prevent runoff from new development and urbanization and will
20 decrease pollutants from escaping into the water to the maximum extent practicable. (*Building*
21 *Industry Ass'n of San Diego County, supra*, 124 Cal.App.4th at p. 889 [“practicable does not
22 necessarily mean the most that can possibly be done”].) And, as discussed above, it is not the
23 Commission’s place to determine what activities meet the maximum extent practicable standard.
24 That expertise lies with the Regional Board. (*County of Los Angeles v. California State Water*
25 *Resources Control Bd., supra*, 143 Cal.App.4th at p. 997; *Divers’ Environmental Conservation*
26 *Organization, supra*, 145 Cal.App.4th at p. 252.)

27 Federal law also requires a comprehensive master plan to address storm water runoff from
28 new development and significant redevelopment as follows:

1 [The plan should include a] description of planning procedures including a
2 comprehensive master plan to develop, implement and enforce controls to reduce the
3 discharge of pollutants from municipal separate storm sewers which receive
4 discharges from areas of new development and significant redevelopment. Such plan
5 shall address controls to reduce pollutants in discharges from municipal separate
6 storm sewers after construction is completed.

7 (40 C.F.R. § 122.26 (d)(2)(iv)(A)(2).) And regulating the flow of runoff is authorized by the
8 Clean Water Act. (*PUD No.1 v. Washington Department of Ecology* (1994) 511 U.S. 700, 714-
9 715.)

10 The restrictions on effluent flows are also supported by the U.S. EPA in the Preamble to the
11 Phase II federal storm water regulations, which states:

12 EPA intends to prevent water quality impacts resulting from increased discharges of
13 pollutants, which may result from increased volume of runoff. In many cases,
14 consideration of the increased flow rate, velocity and energy of storm water
15 discharges following development unavoidably must be taken into consideration in
16 order to reduce the discharge of pollutants, to meet water quality standards and to
17 prevent degradation of receiving streams. EPA recommends that municipalities
18 consider these factors when developing their post-construction storm water
19 management program.

20 (64 Fed. Reg. 68761.)

21 The County of San Diego has implicitly conceded that the Clean Water Act requires that
22 steps be taken to prevent downstream erosion from runoff from new development or significant
23 redevelopment. The County's own proposal or application recommends various activities to
24 address downstream erosion and the discharge of pollutants into the nation's water as follows:

- 25 ● Re-issued permit should require improved procedures for analyzing downstream
26 conditions of concern, including developing minimum criteria for conducting an
27 analysis of downstream conditions, analyzing downstream conditions of concern, and
28 developing methodologies for addressing such areas of concern. (AR 2197-2199.)
- Priority projects should "prepare a project-specific drainage study demonstrating that
discharge flow rates, and velocities from a 2-year and 10-year, 24-hour rainfall event
will not significantly impact downstream erosion or stream habitat." (AR 2197.)
- Project applicants should demonstrate that the project will not cause significant
adverse impacts on downstream erosion or stream habitat or that the impact has been
mitigated. (AR 2197.)

- 1 • Drainage studies must be conducted to determine the regional effect of a detention
2 basin, if storm water detention is used to mitigate significant impacts to downstream
erosion or stream habitat. (AR 2197-2199.)
- 3 • “[I]dentify multiple methods to address identified downstream conditions of concern.
4 Examples of such methods include: detention; implementation of site design, source
5 control (such as LID controls) or treatment control BMPS that would mitigate the
6 potential impacts; project compliance with a jurisdictionally approved master
drainage plan (or similar plan) or similar method acceptable to the Copermittee.”

7 (AR 2199.)

8 *County of Los Angeles v. Commission on State Mandates* (1995) 32 Cal.App.4th 805
9 presented similar circumstances regarding the effect of federal law on local government. In that
10 case, the county asserted that funds expended under Penal Code section 987.9, which required
11 counties to provide indigent criminal defendants with defense funds for ancillary investigation
12 services, constituted a reimbursable state mandate. The Court of Appeal disagreed, finding
13 instead that the Penal Code section merely implements the requirements of federal constitutional
14 law, and that “even in the absence of [Penal Code] section 987.9, . . . counties would be
15 responsible for providing ancillary services under the constitutional guarantees of due process . . .
16 and under the Sixth Amendment. . . .” (*Id.* at p. 815.)

17 Since the Hydromodification Management Plan in the permit is within the maximum extent
18 practicable standard under the Clean Water Act, as the County of San Diego itself concedes, as a
19 matter of law it is imposed by federal law, not state law, and is not a state mandate subject to
20 reimbursement under article XIII B, section 6, of the California Constitution.

21 **2. Low Impact Development and SUSMP Updates**

22 Similar to the Hydromodification Management Plan discussed above, this portion of the
23 permit pertains to reducing urban storm water runoff in land use planning for new development
24 and significant redevelopment through Low Impact Development strategies and updating storm
25 water mitigation plans accordingly. (AR 269-271.) The same management practices that support
26 the implementation of a Hydromodification Management Plan also support the development of
27 low impact strategies to avoid downstream erosion. Municipalities such as the County of San
28 Diego are required to implement controls to reduce pollutants in urban runoff from new

1 development and significant redevelopment, construction, and commercial, residential, industrial
2 and municipal land use activities. (40 C.F.R. § 122.26 (d)(2)(iv)(A)-(D).)

3 Requiring the development and updating of Low Impact Development best management
4 practices to reduce pollutants in storm water runoff from new development and significant
5 redevelopment is within the maximum extent practicable standard imposed on the County of San
6 Diego by the Clean Water Act. Such strategies confirm that best management practices are being
7 effectively implemented in compliance with federal law.

8 The County of San Diego must have understood the importance of Low Impact
9 Development strategies because the proposed permit recommended their development and
10 implementation. According to the proposed permit, Low Impact Development BMPs “might be
11 given increased emphasis in future program requirements.” (AR 2193.) “Site design and source
12 control solutions are often more effective than many types of structural treatment for protecting
13 water quality since design considerations eliminate the necessity of addressing sources of
14 pollution, rather than attempting to remove a percentage of the pollution after it has entered
15 stormwater runoff.” (AR 2193.) In addition, the County acknowledged in its application that
16 “LID controls may often be more effective than conventional structure treatment controls because
17 maintenance is more assured (due to decreased maintenance requirement and because the
18 maintenance is incorporated into the normal operations of a site, such as landscape
19 maintenance).” (AR 2193)

20 Rather than addressing whether the permit’s Low Impact Development best management
21 practices and strategies exceed the federal maximum extent practicable standard, the Commission
22 simply concluded that they did, because said requirements are not expressly stated in federal law.
23 (AR 3873.) For the reasons explained above, the Commission’s analysis is fundamentally flawed,
24 would result in bad policy, and must be reversed.

25 **B. Street Sweeping and Maintenance and Cleaning of Storm Sewer Systems**

26 The street sweeping portion of the permit requires the implementation and monitoring of
27 “a program to sweep improved (possessing a curb and gutter) municipal roads, streets, highways,
28 and parking facilities” at certain times depending on the volume of litter and debris generated.

1 (AR 284.) It generally includes identifying the distance of the street sweeping as well as the
2 related frequency of sweeping, the total distance of curb-miles swept, the number of municipal
3 parking lots swept and the frequency of sweeping, and the total amount of materials collected
4 from the street and parking lot sweeping. (AR 318.)

5 In addition to the maximum extent practicable standard under the Clean Water Act, best
6 management practices under federal law require dischargers to adopt plans “to reduce the
7 discharge of pollutants to the maximum extent practicable using management practices, control
8 techniques and system, design and engineering methods, and such other provisions which are
9 appropriate.” (40 C.F.R. § 122.26 (d)(2)(iv).) Other federal regulations also require dischargers
10 to address activities such as street sweeping in their permits to reduce the discharge of pollutants
11 through MS4s as follows:

- 12 ● “A description of practices *for operating and maintaining public streets, roads and*
13 *highways and procedures for reducing the impact on receiving waters of discharges*
14 *from municipal storm sewer systems, including pollutants discharged as a result of*
deicing activities.” (40 C.F.R. § 122.26 (d)(2)(iv)(A)(3), emphasis added.)
- 15 ● “A description of maintenance activities and a maintenance schedule for structural
16 controls to reduce pollutants (including floatables) in discharges from municipal
separate storm sewers.” (40 C.F.R. § 122.26 (d)(2)(iv)(A)(1).)
- 17 ● “A description of a program to reduce to the maximum extent practicable, pollutants
18 in discharges from municipal separate storm sewers associated with the application of
19 pesticides, herbicides and fertilizer which will include, as appropriate, controls such
20 as educational activities, permits, certifications and other measures for commercial
applicators and distributors, and controls for application in public right-of-ways and
at municipal facilities.” (40 C.F.R. § 122.26 (d)(2)(iv)(A)(6).)

21 If litter and debris are left to pile up on roads and parking facilities, the downstream effect
22 is the introduction of pollutants into the MS4 or drain systems, leading to the discharges of
23 pollutants in the nearby waterways. Without question, street sweeping will help prevent this
24 known source of pollutants from escaping into the water. To claim otherwise defies common
25 sense. Indeed, the County of San Diego agreed with the Regional Board and recommended street
26 sweeping as a best management practice to reduce the discharge of pollutants from roads, streets,
27 highways, and parking facilities. (AR 2229.) While the County did not identify baseline
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1 sweeping or reporting, and merely recommended street sweeping be addressed on an as-needed
2 basis determined by the discharger, the state is not required to adopt the less stringent practicable
3 standard, but rather the maximum extent practicable. (AR 2229.)

4 The Commission did not dispute the above, but relied on its fallback position that street
5 sweeping is not a federal mandate because it is not expressly specified in federal law. (AR 3879.)
6 As discussed above, to find a federal mandate does not require an explicit mention of every
7 mandated activity required to comply with federal law.

8 The above analysis applies equally to the requirement that each Copermittee “implement a
9 schedule of maintenance activities at all structural controls designed to reduce pollutant
10 discharges to or from its MS4 and related drainage structures.” (AR 1595.) The maintenance
11 activities included, at a minimum, inspection and removal of waste, additional cleaning, record
12 keeping, proper disposal of waste, and measures to eliminate waste discharge during MS4
13 maintenance and cleaning activities. (AR 1596.) Federal regulations and common sense dictate
14 that cleaning and maintaining MS4s on a regular basis reduces the discharge of pollutants to the
15 nearby waterways. If not, the County of San Diego would not have recommended the continued
16 maintenance and cleaning of MS4s. (AR 2229.) And instead of addressing the maximum extent
17 practicable standard or citing to any evidence contradicting that MS4 maintenance and cleaning
18 fall outside this standard, the Commission summarily concluded that this requirement was not a
19 federal mandate because it is not expressly provided for in the Clean Water Act or its
20 implementing regulations. (AR 3880-3881.)

21 For these reasons, street sweeping and maintaining and cleaning MS4s to reduce the
22 discharge of pollutants through MS4 to nearby waterways do not exceed the maximum extent
23 practicable standard under the Clean Water Act. These activities are mandated by federal law and
24 do not require state subvention.

25 **C. Public Education of Impact of Urban Runoff**

26 This part of the permit generally requires an education program to increase the “knowledge
27 of the target communities regarding MS4s, impacts of urban runoff on receiving waters, and
28 potential BMP solutions for the target audience” and to “change the behavior of target

1 communities and thereby reduce pollutant releases to MS4s and the environment.” (AR 293-294.)
2 Target communities basically encompass the public at large and various subsets. (AR 294.)
3 Public education on the impact of urban runoff is consistent with the Clean Water Act’s
4 maximum extent practicable standard. (33 U.S.C. § 1342(p)(3)(B); 40 C.F.R. § 122.26 (d)(2)(iv).)
5 Indeed, education and knowledge about urban runoff and its effect on water quality go a long way
6 in preventing pollutants from entering the MS4s and ultimately the nation’s waterways.

7 Federal regulations provide for management practices to educate the public on the impact
8 of urban runoff on water quality and generally include “educational activities, public information
9 activities, and other appropriate activities to facilitate the proper management and disposal of
10 used oil and toxic materials” (40 C.F.R. § 122.26 (d)(2)(iv)(A)(6)), “educational programs to
11 promote, publicize, and facilitate public reporting of the presence of illicit discharges or water
12 quality impacts associated with discharges from municipal separate storm sewers” (*id.*,
13 § 122.26 (d)(2)(iv)(A)(5)), and “educational and training measures for construction site
14 operators” (*id.*, § 122.26 (d)(2)(iv)(D)(4)).

15 The County of San Diego cannot reasonably dispute that the education component is within
16 the maximum extent practicable standard because their proposed permit also addressed public
17 education. Consistent with the permit that was issued, the County proposed the education of
18 target communities regarding the impact of MS4s on receiving waters and potential BMP
19 solutions, and changing the behavior of target communities to reduce pollutant releases to MS4s
20 and the environment. (AR 1602.) The proposal went on to make additional recommendations
21 such as focusing education on the highest priorities, ensuring the most efficient use of educational
22 resources, measuring progress and effectiveness, regional education program planning, and
23 requirements to educate quasi-governmental entities. (AR 2261-2273.)

24 The Commission did not even attempt to reconcile the education component in the permit
25 with the maximum extent practicable standard. It simply concluded that the education
26 requirements are not expressly stated in federal law and thus must be a state mandate. (AR 3885.)
27 Once again, this flawed analysis is too narrow and fails to understand the requirements of the
28 Clean Water Act or to defer to the Regional Board’s expertise in understanding the same.

1 **D. Watershed Urban Runoff Management Program and Regional Urban**
2 **Runoff Management Program**

3 The Watershed Urban Runoff Management Program part of the permit divides the
4 Copermittees into nine management areas by “major receiving bodies” and requires them “to
5 develop and implement an updated Watershed Urban Runoff Management Program for each
6 watershed.” (AR 296-297.) Specifically, each program must reduce the discharge of pollutants
7 from the MS4 to the maximum extent practicable standard under the Clean Water Act. (AR 297.)
8 The specific programs should include elements such as lead watershed permittee identification,
9 watershed map, watershed water quality assessment, watershed-based land use planning,
10 watershed strategy, watershed activities, Copermittee collaboration, public participation, and
11 review and updates of the programs. (AR 297-300.)

12 Permits can be issued either separately or on a system-wide, jurisdiction-wide, watershed or
13 other basis. (40 C.F.R. § 122.26 (a)(3)(ii).) Permits “may specify different conditions relating to
14 different discharges covered by the permit, including different management programs for
15 different drainage areas which contribute storm water to the system.” (40 C.F.R. § 122.26
16 (a)(3)(v).) “Proposed programs may impose controls on a systemwide basis, a watershed basis, a
17 jurisdiction basis, or on individual outfalls.” (40 C.F.R. § 122.26 (d)(2)(iv).)

18 Because the watershed-based management program is based on federal law and within the
19 maximum extent practicable standard to reduce the discharge of pollutants through MS4s, the
20 County of San Diego agreed that such a program should be part of the permit. (AR 2161-2181.)
21 The County made recommendations related to watershed permitting approach, identification or
22 watershed water quality assessment data, identification of priority watershed pollutants and issues,
23 identification of known pollutant sources, watershed coordination, and identification of watershed
24 activities and education activities. (AR 2161-2181.)

25 Similar to the watershed-based program, the Regional Urban Runoff Management Program
26 part of the permit requiring Copermittees “to develop, implement, and update as necessary a
27 Regional Urban Management Program” is also within the scope of the maximum extent
28 practicable standard and its implanting regulations. (AR 300.) The program must “reduce the

1 discharge of pollutants from the MS4 to the MEP, and prevent urban runoff discharges from the
2 MS4 from causing or contributing to a violation of water quality standards.” (AR 300.) At a
3 minimum, the program must address the development and implementation of a Regional
4 Residential Education Program, which includes pollutant specific education, development of a
5 standard fiscal analysis for the educational program, and the assessment of the effectiveness of
6 jurisdictional, watershed, and regional programs. (AR 300.)

7 The County of San Diego’s permit proposal focused on an educational aspect and identified
8 residential sources of pollution as their highest regional priority, and public education as the most
9 important component of their program. (AR 2255.) The proposal recommends that efforts “must
10 also be expended on better defining the links between residential activities and water quality and
11 if necessary, development of alternative strategies to better address these sources of residential
12 pollution. (AR 2255.)

13 As mentioned throughout this brief, it is of no consequence that the watershed and regional
14 residential programs are not expressly provided for in federal law or that the requirements go
15 beyond the specific activities proposed by the County of San Diego. The maximum extent
16 practicable standard is a flexible standard. The Regional Board had the discretion to determine
17 that the programs are within the standard, and the Commission has no basis to conclude otherwise
18 simply because the requirements are not spelled out in a federal statute or regulation. (AR 3896,
19 3902, 3904.) Thus, the watershed and regional education programs are required by federal law
20 and are not a state mandate subject to reimbursement.

21 **E. Program Effectiveness Assessment**

22 This part of the permit requires each Copermittee to annually assess the effectiveness of the
23 above jurisdictional, watershed, and regional urban runoff programs, and there are specific
24 assessment requirements for each program. (AR 302-306.) Additionally, the permit requires that
25 “[e]ach Copermittee shall collaborate with the other Copermittees to develop a Long Term
26 Effectiveness Assessment (LTEA), which shall build on the results of the Copermittees’ August
27 2005 Baseline LTEA.” (AR-307.) The LTEA should be designed to meet many specified
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1 objectives related to the jurisdictional, watershed, and regional effectiveness assessments.
2 (AR 307.)

3 The maximum extent practicable standard in the Clean Water Act and its implementing
4 regulations require dischargers like the County of San Diego to assess the effectiveness of their
5 water quality programs. A proposed management program must be comprehensive “to reduce the
6 discharge of pollutants to the maximum extent practicable using management practices, control
7 techniques and system, design and engineering methods, and *such other provisions which are*
8 *appropriate.*” (40 C.F.R. § 122.26 (d)(2)(v), emphasis added.) And Copermittees must estimate
9 “reductions in loadings of pollutants from discharges of municipal storm sewer constituents from
10 municipal storm sewer systems expected as the result of the municipal storm water quality
11 management program. The assessment shall also identify known impacts of storm water controls
12 on ground water.” (40 C.F.R. § 122.26 (d)(2)(iv).)

13 It would make little sense for federal law to require water quality management programs to
14 assess their effectiveness through best management practices, but then to exclude the assessment
15 of the effectiveness of these programs on either a short-term or long-term basis. As such, the
16 County of San Diego recommended the continued short-term and long-term effectiveness
17 assessment of jurisdictional, watershed, and regional urban runoff programs. (AR 2312, 2323-
18 2325.)

19 The Commission agrees that effectiveness assessments are part of federal law but does not
20 agree with the “details” in the permit, claiming once again that if the permit requirements are not
21 expressly provided for in federal law, they are state mandates. (AR 3907.) The Commission is
22 wrong. The permit requirements are federal mandates and not subject to state subvention.

23 **F. Collaboration Among Copermittees**

24 This part of the permit requires Copermittees to collaborate to “address common issues,
25 promote consistency among Jurisdictional Urban Runoff Management Programs and Watershed
26 Urban Runoff Management Programs, and to plan and coordinate activities required under this
27 Order.” (AR 325.) This includes developing a Memorandum of Understanding that defines
28 Copermittees’ responsibilities, establishes a management structure and standards for conducting

1 meetings, provides guidelines for work groups, lays out the process for non-compliance issues,
2 and includes all other collaborative agreements for compliance with the permit. (AR 326.)

3 Federal law requires “control through interagency agreements among coapplicants the
4 contribution of pollutants from one portion of the municipal system to another portion of the
5 municipal system.” (40 C.F.R. § 122.26 (d)(2)(i)(D).) The Copermittees have been collaborating
6 and working together under a memorandum of understanding since at least the time the 2001
7 NPDES permit was issued. (AR 1614.) And consistent with the 2001 NPDES permit, the
8 County of San Diego in its permit proposal recommended the continued collaboration among the
9 Copermittees and listed the following general areas of recommended Copermittee collaboration:
10 water quality assessment, source identification and prioritization, establishment of program
11 requirements (BMPs and discharge prohibitions), strategies for program implementation, and
12 reporting and assessment. (AR 2157.) It also recommended the continued use of a memorandum
13 of understanding and the formal establishment of subcommittees and working bodies to address
14 budget and fiscal issues, data collection, management, and analysis, regional watershed activities,
15 and source management programs. (AR 2157.)

16 This collaborative approach to managing and addressing common water quality issues falls
17 squarely within the maximum extent practicable standard in the Clean Water Act to prevent the
18 discharge of pollutants through MS4 to nearby waterways. But despite this continued agreed-
19 upon practice to implement federal law, the Commission still found a state mandate because the
20 specific contents of the memorandum of understanding are not expressly provided for in federal
21 law. (AR 3918.) This is an incorrect application of federal law. The permit requirements are not
22 state mandates.

23 **V. THE PERMIT AS A WHOLE AND THE CLAIMED MANDATED ACTIVITIES DO NOT**
24 **IMPOSE A NEW PROGRAM OR HIGHER LEVEL OF SERVICE.**

25 The Commission essentially found that the certain permit requirements were new because
26 they were not required by the previous permit issued to the County of San Diego, and that they
27 were a program because the requirements were only imposed on the County of San Diego.
28 (AR 5603-5604; see *Carmel Valley Fire Protection v. State of California* (1987) 190 Cal.App.3d,

1 521, 537.) Such a narrow focus is not supported by law. Instead, a holistic approach must be
2 taken by the Commission, while giving appropriate deference to the Regional Board. The
3 relevant “requirement” for purpose of state mandates law is the federal requirement that the
4 discharge of pollutants from a MS4 for a population the size of the County of San Diego requires
5 an NPDES permit. This permit must include, under federal law, “controls to reduce the discharge
6 of pollutants to the maximum extent practicable.” (33 U.S.C. §1342 (p)(3)(B).) This requirement
7 is not new and is imposed on all entities that own or operate a municipal separate storm sewer
8 system. (*Ibid.*) Thus, there is no new program or higher level of service, and therefore no state
9 mandate. The Commission’s decision to the contrary should be reversed.

10 However, even if the court were to adopt the Commission’s analysis and look to the
11 challenged permit requirements themselves, those requirements were part of the 2001 NPDES
12 permit and thus were not subject to reimbursement under article XIII B, section 6. The
13 Commission itself found that many of the permit requirements were found in the 2001 permit.
14 (AR 3871, 3875, 3878, 3880, 3889-3890, 3898-3899, 3905, 3911, 3918.) But it also found that
15 certain requirements were “new” because they were not expressly provided for in the 2001
16 NPDES permit. (AR 3871-3872, 3875-3876, 3877, 3880, 3893-3894, 3899-3900, 3905, 3911-
17 3912, 3915, 3919-3920.)¹⁵ As with the federal analysis above, the Commission’s focus is too
18 narrow and is not workable. NPDES permits must be assessed as a whole, given the maximum
19 extent practicable standard that applies throughout.

20 All of the permit requirements in the 2001 NPDES permit were intended to implement the
21 maximum extent practicable standard in the Clean Water Act. (See *Building Industry Ass’n of*
22 *San Diego County, supra*, 124 Cal.App.4th at p. 866 [2001 NPDES permit requirements did not
23 exceed the Clean Water Act’s maximum extent practicable standard].) The maximum extent
24 practicable standard requires flexible, best management practices to eliminate or reduce the
25 discharge of pollutants in storm water or runoff through MS4s. (33 U.S.C. § 1342(p)(3)(B).) The

26 _____
27 ¹⁵ For a more specific comparison of the permit requirements and the corresponding 2001
28 NPDES permit requirements, please see the summary of both permits in the Background section
of this brief.

1 Regional Board has the authority to determine what requirements meet the maximum extent
2 practicable standard. (*County of Los Angeles v. California State Water Resources Control Bd.*,
3 *supra*, 143 Cal.App.4th at p. 997; *Divers' Environmental Conservation Organization, supra*,
4 145 Cal.App.4th at p. 252.) Merely adjusting the requirements of the 2001 NPDES permit to
5 present circumstances to ensure that this standard is met does not impose a new program. Indeed,
6 when an NPDES permit is renewed, reissued or modified, it generally must be at least as stringent
7 as the prior permit. (33 U.S.C. § 1342 (o); 40 C.F.R. 122.44 (l).) This is consistent with
8 Congress' intent that state management programs evolve based on changing conditions from
9 program development and implementation and corresponding improvements in water quality.
10 (55 Fed.Reg. 47990, 48,052.) The Regional Board's focus is always on complying with the
11 federal standard. The Commission's analysis applies state mandates law in an overly technical,
12 myopic manner that disregards the essential nature of the Regional Board's job.

13 Because the challenged permit requirements are generally found in the 2001NPDES permit,
14 the specific requirements are not "new," and the Commission's findings to the contrary should be
15 reversed.

16 **VI. THE COUNTY OF SAN DIEGO HAS FEE AUTHORITY TO PAY FOR THE CLAIMED**
17 **MANDATED PERMIT REQUIREMENTS.**

18 Under Government Code section 17556, subdivision (d), a state mandate is not subject to
19 reimbursement if the local agency has the authority to charge a fee. Specifically, subdivision (d)
20 provides that a state mandate does not exist if:

21 The local agency or school district *has the authority* to levy service charges, fees, or
22 assessments sufficient to pay for the mandated program or increased level of service.
23 This subdivision applies regardless of whether the authority to levy charges, fees, or
assessments was enacted or adopted prior to or after the date on which the statute or
executive order was enacted or issued.

24 (Emphasis added.)

25 The Commission found that "the claimants have fee authority under the police power to
26 impose fees for the permit activities [requirements] that are a state-mandated new program or

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28 ///

1 higher level of service.” (AR 3927.) Petitioners do not challenge these findings.¹⁶ But the
2 Commission refused to apply section 17556, subdivision (d), to the claimed property related
3 permit requirements, with two exceptions.¹⁷ (AR 3929.) According to the Commission, the
4 County of San Diego has insufficient authority to impose fees for these requirements because
5 article XIII D, section 6, subdivision (e), requires voter approval for new or increased property-
6 related fees: “no property related fee or charge shall be imposed or increased unless and until that
7 fee or charge is submitted and approved by a majority vote of the property owners of the property
8 subject to the fee or charge or, at the option of the agency, by a two-thirds vote of the electorate
9 residing in the affected area.” (AR 3929.) For the reasons explained below, the Commission is
10 wrong and subdivision (e) is irrelevant to this mandates analysis.

11 “[T]he plain language of section 17556, subdivision (d), precludes reimbursement where
12 the local agency has the authority, *i.e., the right or the power, to levy fees sufficient to cover the*
13 *costs of the state-mandated program.*” (*Clovis Unified School Dist. v. Chiang* (2010)
14 188 Cal.App.4th 794, 812, quoting *Connell v. Superior Court* (1997) 59 Cal.App.4th 382, 401,
15 emphasis added.) In interpreting subdivision (d), the courts examine the existence or
16 nonexistence of fee *authority*, rather than whether it is politically *feasible* to impose a fee in each
17 instance.

18 For example, in *Connell, supra*, several water districts alleged that a state regulation
19 requiring an increased level of water purity was a state mandate. (59 Cal.App.4th 382.) The
20 Third District Court of Appeal found that Water Code section 35470 “on its face authorizes the
21 [water] districts to levy fees sufficient to pay for the costs involved in the regulatory amendment.”
22 (*Id.* at p. 398.) The water districts argued that the fee authority is not “sufficient” because it was
23 politically impracticable to impose the fees. (*Id.* at p. 401.) The court held that it was irrelevant

24 ¹⁶ The Commission also found that there was statutory fee authority to pay for street
25 cleaning and reporting under Public Resources Code section 40059 and conveyance-system
26 cleaning under Health and Safety Code section 5471. (AR 3936-3941.) Petitioners do not
27 challenge these findings. However, petitioners dispute the Commission’s findings that these
28 sections are subject to voter approval under article XIII D, section 6, subdivision (e).

¹⁷ Petitioners do not challenge the Commission’s findings that the County of San Diego
has constitutional and statutory fee authority to levy fees for the Hydromodification Management
Plan and the Low Impact Development permit requirements. (AR 3929-3935.)

1 whether it was practicable to impose the fees, rather, “[t]he question is whether the Districts have
2 authority, i.e., the right or power, to levy fees sufficient to cover the costs.” (*Ibid.*)

3 And in *Clovis, supra*, the college districts challenged the Controller’s claiming instruction
4 that automatically reduced reimbursement claims by the amount the districts are statutorily
5 authorized to charge students for health fees, even when a district chooses not to charge its
6 students those fees. (188 Cal.App.4th at p. 812.) The Third District Court of Appeal disagreed,
7 holding that “[to] the extent a local agency or school district ‘has the authority’ to charge for the
8 mandated program or increased level of service, that charge cannot be recovered as a state-
9 mandated cost.” (*Ibid.*) The court explained that “this basic principle flows from common sense
10 as well. As the Controller succinctly puts it, ‘Claimants can choose not to require these fees, but
11 not at the state’s expense.’” (*Ibid.*)

12 Here, the County of San Diego has the authority to levy fees for the claimed state-mandated
13 requirements. Whether the voters agree or disagree with a particular fee is irrelevant to this
14 analysis. The voters can choose to reject the proposed fees, but not at the state’s expense.
15 Mandates analysis has never depended on the political whims of legislative bodies or the
16 electorate.

17 By now imposing a will-of-the-voters restriction on section 17556, subdivision (d), the
18 Commission is essentially rewriting the law and adding a limitation that was not intended by the
19 Legislature. As discussed above, “the plain language of section 17556, subdivision (d), precludes
20 reimbursement where the local agency has the authority, *i.e., the right or the power, to levy fees*
21 *sufficient to cover the costs of the state-mandated program.*” (*Clovis, supra*, 188 Cal.App.4th
22 794, 812, emphasis added.) If the Legislature had intended to restrict this section to fees that
23 were ultimately approved by the electorate, it could have easily included such language in the
24 statute. It did not. And for good reason. If local legislative bodies and voters could avoid a fee
25 by simply not submitting it to the voters or voting against it, the state would always bear
26 responsibility for the costs. Such a result was not intended by the Legislature.

27 And in finding that the costs associated with the permit requirements are subject to state
28 subvention, the Commission is completely misinterpreting article XIII B, section 6. The “textual

1 and historical context [of] section 6 of article XIII B requires subvention only when the costs in
2 question can be recovered *solely from tax revenues*. (*County of Fresno v. State of California*
3 (1991) 53 Cal.3d 482, 487, emphasis in original.) Here, if the County of San Diego chooses, the
4 costs can be recovered from fees. The Commission completely ignores that article XIII B of the
5 Constitution was not intended to reach beyond taxation. (*Ibid.*)

6 Accordingly, the voter approval requirement in article XIII D, section (6), subdivision (e),
7 is not relevant to this mandates analysis. The County of San Diego has fee authority to pay for
8 the permit requirements. As such, the requirements are not subject state subvention, and the
9 Commission's decision to the contrary should be reversed.

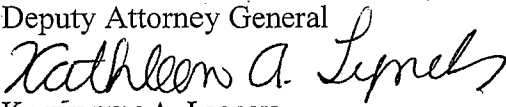
10 CONCLUSION

11 The Commission's decision finding that the claimed mandated activities are subject to
12 subvention by the state should be reversed because the NPDES permit is based on federal law, not
13 state law, and is not subject to subvention. For the same reason and for the additional reason that
14 the permit requirements are based on the 2001 NPDES permit, there is no new program or higher
15 level of service. Finally, even if this court were to find that the permit requirements are state
16 mandates, they are still not subject to reimbursement under article XIII B, section 6. The County
17 of San Diego has the necessary fee authority to impose fees for the permit requirements, and the
18 Commission's finding to the contrary should be reversed.

19 Dated: July 8, 2011

Respectfully submitted,

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DECLARATION OF SERVICE BY OVERNIGHT COURIER

Case Name: **State of California Department of Finance, et al. v. Commission on State Mandates**

No.: **34-2010-80000604**

I declare:

I am employed in the Office of the Attorney General, which is the office of a member of the California State Bar, at which member's direction this service is made. I am 18 years of age or older and not a party to this matter; my business address is: 1300 I Street, Suite 125, P.O. Box 944255, Sacramento, CA 94244-2550.

On July 8, 2011, I served the attached **Petitioners' Memorandum of Points and Authorities in Support of Petition for Writ of Administrative Mandamus** by placing a true copy thereof enclosed in a sealed envelope with the **Golden State Overnight courier service**, addressed as follows:

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I declare under penalty of perjury under the laws of the State of California the foregoing is true and correct and that this declaration was executed on July 8, 2011, at Sacramento, California.

Scott De Medeiros
Declarant

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11 SUPERIOR COURT OF THE STATE OF CALIFORNIA

12 COUNTY OF SACRAMENTO

13
14
15 **STATE OF CALIFORNIA DEPARTMENT**
OF FINANCE, STATE WATER
16 **RESOURCES CONTROL BOARD, AND**
17 **CALIFORNIA REGIONAL WATER**
QUALITY CONTROL BOARD, SAN
18 **DIEGO REGION,**

Petitioners,

19 v.

20
21 **COMMISSION ON STATE MANDATES,**

Respondent.

22
23 **COUNTY OF SAN DIEGO AND CITIES**
24 **OF CARLSBAD, CHULA VISTA,**
25 **CORONADO, DEL MAR, EL CAJON,**
26 **ENCINITAS, ESCONDIDO, IMPERIAL**
27 **BEACH, LA MESA, LEMON GROVE,**
NATIONAL CITY, OCEANSIDE,
POWAY, SAN DIEGO, SAN MARCOS,
SANTEE, SOLANA BEACH, AND VISTA,

28 Real Parties in Interest.

Case No. 34-2010-80000604

**REPLY IN SUPPORT OF PETITION
FOR WRIT OF ADMINISTRATIVE
MANDAMUS**

Date: September 9, 2011
Time: 11:00 a.m.
Dept: 42
Judge: Hon. Alan H. Sumner

Action Filed: July 20, 2010

1 COUNTY OF SAN DIEGO AND CITIES
2 OF CARLSBAD, CHULA VISTA,
3 CORONADO, DEL MAR, EL CAJON,
4 ENCINITAS, ESCONDIDO, IMPERIAL
5 BEACH, LA MESA, LEMON GROVE,
6 NATIONAL CITY, OCEANSIDE,
7 POWAY, SAN DIEGO, SAN MARCOS,
8 SANTEE, SOLANA BEACH, AND VISTA,

9 Cross-Petitioners,

10 v.

11 COMMISSION ON STATE MANDATES,

12 Cross-Respondent.

13 STATE OF CALIFORNIA DEPARTMENT
14 OF FINANCE, STATE WATER
15 RESOURCES CONTROL BOARD, AND
16 CALIFORNIA REGIONAL WATER
17 QUALITY CONTROL BOARD, SAN
18 DIEGO REGION,

19 Cross-Real Parties in Interest
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INTRODUCTION

1
2 Federal law prohibits the County of San Diego and several cities named in the petition
3 (referred to below collectively as the “County of San Diego” or the “County”) from discharging
4 pollutants from their municipal storm sewer systems into nearby waterways unless they do so
5 under a permit issued in compliance with the National Pollutant Discharge Elimination System
6 (NPDES). The Clean Water Act requires the County of San Diego’s NPDES permit to include
7 specific requirements that reduce the discharge of pollutants from its storm drains to the
8 *maximum extent practicable*. Under article XIII B, section 6, of the California Constitution, the
9 only way this maximum extent practicable standard could constitute a state mandate would be if
10 the state *voluntarily elected* to require local agencies to implement state obligations under the
11 Clean Water Act, or if the state took action to *exceed* the Act’s maximum extent practicable
12 standard. As explained in great detail in petitioners’ opening brief, neither occurred here.

13 The Commission’s decision finding that the specific permit requirements are state mandates
14 must be reversed. Its analysis was based on a faulty assumption: that unless federal regulations
15 expressed the maximum extent practicable standard as an explicit requirement, there was no
16 federal mandate. Federal regulations and decisions make clear that the Clean Water Act’s
17 technology-forcing requirements for municipal storm water permits are flexible. The specific
18 requirements are derived on a case-by-case basis to reflect pollutant reductions to the maximum
19 extent practicable. The Regional Board previously made its determination that the permit taken
20 as a whole reflected the federal requirement.

21 While the Commission may be an expert in state mandates, it has no expertise in the field of
22 water law. The Commission erroneously failed to defer to the Regional Board’s implementation
23 of federal water quality law. More specifically, the Commission failed to defer to the Regional
24 Board’s determination that the permit as a whole and the more particular permit requirements
25 implement the Clean Water Act’s maximum extent practicable standard. Further, even if issue
26 preclusion and deference to the water board’s interpretation was not required or appropriate, the
27 Commission failed to articulate how the specific requirements exceeded the demanding *maximum*
28 *extent practicable* pollutant reduction.

1 And for the same reasons and for the additional reason that the permit requirements are
2 based on the 2001 NPDES permit issued to the County of San Diego, there is no new program or
3 higher level of service.

4 Although not a final published decision, and therefore not citeable as precedent, the Los
5 Angeles Superior Court recently addressed many of the same issues presented in this case. (See
6 *State of California Department of Finance, et al. v. County of Los Angeles et al.* (Super. Ct. Los
7 Angeles County, 2011, BS130730).¹ (Exhibit A, Court's Ruling on Petition for Writ of Mandate
8 Heard on August 10, 2011, attached to Petitioners' Request for Judicial Notice in Support of
9 Reply Brief.)

10 LEGAL ANALYSIS

11 I. THE COMMISSION'S FINDINGS THAT THE CHALLENGED PERMIT REQUIREMENTS 12 ARE STATE MANDATES PRESENT QUESTIONS OF LAW AND ARE SUBJECT TO DE 13 NOVO REVIEW.

14 Whether a statute or executive order, which includes water permits, creates a reimbursable
15 state mandate is a pure question of law. (*Connell v. Superior Court* (1997) 59 Cal.App.4th 382,
16 395; see also, *Long Beach Unified School Dist. v. State of California* (1990) 225 Cal.App.3d 155,
17 174.) And questions of law are subject to de novo review. (*City of Richmond v. Commission on*
State Mandates (1998) 64 Cal.App.4th 1190, 1105.)

18 The County of San Diego does its best to avoid this well-established standard of review, by
19 claiming that "the Commission made many factual determinations regarding the nature of the
20 2007 and 2001 Permit requirements at issue, their application to the Co-Permittees, the
21 application of the federal and state regulations in California and elsewhere." (Real Parties in
22 Interest's Memorandum of Points and Authorities in Opposition to Petition for Writ of
23 Administrative Mandamus ("Opp.") p. 16, ll. 18-20, p. 17, ll. 2-5.) It is true that in some cases,
24 findings of fact may be necessary before resolving the ultimate legal issue of whether a state
25 mandate exists. (See *County of Los Angeles v. Commission on State Mandates* (2007)

26
27 ¹ Petitioners filed a notice of related cases on November 8, 2010. The Los Angeles case
28 was originally filed in Sacramento Superior Court, Case Number 34-2010-80000605, but was
transferred to the Los Angeles Superior Court at the request of the real parties in interest.

1 150 Cal.App.4th 898, 917-918.) However, this does not mean that the court should defer to the
2 Commission's legal findings or assumptions. In the absence of evidence that the Regional Board
3 somehow exceeded the maximum extent practicable standard, the court should defer to the
4 Regional Board and conclude as a matter of law that the permit and its specific requirements are
5 federal mandates and not state mandates. While review of the Commission's factual
6 determinations proceeds under the substantial evidence test, whether a state mandate exists is still
7 a pure question of law. (See *City of Richmond, supra*, 64 Cal.App.4th at pp. 1194-1195.)

8 In *County of Los Angeles, supra*, the court noted that questions regarding whether permit
9 requirements are state mandates must first be resolved by the Commission and may present
10 factual issues. (*Id.* at pp. 917-918.) The County of San Diego reads this statement to mean that in
11 *all* cases where permit requirements are alleged to be a state mandates, the analysis involves pure
12 factual questions subject to substantial evidence review. (Opp. p. 16, ll. 25-28, p. 17, ll. 1-5.)
13 This interpretation is wrong. The County is taking the phrase "presents factual issues" out of
14 context. The court in *County of Los Angeles* did not suggest that *all* mandate determinations
15 related to permits turn on factual issues. The court merely acknowledged that factual issues *may*
16 be present. (*County of Los Angeles, supra*, 150 Cal.App.4th 918.) This statement does not wipe
17 out the de novo standard of review for determining whether a statute, regulation, or executive
18 order is a state mandate.

19 In any event, these claimed "factual findings" on the part of the Commission are pure
20 fiction created by the County of San Diego in an attempt to apply a less stringent standard of
21 review. *The Commission made no factual findings as to whether the claimed permit requirements*
22 *go beyond the maximum extent practicable standard found in the Clean Water Act.* The
23 Commission simply concluded that each challenged permit requirement was not expressly
24 provided for in federal law, and thus was a state mandate subject to subvention. Specifically, the
25 Commission found:

- 26 • Hydromodification Management Plan – "Overall, there is nothing in the federal
27 regulations that requires a municipality to adopt or implement a
28 hydromodification plan. Thus, the HMP requirement in the permit 'exceed[s]
the mandate in that federal law or regulation.'" (AR 3866.)

- 1 ● Low Impact Development - “The Commission finds nothing in the federal
2 regulations (40 C.F.R. § 122.26) that requires local agencies to collectively
3 review and update the BMP requirements listed in their SUSMPs, or to develop,
4 submit and implement ‘an updated Model SUSMP’ that defines minimum LID
5 and other BMP requirements for incorporation into the SUSMPs. Thus the LID
6 requirements in the permit ‘exceed the mandate in that federal law or
7 regulation.’” (AR 3873.)
- 8 ● Street Sweeping – While the Commission acknowledges that the “permit requires
9 activities that fall within the federal regulations [i.e., routine maintenance of public
10 streets, roads, and highways to prevent the discharge of pollutants into storm drains],”
11 it found that “the more specific requirements in the permit include variable street
12 sweeping schedules for area impacted by different amounts of trash” and “reporting
13 on the amount of trash collected, which is [are] not required by the federal
14 regulation.” (AR 3877.) “These activities ‘exceed the mandate in that federal law or
15 regulation.’” (AR 3877.)
- 16 ● Conveyance System Cleaning – “Like street sweeping, the permit requires
17 conveyance system cleaning activities that fall within the federal regulations.”
18 (AR 3880.) “Yet the permit requirements are more specific [than the federal
19 regulations].” (AR 3880.) “These activities, ‘exceed[s] the mandate in that
20 federal law or regulation.’” (AR 3881.)
- 21 ● Educational Component - “[T]he federal regulations require nonspecific
22 descriptions of educational programs, for example, requiring the permit
23 application to ‘include appropriate educational and training measures for
24 construction site operations’ and ‘controls such as educational activities.’”
25 (AR 3885.) “The permit, on the other hand, requires implementation of an
26 educational program with target communities and specific topics. These
27 requirements ‘exceed the mandate in that federal law or regulation.’”
28 (AR 3885.)
- Watershed Urban Runoff Management Program - “The Commission finds that
the permit requirements in sections E.2.f and E.2.g are not federal mandates.”
(AR 3896.) “As with the other requirements in the permit, the federal
regulations authorize but do not require the specificity regarding whether
collaboration occurs on a jurisdictional, watershed or other basis. These
requirements ‘exceed the mandate in that federal law or regulation.’”
(AR 3896.)
- Regional Urban Runoff Management Program - “The Commission finds that the
requirements in part F.1 of the permit do not constitute a federal mandate. There is
no federal requirement to provide a regional educational program, so the education
program, ‘exceed[s] the mandate in that federal law or regulation.’” (AR 3902.)

“The Commission finds that the requirements in part F.2 and F.3 of the permit do not
constitute a federal mandate. There is no federal requirement to collaborate on,
develop, or implement a Regional Urban Runoff Management Program (RURMP).
The Commission finds that these RURMP activities ‘exceed the mandate in that
federal law or regulation.’” (AR 3904.)
- Program Effectiveness Assessment - “Although the federal regulations require
assessment of controls and annual reports, they do not require the detailed
assessment in the 2007 permit. The regulations do not require, for example,
assessments of the effectiveness of each significant jurisdictional activity/BMP

1 or watershed quality activity, or the implementation of each major component
2 of the JURMP or WURMP, or identification of modifications and
3 improvements to maximize the JURMP and WURMP effectiveness. These
4 requirements, 'exceed the mandate in that federal law or regulation.'"
5 (AR 3907-3908.)

6 "Although the federal regulations require assessment controls, they do not require the
7 detailed assessment in the 2007 permit. They do not require, for example,
8 collaboration with other copermitees, addressing specified objectives or outcome
9 levels, or addressing jurisdictional, watershed, and regional programs. These
10 requirements 'exceed the mandate in that federal law or regulation.'" (AR 3913-
11 3914.)

- 12 • All Copermitee Collaboration - "The Commission finds that there is no federal
13 mandate to develop a management structure (memorandum of understanding or MOU)
14 as required by part L of the 2007 permit." (AR 3916.) "All the federal regulations
15 address is authority to establish an interagency agreement or memorandum of
16 understanding, but do not require it to be implemented or specify its contents beyond
17 'controlling . . . the contribution of pollutants from one portion of the municipal
18 system to another portion of the municipal system.'" (AR 3916.) "Thus, the permit
19 activity 'exceed[s] the mandate in that federal law or regulation.'" (AR 3916.)

20 The County of San Diego disregards that the Commission refused to make any factual
21 findings even though evidence was submitted by the claimants and interested parties. The
22 Commission simply concluded as a matter of law that the challenged permit requirements were
23 state mandates because they were not expressly provided for in federal law. Whether a statute,
24 regulation, or executive order is a state mandate is a pure question of law, and the County's
25 argument to the contrary must be rejected. (*Connell, supra*, 59 Cal.App. at p. 395.)

26 **II. THE PERMIT IS NOT A STATE MANDATE, BECAUSE CALIFORNIA MUST IMPLEMENT
27 THE FEDERAL NPDES PROGRAM AND BECAUSE THE PERMIT DOES NOT EXCEED
28 THE MAXIMUM EXTENT PRACTICABLE STANDARD IN FEDERAL LAW.**

A. The NPDES Program Is Mandated By Federal Law.

There is a two-step process to determine whether a program, or in this case, the permit, is
mandated by federal law. The first part of the analysis considers whether the state had "no real
choice in deciding whether to comply with the federal act." (*Hayes v. Commission on State
Mandates* (1992) 11 Cal.App. 4th 1563.) Relying on the Commission's analysis, the County of
San Diego asserts that "California's decision to become authorized to implement a state program
in lieu of the federal NPDES program was purely voluntary." (Opp. p. 18, ll. 1-4.) The County
and the Commission are wrong.

1 The federal Clean Water Act requires the County of San Diego to have an NPDES permit
2 for municipal storm water discharges and compels the County to reduce the discharge of
3 pollutants to the maximum extent practicable. Neither the state nor the County of San Diego has
4 a true choice in the permit or the requirement to reduce pollutants to the maximum extent
5 practicable. (*City of Sacramento v. State of California* (1990) 50 Cal.3d 51, 76.) If California did
6 not administer its own water quality program through the Porter-Cologne Act, California's
7 dischargers, both private and governmental, would still have to comply with federal law, but
8 would also be subject to direct regulation from the federal government. (See,
9 33 U.S.C. § 1362(4)-(5) [defining "person" to include "municipality," and "municipality" to
10 include public entities like the flood control district, county, and cities] and § 1342(p)(3)
11 [establishing technology standard of "maximum extent practicable" for municipal separate storm
12 sewer systems].)

13 Despite the obvious coercive nature of NPDES permits on the County of San Diego and the
14 state, the County asserts that the state's decision to *administer* the federal NPDES program was
15 voluntary because "certain and severe penalties" were not imposed upon the state. (Opp. p. 18, ll.
16 18-28, p. 19, ll. 1-7.) According to the County, the "test" for mandatory versus optional
17 compliance with federal law boils down to whether the state will incur "certain and severe federal
18 penalties," or monetary penalties. This is not the "test." In *City of Sacramento, supra*, the
19 California Supreme Court explained there is "no final test for 'mandatory' versus 'optional'
20 compliance with federal law." (50 Cal.3d at pp. 59-60.) The standard is flexible and depends on
21 a number of factors such as "the nature and purpose of the federal program; whether its design
22 suggests an intent to coerce; when state and/or local participation began; the penalties, if any,
23 assessed for withdrawal or refusal to participate or comply; and any other legal and practical
24 consequences of nonparticipation, noncompliance, or withdrawal." (*Ibid.*) As explained above
25 and in petitioners' opening brief, the NPDES program is not optional; it is coercive on the states
26 and localities in every legal and practical sense.

27 Next, the County of San Diego assumes that if the state did not issue the NPDES permit,
28 the permit would not contain the challenged requirements based on U.S. EPA-issued permits and

1 other state-issued permits. (Opp. p. 19, ll. 1-7.) This is pure conjecture and is not relevant to
2 whether the state voluntarily complies with federal law in issuing NPDES permits under article
3 XIII B, section 6.

4 Moreover, the substance of other permits whether issued by the U.S. EPA or other states
5 has no bearing on the County of San Diego's permit or the state's decision to administer the
6 NPDES program. Federal regulations require permit writers to tailor municipal storm water
7 NPDES permits to the unique characteristics of the surrounding waterways and community. As
8 U.S. EPA stated when establishing the municipal storm water permitting regulations: "The
9 language of [Clean Water Act] section 402(p)(3) contemplates that, because of the fundamentally
10 different characteristics of many municipalities, municipalities will have permits tailored to meet
11 particular geographical, hydrological, and climatic conditions." (55 Fed.Reg. 47990, 48053.)
12 Requirements in one permit would logically be different than the requirements in other permits
13 unless of course the surrounding circumstances were identical. The County's focus on other
14 permits is misguided and inaccurate and should be disregarded.

15 Last, the County of San Diego concludes that because state permits are issued under state
16 law, not federal law, they are voluntary and not "a delegation of federal authority to the state."
17 (Opp. p. 2, ll. 6-13, p. 5, ll. 11-22.) The County misses the point of the Clean Water Act.
18 Administering a permit program under state law, which California does, is not the same as
19 complying with the permit requirements themselves, which the Clean Water Act compels the
20 County to do. The federal Clean Water Act requires municipalities to apply for an NPDES permit
21 that requires pollutant reductions to the maximum extent practicable. Administering the program
22 in lieu of the federal government does not alter the federal requirement on municipalities to
23 reduce pollutants in these discharges to the maximum extent practicable.²

24 ² The County of San Diego relies on *Shell Oil Company v. Train* (9th Cir, 1978)
25 585 F.2d 408 and *State of California v. U.S. Department of Navy* (9th Cir. 1988) 845 F.2d 222 to
26 support their theory that federal law is not relevant to NPDES permitting. The California
27 Supreme Court recently rejected a similar argument and underscored that while California
28 administers aspects of the NPDES program in California, the program must conform to federal
standards and be approved by a federal agency. (*Voices of the Wetlands v. State Water Resources
Control Bd.* (Aug. 15, 2011, No. S160211) ___ Cal.4th ___ [p. 25].) Further, putting aside the
(continued...)

1 Since the state has no true choice but to comply with the Clean Water Act in establishing
2 NPDES permits that require pollutant reductions to the maximum extent practicable, such permits
3 are based on federal requirements and are not state mandates. (*San Diego Unified School Dist. v.*
4 *Commission on State Mandates* (2004) 33 Cal.4th 859, 880.)

5 **B. The Mere Flexibility of the Maximum Extent Practicable Standard Does**
6 **Not Mean that the NPDES Permit Exceeds This Standard.**

7 The second part of the federal mandates analysis focuses on whether the permit goes
8 beyond the requirements of federal law. (Gov. Code, § 17556; *San Diego Unified School Dist,*
9 *supra*, 33 Cal.4th at p. 880.) The federal requirement applicable to the discharge of pollutants
10 through municipal storm sewer systems is the maximum extent practicable standard.
11 (33 U.S.C. § 1342(p)(3)(B).) Congress established this flexible maximum extent practicable
12 standard so that administrative bodies would have “the tools to meet the fundamental goals of the
13 Clean Water Act in the context of storm water pollution.” (*Building Industry Ass’n of San Diego*
14 *County v. State Water Resources Control Board* (2004) 124 Cal.App.4th 866, 884.) It was
15 “designed to allow permit writers to use a combination of pollution controls that, as Congress
16 noted, ‘may be different in different permits.’” (*In re City of Irving, Texas, Municipal Separate*
17 *Storm Sewer System* (July 16, 2001) 10 E.A.D. 111 (E.P.A.), *6, attached as Exhibit B to
18 Petitioners’ Request for Judicial Notice in Support of Reply Brief.) And it includes the flexibility
19 “to tailor permits to the site-specific nature of MS4³,” and the flexibility “to direct permit
20 requirements at the sources of pollution in the MS4 rather than solely at the end of the pipe.”
21 (*Ibid.*) As explained by the U.S. EPA:

22 *Congress therefore created the “maximum extent practicable” (“MEP”) standard*
23 *and the requirement to “effectively prohibit non-storm water discharges” into the*
24 *MS4 in an effort to allow permit writers the flexibility necessary to tailor permits to*
the site-specific nature of MS4 discharges. Legis. Hist. at 646; House Committee on
Public Works and Transportation, Section-by-Section Analysis (100th Sess. 1987),

25 _____
26 (...continued)

27 County’s mischaracterization of these cases, they are not relevant to the discussion of whether the
28 state voluntarily administers the NPDES program under article XIII B, section 6.

³ MS4 is the acronym for municipal separate storm sewer system.

1 reprinted in 1987 U.S.C.C.A.N. (101 Stat. 7) 5, 38-39; see also 55 Fed. Reg. at
2 48,038. *Included in that flexibility was the capacity to direct permit requirements at*
3 *the sources of pollution in the MS4 rather than solely at the end of the pipe.*
4 55 Fed. Reg. at 48,038. Thus, the MS4 permit requirements set forth under CWA
5 § 402(p)(3)(iii) were designed to allow permit writers to use a combination of
6 *pollution controls that, as Congress noted, “may be different in different permits;”*
7 not all of the types of controls listed in § 402(p)(3)(iii) are required to be incorporated
8 into each MS4 permit. 1987 U.S.C.C.A.N. at 39.

9
10
11 (*Ibid*, emphasis added.)

12 The County of San Diego disregards the very nature of this flexible maximum extent
13 practicable standard and simply concludes, as the Commission did, that if the permit requirements
14 are not expressly provided for in the Clean Water Act or its implementing regulations, then there
15 is no federal mandate. (Opp. p. 27, ll. 9-15.) However, by definition, a flexible standard is not
16 intended to be applied in the same manner under different circumstances.

17 Likewise, a flexible standard does not lend itself to the monolithic federal regulations that
18 the Commission would say establishes a federal mandate. In this respect, the Commission was on
19 a quixotic quest doomed to relegate virtually any federal municipal storm water permit
20 requirement to a state mandate. Under the Commission’s analysis, a permit requirement that was
21 merely practicable or easy (not even practicable to the “maximum extent”) would be a state
22 mandate if U.S. EPA failed to express the requirement in a regulation. Such a result is contrary to
23 the California Supreme Court’s teachings in *City of Sacramento*, which looks to the federal nature
24 of the requirement. (50 Cal.3d 51, 76.)

25 And the County of San Diego’s reliance on *Long Beach School District v. State of*
26 *California* (1990) 225 Cal.App.3d 155 and other cases is misplaced. (Opp. p. 26.) In *Long Beach*,
27 the court considered whether a state executive order involving school desegregation constituted a
28 state mandate. The court held that the executive order required school districts to provide a
higher level of service than required by the federal constitution or case law because state
requirements went beyond federal requirements. (*Id.* at p. 173.) This reasoning was based on the
absence of any federal law that specified how the schools should implement their desegregation
plans. (*Ibid.*) Here, there is federal law on point—the maximum extent practicable standard—

1 that directly applies to the County of San Diego. (See *State of California Department of Finance*,
2 *supra*, Los Angeles Superior Court, Case No. BS130730, p. 8, fn. 12.)

3 Furthermore, the County of San Diego and the Commission simply ignore the
4 administrative proceeding that found the permit to be within the maximum extent practicable
5 standard. Those findings and requirements are the expert conclusions of the principal state
6 agency charged with implementing the NPDES program in San Diego County. (Wat. Code,
7 §§ 13001, 13200.) Courts have recognized that the regional boards are entitled to considerable
8 deference on the statutes they implement, especially in the area of storm water regulation.
9 (*County of Los Angeles v. California State Water Resources Control Bd.* (2006) 143 Cal.App.4th
10 985, 997 [“we defer to the regional board’s expertise in construing language which is not clearly
11 defined in statutes involving pollutant discharge into storm drain sewer systems”]; *City of Rancho*
12 *Cucamonga v. Regional Water Quality Control Bd. -Santa Ana Region* (2006) 135 Cal.App.4th at p.
13 1384; *Building Industry Ass’n of San Diego County, supra*, 124 Cal.App.4th at p. 879.) The
14 Commission cannot disregard the Regional Board’s conclusions and find that the permit exceeds
15 the federal requirements. It is the Board’s prerogative, not the Commission’s, to ensure that the
16 permit meets federal requirements.

17 The County of San Diego attempts to avoid this result by suggesting that the Court of
18 Appeal in *County of Los Angeles v. Commission on State Mandates, supra*, 150 Cal.App.4th 898,
19 914 indicated that the Commission must make a determination in the first instance and that there
20 could be provisions of a permit that exceeded federal requirements. (Opp. at p. 20, ll. 27-28,
21 p. 21, p. 22, ll. 1-16.) The County also relies on *Building Industry Ass’n of San Diego County v.*
22 *State Water Resources Control Board, supra*, 124 Cal.App.4th 866 and *City of Burbank v. State*
23 *Water Resources Control Board* (2005) 35 Cal.4th 613 for the proposition that a permit can
24 theoretically exceed federal requirements. (Opp. p. 29, ll. 1-22.) Again, the County misses the
25 mark. The water boards do not deny that they *could* impose requirements in excess of federal law.
26 (See Opening Brief pp. 6-7.)⁴ This case is not about requirements in excess of federal law though.

27 ⁴ The County’s argument regarding the State Water Resources Control Board’s
28 precedential decision (Water Quality Order WQ-2001-015) is irrelevant to this larger point. (See
(continued...)

1 The Commission failed to recognize and afford deference to the prior administrative finding that
2 the permit taken as a whole reflected the federal maximum extent practicable standard.⁵

3 Last, the County of San Diego argues that the specific requirements subject to the test claim
4 exceed the federal requirements. (Opp. p. 32, ll. 1-26, p. 33, ll. 1-13.) First, this argument fails
5 because the County advances no authority to demonstrate that one permit provision can require
6 more than the maximum extent practicable, when the permit as a whole does not. The federal
7 standard is flexible and may require more in some areas and less in others. (See, e.g.,
8 55 Fed.Reg. 47990, 48052-54 (Nov. 16, 1990); see also *In re City of Irving*, *supra*, 10 E.A.D. 111
9 at *6.) Second, as described below in more detail, neither the County of San Diego, nor the
10 Commission, provided evidence or made findings that the challenged permit requirements are not
11 practicable, let alone not practicable to the maximum extent. Instead, the Commission merely
12 looked for an absence of an identical requirement spelled out in federal regulations.

13 The Clean Water Act's maximum extent practicable standard is the key to understanding
14 the NPDES permit requirements. Simply because a federal law is flexible does not mean there is

15 (...continued)

16 Opp. at pp. 28, ll. 5-27.) The issue in that petition concerned an attempted *prohibition* that
17 required all discharges *into* to the municipal storm sewer system to have had their pollutants
18 reduced to the maximum extent practicable. The State Board's decision speaks to allowing
19 flexibility to decide on a mix of pollutant reductions before reaching the storm sewer system and
20 after, so long as the overall pollutant reductions are to the maximum extent practicable. Water
21 quality order WQ 2001-015 does not undermine U.S. EPA's recognition that the municipal storm
22 water program will include programs and requirements that reduce pollutants prior to reaching the
23 storm sewer. (*In re City of Irving*, *supra*, 10 E.A.D. 111 at *6 ["Included in that flexibility was
24 the capacity to direct permit requirements at the sources of pollution in the MS4 rather than solely
25 at the end of the pipe. 55 Fed. Reg. at 48,038."]) See also discussion at Section III, post.

26 ⁵ The County of San Diego claims, without reference, that in *Building Industry Ass'n of*
27 *San Diego County*, *supra*, 124 Cal.App.4th 866, the court concluded: "This discretion [regional
28 board's choice to exceed maximum extent practicable standard] is not exercised through the
federal MEP standard; rather, it is exercised to achieve state water quality standards or when the
state otherwise wished to regulate in ways that exceed the federal requirements." (Opp. p. 30, ll.
26-28.) This is an incorrect statement. With respect to discharges through storm drains, federal
law requires municipalities "to reduce the discharge of pollutants to the maximum extent
practicable, including management practices, control techniques and system, design and
engineering methods, and such other provisions as the Administrator or the State determines
appropriate for the control of such pollutants. (33 U.S.C. § 1342(p)(3)(B)(iii).) In *Building*
Industry Ass'n of San Diego County, the court said nothing to contradict federal law, but simply
acknowledged that the state has the discretionary authority to go beyond the maximum extent
practicable standard, which, of course, is not the situation presented by this litigation.
(124 Cal.App.4th at p. 884.)

1 no federal mandate. The permit as a whole, including the challenged provisions, is based on the
2 Clean Water Act's maximum extent practicable standard and is not a state mandate.

3 **C. There Is No Evidence That the Claimed Permit Requirements Go Beyond**
4 **Federal Law.**

5 The County of San Diego claims that certain evidence in the administrative record relied on
6 by the Commission shows that the challenged permit requirements exceed federal law and are
7 state mandates. (Opp. p. 34, ll. 23-28, pp. 35-37.) However, as discussed above, the Commission
8 did not make any factual findings. It merely concluded as a matter of law that the specific permit
9 requirements were not expressly provided for in federal law and thus were not federal mandates.
10 In any event, the evidence does not show or even suggest that the specific permit requirements
11 exceed federal law.

12 **1. Street Sweeping**

13 While the County of San Diego alleges that the street sweeping permit requirement exceeds
14 the maximum extent practicable standard, the County does not explain their position. The County
15 simply cites to eight documents in the administrative record that allegedly support their claim.
16 (Opp. p. 35, ll. 1-4.) A quick review of these documents shows that they do not support the
17 County's view of this permit requirement.

18 Declaration of James P. Lough in Support of Test Claim (AR 945-1011.)

19 This document is self-explanatory, a declaration from counsel for the County of San Diego.
20 The opinions and arguments of counsel are not evidence and should be disregarded.

21 NPDES Permits for the City of Atlanta, Georgia, (AR 1125-1139); the District of Columbia
22 (AR 2608-2658); Albuquerque, New Mexico, (AR 2659-2725); and Worcester, Massachusetts,
23 draft permit, (AR 2727-2802.)

24 Although not stated, the County of San Diego seems to offer these permits as evidence that
25 the street sweeping requirement in the permit exceeds federal law because the requirement is not
26 found in U.S. EPA-issued permits or other state-issued permits. NPDES permits "evolve and
27 mature over time" and must be flexible to reflect changing conditions that result from program
28 development and implementation and corresponding improvements in water quality."

1 (55 Fed.Reg. 47990, 48052; see also *In re City of Irving, supra*, 10 E.A.D. 111 at *6.) Under
2 federal law, each NPDES permit must be tailored to the unique characteristics of the surrounding
3 waterways and communities. Thus, requirements in one permit would logically be different than
4 the requirements in other permits unless of course the surrounding circumstances were identical.
5 As U.S. EPA stated when establishing the municipal storm water permitting regulations: “The
6 language of [Clean Water Act] section 402(p)(3) contemplates that, because of the fundamentally
7 different characteristics of many municipalities, municipalities will have permits tailored to meet
8 particular geographical, hydrological, and climatic conditions.” (55 Fed.Reg. 47990, 48053.)

9 Water quality issues in southern California cannot realistically be the same or similar to
10 water quality issues in Atlanta, the District of Columbia, Albuquerque, or Worcester. None of
11 those municipalities have world-class beaches that support a thriving, multi-billion dollar tourist
12 economy. As such, the NPDES permits are all different and unique and consistent with federal
13 law. Thus, it is of no consequence that U.S. EPA issued permits or other state-issued permits do
14 not include a specific requirement regarding street sweeping. The only relevant considerations
15 are the best management practices that implement the maximum extent practicable standard for
16 the County of San Diego’ discharges through its storm systems.

17 Excerpt from the U.S. EPA’s MS4 Program Evaluation Guide (AR 1939.)

18 Contrary to the County of San Diego’s suggestion, this part of the Guide supports street
19 sweeping. It states that permits “should address and include various practices for operating and
20 maintaining public streets, roads, and highways that reduce the impact of receiving waters of
21 discharges from municipal storm sewer systems. These practices should include regular street
22 sweeping and proper use of BMPs during street Maintenance activities.” (AR 1939.)

23 Comparison of the 2001 permit and the then-existing permit (AR 2575-2606.)

24 Once again, the County of San Diego seems to misunderstand the NPDES program and the
25 Clean Water Act. When an NPDES permit is renewed, reissued or modified, it generally must be
26 at least as stringent as the prior permit. (33 U.S.C. § 1342 (o); 40 C.F.R. 122.44 (l).) This is
27 consistent with Congress’ intent that state management programs evolve based on changing
28 conditions from program development and implementation and corresponding improvements in

1 water quality. (55 Fed.Reg. 48052.) The U.S. EPA “anticipates that storm water management
2 programs will evolve and mature over time. The permits for discharges from municipal separate
3 storm sewer systems will be written to reflect changing conditions that result from program
4 development and implementation and corresponding improvements in water quality.” (*Ibid.*)
5 Thus, federal law anticipates that permit requirements will change over time and become more
6 stringent. A new requirement in a permit alone does not mean that the requirement is beyond the
7 maximum extent practicable standard in federal law. In any event, this document is not relevant
8 to the challenged permit requirements in the 2007 permit. It concerns the 2001 permit and permit
9 requirements in its predecessor permit.

10 Commission’s Statement of Decision (AR 3877-3878.)

11 The County of San Diego, similar to the Commission, concludes that the street sweeping
12 requirement goes beyond federal law because it is not specifically required under the Clean Water
13 Act or its implementing regulations. As explained in this reply and the opening brief, the Clean
14 Water Act’s NPDES permit system requires states to develop standards based on the unique
15 conditions of particular waterways. Thus, the maximum extent practicable standard is necessarily
16 flexible, rather than a one-size-fits-all standard. (*Building Industry Ass’n of San Diego County,*
17 *supra*, 124 Cal.App.4th at p. 874.)

18 **2. Other Challenged Permit Requirements**

19 The County of San Diego identifies certain documents in the record that allegedly show that
20 the remaining permit requirements exceed the maximum extent practicable standard. (Opp. p. 35,
21 ll. 7-28, pp. 36-37.) The County is wrong and none of the purported documents support the
22 conclusion that the permit is a state mandate. The majority of the referenced documents are
23 simply additional citations to the documents identified above concerning the street sweeping
24 requirement. Petitioners will not repeat them in this section but will only discuss additional
25 documentation with respect to each permit requirement.

26 Storm Drain Cleaning and Maintenance and Regional Urban Runoff Management Program

27 There are no additional documents referenced for these requirements.
28

1 Educational Component

2 The County of San Diego references an excerpt from the U.S. EPA's MS4 Program
3 Evaluation Guide. (AR 1927.) As with the street sweeping requirement, this part of the Guide
4 supports public education and participation as an important component of the municipal storm
5 water permit program. (AR 1927.)

6 Watershed Activities and Collaboration, Program Effectiveness Assessment, Long Term
7 Effectiveness Assessment, and All Permittee Collaboration

8 The County of San Diego references an excerpt from the U.S. EPA's MS4 Program
9 Evaluation Guide. (AR 1903.) This part of the Guide supports including comprehensive
10 stormwater management planning, assessment, and collaboration as part of a municipal storm
11 water permit. (AR 1903.)

12 Hydromodification Management Plan and Low Impact Development

13 Again, the County of San Diego references an excerpt from the U.S. EPA's MS4 Program
14 Evaluation Guide. (AR 1985.) As above, this part of the Guide supports the development and
15 implementation of controls in a municipal storm water permit to address downstream erosion.
16 (AR 19853.) The County also references an administrative statement of decision from a
17 Washington case but does not explain why it is relevant. (AR 2389-2346.)

18 **III. THE PERMIT LAWFULLY REGULATES DISCHARGES TO REDUCE THE**
19 **INTRODUCTION OF POLLUTANTS INTO THE MUNICIPAL STORM DRAIN SYSTEM.**

20 In an effort to get around the maximum extent practicable standard, the County of San
21 Diego claims that the specific permit requirements are not subject to this standard. (Opp. p. 7, ll.
22 4-14, p. 28, ll. 5-27.) According to the County, the State Board has made a broad-based
23 determination that the maximum extent practicable standard does not apply to the "entry of
24 pollutants *into* the storm sewer system." (Opp. p. 28, ll. 14-15, emphasis in original.) The State
25 Board made no such broad-based determination: the County has misinterpreted the State Board's
26 ruling.

27 This claimed administrative proclamation by the State Board was part of a 2001
28 administrative decision involving different permit requirements that the County has wrenched out

1 of context. In that case, the challengers claimed that permit provision A.3, Discharge Prohibition,
2 requiring that “treatment and control discharges must always occur prior to entry in the MS4” is
3 too broad. (AR 2558-2574.) The State Board agreed, finding that the “specific language in this
4 prohibition too broadly restricts all discharges ‘into’ an MS4, and does not allow flexibility to use
5 regional solutions, where they could be applied in a manner that fully protects receiving waters.”
6 (AR 2567.) The State Board went on to explain that “[i]t is important to emphasize that
7 dischargers into MS4s continue to be required to implement a full range of BMPs, including
8 source control.” (AR 2567.) Consistent with the maximum extent practicable standard, the State
9 Board was critical of an absolute standard that did not provide the Regional Board with the
10 flexibility to determine the appropriate mix of best management practices, including source
11 control.

12 The State Board’s decision did not constrain the Clean Water Act’s requirements for
13 permits to include controls to reduce pollutants in municipal storm water discharges to the
14 maximum extent practicable. It certainly does not prohibit control of discharges into a municipal
15 storm sewer system. To interpret this determination to mean that the maximum extent practicable
16 standard does not apply to trash, inspections, or other source control mechanism is inconsistent
17 with U.S. EPA and court decisions.

18 And while the County of San Diego is required to obtain an NPDES permit to discharge
19 pollutants *from* their municipal storm sewer systems, by no stretch of the imagination does this
20 mean that the Clean Water Act exempts from municipal permit requirements the discharge of
21 pollutants *into* the system. The maximum extent practicable standard includes the flexibility to
22 “*direct permit requirements at the sources of pollution in the MS4 rather than solely at the end of*
23 *the pipe* [citation omitted].” (*In re City of Irving, supra*, 10 E.A.D. 111 at *6, emphasis added.)

24 The Clean Water Act itself uses the words “in” or “into,” not just “from.” Section
25 1342(p)(3)(B)(ii) requires that permits, like the one at issue before this court, “shall include a
26 requirement to effectively prohibit non-stormwater discharges into the storm sewers.” Also,
27 federal regulations require information about discharges “into” storm drains (see e.g.,
28 40 C.F.R. § 122.26(d)(1)(iv)), including a program “to reduce pollutants in storm runoff from

1 construction sites to the municipal storm sewer system” (40 C.F.R. § 122.26(d)(2)(iv)(D);
2 programs “to identify illicit connections to the municipal storm sewer system,”
3 (40 C.F.R. § 122.26(d)(1)(v)(B)); and programs that specify “source control measures to reduce
4 pollutants from runoff from commercial and residential areas” as well as a comprehensive
5 “master plan to develop, implement and enforce controls to reduce the discharge of pollutants
6 from municipal storm sewers which receive discharges from areas of new development and
7 significant redevelopment.” (40 C.F.R. § 122.26(d)(2)(iv)(A).)

8 And on a common sense level, controlling pollution at the source before it reaches the
9 storm sewer system allows for less expensive controls—like public education, street cleaning, and
10 screens—at the beginning of the system and avoids the difficulties of cleaning up a massive
11 amount of pollutants once they are in the system and receiving waters.

12 Thus, neither the Clean Water Act nor its implementing regulations limits the contents of
13 permits and their programs to discharges “from” storm sewer systems. Instead, the Clean Water
14 Act requires the permitting agency to “require controls to reduce the discharge of pollutants,”
15 including, inter alia, management practices and control techniques to prevent pollution at the
16 source. (33 U.S.C. § 1342(p)(3)(B)(iii).)

17 **IV. THE PERMIT AS A WHOLE AND THE CLAIMED MANDATED ACTIVITIES DO NOT IMPOSE A**
18 **NEW PROGRAM OR HIGHER LEVEL OF SERVICE.**

19 The County of San Diego, like the Commission, concludes that the majority of the
20 challenged permit requirements are “new” because they are not identical to the same requirements
21 found in the 2001 permit. (Opp. p. 22, ll. 19-28, p. 23-24, p. 25, ll. 1-8.) As explained in detail in
22 petitioners’ opening brief, such a narrow focus is not supported by law. The relevant
23 “requirement” for purpose of state mandates law is the federal requirement that the discharge of
24 pollutants from a MS4 for a population the size of the County of San Diego requires an NPDES
25 permit. This permit must include, under federal law, “controls to reduce the discharge of
26 pollutants to the maximum extent practicable.” (33 U.S.C. §1342 (p)(3)(B).) This requirement is
27 not new and is imposed on all entities that own or operate a municipal separate storm sewer
28 system. (*Ibid.*)

1 And even if the court were to look to the challenged permit requirements, those
2 requirements were part of the 2001 NPDES permit. All of the permit requirements in the 2001
3 NPDES permit were intended to implement the maximum extent practicable standard in the Clean
4 Water Act. (See *Building Industry Ass'n of San Diego County, supra*, 124 Cal.App.4th at p. 866
5 [2001 NPDES permit requirements did not exceed the Clean Water Act's maximum extent
6 practicable standard].) Merely adjusting the requirements of the 2001 NPDES permit to present
7 circumstances to ensure that this standard is met does not impose a new program.

8 As with the federal analysis, the Commission did not make any factual findings with
9 respect to whether the challenged permit requirements were a new program. Rather, it simply
10 concluded that certain requirements were "new" because they were not expressly provided for in
11 the 2001 NPDES permit. (AR 3871-3872, 3875-3876, 3877, 3880, 3893-3894, 3899-3900, 3905,
12 3911-3912, 3915, 3919-3920.) This type of analysis applies state mandates law in an overly
13 technical, myopic manner that disregards the essential nature of the Regional Board's job.

14 Last, there is no evidence that the requirements are brand new as opposed to mere
15 adjustment of the 2001 permit requirements. The claimed evidenced referenced by the County of
16 San Diego includes the 2007 permit (AR 249-369), the 2007 Fact Sheet (371-487), and the 2001
17 permit (AR 1569-1649). (Opp. p. 35-37.) These documents do not show that the challenged
18 2007 permit requirements were nonexistent before the 2007. Indeed, collectively these
19 documents show that all of the challenged requirements are modifications or adjustments to
20 previously established requirements in the 2001 permit.

21 Because the challenged permit requirements are generally found in the 2001 NPDES permit,
22 the specific requirements are not "new," and the Commission's findings to the contrary should be
23 reversed.

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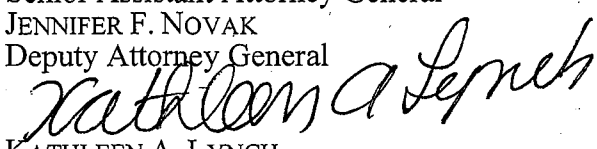
CONCLUSION

The permit is not a state mandate, because California must implement the federal NPDES program and because the permit does not exceed the maximum extent practicable standard in federal law. For the same reason and for the additional reason that the permit requirements are based on the 2001 NPDES permit, there is no new program or higher level of service. The Commission's decision finding that the permit and the claimed mandated activities are state mandates should be reversed.

Dated: August 25, 2011

Respectfully submitted,

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DECLARATION OF SERVICE BY OVERNIGHT COURIER

Case Name: **State of California Department of Finance, et al. v. Commission on State Mandates**

No.: **34-2010-80000604**

I declare:

I am employed in the Office of the Attorney General, which is the office of a member of the California State Bar, at which member's direction this service is made. I am 18 years of age or older and not a party to this matter; my business address is: 1300 I Street, Suite 125, P.O. Box 944255, Sacramento, CA 94244-2550.

On August 25, 2011, I served the attached **Reply in Support of Petition for Writ of Administrative Mandamus** by placing a true copy thereof enclosed in a sealed envelope with the **Golden State Overnight courier service**, addressed as follows:

CAMILLE SHELTON
Chief Legal Counsel
ERIC D. FELLER
Senior Staff Counsel
Commission on State Mandates
980 Ninth Street, Suite 300
Sacramento, CA 95814

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Deputy
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1200 3rd Avenue, Suite 1100
San Diego, California 92101-4100

I declare under penalty of perjury under the laws of the State of California the foregoing is true and correct and that this declaration was executed on August 25, 2011, at Sacramento, California.

Scott De Medeiros
Declarant


Signature

ATTACHMENT 31

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 2 ZACKERY P. MORAZZINI
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FILED
 Superior Court Of California,
 Sacramento
 07/20/2010
 eluna
 By _____, Deputy
 Case Number:
34-2010-80000605

8 *Attorneys for Petitioners*

9
 10 SUPERIOR COURT OF THE STATE OF CALIFORNIA
 11 COUNTY OF SACRAMENTO
 12

13 **STATE OF CALIFORNIA DEPARTMENT OF**
 14 **FINANCE, STATE WATER RESOURCES**
 15 **CONTROL BOARD, AND CALIFORNIA**
 16 **REGIONAL WATER QUALITY CONTROL**
 17 **BOARD, LOS ANGELES REGION,**
 Petitioners,
 18 v.
 19 **COMMISSION ON STATE MANDATES,**
 Respondent,
 20
 21 **COUNTY OF LOS ANGELES AND THE CITIES**
 22 **OF ARTESIA, AZUSA, BELLFLOWER,**
 23 **BEVERLY HILLS, CARSON, COMMERCE,**
 24 **COVINA, DOWNEY, MONTEREY PARK,**
 25 **NORWALK, RANCHO PALO VERDES, SIGNAL**
 26 **HILL, VERNON, AND WESTLAKE VILLAGE,**
 Real Parties In Interest.

CASE NO.:
 PETITION FOR WRIT OF
 ADMINISTRATIVE MANDAMUS
 [Gov. Code, § 17559(b);
 Code Civ. Proc., § 1094.5]

1 Petitioners State of California Department of Finance (“Department of Finance”), State
2 Water Resources Control Board (“State Water Board”), and California Regional Water Quality
3 Control Board, Los Angeles Region (“Los Angeles Regional Board”) hereby petition this Court
4 for a writ of administrative mandamus pursuant to Government Code section 17559, subsection
5 (b) and Code of Civil Procedure section 1094.5. Petitioners seek a writ directed at respondent
6 Commission on State Mandates (“Commission”), commanding it to set aside, in part, its
7 Statement of Decision relating to Test Claim Nos. 03-TC-04, 03-TC-19, 03-TC-20, and 03-TC-21
8 (“Test Claims”), which was issued by the Commission on September 3, 2009, and to issue a new
9 decision.

10 Petitioners allege as follows:

11 1. Petitioner Department of Finance is the state government entity charged with
12 supervising the financial and business policies of the State of California. The Department of
13 Finance is given these fiscal supervisory powers in order to conserve the financial interests of the
14 State, to prevent improvidence, and to control the expenditure of State funds by various state
15 government entities. The Department of Finance is authorized to institute proceedings as it
16 deems proper in order to conserve the rights and interests of the State. Petitioner Department of
17 Finance is aggrieved by the decision of respondent Commission to grant the Test Claims, as
18 alleged herein. The Department of Finance is authorized to commence this proceeding to set
19 aside the decision of respondent Commission in part, on the grounds that it is not supported by
20 substantial evidence and is contrary to law.

21 2. Petitioner State Water Board is within the California Environmental Protection
22 Agency. Petitioner State Water Board, together with the nine Regional Water Quality Control
23 Boards, comprise the principal agencies with primary responsibility for coordination and control
24 of water quality in the State of California. Petitioner State Water Board is the state water
25 pollution control agency for all purposes stated in the Federal Water Pollution Control Act
26 (“Clean Water Act”). Petitioner State Water Board is aggrieved by the decision of respondent
27 Commission to grant the Test Claims, as alleged herein. The State Water Board is authorized to
28

1 commence this proceeding to set aside the decision of respondent Commission in part, on the
2 grounds that it is not supported by substantial evidence and is contrary to law.

3 3. Petitioner Los Angeles Regional Board is the state agency with primary
4 responsibility to protect water quality in the Los Angeles region, including Los Angeles and
5 Ventura counties. Whereas the State Water Board establishes statewide policy for water quality
6 control, the Los Angeles Regional Board formulates and adopts water quality control plans for
7 areas within its jurisdiction. The Los Angeles Regional Board issues waste discharge
8 requirements within the Los Angeles region, including waste discharge requirements that serve as
9 National Pollutant Discharge Elimination System (NPDES) permits. Petitioner Los Angeles
10 Regional Board is aggrieved by the decision of respondent Commission to grant the Test Claims,
11 as alleged herein. The Los Angeles Regional Board is authorized to commence this proceeding to
12 set aside the decision of respondent Commission in part, on the grounds that it is not supported by
13 substantial evidence and is contrary to law.

14 4. Respondent Commission is the quasi-judicial body charged with carrying out
15 the administrative procedures for resolving claims for reimbursement of state mandated local
16 costs arising out of article XIII B, section 6, of the California Constitution. The functions,
17 powers, and duties of respondent Commission are set out in Government Code section 17500, et
18 seq., and the Commission's implementing regulations, California Code of Regulations, title 2,
19 section 1181, et seq.

20 5. Real parties in interest, the County of Los Angeles and the cities of Artesia,
21 Azusa, Bellflower, Beverly Hills, Carson, Commerce, Covina, Downey, Monterey Park,
22 Norwalk, Rancho Palo Verdes, Signal Hill, Vernon, and Westlake Village (collectively, "Los
23 Angeles Real Parties"), are "local governments" within the meaning of article XIII B, section 6 of
24 the California Constitution.

25 6. In 2003, the Los Angeles Real Parties, among others, individually and/or
26 collectively, filed Test Claim Nos. 03-TC-04, 03-TC-19, 03-TC-20, and 03-TC-21. The
27 Commission initially refused jurisdiction based on Government Code section 17516, which
28 excluded permits issued by the State Water Board and the regional water boards as executive

1 orders subject to state mandate reimbursement. After litigation, a writ issued commanding the
2 Commission to consider the Test Claims.

3 7. On or about October 18, 2007, real party County of Los Angeles refiled Test
4 Claim Nos. 03-TC-04 and 03-TC-19.

5 8. On or about November 28, 2007, real parties cities of Artesia, Azusa, Beverly
6 Hills, Carson, Commerce, Norwalk, Rancho Palos Verdes, Vernon, and Westlake Village refiled
7 Test Claim No. 03-TC-20.

8 9. On or about October 7, 2007, the cities of Arcadia, Baldwin Park, Bellflower,
9 Cerritos, Covina, Downey, Monterey Park, Pico Rivera, Signal Hill, South Pasadena, and West
10 Covina refiled Test Claim No. 03-TC-21.

11 10. On or about July 30, 2008, Test Claim No. 03-TC-21 was amended. Real
12 parties cities of Bellflower, Covina, Downey, Monterey Park, and Signal Hill remained as
13 claimants. The cities of Arcadia, Baldwin Park, Cerritos, Pico Rivera, South Pasadena, and West
14 Covina were removed as claimants.

15 11. The Test Claims are the subject of this proceeding and, therefore, the Los
16 Angeles Real Parties have an interest in the outcome of this petition to set aside a portion of the
17 decision of respondent Commission.

18 12. Venue is proper because the cause of action arose in Sacramento County.

19 13. The Test Claims pertain to a NPDES permit issued by the Los Angeles
20 Regional Board in 2001 (Board Order No. 01-182, NPDES Permit CAS004001) ("Los Angeles
21 Permit") (attached hereto as Exhibit A).

22 14. Congress established the NPDES permit system as part of the 1972
23 amendments to the Clean Water Act, which prohibits all discharges of pollutants from point
24 sources to waters of the United States, unless specifically authorized by an NPDES permit.

25 15. Under the Clean Water Act, the U.S. Environmental Protection Agency ("U.S.
26 EPA") would issue the NPDES permits unless a state obtains authorization to issue them in lieu
27 of issuance by the U.S. EPA.

28

1 16. In 1972, the California Legislature enacted Chapter 5.5 of the Porter-Cologne
2 Water Quality Control Act (commencing at Water Code section 13370), which authorized the
3 State Water Board to apply to the U.S. EPA for authority to issue NPDES permits in lieu of
4 issuance by the U.S. EPA.

5 17. In 1973, California became the first state in the nation to obtain authorization to
6 issue NPDES permits. The State Water Board and the nine regional boards, including the Los
7 Angeles Regional Board, implement the NPDES program in California. Therefore, the U.S. EPA
8 does not directly issue NPDES permits to dischargers in California.

9 18. Separate storm sewer systems owned and/or operated by municipalities
10 (“MS4s”) are covered “point sources” within the meaning of the Clean Water Act and its NPDES
11 program. Therefore, federal law requires municipalities, such as the Los Angeles Real Parties, to
12 obtain an NPDES permit before discharging pollutants from their systems. Federal regulations
13 further require permittees to apply for a new permit every five years.

14 19. Although the State Water Board and regional water boards are State agencies,
15 they issue NPDES permits that must be “no less stringent” than required by applicable federal law
16 and regulations. California regulations require that NPDES permits be issued in accordance with
17 the U.S. EPA’s NPDES regulations.

18 20. U.S. EPA retains continuing jurisdiction and authority to disapprove specific
19 permits and to supplant the water boards as the permitting authority if State-issued permits do not
20 meet federal requirements.

21 21. The federal Clean Water Act mandates that NPDES permits issued for MS4s
22 “shall require controls to reduce the discharge of pollutants to the maximum extent practicable,
23 including management practices, control techniques and system, design and engineering methods,
24 and such other provisions as the Administrator or the State determines appropriate for the control
25 of such pollutants.” 33 U.S.C. § 1342 (p)(3)(B)(iii).

26 22. U.S. EPA regulations further mandate that entities subject to the permitting
27 system must propose management programs that the permitting authority (i.e., the State Water
28 Board and the nine regional water boards) will consider “when developing permit conditions to

1 reduce pollutants in discharges to the maximum extent practicable.” 40 C.F.R. § 122.26
2 (D)(2)(iv)(1998). The management programs must include “a comprehensive planning process . .
3 . to reduce the discharge of pollutants to the maximum extent practicable using management
4 practices, control techniques and system, design and engineering methods, and such other
5 provisions which are appropriate.” (*Ibid.*)

6 23. The Los Angeles Real Parties, among others, own and/or operate an MS4 that
7 discharges pollutants into waters of the United States, as defined by the Clean Water Act.

8 24. The Los Angeles Real Parties applied for, and received, their first NPDES
9 permit for the MS4 in 1990. They applied for, and received, their second NPDES permit for the
10 MS4 in 1996.

11 25. In 2001, the Los Angeles Real Parties submitted another permit application to
12 the Los Angeles Regional Board. After receiving voluminous comments from stakeholders and
13 interested parties, holding public hearings, meetings and workshops, and after consulting with the
14 Los Angeles Real Parties, either directly or by proxy, the Los Angeles Regional Board issued the
15 Los Angeles Permit.

16 26. In Test Claim Nos. 03-TC-04, 03-TC-20, and 03-TC-21, claimants asserted,
17 among other things, that part 4F5c3 of the Permit (placing and maintaining trash receptacles at
18 transit stops) (Exhibit A at 49) constitutes a reimbursable state mandated activity within the
19 meaning of Government Code section 17514 and article XIII B, section 6, of the California
20 Constitution.

21 27. In Test Claim Nos. 03-TC-19, 03-TC-20, and 03-TC-21, claimants asserted,
22 among other things, that part 4C2a of the Permit (inspecting commercial facilities) (Exhibit A at
23 28-31) constitutes a reimbursable state mandated activity within the meaning of Government
24 Code section 17514 and article XIII B, section 6, of the California Constitution.

25 28. In Test Claim Nos. 03-TC-19, 03-TC-20, and 03-TC-21, claimants asserted,
26 among other things, that part 4C2b of the Permit (inspecting Phase I industrial facilities) (Exhibit
27 A at 31) constitutes a reimbursable state mandated activity within the meaning of Government
28 Code section 17514 and article XIII B, section 6, of the California Constitution.

1 29. In Test Claim Nos. 03-TC-20 and 03-TC-21, claimants asserted, among other
2 things, that part 4E of the Permit (inspecting construction sites) (Exhibit A at 42-45) constitutes a
3 reimbursable state mandated activity within the meaning of Government Code section 17514 and
4 article XIII B, section 6, of the California Constitution.

5 30. Pursuant to article XIII B, section 6, whenever the Legislature or any state
6 agency mandates a new program or higher level of service on a local government, the state shall
7 provide a subvention of funds to reimburse the local government for the costs of such program or
8 increased level of service.

9 31. Government Code section 17514 provides that “[c]osts mandated by the state”
10 means any increased costs which a local agency is required to incur after July 1, 1980, as a result
11 of any statute enacted on or after January 1, 1975, or any executive order implementing any
12 statute enacted on or after January 1, 1975, which mandates a new program or higher level of
13 service of an existing program within the meaning of article XIII B, section 6.

14 32. On September 3, 2009, respondent Commission issued its Statement of
15 Decision (attached hereto as Exhibit B), finding, among other things, that:

16 (a) Permit parts 4F5c3, 4C2a, 4C2b, and 4E (other than the use of a database
17 or GIS system) are state mandates subject to article XIII B, section 6 of the California
18 Constitution;

19 (b) Permit parts 4F5c3, 4C2a, 4C2b, and 4E impose a “new program or
20 higher level of service” within the meaning of article XIII B, section 6; and

21 (c) Permit part 4F5c3 is a reimbursable state mandate within the meaning of
22 article XIII B, section 6 and Government Code section 17514 due in part to the Los Angeles Real
23 Parties’ lack of sufficient fee authority.

24 33. The Commission’s finding that permit parts 4F5c3, 4C2a, 4C2b, and 4E (other
25 than the use of a database or GIS system) are state mandates subject to article XIII B, section 6
26 constitutes a prejudicial abuse of discretion within the meaning of Code of Civil Procedure
27 section 1094.5, subsection (b). The Commission did not proceed in the manner required by law
28 and the finding is not supported by substantial evidence for the following reasons:

1 (a) Permit parts 4F5c3, 4C2a, 4C2b, and 4E are federal, not state, mandates.
2 Article XIII B, section 6 requires state subvention only when the mandate is imposed by the
3 Legislature or a state agency. Government Code section 17556, subsection (c) further provides
4 that state subvention is not required when the federal government, rather than the state
5 government, imposes the costs on local agencies. Federal Clean Water Act and U.S. EPA
6 regulations mandate that the NPDES permits “shall require,” at a minimum, controls to reduce the
7 discharge of pollutants to the “maximum extent practicable” using appropriate “management
8 practices, control techniques and system, design and engineering methods.” (33 U.S.C. § 1342
9 (p)(3)(B)(iii).) The management practices set out in the Los Angeles Permit, including permit
10 parts 4F5c3, 4C2a, 4C2b, and 4E, collectively and individually, reduce pollutant discharges to the
11 “maximum extent practicable” as mandated by the federal law and regulations. The Los Angeles
12 Regional Board, in issuing the Los Angeles Permit, implemented and did not exceed the
13 requirements of the Clean Water Act and the relevant U.S. EPA regulations;

14 (b) The Commission’s finding that permit parts 4F5c3, 4C2a, 4C2b, and 4E
15 are activities that “mandate costs that exceed the mandate in the federal law” fails to give
16 conclusive effect to a prior Superior Court proceeding, brought by all Los Angeles Real Parties
17 except Azusa against the Los Angeles Regional Board, in which the court expressly found that
18 the terms of the Los Angeles Permit did not exceed the “maximum extent practicable” standard.
19 (*In re Los Angeles County Municipal Storm Water Permit Litigation* (Super. Ct. Los Angeles
20 County, 2005, No. BS 080548).) The earlier Superior Court proceeding reached final judgment
21 on the merits and has binding effect on this issue as against the Los Angeles Real Parties;

22 (c) The Commission’s finding that permit parts 4F5c3, 4C2a, 4C2b, and 4E
23 are activities that mandate costs that exceed the federal mandate because they are not “expressly
24 required” by the federal statutes and regulations is not supported by substantial evidence. Federal
25 law and regulations do not expressly provide for every management practice or control that they
26 require in an NPDES permit. Rather, federal law and regulations require that permitted
27 management practices and controls reduce the discharge of pollutants to the maximum extent
28

1 practicable, which specific practices are to be proposed by the municipalities, or, in the absence
2 of an acceptable proposal, defined by the federal or state permitting agency;

3 (d) The Commission's finding that the State freely chose to impose permit
4 parts 4F5c3, 4C2a, 4C2b, and 4E on the Los Angeles Real Parties is not supported by substantial
5 evidence. As a matter of federal law, the State Water Board and the Los Angeles Regional Board
6 cannot adopt an NPDES permit that is "less stringent" than the federal "maximum extent
7 practicable" standard. Furthermore, had the Los Angeles Regional Board not issued the NPDES
8 permit at issue, or had the U.S. EPA disapproved of that permit, the Los Angeles Real Parties
9 would have had to obtain an NPDES permit directly from the U.S. EPA, which would prescribe
10 specific permit requirements using the same "maximum extent practicable" standard that the Los
11 Angeles Regional Board used in issuing the Los Angeles Permit;

12 (e) After erroneously concluding that permit parts 4F5c3, 4C2a, 4C2b, and
13 4E are state mandates, the Commission failed to consider the incidental nature of these provisions
14 to the federal requirements, and that any costs imposed which exceed the federal requirements are
15 merely de minimis and nonreimbursable. As a matter of law, any state rule or procedure intended
16 to implement an applicable federal law, and whose costs are de minimis in the proper context, are
17 treated as part of the underlying federal mandate;

18 (f) The Commission's finding that the activities prescribed by permit parts
19 4F5c3, 4C2a, 4C2b, and 4E were not undertaken at the option or discretion of the Los Angeles
20 Real Parties is not supported by substantial evidence. U.S. EPA regulations require the Real
21 Parties to propose management programs to the permitting authority. The Los Angeles Real
22 Parties, however, had discretion over which activities and conditions to propose as best
23 management practices to the Los Angeles Regional Board for adoption. Exercising that
24 discretion, the Los Angeles Real Parties proposed management practices, which the Los Angeles
25 Regional Board used as a basis for adopting permit parts 4F5c3, 4C2a, 4C2b, and 4E, with
26 additions and revisions necessary to meet the federal "maximum extent practicable" standard.
27 Furthermore, if the Los Angeles Real Parties had believed permit parts 4F5c3, 4C2a, 4C2b, and
28 4E exceeded the maximum extent practicable standard, they had the option to propose alternate

1 management practices to the Los Angeles Regional Board for implementation, but they chose not
2 to do so; and

3 (g) The Commission's finding that permit parts 4F5c3, 4C2a, 4C2b, and 4E
4 are "mandated costs" is not supported by substantial evidence. "Costs mandated by the state" are
5 increased costs incurred by local governments as a result of any statute enacted on or after
6 January 1, 1975. (Gov. Code, § 17514.) The State Water Board's and the regional water boards'
7 authority to issue NPDES permits in implementing the federal Clean Water Act is granted by
8 Chapter 5.5 of the Porter-Cologne Act. Chapter 5.5 of the Porter-Cologne Act was enacted in
9 1972. Any increased costs incurred by the Los Angeles Real Parties in implementing the Los
10 Angeles Permit are, therefore, not "costs mandated by the state."

11 34. The Commission's finding that permit parts 4F5c3, 4C2a, 4C2b, and 4E impose
12 "a new program or higher level of service" constitutes a prejudicial abuse of discretion within the
13 meaning of Code of Civil Procedure section 1094.5, subsection (b). The Commission did not
14 proceed in the manner required by law and the finding is not supported by substantial evidence
15 for the following reasons:

16 (a) The State need only reimburse a local agency for "a new program or
17 higher level of service." A "program" under article XIII B, section 6 is one that carries out the
18 governmental function of providing services to the public, or a law which, to implement a state
19 policy, imposes unique requirements on local governments and does not apply generally to all
20 residents and entities in the state. The State Water Board and the regional water boards issue
21 NPDES permits to both public and private entities subject to the Clean Water Act. As required
22 by the Clean Water Act and U.S. EPA regulations, the State Water Board and the regional water
23 boards actually impose more stringent requirements on private entities than on public entities.
24 The permit at issue, therefore, does not impose a "new program or higher level of service"
25 because it does not force the Los Angeles Real Parties to carry out any public service peculiar to
26 governments and imposes no requirements unique to the Los Angeles Real Parties; and

27 (b) The Commission's finding that the requirements of permit parts 4C2a,
28 4C2b, and 4E constitute "a new program or higher level of service" is incorrect. The

1 requirements imposed by the Los Angeles Permit are the same as or similar to those of the permit
2 in effect immediately before, but with more specificity, and thus do not impose "a new program
3 or higher level of service."

4 35. The Commission's finding that the Los Angeles Real Parties lack appropriate
5 authority to levy fees sufficient to pay for the permit part 4F5c3 constitutes a prejudicial abuse of
6 discretion within the meaning of Code of Civil Procedure section 1094.5, subsection (b). The
7 Commission did not proceed in the manner required by law and the finding is not supported by
8 substantial evidence. The Los Angeles Real Parties have the authority to levy fees sufficient to
9 pay for cost associated with implementing permit part 4F5c3 under their general police power
10 and/or under Public Resources Code section 40059(a):

11 (a) Under their general police power, the Los Angeles Real Parties may make
12 and enforce local, police, sanitary, and other ordinances and regulations. This includes the
13 authority to implement permit part 4F5c3 and the authority to impose fees to pay for such
14 implementation; and

15 (b) Under Public Resources Code section 40059(a), municipalities may
16 determine "[a]spects of solid waste handling which are of local concern, including, but not
17 limited to, frequency of collection, means of collection and transportation, level of services,
18 charges and fees, and nature, location, and extent of providing solid waste handling services."
19 Placing and maintaining trash receptacles at transit stops, as required by permit part 4F5c3, is an
20 aspect of solid waste handling for which the Los Angeles Real Parties may determine charges and
21 fees.

22 36. Petitioners have no plain, speedy, and adequate remedy in the ordinary course
23 of law.

24 37. Petitioners have requested that respondent Commission prepare a true and
25 correct copy of the administrative record of all proceedings in connection with the Test Claims.
26 A true and correct copy of the administrative record will be lodged with the Court prior to the
27 hearing on this petition.

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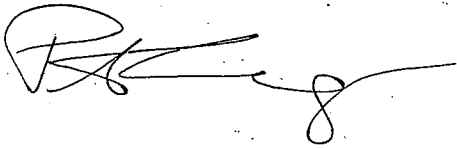
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WHEREFORE, petitioners Department of Finance, State Water Board, and Los Angeles Regional Board pray as follows:

1. That a writ of mandate issue pursuant to Government Code section 17559, subsection (b) and Code of Civil Procedure section 1094.5, directed to respondent Commission on State Mandates, commanding it to set aside its decision granting Test Claim Nos. 03-TC-04, 03-TC-19, 03-TC-20, and 03-TC-21, in part, and to issue a new decision consistent with the Court's opinion and judgment;
2. That petitioners recover their costs incurred in this proceeding; and,
3. For such other relief that the Court considers proper.

Dated: July 20, 2010

Respectfully Submitted,
EDMUND G. BROWN JR.
Attorney General of California
ZACKERY P. MORAZZINI
Supervising Deputy Attorney General
JENNIFER F. NOVAK
PETER H. CHANG
Deputy Attorneys General



PETER H. CHANG
Deputy Attorney General
Attorneys for Petitioners

ATTACHMENT 32

RECEIVED
AUG 25 2011
DEPT. 86

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10 *Control Board*

11 SUPERIOR COURT OF THE STATE OF CALIFORNIA

12 COUNTY OF LOS ANGELES.

13 BY FAX

14
15 STATE OF CALIFORNIA DEPARTMENT
OF FINANCE, STATE WATER
16 RESOURCES CONTROL BOARD, LOS
ANGELES REGIONAL WATER
17 QUALITY CONTROL BOARD,

18 Petitioners,

19 v.

20 COMMISSION ON STATE MANDATES,

21 Respondent,

22
23 COUNTY OF LOS ANGELES AND THE
CITIES OF ARTESIA, BEVERLY HILLS,
24 CARSON, NORWALK, RANCHO PALO
VERDES, WESTLAKE VILLAGE,
25 AZUSA, COMMERCE, VERNON,
BELLFLOWER, COVINA, DOWNEY,
26 MONTEREY PARK, AND SIGNAL HILL,

27 Real Parties in Interest.
28

Case No. BS130730

^{to}
[Proposed] PEREMPTORY WRIT OF
MANDATE

Dept: 86
Judge: The Hon. Ann I. Jones

Action Filed: July 20, 2010.

1 COUNTY OF LOS ANGELES AND
2 CITIES OF BELLFLOWER, CARSON,
3 COMMERCE, COVINA, DOWNEY AND
4 SIGNAL HILL,

Cross-Petitioners,

5 COMMISSION ON STATE MANDATES,

6 Cross-Respondent.

7 STATE OF CALIFORNIA DEPARTMENT
8 OF FINANCE, STATE WATER
9 RESOURCES CONTROL BOARD, AND
10 LOS ANGELES REGIONAL WATER
QUALITY CONTROL BOARD,

Cross-Real Parties in Interest

11 TO RESPONDENT COMMISSION ON STATE MANDATES:

12 Judgment having been entered in this action that a Peremptory Writ of Mandate be issued
13 from this Court,

14 YOUR ARE HEREBY COMMANDED immediately upon receipt of this writ:

15 1. To set aside and vacate the Commission on State Mandates' Statement of Decision
16 on the test claims of Real Parties in Interest, case numbers 03-TC-04, 03-TC-19, 03-TC-20, and
17 03-TC-21, entitled "Municipal Stormwater and Urban Runoff Discharges," adopted by the
18 Commission on July 31, 2009.

19 2. To adopt a new decision consistent with the Court's order of August 15, 2011 on
20 the grounds that the challenged permit provisions in permit number CAS004001, consisting of
21 part 4F5c3 (placing and maintaining trash receptacles at transit stops), part 4C2a (inspecting
22 commercial facilities), part 4C2b (inspecting Phase I industrial facilities); and part 4E (inspecting
23 construction sites), are within the maximum extent practicable standard under the mandatory
24 provisions of the Clean Water Act and are federal mandates not subject to reimbursement under
25 article XIII B, section 6, of the California Constitution.

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YOU ARE FURTHER COMMANDED to make and file a return to this writ on or before
OCT 12 2011 setting forth what you have done to comply with this writ.

Dated this day of SEP - 8 2011 at Los Angeles, California.



By: **JOHN A. CLARKE, CLERK**

Clerk of the Los Angeles Superior Court

By: *K. W. Kam* **K. W. Kam**

Deputy Clerk

LET THE FOREGOING WRIT ISSUE.

Dated this 6th day of September at Los Angeles, California.

Ann I. Jones
The Honorable Ann I. Jones
Judge of the Superior Court

to

DECLARATION OF SERVICE BY OVERNIGHT COURIER

Case Name: **Department of Finance, et al. v. Commission on State Mandates**

No.: **BS130730**

I declare:

I am employed in the Office of the Attorney General, which is the office of a member of the California State Bar; at which member's direction this service is made. I am 18 years of age or older and not a party to this matter; my business address is: 1300 I Street, Suite 125, P.O. Box 944255, Sacramento, CA 94244-2550.

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Scott De Medeiros
Declarant

Scott De Medeiros
Signature

SERVICE LIST

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ATTACHMENT 33

In the Supreme Court of the State of California

**STATE DEPARTMENT OF FINANCE et
al.,**

Plaintiffs and Respondents,

v.

COMMISSION ON STATE MANDATES,

Defendant and Respondent,

COUNTY OF LOS ANGELES et al.,

**Real Parties in Interest
and Appellants.**

Case No. S214855

**SUPREME COURT
FILED**

AUG 22 2014

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Deputy

Second Appellate District, Division One, Case No. B237153
Los Angeles County Superior Court, Case No. BS130730
Hon. Ann I. Jones, Judge

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INTRODUCTION

The California Regional Water Quality Control Board, Los Angeles Region, issued a sewer permit pursuant to its duty and authority under the federal Clean Water Act and United States Environmental Protection Agency (EPA) regulations. The Regional Board determined, as has every reviewing court, that the permit did not exceed the requirements of federal law. Yet when discrete terms of the permit were later challenged before the Commission on State Mandates, the Commission contradicted the legal conclusion of the Regional Board as well as the courts. The Commission held that the challenged permit terms exceeded the requirements of federal law and were therefore state mandates. Because the Commission erred in construing the requirements of federal law, the superior court issued a writ of mandate overruling the Commission's decision. The Court of Appeal affirmed that determination, and Respondents now ask this Court to do the same.

Under the California Constitution, when the State requires that local governments provide a new program or higher level of service, the State must reimburse the costs of the mandated activity. (Cal. Const., art. XIII B, § 6.) The Constitution does not, however, require the State to pay for local government compliance with federal mandates.

The permit issued by the Regional Board is a federal mandate. It is required by federal law and does not exceed the requirements of federal law. The Clean Water Act forbids local governments from operating a municipal separate storm sewer system (MS4) without a permit that implements the requirements of the Clean Water Act, including controls designed to reduce the discharge of pollutants in stormwater to the "maximum extent practicable." The permit, whether issued by the EPA or an authorized state agency acting in lieu of the EPA, must meet the maximum-extent-practicable standard. Congress delegated to authorized

permitting agencies the discretion to determine the particular combination of practices and controls that will meet this standard. This flexibility allows permitting agencies to effectively address the specific conditions in which different MS4s operate, which can vary widely. The permit defines how MS4 operators must comply with the Clean Water Act and is enforceable in federal district court. Because the permit that the Regional Board issued here did not exceed the requirements of federal law, it is a federal mandate.

The permit contains a set of interrelated terms designed to work together to achieve the federal standard, the requirements of which must be construed pursuant to federal law. As the courts below found, the Commission did not properly construe the requirements of federal law. Federal law does not prescribe an approved list of controls from which the permitting agency must choose in drafting a permit; it leaves the choice of controls that will achieve the federal standard to the expertise of the permitting authority, subject to judicial review. Thus, the extent to which the permit or its terms meets or exceeds the federal maximum-extent-practicable standard cannot fairly be analyzed, as the Commission did, by determining whether discrete terms of the permit are themselves expressly prescribed by federal law. While a regional board may in some circumstances exceed federal permitting requirements and impose additional requirements under California's Porter-Cologne Water Quality Control Act, the Regional Board found, and the courts that reviewed its decision agreed, that the permit here did not exceed federal requirements. The Appellants' arguments fail to provide grounds for reversal, and this Court should therefore affirm the judgment.

LEGAL FRAMEWORK

A. The Federal Clean Water Act and the Origin of the Maximum-Extent-Practicable Standard

The federal government regulates water pollution through the Federal Water Pollution Control Act, commonly known as the Clean Water Act. (33 U.S.C. § 1251 et seq.) The act makes it unlawful to discharge pollutants into waters of the United States from any “point source”—a pipe, ditch, or similar conveyance—without first obtaining a permit under the National Pollutant Discharge Elimination System (NPDES). (*Id.*, §§ 1311, 1342, 1362(14).) A permit translates the act’s general requirements into specific obligations that allow a discharger to comply with the act. (See *id.*, § 1342(k).) Put differently, the permit facilitates compliance with, and enforcement of, the act by defining “a preponderance of a discharger’s obligations” under the act. (*Environmental Protection Agency v. California ex rel. State Water Resources Control Board* (1976) 426 U.S. 200, 205 (*Environmental Protection Agency*)).

An NPDES permit may be effective for up to five years. (33 U.S.C. § 1342(b)(1)(B).) Congress intended that compliance with the act would become increasingly demanding as water quality and pollution-control techniques improved, anticipating that each new permit would contain more stringent standards than the last. (See 55 Fed.Reg. 48052 (Nov. 16, 1990); see also volume 3, Administrative Record (AR) page 3797.) Every condition within an NPDES permit is enforceable in federal court, under federal law. (See 33 U.S.C. § 1365.) Violating the permit subjects the permittee to civil suit and criminal penalties. (See *id.*, §§ 1319, 1342(i).)

1. State Implementation of the Federal NPDES Permitting Program

“The Clean Water Act anticipates a partnership between the States and the Federal Government, animated by a shared objective: ‘to restore

and maintain the chemical, physical, and biological integrity of the Nation's waters.'" (*Arkansas v. Oklahoma* (1992) 503 U.S. 91, 101, quoting 33 U.S.C. § 1251(a).) Although it charged the EPA with administering the NPDES permitting program, Congress envisioned that states would assist in implementation of the program by issuing permits in lieu of the EPA. (See 33 U.S.C. §§ 1251(b), 1342(b).)

Regulations promulgated by the EPA implement the NPDES program, including the criteria that states must meet to obtain federal permitting authority. (See generally 40 C.F.R. parts 122 to 125.) In issuing permits, approved states must ensure that the permit complies with all applicable requirements of the Clean Water Act and its implementing regulations. (*Id.*, § 122.4(a).) But federal law and regulations form a regulatory floor. States may impose more stringent or extensive permit requirements under their own laws. (33 U.S.C. § 1370; 40 C.F.R. § 123.1(i); *City of Burbank v. State Water Resources Control Board* (2005) 35 Cal.4th 613, 627-628 (*City of Burbank*) [holding that state-issued NPDES permits may impose requirements more stringent than federal law].)

State permitting authority is also conditioned on compliance with general procedural requirements, like giving public notice of draft permits and allowing for the public to comment on them before they become final. (See, e.g., 40 C.F.R. §§ 124.3, 124.6, 124.8.) State issuers must also follow certain additional requirements. (See 33 U.S.C. § 1342(b); 40 C.F.R. § 123.1 et seq.) For example, states issuing NPDES permits must have legal authority to carry out the permitting program and must provide for judicial review in state court of final approval or denial of permits. (See 33 U.S.C. § 1342(b)(1); 40 C.F.R. §§ 123.1(c), 123.30.) The EPA may review and veto a state-issued permit for failure to comply with the Clean Water Act or its implementing regulations. (See 33 U.S.C. § 1342(d); 40 C.F.R.

§ 123.44.) It also retains ultimate authority to rescind a state's approval to issue NPDES permits. (33 U.S.C. § 1342(c).)

2. **Development of the Maximum-Extent-Practicable Standard for Issuance of MS4 Permits**

Congress instituted the NPDES permitting program in a 1972 amendment to the Clean Water Act. (See generally *Environmental Protection Agency, supra*, 426 U.S. at pp. 202-205.) Initially, the EPA exempted MS4 discharges from the act's permitting requirements. (*Building Industry Association of San Diego County v. State Water Resources Control Board* (2004) 124 Cal.App.4th 866, 873 (*Building Industry*)). An environmental group successfully challenged that decision before the D.C. Circuit, which rejected the EPA's argument that the variable nature of stormwater pollution made restrictions on the amount of pollutants, called "effluent limitations" in the act, infeasible. (*Natural Resources Defense Council, Inc. v. Costle* (D.C. Cir. 1977) 568 F.2d 1369, 1372-1373, 1377-1380.) The court held that the EPA Administrator did not have authority to exempt MS4s and ordered the EPA to promulgate regulations. (*Id.* at p. 1383.)

Over the next 15 years, the EPA attempted to draft regulations that "reconcil[e] the statutory requirement of point source regulation with the practical problems of regulating possibly millions of diverse point source discharges of storm water." (*Building Industry, supra*, 124 Cal.App.4th at p. 874.) During that same period, stormwater came to be seen as "one of the most significant sources of water pollution in the nation" because it carries "suspended metals, sediments, algae-promoting nutrients (nitrogen and phosphorus), floatable trash, used motor oil, raw sewage, pesticides, and other toxic contaminants into streams, rivers, lakes, and estuaries across the United States." (See *Environmental Defense Center, Inc. v. United States Environmental Protection Agency* (9th Cir. 2003) 344 F.3d

832, 840-841 (*Environmental Defense Center*.) In response to the EPA's struggle to develop a workable regulatory scheme for MS4s, and in recognition of the environmental threat posed by stormwater, Congress passed the Water Quality Act of 1987. (See *Natural Resources Defense Council, Inc. v. United States Environmental Protection Agency* (9th Cir. 1992) 966 F.2d 1292, 1296 (*Natural Resources Defense Council*.) The act added section 402(p) to the Clean Water Act to address stormwater permitting. (See 33 U.S.C. § 1342(p).) The new MS4 standard marked a shift away from the previous practice of requiring NPDES permittees to comply with numeric effluent limitations fixed by law or regulation. (*Defenders of Wildlife v. Browner* (9th Cir. 1999) 191 F.3d 1159, 1163, 1165-1166.)

Clean Water Act section 402(p)(3)(B) introduced a flexible permitting standard for MS4 permits. (See 33 U.S.C. § 1342(p)(3)(B).) That is, rather than adopting effluent limitations that would apply across the board to all MS4 permittees or requiring immediate end-of-pipe compliance with water quality standards, Congress empowered the permitting authority—either the EPA or a state—to issue permits that respond to the unique circumstances of each MS4. (*Building Industry, supra*, 124 Cal.App.4th at p. 874; see also *Communities for a Better Environment v. State Water Resources Control Board* (2003) 109 Cal.App.4th 1089, 1092-1094 [discussing effluent limitations and NPDES permitting generally].)

Section 402(p)(3)(B) includes three discrete obligations for MS4 permits. First, permits for MS4 discharges must prohibit non-stormwater discharges into the MS4. (33 U.S.C. § 1342(p)(3)(B)(ii).) Second, permits for MS4 discharges must include “controls to reduce the discharge of pollutants to the maximum extent practicable, including management practices, control techniques and system, design and engineering methods.” (*Ibid.*) Third, the permits for MS4 discharges “shall require . . . such other

provisions as the Administrator or the State determines appropriate for the control of such pollutants.” (*Ibid.*) Collectively, these statutory requirements reflect the federal standard, although this case concerns only the maximum-extent-practicable standard.

In 1990, the EPA adopted regulations implementing the new rule for large and medium MS4s. (See generally 55 Fed.Reg. 47990; *Natural Resources Defense Council, supra*, 966 F.2d at pp. 1296-1298.) Large MS4s serve populations of 250,000 or more, while medium MS4s serve populations between 100,000 and 250,000. (40 C.F.R. § 122.26(b)(4), (7).) The regulations, which are codified at 40 C.F.R. § 122.26, implement the Clean Water Act’s maximum-extent-practicable standard. Neither the act nor the EPA’s regulations, however, defines the maximum-extent-practicable standard. As the EPA’s notice of rulemaking explained, the maximum-extent-practicable standard represented Congress’s recognition that effectively regulating discharges from MS4s is a complex undertaking and that MS4 permit requirements “should be developed in a flexible manner to allow site-specific permit conditions to reflect the wide range of impacts that can be associated with these discharges.” (55 Fed.Reg. at pp. 48037-48038.) Developing permits in a flexible manner allows the agencies charged with drafting them to “tailor permits to the site-specific nature of MS4 discharges,” and it reflects Congress’s recognition that different permits may have different requirements. (See *In re: City of Irving, Texas Municipal Separate Storm Sewer System* (U.S. E.P.A. Environmental Appeals Board, July 16, 2001) 10 E.A.D. 111 [2001 WL 988723 at p. *6] (*City of Irving*).) The “standard is a highly flexible concept that depends on balancing numerous factors, including the particular control’s technical feasibility, cost, public acceptance, regulatory compliance, and effectiveness.” (*Building Industry, supra*, 124 Cal.App.4th at p. 889.)

Under the EPA's regulations, municipalities seeking permits to operate a large or medium MS4 must submit detailed applications. (See 40 C.F.R. § 122.26(d).) The applicant must propose a management program to reduce the discharge of pollutants to the maximum extent practicable using management practices, control techniques, system, design and engineering methods, and any other appropriate approaches. (*Id.*, § 122.26(d)(2)(iv); see also 3 AR 3393.) As with any NPDES permit, although the applicant proposes permit provisions that it believes will comply with the Clean Water Act and EPA regulations, it is the permitting agency that ultimately "has discretion to decide what practices, techniques, methods and other provisions are appropriate and necessary to control the discharge of pollutants" to comply with federal law. (See *City of Rancho Cucamonga v. Regional Water Quality Control Board – Santa Ana Region* (2006) 135 Cal.App.4th 1377, 1389 (*Rancho Cucamonga*); cf. *Environmental Defense Center, supra*, 344 F.3d at p. 856 [explaining that "stormwater management programs that are designed by regulated parties must, in every instance, be subject to meaningful review by an appropriate regulating entity to ensure that each such program reduces the discharge of pollutants to the maximum extent practicable"].)

**B. The Porter-Cologne Act and California's
Implementation of the NPDES Permitting Program**

The California Legislature passed the Porter-Cologne Water Quality Control Act in 1969 to promote conservation, to attain the highest water quality reasonable, and to protect the public health, safety, and welfare. (Wat. Code, § 13000.) The act required the State Water Resources Control Board (State Board) and nine regional boards (collectively, the Water Boards) to implement water law and policy. (*Id.*, §§ 13100, 13140, 13200, 13201, 13240, 13241, 13243.) Shortly after Congress added the NPDES program to the federal Clean Water Act in 1972, the California Legislature

determined that it was in the interest of the people to have the State issue NPDES permits in lieu of the EPA, “to avoid direct regulation by the federal government of persons already subject to regulation under state law” (See *id.*, § 13370.) The Legislature added chapter 5.5 to the Porter-Cologne Act to achieve that goal and to align California law with federal law. (See *id.*, § 13372.) In 1973, California became the first State to receive EPA approval to issue NPDES permits. (See *Environmental Protection Agency, supra*, 426 U.S. at p. 209.)

Under the Porter-Cologne Act, the Water Boards issue waste discharge requirements. (Wat. Code, § 13377.) Those requirements “are the equivalent of the NPDES permits required by federal law.” (*City of Burbank, supra*, 35 Cal.4th at p. 621, citing Wat. Code, § 13374.) To obtain waste discharge requirements from the Water Boards, a discharger must submit a report of waste discharge, which is the equivalent of an NPDES permit application. (See Wat. Code, §§ 13260, 13374.) The Water Boards then process the application in accordance with federal NPDES permitting rules and procedures. (See Cal. Code Regs., tit. 23, §§ 2235.1-2235.2.) After considering an applicant’s report of waste discharge, along with information learned before and during public hearings, the Water Boards prescribe waste discharge requirements that constitute an NPDES permit. (See Wat. Code, § 13263, subd. (a).) Any “aggrieved person,” including the discharger, may petition the State Board for administrative review of the permit’s appropriateness and propriety. (See *id.*, § 13320, subd. (c); Cal. Code Regs., tit. 23, §§ 2050-2068.) A party that disagrees with the State Board’s decision may challenge it in superior court by petition for administrative mandamus. (See Wat. Code, § 13330, citing Code Civ. Proc., § 1094.5.) These application and judicial-review procedures govern MS4 permits. (See, e.g., *Rancho Cucamonga, supra*, 135 Cal.App.4th at pp. 1381-1391 [reviewing challenge to an MS4 permit].)

C. California Mandates Law

California mandates law has its origins in the late 1970's, when Proposition 13 and Proposition 4 added articles XIII A and XIII B to the California Constitution, limiting state and local governments' taxing and spending powers. (*Department of Finance v. Commission on State Mandates (Kern High School District)* (2003) 30 Cal.4th 727, 735.) Section 6 of article XIII B provides that "[w]henever the Legislature or any state agency mandates a new program or higher level of service on any local government, the State shall provide a subvention of funds to reimburse that local government for the costs of the program or increased level of service" (Cal. Const., art. XIII B, § 6.) The section prohibits "the state from shifting financial responsibility for carrying out governmental functions to local agencies, which are 'ill equipped' to assume increased financial responsibilities because of the taxing and spending limitations that articles XIII A and XIII B impose." (*County of San Diego v. State of California* (1997) 15 Cal.4th 68, 81 (*County of San Diego*).

But when federal law requires local government entities to provide a new program or higher level of service, these subvention requirements do not apply. (See, e.g., *San Diego Unified School District v. Commission on State Mandates* (2004) 33 Cal.4th 859, 881, 888 (*San Diego Unified*).

The Constitution specifically excludes "[a]ppropriations required to comply with mandates of the . . . federal government." (Cal. Const., art. XIII B, § 9.) When the State implements a federal requirement through a statute or executive order, it creates a state mandate only if "the statute or executive order mandates costs that exceed" the federal requirement. (Gov. Code, § 17556, subd. (c).)

School districts and local agencies may seek redress for an unfunded state mandate before the Commission, a quasi-judicial body that the

Legislature created to administer the statutory procedures implementing article XIII B, section 6. (See Gov. Code, § 17500.) The Commission uses a test-claim procedure to adjudicate mandates claims. (See *id.*, §§ 17521, 17553; Cal. Code Regs., tit. 2, § 1181.2, subd. (s).) A “test claim” is “the first claim filed with the commission alleging that a particular statute or executive order imposes costs mandated by the state” (Gov. Code, § 17521.) Though multiple claimants may join together in pursuing a single test claim, the Commission will not hear duplicate claims, and Commission decisions apply statewide to similarly situated school districts and local agencies. (See Cal. Code Regs., tit. 2, § 1183.1; *San Diego Unified, supra*, 33 Cal.4th at p. 872, fn. 10.) Thus, the test-claim “functions similarly to a class action and has been established to expeditiously resolve disputes affecting multiple agencies.” (Cal. Code Regs., tit. 2, § 1181.2, subd. (s).) Filing a test claim is the exclusive procedure for claiming and obtaining reimbursement for costs mandated by the State. (Gov. Code, § 17552.)

A test claim must identify the sections of statutes or executive orders that purportedly impose a mandate, explain in detail how they create new costs, and include evidentiary support. (Gov. Code, § 17553, subd. (b); Cal. Code Regs., tit. 2, § 1183.1.) The Department of Finance and any other interested state agency or interested person may submit written comments on the test claim. (Cal. Code Regs., tit. 2, §§ 1183.2, 1181.2, subds. (j), (l); see also Gov. Code, § 17533, subd. (a)(1).) Either the claimant or the State may seek judicial review of a final Commission decision by petition for administrative mandamus. (Gov. Code, § 17559, subd. (b), citing Code Civ. Proc., § 1094.5.)

If a state mandate exists, and that mandate applies to cities, counties, or special districts, the State may choose either to appropriate funds to reimburse the affected local government entities, or to suspend the

operation of the mandate. (See Cal. Const., art. XIII B, § 6, subd. (b); Gov. Code, § 17581; *California School Boards Association v. Brown* (2011) 192 Cal.App.4th 1507, 1513-1514 [“with respect to a reimbursable mandate, for each fiscal year, the Legislature is required to choose to either fully fund the annual payment toward the arrearage or suspend the operation of the mandate”].)

SUMMARY OF FACTS

A. The Regional Board Issued an MS4 Permit

In February 2001, the County of Los Angeles, the Los Angeles County Flood Control District, and 84 incorporated cities within the flood control district applied for a renewal of their MS4 permit by submitting a report of waste discharge to the Regional Board. (See 3 AR 3663-3786.) The Regional Board issued the permit later that year. (1 Clerk’s Transcript (CT) 24-95.) Among other provisions, the permit required the placement and maintenance of trash receptacles at transit stops, and inspections of various commercial, construction, and industrial facilities. At the time, 9.5 million people lived in the 3,100-square-mile area covered by the permit. (1 CT 31.) The six-part, 70-page permit was the result of a 10-month administrative process that generated an 80,000-page administrative record and included approximately 50 meetings between the Regional Board staff and interested parties. (3 CT 415; 1 CT 25.)

The Regional Board based the permit on the application, the Regional Board’s experience with implementation of the previous permit, then-current EPA guidance, and other information learned before and during the public hearing. The Regional Board determined that the permit was necessary to meet minimum federal requirements and implement the federal maximum-extent-practicable standard:

This permit, and the provisions herein, are intended to develop, achieve, and implement a timely, comprehensive,

cost-effective storm water pollution control program to reduce the discharge of pollutants in storm water to the [maximum extent practicable] from the permitted areas in the County of Los Angeles to the waters of the State.

(1 CT 48; see also 1 CT 32 [making similar statement]; 1 CT 82.)

B. The Permittees Challenge the Permit

The County of Los Angeles, Los Angeles County Flood Control District, and various cities sought review of the permit, first before the State Board and then in the courts by petition for administrative mandamus. (See 3 CT 408-431.) They raised several challenges, including an argument that the Regional Board exceeded its authority “under the federal Clean Water Act and California’s Porter-Cologne Water Quality Act by imposing requirements that go beyond the ‘maximum extent practicable’ (‘MEP’) standard and/or the Porter-Cologne Act’s ‘reasonably achievable’ standard.” (3 CT 413-414.) The superior court denied the petition, ruling in part that “the administrative record contains significant evidence showing that the terms of the Permit taken, as a whole, constitute the Regional Board’s definition of MEP” and that “[t]here is significant evidence in the administrative record that the Regional Board looked to both other states and jurisdictions, and conducted its own independent studies regarding various methods for compliance with MEP.” (3 CT 418-419 & fn. 5.)

The County and cities appealed, and the Court of Appeal affirmed. (*County of Los Angeles v. California State Water Resources Control Board* (2006) 143 Cal.App.4th 985 (*State Water Board*) [complete opinion at 3 AR 3241-3268; unpublished portions at 3 AR 3257-3268].) An intervening development in the case law featured prominently in the County and cities’ argument on appeal. Within weeks of the trial court’s decision, this Court decided *City of Burbank, supra*, 35 Cal.4th 613. (See

3 CT 412.) In that case, this Court reviewed NPDES permits authorizing publicly owned water reclamation plants to discharge treated wastewater. (See *City of Burbank, supra*, 35 Cal.4th at pp. 622-623.) Those permits were subject not to the flexible maximum-extent-practicable standard, but rather to end-of-pipe effluent limitations based upon standards developed by EPA. (See *id.* at pp. 620-621.) This Court held that a state-issued NPDES permit can exceed federal Clean Water Act requirements, but it also held that the board issuing a permit that exceeds federal requirements must take into account the considerations listed in Water Code sections 13263 and 13241, including economic considerations, for those requirements that exceed federal law. (See *id.* at pp. 626-629.)

The County and cities argued that the permit issued by the Regional Board exceeded the requirements of the Clean Water Act and that because it did, *City of Burbank* required the Regional Board to consider the economic effect of the permit, which the Regional Board had not done. (See *State Water Board, supra*, 143 Cal.App.4th 985 [unpublished section G.3 at 3 AR 3259].) The Court of Appeal decided that argument had “no merit.” (*Id.* [unpublished section G.3 at 3 AR 3260].) The court denied rehearing, and this Court denied review on February 14, 2007.

C. The County and Cities File Test Claims with the Commission

In 2003, nine months after filing the petition for mandamus directly challenging the permit in superior court, the County and several cities—Bellflower, Carson, Commerce, Covina, Downey, and Signal Hill—also filed test claims with the Commission. (See, e.g., 1 AR 19, 599.) The Commission initially refused to consider the claims because the then-current version of Government Code section 17516, subdivision (c), deprived it of authority to review Water Board orders. (See 1 AR 1153-1171; 2 AR 1173-1200.) The County and cities (collectively, the County)

challenged that statute's constitutionality in superior court, which issued a writ of mandate instructing the Commission to consider the test claims. The Court of Appeal affirmed. (*County of Los Angeles v. Commission on State Mandates* (2007) 150 Cal.App.4th 898.) The Legislature later amended section 17516 to remove the language excluding Water Board orders from Commission review. (See Stats. 2010, ch. 288, § 1, p. 9.)

The County and cities pursued four test claims. (See 2 AR 1535-1755; 2 AR 1757-1950; 2 AR 2259-2451; 3 AR 2479-2670.) The four test claims challenged four discrete provisions of the permit:

- Part 4.F.5.c.3, which requires certain permittees to place and maintain trash receptacles at all transit stops (1 CT 74; 2 AR 1540);
- Part 4.C.2.a, which requires permittees to inspect restaurants, automotive service facilities, retail gasoline outlets, and automotive dealerships to verify that those businesses meet certain criteria that prevent non-stormwater discharge, like restaurant grease, from entering the MS4 (1 CT 54-56; 2 AR 1762-1766);
- Part 4.C.2.b, which requires inspection of certain industrial facilities to confirm that they are meeting several criteria, including implementing best management practices in compliance with county and municipal ordinances (1 CT 56, 87; 2 AR 1766-1769); and
- Part 4.E, which requires inspections of certain construction sites to ensure that the sites meet the permit's minimum requirements, such as using best management practices to control erosion from slopes and channels (1 CT 67-70; 2 AR 2266-2267).

The claimants contended that the specific permit provisions requiring commercial inspections, industrial inspections, and construction-site inspections, as well as the placement and maintenance of trash receptacles, imposed new programs or higher levels of service on the permittees that were not required by the Clean Water Act and for which the permittees lacked funding authority. (See, e.g., 3 AR 2488-2497.) Given the

similarity and overlap among the four test claims, the Commission consolidated them. (See 5 AR 5681-5682.) After a hearing, it found that each of the four challenged permit provisions was not required by federal law. (5 AR 5603.)

The Commission did not review the record before the Regional Board, or analyze whether the permit exceeded the federal maximum-extent-practicable standard. Instead, it reasoned that because the Clean Water Act and its implementing regulations do not expressly require either trash receptacles at transit stops or inspections, these permit provisions exceeded the requirements of federal law. (See 5 AR 5584, 5590.) Relying on the Court of Appeal's decision in *Hayes v. Commission on State Mandates* (1992) 11 Cal.App.4th 1564, 1593-1594 (*Hayes*), the Commission reasoned that, absent an express federal statutory or regulatory command, the State had freely chosen to impose the trash receptacle requirement on the permittees. (See 5 AR 5584 & fn. 89.) It also reasoned that under the Court of Appeal's decision in *Long Beach Unified School District v. State of California* (1990) 225 Cal.App.3d 155, 173 (*Long Beach Unified*), the trash receptacle requirement amounted to a "specified action going beyond federal law." (5 AR 5585 & fn. 92.)

With regard to the inspection requirements, the Commission also reasoned that neither the Clean Water Act nor its implementing regulations require local agencies, as opposed to the State, to conduct such inspections. (See 5 AR 5595, 5601.) The Commission noted that the State Board has issued statewide NPDES permits covering industrial facilities (GIASP) and construction facilities (GCASP) that the regional boards enforce. (See 5 AR 5594-5595, 5601; see also 3 AR 3579-3657 [GIASP]; 2 AR 2417-2444 [GCASP].) The Commission remarked that "[t]here is nothing in the federal statutes or regulations that would prevent the state (rather than the local agencies) from performing the inspections" of industrial facilities and

constructions sites, suggesting that because the Regional Board could choose to perform the same inspections under the statewide permit, it was in excess of the requirements of federal law to impose similar requirements in the MS4 permit. (5 AR 5595, 5600.) It concluded that the State freely chose to impose the industrial-facility and construction-site inspection requirements on the local agencies under *Hayes*. (See 5 AR 5595 & fn. 110, 5600 & fn. 120.) It also concluded that the construction-site inspection requirement amounted to a “specified action[] going beyond the federal requirement for inspections” (5 AR 5600 & fn. 119.)

Nevertheless, the Commission concluded that the three inspection provisions did not impose costs mandated by the State within the meaning of article XIII B, section 6 because the County and cities had fee authority to pay for the inspections. (See, e.g., 5 AR 5625.) It reached the opposite conclusion, however, with respect to the provision requiring installation and maintenance of trash receptacles, finding that it created a reimbursable state mandate. (See, e.g., 5 AR 5625.)

D. The Courts Reverse the Commission’s Decision

The Department of Finance and the Water Boards petitioned for a writ of administrative mandamus challenging, among other things, the Commission’s conclusion that the permit provisions at issue in the test claim were not required by federal law. (1 CT 11-22.) The superior court granted the petition, noting that the Commission’s “search for a comparable federal regulation as the pre-condition for finding a federal mandate utterly ignores and misapplies the flexible regulatory standard inherent in the Clean Water Act.” (See 4 CT 679.) The superior court also determined that the “Commission erred in isolating a specific requirement to conclude that the issued NPDES permit was a state mandate” and that “[o]ne permit provision cannot exceed the ‘maximum extent practicable’ standard imposed by the Clean Water Act where the permit as a whole does not.” (4

CT 680.) The County and six cities appealed, and the Court of Appeal affirmed.

The County's primary theory on appeal was that the trial court failed to properly apply *Long Beach Unified* and *Hayes*. (See Slip Op. 23-24, 26.) The County contended that the EPA's regulations were specific in some areas and flexible in others and that, where the regulations were flexible, the local agencies, as permittees, had discretion to identify and propose programs that would satisfy the maximum-extent-practicable standard. (See Slip Op. 26.) By imposing specific requirements in the permit, the County argued, the Regional Board had imposed a state mandate. (See Slip Op. 26.)

The Court of Appeal rejected that argument, explaining that "there is no precise rule or formula for determining whether a cost imposed on a local government or agency is a federal mandate." (Slip Op. 27-28, citing *City of Sacramento v. State of California* (1990) 50 Cal.3d 51, 76 (*City of Sacramento*)). The court concluded that the broad, flexible standard established by the Clean Water Act and the State's role in implementing the act distinguished this case from *Long Beach Unified* and *Hayes*. (See Slip Op. 34.) The court noted that Congress intended the maximum-extent-practicable standard to account for the "practical realities" of regulating MS4s and that Congress intended it to be a highly flexible standard. (Slip Op. 31.) It also recognized that the Water Boards act in lieu of the EPA when implementing federal NPDES permitting standards.

Against that analytical backdrop, the court took up the County's objections to the four challenged permit provisions, recognizing at the outset the strong presumption of correctness and deference that agencies receive when acting within their area of expertise. (Slip Op. 35-36.) It affirmed the trial court, holding that the trash-receptacle and inspection requirements implemented the Clean Water Act's goal of reducing the

discharge of pollutants to the maximum extent practicable and thus constituted federal mandates. (Slip Op. 35-36.) The County petitioned for, and this Court granted, review.

STANDARD OF REVIEW

Courts may set aside Commission decisions that are legally erroneous or not supported by substantial evidence. (Gov. Code, § 17559, subd. (b); Code Civ. Proc., § 1094.5, subd. (b).) “The question of whether [a law] is a state-mandated program or higher level of service under article XIII B, section 6 of the California Constitution is a question of law [that courts] review de novo.” (See *City of Richmond v. Commission on State Mandates* (1998) 64 Cal.App.4th 1190, 1195.) This Court also independently reviews “legal conclusions as to the meaning and effect of constitutional and statutory provisions.” (*Ibid.*; see also *County of San Diego, supra*, 15 Cal.4th at p. 109 [“Where . . . a purely legal question is at issue, courts exercise independent judgment,” quotation marks omitted].)

Because this Court reviews judgments, not decisions, it may affirm on any grounds in the record. (See *Davey v. Southern Pac. Co.* (1897) 116 Cal. 325, 329.) That rule applies even where the parties did not advance the theory below, so long as it presents a question of law on the facts in the record. (*Ward v. Taggart* (1959) 51 Cal.2d 736, 742 (*Ward*).)

ARGUMENT

I. THE FOUR CHALLENGED PERMIT REQUIREMENTS ARE FEDERAL MANDATES.

The courts below correctly applied federal and state law in holding that the permit and all its terms are not state mandates because they do not exceed the federal maximum-extent-practicable standard. This Court should affirm.

A. A Permit That Does Not Exceed the Federal Maximum-Extent-Practicable Standard Does Not Impose a State Mandate.

The permit and all its terms are federal mandates because they do not exceed the federal maximum-extent-practicable standard for issuance of an MS4 permit. California mandates law “preclud[es] a shift of financial responsibility for carrying out governmental functions from the state to local agencies” (See *County of Los Angeles v. California* (1987) 43 Cal.3d 46, 61, discussing Cal. Const., art. XIII B, § 6.) It does not require the State to subsidize local government compliance with federal mandates. (See, e.g., Gov. Code, § 17556, subd. (c) [providing that executive orders implementing federal requirements are state mandates only if they “exceed the mandate in [the] federal law or regulation”]; *County of Los Angeles v. Commission on State Mandates (Davis)* (1995) 32 Cal.App.4th 805, 816 (*Davis*) [“The courts have concluded that no state mandate exists if the requirements or provisions of a state statute are, nevertheless, required by federal law”].)

In *San Diego Unified*, this Court held that procedures used in discretionary expulsion proceedings “should be considered to have been adopted to implement a federal due process mandate” and they therefore constituted nonreimbursable federal mandates. (See *San Diego Unified*, *supra*, 33 Cal.4th at p. 888.) This Court’s analysis followed the Court of

Appeal's reasoning in *Davis, supra*, 32 Cal.App.4th 805. (*San Diego Unified, supra*, 33 Cal.4th at pp. 888-890.) In *Davis*, the court addressed a Penal Code statute requiring counties to provide indigent criminal defendants with investigators and experts in addition to counsel, as required by the federal Constitution. (See *Davis, supra*, 32 Cal.App.4th at pp. 814-815.) The court held that the Penal Code did not create a state mandate because it merely implemented a federal constitutional requirement. (*Id.* at p. 816.)

Together, *San Diego Unified* and *Davis* recognize that the State may enforce the requirements of federal law without creating a reimbursable state mandate. In those cases, the courts examined *state* laws enacted to implement and make specific otherwise broad federal constitutional protections. The permit challenged here provides an even stronger case for a federal mandate, because the State is directly enforcing a *federal* law, in lieu of the EPA and subject to the same federal standards that govern the EPA when it drafts NPDES permits. It is the Clean Water Act and its implementing regulations that require the State to issue permits for MS4 discharges that, at a minimum, include controls sufficient to reduce pollutant discharge to the maximum extent practicable. (See 33 U.S.C. § 1342(b), (p)(3)(B); 40 C.F.R. § 122.26.)

That Congress has delegated authority to the permitting agencies—either the EPA or state agencies—to determine the specific controls or set of controls necessary to reduce pollutant discharges to the maximum extent practicable in the unique circumstances of each MS4 (see *Natural Resources Defense Council, supra*, 966 F.2d at p. 1296; *Building Industry, supra*, 124 Cal.App.4th at p. 874), does not change the analysis. A permit that requires controls to reduce pollutant discharges to the maximum extent practicable is a bedrock requirement of federal law, and federal law also requires the permitting agency to determine the controls that are necessary

to achieve that standard. Thus, where, as here, the permit does not exceed the maximum-extent-practicable standard, it imposes only a federal mandate that does not require a subvention of funds.

B. None of the Four Challenged Requirements Causes the Permit to Exceed the Maximum-Extent-Practicable Standard.

Congress intended the maximum-extent-practicable standard to be flexible: it did not prescribe a list of approved controls, and contemplated that permits would include site-specific terms to address the unique circumstances and threats posed by each MS4. (See 55 Fed.Reg. at pp. 48037-48038; *City of Irving, supra*, 10 E.A.D. 111 [2001 WL 988723 at p. *6].) That is, federal law contemplates that permits will include terms not expressly called for by the Clean Water Act or its implementing regulations. An agency that drafts a permit—either the EPA or a state issuer—must use its expertise to determine the “controls [that will] reduce the discharge of pollutants to the maximum extent practicable” (See 33 U.S.C. § 1342(p)(3)(B)(iii).) The permit here was thus not simply authorized or permitted by federal law, it was required by the Clean Water Act. Under the Clean Water Act, the permit, not the individual requirements must, at a minimum, include “controls to reduce the discharge of pollutants to the maximum extent practicable” (33 U.S.C. § 1342(p)(3)(B).) The permittees must have an NPDES permit to operate their MS4, and that permit must implement the standards required by the Clean Water Act. Each of the challenged terms is an element of the stormwater pollution control program that carries out that federal standard. Considered individually or in combination with all the terms of the permit, those terms do not exceed, nor do they cause the permit to exceed, the requirements of federal law.

1. The Trash Receptacle Requirement Does Not Exceed the Maximum-Extent-Practicable Standard.

Requiring the County to place trash receptacles at transit stops implements the maximum-extent-practicable standard. The EPA's regulations identify "practices for operating and maintaining public streets, roads and highways and procedures for reducing the impact on receiving waters of discharges from municipal storm systems" as one method for reducing the discharge of pollutants to the maximum extent practicable. (40 C.F.R. § 122.26(d)(2)(iv)(A)(3).) Requiring permittees to place trash receptacles at transit stops falls within that requirement, as both the trial court and Court of Appeal recognized. (See 1 CT 74.) The trial court said that putting trash receptacles at transit stops was an "obvious remedy" for stormwater pollution, noting that, "if litter and debris cannot be properly disposed of by persons waiting at transit stops, the inevitable downstream result will be the introduction of pollutants into the streets and, thereafter, into the storm drains—leading inevitably to the discharge of pollutants into nearby waterways." (4 CT 680.)

Likewise, the Court of Appeal explained that "[t]rash receptacles are a simple method of keeping stormwater clean because they prevent trash and other debris from entering storm drains and entering the ocean and local rivers and drainage canals." (Slip. Op. 35.) The EPA itself, in a 2008 letter, opined that the permit's trash-receptacle requirement fell within the maximum-extent-practicable standard. (See 3 AR 3798-3799.) And in its permit application, the County identified litter and debris on the streets as a source of pollution, and it suggested trash collection along or in improved open channels. (3 AR 3678.)

2. The Inspection Requirements Do Not Exceed the Maximum-Extent-Practicable Standard.

Similarly, requiring inspections of certain commercial and industrial facilities and construction sites implements the maximum-extent-practicable standard. Inspections are necessary to effectively control the discharge of pollutants in compliance with the Clean Water Act. “Federal law, either expressly or by implication, requires NPDES permittees to perform inspections for illicit discharge prevention and detection; landfills and other waste facilities; industrial facilities; construction sites; certifications of no discharge; non-storm water discharges; permit compliance; and local ordinance compliance.” (*Rancho Cucamonga, supra*, 135 Cal.App.4th at p. 1390.)

Commercial-Facility Inspections. The EPA’s regulations call for “inspections . . . to prevent illicit discharges to the municipal storm sewer system” (40 C.F.R. § 122.26(d)(2)(iv)(B)(1).) The permit requires inspection of certain commercial facilities, like restaurants and car-service facilities, to make sure that those businesses are not discharging food waste and motor oil, for example, into storm drains. (See 1 CT 54-55.) Both the trial court and Court of Appeal recognized that these inspections fell within the federal standard. (See 4 CT 681; Slip Op. 35.) The EPA’s 2008 letter says these inspections were “well within the scope” of the MS4 permitting regulation. (3 AR 3798.) And the County’s permit application recommended “visits” of automotive-service and food-service facilities similar to the inspections the permit ultimately required. (3 AR 3671.)

Industrial-Facility Inspections. The EPA’s regulations call for permits to “[i]dentify priorities and procedures for inspections” of industrial facilities. (40 C.F.R. § 122.26(d)(2)(iv)(C)(1).) The permit implements that requirement by, for example, having the permittees inspect certain industrial facilities to ensure the operators follow best management

practices for stormwater discharges and comply with additional controls when the facility is in an environmentally sensitive area. (See 1 CT 56-67.) The trial and appellate court recognized that these provisions fell within the federal requirement. (See 4 CT 681; Slip Op. 35.) And, as with the commercial inspections, the EPA's 2008 letter says the industrial inspections are well within the MS4 requirements. (See 3 AR 3798.) Even the County's permit application recommended an "industrial[] educational site visit program" (3 AR 3670-3671.)

Construction-Site Inspections. The EPA's regulations call for permits to describe "procedures for identifying priorities for inspecting" construction sites. (40 C.F.R. § 122.26(d)(2)(iv)(D)(3).) The permit implements that requirement by requiring inspections to ensure that, among other things, sediment and construction-related materials, wastes, spills, or residues do not end up in the MS4. (See 4 CT 67-70.) As with the other inspection requirements, the trial and appellate courts recognized that the permit's provisions fell within the federal standard. (See 4 CT 681; Slip Op. 35.) Though the EPA's 2008 letter does not discuss the construction inspection requirement, an EPA guidance manual shows that the EPA believes the MS4 permits should impose construction-inspection provisions. (See 3 AR 3394.) And the County's own permit application recommended detailed construction-site requirements that included inspections. (3 AR 3672-3775.)

C. The Regional Board's Determination of What Federal Law Requires Is Entitled to Deference.

Unlike the Regional Board, the Commission was ill-equipped to determine in the first instance whether the permit exceeded the federal standard for MS4 permits. It does not have the expertise of the Regional Board, nor did it have the record that was before the Regional Board. Accordingly, it should have deferred to the Regional Board's determination

of what the Clean Water Act and EPA regulations require in a permit to operate the permittees' MS4. This is especially important in the context of MS4 permits, which include interlocking components that collectively must reduce pollutants to the maximum extent practicable.

Congress and the EPA conferred discretion on the Water Boards to use their expertise to decide the combination of terms necessary for any given MS4 to comply with the Clean Water Act. These state agencies are authorized by federal and state law to interpret the requirements of the Clean Water Act and related EPA regulations, and to issue the permit. (See 33 U.S.C § 1342(b), (p); Wat. Code, § 13377; Cal. Code Regs., tit. 23, § 2235.2.)

Here, the Regional Board drafted the permit after overseeing a 10-month administrative process that generated an 80,000-page administrative record and included approximately 50 meetings between the Regional Board staff and interested parties. (See 3 CT 415.) In the permit, the Regional Board specifically determined that the permit and its terms implemented a stormwater pollution control program to reduce the discharge of pollutants in stormwater to the maximum extent practicable. (See 1 CT 48.) As the expert in the Clean Water Act, the evolving science and technology of pollution control, and the unique factual circumstances surrounding the County's MS4, the Regional Board should receive deference in determining what federal law requires.

1. Deference to the Regional Board's Determination of What Federal Law Requires Is Appropriate in the MS4 Permitting Context.

When an agency—either the EPA or a designated state agency such as the Regional Board—drafts a permit and develops site-specific requirements, it brings to bear its scientific, technical, and legal knowledge, as well as its experience with the success and failure of controls required in

a particular MS4, in determining the type and combination of “controls [that will] reduce the discharge of pollutants to the maximum extent practicable,” considering the unique circumstances and pollution threats posed by a particular applicant’s MS4. (See 33 U.S.C. § 1342(p)(3)(B)(iii).)

The Court of Appeal properly recognized the specialized nature of the Regional Board’s permitting process, and cited both the presumption of regularity in official acts and the doctrine of deference to agency expertise. (See Slip Op. 35, citing Evid. Code, § 664, *Fukuda v. City of Angels* (1999) 20 Cal.4th 805, 812 (*Fukuda*).) It quoted this Court’s decision in *Fukuda* for the proposition that “considerable weight should be given to the findings of experienced administrative bodies made after a full and formal hearing, especially in cases involving technical and scientific evidence.” (Slip Op. 25, quoting *Fukuda, supra*, 20 Cal.4th at p. 812.) *Fukuda* held that deference applies even where the courts exercise their independent judgment when reviewing the evidence. (*Fukuda, supra*, 20 Cal.4th at pp. 817-818; see also Wat. Code, § 13330, subd. (e).) Deference to an agency is “fundamentally situational.” (*Yamaha Corporation of America v. State Board of Equalization* (1998) 19 Cal.4th 1, 12 [italics omitted].) An agency’s interpretation of a statute should receive deference where it has a comparative interpretive advantage stemming from its application of technical or scientific expertise to entwined issues of fact, policy, and discretion. (*Ibid.*; accord *American Coatings Association, Inc. v. South Coast Air Quality District* (2012) 54 Cal.4th 446, 475 [deferring, in a rulemaking challenge, to air district’s expertise in categorizing pollutant sources under a statute requiring “best available retrofit technology” because the trade association making the challenge could neither point to an “objectively correct categorization” of pollutant sources nor show that the district acted arbitrarily in creating its categories].) The Regional Board’s

expertise gives it a tremendous advantage in interpreting the requirements of federal law for each individual MS4.

2. The Commission's Failure to Defer to the Regional Board's Decision Invited Legal Error and Inconsistent Results.

The Commission should have deferred to the Regional Board's determination of the permit terms required by federal law. Generally speaking, "[a] decision by an agency primarily qualified to determine a question is binding on another agency" (2 Pierce, Administrative Law Treatise (5th ed. 2010) § 13.4, p. 1145.) Judge Friendly, writing for the Second Circuit, put a finer point on this principle, noting that where one agency has the expertise to pass on a matter and does so, "it would be quite unseemly for [another agency] to conclude that its sister agency had been wrong on a fully litigated issue the decision of which Congress had confided to it" (See *Safir v. Gibson* (2d Cir. 1970) 432 F.2d 137, 143.)

Here, the Legislature has confided the determination of what the Clean Water Act and EPA regulations require to the Water Boards. (See, e.g., Wat. Code, § 13377.) The Commission, by contrast, is not qualified to and does not engage in the complex analysis that the Water Boards conduct to determine the requirements of federal law for operation of a particular MS4 under the Clean Water Act. The Commission did not evaluate the permit application, the historical success and failure of pollution controls, the current state of the science and technology of pollution control, or the cost in determining the set of controls that would reduce pollution to the maximum extent practicable. (See generally 5 AR 5581-5603.) Instead, the Commission misinterpreted federal law and simply looked to see whether the terms of the permit matched specific terms prescribed by federal law. (See, e.g., 5 AR 5585.) This was an inappropriate test for

determining what is required to achieve the maximum-extent-practicable standard, which does not prescribe specific permit terms.

Failure to give appropriate deference to the Regional Board creates a variety of problems. When the Commission disagrees with the Water Boards about what federal law requires, it sets up a second round of judicial review in which the burden of proof is shifted to the Water Boards. On a direct challenge to a permit, the “party challenging the scope of [the] permit . . . has the burden of showing the [Water Boards] abused [their] discretion or [their] findings were unsupported by the facts.” (*Building Industry, supra*, 124 Cal.App.4th at pp. 888-889.) Regional board determinations are subject to a strong presumption of correctness, and they receive deference in areas of policymaking and technical expertise. (See *Fukuda, supra*, 20 Cal.4th at pp. 812, 817; see also *State Water Board, supra*, 143 Cal.App.4th at p. 997 [“we defer to the regional board’s expertise in construing language which is not clearly defined in statutes involving pollutant discharge into storm drain sewer systems”].) In the direct challenge to the permit, the County and cities argued that the Regional Board exceeded the requirements of the maximum-extent-practicable standard, an argument that the Court of Appeal squarely rejected. (See *State Water Board, supra*, 143 Cal.App.4th 985 [unpublished section G.3 at 3 AR 3259-3260].) But when the Water Boards challenge a Commission decision determining what federal law requires, the burden of proof arguably shifts to the Water Boards. If the Water Boards are not given deference, they will be forced to affirmatively establish the correctness of their decision, and the party challenging the permit, as here, will argue that it is the Commission’s decision, not that of the Water Boards, that is entitled to deference and should be reviewed under the substantial evidence standard. (See Appellants’ Opening Brief (AOB) 47-50.)

These concerns dovetail with fundamental principles favoring finality of agency and judicial decisions. (See *Murray v. Alaska Airlines, Inc.* (2010) 50 Cal.4th 860, 868 (*Murray*)). It is inefficient for the parties to litigate twice, first in the permitting process and later in the mandates process, the issue of what federal law requires. And duplicative litigation could, as here, lead to inconsistent decisions and conflicting obligations under state and federal law. Under state law, a local government is not required to “implement or give effect to” any state mandate for which the State has not provided a subvention of funds. (Gov. Code, § 17581, subd. (a); see also Cal. Const., art. XIII B, § 6, subd. (b).) But under federal law, requirements in NPDES permits can be enforced in civil and criminal actions in federal court. (See 33 U.S.C. §§ 1319, 1342(i), 1365.) If the permit or one of its terms is determined to be a state mandate and the Legislature chooses to suspend the operation of the mandate rather than reimburse its costs—as it, or the Governor, through the exercise of the line-item veto, is constitutionally authorized to do (see *California School Boards Association v. Brown, supra*, 192 Cal.App.4th at 1511-1512)—the permit and all its terms arguably remain no less enforceable, under federal law.

3. Collateral Estoppel Should Ordinarily Bar Permittees from Relitigating Before the Commission Matters of Federal Law Fully Litigated and Finally Decided in the Permitting Process.

Even in the absence of deference, the related doctrines of collateral estoppel and judicial exhaustion should ordinarily limit local government’s ability to relitigate before the Commission the Water Boards’ final determinations of what federal law requires, and thus reduce the likelihood of interagency conflict and its adverse consequences.

Collateral estoppel precludes relitigation of issues argued and decided in prior proceedings. (*Lucido v. Superior Court* (1990) 51 Cal.3d 335, 341 (*Lucido*)). It applies to quasi-judicial agency decisions, just as it does to court decisions. (See *Murray, supra*, 50 Cal.4th at p. 867.) The requirements for collateral estoppel are met here:¹ (1) the issue sought to be precluded is identical to an issue actually litigated and necessarily decided in the earlier proceeding; (2) the earlier decision was final and on the merits; and (3) the party against whom preclusion is sought is identical to the party to the former proceeding. (See *Lucido, supra*, 51 Cal.3d at p. 341.) The claimants to the Commission proceeding were parties in the permitting proceedings (compare 5 AR 5557 & fn. 2, 3 AR 2480, 2 AR 2260 with 3 CT 412-413, *State Water Board, supra*, 143 Cal.App.4th at p. 989 & fn. 1); the decision on the matter became final when this Court denied review of the Court of Appeal's decision on February 14, 2007 (see Cal. Rules of Court, rule 8.532(b)(2)(A)); and the issue of whether the permit exceeds the requirements of federal law is identical to the issue of whether the Regional Board exceeded the requirements of the Clean Water

¹ In the courts below, Respondents argued that the litigation directly challenging the permit had preclusive effect. (See Respondents' Brief at pp. 33-34, filed on Oct. 26, 2012 in Case No. B237153; Petitioners' Memorandum of Points and Authorities in Support of Petitioner for Writ of Mandamus at pp. 22-23, filed on June 10, 2011 in Case No. BS130730.) They did not, however, frame the issue as one of collateral estoppel. Even if this argument were treated as newly raised on review, this Court nonetheless would have discretion to consider it because it presents issues of law that can be resolved based on facts in the record and because it presents important public policy issues. (See *Ward, supra*, 51 Cal.2d at p. 742; see also *Redevelopment Agency of the City of Berkeley v. City of Berkeley* (1978) 80 Cal.App.3d 158, 167 [applying doctrine of waiver is discretionary]; *United California Bank v. Bottler* (1971) 16 Cal.App.3d 610, 616 ["Since the [newly raised argument] is based upon public policy rather than private convenience, we cannot invoke any doctrine of waiver, but must face the issue and apply the limitation which the law imposes".])

Act, which was actually litigated and necessarily decided in the direct challenge to the Regional Board's permitting decision. On appeal in that case, the County argued that the permit "imposes conditions more stringent than required by the Clean Water Act." (*State Water Board, supra*, 143 Cal.App.4th 985 [unpublished section G.3 at 3 AR 3259].) The Court of Appeal flatly rejected that argument, saying it had no merit. (See *id.* [unpublished section G.3 at 3 AR 3260].)

The County had thus fully litigated whether the Regional Board exceeded the requirements of federal law by the time the Commission issued its decision. In these circumstances, collateral estoppel should have barred the County from relitigating that question before the Commission.²

II. THE COUNTY'S ARGUMENTS MISCONSTRUE THE CLEAN WATER ACT AND MANDATES LAW.

None of the County's arguments overcome the conclusion reached by the courts below that the permit and all its terms express a federal mandate. The County misapprehends the nature of MS4 permits, the maximum-extent-practicable standard, and the Regional Board's permit authority under the Clean Water Act and EPA regulations. The County's reliance on the Court of Appeal's decision in *Long Beach Unified* is misplaced because the permit did not exceed the requirements of federal law. Its reliance on the Court of Appeal's decision in *Hayes* is misplaced because the permit did not pass any costs associated with the State's compliance with federal

² If a permittee chooses not to challenge a regional board's determination of what federal law requires in the direct permit-review process, the doctrine of judicial exhaustion will still preclude it from relitigating that issue before the Commission. (See *Murray, supra*, 50 Cal.4th at p. 867 [judicial exhaustion recognizes that, out "respect for the administrative decisionmaking process requires," parties to the process complete it, "including exhausting any available judicial avenues for reversal of adverse findings"]; see also Wat. Code, §§ 13320, 13330.)

law to the permittees. Its argument that the Court of Appeal failed to give effect to the Commission's exclusive primary jurisdiction misapprehends the Court of Appeal's decision. And the evidence the County references does not support its argument that the permit exceeded the requirements of federal law.

A. The County Incorrectly Relies on *Long Beach Unified*.

The County mistakenly relies on *Long Beach Unified, supra*, 225 Cal.App.3d 155, to make two arguments: the County argues first, that any permit term not expressly required by federal law exceeds the requirements of federal law and creates a state mandate; and second, that the Clean Water Act gives the discharger or permittee—rather than the regional board or the EPA—discretion to determine the terms of the permit that will achieve the maximum-extent-practicable standard. (See AOB 31-35, 37-41.) The case does not support either argument.

The decision in *Long Beach Unified* addressed California Department of Education regulations that directed certain school districts to develop and adopt plans to alleviate and prevent racial and ethnic segregation. (*Long Beach Unified, supra*, 225 Cal.App.3d at pp. 164-165.) The State argued that the regulations did not constitute a new program or higher level of service because the school districts had a constitutional duty to try to desegregate schools. (*Id.* at p. 172.) The court disagreed, holding that the regulations exceeded federal constitutional and case-law desegregation requirements. (*Id.* at p. 173.) Specifically, the court held that the State regulations “require specific action” that federal case law had previously only “suggested . . . may be helpful.” (*Ibid.*, italics in original.) “[T]he point is that these steps are no longer merely being suggested as options which the local school district may wish to consider but are required acts.” (*Ibid.*)

Long Beach Unified does not support the County's argument that any permit requirement not expressly required by the Clean Water Act or its implementing regulations exceeds the Regional Board's federal permitting authority and creates a state mandate. (See, e.g., AOB 30-35.) This is because the court in *Long Beach Unified* was addressing state regulations that attempted to interpret and codify the requirements of federal law and which the court found imposed requirements in excess of federal law; it was not addressing a federal law that imposed a flexible permitting standard requiring the State to exercise discretion to determine the terms necessary to comply with that standard. In *Long Beach Unified*, the State imposed its rules despite an evolving body of case law whose hallmark was courts "wary of requiring specific steps in advance of a demonstrated need for intervention." (See *Long Beach Unified, supra*, 225 Cal.App.4th at p. 173.) By contrast, the Clean Water Act, which prohibits the discharge of all pollutants without a permit, presupposes a need for intervention by creating an elaborate regulatory scheme superintended by the EPA and implemented, in part, by states.³

Rather than looking at the four challenged permit terms in the full complexity of federal law, the County skips the essential step of determining what, exactly, federal law requires, and would have this Court adopt the Commission's approach of simply comparing the text of federal law to the text of the permit. The analysis that the County urges boils down to this: if a federal statute or regulation does not expressly require the

³ No party disputes that Water Boards may use their authority under the Porter-Cologne Act to impose requirements that exceed those of the Clean Water Act. (See *City of Burbank, supra*, 35 Cal.4th at pp. 627-628.) But that has not occurred here, and is not likely to be a common occurrence in the context of MS4 permits, where the federal standard for MS4 permitting provides a broad federal mandate.

permit term at issue, and if the permit was written by a state permitting authority rather than the EPA, then the permit term is a state, not a federal, mandate. (See AOB 31-35; see also 5 AR 5576-5603.) The upshot of that reasoning, as the trial court noted, is that “a permit requirement that is merely practicable or easy (not even practicable to the maximum extent) would be a state mandate if the U.S. EPA failed to express the requirement as a regulation.” (See 4 CT 680.)

That approach not only misconstrues federal law, it also misconstrues mandates law. When analyzing whether a particular requirement is a federal mandate, the question is not whether that requirement is imposed in any particular manner (e.g., “expressly”), but rather whether it is genuinely imposed by federal law, or is instead a creation of state law. (See *Davis, supra*, 32 Cal.App.4th at p. 816 [“no state mandate exists if the requirements or provisions of a state statute are, nevertheless, required by federal law”]; *Long Beach Unified, supra*, 225 Cal.App.3d at 173 [to constitute a federal mandate, the mandate must be required by federal law, not merely suggested]; see also *City of Sacramento, supra*, 50 Cal.3d at p. 76 [recognizing that whether a cost imposed on a local agency constitutes a federal mandate requires consideration of the specific program and deciding not to attempt a “final test for ‘mandatory’ versus ‘optional’ compliance with federal law”].)

The County’s second argument in reliance on *Long Beach Unified*, that the operator of the MS4, rather than the Regional Board, has the discretion to determine how to comply with the maximum-extent-practicable standard, is also mistaken. (See AOB 37-41.) In California, only the Water Boards are authorized by the EPA to issue the MS4 permit. Under federal law, although it may suggest permit terms sufficient to meet the maximum-extent-practicable standard, a permit application merely proposes methods for compliance. (See Cal. Code Regs., tit. 23, §§ 2235.1-

2235.2; 40 C.F.R. § 122.26(d).) The permitting agency may incorporate all or part of a permittee's application into the permit; indeed, the permitting agency may rely heavily on the application. (See *City of Irving, supra*, 10 E.A.D. 111 [2001 WL 988723 at p. *8].) But the law charges the Water Boards, as EPA-approved permit issuers, with determining what will satisfy the maximum-extent-practicable standard. (See 33 U.S.C § 1342(b), (p); Wat. Code, § 13377; Cal. Code Regs., tit. 23, § 2235.2; see also *Environmental Defense Center, supra*, 344 F.3d at pp. 854-856 [remanding rule regarding small MS4 operators to the EPA because it did not provide for agency review of permit applications and noting that "nothing prevents the operator of a small MS4 from misunderstanding or misrepresenting its own stormwater situation and proposing a set of minimum measures for itself that would reduce discharges by far less than the maximum extent practicable"].) Unlike the school districts in *Long Beach Unified*, which had discretion to choose the method adequate to comply with federal law, the County has no discretion under the Clean Water Act. It can comply in only one way: by adhering to the requirements of the permit. (See 33 U.S.C. § 1342(k); *Environmental Protection Agency, supra*, 426 U.S. at p. 205.)

B. The County Incorrectly Relies on *Hayes*.

The County's reliance on *Hayes* to argue that the Regional Board shifted state inspection requirements to the County is similarly misplaced. (See AOB 42-47.) The County's argument again misconstrues federal law. Under the act and EPA regulations, the Regional Board's MS4 permitting authority is coextensive with that of the federal government. (See, e.g., 40 C.F.R. §§ 122.1(a)(2), 122.5.) That principle has a necessary corollary: if the EPA could have drafted a permit or permit term to satisfy the federal requirement that MS4 permits implement a program to reduce the discharge of pollutants to the maximum extent practicable, then that permit or permit

term—which not only defines a permittee’s compliance with the Clean Water Act but which also may form the basis for civil liability and criminal penalties under the act—must be a federal mandate.

Hayes is inapposite because the court did not interpret the Clean Water Act or its implementing regulations in that case. In *Hayes*, the State passed laws adopting the federal Education of the Handicapped Act and requiring school districts to provide special education services to pupils in need. (See *Hayes, supra*, 11 Cal.App.4th at pp. 1574-1575.) The court ruled that the distinction between what state and federal law required the school districts to do was unclear, so it remanded the case to the trial court to determine whether the State was “freely choosing” to impose the costs it incurred in complying with federal law on school districts. (See *id.* at p. 1594.)

Both the County and the Commission reasoned that the Regional Board passed costs to the County because neither the Clean Water Act nor the EPA regulations expressly required the challenged permit terms. (See AOB 42; 5 AR 5584, 5595, 5600.) But the State does not “freely choose” to impose specific permit requirements as the court understood that idea in *Hayes*. While federal law confers discretion on the State to choose the permit terms that will meet federal standards, imposing that standard is not discretionary. Under the Clean Water Act, all MS4 operators must have a permit that, at a minimum, meets the maximum-extent-practicable standard. (33 U.S.C. § 1342(p); 40 C.F.R. § 122.26(a)(3)(i), (d)(iv).) They cannot discharge from their MS4s to waters of the United States without one. (See 33 U.S.C. § 1311.) The act thus requires all terms necessary to achieving its standard, and regardless of whether they are drafted by the EPA or a regional board acting in lieu of the EPA, the permit is a federal mandate.

The County’s contention that the evidence supported the Commission’s conclusion that the State freely chose to shift costs

associated with industrial-facility and construction-site inspections to the County is similarly incorrect. (See 5 AR 5593-5595, 5601-5602.) This evidence shows only that the Water Boards perform permit inspections of certain industrial and construction sites to determine compliance with other, statewide permits. (3 AR 3601, 3640-3641; 2 AR 2423, 2436-2437.) On that basis, the Commission concluded—and the County here argues—that “nothing in the federal statutes or regulations . . . would prevent the state, rather than the local agencies, from performing” the industrial and construction-site inspections required by the MS4 permit. (5 AR 5595, 5601; AOB 42-47.)

But federal law can, and often does, require both state and local agencies to perform inspections. (See *Rancho Cucamonga, supra*, 135 Cal.App.4th at pp. 1389-1390 [holding that state and local inspection requirements were independently required by state and local federal permits].) The mere fact that the MS4 permit required the County to assure that industrial facilities and construction site owners had documentation also required by the statewide NPDES permits is not evidence that the State was relieving itself of its own responsibility to check documentation. (See AOB 44, alluding to 1 CT 58, 69.) Two separate NPDES permits imposing related inspection requirements cannot create a state mandate under *Hayes*, because the State was not passing its costs to the County. These inspection requirements can each be required by federal law and can coexist, with the Water Boards having inspection obligations and the County having inspection obligations.

C. The County Incorrectly Argues That the Commission's Primary Jurisdiction to Adjudicate State Mandates Is Threatened by the Judgment.

The County contends that the Court of Appeal improperly substituted its judgment for that of the Commission, which has "exclusive jurisdiction" to determine state mandate claims. (See AOB 23-26.) This jurisdiction is not in question. (See generally Gov. Code, §§ 17500, 17552.) The County argues that the Commission should not defer to the Regional Board's interpretation of the Clean Water Act and EPA regulations because to do so would impair its jurisdiction to decide what a state mandate is. (AOB 24-25.) This argument fails because the Regional Board did not—and could not—determine whether the challenged permit terms impose a state mandate; it decided only what federal law requires, and, as the courts held in the direct permit challenge, the Regional Board did not impose provisions that exceeded those requirements. While the Regional Board's interpretation of what federal law requires may be binding on the County and on the Commission, it no more impinges on the Commission's jurisdiction than does a decision of this Court or the U.S. Supreme Court construing the Clean Water Act.

Alternatively, the County argues that the Commission made a factual, not legal, determination when it concluded that the challenged permit requirements were not required by federal law. (See AOB 23-24.) As a threshold matter, the Commission could not decide whether or not the permit exceeded federal law without properly construing federal law. Indeed, though its analysis was incorrect, the Commission's decision reflects legal analysis, not adjudication of facts. The portion of the Commission's decision addressing what federal law requires consists almost entirely of comparing the text of the United States Code and Code of Federal Regulations to the permit's text. (See 5 AR 5576-5603.) Unlike

the Regional Board, the Commission did not, for example, consider any scientific reports or address alternative pollution-fighting measures. It simply ruled that any permit term not expressly required by the Clean Water Act or its implementing regulations exceeded the act's requirements.

The County also compares the Regional Board's final permitting decision to cases in which the Legislature has made findings or declarations that a law it has enacted is not a state mandate in an attempt to foreclose a subvention obligation. (See AOB 25-26, citing *California School Boards Association v. State* (2009) 171 Cal.App.4th 1183, 1204, and *Davis, supra*, 32 Cal.App.4th at p. 819.) This analogy is inapt. Unlike a legislative declaration that a state law does not create a state mandate, the Regional Board's final decision does not purport to determine the ultimate constitutional issue of whether the permit imposes a new program or higher level of service. Moreover, the Regional Board's determination that the permit did not exceed the requirements of the Clean Water Act is within the Regional Board's specific area of expertise and was twice affirmed on judicial review.

D. The Evidence on Which the County Relies Does Not Support Its Argument That the Challenged Terms Exceeded the Federal Standard.

The County references evidence to support its argument that the challenged permit requirements exceed the federal maximum-extent-practicable standard. (See AOB 30-31.) But the evidence it cites—an EPA stormwater program guidance manual, permits issued by the EPA in other states, earlier permits issued to the County of Los Angeles and cities therein, and a 2001 letter from the EPA about state-wide construction and industrial permits—does not support its argument. (See AOB 30-31.) The manual says that state permit issuers should not use it as a “script or checklist” and that it is not an “enforcement ‘how to.’” (3 AR 3393.) And even though

the manual does not prescribe specific conditions, it does give some examples of what permits should contain, one of which is construction-site inspections: "EPA regulations require permittees to develop 'procedures for site inspection and enforcement' for addressing construction activities. MS4 permits will likely elaborate on this requirement in more detail, such as by specifying a minimum frequency for inspection." (3 AR 3394.)

The County's citation to other permits also does not support its position. Relying on EPA permits issued in other states ignores Congress's intent that MS4 permits contain site specific requirements. (See 55 Fed.Reg. at pp. 48037-48038; *City of Irving, supra*, 10 E.A.D. 111 [2001 WL 988723 at p. *6].) What the EPA required a permittee to do to reduce the MS4 discharge of pollutants to the maximum extent practicable in a moderately populated, landlocked area like Boise, Idaho, says little about what the Regional Board could and should require a permittee to do to meet that standard in a littoral metropolis like Los Angeles, California. (See 4 AR 3893-3898.)

Similarly, relying on earlier Los Angeles County MS4 permits ignores Congress's intent that permits evolve over time as knowledge is gained about stormwater and technology advances. (See 55 Fed.Reg. at p. 48052 ["The Permits for discharges from municipal separate storm sewer systems will be written to reflect changing conditions that result from program development and implementation and corresponding improvements in water quality"]; 3 AR 3797 ["The EPA . . . expects stormwater permits to follow an iterative process whereby each successive permit becomes more refined, detailed, and expanded as needed, based on experience under the previous permit"].) A permit condition's novelty has no relevance to determining whether the condition or the permit meets or exceeds federal law.

The County's reliance on the 2001 EPA letter is also misguided. (See 4 AR 3878-3879.) The EPA said that the State had a duty to inspect commercial and industrial sites for compliance with a state permit. (See 4 AR 3878.) But that does not mean that federal law does not also require local governments to conduct inspections. The EPA confirmed that local-government permittees may also be required to inspect and monitor commercial and industrial facilities. (See 4 AR 3878.)

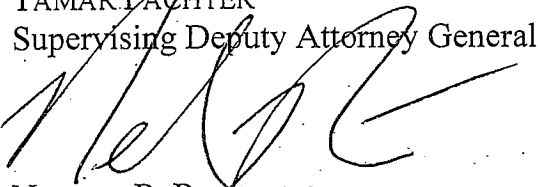
CONCLUSION

For the foregoing reasons, Respondents respectfully request that this Court affirm the judgment.

Dated: August 22, 2014

Respectfully submitted,

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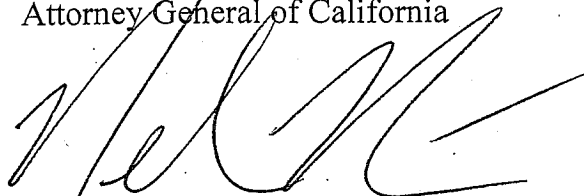
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CERTIFICATE OF COMPLIANCE

I certify that the attached Answer Brief on the Merits uses a 13 point Times New Roman font and contains 12,295 words.

Dated: August 22, 2014

KAMALA D. HARRIS
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A handwritten signature in black ink, appearing to read 'N. Richards', written over the printed name of Nelson R. Richards.

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DECLARATION OF SERVICE BY OVERNIGHT COURIER

Case Name: **Department of Finance v. Commission on State Mandates (County of Los Angeles)**

No.: **S214855**

I declare:

I am employed in the Office of the Attorney General, which is the office of a member of the California State Bar, at which member's direction this service is made. I am 18 years of age or older and not a party to this matter; my business address is: 455 Golden Gate Avenue, Suite 11000, San Francisco, CA 94102-7004.

On August 22, 2014, I served the attached **ANSWER BRIEF ON THE MERITS** by placing a true copy thereof enclosed in a sealed envelope with the **Golden State Overnight (GSO)**, addressed as follows:

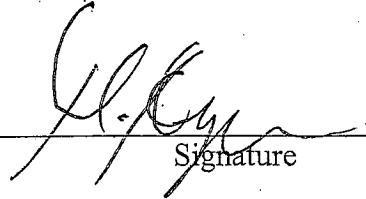
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I declare under penalty of perjury under the laws of the State of California the foregoing is true and correct and that this declaration was executed on August 22, 2014, at San Francisco, California.

M. Argarin
Declarant



Signature

IN THE COURT OF APPEAL OF THE STATE OF CALIFORNIA

SECOND APPELLATE DISTRICT

**STATE OF CALIFORNIA DEPARTMENT
OF FINANCE; STATE WATER
RESOURCES CONTROL BOARD;
CALIFORNIA REGIONAL WATER
QUALITY CONTROL BOARD, LOS
ANGELES REGION**

Case No. B237153

Petitioners and Respondents,

v.

COMMISSION ON STATE MANDATES,

Respondent,

COUNTY OF LOS ANGELES et. al,

Real Parties in Interest and Appellants.

Los Angeles County Superior Court, Case No. BS130730
Hon. Ann I. Jones, Judge

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IN THE COURT OF APPEAL OF THE STATE OF CALIFORNIA

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**STATE OF CALIFORNIA DEPARTMENT
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COURT OF APPEAL, Second APPELLATE DISTRICT; DIVISION	Court of Appeal Case Number: <p style="text-align: center; font-weight: bold;">B237153</p>
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	FOR COURT USE ONLY
APPELLANT/PETITIONER: State of California Dept. of Finance, et al. RESPONDENT/REAL PARTY IN INTEREST: Commission on State Mandates	
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Date: October 25, 2012

Kathleen A. Lynch
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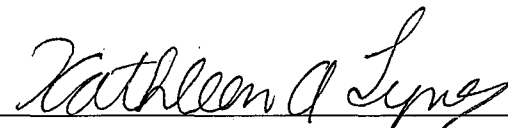

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INTRODUCTION

The federal Clean Water Act prohibits appellants/real parties in interest the County of Los Angeles and the cities of Bellflower, Carson, Commerce, Covina, Downey, and Signal Hill (collectively referred to as the "County of Los Angeles") from discharging pollutants from their municipal storm sewer systems into waterbodies unless pursuant to a permit issued in compliance with the National Pollutant Discharge Elimination System ("NPDES"). The Commission on State Mandates erroneously determined that four specific conditions of the NPDES permit issued to the County of Los Angeles were mandates imposed by the State (rather than federal law) simply because respondent California Regional Water Quality Control Board, Los Angeles Region ("Regional Board") administers that federal permitting scheme.

The Clean Water Act and implementing federal regulations required that the County of Los Angeles obtain a NPDES permit and that it include actions to reduce the discharge of pollutants "to the maximum extent practicable, including management practices, control techniques and system, design and engineering methods." (33 U.S.C. § 1342(p)(3)(B); see 40 C.F.R. § 122.26.) Under article XIII B, section 6 of the California Constitution, the only way this federal standard could constitute a state mandate would be if the State *voluntarily elected* to require local agencies to implement state obligations under the Clean Water Act, or if the State took action to *exceed* the Act's requirements. The trial court correctly found that neither occurred here.

Given that NPDES permits are required by federal law, the trial court correctly found that the State had "no real choice" in deciding to implement that law. Since 1973, the State has administered the NPDES program in California in place of the federal Environmental Protection Agency. Regardless of the issuing agency, however, the County of Los Angeles was

still required to obtain an NPDES permit and the same federal law governed its contents. The Regional Board's involvement added nothing to the County of Los Angeles' burdens. The State had no practical choice but to administer the Clean Water Act in lieu of direct regulation by the federal government.

Next, the trial court correctly ruled that the Commission's decision finding that four specific permit requirements are state mandates was based on a faulty reading of federal law: that unless those conditions were each specifically spelled out in a federal regulation, there was no federal mandate and they were therefore state-imposed. However; as the lower court recognized, federal law and decisions make clear that the Clean Water Act's technology-forcing requirement to reduce pollutants in storm water from the County's municipal storm waters systems "to the maximum extent practicable" is comprehensive and flexible. NPDES permitting agencies, whether federal or state, must impose specific permit conditions on a case-by-case basis to meet that federal standard for a particular municipal system. The Commission's search for specific federal regulations requiring each challenged permit condition under a "one-size-fits-all" regulatory scheme is fundamentally out of sync with the actual federal standard, both as written and as interpreted in federal regulations and judicial decisions.

And while the Commission may be an expert in state mandates, it has no expertise in the field of water quality permitting law. The Commission erroneously failed to give appropriate deference to the Regional Board's implementation of the Clean Water Act. The Commission also incorrectly ignored prior judicial review of the permit conditions and their relationship to the federal maximum extent practicable standard.

Finally, the trial court found that, based on the administrative record, the specific challenged permit requirements (related to placing and maintaining trash receptacles at transit stops and inspections of various

commercial, construction, and industrial facilities) are all within the maximum extent practicable standard and thus not state mandates as a matter of law. The Commission and the County of Los Angeles, on the other hand, have failed to cite to any evidence that actually shows how these specific requirements exceed the demanding federal standard.

Because the issue of whether the challenged permit requirements are state mandates is a matter of law, the trial court correctly remanded the matter back to the Commission with instructions to issue a new decision, holding that the challenged permit requirements are required by federal law, not state mandates, and thus not subject to state subvention under article XIII B, section 6.

Based on the foregoing, respondents and petitioners California Department of Finance, State Water Resources Control Board, and the Regional Board ask this Court to affirm the lower court's decision.

STATEMENT OF FACTS

I. FEDERAL REQUIREMENTS FOR NDPES PERMITS AT ISSUE

A. Federal Nature of NPDES Permits

In a "dramatic response to accelerating environmental degradation of rivers, lakes and streams in this country," Congress passed the Clean Water Act in 1972 to eliminate the discharge of pollution into the nation's waters. (33 U.S.C. § 1251, et. seq.; *Natural Resources Defense Council, Inc. v. Costle* (D.C. Cir. 1977) 568 F.2d 1369, 1371.) The Clean Water Act seeks to "restore and maintain the chemical, physical, and biological integrity of the Nation's waters," and is recognized by courts as a demanding law or "strong medicine." (33 U.S.C. § 1251(a); *Texas Mun. Power Agency v. Administrator of U.S. E.P.A.* (5th Cir. 1988) 836 F.2d 1482, 1488.)

The primary means for achieving the goals of the Clean Water Act is the NPDES program. (*Arkansas v. Oklahoma* (1992) 503 U.S. 91, 101-102.) The Act prohibits pollutant discharge from "point sources" unless

provided for under the NPDES permit. (33 U.S.C. §§ 1311, 1342; see also *Communities for a Better Environment v. State Water Resources Control Bd.* (2003) 109 Cal.App.4th 1089, 1092-1093.)

NPDES permits are issued by either the United States Environmental Protection Agency (U.S. EPA) or a U.S. EPA-approved state. (33 U.S.C. § 1342(a)(1) & (b).) Congress concluded that the U.S. EPA or an approved state could issue permits for all dischargers and could translate the Clean Water Act's requirements into the conditions of individual permits for dischargers. (*Environmental Protection Agency v. California ex rel. State Water Resources Control Bd.* (1976) 426 U.S. 200, 219.) California has the U.S. EPA's approval to issue NPDES permits, as do 45 other states. (*Building Industry Association of San Diego County v. State Water Resources Control Bd.* (2004) 124 Cal.App.4th 866, 875.)

When a state issues a NPDES permit, it must generally ensure that the permit complies with many federal requirements, including effluent limitations, national standards of performance, and toxic and pretreatment effluent standards. (33 U.S.C. §§ 1342(b)(1), 1311, 1312, 1316, 1317.) States must also provide for the continued inspection and monitoring of pollutants into our nation's waters. (*Id.* § 1342(b)(2)(B).) NPDES permit requirements may be enforced as a matter of federal law by either the U.S. EPA or private citizens. (*Id.* §§ 1319(a)(1)& (3), 1365(a)(1).)

To ensure that state-authorized programs comply with the U.S. EPA's mandates and federal law, the U.S. EPA maintains oversight and supervision. The state must provide the U.S. EPA with proposed permits and notice of any action related to a discharger's permit application. (33 U.S.C. § 1342(d)(1).) The U.S. EPA may object to a permit, finding that it violates the Clean Water Act's guidelines and requirements. (*Id.* § 1342(d)(2).) Should the U.S. EPA determine that a state program does

not comply with federal NPDES program guidelines, it may withdraw approval for the state program. (*Id.* § 1342(c)(3).)

When an NPDES permit is renewed, reissued or modified, it generally must be at least as stringent as the prior permit. (33 U.S.C. § 1342(o); 40 C.F.R. § 122.44(l).) This is consistent with Congress' intent that state management programs evolve based on changing conditions from program development and implementation, and corresponding improvements in water quality. (55 Fed.Reg. 47990, 48052 (Nov. 16, 1990).)

B. Federal Law Governing NPDES Permits for Municipal Separate Storm Sewer Systems (MS4)

While many types of discharges require NPDES permits under the Clean Water Act, this case is very specific, pertaining to the discharge of pollutants through municipal separate storm sewer systems. Those systems are often referred to as "MS4" (including in materials quoted in this Brief), and respondents will use that term hereafter. Congress established a distinct technology standard that applies to NPDES permits for MS4s. (33 U.S.C. § 1342(p)(3)(B).) Further, unlike many other categories of point source discharges, U.S. EPA has not established any uniform national effluent limitation guidelines or standards for MS4 discharges. (Compare 40 C.F.R. § 122.26 [MS4 permit requirements] with 40 C.F.R. Parts 405-471 [various effluent limitation guidelines].) Instead, U.S. EPA required individual permit issuers at the federal or state level to develop the necessary MS4 controls to reduce pollutants to the federal standards. (40 C.F.R. § 122.26(d); 55 Fed.Reg. 47990, 48043 (Nov. 16, 1990).)

Controlling discharges of municipal storm water and non-storm water is important because such discharges are one of the most significant sources of water pollution in the nation. (*Environmental Defense Center, Inc. v. U.S. E.P.A.* (9th Cir. 2003) 344 F.3d 832, 840.) These discharges carry "suspended metals, sediments, algae-promoting nutrients (nitrogen and

phosphorus), floatable trash, used motor oil, raw sewage, pesticides, and other toxic contaminants into streams, rivers, lakes, and estuaries across the United States.” (*Id.* at pp. 840-841.) “Among the sources of stormwater contamination are urban development, industrial facilities, construction sites, and illicit discharges and connections to storm sewer systems.” (*Id.* at p. 841.)

The Clean Water Act requires MS4 dischargers such as the County of Los Angeles “to effectively prohibit non-stormwater discharges into the storm sewers” and “to reduce the discharge of pollutants to the *maximum extent practicable*, including management practices, control techniques and system, design and engineering methods, and such other provisions as the Administrator or the State determines appropriate for the control of such pollutants.” (33 U.S.C. § 1342(p)(3)(B), emphasis added.) Congress established the maximum extent practicable standard (as opposed to the blanket effluent limitations approach, which was impractical and administratively burdensome in the context of storm water pollution) so that municipalities would have “the tools to meet the fundamental goals of the Clean Water Act.” (*Building Industry Ass’n of San Diego County, supra*, 124 Cal.App.4th at p. 884.)

The Clean Water Act’s technology-forcing requirements are designed to foster innovation. (See, e.g., *Chemical Mfrs. Ass’n v. Natural Resources Defense Council, Inc.* (1985) 470 U.S. 116, 155-56.) Permit writers (U.S. EPA and federally-approved states) identify the MS4 requirements on a permit-by-permit basis. (*Natural Resources Defense Council, Inc. v. U.S. E.P.A.* (9th Cir. 1992) 966 F.2d 1292, 1308, fn. 17; see also 55 Fed.Reg. 47990, 48043 (Nov. 16, 1990).) To implement this maximum extent practicable standard for stormwater, MS4 permits usually require “best management practices” that reflect the technology-based effluent limitation. (See *Defenders of Wildlife v. Browner* (9th Cir. 1999) 191 F.3d 1159, 1166-

1167; Administrative Record (“AR”) 2689-2690.) Federal law defines these practices to mean, in part, “schedules of activities, prohibitions of practices, maintenance procedures, and other management practices to prevent or reduce the pollution of ‘waters of the United States.’” (40 C.F.R. § 122.2.)¹

Large MS4 operators must apply for a NPDES permit pursuant to U.S. EPA-promulgated regulations. (33 U.S.C. § 1342(p)(4)(A).) Those regulations specify the information that applicants for MS4 permits must include in their applications. (40 C.F.R. § 122.26(d).) This application is extensive and represents the applicant’s view of the required NPDES permit. (*Id.* § 122.26(d)(2)(iv).) The application, and ultimately the permit itself, must address management programs to reduce the discharge of pollutants in storm water using the maximum extent practicable standard. (*Ibid.*) These programs include practices for operating and maintaining public streets, roads and highways (*id.* § 122.26(d)(2)(iv)(A)(3)); procedures to control pollution resulting from construction activities (*id.* § 122.26 (d)(2)(iv)(D)); legal authority to control contribution of pollutants associated with industrial activity (*id.* § 122.26(d)(2)(i)(A)); programs to control illicit discharge to the MS4 (*id.* § 122.26(d)(2)(B)); and conducting inspections to determine compliance with permit conditions

¹ As noted, the Clean Water Act imposes at least three distinct obligations on municipalities subject to MS4 permitting. One is “to effectively prohibit non-stormwater discharges into the storm sewers.” (33 U.S.C. § 1342(p)(3)(B)(ii).) A second is “to reduce the discharge of pollutants to the maximum extent practicable.” (*Id.* § 1342(p)(3)(B)(iii).) The third is the requirement to include “such other provisions as the Administrator or the State determines appropriate for the control of such pollutants.” (*Ibid.*; *Building Industry Ass’n of San Diego County, supra*, 124 Cal.App.4th at p. 887.) While each of these separate bases would provide the foundation for a federal mandate, the discussion throughout this brief focuses on the “maximum extent practicable” standard.

(§ 122.26(d)(2)(i)(F)). The management programs must address oversight of discharges into the system from the general population and from industrial and construction activities within the jurisdiction. (*Id.* § 122.26(d)(2)(iv).)

The U.S. EPA has also issued guidance documents that discuss the types of best management practices that may be included in MS4 storm water permits in order to reduce the discharge of pollutants in storm water to the maximum extent practicable. At the time that the subject test claims were considered by the Commission, the U.S. EPA had issued a Program Evaluation Guide for NPDES permits for large and medium MS4s, which addresses inspections of businesses and litter-related issues. (AR 3391-3494, 3468-3469, 3440.)

II. CALIFORNIA'S ROLE IN IMPLEMENTING FEDERAL REQUIREMENTS FOR MS4 PERMITS

“[O]n May 14, 1973, California became the first state to be approved by the EPA to administer the NPDES permit program.” (*County Sanitation Dist. No. 2 of Los Angeles County v. County of Kern* (2005) 127 Cal.App.4th 1544, 1565-1566.)² The Legislature amended the Porter-Cologne Water Quality Control Act (Porter-Cologne Act) by adding Chapter 5.5 to implement federal law, in order to avoid direct regulation by the federal government. (Wat. Code, § 13370; see generally §§ 13370-13389.) Specifically, the legislative findings and declarations state, in relevant part:

It is in the interest of the people of the state, in order to avoid direct regulation by the federal government of persons already subject to regulation under state law pursuant to this division, to enact this chapter in order to authorize the state to *implement the provisions of the Federal Water Pollution Control Act* [Clean

² Nine regional boards administer the program, overseen by the State Water Resources Control Board. (Wat. Code, §§ 13160, 13200, et. seq.)

Water Act] and acts amendatory thereof or supplementary thereto, and federal regulations and guidelines issued pursuant thereto, provided, that the state board shall request federal funding under the Federal Water Pollution Control Act for the purpose of carrying out its responsibilities under this program.

(Wat. Code, § 13370, subd. (c), emphasis added.)

Additionally, the Porter-Cologne Act mandates that California's NPDES permit program be consistent with federal law. (Wat. Code, §§ 13372, 13377.) Section 2235.2 of title 23 of the California Code of Regulations states that "[w]aste discharge requirements for discharge from point sources to navigable waters shall be issued and administered in accordance with the currently *applicable federal regulations for the National Pollutant Discharge Elimination System (NPDES) program.*" (Emphasis added.) Moreover, there are numerous federal requirements that the State must first comply with in issuing NPDES permits or risk the U.S. EPA taking over California's NPDES program.

The federal Clean Water Act allows a state to establish more stringent requirements (33 U.S.C. § 1370) and nothing in the Porter-Cologne Act precludes the State from establishing more stringent requirements. (*City of Burbank v. State Water Resources Control Bd.* (2005) 35 Cal.4th 613, 627.) As will be shown, however, the Regional Board applied relevant *federal* law to impose the requirements at issue. (33 U.S.C. § 1342(p)(3)(B)(iii).)

III. REGIONAL BOARD ORDER NO. 01-182 (NPDES PERMIT NUMBER CAS004001) AND RELATED APPLICATION

Starting in 1990 and pursuant to Clean Water Act amendments in 1987, the Regional Board issued MS4 permits to the County of Los Angeles. Prior to the 1987 amendments and the U.S. EPA's issuance of regulations to implement those amendments, the Regional Board did not regulate the County's MS4 discharges under either state or federal law. The permit at issue here is the third such NPDES permit issued, Regional

Order No. 01-182 (NPDES permit number CAS004001), and was adopted on December 13, 2001. (AR 3495-3576.)

Before the instant permit was issued, the County of Los Angeles submitted a permit application to the Regional Board on February 1, 2001. (33 U.S.C. § 1342(p)(4)(A); 40 C.F.R. §§ 122.26(a)(3) [requiring initial application] & 122.21(d)(2) [duty to reapply 180 days before prior NPDES permit expired].) This application is entitled "Report of Waste Discharge" and includes a "Stormwater Quality Management Plan (SQMP)." (AR 3663-3794.) The SQMP represents the County of Los Angeles' proposals for best management practices (sometimes referred to as "BMPs") that would ultimately be required in the NPDES permit. (AR 3665-3678.) The permit that was adopted was based on the SQMP, with some revisions and additions necessary to meet minimum federal requirements. The relevant provisions of the permit and SQMP are as follows:

General Permit Provisions

The Regional Board made detailed findings concerning the permit's factual and legal basis. (AR 3500-3519.) Among them are general findings about the intent and purpose of the permit, including as it relates to federal law. In section C, Permit Background, the Regional Board found in subsection 4:

The Regional Board finds that the Permittees' proposed SQMP, incorporating the additional and/or revised provisions contained in this Order would meet the minimum requirements of federal regulations.

(AR 3506.) It further found in section D, Permit Coverage, subsection 4:

This permit is intended to develop, achieve, and implement a timely, comprehensive, cost-effective storm water pollution control program to reduce the discharge of pollutants in storm water to the Maximum Extent Practicable (MEP) from the permitted areas in the County of Los Angeles to the waters of the U.S. subject to the Permittees' jurisdiction.

(AR 3507.)

Section F, Implementation, provides information concerning the objective of the permit, and its cooperative design, and flexibility to meet this objective based on the requirements of federal law. With respect to the objective of the permit, subsection 2 provides:

The objective of this Order [the permit] is to protect the beneficial uses of receiving waters in Los Angeles County. To meet this objective, this order requires that the SQMP specify BMPs that will be implemented to reduce the discharge of pollutants in storm water to the maximum extent practicable.

(AR 3516.)

Finally, subsection 4 gives the County of Los Angeles the flexibility to substitute other best management practices. It states:

This Order provides flexibility for Permittees to petition the Regional Board Executive Officer to substitute a BMP, if they can provide information and documentation on the effectiveness of the alternative, equal to or greater than the prescribed BMP in meeting the objectives of this Order.

(AR 3517.)

Permit Provisions Challenged in the State Mandates Claim

Part 4 (Special Provisions) of the permit contains activities that the County of Los Angeles claims are state mandates and not required by federal law. (AR 3531-3536.) Specifically, these provisions pertain to: (1) the inspections of commercial and industrial facilities, (2) containment of runoff at construction sites, and (3) the placement and maintenance of trash receptacles at transit stops.

The commercial and industrial inspection requirements are found in Subsection C of Part 4 and pertain to inspections at commercial facilities, including restaurants, automotive service facilities, retail gasoline outlets, and automotive dealerships. (AR 3531-3538.) While each commercial property has unique inspection requirements tailored to its business activity,

the permit requires that all facilities are inspected on a regular basis, twice during the 5-year permit period, to confirm that best management practices are being effectively implemented in compliance with the law. (AR 3533-3535.) Similarly, subdivision 2b requires the inspection of certain industrial facilities referred to in the permit as Phase 1 Facilities. (AR 3535-3536.)

Construction runoff is covered by Subsection E of Part 4 and provides that “[e]ach Permittee shall implement a program to control runoff from construction activity to storm drains at all construction sites within its jurisdiction.” (AR 3546.) This generally includes implementing best management practices related to the control and containment of construction-related materials, waste, and erosion, as well as the inspection of construction sites and related employee training. (AR 3546-3549.)

The requirement for trash receptacles is found at Subsection F of Part 4 and requires that trash receptacles be placed at all transit stops within the Permittee’s jurisdiction and that they be maintained as necessary. (AR 3553.)

Part 4 of the order, which imposes these and the other Special Conditions on the County of Los Angeles, reiterates the general findings elsewhere that the permit is intended to reduce the discharge of pollutants in storm water to the maximum extent practicable under the Clean Water Act. (AR 3527.) It states:

This permit, and the provisions herein, are intended to develop, achieve, and implement a timely, comprehensive, cost-effective storm water pollution control program to reduce the discharge of pollutants in storm water to the MEP [maximum extent practicable] from the permitted areas in the County of Los Angeles to the waters of the State.

(AR 3527.) The maximum extent practicable standard is defined in the permit to mean: “the standard for implementation of storm water

management programs to reduce pollutants in storm water” under the Clean Water Act. (AR 3561-3562.)

Relevant Terms of the County of Los Angeles’ SQMP

The County of Los Angeles’ application included a Storm Water Quality Management Program (“SQMP”) with proposals for best management practices that would ultimately be included in the NPDES permit. (AR 3665-3678.) It included best management practices related to the inspections of commercial, construction, and industrial facilities, and goals of minimizing street litter from entering the waterbodies. (AR 3670-3675.)

Inspection requirements for industrial/commercial businesses are found in subsection A2 of Part 4. Subdivision b provides that “Permittees shall visit automotive services and food service facilities as outlined in the SQMP in its jurisdiction once every two years.” (AR 3671.) Site visits include consultation with a representative of the facility, discussion of best management practices, and a site walk-through. (AR 3671.) Subdivision c states that “Permittees shall revisit automotive and food service facilities where evidence of illicit discharge is found within six months of the date of the initial visit.” (AR 3671.) Subdivision e provides that “Permittees shall provide an annual update to the visited automotive service, food service, and other target facilities to the Regional Board in the annual report. (AR 3671.)

Requirements to prevent runoff from constructions sites into nearby waters are found in subsection C of Part 4. (AR 3672-3674.) As with the conditions ultimately included in the permit, these requirements include implementing best management practices relating to the control and containment of construction-related materials, waste, and erosion, as well as the inspection of construction sites and related employee training. (AR 3672-3674.)

The removal of trash and other pollutants transported in runoff to the storm drain system from landscape and recreational facilities is addressed in the executive summary. (AR 3677.) “The goal of the program for landscape and recreational facilities management is to make the storm water quality a consideration when conducting operation and maintenance activities.” (AR 3677.) This includes minimizing trash from entering recreational water bodies, removing trash from open channels, and controlling litter and debris in the streets. (AR 3677-3578.) Also, under subsection D of Part 4, “Permittees shall conduct trash collection along, or in improved open channels within their jurisdiction” and are encouraged to establish other voluntary programs for trash collection in natural stream channels. (AR 3675.)

IV. OVERVIEW OF THE COMMISSION AND PRINCIPLES OF SUBVENTION AS IT PERTAINS TO FEDERAL REQUIREMENTS

The Commission is a quasi-judicial agency vested with the sole and exclusive authority to adjudicate all disputes over the existence and reimbursement of state-mandated programs within the meaning of article XIII B, section 6 of the California Constitution. (*Kinlaw v. State of California* (1991) 54 Cal.3d 326; Gov. Code, §§ 17551, 17552.) Article XIII B, section 6 of the California Constitution and Government Code section 17514 provide for the reimbursement of local government costs of carrying out new programs or higher levels of service that are mandated by the State. Article XIII B, section 6 provides, in part, as follows:

Whenever the Legislature or any state agency mandates a new program or higher level of service on any local government, the state shall provide a subvention of funds to reimburse such local government for the costs of such program or increased level of service. . . .

Government Code section 17514 defines “[c]osts mandated by the state” to mean:

. . . any increased costs which a local agency or school district is required to incur . . . which mandates a new program or higher level of service of an existing program within the meaning of Section 6 of Article XIII B of the California Constitution.

But constitutional subvention is not required when the costs are from implementing federal law. “[A]rticle XIII B, section 6, and the implementing statutes . . . provide for reimbursement only of state-mandated costs, not federally-mandated costs.” (*San Diego Unified School Dist. v. Commission on State Mandates* (2004) 33 Cal.4th 859, 880.)³

This constitutional limitation on providing state reimbursement for activities imposed by federal law is specifically spelled out in Government Code section 17556, subdivision (c). (*Redevelopment Agency of the City of San Marcos v. Commission on State Mandates* (1996) 55 Cal.App.4th 976, 984 [article XIII B, section 6 creates “several classes of state-mandated programs for which no state reimbursement of local agencies is required”].) Subdivision (c) states that the Commission shall not find “costs mandated by the state” if “[t]he statute or executive order imposes a requirement that is mandated by a federal law or regulation and results in costs mandated by the federal government, unless the statute or executive order mandates costs that exceed the mandate in that federal law or regulation.” Government Code section 17513 defines “costs mandated by the federal government” to mean, in relevant part “. . . any increased costs incurred by a local agency or school district after January 1, 1973, in order to comply with the requirements of a federal statute or regulation.”

³ State reimbursement is not required because local governments are not subject to constitutional spending constraints in the face of federal mandates. Article XIII B, section 9, subdivision (b), excludes from the state or local spending limit any “appropriations required for purposes of complying with mandates of the . . . federal government.” (See *City of Sacramento v. State of California* (1990) 50 Cal.3d 51, 57-58.)

V. SUMMARY OF THE COMMISSION'S DECISION

Local agencies file claims with the Commission for reimbursement of state-mandated costs. (Gov. Code, §§ 17551, 17560.) The first claim filed by a local agency alleging that a statute or an executive order imposes a reimbursable state-mandated program is a “test claim.” (Gov. Code, § 17521.) The County of Los Angeles filed multiple test claims with the Commission addressing “various activities related to placement and maintenance of trash receptacles at transit stops and inspection of restaurants, automotive service facilities, retail gasoline outlets, automotive dealerships, phase I industrial facilities (as defined) and construction sites to reduce stormwater pollution in compliance with a permit issued by the Los Angeles Regional Water Quality Control Board, a state agency.” (AR 5557.)

The test claims were consolidated, and the Commission “originally refused jurisdiction over the permits based on Government Code section 17516’s definition of ‘executive order,’ which excluded permits issued by the State Water Resources Control Board and regional boards from state mandate review.” (AR 5557.) In *County of Los Angeles v. Commission on State Mandates* (2007) 150 Cal.App.4th 898, the Court found that this part of section 17516 excluding such permits was unconstitutional. The Court issued a writ directing the Commission to consider the claims on their merits. (AR 5557.)

On remand, the Commission found that the permit requirement related to the placement and maintenance of trash receptacles at transit stops was a reimbursable state mandate. (AR 5584.) With respect to the other permit requirements (related to inspections of commercial and industrial facilities and pollution containment at construction sites), the Commission found that these requirements are not reimbursable as costs mandated by the state,

because the claimants have fee authority sufficient to pay for the permit requirements. (AR 5625.)

The Commission's statement of decision is lengthy and can be found in the administrative record at pages 5555-5625. This appeal only addresses the Commission's findings that the claimed activities are not federal mandates. (AR 5576-5602.) The Commission's analysis of that issue is long, but is based primarily on the theory that the specific permit activities are not federal mandates because they go beyond the requirements of the Clean Water Act. (AR 5578, 5584, 5591, 5595, 5601.)

STATEMENT OF THE CASE

I. RELEVANT PROCEDURAL HISTORY IN LOWER COURT

The respondents filed a petition for writ of mandate against the Commission and the County of Los Angeles. (Clerk's Transcript ("CT") Volume ("V") 1, pp. 000011-000013.)⁴ As relevant to this appeal, the petition challenges the Commission's findings that the permit requirements related to placing and maintaining trash receptacles at transit stops, and the inspection of commercial facilities, Phase I industrial facilities, and construction sites are state mandates. (CT V1, pp. 000016-000020.) More specifically, the petition alleges that these findings are contrary to law because the permit requirements are federal mandates, not state mandates. (*Ibid.*) The County of Los Angeles filed a cross-petition challenging the part of the Commission's decision finding that obligations related to

⁴ The cities of Artesia, Azusa, Bellflower, Beverly Hills, Carson, Commerce, Covina, Downey, Monterey Park, Norwalk, Rancho Palo Verdes, Signal Hill, Vernon, and Westlake Village were named as Real Parties in Interest. (CT V1, pp. 000011-000013.) Artesia, Azusa, Beverly Hills, Monterey Park, Norwalk, Rancho Palo Verdes, Vernon, and Westlake Village have not appealed the judgment. The Commission filed a notice of appearance in the Superior Court, but did not brief the matter or appear at the hearing in the lower court, nor did the Commission appeal.

inspections of various facilities were not reimbursable state mandates because real parties have the ability to levy fees for these programs. (CT V4, pp. 000270-000275.)

II. LOWER COURT'S STATEMENT OF DECISION

The trial court's ruling focused on whether the challenged permit requirements are federal mandates and thus not subject to state subvention. (CT V4, pp. 000678-000682.) The first part of the decision found the State had "no real choice" in deciding to comply with federal NPDES program, noting that the Clean Water Act "clearly dictates that NPDES permits – issued by either the U.S. EPA or a qualified state agency – are not voluntary." (CT V4, p. 000678.) The court explained that "[f]ederal law requires the County of Los Angeles to have an NPDES permit for municipal storm water discharges." (*Ibid.*) "And, if California did not administer its own water quality program through the Porter-Cologne Act, California dischargers, both private and governmental, would still have to comply with federal law - and be directly regulated by the federal government." (CT V4, p. 000678-000679.)

The second part of the court's analysis examined whether the permit requirements related to placing and maintaining trash receptacles at transit stops, and the inspection of commercial facilities, Phase I industrial facilities, and construction sites each exceeded the requirements of federal law. (CT V4, p. 000678.) The trial court found that federal law required that the challenged permit requirements reduce the discharge of pollutants to the maximum extent practicable and that the individual permit requirements did not exceed this standard for multiple reasons. (CT V4, pp. 000678-000682.)

To start with, the trial court found that "there is no substantial evidence in the administrative record to support the Commission's conclusion that the state's mandate in this instance was inconsistent with or

more stringent than the Clean Water Act's 'maximum extent practicable' requirement." (CT V4, p. 000679.) "Rather, the Commission simply concluded that the claimed permit requirements were in excess of federal mandates because they could not be located in certain identified federal regulations." (*Ibid.*) According to the court, "[t]he search for a comparable federal regulation as the pre-condition for a finding a federal mandate utterly ignores and misapplies the flexible regulatory standard '[maximum extent practicable]' inherent in the Clean Water Act." (*Ibid.*) To "ignore this flexible standard imposed and mandated under the Clean Water Act, and instead to require a comparable federal regulatory dictate, is legally erroneous." (CT V4, p. 000680.)

Next, the lower court found that "the Commission erred in isolating a specific requirement to conclude that the NPDES permit was a state mandate." (CT V4, p. 000680.) In the trial court's view, "[o]ne permit provision cannot exceed the 'maximum extent practicable standard imposed by the Clean Water [Act] where the permit as a whole does not.'" (*Ibid.*)

More specifically, the trial court found that the permit requirements related to placing and maintaining trash receptacles at transit stops, and the inspection of commercial facilities, Phase I industrial facilities, and construction sites are all within the maximum extent practicable standard. (CT V4, p. 000680.)

Trash Receptacles: The trial court explained that "[i]t cannot be seriously doubted that the placement and maintenance of trash receptacles at transit stops will help prevent the introduction of these known contaminants into the water. As the trash receptacle requirement is an obvious remedy [to control litter and debris at transit stops], it is clearly within the maximum extent practicable standard." (CT V4, p. 000680-000681.) Thus, the court held that the trash requirement in the permit "is

imposed by federal law and is not subject to reimbursement under article XIII B, section 6 of the California Constitution.” (*Ibid.*)

Inspections: The trial court found that “[a]s with the receptacle requirement, these inspection mandates are clearly pursuant to the maximum extent practicable standard under the Clean Water Act.” (CT V4, p. 000681.) “[T]here is nothing in the record to suggest that they exceed this standard, [and] the Commission’s conclusion to the contrary must fail.” (*Ibid.*) Thus, the court held that “the inspection requirements are federal, not state, mandates and are not subject to reimbursement under article XIII B, section 6 of the California Constitution.” (CT V4, pp. 000682.)

Finally, the lower court did not address the County of Los Angeles’ cross-petition challenging the Commission’s determination that the inspection requirements were state mandates, but not reimbursable because local agencies could recoup their costs through fees. (CT V2, p. 000676, fn. 8.) However, the court noted that the cross-petition would fail for the same reasons supporting the petition (i.e., that the inspection requirements are not state mandates in the first place). (*Ibid.*)

III. JUDGMENT AND WRIT OF ADMINISTRATIVE MANDAMUS

Consistent with the above Statement of Decision, the lower court entered judgment in favor of the State and granted the writ of mandate. (CT V4, pp. 000702- 00703.) The court also issued a writ consistent with the judgment and the Commission filed a timely return. (CT V4, pp. 000731-000736.)

STANDARD OF REVIEW

Pursuant to Government Code section 17559, subdivision (b), a proceeding may be brought under Code of Civil Procedure section 1094.5 “to set aside a decision of the commission on the ground that the commission’s decision is not supported by substantial evidence.” Code of Civil Procedure section 1094.5, in turn, provides that the court’s inquiry

“shall extend to the questions whether the respondent has proceeded without, or in excess of jurisdiction; whether there was a fair trial; and whether there was any prejudicial abuse of discretion. Abuse of discretion is established if the respondent has not proceeded in the manner required by law, the order or decision is not supported by the findings, or the findings are not supported by the evidence.” (*Id.* subd. (b).)

“[T]he scope of review in the trial court is whether the administrative decision is supported by substantial evidence,” and the scope of review on appeal is generally the same. (*City of Richmond v. Commission on State Mandates* (1998) 64 Cal.App.4th 1190, 1195.) On appeal, the Court reviews “the agency’s actions and decisions to determine whether they were in compliance with the procedures required by law and were supported by findings which themselves were supported by substantial evidence in light of the entire administrative record. In so doing, “[the Court’s] review is de novo, and not bound by the trial court’s conclusions.” (*San Franciscans Upholding the Downtown Plan v. City & County of San Francisco* (2002) 102 Cal.App.4th 656, 674.) The appellate court independently reviews the superior court’s legal conclusions as to the meaning and effect of constitutional and statutory provisions. (*Ibid.*) Whether a statute (or in this case, a permit requirement) creates a reimbursable state mandate is a pure question of law. (*Connell v. Superior Court* (1997) 59 Cal.App.4th 382, 395.) Questions of law are subject to de novo review. (*City of Richmond, supra*, 64 Cal.App.4th at p. 1195.)

ARGUMENT

I. THE TRIAL COURT CORRECTLY FOUND THAT THE CHALLENGED PERMIT REQUIREMENTS ARE FEDERAL MANDATES AND NOT SUBJECT TO STATE SUBVENTION.

The California Constitution is clear that state subvention is not required when the federal government imposes new costs on local

governments. (Cal. Const., art. XIII B, § 9, subd. (b); Gov. Code, §§ 17556, subd. (c), 17513.) This is because federal costs are exempt from local agencies' taxing and spending limitations and is true "even though the state has adopted an implementing statute or regulation pursuant to the federal mandate so long as the state had no 'true choice' in the manner of implementation of the federal mandate. [Citation omitted.]" (*Hayes v. Commission on State Mandates* (1992) 11 Cal.App.4th 1564, 1593.) State subvention only comes into play when the state is required "to reimburse local governments for their costs *resulting from state laws* 'which mandate . . . new program[s] or . . . increased level[s] of service' at the local level." (*City of Sacramento, supra*, 50 Cal.3d 51, 57-58, emphasis added.)

The overriding question in this case is whether the NPDES program and the challenged permit requirements are federal mandates and not subject to state subvention. In making this determination, the Court must consider whether the federal program imposes a mandate on the State and whether the State, in turn, has mandated a federal program on the local governments. (*City of Sacramento, supra*, 50 Cal.3d 51; *Hayes, supra*, 11 Cal.App.4th 1564.) Most relevant to this case, the Court must also consider whether there are state-mandated activities that exceed federal requirements. (*Long Beach Unified School Dist. v. State of California* (1990) 225 Cal.App.3d 155; *San Diego Unified School Dist., supra*, 33 Cal.4th 859; Gov. Code, § 17556, subd. (c).)

As explained in detail below, the trial court correctly found that the NPDES program is a mandatory federal program and that the challenged permit requirements are part of one aspect of the Clean Water Act, the federally-required maximum extent practicable standard. (CT V4, pp. 000678-000682.) As such, they are not subject to state subvention under article XIII B, section 6 of the California Constitution.

II. THE TRIAL COURT CORRECTLY FOUND THAT CALIFORNIA'S ADMINISTRATION OF THE NPDES PERMIT PROGRAM DOES NOT TRANSFORM CLEAN WATER ACT REQUIREMENTS INTO STATE MANDATES.

“The test for determining whether there is a federal mandate is whether compliance with federal standards ‘is a matter of true choice,’ that is, whether participation in the federal program ‘is truly voluntary.’” (*City of Sacramento, supra*, 50 Cal.3d at p. 76.) A federal mandate exists, even if “the state has adopted an implementing statute or regulation pursuant to the federal mandate so long as the state had no ‘true choice’ in the manner of implementation of the federal mandate.” (*Hayes, supra*, 11 Cal.App.4th at p. 1593.) But “[t]his reasoning would not hold true where the manner of implementation of the federal program was left to the true discretion of the state.” (*Ibid.*)

In the present case, the trial court correctly found that the State had “no real choice” in deciding to comply with the federal NPDES program, holding that the Clean Water Act “clearly dictates that NPDES permits issued – by either the U.S. EPA or a qualified state agency – are not voluntary.” (CT V4, p. 000678.) The County of Los Angeles does not seem to be challenging this finding, instead noting only that the Commission’s determination that “a state’s choice to issue NPDES permits is a voluntary one under the [Clean Water Act] [citation omitted].” (Appellants’ Brief (AB), pp. 20-21, fn. 7.) The County does not develop this argument and disavows its importance, contending that “[t]his fact [] did not form the basis for the Commission’s decision.” (*Ibid.*)

Regardless of how the County characterizes this part of the trial court’s decision, the NPDES program is not optional; it is coercive on states, local governments, and private parties in every legal and practical sense. As a preliminary matter, the Commission found that because California “voluntarily adopts the [NPDES] permitting program” and

because federal law “does not expressly require states to have this program, the state has freely chosen to effect the stormwater permit program.”

(AR 5581.) What the Commission overlooked is given the complex, coordinated, and wide-ranging nature of the rules governing federal, state, and local agencies and private parties under the Clean Water Act, California had no practical choice but to administer the NPDES program, rather than have the federal government issue those permits.

In any event, regardless of which entity implements NPDES, *neither the requirement for a permit nor the actions required to meet the required standard for reduction in discharges was voluntary*. The Clean Water Act requires the County of Los Angeles to have an NPDES permit for MS4 discharges and compels those permits to effectively prohibit non-storm-water discharges to the storm sewers, to reduce the discharge of pollutants in storm water to the maximum extent practicable, and to comply with any other requirements the Regional Board may deem appropriate to control pollutants. Neither the State nor the County of Los Angeles has any choice in complying with those requirements. (*City of Sacramento, supra*, 50 Cal.3d at p. 76.) Further, unlike the situation discussed in *Hayes*, the State is not “shift[ing] state costs to local agencies,” but instead implementing federal law that MS4 owners and operators obtain an NPDES permit that reduces pollutants in storm water to the maximum extent practicable. (Cf. *Hayes, supra*, 11 Cal.App.4th at p. 1593.)

If California did not issue NPDES permits, California’s dischargers, both private and governmental, would still have to comply with the same federal law, just administered then by direct regulation from the federal government. California’s decision to take on administration of the federal law added nothing by way of additional requirements. “It is in the interest of the people of the state, in order to avoid direct regulation by the federal government of persons already subject to regulation under state law

pursuant to this division, to enact this chapter in order to authorize the state to implement the provisions of the Federal Water Pollution Control Act [Clean Water Act].” (Wat. Code, § 13370, subd. (c).) Faced with the federal requirements to obtain NPDES permits, 46 of the 50 states (including California) have implemented NPDES through a federally-approved state agency process.

Moreover, the California Supreme Court has rejected the Commission’s narrow analysis that a state mandate is created when a state enacts its own laws to implement federal law. In *City of Sacramento, supra*, the Supreme Court found that the joint federal-state operation of a system of unemployment compensation was not a state mandate, but rather a federal one. (50 Cal.3d at pp. 75-76.) The Court rejected the idea that “California could have chosen to terminate its own unemployment insurance system, thus leaving the state’s employers faced only with the federal tax.” (*Id.* at p. 74.) The Court stated that “we cannot imagine the drafters and adopters of article XIII B intended to force the state to such draconian ends.” (*Ibid.*) The Court explained that “the state simply did what was necessary to avoid certain and severe federal penalties upon its resident businesses. The alternatives were so far beyond the realm of practical reality that they left the state ‘without discretion’ to depart from federal standards.” (*Ibid.*)

Under *City of Sacramento*, a federal mandate exists where the federal government leaves the State with little or no practical choice. The Commission’s analysis here eviscerates that rule. Under the Commission’s analysis, a state mandate would exist anytime federal law gives the state any potential role in administering or enforcing federal requirements.

Accordingly, the trial court correctly found that the State had “no real choice” in deciding to comply with the federal NPDES program and the

County of Los Angeles had not offered any argument to the contrary.
(CT V4, p. 000678.)

III. THE TRIAL COURT PROPERLY HELD THAT THE COMMISSION'S FINDINGS THAT THE CHALLENGED PERMIT REQUIREMENTS ARE STATE MANDATES APPLIED THE WRONG LEGAL STANDARD AND ARE NOT SUPPORTED BY SUBSTANTIAL EVIDENCE.

Government Code section 17556, subdivision (c), states that the Commission shall not find "costs mandated by the state" if "[t]he statute or executive order imposes a requirement that is mandated by a federal law or regulation and results in costs mandated by the federal government, unless the statute or executive order mandates costs that exceed the mandate in that federal law or regulation." (*San Diego Unified School Dist.*, *supra*, 33 Cal.4th at p. 880.) Under this statutory standard, the Commission was tasked with reviewing the applicable federal law (the maximum extent practicable standard) and determining whether each challenged permit requirement exceeded this standard. The Commission did not even attempt to meet this burden. The Commission completely disregarded the maximum extent practicable standard, the Regional Board's expertise in the area of water quality law, and a prior court decision finding that the permit in question was within the federal maximum extent practicable standard.

A. The Commission Disregarded the Maximum Extent Practicable Standard.

The Clean Water Act prohibits the County of Los Angeles from discharging pollutants from its MS4, except pursuant to an NPDES permit. One requirement of the Clean Water Act is that such permits must include "controls to reduce the discharge of pollutants to the *maximum extent practicable*, including management practices, control techniques and system, design and engineering methods, and such other provisions as the

Administrator or the State determines appropriate for the control of such pollutants.” (33 U.S.C. § 1342(p)(3)(B), emphasis added.)⁵

The Commission’s analysis ignored the maximum extent practicable standard altogether. Instead, the Commission looked only to whether federal law specifically required certain individual measures be in the County of Los Angeles’ permit. However, the Clean Water Act’s NPDES permit program requires the permit issuer, at a minimum, to determine controls that will reduce discharges to the maximum extent practicable from MS4s based on the unique conditions of particular waterbodies. On its face, the maximum extent practicable standard is necessarily flexible, rather than a one-size-fits-all standard imposed by specific numeric effluent limits. (*Building Industry Ass’n of San Diego County, supra*, 124 Cal.App.4th at p. 874.) The Commission’s analysis erroneously assumes that whenever federal regulations impose a standard that is flexible, any act taken by the state to implement that federal requirement is a state mandate. As the trial court explained, this type of analysis is legally incorrect:

The search for a comparable federal regulation as the pre-condition for finding a federal mandate utterly ignores and misapplies the flexible regulatory standard inherent in the Clean Water Act. The “maximum extent practicable standard” is designed to provide administrative bodies the “tools to meet the fundamental goals of the Clean Water Act in the context of storm water pollution.” [Citation omitted.] That flexible standard was designed to allow permit writers to use a combination of pollution controls that

⁵ In the lower court, the County of Los Angeles argued that the State Water Resources Control Board previously determined that the maximum extent practicable standard does not apply to permit requirements that address the entry of pollutants into MS4s. The lower court agreed that the Board made no such broad-based determination. (CT V4, p. 000679, fn. 11.) In any event, the County has not raised this issue here and it is not properly before the Court on appeal.

may be different in different permits. [Citation omitted.] And, the flexible standard provides an agency to tailor permits to the “site-specific nature of MS4” and the ability to direct permit requirements “at the sources of pollution in the MS4 rather than solely at the end of the pipe.” [Citation omitted.]

(CT V4, pp. 000679-000680.)

Despite the foregoing ruling by the trial court, the County of Los Angeles asserts that “[t]he Commission did consider the [maximum extent practicable] standard.” (AB p. 17.) To the contrary, even a cursory review of the Commission’s findings shows that instead of applying the maximum extent practicable standard, the Commission simply concluded that the permit requirements exceeded federal law because they were not expressly stated in regulations. With respect to the trash receptacle requirement, the Commission found:

- “[T]he plain language of the federal statute (33 U.S.C. § 1342(p)(3)(B)) [maximum extent practicable standard] and regulation (40 C.F.R. § 122.26(d)(2)(iv)(A)(3)) does not require the permittees [sic] to install and maintain trash receptacles at transit stops.” (AR 5584.)
- “Because installing and maintaining trash receptacles at transit stops is not expressly required of cities and counties or municipal separate storm sewer dischargers in the federal statutes or regulations, these are activities that ‘mandate costs that exceed the mandate in the federal law or regulation.’” (AR 5584.)

The Commission came to the same legal conclusion when it analyzed the inspection requirements for commercial facilities, certain industrial facilities, and construction sites. It found:

- There is no express requirement in federal law to inspect restaurants, automotive service facilities, retail gasoline outlets, or automotive dealerships. (AR 5590.) The Commission “cannot read a requirement into a statute or regulation that is not on its face or its legislative history.” (AR 5591.)

- “Based on the plain language of the federal regulations that are silent on the types of facilities at issue in the permit, the Commission finds that performing inspections at restaurants, automotive service facilities, retail gasoline outlets, or automotive dealerships, as specified in the permit, is not a federal mandate.” (AR 5591.)
- “[T]he Commission finds that there is no federal mandate on the claimants to perform inspections of phase I facilities as specified in part 4C2b of the permit.” (AR 5595.)
- “[T]he Commission finds that the requirement for local-agency permittees to inspect constructions sites in section 4E of the permit is not a federal mandate.” (AR 5601.)

The County of Los Angeles tries to sidestep the Commission’s erroneous analysis by essentially arguing quantity over quality. In the County’s view, the Commission analyzed the maximum extent practicable standard because the decision was lengthy (over one hundred pages) and because the decision restated relevant federal law, state law, and the parties’ positions. (AB pp. 17-18.) Providing background information is not a substitute for analysis. As outlined above, the Commission did not analyze (and in fact ignored) the maximum extent practicable standard and simply found that state mandates exist because the challenged permit requirements are not explicitly called out in federal law. The trial court correctly held that to “ignore this flexible standard imposed and mandated under the Clean Water Act, and instead to require a comparable federal regulatory dictate, is legally erroneous.” (CT V4, p. 000680.) The trial court decision should be affirmed.

B. The Clean Water Act Required the Regional Board to Specify the Permit's Comprehensive Measures to Reduce Pollutants In Storm Water to the Maximum Extent Practicable.

The Commission failed to consider and recognize the Regional Board's federal legal duty to prescribe controls to reduce the discharge of pollutants in storm water to the maximum extent practicable under the Clean Water Act. Congress established the maximum extent practicable standard because municipal storm water runoff, unlike other pollutant discharges, could not be adequately addressed by blanket effluent limitations. (*Building Industry Ass'n of San Diego County, supra*, 124 Cal.App.4th at p. 884.) Numeric effluent limitations may be infeasible and administratively burdensome when addressing municipal storm water runoff because of physical differences from other types of pollutant discharges. (*Ibid.*) Congress determined that the maximum extent practicable standard was a "necessary and workable enforcement mechanism to achieving the goals of the Clean Water Act." (*Ibid.*)

In issuing Clean Water Act large MS4 permits, "[t]he permitting agency has discretion to decide what practices, techniques, methods and other provisions are appropriate and necessary to control the discharge of pollutants [citation omitted]." (*City of Rancho Cucamonga v. Regional Water Quality Control Bd.-Santa Ana Region* (2006) 135 Cal.App.4th 1377, 1389.) However, the "Regional Board must comply with federal law requiring detailed conditions for NPDES permits." (*Ibid.*) Further, the U.S. EPA expects individual permit writers to develop the practices that reflect the maximum extent practicable standard on a permit-by-permit basis. (*Natural Resources Defense Council, Inc. v. U.S. E.P.A., supra*, 966 F.2d at p. 1308, fn. 17; see also 55 Fed.Reg. 47990, 48043 (Nov. 16, 1990).)

Consistent with federal law, the permit at issue makes clear that the challenged permit requirements are intended to reduce the discharge of

pollutants in storm water in the County of Los Angeles to the maximum extent practicable under the Clean Water Act. (AR 3527.) The permit states:

[T]he provisions herein, are intended to develop, achieve, and implement a timely, comprehensive, cost-effective storm water pollution control program to reduce the discharge of pollutants in storm water to the MEP [maximum extent practicable] from the permitted areas in the County of Los Angeles to the waters of the State.

(AR 3527.)

The permit provides the County of Los Angeles the flexibility to substitute another best management practice, “if it can provide information and documentation on the effectiveness of the alternative, equal to or greater than the prescribed” practice in meeting the objectives of the permit. (AR 3517.) It is up to the County’s implementation of the permit to show that it is not the best measure of what is required to comply with the maximum extent practicable standard.

The lower court in this case agreed, noting both the flexible and comprehensive nature of NPDES permit conditions required to satisfy the maximum extent practicable standard for MS4s. (CT V4, p. 000679-80.) The trial court correctly found that the Commission’s search for a federal mandate specifically requiring imposition of the particular permit conditions “utterly ignores and misapplies the flexible regulatory standard.” (CT V4, p. 000679.) Moreover, that standard requires consideration of the permit as a whole, and the trial court ruled that “the Commission erred in isolating a specific requirement to conclude that the NPDES permit was a state mandate.” (CT V4, p. 000680.) In the lower court’s view here, “[o]ne permit provision cannot exceed the ‘maximum extent practicable’ standard imposed by the Clean Water [Act] where the permit as a whole does not.”

(*Ibid.*)⁶ Unlike the Commission, the trial court correctly interpreted federal law as requiring a flexible, comprehensive set of permit conditions. Building off this foundation, the trial court correctly ruled that state mandate claims must be analyzed against this federal mandate, not the presence or absence of federal regulations specifically requiring particular permit conditions.

C. The Commission Should Have Deferred to Both the Regional Board's Findings When the Board Implemented the Clean Water Act and to Prior Judicial Review of Those Findings.

The Regional Board's findings that the permit reflects the maximum extent practicable standard are not idle ruminations from an administrative agency. Instead, those findings and requirements are the expert conclusions of the principal state agency charged with implementing the NPDES program in the Los Angeles region. (Wat. Code, §§ 13001, 13200.) Courts have recognized that the regional boards are entitled to considerable deference in applying the statutes they implement, especially in the area of MS4 regulation. (*County of Los Angeles v. California State Water Resources Control Bd.* (2006) 143 Cal.App.4th 985, 997 ["we defer to the regional board's expertise in construing language which is not clearly defined in statutes involving pollutant discharge into storm drain sewer systems"]; *City of Rancho Cucamonga, supra*, 135 Cal.App.4th at p. 1384; *Building Industry Ass'n of San Diego County, supra*, 124 Cal.App.4th at

⁶ The State is not arguing that the Commission is precluded from reviewing the individual challenged permit requirements to determine if they are within the maximum extent practicable standard in the context of state mandate cases. (See *County of Los Angeles, supra*, 150 Cal.App.4th 898 and *City of Burbank, supra*, 35 Cal.4th 613.) However, the Commission cannot simply disregard the very nature of the flexible and comprehensive federal standard and, as explained in the following section, the findings and conclusions of the Regional Board and reviewing courts on those points.

p. 879.) The Commission, while an expert in mandates, is not an expert in water quality law and should have afforded appropriate deference to the Regional Board's findings (summarized *ante* pp. 10-11) that the challenged permit requirements are within the federal requirements of the Clean Water Act.

Moreover, the County of Los Angeles previously challenged in court various aspects of the permit as exceeding the Clean Water Act's maximum extent practicable standard. (*County of Los Angeles v. California State Water Resources Control Bd.* (2006) 143 Cal.App.4th 985.) In the unpublished portion of the opinion, the County challenged various parts of the permit (not at issue here) as exceeding that federal standard. (AR 3257-3268.) The County also challenged the requirement of trash receptacles at transit stops under the Water Code. (AR 3261-3262.) The Court rejected that contention, ruling that state law arguments were preempted by the Clean Water Act's requirement that the NPDES permit contain detailed conditions. (AR 3262.) The County likewise challenged certain inspection requirements in the permit, and the court similarly ruled that federal regulations required that the Regional Board consider those conditions. (AR 3266-3267.)

The Commission wrongly rejected the Regional Board's arguments that it should look to the *County of Los Angeles* opinion. (AR 5579-5580.) In doing so, the Commission incorrectly determined that judicial opinion did not discuss the particular permit requirements at issue in the test claim. (AR 5579.) As explained above, the Court's ruling did address, and reject, the County of Los Angeles' arguments regarding the requirement of trash receptacles and certain inspection requirements. (AR 3261-3262, 3266-3267.)

The Commission also missed another key point, that even if the County had not raised the precise arguments there that are now at issue in

this test claim, the County of Los Angeles could have done so. The Regional Board's decision was judicial in nature, subject to procedural protections of the Administrative Procedures Act, and had a clear process for administrative and judicial resolution. (See *City of Rancho Cucamonga v. Regional Water Quality Control Bd.-Santa Ana Region, supra*, 135 Cal.App.4th at p. 1385; Wat. Code, § 13330.) The doctrine of exhaustion of judicial remedies prevents an aggrieved party from being able to avoid the preclusive effects of an adverse administrative action by simply forgoing the right to judicial review. (*Y.K.A. Industries, Inc. v. Redevelopment Agency of City of San Jose* (2009) 174 Cal.App.4th 339, 356.) The County of Los Angeles could have argued (and, to some degree, did argue) that the permit requirements at issue in this appeal exceeded federal requirements. To the extent that the County did not raise those claims then, they were not entitled to a second bite at the apple here.

In summary, the Commission's decision here ignored two fundamental rules governing review of administrative decisions. First, it failed to afford the Regional Board the appropriate deference due when that expert agency imposed the permit conditions at issue as being required under federal law. (*County of Los Angeles v. California State Water Resources Control Bd., supra*, 143 Cal.App.4th 985, 997.) Second, the County forfeited any arguments it had on that point when they failed to raise them (or did raise them and lost) during judicial review of the Regional Board's permit decision under the applicable regulatory laws. (*Y.K.A. Industries, Inc. v. Redevelopment Agency of City of San Jose, supra*, 174 Cal.App.4th 339, 356.) Instead, the Commission allowed the County to attempt to second guess both the Regional Board's permit findings and judicial review of that decision. Either ground supports affirmance of the trial court's decision.

D. The Trial Court Correctly Found That the Commission's Application of *Long Beach School Dist. v. State of California* Was Misplaced.

In support of its erroneous state mandates determination, the Commission relied incorrectly (and almost exclusively) on *Long Beach School Dist. v. State of California, supra*, 225 Cal.App.3d 155. In *Long Beach*, the court considered whether a state executive order setting forth specific measures to desegregate schools constituted a state mandate. The executive order required school districts to provide a higher level of service than required by judicial decisions recognizing a general federal constitutional duty to desegregate schools, an area in which courts "have been wary of requiring specific steps." (*Id.* at p. 173.) A state mandate was found based on the absence of any federal law that specified how the schools should implement their desegregation plans. (*Ibid.*)

Here, as explained by the trial court, there is specific federal statute, the Clean Water Act, including its maximum extent practicable standard for MS4 permits, that directly applies to the County of Los Angeles. (CT V4, p. 000679, fn. 12.) Moreover, unlike in *Long Beach*, this federal statutory standard must be implemented more specifically when applied to NPDES permits issued to the municipalities. In contrast, in *Long Beach*, there was no even remotely analogous explicit constitutional or federal requirement that a federal agency or a state intercede and develop specific desegregation procedures.

The County of Los Angeles, like the Commission, simply ignores that in *Long Beach* there was no specific federal standard and that here there is: the Clean Water Act, including its flexible maximum extent practicable standard and its implementing regulations. The fact that the means of meeting the federal requirement to ultimately reduce pollutants in storm water to the specified level is flexible, requiring implementation by the

permit issuer, does not wipe out the standard and create a state mandate. (See AB p. 20.)

And while the Regional Board has some flexibility in implementing the maximum extent practicable standard, it is guided by the Clean Water Act and the U.S. EPA. The Clean Water Act explicitly imposes the maximum extent practicable standard and states that it will include “management practices, control techniques and system, design and engineering methods . . .” (33 U.S.C. § 1342(p)(3)(B).) Federal law further defines these practices to mean, in part, “schedules of activities, prohibitions of practices, maintenance procedures, and other management practices to prevent or reduce the pollution of ‘waters of the United States.’” (40 C.F.R. § 122.2.) And the U.S. EPA has provided substantial guidance on how that federal law is to be implemented and specifically required permitting agencies to specify in NPDES permits the controls necessary to implement the federal standard. (40 C.F.R. § 122.26; *Natural Resources Defense Council, Inc. v. U.S. E.P.A.*, *supra*, 966 F.2d at p. 1308, fn. 17; see also 55 Fed.Reg. 47990, 48043 (Nov. 16, 1990.)

Moreover, California administers the NPDES program to follow federal requirements. Federal law extensively governs the contents of applications for MS4 permits. (33 U.S.C. § 1342(p)(4)(A); 40 C.F.R. § 122.26(d).) And federal law requires that the U.S. EPA be provided with the proposed permit and notice of any action related to the same, such as a hearing on the proposed requirements. (33 U.S.C. § 1342(d)(1).) The U.S. EPA may object to a permit and find that it is inconsistent with federal law. (*Id.* § 1342(d)(2).) It can determine that a state program does not comply with federal NPDES program guidelines and withdraw approval for the state program. (*Id.* § 1342(c)(3).) In short, the “Regional Board must comply with federal law requiring detailed conditions for NPDES permits.” (*City of Rancho Cucamonga, supra*, 135 Cal.App.4th at p. 1389.)

At most, the teachings of *Long Beach* tell us that the Commission should have compared the permit requirements to the federal Clean Water Act standards and then determined whether they went beyond federal law. While the Commission provided a lengthy discussion of whether various permit conditions are expressed verbatim in federal law, it failed to consider whether the requirements were within the federally-required maximum extent practicable standard set forth in the federal statute and regulations.

This true “comparative” approach was endorsed by the Supreme Court in *San Diego Unified School Dist. v. Commission on State Mandates*, *supra*, 33 Cal.4th 859, where the Commission was required to determine if state procedures requiring a hearing when a student was being expelled exceeded federal due process requirements. While the Supreme Court sympathized with the challenge presented to the Commission in attempting to resolve the extent of imprecise federal law in the context of a state mandates proceeding, the Court nonetheless stated that such an analysis was required. (*Id.* at pp. 889-890.) The Commission was likewise required to here, but its task was easier, given the more explicit, detailed, and comprehensive federal law on permitting MS4s under the Clean Water Act. Indeed, the lower court did undertake this analysis and concluded as a matter of law that the challenged permit requirements did not exceed federal law, and thus were not state mandates.

IV. THE TRIAL COURT PROPERLY CONCLUDED THAT THE TRASH RECEPTACLE REQUIREMENT IS A FEDERAL MANDATE, NOT SUBJECT TO SUBVENTION, AS A MATTER OF LAW.

The trial court found that the trash receptacle requirement in the permit is within the scope of the maximum extent practicable standard imposed on the County of Los Angeles under the Clean Water Act. (CT V4, pp. 000680-000681.) As already explained, the maximum extent practicable standard requires flexible, best management practices, to

eliminate or reduce the discharge of pollutants in storm water runoff through MS4s. The Clean Water Act need not mention trash receptacles specifically to mandate their use in a given permit under the maximum extent practicable standard.

Relying on the Regional Board's expertise, the trial court explained that "if litter and debris cannot be properly disposed of by persons waiting at transit stops, the inevitable downstream result will be the introduction of pollutants into the streets and, thereafter, into the storm drains – leading inevitably to the discharge of pollutants into nearby waterways." (CT V4, p. 000680.) Without question, the placement and maintenance of trash receptacles at transit stops will help prevent this known source of pollutants from escaping into the water. To claim otherwise defies common sense. The trash receptacles condition is an obvious remedy for the problem. (Cf *Building Industry Ass'n of San Diego County, supra*, 124 Cal.App.4th at p. 889 ["practicable does not necessarily mean the most that can possibly be done"].) And it is not the Commission's place to determine what activities meet the maximum extent practicable standard. As already noted, that expertise lies with the Regional Board. (*County of Los Angeles v. California State Water Resources Control Bd., supra*, 143 Cal.App.4th at p. 997; *Divers' Environmental Conservation Organization* (2006) 145 Cal.App.4th 246, 252.)

The relevant management practices required include "practices for operating and maintaining public streets, roads and highways and procedures for reducing the impact on receiving waters of discharges from municipal storm sewer systems." (40 C.F.R. § 122.26 (d)(2)(iv)(A)(3).) The County of Los Angeles has implicitly conceded such impacts include litter and that the Clean Water Act requires that steps be taken to keep trash out of its waterbodies. In its own SQMP submitted in its permit application, the County recommended minimizing trash from entering recreational

waterbodies, removing trash from open channels, and controlling litter and debris in the streets. (AR 3677-3578.) It also suggested conducting trash collection along, or in improved open channels, and encouraged establishing voluntary programs for trash collection in natural stream channels. (AR 3675.)

Thus, the trial court correctly concluded that because “the trash receptacle requirement of the NPDES permit is within the maximum extent practicable standard under the mandatory provisions of the Clean Water Act, it is imposed by federal law and not subject to reimbursement under article XIII B, section 6 of the California Constitution.” (CT V4, p. 000681.)

Neither the Commission (nor the County here) cited any contradictory evidence indicating that the trash receptacle requirement is beyond federal law. Instead, the County of Los Angeles, in summary form, simply lists four grounds that purportedly show that the trash receptacle requirement is a state mandate. None of the four reasons is supported by the record.

First, the County of Los Angeles restates its fallback argument that the trash receptacle requirement goes beyond federal law because it is not specifically required under federal law. (AB p. 22.) As explained throughout this Brief, the Clean Water Act’s NPDES permit system requires states to develop standards based on the specific conditions of particular waterways and, as whole, reduce pollutants. Thus, the maximum extent practicable standard is necessarily flexible and comprehensive, rather than a one-size-fits-all standard that specifies individual actions. (*Building Industry Ass’n of San Diego County, supra*, 124 Cal.App.4th at p. 874.)

Second and similarly, the County of Los Angeles claims that the trash receptacle requirement is not required by federal law because it is not specifically referenced in one U.S. EPA guidance document. (AB p. 22.) As above, there is nothing to support this theory. The relied upon document is simply a guide to “assist State and NPDES permitting

authority.” (AR 3393) Specifically, it states that “[t]he questions and issues addressed in this MS4 Evaluation Guidance are intended to be used as a reference during an MS4 program evaluation, not as a checklist during review. [¶] Each evaluation should be customized to the issues and requirements specific to that MS4.” (*Ibid.*)

Third, the County of Los Angeles hypothesizes that “[i]f the trash receptacle requirement were a federal requirement, it would have been present in USEPA-issued permits.” (AB p. 23.) Not so. NPDES permits “‘evolve and mature over time’ and must be flexible to reflect changing conditions that result from program development and implementation and corresponding improvements in water quality.” (55 Fed.Reg. 47990, 48052 (Nov. 16, 1990); see also *In re City of Irving, Texas, Municipal Separate Storm Sewer System* (July 16, 2001) 10 E.A.D. 111 at *6, CT V4, p. 000660.) Under federal law, each NPDES permit must be tailored to the particular characteristics of the surrounding waterbodies. Thus, requirements in one permit could logically be different than the requirements in other permits (unless, of course, the surrounding circumstances were identical). As the U.S. EPA stated when establishing the MS4 permitting regulations: “[t]he language of [Clean Water Act] section 402(p)(3) contemplates that, because of the fundamentally different characteristics of many municipalities, municipalities will have permits tailored to meet particular geographical, hydrological, and climatic conditions.” (55 Fed.Reg. 47990, 48053 (Nov. 16, 1990).)

It is fair to say that, at least in this context, there is no other place identical to the Los Angeles region. The five states in which NPDES permits were issued by the U.S. EPA as of 2008 included Massachusetts, New Hampshire, Idaho, Alaska, and New Mexico. (AR 3895.) Water quality issues in southern California cannot realistically be the same or similar to water quality issues in Alaska or Idaho. As such, the NPDES

permits will be different, yet all consistent with federal law. It is of no consequence that U.S. EPA-issued permits, or any other state-issued permits, do not include a specific requirement regarding placement and maintenance of trash receptacles. The only relevant considerations are the best management practices that implement the maximum extent practicable standard for the County of Los Angeles' MS4.

The County of Los Angeles also incorrectly infers that the U.S. EPA considers the trash receptacle requirement to be outside the scope of the maximum extent practicable standard because the requirement is not present in U.S. EPA-issued NPDES permits. (See AB p. 23.) This is wrong. According to the U.S. EPA, the trash receptacle requirement is well within the maximum extent practicable standard. (AR 3797-3799.) Neither the Commission nor the County of Los Angeles refute this unequivocal statement of the federal agency charged with overseeing the NPDES program.

Finally, the County of Los Angeles speculates that because the trash receptacle requirement was not part of the previous permits issued to the County, the obligation is not required by federal law. (AB pp. 23-24.) Once again, the County seems to misunderstand the NPDES program and the Clean Water Act's MS4 permitting requirements. When an NPDES permit is renewed, reissued or modified, it generally must be at least as stringent as the prior permit. (33 U.S.C. § 1342 (o); 40 C.F.R. § 122.44(l).) The U.S. EPA "anticipates that storm water management programs will evolve and mature over time . . . [t]he permits for discharges from municipal separate storm sewer systems will be written to reflect changing conditions that result from program development and implementation and corresponding improvements in water quality." (55 Fed.Reg. 48052 (Nov. 16, 1990.)) Thus, federal law anticipates that MS4 permit requirements will change over time and become more stringent. A new

requirement in a permit alone does not mean that the requirement is beyond the maximum extent practicable standard in federal law.

There is no evidence that even remotely suggests that the trash receptacle requirement is a state mandate, and the County's claim otherwise should be disregarded.

V. THE TRIAL COURT PROPERLY CONCLUDED THAT CHALLENGED PERMIT REQUIREMENTS RELATED TO INSPECTIONS ARE FEDERAL MANDATES, NOT SUBJECT TO SUBVENTION, AS A MATTER OF LAW.

Inspections are necessary to effectively control the discharge of pollutants in compliance with the Clean Water Act and assure compliance with water quality standards. "Federal law, either expressly or by implication, requires NPDES permittees to perform inspections for illicit discharge prevention and detection; landfills and other waste facilities; industrial facilities; construction sites; certifications of no discharge; non-storm water discharges; permit compliance; and local ordinance compliance." (*City of Rancho Cucamonga, supra*, 135 Cal.App.4th at p. 1390.) Thus, the trial court properly found that "[a]s with the receptacle requirement, these inspection mandates are clearly pursuant to the maximum extent practicable standard under the Clean Water Act." (CT V4, p. 000681.)

A. The Challenged Permit Requirements for Inspections Are Within the Maximum Extent Practicable Standard.

Commercial Facilities

The permit requires inspections of commercial facilities, including restaurants, automotive service facilities, and retail gasoline outlets, and automotive dealerships. While each commercial property has unique inspection requirements tailored to its business activity, the permit requires that all facilities are inspected on a regular basis, twice during the five-year

permit period, to confirm that best management practices are being effectively implemented in compliance with the law. (AR 3533-3535.)

Federal regulations implementing the Clean Water Act's requirement of "controls to reduce the discharge of pollutants to the maximum extent practicable" clarify that management practices generally include site inspections "to prevent illicit discharges to the municipal storm water system. (40 C.F.R. § 122.26 (d)(2)(iv)(B)(1).) Such inspections confirm that best management practices are being effectively implemented in compliance with federal law. The County disagrees, arguing that the federal regulation is not specific enough because it does not expressly and specifically call out inspections of commercial, industrial, and construction sites. (AB p. 27.) Again, the County of Los Angeles misunderstands the flexible nature of the Clean Water Act's maximum extent practicable standard and its implementing regulations.

The County of Los Angeles must have understood that site inspections are within this flexible maximum extent practicable standard because they recommend inspections in their permit application as well. According to the proposed permit, "Permittees shall visit automotive services and food service facilities as outlined in the SQMP in its jurisdiction once every two years. During site visits, Permittees shall: [¶] i. Consult with a representative of the facility to explain applicable stormwater regulations; [¶] ii. Distribute and discuss applicable BMP and educational materials; and, [¶] iii. Conduct a site walk-through to verify for, at a minimum, evidence of BMP implementation." (AR 3671.) The County also proposed that "Permittees shall revisit automotive and food service facilities where evidence of illicit discharge is found within six months of the date of the initial visit." (AR 3671.) As with the trash receptacle requirement, the Regional Board was not required to adopt the

less stringent suggested alternative, but rather determine what actions are required to reduce pollutants to the maximum extent practicable.

Phase I Industrial Facilities

This portion of the permit relates to the inspection of certain industrial facilities referred to in the permit as Phase I Facilities. (AR 3535-3536.) Federal regulations require that actions designed to comply with the Clean Water Act include management practices or controls that “identify priorities and procedures for inspections” of industrial facilities. (40 C.F.R. § 122.26 (d)(2)(iv)(B)(C)(1) & (G).) The County of Los Angeles specifically included these inspections in its SQMP by stating that “Permittees shall implement an industrial/commercial educational site visit program.” (AR 3670-3671.) The fact that the permit is more specific than SQMP does not mean the requirement exceeds the maximum extent practicable standard. Inspections are required under federal law, and the State has no obligation to adopt the least stringent requirement. (See *City of Rancho Cucamonga, supra*, 135 Cal.App.4th at p. 1390.)

Construction Sites

This portion of the permit provides that “[e]ach Permittee shall implement a program to control runoff from construction activity to storm drains at all construction sites within its jurisdiction.” (AR 3546.) This generally includes implementing best management practices related to the control and containment of construction-related materials, waste, and erosion, as well as the inspection of construction sites and related employee training. (AR 3546-3549.) The County of Los Angeles’ SQMP is extensive and includes detailed requirements to prevent runoff from construction sites into nearby waters. (AR 3672-3674.) These requirements include implementing best management practices relating to the control and containment of construction-related materials, waste, and erosion, as well as the inspection of construction sites and related employee

training. (AR 3672-3674.) To achieve the maximum extent practicable standard imposed as one of the requirements of the Clean Water Act, federal regulations require the inspections of construction sites. (40 C.F.R. § 122.26 (d)(2)(iv)(D).)

The Commission and the County do not dispute the above, but relied on their fallback position that the inspections and related activities at construction sites are not federal mandates because they are not expressly specified in federal law. (AR 5600; AB p. 28.) As discussed above, a federal mandate does not require explicit mention of every mandated activity. Accordingly, the challenged inspection requirements in the permit do not exceed the maximum extent practicable standard under the Clean Water Act and are federal mandates not subject to state subvention.

B. Federal Law Required Imposition of the Challenged Inspection Provisions on the Local Permittees.

The County generally argues that under *Hayes, supra*, the State Water Board shifted state inspection requirements to the County through the permit, thus creating state mandates. (11 Cal.App.4th at p. 1593; AB pp. 29-32, see also Section II [shifting argument].) Specifically, the County asserts that the State has various mandatory inspection obligations under the Water Code and two state-issued general permits and has voluntarily shifted these burdens to the County. (AB pp. 29-32.) The County is wrong and ignores that existing state inspection obligations are separate and distinct from the challenged inspection requirements in the permit.

Turning to the Water Code first, the County of Los Angeles claims that the State has the obligation to inspect the facilities identified in the permit to prevent the discharges of waste that could affect the quality of the waters of the State under Water Code section 13267, subdivisions (b) and (c). (AB p. 30.) In the County's view, the Regional Board freely chose to

shift those obligations to the County and cities and created a state mandate. (AB p. 32.) The County has somehow equated the State's general authority to inspect "facilities" under section 13267 to the County's separate and distinct obligations under the permit and the Clean Water Act.

Water Code section 13267, subdivision (a), provides authority generally for state investigations: "[a] regional board . . . may investigate the quality of any waters of the state within its region." And during this investigation, "the regional board may inspect the facilities of any person to ascertain whether the purposes of this division are being met and waste discharge requirements are being complied with." (Wat. Code, § 13267, subd. (c).) The inspection must "be made with the consent of the owner or possessor of the facilities or, if the consent is withheld, with a warrant," with the exception of an "emergency affecting the public health or safety." (*Ibid.*)

A regional board's general authority to inspect "facilities" does not substitute for the County of Los Angeles' obligations as an NPDES permittee to inspect certain facilities under the Clean Water Act. "The Regional Board may conduct its own inspections but permittees must still enforce their own laws at these sites." (*City of Rancho Cucamonga, supra*, 135 Cal.App.4th at p. 1390.) The issue is whether the inspections can be required of a permittee under the Clean Water Act's maximum extent practicable standard, and not whether the State can also conduct inspections generally under section 13267.

Indeed, taken to its logical conclusion, dischargers like the County of Los Angeles could argue that they are relieved of their federal law obligations to conduct inspections under Clean Water Act permits (or related permit requirements) merely because the State has some general investigatory authority over water quality issues. This is contrary to both the express requirements of the Clean Water Act and its implementing

regulations, as well as its overall intent to task dischargers with reducing discharge of pollutants through MS4s.

Next, while it is true that the State Water Board issued two general state-wide permits, one for certain industrial facilities (GIASP) and one for construction sites (GCASP) requiring certain site inspections, the County once again fails to understand that the state's inspection obligations under these permits are separate and apart from the County's inspection obligations included in the permit at issue here.

The County of Los Angeles claims that under the GIASP and GCASP the regional boards must perform various "compliance" inspections. (AB pp. 31-32.) According to the County and the Commission, the inspections requirements in the permit are state mandates because the Regional Board "could have continued to perform these inspections itself as directed by the State Water Board in the GIASP and GCASP, but chose to shift those obligations to the permittees." (AB p. 32.) As with the County's prior argument, this makes no sense. The state-issued general permits are simply not relevant to this inquiry. (See *City of Rancho Cucamonga, supra*, 135 Cal.App.4th at p. 1390.) A state-wide general permit can coexist with the permit issued to the County of Los Angeles, and there is no evidence to the contrary. The issue is whether the inspections are required by the Clean Water Act and not whether the inspections are required under the State's general permitting authority. The County impermissibly attempts to blur the line between its permit obligations as the discharger of pollutants through its storm sewers and the State's separate obligations, to create one large, amorphous state obligation.

The last argument presented by the County of Los Angeles can be quickly disregarded for the reasons just stated in the preceding two paragraphs. The County's statement that the State Board can collect a fee for state inspections required under the state-issued permits is not relevant.

(See AB p. 32.) These inspections are independent from the obligations imposed on the County as a discharger under the permit.

The County of Los Angeles asserts that the trial court did not consider the above shifting argument. (AB pp. 24, 27, 29.) This is not true. Most of the hearing was directed at whether the State shifted its inspections obligations to the County under this permit. (Reporter's Transcript pp. A6-41.) The trial court simply disagreed with the County's theory, finding that "[a]lthough extensively argued to the Court, the existence of mutual inspection schemes does not constitute a derogation of state responsibilities to the real parties, in violation of *Hayes*." (CT V4, p. 000681, fn. 16.) In any event, whether the inspection requirements are state mandates is subject to de novo review and properly before this Court.

C. There Is No Evidence That the Challenged Permit Requirements for Inspections Are Beyond the Maximum Extent Practicable Standard.

As with the trash receptacle requirement, the County of Los Angeles provides a list of short statements that allegedly support its claim that the permit requirements for inspections challenged in this litigation are state mandates. (AB pp. 33-35.) Because the arguments have been fully addressed above, they are repeated here only in summary form.

First, the County of Los Angeles repeats its claim that federal law does not expressly provide for the required inspections, so the inspections are not mandated by federal law. (AB p. 33.) As explained throughout this Brief, this argument is legally erroneous.

Second, the County of Los Angeles also repeats its argument that the guidance document issued by the U.S. EPA does not generally provide for inspections. (AB p. 33.) The relied-upon document is simply a guide, not a checklist and is not dispositive. (AR 3393.)

Third, the County argues that U.S. EPA-issued permits do not include the inspection of commercial facilities. (AB p. 34.) As already explained,

different permits have different requirements based on the unique circumstances of each permit. The absence of certain commercial inspections in other permits does not mean that such a requirement is beyond the maximum extent practicable standard with respect to this permit. Indeed, the U.S. EPA has concluded that the inspection requirement is within the maximum extent practicable standard. (AR 3797-3800.)

Fourth, the County of Los Angeles claims that “[t]he former USEPA Administrator and the still head of the Water Division for USEPA Region IX” has stated “that the inspection obligation of a municipality under an MS4 permit imposed by federal law is only an inspection to assure compliance with local ordinances; *the state retains responsibility to inspect for compliance with state law, including state-issued permits.*” (AB p. 34, emphasis in original.) This statement is based on a July 21, 2001 letter from the U.S. EPA to Congressman David Dreier responding to his concern that local governments would be forced to pay for inspections at industrial and commercial sites that were the responsibility of the State. (AR 3878.) The letter generally explains that there may be some “shared responsibilities” between the State and the local government but that the State is responsible for its own permit obligations, not those of the actual dischargers. (AR 3878.) By no means does this letter suggest the State, as opposed to the actual MS4 discharger, is solely responsible for inspections at commercial and industrial facilities, as claimed by the County.

Finally, the County of Los Angeles claims that there were some negotiations between the County and the Regional Board regarding contracting state inspections to the County. (AB p. 34.) Again, this improperly attempts to equate inspections obligations imposed on an NPDES permittee with the State’s general authority to regulate water quality. Even if true, that assertion is not relevant to the question of whether the permit activity for industrial inspections is a state mandate.

Based on the foregoing, there is no evidence that even remotely suggests that the specific permit requirements exceed federal law, just speculation and conjecture on the part of the County of Los Angeles. The permit requirements are based on federal law and thus are not state mandates. Consequently, the trial court properly found that the challenged permit requirements are not subject to reimbursement under article XIII B, section 6 of the California Constitution, and the trial court's decision should be upheld.

VI. THE TRIAL COURT ACTED WITHIN ITS AUTHORITY TO REMAND THE MATTER BACK TO THE COMMISSION TO SET ASIDE ITS DECISION AND ISSUE A NEW DECISION CONSISTENT WITH THE TRIAL COURT'S ORDER.

The trial court properly remanded the case back to the Commission to set aside its decision and issue a new decision consistent with the court's order. (CT V4, pp. 000702-00703.) Specifically, the court ordered that the Commission issue a new decision stating, in relevant part:

That the challenged permit provisions in permit number CAS004001, consisting of part 4F5c3 (placing and maintaining trash receptacles at transit stops), part 4C2a (inspecting commercial facilities), part 4C2b (inspecting Phase I industrial facilities); and part 4E (inspecting construction sites), are within the maximum extent practicable standard under the mandatory provisions of the Clean Water Act and are federal mandates not subject to reimbursement under article XIII B, section 6, of the California Constitution.

(CT V4, p. 000703.)

Code of Civil Procedure section 1094.5, subdivision (f), gives the trial court the above authority to remand a case with specific instructions so long as it does not invade the discretion legally vested with the Commission.

Subdivision (f) provides:

The court shall enter judgment either commanding respondent to set aside the order or decision, or denying the writ. Where the judgment commands that the order or decision be set aside, it

may order the reconsideration of the case in light of the court's opinion and judgment and may order respondent to take such further action as is specially enjoined upon it by law, but the judgment shall not limit or control in any way the discretion legally vested in the respondent.

Here, the trial court did not encroach on the Commission's discretion when it found that the challenged permit requirements were federal mandates and not subject to subvention under article XIII B, section 6. The court simply disagreed with the Commission's ultimate findings. Whether a statute, or in this case a permit requirement, creates a reimbursable state mandate is a pure question of law. (*Connell, supra*, 59 Cal.App.4th at p. 395.)

In support of its effort to remand this case to the Commission (apparently to get yet another bite at the apple), the County of Los Angeles claims that the trial court "substituted its own judgment for that of the Commission" when it found that substantial evidence in the record shows that the challenged permit requirements were federal, not state mandates and not subject to state subvention. (AB pp. 17, 35-36.) The County mistakes the extent of the lower court's authority with respect to administrative mandate writs. The trial court acted within its discretion when it granted the writ and entered judgment ordering the Commission to set aside its decision and enter a new decision finding that the challenged permit provisions were not state mandates. (CT V4, p. 000703.) The Commission had jurisdiction over the matter, conducted a hearing, and made findings. After reviewing the administrative record, the trial court disagreed with the Commission's decision and came to a contrary conclusion, based on the law. The court merely rendered a judgment ordering the Commission to discharge its legal obligation. Because there is nothing left for the Commission to exercise discretion over, the remand directed by the trial court is appropriate.

The two cases relied on by the County of Los Angeles do not support its claim that matter should be remanded to the Commission for further proceedings. (See AB p. 36.) In *National Auto. & Cas. Ins. Co. v. Downey* (1950) 98 Cal.App.2d 586, 594, the court remanded the matter because the proceeding under review had not been heard by a properly qualified person and thus the agency did not have jurisdiction. This is not the case here.

In *Carson Gardens, L.L.C. v. City of Carson Mobilehome Park Rental Review Bd.* (2006) 135 Cal.App.4th 856, 867, the court remanded the case for further consideration to the board because the court could not determine if the calculation used for a rental increase for a mobilehome park was fair. Again, this is not the case here, the Commission's findings are clear and unambiguous; again, the trial court simply disagreed with the agency's legal conclusions.

Finally, the County of Los Angeles asserts that an across-the-board exception applies to the de novo standard of review in water quality permit cases based on *County of Los Angeles, supra*, 150 Cal.App.4th 898, which addressed the Clean Water Act's maximum extent practicable requirement in the context of a state mandates claim. (AB pp. 16-17.) The County has misread this case. There, the Court noted that questions regarding whether permit requirements are state mandates must first be resolved by the Commission and may present factual issues. (*Id.* at pp. 917-918.) The County of Los Angeles reads this statement to mean that in *all* cases where permit requirements are alleged to be a state mandate, the analysis involves pure factual questions subject to substantial evidence review. (AB pp. 16-17.) Not so. The Court merely acknowledged that factual issues *may* be present. (*County of Los Angeles, supra*, 150 Cal.App.4th 918.) This statement does not wipe out the de novo standard of review for determining whether a statute, regulation, or executive order is a state mandate.

At most, a NPDES permit may give rise to mixed question of law and fact. However, when such questions are predominantly legal, which they are here, they are reviewed independently. (*Crocker National Bank v. City and County of San Francisco* (1989) 49 Cal.3d 881.) As explained by our Supreme Court: “If [] the inquiry requires critical consideration, in a factual context, of legal principles and their underlying values, the question is predominantly legal and its determination is reviewed independently. [Citations omitted.]” (*Id.* at p. 887.)

Accordingly, the scope of the remand issued by the trial court was entirely appropriate under the circumstances and should not be disturbed. The challenged permit requirements are not state mandates under article XIII B, section 6 and the trial court had authority to require the Commission to enter that decision.

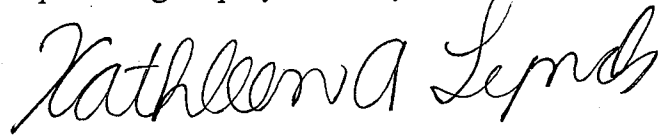
CONCLUSION

The trial court correctly found that the challenged permit requirements are not state mandates because California must implement the federal NPDES program and because the permit as a whole, and the challenged permit requirements, do not exceed the maximum extent practicable standard in federal law. As such, the trial court’s decision should be affirmed.

Dated: October 25, 2012

Respectfully submitted,

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A handwritten signature in cursive script that reads "Kathleen A. Lynch". The signature is written in black ink and is positioned above the printed name and title of the signatory.

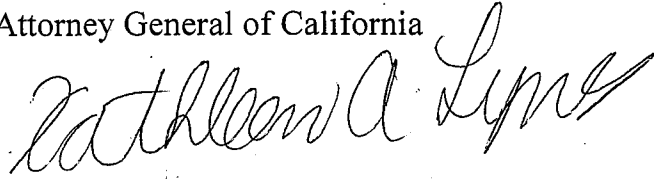
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CERTIFICATE OF COMPLIANCE

I certify that the attached **RESPONDENTS' BRIEF** uses a 13 point Times New Roman font and contains **13934** words.

Dated: October 25, 2012

KAMALA D. HARRIS
Attorney General of California

A handwritten signature in black ink, appearing to read "Kathleen A. Lynch". The signature is written in a cursive style with a large, prominent "L" at the end.

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DECLARATION OF SERVICE BY OVERNIGHT COURIER

Case Name: *Department of Finance, et al. v. Commission on State Mandates, et al.*
Case No.: **B237153**

I declare:

I am employed in the Office of the Attorney General, which is the office of a member of the California State Bar, at which member's direction this service is made. I am 18 years of age or older and not a party to this matter; my business address is: 1300 I Street, Suite 125, P.O. Box 944255, Sacramento, CA 94244-2550.

On October 25, 2012, I served the attached *Respondents' Brief* by placing a true copy thereof enclosed in a sealed envelope with Golden State Overnight courier service, addressed as follows:

PLEASE SEE ATTACHED SERVICE LIST

I declare under penalty of perjury under the laws of the State of California the foregoing is true and correct and that this declaration was executed on October 25, 2012, at Sacramento, CA.

Scott De Medeiros
Declarant

Scott De Medeiros
Signature

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11 SUPERIOR COURT OF THE STATE OF CALIFORNIA
12 COUNTY OF LOS ANGELES

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14
15 **STATE OF CALIFORNIA DEPARTMENT**
OF FINANCE, STATE WATER
16 **RESOURCES CONTROL BOARD, LOS**
17 **ANGELES REGIONAL WATER**
QUALITY CONTROL BOARD,

18 Petitioners,

19 v.

20 **COMMISSION ON STATE MANDATES,**

21 Respondent,

22
23 **COUNTY OF LOS ANGELES AND THE**
CITIES OF ARTESIA, BEVERLY HILLS,
24 **CARSON, NORWALK, RANCHO PALO**
VERDES, WESTLAKE VILLAGE,
25 **AZUSA, COMMERCE, VERNON,**
26 **BELLFLOWER, COVINA, DOWNEY,**
MONTEREY PARK, AND SIGNAL HILL,

27 Real Parties in Interest.
28

Case No. BS130730

**PETITIONERS' MEMORANDUM OF
POINTS AND AUTHORITIES IN
SUPPORT OF PETITION FOR WRIT OF
ADMINISTRATIVE MANDAMUS**

Date: August 10, 2011
Time: 9:30
Dept: 86
Judge: The Hon. Ann I. Jones

Action Filed: July 20, 2010

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**COUNTY OF LOS ANGELES AND
CITIES OF BELLFLOWER, CARSON,
COMMERCE, COVINA, DOWNEY AND
SIGNAL HILL,**
Cross-Petitioners,
COMMISSION ON STATE MANDATES,
Cross-Respondent.
**STATE OF CALIFORNIA DEPARTMENT
OF FINANCE, STATE WATER
RESOURCES CONTROL BOARD, AND
CALIFORNIA REGIONAL WATER
QUALITY CONTROL BOARD, LOS
ANGELES REGION,**
Cross-Real Parties in Interest

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INTRODUCTION

This case is about the Commission on State Mandates treating a mandatory federal pollutant discharge requirement under the Clean Water Act as a state mandate simply because the state administers the Act. The Commission's decision is contrary to California law prohibiting state subvention for federal mandates and should be reversed.

The Clean Water Act prohibits real parties in interest County of Los Angeles and several cities named in the petition (referred to below collectively as the "County of Los Angeles") from discharging pollutants from their municipal storm sewer systems into nearby waterways unless they do so under a permit issued in compliance with the National Pollutant Discharge Elimination System ("NPDES"). The Clean Water Act requires the County of Los Angeles' NPDES permit to reduce the discharge of pollutants from its storm drains to the *maximum extent practicable*. Under article XIII B, section 6, of the California Constitution, the only way this federal standard could constitute a state mandate would be if the state *voluntarily elected* to require local agencies to implement state obligations under the Clean Water Act, or if the state took action to *exceed* the Act's "maximum extent practicable" standard. Neither occurred here.

Since 1973, the state¹ has administered the Clean Water Act's NPDES program in California, so it was the state that issued the NPDES permit to the County of Los Angeles. However, with or without state action, the County of Los Angeles had no choice but to comply with the Clean Water Act, and its maximum extent practicable standard, and the state added nothing to the County of Los Angeles' burdens. As such, the state had little practical choice but to implement the Clean Water Act in lieu of direct regulation from the federal government.

The permit as a whole, including the more particular requirements of trash cans and site inspections merely applied the federal standard. While the Commission may be an expert in state mandates, it has no expertise in the field of water law. The Commission erroneously failed to defer to the Los Angeles Regional Water Quality Control Board's ("Regional Board")

¹ "State" refers collectively to the State Water Resources Control Board and the Los Angeles Regional Water Quality Control Board, and "petitioners" refers to the two Boards as well as the State of California Department of Finance.

1 implementation of federal water quality law. More specifically, the Commission failed to defer to
2 the Regional Board's determination that the permit as a whole and the more particular permit
3 requirements implement the Clean Water Act's maximum extent practicable standard.

4 Consequently, petitioners ask the court to reverse the Commission's findings of state mandates.

5 Finally, because the federal maximum extent practicable standard is not new, there is no
6 new program or higher level of service. The Commission's decision to the contrary should be
7 reversed as well.

8 BACKGROUND

9 I. FEDERAL REQUIREMENTS FOR STORM WATER PERMITS

10 A. Federal Nature of NPDES Permits

11 In a "dramatic response to accelerating environmental degradation of rivers, lakes and
12 streams in this country," Congress passed the Clean Water Act in 1972 to eliminate the discharge
13 of pollution into the nation's waters by 1985. (33 U.S.C. § 1251, et. seq.; *Natural Resources*
14 *Defense Council, Inc. v. Costle* (D.C. Cir. 1977) 568 F.2d 1369, 1371.) The Clean Water Act
15 seeks to "restore and maintain the chemical, physical, and biological integrity of the Nation's
16 waters." (33 U.S.C. § 1251(a).) It prohibits the discharge of pollutants from "point sources" to
17 waters of the United States unless provided for under the NPDES.² (33 U.S.C. §§ 1311, 1342;
18 see also *Communities for a Better Environment v. State Water Resources Control Bd.* (2003).
19 109 Cal.App.4th 1089, 1092-1093.)

20 Either the United States Environmental Protection Agency ("U.S. EPA") or a U.S. EPA-
21 approved state may issue NPDES permits. (33 U.S.C. § 1342(a)(1) & (b).) Congress concluded
22 that the U.S. EPA could issues permits for all dischargers and translate the Clean Water Act's
23 requirements into the conditions of individual permits for individual dischargers, but states may
24 elect to take on that federal responsibility. (*Environmental Protection Agency v. California ex rel.*

25 ² "The term 'point source' means any discernible, confined and discrete conveyance,
26 including but not limited to any pipe, ditch, channel, tunnel, conduit, well, discrete fissure,
27 container, rolling stock, concentrated animal feeding operation, or vessel or other floating craft,
28 form which pollutants are or may be discharged. This term does not include agricultural
stormwater dischargers and return from irrigated agriculture." (33 U.S.C. § 1362(14).)

1 *State Water Resources Control Bd.* (1976) 426 U.S. 200, 219.) California has the U.S. EPA's
2 approval to issue NPDES permits, as do 45 other states.³ (*Building Industry Association of San*
3 *Diego County v. State Water Resources Control Bd.* (2004) 124 Cal.App.4th 866, 875.)

4 If a state elects to issue NPDES permits, it must ensure that the permits comply with many
5 federal requirements, including effluent limitations, national standards of performance, and toxic
6 and pretreatment effluent standards. (33 U.S.C. §§ 1342(b)(1), 1311, 1312, 1316, 1317.) States
7 must also provide for the continued inspection and monitoring of pollutants into our nation's
8 waters. (33 U.S.C. § 1342(b)(2)(B).) NPDES permit requirements, including those that
9 implement state water quality standards, may be enforced as a matter of federal law by either the
10 U.S. EPA or private citizens. (33 U.S.C. § 1319(a)(1), (3); 1365(a)(1).)

11 To ensure that state-authorized programs comply with the U.S. EPA's mandates and federal
12 law, the U.S. EPA maintains oversight and supervision of these programs. The state must provide
13 the U.S. EPA with proposed permits and notice of any action related to a discharger's permit
14 application. (33 U.S.C. § 1342(d)(1).) The U.S. EPA may object to a permit, finding that it
15 violates the Clean Water Act's guidelines and requirements. (*Id.*, § 1342(d)(2).) Should the U.S.
16 EPA determine that a state program does not comply with federal NPDES program guidelines, it
17 may withdraw approval for the state program. (*Id.*, § 1342(c)(3).)

18 When an NPDES permit is renewed, reissued or modified, it generally must be at least as
19 stringent as the prior permit. (33 U.S.C. § 1342 (o); 40 C.F.R. 122.44 (l).) This is consistent with
20 Congress' intent that state management programs evolve based on changing conditions from
21 program development and implementation and corresponding improvements in water quality.
22 (55 Fed.Reg. 47990, 48,052.)

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27 ³ The list of states with the U.S. EPA approval to issue NPDES permits can be found at
28 http://cfpub1.epa.gov/npdes/statestats.cfm?program_id=12

1 **B. State Required Compliance with Federal Law With Respect to Municipal**
2 **Separate Storm Sewer Systems.**

3 While many types of discharges require NPDES permits under the Clean Water Act, this
4 case is very specific, pertaining to the discharge of pollutants through municipal separate storm
5 sewer systems (referred to as either “MS4” or storm sewer systems).

6 Controlling municipal urban storm water runoff is important, because it is one of the most
7 significant sources of water pollution in the nation. (*Environmental Defense Center, Inc. v. EPA*
8 (9th Cir. 2003) 344 F.3d 832, 840.) It carries “suspended metals, sediments, algae-promoting
9 nutrients (nitrogen and phosphorus), floatable trash, used motor oil, raw sewage, pesticides, and
10 other toxic contaminants into streams, rivers, lakes, and estuaries across the United States.” (*Id.*
11 at pp. 840-841.) “Among the sources of stormwater contamination are urban development,
12 industrial facilities, construction sites, and illicit discharges and connections to storm sewer
13 systems.” (*Id.* at p. 841.)

14 The Clean Water Act requires dischargers such as the County of Los Angeles “to reduce the
15 discharge of pollutants to the *maximum extent practicable*, including management practices,
16 control techniques and system, design and engineering methods, and such other provisions as the
17 Administrator or the State determines appropriate for the control of such pollutants.”
18 (33 U.S.C. § 1342(p)(3)(B), emphasis added.) Congress established this flexible maximum extent
19 practicable standard so that administrative bodies would have “the tools to meet the fundamental
20 goals of the Clean Water Act in the context of storm water pollution.” (*Building Industry Ass'n of*
21 *San Diego County, supra*, 124 Cal.App.4th at p. 884.)

22 The maximum extent practicable standard is one of the Clean Water Act’s technology-
23 forcing requirements designed to foster innovation. (See, e.g., *Chemical Mfrs. Ass'n v. Natural*
24 *Resources Defense Council, Inc.* (1985) 470 U.S. 116, 155-56 [discussing technology-forcing
25 aspects of the Clean Water Act].) Unlike many, other technology-based requirements, though,
26 the U.S. EPA articulated that permit writers would identify the municipal storm water
27 requirements on a permit-by-permit basis. (*Natural Resources Defense Council, Inc. v. U.S.*
28 *E.P.A.* (9th Cir. 1992) 966 F.2d 1292, 1308, n. 17; see also, 55 Fed.Reg. 47990, 48043 (Nov. 16,

1 1990).) To implement this maximum extent practicable standard, municipal storm water permits
2 usually require “best management practices” that reflect the technology-based effluent limitation.
3 (See *Natural Resources Defense Council, supra*, 568 F.2d at p. 1380; Administrative Record
4 (“AR”) 2689-2690.) Federal law defines these practices to mean, in part, “schedules of activities,
5 prohibitions of practices, maintenance procedures, and other management practices to prevent or
6 reduce the pollution of ‘waters of the United States.’” (40 C.F.R. § 122.2.)

7 In order to legally discharge pollutants from point sources under an NPDES permit, entities,
8 both public and private, must file an application with the permitting authority.

9 (33 U.S.C. § 1342(B)(3).) The U.S. EPA regulations specify the information that applicants for
10 MS4 permits must include in their applications. (40 C.F.R. § 122.26(a)(4).) This application is
11 extensive and represents the applicant’s view of the required NPDES permit. (*Id.*,
12 § 122.26(d)(2)(iv).) Relevant to our case, federal regulations require that an application, and
13 ultimately the permit itself, address management programs to reduce the discharge of pollutants
14 using the maximum extent practicable standard (*id.*, § 122.26(d)(2)(iv)) and includes procedures
15 to control pollution resulting from construction activities (*id.*, § 122.26 (d)(1)(v)); legal authority
16 to control pollution contribution of pollutants associated with industrial activity (*id.*,
17 § 122.26(d)(2)(i)(A)); programs to control illicit discharge to the MS4 (*id.*, § 122.26(d)(1)(v));
18 and conducting inspections to determine compliance with permit conditions. (*id.*,
19 § 122.26(d)(2)(i)(F)). The management programs must address oversight of discharges into the
20 system from the general population and from industrial and construction activities within its
21 jurisdiction. (*Id.*, § 122.26 (d)(2)(iv).)

22 The U.S. EPA has also issued guidance documents that discuss the types of best
23 management practices that must be included in municipal storm water permits in order to reduce
24 the discharge of pollutants in storm water to the “maximum extent practicable.” At the time that
25 the subject test claims were considered by the Commission, the U.S. EPA had issued an MS4
26 Program Evaluation Guide, which addresses inspections of businesses and litter related issues.
27 (AR 3391-3494, at 3468-3469, 3440.) Most recently, in April of 2010, the U.S. EPA issued an
28 updated guide, MS4 Permit Improvement Guide, that also provides guidance to federal and state

1 permit writers on the requirements for permitting discharges from municipal storm sewer systems
2 under an NPDES permit.⁴

3 **II. CALIFORNIA'S ROLE IN IMPLEMENTING FEDERAL REQUIREMENTS FOR STORM**
4 **WATER PERMITS**

5 “[O]n May 14, 1973, California became the first state to be approved by the EPA to
6 administer the NPDES permit program.” (*County Sanitation Dist. No. 2 of Los Angeles County v.*
7 *County of Kern* (2005) 127 Cal.App.4th 1544, 1565-1566.)⁵ The Legislature amended the Porter-
8 Cologne Water Quality Control Act (Porter-Cologne Act) by adding Chapter 5.5 to implement
9 federal law in order to avoid direct regulation by the federal government. (Wat. Code, § 13370;
10 see generally Wat. Code, §§ 13370-13389.) Specifically, the legislative findings and declarations
11 state, in relevant part:

12 It is in the interest of the people of the state, in order to avoid direct regulation by the
13 federal government of persons already subject to regulation under state law pursuant
14 to this division, to enact this chapter in order to authorize the state *to implement the*
15 *provisions of the Federal Water Pollution Control Act* [Clean Water Act] and acts
16 amendatory thereof or supplementary thereto, and federal regulations and guidelines
issued pursuant thereto, provided, that the state board shall request federal funding
under the Federal Water Pollution Control Act for the purpose of carrying out its
responsibilities under this program.

17 (Wat. Code, § 13370, subd. (c), emphasis added.)

18 Additionally, the Porter-Cologne Act mandates that California's NPDES permit program be
19 consistent with federal law. (Wat. Code, § 13372.) Section 2235.2 of title 23 of the California
20 Code of Regulations implements the Act stating that “[w]aste discharge requirements for
21 discharge from point sources to navigable waters shall be issued and administered in accordance
22 with the currently *applicable federal regulations for the National Pollutant Discharge*
23 *Elimination System (NPDES) program.*” (Emphasis added.) While the federal Clean Water Act
24 allows a state to establish more stringent requirements (33 U.S.C. § 1370) and nothing in the
25 Porter-Cologne Act precludes the state from establishing more stringent requirements (*City of*

26 ⁴ The Guide is available at www.epa.gov/npdes/pubs/ms4permit_improvement_guide.pdf.

27 ⁵ Nine regional boards administer the program, overseen by the State Water Resources
28 Control Board. (Wat. Code, §§ 13140, 13200, et. seq.)

1 *Burbank v. State Water Resources Control Bd.* (2005) 35 Cal.4th 613, 627), this case does not
2 involve more stringent requirements than federal law. As explained in detail above, there are
3 numerous federal requirements that the state must comply with in issuing NPDES permits or risk
4 the U.S. EPA taking over California's NPDES program. Among the federal requirements is the
5 mandate that NPDES permits for municipal storm sewers "require controls to reduce the
6 discharge of pollutants to the maximum extent practicable." (33 U.S.C. § 1342(p)(3)(B)(iii).)

7 **III. REGIONAL BOARD ORDER NO. 01-182 (NPDES PERMIT NUMBER CAS004001) AND**
8 **RELATED APPLICATION**

9 Starting in 1990 and pursuant to the Clean Water Act amendments of 1987, the permitting
10 agency, the Regional Board, issued municipal storm water permits to the County of Los Angeles.
11 Prior to the Clean Water Act amendments of 1987 and U.S. EPA's issuance of regulations to
12 implement those amendments, the Regional Board did not regulate the County's storm water
13 discharges under either state or federal law. The permit that is the subject of this litigation is the
14 third permit, Regional Order No. 01-182, NPDES permit number CAS004001, and was adopted
15 on December 13, 2001.⁶ (AR 3495-3576.)

16 Before the above permit was issued, and pursuant to federal law, the County of Los
17 Angeles submitted a permit application to the Regional Board on February 1, 2001.
18 (33 U.S.C. § 1342(b)(2)(B)(3); 40 C.F.R. §§ 122.26(a)(4) [requiring initial application] &
19 122.21(d)(2) [duty to reapply 180 days before prior NPDES permit expired].) This application is
20 entitled "Report of Waste Discharge (ROWD)" and includes a "Stormwater Quality Management
21 Plan (SQMP)." (AR 3663-3794.) The SQMP represents the County of Los Angeles' proposals
22 for best management practices (sometimes referred to as "BMPs") that would ultimately be
23 required in the NPDES permit. The permit that was adopted was based on the SQMP, with some
24 revisions and additions necessary to meet minimum federal requirements. Because both the

25 ⁶ Before the relevant permit was adopted, Los Angeles County discharges were covered
26 under permit number 96-054 issued on July 15, 1995, which served as the NPDES permit for the
27 discharge of municipal storm water. The 1995 permit replaced the previous permit, number 90-
28 079, adopted on June 18, 1990. (AR 3501.) In addition, the State Water Resources Control
Board has issued two general NPDES permits for storm water discharges; one for storm water
from industrial sites, and the other for storm water from construction sites. (AR 3511.)

1 permit and SQMP are voluminous, stating the conditions necessitating the permit and applying
2 the mandatory federal requirements, we have summarized the relevant provisions below.

3 Permit

4 Before addressing the claimed mandates in the permit (i.e., the inspections of certain
5 facilities and the placement and maintenance of trash receptacles at transit stops), there are a few
6 sections of the permit discussing its implementation that are worth noting.

7 The Regional Board made 66-detailed findings concerning the permit's factual and legal
8 basis.⁷ (AR 3500-3519.) Among those findings are general findings about the intent and purpose
9 of the permit, including as it relates to federal law. In section C, Permit Background, the
10 Regional Board found in subsection 4:

11 The Regional Board finds that the Permittees' proposed SQMP, incorporating the
12 additional and/or revised provisions contained in this Order would meet *the minimum*
requirements of federal regulations.

13 (AR 3506, emphasis added.) It further found in section D, Permit Coverage, subsection 4:

14 This permit is intended to develop, achieve, and implement a timely, comprehensive,
15 cost-effective storm water pollution control program to reduce the discharge of
16 pollutants in storm water to the *Maximum Extent Practicable (MEP)* from the
permitted areas in the County of Los Angeles to the waters of the U.S. subject to the
Permittees' jurisdiction.

17 (AR 3507, emphasis added.)

18 Section F, Implementation, provides information concerning the objective of the permit,
19 and its cooperative design and flexibility to meet this objective based on the requirements of
20 federal law. With respect to the objective of the permit, subsection 2 provides:

21 The objective of this Order [the permit] is to protect the beneficial uses of receiving
22 waters in Los Angeles County. To meet this objective, this order requires that the
SQMP specify BMPs that will be implemented to reduce the discharge of pollutants
23 in storm water to the *maximum extent practicable*. Further, Permittees are to assure
24 that storm water discharges from MS4 shall neither cause nor contribute to the
exceedance of water quality standards and objectives nor create conditions of
25 nuisance in the receiving waters, and that the discharge of non-storm water to the
MS4 has been effectively prohibited.

26 (AR 3516, emphasis added.)

27 ⁷ The number of findings reflected in the administrative record is higher because of
28 subsequent amendments not germane to the test claim.

1 Subsection 3, speaks to the continued cooperative design of the permit as follows:

2 The SQMP required in this Order builds upon the programs established in Order Nos.
3 90-079, and 96-054 [prior permits], consists of the components recommended in the
4 USEPA guidance manual, and was developed with the cooperation of representatives
5 from the regulated community and environmental groups. The SQMP includes
6 provisions that promote customized initiatives, both on a countywide and watershed
7 basis, in developing and implementing cost-effective measures to minimize discharge
8 of pollutants to the receiving water. The various components of the SQMP, taken as
9 a whole rather than individually, are expected to reduce pollutants in storm water
10 and urban runoff to the *maximum extent practicable*. Provisions of the SQMP are
11 fully enforceable under provision of this Order.

12 (AR 3517, emphasis added.)

13 Subsection 4 gives the County of Los Angeles the flexibility to substitute another best
14 management practice. It states:

15 This Order provides flexibility for Permittees to petition the Regional Board
16 Executive Officer to substitute a BMP, if they can provide information and
17 documentation on the effectiveness of the alternative, equal to or greater than the
18 prescribed BMP in meeting the objectives of this Order.

19 (AR 3517.)

20 Part 4, Special Provisions, of the permit contains the claimed mandated activities relevant
21 to this litigation. (AR 3531-3536.) Specifically, these provisions pertain to the inspections of
22 commercial and industrial facilities, containment of runoff at construction sites, and the
23 placement and maintenance of trash receptacles at transit stops.

24 Subsection C of Part 4, Industrial/Commercial Facilities Control Program, subdivision 2a,
25 Inspect Critical Sources, pertains to inspections at commercial facilities, including restaurants,
26 automotive service facilities, and retail gasoline outlets, and automotive dealerships. While each
27 commercial property has unique inspection requirements tailored to its business activity, the
28 permit requires that all facilities are inspected on a regular basis, twice during the 5-year permit
29 period, to confirm that BMPs are being effectively implemented in compliance with the law.
30 (AR 3533-3535.) Similarly, subdivision 2b requires the inspection of certain industrial facilities
31 referred to in the permit as Phase 1 Facilities. (AR 3535-3536.)

32 Subsection E of Part 4, Development Construction Program, provides that “[e]ach
33 Permittee shall implement a program to control runoff from construction activity to storm drains

1 at all construction sites within its jurisdiction.” (AR 3546.) This generally includes
2 implementing BMPs related to the control and containment of construction-related materials,
3 waste, and erosion, as well as the inspection of construction sites and related employee training.
4 (AR 3546-3549.)

5 Subsection F of Part 4, Public Agency Activities Program, subdivision c3, requires that
6 trash receptacles be placed at all transit stops within the Permittee’s jurisdiction and that they be
7 maintained as necessary.

8 Buttressing the Regional Board’s findings, Part 4 reiterates that the permit is intended to
9 reduce the discharge of pollutants in storm water in the County of Los Angeles to the maximum
10 extent practicable under the Clean Water Act. (AR 3527.) It states:

11 This permit, and the provisions herein, are intended to develop, achieve, and
12 implement a timely, comprehensive, cost-effective storm water pollution control
13 program to reduce the discharge of pollutants in storm water to the MEP [maximum
14 extent practicable] from the permitted areas in the County of Los Angeles to the
15 waters of the State.

16 (AR 3527.) The maximum extent practicable standard is defined in the permit to mean: “the
17 standard for implementation of storm water management programs to reduce pollutants in storm
18 water” under the Clean Water Act. (AR 3561-3562.)

19 SQMP

20 Part 4, Special Provisions, includes management practices proposed by the County of Los
21 Angeles in its SQMP as well as additional management practices added by the Regional Board to
22 achieve the maximum extent practicable reduction required by the Clean Water Act. The SQMP
23 must include several proposed best management practices that relate to the inspections of
24 commercial and industrial facilities and the placement and maintenance of trash receptacles.
25 (AR 3670-3675.)

26 Subsection A2 of Part 4, Programs for Industrial/Commercial Businesses, subdivision b,
27 states that “Permittees shall visit automotive services and food service facilities as outlined in the
28 SQMP in its jurisdiction once every two years. During site visits, Permittees shall: [¶] i. Consult
with a representative of the facility to explain applicable stormwater regulations; [¶] ii. Distribute

1 and discuss applicable BMP and educational materials; and, [¶] iii. Conduct a site walk-through
2 to verify for, at a minimum, evidence of BMP implementation.” (AR 3671.)

3 Subdivision c states that “Permittees shall revisit automotive and food service facilities
4 where evidence of illicit discharge is found within six months of the date of the initial visit.”
5 (AR 3671.)

6 Subdivision e provides that “Permittees shall provide an annual update to the visited
7 automotive service, food service, and other target facilities to the Regional Board in the annual
8 report. The database shall include at a minimum; facility name, site address, applicable Standard
9 Industrial Classification (SIC) codes(s), and NPDES stormwater permit coverage.” (AR 3671.)

10 Subsection C of Part 4, Programs for Development Construction, is extensive and includes
11 detailed requirements to prevent runoff from constructions sites into nearby waters. (AR 3672-
12 3674.) As above with the permit, these requirements include implementing best management
13 practices relate to the control and containment of construction-related materials, waste, and
14 erosion, as well as the inspection of construction sites and related employee training. (AR 3672-
15 3674.)

16 The Executive Summary addresses the removal of trash and other pollutants transported in
17 runoff to the storm drain system from landscape and recreational facilities. (AR 3677.) “The
18 goal of the program for landscape and recreational facilities management is to make the storm
19 water quality a consideration when conducting operation and maintenance activities.” (AR 3677.)
20 This includes minimizing trash from entering recreational water bodies, removing trash from
21 open channels, and controlling litter and debris in the streets. (AR 3677-3578.) Also, under
22 subsection D of Part 4, “Permittees shall conduct trash collection along, or in improved open
23 channels within their jurisdiction” and are encouraged to establish other voluntary programs for
24 trash collection in natural stream channels. (AR 3675.)

25 **IV. PRINCIPLES OF SUBVENTION AS IT PERTAINS TO FEDERAL LAW**

26 “In 1972, and again in 1973, the Legislature enacted comprehensive schemes for local
27 property tax relief. Though frequently amended thereafter, these statutes retained three principal
28 features. First, they placed a limit on the local property tax rate. Second, they required the state

1 to reimburse local governments for their costs resulting from state laws ‘which mandate ... new
2 program[s] or ... increased level[s] of service’ at the local level. Finally, they allowed local
3 governments to exceed their property taxation limits to fund certain other nondiscretionary
4 expenses, including ‘costs mandated by the federal government.’” (*City of Sacramento v. State of*
5 *California* (1990) 50 Cal.3d 51, 57 -58.)

6 In November 1979, the voters adopted Proposition 4, adding article XIII B to the state
7 Constitution. “Article XIII B - the so-called “Gann limit” - restricts the amounts state and local
8 governments may appropriate and spend each year from the ‘proceeds of taxes’ [citations
9 omitted].” (*City of Sacramento, supra*, 50 Cal.3d at pp. 57 -58.) Section 6 of article XIII B calls
10 for state subvention by requiring the state to pay for any new governmental programs, or for
11 higher levels of service under existing programs, that it imposes upon local governmental
12 agencies. (*County of Los Angeles v. State of California* (1987) 43 Cal.3d 46, 56.) “[M]andatory
13 state subventions are excluded from the local agency’s spending limit, but included within the
14 state’s.” (*City of Sacramento, supra*, 50 Cal.3d at p. 59.) This does not mean that the state is
15 required to reimburse local agencies for all incidental costs that may result from the enactment of
16 a state law. Rather, the subvention requirement is restricted to governmental services which the
17 local agency is required to provide by state law as opposed to federal law. (*Id.* at p. 76.)

18 Article XIII B, section 6 of the California Constitution and Government Code section
19 17514, provide for the reimbursement of local government’s costs of carrying out new programs
20 or higher levels of service that are mandated by the State. Article XIII B, section 6 provides, in
21 part, as follows:

22 Whenever the Legislature or any state agency mandates a new program or higher
23 level of service on any local government, the state shall provide a subvention of funds
24 to reimburse such local government for the costs of such program or increased level
of service. . . .

25 (Cal. Const., art. XIII B, § 6.)

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1 Government Code section 17514 defines “[c]osts mandated by the state” to mean:

2 . . . any increased costs which a local agency or school district is required to incur
3 after July 1, 1980, as a result of any statute enacted on or after January 1, 1975, or any
4 executive order implementing any statute enacted on or after January 1, 1975, which
5 mandates a new program or higher level of service of an existing program within the
6 meaning of Section 6 of Article XIII B of the California Constitution.

7 But constitutional subvention is not required when the costs implement federal law. Article
8 XIII B, section 9, subdivision (b), excludes from the state or local spending limit any
9 “appropriations required for purposes of complying with mandates of the ... federal government.”
10 As the California Supreme Court stated recently, “article XIII B, section 6, and the implementing
11 statutes ... provide for reimbursement only of state-mandated costs, not federally mandated costs.”
12 (*San Diego Unified School Dist. v. Commission on State Mandates* (2004) 33 Cal. 4th 859, 880.)

13 This constitutional prohibition against providing state reimbursement for activities imposed
14 by federal law is specifically spelled out in Government Code section 17556, subdivision (c).
15 (*Redevelopment Agency of the City of San Marcos v. Commission on State Mandates* (1996)
16 55 Cal. App. 4th 976, 984 [article XIII B, section 6 creates “several classes of state-mandated
17 programs for which no state reimbursement of local agencies is required”].) Subdivision (c)
18 states that the Commission shall not find “costs mandated by the state” if “[t]he statute or
19 executive order imposes a requirement that is mandated by a federal law or regulation and results
20 in costs mandated by the federal government, unless the statute or executive order mandates costs
21 that exceed the mandate in that federal law or regulation.” Section 17514 defines “costs
22 mandated by the federal government” to mean, in relevant part “. . . any increased costs incurred
23 by a local agency or school district after January 1, 1973, in order to comply with the
24 requirements of a federal statute or regulation.”

25 **V. OVERVIEW OF THE COMMISSION ON STATE MANDATES**

26 The Commission is a quasi-judicial agency vested with the sole and exclusive authority to
27 adjudicate all disputes over the existence and reimbursement of state-mandated programs within
28 the meaning of article XIII B, section 6 of the California Constitution. (*Kinlaw v. State of
California* (1991) 54 Cal.3d 326; Gov. Code, §§ 17551, 17552.)

1 Local agencies and school districts file claims with the Commission for reimbursement of
2 state-mandated costs under article XIII B, section 6. (Gov. Code, §§ 17551, 17560.) The first
3 claim filed by a local agency or school district alleging that a statute or an executive order
4 imposes a reimbursable state-mandated program is a “test claim.” (Gov. Code, § 17521.) A
5 public hearing is held on the test claim, at which time evidence may be presented by the claimant,
6 the Department of Finance, any other state department or agency affected by the claim, and any
7 interested organization or individual. (Gov. Code, § 17555.)

8 The Commission must first determine if a state-mandated program exists. (Gov. Code,
9 § 17551.) If so, the Commission adopts parameters and guidelines for the reimbursement of
10 claims submitted by eligible claimants. (Gov. Code, § 17557, subd. (a).) The Commission
11 submits the adopted parameters and guidelines to the Controller, and the Controller issues
12 claiming instructions for each mandate that requires reimbursement. (Gov. Code, § 17558, subds.
13 (a),(c).) Judicial review of a final Commission decision is available through a petition for writ of
14 mandate filed pursuant to Code of Civil Procedure section 1094.5. (Gov. Code, § 17559.)

15 **VI. SUMMARY OF THE COMMISSION’S DECISION**

16 The County of Los Angeles filed multiple test claims alleging “various activities related to
17 placement and maintenance of trash receptacles at transit stops and inspection of restaurants,
18 automotive service facilities, retail gasoline outlets, automotive dealerships, phase I industrial
19 facilities (as defined) and construction sites to reduce stormwater pollution in compliance with a
20 permit issued by the Los Angeles Regional Water Quality Control Board, a state agency.”
21 (AR 5557.) The test claims were consolidated by the Commission, and the Commission
22 “originally refused jurisdiction over the permits based on Government Code section 17516’s
23 definition of ‘executive order’ that excluded permits issued by the State Water Resources Control
24 Board” and regional boards. (AR 5557.) In the *County of Los Angeles v. Commission on State*
25 *Mandates* (2007) 150 Cal.App.4th 898, the court found that this part of 17516 excluding permits
26 issued by the state water boards from the definition of “executive order” was unconstitutional.
27 The court issued a writ directing the Commission to set aside its decision rejecting the test claims
28 and to consider the claims on their merits. (AR 5557.)

1 The Commission found that the permit requirement related to the placement and
2 maintenance of trash receptacles at transit stops was a reimbursable state mandate. However,
3 with respect to the other permit requirements related to inspections of commercial and industrial
4 facilities and pollution containment at construction sites, the Commission found that these
5 requirements did not impose costs mandated by the state within the meaning of article XIII B,
6 section 6, because the claimants have fee authority sufficient to pay for the permit requirements.
7 (AR 5625.)

8 The Commission's statement of decision is lengthy and can be found in the administrative
9 record at pages 5555-5625. This case does not address the entire statement of decision but only
10 two parts:

- 11 (1) The Commission's findings that the claimed activities are not federal mandates. (AR
12 5576-5602; Petition for Writ of Administrative Mandate ("Pet.") ¶ 33, subsections (a)-
13 (g).)
- 14 (2) The Commission's findings that the permit activities impose new programs or higher
15 level of services on the County of Los Angeles. (AR 5603-5604; ¶ 34, subsections (a)-
16 (b).)

17 With respect to the federal mandate findings, the Commission's analysis is long but is
18 based primarily on the theory that the specific permit activities are not federal mandates because
19 they go beyond the requirements of the Clean Water Act. (AR 5578, 5584, 5591, 5595, 5601.)
20 The findings that the permit activities are new programs or higher level of services are based on
21 the assertion that the activities were not contained in prior permits issued to the County of Los
22 Angeles and that the activities were only imposed on local agencies and not the general public.
23 (AR 5603-5604.)

24 STANDARD OF REVIEW

25 Pursuant to Government Code section 17559, subdivision (b), a proceeding may be brought
26 under Code of Civil Procedure section 1094.5 "to set aside a decision of the commission on the
27 ground that the commission's decision is not supported by substantial evidence." Code of Civil
28 Procedure section 1094.5, in turn, provides that the court's inquiry "shall extend to the questions

1 whether the respondent has proceeded without, or in excess of jurisdiction; whether there was a
2 fair trial; and whether there was any prejudicial abuse of discretion. Abuse of discretion is
3 established if the respondent has not proceeded in the manner required by law, the order or
4 decision is not supported by the findings, or the findings are not supported by the evidence.”

5 The review of the Commission’s factual determinations proceeds under the substantial
6 evidence test. (*City of Richmond v. Commission on State Mandates* (1998) 64 Cal.App.4th 1190,
7 1194-95.) Where the substantial evidence test applies, the court is under a duty to see that
8 findings are legally relevant as well as supported by the evidence in order to support agency
9 action. (*City and County of San Francisco v. Board of Permit Appeals* (1989) 207 Cal.App.3d
10 1099, 1110.) Substantial evidence review also includes a duty to determine whether the agency
11 committed errors of law in applying the facts before it. (*Id.* at p. 1111.) Whether a statute creates
12 a reimbursable state mandate is a pure question of law. (*Connell v. Superior Court* (1997)
13 59 Cal.App.4th 382, 395.) Questions of law are subject to de novo review. (*City of Richmond*,
14 *supra*, 64 Cal.App.4th at p. 1105.)

15 LEGAL ANALYSIS

16 I. THE PERMIT IS A FEDERAL MANDATE AND NOT SUBJECT TO REIMBURSEMENT 17 UNDER ARTICLE XIII B, SECTION 6, OF THE CALIFORNIA CONSTITUTION.

18 The California Constitution is clear that state subvention is not required when the federal
19 government imposes new costs on local governments. (Cal. Const., art. XIII B, § 9, subd. (b);
20 Gov. Code, §§ 17556, subd. (c), 17514.) There is a two-step process to determine whether a
21 program is mandated by federal law and thus not subject to state subvention. First, did the state
22 have “no real choice in deciding whether to comply with the federal act.” (*Hayes v. Commission*
23 *on State Mandates*, 11 Cal.App.4th 1594, 1594.) Second, did the program exceed the
24 requirements of federal law. (Gov. Code, § 17556; *San Diego Unified School Dist, supra*, 33
25 Cal.4th at p. 880.) As explained below, the answer to both of these questions shows that the
26 permit is a federal mandate and not subject to state subvention.

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1 **II. CALIFORNIA’S ADMINISTRATION OF THE NPDES PERMIT PROGRAM DOES NOT**
2 **TRANSFORM CLEAN WATER ACT REQUIREMENTS INTO A STATE MANDATE.**

3 “The test for determining whether there is a federal mandate is whether compliance with
4 federal standards ‘is a matter of true choice,’ that is, whether participation in the federal program
5 ‘is truly voluntary.’” (*City of Sacramento, supra*, 50 Cal.3d at p. 76.) A federal mandate exists,
6 even if “the state has adopted an implementing statute or regulation pursuant to the federal
7 mandate so long as the state had no ‘true choice’ in the manner of implementation of the federal
8 mandate.” (*Hayes, supra*, 11 Cal.App.4th at p. 1593.) But “[t]his reasoning would not hold true
9 where the manner of implementation of the federal program was left to the true discretion of the
10 state.” (*Ibid.*)

11 In *City of Sacramento, supra*, the state extended mandatory coverage under the state’s
12 unemployment insurance law to local governments and others. (50 Cal.3d 51.) The lower court
13 and the Court of Appeal found that the program was not so coercive as to constitute a federal
14 mandate, even though failure to implement the law would result in the potential loss of federal
15 funds and tax credits. (*Id.* at pp. 59 -60.) The California Supreme Court reversed, explaining that
16 “the drafters and adopters of article XIII B must have understood [that] certain regulatory
17 standards imposed by the federal government under ‘cooperative federalism’ schemes are
18 coercive on the states and localities in every practical sense.” (*Id.* at pp. 73-74.) Thus, federal
19 mandates are not limited to programs or activities resulting from “strict legal compulsion by the
20 federal government.” (*Id.* at p. 73.) Moreover, there is “no final test for ‘mandatory’ versus
21 ‘optional’ compliance with federal law.” (*Id.* at p. 76.) Rather, the standard is flexible and
22 depends on a number of factors such as “as the nature and purpose of the federal program;
23 whether its design suggests an intent to coerce; when state and/or local participation began; the
24 penalties, if any, assessed for withdrawal or refusal to participate or comply; and any other legal
25 and practical consequences of nonparticipation, noncompliance, or withdrawal.” (*Ibid.*)

26 The NPDES program is not optional; it is coercive on the states and localities in every legal
27 and practical sense. The Commission did not find otherwise. Instead, the Commission found that
28 because California “voluntarily adopts the [NPDES] permitting program” and because federal law

1 “does not expressly require states to have *this* program, the state has freely chosen to effect the
2 stormwater permit program.” (AR 5581, emphasis added.) What the Commission overlooked is
3 that given the complex, coordinated, and interactive nature of the rules governing federal, state,
4 and local agencies under the Clean Water Act, California had little practical choice.

5 Initially, the Commission’s analysis distorts the holdings of *Hayes* and *City of Sacramento*.
6 Regardless of whether the state or the U.S. EPA issues an NPDES permit, the permit was not
7 voluntary. (*City of Sacramento, supra*, 50 Cal.3d at p. 76.) The federal Clean Water Act requires
8 the County of Los Angeles to have an NPDES permit for municipal storm water discharges and
9 compels those permits to reduce the discharge of pollutants to the maximum extent practicable.
10 Neither the state nor the County of Los Angeles has a true choice in the permit or the requirement
11 to reduce pollutants to the maximum extent practicable. (*City of Sacramento, supra*, 50 Cal.3d at
12 p. 76.) Further, unlike the situation discussed in *Hayes*, the state is not “shift[ing] state costs to
13 local agencies,” but instead the federal municipal storm water program requires the County of Los
14 Angeles to obtain an NPDES permit that reduces pollutants to the maximum extent practicable.
15 (Cf. *Hayes, supra*, 11 Cal.App.4th at p. 1593.)⁸

16 California administers the NPDES program to follow federal requirements as closely as
17 possible. For example, the federally required permit process starts with the discharger submitting
18 a proposed application to the permitting authority, which must comply with all federal
19 requirements, including effluent limitations, national standards of performance, and toxic and
20 pretreatment effluent standards. (33 U.S.C. §§ 1342 (b)(1), 1311, 1312, 1316, 1317.) And
21 Federal law requires that the U.S. EPA be provided with the proposed permit and notice of any
22 action related to the same, such as a hearing on the proposed requirements.

23 ⁸ By way of contrast, the federal definition of municipal separate storm sewer system also
24 requires state agencies, such as CalTrans to obtain a municipal storm water permit for their
25 separate storm sewer discharges. (40 C.F.R. § 122.26(b)(8).) The State Water Resources Control
26 Board issues a municipal storm water permit to CalTrans for all of its storm sewers subject to the
27 Clean Water Act. (State Board Order No. 99-06-DWQ available at:
28 http://www.waterboards.ca.gov/water_issues/programs/stormwater/docs/caltrans/caltranspmt.pdf.)
Hayes and *City of Sacramento* would yield the result sought by the County of Los Angeles, if the
state freely choose to either (1) require the County to administer the NPDES program (something
the state does), or (2) require the County to implement the CalTrans permit (something the state
does).

1 (33 U.S.C. § 1342(d)(1).) The U.S. EPA may object to a permit and find that it is inconsistent
2 with federal law. (*Id.*, § 1342(d)(2).) This type of finding could result in the U.S. EPA
3 determining that a state program does not comply with federal NPDES program guidelines and
4 could be a reason for the U.S. EPA to withdraw approval for the state program. (*Id.*,
5 § 1342(c)(3).)

6 These federal laws would mandate NPDES permitting even if California took no action at
7 all. Furthermore, if California did not administer its own water quality program through the
8 Porter-Cologne Act, California's dischargers, both private and governmental, would still have to
9 comply with federal law, but would also be subject to direct regulation from the federal
10 government. This result would be directly contrary to the intent of the California Legislature. As
11 explained by the Legislature: "It is in the interest of the people of the state, in order *to avoid*
12 *direct regulation by the federal government* of persons already subject to regulation under state
13 law pursuant to this division, to enact this chapter in order to authorize the state *to implement the*
14 *provisions of the Federal Water Pollution Control Act* [Clean Water Act]." (Wat. Code, § 13370,
15 subd. (c), emphasis added.) The lack of any practical alternative explains why 46 of the 50 states,
16 including California, have implemented the Clean Water Act by creating a program to issue
17 NPDES permits.

18 The California Supreme Court has rejected the Commission's narrow analysis that a state
19 mandate exists when a state enacts its own laws consistent with federal law. In *City of*
20 *Sacramento, supra*, the Supreme Court found that the joint federal-state operation of a system of
21 unemployment compensation was not a state-mandate, but a federal mandate. (50 Cal.3d at
22 pp. 75-76.) The Court rejected the idea that "California could have chosen to terminate its own
23 unemployment insurance system, thus leaving the state's employers faced only with the federal
24 tax." (*Id.* at p. 74.) The Court stated that "we cannot imagine the drafters and adopters of article
25 XIII B intended to force the state to such draconian ends." (*Ibid.*) The Court explained that "the
26 state simply did what was necessary to avoid certain and severe federal penalties upon its resident
27 businesses. The alternatives were so far beyond the realm of practical reality that they left the
28 state 'without discretion' to depart from federal standards." (*Ibid.*)

1 Thus, under *City of Sacramento*, a federal mandate exists where the federal government
2 leaves the state with little or no practical choice. The Commission's analysis eviscerates that rule.
3 Under the Commission's analysis, a state mandate would exist anytime federal law gives the state
4 any options at all.

5 Since the state has no true choice but to comply with the Clean Water Act in issuing
6 NPDES permits, such permits are based on federal requirements and are not state mandates. The
7 Commission's decision holding to the contrary was erroneous and should be reversed.

8 **III. THE NPDES PERMIT DOES NOT GO BEYOND THE REQUIREMENTS OF THE CLEAN**
9 **WATER ACT.**

10 The second part of the analysis in determining if a program is a state mandate versus a
11 federal mandate focuses on whether the program goes beyond the requirements of federal law.
12 Government Code section 17556, subsection (c), states that the Commission shall not find "costs
13 mandated by the state" if "[t]he statute or executive order imposes a requirement that is mandated
14 by a federal law or regulation and results in costs mandated by the federal government, unless the
15 statute or executive order mandates costs that exceed the mandate in that federal law or
16 regulation." (*San Diego Unified School Dist.*, *supra*, 33 Cal.4th at p. 880.) As explained below,
17 the permit in question does not exceed the applicable federal standard.

18 **A. The Clean Water Act Required the Regional Board to Specify the Permit's**
19 **Pollutant Reduction Requirements.**

20 The Clean Water Act prohibits the County of Los Angeles from discharging pollutants from
21 its MS4 unless it does so through an NPDES permit. And under the Clean Water Act, the permit
22 must include "controls to reduce the discharge of pollutants to the *maximum extent practicable*,
23 including management practices, control techniques and system, design and engineering methods,
24 and such other provisions as the Administrator or the State determines appropriate for the control
25 of such pollutants." (33 U.S.C. § 1342(p)(3)(B), *emphasis added*.)

26 "The permitting agency has discretion to decide what practices, techniques, methods and
27 other provisions are appropriate and necessary to control the discharge of pollutants [citation
28 omitted]." (*City of Rancho Cucamonga v. Regional Water Quality Control Bd.-Santa Ana Region*

1 (2006) 135 Cal.App.4th 1377, 1389.) However, the “Regional Board must comply with federal
2 law requiring detailed conditions for NPDES permits.” (*Ibid.*) Further, it is the unique nature of
3 the federal municipal storm water program that the U.S. EPA expects individual permit writers to
4 develop the practices that reflect the maximum extent practicable standard on a permit-by-permit
5 basis. (*Natural Resources Defense Council, Inc. v. U.S. E.P.A.*, *supra*, 966 F.2d at p. 1308, n. 17;
6 see also, 55 Fed.Reg. 47990, 48043.)

7 The NPDES permit that was actually issued to the County of Los Angeles is the best
8 measure of what is required to comply with the maximum extent practicable standard. Consistent
9 with federal law, the permit makes clear that it is intended to reduce the discharge of pollutants in
10 storm water in the County of Los Angeles to the maximum extent practicable under the Clean
11 Water Act. (AR 3527.) The permit states:

12 This permit, and the provisions herein, are intended to develop, achieve, and
13 implement a timely, comprehensive, cost-effective storm water pollution control
14 program to reduce the discharge of pollutants in storm water to the MEP [maximum
extent practicable] from the permitted areas in the County of Los Angeles to the
waters of the State.

15 (AR 3527.) The maximum extent practicable standard is defined in the permit to mean: “the
16 standard for implementation of storm water management programs to reduce pollutants in storm
17 water” under the Clean Water Act. (AR 3561-3562.)

18 The permit requirements, “taken as a whole rather than individually, are expected to reduce
19 pollutants in storm water and urban runoff to the maximum extent practicable.” (AR 3517.) The
20 permit is designed “to protect the beneficial uses of receiving waters in Los Angeles County”
21 through best management practices established by the County of Los Angeles, again “to reduce
22 the discharge of pollutants in storm water to the maximum extent practicable.” (AR 3516.) The
23 permit provides the County of Los Angeles the flexibility to substitute another best management
24 practice, “if it can provide information and documentation on the effectiveness of the alternative,
25 equal to or greater than the prescribed” practice in meeting the objectives of the permit.

26 (AR 3517.)

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28 ///

1 **B. The Regional Board's Findings and Conclusions as to Implementing the**
2 **Federal Requirements Have Already Been Litigated and the Regional**
3 **Board Prevailed.**

4 The foregoing findings that the permit reflects the maximum extent practicable standard are
5 not idle ruminations from an administrative agency. Instead, those findings and requirements are
6 the expert conclusions of the principal state agency charged with implementing the NPDES
7 program in Los Angeles. (Wat. Code, §§ 13001, 13200.) Courts have recognized that the
8 regional boards are entitled to considerable deference on the statutes they implement, especially
9 in the area of storm water regulation. (*County of Los Angeles v. California State Water*
10 *Resources Control Bd.* (2006) 143 Cal.App.4th 985, 997 [“we defer to the regional board’s
11 expertise in construing language which is not clearly defined in statutes involving pollutant
12 discharge into storm drain sewer systems”]; *City of Rancho Cucamonga, supra*, 135 Cal.App.4th
13 at p. 1384; *Building Industry Ass'n of San Diego County, supra*, 124 Cal.App.4th at p. 879.)

14 Importantly, the Regional Board’s findings concerning, and requirements implementing; the
15 Clean Water Act’s maximum extent practicable standard have been already been upheld by the
16 courts. (Statement of Decision From Phase I Trial on Petitions for Writ of Mandate (Mar. 24,
17 2005), *In Re Los Angeles County Municipal Storm Water Permit Litigation*, Los Angeles County
18 Super. Ct., Lead Case No. BS080548⁹ affirmed by *County of Los Angeles v. California State*
19 *Water Resources Control Bd., supra*, 143 Cal.App.4th 985, attached as Exhibit A to Petitioners’
20 Request for Judicial Notice.) The County of Los Angeles, along with the other test claimants,
21 was party to that litigation. The court’s finding that the permit taken as a whole reflects the
22 maximum extent practicable standard is entitled to preclusive effect on whether or not the permit
23 exceeds the requirements of federal law. (*Y.K.A. Industries, Inc. v. Redevelopment Agency of City*

24 ⁹ The Court found:

25 As noted, *even if the* Permit did exceed the MEP standard, the Regional Board was
26 within its authority in requiring more stringent standards. *However*, the Court finds
27 that the administrative record contains significant evidence showing that the terms of
28 the Permit taken, as a whole, constitute the Regional Board’s definition of MEP,
 including, but not limited to, the challenged Permit provisions.

(Statement of Decision at 7:25-8:2, emphasis added.)

1 of *San Jose* (2009) 174 Cal.App.4th 339, 356.) The Regional Board made quasi-judicial findings
2 that the permit reflected the Clean Water Act's maximum extent practicable requirements;
3 permittees challenged that permit and those findings; and a trial court and court of appeal rejected
4 the permittees' arguments and upheld the permit. At the County's behest, the Commission cannot
5 disregard the Regional Board's conclusions and find that the permit exceeds the federal
6 requirements.

7 **C. Regardless of the Prior Litigation, the Commission Incorrectly Construed**
8 **the Nature of the Federal Mandate.**

9 Congress established the maximum extent practicable standard because municipal storm
10 water runoff, unlike other pollutant discharges, could not be adequately addressed by blanket
11 effluent limitations. (*Building Industry Ass'n of San Diego County, supra*, 124 Cal.App.4th at
12 p. 884.) Numeric effluent limitations may be infeasible and administratively burdensome when
13 addressing municipal urban storm water runoff due to the physical difference between runoff and
14 other pollutants. (*Ibid.*) Congress determined that the maximum extent practicable standard is a
15 "necessary and workable enforcement mechanism to achieving the goals of the Clean Water Act."
16 (*Ibid.*)

17 Rather than addressing whether the NPDES permit exceeded the maximum extent
18 practicable standard imposed by federal law, the Commission's analysis ignored that standard
19 altogether. Instead, the Commission looked only to whether federal law required the particular
20 measures specified in the County of Los Angeles' permit. However, the Clean Water Act's
21 NPDES permit system requires states to develop standards based on the unique conditions of
22 particular waterways. Thus, the maximum extent practicable standard is necessarily flexible,
23 rather than a one-size-fits-all standard. (*Building Industry Ass'n of San Diego County, supra*,
24 124 Cal.App.4th at p. 874 .) The Commission's analysis erroneously assumes that whenever the
25 federal government imposes a standard that is flexible, there can be no federal mandate, and any
26 act taken by the state to implement the flexible federal standard is a state mandate. The law is
27 otherwise.
28

1 While the Commission may be considered an expert in mandates law, it is certainly not an
2 expert in applying and interpreting the Clean Water Act. The court should defer to the Regional
3 Board's determination that the permit is consistent with the maximum extent practicable standard.
4 (*Divers' Environmental Conservation Organization v. State Water Resources Control Bd.* (2006)
5 145 Cal.App.4th 246, 252 [courts must defer to an administrative agency's interpretation of a
6 statute or regulation involving its area of expertise]; see also *ante*, pp. 22-23 [discussing prior
7 litigation].)

8 Finally, the Commission's reliance on *Long Beach School Dist. v. State of California* (1990)
9 225 Cal.App.3d 155 is misplaced. In *Long Beach*, the court considered whether a state executive
10 order involving school desegregation constituted a state mandate. The court held that the
11 executive order required school districts to provide a higher level of service than required by the
12 federal constitution or case law because state requirements went beyond federal requirements. (*Id.*
13 at p. 173.) This reasoning was based on the absence of any federal law that specified how the
14 schools should implement their desegregation plans. (*Ibid*) Here, there is federal applicable law,
15 the maximum extent practicable standard, that directly applies to the County of Los Angeles.
16 Moreover, the U.S. EPA has provided substantial guidance on how that federal law is to be
17 implemented and specifically required NPDES permitting agencies to specify in NPDES permits
18 the controls necessary to implement the federal standard. (40 C.F.R. § 122.26; *Natural Resources*
19 *Defense Council, Inc. v. U.S. E.P.A.*, *supra*, 966 F.2d at p. 1308, n. 17; see also,
20 55 Fed.Reg. 47990, 48043.)

21 The same is true in *San Diego Unified School Dist.*, *supra*, where the Supreme Court found
22 that the state law exceeded federal due process requirements, because the state law required
23 expulsion recommendations or expulsion for firearm possession beyond federal law.
24 (33 Cal.4th at p. 880.)

25 Based on the foregoing, it is clear that the maximum extent practicable standard is imposed
26 on the County of Los Angeles under federal statute -- the Clean Water Act -- and the permit
27 issued pursuant to it is thus not reimbursable under article XIII B, section 6. The Commission
28 decision in this regard should be reversed.

1 **IV. THE CLAIMED ACTIVITIES DO NOT EXCEED THE MAXIMUM EXTENT PRACTICABLE**
2 **STANDARD.**

3 **A. Placement and Inspection of Trash Receptacles**

4 The trash receptacle requirement in the permit is within the scope of the maximum extent
5 practicable standard imposed on the County of Los Angeles under the Clean Water Act, and the
6 Commission has not cited any contradicting evidence. Instead, the Commission claims that
7 because the trash requirement is not expressly found in federal law, it must somehow exceed the
8 maximum extent practicable standard. (AR 5584-5586.) However, as explained above, the
9 maximum extent practicable standard requires flexible, best management practices, to eliminate
10 or reduce the discharge of pollutants in storm water or runoff through MS4.
11 (33 U.S.C. § 1342(p)(3)(B).) The Clean Water Act need not mention trash cans specifically to
12 mandate their use under the maximum extent practicable standard.

13 If litter and debris are left to pile up at transit stops, the downstream effect is the
14 introduction of pollutants into the MS4 or drain systems, leading to the discharges of pollutants in
15 the nearby waterways. The Regional Board reached this conclusion in its quasi-judicial
16 permitting proceeding, specifically finding that the permit requirements, taken as a whole, reflect
17 the maximum extent practicable standard. (AR 3506-3507, 3516-3516.) Without question, the
18 placement and maintenance of trash receptacles at transit stops will help prevent this known
19 source of pollutants from escaping into the water. To claim otherwise defies common sense. The
20 trash receptacles activity is an obvious remedy for the problem. (*Building Industry Ass'n of San*
21 *Diego County, supra*, 124 Cal.App.4th at p. 889 [“practicable does not necessarily mean the most
22 that can possibly be done”].) And, as discussed above, it is not the Commission’s place to
23 determine what activities meet the maximum extent practicable standard. That expertise lies with
24 the Regional Board. (*County of Los Angeles v. California State Water Resources Control Bd.*,
25 *supra*, 143 Cal.App.4th at p. 997; *Divers’ Environmental Conservation Organization, supra*,
26 145 Cal.App.4th at p. 252.)

27 The management practices required under federal law include “practices for operating and
28 maintaining public streets, roads and highways and procedures for reducing the impact on

1 receiving waters of discharges from municipal storm sewer systems,”
2 (40 C.F.R. § 122.26 (d)(2)(iv)(A)(3).) The County has implicitly conceded that the Clean Water
3 Act requires that steps be taken to keep trash out of our waterways. In fact, the County of Los
4 Angeles’ own proposal or permit application recommended minimizing trash from entering
5 recreational water bodies, removing trash from open channels, and controlling litter and debris in
6 the streets. (AR 3677-3578.) It also suggested conducting trash collection along, or in improved
7 open channels, and encouraged establishing voluntary programs for trash collection in natural
8 stream channels. (AR 3675.)

9 The *County of Los Angeles v. Commission on State Mandates* (1995) 32 Cal.App.4th 805
10 presented similar circumstances regarding the effect of federal law on local government. In that
11 case, the county asserted that funds expended under Penal Code section 987.9, which required
12 counties to provide indigent criminal defendants with defense funds for ancillary investigation
13 services, constituted a reimbursable state mandates. The Court of Appeal disagreed, finding
14 instead that the Penal Code section merely implements the requirements of federal constitutional
15 law, and that “even in the absence of [Penal Code] section 987.9, ... counties would be
16 responsible for providing ancillary services under the constitutional guarantees of due process ...
17 and under the Sixth Amendment...” (*Id.* at p. 815.)

18 Since the trash receptacle requirement in the permit is within the maximum extent
19 practicable standard under the Clean Water Act, it is imposed on the County of Los Angeles by
20 federal law, not state law, and is not subject to reimbursement under article XIII B, section 6 of
21 the California Constitution.

22 **B. The other claimed permit requirements are also imposed on the County of**
23 **Los Angeles under federal law and thus not subject to state subvention.**

24 The remaining claimed permit activities relate to the inspection of certain commercial and
25 industrial facilities and construction sites. Many of the above arguments with respect to trash
26 receptacles apply equally to these activities. Thus, these remaining activities can be addressed in
27 summary fashion.

1 Inspections of Commercial Facilities

2 This portion of the permit pertains to inspections of commercial facilities, including
3 restaurants, automotive service facilities, and retail gasoline outlets, and automotive dealerships.
4 While each commercial property has unique inspection requirements tailored to its business
5 activity, the permit requires that all facilities are inspected on a regular basis, twice during the
6 five-year permit period, to confirm that best management practices are being effectively
7 implemented in compliance with the law. (AR 3533-3535.)

8 As discussed in detail above, the Clean Water Act requires that an NPDES permit for the
9 discharge of pollutants from the County's municipal storm sewer must include "controls to reduce
10 the discharge of pollutants to the maximum extent practicable (33 U.S.C. § 1342(p)(3)(B).)
11 These management practices generally include site inspections "to prevent illicit discharges to
12 the" MS4. (40 C.F.R. § 122.26 (d)(2)(iv)(B)(1).) Requiring regular inspections of business
13 facilities is within the maximum extent practicable standard imposed on the County of Los
14 Angeles by the Clean Water Act. Such inspections confirm that best management practices are
15 being effectively implemented in compliance with federal law. That the permit requirements are
16 more particular than federal law makes no difference. The inspection requirements are within the
17 federal standard and are not state mandates.

18 The County of Los Angeles must have understood that site inspections are within this
19 flexible maximum extent practicable standard because they recommend inspections in their
20 permit application as well. According to the proposed permit, "Permittees shall visit automotive
21 services and food service facilities as outlined in the SQMP in its jurisdiction once every two
22 years. During site visits, Permittees shall: [¶] i. Consult with a representative of the facility to
23 explain applicable stormwater regulations; [¶] ii. Distribute and discuss applicable BMP and
24 educational materials; and, [¶] iii. Conduct a site walk-through to verify for, at a minimum,
25 evidence of BMP implementation." (AR 3671.) The County also proposed that "Permittees shall
26 revisit automotive and food service facilities where evidence of illicit discharge is found within
27 six months of the date of the initial visit." (AR 3671.) As with the trash receptacle requirement,
28

1 the state is not required to adopt the less stringent practicable standard, but rather the maximum
2 extent practicable.

3 Rather than addressing whether these inspections exceed the federal maximum extent
4 practicable standard, the Commission simply found that these inspection requirements are not
5 expressly stated in federal law and thus must be a state mandate. (AR 5591.) For the reasons
6 explained above, the Commission's analysis is bad reasoning and bad policy and must be
7 reversed.

8 Inspection of Industrial Facilities

9 This portion of the permit requires the inspection of certain industrial facilities referred to in
10 the permit as Phase 1 Facilities. (AR 3535-3536.) Like the commercial inspections above, the
11 Clean Water Act requires an NPDES permit for the discharge of pollutants from the County's
12 municipal storm sewer to include "controls to reduce the discharge of pollutants to the maximum
13 extent practicable (33 U.S.C. § 1342(p)(3)(B).) Federal regulations require that these
14 management practices or controls "identify priorities and procedures for inspections" of industrial
15 facilities. (40 C.F.R. § 122.26 (d)(2)(iv)(B) & (C)(1) & (G).) The Commission does not disagree
16 with this federal requirement. (AR 5593.) And the County of Los Angeles specifically included
17 these inspections in its SQMP by stating that "Permittees shall implement an industrial/commercial
18 educational site visit program." (AR 3670-3671.) Thus, both federal law and the County of Los
19 Angeles in its SQMP required inspections of industrial facilities.

20 In addition, there is no evidence that the permit requirement calling for the inspection of
21 industrial facilities is beyond the maximum extent practicable standard imposed on the County of
22 Los Angeles by the Clean Water Act. Again, the Commission failed to address this federal
23 standard and concluded that no federal mandated exist because "the state had issued a statewide
24 general industrial permit (GIASP) that is enforced through the regional boards." (AR 5594.)
25 However, the issue is whether the inspections are required under the Clean Water Act, and not
26 whether any inspections are required under the GIASP permit. At most, the GIASP permit may
27 add additional inspections at the time and expense of the state.

1 Inspection of Construction Sites

2 This portion of the permit provides that “[e]ach Permittee shall implement a program to
3 control runoff from construction activity to storm drains at all construction sites within its
4 jurisdiction.” (AR 3546.) This generally includes implementing best management practices
5 related to the control and containment of construction-related materials, waste, and erosion, as
6 well as the inspection of construction sites and related employee training. (AR 3546-3549.) The
7 County of Los Angeles’ SQMP is extensive and includes detailed requirements to prevent runoff
8 from constructions sites into nearby waters. (AR 3672-3674.) These requirements include
9 implementing best management practices relating to the control and containment of construction-
10 related materials, waste, and erosion, as well as the inspection of construction sites and related
11 employee training. (AR 3672-3674.) And, in addition to the maximum extent practicable
12 standard under the Clean Water Act, federal regulations also require the inspections of
13 construction sites. (40 C.F.R. § 122.26 (d)(2)(iv)(D).)

14 The Commission did not dispute the above, but relied on its fallback position that the
15 inspections and related activities at construction sites are not federal mandates because they are
16 not expressly specified in federal law. (AR 5600.) As discussed above, a federal mandate does
17 not require explicit mention of every mandated activity. Thus, the claimed construction activities
18 do not exceed the maximum extent practicable standard under the Clean Water Act.

19 Based on the foregoing, the permit as a whole and the individual claimed activities do not
20 exceed the maximum extent practicable standard in the Clean Water Act and are thus federal
21 mandates, not state mandates. Consequently, they are not subject to reimbursement under article
22 XIII B, section 6 of the California Constitution, and the Commission decision should be reversed.

23 **V. THE PERMIT AS A WHOLE AND THE CLAIMED MANDATED ACTIVITIES DO NOT**
24 **IMPOSE A NEW PROGRAM OR HIGHER LEVEL OF SERVICE.**

25 The Commission essentially found that the claimed mandated activities were new because
26 they were not required by the previous permit issued to the County of Los Angeles and that they
27 were a program because the requirements were only imposed on the County of Los Angeles.
28 (AR 5603-5604; see *Carmel Valley Fire Protection v. State of California* (1987) 190 Cal.App.3d,

1 521, 537.) While the specific requirements are new to this permit and are only required on the
2 County of Los Angeles, this focus is too narrow for this case. The relevant "activity" for purpose
3 of state mandates law is the federal requirement that the discharge of pollutants from a MS4 for a
4 population the size of Los Angeles County requires an NPDES permit that includes "controls to
5 reduce the discharge of pollutants to the maximum extent practicable."

6 (33 U.S.C. §1342 (p)(3)(B).) This requirement is not new and is imposed on all entities that own
7 or operate a municipal separate storm sewer system. (*Ibid.*) Thus, there is no new program or
8 higher level of service and no state mandate. As discussed above, the Commission's decision to
9 the contrary should be reversed.

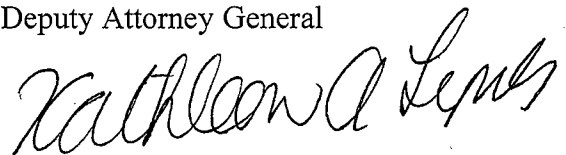
10 CONCLUSION

11 The Commission's decision finding that the claimed mandated activities should be reversed
12 because the NPDES permit is based on federal law, not state law, and is this not subject to
13 subvention. For the same reason, there is no new program or higher level of service and the
14 Commission's finding to the contrary should also be reversed.

15 Dated: June 10, 2011

Respectfully submitted,

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DECLARATION OF SERVICE BY OVERNIGHT COURIER

Case Name: **Department of Finance, et al. v. Commission on State Mandates**

No.: **BS130730**

I declare:

I am employed in the Office of the Attorney General, which is the office of a member of the California State Bar, at which member's direction this service is made. I am 18 years of age or older and not a party to this matter; my business address is: 1300 I Street, Suite 125, P.O. Box 944255, Sacramento, CA 94244-2550.

On June 10, 2011, I served the attached **Petitioners' Memorandum of Points and Authorities in Support of Petition for Writ of Administrative Mandamus** by placing a true copy thereof enclosed in a sealed envelope with the **Golden State Overnight courier service**, addressed as follows:

SEE ATTACHED SERVICE LIST

I declare under penalty of perjury under the laws of the State of California the foregoing is true and correct and that this declaration was executed on June 10, 2011, at Sacramento, California.

Scott De Medeiros
Declarant

Scott De Medeiros
Signature

SERVICE LIST

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ORIGINAL FILED

JUL 26 2011

**LOS ANGELES
SUPERIOR COURT**

SUPERIOR COURT OF THE STATE OF CALIFORNIA

COUNTY OF LOS ANGELES

**STATE OF CALIFORNIA DEPARTMENT
OF FINANCE, STATE WATER
RESOURCES CONTROL BOARD, LOS
ANGELES REGIONAL WATER
QUALITY CONTROL BOARD,**

Petitioners,

v.

COMMISSION ON STATE MANDATES,

Respondent,

**COUNTY OF LOS ANGELES AND THE
CITIES OF ARTESIA, BEVERLY HILLS,
CARSON, NORWALK, RANCHO PALO
VERDES, WESTLAKE VILLAGE,
AZUSA, COMMERCE, VERNON,
BELLFLOWER, COVINA, DOWNEY,
MONTEREY PARK, AND SIGNAL HILL,**

Real Parties in Interest.

Case No. BS130730

**PETITIONERS' REPLY IN SUPPORT
OF PETITION FOR WRIT OF
ADMINISTRATIVE MANDAMUS**

Date: August 10, 2011
Time: 9:30
Dept: 86
Judge: The Hon. Ann I. Jones

Action Filed: July 20, 2010

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**COUNTY OF LOS ANGELES AND
CITIES OF BELLFLOWER, CARSON,
COMMERCE, COVINA, DOWNEY AND
SIGNAL HILL,**
Cross-Petitioners,
COMMISSION ON STATE MANDATES,
Cross-Respondent.
**STATE OF CALIFORNIA DEPARTMENT
OF FINANCE, STATE WATER
RESOURCES CONTROL BOARD, AND
LOS ANGELES REGIONAL WATER
QUALITY CONTROL BOARD,**
Cross-Real Parties in Interest

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INTRODUCTION

The County of Los Angeles is prohibited from discharging pollutants from their municipal storm sewer systems into nearby waterways unless they do so under a permit issued in compliance with the National Pollutant Discharge Elimination System (NPDES). The Clean Water Act requires the County of Los Angeles' NPDES permit to reduce the discharge of pollutants from its storm drains to the *maximum extent practicable*. Under article XIII B, section 6, of the California Constitution, the only way this maximum extent practicable standard could constitute a state mandate would be if the state *voluntarily elected* to require local agencies to implement state obligations under the Clean Water Act, or if the state took action to *exceed* the Act's maximum extent practicable standard. As explained in great detail in petitioners' opening brief, neither occurred here.

The Commission's decision finding that the specific permit requirements are state mandates must be reversed. Its analysis was based on a faulty assumption: that unless federal regulations reduced the maximum extent practicable standard to an explicit requirement, there was no federal mandate. Federal regulations and decisions make clear that the Clean Water Act's technology-forcing requirements for municipal storm water permits are flexible. The specific requirements are derived on a case-by-case basis to reflect pollutant reductions to the maximum extent practicable. The Regional Board previously made its determination that the permit taken as a whole reflected the federal requirement. A superior court found likewise and was affirmed on appeal.

While the Commission may be an expert in state mandates, it has no expertise in the field of water law. The Commission erroneously failed to defer to the Regional Board's implementation of federal water quality law. More specifically, the Commission failed to defer to the Regional Board's determination that the permit as a whole and the more particular permit requirements implement the Clean Water Act's maximum extent practicable standard. Further, even if issue preclusion and deference to the water board's interpretation was not required or appropriate, the Commission failed to articulate how the specific requirements exceeded the demanding *maximum extent practicable* pollutant reduction.

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LEGAL ANALYSIS

I. THE COMMISSION'S FINDINGS THAT THE CHALLENGED PERMIT REQUIREMENTS ARE STATE MANDATES PRESENT QUESTIONS OF LAW AND ARE SUBJECT TO DE NOVO REVIEW.

Whether a statute or executive order, which includes water permits, creates a reimbursable state mandate is a pure question of law. (*Connell v. Superior Court* (1997) 59 Cal.App.4th 382, 395; see also, *Long Beach Unified School Dist. v. State of California* (1990) 225 Cal.App.3d 155, 174.) And questions of law are subject to de novo review. (*City of Richmond v. Commission on State Mandates* (1998) 64 Cal.App.4th 1190, 1105.)

The County of Los Angeles does its best to avoid this well-established standard of review, claiming that it is “inapposite here” because petitioners are not challenging whether a *statute* imposes a state mandate, but are instead challenging whether the requirements of a *permit* impose a state mandate. (Opp. p. 17, ll. 7-14.) It is true that in some cases, findings of fact may be necessary before resolving the ultimate legal issue of whether a state mandate exists. (See *County of Los Angeles v. Commission on State Mandates* (2007) 150 Cal.App.4th 898, 917-918.) However, this does not mean that the court should defer to the Commission’s legal findings or assumptions. In the absence of evidence that the Regional Board somehow exceeded the maximum extent practicable standard, the court should defer to the Regional Board and conclude as a matter of law that the permit and its specific requirements are federal mandates and not state mandates. While review of the Commission’s factual determinations proceeds under the substantial evidence test, whether a state mandate exists is still a pure question of law. (See *City of Richmond, supra*, 64 Cal.App.4th at pp. 1194-95.)

In *County of Los Angeles, supra*, the court noted that questions regarding whether permit requirements are state mandates must first be resolved by the Commission and may present factual issues. (*Id.* at pp. 917-918.) The County of Los Angeles reads this statement to mean that in *all* cases where permit requirements are alleged to be a state mandates, the analysis involves pure factual questions subject to substantial evidence review. This interpretation is wrong. The County is taking the phrase “presents factual issues” out of context. The court in *County of Los Angeles* did not suggest that *all* mandate determinations related to permits turn on factual issues.

1 The court merely acknowledged that factual issues *may* be present. (*County of Los Angeles,*
2 *supra*, 150 Cal.App.4th 918.) This statement does not wipe out the de novo standard of review
3 for determining whether a statute, regulation, or executive order is a state mandate.

4 In any event, these claimed “factual findings” on the part of the Commission are pure
5 fiction created by the County of Los Angeles in an attempt to apply a less stringent standard of
6 review. *The Commission made no factual findings as to whether the claimed permit requirements*
7 *go beyond the maximum extent practicable standard found in the Clean Water Act or its*
8 *implementing regulations.* It simply concluded as a matter of law that the claimed permit
9 requirements were state mandates because they were not expressly provided for in federal law.

10 For example, with respect to the trash receptacle requirement, the Commission found:

- 11 • “[T]he plain language of the federal statute (33 U.S.C. § 1342(p)(3)(B))
12 [maximum extent practicable standard] and regulation (40 C.F.R.
13 § 122.26(d)(2)(iv)(A)(3)) does not require the permittees [sic] to install and
14 maintain trash receptacles at transit stops.” (AR 5584.)
- 15 • “Because installing and maintaining trash receptacles at transit stops is not
16 expressly required of cities and counties or municipal separate storm sewer
17 dischargers in the federal statutes or regulations, these are activities that
18 ‘mandate costs that exceed the mandate in the federal law or regulation.’”
19 (AR 5584.)

20 And the Commission came to the same legal conclusion when it analyzed the inspection
21 requirements in the permit for commercial facilities, certain industrial facilities, and construction
22 sites. As above, the Commission found that the permit requirements were not expressly provided
23 for in federal law and were thus state mandates. It found:

- 24 • There is no express requirement in federal law to inspect restaurants,
25 automotive service facilities, retail gasoline outlets, or automotive dealerships.
26 (AR 5590.) The Commission “cannot read a requirement into a statute or
27 regulation that is not on its face or its legislative history.” (AR 5591.)
- 28 • “Based on the plain language of the federal regulations that are silent on the
types of facilities at issue in the permit, the Commission finds that performing
inspections at restaurants, automotive service facilities, retail gasoline outlets,
or automotive dealerships, as specified in the permit, is not a federal mandate.”
(AR 5591.)
- “[T]he Commission finds that there is no federal mandate on the claimants to
perform inspections of phase I facilities as specified in part 4C2b of the
permit.” (AR 5595.)

- 1 • “[T]he Commission finds that the requirement for local-agency permittees to inspect
2 constructions sites in section 4E of the permit is not a federal mandate.” (AR 5601.)

3 The County disregards that the Commission refused to make any factual findings even
4 though evidence was submitted by the claimants and interested parties. The Commission simply
5 concluded as a matter of law that the challenged permit requirements were state mandates
6 because they were not expressly provided for in federal law. Whether a statute, regulation, or
7 executive order is a state mandate is a pure question of law, and the County’s argument to the
8 contrary goes nowhere. (*Connell, supra*, 59 Cal.App. at p. 395.)

9 **II. THE PERMIT IS NOT A STATE MANDATE, BECAUSE CALIFORNIA MUST IMPLEMENT
10 THE FEDERAL NPDES PROGRAM AND BECAUSE THE PERMIT DOES NOT EXCEED
11 THE MAXIMUM EXTENT PRACTICABLE STANDARD IN FEDERAL LAW.**

11 **A. The NPDES Program Is Mandated By Federal Law.**

12 There is a two-step process to determine whether a program, or in this case, the permit, is
13 mandated by federal law. The first part of the analysis considers whether the state had “no real
14 choice in deciding whether to comply with the federal act.” (*Hayes v. Commission on State
15 Mandates* (1992) 11 Cal.App.4th 1563.) Relying on the Commission’s analysis, the County of
16 Los Angeles concludes that state compliance with the Clean Water Act’s NPDES program was
17 voluntarily. (Opp. p. 19, ll. 13-21, p. 20, ll. 1-2.) As explained in petitioners’ opening brief, the
18 Commission and the County are mistaken. The NPDES program is not optional; it is coercive on
19 the states and localities in every legal and practical sense.

20 The federal Clean Water Act requires the County of Los Angeles to have an NPDES permit
21 for municipal storm water discharges and compels the County to reduce the discharge of
22 pollutants to the maximum extent practicable. Neither the state nor the County of Los Angeles
23 has a true choice in the permit or the requirement to reduce pollutants to the maximum extent
24 practicable. (*City of Sacramento v. State of California* (1990) 50 Cal.3d 51, 76.) If California did
25 not administer its own water quality program through the Porter-Cologne Act, California’s
26 dischargers, both private and governmental, would still have to comply with federal law, but
27 would also be subject to direct regulation from the federal government. (See 33 U.S.C.
28

1 § 1362(4)-(5) [defining “person” to include “municipality,” and “municipality” to include public
2 entities like the flood control district, county, and cities] & § 1342(p)(iii) [establishing technology
3 standard of “maximum extent practicable” for municipal separate storm sewer systems].)

4 Since the state has no true choice but to comply with the Clean Water Act in establishing
5 NPDES permits that require pollutant reductions to the maximum extent practicable, such permits
6 are based on federal requirements and are not state mandates. (*San Diego Unified School Dist. v.*
7 *Commission on State Mandates* (2004) 33 Cal.4th 859, 880.)

8 **B. The Mere Flexibility of the Maximum Extent Practicable Standard Does**
9 **Not Mean that the NPDES Permit Exceeds This Standard.**

10 The second part of the federal mandates analysis focuses on whether the permit goes
11 beyond the requirements of federal law. (Gov. Code, § 17556; *San Diego Unified School Dist,*
12 *supra*, 33 Cal.4th at p. 880.) The federal requirement applicable to the discharge of pollutants
13 through municipal storm sewer systems is the maximum extent practicable standard.
14 (33 U.S.C. § 1342(p)(3)(B).) Congress established this flexible maximum extent practicable
15 standard so that administrative bodies would have “the tools to meet the fundamental goals of the
16 Clean Water Act in the context of storm water pollution.” (*Building Industry Ass'n of San Diego*
17 *County v. State Water Resources Control Board* (2004) 124 Cal.App.4th 866, 884.) It was
18 “designed to allow permit writers to use a combination of pollution controls that, as Congress
19 noted, ‘may be different in different permits.’” (*In re City of Irving, Texas, Municipal Separate*
20 *Storm Sewer System* (July 16, 2001) 10 E.A.D. 111 (E.P.A.), *6, attached as Exhibit A to
21 Petitioners’ Request for Judicial Notice in Support of Reply Brief.) And it includes the flexibility
22 “to tailor permits to the site-specific nature of MS4,” and the flexibility “to direct permit
23 requirements at the sources of pollution in the MS4 rather than solely at the end of the pipe.”
24 (*Ibid.*) As explained by the U.S. EPA:

25 *Congress therefore created the “maximum extent practicable” (“MEP”) standard*
26 *and the requirement to “effectively prohibit non-storm water discharges” into the*
27 *MS4 in an effort to allow permit writers the flexibility necessary to tailor permits to*
28 *the site-specific nature of MS4 discharges. Legis. Hist. at 646; House Committee on*
Public Works and Transportation, Section-by-Section Analysis (100th Sess. 1987),
reprinted in 1987 U.S.C.C.A.N. (101 Stat. 7) 5, 38-39; see also 55 Fed. Reg. at
48,038. Included in that flexibility was the capacity to direct permit requirements at

1 *the sources of pollution in the MS4 rather than solely at the end of the pipe.* 55 Fed.
2 Reg. at 48,038. Thus, the MS4 permit requirements set forth under *CWA*
3 § 402(p)(3)(iii) were designed to allow permit writers to use a combination of
4 pollution controls that, as Congress noted, “may be different in different permits;”
5 not all of the types of controls listed in § 402(p)(3)(iii) are required to be incorporated
6 into each MS4 permit. 1987 U.S.C.C.A.N. at 39.

7 (*Ibid*, emphasis added.)

8 The County of Los Angeles disregards the very nature of this flexible maximum extent
9 practicable standard and simply concludes, as the Commission did, that if the permit requirements
10 are not expressly provided for in the Clean Water Act or its implementing regulations, then there
11 is no federal mandate. (Opp. p. 24, ll. 3-8.) However, by definition, a flexible standard is not
12 intended to be applied in the same manner under different circumstances.

13 Likewise, a flexible standard does not lend itself to the monolithic federal regulations that
14 the Commission would say establishes a federal mandate. In this respect, the Commission was on
15 a quixotic quest doomed to relegate virtually any federal municipal storm water permit
16 requirement to a state mandate. Under the Commission’s analysis, a permit requirement that was
17 merely practicable or easy (not even practicable to the “maximum extent”) would be a state
18 mandate if U.S. EPA failed to express the requirement in a regulation. Such a result is contrary to
19 the California Supreme Court’s teachings in *City of Sacramento*, which looks to the federal nature
20 of the requirement. (50 Cal.3d 51, 76.)

21 The County of Los Angeles also ignores the administrative and judicial proceedings that
22 have found this very permit to be within the maximum extent practicable standard. The Regional
23 Board made quasi-judicial findings that the permit reflected the Clean Water Act’s maximum
24 extent practicable requirements; permittees challenged that permit and those findings; and a trial
25 court and court of appeal rejected the permittees’ arguments and upheld the permit. (Statement of
26 Decision From Phase I Trial on Petitions for Writ of Mandate (Mar. 24, 2005), *In Re Los Angeles*
27 *County Municipal Storm Water Permit Litigation*, Los Angeles County Super. Ct., Lead Case
28 No. BS080548 affirmed by *County of Los Angeles v. California State Water Resources Control*
Bd. (2006) 143 Cal.App.4th 985, attached as Exhibit A to Petitioners’ Request for Judicial Notice
in Support of Opening Brief.) The trial court’s finding that the permit taken as a whole reflects

1 the maximum extent practicable standard is entitled to preclusive effect on whether or not the
2 permit exceeds the requirements of federal law. (*Y.K.A. Industries, Inc. v. Redevelopment Agency*
3 *of City of San Jose* (2009) 174 Cal.App.4th 339, 356.)

4 In its opposition, the County of Los Angeles attempts to avoid this result by indicating that
5 the Court of Appeal in *County of Los Angeles v. Commission on State Mandates, supra*,
6 150 Cal.App.4th 898, 914 indicated that the Commission must make a determination in the first
7 instance and that there could be provisions of a permit that exceeded federal requirements. (Opp.
8 at p. 25-26.) The water boards do not deny that they *could* impose requirements in excess of
9 federal law. (See Opening Brief pp. 6-7.)¹ This case is not about requirements in excess of
10 federal law though. The Commission failed to recognize and afford deference to the prior
11 administrative and judicial decisions finding that the permit taken as a whole reflected the federal
12 maximum extent practicable standard.

13 Further, the County of Los Angeles attempts to avoid the result by arguing that the specific
14 requirements subject to the test claim exceed the federal requirements. First, this argument fails
15 because the County advances no authority to demonstrate that one permit provision can require
16 more than the maximum extent practicable, when the permit as a whole does not. The federal
17 standard is flexible and may require more in some areas and less in others. (See, e.g.,
18 55 Fed.Reg. 47990, 48052-54 (Nov. 16, 1990); see also *In re City of Irving, supra*, 10 E.A.D. 111
19 at *6.) Second, neither the County of Los Angeles, nor the Commission, provided evidence or
20 made findings that the modest effort to place receptacles at transit stops is not practicable, let

21 ¹ The County's argument regarding the State Water Resources Control Board's
22 precedential decision (Water Quality Order WQ 2001-015) is irrelevant to this larger point. (See
23 Opp. at pp. 22-23.) The issue in that petition concerned an attempted *prohibition* that required all
24 discharges *into* the municipal storm sewer system to have had their pollutants reduced to the
25 maximum extent practicable. The State Board's decision speaks to allowing flexibility to decide
26 on a mix of pollutant reductions before reaching the storm sewer system and after, so long as the
27 overall pollutant reductions are to the maximum extent practicable. Water quality order WQ
28 2001-015 does not undermine U.S. EPA's recognition that the municipal storm water program
will include programs and requirements that reduce pollutants prior to reaching the storm sewer.
(*In re City of Irving, supra*, 10 E.A.D. 111 at *6 ["Included in that flexibility was the capacity to
direct permit requirements at the sources of pollution in the MS4 rather than solely at the end of
the pipe. 55 Fed. Reg. at 48,038."]) Further, nothing undermines the Superior Court's prior
decision that the permit taken as a whole reflects the federal requirement to reduce pollutant
discharges to the maximum extent practicable. See also discussion at Section III, post.

1 alone not practicable to the maximum extent. Instead, the Commission merely looked for an
2 absence of an identical requirement spelled out in federal regulations.

3 The Clean Water Act's maximum extent practicable standard is the key to understanding
4 the NPDES permit requirements. Simply because a federal law is flexible does not mean there is
5 no federal mandate. The permit as a whole, including the challenged provisions, is based on the
6 Clean Water Act's maximum extent practicable standard and is not a state mandate.

7 **C. There Is No Evidence That the Claimed Permit Requirements Go Beyond**
8 **Federal Law.**

9 The County of Los Angeles claims that certain evidence in the administrative record relied
10 on by the Commission shows that the specific permit requirements for trash and inspections
11 exceed federal law and are state mandates. (Opp. p. 18, ll. 8-19, p. 27, ll. 13-18.) However, as
12 discussed above, the Commission did not make any factual findings. It merely concluded as a
13 matter of law that the specific permit requirements were not expressly provided for in federal law
14 and thus were not federal mandates. In any event, the evidence does not show or even suggest
15 that the specific permit requirements exceed federal law.

16 **1. Placement and Maintenance of Trash Receptacles at Transit Stops**

17 The trash receptacle requirement in the permit is within the scope of the maximum extent
18 practicable standard imposed on the County of Los Angeles under the Clean Water Act, and the
19 Commission has not cited any contradicting evidence. Management practices required under
20 federal law include "practices for operating and maintaining public streets, roads and highways
21 and procedures for reducing the impact on receiving waters of discharges from municipal storm
22 sewer systems," (40 C.F.R. § 122.26 (d)(2)(iv)(A)(3).) Despite these federal requirements, the
23 County of Los Angeles claims that the trash receptacle requirement is a state mandate.

24 The County of Los Angeles first hypothesizes that "[i]f installation and maintenance of
25 trash receptacles were a federal requirement, by reason of the MEP standard or otherwise, this
26 requirement would have been present in EPA-issued permits." (Opp. p. 26, ll. 18-21.) Not so.
27 The Clean Water Act requires dischargers such as the County of Los Angeles "to reduce the
28 discharge of pollutants to the maximum extent practicable." (33 U.S.C. § 1342(p)(3)(B).)

1 NPDES permits “ ‘evolve and mature over time’ and must be flexible to reflect changing
2 conditions that result from program development and implementation and corresponding
3 improvements in water quality.” (55 Fed.Reg. 47990, 48052; see also *In re City of Irving, supra*,
4 10 E.A.D. 111 at *6.) Under federal law, each NPDES permit must be tailored to the unique
5 characteristics of the surrounding water ways. Thus, requirements in one permit would logically
6 be different then the requirements in other permits unless of course the surrounding circumstances
7 were identical. As U.S. EPA stated when establishing the municipal storm water permitting
8 regulations: “The language of [Clean Water Act] section 402(p)(3) contemplates that, because of
9 the fundamentally different characteristics of many municipalities, municipalities will have
10 permits tailored to meet particular geographical, hydrological, and climatic conditions.” (55
11 Fed.Reg. 47990, 48053.)

12 The five states in which NPDES permits were issued by the U.S. EPA as of 2008 included
13 Massachusetts, New Hampshire, Idaho, Alaska, and New Mexico.² (AR 3895.) Water quality
14 issues in southern California cannot realistically be the same or similar to water quality issues in
15 Alaska or Idaho. As such, the NPDES permits are all different and unique and consistent with
16 federal law. Thus, it is of no consequence that U.S EPA-issued permits, or any other state-issued
17 permits, do not include a specific requirement regarding placement and maintenance of trash
18 receptacles. The only relevant considerations are the best management practices that implement
19 the maximum extent practicable standard for the County of Los Angeles’ discharges through its
20 storm systems.

21 And the County of Los Angeles incorrectly infers that the U.S. EPA considers the trash
22 receptacle requirement to be outside the scope of the maximum extent practicable standard
23 because the requirement is not present in U.S. EPA issued NPDES permits. (Opp. p. 26, ll. 20-
24 23, p. 27, ll. 1-2.) This inference is wrong. According to the U.S. EPA, the trash receptacle
25 requirement is well within the maximum extent practicable standard. (AR 3797-3799.) Neither

26 ² This list is based on a letter from the County of Los Angeles’ consultant dated June 17,
27 2008 and does not represent the current state of affairs. Alaska now issues NPDES permits. The
28 list of states with the U.S. EPA approval to issue NPDES permits can be found at
http://cfpub1.epa.gov/npdes/statestats.cfm?program_id=12

1 the Commission nor the County of Los Angeles refute this unequivocal statement of the federal
2 agency charged with overseeing the NPDES program. The County of Los Angeles' inference to
3 the contrary cannot reasonably override this express statement from the U.S. EPA.

4 Next, the County of Los Angeles speculates that because the trash receptacle requirement
5 was not part of the previous permits issued to the County, the obligation is not required by federal
6 law. (Opp. p. 27, ll. 3-6.) Once again, the County seems to misunderstand the NPDES program
7 and the Clean Water Act. When an NPDES permit is renewed, reissued or modified, it generally
8 must be at least as stringent as the prior permit. (33 U.S.C. § 1342 (o); 40 C.F.R. 122.44 (l).)
9 The U.S EPA "anticipates that storm water management programs will evolve and mature over
10 time. The permits for discharges from municipal separate storm sewer systems will be written to
11 reflect changing conditions that result from program development and implementation and
12 corresponding improvements in water quality." (55 Fed.Reg. 48052.) Thus, federal law
13 anticipates that permit requirements will change over time and become more stringent. A new
14 requirement in a permit alone does not mean that the requirement is beyond the maximum extent
15 practicable standard in federal law.

16 Last, the County of Los Angeles, similar to the Commission, concludes that the trash
17 receptacle requirement goes beyond federal law because it is not specifically required under the
18 Clean Water Act or its implementing regulations. As explained in this reply and the opening
19 brief, the Clean Water Act's NPDES permit system requires states to develop standards based on
20 the unique conditions of particular waterways. Thus, the maximum extent practicable standard is
21 necessarily flexible, rather than a one-size-fits-all standard. (*Building Industry Ass'n of San*
22 *Diego County, supra*, 124 Cal.App.4th at p. 874.)

23 **2. Inspection Provisions for Commercial and Industrial Facilities and**
24 **Construction Sites**

25 Inspections are *necessary* to effectively control the discharge of pollutants to the maximum
26 extent practicable and assure compliance with water quality standards. "Federal law, either
27 expressly or by implication, requires NPDES permittees to perform inspections for illicit
28 discharge prevention and detection; landfills and other waste facilities; industrial facilities;

1 construction sites; certifications of no discharge; non-stormwater discharges; permit compliance;
2 and local ordinance compliance.” (*City of Rancho Cucamonga v. Regional Water Quality*
3 *Control Bd.-Santa Ana Region* (2006) 135 Cal.App.4th 1377, 1390.) Thus, the County of Los
4 Angeles’ claim that the inspections requirements are state mandates is without merit.

5 **a. Inspection of Commercial Facilities**

6 The County lists five reasons why the requirement for inspection of commercial facilities
7 goes beyond the maximum extent practicable standard.

8 First, the County argues that the U.S EPA issued permits do not include the inspection of
9 commercial facilities. (Opp. p. 28, ll. 13-15.) This argument goes nowhere. As explained above,
10 different permits have different requirements based on the unique circumstances of each permit.
11 The absence of certain commercial inspections in other permits does not mean that such a
12 requirement is beyond the maximum extent practicable standard with respect to this permit.
13 Indeed, the U.S. EPA has concluded that the inspection requirement is within the maximum
14 extent practicable standard. (AR 3797-3800.)

15 Second, the County of Los Angeles argues that the inspection requirements were not in
16 previous permits and thus are beyond the maximum extent practicable standard. (Opp. p. 28,
17 ll. 15-18.) As explained above, federal law anticipates that permit requirements will change over
18 time and become more stringent. A new requirement in a permit alone does not mean that the
19 requirement is beyond the maximum extent practicable standard in federal law. Moreover, as
20 explained by U.S. EPA, these requirements evolve over time based on site-specific data
21 indicating water quality problems. (See 55 Fed.Reg. 48052 [“permits for discharges from
22 municipal separate storm sewer systems will be written to reflect changing conditions that result
23 from program development and implementation and corresponding improvements in water
24 quality.”]) In this case, the additional requirements were developed after the permittees
25 developed information identifying certain activities that were the greatest source of storm water
26 pollution in Los Angeles County. (AR 3503.) This is exactly the program evolution expected by
27 the Clean Water Act.

28

1 Third, the County of Los Angeles claims that since 1969 the state has had the “obligation”
2 to inspect the commercial facilities identified in the permit “to prevent the discharges of waste
3 that could affect the quality of the waters of the state” under Water Code section 13267,
4 subdivision (c). (Opp. p. 28, ll. 18-21.) According to the County, the Regional Board “freely
5 chose to shift those obligations to the Cities” and created a state mandate. (Opp. p. 28, ll. 21-23.)
6 The County has somehow equated the state’s general authority to inspect “facilities” under
7 section 13267 to the County’s separate and distinct obligations under the permit and the Clean
8 Water Act.

9 Under Water Code section 13267, subdivision (a), “[a] regional board . . . may investigate
10 the quality of any waters of the state within its region.” And during this investigation, “the
11 regional board may inspect the facilities of any person to ascertain whether the purposes of this
12 division are being met and waste discharge requirements are being complied with.” (Wat. Code,
13 § 13267, subd. (c).) The inspection must “be made with the consent of the owner or possessor of
14 the facilities or, if the consent is withheld, with a warrant,” with the exception of an “emergency
15 affecting the public health or safety.” (*Ibid.*)

16 A regional board’s general authority to inspect “facilities” is in no way related to the
17 County of Los Angeles’ obligations to inspect certain commercial facilities under the Clean
18 Water Act. “The Regional Board may conduct its own inspections but permittees must still
19 enforce their own laws at these sites.” (*City of Rancho Cucamonga, supra*, 135 Cal.App.4th at
20 p. 1390.) The issue is whether the inspections are required under the Clean Water Act, and not
21 whether any inspections are required under section 13267. At most, section 13267, subdivision
22 (c), adds additional inspections at the time and expense of the state.

23 Indeed, if you take the County’s argument to its logical conclusion, then dischargers like
24 the County of Los Angeles could avoid inspections or other permit requirements merely because
25 the state has some similar, general authority in the same area. This is contrary to the Clean Water
26 Act and its implementing regulations that place the burdens of discharging pollutants through
27 storm sewers on the discharger.

28

1 Fourth, the County of Los Angeles claims that “[t]he Administrator of the U.S. EPA, and
2 the head of the water division for U.S. EPA Region IX, ‘have specifically stated that a
3 municipality has an obligation under a stormwater permit to assure compliance with local
4 ordinances; *the state retains responsibility to inspect for compliance with state law, including*
5 *state-issued permits.’”* (Opp. p. 28, ll. 23-26, p. 29, ll. 1-2, emphasis in original.) This quote is
6 from the Commission’s statement of decision, which simply paraphrases one of the County of
7 Los Angeles’ arguments. It is not a formal order from the U.S. EPA.

8 This statement is based on a July 21, 2001 letter from the U.S. EPA to Congressman David
9 Dreier responding to his concern that local governments would be forced to pay for inspections at
10 industrial and commercial sites that were the responsibility of the state. (AR 3878.) The letter
11 generally explains that there may be some “shared responsibilities” between the state and the
12 local government but that the state is responsible for its own permit obligations, not those of the
13 actual dischargers. (AR 3878) By no means does this letter suggest the state, as opposed to the
14 actual discharger, is solely responsible for inspections at commercial and industrial facilities as
15 claimed by the County.

16 In any event, as discussed above in response to the County’s third point, the issue is
17 whether the inspections are required under the Clean Water Act, and not whether the inspections
18 are required under a state’s general permitting authority. At most, this general authority adds
19 additional inspections at the time and expense of the state.

20 Last, the County of Los Angeles repeats its claim that federal law does not expressly
21 provide for the required inspections, so the inspections are not mandated by federal law. (Opp.
22 p. 29, ll. 3-5.) As explained throughout petitioners’ opening brief and this reply, this argument is
23 contrary to the law and goes nowhere.

24 **b. Phase I Industrial Facilities**

25 In the County of Los Angeles’ view, there are eight grounds supporting its theory that the
26 permit requirement for the inspection of industrial facilities is a state mandate. (Opp. p. 29, ll. 24-
27 27, p. 30, ll. 1-22.) The County is wrong and none of the purported grounds support a state
28 mandate. Grounds five through eight simply repeat the arguments presented by the County above

1 concerning the trash and commercial facilities inspections. Since the arguments and petitioners'
2 responses are the same, petitioners will not repeat them in this section.

3 The County of Los Angeles claims that the inspection requirement in the permit is a state
4 mandate because “[t]he state, through the State Board, chose the alternative of having a state-
5 wide general permit (the GIASP) as opposed to requiring such facilities to obtain individual
6 permits.” (Opp. p. 29, ll. 24-27.) This makes no sense. A state-wide general permit can coexist
7 with the permit issued to the County of Los Angeles, and there is no evidence to the contrary.
8 The issue is whether the inspections are required under the Clean Water Act, and not whether the
9 inspections are required under a state’s general permitting authority. At most, this general
10 authority adds additional inspections at the time and expense of the state. It does not shift a state
11 obligation to the County and is does not create a state mandate.

12 Next, the County of Los Angeles claims that when the State Water Resources Control
13 Board (State Board) adopted the general industrial permit it stated that the Regional Boards
14 should enforce its provisions. (Opp. p. 30, ll. 1-3.) This is just another recycled version of the
15 argument that the state is shifting its obligations under general state-issued permits to the County
16 by way of the inspection requirement in the permit. The general industrial state-wide permit has
17 nothing to do with County of Los Angeles’ responsibilities under the permit at issue in this
18 litigation. The County is trying to blur the line between its permit obligations as the discharger of
19 pollutants through its storm sewers and the state’s obligations and create one large state
20 obligation. The County’s responsibilities under the permit are separate and distinct from the
21 duties imposed on the state by state-issued general permits. The relevant question here is whether
22 the industrial inspection requirement in the permit is required under the Clean Water Act or its
23 implementing regulations. The state-issued general permit is simply not relevant to this inquiry.
24 (See *City of Rancho Cucamonga, supra*, 135 Cal.App.4th at p. 1390.)

25 The last two arguments presented by the County of Los Angeles can be quickly disregarded
26 for the reasons in the preceding two paragraphs. The County’s statement that the State Board can
27 collect a fee for state inspections required under the state-issued permit is not relevant. (Opp.
28 p. 30, ll. 4-6.) These inspections are independent from the obligations imposed on the County as

1 a discharger under the permit. And the claim that there were some negotiations between the
2 County and the Regional Board regarding contracting to the County state inspections has no
3 bearing on whether the permit activity for industrial inspections is a state mandate. (Opp. p. 30,
4 ll. 7-12.)

5 **c. Inspection of Construction Sites**

6 As with the other challenged permit requirements, the County of Los Angeles provides a
7 list of short statements that allegedly support its claim that the permit requirement for inspecting
8 construction sites is a state mandate. (Opp. p. 31, ll. 14-26, p. 32, ll. 1-5.) Because every
9 statement has been presented in the context of the other challenged permit requirements,
10 petitioners will not repeat them here but refers the court to the preceding analysis.

11 Based on the foregoing, there is no evidence that even remotely suggests that the specific
12 permit requirements exceed federal law, just speculation and conjecture on the part of the County
13 of Los Angeles. The permit requirements are based on federal law and thus are not state
14 mandates.

15 **III. THE PERMIT LAWFULLY REGULATES DISCHARGES TO REDUCE THE**
16 **INTRODUCTION OF POLLUTANTS INTO THE MUNICIPAL STORM DRAIN SYSTEM.**

17 In an effort to get around the above administrative and judicial findings that the permit as a
18 whole does not exceed the maximum extent practicable standard, the County of Los Angeles
19 claims that the specific trash and inspection requirements in the permit are not subject to the
20 maximum extent practicable standard. (Opp. p. 22, ll. 1-10.) According to the County, the State
21 Board has made a broad-based determination that the maximum extent practicable standard does
22 not apply to the “entry of pollutants *into* the storm sewer system.” (Opp. p. 22, ll. 1-10, emphasis
23 in original.) The State Board made no such broad-based determination: the County has
24 misinterpreted the State Board’s ruling.

25 This claimed administrative proclamation by the State Board was part of a 2001
26 administrative decision involving different circumstances and different permit requirements. In
27 that case, the challengers claimed that permit provision A.3, Discharge Prohibition, requiring that
28 “treatment and control discharges must always occur prior to entry in the MS4” is too broad.

1 (Exh. 1, p. 9, attached to the County of Los Angeles' Request for Judicial Notice.) The State
2 Board agreed, finding that the "specific language in this prohibition too broadly restricts all
3 discharges 'into' an MS4, and does not allow flexibility to use regional solutions, where they
4 could be applied in a manner that fully protects receiving waters." (*Id.* at p. 10.) The State Board
5 went on to explain that "[i]t is important to emphasize that dischargers into MS4s continue to be
6 required to implement a full range of BMPs, including source control." (*Ibid.*) Consistent with
7 the maximum extent practicable standard, the State Board was critical of an absolute standard that
8 did not provide the Regional Board with the flexibility to determine the appropriate best
9 management practices, including source control. The decision did not consider the broad issue of
10 whether the Clean Water Act prohibits control of discharges into a municipal storm sewer system.
11 To interpret this determination to mean that the maximum extent practicable standard does not
12 apply to trash, inspections, or other source control mechanism is absurd and inconsistent with
13 U.S. EPA and court decisions.

14 And while the County of Los Angeles is required to obtain an NPDES permit to discharge
15 pollutants *from* their municipal storm sewer systems, by no stretch of the imagination does this
16 mean that the Clean Water Act exempts from municipal permit requirements the discharge of
17 pollutants *into* the system. The maximum extent practicable standard includes the flexibility to
18 "*direct permit requirements at the sources of pollution in the MS4 rather than solely at the end of*
19 *the pipe* [citation omitted]." (*In re City of Irving, supra*, 10 E.A.D. 111 at *6, emphasis added.)

20 The Clean Water Act itself uses the words "in" or "into," not just "from." Section
21 1342(p)(3)(B)(ii) requires that permits, like the one at issue before this court, "shall include a
22 requirement to effectively prohibit non-stormwater discharges into the storm sewers." Also,
23 federal regulations require information about discharges "into" storm drains (see e.g.,
24 40 C.F.R. § 122.26(d)(1)(iv)), including a program "to reduce pollutants in storm runoff from
25 construction sites to the municipal storm sewer system" (40 C.F.R. § 122.26(d)(2)(iv)(D);
26 programs "to identify illicit connections to the municipal storm sewer system,"
27 (40 C.F.R. § 122.26(d)(1)(v)(B)); and programs that specify "source control measures to reduce
28 pollutants from runoff from commercial and residential areas" as well as a comprehensive

1 “master plan to develop, implement and enforce controls to reduce the discharge of pollutants
2 from municipal storm sewers which receive discharges from areas of new development and
3 significant redevelopment.” (40 C.F.R. § 122.26(d)(2)(iv)(A).)

4 And on a common sense level, controlling pollution at the source before it reaches the
5 storm sewer system allows for less expensive controls—like public education, street cleaning, and
6 screens—at the beginning of the system and avoids the difficulties of cleaning up a massive
7 amount of pollutants once they are in the system and receiving waters.

8 Thus, neither the Clean Water Act nor its implementing regulations limits the contents of
9 permits and their programs to discharges “from” storm sewer systems. Instead, the Clean Water
10 Act requires the permitting agency to “require controls to reduce the discharge of pollutants,”
11 including, inter alia, management practices and control techniques to prevent pollution at the
12 source. (33 U.S.C. § 1342(p)(3)(B)(iii).)

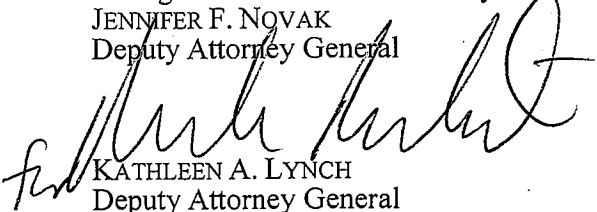
13 CONCLUSION

14 The permit is not a state mandate, because California must implement the federal NPDES
15 program and because the permit does not exceed the maximum extent practicable standard in
16 federal law. The Commission’s decision finding that the permit and the claimed mandated
17 activities are state mandates should be reversed.

18
19 Dated: July 26, 2011

Respectfully submitted,

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DECLARATION OF SERVICE BY OVERNIGHT COURIER

Case Name: **Department of Finance, et al. v. Commission on State Mandates**

No.: **BS130730**

I declare:

I am employed in the Office of the Attorney General, which is the office of a member of the California State Bar, at which member's direction this service is made. I am 18 years of age or older and not a party to this matter; my business address is: 300 S. Spring Street, Los Angeles, CA 90013-1230.

On July 26, 2011, I served the attached **Petitioners' Reply in Support of Petition for Writ of Administrative Mandamus** by placing a true copy thereof enclosed in a sealed envelope with the **OnTrac**, addressed as follows:

SEE ATTACHED SERVICE LIST

I declare under penalty of perjury under the laws of the State of California the foregoing is true and correct and that this declaration was executed on July 26, 2011, at Los Angeles, California.

Rosa Michel
Declarant


Signature

SERVICE LIST

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In the Supreme Court of the State of California

STATE DEPARTMENT OF FINANCE, et
al.,

Plaintiffs and Respondents,

v.

COMMISSION ON STATE MANDATES,

Defendant and Respondent,

COUNTY OF LOS ANGELES, et al.,

Real Parties in Interest
and Appellants.

Case No. S214855

SUPREME COURT
FILED

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Frank A. McGuire Clerk

Deputy

Second Appellate District, Division One, Case No. B237153
Los Angeles County Superior Court, Case No. BS130730
Hon. Ann I. Jones, Judge

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GLOSSARY

Respondents provide the following glossary of abbreviations used in this brief:

Abbreviation	Term
Alameda Amici	Amici Curiae Alameda Countywide Clean Water Program, City/County Association of Governments of San Mateo County, and Santa Clara Valley Urban Runoff Pollution Prevention Program
California Counties Amici	Amici Curiae California State Association of Counties and the League of California Cities
Clean Water Act	Federal Water Pollution Control Act (33 U.S.C. § 1251 et seq.)
Commission	Commission on State Mandates
EPA	United States Environmental Protection Agency
MS4	Municipal Separate Storm Sewer System
NPDES	National Pollutant Discharge Elimination System
Orange County Amici	Amici Curiae County of Orange, Orange County Flood Control District
Porter Cologne Act	Porter-Cologne Water Quality Control Act (Wat. Code, § 13000 et seq.)
Regional Board	California Regional Water Quality Control Board, Los Angeles Region
San Diego Amici	Amici Curiae County of San Diego and 18 Cities in San Diego County
State Board	State Water Resources Control Board
Stormwater Association Amici	Amici Curiae California Stormwater Quality Association, Riverside County Flood Control and Water Conservation District, and County of Riverside
County	Real Parties in Interest and Appellants County of Los Angeles and Cities of Bellflower, Carson, Commerce, Covina, Downey, and Signal Hill
Water Boards	The State Water Resources Control Board and nine regional water quality control boards

INTRODUCTION

Respondents Department of Finance, Regional Board, and State Board submit this consolidated answer to the amicus briefs submitted by the California Counties Amici, the Stormwater Association Amici, the San Diego Amici, the Orange County Amici, and the Alameda Amici.¹

The thrust of the amicus briefs is that the decisions below are at odds with the California Constitution and imperil the Commission's jurisdiction. But the Constitution does not require the State to pay for local government compliance with federal mandates. The central issue in this case is how the Commission should have decided what federal law requires when it considered whether the County's MS4 permit requirements at issue are federal or state mandates. The amicus briefs offer no analysis that answers that question.

ARGUMENT

I. THE COUNTY'S PERMIT DID NOT IMPOSE REQUIREMENTS THAT EXCEEDED THOSE IMPOSED BY THE CLEAN WATER ACT.

Courts have long held that the California Constitution does not require the State to fund local government entities' compliance with federal mandates. (See, e.g., *San Diego Unified School Dis. v. Com. on State Mandates* (2004) 33 Cal.4th 859, 888; *County of Los Angeles v. Com. on State Mandates (Davis)* (1995) 32 Cal.App.4th 805, 816; see also Gov. Code, § 17556, subd. (c).) Here, the Regional Board determined in a quasi-judicial proceeding that the County's MS4 permit did not exceed the federal maximum-extent-practicable standard—that is, the permit and its specific terms were required by federal law. (See 1 CT 48; *City of Rancho*

¹ A Glossary following the Table of Authorities sets forth the full names of each group of amici curiae as well as other abbreviations used in this brief.

Cucamonga v. Regional Water Quality Control Bd. – Santa Ana Region (2006) 135 Cal.App.4th 1377, 1385 [NPDES permitting process is quasi-judicial].) The Court of Appeal affirmed that decision, holding that the challenged permit did not exceed federal requirements. (*County of Los Angeles v. California State Water Resources Control Bd.* (2006) 143 Cal.App.4th 985 (*State Water Board*) [unpublished section G.3 at 3 AR 3259-3260].) Indeed, four courts have now made the same ruling.² (*Ibid.* [Court of Appeal decision in direct permit challenge]; 3 CT 418-419 [trial court decision in direct permit challenge]; Slip Op. 35-36 [Court of Appeal decision reviewing Commission decision]; 4 CT 679-682 [trial court decision reviewing Commission decision].) Thus, in this case, the permit is a federal mandate and not subject to the Constitution’s subvention requirements.

The amici, like the County, cannot avoid the Constitution’s limitations. The Alameda Amici argue that “the scope and application of the federal mandate exception to subvention requirements must be construed narrowly to effectuate Proposition 4’s purposes.” (Alameda Br. 15.) To support their argument, they recount the origins of Proposition 4, which added article XIII B to the Constitution. (See Alameda Br. 15-19.) The salient fact from that background, however, is that the voters explicitly said that the spending limits in article XIII B do not apply to federal mandates. (See Cal. Const., art. XIII B, § 9, subd. (b).) And Proposition 4 did not, as the Alameda Amici suggest, license the Commission to interpret federal law differently than it would be interpreted in court or, indeed, in any judicial or quasi-judicial proceeding.

² Those decisions comport with the EPA’s views, which it expressed in a 2008 letter. (See 3 AR 3798-3799.) Tellingly, out of the seven substantive briefs arguing for reversal in this case, not one mentions the EPA’s position.

Various other amici contend that the County's MS4 permit was issued under the state Porter Cologne Act and not the federal Clean Water Act, and that the Court of Appeal therefore erred by holding that the challenged permit terms were required by federal law. (See San Diego Br. 6-8; California Counties Br. 10-11; see also Orange County Br. 7.) The County has not made that argument, no court below has heard it or decided it, and it is incorrect. State laws that implement federal mandates are themselves federal mandates. (See, e.g., *Davis, supra*, 32 Cal.App.4th at p. 816 [“The courts have concluded that no state mandate exists if the requirements or provisions of a state statute are, nevertheless, required by federal law”].)

The fact that a state agency issued the permit does not transform a federal mandate into a state mandate because the requirement for a NPDES permit stems from federal law. Pollutant dischargers, like the County and other MS4 operators, must comply with the Clean Water Act. (See 33 U.S.C. §§ 1311(a), 1342.) All large and medium MS4 operators must obtain a permit that complies with the federal act's requirements. This is true whether a state or the federal government administers the NPDES permitting program. (See, e.g., 40 C.F.R. §§ 122.26(a)(3)(i), 123.25(a)(9).) A permit must effectively prohibit non-stormwater discharges into the MS4 and also, at a minimum, contain controls designed to reduce the discharge of pollutants to the maximum extent practicable. (See 33 U.S.C. § 1342(p)(3)(B)(ii)-(iii).) The Water Boards have no authority to relax that requirement. (See *City of Burbank v. State Water Resources Control Bd.* (2005) 35 Cal.4th 613, 626-627 (*City of Burbank*) [noting that principles of federal supremacy prohibit Water Boards from relaxing federal permitting standards].) To ensure that state permit issuers meet these requirements, the EPA retains control over the state issuer's program; it may review permits, veto them, enforce them, and rescind a state issuer's authority to issue them. (See 33 U.S.C. § 1342(c), (d), (i); 40 C.F.R. § 123.44.) And

the Clean Water Act authorizes citizens to enforce permits in federal court. (See 33 U.S.C. § 1365.)

When the Water Boards draft a permit, they are not, as some amici suggest, exercising unfettered discretion. (See, e.g., Alameda Br. 22 [arguing that “a state agency’s exercise of discretion cannot be equated with a mandate imposed by the federal government”].) Although the Water Boards do exercise some discretion in designing a set of controls to reduce the discharge of pollutants to the maximum extent practicable, that discretion is circumscribed by the Clean Water Act and subject to EPA and judicial review.

Some amici voice practical concerns regarding the costs of complying with the federal MS4 permitting program. (See Alameda Br. 3-8; Stormwater Assn. Br. 2.) Respondents recognize the potentially significant resources that permittees may need to expend to implement the important and demanding environmental protections of that program, but the magnitude of those costs of compliance are not relevant to whether the permit terms are required by the Clean Water Act and its implementing regulations. The federal act sets a demanding floor that requires public agencies that own or operate MS4s to, among other things, reduce the discharge of pollutants to the maximum extent practicable. Here, the MS4 permitting requirements are federal mandates and excluded from article XIII B’s subvention requirements.³

³ The San Diego Amici also venture three constitutional arguments that no party and no other amici have raised. (See San Diego Br. 9-12.) These arguments disregard “the general rule that an amicus curiae accepts the case as he finds it and may not launch out upon a juridical expedition of [his] own unrelated to the appellate record” (See *E.L. White, Inc. v. City of Huntington Beach* (1978) 21 Cal.3d 497, 510-511, quotation marks and citations omitted.) Although there are limited exceptions to that rule (see *id.* at p. 511), the San Diego Amici do not contend, nor could they
(continued...)

II. THE COMMISSION’S JURISDICTION TO DETERMINE STATE MANDATES IS UNIMPAIRED BY DEFERENCE TO THE WATER BOARDS’ EXPERTISE IN CONSTRUING THE CLEAN WATER ACT, OR BY THE BAR OF COLLATERAL ESTOPPEL.

Several amici argue that the decisions below allow the Water Boards to usurp the Commission’s jurisdiction to determine state mandates. (Stormwater Assn. Br. 12-14; San Diego Br. 13-16; Alameda Br. 23-24; see also Reply 5-8.) This perceived threat to the integrity of the Commission’s jurisdiction, however, is unjustified. When a Water Board issues an NPDES permit, it does not—and cannot—decide whether the permit or a permit term is a reimbursable state mandate. It decides what permit terms are required for the particular discharge to comply with the federal Clean Water Act for issuance of that permit, subject to judicial review. In addition, the Water Board may decide that other provisions are required or authorized by state law. (See *City of Burbank*, *supra*, 35 Cal.4th at p. 627.) The Commission alone decides whether any permit term is a reimbursable mandate, subject to judicial review. (See Gov. Code, §§ 17552, 17559.) But in making that decision, the Commission must properly apply federal law, and where the Water Board has made a determination of what the Clean Water Act requires in a formal proceeding, the Commission, like the courts, should defer to that determination of federal law. Similarly, where the Water Boards have made a quasi-judicial decision that the Clean Water Act requires certain permit terms, and that decision becomes final or a reviewing court affirms it, the Commission, like the courts, should recognize its preclusive effect. (See Answer Br. 25-32.)

(...continued)

contend, that their theories fall within one of them (see San Diego Br. 9-12).

Of course, not all NPDES permitting test claims will require the Commission to defer to the Water Boards' expertise or apply collateral estoppel to a permittee's test claim. For example, where a Water Board exceeds the federal NPDES permitting requirements and imposes additional terms after weighing the considerations in Water Code sections 13263 and 13241—a possibility recognized by this Court's decision in *City of Burbank*—the Commission could find a reimbursable state mandate, after considering all the relevant provisions of mandates law. But here the Commission should have deferred to the Water Boards' determination that the permit did not exceed the requirements of federal law. (See 1 CT 48.) The Commission also should have applied collateral estoppel because the Court of Appeal ruled, on substantial evidence review, that the permit did not exceed federal law. (*State Water Board, supra*, 143 Cal.App.4th 985 [unpublished section G.3 at 3 AR 3259-3260].)

A. Deference to the Water Boards' Expertise on the Interpretation and Application of the Clean Water Act Does Not Impinge on the Commission's Jurisdiction.

The Commission may defer to the Regional Board's determination of what permit terms were necessary to satisfy the federal maximum-extent-practicable standard without ceding its jurisdiction to resolve unfunded mandates claims. The maximum-extent-practicable standard requires the Water Boards to address a complex mixture of legal, factual, scientific, technical, and policy questions to which there is typically no single correct answer. These are exactly the circumstances in which courts, including this one, have deferred to agency expertise. (See, e.g., *American Coatings Assn., Inc. v. South Coast Air Quality Dist.* (2012) 54 Cal.4th 446, 475 [deferring to agency where group challenging regulations could not identify an "objectively correct categorization" of pollutant sources].) Deference acknowledges the Water Boards' expertise in determining what the Clean

Water Act requires—their scientific knowledge, their deep familiarity with clean-water law and policy, and their practical experience with various methods for controlling pollution in MS4 discharges, including the unique problems of specific MS4s. (See *State Water Board, supra*, 143 Cal.App.4th at p. 997 [“we defer to the regional board’s expertise in construing language which is not clearly defined in statutes involving pollutant discharge into storm drain sewer systems”].) Deferring to that expertise does not, as amici and the County argue, intrude upon the Commission’s jurisdiction, just as deferring to agency expertise does not intrude upon the constitutional jurisdiction of the courts to decide cases.

Amici counter the argument for deference by suggesting that the Water Boards may abuse their Clean Water Act authority, for example, by asserting that certain terms in an MS4 permit were necessary to satisfy the federal maximum-extent-practicable standard when, in fact, they were not. (See Stormwater Assn. Br. 13-14 [asserting that Water Boards have “an inherent conflict of interest with respect to determining whether subvention is warranted”]; Alameda Br. 23-24 [arguing that Respondents’ position gives a state agency “carte blanche to exempt its own regulatory programs from the Proposition 4 spending restrictions”].) This reasoning fails because Water Board permitting decisions are subject to judicial review, and it is the role of the courts on direct review of a permit to determine whether the Water Boards abused their discretion in issuing the permit or exceeded federal requirements. As this case shows, NPDES permittees can and do challenge permit requirements as exceeding federal law in direct permit challenges. (See *State Water Board, supra*, 143 Cal.App.4th 985 [unpublished section G.3 at 3 AR 3259-3260].)

B. Collateral Estoppel Does Not Impinge on the Commission's Jurisdiction.

As with deference, enforcing the bar of collateral estoppel does not interfere with the Commission's jurisdiction to resolve unfunded mandates claims. (See Answer Br. 30-32.) The Court of Appeal's decision in *State Water Board* fully and finally resolved the question of whether the permit exceeded the Clean Water Act's requirements, holding that it did not. (See Answer Br. 31-32 [discussing *State Water Board, supra*, 143 Cal.App.4th 985, unpublished section G.3 at 3 AR 3259-3260].) Neither the amici nor the County have squarely addressed the preclusive effect of the court's determination on direct review of the permit. (See, e.g., Reply 18-20.) Instead, they argue that the Commission has primary exclusive jurisdiction to adjudicate claims for reimbursement. (See, e.g., Reply 7.) Respondents do not dispute that point. (See Gov. Code, § 17552.) But primary exclusive jurisdiction to adjudicate the remedies for unfunded mandates does not license the Commission to ignore the bar of collateral estoppel when a test claim raises technical issues of compliance with a federal regulatory scheme that have been fully and finally litigated by the parties. Applying standard legal principles to recognize when the courts have fully and finally determined that a permit does not exceed the requirements of federal law does not impinge on the Commission's jurisdiction, any more than it would impinge on the jurisdiction of a court applying those same principles.

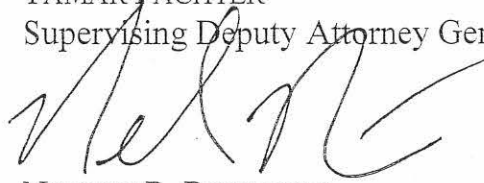
CONCLUSION

This Court should affirm the judgment.

Dated: February 9, 2015

Respectfully submitted,

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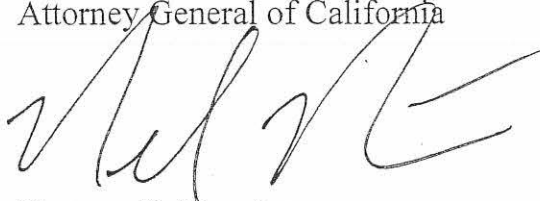
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CERTIFICATE OF COMPLIANCE

I certify that the attached Consolidated Answer to Amicus Curiae Briefs uses a 13 point Times New Roman font and contains 2,532 words.

Dated: February 9, 2015

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A handwritten signature in black ink, appearing to read 'N. Richards', written over the printed name of Nelson R. Richards.

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DECLARATION OF SERVICE BY U.S. MAIL

Case Name: *Department of Finance v. Commission on State Mandates (County of Los Angeles)*

No.: S214855

I declare:

I am employed in the Office of the Attorney General, which is the office of a member of the California State Bar, at which member's direction this service is made. I am 18 years of age or older and not a party to this matter. I am familiar with the business practice at the Office of the Attorney General for collection and processing of correspondence for mailing with the United States Postal Service. In accordance with that practice, correspondence placed in the internal mail collection system at the Office of the Attorney General is deposited with the United States Postal Service with postage thereon fully prepaid that same day in the ordinary course of business.

On February 9, 2015, I served the attached

CONSOLIDATED ANSWER TO AMICUS CURIAE BRIEFS

by placing a true copy thereof enclosed in a sealed envelope in the internal mail collection system at the Office of the Attorney General at 455 Golden Gate Avenue, Suite 11000, San Francisco, CA 94102-7004, addressed as follows:

(See attached service list.)

I declare under penalty of perjury under the laws of the State of California the foregoing is true and correct and that this declaration was executed on February 9, 2015, at San Francisco, California.

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Case No.: S214855

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In the Supreme Court of the State of California

**STATE DEPARTMENT OF FINANCE, et
al.,**

Plaintiffs and Respondents,

v.

COMMISSION ON STATE MANDATES,

Defendant and Respondent,

COUNTY OF LOS ANGELES, et al.,

**Real Parties in Interest
and Appellants.**

Case No. S214855

SUPREME COURT
FILED

DEC 23 2013

Frank A. McGuire Clerk

Deputy

Second Appellate District, Division One, Case No. B237153
Los Angeles County Superior Court, Case No. BS130730
The Honorable Ann I. Jones, Judge

ANSWER TO THE PETITION FOR REVIEW

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INTRODUCTION

The Court of Appeal held that four specific requirements in a stormwater sewer permit were federal mandates, not state mandates. In its opinion, the court said, “our decision is limited to the specific mandates addressed here”—that is, to permit terms requiring trash receptacles at transit stops and inspections of commercial, industrial, and construction sites. (*State Department of Finance v. Commission on State Mandates* (2013) 220 Cal.App.4th 740, 767-768, 774 (*Finance*)). This narrow decision offers no grounds for review by this Court. No other Court of Appeal has ruled on the issue, so review is not appropriate to secure uniformity. Nor is there a need to settle an important question of law: the court, in a well-reasoned and thorough decision, followed this Court’s mandate precedent.

STATEMENT OF THE CASE

The Los Angeles Regional Water Quality Control Board issued the Los Angeles County Flood Control District, the County of Los Angeles, and 84 cities a 72-page stormwater sewer permit pursuant to a complex federal statutory and regulatory framework. (See *Finance, supra*, 220 Cal.App.4th at pp. 747-750 [explaining federal and state clean water scheme].) The federal Clean Water Act—whose purpose is “to restore and maintain the chemical, physical, and biological integrity of the Nation’s waters”—sits at the center of that framework. (33 U.S.C. § 1251(a).) “The Clean Water Act anticipates a partnership between the States and the Federal Government” (*Finance, supra*, 220 Cal.App.4th at p. 749, quoting *Arkansas v. Oklahoma* (1992) 503 U.S. 91, 101.) In California, the State Water Resources Control Board, together with nine regional water quality control boards, administers the federal National Pollutant Discharge Elimination System (NPDES) permitting scheme under the state’s Porter-

Cologne Water Quality Control Act. (*Id.* at pp. 749-750, citing Wat. Code, § 13000 et seq., § 13370 et seq.)

The Clean Water Act prohibits pollutant discharges from “point sources” unless permitted under a NPDES permit. (33 U.S.C. §§ 1311, 1342.) It requires that permits for discharges from municipal separate storm sewers contain “controls to reduce the discharge of pollutants to the maximum extent practicable, including management practices, control techniques and system, design and engineering methods, and such other provisions as the Administrator or the State determines appropriate for the control of such pollutants.” (*Id.* § 1342(p)(3)(B)(iii).) The federal maximum extent practicable requirement is what this dispute is about.

After the Los Angeles Water Board issued the permit to Petitioners in 2001, they filed a test claim with the Commission on State Mandates. Petitioners argued that four permit requirements—installation of trash receptacles at transit stops and inspections of commercial, industrial, and construction sites—were state mandates entitling them to a subvention of funds under article XIII B, section 6, subdivision (a) of the California Constitution. (See *Finance, supra*, 220 Cal.App.4th at pp. 756-760.) The Commission agreed, concluding that all four requirements were state mandates because: (1) federal law did not expressly call for them; and (2) they were new programs or higher levels of service in that they were not required before the 2001 permit issued. (*Id.* at pp. 758-761 [describing Commission’s decision].) The Department of Finance, the Los Angeles Water Board, and State Water Board successfully petitioned the Superior Court for an administrative writ of mandate. (*Id.* at pp. 760-762.) The court held that the Commission had erred as a matter of law by failing to consider the Clean Water Act’s maximum extent practicable standard and the evolving nature of the statute’s requirements. (*Id.* at p. 762.)

On appeal, the Second District affirmed the trial court. The court engaged in a thorough discussion of the maximum extent practicable standard, explaining that it is a “highly flexible concept that depends on balancing numerous factors” and that it was “designed to require states to meet their Clean Water Act obligations.” (*Finance, supra*, 220 Cal.App.4th at pp. 768-773.) The Second District observed that the federal Clean Water Act establishes a flexible standard requiring municipalities to reduce pollution in their stormwater discharges, but that ultimately, the regulating entity—whether the U.S. Environmental Protection Agency or the state—is responsible for ensuring that the permit satisfies Clean Water Act requirements. (*Id.* at pp. 771-772, citing *Environmental Defense Center, Inc. v. U.S.E.P.A.* (9th Cir. 2003) 344 F.3d 832.) It concluded that the federal statute enacting the standard “is a unique statute” that “imposes a broad standard in recognition of developing clean water technology.” (*Id.* at p. 772, citing 33 U.S.C. § 1342(p)(3)(B)(iii).)

Petitioners now seek review of that decision.

REASONS TO DENY THE PETITION

The petition fails to show that review is necessary to decide important legal questions or to secure uniformity.¹ The petition also mischaracterizes the Court of Appeal’s decision in three significant ways.

¹ Similarly, the December 5, 2013 letter submitted to this Court by the Building Industry Legal Defense Foundation as amicus curiae makes no attempt to meet the standard for granting review. It argues that the Court of Appeal should have engaged in a preemption analysis. But it does not explain how the court’s refusal to do so either rose to the level of an important legal question meriting review by this Court, or created disuniformity among the Courts of Appeal. In any event, the Court of Appeal offered a compelling rejection of the argument. (See *Finance, supra*, 220 Cal.App.4th at pp. 774-775.)

I. CONTRARY TO PETITIONERS' ASSERTION, THE COURT OF APPEAL DID NOT EXEMPT CLAIMS RELATING TO CLEAN WATER FROM CALIFORNIA'S MANDATE JURISPRUDENCE

Petitioners contend that the court disregarded “mandate jurisprudence in cases in the area of clean water law” and “exempted an entire area of substantive law from mandate jurisprudence.” (Pet. at p. 3; see also Pet. at p. 21.) There are several fundamental errors in those contentions. First, Petitioners fail to explain how a case limited to four specific permit requirements could operate to exempt “an entire area of substantive law” from mandate jurisprudence. (See Pet. at 3.) Not only did the court confine its decision to the four permit requirements before it, but it also analyzed each permit requirement by “balanc[ing] numerous factors, including the particular requirement’s technical feasibility, cost, public acceptance, regulatory compliance, and effectiveness.” (See *Finance, supra*, 220 Cal.App.4th at p. 773.) That approach allows courts reviewing other NPDES permit requirements in future cases to find them to be state mandates, if appropriate, in accord with the cases that Petitioners cite. (See, e.g., Pet. at p. 18, citing *City of Burbank v. State Water Resources Control Bd.* (2005) 35 Cal.4th 613, 627–628.) Thus, the claim that the decision generally exempts NPDES permits from state mandate scrutiny is incorrect.

Second, Petitioners ignore the court’s discussion of mandate jurisprudence, which applied the analysis set forth in this Court’s decision in *City of Sacramento v. State of California* (1990) 50 Cal.3d 51 (*City of Sacramento*). In that case, this Court explained that the variety of federal-state-local programs made the type of one-size-fits-all argument urged by Petitioners impossible. The Court of Appeal followed that guidance, saying:

there is no precise rule or formula for determining whether a cost imposed on a local government or agency is a federal mandate. “Given the variety of cooperative federal-state-local programs, we here attempt no final test for ‘mandatory’ versus ‘optional’ compliance with federal law. A determination in each case must depend on such factors as the nature and purpose of the federal program”

(See *Finance, supra*, 220 Cal.App.4th at p. 767, quoting *City of Sacramento, supra*, 50 Cal.3d at p. 76.) Tellingly, Petitioners do not cite *City of Sacramento*, discuss how the outcome they urge comports with this Court’s holding in that case, or explain how the Court of Appeal’s reliance on it creates any rift with other cases.

Third, Petitioners cite no California case ruling on the merits of mandate issues in the context of the Clean Water Act, and Respondents are aware of no such decision.² One other case has been fully briefed and is awaiting decision in the Third District: *Department of Finance v. Commission on State Mandates* (C070357). That case addresses whether seven NPDES permit requirements, which are different from the ones at issue here, are federal or state mandates. Unless the Third District issues an opinion at odds with the Second District’s opinion, there will continue to be no conflict among the appellate districts, and therefore no lack of uniformity for this Court to address.

² The Second District issued an earlier decision in this case. (See *County of Los Angeles v. Commission on State Mandates* (2007) 150 Cal.App.4th 898.) But that decision did not reach the merits. It addressed the constitutionality of Government Code section 17516, subdivision (b), and whether the Commission on State Mandates could review test claims involving certain water board orders.

II. CONTRARY TO PETITIONERS' ASSERTION, THE COURT OF APPEAL DID NOT "DECLINE TO FOLLOW" EARLIER COURT OF APPEAL DECISIONS

Petitioners contend that the court "declined to follow" earlier Court of Appeal decisions in *Long Beach Unified School Dist. v. State of California* (1990) 225 Cal.App.3d 155 (*Long Beach Unified*) and *Hayes v. Commission on State Mandates* (1992) 11 Cal.App.4th 1564 (*Hayes*). (Pet. at p. 2; see also Pet. at pp. 17, 19, 25.) That description does not accurately characterize the decision. The court discussed those cases at length, explaining that it "did not disagree" with their holdings. (See *Finance, supra*, 220 Cal.App.4th at pp. 758-759, 764-768, 772.) *Long Beach Unified* and *Hayes* dealt with federal laws significantly different from the Clean Water Act. (See *Long Beach Unified, supra*, 225 Cal.App.3d at pp. 172-173 [considering state executive order regarding desegregation]; *Hayes, supra*, 11 Cal.App.4th at pp. 1593-1594 [considering implementation of the Education for the Handicapped Act].) The Court of Appeal harmonized its decision with those two cases, comparing and contrasting the "maximum extent practical" standard and the federal laws considered in those cases, and demonstrated the ways in which their differences required a different result. (See *Finance, supra*, 220 Cal.App.4th at p. 772.) That careful analysis was exactly what this Court contemplated in *City of Sacramento*.

III. CONTRARY TO PETITIONERS' ASSERTION, THE COURT OF APPEAL DID NOT SUBSTITUTE ITS JUDGMENT FOR THAT OF THE COMMISSION

Petitioners contend that the Court of Appeal "substituted its judgment for that of the Commission." (Pet. at pp. 3, 21-24.) Petitioners style this purported error as an "important and recurring issue[]"—a claim they fail to substantiate. (See Pet. at p. 21.) Moreover, the argument is legally incorrect. The Court of Appeal did not substitute its judgment for the Commission's. Rather, it held that "the Permit's requirements are not state

mandates as a matter of law,” correcting the Commission’s erroneous legal analysis. (*Finance, supra*, 220 Cal.App.4th at p. 774; see also *id.* at p. 772 [“we conclude the Permit’s requirements for the trash receptacles and inspection of commercial, industrial, and construction sites as a matter of law constitute federal mandates”].) Making such legal determinations is a core function of the Courts of Appeal. (See, e.g., *id.* at p. 763 [“We examine the interpretation of legal matters utilizing a de novo standard of review”].)

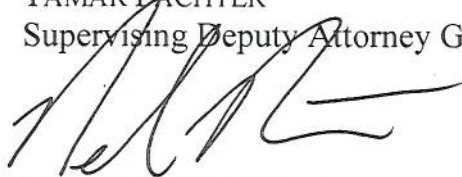
CONCLUSION

For the foregoing reasons, the Respondents respectfully request that the Court deny the Petition for Review.

Dated: December 23, 2013

Respectfully submitted,

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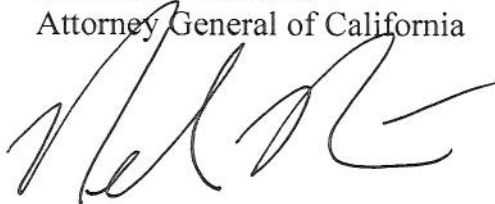
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CERTIFICATE OF COMPLIANCE

I certify that the attached Answer to Petition for Review uses a 13 point Times New Roman font and contains 1,855 words.

Dated: December 23, 2013

KAMALA D. HARRIS
Attorney General of California

A handwritten signature in black ink, appearing to read 'N. Richards', is written over the printed name of Nelson R. Richards.

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DECLARATION OF SERVICE BY U.S. MAIL

Case Name: **Department of Finance, et al. v. Commission on State Mandates (County of Los Angeles)**

No.: **S214855**

I declare:

I am employed in the Office of the Attorney General, which is the office of a member of the California State Bar, at which member's direction this service is made. I am 18 years of age or older and not a party to this matter. I am familiar with the business practice at the Office of the Attorney General for collection and processing of correspondence for mailing with the United States Postal Service. In accordance with that practice, correspondence placed in the internal mail collection system at the Office of the Attorney General is deposited with the United States Postal Service with postage thereon fully prepaid that same day in the ordinary course of business.


On December 23, 2013, I served the attached **ANSWER TO THE PETITION FOR REVIEW** by placing a true copy thereof enclosed in a sealed envelope in the internal mail collection system at the Office of the Attorney General at 455 Golden Gate Avenue, Suite 11000, San Francisco, CA 94102-7004, addressed as follows:

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I declare under penalty of perjury under the laws of the State of California the foregoing is true and correct and that this declaration was executed on December 23, 2013, at San Francisco, California.

J. Wong
Declarant


Signature

ATTACHMENT 34

In the Supreme Court of the State of California

**STATE DEPARTMENT OF FINANCE, et
al.,**

Plaintiffs and Respondents,

v.

COMMISSION ON STATE MANDATES,

Defendant and Respondent,

COUNTY OF LOS ANGELES, et al.,

**Real Parties in Interest
and Appellants.**

**SUPREME COURT
FILED**

Case No. S214855

SEP 13 2016

Frank A. McGuire Clerk

Deputy

Second Appellate District, Division One, Case No. B237153

Los Angeles County Superior Court, Case No. BS130730

Hon. Ann I. Jones, Judge

PETITION FOR REHEARING

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INTRODUCTION

Respondents have reviewed the Court's opinion in this case and are committed to using its guidance to shape their future decisions and conduct. Respondents understand that federal municipal separate storm sewer system (MS4) permits issued by the State's Water Boards to local governments now must expressly state which controls are required by federal law, and that the Water Boards bear the burden of establishing that such terms are necessary to control pollutant discharges to meet the federal standard.¹

Respondents are concerned, however, that certain broad language could be misread by those implementing the opinion, including the Commission on State Mandates (Commission) and lower courts, to mean that it is effectively impossible for the State to issue MS4 permits without imposing state mandates. The Clean Water Act and United States Environmental Protection Agency (US EPA) regulations provide the required standard: control of discharges to the "maximum extent practicable." That federal standard is met, in turn, by a set of specific permit conditions tailored to local conditions. Under a misreading of the Court's opinion, the State could never show that the contents of an MS4 permit are mandated by federal law because the permit will always reflect decisions made by the regional boards, exercising their expert judgment, about the mix of terms necessary to meet this federal standard in light of local conditions.

If the Commission or lower courts were to adopt that misreading, the resulting uncertainties raise significant questions about California's ability to continue administration of the MS4 permitting program. These uncertainties have already prompted US EPA to ask how California's

¹ "Water Boards" means the State Water Resources Control Board and nine Regional Water Quality Control Boards.

Water Boards can continue administering the MS4 permit program consistent with federal law. And there is at least a possibility that US EPA could take back the program if it believes there is substantial regulatory uncertainty. In addition, if a misreading of the opinion resulted in a common understanding that the State is compelled to fund typical permit terms that constitute ordinary municipal functions—such as street sweeping and maintaining storm sewer systems—the State might find that cost prohibitive and relinquish the program to US EPA.

To avoid unnecessary uncertainty and future litigation about the Court's intent, and to help preserve this important example of cooperative federalism, Respondents respectfully request that the Court clarify its opinion in three respects. First, the Court should confirm that in a mandates challenge to an MS4 permit, the determination of what federal law requires continues to be case-specific, and necessitates an examination of the evidence and issues unique to each MS4 permit and geographic location. Second, the Court should clarify its statement that in reviewing future cases, the Commission must give weight to the regional boards' determination of what the Clean Water Act requires, so long as its determination is both express and supported by substantial evidence. Finally, the Court should delete the word "fatally" from page 27 to clarify that the terms appearing in permits issued by US EPA in a small number of out-of-state jurisdictions do not constitute an exclusive list of the controls required to meet the federal standard.

ARGUMENT

I. AN OVERBROAD READING OF THE OPINION RAISES SERIOUS QUESTIONS ABOUT CALIFORNIA'S CONTINUED PARTICIPATION IN MS4 PERMITTING.

California was the first State in the nation to obtain US EPA approval to administer its own permitting program under the National Pollutant

Discharge Elimination System. (*Environmental Protection Agency v. California ex rel. State Water Resources Control Board* (1976) 426 U.S. 200, 209 (*Environmental Protection Agency*).) Since 1973, the Legislature has authorized the State to assume responsibility for issuing permits to dischargers to implement that federal program.

The State's role as a federally authorized NPDES permitting agency serves a number of important state objectives. Among other things, it avoids duplication of effort by federal and state regulators; avoids the logistical difficulties of two regulators coordinating their conduct; allows for regional boards drawn from the communities they serve to draft permits, rather than federal officials located elsewhere (see Wat. Code, § 13201); allows for a single avenue of judicial review in state court for water quality permits (40 C.F.R. § 123.30; Wat. Code, § 13330); and allows the State to receive federal grants (see 33 U.S.C. § 1256). Local governments avoid having to obtain two different permits from different regulators (one to comply with federal law, one to comply with state law), and they negotiate permit terms with agency officials who have local ties to, and knowledge of, the relevant community and conditions. (See Wat. Code, § 13201, subd. (a) [providing that members of regional boards must "reside or have a principal place of business within the region"].) And California's citizens who use the State's waters for drinking, fishing, swimming, municipal, agricultural, recreational, and other purposes affected by water pollution can more meaningfully participate in localized decisions affecting their water quality.

These sound reasons have motivated the State to administer federal NPDES permitting for over 40 years. (See Wat. Code, § 13370.) Similar reasoning led Congress to encourage States across the country to do the same. (See 33 U.S.C. § 1251(b).) It is not surprising, then, that 46 States have obtained NPDES program approval in order to realize the benefits of

cooperative federalism. (See <https://www.epa.gov/npdes/npdes-state-program-information> [as of Sep. 9, 2016].)

Congress amended the Clean Water Act in 1987 to require NPDES permits for MS4s. MS4 permits are expressly required of and issued to local governments, not States; they are direct federal regulation of local governments. (See 33 U.S.C. §§ 1311, 1319, 1342(i), (p)(3)(B), 1365.) This means that local governments in California would incur compliance costs associated with these requirements even if the State never administered the MS4 permitting program. Those requirements are enforceable by the US EPA (33 U.S.C. § 1342(d)(2)-(4); 40 C.F.R. § 123.44) and by third party judicial challenges. (40 C.F.R. § 123.30; Wat. Code, § 13330.)²

Permits set out the specific requirements that allow MS4 operators to comply with the Clean Water Act. (See 33 U.S.C. § 1342(k); *Environmental Protection Agency, supra*, 426 U.S. at p. 205 [NPDES permits define “a preponderance of a discharger’s obligations” under the act]; cf. *City of Burbank v. State Water Resources Control Bd.* (2005) 35

² Cases where federal law applies to local governments only because of state action; where the state has imposed conditions that exceed what federal law requires; and where federal requirements imposed on the State are passed down to local government are distinguishable. For example, in *Division of Occupational Safety & Health v. State Bd. of Control* (1987) 189 Cal.App.3d 794, 798-800, 803, to avoid federal preemption, the State adopted OSHA regulations requiring local fire departments to use three-person firefighting teams instead of the two-person teams. Absent state action, no one could have used federal law to compel those departments to use three-person teams. In contrast, the Clean Water Act’s requirements apply to MS4 operators regardless of whether the State administers the permitting program, and US EPA, or a third party, could force operators to obtain permits or compel the inclusion of specific, more stringent MS4 permit requirements to reflect the federal standard in 33 U.S.C. § 1342(p)(3)(B)(iii).

Cal.4th 613, 626-627 [noting that principles of federal supremacy prohibit Water Boards from relaxing federal permitting standards].) Terms may include, for example, street sweeping and maintaining storm sewer systems, which the municipality would perform in any event. Standing alone, these types of terms would not satisfy the federal standard, but are included to provide a complete picture of all the actions the municipality will take that contribute to meeting the federal standard.

As a practical matter, the State could not participate in the MS4 permitting program if those permit conditions were treated, for the purposes of state mandates law, as state rather than federal mandates. While this case involves trash receptacles and inspections of certain facilities, the opinion will be applied to a host of other core municipal functions commonly included as MS4 permit terms. The collective cost of every California MS4 operator's compliance with its permit, or large portions of its permit, would reach into the billions of dollars within a few years' time. One county, for instance, estimates that the cost of compliance will "be in the hundreds of millions of dollars" for the governments covered by its permit. (County of Orange Amicus Br. 3.)

Faced with a risk of unanticipated state outlays on that order of magnitude, the State could either revise the law to require the State Board to return MS4 permitting to US EPA, or simply choose to not fund the mandates. (See Cal. Const., art. XIII B, § 6, subd. (b); Gov. Code, § 17581; *California School Boards Association v. Brown* (2011) 192 Cal.App.4th 1507, 1513-1514 ["with respect to a reimbursable mandate, for each fiscal year, the Legislature is required to choose to either fully fund the annual payment toward the arrearage or suspend the operation of the mandate"].) As Justice Cuéllar notes in his concurring and dissenting opinion, "if the state knows ex ante that it will be unable to pass along the expenses to the local areas that experience the most costs and benefits from the mandate at

issue” it “would be unduly discouraged from participating” in the program, even where such participation would “otherwise be in California’s interest[.]” (Conc. & Dis. Slip Op. 6-7.)

The Regional Administrator for US EPA Region 9, which has jurisdiction over California, has informed the State Board that US EPA has concerns about California’s ability to continue implementing the MS4 permitting program. (Request for Judicial Notice in Support of Respondents’ Petition for Rehearing (RJN), Ex. A.) And US EPA’s concern is of significant concern to the State. If the opinion as written creates regulatory uncertainty, even for a period of time, US EPA could preemptively take back the MS4 permitting program, or it could be petitioned by members of the public to withdraw its approval. (33 U.S.C. § 1342(c)(3); 40 C.F.R. § 123.64(b)(1); see generally 40 C.F.R. § 123.64.) Federal law requires that the State administering an NPDES permitting program have authority to enforce the terms of the permits it issues. (See 33 U.S.C. § 1342(b)(7); 40 C.F.R. § 123.37 [requiring that agencies have “immediate[] and effective[]” authority to prevent violations of permits]; see also 40 C.F.R. § 123.23(c) [requiring that, as a condition of administering the federal program, the state attorney general must confirm that the State has “adequate authority to carry out the program,” including enforcement authority].) Similarly, federal law narrowly limits the circumstances under which permits can be modified once final. (See 40 C.F.R. § 122.62; see also Wat. Code, § 13330, subd. (d) [noting that if a permit is not challenged by an aggrieved party, the permit “shall not be subject to review by any court”].) US EPA is concerned that an MS4 permit or many of its terms may become unenforceable by the Water Boards, if deemed to be state mandates and the State fails to guarantee funds. If so, the Water Boards may no longer be able to enforce MS4

permit terms as required by federal law, which could amount to impermissible permit modifications. (See RJN, Ex. A, at p. 3.)

Respondents believe that it is in Californians' best interests for the Water Boards to continue administering the MS4 permitting program—as the Legislature and Congress decided long ago. (See Wat. Code, § 13370; 33 U.S.C. § 1251(b).) They respectfully request that the Court modify its opinion in the limited ways described below to avoid any unintended interference with that goal. These modifications would clarify, without requiring further litigation about the Court's intent and a potentially extended period of uncertainty, that the opinion in this case does not hold that all future MS4 permit terms are state mandates. That clarification would do much to ensure the continued vitality of a program that for more than 40 years has allowed Californians to have a prominent role in deciding exactly how best to implement the broad requirements of the Clean Water Act in California communities.

II. RESPONDENTS ASK THE COURT TO CLARIFY THAT THE COMMISSION MUST EVALUATE EACH MS4 PERMIT TEST CLAIM ON A CASE-BY-CASE BASIS, CONSIDERING MULTIPLE SOURCES OF EVIDENCE OF WHAT FEDERAL LAW REQUIRES.

Respondents ask the Court to clearly state that the opinion in this case is not dispositive of all the future MS4 permit test claims, and that the Commission must evaluate future test claims and permit terms in light of the facts and evidence in each case to determine whether they are state or federal mandates. In particular, Respondents request three modifications: first, to confirm that in future mandates proceedings, the determination of what federal law requires in particular circumstances remains a case-by-case inquiry; second, and relatedly, to confirm that the Commission and lower courts should accord some deference (Slip Op. 22) to adequately supported and express determinations by the regional boards on whether permit terms are required to meet the federal standard; and finally, to

remove the word “fatally” from the final sentence of section II.B.2.b. (Slip Op. 27.) These clarifications would be consistent with, and follow from, pages 24 through 27 of the opinion, in which the Court reviewed the evidence before the Commission in this case.

These clarifications would prevent the Court’s opinion from being misconstrued to make the result of every future MS4 mandates proceeding a foregone conclusion simply because regional boards exercise expertise in selecting the suite of controls necessary to meet the federally mandated maximum-extent-practicable standard in a particular MS4, and would eliminate the substantial uncertainties and harm resulting from that misreading.

A. The combination of permit terms required to control the discharge of pollutants to the maximum extent practicable is a case-by-case inquiry.

MS4 permitting poses unique regulatory challenges. Municipal stormwater pollution is “one of the most significant sources of water pollution in the nation.” (*Environmental Defense Center, Inc. v. United States Environmental Protection Agency* (9th Cir. 2003) 344 F.3d 832, 840.) Over the years, effectively regulating the stormwater system source has posed a vexing regulatory problem because it allows pollutants to enter the waterways from “possibly millions of diverse point sources.” (See *Building Industry Association of San Diego County v. State Water Resources Control Board* (2004) 124 Cal.App.4th 866, 874 (*Building Industry*)). It took well over two decades—and Congress’s enactment of the Water Quality Act of 1987—to develop a workable approach. (*Id.*, at pp. 872-875 [recounting history of stormwater regulation]; see also *Natural Resources Defense Council, Inc. v. United States Environmental Protection Agency* (9th Cir. 1992) 966 F.2d 1292, 1296 [explaining that the Water Quality Act was a response to “both the environmental threat posed by

storm water runoff and EPA's problems in implementing regulations"].) This long struggle yielded the flexible maximum-extent-practicable standard. (See 33 U.S.C. § 1342(p)(3)(B); 40 C.F.R. § 122.26(d).)

Successful implementation of that standard requires permits to be “developed in a flexible manner to allow site-specific permit conditions to reflect the wide range of impacts that can be associated with [stormwater] discharges.” (55 Fed.Reg. 48037-48038 (Nov. 16, 1990).) When developing controls to meet that standard, permit-writers must “balanc[e] numerous factors, including [a] particular control’s technical feasibility, cost, public acceptance, regulatory compliance, and effectiveness.” (*Building Industry, supra*, 124 Cal.App.4th at p. 889.) The standard was also designed to evolve over time to account for advances in technology and regulators’ understanding of pollution controls. (See 55 Fed.Reg. 48052 (Nov. 16, 1990) [“The Permits for discharges from municipal separate storm sewer systems will be written to reflect changing conditions that result from program development and implementation and corresponding improvements in water quality”]; 3 AR 3797 [“The EPA . . . expects stormwater permits to follow an iterative process whereby each successive permit becomes more refined, detailed, and expanded as needed, based on experience under the previous permit”].) This means that although federal law mandates the standard municipalities must meet, it does not specify the particularized set of terms that must appear in a permit; indeed, the US EPA has cautioned against using its guidance documents as scripts, checklists, or enforcement “how to’s.” (3 AR 3393.)

At the same time, when regional boards draft permits to implement the federal maximum-extent-practicable standard, several interrelated factors constrain what they may do. Regional boards rely on the permit applications submitted by MS4 operators to formulate permit terms. (Wat. Code, §§ 13260, 13374.) An MS4 operator that believes the regional board

has abused its discretion may seek relief before the State Board and in state court. (*Id.*, §§ 13320, 13330.) US EPA also reviews all permits, and may block a permit's issuance if it does not comply with federal law. (33 U.S.C. § 1342(d)(2)-(4); 40 C.F.R. § 123.44.) If the state agency does not fix the objection and following a federally specified process, US EPA may issue the MS4 permit. (33 U.S.C. § 1342(d)(4); 40 C.F.R. § 123.44(h)(2).) The public plays a role, too, and may participate in the permitting process and challenge a permit in state court. (See 40 C.F.R. § 124.11 [requiring that public be allowed to comment on permit applications]; *id.*, § 124.12 [requiring that public be allowed to participate in permit hearings]; *id.*, § 123.30 [requiring an opportunity for judicial review in state court]; Cal. Code Regs., tit. 23, § 2235.2 [incorporating federal rules into California permitting process]; see also Wat. Code, § 13330 [allowing “any aggrieved party” to file a petition in superior court].)

So while federal law does not prescribe the precise terms that must appear in an MS4 permit, there is a body of evidence—permit applications, US EPA guidance documents, US EPA-issued permits, US EPA suggestions or input during the permitting process, and permits issued in other States, among other things—that can be evaluated to determine whether a term is federally required.

B. The Court should clarify that if substantial evidence supports the regional board's findings about the need for specific controls to meet the federal standards, some deference is appropriate.

The opinion states that a regional board should receive deference as to what federal law requires when it has concluded that the disputed terms it chooses are the “only means by which the maximum extent practicable standard could be implemented.” (Slip Op. 22.) Respondents understand this to mean that, to be entitled to deference, regional boards must make an express finding that the particular set of permit conditions finally embodied

in a given permit is required to meet that federal standard, and must support that finding with evidence. And Respondents understand the opinion to be consistent with the State's reading of the Clean Water Act that, where a regional board has devised a set of conditions to ensure local governments' compliance with federal law, the board does not have a choice to impose some other, overall less rigorous, set of conditions. (See *ibid.*; see also Slip Op. 18 ["if federal law gives the state discretion whether to impose a particular implementing requirement, and the state exercises its discretion to impose the requirement by virtue of a 'true choice,' the requirement is not federally mandated"].) Respondents are concerned, however, that this language might be misunderstood and used to support an argument that the regional boards must make an impossible finding to receive deference—because there is no single term, or set of terms, that will ever be the *only* way to comply with the inherently flexible federal standard.

Affording some deference or weight to an agency's determination is appropriate where there is no one right answer to a question, and legislators in Congress or the Legislature have either expressly or implicitly authorized an expert agency to work out the specifics. (See, e.g., *American Coatings Association, Inc. v. South Coast Air Quality District* (2012) 54 Cal.4th 446, 475 [deferring to expert agency because there was no "objectively correct categorization" under a pollution-control statute]; see also *Larkin v. Workers' Comp. Appeals Bd.* (2015) 62 Cal.4th 152, 163 [where statute was susceptible to more than one interpretation, Court gave "great weight to the Board's interpretation because of its expert knowledge of complex workers' compensation statutes, and its role as the agency accountable for implementing the statutory scheme"].) Federal administrative law principles that would control construction of the Clean Water Act are similar. (See *United States v. Mead* (2001) 533 U.S. 218, 229 [discussing *Chevron U.S.A. Inc. v. Natural Resources Defense Council, Inc.* (1984) 467

U.S. 837 and noting that deference applies when an expert agency interprets an ambiguous statute].) These general principles apply with special force when what is at issue is the application of a purposefully flexible standard to a particular set of local circumstances. And an expert agency's properly articulated and supported interpretation of what federal law requires, reached after a permitting process involving dozens of hearings and tens-of-thousands of pages of administrative record (see 3 CT 415; 1 CT 25), should receive appropriate deference. By enacting the Water Quality Act of 1987 and adding the maximum-extent-practicable standard to the law, Congress left it to the permit-issuing agency's expert judgment to choose a set of terms that meet the Clean Water Act requirements for a particular MS4—a quintessential example of when deference is appropriate.

Respondents ask the Court to clarify that traditional deference principles apply when a regional board determines what federal law requires of local governments operating MS4s and its determination is supported by substantial evidence. Applied in this context, deference, which is “fundamentally situational” (*Yamaha Corporation of America v. State Board of Equalization* (1998) 19 Cal.4th 1, 12), would recognize the practical challenges of Clean Water Act permitting, and allow regional boards to bring their expertise to bear in this notoriously difficult area of regulation (see *Fukuda v. City of Angels* (1999) 20 Cal.4th 805, 812 [“considerable weight should be given to the findings of experienced administrative bodies made after a full and formal hearing, especially in cases involving technical and scientific evidence”]).

C. Removing the word “fatally” would ensure that the Commission considers all the evidence bearing on what the Clean Water Act requires.

Finally, Respondents ask the Court to strike out one word in its opinion that Respondents fear could be misread to suggest that if the EPA

has not included a term in a permit that it has issued in the past, that fact is “fatal” to Respondents’ ability to show that a term is a federal mandate in a different context. (Slip Op. 27.) Because the specific terms in a permit emerge from a collaborative process that involves the MS4 operators, the regional board, the public, and US EPA, terms that are appropriate for a particular California MS4 permit may not find counterparts in existing, US EPA-issued permits addressing conditions in other States. If the regional boards were forced to limit permit conditions to those already found in existing US EPA-issued permits, the resulting California permits would be unduly constrained in implementing—and, indeed, might be unable to satisfy—the federal maximum-extent-practicable standard. Proper application of that standard depends on a host of factors unique to a particular location—including, but not limited to, the region’s topography, population and population density, annual rainfall, frequency of rainfall, and land uses. It also depends on constructing a particular permit with a number of locally tailored, individual terms working together to achieve compliance with the federal standard. Limiting new permits to terms that have already been used in the four States and handful of federal jurisdictions where US EPA issues permits would also preclude California and its localities from taking advantage of emerging best practices or innovative approaches and technologies. A rule that treats any term not among the terms in past US EPA-issued permits as a state mandate, even where such terms are necessary to meet the maximum-extent-practicable standard in the future, would jeopardize California’s continued administration of the MS4 permitting program for the reasons discussed in Section I.

Certainly, a US EPA-issued permit from another jurisdiction may provide some evidence of what federal law requires. Treating US EPA-issued permits as one piece of evidence among many—such as US EPA

guidance documents, site-specific reports, etc.—will allow the regional boards appropriate flexibility to select a set of controls that will reliably and efficiently meet the federal standard, while enabling the Commission to determine in an informed way whether the permit contains terms that are in fact state mandates. Respondents believe this approach is fully consistent with the intent of this Court’s opinion. Removing the adverb “fatally” from the opinion would achieve that goal.

CONCLUSION

For the foregoing reasons, Respondents respectfully request that the Court grant rehearing and make minor changes to its opinion clarifying that the federal mandates question in MS4 permit test claims remains a case-by-case inquiry.

Dated: September 13, 2016 Respectfully submitted,

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CERTIFICATE OF COMPLIANCE

I certify that the attached Petition for Rehearing uses a 13 point Times New Roman font and contains 4,114 words.

Dated: September 13, 2016

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DECLARATION OF SERVICE BY U.S. MAIL

Case Name: *Department of Finance v. Commission on State Mandates (County of Los Angeles)*

No.: **S214855**

I declare:

I am employed in the Office of the Attorney General, which is the office of a member of the California State Bar, at which member's direction this service is made. I am 18 years of age or older and not a party to this matter. I am familiar with the business practice at the Office of the Attorney General for collection and processing of correspondence for mailing with the United States Postal Service. In accordance with that practice, correspondence placed in the internal mail collection system at the Office of the Attorney General is deposited with the United States Postal Service with postage thereon fully prepaid that same day in the ordinary course of business.

On September 13, 2016, I served the attached

PETITION FOR REHEARING

by placing a true copy thereof enclosed in a sealed envelope in the internal mail collection system at the Office of the Attorney General at 455 Golden Gate Avenue, Suite 11000, San Francisco, CA 94102-7004, addressed as follows:

(See attached service list.)

I declare under penalty of perjury under the laws of the State of California the foregoing is true and correct and that this declaration was executed on September 13, 2016, at San Francisco, California.

A. Bermudez
Declarant

A. Bermudez

Signature

SERVICE LIST

Department of Finance v. Commission on State Mandates (County of Los Angeles)

Case No.: S214855

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ATTACHMENT 35

**California Regional Water Quality Control Board
San Diego Region**

**Waste Discharge Requirements for
Discharges of Runoff from the
Municipal Separate Storm Sewer Systems
(MS4s)**

**Draining the Watershed of the County of Orange,
The Incorporated Cities of Orange County, and
The Orange County Flood Control District
Within the San Diego Region**

**Order No. R9-2009-0002
NPDES NO. CAS0108740**

December 16, 2009

**CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
SAN DIEGO REGION**

9174 Sky Park Court, Suite 100, San Diego, California 92123-4340

Phone • (858) 467-2952 • Fax (858) 571-6972

<http://www.waterboards.ca.gov/sandiego>

To request copies of the Orange County Municipal Storm Water Permit, please contact Ben Neill, Water Resources Control Engineer at (858) 467 – 2983, bneill@waterboards.ca.gov

Documents also are available at: <http://www.waterboards.ca.gov/sandiego>

**WASTE DISCHARGE REQUIREMENTS FOR
DISCHARGES OF RUNOFF FROM THE
MUNICIPAL SEPARATE STORM SEWER SYSTEMS (MS4s)
DRAINING THE WATERSHED OF
THE COUNTY OF ORANGE, THE INCORPORATED CITIES OF
ORANGE COUNTY, AND THE ORANGE COUNTY FLOOD
CONTROL DISTRICT WITHIN THE SAN DIEGO REGION**

Adopted by the
California Regional Water Quality Control Board
San Diego Region
on December 16, 2009

**CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
SAN DIEGO REGION
9174 Sky Park Court, Suite 100
San Diego, California 92123-4340
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STATE OF CALIFORNIA
ARNOLD SCHWARZENEGGER, Governor
LINDA S. ADAMS, Agency Secretary, California Environmental Protection Agency



**California Regional Water Quality Control Board
San Diego Region**

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Attachment F – Data

The California Regional Water Quality Control Board, San Diego Region (hereinafter Regional Board), finds that:

A. BASIS FOR THE ORDER

1. This Order is based on the federal Clean Water Act (CWA), the Porter-Cologne Water Quality Control Act (Division 7 of the Water Code, commencing with Section 13000), applicable State and federal regulations, all applicable provisions of statewide Water Quality Control Plans and Policies adopted by the State Water Resources Control Board (State Board), the Water Quality Control Plan for the San Diego Basin adopted by the Regional Board, the California Toxics Rule, and the California Toxics Rule Implementation Plan.
2. This Order reissues National Pollutant Discharge Elimination System (NPDES) Permit No. CAS0108740, which was first adopted by the Regional Board on July 16, 1990 (Order No. 90-38), and then reissued on August 8, 1996 (Order No. 96-03) and February 13, 2002 (Order No. R9-2002-01). On August 21, 2006, in accordance with Order No. R9-2002-01, the County of Orange, as the Principal Copermittee, submitted a Report of Waste Discharge (ROWD) for reissuance of the municipal separate storm sewer system (MS4) Permit.
3. This Order is consistent with the following precedential Orders adopted by the State Water Resources Control Board (State Board) addressing MS4 NPDES Permits: Order 99-05, Order WQ-2000-11, Order WQ 2001-15, Order WQO 2002-0014, and Order WQ-2009-0008 (*SWRCB/OCC FILE A-1780*).
4. The Fact Sheet / Technical Report for the Order No. R9-2009-0002, NPDES No. CAS0108740, Waste Discharge Requirements for Discharges of Runoff from the Municipal Separate Storm Sewer Systems (MS4s) Draining the Watersheds of the County of Orange, the Incorporated Cities of Orange County, and the Orange County Flood Control District Within the San Diego Region includes cited regulatory and legal references and additional explanatory information and data in support of the requirements of this Permit. This information, including any supplements thereto, and any response to comments on the Tentative Orders, is hereby incorporated by reference into these findings.

B. REGULATED PARTIES

1. Each of the persons in Table 1 below, hereinafter called Copermittees or dischargers, owns or operates an MS4, through which it discharges runoff into waters of the United States within the San Diego Region. These MS4s fall into one or more of the following categories: (1) a medium or large MS4 that services a population of greater than 100,000 or 250,000 respectively; or (2) a small MS4 that is "interrelated" to a medium or large MS4; or (3) an MS4 which contributes to a

violation of a water quality standard; or (4) an MS4 which is a significant contributor of pollutants to waters of the United States (waters of the U.S).

Table 1. Municipal Copermitttees

1. City of Aliso Viejo	8. City of Mission Viejo
2. City of Dana Point	9. City of Rancho Santa Margarita
3. City of Laguna Beach	10. City of San Clemente
4. City of Laguna Hills	11. City of San Juan Capistrano
5. City of Laguna Niguel	12. County of Orange
6. City of Laguna Woods	13. Orange County Flood Control District
7. City of Lake Forest	

C. DISCHARGE CHARACTERISTICS

1. Runoff discharged from an MS4 contains waste, as defined in the California Water Code (CWC), and pollutants that adversely affect the quality of the waters of the State. The discharge of runoff from an MS4 is a “discharge of pollutants from a point source” into waters of the U.S. as defined in the CWA.
2. MS4 storm water and non-storm water discharges are likely to contain pollutants that cause or threaten to cause a violation of water quality standards, as outlined in the Regional Board’s Water Quality Control Plan for the San Diego Basin (Basin Plan). Storm water and non-storm water discharges from the MS4 are subject to the conditions and requirements established in the San Diego Basin Plan for point source discharges. These surface water quality standards must be complied with at all times, irrespective of the source and manner of discharge.
3. The most common categories of pollutants in runoff include total suspended solids, sediment, pathogens (e.g., bacteria, viruses, protozoa); heavy metals (e.g., copper, lead, zinc and cadmium); petroleum products and polynuclear aromatic hydrocarbons; synthetic organics (e.g., pesticides, herbicides, and PCBs); nutrients (e.g., nitrogen and phosphorus fertilizers); oxygen-demanding substances (decaying vegetation, animal waste); detergents; and trash.
4. The discharge of pollutants and/or increased flows from MS4s may cause or threaten to cause the concentration of pollutants to exceed applicable receiving water quality objectives and/or impair or threaten to impair designated beneficial uses resulting in a condition of pollution (i.e., unreasonable impairment of water quality for designated beneficial uses), contamination, or nuisance.
5. Pollutants in runoff can threaten and adversely affect human health. Human illnesses have been clearly linked to recreating near storm drains flowing to coastal waters. Also, runoff pollutants in receiving waters can bioaccumulate in the tissues of invertebrates and fish, which may be eventually consumed by humans.

6. Runoff discharges from MS4s often contain pollutants that cause toxicity to aquatic organisms (i.e., adverse responses of organisms to chemicals or physical agents ranging from mortality to physiological responses such as impaired reproduction or growth anomalies). Toxic pollutants impact the overall quality of aquatic systems and beneficial uses of receiving waters.
7. The Copermitttees discharge runoff into lakes, drinking water reservoirs, rivers, streams, creeks, bays, estuaries, coastal lagoons, the Pacific Ocean, and tributaries thereto within one of the eleven hydrologic units (San Juan Hydrologic Unit) comprising the San Diego Region as shown in Tables 2a and 2b. Some of the receiving water bodies have been designated as impaired by the Regional Board and the United States Environmental Protection Agency (USEPA) in 2006 pursuant to CWA section 303(d). Also shown in the Tables are the watershed management areas (WMAs) as defined in the Regional Board report, Watershed Management Approach, January 2002.

Table 2a. Common Watersheds and CWA Section 303(d) Impaired Waters

Regional Board Watershed Management Area (WMA)	Hydrologic Area (HA) or Hydrologic Subarea (HSA) of the San Juan Hydrologic Unit	Major Receiving Water Bodies	303(d) Pollutant(s)/stressor or Water Quality Effect¹
Laguna Coastal Streams	Laguna HA, excluding Aliso HSA and Dana Point HSA	Laguna Canyon Creek, Pacific Ocean	Bacterial indicators Sediment toxicity
Aliso Creek	Aliso HSA	Aliso Creek, English Canyon, Pacific Ocean	Toxicity Phosphorus Bacterial indicators Benzo[b]fluoranthene Dieldrin Sediment Toxicity
Dana Point Coastal Streams	Dana Point HSA	Dana Point Harbor, Salt Creek, Pacific Ocean	Bacterial indicators
San Juan Creek	Mission Viejo HA	San Juan Creek, Trabuco Creek, Oso Creek, Canada Gobernadora, Bell Canyon, Verdugo Canyon, Pacific Ocean	Bacterial indicators DDE Chloride Sulfates Total dissolved solids

¹ The listed 303(d) pollutant(s) do not necessarily reflect impairment of the entire corresponding WMA or all corresponding major surface water bodies. The specific impaired portions of each WMA are listed in the State Water Resources Control Board's 2006 Section 303(d) List of Water Quality Limited Segments.

Table 2a. Common Watersheds and CWA Section 303(d) Impaired Waters

Regional Board Watershed Management Area (WMA)	Hydrologic Area (HA) or Hydrologic Subarea (HSA) of the San Juan Hydrologic Unit	Major Receiving Water Bodies	303(d) Pollutant(s)/stressor or Water Quality Effect ¹
San Clemente Coastal Streams	San Clemente HA	Prima Deshecha, Segunda Deshecha, Pacific Ocean	Bacterial indicators Phosphorus Turbidity
San Mateo Creek	San Mateo HA	San Mateo Creek, Christianitos Creek, Pacific Ocean	

Table 2b. Common Watersheds and Municipalities

Municipality	Laguna Coastal Streams	Aliso Creek	Dana Point Coastal Streams	San Juan Creek	San Clemente Coastal Streams	San Mateo Creek
Aliso Viejo	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>				
Dana Point			<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>		
Laguna Beach	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>				
Laguna Hills *		<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>		
Laguna Niguel		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>		
Laguna Woods *		<input checked="" type="checkbox"/>				
Lake Forest *		<input checked="" type="checkbox"/>				
Mission Viejo		<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>		
Rancho Santa Margarita				<input checked="" type="checkbox"/>		
San Clemente					<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
San Juan Capistrano				<input checked="" type="checkbox"/>		
County of Orange *	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Orange County Flood Control District *	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	

* Municipality also includes areas within watersheds of the Santa Ana Regional Board that are outside the scope of this Order

8. Trash is a persistent pollutant which can enter receiving waters from the MS4 resulting in accumulation and transport in receiving waters over time. Trash poses a serious threat to the Beneficial Uses of the receiving waters, including, but not limited to, human health, rare and endangered species, navigation and human recreation.
9. The Copermittees' water quality monitoring data submitted to date documents persistent violations of Basin Plan water quality objectives for various runoff-related pollutants (fecal coliform bacteria, total suspended solids, turbidity, metals, etc.) at

various watershed monitoring stations. Persistent toxicity has also been observed at some watershed monitoring stations. In addition, bioassessment data indicates that the majority of urbanized receiving waters have Poor to Very Poor Index of Biotic Integrity ratings. In sum, the above findings indicate that runoff discharges are causing or contributing to water quality impairments, and are a leading cause of such impairments in Orange County.

10. When natural vegetated pervious ground cover is converted to impervious surfaces such as paved highways, streets, rooftops, and parking lots, the natural absorption and infiltration abilities of the land are lost. Therefore, runoff leaving a developed area is significantly greater in runoff volume, velocity, and peak flow rate than pre-development runoff from the same area. Runoff durations can also increase as a result of flood control and other efforts to control peak flow rates. Increased volume, velocity, rate, and duration of runoff, and decreased natural clean sediment loads, greatly accelerate the erosion of downstream natural channels. Significant declines in the biological integrity and physical habitat of streams and other receiving waters have been found to occur with as little as a 3-5 percent conversion from natural to impervious surfaces. The increased runoff characteristics from new development must be controlled to protect against increased erosion of channel beds and banks, sediment pollutant generation, or other impacts to beneficial uses and stream habitat due to increased erosive force.
11. Development creates new pollution sources as human population density increases and brings with it proportionately higher levels of car emissions, car maintenance wastes, municipal sewage, pesticides, household hazardous wastes, pet wastes, trash, etc. which can either be washed or directly dumped into the MS4. As a result, the runoff leaving the developed urban area is significantly greater in pollutant load than the pre-development runoff from the same area. These increased pollutant loads must be controlled to protect downstream receiving water quality.
12. Development and urbanization especially threaten environmentally sensitive areas (ESAs), such as water bodies designated as supporting a RARE beneficial use (supporting rare, threatened or endangered species) and CWA 303(d)-impaired water bodies. Such areas have a much lower capacity to withstand pollutant shocks than might be acceptable in other areas. In essence, development that is ordinarily insignificant in its impact on the environment may become significant in a particularly sensitive environment. Therefore, additional control to reduce storm water pollutants from new and existing development may be necessary for areas adjacent to or discharging directly to an ESA.
13. Although dependent on several factors, the risks typically associated with properly managed infiltration of runoff (especially from residential land use areas) are not significant. The risks associated with infiltration can be managed by many techniques, including (1) designing landscape drainage features that promote infiltration of runoff, but do not "inject" runoff (injection bypasses the natural processes of filtering and transformation that occur in the soil); (2) taking reasonable

steps to prevent the illegal disposal of wastes; (3) protecting footings and foundations; (4) ensuring that each drainage feature is adequately maintained in perpetuity; and (5) pretreatment.

14. Non-storm water (dry weather) discharge from the MS4 is not considered a storm water (wet weather) discharge and therefore is not subject to regulation under the Maximum Extent Practicable (MEP) standard from CWA 402(p)(3)(B)(iii), which is explicitly for “Municipal ... *Stormwater Discharges* (emphasis added)” from the MS4. Non-storm water discharges, per CWA 402(p)(3)(B)(ii), are to be effectively prohibited. Such dry weather non-storm water discharges have been shown to contribute significant levels of pollutants and flow in arid, developed Southern California watersheds and are to be effectively prohibited under the Clean Water Act.
15. Non-storm water discharges to the MS4 granted an influent exception [i.e., which are exempt from the effective prohibition requirement set forth in CWA section 402(p)(3)(B)(ii)] under 40 CFR 122. 26 are included within this Order. Any exempted discharges identified by Copermittees as a source of pollutants are subsequently required to be *addressed* (emphasis added) as illicit discharges through prohibition and incorporation into existing IC/ID programs. The Copermittees have identified landscape irrigation, irrigation water and lawn water, previously exempted discharges, as a source of pollutants and conveyance of pollutants to waters of the United States.

D. RUNOFF MANAGEMENT PROGRAMS

1. General

- a. This Order specifies requirements necessary for the Copermittees to reduce the discharge of pollutants in storm water runoff to the maximum extent practicable (MEP). However, since MEP is a dynamic performance standard, which evolves over time as runoff management knowledge increases, the Copermittees’ runoff management programs must continually be assessed and modified to incorporate improved programs, control measures, best management practices (BMPs), etc. in order to achieve the evolving MEP standard. Absent evidence to the contrary, this continual assessment, revision, and improvement of runoff management program implementation is expected to ultimately achieve compliance with water quality standards in the Region.
- b. The Copermittees have generally been implementing the jurisdictional runoff management programs required pursuant to Order No. 2002-01 since February 13, 2003. Prior to that, the Copermittees were regulated by Order No. 96-03 since August 8, 1996. Runoff discharges, however, continue to cause or contribute to violations of water quality standards as evidenced by the Copermittees monitoring results.

- c. This Order contains new or modified requirements that are necessary to improve Copermittees' efforts to reduce the discharge of pollutants in storm water runoff to the MEP and achieve water quality standards. Some of the new or modified requirements, such as the revised Watershed Runoff Management Program section, are designed to specifically address high priority water quality problems. Other new or modified requirements address program deficiencies that have been noted during audits, report reviews, and other Regional Board compliance assessment activities.
- d. Updated Jurisdictional Runoff Management Plans (JRMPs) and Watershed Runoff Management Plans (WRMPs), which describe the Copermittees' runoff management programs in their entirety, are needed to guide the Copermittees' runoff management efforts and aid the Copermittees in tracking runoff management program implementation. It is practicable for the Copermittees to update the JRMPs and WRMPs within one year, since significant efforts to develop these programs have already occurred.
- e. Pollutants can be effectively reduced in storm water runoff by the application of a combination of pollution prevention, source control, and treatment control BMPs. Pollution prevention is the reduction or elimination of pollutant generation at its source and is the best "first line of defense." Source control BMPs (both structural and non-structural) minimize the contact between pollutants and flows (e.g., rerouting run-on around pollutant sources or keeping pollutants on-site and out of receiving waters). Treatment control BMPs remove pollutants that have been mobilized by wet-weather or dry-weather flows.
- f. Runoff needs to be addressed during the three major phases of urban development (planning, construction, and use) in order to reduce the discharge of pollutants from storm water to the MEP, effectively prohibit non-storm water discharges and protect receiving waters. Development which is not guided by water quality planning policies and principles can unnecessarily result in increased pollutant load discharges, flow rates, and flow durations which can negatively impact receiving water beneficial uses. Construction sites without adequate BMP implementation result in sediment runoff rates which greatly exceed natural erosion rates of undisturbed lands, causing siltation and impairment of receiving waters. Existing development generates substantial pollutant loads which are discharged in runoff to receiving waters.
- g. Annual reporting requirements included in this Order are necessary to meet federal requirements and to evaluate the effectiveness and compliance of the Copermittees' programs.
- h. This Order establishes Storm Water Action Levels (SALs) for selected pollutants based on USEPA Rain Zone 6 (arid southwest) Phase I MS4 monitoring data for pollutants in storm water. The SALs were computed as the 90th percentile of the data set, utilizing the statistical based population approach, one of three

approaches recommended by the California Water Board's Storm Water Panel in its report, 'The Feasibility of Numerical Effluent Limits Applicable to Discharges of Storm Water Associated with Municipal, Industrial and Construction Activities (June 2006). SALs are identified in Section D of this Order. Copermittees shall implement a timely, comprehensive, cost-effective storm water pollution control program to reduce the discharge of pollutants in storm water from the permitted areas so as not to exceed the SALs. Exceedance of SALs may indicate inadequacy of programmatic measures and BMPs required in this Order.

2. Development Planning

- a. The Standard Storm Water Mitigation Plan (SSMP) requirements contained in this Order are consistent with Order WQ-2000-11 adopted by the State Water Resources Control Board (State Board) on October 5, 2000. In the precedential order, the State Board found that the design standards, which essentially require that runoff generated by 85 percent of storm events from specific development categories be infiltrated or treated, reflect the MEP standard. The order also found that the SSMP requirements are appropriately applied to the majority of the Priority Development Project categories contained in Section D.1 of this Order. The State Board also gave Regional Water Quality Control Boards the needed discretion to include additional categories and locations, such as retail gasoline outlets (RGOs), in SSMPs.
- b. Controlling runoff pollution by using a combination of onsite source control and site design BMPs augmented with treatment control BMPs before the runoff enters the MS4 is important for the following reasons: (1) Many end-of-pipe BMPs (such as diversion to the sanitary sewer) are typically ineffective during significant storm events. Whereas, onsite source control BMPs can be applied during all runoff conditions; (2) End-of-pipe BMPs are often incapable of capturing and treating the wide range of pollutants which can be generated on a sub-watershed scale; (3) End-of-pipe BMPs are more effective when used as polishing BMPs, rather than the sole BMP to be implemented; (4) End-of-pipe BMPs do not protect the quality or beneficial uses of receiving waters between the pollutant source and the BMP; and (5) Offsite end-of-pipe BMPs do not aid in the effort to educate the public regarding sources of pollution and their prevention.
- c. Use of Low-Impact Development (LID) site design BMPs at new development, redevelopment and retrofit projects can be an effective means for minimizing the impact of storm water runoff discharges from the development projects on receiving waters. LID is a site design strategy with a goal of maintaining or replicating the pre-development hydrologic regime through the use of design techniques. LID site design BMPs help preserve and restore the natural hydrologic cycle of the site, allowing for filtration and infiltration which can greatly reduce the volume, peak flow rate, velocity, and pollutant loads of storm water runoff. Current runoff management, knowledge, practices and technology have

resulted in the use of LID BMPs as an acceptable means of meeting the storm water MEP standard.

- d. Retail Gasoline Outlets (RGOs) are significant sources of pollutants in storm water runoff. RGOs are points of convergence for motor vehicles for automotive related services such as repair, refueling, tire inflation, and radiator fill-up and consequently produce significantly higher loadings of hydrocarbons and trace metals (including copper and zinc) than other developed areas.
- e. Industrial sites are significant sources of pollutants in runoff. Pollutant concentrations and loads in runoff from industrial sites are similar or exceed pollutant concentrations and loads in runoff from other land uses, such as commercial or residential land uses. As with other land uses, LID site design, source control, and treatment control BMPs are needed at industrial sites in order to meet the MEP standard. These BMPs are necessary where the industrial site is larger than 10,000 square feet. The 10,000 square feet threshold is appropriate, since it is consistent with requirements in other Phase I NPDES storm water regulations throughout California.
- f. If not properly designed or maintained, certain BMPs implemented or required by municipalities for runoff management may create a habitat for vectors (e.g. mosquitoes and rodents). Proper BMP design and maintenance to avoid standing water, however, can prevent the creation of vector habitat. Nuisances and public health impacts resulting from vector breeding can be prevented with close collaboration and cooperative effort between municipalities, the Orange County Vector Control District, and the California Department of Public Health during the development and implementation of runoff management programs.
- g. The increased volume, velocity, frequency and discharge duration of storm water runoff from developed areas has the potential to greatly accelerate downstream erosion, impair stream habitat in natural drainages, and negatively impact beneficial uses. Development and urbanization increase pollutant loads in storm water runoff and the volume of storm water runoff. Impervious surfaces can neither absorb water nor remove pollutants and thus lose the purification and infiltration provided by natural vegetated soil. Hydromodification measures for discharges to hardened channels are needed for the future restoration of the hardened channels to their natural state, thereby restoring the chemical, physical, and biological integrity and Beneficial Uses of local receiving waters.

3. Construction and Existing Development

- a. In accordance with federal NPDES regulations and to ensure the most effective oversight of industrial and construction site discharges, discharges of runoff from industrial and construction sites are subject to dual (State and local) storm water regulation. Under this dual system, each Copermitttee is responsible for enforcing its local permits, plans, and ordinances, and the Regional Board is

responsible for enforcing the General Construction Activities Storm Water Permit, State Board Order 99-08 DWQ, NPDES No. CAS000002 (General Construction Permit) and the General Industrial Activities Storm Water Permit, State Board Order 97-03 DWQ, NPDES No. CAS000001 (General Industrial Permit) and any reissuance of these permits. NPDES municipal regulations require that municipalities develop and implement measures to address runoff from industrial and construction activities. Those measures may require the implementation of additional BMPs than are required under the statewide general permits for activities subject to both State and local regulation.

- b. Identification of sources of pollutants in runoff (such as municipal areas and activities, industrial and commercial sites/sources, construction sites, and residential areas), development and implementation of BMPs to address those sources, and updating ordinances and approval processes are necessary for the Copermittees to ensure that discharges of pollutants from its MS4 in storm water are reduced to the MEP and that non-storm water discharges are not occurring. Inspections and other compliance verification methods are needed to ensure minimum BMPs are implemented. Inspections are especially important at high risk areas for pollutant discharges.
- c. Historic and current development makes use of natural drainage patterns and features as conveyances for runoff. Urban streams used in this manner are part of the municipalities MS4 regardless of whether they are natural, anthropogenic, or partially modified features. In these cases, the urban stream is both an MS4 and receiving water.
- d. As operators of the MS4s, the Copermittees cannot passively receive and discharge pollutants from third parties. By providing free and open access to an MS4 that conveys discharges to waters of the U.S., the operator essentially accepts responsibility for discharges into the MS4 that it does not prohibit or control. These discharges may cause or contribute to a condition of contamination or a violation of water quality standards.
- e. Waste and pollutants which are deposited and accumulate in MS4 drainage structures will be discharged from these structures to waters of the U.S. unless they are removed. These discharges may cause or contribute to, or threaten to cause or contribute to, a condition of pollution in receiving waters. For this reason, pollutant discharges from storm water into MS4s must be reduced using a combination of management measures, including source control, and an effective MS4 maintenance program must be implemented by each Copermittee.
- f. Enforcement of local runoff related ordinances, permits, and plans is an essential component of every runoff management program and is specifically required in the federal storm water regulations and this Order. Each Copermittee is individually responsible for adoption and enforcement of ordinances and/or policies, implementation of identified control measures/BMPs needed to prevent

or reduce pollutants in storm water runoff, and for the allocation of funds for the capital, operation and maintenance, administrative, and enforcement expenditures necessary to implement and enforce such control measures/BMPs under its jurisdiction. Education is an important aspect of every effective runoff management program and the basis for changes in behavior at a societal level. Education of municipal planning, inspection, and maintenance department staffs is especially critical to ensure that in-house staffs understand how their activities impact water quality, how to accomplish their jobs while protecting water quality, and their specific roles and responsibilities for compliance with this Order. Public education, designed to target various urban land users and other audiences, is also essential to inform the public of how individual actions affect receiving water quality and how adverse effects can be minimized.

- g. Public participation during the development of runoff management programs is necessary to ensure that all stakeholder interests and a variety of creative solutions are considered.
- h. Retrofitting existing development with storm water treatment controls, including LID, is necessary to address storm water discharges from existing development that may cause or contribute to a condition of pollution or a violation of water quality standards. Although SSMP BMPs are required for redevelopment, the current rate of redevelopment will not address water quality problems in a timely manner. Cooperation with private landowners is necessary to effectively identify, implement and maintain retrofit projects for the preservation, restoration, and enhancement of water quality.

4. Watershed Runoff Management

- a. Since runoff within a watershed can flow from and through multiple land uses and political jurisdictions, watershed-based runoff management can greatly enhance the protection of receiving waters. Such management provides a means to focus on the most important water quality problems in each watershed. By focusing on the most important water quality problems, watershed efforts can maximize protection of beneficial use in an efficient manner. Effective watershed-based runoff management actively reduces pollutant discharges and abates pollutant sources causing or contributing to watershed water quality problems. Watershed-based runoff management that does not actively reduce pollutant discharges and abate pollutant sources causing or contributing to watershed water quality problems can necessitate implementation of the iterative process outlined in section A.3 of the Tentative Order. Watershed management of runoff does not require Copermittees to expend resources outside of their jurisdictions. Watershed management requires the Copermittees within a watershed to develop a watershed-based management strategy, which can then be implemented on a jurisdictional basis.

- b. Some runoff issues, such as general education and training, can be effectively addressed on a regional basis. Regional approaches to runoff management can improve program consistency and promote sharing of resources, which can result in implementation of more efficient programs.
- c. It is important for the Copermittes to coordinate their water quality protection and land use planning activities to achieve the greatest protection of receiving water bodies. Copermittie coordination with other watershed stakeholders, especially the State of California Department of Transportation, the United States Department of Defense, and water and sewer districts, is also important.

E. STATUTE AND REGULATORY CONSIDERATIONS

1. The Receiving Water Limitations (RWL) language specified in this Order is consistent with language recommended by the USEPA and established in State Board Water Quality Order 99-05, *Own Motion Review of the Petition of Environmental Health Coalition to Review Waste Discharge Requirements Order No. 96-03, NPDES Permit No. CAS0108740*, adopted by the State Board on June 17, 1999. The RWL in this Order require compliance with water quality standards, which for storm water discharges is to be achieved through an iterative approach requiring the implementation of improved and better-tailored BMPs over time. Compliance with receiving water limits based on applicable water quality standards is necessary to ensure that MS4 discharges will not cause or contribute to violations of water quality standards and the creation of conditions of pollution.
2. The Water Quality Control Plan for the San Diego Basin (Basin Plan), identifies the following beneficial uses for surface waters in Orange County: Municipal and Domestic Supply (MUN)², Agricultural Supply (AGR), Industrial Process Supply (PROC), Industrial Service Supply (IND), Ground Water Recharge (GWR), Contact Water Recreation (REC1), Non-contact Water Recreation (REC2), Warm Freshwater Habitat (WARM), Cold Freshwater Habitat (COLD), Wildlife Habitat (WILD), Rare, Threatened, or Endangered Species (RARE), Freshwater Replenishment (FRSH), Hydropower Generation (POW), and Preservation of Biological Habitats of Special Significance (BIOL). The following additional beneficial uses are identified for coastal waters of Orange County: Navigation (NAV), Commercial and Sport Fishing (COMM), Estuarine Habitat (EST), Marine Habitat (MAR), Aquaculture (AQUA), Migration of Aquatic Organisms (MIGR), Spawning, Reproduction, and/or Early Development (SPWN), and Shellfish Harvesting (SHELL).
3. This Order is in conformance with State Board Resolution No. 68-16, *Statement of Policy with Respect to Maintaining High Quality Waters in California*, and the federal Antidegradation Policy described in 40 CFR 131.12.

² Subject to exceptions under the "Sources of Drinking Waters" Policy (Resolution No. 89-33)

4. Section 6217(g) of the Coastal Zone Act Reauthorization Amendments of 1990 (CZARA) requires coastal states with approved coastal zone management programs to address non-point pollution impacting or threatening coastal water quality. CZARA addresses five sources of non-point pollution: agriculture, silviculture, urban, marinas, and hydromodification. This NPDES permit addresses the management measures required for the urban category, with the exception of septic systems. The adoption and implementation of this NPDES permit relieves the Copermittee from developing a non-point source plan, for the urban category, under CZARA. The Regional Board addresses septic systems through the administration of other programs.
5. Section 303(d)(1)(A) of the CWA requires that “Each state must identify those waters within its boundaries for which the effluent limitations...are not stringent enough to implement any water quality standard (WQS) applicable to such waters.” The CWA also requires states to establish a priority ranking of impaired water bodies known as Water Quality Limited Segments and to establish Total Maximum Daily Loads (TMDLs) for such waters. This priority list of impaired water bodies is called the Section 303(d) List. The current Section 303(d) List was approved by the State Board on October 25, 2006. On June 28, 2007 the 2006 303(d) list for California was given final approval by the United States Environmental Protection Agency (USEPA).
6. This Order does not constitute an unfunded local government mandate subject to subvention under Article XIII B, Section (6) of the California Constitution for several reasons, including, but not limited to, the following. First, this Order implements federally mandated requirements under federal Clean Water Act section 402. (33 U.S.C. § 1342(p)(3)(B).) Second, the local agency Copermittees’ obligations under this Order are similar to, and in many respects less stringent than, the obligations of non-governmental and new dischargers who are issued NPDES permits for storm water and non-storm water discharges. Third, the local agency Copermittees have the authority to levy service charges, fees, or assessments sufficient to pay for compliance with this Order. Fourth, the Copermittees have requested permit coverage in lieu of compliance with the complete prohibition against the discharge of pollutants contained in federal Clean Water Act section 301, subdivision (a) (33 U.S.C. § 1311(a)) and in lieu of numeric restrictions on their storm water discharges. Fifth, the local agencies’ responsibility for preventing discharges of waste that can create conditions of pollution or nuisance from conveyances that are within their ownership or control under State law predates the enactment of Article XIII B, Section (6) of the California Constitution. Likewise, the provisions of this Order to implement total maximum daily loads (TMDLs) are federal mandates. The federal Clean Water Act requires TMDLs to be developed for water bodies that do not meet federal water quality standards. (33 U.S.C. sec. 1313(d).) Once the U.S. Environmental Protection Agency or a state develops a TMDL, federal law requires that permits must contain effluent limitations consistent with the assumptions of any applicable wasteload allocation. (40 C.F.R. sec. 122.44(d)(1)(vii)(B).)

7. Runoff treatment and/or mitigation must occur prior to the discharge of runoff into receiving waters. Treatment BMPs must not be constructed in waters of the U.S. or State unless the runoff flows are sufficiently pretreated to protect the values and functions of the water body. Federal regulations at 40 CFR 131.10(a) state that in no case shall a state adopt waste transport or waste assimilation as a designated use for any waters of the U.S. Authorizing the construction of an runoff treatment facility within a water of the U.S., or using the water body itself as a treatment system or for conveyance to a treatment system, would be tantamount to accepting waste assimilation as an appropriate use for that water body. Furthermore, the construction, operation, and maintenance of a pollution control facility in a water body can negatively impact the physical, chemical, and biological integrity, as well as the beneficial uses, of the water body. Without federal authorization (e.g., pursuant to Clean Water Act Section 404), waters of the U.S. may not be converted into, or used as, waste treatment or conveyance facilities. Similarly, waste discharge requirements pursuant to California Water Code Section 13260 are required for the conversion or use of waters of the State as waste treatment or conveyance facilities. Diversion from waters of the U.S./State to treatment facilities and subsequent return to waters of the U.S. is allowable, provided that the effluent complies with applicable NPDES requirements.
8. The issuance of waste discharge requirements and an NPDES permit for the discharge of runoff from MS4s to waters of the U.S. is exempt from the requirement for preparation of environmental documents under the California Environmental Quality Act (CEQA) (Public Resources Code, Division 13, Chapter 3, section 21000 et seq.) in accordance with the CWC section 13389.
9. Multiple water bodies in Orange County have been identified as impaired and placed on the 303(d) list. In 2004, Bacteria Impaired Waters TMDL Project II included six bacteria impaired shorelines in Dana Point Harbor and San Diego Bay: Baby Beach in Dana Point Harbor and Shelter Island Shoreline Park, B Street, G Street Pier, Tidelands Park, and Chula Vista Marina in San Diego Bay. Since then, only Baby Beach in Dana Point Harbor and Shelter Island Shoreline Park in San Diego Bay can be confirmed as still impaired by indicator bacteria. On June 11, 2008 the Regional Board adopted a Basin Plan amendment to incorporate *Bacteria Impaired Waters TMDL Project II for San Diego Bay and Dana Point Harbor Shorelines*. On June 16, 2009, the State Board approved the Basin Plan amendment. This action meets requirements of section 303(d) of the Clean Water Act (CWA). The Basin Plan amendment process is authorized under section 13240 of the Water Code. The State's Office of Administrative Law (OAL) approved the TMDLs on September 15, 2009. The effective date of the TMDLs is the date of OAL approval. USEPA approved the TMDLs on October 26, 2009.
10. Storm water discharges from developed and developing areas in Orange County are significant sources of certain pollutants that cause, may be causing, threatening to cause or contributing to water quality impairment in the waters of Orange County.

Furthermore, as delineated in the CWA section 303(d) list in Table 3, the Regional Board has found that there is a reasonable potential that municipal storm water and non-storm water discharges from MS4s cause or may cause or contribute to an excursion above water quality standards for the following pollutants: Indicator Bacteria, Phosphorous, Toxicity and Turbidity. In accordance with CWA section 303(d), the Regional Board is required to establish Total Maximum Daily Loads (TMDLs) for these pollutants to these waters to eliminate impairment and attain water quality standards. Therefore, certain early pollutant control actions and further pollutant impact assessments by the Copermitttees are warranted and required pursuant to this Order.

Table 3. 2006 Section 303(d) Listed Waterbodies in So. Orange County

Waterbody	Pollutant
Aliso Creek	Indicator Bacteria, Phosphorus, Toxicity
Aliso Creek Mouth	Indicator Bacteria
Dana Point Harbor	Indicator Bacteria
English Canyon Creek	Benzo[b]fluoranthene, Dieldrin, Sediment Toxicity
Laguna Canyon Channel	Sediment Toxicity
Oso Creek (at Mission Viejo Golf Course)	Chloride, Sulfates, Total Dissolved Solids
Pacific Ocean Shoreline, Aliso HSA	Indicator Bacteria
Pacific Ocean Shoreline, Dana Point HSA	Indicator Bacteria
Pacific Ocean Shoreline, Laguna Beach HSA	Indicator Bacteria
Pacific Ocean Shoreline, Lower San Juan HSA	Indicator Bacteria
Pacific Ocean Shoreline, San Clemente HA	Indicator Bacteria
Pacific Ocean Shoreline, San Joaquin Hills HSA	Indicator Bacteria
Prima Deshecha Creek	Phosphorus, Turbidity
San Juan Creek	DDE, Indicator Bacteria
San Juan Creek (mouth)	Indicator Bacteria
Segunda Deshecha Creek	Phosphorus, Turbidity

11. This Order incorporates only those MS4 Waste Load Allocations (WLAs) developed in TMDLs that have been adopted by the Regional Water Board and have been approved by the State Board, Office of Administrative Law and U.S. EPA. Approved TMDL WLAs are to be addressed using water quality-based effluent limitations (WQBELs) calculated as numeric limitations (either in the receiving waters and/or at the point of MS4 discharge) and/or as BMPs. In most cases, the numeric limitation must be achieved to ensure the adequacy of the BMP program. Waste load

allocations for storm water and non-storm water discharges have been included within this Order only if the TMDL has received all necessary approvals. This Order establishes WQBELs and conditions consistent with the requirements and assumptions of the WLAs in the TMDLs as required by 40 CFR 122.44(d)(1)(vii)(B).

A TMDL is the total amount of a particular pollutant that a water body can receive and still meet Water Quality Standards (WQSS), which are comprised of Water Quality Objectives (WQOs), Beneficial Uses and the States Policy on Maintaining High Quality Waters³. The WQOs serve as the primary basis for protecting the associated Beneficial Use. The Numeric Target of a TMDL interprets and applies the numeric and/or narrative WQOs of the WQSS as the basis for the WLAs. This Order addresses TMDLs through Water Quality Based Effluent Limitations (WQBELs) that must be consistent with the assumptions and requirements of the WLA⁴. Federal guidance⁵ states that when adequate information exists, storm water permits are to incorporate numeric water quality based effluent limitations. In most cases, the numeric target(s) of a TMDL are a component of the WQBELs. When the numeric target is based on one or more numeric WQOs, the numeric WQOs and underlying assumptions and requirements will be used in the WQBELs as numeric effluent limitations by the end of the TMDL compliance schedule, unless additional information is required. When the numeric target interprets one or more narrative WQOs, the numeric target may assess the efficacy and progress of the BMPs in meeting the WLAs and restoring the Beneficial Uses by the end of the TMDL compliance schedule.

This Order fulfills a component of the TMDL Implementation Plan adopted by this Regional Board on June 11, 2008 for indicator bacteria in Baby Beach by establishing WQBELs expressed as both BMPs to achieve the WLAs and as numeric limitations⁶ for the City of Dana Point and the County of Orange. The establishment of WQBELs expressed as BMPs should be sufficient to achieve the WLA specified in the TMDL. The Waste Load Allocations (WLAs) and Numeric Targets are the necessary metrics to ensure that the BMPs achieve appropriate concentrations of bacterial indicators in the receiving waters.

³ State Water Resources Control Board, Resolution No. 68-16

⁴ 40 CFR 122.44(d)(1)(vii)(B)

⁵ USEPA, *Interim Permitting Approach for Water Quality-Based Effluent Limitations in Storm Water Permits*, 61 FR 43761, August 26, 1996

⁶ The Waste Load Allocations are defined in Resolution No. R9-2008-0027, A Resolution to Adopt an Amendment to the *Water Quality Control Plan for the San Diego Basin (9)* to Incorporate Total Maximum Daily Loads for Indicator Bacteria, Baby Beach in Dana Point Harbor and Shelter Island Shoreline Park in San Diego Bay.

12. This Order requires each Copermitttee to effectively prohibit all types of unauthorized discharges of non-storm water into its MS4. However, historically pollutants have been identified as present in dry weather non-storm water discharges from the MS4s through 303(d) listings, monitoring conducted by the Copermitttees under Order No. R9-2002-0001, and there are others expected to be present in dry weather non-storm water discharges because of the nature of these discharges. This Order includes action levels for pollutants in non-storm water, dry weather, discharges from the MS4 designed to ensure that the requirement to effectively prohibit all types of unauthorized discharges of non-storm water in the MS4 is being complied with. Action levels in the Order are based upon numeric or narrative water quality objectives and criteria as defined in the Basin Plan, the Water Quality Control Plan for Ocean Waters of California (Ocean Plan), and the State Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California (State Implementation Policy or SIP). An exceedance of an action level requires specified responsive action by the Copermitttees. This Order describes what actions the Copermitttees must take when an exceedance of an action level is observed. Exceedances of non-storm water action levels do not alone constitute a violation of this Order but could indicate non-compliance with the requirement to effectively prohibit all types of unauthorized non-storm water discharges into the MS4 or other prohibitions established in this Order. Failure to undertake required source investigation and elimination action following an exceedance of 2a non-storm water action level (NAL or action level) is a violation of this Order. The Regional Board recognizes that use of action levels will not necessarily result in detection of all unauthorized sources of non-storm water discharges because there may be some discharges in which pollutants do not exceed established action levels. However, establishing NALs at levels appropriate to protect water quality standards is expected to lead to the identification of significant sources of pollutants in dry weather non-storm water discharges.
13. In addition to federal regulations cited in the Fact Sheet / Technical Report for the Order NO. R9-2009-0002, monitoring and reporting required under Order No. R9-2009-0002 is required pursuant to authority under CWC section 13383.

F. PUBLIC PROCESS

1. The Regional Board has notified the Copermitttees, all known interested parties, and the public of its intent to consider adoption of an Order prescribing waste discharge requirements that would serve to renew an NPDES permit for the existing discharge of runoff.
2. The Regional Board has held public hearings on April 11, 2007, February 13, 2008, July 1, 2009, and November 18, 2009 and heard and considered all comments pertaining to the terms and conditions of this Order.

IT IS HEREBY ORDERED that the Copermittees, in order to meet the provisions contained in Division 7 of the California Water Code (CWC) and regulations adopted thereunder, and the provisions of the Clean Water Act (CWA) and regulations adopted thereunder, must each comply with the following:

A. PROHIBITIONS AND RECEIVING WATER LIMITATIONS

1. Discharges into and from municipal separate storm sewer systems (MS4s) in a manner causing, or threatening to cause, a condition of pollution, contamination, or nuisance (as defined in CWC section 13050), in waters of the state are prohibited.
2. Storm water discharges from MS4s containing pollutants which have not been reduced to the maximum extent practicable (MEP) are prohibited.⁷
3. Discharges from MS4s that cause or contribute to the violation of water quality standards (designated beneficial uses, water quality objectives developed to protect beneficial uses, and the State policy with respect to maintaining high quality waters) are prohibited.
 - a. Each Copermittee must comply with section A.3 and section A.4 as it applies to Prohibition 5 in Attachment A of this Order through timely implementation of control measures and other actions to reduce pollutants in storm water discharges in accordance with this Order, including any modifications. If exceedance(s) of water quality standards persist notwithstanding implementation of this Order, the Copermittee must assure compliance with section A.3 and section A.4 as it applies to Prohibition 5 in Attachment A of this Order by complying with the following procedure:
 - (1) Upon a determination by either the Copermittee or the Regional Board that storm water MS4 discharges are causing or contributing to an exceedance of an applicable water quality standard, the Copermittee must notify the Regional Board within 30 days and thereafter submit a report to the Regional Board that describes best management practices (BMPs) that are currently being implemented and additional BMPs that will be implemented to prevent or reduce any pollutants that are causing or contributing to the exceedance of water quality standards. The report may be incorporated in the Annual Report unless the Regional Board directs an earlier submittal. The report must include an implementation schedule. The Regional Board may require modifications to the report;

⁷ This prohibition does not apply to MS4 discharges which receive subsequent treatment to reduce pollutants to the MEP prior to entering receiving waters (e.g., low flow diversions to the sanitary sewer).

- (2) Submit any modifications to the report required by the Regional Board within 30 days of notification;
 - (3) Within 30 days following approval of the report described above by the Regional Board, the Copermittee must revise its Jurisdictional Runoff Management Program and monitoring program to incorporate the approved modified BMPs that have been and will be implemented, the implementation schedule, and any additional monitoring required; and
 - (4) Implement the revised Jurisdictional Runoff Management Program and monitoring program in accordance with the approved schedule.
- b. The Copermittee must repeat the procedure set forth above to comply with the receiving water limitations for continuing or recurring exceedances of the same water quality standard(s) unless directed to do otherwise by the Regional Board Executive Officer.
 - c. Nothing in section A.3 must prevent the Regional Board from enforcing any provision of this Order while the Copermittee prepares and implements the above report.
4. In addition to the above prohibitions, discharges from MS4s are subject to all Basin Plan prohibitions cited in Attachment A to this Order.

B. NON-STORM WATER DISCHARGES

1. Each Copermittee must effectively prohibit all types of non-storm water discharges into its MS4 unless such discharges are either authorized by a separate National Pollutant Discharge Elimination System (NPDES) permit; or not prohibited in accordance with sections B.2 and B.3 below.
2. The following categories of non-storm water discharges are not prohibited unless a Copermittee or the Regional Board identifies the discharge category as a source of pollutants to waters of the U.S. Where the Copermittee(s) have identified a category as a source of pollutants, the category shall be addressed as an illicit discharge and prohibited through ordinance, order or similar means. The Regional Board may identify categories of discharge that either requires prohibition or other controls. For such a discharge category, the Copermittee, under direction of the Regional Board, must either prohibit the discharge category or develop and implement appropriate control measures to prevent the discharge of pollutants to the MS4 and report to the Regional Board pursuant to Section K.1 and K.3 of this Order.
 - a. Diverted stream flows;
 - b. Rising ground waters;
 - c. Uncontaminated ground water infiltration [as defined at 40 CFR 35.2005(20)] to

- MS4s;
- d. Uncontaminated pumped ground water⁸;
 - e. Foundation drains⁸;
 - f. Springs;
 - g. Water from crawl space pumps⁸;
 - h. Footing drains⁸;
 - i. Air conditioning condensation;
 - j. Flows from riparian habitats and wetlands;
 - k. Water line flushing^{9,10};
 - l. Discharges from potable water sources not subject to NPDES Permit No. CAG679001, other than water main breaks;
 - m. Individual residential car washing; and
 - n. Dechlorinated swimming pool discharges¹¹.
3. Emergency fire fighting flows (i.e., flows necessary for the protection of life or property) do not require BMPs and need not be prohibited. As part of the Jurisdictional Runoff Management Plan (JRMP), each Copermittee must develop and implement a program to address pollutants from non-emergency fire fighting flows (i.e., flows from controlled or practice blazes and maintenance activities) identified by the Copermittee to be significant sources of pollutants to waters of the United States.
- a. Building fire suppression system maintenance discharges (e.g. sprinkler line flushing) contain waste. Therefore, such discharges are to be prohibited by the Copermittees as illicit discharges through ordinance, order, or similar means.
4. Each Copermittee must examine all dry weather effluent analytical monitoring results collected in accordance with section F.4 of this Order and Receiving Waters and MS4 Discharge Monitoring and Reporting Program No. R9-2009-0002 to identify water quality problems which may be the result of any non-prohibited discharge category(ies) identified above in section B.2. Follow-up investigations must be conducted as necessary to identify and control, pursuant to section B.2, any non-prohibited discharge category(ies) listed above.

⁸ Requires enrollment under Order R9-2008-002. Discharges into the MS4 require authorization from the owner and operator of the MS4 system.

⁹ This exemption does not include fire suppression sprinkler system maintenance and testing discharges. Those discharges may be regulated under Section B.3.

¹⁰ Requires enrollment under Order R9-2002-0020.

¹¹ Including saline swimming pool discharges directly to a saline water body.

C. NON-STORM WATER DRY WEATHER ACTION LEVELS

1. Each Copermittee, beginning no later than May 1, 2011, shall implement the non-storm water dry weather action level (NAL) monitoring as described in Attachment E of this Order.
2. In response to an exceedance of an NAL, each Copermittee must investigate and identify the source of the exceedance in a timely manner. However, if any Copermittee identifies exceedances of NALs that prevent them from adequately conducting source investigations in a timely manner, then the Copermittees may submit a prioritization plan and timeline that identifies the timeframe and planned actions to investigate and report their findings on all of the exceedances. Following the source investigation and identification, the Copermittees must submit an action report dependant on the source of the pollutant exceedance as follows:
 - a. If the Copermittee identifies the source of the exceedance as natural (non-anthropogenically influenced) in origin and in conveyance into the MS4; then the Copermittee shall report their findings and documentation of their source investigation to the Regional Board within fourteen days of the source identification.
 - b. If the Copermittee identifies the source of the exceedance as an illicit discharge or connection, then the Copermittees must eliminate the discharge to their MS4 and report the findings, including any enforcement action(s) taken, and documentation of the source investigation to the Regional Board within fourteen days of the source identification. If the Copermittee is unable to eliminate the source of discharge within fourteen days, then the Copermittee must submit, as part of their action report, their plan and timeframe to eliminate the source of the exceedance. Those dischargers seeking to continue such a discharge must become subject to a separate NPDES permit prior to continuing any such discharge.
 - c. If the Copermittee identifies the source of the exceedance as an exempted category of non-storm water discharge, then the Copermittees must determine if this is an isolated circumstance or if the category of discharges must be addressed through the prevention or prohibition of that category of discharge as an illicit discharge. The Copermittee must submit their findings in including a description of the steps taken to address the discharge and the category of discharge, to the Regional Board for review with the next subsequent annual report. Such description shall include relevant updates to or new ordinances, orders, or other legal means of addressing the category of discharge. The Copermittees must also submit a summary of their findings with the Report of Waste Discharge.
 - d. If the Copermittee identifies the source of the exceedance as a non-storm water discharge in violation or potential violation of an existing separate NPDES permit

- (e.g. the groundwater dewatering permit), then the Copermittee must report, within three business days, the findings to the Regional Board including all pertinent information regarding the discharger and discharge characteristics.
- e. If the Copermittee is unable to identify the source of the exceedance after taking and documenting reasonable steps to do so, then the Copermittee must identify the pollutant as a high priority pollutant of concern in the tributary subwatershed, perform additional focused sampling and update their programs within a year to reflect this priority. The Copermittee's annual report shall include these updates to their programs including, where applicable, updates to their watershed workplans (Section G.2), retrofitting consideration (Section F.3.d) and program effectiveness work plans (Section J.4).
 - f. The Copermittees or any interested party, may evaluate existing NALs and propose revised NALs for future Board consideration.
3. An exceedance of an NAL does not alone constitute a violation of the provisions of this Order, but an exceedance of an NAL may indicate lack of compliance with the requirement that Copermittees effectively prohibit all types of unauthorized non-storm water discharges into the MS4 or other prohibitions set forth in Sections A and B of this Order. Failure to timely implement required actions specified in this Order following an exceedance of an NAL constitutes a violation of this Order. However, neither compliance with NALs nor compliance with required actions following observed exceedances, excuses any non-compliance with the requirement to effectively prohibit all types of unauthorized non-storm water discharges into the MS4s or any non-compliance with the prohibitions in Sections A and B of this Order. NALs provide an assessment of the effectiveness of the prohibition of non-storm water discharges and of the appropriateness of exempted non-storm water discharges. During any annual reporting period in which one or more exceedances of NALs have been documented the Copermittee must submit with their next scheduled annual report, a report describing whether and how the observed exceedances did or did not result in a discharge from the MS4 that caused, or threatened to cause or contribute to a condition of pollution, contamination, or nuisance in the receiving waters.
4. Monitoring of effluent will occur at the end-of-pipe prior to discharge into the receiving waters, with a focus on Major Outfalls, as defined in 40 CFR 122.26(B 5-6) and Attachment E of this Order. The Copermittees must develop their monitoring plans to sample a representative percentage of major outfalls and identified stations within each hydrologic subarea. At a minimum, outfalls that exceed any NALs once during any year must be monitored in the subsequent year. Any station that does not exceed an NAL for 3 years may be replaced with a different station.

5. Each Copermittee shall monitor for the non-storm water dry weather action levels, which are incorporated into this Order as follows:

a. Action levels for discharges to inland surface waters:

Table 4.a.1: General Constituents

Parameter	Units	AMAL	MDAL	Instantaneous Maximum	Basis
Fecal Coliform	MPN/ 100 ml	200 ^A 400 ^B	-		BPO
Enterococci	MPN/ 100 ml	33	-	104 ^C	BPO/OP
Turbidity	NTU	-	20		BPO
pH	Units	Within limit of 6.5 to 8.5 at all times			BPO
Dissolved Oxygen	mg/L	Not less than 5.0 in WARM waters and not less than 6.0 in COLD waters			BPO
Total Nitrogen	mg/L	-	1.0	See MDEL	BPO
Total Phosphorus	mg/L	-	0.1	See MDEL	BPO
Methylene Blue Active Substances	mg/L	-	0.5	See MDEL	BPO

A – Based on a minimum of not less than five samples for any 30-day period

B – No more than 10 percent of total samples may exceed 400 per 100 ml during any 30 day period

C – This Value has been set to Ocean Plan Criteria for Designated Beach Areas

BPO – Basin Plan Objective

OP – Ocean Plan

MDAL – Maximum Daily Action Level

AMAL – Average Monthly Action Level

Table 4.a.2: Priority Pollutants

Parameter	Units	Freshwater (CTR)		Saltwater (CTR)	
		MDAL	AMAL	MDAL	AMAL
Cadmium	ug/L	*	*	16	8
Copper	ug/L	*	*	5.8	2.9
Chromium III	ug/L	*	*	-	-
Chromium VI (hexavalent)	ug/L	16	8.1	83	41
Lead	ug/L	*	*	14	2.9
Nickel	ug/L	*	*	14	6.8
Silver	ug/L	*	*	2.2	1.1
Zinc	ug/L	*	*	95	47

CTR – California Toxic Rule

* - Action Levels developed on a case-by-case basis (see below)

The NALs for Cadmium, Copper, Chromium (III), Lead, Nickel, Silver and Zinc will be developed on a case-by-case basis because the freshwater criteria are based on site-specific water quality data (receiving water hardness). For these priority pollutants, the following equations (40 CFR 131.38.b.2) will be required:

$$\begin{aligned} \text{Cadmium (Total Recoverable)} &= \exp(0.7852[\ln(\text{hardness})] - 2.715) \\ \text{Chromium III (Total Recoverable)} &= \exp(0.8190[\ln(\text{hardness})] + .6848) \\ \text{Copper (Total Recoverable)} &= \exp(0.8545[\ln(\text{hardness})] - 1.702) \\ \text{Lead (Total Recoverable)} &= \exp(1.273[\ln(\text{hardness})] - 4.705) \end{aligned}$$

$$\begin{aligned} \text{Nickel (Total Recoverable)} &= \exp(.8460[\ln(\text{hardness})] + 0.0584) \\ \text{Silver (Total Recoverable)} &= \exp(1.72[\ln(\text{hardness})] - 6.52) \\ \text{Zinc (Total Recoverable)} &= \exp(0.8473[\ln(\text{hardness})] + 0.884) \end{aligned}$$

b. Action levels for discharges to bays, harbors and lagoons/estuaries:

Table 4.b: General Constituents

Parameter	Units	AMAL	MDAL	Instantaneous Maximum	Basis
Total Coliform	MPN/100 ml	1,000	-	10,000	BPO
Fecal Coliform	MPN/100 ml	200 ^A , 400 ^B	-		BPO
Enterococci	MPN/100 ml	35	-	104 ^C	BPO
Turbidity	NTU	75	-	225	OP
pH	Units	Within limit of 6.0 to 9.0 at all times			OP
Priority Pollutants	ug/L	See limitations in Table 4.a.2			

A – Based on a minimum of not less than five samples for any 30-day period

B – No more than 10 percent of total samples may exceed 400 per 100 ml during any 30 day period

C – Designated Beach Areas

OP – California Ocean Plan 2005

BPO – Basin Plan Objective

MDAL – Maximum Daily Action Level

AMAL – Average Monthly Action Level

c. Action levels for discharges to the surf zone:

Table 4.c: General Constituents

Parameter	Units	AMAL	MDAL	Instantaneous Maximum	Basis
Total Coliform	MPN/100 ml	1,000	-	10,000 1,000 ^A	OP
Fecal Coliform	MPN/100 ml	200 ^B	-	400	OP
Enterococci	MPN/100 ml	35	-	104 ^C	OP

A – Total coliform density shall not exceed 1,000 per 100 ml when the ratio of fecal/total coliform exceeds 0.1

B – During any 30 day period

C – Designated Beach Areas

OP – California Ocean Plan 2005

D. STORM WATER ACTION LEVELS

1. Beginning Year 3 after Order adoption date, a running average of twenty percent or greater of exceedances of any discharge of storm water from the MS4 to waters of the United States that exceed the Storm Water Action Levels (SALs) for the pollutants listed in Table 5 (below) will require each Copermitttee to affirmatively augment and implement all necessary storm water controls and measures to reduce the discharge of the associated class of pollutant(s) to the MEP standard. The Copermitttees must utilize the exceedance information when adjusting and executing annual work plans, as required by this Order. Copermitttees shall take the magnitude, frequency, and number of constituents exceeding the SAL(s), in addition to receiving water quality data and other information, into consideration when reacting to SAL exceedances in an iterative manner. Failure to appropriately consider and react to SAL exceedances in an iterative manner creates a presumption that the Copermitttee(s) have not complied with the MEP standard.

Table 5. Storm Water Action Levels

Pollutant	Action Level
Turbidity (NTU)	126
Nitrate & Nitrite total (mg/L)	2.6
P total (mg/L)	1.46
Cd total (µg/L)	3.0
Cu total (µg/L)	127
Pb total (µg/L)	250
Ni total (µg/L)	54
Zn total (µg/L)	976

2. The end-of-pipe assessment points for the determination of SAL compliance are all major outfalls, as defined in 40 CFR 122.26(b)(5) and (b)(6). The Copermitttees must develop their monitoring plans to sample a representative percent of the major outfalls within each hydrologic subarea. At a minimum, outfalls that exceed SALs must be monitored in the subsequent year. Any station that does not exceed an SAL for 3 years may be replaced with a different station. SAL samples must be 24 hour time weighted composites.
3. The absence of SAL exceedances does not relieve the Copermitttees from implementing all other required elements of this Permit.
4. This Permit does not regulate natural sources and conveyances of constituents listed in Table 5. To be relieved of the requirements to prioritize pollutant/watershed combinations for BMP updates and to continue monitoring a station, the Copermitttee must demonstrate that the likely and expected cause of the SAL exceedance is not anthropogenic in nature.
5. The SALs will be reviewed and updated at the end of every permit cycle. The data collected pursuant to D.2 above can be used to create SALs based upon local data.

It is the goal of the SALs, through the iterative and MEP process, to have outfall storm water discharges meet all applicable water quality standards.

E. LEGAL AUTHORITY

1. Each Copermittee must establish, maintain, and enforce adequate legal authority to control pollutant discharges into and from its MS4 through ordinance, statute, permit, contract or similar means. Nothing herein shall authorize a Co-Permittee or other discharger regulated under the terms of this order to divert, store or otherwise impound water if such action is reasonably anticipated to harm downstream water right holders in the exercise of their water rights. This legal authority must, at a minimum, authorize the Copermittee to:
 - a. Control the contribution of pollutants in discharges of runoff associated with industrial and construction activity to its MS4 and control the quality of runoff from industrial and construction sites. This requirement applies both to industrial and construction sites which have coverage under the statewide general industrial or construction storm water permits, as well as to those sites which do not. Grading ordinances must be updated and enforced as necessary to comply with this Order;
 - b. Prohibit all identified illicit discharges not otherwise allowed pursuant to section B.2;
 - c. Prohibit and eliminate illicit connections to the MS4;
 - d. Control the discharge of spills, dumping, or disposal of materials other than storm water to its MS4;
 - e. Require compliance with conditions in Copermittee ordinances, permits, contracts or orders (i.e., hold dischargers to its MS4 accountable for their contributions of pollutants and flows);
 - f. Utilize enforcement mechanisms to require compliance with Copermittee storm water ordinances, permits, contracts, or orders;
 - g. Control the contribution of pollutants from one portion of the shared MS4 to another portion of the MS4 through interagency agreements among Copermittees. Control of the contribution of pollutants from one portion of the shared MS4 to another portion of the MS4 through interagency agreements with other owners of the MS4 such as the State of California Department of Transportation, the United States Department of Defense, or Native American Tribes is encouraged;
 - h. Carry out all inspections, surveillance, and monitoring necessary to determine compliance and noncompliance with local ordinances and permits and with this Order, including the prohibition on illicit discharges to the MS4. This means the Copermittee must have authority to enter, monitor, inspect, take measurements, review and copy records, and require regular reports from industrial facilities discharging into its MS4, including construction sites;
 - i. Require the use of BMPs to prevent or reduce the discharge of pollutants into MS4s from storm water to the MEP; and

- j. Require documentation on the effectiveness of BMPs implemented to reduce the discharge of storm water pollutants to the MS4 to the MEP.
- 2.** Each Copermitee must submit within 365 days of adoption of this Order, a statement certified by its chief legal counsel that the Copermitee has taken the necessary steps to obtain and maintain full legal authority to implement and enforce each of the requirements contained in 40 CFR 122.26(d)(2)(i)(A-F) and this Order except for the updated requirements for low impact development and hydromodification in section F.1. Each Copermitee must submit as part of its updated SSMP, a statement certified by its chief legal counsel that the Copermitee has taken the necessary steps to obtain and maintain full legal authority to implement and enforce the low impact development and hydromodification requirements in section F.1. These statements must include:
- a. Identification of all departments within the jurisdiction that conduct runoff related activities, and their roles and responsibilities under this Order. Include an up to date organizational chart specifying these departments and key personnel.
 - b. Citation of runoff related ordinances and the reasons they are enforceable;
 - c. Identification of the local administrative and legal procedures available to mandate compliance with runoff related ordinances and therefore with the conditions of this Order;
 - d. A description of how runoff related ordinances are implemented and appealed; and
 - e. Description of whether the municipality can issue administrative orders and injunctions or if it must go through the court system for enforcement actions.

F. JURISDICTIONAL RUNOFF MANAGEMENT PROGRAM (JRMP)

Each Copermittee must implement all requirements of section F of this Order no later than 365 days after adoption of the Order, unless otherwise specified in this Order.

Prior to 365 days after adoption of the Order, each Copermittee must at a minimum implement its Jurisdictional RMP document, as the document was developed and amended to comply with the requirements of Order No. R9-2002-001.

Each Copermittee must develop and implement an updated JRMP for its jurisdiction.

Each updated JRMP must meet the requirements of section F of this Order, reduce the discharge of storm water pollutants from the MS4 to the MEP, and prevent runoff discharges from the MS4 from causing or contributing to a violation of water quality standards.

1. DEVELOPMENT PLANNING COMPONENT

Each Copermittee must implement a program which meets the requirements of this section and (1) reduces Development Project discharges of storm water pollutants from the MS4 to the MEP; (2) prevents Development Project discharges from the MS4 from causing or contributing to a violation of water quality standards; (3) prevents illicit discharges into the MS4; and (4) manages increases in runoff discharge rates and durations from Development Projects that are likely to cause increased erosion of stream beds and banks, silt pollutant generation, or other impacts to beneficial uses and stream habitat due to increased erosive force.

a. GENERAL PLAN

Each Copermittee must revise as needed its General Plan or equivalent plan (e.g., Comprehensive, Master, or Community Plan) for the purpose of providing effective water quality and watershed protection principles and policies that direct land-use decisions and require implementation of consistent water quality protection measures for all development and redevelopment projects.

b. ENVIRONMENTAL REVIEW PROCESS

Each Copermittee must revise as needed its current environmental review processes to accurately evaluate water quality impacts and cumulative impacts and identify appropriate measures to avoid, minimize and mitigate those impacts for all Development Projects.

c. APPROVAL PROCESS CRITERIA AND REQUIREMENTS FOR ALL DEVELOPMENT PROJECTS

For all proposed Development Projects, each Copermittee during the planning process, and prior to project approval and issuance of local permits, must prescribe the necessary requirements so that Development Project discharges of storm water pollutants from the MS4 will be reduced to the MEP, will not cause or

contribute to a violation of water quality standards, and will comply with Copermittee's ordinances, permits, plans, and requirements, and with this Order. Performance Criteria: Discharges from each approved development project must be subject to the following management measures:

- (1) Source control BMPs that reduce storm water pollutants of concern in runoff, including prevention of illicit discharges into the MS4; prevention of irrigation runoff; storm drain system stenciling or signage; properly designed outdoor material storage areas; properly designed outdoor work areas; and properly designed trash storage areas;
- (2) The following LID BMPs listed below shall be implemented at all Development Projects where applicable and feasible.
 - (a) Conserve natural areas, including existing trees, other vegetation, and soils.
 - (b) Construct streets, sidewalks, or parking lot aisles to the minimum widths necessary, provided that public safety is not compromised.
 - (c) Minimize the impervious footprint of the project.
 - (d) Minimize soil compaction to landscaped areas.
 - (e) Minimize disturbances to natural drainages (e.g., natural swales, topographic depressions, etc.)
 - (f) Disconnect impervious surfaces through distributed pervious areas.
- (3) Buffer zones for natural water bodies, where feasible. Where buffer zones are infeasible, require project proponent to implement other buffers such as trees, access restrictions, etc;
- (4) Measures necessary so that grading or other construction activities meet the provisions specified in section F.2 of this Order; and
- (5) Submittal of proof of a mechanism under which ongoing long-term maintenance of all structural post-construction BMPs will be conducted.
- (6) Infiltration and Groundwater Protection

To protect groundwater quality, each Copermittee must apply restrictions to the use of treatment control BMPs that are designed to primarily function as centralized infiltration devices (such as large infiltration trenches and infiltration basins). Such restrictions must be designed so that the use of such infiltration treatment control BMPs must not cause or contribute to an exceedance of groundwater quality objectives. At a minimum, each treatment control BMP designed to primarily function as a centralized infiltration device must meet the restrictions below, unless it is demonstrated that a restriction is not necessary to protect groundwater quality. The Copermittees may collectively or individually develop alternative restrictions on the use of

- treatment control BMPs which are designed to primarily function as centralized infiltration devices. Alternative restrictions developed by the Copermittees can partially or wholly replace the restrictions listed below. The restrictions are not intended to be applied to small infiltration systems dispersed throughout a development project.
- (a) Runoff must undergo pretreatment such as sedimentation or filtration prior to infiltration;
 - (b) All dry weather flows containing significant pollutant loads must be diverted from infiltration devices and treated through other BMPs;
 - (c) Pollution prevention and source control BMPs must be implemented at a level appropriate to protect groundwater quality at sites where infiltration treatment control BMPs are to be used;
 - (d) Infiltration treatment control BMPs must be adequately maintained so that they remove storm water pollutants to the MEP;
 - (e) The vertical distance from the base of any infiltration treatment control BMP to the seasonal high groundwater mark must be at least 10 feet. Where groundwater basins do not support beneficial uses, this vertical distance criteria may be reduced, provided groundwater quality is maintained;
 - (f) The soil through which infiltration is to occur must have physical and chemical characteristics (such as appropriate cation exchange capacity, organic content, clay content, and infiltration rate) which are adequate for proper infiltration durations and treatment of runoff for the protection of groundwater beneficial uses;
 - (g) Infiltration treatment control BMPs must not be used for areas of industrial or light industrial activity; areas subject to high vehicular traffic (25,000 or greater average daily traffic on main roadway or 15,000 or more average daily traffic on any intersecting roadway); automotive repair shops; car washes; fleet storage areas (bus, truck, etc.); nurseries; and other high threat to water quality land uses and activities as designated by each Copermittee unless first treated or filtered to remove pollutants prior to infiltration and a comprehensive site-specific evaluation has been conducted; and
 - (h) Infiltration treatment control BMPs must be located a minimum of 100 feet horizontally from any water supply wells.
- (7) Where feasible, landscaping with native or low water species shall be preferred in areas that drain to the MS4 or to waters of the United States.

**d. STANDARD STORM WATER MITIGATION PLANS (SSMPs) – APPROVAL PROCESS
CRITERIA AND REQUIREMENTS FOR PRIORITY DEVELOPMENT PROJECTS**

Within two years of adoption of this Order, the Copermittees must submit an updated model SSMP, to the Regional Board's Executive Officer for a 30 day public review and comment period. The Regional Board's Executive Officer has the discretion to determine the necessity of a public hearing. Within 180 days of determination that the Model SSMP is in compliance with this Permit's provisions, each Copermittee must update their own local SSMP, and amended ordinances consistent with the model SSMP, and shall submit both (local SSMP and amended ordinances) to the Regional Board. The model SSMP must meet the requirements of section F.1.d of this Order to (1) reduce Priority Development Project discharges of storm water pollutants from the MS4 to the MEP, and (2) prevent Priority Development Project runoff discharges from the MS4 from causing or contributing to a violation of water quality standards.¹²

(1) Definition of Priority Development Project (PDP):

Priority Development Projects are:

- (a) All new Development Projects that fall under the project categories or locations listed in section F.1.d.(2), and
- (b) Those redevelopment projects that create, add, or replace at least 5,000 square feet of impervious surfaces on an already developed site and the existing development and/or the redevelopment project falls under the project categories or locations listed in section F.1.d.(2). Where redevelopment results in an increase of less than fifty percent of the impervious surfaces of a previously existing development, and the existing development was not subject to SSMP requirements, the numeric sizing criteria discussed in section F.1.d.(6) applies only to the addition or replacement, and not to the entire development. Where redevelopment results in an increase of more than fifty percent of the impervious surfaces of a previously existing development, the numeric sizing criteria applies to

¹² Updated SSMP and hydromodification requirements must apply to all priority projects or phases of priority projects which have not yet begun grading or construction activities at the time any updated SSMP or hydromodification requirement commences. If lawful prior approval of a project exists, whereby application of an updated SSMP or hydromodification requirement to the project is illegal, the updated SSMP or hydromodification requirement need not apply to the project. Updated Development Planning requirements set forth in Sections F.1. (a) through (h) of this Order must apply to all projects or phases of projects, unless, at the time any updated Development Planning requirement commences, the projects or project phases meet any one of the following conditions: (i) the project or phase has begun grading or construction activities; or (ii) a Copermittee determines that lawful prior approval rights for a project or project phase exist, whereby application of the Updated Development Planning requirement to the project is legally infeasible. Where feasible, the Permittees must utilize the SSMP and hydromodification update periods to ensure that projects undergoing approval processes include application of the updated SSMP and hydromodification requirements in their plans.

the entire development.

- (c) One acre threshold: In addition to the Priority Development Project Categories identified in section F.1.d.(2), Priority Development Projects must also include all other pollutant-generating Development Projects that result in the disturbance of one acre or more of land within three years of adoption of this Order.¹³ As an alternative to this one-acre threshold, the Copermittees may collectively identify a different threshold, provided the Copermittees' threshold is at least as inclusive of Development Projects as the one-acre threshold.

(2) Priority Development Project Categories

Where a new Development Project feature, such as a parking lot, falls into a Priority Development Project Category, the entire project footprint is subject to SSMP requirements.

- (a) New development projects that create 10,000 square feet or more of impervious surfaces (collectively over the entire project site) including commercial, industrial, residential, mixed-use, and public projects. This category includes development projects on public or private land which fall under the planning and building authority of the Copermittees.
- (b) Automotive repair shops. This category is defined as a facility that is categorized in any one of the following Standard Industrial Classification (SIC) codes: 5013, 5014, 5541, 7532-7534, or 7536-7539.
- (c) Restaurants. This category is defined as a facility that sells prepared foods and drinks for consumption, including stationary lunch counters and refreshment stands selling prepared foods and drinks for immediate consumption (SIC code 5812), where the land area for development is greater than 5,000 square feet. Restaurants where land development is less than 5,000 square feet must meet all SSMP requirements except for structural treatment BMP and numeric sizing criteria requirement F.1.d.(6) and hydromodification requirement F.1.h.
- (d) All hillside development greater than 5,000 square feet. This category is defined as any development which creates 5,000 square feet of impervious surface which is located in an area with known erosive soil conditions, where the development will grade on any natural slope that is twenty-five percent or greater.
- (e) Environmentally Sensitive Areas (ESAs). All development located within or directly adjacent to or discharging directly to an ESA (where discharges

¹³ Pollutant generating Development Projects are those projects that generate pollutants at levels greater than natural background levels.

from the development or redevelopment will enter receiving waters within the ESA), which either creates 2,500 square feet of impervious surface on a proposed project site or increases the area of imperviousness of a proposed project site to 10 percent or more of its naturally occurring condition. "Directly adjacent" means situated within 200 feet of the ESA. "Discharging directly to" means outflow from a drainage conveyance system that is composed entirely of flows from the subject development or redevelopment site, and not commingled with flows from adjacent lands.

- (f) Parking lots 5,000 square feet or more or with 15 or more parking spaces and potentially exposed to runoff. Parking lot is defined as a land area or facility for the temporary parking or storage of motor vehicles used personally, for business, or for commerce.
- (g) Street, roads, highways, and freeways. This category includes any paved surface that is 5,000 square feet or greater used for the transportation of automobiles, trucks, motorcycles, and other vehicles.
- (h) Retail Gasoline Outlets (RGOs). This category includes RGOs that meet the following criteria: (a) 5,000 square feet or more or (b) a projected Average Daily Traffic (ADT) of 100 or more vehicles per day.

(3) Pollutants of Concern

As part of its local SSMP, each Copermittee must implement an updated procedure for identifying pollutants of concern for each Priority Development Project. The procedure must address, at a minimum: (1) Receiving water quality (including pollutants for which receiving waters are listed as impaired under CWA section 303(d)); (2) Land-use type of the Development Project and pollutants associated with that land use type; and (3) Pollutants expected to be present on site.

(4) Low Impact Development BMP Requirements

Each Copermittee must require each Priority Development Project to implement LID BMPs which will collectively minimize directly connected impervious areas, limit loss of existing infiltration capacity, and protect areas that provide important water quality benefits necessary to maintain riparian and aquatic biota, and/or are particularly susceptible to erosion and sediment loss.

(a) The following LID BMPs must be implemented:

- (i) Each Copermittee must require LID BMPs or make a finding of infeasibility for each Priority Development Project in accordance with the LID waiver program in Section F.1.d.(8);

- (ii) Each Copermittee must incorporate formalized consideration, such as thorough checklists, ordinances, and/or other means, of LID BMPs into the plan review process for Priority Development Projects;
 - (iii) The review of each Priority Development Project must include an assessment of potential collection of storm water for on-site or off-site reuse opportunities;
 - (iv) The review of each Priority Development Project must include an assessment of techniques to infiltrate, filter, store, evaporate, or retain runoff close to the source of runoff; and
 - (v) Within 2 years after adoption of this Order, each Copermittee must review its local codes, policies, and ordinances and identify barriers therein to implementation of LID BMPs. Following the identification of these barriers to LID implementation, where feasible, the Copermittee must take, by the end of the permit cycle, appropriate actions to remove such barriers.
- (b) The following LID BMPs must be implemented at all Priority Development Projects where technically feasible as required below:
- (i) Maintain or restore natural storage reservoirs and drainage corridors (including depressions, areas of permeable soils, swales, and ephemeral and intermittent streams.
 - (ii) Projects with landscaped or other pervious areas must, where feasible, drain runoff from impervious areas (rooftops, parking lots, sidewalks, walkways, patios, etc) into pervious areas prior to discharge to the MS4. The amount of runoff from impervious areas that is to drain to pervious areas shall not exceed the total capacity of the project's pervious areas to infiltrate or treat runoff, taking into consideration the pervious areas' geologic and soil conditions, slope, and other pertinent factors.
 - (iii) Projects with landscaped or other pervious areas must, where feasible, properly design and construct the pervious areas to effectively receive and infiltrate or treat runoff from impervious areas, prior to discharge to the MS4. Soil compaction for these areas shall be minimized. The amount of the impervious areas that are to drain to pervious areas must be based upon the total size, soil conditions, slope, and other pertinent factors.
 - (iv) Projects with low traffic areas and appropriate soil conditions must construct walkways, trails, overflow parking lots, alleys, or other low-traffic areas with permeable surfaces, such as pervious concrete, porous asphalt, unit pavers, and granular materials.
- (c) To protect ground water resources any infiltration LID BMPs must comply with Section F.1.(c)(6).

(d) LID BMPs sizing criteria:

- (i) LID BMPs shall be sized and designed to ensure onsite retention without runoff, of the volume of runoff produced from a 24-hour 85th percentile storm event, as determined from the County of Orange's 85th Percentile Precipitation Map¹⁴ ("design capture volume");
- (ii) If onsite retention LID BMPs are technically infeasible per section F.1.d.(7)(b), LID biofiltration BMPs may treat any volume that is not retained onsite by the LID BMPs. The LID biofiltration BMPs must be designed for an appropriate surface loading rate to prevent erosion, scour and channeling within the BMP. Due to the flow through design of biofiltration BMPs, the total volume of the BMP, including pore spaces and prefilter detention volume, must be sized to hold at least 0.75 times the design storm volume that is not retained onsite by LID retention BMPs;
- (iii) If it is shown to be technically infeasible to treat the remaining volume up to and including the design capture volume using LID BMPs (retention or biofiltration), the project must implement conventional treatment control BMPs in accordance with Section F.1.d.(6) below and must participate in the LID waiver program in Section F.1.d.(7).

- (e) All LID BMPs shall be designed and implemented with measures to avoid the creation of nuisance or pollution associated with vectors, such as mosquitoes, rodents, and flies.

(5) Source Control BMP Requirements

Each Copermittee must require each Priority Development Project to implement source control BMPs. The source control BMPs to be required must:

- (a) Prevent illicit discharges into the MS4;
- (b) Minimize storm water pollutants of concern in runoff;
- (c) Eliminate irrigation runoff;
- (d) Include storm drain system stenciling or signage;
- (e) Include properly designed outdoor material storage areas;
- (f) Include properly designed outdoor work areas;
- (g) Include properly designed trash storage areas;
- (h) Include water quality requirements applicable to individual priority project categories.

¹⁴ The isopluvial map is available from the County of Orange. The map can also be found as Figure A-1 Exhibit 7.II in the Model WQMP (September 2003), page 5 of 57 at http://www.ocwatersheds.com/documents/2003_DAMP_Exhibit_7_II_Model_WQMP_Attachments.pdf

(6) Treatment Control BMP Requirements¹⁵

Each Copermittee must require each Priority Development Project to implement treatment control BMPs that meet the following requirements:

- (a) All treatment control BMPs for a single Priority Development Project must collectively be sized to comply with the following numeric sizing criteria:
 - (i) Volume-based treatment control BMPs must be designed to mitigate (infiltrate, filter, or treat) the volume of runoff produced from a 24-hour 85th percentile storm event, as determined from the County of Orange's 85th Percentile Precipitation Isopluvial Map¹⁶; or
 - (ii) Flow-based treatment control BMPs must be designed to mitigate (infiltrate, filter, or treat) either: a) the maximum flow rate of runoff produced from a rainfall intensity of 0.2 inch of rainfall per hour, for each hour of a storm event; or b) the maximum flow rate of runoff produced by the 85th percentile hourly rainfall intensity (for each hour of a storm event), as determined from the local historical rainfall record, multiplied by a factor of two.
- (b) Treatment control BMPs for all Priority Development Projects must mitigate (treat through infiltration, settling, filtration or other unit processes) the required volume or flow of runoff from all developed portions of the project, including landscaped areas.
- (c) All treatment control BMPs must be located so as to remove pollutants from runoff prior to its discharge to any waters of the U.S. Multiple Priority Development Projects may use shared treatment control BMPs as long as construction of any shared treatment control BMP is completed prior to the use or occupation of any Priority Development Project from which the treatment control BMP will receive runoff.
- (d) All treatment control BMPs for Priority Development Projects must, at a minimum:
 - (i) Be ranked with high or medium pollutant removal efficiency for the project's most significant pollutants of concern, as the pollutant removal efficiencies are identified in the Copermittees' Model

¹⁵ This section only applies to those PDPs not implementing LID capable of meeting the design storm criteria for the entire site and meeting technical infeasibility eligibility. Low-Impact Development (LID) and other site design BMPs that are correctly designed to effectively remove pollutants from runoff are considered treatment control BMPs.

¹⁶ The isopluvial map is available from the County of Orange. The map can also be found as Figure A-1 Exhibit 7.II in the Model WQMP (September 2003), page 105 of 157 at http://www.ocwatersheds.com/StormWater/PDFs/2003_DAMP/2003_DAMP_Section_7_New_Development_Significant_Redevelopment.pdf.

SSMP. Treatment control BMPs with a low removal efficiency ranking must only be approved by a Copermittee when a feasibility analysis has been conducted which exhibits that implementation of treatment control BMPs with high or medium removal efficiency rankings are infeasible for a Priority Development Project or portion of a Priority Development Project.

- (ii) Be correctly sized and designed so as to remove storm water pollutants to the MEP.
- (e) Target removal of pollutants of concern from runoff.
- (f) Be implemented close to pollutant sources, and prior to discharging into waters of the U.S.
- (g) Not be constructed within a waters of the U.S. or waters of the State.
- (h) Include proof of a mechanism under which ongoing long-term maintenance will be conducted to ensure proper maintenance for the life of the project. The mechanisms may be provided by the project proponent or Copermittee.
- (i) Be designed and implemented with measures to avoid the creation of nuisance or pollution associated with vectors, such as mosquitoes, rodents, and flies.

(7) Low Impact Development (LID) BMP Waiver Program

The Copermittees must develop, collectively or individually, a LID waiver program for incorporation into local SSMPs, which would allow a Priority Development Project to substitute implementation of all or a portion of required LID BMPs in section F.1.d(4) with implementation of treatment control BMPs and a mitigation project, payment into an in-lieu funding program, and/or watershed equivalent BMP(s) consistent with Section F.1.d.(11). The Copermittees shall submit the LID waiver program as part of their updated model SSMP. At a minimum, the program must meet the requirements below:

- (a) Prior to implementation, the LID waiver program must clearly exhibit that it will not allow PDPs to result in a net impact (after consideration of any mitigation and in-lieu payments) from pollutant loadings over and above the impact caused by projects meeting LID requirements;
- (b) For each PDP participating, a technical feasibility analysis must be included demonstrating that it is technically infeasible to implement LID BMPs that comply with the requirements of Section F.1.(d)(4). The

Copermittee(s) must develop criteria for the technical feasibility analysis including a cost benefit analysis, examination of LID BMPs considered and alternatives chosen. Each PDP participating must demonstrate that LID BMPs were implemented as much as feasible given the site's unique conditions. Analysis must be made of the pollutant loading for each project participating in the LID substitution program. The estimated impacts from not implementing the required LID BMPs in section F.1.d.(4) must be fully mitigated. Technical infeasibility may result from conditions including, but not limited to:

- (i) Locations that cannot meet the infiltration and groundwater protection requirements in section F.1.c.(6). Where infiltration is technically infeasible, the project must still examine the feasibility of other onsite retention LID BMPs;
 - (ii) Smart growth and infill or redevelopment locations where the density and/or nature of the project would create significant difficulty for compliance with the onsite volume retention requirements; and
 - (iii) Other site, geologic, soil or implementation constraints identified in the Copermittees updated local SSMP document.
- (c) The LID waiver program must include mechanisms to verify that each Priority Development Project participating in the program is in compliance with all applicable SSMP requirements;
- (d) The LID waiver program must develop and implement a review process verifying that the BMPs to be implemented meet the designated design criteria. The review process must also verify that each Priority Development Project participating in the program is in compliance with all applicable SSMP requirements.
- (e) The LID waiver program must include performance standards for treatment control BMPs specified in compliance with section F.1.(d)(6).
- (f) Each PDP that participates in the LID waiver program must mitigate for the pollutant loads expected to be discharged due to not implementing the LID BMPs in section F.1.d.(4). Mitigation projects must be implemented within the same hydrologic subarea as the PDP. Mitigation projects outside of the hydrologic subarea but within the same hydrologic unit may be approved provided that the project proponent demonstrates that mitigation projects within the same hydrologic subarea are infeasible and that the mitigation project will address similar beneficial use impacts as expected from the PDPs pollutant load types and amount. Offsite mitigation projects may include green streets projects, existing development retrofit projects, retrofit incentive programs, regional BMPs and stream restoration. Project applicants seeking to utilize these

alternative compliance provisions may propose other offsite mitigation projects, which the Copermittees may approve if they meet the requirements of this subpart.

- (g) A Copermittee may choose to implement a pollutant credit system as part of the LID waiver program provided that such a credit system clearly exhibits that it will not allow PDPs to result in a net impact from pollutant loadings over and above the impact caused by projects meeting LID requirements. Any credit system that a Copermittee chooses to implement must be submitted to the Executive Officer for review and approval as part of the waiver program.
- (h) The LID waiver program shall include a storm water mitigation fund developed by the Copermittee(s) to be used for water quality improvement projects which may serve in lieu of the PDP's required mitigation in section F.1.d.(8)(e). The LID waiver program's storm water mitigation fund shall, at a minimum, identify;
 - (i) The entity or entities that will manage the storm water mitigation fund (i.e., assume full responsibility);
 - (ii) The range and types of acceptable projects for which storm water mitigation funds may be expended;
 - (iii) The entity or entities that will assume full responsibility for each water quality improvement project, including its successful completion; and
 - (iv) How the dollar amount of storm water mitigation fund contributions will be determined. In-lieu payments must be proportional to the additional pollutant load discharged by not fully implementing LID.
- (i) Each Copermittee must notify the Regional Board in their annual report of each PDP choosing to participate in the LID waiver program. The annual report must include the following information:
 - (i) Name of the developer of the participating PDP;
 - (ii) Site location;
 - (iii) Reason for LID waiver including technical feasibility analysis;
 - (iv) Description of BMPs implemented;
 - (v) Total amount deposited, if any, into the storm water mitigation fund described in section F.1.d.(8)(f);
 - (vi) Water quality improvement project(s) proposed to be funded; and
 - (vii) Timeframe for implementation of water quality improvement projects.

(8) Site Design and Treatment Control BMP Design Standards

As part of its local SSMP, each Copermittee must develop and require Priority

Development Projects to implement siting, design, and maintenance criteria for each site design and treatment control BMP listed in its local SSMP to determine feasibility and applicability and so that implemented site design and treatment control BMPs are constructed correctly and are effective at pollutant removal, runoff control, and vector minimization. LID techniques, such as soil amendments, must be incorporated into the criteria for appropriate treatment control BMPs. Development of BMP design worksheets which can be used by project proponents is encouraged.

(9) Implementation Process

As part of its local SSMP, each Copermittee must implement a process to verify compliance with SSMP requirements. The process must identify at what point in the planning process Priority Development Projects will be required to meet SSMP requirements and at a minimum, the Priority Development Project must implement the required post-construction BMPs prior to occupancy and/or the intended use of any portion of that project. The process must also include identification of the roles and responsibilities of various municipal departments in implementing the SSMP requirements, as well as any other measures necessary for the implementation of SSMP requirements.

(10) Treatment BMP Review

- (a) The Copermittees must review and update the BMPs that are listed in their local SSMPs as options for treatment control during the third year of implementation of this Order. At a minimum, the update must include removal of obsolete or ineffective BMPs and addition of LID BMPs that can be used for treatment, such as bioretention cells, bioretention swales, etc. The update must also add appropriate LID BMPs to any tables or discussions in the local SSMPs addressing pollutant removal efficiencies of treatment control BMPs. In addition, the update must include review and revision where necessary of treatment control BMP pollutant removal efficiencies.
 - (b) The update must incorporate findings from BMP effectiveness studies conducted by the Copermittees for projects funded wholly or in part by the State Board or Regional Board.
 - (c) Each Copermittee must implement a mechanism for annually incorporating findings from local treatment BMP effectiveness studies (e.g., ones conducted by, or on-behalf of, public agencies in Orange County) into SSMP project reviews and permitting
- (11) Where a development project, greater than 100 acres in total project size or smaller than 100 acres in size yet part of a larger common plan of

development that is over 100 acres, has been prepared using watershed and/or sub-watershed based water quality, hydrologic, and fluvial geomorphologic planning principles that implement regional LID BMPs in accordance with the sizing and location criteria of this Order and acceptable to the Regional Board, such standards shall govern review of projects with respect to Section F.1 of this Order and shall be deemed to satisfy this Order's requirements for LID site design, buffer zone, infiltration and groundwater protection standards, source control, treatment control, and hydromodification control standards. Regional BMPs must clearly exhibit that they will not result in a net impact from pollutant loadings over and above the impact caused by capture and retention of the design storm. Regional BMPs may be used provided that the BMPs capture and retain the volume of runoff produced from the 24-hour 85th percentile storm event as defined in section F.1.d.(6)(a)(i) and that such controls are located upstream of receiving waters. Any volume that is not retained by the LID BMPs, up to the design capture volume, must be treated using LID biofiltration. Where regional LID implementation has been shown to be technically infeasible (per section F.1.d.7.b) any volume up to and including the design capture volume, not retained by LID BMPs, nor treated by LID biofiltration, must be treated using conventional treatment control BMPs in accordance with Section F.1.d.(6) and participation in the LID waiver program in Section F.1.d.(7).

e. BMP CONSTRUCTION VERIFICATION

Prior to occupancy and/or intended use of any portion of the Priority Development Project subject to SSMP requirements, each Copermittee must inspect the constructed site design, source control, and treatment control BMPs to verify that they have been constructed and are operating in compliance with all specifications, plans, permits, ordinances, and this Order.

f. BMP MAINTENANCE TRACKING

- (1) Each Copermittee must develop and maintain a watershed-based database to track and inventory all approved post-construction BMPs and BMP maintenance within its jurisdiction since July 2001. LID BMPs implemented on a lot by lot basis at a single family residential home, such as rainbarrels, are not required to be tracked or inventoried. At a minimum, the database must include information on BMP type, location, watershed, date of construction, party responsible for maintenance, maintenance certifications or verifications, inspections, inspection findings, and corrective actions, including whether the site was referred to the Vector Control District.
- (2) Each Copermittee must establish a mechanism not only to track post-construction BMPs, but also to ensure that appropriate easements and ownerships are properly recorded in public records and the information is

conveyed to all appropriate parties when there is a change in project or site ownership.

- (3) Each Copermittee must verify that approved post-construction BMPs are operating effectively and have been adequately maintained by implementing the following measures:
- (a) An annual inventory of all approved BMPs within the Copermittee's jurisdiction. LID BMPs implemented on a lot by lot basis at a single family residential home, such as rainbarrels, are not required to be tracked or inventoried. The inventory must also include all BMPs approved for Priority Development Projects since July 2001;
 - (b) The designation of high priority BMPs. High-priority designation must include consideration of BMP size, recommended maintenance frequency, likelihood of operational and maintenance issues, location, receiving water quality, and other pertinent factors;
 - (c) Verify implementation, operation, and maintenance of BMPs by inspection, self-certification, surveys, or other equally effective approaches with the following conditions:
 - (i) The implementation, operation, and maintenance of at least 90 percent of approved and inventoried final project public and private SSMPs (a.k.a. WQMPs) must be verified annually. All post-construction BMPs shall be verified within every four year period;
 - (ii) Operation and maintenance verifications must be required prior to each rainy season;
 - (iii) All (100 percent) projects with BMPs that are high priority must be inspected by the Copermittee annually prior to each rainy season;
 - (iv) All (100 percent) public agency projects with BMPs must be inspected by the Copermittee annually;
 - (v) At least 50 percent of projects with drainage insert treatment control BMPs must be inspected by the Copermittee annually;
 - (vi) Appropriate follow-up measures (including re-inspections, enforcement, maintenance, etc.) must be conducted to ensure the treatment BMPs continue to reduce storm water pollutants as originally designed;
 - (vii) All inspections must verify effective operation and maintenance of the treatment control BMPs, as well as compliance with all ordinances, permits, and this Order; and
 - (viii) Inspections must note observations of vector conditions, such as mosquitoes. Where conditions are identified as contributing to mosquito production, the Copermittee must notify the Orange County Vector Control District.

g. ENFORCEMENT OF DEVELOPMENT SITES

Each Copermittee must enforce its storm water ordinance for all Development Projects and at all development sites as necessary to maintain compliance with this Order. Copermittee ordinances or other regulatory mechanisms must include appropriate sanctions to achieve compliance. Sanctions must include the following or their equivalent: Non-monetary penalties, fines, bonding requirements, and/or permit or occupancy denials for non-compliance.

h. HYDROMODIFICATION – LIMITATIONS ON INCREASES OF RUNOFF DISCHARGE RATES AND DURATIONS¹⁷

Each Copermittee shall collaborate with the other Copermittees to develop and implement a Hydromodification Management Plan (HMP) to manage increases in runoff discharge rates and durations from all Priority Development Projects. The HMP shall be incorporated into the local SSMP and implemented by each Copermittee so that estimated post-project runoff discharge rates and durations shall not exceed pre-development discharge rates and durations. Where the proposed project is located on an already developed site, the pre-project discharge rate and duration shall be that of the pre-developed, naturally occurring condition. The HMP shall be submitted to the Executive Officer within 2 years of permit adoption. The HMP will be made available for public review and comment and the Executive Officer will determine the need for a public hearing.

(1) The HMP must:

- (a) Identify a method for assessing susceptibility of channel segments which receive runoff discharges from Priority Development Projects. The geomorphic stability within the channel shall be assessed. A performance standard shall be created that ensures that the geomorphic stability within the channel not be compromised as a result of receiving runoff discharges from Priority Development Projects.
- (b) Utilize continuous simulation of the entire rainfall record (or other analytical method proposed by the Copermittees and deemed acceptable

¹⁷ Updated SSMP and hydromodification requirements shall apply to all priority projects or phases of priority projects which have not yet begun grading or construction activities at the time any updates SSMP or hydromodification requirement commences. If a Copermittee determines that lawful prior approval of a project exists, whereby application of an updated SSMP or hydromodification requirement to the project is legally infeasible, the updated SSMP or hydromodification requirement need not apply to the project. The Copermittees shall utilize the SSMP and hydromodification update periods to ensure that projects undergoing approval processes include application of the updated SSMP and hydromodification requirements in their plans.

by the Regional Board) to identify a range of runoff flows¹⁸ for which priority Development Project post-project runoff flow rates and durations shall not exceed pre-development (naturally occurring) runoff flow rates and durations by more than 10 percent, where the increased flow rates and durations will result in increased potential for erosion or other significant adverse impacts to beneficial uses. In addition, the identified range of runoff flow rates and durations must compensate for the loss of sediment supply due to the development. The lower boundary of the range of runoff flows identified shall correspond with the critical channel flow that produces the critical shear stress that initiates channel bed movement or that erodes the toe of channel banks. The identified range of runoff flows may be different for specific watersheds, channels, or channel reaches. In the case of an artificially hardened (concrete lined, rip rap, etc.) channel, the lower boundary of the range of runoff flows identified shall correspond with the critical channel flow that produces the critical shear stress that initiates channel bed movement or that erodes the toe of channel banks of a comparable soft-bottomed channel.

- (c) Require Priority Development Projects to implement hydrologic control measures so that Priority Development Projects' post-project runoff flow rates and durations (1) do not exceed pre-project (naturally occurring) runoff flow rates and durations by more than 10 percent for the range of runoff flows identified under section F.1.h.(1)(b), where the increased flow rates and durations will result in increased potential for erosion or other significant adverse impacts to beneficial uses; (2) do not result in channel conditions which do not meet the channel standard developed under section F.1.h.(1)(a) for channel segments downstream of Priority Development Project discharge points; and (3) compensate for the loss of sediment supply due to development.
- (d) Include other performance criteria (numeric or otherwise) for Priority Development Projects as necessary to prevent runoff from the projects from increasing and/or continuing unnatural rates of erosion of channel beds and banks, silt pollutants generation, or other impacts to beneficial uses and stream habitat due to increased erosive force.
- (e) Include a review of pertinent literature.
- (f) Identify areas within the San Juan Hydrologic Unit where historic hydromodification has resulted in a negative impact to benthic macroinvertebrate and benthic periphyton by identifying areas with low or very low Index of Biotic Integrity (IBI) scores.

¹⁸ The identified range of runoff flows to be controlled should be expressed in terms of peak flow rates of rainfall events, such as "10% of the pre-development 2-year runoff event up to the pre-project 10-year runoff event."

- (g) Include a protocol to evaluate potential hydrograph change impacts to downstream watercourses from Priority Development Projects. This protocol must include the use of the IBI score as a metric for assessing impacts and improvements to downstream watercourses.
 - (h) Include a description of how the Copermittees will incorporate the HMP requirements into their local approval processes.
 - (i) Include criteria on selection and design of management practices and measures (such as detention, retention, and infiltration) to control flow rates and durations and address potential hydromodification impacts.
 - (j) Include technical information supporting any standards and criteria proposed.
 - (k) Include a description of inspections and maintenance to be conducted for management practices and measures to control flow rates and durations and address potential hydromodification impacts.
 - (l) Include a description of pre- and post-project monitoring and other program evaluation, including IBI score, to be conducted to assess the effectiveness of implementation of the HMP.
 - (m) Include mechanisms for assessing and addressing cumulative impacts within a watershed on channel morphology.
 - (n) Include information on evaluation of channel form and condition, including slope, discharge, vegetation, underlying geology, and other information, as appropriate.
- (2) In addition to the hydrologic control measures that must be implemented per section F.1.h.(1)(c), the HMP must include a suite of management measures to be used on Priority Development Projects to protect and restore downstream beneficial uses and prevent or further prevent adverse physical changes to downstream channels. The measures must be based on a prioritized consideration of the following elements in this order:
- (a) Hydrologic control measures;
 - (b) On-site management controls;
 - (c) Regional controls located upstream of receiving waters; and
 - (d) In-stream controls.

Where stream channels are adjacent to, or are to be modified as part of a Priority Development Project, management measures must include buffer zones and setbacks. Under no circumstances will in-stream controls include the use of non-naturally occurring hardscape materials such as concrete,

riprap, gabions, etc. The suite of management measures shall also include stream restoration as a viable option to achieve the channel standard in section F.1.h.(1)(a).

(3) Each individual Copermitee has the discretion to not require Section F.1.h. at Priority Development Projects where the project:

- (a) Discharges storm water runoff into underground storm drains discharging directly to bays or the ocean; or
- (b) Discharges storm water runoff into conveyance channels whose bed and bank are concrete lined all the way from the point of discharge to ocean waters, enclosed bays, estuaries, or water storage reservoirs and lakes.

(4) HMP Reporting and Implementation

- (a) Within 2 years of adoption of the Order, the Copermitees shall submit to the Regional Board a draft HMP that has been reviewed by the public, including the analysis that identifies the appropriate limiting range of flow rates per section F.1.h.(1)(b).
- (b) Within 180 days of receiving Regional Board comments on the draft HMP, the Copermitees shall submit a final HMP that addressed the Regional Board's comments.
- (c) Within 90 days of receiving a finding of adequacy from the Executive Officer, each Copermitee shall incorporate and implement the HMP for all Priority Development Projects.
- (d) Prior to approval of the HMP by the Regional Board, the early implementation measures likely to be included in the HMP shall be encouraged by the Copermitees.

(5) Interim Hydromodification Criteria

Within one year of adoption of this Order, each Copermitee must ensure that all Priority Development Projects are implementing the following criteria by comparing the pre-development (naturally occurring) and post-project flow rates and durations using a continuous simulation hydrologic model such as US EPA's Hydrograph Simulation Program-Fortran (HSPF):

- (a) For flow rates from 10 percent of the 2-year storm event to the 5 year storm event, the post-project peak flows shall not exceed pre-development (naturally occurring) peak flows.
- (b) For flow rates from the 5 year storm event to the 10 year storm event the post-project peak flows may exceed pre-development (naturally

occurring) flows by up to 10 percent for a 1-year frequency interval.

The interim hydromodification criteria do not apply to Priority Development Projects where the project discharges (1) storm water runoff into underground storm drains discharging directly to bays or the ocean, or (2) storm water runoff into conveyance channels whose bed and bank are concrete lined all the way from the point of discharge to ocean waters, enclosed bays, estuaries, or water storage reservoirs and lakes.

Within one year of adoption of this Order, each Copermitttee must submit a signed, certification statement to the Regional Board verifying implementation of the interim hydromodification criteria.

- (6) No part of section F.1.h shall alleviate the Copermitttees responsibilities for implementing Low Impact Development BMPs as required under section F.1.d.(4).

i. TRAINING AND EDUCATION

(1) Municipal Departments and Personnel Education

Municipal Development Planning: Each Copermitttee must implement an education program so that its planning and development review staffs and contractors (and Planning Boards and Elected Officials, if applicable) have an understanding of:

- (a) Federal, State, and local water quality laws and regulations applicable to Development Projects;
- (b) The connection between land use decisions and short and long-term water quality impacts (i.e., impacts from land development and urbanization); and
- (c) Methods of minimizing impacts to receiving water quality resulting from development, including:
 - (i) Storm water management plan development and review;
 - (ii) Local sensitive water bodies, including 303(d)-impairments and ESAs;
 - (iii) Methods to control downstream erosion impacts;
 - (iv) Identification of pollutants of concern;
 - (v) Site design BMP techniques;
 - (vi) Source control BMPs;
 - (vii) Selection of the most effective treatment control BMPs for the pollutants of concern; and
 - (viii) Public health concerns related to storm water management infrastructure.

(2) Project Applicants, Developers, Contractors, Property Owners, and other Responsible Parties

- (a) Each Copermittee must implement a New Development / Redevelopment education program using all media as appropriate to:
- (i) Measurably increase the knowledge of the target communities regarding MS4s, impacts of runoff on receiving waters, and potential BMP solutions for the target audience; and
 - (ii) To measurably change the behavior of target communities and thereby reduce pollutant releases to MS4s and the environment.
- (b) Each Copermittee must educate each target community on the following topics where appropriate:
- (i) The importance of educating all construction workers in the field about storm water issues and BMPs through formal or informal training;
 - (ii) Federal, State, and local water quality laws and regulations applicable to new development and redevelopment activities;
 - (iii) Site design, source control, pollution prevention, and treatment BMPs;
 - (iv) General runoff concepts; and
 - (v) Other topics of local importance, including local water quality conditions, impaired waterbodies and environmentally sensitive areas.

2. CONSTRUCTION COMPONENT

Each Copermittee must implement a construction program which meets the requirements of this section, prevents illicit discharges into the MS4, implements and maintains structural and non-structural BMPs to reduce pollutants in storm water runoff from construction sites to the MS4, reduces construction site discharges of storm water pollutants from the MS4 to the MEP, and prevents construction site discharges from the MS4 from causing or contributing to a violation of water quality standards.

a. ORDINANCE UPDATE

Within 365 days of adoption of this Order, each Copermittee must review and update its grading ordinances and other ordinances as necessary to achieve full compliance with this Order, including requirements for the implementation of all designated BMPs and other measures.

b. SOURCE IDENTIFICATION

Each Copermittee must maintain an updated watershed based inventory of all construction sites within its jurisdiction. The use of an automated database system, such as Geographical Information Systems (GIS) is required.

c. SITE PLANNING AND PROJECT APPROVAL PROCESS

Each Copermittee must incorporate consideration of potential water quality impacts prior to approval and issuance of construction and grading permits.

- (1) Each construction and grading permit must require proposed construction sites to implement designated BMPs and other measures so that illicit discharges into the MS4 are prevented and storm water pollutants discharged from the site will be reduced to the maximum extent practicable and will not cause or contribute to a violation of water quality standards.
- (2) Prior to permit issuance, the project proponent's runoff management plan (or equivalent construction BMP plan) must be required to comply, and reviewed to verify compliance, with the local grading ordinance, other applicable local ordinances, and this Order.
- (3) Prior to permit issuance, each Copermittee must verify that project proponents subject to California's statewide General NPDES Permit for Storm Water Discharges Associated With Construction Activities, (hereinafter General Construction Permit), have existing coverage under the General Construction Permit.

d. BMP IMPLEMENTATION

- (1) Designate BMPs: Each Copermittee must designate a minimum set of BMPs and other measures to be implemented at all construction sites. The designated minimum set of BMPs must include:
 - (a) Management Measures:
 - (i) Pollution prevention, where appropriate;
 - (ii) Development and implementation of a site-specific runoff management plan;
 - (iii) Minimization of areas that are cleared and graded to only the portion of the site that is necessary for construction;
 - (iv) Minimization of exposure time of disturbed soil areas;
 - (v) Minimization of grading during the wet season and correlation of grading with seasonal dry weather periods to the extent feasible;
 - (vi) Limitation of grading to a maximum disturbed area as determined by each Copermittee before either temporary or permanent erosion controls are implemented to prevent storm water pollution. The Copermittee has the option of temporarily increasing the size of

disturbed soil areas by a set amount beyond the maximum, if the individual site is in compliance with applicable storm water regulations and the site has adequate control practices implemented to prevent storm water pollution;

- (vii) Temporary stabilization and reseeded of disturbed soil areas as rapidly as feasible;
- (viii) Wind erosion controls;
- (ix) Tracking controls;
- (x) Non-stormwater management measures to prevent illicit discharges and control storm water pollution sources;
- (xi) Waste management measures;
- (xii) Preservation of natural hydrologic features where feasible;
- (xiii) Preservation of riparian buffers and corridors where feasible;
- (xiv) Evaluation and maintenance of all BMPs, until removed; and
- (xv) Retention, reduction, and proper management of all storm water pollutant discharges on site to the MEP standard.

(b) Erosion and Sediment Controls:

- (i) Erosion prevention. Erosion prevention is to be used as the most important measure for keeping sediment on site during construction;
- (ii) Sediment controls. Sediment controls are to be used as a supplement to erosion prevention for keeping sediment on-site during construction;
- (iii) Slope stabilization must be used on all active slopes during rain events regardless of the season and on all inactive slopes during the rainy season and during rain events in the dry season; and
- (iv) Permanent revegetation or landscaping as early as feasible.

(c) Designate enhanced BMPs¹⁹ for 303(d) impairments and ESAs: Each Copermitttee must implement, or require implementation of, enhanced measures to address the exceptional threat to water quality posed by all construction sites tributary to CWA section 303(d) water body segments impaired for sediment or turbidity. Each Copermitttee must also implement, or require implementation of, enhanced, site-specific measures for construction sites within or adjacent to or discharging directly to coastal lagoons, the ocean, or other receiving waters within environmentally sensitive areas (as defined in Attachment C of this Order).

- (i) Active Sediment Treatment (AST): Each Copermitttee must require implementation of advanced treatment for sediment at construction

¹⁹ Enhanced BMPs are control actions specifically targeted to the pollutant or condition of concern and of higher quality and effectiveness than the minimum control measures otherwise required. Enhanced in this Order means better, not simply more, BMPs.

sites (or portions thereof) that are determined by the Copermittee to be an exceptional threat to water quality. In evaluating the threat to water quality, the following factors must be considered by the Copermittee:

- [a] Soil erosion potential or soil type;
- [b] The site's slopes;
- [c] Project size and type;
- [d] Sensitivity of receiving water bodies;
- [e] Proximity to receiving water bodies;
- [f] Non-storm water discharges;
- [g] Ineffectiveness of other BMPs;
- [h] Proximity and sensitivity of aquatic threatened and endangered species of concern;
- [i] Known effects of AST chemicals; and
- [j] Any other relevant factors.

- (d) Implement BMPs: Each Copermittee must implement, or require the implementation of, the designated minimum BMPs and any additional measures necessary to comply with this Order at each construction site within its jurisdiction year round. BMP implementation requirements, however, can vary based on wet and dry seasons. Dry season BMP implementation must plan for and address unseasonal rain events that may occur during the dry season (May 1 through September 30).

e. INSPECTION OF CONSTRUCTION SITES

Each Copermittee must conduct construction site inspections for compliance with its ordinances (grading, storm water, etc.), permits (construction, grading, etc.), and this Order. Priorities for inspecting sites must consider the nature and size of the construction activity, topography, and the characteristics of soils and receiving water quality.

- (1) During the wet season, each Copermittee must inspect at least biweekly (every two weeks), all construction sites within its jurisdiction meeting any of the following criteria:
- (a) All sites 30 acres or more in size with rough grading or active slopes occurring during the wet season;
 - (b) All sites one acre or more, and tributary to a CWA section 303(d) water body segment impaired for sediment or within or directly adjacent to, or discharging directly to, the ocean or a receiving water within an ESA; and
 - (c) Other sites determined by the Copermittees or the Regional Board as a significant threat to water quality. In evaluating threat to water quality, the following factors must be considered: (1) soil erosion potential; (2) site

slope; (3) project size and type; (4) sensitivity of receiving water bodies; (5) proximity to receiving water bodies; (6) non-storm water discharges; (7) past record of non-compliance by the operators of the construction site; and (8) any other relevant factors.

- (2) During the wet season, each Copermittee must inspect at least monthly, all construction sites with one acre or more of soil disturbance not meeting the criteria specified above in section F.2.e.(1).
- (3) During the wet season, each Copermittee must inspect construction sites less than one acre in size as needed to ensure compliance with its ordinances and this Order.
- (4) Each Copermittee must inspect all construction sites as needed during the dry season. Sites meeting the criteria in section F.2.e.(1) must be inspected at least once in August or September each year.
- (5) Re-inspections: Based upon site inspection findings, each Copermittee must implement all follow-up actions (i.e., re-inspection, enforcement) necessary to comply with this Order. Reinspection frequencies must be determined by each Copermittee based upon the severity of deficiencies, the nature of the construction activity, and the characteristics of soils and receiving water quality.
- (6) Inspections of construction sites must include, but not be limited to:
 - (a) Check for coverage under the General Construction Permit (Notice of Intent (NOI) and/or Waste Discharge Identification No.) during initial inspections;
 - (b) Assessment of compliance with Copermittee ordinances and permits related to runoff, including the implementation and maintenance of designated minimum BMPs;
 - (c) Assessment of BMP effectiveness;
 - (d) Visual observations for non-storm water discharges, potential illicit connections, and potential discharge of pollutants in storm water runoff;
 - (e) Education and outreach on storm water pollution prevention, as needed; and
 - (f) Creation of a written or electronic inspection report.
- (7) The Copermittees must track the number of inspections for each inventoried construction site throughout the reporting period to verify that each site is inspected at the minimum frequencies required.

f. ENFORCEMENT OF CONSTRUCTION SITES

- (1) Each Copermittee must develop and implement an escalating enforcement

process that achieves prompt corrective actions at construction sites for violations of the Copermittee's water quality protection permit requirements and ordinances. This enforcement process must include authorizing the Copermittee's construction site inspectors to take immediate enforcement actions when appropriate and necessary. The enforcement process must include appropriate sanctions such as stop work orders, non-monetary penalties, fines, bonding requirements, and/or permit denials for non-compliance.

- (2) Each Copermittee must be able to respond to complaints received from third-parties and to ensure the Regional Board that corrective actions have been implemented.

g. REPORTING OF NON-COMPLIANT SITES

- (1) In addition to the notification requirements in Attachment B, each Copermittee must notify the Regional Board when the Copermittee issues a stop work order or other high level enforcement to a construction site in its jurisdiction as a result of storm water violations.
- (2) Each Copermittee shall annually notify the Regional Board, prior to the commencement of the wet season, of all construction sites with alleged violations. Information may be provided as part of the JRMP annual report if submitted prior to the rainy season. Information provided shall include, but not be limited to, the following:
 - (a) WDID number if enrolled under the General Construction Permit
 - (b) Site Location, including address
 - (c) Current violations or suspected violations

h. TRAINING AND EDUCATION

- (1) Municipal Staff and Contractors: Requirements for municipal staff and contractors are described in the Municipal Component section of this Order.
- (2) Construction Site Owner / Operator Responsibilities:

As early in the planning and development process as possible and all through the permitting and construction process, each Copermittee must implement a program to educate project applicants, developers, contractors, property owners, and other responsible parties. The education program must provide an understanding of the topics listed below, as appropriate for the audience being educated.

- (a) The importance of educating all construction workers in the field about storm water issues and BMPs through formal or informal training;

- (b) Federal, State, and local water quality laws and regulations applicable to construction and grading activities;
- (c) Site design, source control, pollution prevention, and treatment BMPs;
- (d) General runoff concepts; and
- (e) Other topics of local importance, including local water quality conditions, impaired waterbodies and environmentally sensitive areas.

3. EXISTING DEVELOPMENT COMPONENT

a. MUNICIPAL

Each Copermittee must implement a municipal program which meets the requirements of this section, prevents illicit discharges into the MS4, reduces municipal discharges of storm water pollutants from the MS4 to the MEP, and prevents municipal discharges from the MS4 from causing or contributing to a violation of water quality standards.

(1) Source Identification / Inventory

Each Copermittee must maintain an updated watershed-based inventory of municipal areas and activities. The inventory must include the name, address (if applicable), and a description of the area/activity; which pollutants are potentially generated by the area/activity; whether the area/activity is adjacent to an ESA; and identification of whether the area/activity is tributary to a CWA section 303(d) water body segment and generates pollutants for which the water body segment is impaired. The use of an automated database system, such as Geographical Information Systems (GIS) is required when applicable.

(2) General BMP Implementation

- (a) Pollution Prevention: Each Copermittee must implement pollution prevention methods in its municipal program and must require their use by appropriate municipal departments, personnel, and contractors, where appropriate.
- (b) Designate Minimum BMPs: Each Copermittee must designate a minimum set of BMPs for all municipal areas and activities. The designated minimum BMPs for municipal areas and activities must be area or activity specific as appropriate. BMPs must be designated for special events that are expected to generate significant trash and litter.
- (c) Designate BMPs for ESAs and 303(d) Impairments: Each Copermittee must designate enhanced measures for municipal areas and activities tributary to CWA section 303(d) impaired water body segments when an area or activity generates pollutants for which the water body segment is

impaired. Each Copermittee must also designate additional controls for municipal areas and activities within or directly adjacent to or discharging directly to coastal lagoons, the ocean, or other receiving waters within environmentally sensitive areas (as defined in Attachment C of this Order).

- (d) Implement BMPs: Each Copermittee must implement, or require the implementation of, the designated minimum and enhanced BMPs and any additional measures necessary based on its inventory to comply with this Order for each municipal area or activity within its jurisdiction.

(3) BMP Implementation for Management of Pesticides, Herbicides, and Fertilizers

Each Copermittee must implement BMPs to reduce the contribution of storm water pollutants associated with the application, storage, and disposal of pesticides, herbicides and fertilizers from municipal areas and activities to MS4s and receiving waters. Such BMPs must include, at a minimum:

- (a) Educational activities, permits, certifications and other measures for municipal applicators and distributors;
- (b) Integrated Pest Management (IPM) measures that rely on non-chemical solutions;
- (c) The use of native vegetation;
- (d) Schedules for irrigation and chemical application; and
- (e) The collection and proper disposal of unused pesticides, herbicides, and fertilizers.

(4) BMP implementation for Flood Control Structures

- (a) Each Copermittee must implement procedures to assure that flood management projects assess the impacts on the water quality of receiving water bodies.
- (b) Each Copermittee must include water quality protection measures, where feasible, when retrofitting existing flood control structural devices.
- (c) Each Copermittee must evaluate its existing flood control devices, identify devices causing or contributing to a condition of pollution, identify measures to reduce or eliminate the structure's effect on pollution, and evaluate the feasibility of retrofitting the structural flood control device. The inventory and evaluation must be completed by and submitted to the Regional Board in the 2nd year JRMP Annual Report.

(5) BMP Implementation for Sweeping of Municipal Areas

Where municipal area sweeping is implemented as an MS4 BMP for municipal roads, streets, highways, and parking facilities, each Copermittee must design and implement the program based on the following criteria:

- (a) Optimize pickup of trash and debris based on land uses, trash collection schedules, seasonal factors (e.g., special events, tourism, etc.) and inspections of municipal areas/activities.

(6) Operation and Maintenance of Municipal Separate Storm Sewer System (MS4) and Structural Controls

- (a) Treatment Controls: Each Copermittee must implement a schedule of inspection and maintenance activities to verify proper operation of all municipal structural treatment controls designed to reduce storm water pollutant discharges to or from its MS4s and related drainage structures.
- (b) MS4 and Facilities: Each Copermittee must implement a schedule of maintenance activities for the MS4 and MS4 facilities (catch basins, storm drain inlets, open channels, etc). The maintenance activities must, at a minimum, include:
 - (i) Inspection and removal of accumulated waste at least once a year between May 1 and September 30 of each year for all MS4 facilities;
 - (ii) Additional cleaning as necessary between October 1 and April 30 of each year for facilities that receive or collect high volumes of trash and debris;
 - (iii) Following two years of inspections, any MS4 facility that requires inspection and cleaning less than annually may be inspected as needed, but not less than every other year;
 - (iv) Open channels must be cleaned of observed anthropogenic litter in a timely manner;
 - (v) Record keeping of the maintenance and cleaning activities including the overall quantity of waste removed;
 - (vi) Proper disposal of waste removed pursuant to applicable laws; and
 - (vii) Measures to eliminate waste discharges during MS4 maintenance and cleaning activities.

(7) Infiltration From Sanitary Sewer to MS4/Provide Preventive Maintenance of Both

- (a) Each Copermittee must implement controls and measures to prevent and eliminate infiltration of seepage from municipal sanitary sewers to MS4s through thorough, routine preventive maintenance of the MS4. Each Copermittee that operates both a municipal sanitary sewer system and a MS4 must implement controls and measures to prevent and eliminate infiltration of seepage from the municipal sanitary sewers to the MS4s that must include overall sanitary sewer and MS4 surveys and thorough, routine preventive maintenance of both.

(b) Each Copermittee must implement controls to limit infiltration of seepage from municipal sanitary sewers to municipal separate storm sewer systems where necessary. Such controls must include:

- (i) Adequate plan checking for construction and new development,
- (ii) Incident response training for municipal employees that identify sanitary sewer spills;
- (iii) Code enforcement inspections;
- (iv) MS4 maintenance and inspections;
- (v) Interagency coordination with sewer agencies; and
- (vi) Proper education of municipal staff and contractors conducting field operations on the MS4 or municipal sanitary sewer (if applicable).

(8) Inspection of Municipal Areas and Activities

(a) At a minimum, each Copermittee must inspect the following high priority municipal areas and activities annually:

- (i) Roads, Streets, Highways, and Parking Facilities;
- (ii) Flood Management Projects and Flood Control Devices;
- (iii) Areas and activities tributary to a CWA section 303(d) impaired water body segment, where an area or activity generates pollutants for which the water body segment is impaired.
- (iv) Areas and activities within or adjacent to or discharging directly to coastal lagoons, the ocean, or other receiving waters within environmentally sensitive areas (as defined in Attachment C of this Order);
- (v) Municipal Facilities:
 - [a] Active or closed municipal landfills;
 - [b] Publicly owned treatment works (including water and wastewater treatment plants) and sanitary sewage collection systems;
 - [c] Solid waste transfer facilities;
 - [d] Land application sites;
 - [e] Corporate yards including maintenance and storage yards for materials, waste, equipment and vehicles; and
 - [f] Household hazardous waste collection facilities.
- (vi) Municipal airfields;
- (vii) Parks and recreation facilities;
- (viii) Special event venues following special events (festivals, sporting events, etc.);
- (ix) Power washing; and
- (x) Other municipal areas and activities that the Copermittee determines may contribute a significant pollutant load to the MS4.

(b) Other municipal areas and activities must be inspected as needed and in response to water quality data, valid public complaints, and findings from

municipal or contract staff.

- (c) Based upon site inspection findings, each Copermittee must implement all follow-up actions necessary to comply with this Order.

(9) Enforcement of Municipal Areas and Activities

Each Copermittee must enforce its storm water ordinance for all municipal areas and activities as necessary to maintain compliance with this Order.

(10) Training and Education

Each Copermittee must ensure that all municipal personnel and contractors that have responsibilities for selecting, implementing, and evaluating BMPs for municipal areas and activities are adequately trained and educated to perform such tasks.

(a) Municipal Departments and Personnel Education

- (i) Municipal Construction Activities: Each Copermittee must implement an education program that includes annual training prior to the rainy season so that its construction, building, code enforcement, and grading review staffs, inspectors, and other responsible construction staff have, at a minimum, an understanding of the following topics, as appropriate for the target audience:
- [a] Federal, State, and local water quality laws and regulations applicable to construction and grading activities;
 - [b] The connection between construction activities and water quality impacts (i.e., impacts from land development and urbanization and impacts from construction material such as sediment);
 - [c] Proper implementation of erosion and sediment control and other BMPs to minimize the impacts to receiving water quality resulting from construction activities;
 - [d] The Copermittee's inspection, plan review, and enforcement policies and procedures to verify consistent application;
 - [e] Current advancements in BMP technologies;
 - [f] SSMP Requirements including treatment options, site design, source control, and applicable tracking mechanisms; and
 - [g] Other topics of local importance, including local water quality conditions, impaired water bodies, environmentally sensitive areas, and public health and disease vector issues associated with runoff.
- (ii) Municipal Industrial/Commercial Activities: Each Copermittee must train staff responsible for conducting storm water compliance inspections and enforcement of industrial and commercial facilities at

least once a year. Training must cover inspection and enforcement procedures, BMP implementation, and review of monitoring data

- (iii) Municipal Other Activities: Each Copermittee must implement an education program so that municipal personnel and contractors performing activities which generate pollutants have an understanding of the activity specific BMPs for each activity to be performed.

b. COMMERCIAL / INDUSTRIAL

Each Copermittee must implement a commercial / industrial program that meets the requirements of this section, prevents illicit discharges into the MS4, reduces commercial / industrial discharges of storm water pollutants from the MS4 to the MEP, and prevents commercial / industrial discharges from the MS4 from causing or contributing to a violation of water quality standards.

(1) Source Identification

- (a) Each Copermittee must maintain an updated watershed-based inventory of all industrial and commercial sites/sources within its jurisdiction (regardless of ownership) that could contribute a significant pollutant load to the MS4. The inventory must include the following minimum information for each industrial and commercial site/source: name; address; pollutants potentially generated by the site/source; and identification of whether the site/source is tributary to a Clean Water Act section 303(d) water body segment and generates pollutants for which the water body segment is impaired; and a narrative description including SIC codes which best reflects the principal products or services provided by each facility.

At a minimum, the following sites/sources must be included in the inventory:

- (i) Commercial Sites/Sources:
 - [a] Automobile repair, maintenance, fueling, or cleaning;
 - [b] Airplane repair, maintenance, fueling, or cleaning;
 - [c] Boat repair, maintenance, fueling, or cleaning;
 - [d] Equipment repair, maintenance, fueling, or cleaning;
 - [e] Automobile and other vehicle body repair or painting;
 - [f] Mobile automobile or other vehicle washing;
 - [g] Automobile (or other vehicle) parking lots and storage facilities;
 - [h] Retail or wholesale fueling;
 - [i] Pest control services;
 - [j] Eating or drinking establishments, including food markets;

- [k] Mobile carpet, drape or furniture cleaning;
- [l] Cement mixing or cutting;
- [m] Masonry;
- [n] Painting and coating;
- [o] Botanical or zoological gardens and exhibits;
- [p] Landscaping;
- [q] Nurseries and greenhouses;
- [r] Golf courses, parks and other recreational areas/facilities;
- [s] Cemeteries;
- [t] Pool and fountain cleaning;
- [u] Marinas;
- [v] Portable sanitary services;
- [w] Building material retailers and storage;
- [x] Animal facilities;
- [y] Mobile pet services;
- [z] Power washing services; and
- [aa] Other sites and sources with a history of un-authorized discharges to the MS4.

(ii) Industrial Sites/Sources:

- [a] Industrial Facilities, as defined at 40 CFR § 122.26(b)(14), including those subject to the General Industrial Permit or other individual NPDES permit;
- [b] Operating and closed landfills;
- [c] Facilities subject to SARA Title III; and
- [d] Hazardous waste treatment, disposal, storage and recovery facilities.

(iii) ESAs and 303(d) Listed Waterbodies: All other commercial or industrial sites/sources tributary to a CWA Section 303(d) impaired water body segment, where the site/source generates pollutants for which the water body segment is impaired. All other commercial or industrial sites/sources within or directly adjacent to or discharging directly to coastal lagoons, the ocean, or other receiving waters within environmentally sensitive areas (as defined in Attachment C of this Order).

(iv) All other commercial or industrial sites/sources that the Copermitttee determines may contribute a significant pollutant load to the MS4.

(2) General BMP Implementation

(a) Pollution Prevention: Each Copermitttee must require the use of pollution prevention methods by industrial and commercial sites/sources.

- (b) Designate / Update Minimum BMPs: Each Copermittee must designate a minimum set of BMPs for all industrial and commercial sites/sources. Where BMPs have already been designated, each Copermittee must review its existing BMPs for adequacy. The designated minimum BMPs must be specific to facility types and pollutant-generating activities, as appropriate.
- (c) Designate Enhanced BMPs for ESAs and 303(d) Impairments: Each Copermittee must designate enhanced measures for industrial and commercial sites/sources tributary to CWA section 303(d) impaired water body segments (where a site/source generates pollutants for which the water body segment is impaired). Each Copermittee must also designate additional controls for industrial and commercial sites/sources within or directly adjacent to or discharging directly to coastal lagoons, the ocean, or other receiving waters within environmentally sensitive areas (as defined in Attachment C of this Order).
- (d) Implement BMPs: Each Copermittee must implement, or require the implementation of, the designated minimum and enhanced BMPs and any additional measures necessary based on inspections, incident responses, and water quality data to comply with this Order at each industrial and commercial site/source within its jurisdiction.

(3) BMP Implementation for Mobile Businesses

- (a) Each Copermittee must develop and implement a program to reduce the discharge of storm water pollutants from mobile businesses to the MEP and to prohibit non-storm water discharges pursuant to Section B of this Order. Each Copermittee must keep as part of their commercial source inventory a listing of mobile businesses known to operate within its jurisdiction. The program must include:
 - (i) Development and implementation of minimum standards and BMPs to be required for each of the various types of mobile businesses;
 - (ii) Development and implementation of an enforcement strategy which specifically addresses the unique characteristics of mobile businesses;
 - (iii) Notification of those mobile businesses known to operate within the Copermittee's jurisdiction of the minimum standards and BMP requirements and local ordinances;
 - (iv) Development and implementation of an outreach and education strategy; and
 - (v) Inspection of mobile businesses as needed to implement the program.
- (b) If they choose to, the Copermittees may cooperate in developing and implementing their programs for mobile businesses, including sharing of mobile business inventories, BMP requirements, enforcement action

information, and education.

(4) Inspection of Industrial and Commercial Sites/Sources

Each Copermittee must conduct industrial and commercial site inspections for compliance with its ordinances, permits, and this Order.

(a) Inspection Procedures: Inspections must include but not be limited to:

- (i) Review of BMP implementation plans, if the site uses or is required to use such a plan;
- (ii) Review of facility monitoring data, if the site monitors its runoff;
- (iii) Check for coverage under the General Industrial Permit (Notice of Intent (NOI) and/or Waste Discharge Identification Number), if applicable;
- (iv) Assessment of compliance with Copermittee ordinances and permits related to runoff;
- (v) Assessment of BMP implementation, maintenance and effectiveness;
- (vi) Visual observations for non-storm water discharges, potential illicit connections, and potential discharge of pollutants in storm water runoff; and
- (vii) Education and training on storm water pollution prevention, as conditions warrant.

(b) Each Copermittee shall annually notify the Regional Board, prior to the commencement of the wet season, of all Industrial Sites and Industrial Facilities subject to the General Industrial Permit or other individual NPDES permit with alleged violations. Information may be provided as part of the JRMP annual report if submitted prior to the rainy season. Information provided shall include, but not be limited to, the following:

- (i) WDID number if enrolled under the General Industrial Permit;
- (ii) Site Location, including address;
- (iii) Current violations or suspected violations; and
- (iv) Past Violation history.

(c) Frequencies: At a minimum, 20 percent of the sites inventoried as required in section F.3.b.(1) above (excluding mobile sources and food facilities) must be inspected each year. Mobile businesses must be

inspected pursuant to the enforcement strategy developed pursuant to section F.3.b.(3). Other inspection frequencies must be based upon findings of the Copermittee's existing program and the following factors:

- (i) Type of activity (SIC code);
 - (ii) Materials used at the facility;
 - (iii) Wastes generated;
 - (iv) Pollutant discharge potential;
 - (v) Non-storm water discharges;
 - (vi) Size of facility;
 - (vii) Proximity to receiving water bodies;
 - (viii) Sensitivity of receiving water bodies;
 - (ix) Whether the facility is subject to the General Industrial Permit or an individual NPDES permit;
 - (x) Whether the facility has filed a No Exposure Certification/Notice of Non-Applicability;
 - (xi) Facility design;
 - (xii) Total area of the site, area of the site where industrial or commercial activities occur, and area of the site exposed to rainfall and runoff;
 - (xiii) The facility's compliance history; and
 - (xiv) Any other relevant factors.
- (d) Food Facilities: Each food facility must be inspected annually for compliance with the Copermittee's water quality ordinances and this Order. Each inspection of a food facility must, at a minimum, address the following concerns:
- (i) Trash storage and disposal;
 - (ii) Grease storage and disposal;
 - (iii) Washwater discharges to the MS4 (e.g., from floor mats, driveways, sidewalks, etc.);
 - (iv) Identification of outdoor sewer and MS4 connections; and
 - (v) Education of property managers when grease and/or trash facilities are shared by multiple facilities.
- (e) Third-Party Inspections: Each Copermittee may develop and implement a third party inspection program for verifying industrial and commercial site/source compliance with its ordinances, permits, and this Order. To the extent that third party inspections are conducted to fulfill the requirements of this Order, the Copermittee will be responsible for conducting and documenting quality assurance and quality control of the third-party inspections.
- (i) Each inspection conducted by a third-party must, at a minimum, result in the following:

- [a] Photo documentation of potential storm water violations identified during the third party inspection;
 - [b] Reporting to the Copermittee of identified significant potential violations, including imminent or observed illegal discharges, within 24 hours of the third party inspection;
 - [c] Reporting to the Copermittee of all inspection findings within one week of the inspection being conducted; and
 - [d] Copermittee follow-up and/or enforcement actions for identified potential storm water violations within two business days of the inspection or potential violation report receipt.
- (f) Based upon site inspection findings, each Copermittee must implement all follow-up actions and enforcement necessary to comply with this Order.
- (g) To the extent that the Regional Board has conducted an inspection of an industrial site during a particular year, the requirement for the responsible Copermittee to inspect this facility during the same year will be satisfied.
- (h) The Copermittees must track the number of inspections for the inventoried industrial and commercial sites/sources throughout the reporting period to verify that the sites/sources are inspected at the minimum frequencies listed in this Order.

(5) Enforcement of Industrial and Commercial Sites/Sources

Each Copermittee must enforce its storm water ordinance for all industrial and commercial sites/sources as necessary to maintain compliance with this Order. Copermittee ordinances or other regulatory mechanisms must include appropriate sanctions to achieve compliance. Sanctions must include the following or their equivalent: Non-monetary penalties, fines, bonding requirements, and/or permit denials for non-compliance.

(6) Training and Education for Owners and Operators of Commercial and Industrial Activities

- (a) Each Copermittee must implement an education program using all media as appropriate to (1) measurably increase the knowledge of owners and operators of commercial and industrial activities regarding MS4s, impacts of runoff on receiving waters, and potential BMP solutions for the target audience; and (2) to measurably change the behavior of target communities and thereby reduce storm water pollutant releases and eliminate prohibited non-storm water discharges to MS4s and the environment. At a minimum, the education program must meet the requirements of this section and address the following issues:
- (i) Laws, regulations, permits, & requirements;

- (ii) Best management practices;
- (iii) General runoff concepts; and
- (iv) Other topics, including public reporting mechanisms, water conservation, low-impact development techniques.

(b) BMP Notification: At least twice during the five-year period of this Order, each Copermittee must notify the owner/operator of each inventoried industrial and commercial site/source of the BMP requirements applicable to the site/source.

c. RESIDENTIAL

Each Copermittee must implement a residential program which meets the requirements of this section, prevents illicit discharges into the MS4, reduces residential discharges of storm water pollutants from the MS4 to the MEP, and prevents residential discharges from the MS4 from causing or contributing to a violation of water quality standards.

(1) Threat to Water Quality Prioritization

Each Copermittee must identify residential areas and activities that pose a high threat to water quality. At a minimum, these must include:

- (a) Automobile repair, maintenance, washing, and parking;
- (b) Home and garden care activities and product use (pesticides, herbicides, and fertilizers);
- (c) Disposal of trash, pet waste, green waste, and household hazardous waste (e.g., paints, cleaning products);
- (d) Any other residential source that the Copermittee determines may contribute a significant pollutant load to the MS4;
- (e) Any residential areas tributary to a CWA section 303(d) impaired water body, where the residence generates pollutants for which the water body is impaired; and
- (f) Any residential areas within or directly adjacent to or discharging directly to a coastal lagoon, the ocean, or other receiving waters within an environmentally sensitive area (as defined in Attachment C of this Order).

(2) BMP Implementation

- (a) Pollution Prevention: Each Copermittee must actively encourage the use of pollution prevention methods by residents.
- (b) Designate BMPs: Each Copermittee must designate minimum BMPs for high-threat-to-water quality residential areas and activities. The designated minimum BMPs for high-threat-to-water quality residential

areas and activities must be area or activity specific.

- (c) Hazardous Waste BMPs: Each Copermittee must facilitate the proper management and disposal of used oil, toxic materials, and other household hazardous wastes. Such facilitation must include educational activities, public information activities, and establishment of collection sites operated by the Copermittee or a private entity. Curbside collection of household hazardous wastes is encouraged.
- (d) Implement BMPs: Each Copermittee must implement, or require implementation of, the designated minimum BMPs and any additional measures necessary to comply with Sections A and B of this Order.
- (e) Each Copermittee must implement, or require implementation of, BMPs for residential areas and activities that have not been designated a high threat to water quality, as necessary.

(3) Enforcement of Residential Areas and Activities

Each Copermittee must enforce its storm water ordinance for all residential areas and activities as necessary to maintain compliance with this Order.

(4) Evaluation of Oversight of Residential Areas and Activities

Each Copermittee must annually review the effectiveness of efforts to reduce residential discharges of storm water pollutants from the MS4 and eliminate illicit residential discharges into the MS4. The evaluation must consider findings from monitoring data, municipal employee comments, inspections, complaints, and other appropriate sources.

(5) Common Interest Areas (CIA) / Home Owner Association (HOA) Areas

Each Copermittee must implement measures specifically to ensure that runoff within common interest developments, including areas managed by associations, meets the objectives of this section and Order.

- (a) BMP Implementation: Each Copermittee must implement management measures based on a review of pertinent factors, including:
 - (i) Current maintenance duties and procedures used by CIA/HOA maintenance associations within its jurisdiction;
 - (ii) Whether streets and storm drains are publicly or privately owned within the CIA/HOA;
 - (iii) Whether the CIA/HOA area has been identified as a high priority residential area;
 - (iv) Proximity to 303(d)-listed waterbodies, the ocean, environmentally

- sensitive areas;
- (v) Evaluation of water quality monitoring data;
- (vi) Evaluation of existing illegal discharge/illicit connection activities;
- (vii) Other activities conducted or authorized by the HOA that may pose a significant risk to inland or coastal receiving waters.

- (b) Legal Authority and Enforcement: Within one year of adoption of this Order, each Copermittee must review its Municipal Code to determine the most appropriate method to implement and enforce runoff management measures within CIA/HOA areas.

(6) Residential Education Program

- (a) Each Copermittee must implement a Residential Education Program using all media as appropriate to (1) measurably increase the knowledge regarding MS4s, impacts of runoff on receiving waters, and potential BMP solutions for the target audience; and (2) to measurably change the behavior of target communities and thereby reduce storm water and eliminate prohibited non-storm water pollutant releases to MS4s and the environment.
- (b) Copermittee educational programs must emphasize underserved target audiences, residents and managers of CIA/HOA areas, high-risk behaviors, and “allowable” behaviors and discharges. At a minimum, the education program must meet the requirements of this section and address the following issues:
 - (i) Laws, regulations, permits, and requirements;
 - (ii) Best management practices;
 - (iii) General runoff concepts;
 - (iv) Existing water quality, including local water quality conditions, impaired waterbodies and environmentally sensitive areas; and
 - (v) Other topics, including public reporting mechanisms, water conservation, low-impact development techniques, and public health and disease vector issues associated with runoff.

d. Retrofitting Existing Development

Each Copermittee must develop and implement a retrofitting program which meets the requirements of this section. The goals of the existing development retrofitting program are to reduce impacts from hydromodification, promote LID, support riparian and aquatic habitat restoration, reduce the discharges of storm water pollutants from the MS4 to the MEP, and prevent discharges from the MS4 from causing or contributing to a violation of water quality standards. Where feasible, at the discretion of the Copermittee, the existing development retrofitting program may be coordinated with flood control projects and infrastructure

improvement programs.

(1) Source Identification

The Copermittee must identify and inventory existing developments (i.e. municipal, industrial, commercial, residential) as candidates for retrofitting. Potential retrofitting candidates must include but are not limited to:

- (a) Development that contributes pollutants of concern to a TMDL or a ESA;
- (b) Receiving waters channelized or otherwise hardened;
- (c) Development tributary to receiving waters that are channelized or otherwise hardened;
- (d) Developments tributary to receiving waters that are significantly eroded;
- (e) Developments tributary to an ASBS or SWQPA; and
- (f) Development that causes hydraulic constriction.

(2) Each Copermittee shall evaluate and rank the inventoried existing developments to prioritize retrofitting. Criteria for evaluation must include but is not limited to:

- (a) Feasibility;
- (b) Cost effectiveness;
- (c) Pollutant removal effectiveness;
- (d) Impervious area potentially treated;
- (e) Maintenance requirements;
- (f) Landowner cooperation;
- (g) Neighborhood acceptance;
- (h) Aesthetic qualities; and
- (i) Efficacy at addressing concern.

(3) Each Copermittee must consider the results of the evaluation in prioritizing work plans for the following year. Highly feasible projects expected to benefit water quality should be given a high priority to implement source control and treatment control BMPs. Where feasible, the retrofit projects should be designed in accordance with the SSMP requirements within sections F.1.d.(3) through F.1.d.(8). In addition, the Copermittee shall encourage retrofit projects to implement where feasible the Hydromodification requirements in Section F.1.h.

(4) When requiring retrofitting on existing development, the Copermittees will cooperate with private landowners to encourage retrofitting projects. The Copermittee may consider the following practices in cooperating and encouraging private landowners to retrofit their existing development:

- (a) Demonstration retrofit projects;
- (b) Retrofits on public land and easements;

- (c) Education and outreach;
 - (d) Subsidies for retrofit projects;
 - (e) Requiring retrofit projects as mitigation or ordinance compliance;
 - (f) Public and private partnerships; and
 - (g) Fees for existing discharges to the MS4.
- (5) The completed retrofit BMPs shall be tracked and inspected in accordance with section F.1.f.
- (6) Where constraints on retrofitting preclude effective BMP deployment on existing developments at locations critical to protect receiving waters, a Copermittee may propose a regional mitigation project to improve water quality. Such regional projects may include but are not limited to:
- (a) Regional water quality treatment BMPs;
 - (b) Urban creek or wetlands restoration and preservation;
 - (c) Daylighting and restoring underground creeks;
 - (d) Localized rainfall storage and reuse to the extent such projects are fully protective of downstream water rights;
 - (e) Hydromodification project; and
 - (f) Removal of invasive plant species.
- (7) A retrofit project or regional mitigation project may qualify as a Watershed Water Quality Activity provided it meets the requirements in section G. Watershed Runoff Management Program.

4. ILLICIT DISCHARGE DETECTION AND ELIMINATION

Each Copermittee must implement a program which meets the requirements of this section to actively detect and eliminate illicit discharges and disposal into the MS4. The program must address all types of illicit discharges and connections excluding those non-storm water discharges not prohibited by the Copermittee in accordance with section B of this Order.

a. PREVENT AND DETECT ILLICIT DISCHARGES AND CONNECTIONS

Each Copermittee must implement measures to prevent and detect illicit discharges to the MS4.

- (1) Legal Authority: Each Copermittee must retain legal authority to prevent and eliminate illicit discharges and connections to the MS4.
- (2) Inspections: Each Copermittee must include use of appropriate municipal personnel and contractors to assist in identifying illicit discharges and connections during their daily activities.

- (a) Inspections for illegal discharges and connections must be conducted during routine maintenance of all MS4 facilities.
- (b) Municipal staff and contractors conducting non-MS4 field operations must be trained to report suspected illegal discharges and connections to proper municipal staff.

b. MAINTAIN MS4 MAP

Each Copermittee must maintain an updated map of its entire MS4 and the corresponding drainage areas within its jurisdiction. The use of GIS is required. The accuracy of the MS4 map must be confirmed during dry weather field screening and analytical monitoring and must be updated at least annually. The GIS layers of the MS4 map must be submitted with the updated Jurisdictional Runoff Management Plan within 365 days after adoption of this Order.

c. FACILITATE PUBLIC REPORTING OF ILLICIT DISCHARGES AND CONNECTIONS - PUBLIC HOTLINE

Each Copermittee must promote, publicize and facilitate public reporting of illicit discharges or water quality impacts associated with discharges into or from MS4s. Each Copermittee must facilitate public reporting through development and operation of a public hotline. Public hotlines can be Copermittee-specific or shared by Copermittees. All storm water hotlines must be capable of receiving reports in both English and Spanish 24 hours per day and seven days per week.

d. DRY WEATHER FIELD SCREENING AND ANALYTICAL MONITORING

Each Copermittee must conduct dry weather field screening and analytical monitoring of MS4 outfalls and other portions of its MS4 within its jurisdiction to detect illicit discharges and connections in accordance with Receiving Waters and MS4 Discharge Monitoring and Reporting Program No. R9-2009-0002 in Attachment E of this Order.

e. INVESTIGATION / INSPECTION AND FOLLOW-UP

Each Copermittee must implement procedures to investigate and inspect portions of the MS4 that, based on the results of field screening, analytical monitoring, or other appropriate information, indicate a reasonable potential of containing illicit discharges, illicit connections, or other sources of pollutants in non-storm water.

- (1) Develop response criteria for data: Each Copermittee must develop, update, and use numeric criteria action levels (or other actions level criteria where appropriate) to determine when follow-up investigations will be performed in response to water quality monitoring. The criteria must include required

non-storm water action levels (see Section C) and a consideration of 303(d)-listed waterbodies and environmentally sensitive areas (ESAs) as defined in Attachment C.

- (2) Respond to data: Each Copermittee must investigate portions of the MS4 for which water quality data or conditions indicates a potential illegal discharge or connection.
 - (a) Obvious illicit discharges (i.e. color, odor, or significant exceedances of action levels) must be investigated immediately.
 - (b) Field screen data: Within two business days of receiving dry weather field screening results that exceed action levels, the Copermittees must either initiate an investigation to identify the source of the discharge or document the rationale for why the discharge does not pose a threat to water quality and does not need further investigation. This documentation shall be included in the Annual Report.
 - (c) Analytical data: Within five business days of receiving analytical laboratory results that exceed action levels, the Copermittees must either initiate an investigation to identify the source of the discharge or document the rationale for why the discharge does not pose a threat to water quality and does not need further investigation. This documentation shall be included in the Annual Report.
- (3) Respond to notifications: Each Copermittee must respond to and resolve each reported incident (e.g., public hotline, staff notification, etc.) in a timely manner. Criteria may be developed to assess the validity of, and prioritize the response to, each report.

f. ELIMINATION OF ILLICIT DISCHARGES AND CONNECTIONS

Each Copermittee must take immediate action to initiate steps necessary to eliminate all detected illicit discharges, illicit discharge sources, and illicit connections after detection. Elimination measures may include an escalating series of enforcement actions for those illicit discharges that are not a serious threat to public health or the environment. Illicit discharges that pose a serious threat to the public's health or the environment must be eliminated immediately.

g. ENFORCE ORDINANCES

Each Copermittee must implement and enforce its ordinances, orders, or other legal authority to prevent illicit discharges and connections to its MS4 and to eliminate detected illicit discharges and connections to its MS4.

h. PREVENT AND RESPOND TO SEWAGE SPILLS (INCLUDING FROM PRIVATE LATERALS AND FAILING SEPTIC SYSTEMS) AND OTHER SPILLS

(1) Each Copermittee must implement management measures and procedures to prevent, respond to, contain and clean up all sewage (see below) and other spills that may discharge into its MS4 from any source (including private laterals and failing septic systems). Copermittees must coordinate with spill response teams to prevent entry of spills into the MS4 and contamination of surface water, ground water and soil. Each Copermittee must coordinate spill prevention, containment and response activities throughout all appropriate departments, programs and agencies so that maximum water quality protection is available at all times.

(2) Each Copermittee must develop and implement a mechanism whereby it is notified of all sewage spills from private laterals and failing septic systems into its MS4. Each Copermittee must implement management measures and procedures to prevent, respond to, and coordinate a response to contain and clean up sewage from any such notification.

i. EDUCATION AND TRAINING

Each Copermittee must implement educational activities, public information activities, and other appropriate activities to facilitate the proper management and disposal of used oil and toxic materials.

5. PUBLIC PARTICIPATION COMPONENT

Each Copermittee must incorporate a mechanism for public participation in the updating, development, and implementation of the Jurisdictional Runoff Management Program.

G. WATERSHED RUNOFF MANAGEMENT PROGRAM

1. Lead Watershed Copermittee Identification

Watershed Copermittees shall identify the Lead Watershed Copermittee for their Watershed Management Area (WMA). The Lead Watershed Copermittees shall serve as liaisons between the Permittees and Regional Board, where appropriate.

2. Watershed Water Quality Workplan (Watershed Workplan)

The Watershed Workplan shall describe the Permittees' development and implementation of a collective watershed strategy to assess and prioritize the water quality problems within the watershed's receiving waters, identify and model sources of the highest priority water quality problem(s), develop a watershed-wide BMP implementation strategy to abate highest priority water quality problems, and a monitoring strategy to evaluate BMP effectiveness and changing water quality prioritization in the WMA.

The work plan shall, at a minimum:

- a.** Characterize the receiving water quality in the WMA. Characterization shall include use of regularly collected water quality data, reports, monitoring and analysis generated in accordance with the requirements of the Receiving Waters Monitoring and Reporting Program, as well as applicable information available from other public and private organizations.
- b.** Identify the highest priority water quality problem(s), in terms of constituents by location, in the WMA's receiving waters. Identified water quality problem(s) shall, at a minimum, give consideration to; TMDLs, receiving waters listed on the CWA section 303(d) list, waters with persistent violations of water quality standards, toxicity, or impacts to beneficial uses, and other pertinent conditions.
- c.** Identify the sources of the highest water quality problem(s) within the WMA. Efforts to determine such sources shall include, but not be limited to: use of information from the construction, industrial/commercial, municipal, and residential source identification programs required within the Jurisdictional Runoff Program (JRMP) of this Order; specific actions to model pollutant transport to receiving waters for the sake of identifying the source(s) point(s) of origin; water quality monitoring data collected as part of the Receiving Water Monitoring and Reporting Program required by this Order, and additional focused water quality monitoring to identify specific sources within the watershed.
- d.** Develop a watershed BMP implementation strategy to attain receiving water quality objectives in the identified highest priority water quality problem(s). The BMP implementation strategy shall include a schedule for implementation of the BMP projects to abate specific receiving water quality problems. BMPs not

contributing to measured pollutant reductions or improvements to water quality must be removed and replaced with alternative BMPs. Identified watershed water quality problems may be the result of jurisdictional discharges that will need to be addressed with BMPs applied in a specific jurisdiction in order to generate a benefit to the watershed.

- e. Develop a strategy to model and monitor improvements in receiving water quality directly resulting from implementation of the BMPs described in the Watershed Workplan. The modeling and monitoring strategy shall generate the necessary data to report on the measured pollutant reduction that results from proper BMP implementation. Monitoring shall, at a minimum, be conducted in the receiving water to demonstrate reduction in pollutant concentrations and progression towards attainment of receiving water quality objectives.
 - f. Establish a schedule for development and implementation of the Watershed strategy outlined in the Workplan. The schedule shall, at a minimum, include forecasted dates of planned actions to address Provisions E.2(a) through E.2(e) and dates for watershed review meetings through the remaining portion of this Permit cycle. Annual watershed workplan review meetings must be open to the public and appropriately publically noticed such that interested parties may come and provide comments on the watershed program.
3. **Watershed Workplan Implementation** – Watershed Copermittee’s shall begin implementing the Watershed Workplan within 60-days of acceptance by the Regional Board Executive Officer. If within 30 days of submittal, the Regional Board has not taken an action, the Workplan shall be deemed acceptable.
 4. **Copermittee Collaboration** – Watershed Copermittees shall collaborate to develop and implement the Watershed Workplan. Watershed Copermittee collaboration shall include frequent regularly scheduled meetings.
 5. **Public Participation** – Watershed Copermittees shall implement a watershed-specific public participation mechanism within each watershed. A required component of the watershed-specific public participation shall be a minimum 30-day public review of the Watershed Workplan prior to submittal for acceptance by the Regional Board Executive Officer. Opportunity for the public to review and comment on the Watershed Workplan must occur before the workplan is implemented.
 6. **Watershed Workplan Review and Updates** – Watershed Copermittees shall review and update the Watershed Workplan annually to identify needed changes to the prioritized water quality problem(s) listed in the workplan. All updates to the Watershed Workplan shall be presented during an Annual Watershed Review Meeting. Annual Watershed Review Meetings shall occur once every calendar year and be conducted by the Watershed Copermittees. Annual Watershed Review Meetings shall be open to the public and adequately noticed. Individual Watershed Copermittees shall also review and modify their jurisdictional programs and JRMP

Annual Reports, as necessary, so that they are consistent with the updated Watershed Workplan.

7. Aliso Creek Watershed Runoff Management Plan (WRMP) Provisions

The following provisions apply to the Aliso Creek WRMP. Requirements in this subsection must supersede requirements prescribed by the Regional Board on October 18, 2005.²⁰

- a. Each Copermittee within the Aliso Creek Watershed must implement the monitoring and reporting program described in *Aliso Creek 13325 Directive, Revised Monitoring Program Design – Integration with NPDES Program*, December 2004 (Revised Aliso Creek Program).
- b. Each Copermittee must provide annual reports by March 1 of each year beginning in 2011 for the preceding annual period of January through December. The annual reports must contain the following information:
 - (1) Water quality data and assessment from the Revised Aliso Creek Program. Each municipality must implement the monitoring and reporting program described in the Revised Aliso Creek Program. All information submitted in the report must conform to a SWAMP-Compatible Quality Assurance Project Plan²¹. The report must contain an assessment of compliance with applicable water quality standards for each monitoring station. The report must include data in tabular and graphical form, and electronic data must be submitted to the Regional Board.
 - (2) Program Assessment. A description and assessment of each municipality's program implemented within the high-priority storm drain locations (as identified Revised Aliso Creek Program) to reduce discharges of indicator fecal bacteria/pathogens. Monitoring alone is not sufficient to assess progress of the municipal programs. Municipalities must demonstrate each year that their programs are effective and resulting in a reduction of bacteria sources.
 - (i) For structural and nonstructural management practices implemented, the assessment must contain a description of the

²⁰ On October 12, 2005, the Regional Board accepted proposed changes to the bacteria monitoring program that had been conducted since spring 2001 pursuant to an Investigative Order from the Regional Board's executive officer. The October 18, 2005, letter from the Regional Board's executive officer revised the Investigative Order and instituted the new monitoring and reporting requirements.

²¹ The State Water Resource Control Board (State Board) has prepared an electronic template for Quality Assurance Project Plans (QAPP) to assist in QAPP development, to provide a common format that will allow for review to be expedited, and to provide information on Surface Water Ambient Monitoring (SWAMP) consistency. Additional information and the template are available on-line at <http://www.waterboards.ca.gov/swamp/qapp.html>.

practice, capital and maintenance costs, expectations for effectiveness, date implemented, and any observed results.

- (ii) For structural and nonstructural management practices evaluated, the assessment must contain a description of the practice(s), conclusions from the evaluation, and whether and when the practice is planned for implementation by the municipality or group of municipalities.
- (3) Status Reports. Updates on high-priority storm drain areas. Status reports must be provided by each municipality that discuss the causes of impairment and subsequent management activities implemented within the reporting period in the high priority areas and the planned activities for the next reporting period.
- (4) Certification Statement. The technical reports submitted to the Regional Board must include the following certification statement signed by either the principal executive officer, ranking elected official, or duly authorized representative of that person:

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person(s) directly responsible for gathering the information, the information is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

- c. The annual reports must be submitted until the Regional Board determines they are no longer warranted. If requested by a municipality, the monitoring program may be modified or reduced by the Regional Board. The monitoring program and annual reporting may be modified in response to adopted TMDLs and additional Clean Water Act 303(d) listings for impairment.
- d. Municipalities must continue meeting on a quarterly basis to discuss efforts to reduce bacteria in the Aliso Creek watershed.

H. FISCAL ANALYSIS

- 1. Secure Resources:** Each Copermittee must secure the resources necessary to meet all requirements of this Order.
- 2. Annual Analysis:** Each Copermittee must conduct an annual fiscal analysis of the necessary capital and operation and maintenance expenditures necessary to accomplish the activities of the programs required by this Order. The analysis must include estimated expenditures for the reporting period, the preceding period, and the next reporting period.
 - a.** Each analysis must include a description of the source of funds that are proposed to meet the necessary expenditures, including legal restrictions on the use of such funds.
 - b.** Each analysis must include a narrative description of circumstances resulting in a 25 percent or greater annual change for any budget line items.
- 3. Annual Reporting:** Each Copermittee must submit its annual fiscal analysis with the annual JRMP report.

I. TOTAL MAXIMUM DAILY LOADS

The waste load allocations (WLAs) of fully approved and adopted TMDLs are incorporated as Water Quality Based Effluent Limitations on a pollutant by pollutant, watershed by watershed basis. Early TMDL requirements, including monitoring, may be required and inserted into this Order pursuant to Finding E.10

1. Baby Beach Bacterial Indicator TMDL Water Quality Based Effluent Limitations

- a. The Copermitees in the Baby Beach watershed shall implement BMPs capable of achieving the interim and final Bacterial Indicator Waste Load Allocations (WLAs) in discharges to Baby Beach as described in Table 6.

Table 6: TMDL Waste Load Reduction Milestones

<u>Action</u>	<u>Date</u>
Meet 50% wasteload reductions	3 years after effective date for dry weather
	7 years after effective date for wet weather
Meet 100% wasteload reductions	5 years after effective date for dry weather
	10 years after effective date for wet weather

- b. The Copermitees shall conduct necessary monitoring, as described in Attachment A to Resolution No. R9-2008-0027, and submit annual progress reports as part of their yearly reports.
- c. The following WLAs (Table 7) are to be met in Baby Beach receiving water by the end of the year 2019 for wet weather and 2014 for dry weather:

Table 7: Final Bacterial Indicator Waste Load Allocations for Baby Beach

<u>Bacterial Indicator</u>	<u>Waste Load Allocation</u>	
	Dry Weather (Billion MPN / Day)	Wet Weather (Billion MPN / 30 Days)
Total Coliform	0.86	3,254
Fecal Coliform	0.17	112
<i>Enterococcus</i>	0.03	114

MPN: Most Probable Number

- d. The Copermitees must meet the following Numeric Targets (Table 8) in Baby Beach receiving waters in order to meet the underlying assumptions of the TMDL. The Numeric Targets are to be met once 100 percent of the WLA reductions have been achieved (see Table 7 above).

Table 8: Final Bacterial Indicator Numeric Targets for Baby Beach

<u>Bacterial Indicator</u>	30-day geo mean (MPN / 100mL)	Single Sample Max (MPN / 100mL)
	Dry Weather only	Dry and Wet Weather
Total Coliform	1,000	10,000
Fecal Coliform	200	400
<i>Enterococcus</i>	35	104

MPN: Most Probable Number

J. PROGRAM EFFECTIVENESS ASSESSMENT AND REPORTING

1. Jurisdictional Program Effectiveness Assessments

a. OBJECTIVES OF EFFECTIVENESS ASSESSMENTS

Beginning with the Annual Report due in 2011, each Copermittee must annually assess the effectiveness of its Jurisdictional Runoff Management Program (JRMP) implementation at meeting the following objectives:

- (1) Objective for 303(d) Waterbodies: Reduce storm water pollutant loadings.
 - (a) Each Copermittee must establish annual assessment measures or methods specifically for reducing discharges of storm water pollutants from its MS4 into each downstream 303(d)-listed water body for which that waterbody is impaired. Assessment measures must be developed for each of the six outcome levels described by CASQA.²²
 - (b) Each Copermittee must annually conduct each established assessment measure or method and evaluate the outcome. Each outcome must then be used to assess the effectiveness of implemented management measures toward reducing MS4 discharges of the specific pollutants causing or contributing to conditions of impairment.
 - (c) The assessment measures must target both water quality outcomes and the results of municipal enforcement activities.

- (2) Objective for Environmentally-Sensitive Areas: Prevent storm water MS4 discharges from causing or contributing to conditions of pollution, nuisance, or contamination.
 - (a) Each Copermittee must establish annual measures or methods specifically for assessing the effectiveness of its management measures for protecting downstream ESAs from adverse effects caused by discharges from its MS4. Assessment measures must be developed for each of the six outcome levels described by CASQA.
 - (b) Each Copermittee must annually implement each established assessment measure or method and evaluate the outcome. Each outcome must be used to assess the effectiveness of implemented management measures toward reducing MS4 discharges of the specific pollutants causing or contributing to conditions of impairment.
 - (c) The assessment measures must target both water quality outcomes and the results of municipal enforcement activities.

- (3) Objectives for major program component outcomes: Determined by Each

²² Effectiveness assessment outcome levels as defined by CASQA are defined in Attachment C of this Order. See "*Municipal Stormwater Program Effectiveness Assessment Guidance*" (CASQA, May 2007) for guidance for assessing program activities at the various outcome levels.

Copermittee.

- (a) Each Copermittee must annually develop objectives for each program component in Section F and the overall JRMP. The objectives must be established as appropriate in response to program implementation and evaluation of water quality and management practices.
 - (b) Assessment approaches for program implementation must include a mix of specific activities, general program components, and water quality data.
 - (c) The assessment measures must target both water quality outcomes and the results of municipal enforcement activities.
- (4) Objectives for actions taken to protect receiving water limitations in accordance with this Order.
- (a) Each Copermittee must develop and implement an effectiveness assessment strategy for each measure conducted in response to a determination to implement the “iterative” approach to prevent or reduce any storm water pollutants that are causing or contributing to the exceedance of water quality standards as outlined in this Order

b. ASSESSMENT REVIEW

- (1) Based on the results of the effectiveness assessments, each Copermittee must annually review its jurisdictional activities and BMPs to identify modifications and improvements needed to maximize JRMP effectiveness, as necessary to achieve compliance with this Order.
- (2) Each Copermittee must develop and annually conduct an Integrated Assessment²³ of each effectiveness assessment objective above (Section J.1.a) and the overall JRMP using a combination of outcomes as appropriate to the objectives.²⁴

2. Program Modifications

- a. Each Copermittee must develop and implement a plan and schedule to address program modifications and improvements identified during annual effectiveness assessments.
- b. Jurisdictional activities/BMPs that are ineffective or less effective than other comparable jurisdictional activities/BMPs must be replaced or improved upon by implementation of more effective jurisdictional activities/BMPs. Where monitoring data exhibits persistent water quality problems that are caused or

²³ Integrated assessment is defined in Attachment C. It is the process of evaluating whether program implementation is resulting in the protection or improvement of water quality. Integrated assessment combines assessments of program implementation and water quality.

²⁴ Not all program components need be addressed at each of the six outcome levels.

contributed to by MS4 discharges, jurisdictional activities or BMPs applicable to the water quality problems must be modified and improved to correct the water quality problems.

3. Effectiveness Assessment and Program Response Reporting

- a. Each Copermittee must include a description and summary of its annual and long-term effectiveness assessments within each Annual Report. Beginning with the Annual Report due in 2011, the Program Effectiveness reporting must include:
- (1) 303(d) waterbodies: A description and results of the annual assessment measures or methods specifically for reducing discharges of storm water pollutants from its MS4 into each 303(d)-listed waterbody;
 - (2) ESAs: A description and results of the annual assessment measures or methods specifically for managing discharges of pollutants from its MS4 into each downstream ESA;
 - (3) Other Program Components: A description of the objectives and corresponding assessment measures and results used to evaluate the effectiveness of each general program component. The results must include findings from both program implementation and water quality assessment where applicable;
 - (4) Receiving water protection: A description and results of the annual assessment measures or methods employed specifically for actions taken to protect receiving water limitations in accordance with Section A.3 of this Order;
 - (5) A description of the steps taken to use dry-weather and wet-weather monitoring data to assess the effectiveness of the programs for 303(d) impairments, ESAs, and general program components;
 - (6) A description of activities conducted in response to investigations of illicit discharge and illicit connection activities, including how each investigation was resolved and the pollutant(s) involved;
 - (7) Responses to effectiveness assessments: A description of each program modification, made in response to the results of effectiveness assessments conducted pursuant to Section J.1.a, and the basis for determining (pursuant to Section J.2.b.) that each modified activity and/or BMP represents an improvement with respect to reducing the discharge of storm water pollutants from the MS4.
 - (8) A description of the steps that will be taken to improve the Copermittee's ability to assess program effectiveness using measurable targeted outcomes, assessment measures, assessment methods, and outcome levels 1-6. Include a time schedule for when improvement will occur; and
 - (9) A description of the steps that will be taken to identify aspects of the Copermittee's Jurisdictional Runoff Management Program that will be changed based on the results of the effectiveness assessment.

4. Work Plan

Each Copermittee must develop a work plan to address their high priority water quality problems in an iterative manner over the life of the permit. The goal of the work plan is to demonstrate a responsive and adaptive approach for the judicious and effective use of available resources to attack the highest priority problems. The work plan shall include, at a minimum, the following:

- a.** The problems and priorities identified during the assessment;
- b.** A list of priority pollutants and known or suspected sources;
- c.** A brief description of the strategy employed to reduce, eliminate or mitigate the negative impacts;
- d.** A description and schedule for new and/or modified BMPs. The schedule is to include dates for significant milestones;
- e.** A description of how the selected activities will address an identified high priority problem. This will include a description of the expected effectiveness and benefits of the new and/or modified BMPs;
- f.** A description of implementation effectiveness metrics;
- g.** A description of how efficacy results will be used to modify priorities and implementation; and
- h.** A review of past activities implemented, progress in meeting water quality standards, and planned program adjustments.

The Copermittee shall submit the work plan to the Regional Board within 365 days of adoption of the Order. Annual updates are also required and shall be included with the annual JRMP report. The Regional Board will assess the work plan for compliance with the specific and overall requirements of the Order. To increase effectiveness and efficiencies, Copermittees may combine their implementation efforts and work plans within a hydrologic area or sub area. Each Copermittee, however, maintains individual responsibility for developing and implementing an acceptable work plan.

K. REPORTING

The Copermittees may propose alternate reporting criteria and schedules, as part of their updated JRMP, for the Executive Officer's acceptance. The Copermittees shall submit the updated JRMP within 365 days after adoption of this Order.

1. Runoff Management Plans**a. JURISDICTIONAL RUNOFF MANAGEMENT PLANS**

- (1) Copermittees: The written account of the overall program to be conducted by each Copermittee to meet the jurisdictional requirements of section F of this Order is referred to as the Jurisdictional Runoff Management Plan (JRMP). Each Copermittee must revise and update its existing JRMP so that it describes all activities the Copermittee will undertake to implement the requirements of this Order. Each Copermittee must submit its updated and revised JRMP to the Regional Board 365 days after adoption of this Order.
- (2) At a minimum, each Copermittee's JRMP must be updated and revised to demonstrate compliance with each applicable section of this Order.

b. WATERSHED WORKPLANS

- (1) Copermittees: The written account of the program conducted by each watershed group of Copermittees is referred to as the Watershed Workplan. Copermittees within each watershed shall be responsible for updating and revising each Watershed Workplan. Each Watershed Workplan shall be updated and revised to describe any changes in water quality problems or priorities in the WMAs, and any necessary change to actions Copermittees will take to implement jurisdictional or watershed BMPs to address those identified.
- (2) Lead Watershed Copermittee: Each Lead Watershed Permittee shall be responsible for coordinating the production of the Watershed Workplan, as well as coordinating Annual Watershed Review Meetings and public participation/public noticing in accordance with the requirements of this Order. The Lead Watershed Permittee shall submit the Watershed Workplan to the Principal.
- (3) Principal Copermittee: The Principal Permittee shall assemble and submit the Watershed Workplan to the Regional Board no later than 365 days after adoption of this Order, and shall be prepared to implement the workplan within 60 days of the Regional Board Executive Officer deeming the workplan acceptable.

- (4) Each Watershed Workplan shall, at a minimum, include:
- (a) Identification of the Lead Watershed Permittee for the watershed.
 - (b) An updated watershed map.
 - (c) Identification and description of all applicable water quality data, reports, analyses, and other information to be used to assess receiving water quality.
 - (d) Assessment and analysis of the watershed's water quality data, reports, analyses, and other information, used during identification and prioritization of the watershed's water quality problems.
 - (e) A prioritized list of water quality problems within the WMA including rationale explaining the method/logic used to determine prioritization.
 - (f) Identification of the likely sources, pollutant discharges, and/or other factors causing the high priority water quality problems within the WMA.
 - (g) A description of the strategy to be used to guide Copermittee implementation of BMPs either jurisdictionally or on a watershed-wide basis to abate the highest water quality problems
 - (h) A list of criteria used to evaluate BMP effectiveness and how it was applied.
 - (i) A GIS map of BMPs implemented and BMPs scheduled for implementation.
 - (j) A description of the public participation mechanisms to be used and the parties anticipated to be involved during the development and implementation of the Watershed Workplan.
 - (k) A description of Copermittee collaboration to accomplish development of the Watershed Workplan, including a schedule for Watershed meetings.
 - (l) A description of how TMDLs and 303(d)-listed water bodies were considered during prioritization of watershed water quality problems
 - (m) A description of the strategy to model and monitor improvement in receiving water quality directly resulting from implementation of the BMPs described in the Watershed Workplan.
 - (n) A scheduled annual Watershed Workplan Review Meeting once every calendar year. This meeting shall be open to the public.

2. Other Required Reports and Plans

a. SSMP UPDATES

- (1) Copermittees must submit their updated model SSMP in accordance with the applicable requirements of section F.1 with the JRMP two years after adoption of this Order.
- (2) Within 180 days of determination that the Model SSMP is in compliance with this Permit's provisions, each Copermittee must update their own local SSMP, and amended ordinances consistent with the model SSMP, and shall submit both (local SSMP and amended ordinances) to the Regional Board.
- (3) For SSMP-related requirements of Section F.1 with subsequent

implementation due dates, updated SSMPs must be submitted with the JRMP annual report covering the applicable reporting period.

b. REPORT OF WASTE DISCHARGE

The Principal Copermittee must submit to the Regional Board, no later than 210 days in advance of the expiration date of this Order, a Report of Waste Discharge (ROWD) as an application for issuance of new waste discharge requirements. The fourth annual report for this Order may serve as the ROWD, provided it contains the minimum information below.

At a minimum, the ROWD must include the following: (1) Proposed changes to the Copermittees' runoff management programs; (2) Proposed changes to monitoring programs; (3) Justification for proposed changes; (4) Name and mailing addresses of the Copermittees; (5) Names and titles of primary contacts of the Copermittees; and (6) Any other information necessary for the reissuance of this Order.

3. Annual Reports

a. JURISDICTIONAL RUNOFF MANAGEMENT PROGRAM (JRMP) ANNUAL REPORTS

- (1) Copermittees: Each Copermittee must generate individual JRMP Annual Reports which cover implementation of its jurisdictional activities during the past annual reporting period. Each Annual Report must verify and document compliance with this Order as directed in this section. Each Copermittee must retain records through 2015, available for review, that document compliance with each requirement of this Order. Each Copermittee must submit to the Principal Copermittee its individual JRMP Annual Report by the date specified by the Principal Copermittee. The reporting period for these annual reports must be the previous fiscal year. For example, the report submitted September 30, 2010 must cover the reporting period July 1, 2009 to June 30, 2010.
- (2) Principal Copermittee: The Principal Copermittee is responsible for collecting and assembling each Copermittee's individual JRMP Annual Report. The Principal Copermittee must submit Unified JRMP Annual Reports to the Regional Board by September 30 of each year, beginning on September 30, 2011. The Unified JRMP Annual Report must contain the 13 individual JRMP Annual Reports.
- (3) Each JRMP Annual Report must contain, at a minimum, the following information:
 - (a) Information required to be reported annually in Section H (Fiscal Analysis) of this Order;

- (b) Information required to be reported annually in Section J (Program Effectiveness) of this Order;
- (c) The completed Reporting Checklist found in Attachment D, and
- (d) Information for each program component by watershed as described in the following Table 9:

Table 9. Annual Reporting Requirements

Program Component	Reporting Requirement
New Development	1. Updated relevant sections of the General Plan and environmental review process and a description of planned updates within the next annual reporting period, if applicable
	2. Revisions to the local SSMP, including where applicable: <ul style="list-style-type: none"> (a) Identification and summary of where the SSMP fails to meet the requirements of this Order; (b) Updated procedures for identifying pollutants of concern for each Priority Development Project; (c) Updated treatment BMP ranking matrix; and (d) Updated site design and treatment control BMP design standards;
	3. Verification that site design, source control, and treatment BMPs were required on all applicable Priority Development Projects;
	4. Description of the application of LID and site design BMPs in the planning and approval process;
	5. Description of projects subject to the local waiver provision for numeric sizing of treatment control BMP requirements;
	6. Description and summary of the LID site design BMP substitution program, if applicable;
	7. Description and summary of the process to verify compliance with SSMP requirements;
	8. Updates to the BMPs that are listed in the local SSMP as options for treatment control;
	9. Description of the treatment control maintenance tracking process and verification that the requirements of this Order were met during the reporting period; <ul style="list-style-type: none"> (a) Updated watershed-based database of approved treatment control BMPs and treatment control BMP maintenance within its jurisdiction, including updates to the list of high-priority treatment BMPs;
	10. Description of the process for identifying and evaluating hydrologic conditions of concern and requiring a suite of management measures within all Priority Development Projects to protect downstream beneficial uses and prevent adverse physical changes to downstream stream channels;
	11. Description of enforcement activities applicable to the new development and redevelopment component and a summary of the effectiveness of those activities;

Program Component	Reporting Requirement
Construction	1. Updated relevant ordinances and description of planned ordinance updates within the next annual reporting period, if applicable;
	2. A description of procedures used for identifying priorities for inspecting sites and enforcing control measures which consider the nature of the construction activity, topography, and the characteristics of soils and receiving water quality;
	3. Designated minimum and enhanced BMPs;
	4. Summary of the inspection program, including the following information: (a) Number and date of inspections conducted at each facility, including the facility address; (b) Number of facilities lacking adequate BMPs; (c) The BMP violations identified during the inspection by facility; (d) Number, date, and types of enforcement actions by facility; (e) Narrative description of inspection findings and follow-up activities for each facility;
Municipal	1. Updated source inventory;
	2. Changes to the designated municipal BMPs;
	3. Descriptions of procedures to assure that flood management projects assess the impacts on the water quality of receiving water bodies;
	4. Summary and assessment of BMPs implemented at retrofitted flood control structures, including: (a) List of projects with BMP retrofits; and (b) List and description of structures retrofitted without BMPs;
	5. Description and assessment of the municipal structural treatment control operations and maintenance activities, including: (a) Number of inspections and types of facilities; and (b) Summary of findings;
	6. Description of the municipal areas/facilities operations and maintenance activities, including: (a) Number and types of facilities maintained; (b) Amount of material removed and how that material was disposed; and (c) List of facilities planned for bi-annual inspections and the justification;
	7. Description of the municipal areas/programs inspection activities, including: (a) Number and date of inspections conducted at each facility; (b) Number of facilities lacking adequate BMPs; (c) The BMP violations identified during the inspection by facility; (d) Number, date and types of enforcement actions by facility; (e) Narrative description of inspection findings and follow-up activities for each facility;

Program Component	Reporting Requirement
	8. Description of activities implemented to address sewage infiltration into the MS4;
Commercial / Industrial	1. Annual inventory of commercial / industrial sources; 2. Summary of the inspection program, including the following information: (a) Number and date of inspections conducted at each facility including the facility address; (b) Number of facilities lacking adequate BMPs; (c) The BMP violations identified during the inspection by facility; (d) Number, date, and types of enforcement actions by facility; (e) Narrative description of inspection findings and follow-up activities for each facility; 3. Changes to designated minimum and enhanced BMPs; 4. A list of industrial sites, including each name, address, and SIC code, that the Copermittee suspects may require coverage under the General Industrial Permit, but has not submitted an NOI;
Residential	1. Updated minimum BMPs required for residential areas and activities;
	2. Quantification and summary of applicable runoff and storm water enforcement actions within residential areas and activities;
	3. Description of efforts to manage runoff and storm water pollution in common interest areas;
Illicit Discharge Detection and Elimination	1. Changes to the legal authority to implement Illicit Discharge Detection and Elimination activities; 2. Changes to the established investigation procedures; 3. Public reporting mechanisms, including phone numbers and web pages; 4. All data and assessments from the Dry Weather Effluent Analytical Monitoring activities; 5. Response criteria developed for water quality data and notifications; 6. Summaries of illicit discharges (including spills and water quality data events) and how each significant case was resolved; 7. A description of instances when field screening and analytical data exceeded action levels, but for which no investigation was conducted; 8. A description of enforcement actions taken in response to investigations of illicit discharges and a description of the effectiveness of those enforcement measures; 9. A description of controls to prevent infiltration of seepage from municipal sanitary sewers to municipal separate storm sewer systems;
Work Plan	Priorities, strategy, implementation schedule and effectiveness evaluation;

(4) Each JRMP Annual Report must also include the following information

regarding non-storm water discharges (see Section B.2. of this Order):

- (a) Identification of non-storm water discharge categories identified as a source of pollutants to waters of the U.S;
- (b) A description of ordinances, orders, or similar means to prohibit non-storm water discharge categories identified under section B.2 above ;
- (c) Identification of any control measures to be required and implemented for non-storm water discharge categories identified as needing said controls by the Regional Board; and
- (d) A description of a program to address pollutants from non-emergency fire fighting flows identified by the Copermittee to be significant sources of pollutants.

4. Interim Reporting Requirements

For the July 2009-June 2010 reporting period, the Jurisdictional RMP must be submitted on January 31, 2011. Each Jurisdictional RMP Annual Report submitted for this reporting period must, at a minimum, include comprehensive descriptions of all activities conducted to fully implement the Copermittees' Jurisdictional RMP documents, as those documents were developed to comply with the requirements of Order No. 2002-01. The Principal Copermittee must submit these documents in a unified manner, consistent with the unified reporting requirements of Order No. 2002-01.

5. Universal Reporting Requirements

All submittals must include an executive summary, introduction, conclusion, recommendations, and signed certified statement. Each Copermittee must submit a signed certified statement covering its responsibilities for each applicable submittal. The Principal Copermittee must submit a signed certified statement covering its responsibilities for each applicable submittal and the sections of the submittals for which it is responsible.

L. MODIFICATION OF PROGRAMS

Modifications of Jurisdictional Runoff Management Programs and/or Watershed Runoff Management Programs may be initiated by the Executive Officer of the Regional Board or by the Copermittees. Requests by Copermittees must be made to the Executive Officer, and must be submitted during the annual review process. Requests for modifications should be incorporated, as appropriate, into the Annual Reports or other deliverables required or allowed under this Order.

1. Minor Modifications: Minor modifications to Jurisdictional Runoff Management Programs, and/or Watershed Runoff Management Programs, may be accepted by the Executive Officer where the Executive Officer finds the proposed modification complies with all discharge prohibitions, receiving water limitations, and other requirements of this Order.
2. Modifications Requiring an Amendment to this Order: Proposed modifications that are not minor require amendment of this Order in accordance with this Order's rules, policies, and procedures.

M. PRINCIPAL COPERMITTEE RESPONSIBILITIES

Within 180 days of adoption of this Order, the Copermittees must designate the Principal Copermittee and notify the Regional Board of the name of the Principal Copermittee. The Principal Copermittee must, at a minimum:

1. Serve as liaison between the Copermittees and the Regional Board on general permit issues, and when necessary and appropriate, represent the Copermittees before the Regional Board.
2. Coordinate permit activities among the Copermittees and facilitate collaboration on the development and implementation of programs required under this Order.
3. Integrate individual Copermittee documents and reports into single unified documents and reports for submittal to the Regional Board as required under this Order.
4. Produce and submit documents and reports as required by section K of this Order and Receiving Waters and MS4 Discharge Monitoring and Reporting Program No. R9-2009-0002 in Attachment E of this Order.

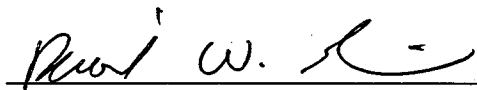
N. RECEIVING WATERS AND MS4 DISCHARGE MONITORING AND REPORTING PROGRAM

Pursuant to CWC section 13267, the Copermittees must comply with all the requirements contained in Receiving Waters and MS4 Discharge Monitoring and Reporting Program No. R9-2009-0002 in Attachment E of this Order.

O. STANDARD PROVISIONS, REPORTING REQUIREMENTS, AND NOTIFICATIONS

1. Each Copermittee must comply with Standard Provisions, Reporting Requirements, and Notifications contained in Attachment B of this Order. This includes 24 hour/5 day reporting requirements for any instance of non-compliance with this Order as described in section 5.e of Attachment B.
2. All plans, reports and subsequent amendments submitted in compliance with this Order must be implemented immediately (or as otherwise specified). All submittals by Copermittees must be adequate to implement the requirements of this Order.

I, David W. Gibson, Executive Officer, do hereby certify the foregoing is a full, true, and correct copy of an Order adopted by the California Regional Water Quality Control Board, San Diego Region, on December 16, 2009.



David W. Gibson
Executive Officer

ATTACHMENT A**BASIN PLAN PROHIBITIONS**

California Water Code Section 13243 provides that a Regional Board, in a water quality control plan, may specify certain conditions or areas where the discharge of waste or certain types of waste is not permitted. The following discharge prohibitions are applicable to any person, as defined by Section 13050(c) of the California Water Code, who is a citizen, domiciliary, or political agency or entity of California whose activities in California could affect the quality of waters of the state within the boundaries of the San Diego Region.

1. The discharge of waste to waters of the state in a manner causing, or threatening to cause a condition of pollution, contamination or nuisance as defined in California Water Code Section 13050, is prohibited.
2. The discharge of waste to land, except as authorized by waste discharge requirements or the terms described in California Water Code Section 13264 is prohibited.
3. The discharge of pollutants or dredged or fill material to waters of the United States except as authorized by a NPDES permit or a dredged or fill material permit (subject to the exemption described in California Water Code Section 13376) is prohibited.
4. Discharges of recycled water to lakes or reservoirs used for municipal water supply or to inland surface water tributaries thereto are prohibited, unless this Regional Board issues a NPDES permit authorizing such a discharge; the proposed discharge has been approved by the State Department of Health Services and the operating agency of the impacted reservoir; and the discharger has an approved fail-safe long-term disposal alternative.
5. The discharge of waste to inland surface waters, except in cases where the quality of the discharge complies with applicable receiving water quality objectives, is prohibited. Allowances for dilution may be made at the discretion of the Regional Board. Consideration would include streamflow data, the degree of treatment provided and safety measures to ensure reliability of facility performance. As an example, discharge of secondary effluent would probably be permitted if streamflow provided 100:1 dilution capability.
6. The discharge of waste in a manner causing flow, ponding, or surfacing on lands not owned or under the control of the discharger is prohibited, unless the discharge is authorized by the Regional Board.
7. The dumping, deposition, or discharge of waste directly into waters of the state, or adjacent to such waters in any manner which may permit its being transported into the waters, is prohibited unless authorized by the Regional Board.
8. Any discharge to a storm water conveyance system that is not composed entirely of "storm water" is prohibited unless authorized by the Regional Board. [The federal regulations, 40 CFR 122.26(b)(13), define storm water as storm water

- runoff, snow melt runoff, and surface runoff and drainage. 40 CFR 122.26(b)(2) defines an illicit discharge as any discharge to a storm water conveyance system that is not composed entirely of storm water except discharges pursuant to a NPDES permit and discharges resulting from fire fighting activities. [§122.26 amended at 56 FR 56553, November 5, 1991; 57 FR 11412, April 2, 1992].
9. The unauthorized discharge of treated or untreated sewage to waters of the state or to a storm water conveyance system is prohibited.
 10. The discharge of industrial wastes to conventional septic tank/subsurface disposal systems, except as authorized by the terms described in California Water Code Section 13264, is prohibited.
 11. The discharge of radioactive wastes amenable to alternative methods of disposal into the waters of the state is prohibited.
 12. The discharge of any radiological, chemical, or biological warfare agent into waters of the state is prohibited.
 13. The discharge of waste into a natural or excavated site below historic water levels is prohibited unless the discharge is authorized by the Regional Board.
 14. The discharge of sand, silt, clay, or other earthen materials from any activity, including land grading and construction, in quantities which cause deleterious bottom deposits, turbidity or discoloration in waters of the state or which unreasonably affect, or threaten to affect, beneficial uses of such waters is prohibited.
 15. The discharge of treated or untreated sewage from vessels to Mission Bay, Oceanside Harbor, Dana Point Harbor, or other small boat harbors is prohibited.

ATTACHMENT B**STANDARD PROVISIONS, REPORTING REQUIREMENTS, AND NOTIFICATIONS****1. STANDARD PROVISIONS – PERMIT COMPLIANCE [40 CFR 122.41]****(a) *Duty to comply* [40 CFR 122.41(a)].**

- (1) The Copermitttee must comply with all of the conditions of this Order. Any noncompliance constitutes a violation of the Clean Water Act (CWA) and the California Water Code (CWC) and is grounds for enforcement action, for permit termination, revocation and reissuance, or modification; or denial of a permit renewal application.
- (2) The Copermitttee shall comply with effluent standards or prohibitions established under section 307(a) of the CWA toxic pollutants and with standards for sewage sludge use or disposal established under section 405(d) of the CWA within the time provided in the regulations that establish these standards or prohibitions or standards for sewage sludge use or disposal, even if the Order has not yet been modified to incorporate the requirement.

(b) *Need to halt or reduce activity not a defense* [40 CFR 122.41(c)]. It shall not be a defense for the Copermitttee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this Order.**(c) *Duty to mitigate* [40 CFR 122.41(d)].** The Copermitttee shall take all reasonable steps to minimize or prevent any discharge or prevent any discharge or sludge use or disposal in violation of this Order that has a reasonable likelihood of adversely affecting human health or the environment.**(d) *Proper operation and maintenance* [40 CFR 122.41(e)].** The Copermitttee shall at all times properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) which are installed or used by the Copermitttee to achieve compliance with the conditions of this Order. Proper operation and maintenance also includes adequate laboratory controls and appropriate quality assurance procedures. This provision requires the operation of back-up or auxiliary facilities or similar systems that are installed by the Copermitttee only when necessary to achieve compliance with the conditions of this Order.**(e) *Property rights* [40 CFR 122.41(g)].**

- (1) This Order does not convey any property rights of any sort or any exclusive privilege.
- (2) The issuance of this Order does not authorize any injury to persons or property or invasion of other private rights, or any infringement of State or local law or regulations.

(f) *Inspection and entry* [40 CFR 122.41(i)]. The Copermitttee shall allow the Regional Water Quality Control Board, San Diego Region (Regional Board), State Water

Resources Control Board (SWRCB), United States Environmental Protection Agency (USEPA), and/or their authorized representatives (including an authorized contractor acting as their representative), upon presentation of credentials and other documents as may be required by law, to:

- (1) Enter upon the Copermittee's premises where a regulated facility or activity is located or conducted, or where records must be kept under the conditions of this Order;
- (2) Have access to and copy, at reasonable times, any records that must be kept under the conditions of this Order;
- (3) Inspect and photograph, at reasonable times, any facilities, equipment (including monitoring and control equipment), practices, or operations regulated or required under this Order; and
- (4) Sample or monitor, at reasonable times, for the purpose of assuring Order compliance or as otherwise authorized by the CWA or the CWC, any substances or parameters at any location.

(g) *Bypass* [40 CFR 122.41(m)]

(1) Definitions:

- i) "Bypass" means the intentional diversion of waste streams from any portion of a treatment facility.
 - ii) "Severe property damage" means substantial physical damage to property, damage to the treatment facilities, which causes them to become inoperable, or substantial and permanent loss of natural resources that can reasonably be expected to occur in the absence of a bypass. Severe property damage does not mean economic loss caused by delays in production.
- (2) Bypass not exceeding limitations - The Copermittee may allow any bypass to occur which does not cause exceedances of effluent limitations, but only if it also is for essential maintenance to assure efficient operation. These bypasses are not subject to the provisions listed in Standard Provisions – Permit Compliance (g)(3), (g)(4) and (g)(5) below.
- (3) Prohibition of Bypass - Bypass is prohibited, and the Regional Board may take enforcement action against a Copermittee for bypass, unless:
- i) Bypass was unavoidable to prevent loss of life, personal injury, or severe property damage;
 - ii) There were no feasible alternatives to the bypass, such as the use of auxiliary treatment facilities, retention of untreated wastes, or maintenance during normal periods of equipment downtime. This condition is not satisfied if adequate back-up equipment should have been installed in the exercise of reasonable engineering judgment to prevent a bypass which occurred during normal periods of equipment downtime or preventive maintenance; and
 - iii) The Copermittee submitted notice as required under Standard Provisions – Permit Compliance (g)(3) above.

(4) Notice

- i) Anticipated bypass. If the Copermittee knows in advance of the need for a bypass, it shall submit a notice, if possible at least ten days before the date of the bypass.
 - ii) Unanticipated bypass. The Copermittee shall submit notice of an unanticipated bypass as required in Standard Provisions 5(e) below (24-hour notice).
- (h) *Upset* [40 CFR 122.41(n)] Upset means an exceptional incident in which there is unintentional and temporary noncompliance with technology based effluent limitations because of factors beyond the reasonable control of the Copermittee. An upset does not include noncompliance to the extent caused by operational error, improperly designed treatment facilities, inadequate treatment facilities, lack of preventive maintenance, or careless or improper operation.
- (1) Effect of an upset. An upset constitutes an affirmative defense to an action brought for noncompliance with such technology based permit effluent limitations if the requirements of Standard Provisions – Permit Compliance (h)(2) below are met. No determination made during administrative review of claims that noncompliance was caused by upset, and before an action for noncompliance, is final administrative action subject to judicial review.
- (2) Conditions necessary for a demonstration of upset. A Copermittee who wishes to establish the affirmative defense of upset shall demonstrate, through properly signed, contemporaneous operating logs, or other relevant evidence that:
- i) An upset occurred and that the Copermittee can identify the cause(s) of the upset;
 - ii) The permitted facility was at the time being properly operated;
 - iii) The Copermittee submitted notice of the upset as required in Standard Provisions – Permit Compliance (5)(e)(ii)(B) below (24-hour notice); and
 - iv) The Copermittee complied with any remedial measures required under Standard Provisions – Permit Compliance 1(c) above.
- (3) Burden of Proof. In any enforcement proceeding, the Copermittee seeking to establish the occurrence of an upset has the burden of proof.

2. STANDARD PROVISIONS – PERMIT ACTION

- (a) *General* [40 CFR 122.41(f)] This Order may be modified, revoked and reissued, or terminated for cause. The filing of a request by the Copermittee for modification, revocation and reissuance, or termination, or a notification of planned changes or anticipated noncompliance does not stay any Order condition.
- (b) *Duty to reapply* [40 CFR 122.41(b)]. If the Copermittee wishes to continue an activity regulated by this Order after the expiration date of this Order, the Copermittee must apply for and obtain new permit.

- (c) *Transfers*. This Order is not transferable to any person except after notice to the Regional Board. The Regional Board may require modification or revocation and reissuance of the Order to change the name of the Copermittee and incorporate such other requirements as may be necessary under the CWA and the CWC.

3. STANDARD PROVISIONS – MONITORING

- (a) Samples and measurements taken for the purpose of monitoring shall be representative of the monitored activity. [40 CFR Section 122.41 (j) (1)]
- (b) Monitoring results must be conducted according to test procedures under 40 CFR Part 136, or in the case of sludge use or disposal, approved under 40 CFR Part 136 unless otherwise specified in 40 CFR Part 503 unless other test procedures have been specified in this Order [40 CFR Section 122.41(j)(4)][40 CFR Section 122.44(i)(1)(iv)].

4. STANDARD PROVISIONS – RECORDS

- (a) Except for records of monitoring information required by this Order related to the Copermittee's sewage sludge use and disposal activities, which shall be retained for a period of at least five years (or longer as required by 40 CFR Part 503), the Copermittee shall retain records of all monitoring information, including all calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentation, copies of all reports required by this Order, and records of all data used to complete the application for this Order, for a period of at least three (3) years from the date of the sample, measurement, report or application, This period may be extended by request of the Regional Water Board Executive Officer at any time [40 CFR Section 122.41(j)(2)].
- (b) *Records of monitoring information* [40 CFR 122.41(j) (3)] shall include:
- (1) The date, exact place, and time of sampling or measurements;
 - (2) The individual(s) who performed the sampling or measurements;
 - (3) The date(s) analyses were performed;
 - (4) The individual(s) who performed the analyses;
 - (5) The analytical techniques or methods used; and
 - (6) The results of such analyses.
- (c) *Claims of confidentiality* [40 CFR Section 122.7(b)] of the following information will be denied:
- (1) The name and address of any permit applicant or Copermittee; and
 - (2) Permit applications and attachments, permits and effluent data.

5. STANDARD PROVISIONS – REPORTING

- (a) *Duty to provide information* [40 CFR 122.41(h)]. The Copermittee shall furnish to the Regional Board, SWRCB, or USEPA within a reasonable time, any information which

the Regional Board, SWRCB, or USPEA may request to determine whether cause exists for modifying, revoking and reissuing, or terminating this Order or to determine compliance with this Order. Upon request, the Copermitttee shall also furnish to the Regional Board, SWRCB, or USEPA, copies of records required to be kept by this Order.

(b) *Signatory and Certification Requirements* [40 CFR 122.41(k)]

- (1) All applications, reports, or information submitted to the Regional Board, SWRCB, or USEPA shall be signed and certified in accordance with Standard Provisions – Reporting 5(b)ii), 5(b)iii), 5(b)iv), and 5(b) (see 40 CFR 122.22)
- (2) *Applications* [40 CFR 122.22(a)(3)] All permit applications shall be signed by either a principal executive officer or ranking elected official.
- (3) *Reports* [40 CFR 122.22(b)]. All reports required by this Order, and other information requested by the Regional Board, SWRCB, or USEPA shall be signed by a person described in Standard Provisions – Reporting 5(b)(2) above, or by a duly authorized representative of that person. A person is a duly authorized representative only if:
 - i) The authorization is made in writing by a person described in Standard Provisions-Reporting 5(b)(2) above;
 - ii) The authorization specifies either an individual or a position having responsibility for the overall operation of the regulated facility or activity, such as the position of plant manager, operator of a well or a well field, superintendent, position of equivalent responsibility, or an individual or position having overall responsibility for environmental matters for the company. (A duly authorized representative may thus be either a named individual or any individual occupying a named position.); and,
 - iii) The written authorization is submitted to the Regional Water Board and State Water Board.
- (4) *Changes to authorization* [40 CFR Section 122.22(c)] If an authorization under Standard Provisions – Reporting 5(b)(3) of this reporting requirement is no longer accurate because a different individual or position has responsibility for the overall operation of the facility, a new authorization satisfying the requirements of Standard Provisions – Reporting 5(b)(3) above must be submitted to the Regional Water Board and State Water Board prior to or together with any reports, information, or applications to be signed by an authorized representative.
- (5) *Certification* [40 CFR Section 122.22(d)] Any person signing a document under Standard Provisions – Reporting 5(b)(2), or 5(b)(3) above shall make the following certification:

"I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who

manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.”

(c) *Monitoring reports.* [40 CFR 122.41(l)(4)]

- (1) Monitoring results shall be reported at the intervals specified in the Receiving Waters and Runoff Monitoring and Reporting Program No. R9-2009-0002.
- (2) Monitoring results must be reported on a Discharge Monitoring Report (DMR) form or forms provided or specified by the Regional Board or SWRCB for reporting results of monitoring of sludge use or disposal practices.
- (3) If the Copermittee monitors any pollutant more frequently than required by this Order using test procedures approved under 40 CFR Part 136 or, in the case of sludge use or disposal, approved under 40 CFR Part 136 unless otherwise specified in 40 CFR Part 503, or as specified in this Order, the results of this monitoring shall be included in the calculation and reporting of the data submitted in the DMR or sludge reporting form specified by the Regional Board.
- (4) Calculations for all limitations, which require averaging of measurements, shall utilize an arithmetic mean unless otherwise specified in this Order.

(d) *Compliance schedules.* [40 CFR Section 122.41(l)(5)] Reports of compliance or noncompliance with, or any progress reports on, interim and final requirements contained in any compliance schedule of this Order shall be submitted no later than 14 days following each schedule date.

(e) *Twenty-four hour reporting* [40 CFR Section 122.41(l)(6)]

- (1) The Copermittee shall report any noncompliance that may endanger health or the environment. Any information shall be provided orally within 24 hours from the time the Copermittee becomes aware of the circumstances. A written submission shall also be provided within five (5) days of the time the Copermittee becomes aware of the circumstances. The written submission shall contain a description of the noncompliance and its cause; the period of noncompliance, including exact dates and times, and if the noncompliance has not been corrected, the anticipated time it is expected to continue; and steps taken or planned to reduce, eliminate, and prevent reoccurrence of the noncompliance.
- (2) The following shall be included as information, which must be reported within 24 hours under this paragraph:
 - i) Any unanticipated bypass that exceeds any effluent limitation in the Order (See 40 CFR 122.41(g)).
 - ii) Any upset which exceeds any effluent limitation in this Order.
- (3) The Regional Board may waive the above-required written report under this

provision on a case-by-case basis if the oral report has been received within 24 hours.

- (f) *Planned changes.* [40 CFR Section 122.41(l)(1)] The Copermittee shall give notice to the Regional Board as soon as possible of any planned physical alterations or additions to the permitted facility. Notice is required under this provision only when:
- (1) The alteration or addition to a permitted facility may meet one of the criteria for determining whether a facility is a new source in 40 CFR 122.29(b); or
 - (2) The alteration or addition could significantly change the nature or increase the quantity of pollutants discharged. This notification applies to pollutants, which are not subject to effluent limitations in this Order.
 - (3) The alteration or addition results in a significant change in the Copermittee's sludge use or disposal practices, and such alteration, addition, or change may justify the application of permit conditions that are different from or absent in the existing Order, including notification of additional use or disposal sites not reported during the permit application process or not reported pursuant to an approved land application plan.
- (g) *Anticipated noncompliance.* [40 CFR Section 122.41(l)(7)] The Copermittee shall give advance notice to the Regional Board or SWRCB of any planned changes in the permitted facility or activity, which may result in noncompliance with Order requirements.
- (h) *Other noncompliance* [40 CFR Section 122.41(l) 7)] The Copermittee shall report all instances of noncompliance not reported under Standard Provisions 5(c), 5(d), and 5(e) above, at the time monitoring reports are submitted. The reports shall contain the information listed in Standard Provision – Reporting 5(e) above.
- (i) *Other information* [40 CFR Section 122.41(l)(8)] When the Copermittee becomes aware that it failed to submit any relevant facts in a permit application, or submitted incorrect information in a permit application or in any report to the Regional Board, SWRCB, or USEPA, the Copermittee shall promptly submit such facts or information.

6. STANDARD PROVISIONS – ENFORCEMENT

- (a) The Regional Board is authorized to enforce the terms of this permit under several provisions of the CWC, including, but not limited to, Sections 13385, 13386, and 13387.

7. ADDITIONAL STANDARD PROVISIONS

- (a) *Municipal separate storm sewer systems* [40 CFR 122.42(c)]. The operator of a large or medium municipal separate storm sewer system or a municipal separate storm sewer that has been designated by the Director under 40 CFR 122.26(a)(1)(v) must submit an annual report by the anniversary of the date of the issuance of the

permit for such system. The report shall include:

- (1) The status of implementing the components of the storm water management program that are established as permit conditions;
 - (2) Proposed changes to the storm water management programs that are established as permit conditions. Such proposed changes shall be consistent with 40 CFR 122.26(d)(2)(iii); and
 - (3) Revisions, if necessary, to the assessment of controls and the fiscal analysis reported in the permit application under 40 CFR 122.26(d)(2)(iv) and 40 CFR 122.26(d)(2)(v);
 - (4) A summary of data, including monitoring data, that is accumulated throughout the reporting year;
 - (5) Annual expenditures and budget for year following each annual report;
 - (6) A summary describing the number and nature of enforcement actions, inspections, and public education programs; and
 - (7) Identification of water quality improvements or degradation.
- (b) *Storm water discharges* [40 CFR 122.42(d)]. The initial permits for discharges composed entirely of storm water issued pursuant to 40 CFR 122.26(e)(7) shall require compliance with the conditions of the permit as expeditiously as practicable, but in no event later than three years after the date of issuance of the permit.
- (c) *Other Effluent Limitations and Standards* [40 CFR 122.44(b)(1)]. If any toxic effluent standard or prohibition (including any schedule of compliance specified in such effluent standard or prohibition) is promulgated under Section 307(a) of the CWA for a toxic pollutant which is present in the discharge and that standard or prohibition is more stringent than any limitation on the pollutant in this Order, the Regional Board may institute proceedings under these regulations to modify or revoke and reissue the Order to conform to the toxic effluent standard or prohibition.
- (d) *Discharge is a privilege* [CWC section 13263(g)]. No discharge of waste into the waters of the State, whether or not such discharge is made pursuant to waste discharge requirements, shall create a vested right to continue such discharge. All discharges of waste into waters of the State are privileges, not rights.
- (e) *Review and revision of Order* [CWC section 13263(e)]. Upon application by any affected person, or on its own motion, the Regional Board may review and revise this permit.
- (f) *Termination or modification of Order* [CWC section 13381]. This permit may be terminated or modified for causes, including, but not limited to, all of the following:
- (1) Violation of any condition contained in this Order.
 - (2) Obtaining this Order by misrepresentation, or failure to disclose fully all relevant facts.
 - (3) A change in any condition that requires either a temporary or permanent reduction or elimination of the permitted discharge.

- (g) *Transfers*. When this Order is transferred to a new owner or operator, such requirements as may be necessary under the CWC may be incorporated into this Order.
- (h) *Conditions not stayed*. The filing of a request by the Copermittee for modification, revocation and reissuance, or termination of this Order, or a notification of planned change in or anticipated noncompliance with this Order does not stay any condition of this Order.
- (i) *Availability*. A copy of this Order shall be kept at a readily accessible location and shall be available to on-site personnel at all times.
- (j) *Duty to minimize or correct adverse impacts*. The Copermittees shall take all reasonable steps to minimize or correct any adverse impact on the environment resulting from noncompliance with this Order, including such accelerated or additional monitoring as may be necessary to determine the nature and impact of the noncompliance.
- (k) *Interim Effluent Limitations*. The Copermittee shall comply with any interim effluent limitations as established by addendum, enforcement action, or revised waste discharge requirements which have been, or may be, adopted by this Regional Board.
- (l) *Responsibilities, liabilities, legal action, penalties* [CWC sections 13385 and 13387]. The Porter-Cologne Water Quality Control Act provides for civil and criminal penalties comparable to, and in some cases greater than, those provided for under the CWA.

Nothing in this Order shall be construed to protect the Copermittee from its liabilities under federal, state, or local laws.

Except as provided for in 40CFR 122.41(m) and (n), nothing in this Order shall be construed to relieve the Copermittee from civil or criminal penalties for noncompliance.

Nothing in this Order shall be construed to preclude the institution of any legal action or relieve the Copermittee from any responsibilities, liabilities, or penalties to which the Copermittee is or may be subject to under Section 311 of the CWA.

Nothing in this Order shall be construed to preclude institution of any legal action or relieve the Copermittee from any responsibilities, liabilities, or penalties established pursuant to any applicable state law or regulation under authoring preserved by Section 510 of the CWA.

- (m) *Noncompliance*. Any noncompliance with this Order constitutes violation of the CWC and is grounds for denial of an application for modification of the Order (also see 40 CFR 122.41(a)).
- (n) *Director*. For purposes of this Order, the term "Director" used in parts of 40 CFR

incorporated into this Order by reference and/or applicable to this Order shall have the same meaning as the term "Regional Board" used elsewhere in this Order, except that in 40 CFR 122.41(h) and (l), "Director" shall mean "Regional Board, SWRCB, and USEPA."

- (o) The Regional Board has, in prior years, issued a limited number of individual NPDES permits for non-storm water discharges to MS4s. The Regional Board or SWRCB may in the future, upon prior notice to the Copermittee(s), issue an NPDES permit for any non-storm water discharge (or class of non-storm water discharges) to a MS4. Copermittees may prohibit any non-storm water discharge (or class of non-storm water discharges) to a MS4 that is authorized under such separate NPDES permits.
- (p) *Effective date.* This Order shall become effective on the date of its adoption provided the USEPA has no objection. If the USEPA objects to its issuance, this Order shall not become effective until such objection is withdrawn. This Order supersedes Order No. 2001-01 upon the effective date of this Order.
- (q) *Expiration.* This Order expires five years after adoption.
- (r) *Continuation of expired order* [23 CCR 2235.4]. After this Order expires, the terms and conditions of this Order are automatically continued pending issuance of a new permit if all requirements of the federal NPDES regulations on the continuation of expired permits (40 CFR 122.6) are complied with.
- (s) *Applications.* Any application submitted by a Copermittee for reissuance or modification of this Order shall satisfy all applicable requirements specified in federal regulations as well as any additional requirements for submittal of a Report of Waste Discharge specified in the CWC and the California Code of Regulations.
- (t) *Confidentiality.* Except as provided for in 40 CFR 122.7, no information or documents submitted in accordance with or in application for this Order will be considered confidential, and all such information and documents shall be available for review by the public at the Regional Board office.
- (u) *Severability.* The provisions of this Order are severable, and if any provision of this Order, or the application of any provisions of this Order to any circumstance, is held invalid, the application of such provision to other circumstances and the remainder of this Order shall not be affected thereby.
- (v) *Report submittal.* The Copermittee shall submit reports and provide notifications as required by this Order to the following:

NORTHERN WATERSHED UNIT
CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
SAN DIEGO REGION
9174 SKY PARK COURT, SUITE 100
SAN DIEGO CA 92123-4340
Telephone: (858) 467-2952 Fax: (858) 571-6972

EUGENE BROMLEY
US ENVIRONMENTAL PROTECTION AGENCY
REGION IX
PERMITS ISSUANCE SECTION (W-5-1)
75 HAWTHORNE STREET
SAN FRANCISCO CA 94105

Unless otherwise directed, the Copermittee shall submit one hard copy for the official record and one electronic copy of each report required under this Order to the Regional Board and one electronic copy to the EPA.

ATTACHMENT C**ACRONYMS AND ABBREVIATIONS**

ADT	Average Daily Traffic
AMAL	Average Monthly Action Level
ASBS	Area of Special Biological Significance
AST	Active Sediment Treatment
BMP	Best Management Practice
Basin Plan	Water Quality Control Plan for the San Diego Basin
BU	Beneficial Use
CASQA	California Stormwater Quality Association
CEQA	California Environmental Quality Act
CFR	Code of Federal Regulations
CWA	Clean Water Act
CWC	California Water Code
CZARA	Coastal Zone Act Reauthorization Amendments of 1990
DAMP	Drainage Area Management Plan
DNQ	Detected, but not Quantified
EIA	Effective Impervious Area
ESAs	Environmentally Sensitive Areas
GIS	Geographic Information System
HMP	Hydromodification Management Plan
IBI	Index of Biotic Integrity
JRMP	Jurisdictional Runoff Management Plan
LID	Low Impact Development
MDAL	Maximum Daily Action Level
MEP	Maximum Extent Practicable
ML	Minimum Level
MS4	Municipal Separate Storm Sewer System
NOI	Notice of Intent
NPDES	National Pollutant Discharge Elimination System
OCVCD	Orange County Vector Control District
Copermittees	County of Orange, the 11 incorporated cities within the County of Orange in the San Diego Region, and the Orange County Flood Control District
Regional Board	California Regional Water Quality Control Board, San Diego Region
RGOs	Retail Gasoline Outlets
ROWD	Orange County Copermittees' Report of Waste Discharge (application for NPDES reissuance)
RWLs	Receiving Water Limitations
SAL	Storm Water Action Level
SIC	Standard Industrial Classification Code
SSMP	Standard Urban Storm Water Mitigation Plan
State Board	State Water Resources Control Board
SWQPA	State Water Quality Protected Area
TMDL	Total Maximum Daily Load

USEPA	United States Environmental Protection Agency
WLA	Waste Load Allocation
WQMP	Water Quality Management Plan
WRMP	Watershed Runoff Management Plan

DEFINITIONS

Active Sediment Treatment - Using mechanical or chemical means to flocculate and remove suspended sediment from runoff from construction sites prior to discharge.

Anthropogenic Litter – Trash generated from human activities, not including sediment.

Average Monthly Action Level – the highest allowable average of daily discharges over a calendar month, calculated as the sum of all daily discharges measured during a calendar month divided by the number of daily discharges measured during that month.

Basin Plan – Water Quality Control Plan, San Diego Basin, Region 9, and amendments, developed by the Regional Board.

Beneficial Uses - The uses of water necessary for the survival or well being of man, plants, and wildlife. These uses of water serve to promote tangible and intangible economic, social, and environmental goals. “Beneficial Uses” of the waters of the State that may be protected include, but are not limited to, domestic, municipal, agricultural and industrial supply; power generation; recreation; aesthetic enjoyment; navigation; and preservation and enhancement of fish, wildlife, and other aquatic resources or preserves. Existing beneficial uses are uses that were attained in the surface or ground water on or after November 28, 1975; and potential beneficial uses are uses that would probably develop in future years through the implementation of various control measures. “Beneficial Uses” are equivalent to “Designated Uses” under federal law. [California Water Code Section 13050(f)].

Best Management Practices (BMPs) - Defined in 40 CFR 122.2 as schedules of activities, prohibitions of practices, maintenance procedures, and other management practices to prevent or reduce the pollution of waters of the United States. BMPs also include treatment requirements, operating procedures and practices to control plant site runoff, spillage or leaks, sludge or waste disposal, or drainage from raw material storage. In the case of municipal storm water permits, BMPs are typically used in place of numeric effluent limits.

Bioassessment - The use of biological community information to evaluate the biological integrity of a water body and its watershed. With respect to aquatic ecosystems, bioassessment is the collection and analysis of samples of the benthic macroinvertebrate community together with physical/habitat quality measurements associated with the sampling site and the watershed to evaluate the biological condition (i.e. biological integrity) of a water body.

Biocriteria - Under the CWA, numerical values or narrative expressions that define a desired biological condition for a water body that are legally enforceable. The USEPA defines biocriteria as: “numerical values or narrative expressions that describe the

reference biological integrity of aquatic communities inhabiting waters of a given designated aquatic life use... (that)...describe the characteristics of water body segments least impaired by human activities.”

Biofiltration - refers to practices that use vegetation and amended soils to detain and treat runoff from impervious areas. Treatment is through filtration, infiltration, adsorption, ion exchange, and biological uptake of pollutants.

Biological Integrity - Defined in Karr J.R. and D.R. Dudley. 1981. Ecological perspective on water quality goals. Environmental Management 5:55-68 as: “A balanced, integrated, adaptive community of organisms having a species composition, diversity, and functional organization comparable to that of natural habitat of the region.” Also referred to as ecosystem health.

Clean Water Act Section 402(p) [33 USC 1342(p)] - The federal statute requiring municipal and industrial dischargers to obtain NPDES permits for their discharges of storm water.

Clean Water Act Section 303(d) Water Body - An impaired water body in which water quality does not meet applicable water quality standards and/or is not expected to meet water quality standards, even after the application of technology based pollution controls required by the CWA. The discharge of runoff to these water bodies by the Copermitees is significant because these discharges can cause or contribute to violations of applicable water quality standards.

Construction Site – Any project, including projects requiring coverage under the General Construction Permit, that involves soil disturbing activities including, but not limited to, clearing, grading, disturbances to ground such as stockpiling, and excavation.

Contamination - As defined in the Porter-Cologne Water Quality Control Act, contamination is “an impairment of the quality of waters of the State by waste to a degree which creates a hazard to the public health through poisoning or through the spread of disease. ‘Contamination’ includes any equivalent effect resulting from the disposal of waste whether or not waters of the State are affected.”

Critical Channel Flow (Qc) – The channel flow that produces the critical shear stress that initiates bed movement or that erodes the toe of channel banks. When measuring Qc, it should be based on the weakest boundary material – either bed or bank.

CWA – Federal Clean Water Act

CWC – California Water Code

Daily Discharge – Daily Discharge is defined as either: (1) the total mass of the constituent discharged over the calendar day or any 24 hour period that reasonably represents a calendar day for purposes of sampling (as specified in the permit), for a constituent with limitations expressed in units of mass or; (2) the unweighted arithmetic mean measurement of the constituent over the day for a constituent with limitations expressed in other units of measurement (e.g. concentration.)

The Daily Discharge may be determined by the analytical results of a composite sample taken over the course of one day (a calendar day, or other 24 hour period other than a day), or by the arithmetic mean of analytical results from one or more grab samples taken over the course of a day.

Detected, but not Quantified – those sample results less than the reporting level, but greater than or equal to the laboratory's Method of Detection Limit (MDL.)

Development Projects - New development or redevelopment with land disturbing activities; structural development, including construction or installation of a building or structure, the creation of impervious surfaces, public agency projects, and land subdivision.

Dilution Credit – the amount of dilution granted to a discharger in the calculation of a WQBEL, based on the allowance of a specific mixing zone. It is calculated from the dilution ratio, or determined through conducting of a mixing zone study, or modeling of the discharge and receiving water.

Dry Season – May 1 through September 30 of each year.

Dry Weather – weather is considered dry if the preceding 72 hours has been without precipitation.

Effectiveness Assessment Outcome Level 1 - Compliance with Activity-based Permit Requirements – Level 1 outcomes are those directly related to the implementation of specific activities prescribed by this Order or established pursuant to it.

Effectiveness Assessment Outcome Level 2 - Changes in Attitudes, Knowledge, and Awareness – Level 2 outcomes are measured as increases in knowledge and awareness among target audiences such as residents, businesses, and municipal employees.

Effectiveness Assessment Outcome Level 3 - Behavioral Change and BMP Implementation – Level 3 outcomes measure the effectiveness of activities in affecting behavioral change and BMP implementation.

Effectiveness Assessment Outcome Level 4 - Load Reductions – Level 4 outcomes measure load reductions which quantify changes in the amounts of pollutants associated with specific sources before and after a BMP or other control measure is employed.

Effectiveness Assessment Outcome Level 5 - Changes in Runoff and Discharge Quality – Level 5 outcomes are measured as changes in one or more specific constituents or stressors in discharges into or from MS4s.

Effectiveness Assessment Outcome Level 6 - Changes in Receiving Water Quality – Level 6 outcomes measure changes to receiving water quality resulting from discharges into and from MS4s, and may be expressed through a variety of means such as compliance with water quality objectives or other regulatory benchmarks, protection of biological integrity, or beneficial use attainment.

Enclosed Bays – Enclosed bays are indentations along the coast that enclose an area of oceanic water within distinct headlands or harbor works. Enclosed bays include all bays where the narrowest distance between the headlands or outermost bay works is less than 75 percent of the greatest dimension of the enclosed portion of the bay. Enclosed bays do not include inland surface waters or ocean waters.

Erosion – When land is diminished or worn away due to wind, water, or glacial ice. Often the eroded debris (silt or sediment) becomes a pollutant via storm water runoff. Erosion occurs naturally but can be intensified by land clearing activities such as farming, development, road building, and timber harvesting.

Environmentally Sensitive Areas (ESAs) - Areas that include but are not limited to all Clean Water Act Section 303(d) impaired water bodies; areas designated as Areas of Special Biological Significance by the State Water Resources Control Board (Water Quality Control Plan for the San Diego Basin (1994) and amendments); State Water Quality Protected Areas; water bodies designated with the RARE beneficial use by the State Water Resources Control Board (Water Quality Control Plan for the San Diego Basin (1994) and amendments); areas designated as preserves or their equivalent under the Natural Communities Conservation Program within the Cities and County of Orange; and any other equivalent environmentally sensitive areas which have been identified by the Copermittees.

Estuaries – waters, including coastal lagoons, located at the mouth of streams that serve as areas of mixing fresh and ocean waters. Coastal lagoons and mouths of streams that are temporarily separated from the ocean by sandbars shall be considered estuaries. Estuarine waters shall be considered to extend from a bay or the open ocean to a point upstream where there is no significant mixing of fresh water and ocean water. Estuaries do not include inland surface waters or ocean waters.

Feasibility Analysis – Detailed description of the selection process for the treatment control BMPs for a Priority Development Project, including justification of why one BMP is selected over another. For a Priority Development Project where a treatment control BMP with a low removal efficiency ranking (as identified by the Model SUSMP) is proposed, the analysis shall include a detailed and adequate justification exhibiting the reasons implementation of a treatment control BMP with a higher removal efficiency is infeasible for the Priority Development Project or portion of the Priority Development Project.

Flow Duration – The long-term period of time that flows occur above a threshold that causes significant sediment transport and may cause excessive erosion damage to creeks and streams (not a single storm event duration). The simplest way to visualize this is to consider a histogram of pre- and post-project flows using long-term records of hourly data. To maintain pre-project flow duration means that the total number of hours (counts) within each range of flows in a flow-duration histogram cannot increase between the pre- and post-project condition. Flow duration within the range of geomorphologically significant flows is important for managing erosion.

GIS – Geographic Information System

Grading - The cutting and/or filling of the land surface to a desired slope or elevation.

Hazardous Material – Any substance that poses a threat to human health or the environment due to its toxicity, corrosiveness, ignitability, explosive nature or chemical reactivity. These also include materials named by the USEPA in 40 CFR 116 to be reported if a designated quantity of the material is spilled into the waters of the U.S. or emitted into the environment.

Hazardous Waste - Hazardous waste is defined as “any waste which, under Section 600 of Title 22 of this code, is required to be managed according to Chapter 30 of Division 4.5 of Title 22 of this code” [CCR Title 22, Division 4.5, Chapter 11, Article 1].

Household Hazardous Waste – Paints, cleaning products, and other wastes generated during home improvement or maintenance activities.

Hydromodification – The change in the natural watershed hydrologic processes and runoff characteristics (i.e., interception, infiltration, overland flow, interflow and groundwater flow) caused by urbanization or other land use changes that result in increased stream flows and sediment transport. In addition, alteration of stream and river channels, installation of dams and water impoundments, and excessive streambank and shoreline erosion are also considered hydromodification, due to their disruption of natural watershed hydrologic processes.

Illicit Connection – Any connection to the MS4 that conveys an illicit discharge.

Illicit Discharge - Any discharge to the MS4 that is not composed entirely of storm water except discharges pursuant to a NPDES permit and discharges resulting from fire fighting activities [40 CFR 122.26(b)(2)].

Implementation Assessment – Assessment conducted to determine the effectiveness of Copermittee programs and activities in achieving measurable targeted outcomes, and in determining whether priority sources of water quality problems are being effectively addressed.

Inactive Slopes – Slopes on which no grading or other soil disturbing activities are conducted for 10 or more days.

Inland Surface Waters – all surface waters of the State that do not include the ocean, enclosed bays, or estuaries.

Integrated Assessment – Assessment to be conducted to evaluate whether program implementation is properly targeted to and resulting in the protection and improvement of water quality.

Jurisdictional Runoff Management Plan (JRMP) – A written description of the specific jurisdictional runoff management measures and programs that each Copermittee will implement to comply with this Order and ensure that storm water pollutant discharges in runoff are reduced to the MEP and do not cause or contribute to a violation of water quality standards.

Low Impact Development (LID) – A storm water management and land development strategy that emphasizes conservation and the use of on-site natural features integrated

with engineered, small-scale hydrologic controls to more closely reflect pre-development hydrologic functions.

Maximum Daily Action Level (MDAL) – is the highest allowable daily discharge of a pollutant, over a calendar day (or 24 hour period). For pollutants with action levels expressed in units of mass, the daily discharge is calculated as the total mass of the pollutant discharged over the day. For pollutants with action levels expressed in other units of measurement, the daily discharge is calculated as the arithmetic mean measurement of the pollutant over the day.

Maximum Extent Practicable (MEP) – The technology-based standard established by Congress in CWA section 402(p)(3)(B)(iii) for storm water that operators of MS4s must meet. Technology-based standards establish the level of pollutant reductions that dischargers must achieve, typically by treatment or by a combination of source control and treatment control BMPs. MEP generally emphasizes pollution prevention and source control BMPs primarily (as the first line of defense) in combination with treatment methods serving as a backup (additional line of defense). MEP considers economics and is generally, but not necessarily, less stringent than BAT. A definition for MEP is not provided either in the statute or in the regulations. Instead the definition of MEP is dynamic and will be defined by the following process over time: municipalities propose their definition of MEP by way of their runoff management programs. Their total collective and individual activities conducted pursuant to the runoff management programs becomes their proposal for MEP as it applies both to their overall effort, as well as to specific activities (e.g., MEP for street sweeping, or MEP for MS4 maintenance). In the absence of a proposal acceptable to the Regional Board, the Regional Board defines MEP.

In a memo dated February 11, 1993, entitled "Definition of Maximum Extent Practicable," Elizabeth Jennings, Senior Staff Counsel, SWRCB addressed the achievement of the MEP standard as follows:

"To achieve the MEP standard, municipalities must employ whatever Best Management Practices (BMPs) are technically feasible (i.e., are likely to be effective) and are not cost prohibitive. The major emphasis is on technical feasibility. Reducing pollutants to the MEP means choosing effective BMPs, and rejecting applicable BMPs only where other effective BMPs will serve the same purpose, or the BMPs would not be technically feasible, or the cost would be prohibitive. In selecting BMPs to achieve the MEP standard, the following factors may be useful to consider:

- a. *Effectiveness: Will the BMPs address a pollutant (or pollutant source) of concern?*
- b. *Regulatory Compliance: Is the BMP in compliance with storm water regulations as well as other environmental regulations?*
- c. *Public Acceptance: Does the BMP have public support?*
- d. *Cost: Will the cost of implementing the BMP have a reasonable relationship to the pollution control benefits to be achieved?*
- e. *Technical Feasibility: Is the BMP technically feasible considering soils, geography, water resources, etc?*

The final determination regarding whether a municipality has reduced pollutants

to the maximum extent practicable can only be made by the Regional or State Water Boards, and not by the municipal discharger. If a municipality reviews a lengthy menu of BMPs and chooses to select only a few of the least expensive, it is likely that MEP has not been met. On the other hand, if a municipal discharger employs all applicable BMPs except those where it can show that they are not technically feasible in the locality, or whose cost would exceed any benefit derived, it would have met the standard. Where a choice may be made between two BMPs that should provide generally comparable effectiveness, the discharger may choose the least expensive alternative and exclude the more expensive BMP. However, it would not be acceptable either to reject all BMPs that would address a pollutant source, or to pick a BMP base solely on cost, which would be clearly less effective. In selecting BMPs the municipality must make a serious attempt to comply and practical solutions may not be lightly rejected. In any case, the burden would be on the municipal discharger to show compliance with its permit. After selecting a menu of BMPs, it is the responsibility of the discharger to ensure that all BMPs are implemented.”

Minimum Level – the concentration at which the entire analytical system must give a recognizable signal and acceptable calibration point. The ML is the concentration in a sample that is equivalent to the concentration of the lowest calibration standard analyzed by a specific analytical procedure, assuming that all the method sample weights, volumes and processing steps have been followed.

Municipal Separate Storm Sewer System (MS4) – A conveyance or system of conveyances (including roads with drainage systems, municipal streets, catch basins, curbs, gutters, ditches, man-made channels, or storm drains): (i) Owned or operated by a State, city, town, borough, county, parish, district, association, or other public body (created by or pursuant to State law) having jurisdiction over disposal of sewage, industrial wastes, storm water, or other wastes, including special districts under State law such as a sewer district, flood control district or drainage district, or similar entity, or an Indian tribe or an authorized Indian tribal organization, or designated and approved management agency under section 208 of the CWA that discharges to waters of the United States; (ii) Designated or used for collecting or conveying storm water; (iii) Which is not a combined sewer; (iv) Which is not part of the Publicly Owned Treatment Works (POTW) as defined at 40 CFR 122.26.

National Pollutant Discharge Elimination System (NPDES) - The national program for issuing, modifying, revoking and reissuing, terminating, monitoring and enforcing permits, and imposing and enforcing pretreatment requirements, under Sections 307, 318, 402, and 405 of the CWA.

NOI – Notice of Intent

Non-Storm Water - All discharges to and from a MS4 that do not originate from precipitation events (i.e., all discharges from a MS4 other than storm water). Non-storm water includes illicit discharges, non-prohibited discharges, and NPDES permitted discharges.

Nuisance - As defined in the Porter-Cologne Water Quality Control Act a nuisance is “anything which meets all of the following requirements: 1) Is injurious to health, or is indecent, or offensive to the senses, or an obstruction to the free use of property, so as

to interfere with the comfortable enjoyment of life or property. 2) Affects at the same time an entire community or neighborhood, or any considerable number of persons, although the extent of the annoyance or damage inflicted upon individuals may be unequal. 3) Occurs during, or as a result of, the treatment or disposal of wastes.”

Ocean Waters – the territorial marine waters of the State as defined by California law to the extent these waters are outside of enclosed bays, estuaries, and coastal lagoons. Discharges to ocean waters are regulated in accordance with the State Board’s California Ocean Plan.

Order – Order No. R9-2009-0002 (NPDES No. CAS0108740)

Person - A person is defined as an individual, association, partnership, corporation, municipality, State or Federal agency, or an agent or employee thereof [40 CFR 122.2].

Point Source - Any discernible, confined, and discrete conveyance, including, but not limited to, any pipe, ditch, channel, tunnel, conduit, well, discrete fissure, container, rolling stock, concentrated animal feeding operations, landfill leachate collection systems, vessel, or other floating craft from which pollutants are or may be discharged. This term does not include return flows from irrigated agriculture or agricultural storm water runoff.

Pollutant - Any agent that may cause or contribute to the degradation of water quality such that a condition of pollution or contamination is created or aggravated.

Pollution - As defined in the Porter-Cologne Water Quality Control Act: “the alteration of the quality of the waters of the State by waste, to a degree that unreasonably affects the either of the following: 1) The waters for beneficial uses; or 2) Facilities that serve these beneficial uses.” Pollution may include contamination.

Pollutants of Concern – Pollutants for which water bodies are listed as impaired under CWA section 303(d), pollutants associated with the land use type of a development, and/or pollutants commonly associated with runoff. Pollutants commonly associated with runoff include total suspended solids; sediment; pathogens (e.g., bacteria, viruses, protozoa); heavy metals (e.g., copper, lead, zinc, and cadmium); petroleum products and polynuclear aromatic hydrocarbons; synthetic organics (e.g., pesticides, herbicides, and PCBs); nutrients (e.g., nitrogen and phosphorus fertilizers); oxygen-demanding substances (decaying vegetation, animal waste, and anthropogenic litter).

Pollution Prevention - Pollution prevention is defined as practices and processes that reduce or eliminate the generation of pollutants, in contrast to source control BMPs, treatment control BMPs, or disposal.

Post-Construction BMPs - A subset of BMPs including structural and non-structural controls which detain, retain, filter, or educate to prevent the release of pollutants to surface waters during the final functional life of developments.

Pre-Project or Pre-Development Runoff Conditions (Discharge Rates, Durations, Etc.) – Runoff conditions that exist onsite immediately before the planned development activities occur. This definition is not intended to be interpreted as that period before any human-induced land activities occurred. This definition pertains to redevelopment as well as initial development.

Principal Copermittee – County of Orange

Priority Development Projects - New development and redevelopment project categories listed in Section F.1.d(2) of Order No. R9-2009-0002.

Receiving Waters – Waters of the United States.

Receiving Water Limitations (RWLs) - Waste discharge requirements issued by the Regional Board typically include both: (1) “Effluent Limitations” (or “Discharge Limitations”) that specify the technology-based or water-quality-based effluent limitations; and (2) “Receiving Water Limitations” that specify the water quality objectives in the Basin Plan as well as any other limitations necessary to attain those objectives. In summary, the “Receiving Water Limitations” provision is the provision used to implement the requirement of CWA section 301(b)(1)(C) that NPDES permits must include any more stringent limitations necessary to meet water quality standards.

Redevelopment - The creation, addition, and or replacement of impervious surface on an already developed site. Examples include the expansion of a building footprint, road widening, the addition to or replacement of a structure, and creation or addition of impervious surfaces. Replacement of impervious surfaces includes any activity that is not part of a routine maintenance activity where impervious material(s) are removed, exposing underlying soil during construction. Redevelopment does not include trenching and resurfacing associated with utility work; resurfacing existing roadways; new sidewalk construction, pedestrian ramps, or bikelane on existing roads; and routine replacement of damaged pavement, such as pothole repair.

Retain – to keep or hold in a particular place, condition, or position without discharge to surface waters.

Runoff - All flows in a storm water conveyance system that consists of the following components: (1) storm water (wet weather flows) and (2) non-storm water including dry weather flows.

Sediment - Soil, sand, and minerals washed from land into water. Sediment resulting from anthropogenic sources (i.e. human induced land disturbance activities) is considered a pollutant. This Order regulates only the discharges of sediment from anthropogenic sources and does not regulate naturally occurring sources of sediment. Sediment can destroy fish-nesting areas, clog animal habitats, and cloud waters so that sunlight does not reach aquatic plants.

Shared Treatment Control BMP - BMPs used by multiple developments to infiltrate, filter, or treat the required volume or flow prior to discharge to a receiving water. This could include, for example, a treatment BMP at the end of an enclosed storm drain that collects runoff from several commercial developments.

Source Control BMP – Land use or site planning practices, or structural or nonstructural measures that aim to prevent runoff pollution by reducing the potential for contamination at the source of pollution. Source control BMPs minimize the contact between pollutants and runoff.

State Water Quality Protection Area – A nonterrestrial marine or estuarine area designated to protect marine species or biological communities from an undesirable alteration in natural water quality, including, but not limited to, areas of special biological significance that have been designated by the State Water Resources Control Board through its water quality control planning process. Areas of special biological significance are a subset of State Water Quality Protection Areas, and require special protection as determined by the State Water Resources Control Board pursuant to the California Ocean Plan adopted and reviewed pursuant to Article 4 (commencing with Section 13160) of Chapter 3 of Division 7 of the California Water Code and pursuant to the Water Quality Control Plan for Control of Temperature in the Coastal and Interstate Waters and Enclosed Bays and Estuaries of California (California Thermal Plan) adopted by the state board.

Storm Water – Per 40 CFR 122.26(b)(13), means storm water runoff, snowmelt runoff and surface runoff and drainage. Surface runoff and drainage pertains to runoff and drainage resulting from precipitation events.

Standard Storm Water Mitigation Plan (SSMP) – A plan developed to mitigate the impacts of runoff from Priority Development Projects.

Third Party Inspectors - Industrial and commercial facility inspectors who are not contracted or employed by a regulatory agency or group of regulatory agencies, such as the Regional Board or Copermittees. The third party inspector is not a regular facility employee self-inspecting their own facility. The third party inspector could be a contractor or consultant employed by a facility or group of businesses to conduct inspections.

Total Maximum Daily Load (TMDL) - The maximum amount of a pollutant that can be discharged into a water body from all sources (point and non-point) and still maintain water quality standards. Under CWA section 303(d), TMDLs must be developed for all water bodies that do not meet water quality standards after application of technology-based controls.

Toxicity - Adverse responses of organisms to chemicals or physical agents ranging from mortality to physiological responses such as impaired reproduction or growth anomalies). The water quality objectives for toxicity provided in the Water Quality Control Plan, San Diego Basin, Region 9, (Basin Plan), state in part...“All waters shall be free of toxic substances in concentrations that are toxic to, or that produce detrimental physiological responses in human, plant, animal, or aquatic life....The survival of aquatic life in surface waters subjected to a waste discharge or other controllable water quality factors, shall not be less than that for the same water body in areas unaffected by the waste discharge”.

Treatment Control BMP – Any engineered system designed to remove pollutants by simple gravity settling of particulate pollutants, filtration, biological uptake, media absorption or any other physical, biological, or chemical process.

Waste - As defined in CWC Section 13050(d), “waste includes sewage and any and all other waste substances, liquid, solid, gaseous, or radioactive, associated with human habitation, or of human or animal origin, or from any producing, manufacturing, or processing operation, including waste placed within containers of whatever nature prior to, and for purposes of, disposal.”

Article 2 of CCR Title 23, Chapter 15 (Chapter 15) contains a waste classification system that applies to solid and semi-solid waste, which cannot be discharged directly or indirectly to water of the state and which therefore must be discharged to land for treatment, storage, or disposal in accordance with Chapter 15. There are four classifications of waste (listed in order of highest to lowest threat to water quality): hazardous waste, designated waste, non-hazardous solid waste, and inert waste.

Water Quality Assessment – Assessment conducted to evaluate the condition of non-storm water and storm water discharges, and the water bodies which receive these discharges.

Water Quality Objective - Numerical or narrative limits on constituents or characteristics of water designated to protect designated beneficial uses of the water. [California Water Code Section 13050 (h)]. California’s water quality objectives are established by the State and Regional Water Boards in the Water Quality Control Plans. Numeric or narrative limits for pollutants or characteristics of water designed to protect the beneficial uses of the water. In other words, a water quality objective is the maximum concentration of a pollutant that can exist in a receiving water and still generally ensure that the beneficial uses of the receiving water remain protected (i.e., not impaired). Since water quality objectives are designed specifically to protect the beneficial uses, when the objectives are violated the beneficial uses are, by definition, no longer protected and become impaired. This is a fundamental concept under the Porter Cologne Act. Equally fundamental is Porter Cologne’s definition of pollution. A condition of pollution exists when the water quality needed to support designated beneficial uses has become unreasonably affected or impaired; in other words, when the water quality objectives have been violated. These underlying definitions (regarding beneficial use protection) are the reason why all waste discharge requirements implementing the federal NPDES regulations require compliance with water quality objectives. (Water quality objectives are also called water quality criteria in the CWA.)

Water Quality Standards - The beneficial uses (e.g., swimming, fishing, municipal drinking water supply, etc.) of water and the water quality objectives necessary to protect those uses.

Waters of the State - Any water, surface or underground, including saline waters within the boundaries of the State [CWC section 13050 (e)]. The definition of the Waters of the State is broader than that for the Waters of the United States in that all water in the State is considered to be a Waters of the State regardless of circumstances or condition. Under this definition, a MS4 is always considered to be a Waters of the State.

Waters of the United States - As defined in the 40 CFR 122.2, the Waters of the U.S. are defined as: “(a) All waters, which are currently used, were used in the past, or may be susceptible to use in interstate or foreign commerce, including all waters which are subject to the ebb and flow of the tide; (b) All interstate waters, including interstate “wetlands;” (c) All other waters such as intrastate lakes, rivers, streams (including

intermittent streams), mudflats, sandflats, "wetlands," sloughs, prairie potholes, wet meadows, playa lakes, or natural ponds the use, degradation or destruction of which would affect or could affect interstate or foreign commerce including any such waters: (1) Which are or could be used by interstate or foreign travelers for recreational or other purposes; (2) From which fish or shellfish are or could be taken and sold in interstate or foreign commerce; or (3) Which are used or could be used for industrial purposes by industries in interstate commerce; (d) All impoundments of waters otherwise defined as waters of the United States under this definition; (e) Tributaries of waters identified in paragraphs (a) through (d) of this definition; (f) The territorial seas; and (g) "Wetlands" adjacent to waters (other than waters that are themselves wetlands) identified in paragraphs (a) through (f) of this definition. Waters of the United States do not include prior converted cropland. Notwithstanding the determination of an area's status as prior converted cropland by any other federal agency, for the purposes of the Clean Water Act, the final authority regarding Clean Water Act jurisdiction remains with the EPA."

Watershed - That geographical area which drains to a specified point on a water course, usually a confluence of streams or rivers (also known as drainage area, catchment, or river basin).

Watershed Runoff Management Plan (WRMP) – A written description of the specific watershed runoff management measures and programs that each watershed group of Copermittees will implement to comply with this Order and ensure that storm water pollutant discharges in runoff are reduced to the MEP and do not cause or contribute to a violation of water quality standards.

WDRs – Waste Discharge Requirements

Wet Season – October 1 through April 30 of each year.

ATTACHMENT D**SCHEDULED SUBMITTALS SUMMARY**

Submittal	Permit Section	Completion Date	Frequency
Prohibitions on dry-weather discharges listed in Section B.2	B.2	365 days after adoption and in annual reports	Annual
Submit Certified Statement of Adequate Legal Authority	E.2	365 days after adoption of the Order	One time
Flood Control Structure BMP Inventory and Evaluation	F.3.a.(4)	2 nd year JRMP Annual Report	One time
Fiscal Analysis	H.3	With annual JRMP report	Annual
Updated Jurisdictional Runoff Management Plans	K.1.a	365 days after adoption of the Order	One time
Updated Watershed Workplans	K.1.b	365 days after adoption of the Order	One time
Updated model SSMP	F.1.d, K.2.a	Two years after adoption of the Order	One time
Updated local SSMPs and amended ordinances and certified statement of adequate legal authority to implement LID and hydromodification requirements	E.2, F.1.d, K.2.a	180 days after RB determination that Model SSMP is in compliance	One time
Identify and remove barriers to LID implementation	F.1.d.(4)(a)(v)	2 nd year JRMP Annual Report	One time
Report of Waste Discharge	K.2.b	At least 210 days prior to expiration of this Order	One time
Submit to Principal Copermittee(s) individual JRMP Annual Reports	K.3.a.(1)	Prior to September 30, 2011 and annually thereafter (Principal Copermittee specifies date of submittal)	Annual
Principal Copermittee submits JRMP Annual Reports to Regional Board	K.3.a.(2)	September 30, 2011 and annually thereafter	Annual
Principal Copermittee submits Notification of Principal Copermittee	M	180 days after adoption of the Order	One Time
Principal Copermittee submits description of Receiving Waters Monitoring Program	Monitoring and Reporting Program (M&R Program), III.A.1	September 1, 2010 and annually thereafter	Annual
Receiving Waters and Runoff Monitoring Annual Reports	M&R Program, III.A.2	October 1, 2011 and annually thereafter	Annual
Principal Copermittee submits interim Receiving Waters Monitoring Program Annual Report	M&R Program, III.B	January 31, 2011	One Time
Hydromodification Management Plan	F.1.h.4	Draft within 2 years of adoption of the Order	One Time for Draft
Trash and Litter Impairment Special Study	M&R Program II.D.5	Draft Monitoring Protocol and Locations within 365 days of Order adoption	One Time

Jurisdictional Runoff Management Program Annual Report Checklist

In the JRMP Annual Report each Copermitttee shall provide an Annual Report Checklist. The Annual Report Checklist must be no longer than 2 pages, be current as of the 1st day of the rainy season of that year, and include a signed certification statement. The Annual Report Summary Checklist must provide the following information:

Order Requirements

Were All Requirements of this Order Met?

Construction

Number of Active Sites
Number of Inactive Sites
Number of Sites Inspected
Number of Inspections
Number of Violations
Number of Construction Enforcement Actions Taken

New Development

Number of Development Plan Reviews
Number of Grading Permits Issued
Number of Projects Exempted from Interim/Final Hydromodification Requirements

Post Construction Development

Number of Priority Development Projects
Number of SUSMP Required Post-Construction BMP Inspections
Number of SUSMP Required Post-Construction BMP Violations
Number of SUSMP Required Post-Construction BMP Enforcement Actions Taken

Illicit Discharges and Connections

Number of IC/ID Inspections
Number of IC/ID Detections by Staff
Number of IC/ID Detections from the Public
Number of IC/ID Eliminations
Number of IC/ID Violations
Number of IC/ID Enforcement Actions Taken

MS4 Maintenance

Number of Inspections Conducted
Amount of Waste Removed
Total Miles of MS4 Inspected

Municipal/Commercial/Industrial

Number of Facilities
Number of Inspections Conducted
Number of Facilities Inspected
Number of Violations
Number of Enforcement Actions Taken

Attachment E

**RECEIVING WATERS AND MS4 DISCHARGE MONITORING AND
REPORTING PROGRAM NO. R9-2009-0002**

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I. PURPOSE

- A. This Receiving Waters and MS4 Discharge Monitoring and Reporting Program is intended to meet the following goals:
1. Assess compliance with Order No. R9-2009-002;
 2. Measure and improve the effectiveness of the Copermittees' runoff management programs;
 3. Assess the chemical, physical, and biological impacts to receiving waters resulting from MS4 discharges;
 4. Characterize storm water discharges;
 5. Identify sources of specific pollutants;
 6. Prioritize drainage and sub-drainage areas that need management actions;
 7. Detect and eliminate illicit discharges and illicit connections to the MS4; and
 8. Assess the overall health of receiving waters.
 9. Provide information to implement required BMP improvements
- B. In addition, this Receiving Waters and MS4 Discharges Monitoring and Reporting Program is designed to answer the following core management questions¹:
1. Are conditions in receiving waters protective, or likely to be protective, of beneficial uses?
 2. What is the extent and magnitude of the current or potential receiving water problems?
 3. What is the relative MS4 discharge contribution to the receiving water problem(s)?
 4. What are the sources of MS4 discharge that contribute to receiving water problem(s)?
 5. Are conditions in receiving waters getting better or worse?

II. MONITORING PROGRAM

A. Receiving Waters Monitoring Program

Each Copermittee must collaborate with the other Copermittees to develop, conduct, and report on a year-round watershed based Receiving Waters Monitoring Program. The monitoring program design, implementation, analysis, assessment, and reporting must be conducted

¹ Core management questions from "Model Monitoring Program for Municipal Separate Storm Sewer Systems in Southern California: A report from the Stormwater Monitoring Coalition's Model Monitoring Technical Committee." Technical Report No. 419. August 2004.

on a watershed basis for each of the watershed management areas. The monitoring program must be designed to meet the goals and answer the questions listed in section I above. The monitoring program must include the following components:

1. MASS LOADING STATION (MLS) MONITORING

- a. Locations: The following existing mass loading stations must continue to be monitored: Laguna Canyon, Aliso Creek, San Juan Creek, Trabuco Creek, Prima Deshecha Channel, and Segunda Deshecha Channel.
- b. Frequency: Each mass loading station to be monitored in a given year must be monitored twice during wet weather events and twice during dry weather flow conditions.
- c. Timing: Each mass loading station must be monitored for the first wet weather event of the season which meets the USEPA's criteria as described in 40 CFR 122.21(g)(7). Monitoring of the second wet weather event must be conducted after February 1. Dry weather mass loading monitoring events must be sampled at least three months apart between May and October. If flows are not evident in September or October for the second event, then sampling must be conducted during non-rain events in the wet weather season.
- d. Protocols: Protocols for mass loading sampling and analysis must be SWAMP comparable. At a minimum, analytical methods, target reporting limits, and data reporting formats should be SWAMP comparable. If the mass loading sampling and analysis are determined to be impracticable with the SWAMP standards, the Copermitees must provide explanation and discussion to this effect in the Receiving Waters and MS4 Discharge Monitoring Annual Report. Wet weather samples may be time-weighted composites, collected for the duration of the entire runoff event, where practical, consistent with methods used by the Copermitees during for the Receiving Waters Monitoring Program conducted for Regional Board Order No. R9-2002-01. Where such monitoring is not practical, such as for large watersheds with significant groundwater recharge flows, composites must be collected at a minimum during the first 3 hours of flow. Dry weather event sampling may be time-weighted composites composed of 24 discrete hourly samples, whereby the mass loads of pollutants are calculated as the product of the composite sample concentration and the total volume of water discharged past the monitoring point during the time of

sample collection.

- (1) Automatic samplers must be used to collect samples from mass loading stations.
 - (2) Grab samples must be analyzed for temperature, pH, specific conductance, biochemical oxygen demand, oil and grease, total coliform, fecal coliform, enterococcus and for total petroleum hydrocarbons whenever a sheen is observed.
- e. Copermittees must measure or estimate flow rates and volumes for each mass loading station sampling event in order to determine mass loadings of pollutants. Data from nearby USGS gauging stations may be utilized, or flow rates may be estimated in accordance with the USEPA Storm Water Sampling Guidance Document (EPA-833-B-92-001), Section 3.2.1.
- f. In the event that the required number of events is not sampled during one monitoring year at any given station, the Copermittees must submit, with the subsequent Receiving Waters Monitoring Annual Report, a written explanation for a lack of sampling data, including streamflow data from the nearest USGS gauging station.
- g. The following constituents must be analyzed for each monitoring event at each station:

Table 1. Analytical Testing for Mass Loading, Urban Stream Bioassessment (excluding bacteriological), and Ambient Coastal Receiving Waters Stations

Conventionals, Nutrients, Hydrocarbons	Pesticides	Metals (Total and Dissolved)	Bacteriological
<ul style="list-style-type: none"> • Total Dissolved Solids • Total Suspended Solids • Turbidity • Total Hardness • pH • Specific Conductance • Temperature • Dissolved Oxygen • Total Phosphorus • Dissolved Phosphorus • Nitrite ° • Nitrate ° • Total Kjeldahl Nitrogen • Ammonia 	<ul style="list-style-type: none"> Diazinon Chlorpyrifos <i>Malathion</i> <i>Carbamates*</i> <i>Pyrethroids*</i> 	<ul style="list-style-type: none"> Arsenic Cadmium Chromium Copper Lead Nickel Selenium Zinc 	<ul style="list-style-type: none"> Total Coliform Fecal Coliform Enterococcus

<ul style="list-style-type: none"> • Biological Oxygen Demand, 5-day • Chemical Oxygen Demand • Total Organic Carbon • Dissolved Organic Carbon • Methylene Blue Active Substances • Oil and Grease 			
<p>° Nitrate and nitrite may be combined and reported as nitrate + nitrite. * Carbamate and Pyrethroid pesticides must initially be monitored in Prima Deshecha and Segunda Deshecha watersheds. If carbamate and/or pyrethroid pesticides are found to correlate with observed acute or chronic toxicity, then that pesticide must be added to all stations displaying toxicity.</p>			

h. Toxicity testing must be conducted for each monitoring event at each station according to the following Table 2:

Table 2. Toxicity Testing for Mass Loading, Urban Stream Bioassessment, and Ambient Coastal Receiving Waters Stations

Program Component	Dry Weather Flows		Storm Water Flows	
	Freshwater Organisms	Estuarine & Marine Organisms	Freshwater Organisms	Estuarine & Marine Organisms
Mass Loading	2 chronic 2 acute	1 chronic**	2 acute	2 chronic 1 acute
Urban Stream Bioassessment	2 chronic* 2 acute*	n/a	n/a	n/a
Ambient Coastal Receiving Waters	n/a	2 chronic 1 acute	n/a	2 chronic 1 acute
Sediment Toxicity Special Study	1 chronic 1 acute 1	n/a	n/a	n/a
<p>Table Notes * Urban Stream Bioassessment on Aliso Creek must also include use of <i>Pimephales promelas</i> (fathead minnow) for chronic and acute toxicity testing. ** Dry weather toxicity monitoring at a mass loading station may be omitted if either (a) the channel flows are diverted year-round in dry weather conditions to the sanitary sewer for treatment; or (b) dry weather toxicity with marine species is occurring at an Ambient Coastal Waters Receiving station where that channel reaches the Pacific Ocean.</p> <p>Species Notes: 1. Freshwater acute toxicity testing must include <i>Hyalella azteca</i>.</p>				

2. Acute toxicity may be determined during the course of chronic toxicity monitoring per U.S. EPA protocols.
3. *Americamysis bahia* may be used as a marine test organism if *Holmesimysis costata* cannot reasonably be obtained. The use of, and justification for, of *A. bahia* must be clearly reported in each Monitoring Report.

- i. The presence of acute toxicity must be determined in accordance with USEPA protocol (EPA-821-R-02-012). The presence of chronic freshwater toxicity must be determined in accordance with USEPA protocol (EPA-821-R-02-013). The presence of chronic marine toxicity must be determined in accordance with USEPA guidance EPA 600/R95/136, except for chronic mysid tests that must be conducted in accordance with USEPA protocol EPA-821-R-02-014.

2. Urban Stream Bioassessment (BA) Monitoring

Copermittees must conduct Urban Stream Bioassessment Monitoring using a triad of indicators to assess the condition of biological communities in freshwater, urban receiving waters.

- a. Locations: At a minimum, the program shall consist of station identification, sampling, monitoring, and analysis of data for six bioassessment stations in order to determine the biological and physical integrity of urban streams within the County of Orange. At least one urban bioassessment station shall be located within each watershed management area. In addition to the urban stream bioassessment stations, three reference bioassessment stations shall be identified, sampled, monitored, and analyzed. Locations of reference stations must be identified according to protocols outlined in "A Quantitative Tool for Assessing the Integrity of Southern Coastal California Streams," by Ode, et al. 2005.²
- b. Frequency: Bioassessment stations which have year round flow conditions must be monitored in May or June (to represent the influence of wet weather on the communities) or September or October (to represent the influence of dry weather flows on the communities). Copermittees shall determine when the annual sampling for stations with year round flow will occur in accordance with the purposes of sampling, as outlined in Section I of

² Ode, et al. 2005. "A Quantitative Tool for Assessing the Integrity of Southern Coastal California Streams." Environmental Management. Vol. 35, No. 1, pp. 1-13.

Attachment E. Those stations that do not have year round flow shall continue to be monitored twice per year. The timing of monitoring of bioassessment stations must coincide with dry weather monitoring of mass loading stations and Inland Aquatic Habitat stations.

- c. Parameters / Methods: The triad of indicators for urban stream bioassessment monitoring must include bioassessment, aquatic chemistry, and aqueous toxicity.
- (1) Aquatic chemistry and aqueous toxicity must be conducted using the same parameters and methods as the mass loading station monitoring, with the addition of pyrethroid pesticides.
 - (2) Bioassessment analysis procedures must include calculation of the Index of Biotic Integrity (IBI) for benthic macroinvertebrates for all bioassessment stations, as outlined in "A Quantitative Tool for Assessing the Integrity of Southern Coastal California Streams," by Ode, et al. 2005.
 - (3) Monitoring of bioassessment stations must be conducted according to bioassessment procedures developed by the Surface Water Ambient Monitoring Program (SWAMP), as amended.³
 - (4) Monitoring of bioassessment stations must incorporate assessment of algae in addition to macroinvertebrates, using the USEPA's 1999 Rapid Bioassessment Protocols for Use in Wadeable Streams and Rivers⁴ and SWAMP's Incorporating bioassessment using freshwater algae into California's Surface Water Ambient Monitoring Program (SWAMP)⁵. Assessment of freshwater algae must include algal taxonomic composition (diatoms and soft algae) and algal biomass. Future bioassessment shall incorporate algal IBI scores, when developed.

³ Ode, P.R.. 2007. Standard operating procedures for collecting macroinvertebrate samples and associated physical and chemical data for ambient bioassessments in California. California State Water Resources Control Board Surface Water Ambient Monitoring Program (SWAMP) Bioassessment SOP 001.

⁴ USEPA, 1999. *Rapid Bioassessment Protocols for Use in Wadeable Streams and Rivers*. EPA-841-B-99-002.

⁵ Fetscher, E. A., and K. McLaughlin. 2008. Incorporating bioassessment using freshwater algae into California's Surface Water Ambient Monitoring Program (SWAMP). Southern California Coastal Water Research Project. Costa Mesa, CA

- d. A qualified professional environmental laboratory must perform all sampling, laboratory, quality assurance, and analytical procedures.

3. FOLLOW-UP ANALYSIS AND ACTIONS

When results from the required monitoring indicate MS4 discharge induced degradation at a mass loading station, bioassessment, or dry weather discharge station, Copermittees within the watershed must evaluate the extent and causes of MS4 discharge pollution in receiving waters and prioritize and implement management actions to eliminate or reduce sources. Toxicity Identification Evaluations (TIEs) must be conducted to determine the cause of toxicity as outlined in Table 3 below. Other follow-up activities, which must be conducted by the Copermittees, are also identified in Table 3. Once the cause of toxicity has been identified by a TIE, the Copermittees must perform source identification projects as needed and implement the measures necessary to reduce or eliminate the pollutant discharges and abate the sources causing the toxicity.

Table 3. Triad Approach to Determining Follow-Up Actions⁶

Chemistry	Toxicity	Benthic Alteration	Example Conclusions	Possible Actions or Decisions
1. Exceedance of water quality objectives	Evidence of toxicity	Indications of alteration	Strong evidence of pollution-induced degradation	Use TIE to identify contaminants of concern, based on TIE metric Initiate upstream source identification as a high priority
2. No persistent exceedances of water quality objectives	No evidence of toxicity	No indications of alteration	No evidence of current pollution-induced degradation Potentially harmful pollutants not yet concentrated enough to cause visible impact	No immediate action necessary Conduct periodic broad scans for new and/or potentially harmful pollutants
3. Exceedance of water quality objectives	No evidence of toxicity	No indications of alteration	Contaminants are not bioavailable Test organisms not sensitive to problem pollutants	TIE would not provide useful information with no evidence of toxicity Continue monitoring for toxic and benthic impacts Initiate upstream source identification as a low priority Consider whether different or additional test organisms should be evaluated
4. No persistent exceedances of water quality objectives	Evidence of toxicity	No indications of alteration	Unmeasured contaminant(s) or conditions have the potential to cause degradation Pollutant causing toxicity at very low levels	Recheck chemical analyses; verify toxicity test results Consider additional advanced chemical analyses Use TIE to identify contaminants of concern, based on TIE metric Initiate upstream source identification as a medium priority
5. No persistent exceedances of water quality objectives	No evidence of toxicity	Indications of alteration	Alteration may not be due to toxic contamination Test organisms not sensitive to problem pollutants	No action necessary due to toxic chemicals Initiate upstream source identification (for physical sources) as a high priority Consider whether different or additional test organisms should be evaluated
6. Exceedance of water quality objectives	Evidence of toxicity	No indications of alteration	Toxic contaminants are bioavailable, but in situ effects are not demonstrable Benthic analysis not sensitive enough to detect impact Potentially harmful pollutants not yet concentrated enough to change community	Determine if chemical and toxicity tests indicate persistent degradation Recheck benthic analyses; consider additional data analyses If recheck indicates benthic alteration, perform TIE to identify contaminants of concern, based on TIE metric Initiate upstream source identification as a high priority If recheck shows no effect, use TIE to identify contaminants of concern, based on TIE metric Initiate upstream source identification as a medium priority
7. No persistent exceedances of water quality objectives	Evidence of toxicity	Indications of alteration	Unmeasured toxic contaminants are causing degradation Pollutant causing toxicity at very low levels Benthic impact due to habitat disturbance, not toxicity	Recheck chemical analyses and consider additional advanced analyses Use TIE to identify contaminants of concern, based on TIE metric Initiate upstream source identification as a high priority Consider potential role of physical habitat disturbance
8. Exceedance of water quality objectives	No evidence of toxicity	Indications of alteration	Test organisms not sensitive to problem pollutants Benthic impact due to habitat disturbance, not toxicity	TIE would not provide useful information with no evidence of toxicity Initiate upstream source identification as a high priority Consider whether different or additional test organisms should be evaluated Consider potential role of physical habitat disturbance

4. AMBIENT COASTAL RECEIVING WATERS MONITORING (ACRW)

Copermittees must continue to conduct the Ambient Coastal Receiving Waters Monitoring (ACRW) program to assess the impact of MS4 discharge to ecologically-sensitive coastal areas by analyzing water chemistry and aqueous toxicity in both dry and wet weather and the magnitude of storm water discharge plumes to these areas. Copermittees must prioritize locations for further study and conduct special investigations.

⁶ Orange County Storm Water Program, 2006. Report of Waste Discharge (San Diego Region), Section 11.

- a. Locations: Copermittees must assess the existing Ambient Coastal Receiving Waters Monitoring (ACRW) stations to determine whether all ecologically-sensitive areas are represented. Stations must be established within all Areas of Special Biological Significance (ASBS) and Marine Life Refuges that receive significant MS4 discharges.
 - (1) Dana Point Harbor must continue to be monitored. ACRW monitoring in Dana Point Harbor may be suspended as long as the Harbor is being monitored pursuant to the Regional Harbor Monitoring Program⁷ and follow-up investigations are conducted when appropriate based on guidance from the Storm Water Monitoring Coalition.
- b. Parameters: Aquatic chemistry and aqueous toxicity must be conducted using the same parameters and methods as the mass loading station monitoring.
- c. ACRW monitoring must be concurrent with the mass loading station monitoring whenever feasible.
- d. Special investigations Ambient Coastal Receiving Waters: Special investigations must be designed and conducted to most effectively answer each of questions 1-5 of section I.B above, with an emphasis on answering question 4.

5. REGIONAL MONITORING PROGRAMS

a. Regional Bacteria Monitoring

The Copermittees shall participate in the development and implementation of monitoring for the collaborative regional bacteria monitoring program. It is expected that the regional monitoring will allow for a more effective and efficient bacteria monitoring program. The regional monitoring plan must be submitted to the Executive Officer for review and approval. Documentation of participation and monitoring shall be included in the annual report.

⁷ On July 24, 2003, the Regional Board required the County of Orange to participate in an Investigative Order to comprehensively assess the receiving water conditions of Dana Point Harbor. The Regional Harbor Monitoring Program is described in the *Regional Technical Report: Harbor Monitoring Program for San Diego Region San Diego Bay, Mission Bay, Oceanside Harbor, and Dana Point Harbor*, MEC Analytical Systems and Brock Bernstein, February 2004.

b. Regional Monitoring Programs

The Regional Board recognizes the importance and advantages of participation by Copermittees in Regional Monitoring Programs. As such, the Copermittees may propose participation in additional regional monitoring programs to supplement and/or replace existing monitoring requirements. The regional monitoring plan must be submitted to the Executive Officer for review and approval. Documentation of participation and monitoring shall be included in the annual report.

B. Wet Weather MS4 Discharge Monitoring

Each Copermittee must collaborate with the other Copermittees to develop, conduct, and report on a year-round watershed based Wet Weather MS4 Discharge Monitoring Program. The monitoring program design, implementation, analysis, assessment, and reporting must be conducted on a watershed basis for each of the hydrologic units. The monitoring program must be designed to meet the goals and answer the questions listed in section I above. The monitoring program must include the following components;

1. MS4 OUTFALL MONITORING

The Copermittees must collaborate to develop and implement a monitoring program to characterize pollutant discharges from MS4 outfalls in each watershed during wet weather. The program must include rationale and criteria for selection of outfalls to be monitored. The program must, at a minimum, include collection of samples for those pollutants causing or contributing to violations of water quality standards within the watershed. This monitoring program must be implemented within each watershed and must begin no later than the 2010-2011 monitoring year.

a. The program must comply with Section D of the Order for Storm Water Action Levels (SALs). Samples must be collected during the first 24 hours of the storm water discharge or for the entire storm water discharge if it is less than 24 hours.

1. Grab samples may be utilized only for pH, indicator bacteria, DO, temperature and hardness.

2. All other constituents must be sampled using 24 hour composite samples or for the entire storm water discharge if the storm event is less than 24 hours.
- b. Sampling to compare MS4 outfall discharges with total metal SALs must include a measurement of receiving water hardness at each outfall. If a total metal concentration exceeds a SAL, that concentration must be compared to the California Toxic Rule criteria and the USEPA 1 hour maximum concentration for the detected level of receiving water hardness associated with that sample. If it is determined that the sample's total metal concentration for that specific pollutant exceeds the SAL but does not exceed the applicable 1 hour criteria for the measured level of hardness, then the SAL shall be considered not exceeded for that measurement.

2. SOURCE IDENTIFICATION MONITORING

The Copermittees must collaborate to develop and implement a monitoring program to identify sources of pollutants causing the priority water quality problems within each watershed. The monitoring program must include focused monitoring which moves upstream into each watershed as necessary to identify sources. This monitoring program must be implemented within each watershed and must begin no later than the 2010-2011 monitoring year.

C. Non-Storm Water Dry Weather Action Levels

Each Copermittee must collaborate with the other Copermittees to conduct, and report on a year-round watershed based Dry Weather Non-storm Water MS4 Discharge Monitoring Program. The monitoring program implementation, analysis, assessment, and reporting must be conducted on a watershed basis for each of the hydrologic units. The monitoring program must be designed to assess compliance with non-storm water dry weather action levels in section C of this Order, adopted dry weather Total Maximum Daily Loads Waste Load Allocations and assessment of the contribution of dry weather flows to 303(d) listed impairments. The monitoring program must include the following components;

Each Copermittee's program must be designed to determine levels of pollutants in effluent discharges from the MS4 into receiving waters. Each Copermittee must conduct the following dry weather field screening and analytical monitoring tasks:

a. Dry Weather Non-storm Water Effluent Analytical Monitoring Stations

- (1) Stations must be major outfalls. Major outfalls chosen must include outfalls discharging to inland surface waters; to bays, harbors and lagoons/estuaries; and to the surf zone. Other outfall points (or any other point of access such as manholes) identified by the Copermittees as potential high risk sources of polluted effluent or as identified under Section C.3.e shall be sampled.
- (2) Each Copermittee must clearly identify each dry weather effluent analytical monitoring station on its MS4 Map as either a separate GIS layer or a map overlay hereafter referred to as a Dry Weather Non-storm Water Effluent Analytical Stations Map.

b. Develop Dry Weather Non-storm Water Effluent Analytical Monitoring Procedures

Each Copermittee must develop and/or update written procedures for effluent analytical monitoring (these procedures must be consistent with 40 CFR part 136), including field observations, monitoring, and analyses to be conducted. At a minimum, the procedures must meet the following guidelines and criteria:

- (1) Determining Sampling Frequency: Effluent analytical monitoring must be conducted at major outfalls and identified stations. The Copermittees must sample a representative number of major outfalls and identified stations. The sampling must be done to assess compliance with dry weather non-storm water action levels pursuant to section C of this Order. All monitoring conducted must be preceded by a minimum of 72 hours of dry weather.
- (2) If ponded MS4 discharge is observed at a monitoring station, make observations and collect at least one (1) grab sample. If flow is evident a 1 hour composite sample may be taken. Record flow estimation (i.e., width of water surface, approximate depth of water, approximate flow velocity, flow rate).

- (3) Effluent samples shall undergo analytical laboratory analysis for constituents in: *Table 1. Analytical Testing for Mass Loading, Urban Stream Bioassessment, and Ambient Coastal Receiving Waters Stations* and for those constituents with action levels under Section C of this Order. Effluent samples must also undergo analysis for Chloride, Sulfate and Total Dissolved Solids.
 - (4) If the station is dry (no flowing or ponded MS4 discharge), make and record all applicable observations.
 - (5) Develop and/or update criteria for dry weather non-storm water effluent analytical monitoring results:
 - (a) Criteria must include action levels in Section C of this Order.
 - (b) Criteria must include evaluation of LC₅₀ levels for toxicity to appropriate test organisms
 - (6) Develop and/or update procedures for source identification follow up investigations in the event of exceedance of dry weather non-storm water effluent analytical monitoring result criteria. These procedures must be consistent with procedures required in section F.4.d and F.4.e. of this Order.
 - (7) Develop and/or update procedures to eliminate detected illicit discharges and connections. These procedures must be consistent with the non-storm water dry weather action levels in Section C and with each Copermittees' Illicit Discharge and Elimination component of its Jurisdictional Runoff Management Plan as discussed in section F.4 and F.4.e. of this Order.
- c. Conduct Dry Weather Non-storm Water Effluent Analytical Monitoring

The Copermittees must commence implementation of dry weather effluent analytical monitoring under the requirements of this Order no later than May 1, 2011. If monitoring indicates an illicit connection or illegal discharge, conduct the follow-up investigation and elimination activities as described in submitted dry weather field screening and analytical monitoring procedures and found in sections C, F.4.d and F.4.e of Order No. R9-2009-0002.

- (a) Until the dry weather non-storm water effluent analytical monitoring program is implemented under the requirements of this Order, each Copermittee must continue to implement dry weather field screening and analytical monitoring as it was most recently implemented pursuant to Order No. 2002-01.

D. Special Studies

1. Aliso Creek bacteria investigation: Each Copermittee within the Aliso Creek watershed must implement the Aliso Creek 13225 Directive Revised Monitoring Program Design – Integration with NPDES Program⁸ (December 2004). The Copermittees must include that monitoring program into the overall monitoring and reporting program.
2. The Copermittees must conduct special studies, including any monitoring required for TMDL development and implementation, as directed by the Executive Officer. A TMDL Monitoring Plan must be developed to comply with TMDL Resolution No. R9-2008-0027. The monitoring plan must be submitted within 365 days of Order adoption.
3. Stormwater Monitoring Coalition Regional Monitoring of Southern California's Coastal Watersheds:

The Copermittees must implement the monitoring program developed by the Stormwater Monitoring Coalition for Regional Monitoring of the Southern California's Coastal Watersheds within the San Juan Hydrologic Unit. Each Copermittee must evaluate the results of the monitoring program within and downstream of its jurisdiction and integrate the results into program assessments and modifications.

4. Sediment Toxicity Study

Copermittees must develop, submit to the Regional Board for review, and implement an approved special study which will investigate the toxicity of sediment in urban streams. The Study must be submitted within 24 months of adoption of Order R9-2009-0002. After Regional

⁸ On October 12, 2005, the Regional Board accepted the revised Aliso Creek watershed bacteria monitoring plan proposal from the MS4 Copermittees. The Regional Board concluded that the scope of the current bacteria monitoring in the watershed was no longer warranted and that the proposed changes would constitute an effective interim program until adoption in the future of a Total Maximum Daily Load, requiring a bacteria reduction and assessment program for the watershed. In addition, the Regional Board recognized that as a result of reduced monitoring costs, the municipalities expect to direct additional resources toward implementation of management practices to reduce indicator bacteria and pathogens.

Board review, the Sediment Toxicity Study must be implemented in conjunction with the Urban Stream Bioassessment Monitoring and, at a minimum, contain the following:

- a. Locations: At a minimum, 4 bioassessment locations must be sampled, including 1 reference site.
- b. Frequency: At a minimum, sampling must occur once per year at each site for at least 2 years. Sampling must be done in conjunction with the bioassessment sampling required under Section II.A.2 of the Monitoring and Reporting Program of this Order.
- c. Parameters/Methods: At a minimum, sediment toxicity analysis shall include the measurement of metals, pyrethroids and organochlorine pesticides. Analysis must include estimates of bioavailability based upon sediment grain size, organic carbon and receiving water temperature. Acute and chronic toxicity testing must be done using *Hyalella azteca* in accordance with Table 2.
- d. Results: Results and a Discussion shall be included in the Monitoring Annual Report. The Discussion must include an assessment of the relationship between observed IBI scores under Section II.A.2 and all variables measured.

5. Trash and Litter Impairment Investigation

Copermittees must develop and implement a special investigation beginning no later than 2 years following the adoption of this Order to assess trash (including litter) as a pollutant within receiving waters on a watershed based scale. Litter is defined in California Government Code 68055.1g as "litter means all improperly discarded waste material, including, but not limited to, convenience food, beverage, and other product packages or container constructed of steel, aluminum, glass, paper, plastic and other natural and synthetic materials, thrown or deposited on lands and waters of the state, but not including the properly discarded waste of the primary processing of agriculture, mining, logging, sawmilling, or manufacturing." A lead Copermittee may be selected for each watershed, and will be responsible for the following:

- a. Locations: The lead Copermittee will identify suitable sampling locations within each watershed.

- b. Frequency: Trash at each location shall be monitored a minimum of twice during the wet season following a qualified monitoring storm event (minimum of 0.1 inches preceded by 72 hours of dry weather) and twice during the dry season.
- c. Protocol: The lead Copermittee for each watershed shall use the Final Monitoring Workplan for the Assessment of Trash in San Diego County Watersheds and A Rapid Trash Assessment Method Applied to Waters of the San Francisco Bay Region to develop a monitoring protocol for each Watershed. The draft monitoring protocol, including sampling locations and frequency, shall be submitted to the Regional Board for review no later than 365 days following the adoption of this Order. Although sampling must occur on a watershed basis, a County-wide protocol may be developed that incorporates each individual watershed.
- d. Results and Discussion from the Trash and Litter Impairment Study shall be included in the Monitoring Annual Report.

E. Monitoring Provisions

All monitoring activities must meet the following requirements:

1. Where procedures are not otherwise specified in this Receiving Waters Monitoring and Reporting Program, sampling, analysis and quality assurance/quality control must be conducted in accordance with the Quality Assurance Management Plan (QAMP) for the State of California's Surface Water Ambient Monitoring Program (SWAMP), adopted by the State Water Resources Control Board (SWRCB).
2. Samples and measurements taken for the purpose of monitoring must be representative of the monitored activity [40 CFR 122.41(j)(1)].
3. The Copermittees must retain records of all monitoring information, including all calibration and maintenance of monitoring instrumentation, copies of all reports required by this Order, and records of all data used to complete the Report of Waste Discharge and application for this Order, for a period of at least five (5) years from the date of the sample, measurement, report, or application. This period may be extended by request of the Regional Board or USEPA at any time and must be extended during the course of any unresolved litigation regarding this discharge. [40 CFR 122.41(j)(2), CWC section 13383(a)]

4. Records of monitoring information must include [40 CFR 122.41(j)(3)]:
 - a. The date, exact place, and time of sampling or measurements;
 - b. The individual(s) who performed the sampling or measurements;
 - c. The date(s) analyses were performed;
 - d. The individual(s) who performed the analyses;
 - e. The analytical techniques or methods used; and
 - f. The results of such analyses.
5. All sampling, sample preservation, and analyses must be conducted according to test procedures approved under 40 CFR part 136, unless other test procedures have been specified in this Receiving Waters Monitoring and Reporting Program or approved by the Executive Officer [40 CFR 122.41(j)(4)].
6. The CWA provides that any person who falsifies, tampers with, or knowingly renders inaccurate any monitoring device or method required to be maintained under this Order must, upon conviction, be punished by a fine of not more than \$10,000, or by imprisonment for not more than two years, or both. If a conviction of a person is for a violation committed after a first conviction of such person under this paragraph, punishment is a fine of not more than \$20,000 per day of violation, or by imprisonment of not more than four years, or both. [40 CFR 122.41(j)(5)]
7. Calculations for all limitations which require averaging of measurements must utilize an arithmetic mean unless otherwise specified in this Receiving Waters Monitoring and Reporting Program. [40 CFR 122.41(l)(4)(iii)]
8. All chemical, bacteriological, and toxicity analyses must be conducted at a laboratory certified for such analyses by the California Department of Health Services or a laboratory approved by the Executive Officer.
9. For priority toxic pollutants that are identified in the California Toxics Rule (CTR) (65 Fed. Reg. 31682), the Copermittees must instruct its laboratories to establish calibration standards that are equivalent to or lower than the Minimum Levels (MLs) published in Appendix 4 of the Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California (SIP). If a Copermittee can demonstrate that a particular ML is not attainable, in accordance with procedures set forth in 40 CFR 136, the lowest quantifiable concentration of the lowest calibration standard analyzed by a specific analytical procedure (assuming that all the method

specified sample weights, volumes, and processing steps have been followed) may be used instead of the ML listed in Appendix 4 of the SIP. The Copermittee must submit documentation from the laboratory to the Regional Board for approval prior to raising the ML for any priority toxic pollutant.

10. The Regional Board Executive Officer or the Regional Board may make revisions to this Receiving Waters and MS4 Discharge Monitoring and Reporting Program at any time during the term of Order No. R9-2009-002 and may include a reduction or increase in the number of parameters to be monitored, locations monitored, the frequency of monitoring, or the number and size of samples collected.
11. The Clean Water Act provides that any person who knowingly makes any false statement, representation, or certification in any record or other document submitted or required to be maintained under this permit, including monitoring reports or reports of compliance or non-compliance must, upon conviction, be punished by a fine of not more than \$10,000 per violation, or by imprisonment for not more than six months per violation, or by both. [40 CFR 122.41(k)(2)]
12. Monitoring must be conducted according the USEPA test procedures approved under 40 CFR 136, "Guidelines Establishing Test Procedures for Analysis of Pollutants under the Clean Water Act" as amended, unless other test procedures have been specified in this Receiving Waters and MS4 Discharge Monitoring and Reporting Program, in Order No. R9-2009-002, or by the Executive Officer.
13. If the discharger monitors any pollutant more frequently than required by the permit using test procedures approved under 40 CFR part 136, unless otherwise specified in the Order, the results of this monitoring must be included in the calculation and reporting of the data submitted in the reports requested by the Regional Board. [40 CFR 122.41(l)(4)(ii)]

III. REPORTING PROGRAM

A. Monitoring Reporting

1. Planned Monitoring Program: The Principal Copermittee must submit a description of the Receiving Waters and MS4 Discharge Monitoring Program to be implemented for every monitoring year. The submittals must begin on September 1, 2010, and continue every year thereafter.

The submittals must describe all monitoring to be conducted during the upcoming monitoring year. For example, the September 1, 2010. submittal must describe the monitoring to be conducted from October 1, 2010 through September 30, 2011.

2. Monitoring Annual Report: The Principal Copermittee must submit the Receiving Waters and MS4 Discharge Monitoring Annual Report to the Regional Board on October 1 of each year, beginning on October 1, 2011. Receiving Waters and MS4 Discharge Monitoring Annual Reports must meet the following requirements:
 - a. Annual monitoring reports must include the data/results, methods of evaluating the data, graphical summaries of the data, and an explanation/discussion of the data for each monitoring program component.
 - b. Annual monitoring reports must include a watershed-based analysis of the findings of each monitoring program component. Each watershed-based analysis must include:
 - (1) Identification and prioritization of water quality problems within each watershed.
 - (2) Identification and description of the nature and magnitude of potential sources of the water quality problems within each watershed.
 - (3) Exhibition of pollutant load and concentration increases or decreases at each mass loading and temporary watershed assessment station.
 - (4) Evaluation of pollutant loads and concentrations at mass loading and temporary watershed assessment stations with respect to land use, population, sources, and other characteristics of watersheds using tools such as multiple linear regression, factor analysis, and cluster analysis.
 - (5) Identification of links between source activities/conditions and observed receiving water impacts.
 - (6) Identification of recommended future monitoring to identify and address sources of water quality problems.
 - (7) Results and discussion of any TIE conducted, together with actions that will be implemented to reduce the discharge of pollutants and abate the sources causing the toxicity.
 - c. Aliso Creek Bacteria Investigation: Annual monitoring reports for the Aliso Creek Bacteria Investigation must contain the following information:

- (1) Water quality data and assessment. The report must contain all data collected and an assessment of compliance with applicable water quality standards for each monitoring station;
- (2) Program Assessment. A description and assessment of each municipality's program implemented within the high-priority storm drain locations to reduce storm water discharges of indicator fecal bacteria/pathogens. Water quality monitoring alone is not sufficient to assess progress of the municipal programs. Municipalities must demonstrate each year that their programs are effective and resulting in a reduction of bacteria sources.
 - (a) For structural and nonstructural management practices implemented, the assessment must contain a description of the practice, capital and maintenance costs, expectations for effectiveness, date implemented, and any observed results.
 - (b) For structural and nonstructural management practices implemented, the assessment must contain a description of the practice, capital and maintenance costs, expectations for effectiveness, date implemented, and any observed results
- d. Annual monitoring reports must include discussions for each watershed which answer each of the management questions listed in section I.B of this Receiving Waters Monitoring and Reporting Program.
- e. Annual monitoring reports must identify how each of the goals listed in section I.A of this Receiving Waters Monitoring and Reporting Program has been addressed by the Copermittees' monitoring.
- f. Annual monitoring reports must include identification and analysis of any long-term trends in storm water or receiving water quality. Trend analysis must use nonparametric approaches, such as the Mann-Kendall test, including exogenous variables in a multiple regression model, and/or using a seasonal nonparametric trend model, where applicable.
- g. Annual monitoring reports must provide an estimation of total pollutant loads (wet weather loads plus dry weather loads) due to MS4 Discharge for each of the watersheds specified in Table 3 of Order No. R9-2009-0002.

- h. Annual monitoring reports must, for each monitoring program component listed above, include an assessment of compliance with applicable water quality standards.
 - i. Annual monitoring reports must describe monitoring station locations by latitude and longitude coordinates, frequency of sampling, quality assurance/quality control procedures, and sampling and analysis protocols.
 - j. Annual monitoring reports must use a standard report format and must include the following:
 - (1) A stand alone comprehensive executive summary addressing all sections of the monitoring report;
 - (2) Comprehensive interpretations and conclusions; and
 - (3) Recommendations for future actions.
 - k. All monitoring reports submitted to the Principal Copermittee or the Regional Board must contain the certified perjury statement described in Attachment B of this Order No. R9-2009-0002.
 - l. Annual monitoring reports must be reviewed prior to submittal to the Regional Board by a committee of the Copermittees (consisting of no less than three members).
 - m. Annual monitoring reports must be submitted in both electronic and paper formats. Electronic formats must be CEDEN or SWAMP-uploadable.⁹
3. The Principal Copermittee must submit by July 1, 2010, a detailed description of the monitoring programs to be implemented under requirement II.B.1 of Receiving Waters and MS4 Discharge Monitoring and Reporting Program No. R9-2009-002. The description must identify and provide the rationale for the constituents monitored, locations of monitoring, frequency of monitoring, and analyses to be conducted with the data generated.
4. Monitoring programs and reports must comply with section II.D of Receiving Waters and MS4 Discharge Monitoring and Reporting Program No. R9-2009-002 and Attachment B of Order No. R9-2009-002.

⁹ For updates to the SWAMP templates and formats, see <http://www.waterboards.ca.gov/swamp>.

5. Following completion of an annual cycle of monitoring in October, the Copermittees must make the monitoring data and results available to the Regional Board at the Regional Board's request.

B. Interim Reporting Requirements

For the October 2009 to October 2010 monitoring period, the Principal Copermittee must submit the Receiving Waters Monitoring Annual Report by January 31, 2011. The Receiving Waters Monitoring Annual Report must address the monitoring conducted to comply with the requirements of Order No. 2002-001.

Attachment F

SOURCE DATA

I. STORM WATER ACTION LEVELS.....2

II. NON-STORM WATER NUMERIC ACTION LEVELS9

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I. STORM WATER ACTION LEVELS

N02+N03 (mg/l)	Phosphorous Total (mg/l)	Cadmium Total (ug/l)	Copper Total (ug/l)	Lead Total (ug/l)	Nickel Total (ug/l)	Zinc Total (ug/l)	Turbidity (NTU)
4.70	7.90	9.80	800.00	660.00	120.00	22500.00	10
4.20	7.19	6.00	340.00	620.00	110.00	18000.00	15
3.90	4.96	6.00	320.00	540.00	100.00	11000.00	15
3.90	4.50	6.00	270.00	520.00	100.00	9970.00	16
3.60	4.40	6.00	244.00	460.00	95.00	9100.00	22
3.60	4.24	6.00	230.00	450.00	89.00	8800.00	23
3.60	2.59	5.30	220.00	450.00	87.00	6500.00	23
3.50	2.59	5.00	220.00	440.00	84.00	5500.00	24
3.30	2.50	4.10	210.00	430.00	81.00	5000.00	24
3.30	2.50	4.00	210.00	400.00	75.00	4900.00	30
3.10	2.50	4.00	209.00	380.00	71.00	4600.00	31
3.00	2.27	4.00	209.00	360.00	69.00	4300.00	33
2.96	2.00	4.00	200.00	350.00	68.00	3800.00	36
2.90	2.00	4.00	200.00	330.00	68.00	3800.00	36
2.70	2.00	4.00	200.00	320.00	64.00	3400.00	39
2.70	2.00	3.90	200.00	320.00	63.00	3390.00	40
2.60	1.90	3.80	200.00	320.00	60.00	3100.00	45
2.60	1.90	3.40	180.00	310.00	60.00	2500.00	50
2.60	1.80	3.40	180.00	310.00	59.00	2200.00	50
2.50	1.80	3.20	166.00	310.00	59.00	2100.00	60
2.50	1.70	3.10	163.00	310.00	58.00	1829.00	61
2.32	1.70	3.00	160.00	300.00	54.00	1700.00	62
2.30	1.70	3.00	150.00	290.00	54.00	1500.00	65
2.20	1.60	3.00	140.00	280.00	54.00	1400.00	65
2.20	1.60	3.00	140.00	270.00	54.00	1300.00	66
2.10	1.60	3.00	140.00	270.00	53.00	1300.00	69
2.10	1.53	3.00	140.00	270.00	53.00	1285.00	70
2.10	1.50	3.00	140.00	270.00	52.00	1200.00	72
2.10	1.50	3.00	130.00	260.00	52.00	1100.00	80
2.00	1.47	3.00	130.00	260.00	47.00	1054.00	84
2.00	1.46	3.00	128.00	250.00	47.00	1000.00	97
2.00	1.40	3.00	120.00	250.00	45.00	980.00	111
2.00	1.40	3.00	120.00	250.00	44.00	960.00	140
1.90	1.40	3.00	120.00	245.00	44.00	850.00	151
1.90	1.30	2.90	120.00	230.00	42.00	850.00	157
1.90	1.30	2.80	120.00	230.00	42.00	850.00	590
1.90	1.30	2.70	111.00	225.00	40.00	850.00	
1.90	1.30	2.60	111.00	220.00	39.00	840.00	
1.80	1.30	2.50	110.00	220.00	36.00	780.00	
1.80	1.30	2.40	110.00	210.00	35.00	768.00	
1.70	1.24	2.40	110.00	210.00	35.00	760.00	
1.70	1.20	2.30	110.00	200.00	34.00	750.00	

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1.70	1.20	2.20	110.00	200.00	33.00	740.00	
1.70	1.20	2.10	110.00	190.00	33.00	740.00	
1.70	1.20	2.00	100.00	190.00	33.00	730.00	
1.70	1.10	2.00	100.00	190.00	33.00	720.00	
1.70	1.10	2.00	100.00	190.00	32.00	710.00	
1.60	1.10	2.00	100.00	170.00	32.00	710.00	
1.60	1.10	2.00	100.00	170.00	32.00	700.00	
1.60	1.06	2.00	100.00	170.00	32.00	700.00	
1.60	1.00	2.00	99.00	160.00	32.00	690.00	
1.60	0.96	2.00	94.00	160.00	30.00	690.00	
1.60	0.96	2.00	91.00	150.00	29.00	680.00	
1.60	0.94	2.00	91.00	150.00	28.00	680.00	
1.53	0.94	2.00	90.00	150.00	27.00	670.00	
1.50	0.92	2.00	90.00	150.00	27.00	660.00	
1.50	0.91	2.00	89.00	150.00	27.00	660.00	
1.50	0.85	2.00	87.00	140.00	27.00	660.00	
1.50	0.85	2.00	87.00	140.00	27.00	650.00	
1.50	0.85	2.00	84.00	140.00	26.00	630.00	
1.50	0.83	2.00	83.00	130.00	26.00	610.00	
1.40	0.83	2.00	82.00	130.00	25.00	610.00	
1.40	0.83	2.00	81.00	130.00	24.50	597.00	
1.40	0.81	2.00	81.00	130.00	24.00	590.00	
1.40	0.81	2.00	77.00	130.00	24.00	590.00	
1.40	0.81	2.00	77.00	123.00	24.00	576.00	
1.40	0.80	2.00	76.00	120.00	24.00	570.00	
1.40	0.80	2.00	74.00	120.00	23.00	570.00	
1.32	0.78	2.00	72.00	120.00	23.00	560.00	
1.30	0.78	1.90	72.00	120.00	23.00	560.00	
1.30	0.77	1.90	72.00	120.00	23.00	540.00	
1.30	0.77	1.90	72.00	115.00	23.00	540.00	
1.30	0.76	1.80	72.00	110.00	23.00	520.00	
1.30	0.76	1.80	71.00	110.00	22.00	520.00	
1.30	0.75	1.80	70.00	110.00	22.00	520.00	
1.30	0.75	1.70	70.00	110.00	22.00	510.00	
1.29	0.75	1.60	67.00	102.00	22.00	500.00	
1.20	0.74	1.60	66.00	100.00	21.00	500.00	
1.20	0.73	1.60	66.00	100.00	21.00	490.00	
1.20	0.72	1.60	66.00	100.00	21.00	480.00	
1.20	0.72	1.60	65.00	100.00	21.00	475.00	
1.20	0.72	1.60	65.00	100.00	21.00	470.00	
1.20	0.71	1.50	63.00	99.00	20.00	470.00	
1.20	0.71	1.50	63.00	97.00	20.00	462.00	
1.20	0.69	1.40	62.00	97.00	20.00	460.00	
1.20	0.68	1.30	62.00	97.00	19.00	460.00	
1.20	0.68	1.30	60.00	95.00	19.00	450.00	
1.20	0.68	1.20	60.00	91.00	19.00	440.00	
1.10	0.68	1.20	59.00	90.00	19.00	440.00	
1.10	0.68	1.20	56.59	90.00	19.00	440.00	

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1.10	0.67	1.20	55.00	87.00	19.00	430.00	
1.10	0.66	1.10	55.00	86.00	19.00	430.00	
1.10	0.66	1.10	54.00	86.00	19.00	430.00	
1.10	0.65	1.10	54.00	84.00	18.40	420.00	
1.10	0.65	1.10	54.00	82.00	18.00	420.00	
1.10	0.65	1.10	53.00	82.00	18.00	410.00	
1.10	0.65	1.00	53.00	81.00	18.00	409.00	
1.00	0.63	1.00	52.00	78.00	18.00	400.00	
1.00	0.62	1.00	51.00	78.00	18.00	400.00	
1.00	0.61	1.00	50.00	78.00	17.00	400.00	
1.00	0.60	1.00	50.00	77.00	16.00	390.00	
1.00	0.60	1.00	50.00	76.00	16.00	390.00	
1.00	0.59	1.00	50.00	76.00	15.40	390.00	
0.99	0.57	1.00	50.00	69.00	15.00	390.00	
0.99	0.57	1.00	50.00	69.00	15.00	390.00	
0.98	0.56	1.00	50.00	67.00	15.00	370.00	
0.97	0.56	1.00	50.00	66.00	15.00	370.00	
0.96	0.55	1.00	49.00	66.00	14.00	370.00	
0.96	0.55	1.00	49.00	66.00	14.00	360.00	
0.95	0.55	1.00	49.00	65.00	14.00	360.00	
0.95	0.53	1.00	48.00	64.00	14.00	360.00	
0.93	0.53	1.00	48.00	61.00	14.00	360.00	
0.93	0.53	1.00	47.00	57.00	14.00	350.00	
0.93	0.52	1.00	46.08	57.00	14.00	350.00	
0.93	0.52	1.00	46.00	56.00	14.00	350.00	
0.92	0.52	1.00	46.00	56.00	13.00	340.00	
0.90	0.52	1.00	44.25	53.00	13.00	340.00	
0.88	0.51	1.00	44.00	53.00	13.00	340.00	
0.87	0.51	1.00	44.00	52.60	13.00	340.00	
0.86	0.50	1.00	44.00	52.00	13.00	340.00	
0.85	0.49	1.00	44.00	51.00	13.00	340.00	
0.84	0.49	1.00	43.00	51.00	13.00	334.00	
0.83	0.48	1.00	43.00	50.00	13.00	330.00	
0.81	0.48	1.00	43.00	50.00	13.00	330.00	
0.81	0.48	1.00	42.00	50.00	12.02	330.00	
0.80	0.47	1.00	42.00	50.00	12.00	330.00	
0.80	0.47	1.00	42.00	50.00	12.00	330.00	
0.78	0.47	1.00	41.00	50.00	12.00	330.00	
0.78	0.46	1.00	40.00	50.00	12.00	330.00	
0.77	0.46	1.00	40.00	50.00	12.00	320.00	
0.77	0.46	1.00	40.00	50.00	12.00	320.00	
0.77	0.45	1.00	40.00	50.00	11.40	320.00	
0.74	0.45	1.00	40.00	50.00	11.00	320.00	
0.73	0.44	1.00	39.00	49.00	11.00	310.00	
0.72	0.44	1.00	39.00	47.00	11.00	310.00	
0.69	0.44	1.00	39.00	46.00	11.00	310.00	
0.69	0.44	1.00	39.00	46.00	11.00	308.00	
0.69	0.44	1.00	39.00	44.00	11.00	300.00	

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0.67	0.44	1.00	39.00	44.00	11.00	300.00	
0.67	0.44	1.00	37.00	43.00	11.00	300.00	
0.66	0.43	1.00	37.00	42.00	11.00	300.00	
0.66	0.42	1.00	37.00	41.00	10.50	290.00	
0.65	0.42	1.00	37.00	41.00	10.20	285.00	
0.63	0.41	1.00	37.00	41.00	10.20	280.00	
0.62	0.41	1.00	36.00	41.00	10.10	280.00	
0.62	0.41	1.00	36.00	41.00	10.00	280.00	
0.62	0.40	1.00	36.00	40.10	10.00	280.00	
0.60	0.40	1.00	36.00	40.00	10.00	280.00	
0.59	0.40	1.00	35.00	39.30	10.00	280.00	
0.59	0.40	1.00	35.00	39.00	10.00	280.00	
0.58	0.40	1.00	34.00	39.00	10.00	280.00	
0.57	0.40	1.00	34.00	39.00	10.00	280.00	
0.57	0.40	1.00	33.40	38.00	10.00	270.00	
0.55	0.40	1.00	33.00	38.00	10.00	270.00	
0.52	0.40	1.00	33.00	38.00	10.00	270.00	
0.50	0.40	1.00	33.00	37.00	9.70	270.00	
0.50	0.39	1.00	33.00	36.00	9.30	270.00	
0.46	0.39	1.00	33.00	36.00	9.20	270.00	
0.42	0.39	1.00	32.26	36.00	9.03	260.00	
0.42	0.38	1.00	32.01	36.00	9.00	260.00	
0.35	0.38	1.00	32.00	35.00	9.00	260.00	
0.10	0.38	1.00	32.00	34.00	9.00	260.00	
0.06	0.37	1.00	32.00	34.00	9.00	260.00	
	0.36	1.00	32.00	33.00	9.00	250.00	
	0.36	1.00	32.00	33.00	8.90	250.00	
	0.36	1.00	32.00	33.00	8.79	250.00	
	0.36	1.00	31.00	33.00	8.60	250.00	
	0.35	1.00	31.00	32.00	8.50	247.00	
	0.35	1.00	31.00	32.00	8.50	242.13	
	0.35	1.00	31.00	31.94	8.47	240.00	
	0.35	1.00	30.00	30.00	8.26	240.00	
	0.34	1.00	30.00	30.00	8.00	240.00	
	0.34	1.00	30.00	30.00	8.00	240.00	
	0.34	1.00	30.00	30.00	8.00	240.00	
	0.34	1.00	30.00	30.00	8.00	230.00	
	0.34	1.00	29.00	30.00	8.00	230.00	
	0.34	1.00	29.00	30.00	8.00	220.00	
	0.33	1.00	28.00	29.00	8.00	220.00	
	0.33	1.00	28.00	29.00	8.00	220.00	
	0.33	0.98	28.00	29.00	8.00	210.00	
	0.33	0.94	28.00	29.00	8.00	210.00	
	0.33	0.94	27.19	28.00	8.00	210.00	
	0.33	0.92	27.00	28.00	7.80	210.00	
	0.32	0.90	27.00	28.00	7.70	210.00	
	0.32	0.90	27.00	27.00	7.60	210.00	
	0.32	0.86	26.00	27.00	7.60	210.00	

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	0.32	0.80	26.00	26.31	7.42	205.00	
	0.32	0.80	26.00	26.00	7.40	202.79	
	0.31	0.71	25.00	26.00	7.31	202.00	
	0.31	0.70	25.00	25.00	7.20	200.00	
	0.30	0.70	25.00	25.00	7.10	200.00	
	0.30	0.60	24.00	25.00	7.00	200.00	
	0.30	0.60	24.00	24.60	7.00	200.00	
	0.30	0.59	23.00	24.00	6.90	200.00	
	0.30	0.59	23.00	24.00	6.70	200.00	
	0.30	0.52	23.00	24.00	6.00	200.00	
	0.30	0.50	23.00	24.00	6.00	194.49	
	0.29	0.50	23.00	23.00	6.00	190.00	
	0.29	0.50	22.00	23.00	6.00	190.00	
	0.29	0.50	22.00	23.00	6.00	190.00	
	0.29	0.50	21.00	23.00	6.00	190.00	
	0.29	0.50	21.00	23.00	6.00	184.13	
	0.29	0.50	21.00	23.00	6.00	180.00	
	0.28	0.50	21.00	22.20	6.00	180.00	
	0.28	0.50	20.36	22.00	5.92	180.00	
	0.28	0.50	20.00	22.00	5.90	180.00	
	0.27	0.50	20.00	22.00	5.40	180.00	
	0.27	0.50	20.00	22.00	5.13	180.00	
	0.27	0.50	20.00	21.20	5.10	180.00	
	0.26	0.50	20.00	21.10	5.00	170.00	
	0.26	0.40	19.00	21.00	5.00	170.00	
	0.26	0.40	19.00	20.00	5.00	170.00	
	0.26	0.40	18.00	19.10	5.00	170.00	
	0.25	0.30	18.00	19.00	5.00	160.00	
	0.25	0.30	18.00	19.00	5.00	160.00	
	0.25	0.30	18.00	19.00	5.00	160.00	
	0.25	0.30	18.00	19.00	5.00	160.00	
	0.25	0.30	17.00	18.50	5.00	160.00	
	0.25	0.30	17.00	18.00	5.00	160.00	
	0.24	0.20	17.00	18.00	5.00	160.00	
	0.24	0.20	17.00	18.00	5.00	160.00	
	0.24	0.20	17.00	18.00	5.00	160.00	
	0.23	0.04	17.00	17.00	4.80	160.00	
	0.23		17.00	17.00	4.74	150.00	
	0.23		17.00	17.00	4.70	150.00	
	0.23		17.00	17.00	4.60	150.00	
	0.22		16.00	17.00	4.55	150.00	
	0.22		16.00	17.00	4.38	150.00	
	0.22		16.00	17.00	4.16	146.00	
	0.22		16.00	17.00	4.00	145.00	
	0.22		16.00	17.00	4.00	140.00	
	0.22		15.00	16.90	4.00	140.00	
	0.22		15.00	16.00	3.64	140.00	
	0.21		15.00	15.00	3.60	140.00	

	0.21		15.00	15.00	3.50	140.00	
	0.21		15.00	15.00	3.00	140.00	
	0.21		14.50	15.00	3.00	140.00	
	0.21		14.00	15.00	2.80	140.00	
	0.21		14.00	14.00	2.00	140.00	
	0.20		14.00	14.00	1.00	140.00	
	0.20		14.00	14.00	1.00	136.55	
	0.20		14.00	13.00		135.60	
	0.20		14.00	13.00		130.00	
	0.20		13.00	13.00		130.00	
	0.20		13.00	13.00		130.00	
	0.20		13.00	13.00		130.00	
	0.20		13.00	12.00		130.00	
	0.20		13.00	12.00		130.00	
	0.19		13.00	12.00		130.00	
	0.19		12.00	12.00		127.00	
	0.19		12.00	12.00		124.00	
	0.19		12.00	12.00		122.05	
	0.19		12.00	11.00		120.00	
	0.19		11.00	11.00		120.00	
	0.19		11.00	11.00		120.00	
	0.18		10.00	10.00		120.00	
	0.18		10.00	10.00		112.11	
	0.18		10.00	10.00		110.00	
	0.18		10.00	10.00		110.00	
	0.18		9.60	10.00		110.00	
	0.18		9.60	10.00		110.00	
	0.17		9.10	10.00		110.00	
	0.17		9.10	10.00		110.00	
	0.17		9.00	10.00		110.00	
	0.17		8.30	9.60		110.00	
	0.17		8.20	9.40		110.00	
	0.16		8.00	9.10		108.00	
	0.15		8.00	9.00		100.00	
	0.15		7.70	9.00		100.00	
	0.15		7.70	9.00		100.00	
	0.15		7.00	9.00		100.00	
	0.15		7.00	8.00		100.00	
	0.15		6.80	8.00		100.00	
	0.14		6.80	8.00		99.00	
	0.14		6.80	8.00		98.00	
	0.14		6.50	8.00		97.00	
	0.14		6.50	8.00		93.40	
	0.14		6.30	8.00		92.00	
	0.14		6.30	7.60		92.00	
	0.14		6.10	7.50		90.00	
	0.13		5.60	7.00		90.00	
	0.13		5.40	7.00		90.00	

	0.13		5.20	6.00		86.00	
	0.13		5.00	6.00		83.00	
	0.13		4.90	6.00		81.00	
	0.12		4.50	5.90		81.00	
	0.12		4.10	5.80		80.00	
	0.12		4.10	5.40		80.00	
	0.11		3.90	5.00		80.00	
	0.11		3.40	5.00		80.00	
	0.11		2.60	5.00		80.00	
	0.11		2.60	5.00		79.00	
	0.10		2.60	5.00		73.00	
	0.10		2.30	5.00		72.00	
	0.10		2.00	4.80		70.00	
	0.10		2.00	4.80		70.00	
	0.09		1.70	4.70		70.00	
	0.08		1.50	4.60		70.00	
	0.06		1.50	4.00		64.00	
	0.03		1.50	4.00		63.00	
			1.40	3.80		61.00	
			1.40	3.00		60.00	
				3.00		56.00	
				2.30		44.00	
				2.00		40.00	
				1.60		37.00	
						35.00	
						30.00	
						26.00	
						24.00	
						20.00	
						10.00	
						5.00	

II. NON-STORM WATER ACTION LEVELS

Site	Chromium	Nickel	Copper	Zinc	Silver	Cadmium	Lead	Total Coliform	Fecal Coliform	Enterococcus	Dissolved Oxygen	pH	Turbidity	Nitrate as N	Surfactants (MBAS)	Reactive Phosphorus
	µg/L							CFU/100mL			mg/L		NTU	mg/L		
AVJ01P26	<8.00	4.7	7.3	230	<2.00	<1.00	<2.00	41,000	21,000	5,100	7.92	7.5	12.2	3.9	0.4	2.88
AVJ01P26	<8.00	5.4	11	22	<2.00	<1.00	<2.00	30,000	21,000	45,000	9.73	7.52	2.79	8.3	0.3	2.98
AVJ01P26	<8.00	<4.00	13	45	<2.00	<1.00	<2.00	10,300	8,200	8,400	4.3	8.3	2.8	2.8		1.11
AVJ01P26	<8.00	5.6	8.3	44	<2.00	<1.00	<2.00	44,000	19,400	18,400	8.04	7.91	6.02	2.9		2.55
AVJ01P26	<8.00	32	39	140	<2.00	1.4	7.5	67,000	46,000	32,000	7.76	7.72	9.24	2.7		1.88
AVJ01P26	1.1	6.7	8	28	<0.50	0.51	<0.50	330,000	22,000	24,000	6.48	8.17	2.53	3.9	0.1	1.72
AVJ01P26	2.3	8.3	7.3	25	0.79	2	1.6	410,000	20,000	16,000	7.85	7.82	6.03	5.6	<0.05	2.87
AVJ01P26	<0.50	4.2	2.5	9.6	<0.50	<0.50	<0.50	130,000	21,000	6,000	7.8	7.85	2.5	4.1	<0.04	1.96
AVJ01P26	0.89	7	8.5	28	<0.50	<0.50	<0.50	NR	NR	NR	7.76	7.78	4.26	8.6	0.17	3.87
AVJ01P26	<0.50	5.3	5.1	21	<0.50	<0.50	<0.50	160,000	38,000	11,000	5.83	7.55	2.36	4.4	0.14	4.33
AVJ01P26	<0.50	4.3	7.8	11	<0.50	<0.50	<0.50	25,000	6,000	22,000	7.15	8	40.4	3.6	0.11	1.98
AVJ01P26	0.66	3.2	6.7	14	<0.50	<0.50	<0.50	28,000	3,100	760	9.51	8.07	3.91	5.4	0.05	2.79
AVJ01P26	<0.50	3.9	6.3	23	<0.50	1.2	<0.50	57,000	3,000	3,600	6.45	8.03	3.31	5.6	0.07	3.26
AVJ01P26	<0.50	4.1	3.6	17	<0.50	<0.50	<0.50	150,000	11,000	11,000	6.59	8.07	6.06	6.7	0.1	3.3
AVJ01P26	<0.50	3	4.3	25	<0.50	<0.50	<0.50	>24,000	220	2,500	8.48	7.95	3.25	5.3	0.23	1.67
AVJ01P26	0.54	3.4	23	15	<0.50	<0.50	<0.50	44,000	7,100	14,700	8.85	8.01	3.02	4.1	0.11	1.82
AVJ01P26	<0.50	4.6	4.4	12	<0.50	<0.50	<0.50	>45,000	10,000	30,000	11.45	7.87	4.36	5.9	0.1	2.7
AVJ01P26	0.57	4.9	3.3	16	<0.50	<0.50	<0.50	56,000	4,100	10,800	8.55	8.03	3.09	11.3	0.1	3.67
AVJ01P27	<8.00	8.5	7.4	55	<2.00	1.8	<2.00				10.67	7.85	23.7	7.6	0.3	4.03
AVJ01P27	<8.00	6.2	14	50	<2.00	1.8	<2.00	89,000	67,000	36,000	8.55	8.08	12.4	6	0.1	3.15
AVJ01P27	<8.00	6	7.7	46	<2.00	1.5	<2.00	88,000	31,000	71,000	7.38	6.97	7.72	8.5	0.15	3.14

AVJ01P27	<8.00	6.9	8.5	44	<2.00	1.5	<2.00	107,000	48,000	8,600	8.65	7.68	14.3	1.5	0.12	0.58
AVJ01P27	<8.00	7	10	130	<2.00	1.5	<2.00	80,000	31,000	33,000	4.73	7.66	11.5	1.9	3.34	2.5
AVJ01P27	<40.00	<20.00	27	91	<10.00	<5.00	<10.00	147,000	104,000	128,000	7.6	7.7	10.8	0.6		<0.06
AVJ01P27	<8.00	19	40	130	<2.00	2.1	<2.00	>200,000	>200,000	50,000	6.88	7.55	11.2	5.6		2.12
AVJ01P27	<8.00	5.2	7.9	47	<2.00	<1.00	<2.00	54,000	44,000	31,000	6.94	7.51	18.7	8.8		3.87
AVJ01P27	<8.00	29	39	130	<2.00	1.5	5.3	53,000	36,000	12,600	12.2	7.5	10.6	5.1		1.31
AVJ01P27	<8.00	28	38	74	<2.00	<1.00	<2.00	148,000	69,000	13,200	7.05	8.27	7.03	5.8	<0.05	2.34
AVJ01P27	2	18	5.6	18	<0.50	1.8	<0.50	350,000	9,000	23,000	5.9	7.9	3.77	6.6	0.2	1.78
AVJ01P27	1.1	11	6	24	<0.50	0.83	<0.50	430,000	>120,000	13,000	8	7.27	4.22	6.2	0.06	2.22
AVJ01P27	2.2	15	16	42	<0.50	2.3	2.8	410,000	120,000	59,000	7.3	7.43	18.9	5.1	0.06	5.3
AVJ01P27	0.94	9.2	4.7	21	<0.50	0.72	<0.50	250,000	58,000	22,000	7.89	7.6	4.33	7.9	<0.05	2.75
AVJ01P27	<0.50	8.5	3.4	23	<0.50	0.77	<0.50	120,000	82,000	20,000	6.68	7.72	3.5	8.2	<0.05	4.27
AVJ01P27	1.6	13	7.1	26	<0.50	1.2	<0.50	73,000	47,000	4,600	9.42	7.61	3.15	7.2	0.06	2.44
AVJ01P27	0.65	8.4	7.6	27	<0.50	0.82	<0.50	150,000	600	6,800	9.1	7.7	5.48	4.8	0.15	2.36
AVJ01P27	0.63	11	4.9	32	<0.50	0.86	<0.50	160,000	70,000	28,000	6.89	7.47	4.47	6.8	0.13	3.85
AVJ01P27	0.97	8.9	5.5	46	<0.50	0.71	<0.50	46,000	11,000	7,000	6.88	7.49	7.25	7.4	0.12	7.55
AVJ01P27	<0.50	5.7	2.6	10	<0.50	<0.50	<0.50	60,000	27,000	19,000	0	7.94	19.6	5.7	0.35	3.04
AVJ01P27	1	8.1	7.1	26	<0.50	1.5	<0.50	86,000	32,000	6,700	8.63	7.62	16.1	8.6	0.08	4.81
AVJ01P27	0.9	6	5.5	19	<0.50	0.84	<0.50	64,000	3,200	1,000	8.15	7.91	6.64	7.6	0.07	3.49
AVJ01P27	0.85	7.2	6.3	51	<0.50	0.87	<0.50	730,000	120,000	230,000	6.03	7.78	15.4	4.9	0.75	3.29
AVJ01P27	0.5	4.1	1.9	4.6	<0.50	<0.50	<0.50	34,000	5,800	5,500	6.17	7.79	7.1	3.5	0.05	1.78
AVJ01P27	<0.50	4.6	1.8	5.7	<0.50	<0.50	<0.50	190,000	7,600	7,000	0	8.25	5.35	4	0.05	2.39
AVJ01P27	1.1	7.3	3.5	15	<0.50	0.87	<0.50	90,000	20,000	10,700	9.61	7.76	4.79	7.2	1.05	2.17
AVJ01P27	1.1	11	5.4	20	<0.50	1.1	<0.50	>96,000	5,200	6,800	8.16	7.91	4.77	11.5	0.1	3.15
AVJ01P27	0.71	7.4	2.9	16	<0.50	0.56	<0.50	>84,000	11,000	29,000	6.09	7.89	5.25	7.9	0.1	2.78
AVJ01P27	0.87	8.8	3.1	8.4	<0.50	0.51	<0.50	>50,000	9,000	7,400	5.36	7.51	4.24	6.1	0.12	3.03
AVJ01P27	0.73	6.9	3	8.2	<0.50	<0.50	<0.50	70,000	3,800	9,100	5.94	7.85	7.92	7.8	0.1	2.18
AVJ01P27	0.72	7.4	4.7	16	<0.50	0.69	<0.50	72,000	6,800	16,700	8.63	7.76	5.53	8	0.1	3.92
AVJ01P27											8.66	7.71	6.33	11.7	0.1	4.03
AVJ01P28	<8.00	9.1	9.8	79	<2.00	<1.00	<2.00				5.14	7.89	22.3	4.6	0.6	3.54
AVJ01P28	<8.00	7.7	19	78	<2.00	<1.00	<2.00	83,000	26,000	6,600	7.22	7.97	7.98	6.5	0.5	4.3

AVJ01P28	<8.00	6.8	8.8	44	<2.00	<1.00	<2.00	94,000	44,000	52,000	8.1	7.11	9.69	8.4	0.35	3.81
AVJ01P28	<8.00	9.5	13	54	<2.00	<1.00	<2.00	119,000	31,000	23,000	10.7	7.89	24.2	2	0.26	0.87
AVJ01P28	<8.00	7.8	9.5	49	<2.00	<1.00	<2.00	101,000	33,000	26,000	4.76	7.98	15.3	2.2	0.5	1.12
AVJ01P28																
AVJ01P28	<8.00	11	12	140	<2.00	<1.00	<2.00	181,000	104,000	48,000	3.06	7.37		5.8	0.65	3.29
AVJ01P28	<8.00	8.9	10	95	<2.00	<1.00	<2.00	>200,000	>200,000	36,000	3.95	7.56	11.1	5.4	0.4	5.34
AVJ01P28																
AVJ01P28	<8.00	10	6.5	55	<2.00	<1.00	<2.00	<200,000	76,000	<200,000	8.63	7.78	20.7	7.4	0.07	5.16
AVJ01P28	<8.00	23	58	98	<2.00	<1.00	<2.00	<200,000	<200,000	44,000	7.05	8.15	67.6	6	0.2	3.44
AVJ01P28	<8.00	9.9	17	52	<2.00	<1.00	<2.00	<200,000	<200,000	54,000	5.09	8.32	27	7.3	0.26	4.84
AVJ01P28	0.52	9.1	11	34	<0.50	0.59	<0.50	>1,200,000	>120,000	15,000	4.58	7.6	4.8	5.4	1	4.91
AVJ01P28	<0.50	11	25	34	<0.50	<0.50	<0.50	840,000	>120,000	8,000	4.51	7.19	5.4	6.3	0.1	4.07
AVJ01P28	0.57	15	6.7	30	<0.50	3.1	0.92	660,000	60,000	13,000	4.91	7.49	5.54	6.6	0.06	4.92
AVJ01P28	<0.50	8.8	6.2	24	<0.50	<0.50	<0.50	>120,000	330,000	29,000	3.62	7.52	8.71	7.2	0.17	5.73
AVJ01P28	<0.50	9.3	8	50	<0.50	0.64	<0.50	770,000	260,000	250,000	7.03	7.75	18.1	8.4	0.12	4.5
AVJ01P28	0.59	13	9.8	47	<0.50	0.83	<0.50	1,010,000	530,000	3,800	4.61	7.63	9.01	5.6	0.4	4.98
AVJ01P28	<0.50	13	8.8	45	<0.50	0.83	<0.50	1,300,000	10,000	19,000	3.55	7.5	9.76	7.2	0.4	5.6
AVJ01P28	0.92	13	9.9	56	<0.50	0.67	<0.50	1,040,000	330,000	63,000	5.6	7.45	12.9	7.8	0.13	7.75
AVJ01P28	0.71	9.2	8.9	39	<0.50	0.57	<0.50	>1,200,000	290,000	8,000	3.13	7.6	10.2	4.8	0.17	5.36
AVJ01P28	<0.50	9	7.7	26	<0.50	0.86	<0.50	770,000	76,000	15,000	0	7.72	9.8	8.9	0.25	5.03
AVJ01P28	<0.50	8.8	11	44	<0.50	0.71	<0.50	530,000	21,000	8,200	5.9	7.62	14.5	9.3	0.45	6.58
AVJ01P28	1.5	11	16	34	<0.50	0.98	<0.50	320,000	11,000	1,700	8.35	7.97	5.96	10.8	3.6	4.26
AVJ01P28	0.51	14	8.6	27	<0.50	1	<0.50	800,000	30,000	16,000	8.01	7.98	11.9	9.2	0.45	3.19
AVJ01P28	<0.50	6.8	4.1	17	<0.50	<0.50	<0.50	310,000	7,000	2,500	7.19	7.87	23.1	7.4	0.15	3.89
AVJ01P28	<0.50	8.1	4.8	20	<0.50	<0.50	<0.50	910,000	38,000	6,000	0	7.87	63.3	9.4	0.3	4.2
AVJ01P28	1.1	11	22	22	<0.50	<0.50	<0.50	2,700,000	23,000	5,800	9.39	8.03	3.86	10.1	0.4	2.19
AVJ01P28	0.84	12	7.9	31	<0.50	0.72	<0.50	280,000	19,000	10,500	8.59	7.78	29.3	7.6	0.42	4.31
AVJ01P28	<0.50	8	5.9	18	<0.50	<0.50	<0.50	930,000	37,000	2,800	8.21	7.97	2.09	6.9	0.1	2.82
AVJ01P28	<0.50	2.7	2.1	7.6	<0.50	<0.50	<0.50	1,230,000	34,000	3,400	8.28	7.82	9.43	2.1	0.22	1.13
AVJ01P28	<0.50	7.8	5.1	20	<0.50	<0.50	<0.50	1,000,000	27,000	6,200	8.59	7.85	7.45	10	0.25	3.85
AVJ01P28								180,000	20,000	5,200	7.25	7.75	18.7	10	0.21	5.8
AVJ01P28											8	7.86	11.5	8.2	0.17	3.98

AVJ01P33	<8.00	6.1	3	15	<2.00	<1.00	<2.00	11,000	3,000	6,100	10.3	7.97	1.49	2.4	<0.05	2
AVJ01P33	<8.00	14	11	39	<2.00	1.5	<2.00	151,000	71,000	72,000	7.17	7.48	260	4.4	<0.05	9.84
AVJ01P33	<8.00	4.2	3.3	17	<2.00	<1.00	<2.00	37,000	14,600	9,700	8.65	7.33	1.81	3.8	<0.05	1.86
AVJ01P33	<8.00	9.1	6.8	69	<2.00	<1.00	<2.00	7,900	1,240	1,630	10.2	7.7	7.34	2.6		1.97
AVJ01P33	<8.00	9.2	15	160	<2.00	<1.00	2.4	199,000	177,000	29,000	8.22	8.38	17.2	8.3	1.4	2.59
AVJ01P33	<8.00	11	8	27	<2.00	<1.00	<2.00	86,000	67,000	123,000	10.23	8.47	1.85	2.3		2.17
AVJ01P33	<0.50	9.4	2.3	10	<0.50	<0.50	<0.50	43,000	3,800	7,000	9.34	7.84	4.75	3.8	0.08	1.91
AVJ01P33	1.7	6.3	15	8.9	<0.50	<0.50	<0.50	110,000	12,000	38,000	8.82	8.34	3.39	2.3	<0.05	2.53
AVJ01P33	<0.50	12	1.2	7.2	<0.50	<0.50	<0.50	19,000	4,300	600	9.36	8.24	0.7	3.3	<0.02	1.77
AVJ01P33	0.65	20	10	52	<0.50	1.2	<0.50	NR	NR	NR	8.65	7.89	6.01	10.3	0.1	13.35
AVJ01P33	<0.50	15	12	21	<0.50	1.1	<0.50	210,000	88,000	29,000	7.46	7.81	376	6.5	0.08	5.16
AVJ01P33	1.1	16	1.7	6.4	<0.50	0.92	<0.50	210,000	5,000	7,000	8.64	8.07	0.79	5.9	0.1	1.43
AVJ01P33	0.95	6.3	4.3	4.4	<0.50	<0.50	<0.50	2,200	400	4,300	10.19	8.3	2.7	4.9	0.07	1.48
AVJ01P33	0.64	14	2.3	6.8	<0.50	0.81	<0.50	33,000	2,700	6,500	7.32	8.21	1.01	5.4	0.05	1.93
AVJ01P33	<0.50	11	1.6	3.3	<0.50	<0.50	<0.50	12,000	1,700	900	8.64	8.19	0.47	5.6	0.05	1.59
AVJ01P33	0.58	4.8	3.5	12	<0.50	<0.50	<0.50	>4,800	160	1,000	10.02	8.16	3.76	3.9	0.1	1.42
AVJ01P33	1	7.5	2.4	11	<0.50	<0.50	<0.50	26,000	700	2,500	11.67	8.09	0.47	4	0.1	1.39
AVJ01P33	0.51	9.2	6	24	<0.50	3	<0.50	>135,000	36,000	7,400	11.04	7.66	2.48	4.7	0.1	6.15
AVJ01P33	0.68	5.8	3.8	7.1	<0.50	<0.50	<0.50	47,000	320	1,170	9.86	8.13	4.23	5.9	0.1	2.17
AVJ02P05	<8.00	6.2	50	120	<2.00	<1.00	3.4	17,650	6,850	20,600	9.21	8.17	3.35	2.1	0.15	0.96
AVJ02P05	<8.00	5.6	11	42	<2.00	<1.00	<2.00	82,000	17,000	33,000	9.2	7.57	15.7	9.1	<0.05	4.2
AVJ02P05	<8.00	<4.00	22	21	<2.00	<1.00	<2.00	92,000	31,000	38,000	9.22	7.54	9.45	4.2	0.65	1.17
AVJ02P05	<8.00	9.9	13	53	<2.00	<1.00	<2.00	38,000	15,800	12,800	9.18	8.23	2.49	7.2	<0.05	1.64
AVJ02P05	<8.00	8.8	14	67	<2.00	1	<2.00	>200,000	124,000	166,000	8.52	8.2	28.2	7.8	0.2	3.75
AVJ02P05	<8.00	12	8.6	40	<2.00	<1.00	<2.00	<200,000	<200,000	164,000	9.02	7.92	6.46	10.6	0.08	4.82
AVJ02P05	1	9.7	9.4	41	<0.50	<0.50	<0.50	50,000	9,000	9,000	9.8	7.85	1.25	4.4	0.06	0.61
AVJ02P05	0.65	8.8	9.1	32	<0.50	<0.50	<0.50	280,000	60,000	11,000	8.8	7.99	4.93	7.8	0.08	3.3
AVJ02P05	1.1	8.5	9	38	<0.50	<0.50	<0.50	22,000	20,000	6,300	8.9	7.9	0.9	5.5	<0.05	0.94
AVJ02P05	0.7	10	6.8	33	<0.50	<0.50	<0.50	NR	NR	NR	9.75	8.06	1.28	5.1	<0.05	0.95
AVJ02P05	0.6	6.3	9.1	29	<0.50	<0.50	<0.50	41,000	7,300	6,600	9.14	8.06	1.28	3.7	<0.05	3.06

AVJ02P05	1.3	3.4	5.9	29	<0.50	<0.50	<0.50	34,000	15,000	6,000	0	7.71	1.34	6.7	<0.01	1.04
AVJ02P05	1.1	8.7	9.4	96	<0.50	1.8	<0.50	9,300	1,300	11,000	9.66	8.04	3.44	7	0.05	3.59
AVJ02P05	1.5	5.8	9.6	36	<0.50	<0.50	<0.50	26,000	4,000	500	6.67	8.09	173	8.4	0.1	2.31
AVJ02P05	0.84	6.9	5.2	19	<0.50	1.2	<0.50	200,000	410,000	48,000	9.07	8.06	5.42	9.7	0.05	3.62
AVJ02P05	0.99	5.7	3.4	30	<0.50	<0.50	<0.50	>2,600	40	160	9.44	8.22	1.41	5.2	0.11	0.99
AVJ02P05	1.4	7.8	7.6	31	<0.50	0.57	<0.50	20,000	340	1,190	11.7	8.25	3.52	10	0.21	1.92
AVJ02P05	1.3	6.4	4.4	9.8	<0.50	0.84	<0.50	>43,000	430	6,200	12.63	7.68	33.8	10.8	0.22	2.03
AVJ02P05	1	5.7	14	28	<0.50	0.63	<0.50	47,000	4,100	15,000	9.87	8.07	6.34	5.1	0.1	0.9
COL02P50	<8.00	<4.00	2.8	55	<2.00	<1.00	<2.00	4,350	3,100	2,400	8.86	7.91	2.66	0.9	<0.05	2.24
COL02P50	<8.00	<4.00	<2.00	18	<2.00	<1.00	<2.00	620	130	280	6.92	7.5	2.24	1.1	<0.05	2.22
COL02P50	<8.00	<4.00	4.8	27	<2.00	<1.00	<2.00	1,490	130	870	6.93	7.07	7.38	1.2	<0.05	2.54
COL02P50	<8.00	5	<2.00	71	<2.00	<1.00	<2.00	530	380	590	8.84	7.55	1.02	1.1	0.13	1.48
COL02P50	<8.00	280	8.9	120	<2.00	88	<2.00	16,400	6,300	11,100	8.5	7.82	10.6	4	0.1	1.24
COL02P50																
COL02P50	<8.00	8.4	<2.00	38	<2.00	<1.00	<2.00	6,300	4,200	3,100	8.91	7.31	0.89	1.1		2.76
COL02P50	<0.50	12	0.97	6.6	<0.50	<0.50	<0.50	6,000	40	50	9.1	7.16	0.45	1.5	<0.05	0.89
COL02P50	<0.50	7.9	0.54	4.8	<0.50	<0.50	<0.50	4,500	20	90	8.39	7.31	0.63	1.9	<0.05	1.76
COL02P50	<0.50	7.5	0.59	4.7	<0.50	<0.50	<0.50	30	20	<10	8.87	7.27	0.4	1.2	<0.05	1.27
COL02P50	<0.50	12	0.8	7.4	<0.50	<0.50	<0.50	3,000	210	80	8.8	7.48	0.67	2.3	0.08	1.6
COL02P50	<0.50	11	<0.50	5.6	<0.50	<0.50	<0.50	190	60	140	10.14	7.19	1.51	1.4	0.1	2.55
COL02P50	<0.50	7.1	1.1	5.8	<0.50	<0.50	<0.50	8,000	600	400	8.52	7.7	0.78	1	0.13	1.48
COL02P50	<0.50	5.8	0.76	12	<0.50	<0.50	<0.50	280	10	<10	9.18	7.54	1.41	1.1	0.05	1.32
COL02P50	<0.50	5.7	1.2	8.6	<0.50	<0.50	<0.50	570	<10	200	8.3	7.67	1.01	1.4	0.05	1.39
COL02P50	<0.50	6	1	6.8	<0.50	<0.50	<0.50	2,300	200	500	8.23	7.65	0.78	1.3	0.05	1.61
COL02P50	<0.50	9.6	3.9	15	<0.50	0.83	<0.50	33,000	50	2,300	8.22	7.41	3.21	3.8	0.1	1.56
COL02P50	<0.50	7.1	2.2	8	<0.50	0.6	<0.50	>6,300	>380	840	9.22	8.04	0.92	2.5	0.12	1.3
COL02P50	<0.50	7.8	1.6	7	<0.50	<0.50	<0.50	>6,600	640	690	7.11	7.75	1.36	3.6	0.1	1.29
COL02P50	<0.50	5.7	1.9	9.2	<0.50	<0.50	<0.50	6,900	60	140	9.1	7.47	1.25	2.5	0.1	1.01
COL02P50											9.73	7.47	0.86	2.4	0.1	1.33
COL02P55	<8.00	61	4.1	33	<2.00	16	<2.00	27,000	18,000	13,000	7.38	8.09	3.98	1.7	<0.05	0.86

COL02P55	<8.00	230	5.9	75	<2.00	75	<2.00	18,700	3,600	5,800	6.86	8.2	8.05	5.2	<0.05	1.15
COL02P55	<8.00	290	4.3	87	<2.00	110	<2.00	6,800	4,100	5,400	7.52	7.42	4.92	6	<0.05	0.4
COL02P55	<8.00	210	5.2	120	<2.00	68	<2.00	16,800	3,900	10,400	9.59	7.95	15.9	3.9	<0.05	2.13
COL02P55	<8.00	6.6	3.2	35	<2.00	<1.00	<2.00	1,140	630	620	8.36	7.6	0.91	0.5	0.08	1.43
COL02P55																
COL02P55	0.61	210	4.8	73	<0.50	49	<0.50	470,000	43,000	113,000	6.83	7.65	15.6	3.8	0.12	1.84
COL02P55	<0.50	75	3.9	18	<0.50	18	<0.50	440,000	200,000	28,000	8.19	7.63	13.6	4	<0.05	2.01
COL02P55	<0.50	61	3.7	22	<0.50	12	<0.50	180,000	80,000	37,000	8.4	7.27	18.8	4.1	0.06	2.62
COL02P55	0.96	220	8.9	66	<0.50	61	<0.50	550,000	110,000	9,000	8.55	7.85	8.43	6.5	0.1	1.99
COL02P55	<0.50	88	6.5	39	<0.50	11	<0.50	640,000	26,000	47,000	6	7.5	8.57	4.6	0.18	2.74
COL02P55	0.63	71	5.1	30	<0.50	5.2	<0.50	67,000	27,000	16,000	7	7.8	5.46	4.5	0.18	2.43
COL02P55	0.51	140	8.1	59	<0.50	34	<0.50	260,000	16,000	11,000	6.24	7.62	7.73	3.8	0.14	1.6
COL02P55	<0.50	100	5.6	35	<0.50	13	<0.50	63,000	28,000	7,200	6.65	7.92	18.9	6.6	0.11	1.94
COL02P55	<0.50	69	4.5	24	<0.50	3.6	<0.50	80,000	30,000	26,000	6.01	8	12.2	4.2	0.05	2.28
COL02P55	<0.50	65	7.8	34	<0.50	4.6	<0.50	>143,000	3,000	23,000	7.2	7.57	14.2	5.1	0.12	2.7
COL02P55	<0.50	93	5	36	<0.50	8.6	<0.50	>86,000	2,100	10,700	6.62	8.04	5.16	5.3	0.12	0.91
COL02P55	<0.50	71	4.5	37	<0.50	3.9	<0.50	370,000	22,000	54,000	4.88	7.73	17.2	6.6	0.23	1.72
COL02P55	<0.50	100	4.8	53	<0.50	6.2	<0.50	76,000	>2,100	5,600	5.52	7.66	7.53	7.9	0.24	0.9
COL02P55											8.78	7.78	19.5	3.9	0.1	0.94
DPK01P04								>200,000	>200,000	35,000	9	7.93	6.91	3.3		0.95
DPK01P04	<8.00	98	7.4	58	<2.00	4.7	<2.00	86,000	16,000	89,000	9.01	7.85	6.57	3.2	0.1	1.65
DPK01P04	<0.50	100	45	35	<0.50	9.3	<0.50	240,000	74,000	11,600	5.91	7.96	8.74	3.5	0.07	1.43
DPK01P04	0.57	79	7.5	28	<0.50	4.5	<0.50	22,000	3,200	3,200	9.04	7.8	19.7	5.1	0.1	1.87
DPK01P04	<0.50	82	5.1	29	<0.50	3.7	<0.50	100,000	19,000	17,000	8.71	7.89	4.79	3.8	0.12	1.85
DPK01P04	3.8	59	7.2	45	<0.50	5.1	<0.50	420,000	690	5,000	8.43	7.83	4.74	24.3	0.11	3.06
DPK01P04	<0.50	93	8.6	32	<0.50	7.1	<0.50	1,200	270	150	9.47	7.53	4.24	3.8	0.14	3.12
DPK01P04	<0.50	90	9.1	26	<0.50	8.9	<0.50	30,000	6,900	9,000	8.45	7.79	6.2	4.2	0.08	1.65
DPK01P04	<0.50	140	5	130	<0.50	12	<0.50	34,000	14,000	5,800	9.39	7.92	5.55	3.4	0.12	1.45
DPK01P04	<0.50	88	9.1	36	<0.50	6.6	<0.50	49,000	11,000	17,000	8.89	7.89	3.47	3.5	0.1	1.76
DPK01P04	0.56	72	6.7	38	<0.50	3.3	<0.50	720,000	28,000	58,000	8.68	7.93	15.3	3.7	0.15	2.03
DPK01P04	0.5	86	7.5	33	<0.50	8.6	<0.50	>22,000	3,300	6,300	8.63	7.85	17.8	3.9	0.12	2.15

DPK01P04	<0.50	93	5.7	20	<0.50	1.4	<0.50	>28,000	1,800	3,300	9.66	8.21	5.2	4.1	0.1	1.06
DPK01P04	<0.50	83	4.6	15	<0.50	1.2	<0.50	86,000	7,400	20,000	8.24	7.94	7.69	4.5	0.1	0.93
DPK01P04											10.23	7.87	4.82	4.1	0.1	1.46
DPL01S02	<8.00	180	4.6	90	<2.00	13	<2.00	69,000	18,000	8,100	7.87	7.8	3.63	4.1	0.33	0.49
DPL01S02	<8.00	170	3	66	<2.00	20	<2.00	21,000	16,000	28,000	11.17	7.27	6.9	2.1	<0.05	<0.06
DPL01S02	<8.00	140	5	71	<2.00	6.5	<2.00	126,000	57,000	8,600	8.97	7.48	4.46	4.3	<0.05	0.24
DPL01S02	<8.00	140	4.7	63	<2.00	5.3	<2.00	46,000	23,000	33,000	4.59	7.58	3.74	1.5	0.18	0.08
DPL01S02	<8.00	170	3.2	100	<2.00	13	<2.00	73,000	22,000	47,000	9.02	7.55	3.63	4.1	0.3	0.29
DPL01S02	12	190	8.4	110	<2.00	12	4.5	10,600	6,300	4,300	13.36	7.75	2.32	4.7	0.08	0.34
DPL01S02	<8.00	150	5.5	92	<2.00	8.1	<2.00	28,000	20,000	12,400	8.08	7.77	2.94	3.8		0.44
DPL01S02	<8.00	160	10	56	<2.00	9.2	<2.00	2,900	2,200	810	11.34	7.66	2.82	4.7		0.28
DPL01S02	<8.00	250	3.7	68	<2.00	26	<2.00	4,600	3,300	4,100	14.7	7.8	2.1	5		0.4
DPL01S02	<8.00	220	2.9	88	<2.00	16	<2.00	76,000	44,000	66,000	13.1	7.9	2.7	5.4	0.1	0.45
DPL01S02	0.66	400	3.8	200	<0.50	48	<0.50	49,000	5,200	1,900	8.6	7.96	1.73	8	0.25	0.33
DPL01S02	0.71	510	6.4	220	<0.50	54	<0.50	120,000	20,000	1,400	8.54	8.27	2.26	9.9	0.09	0.39
DPL01S02	1.1	460	21	230	<0.50	54	<0.50	25,000	5,000	3,200	8.05	7.59	1.36	10.5	0.06	0.37
DPL01S02	0.74	410	4.2	160	<0.50	43	<0.50	33,000	17,000	2,600	8.47	7.75	1.88	9.4	0.1	0.31
DPL01S02	1.1	480	5.6	150	<0.50	34	<0.50	190,000	74,000	7,400	8.59	7.79	2	10.1	0.1	0.24
DPL01S02	0.64	470	4.4	210	<0.50	57	<0.50	3,200	1,190	560	10.27	7.66	1.06	9	0.07	0.27
DPL01S02	0.53	340	4.5	140	<0.50	34	<0.50	33,000	10,000	9,200	8.6	7.83	3.81	7.8	0.2	0.55
DPL01S02	0.75	260	3.9	84	<0.50	23	<0.50	32,000	40	2,300	7.98	7.9	1.46	6.3	0.07	0.45
DPL01S02	0.55	230	4.4	62	<0.50	19	<0.50	33,000	4,200	3,400	9.24	7.49	0.99	7.6	0.07	0.4
DPL01S02	0.66	360	6.7	110	<0.50	35	<0.50	>1,200,000	210,000	48,000	8.81	7.61	2.24	10.3	0.13	0.39
DPL01S02	0.73	300	4.4	140	<0.50	37	<0.50	77,000	5,500	600	9	7.87	1.38	8.8	0.15	0.51
DPL01S02	0.53	280	3.9	98	<0.50	33	<0.50	3,800	300	1,200	9.26	7.81	0.87	7.9	0.06	0.4
DPL01S02	0.51	230	3.1	71	<0.50	30	<0.50	7,500	500	1,400	8.89	7.42	1.33	7.2	0.1	0.32
DPL01S02	0.6	260	3	71	<0.50	35	<0.50	32,000	5,600	3,700	10.81	7.72	3.65	9.9	0.1	0.3
DPL01S02	0.62	320	3	98	<0.50	39	<0.50	42,000	5,200	1,900	8	7.81	1.17	11.1	0.05	0.42
DPL01S02	0.59	320	9.1	130	<0.50	40	<0.50	163,000	3,600	1,110	9.28	7.72	3.02	9.7	0.12	0.23
DPL01S02	0.56	340	3.4	140	<0.50	41	<0.50	36,000	490	860	6.63	8.03	2.77	8.8	0.1	0.3
DPL01S02	0.72	400	4.1	100	<0.50	14	<0.50	49,000	5,300	8,500	7.74	7.85	2.02	8.1	0.09	0.17

DPL01S02	<1.00	250	3	55	<1.00	5.7	<1.00	136,000	3,100	3,500	8.45	8.09	3	7.1	0.12	0.3
DPL01S02	0.52	210	3.7	60	<0.50	11	<0.50	78,000	4,100	3,700	8.09	8.31	2.77	7.8	0.1	0.3
DPL01S02	<1.00	310	5	130	<1.00	24	<1.00	31,000	4,400	3,100	7.96	7.75	2.25	8	0.11	0.3
DPL01S02	0.54	260	5.4	93	<1.00	30	<1.00	>7,500	220	470	9.44	7.73	2.52	7.3	0.1	0.32
DPL01S03	<8.00	5	5	82	<2.00	<1.00	<2.00	61,000	14,300	1,130	11.38	8.02	2.63	7.8	0.15	0.66
DPL01S03	<8.00	8.1	7.1	23	<2.00	<1.00	<2.00	30,000	22,000	42,000	7.93	8.22	3.37	6.1	<0.05	0.62
DPL01S03	<8.00	4.5	9.4	38	<2.00	<1.00	<2.00	19,900	10,500	14,900	1.13	8.25	4.29	2.1	0.19	0.11
DPL01S03	<8.00	5.9	3.4	17	<2.00	<1.00	<2.00	44,000	14,400	14,200	9.87	8.3	4.46	8.6	0.07	0.24
DPL01S03	<8.00	9.9	7.9	35	<2.00	<1.00	2.9	1,590	860	460	7.6	8.1	0.56	8.5	0.1	0.42
DPL01S03	<8.00	11	6.5	31	<2.00	<1.00	<2.00	21,400	16,000	6,300	8.37	8.19	1.79	7.8	<0.05	0.45
DPL01S03	<8.00	11	6.7	20	<2.00	<1.00	<2.00	6,300	4,400	1,670	11.33	7.95	2.84	7.6	0.1	0.2
DPL01S03	<8.00	13	3.3	<10.00	<2.00	<1.00	<2.00	14,200	11,000	5,500	15.2	8.4	2.9	7		0.47
DPL01S03	<8.00	14	4.2	22	<2.00	<1.00	<2.00	46,000	38,000	9,950	15.9	8.55	1.41	7.1	0.2	0.4
DPL01S03	1.2	24	3.1	7.5	<0.50	<0.50	1.6	27,000	6,300	2,100	8.69	8.23	0.66	13.3	<0.05	0.55
DPL01S03	<0.50	29	3.8	4.9	<0.50	<0.50	<0.50	20,000	10,000	3,000	9.41	7.65	1.03	12.7	0.1	0.28
DPL01S03	<0.50	26	4	12	<0.50	<0.50	<0.50	22,000	9,000	3,000	9.46	7.95	2.83	12.1	<0.05	0.47
DPL01S03	<0.50	13	7.6	12	<0.50	<0.50	<0.50	19,000	14,000	5,400	8.52	8.18	4.06	12.1	0.3	0.48
DPL01S03																
DPL01S03	<0.50	13	6.5	2.3	<0.50	<0.50	<0.50	4,000	3,200	480	8.94	8.13	0.8	13.1	<0.05	0.25
DPL01S03	<0.50	23	3.1	7.4	<0.50	<0.50	<0.50	8,400	5,300	560	9.4	8.07	3.53	11.4	<0.05	0.28
DPL01S03	<0.50	15	4.3	5	<0.50	<0.50	<0.50	8,600	6,000	2,300	9.95	8.07	1.67	8.5	<0.05	0.35
DPL01S03	<0.50	19	4	4.4	<0.50	<0.50	<0.50	21,000	100	360	7.72	7.98	1.4	11.8	0.13	0.4
DPL01S03	<0.50	4.7	3.5	2	<0.50	<0.50	<0.50	9,000	7,200	1,400	9.2	7.86	1.22	12.9	0.07	0.46
DPL01S03	0.94	17	9.4	5.2	<0.50	<0.50	<0.50	13,000	10,300	5,300	9.65	7.98	0.93	5.9	<0.05	0.39
DPL01S03	<0.50	8.5	3.2	5.6	<0.50	<0.50	<0.50	8,600	3,500	2,700	9.22	8.17	1.24	12.6	0.06	0.59
DPL01S03	<0.50	5.8	3.8	4.1	<0.50	<0.50	<0.50	9,000	6,100	690	9.25	8.19	4.41	12	0.07	0.61
DPL01S03	<0.50	5	3.7	4	<0.50	<0.50	<0.50	38,000	6,300	1,300	8.52	7.93	6.85	11.1	0.08	0.46
DPL01S03	<0.50	16	4.8	7.5	<0.50	<0.50	<0.50	56,000	23,000	5,400	10.55	8.15	7.51	10.7	0.1	0.44
DPL01S03	<0.50	5.9	2.1	2.2	<0.50	<0.50	<0.50	20,000	12,000	4,300	7.1	8.06	2.76	11.3	0.05	0.22
DPL01S03	<0.50	8.6	6.6	8.1	<0.50	<0.50	<0.50	48,000	8,400	3,300	9.9	8.23	1.61	12.5	0.12	0.49
DPL01S03	<0.50	6.9	3.8	2.9	<0.50	<0.50	<0.50	29,000	4,400	4,400	8.36	8.21	0.69	10.4	0.1	0.3

DPL01S03	0.82	8.5	8.3	6.8	<0.50	<0.50	<0.50	22,000	3,900	2,200	8.7	8.26	1.23	9.4	0.16	0.49
DPL01S03	<1.00	8	4.3	4.3	<1.00	<1.00	<1.00	>930,000	22,000	3,200	9.8	8.19	0.81	10.4	0.33	0.2
DPL01S03	<0.50	4.7	4.3	5.6	<0.50	<0.50	<0.50	32,000	7,000	4,900	9	8.12	3.02	14.3	0.1	0.59
DPL01S03	<0.50	4.3	6.1	6.6	<0.50	<0.50	<1.00	21,000	3,600	740	10.36	8.2	3.76	18.3	0.1	0.32
DPL01S03	<0.50	3.8	7.4	8.2	<0.50	<0.50	<1.00	5,200	350	220	11.73	8.08	2.88	8.3	0.1	0.38
DPL01SCWD	<0.50	130	5.1	28	<0.50	9.8	<0.50	550,000	>120,000	58,000	5.59	7.14	3.14	4.8	0.15	1.33
DPL01SCWD	<0.50	97	3.8	13	<0.50	12	<0.50	42,000	13,000	1,500	5.24	7.27	2.25	2.2	<0.05	0.93
DPL01SCWD	0.64	47	5.8	10	<0.50	3.7	<0.50	2,500	2,100	560	16.96	9.42	3.33	0.9	<0.05	0.08
DPL01SCWD	<0.50	59	6.5	8	<0.50	3.8	<0.50	22,000	9,000	2,700	7.8	7.79	6.46	4.6	0.06	2.73
DPL01SCWD	<0.50	63	4.9	13	<0.50	6.4	<0.50	260,000	113,000	7,200	6.3	8.31	3.6	2.8	<0.05	0.99
DPL01SCWD	0.53	230	4.4	39	<0.50	24	<0.50	25,000	14,000	450	6.75	7.55	2.18	3.7	0.07	0.6
DPL01SCWD	16	130	6.6	22	<0.50	16	<0.50	25,000	40	1,000	4.8	7.59	3.15	5.1	<0.05	0.94
DPL01SCWD	0.83	64	6.6	16	<0.50	5.6	<0.50	360,000	4,200	1,500	14.31	8.42	3.31	1.8	0.17	1.04
DPL01SCWD	<0.50	57	4.5	14	<0.50	2.7	<0.50	210,000	50,000	38,000		7.35	11.4	1.9	0.08	0.92
DPL01SCWD	<0.50	41	3.8	14	<0.50	2.6	<0.50	130,000	28,000	8,000	9.61	7.98	7.7	2.2	<0.05	0.85
DPL01SCWD	<0.50	96	4.4	25	<0.50	12	<0.50	29,000	2,700	3,600	3.03	7.93	2.01	3.9	1	0.69
DPL01SCWD	<0.50	87	3	20	<0.50	7.5	<0.50	31,000	1,200	3,100	7.85	7.85	2.76	2	0.07	0.95
DPL01SCWD	<0.50	85	3.1	17	<0.50	7.6	<0.50	160,000	6,100	16,000	0.2	7.87	1.92	2.8	0.06	1.62
DPL01SCWD	0.5	94	1.9	9.5	<0.50	1.6	<0.50	4,600	900	600	8.5	7.87	1.03	2.8	0.05	1.14
DPL01SCWD	<0.50	79	3.1	25	<0.50	6.8	<0.50	40,000	5,200	2,700	5.02	8	3.83	3.6	0.05	1.12
DPL01SCWD	<0.50	68	4.1	16	<0.50	6.5	<0.50	220,000	5,800	7,900	10.38	8.2	3.22	2.3	0.1	0.63
DPL01SCWD	0.56	89	4.5	24	<0.50	7.6	<0.50	89,000	8,000	5,600	13.23	8.18	4.39	2.6	0.22	0.84
DPL01SCWD	<0.50	76	5.2	12	<0.50	6.9	<0.50	>74,000	7,000	150	13.49	8.11	2.82	2.6	0.1	0.91
DPL01SCWD	<1.00	100	7.4	20	<0.50	8	<0.50	750,000	78,000	32,000	9.86	7.79	2.19	3.7	0.1	1.31
DPL01SCWD	<1.00	130	4.6	40	<1.00	20	<0.50	36,000	5,800	7,600	11.63	8.05	1.95	2.7	0.1	0.92
DPL01SCWD	<0.50	51	6.1	9.2	<0.50	3.6	<0.50	>183,000	>910	1,600	13.14	8.33	2.18	2	0.1	0.84
DPL01SCWD	<0.50	68	4.2	11	<0.50	8.1	<1.00	31,000	910	4,600	11.57	8.11	2.89	3.2	0.1	0.62
DPL01SCWD											9.81	8.07	1.41	2.3	0.1	0.76
DPM00P01	<8.00	130	12	79	<2.00	14	<2.00	14,000	12,400	11,400	9.46	7.71	56.5	3	0.17	2.74
DPM00P01	<8.00	160	14	84	<2.00	16	<2.00	12,200	2,350	6,100	9.53	7.76	10.2	3.1	<0.05	0.51

DPM00P01	<8.00	120	13	57	<2.00	14	<2.00	3,500	2,800	3,900	10.96	7.73	3.57	1.9	0.3	0.4
DPM00P01	<8.00	160	9.4	86	<2.00	15	<2.00	7,300	5,200	7,200	10.34	8.03	6.68	3	0.22	0.61
DPM00P01	<8.00	130	5.5	62	<2.00	12	<2.00	48,000	26,000	26,000	8.71	7.85	5.01	2.5	0.08	1.04
DPM00P01	<8.00	110	12	51	<2.00	9	<2.00	42,000	35,000	9,700	10.26	8.01	9.42	1.9		0.99
DPM00P01	<0.50	120	7.8	41	<0.50	11	<0.50	200,000	17,000	1,600	9.15	7.43	2.6	3.8	<0.05	0.62
DPM00P01	<0.50	110	5.3	31	<0.50	8.3	<0.50	12,100	6,000	1,300	9.35	7.82	3.61	6.1	<0.04	0.86
DPM00P01	<0.50	130	5.4	40	<0.50	13	<0.50	14,000	11,000	900	9.55	7.82	3.3	5.1	<0.05	0.64
DPM00P01	<0.50	130	6.7	42	<0.50	11	<0.50	110,000	2,200	6,000	10.51	7.8	11.3	3.6	0.2	0.84
DPM00P01	<0.50	100	6.7	34	<0.50	8.3	<0.50	50,000	2,300	7,000	9.24	7.67	5.41	4.5	0.12	0.82
DPM00P01	<0.50	120	6.8	34	<0.50	9.5	<0.50	21,000	9,300	9,100	9.5	7.86	5.26	3.2	0.06	0.7
DPM00P01	<0.50	100	7.7	41	<0.50	11	<0.50	3,600	1,100	1,400	9.41	7.94	204	3.8	0.07	0.92
DPM00P01	<0.50	140	5.3	50	<0.50	15	<0.50	53,000	4,400	9,400	7.17	7.78	13.6	5.1	0.08	1.11
DPM00P01	<0.50	79	5.1	29	<0.50	8.4	<0.50	380,000	89,000	>120,000	9.69	7.98	9.93	5	0.05	0.79
DPM00P01	<1.00	73	7.6	31	<0.50	5.2	<0.50	41,000	1,300	2,400	10.36	8.01	5.42	2.4	0.12	0.06
DPM00P01	<0.50	72	5.9	32	<1.00	6.8	<1.00	58,000	12,700	30,000	8.45	7.83	8.25	4.8	0.11	1.12
DPM00P01	<0.50	77	5.2	26	<0.50	6.1	<0.50	>85,000	17,000	24,000	20.19	7.77	7.37	3.1	0.18	0.59
DPM00P01											9.55	7.87	7.11	2.2	0.1	0.4
DPM00P05	<8.00	20	11	32	<2.00	<1.00	<2.00	1,700	265	2,500	23.65	9.01	3.14	0.3	0.14	0.21
DPM00P05	<8.00	15	8.7	51	<2.00	<1.00	<2.00	6,550	1,300	1,400	8.56	8.64	4.37	2.8	<0.05	0.44
DPM00P05	<8.00	10	9.3	13	<2.00	<1.00	<2.00	17,000	14,000	2,900		9.07	2.34	1.8	0.2	<0.06
DPM00P05																
DPM00P05	<8.00	18	3.7	42	<2.00	<1.00	<2.00	9,100	7,800	3,500	7.98	7.41	7.05	1.6	0.12	0.89
DPM00P05																
DPM00P05	<0.50	19	6.6	7.4	<0.50	<0.50	<0.50	17,000	600	1,600	16.82	8.22	1.67	1.6	0.09	0.29
DPM00P05	<0.50	21	6.1	8.1	<0.50	<0.50	<0.50	57,000	7,400	1,000	11.38	7.9	2.2	1.2	<0.03	0.39
DPM00P05	<0.50	19	2.7	7.4	<0.50	<0.50	<0.50	14,000	6,000	700	10.68	8.02	3.27	1.2	<0.05	0.59
DPM00P05	<0.50	25	4.9	11	<0.50	<0.50	<0.50	3,000	110	100	6.86	7.8	1.08	1.3	<0.05	0.27
DPM00P05	<0.50	20	3.8	5.4	<0.50	<0.50	<0.50	640	10	60	8.96	7.45	0.96	1	0.2	0.32
DPM00P05	<0.50	16	3.7	5.1	<0.50	<0.50	<0.50	6,300	3,700	1,800	9.74	7.8	0.56	1.4	0.14	0.29
DPM00P05	<0.50	12	11	5.1	<0.50	<0.50	<0.50	3,200	600	400	11.74	8.41	1.22	1.9	0.08	0.23
DPM00P05	<0.50	8.3	8.7	2.8	<0.50	<0.50	<0.50	6,000	<10	320	5.78	8.76	1.17	3.9	0.07	0.3

LFJ01P01	<0.50	8.4	3.7	8.1	<0.50	<0.50	<0.50	140,000	10,000	7,400	8.53	7.5	0.58	8.7	<0.05	1.07
LFJ01P01	<0.50	15	3.7	14	<0.50	<0.50	<0.50	23,000	11,000	2,200	8.34	7.44	0.84	10.3	0.1	1.2
LFJ01P01	<0.50	8.5	2.2	6.2	<0.50	<0.50	<0.50	57,000	22,000	9,800	7.31	7.8	1.18	11.5	<0.05	1.08
LFJ01P01	<0.50	7.6	1.6	5.3	<0.50	<0.50	<0.50	86,000	16,000	7,900	6.16	7.76	2	10.1	<0.05	1.29
LFJ01P01	1.2	12	22	65	<0.50	<0.50	<0.50	110,000	12,000	11,000	5.26	8.01	5.1	11.9	0.16	1.14
LFJ01P01	<0.50	13	3.8	13	<0.50	<0.50	<0.50	6,700	3,300	2,500	12.35	7.86	3.64	9.7	<0.05	0.98
LFJ01P01	<0.50	3.5	2.6	12	<0.50	<0.50	<0.50	30,000	13,000	2,700	8.5	7.89	0.9	9.8	<0.05	1.2
LFJ01P01	<0.50	11	3.2	15	<0.50	<0.50	<0.50	49,000	44,000	7,000	7.65	7.68	1.49	8.1	<0.05	1.19
LFJ01P01	<0.50	2.7	4	15	<0.50	<0.50	<0.50	53,000	25,000	7,700	8.84	7.73	1.23	8	<0.05	0.9
LFJ01P01	<0.50	4.2	4.2	9.1	<0.50	<0.50	<0.50	97,000	33,000	39,000	7.14	7.98	5.94	8.5	0.08	1.21
LFJ01P01	0.64	2.3	6.3	8.2	<0.50	<0.50	<0.50	24,000	3,200	3,700	8.13	7.99	2.09	9.5	0.05	1.33
LFJ01P01	<0.50	2.1	1.6	6.3	<0.50	<0.50	<0.50	49,000	10,000	10,800	6.9	7.91	1.16	9.2	0.05	1.31
LFJ01P01	0.64	2.5	2.5	10	<0.50	<0.50	<0.50	50,000	13,000	7,000	7.67	7.89	1.46	9.1	0.37	1.97
LFJ01P01	<0.50	2.9	2.1	2.9	<0.50	<0.50	<0.50	39,000	16,000	20,000	7.39	8.01	2.85	8.1	0.05	1.37
LFJ01P01	<0.50	2.4	1.1	5.6	<0.50	<0.50	<0.50	41,000	63,000	3,800	6.29	7.8	2.95	10	0.1	2.16
LFJ01P01	0.53	4.2	3.1	10	<0.50	<0.50	<0.50	>30,000	10,000	44,000	9.04	8.11	2.57	11.6	0.1	2.15
LFJ01P01	<0.50	3.2	4.8	6.3	<0.50	<0.50	<0.50	34,000	7,400	4,600	8.26	8.09	0.96	9.2	0.11	1.02
LFJ01P01	<0.50	4	1.4	6.4	<0.50	<0.50	<0.50	19,000	6,700	3,400	8.17	8.02	1.31	8.1	0.1	1.23
LFJ01P01	<0.50	4.2	2.1	5.1	<0.50	<0.50	<0.50	27,000	12,000	6,300	7.48	7.74	1.41	7.8	0.1	1.38
LFJ01P01	<0.50	2.1	0.95	3.5	<0.50	<0.50	<0.50	61,000	14,000	4,100	8.01	7.7	0.94	10.1	0.1	1.37
LFJ01P01	<0.50	2	3.1	7.7	<0.50	<0.50	<0.50	>9,400	6,700	3,600	8.84	8.02	1.74	9.1	0.1	1.42
LFJ01P01	<0.50	1.7	1.8	5.8	<0.50	<0.50	<0.50	23,000	420	1,900	8.64	7.97	3.5	9.4	0.1	1.84
LFJ01P05	<8.00	9.2	23	65	<2.00	<1.00	2				7.83	8.25	12.2	0.5	1.3	4.47
LFJ01P05	<8.00	7.2	7.9	57	<2.00	<1.00	<2.00	3,600	1,800	5,400	9.13	7.31	14.6	0.4	1.6	3.98
LFJ01P05	<8.00	5.1	8	39	<2.00	<1.00	<2.00	34,000	21,000	110	8.39	7.61	5.47	1.1	0.25	3.24
LFJ01P05	<8.00	9.6	12	64	<2.00	<1.00	<2.00	46,000	5,000	470	8.83	8.11	10.4	0.9	0.35	1.41
LFJ01P05	<8.00	<4.00	4.5	34	<2.00	<1.00	<2.00	7,800	810	880	3.07	8.23	4.24	3.1	0.18	1.83
LFJ01P05																
LFJ01P05	<8.00	8.7	13	72	<2.00	<1.00	2.1	7,900	6,200	2,500	8	8.3	14.8	2.9	0.5	2.62
LFJ01P05																
LFJ01P05	<8.00	6.3	8.8	44	<2.00	<1.00	<2.00	59,000	44,000	5,900	8.27	8.15	8.2	1.7	0.2	2.33

LFJ01P05																
LFJ01P05	0.58	9.6	11	42	<0.50	<0.50	0.51	220,000	32,000	6,600	9.25	7.51	7.43	1.6	0.15	2.01
LFJ01P05	<0.50	5.8	5.9	47	<0.50	<0.50	0.56	410,000	140,000	14,000	8.1	8.03	1.91	1.9	0.22	1.87
LFJ01P05	<0.50	2.8	5.1	27	<0.50	<0.50	1.5	62,000	18,000	560	7.8	8.31	9.4	2.4	<0.05	0.63
LFJ01P05	0.52	5.4	11	45	<0.50	<0.50	0.79	830,000	42,000	19,000	13.79	8.01	8.77	2.7	<0.05	3.89
LFJ01P05	<0.50	12	3.5	15	<0.50	<0.50	<0.50	67,000	16,000	4,100	9.09	8.32	2.95	2	0.15	0.47
LFJ01P05	<0.50	4.6	5.4	41	<0.50	<0.50	0.52	>1,200,000	520,000	12,000	8.07	8.11	3.72	0.8	0.1	0.64
LFJ01P05	1.9	16	44	180	<0.50	<0.50	1.3	60,000	50,000	3,000	7.86	7.81	83.2	2.1	2.72	1.48
LFJ01P05	1.3	4.6	18	24	<0.50	<0.50	<0.50	380,000	52,000	10,200	8.93	8.35	4.56	1.3	0.15	3.33
LFJ01P05	0.84	4.2	17	52	<0.50	<0.50	1.6	240,000	22,000	29,000	8.75	8.36	5.9	1.3	0.1	11.68
LFJ01P05	9.1	8.9	27	50	<0.50	<0.50	1.2	420,000	10,000	120,000	7.46	8.12	6.99	1.7	0.36	2.74
LFJ01P05	0.79	4.2	15	120	<0.50	<0.50	3.1	840,000	44,000	17,000	8.62	8.29	7.13	2	0.15	4.18
LFJ01P05	1.2	12	13	80	<0.50	<0.50	0.82	>1,200,000	81,000	23,000	8.46	8.08	13.9	1.8	0.05	3.95
LFJ01P05	0.55	5.4	8	38	<0.50	<0.50	<0.50	46,000	22,000	2,600	9.25	8.13	5.34	3	0.15	2.16
LFJ01P05	0.82	6.3	10	42	<0.50	<0.50	0.62	64,000	1,320	3,600	9.45	8.33	3.65	2	0.45	1.29
LFJ01P05	0.67	5.1	15	84	<0.50	<0.50	0.7	340,000	35,000	47,000	9.83	8.24	7.88	2	0.1	3.23
LFJ01P05	0.82	5.2	12	55	<0.50	<0.50	0.69	>640,000	41,000	14,400	9.26	8.15	8.02	2	0.1	1.84
LFJ01P05	1.1	8.8	21	220	<0.50	0.63	4	>10,000,000	82,000	540,000	8.64	7.96	7.63	2	0.35	6.58
LFJ01P05	<0.50	2.8	4	18	<0.50	<0.50	<0.50	780,000	29,000	26,000	8.93	7.48	4.45	4	0.25	1.81
LFJ01P05	0.62	2.8	9.7	27	<0.50	<0.50	<0.50	3,900,000	80,000	11,100	8.61	8.13	15	2.6	0.16	1.47
LFJ01P05	<0.50	3	8.7	40	<0.50	<0.50	<0.50	8,000	130	2,500	11.51	8.3	4.96	2	0.16	0.9
LFJ01P05@RR	<0.50	5.4	3.3	13	<0.50	<0.50	<0.50	2,100,000	14,000	28,000	9.71	8.17	9.06	2	6.5	0.85
LFJ01P05@RR	<0.50	5.8	10	32	<0.50	<0.50	2	320,000	3,100	13,000	9.64	8.23	3.76	2	6	1.55
LFJ01P05@RR	<0.50	2.6	3.1	15	<0.50	<0.50	<0.50	>7,300	2,500	2,600	8.95	8.63	9.74	2	0.33	0.5
LFJ01P05@RR																
LFJ01P05@RR																
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LFJ01P05@RR																
LFJ01P08	<8.00	8.6	15	78	<2.00	3.3	<2.00	39,000	16,000	36,750	7.7	8.1	5.68	2.6	0.15	5.42

LFJ01P08	<8.00	6.2	8.9	29	<2.00	2.9	<2.00	38,000	16,000	55,000	6.3	6.65	3.1	2	0.1	1.29
LFJ01P08	<8.00	6.2	6.7	30	<2.00	3.3	<2.00	88,000	14,000	1,540	8.89	7.43	3.81	1.9	<0.05	1.83
LFJ01P08	<8.00	4	6.8	44	<2.00	2.3	<2.00	NR	NR	NR	8.88	8	3.18	2	0.43	1.49
LFJ01P08	<8.00	5.4	8.2	29	<2.00	1.3	<2.00	65,000	56,000	43,000	8.99	8	5.73	1.4	1.7	1.19
LFJ01P08	<8.00	7.6	7	34	<2.00	1.8	<2.00	101,000	38,000	79,000	7.63	7.91	13.6	2.2	0.1	1.5
LFJ01P08	<0.50	12	6.2	8.9	<0.50	3.6	<0.50	100,000	29,000	4,500	9.47	7.61	1.14	1.6	0.09	0.78
LFJ01P08																
LFJ01P08	1.2	9.1	7	14	<0.50	1.8	<0.50	160,000	37,000	24,000	8.97	8.22	5.33	0.9	0.13	1.41
LFJ01P08	<0.50	12	5.7	24	<0.50	1.8	<0.50	300,000	90,000	>120,000	7.76	7.97	4.13	3.9	0.13	1.65
LFJ01P08	<0.50	8.8	3.8	5.6	<0.50	0.86	<0.50	210,000	26,000	21,000	6.94	8.02	6.3	1.4	0.07	1.21
LFJ01P08	<0.50	12	3.8	11	<0.50	2.1	<0.50	190,000	21,000	10,000	7.71	7.96	2.2	1.5	<0.05	0.96
LFJ01P08	43	12	10	3.6	<0.50	0.98	<0.50	340,000	60,000	52,000	8.52	9.02	10.7	0.9	0.13	0.36
LFJ01P08	1.3	6.3	8.6	14	<0.50	1.6	<0.50	69,000	68,000	11,000	7.73	7.83	1.81	1.7	0.8	1.03
LFJ01P08	0.75	11	5	8.3	<0.50	1.4	<0.50	44,000	25,000	8,000	7.63	7.76	2.27	1.6	0.11	2.37
LFJ01P08	0.61	4.7	8.3	9.3	<0.50	1.4	<0.50	30,000	29,000	13,000	8.53	8.09	7.1	1	0.1	1.5
LFJ01P08	0.61	4.6	6.3	20	<0.50	1.2	<0.50	160,000	32,000	25,000	7.86	8.01	10.5	0.9	0.4	1.08
LFJ01P08	<0.50	3.8	3.6	8.3	<0.50	0.69	<0.50	37,000	6,400	3,100	9.37	8.15	5.01	2	0.1	1.58
LFJ01P08	0.74	6.4	12	26	<0.50	1.4	<0.50	190,000	>44,000	8,700	8.42	8.14	4.04	2.9	0.45	2.21
LFJ01P08	<0.50	7.5	4.3	8.1	<0.50	0.75	<0.50	>91,000	18,000	10,600	8.47	8.07	4.21	2.8	0.1	0.87
LFJ01P08	0.67	5.7	2.7	7.9	<0.50	1.1	<0.50	800,000	61,000	9,500	12.11	8.09	3.11	2.3	0.3	1.23
LFJ01P08											9.47	8.17	2.79	2	0.12	1.09
LHJ04P04	<8.00	5.4	4.8	32	<2.00	<1.00	<2.00	8,500	1,800	6,900	8.79	7.76	2.51	1.7	0.1	0.91
LHJ04P04	<8.00	<4.00	6.7	16	<2.00	<1.00	<2.00	129,000	21,000	6,400	6.33	7.56	12.3	2.2	0.08	2.69
LHJ04P04	<8.00	<4.00	5.6	23	<2.00	<1.00	<2.00	43,000	21,000	32,000	7.82	7.21	4.07	2.2	<0.05	1.73
LHJ04P04	<8.00	9.4	6.2	45	<2.00	<1.00	<2.00	41,000	12,400	12,200	8.14	7.77	2.58	1.8	0.09	0.82
LHJ04P04	<8.00	7.7	5.2	51	<2.00	<1.00	4.9	59,000	27,000	9,250	7.54	7.8	3.77	2.8	0.1	1.21
LHJ04P04	<8.00	11	6	17	<2.00	<1.00	<2.00	59,000	45,000	26,000	8.45	7.35	15.3	2.5	0.09	1.19
LHJ04P04	1.2	15	4.1	6.9	<0.50	2.7	<0.50	22,000	900	5,400	10.96	7.61	1.93	2.6	0	0.96
LHJ04P04	<0.50	20	9.2	11	<0.50	<0.50	<0.50	690,000	83,000	22,000	8.85	7.31	3.58	1.6	0.08	0.93
LHJ04P04	1	18	6.2	15	<0.50	0.63	<0.50	190,000	29,000	11,000	8.49	7.56	6.28	2.8	0.07	1.17
LHJ04P04	<0.50	14	4.2	9.6	<0.50	<0.50	<0.50	230,000	140,000	15,000	8.31	7.82	2.48	2.3	0.08	1.24

LHJ04P04	<0.50	18	4	9.3	<0.50	<0.50	<0.50	130,000	68,000	7,400	8.3	7.5	2.1	2.3	<0.05	0.97
LHJ04P04	<0.50	18	3	11	<0.50	<0.50	<0.50	42,000	7,800	5,600	12.04	7.67	2.87	2.8	<0.05	1.39
LHJ04P04	0.72	9.9	14	48	<0.50	<0.50	2.6	400,000	20,000	16,000	8.9	7.68	14.4	2.3	0.2	1.09
LHJ04P04	0.66	5.9	11	26	<0.50	<0.50	<0.50	210,000	17,000	15,000	8.24	7.74	7.62	3.4	0.15	1.23
LHJ04P04	<0.50	3.9	4.9	8.2	<0.50	<0.50	<0.50	240,000	95,000	19,000	7.3	6.83	4.27	2.6	0.07	1.16
LHJ04P04	<0.50	8.2	3.7	7.4	<0.50	0.57	<0.50	260,000	100,000	8,100	11.98	7.65	3.77	3.2	0.12	1.48
LHJ04P04	<0.50	4.1	3.8	12	<0.50	0.64	<0.50	4,400	900	320	9.23	7.88	1.39	2.7	0.1	0.72
LHJ04P04	<0.50	5.3	4	6.4	<0.50	0.5	<0.50	33,000	5,700	8,900	8.7	7.78	1.77	2.8	0.06	1.14
LHJ04P04	<0.50	3.8	3.5	6.1	<0.50	<0.50	<0.50	47,000	16,000	13,000	8.19	7.91	3.05	2.7	0.05	1.82
LHJ04P04	<0.50	3.9	3.4	4.2	<0.50	<0.50	<0.50	31,000	26,000	15,000	8.35	7.83	3.5	2.2	0.15	1.2
LHJ04P04	<0.50	3.2	3.1	5.6	<0.50	<0.50	<0.50	200,000	37,000	45,000	8.85	7.86	4.35	1.2	0.05	1
LHJ04P04	<0.50	5.4	4.2	8.2	<0.50	<0.50	<0.50	>41,000	3,800	14,400	9.08	7.85	5.03	3.5	0.12	1.21
LHJ04P04	<0.50	5.1	3.4	6.6	<0.50	<0.50	<0.50	31,000	2,000	10,200			3.85	2.1	0.1	0.97
LHJ04P04	<0.50	5.6	3.7	9.5	<0.50	<0.50	<0.50	60,000	24,000	5,700	7.94	7.82	4.48	2	0.18	0.97
LHJ04P04	<0.50	5.2	3.7	5.5	<0.50	<0.50	<0.50	>55,000	18,000	28,000	9.9	7.92	2.21	2.6	0.1	0.76
LHJ04P04	<0.50	3	3	6.8	<0.50	<0.50	<0.50	78,000	28,000	25,000	8.22	7.73	10.1	2.6	0.1	1.31
LHJ04P04	<0.50	6.2	2.7	3.9	<0.50	<0.50	<0.50	23,000	2,900	4,800	9.55	7.87	6.3	2.5	0.1	0.78
LHJ04P04											9.93	7.84	10.8	2	0.1	0.85
LHJ05P01	<0.50	180	3.7	19	<0.50	17	<0.50	2,200	2,000	2,200	6.53	7.04	5.94	3.9	0.14	1.07
LHJ05P01	<0.50	180	3.9	16	<0.50	7.5	<0.50	180,000	7,000	7,000	5.89	7.22	5.52	3.9	0.18	1.93
LHJ05P01	<0.50	89	3.4	27	<0.50	3.5	<0.50	130,000	90,000	44,000	3.58	6.81	6.85	4.5	0.08	2.06
LHJ05P01	<0.50	120	2.8	15	<0.50	5.1	<0.50	310,000	110,000	1,130,000	6.78	6.81	2.9	2.3	0.11	2.14
LHJ05P01	<0.50	120	4.6	14	<0.50	3.8	<0.50	330,000	70,000	86,000	4.5	7.66	3.97	3.7	0.06	2.45
LHJ05P01	<0.50	170	2.8	7.5	<0.50	4.9	<0.50	14,000	6,000	15,000	4.8	6.88	0.36	3	0.05	0.78
LHJ05P01	<0.50	94	5.1	23	<0.50	7	<0.50	>1,200,000	>1,200,000	20,000	5.76	7.26	3.85	4.1	0.12	6.78
LHJ05P01	<0.50	87	2.7	12	<0.50	3.6	<0.50	170,000	50,000	10,700	5.73	7.2	4.55	3	0.2	2.27
LHJ05P01	<0.50	55	2.6	8.1	<0.50	2.5	<0.50	40,000	10,000	10,800	4.71	6.97	3.05	1.9	0.07	1.42
LHJ05P01	<0.50	88	2.5	13	<0.50	3.5	<0.50	230,000	28,000	28,000	3.83	7.58	5.62	4	0.12	2.62
LHJ05P01	<0.50	91	7.5	20	<0.50	7	<0.50	150,000	12,600	66,000	7.2	7.25	3.77	3.88	0.1	5.49
LHJ05P01	<0.50	140	1.8	4.8	<0.50	3.5	<0.50	53,000	800	42,000	2.36	7.14	3.37	2.5	0.1	0.87
LHJ05P01	<0.50	55	2.5	6	<0.50	2	<0.50	>93,000	16,000	41,000	4.82	7.54	2.19	2	0.1	1.54

LHJ05P01	<0.50	97	1.4	5.1	<0.50	2.3	<0.50	>55,000	5,800	10,800	4.93	7.65	5.04	3	0.1	0.99
LHJ05P01	<0.50	80	2	8.4	<0.50	3.3	<0.50	>107,000	18,000	24,000	4.82	6.82	4.28	3.1	0.1	1.66
LHJ05P01	<1.00	150	2.3	40	<1.00	3.9	<1.00	>11,900	690	2,600	4.29	6.93	1.81	2.8	0.1	0.61
LHJ05P01	<0.50	150	3	4.8	<0.50	6.3	<0.50	6,500	120	2,300	6.27	6.9	0.53	2	0.1	0.59
LHL04TBN1	<0.50	5.4	4.3	34	<0.50	<0.50	<0.50	12,000	5,000	1,000	8.7	7.65	1.7	1.6	0.06	0.94
LHL04TBN1	1.1	14	19	1200	<0.50	1.8	7.1	200,000	23,000	8,500	9.16	7.68	3.19	1.6	0.35	10.85
LHL04TBN1	<0.50	3	3	23	<0.50	<0.50	0.75	39,000	17,000	1,600	9.52	8.01	2.17	1.5	0.1	1.28
LHL04TBN1	<0.50	2.7	2.4	17	<0.50	<0.50	<0.50	90,000	88,000	2,700	8.59	8.01	1.2	0.9	<0.05	1.32
LHL04TBN1	<0.50	3	2.1	14	<0.50	<0.50	<0.50	83,000	69,000	1,300	9.24	8.32	1.2	1	<0.05	1.15
LHL04TBN1	<0.50	7.5	12	85	<0.50	<0.50	<0.50	51,000	9,000	410	12.33	8.14	4.88	3	<0.05	0.97
LHL04TBN1	<0.50	5.8	14	41	<0.50	<0.50	<0.50	21,000	4,200	90	9.54	8.06	3.74	3	0.24	1.12
LHL04TBN1	<0.50	4.9	5.6	39	<0.50	<0.50	<0.50	8,400	3,400	460	8.51	8.2	1.37	2.3	0.14	1.12
LHL04TBN1	<0.50	2.7	7.3	37	<0.50	<0.50	<0.50	3,800	2,400	260	8.85	7.02	2.51	1.8	0.23	0.83
LHL04TBN1	<0.50	2.2	4.8	21	<0.50	<0.50	<0.50	860,000	42,000	3,000	8.22	8.41	2.28	1.3	0.65	0.95
LHL04TBN1	1.1	3	12	23	<0.50	<0.50	<0.50	20,000	800	130	12.2	8.92	5.19	3.4	0.1	0.81
LHL04TBN1	<0.50	1.9	4.7	14	<0.50	<0.50	<0.50	7,800	280	300	9.42	8.24	4.26	2.6	0.09	0.78
LHL04TBN1	7.3	5.2	34	44	<0.50	<0.50	1.4	29,000	2,000	3,900	10.13	8.33	3.95	4.9	0.32	1.19
LHL04TBN1	<0.50	4.5	8.2	56	<0.50	<0.50	0.98	27,000	14,000	700	8.06	8.2	5.61	1.8	0.65	1.63
LHL04TBN1	1.2	4.1	12	35	<0.50	<0.50	0.89	36,000	10,000	2,800	8.5	8.2	5.01	2.2	0.15	1.42
LHL04TBN1	<0.50	3.3	9.5	51	<0.50	<0.50	<0.50	540,000	11,800	5,400	10.05	8.37	3.08	2.4	0.3	0.67
LHL04TBN1	<0.50	2.9	6.3	32	<0.50	<0.50	<0.50	113,000	3,400	3,300			1.99	2.9	0.15	1.07
LHL04TBN1	<0.50	3.5	6.8	44	<0.50	<0.50	<0.50	>36,000	7,000	3,400	8.45	8.13	2.38	2	0.25	0.74
LHL04TBN1	6.4	8.4	8.3	24	<0.50	<0.50	<0.50	>10,500	2,000	1,300	9.21	7.89	1.62	16.7	0.13	2.23
LHL04TBN1	<0.50	2	2.8	16	<0.50	<0.50	<0.50	42,000	8,600	3,900	8.02	7.98	4.72	2	0.15	0.92
LHL04TBN1	<0.50	3	7.2	33	<0.50	<0.50	<0.50	8,900	140	1,000	10.34	8.35	3.53	2.4	0.12	0.52
LHL04TBN1											9.68	8.3	3.84	2	0.11	0.68
LNJ03P01	<8.00	26	4.6	52	<2.00	3	<2.00	149,000	77,000	416,000	9.35	7.82	5.41	2.8	0.08	0.96
LNJ03P01	<8.00	20	21	38	<2.00	2.4	<2.00	12,250	3,950	8,300	8.15	7.62	3.96	2.5	0.15	2
LNJ03P01	<8.00	18	6.1	52	<2.00	3.2	<2.00	2,900	2,600	3,700	9.49	7.56	2.7	1.3	<0.05	0.3
LNJ03P01	<8.00	28	12	58	<2.00	3	<2.00	9,900	6,200	8,450		7.79	4.38	3.8		1.59

LNJ03P01	<8.00	25	9.4	32	<2.00	2.4	<2.00	133,000	106,000	13,000	7.7	7.61	4.09	2	0.28	1.39
LNJ03P01	<8.00	39	520	190	<2.00	16	<2.00	39,000	26,000	7,900	7.36	7.35	6.9	3.4		1.26
LNJ03P01	0.64	52	4.3	29	<0.50	5.9	<0.50	60,000	1,800	1,800	8.23	7.62	1.17	4	<0.05	0.69
LNJ03P01	0.95	42	4.9	26	<0.50	3.8	<0.50	17,000	33,000	2,500	8.21	7.45	2.31	4	0.07	1.7
LNJ03P01	<0.50	32	3.9	17	<0.50	2.6	<0.50	150,000	23,000	6,000	8.1	7.64	3.12	3.6	<0.05	1.31
LNJ03P01	0.53	39	5.4	23	<0.50	4.1	<0.50	54,000	11,200	8,800	8.1	7.36	1.86	3.8	0.07	1.36
LNJ03P01	0.52	25	3.1	16	<0.50	1.1	<0.50	55,000	27,000	7,900	6.93	7.27	3.18	5.2	0.07	2.93
LNJ03P01	0.52	22	2.8	8	<0.50	0.93	<0.50	14,000	8,200	2,200	8.15	7.73	1.23	2.7	<0.05	1.19
LNJ03P01	0.59	21	4.9	19	<0.50	3.2	<0.50	50,000	1,700	1,800	8.8	7.58	1.4	2.9	0.1	1.14
LNJ03P01	0.5	26	3	20	<0.50	1.7	<0.50	34,000	14,000	7,900	8.51	7.65	2.88	4.5	0.05	2.92
LNJ03P01	<0.50	35	3.1	25	<0.50	3.8	<0.50	40,000	3,000	7,300	10.47	7.59	1.6	3.9	0.05	1.19
LNJ03P01	<0.50	20	2.6	14	<0.50	1.7	<0.50	>9,400	3,300	3,700	8.21	7.72	1.75	3.2	0.1	1.21
LNJ03P01	<0.50	23	2.4	13	<0.50	2.1	<0.50	28,000	800	2,100	7.95	7.79	2.08	3.6	0.1	1.02
LNJ03P01	<0.50	21	1.9	19	<0.50	2	<0.50	26,000	360	800	13.54	7.66	2.08	4	0.1	1.47
LNJ03P01											11.29	7.92	5.85	2.6	0.33	0.74
LNJ03P04	<0.50	120	9.3	40	<0.50	14	<0.50	63,000	20,000	8,100	12.17	7.67	8.78	4.2	0.75	1.59
LNJ03P04	<0.50	130	5.1	79	<0.50	12	<0.50	720,000	460,000	43,000	6.45	6.62	4.95	4.8	0.19	1.74
LNJ03P04	0.8	19	6.1	16	<0.50	1.1	<0.50	220,000	68,000	33,000	8.69	7.44	5.67	6.2	<0.05	3.58
LNJ03P04	<0.50	65	4	11	<0.50	2.2	<0.50	98,000	71,000	35,000	7.66	7.69	3.52	2.3	0.08	1.3
LNJ03P04	<0.50	32	4.1	13	<0.50	1.5	<0.50	160,000	120,000	73,000	7	7.73	5	14.7	<0.05	2.93
LNJ03P04	0.63	80	19	79	<0.50	11	<0.50	83,000	19,000	105,000	8.52	7.56	10.8	6.2	0.05	2.59
LNJ03P04	<0.50	60	5.4	20	<0.50	2.2	<0.50	63,000	8,700	17,000	8.46	7.75	7.09	5	0.08	2.18
LNJ03P04	<0.50	43	4.4	15	<0.50	2.2	<0.50	150,000	57,000	23,000	7.72	7.88	7.03	2.3	0.18	2.61
LNJ03P04	<0.50	39	8	22	<0.50	4	<0.50	280,000	160,000	40,000	6.8	7.7	8.63	3.4	2.8	2.81
LNJ03P04	<0.50	34	3	13	<0.50	1.2	<0.50	42,000	13,000	5,000	7.56	7.94	8.97	4.6	0.07	3.59
LNJ03P04	<0.50	58	3.6	13	<0.50	2	<0.50	>940,000	12,700	7,000	8.26	7.83	8.1	3.4	0.12	1.4
LNJ03P04	<0.50	20	5.1	15	<0.50	2.2	<0.50	33,000	1,200	5,200	12.58	7.79	3.79	3.2	0.11	1.72
LNJ03P04	<0.50	41	3.7	9.9	<0.50	1	<0.50	>84,000	23,000	21,000	7.62	8.11	5.33	2.3	0.12	0.89
LNJ03P04	<0.50	25	3.3	6.3	<0.50	1.1	<0.50	>90,000	21,000	29,000	7.83	7.98	3.82	2.9	0.38	1.18
LNJ03P04	0.51	130	3.8	8.8	<0.50	0.79	<0.50	200,000	27,000	13,100	7.99	8.07	14.8	3.7	0.11	0.3
LNJ03P04	<0.50	49	5.8	17	<0.50	2	<0.50	>77,000	10,000	49,000	9.7	7.89	5.69	3	0.11	0.83

LNJ03P04	<0.50	77	3.7	9.9	<0.50	1.3	<0.50	68,000	7,800	62,000	9.3	7.81	4.56	3.9	0.1	0.84
LNJ03P05	<0.50	53	8.5	25	<0.50	3.7	<0.50	23,000	7,000	2,100	13.5	7.88	8.91	3.3	<0.05	0.67
LNJ03P05	<0.50	130	8.3	62	<0.50	6.9	<0.50	43,000	13,000	3,600	9.12	7.7	3.71	4	0.85	1.13
LNJ03P05	<0.50	78	6.5	26	<0.50	3.3	<0.50	68,000	67,000	25,000	9.41	7.8	3.07	3.3	0.08	0.92
LNJ03P05	0.58	73	7.8	34	<0.50	6	<0.50	330,000	140,000	45,000	7.88	7.7	4.01	2.2	0.1	1.1
LNJ03P05	<0.50	81	11	29	<0.50	4.1	<0.50	56,000	42,000	6,000	7.34	7.57	3.16	4.1	0.25	1.48
LNJ03P05	<0.50	97	7.9	54	<0.50	8.3	<0.50	43,000	13,000	10,000	9.92	7.86	8.3	1.6	0.05	0.9
LNJ03P05	<0.50	49	6.8	27	<0.50	2.9	<0.50	220,000	37,000	16,000	8.02	7.46	8.08	6.4	0.09	3.96
LNJ03P05	<0.50	41	4.6	17	<0.50	1.7	<0.50	63,000	4,900	11,000	8.02	7.84	13.7	2.9	0.05	1.31
LNJ03P05	<0.50	39	7	16	<0.50	2	<0.50	380,000	200,000	68,000	8.19	7.98	2.8	1.8	0.28	1.76
LNJ03P05	<0.50	40	4.3	15	<0.50	2	<0.50	49,000	8,000	8,000	8.07	7.52	2.56	2.6	0.05	2.05
LNJ03P05	<0.50	130	4.4	20	<0.50	1.2	<0.50	>32,000	5,300	5,600	9.37	7.31	8.23	4.2	0.17	0.46
LNJ03P05	<0.50	46	6.2	23	<0.50	2.9	<0.50	300,000	14,000	23,000	13.82	7.59	4.13	2.8	0.15	0.86
LNJ03P05	<0.50	38	9.3	15	<0.50	1.8	<0.50	33,000	7,200	22,000	8.2	7.77	15.4	2	0.72	0.89
LNJ03P05	<0.50	55	5.8	14	<0.50	1.7	<0.50	24,000	5,800	5,000	9.48	8.08	3.66	2	0.1	0.77
LNJ03P05	<0.50	81	7.1	20	<0.50	0.81	<0.50	37,000	10,000	9,800	8.93	8.06	5.38	2.6	0.18	0.66
LNJ03P05	<0.50	130	4.5	40	<0.50	8.1	<0.50	28,000	3,400	14,200	9.7	7.93	3.23	3.4	0.1	0.45
LNJ03P05	<0.50	170	4.1	53	<0.50	0.7	<0.50	22,000	1,700	8,400	10.33	7.82	14.4	3.7	0.11	0.33
LNJ03P13	<0.50	390	3.6	190	<0.50	47	<0.50	15,000	3,100	340	7.95	7.44	0.47	4.7	0.06	0.24
LNJ03P13	<0.50	260	2.8	120	<0.50	18	<0.50	34,000	3,400	1,500	6.69	7.11	0.49	6.7	<0.05	0.48
LNJ03P13	<0.50	180	2.9	63	<0.50	4.6	<0.50	19,000	12,000	4,700	7.69	7.25	1.1	5.3	<0.05	0.65
LNJ03P13	0.55	220	3	76	<0.50	7.5	<0.50	43,000	7,900	5,600	8.54	7.33	1.11	6.4	0.06	0.46
LNJ03P13	<0.50	160	3.2	57	<0.50	5.3	<0.50	36,000	13,000	2,000	6.01	7.62	0.71	5.5	0.1	0.35
LNJ03P13	<0.50	180	2.8	110	<0.50	13	<0.50	14,000	610	230	8.35	7.07	0.35	3.2	0.05	0.46
LNJ03P13	<0.50	170	3.1	97	<0.50	12	<0.50	8,200	220	2,800	6.58	7.37	0.71	6.1	0.05	0.48
LNJ03P13	<0.50	120	2.6	57	<0.50	12	<0.50	29,000	3,500	8,800	5.82	7.45	1.83	4.8	0.06	0.68
LNJ03P13	<0.50	120	2.5	52	<0.50	8	<0.50	24,000	9,000	11,000	6.27	7.58	1.26	4.9	0.1	0.66
LNJ03P13	<0.50	86	1.9	35	<0.50	4.4	<0.50	24,000	1,100	800	7.08	7.75	0.33	5	0.05	0.3
LNJ03P13	0.56	160	3.3	82	<0.50	17	<0.50	>158,000	>46,000	860	6.32	7.52	1.04	5.7	0.11	0.24
LNJ03P13	<0.50	120	2.3	63	<0.50	13	<0.50	30,000	460	2,900	8.18	7.32	0.86	5.1	0.12	0.45

LNJ03P13	<0.50	110	2.5	45	<0.50	9	<0.50	4,900	1,330	910	6.02	7.88	0.6	4.3	0.1	0.3
LNJ03P13	<0.50	100	2.7	37	<0.50	7.7	<0.50	15,000	420	1,320	7.26	7.74	0.6	3.1	0.1	0.32
LNJ03P13	<0.50	81	3.1	43	<0.50	7.7	<0.50	5,800	510	950	7.14	8.05	0.96	6.6	0.1	0.3
LNJ03P13	0.56	120	2.9	52	<0.50	9.5	<0.50				8.09	7.5	0.4	3.4	0.1	0.3
LNJ03P13								22,000	390	550	9.73	7.65	0.54	4.6	0.1	0.38
LNJ04@LPAZ	0.51	100	2.3	23	<0.50	1.6	<0.50	>40,000	8,400	5,700	8.42	7.51	6	4	0.1	0.57
LNJ04@LPAZ								37,000	5,100	5,500	5.74	7.19	5.02	4.2	0.1	0.83
LNJ04DSRP	<0.50	57	6.2	35	<0.50	9.4	<0.50	170	<9	50	5.83	7.42	5.74	4.9	0.1	5.55
LNJ04DSRP								32,000	1,000	2,300	6.83	7.66	3.61	4.5	0.1	0.8
LNK01P07	<8.00	5.4	9.1	33	<2.00	<1.00	<2.00	24,000	16,000	8,200	8.85	8.39	8.83	2.4	<0.05	1.67
LNK01P07	<8.00	7.7	12	36	<2.00	<1.00	<2.00	18,600	5,000	3,900	8.99	6.89	2.48	4	0.1	2.37
LNK01P07	<8.00	6	13	29	<2.00	<1.00	<2.00	25,000	16,300	54,000	8.33	7.23	6.17	3	<0.05	2.03
LNK01P07	<8.00	5.5	13	35	<2.00	<1.00	<2.00	54,000	30,000	16,100	8.52	7.8	5.07	3	0.13	1.77
LNK01P07	<8.00	6.8	12	70	<2.00	<1.00	<2.00	12,600	6,900	11,800	8.29	8.2	2.2	2.9	0.08	1.79
LNK01P07	<8.00	8.8	18	39	<2.00	<1.00	<2.00	67,000	52,000	7,700	7	7.8	15.5	3.4		2.78
LNK01P07	<0.50	7.8	11	15	<0.50	<0.50	<0.50	410,000	116,000	143,000	8.33	7.3	2.62	4.6	0.16	2.24
LNK01P07	<0.50	9.5	7.6	25	<0.50	<0.50	<0.50	440,000	>120,000	86,000	8.6	7.68	6.68	3.3	<0.05	4.8
LNK01P07	<0.50	8.4	6	11	<0.50	<0.50	<0.50	330,000	100,000	280,000	8.67	7.91	5.32	4.3	<0.05	2.5
LNK01P07	<0.50	9.8	6.9	21	<0.50	<0.50	<0.50	570,000	117,000	11,000	8.8	7.9	3.19	4.5	0.06	2.83
LNK01P07	<0.50	12	8.7	31	<0.50	<0.50	<0.50	110,000	14,000	23,000	8.73	7.61	6.88	5.3	0.08	3.84
LNK01P07	<0.50	18	5.7	16	<0.50	<0.50	<0.50	91,000	66,000	36,000	8.34	7.59	6.57	3.2	0.1	2.92
LNK01P07	<0.50	5.2	6.6	16	<0.50	<0.50	<0.50	32,000	21,000	7,400	9.31	7.9	5.85	6.3	0.06	3.56
LNK01P07	<0.50	6.2	6.1	10	<0.50	<0.50	<0.50	107,000	17,000	22,000	9.2	8.1	1.99	3.5	0.05	1.76
LNK01P07	<0.50	4.2	13	13	<0.50	<0.50	<0.50	160,000	50,000	29,000	8.24	8.04	5.92	2.9	0.05	2.49
LNK01P07	<0.50	5.3	5.8	13	<0.50	<0.50	<0.50	510,000	22,000	7,400	10.65	7.94	5.73	4.8	0.1	1.86
LNK01P07	<0.50	5.6	6.7	17	<0.50	<0.50	<0.50	190,000	22,000	28,000	8.36	7.98	2.7	3.8	0.11	2.12
LNK01P07	<0.50	5.7	13	17	<0.50	<0.50	0.93	135,000	>4,600	30,000	14.45	8.64	14	2.7	0.18	1.9
LNK01P07	<0.50	3.6	5.2	11	<0.50	<0.50	<0.50	>29,000	>450	6,500	10.11	7.94	5.09	3.7	0.1	1.61
LNK01P07											9.87	8.12	5.82	4.2	0.1	1.98

LNK01P08	<8.00	6	10	31	<2.00	<1.00	<2.00	69,000	5,000	4,500	9.2	8.25	6.47	2.3	<0.05	1.45
LNK01P08	<8.00	4.1	12	40	<2.00	<1.00	<2.00	129,000	940	102,000	8.91	6.97	2.02	5.5	<0.05	3.87
LNK01P08	<8.00	<4.00	10	23	<2.00	<1.00	<2.00	35,000	4,300	46,000	8.71	7.4	2.71	2.9	<0.05	1.15
LNK01P08	<8.00	6.6	10	39	<2.00	<1.00	<2.00	88,000	42,000	17,700	8.5	7.9	3.44	2.4	0.9	1.86
LNK01P08	<8.00	9.1	15	63	<2.00	<1.00	<2.00	20,450	12,200	5,600	7.98	8.13	2.36	2.9	0.13	1.51
LNK01P08	<8.00	11	7.8	27	<2.00	<1.00	<2.00	10,000	7,300	6,500	8	7.9	4.44	2.6		2.02
LNK01P08	<0.50	12	6.4	12	<0.50	<0.50	<0.50	540,000	63,000	22,000	9.16	7.64	3.62	2.8	0.19	1.16
LNK01P08	<0.50	13	10	23	<0.50	<0.50	0.78	300,000	>120,000	109,000	8.87	7.88	6.07	3.2	0.22	2.27
LNK01P08	<0.50	7.9	4.3	7.6	<0.50	<0.50	<0.50	200,000	130,000	20,000	8.91	8.02	3.93	2.8	<0.05	1.44
LNK01P08	<0.50	14	7.7	13	<0.50	<0.50	<0.50	370,000	63,000	12,000	8.95	7.96	3.13	2.8	0.19	1.36
LNK01P08	<0.50	14	5.2	7.9	<0.50	<0.50	<0.50	54,000	9,500	19,000	9.28	8	3.13	2.2	0.15	1.76
LNK01P08	0.7	15	13	22	<0.50	0.58	1.3	390,000	250,000	22,000	8.45	7.66	29.7	2.8	0.08	1.26
LNK01P08	<0.50	4.8	11	12	<0.50	<0.50	<0.50	18,000	11,500	6,200	9.63	8.01	2.72	4.1	0.06	2.58
LNK01P08	<0.50	5.2	5.8	11	<0.50	<0.50	<0.50	48,000	6,700	13,000	8.95	8.16	3.06	2.7	0.1	1.53
LNK01P08	<0.50	3.9	3.2	9.1	<0.50	<0.50	<0.50	50,000	19,000	11,000	8.7	8.07	2.83	2.5	0.05	1.73
LNK01P08	<0.50	4.9	3.4	9.5	<0.50	<0.50	<0.50	>34,000	4,800	11,900	11.57	8.09	3.7	4.4	0.1	1.25
LNK01P08	<0.50	4.6	5.1	7.7	<0.50	<0.50	<0.50	>79,000	16,000	24,000	8.96	8.07	2.2	2.6	0.1	1.02
LNK01P08	<0.50	4.8	4.1	7	<0.50	<0.50	<0.50	56,000	3,600	9,900	13.86	8.24	4	2	0.23	1.11
LNK01P08	<0.50	4.3	3.3	8.9	<0.50	<0.50	<0.50	>48,000	>900	8,400	10.32	8.03	2.36	3.1	0.1	1.24
LNK01P08											9.9	8.14	5.96	3.8	0.1	2.13
LNK01P09	<8.00	6.3	6.3	47	<2.00	<1.00	<2.00	740	<10	1,400	10.26	8.16	22.7	2.9	<0.05	1.37
LNK01P09	<8.00	4.1	7	34	<2.00	<1.00	<2.00	<10	<10	1,550	10.28	6.45	7.1	3.1	0.08	1.99
LNK01P09	<8.00	<4.00	10	33	<2.00	<1.00	<2.00	39,000	29,000	37,000	9.93	7.31	17.8	4.2	<0.05	2.02
LNK01P09	<8.00	7.5	5.4	41	<2.00	<1.00	<2.00	510	350	610	11	8	3.99	2.8	0.15	1.71
LNK01P09	<8.00	9.1	6.1	63	<2.00	<1.00	<2.00	610	510	460	8.77	8.08	3.88	1.4		1.56
LNK01P09	<8.00	8.5	14	32	<2.00	<1.00	<2.00	70,000	57,000	35,000	3.4	7	3.33	3.4	0.1	2.14
LNK01P09	<0.50	19	6.3	11	<0.50	<0.50	<0.50	33,000	200	420	9.42	7.53	1.67	4.5	0.08	1.63
LNK01P09	<0.50	13	4.1	13	<0.50	<0.50	<0.50	16,000	9,000	700	9.31	7.84	1.23	3.4	<0.05	1.41
LNK01P09	<0.50	15	4.7	12	<0.50	<0.50	<0.50	50,000	30,000	590	9.45	7.85	0.73	5.2	<0.05	2.36
LNK01P09	<0.50	24	3.7	11	<0.50	<0.50	<0.50	4,700	1,500	410	9.38	7.83	0.8	3.7	<0.05	1.62

LNK01P09	<0.50	23	4.1	12	<0.50	<0.50	<0.50	6,300	100	9,200	9.84	7.87	1.55	2.3	0.18	1.85
LNK01P09	<0.50	24	5.7	15	<0.50	1.1	<0.50	5,200	1,400	800	8.77	7.62	0.47	3.1	0.1	2.24
LNK01P09	<0.50	5	3.7	12	<0.50	<0.50	<0.50	1,300	180	500	9.94	7.83	0.6	3.4	0.06	2.19
LNK01P09	<0.50	4.8	2.8	8.3	<0.50	<0.50	<0.50	520	110	80	9.69	8	1.09	3.1	0.1	1.98
LNK01P09	<0.50	4.3	1.9	9.1	<0.50	<0.50	<0.50	700	400	700	10.06	7.98	0.52	2	0.05	2.39
LNK01P09	<0.50	6	2	6.7	<0.50	<0.50	<0.50	>480	<9	240	11.74	7.95	0.58	2	0.1	2.27
LNK01P09	<0.50	6.3	5.5	8.4	<0.50	<0.50	<0.50	2,100	60	320	9.69	7.94	0.71	2.2	0.1	2.19
LNK01P09	<0.50	6.6	1.7	6.8	<0.50	<0.50	<0.50	590	<9	230	15.81	8.06	1	2	0.11	1.98
LNK01P09	<0.50	4.7	3.3	8.5	<0.50	<0.50	<0.50	2,800	200	370	11.09	7.91	0.66	3	0.1	2.3
LNK01P09											10.32	7.97	0.59	2.7	0.1	2.95
LNL03P03	0.81	9.6	4.6	34	<0.50	<0.50	<0.50	80,000	10,000	2,900	7.56	7.55	1.19	2.4	0.17	<0.06
LNL03P03	<0.50	12	3.8	34	<0.50	<0.50	<0.50	38,000	8,000	4,700	9.21	7.6	1.76	3.7	<0.05	1.38
LNL03P03	<0.50	7.1	4.4	32	<0.50	<0.50	<0.50	200,000	38,000	13,000	7.73	7.94	2.93	1.8	0.12	1.47
LNL03P03	<0.50	12	2.8	26	<0.50	<0.50	<0.50	1,180,000	1,090,000	27,000	7.5	7.9	2.9	2.5	<0.05	1.25
LNL03P03	<0.50	19	4.6	49	<0.50	0.58	<0.50	460,000	74,000	40,000	8.6	7.95	4.5	6.7	0.23	4.01
LNL03P03	0.91	9.5	7	51	<0.50	<0.50	<0.50	19,000	1,600	720	9.67	7.92	4.03	4.5	0.07	4.89
LNL03P03	<0.50	8.5	6.8	50	<0.50	<0.50	<0.50	1,000	<10	90	8.3	7.67	4.3	5.7	0.11	14.5
LNL03P03	<0.50	9.9	4.6	53	<0.50	0.55	0.52	76,000	140	14,000	7.29	7.7	1.79	8.1	0.13	4.38
LNL03P03	<0.50	6.4	5.7	54	<0.50	0.56	<0.50	58,000	40,000	28,000	7.72	7.57	4.29	7	0.15	3.63
LNL03P03	<0.50	6.6	3.1	22	<0.50	<0.50	<0.50	59,000	20,000	13,000	0	7.95	5.4	5.3	0.1	2.78
LNL03P03	<0.50	8.3	11	76	<0.50	1.1	1.1	230,000	45,000	520	8.12	7.82	2.8	12	0.35	3.33
LNL03P03	0.72	8.4	12	88	<0.50	0.74	0.78	6,500	1,900	1,200	8.53	8.07	5.49	10	0.19	3.54
LNL03P03	<0.50	6.5	3.6	39	<0.50	<0.50	0.66	37,000	3,600	6,800	6.15	7.98	1.45	4.5	0.06	3.5
LNL03P03	<0.50	6.6	3.4	44	<0.50	<0.50	1	90,000	29,000	6,700	7.85	7.76	2.82	7.4	0.1	2.57
LNL03P03	<0.50	7.7	3.1	38	<0.50	<0.50	0.56	7,700	2,000	2,100	6.45	7.87	1.55	7	0.05	4.4
LNL03P03	<0.50	4.6	3.5	41	<0.50	<0.50	<0.50	>21,000	2,200	5,200	6.6	7.86	2.12	2.2	0.1	1.44
LNL03P03	<0.50	5.4	4.1	31	<0.50	<0.50	<0.50	>19,500	>380	2,800	10.15	7.94	4.25	2	0.11	0.93
LNL03P03	<0.50	4.8	2.4	12	<0.50	2.3	<0.50	122,000	10,000	3,200	12.13	8.13	3.78	2	0.12	1.49
LNL03P03	<0.50	15	3.3	14	<0.50	4.1	<0.50	56,000	25,000	31,000	4.76	7.87	1.98	4.5	0.1	3.19
LNL03P03	<0.50	8.8	4	21	<0.50	1.9	<0.50	58,000	9,400	10,400	8.06	8.2	2.14	6	0.1	5.21
LNL03P03	<0.50	7.9	5.3	48	<0.50	<0.50	<0.50	76,000	8,200	5,800	8.43	8.12	4.62	12.9	0.1	6.83

LNL03P03	<0.50	2.8	3.7	23	<0.50	<0.50	<0.50	42,000	1,700	4,300	10.27	8.1	3.66	5.1	0.1	2.29
LNL03P04	<8.00	8.1	4.6	21	<2.00	<1.00	<2.00	<10	<10	<10	11.87	8.06	0.87	1.3	<0.05	0.66
LNL03P04	<8.00	7.8	5.6	43	<2.00	<1.00	<2.00	8,600	3,100	860	13.99	7.46	1.77	<0.20	<0.05	1.39
LNL03P04	<8.00	6.3	6.4	23	<2.00	<1.00	<2.00	3,800	3,100	760	11.4	8.11	1.24	1.1	0.5	0.42
LNL03P04	<8.00	13	7.9	51	<2.00	<1.00	<2.00	4,000	2,100	1,610	9.24	8.09	1.28	1.9	<0.05	0.85
LNL03P04	<8.00	13	5.9	24	<2.00	<1.00	<2.00	450	260	1,200	10.99	8.39	1.77	2.1		1
LNL03P04	<8.00	15	5.2	31	<2.00	<1.00	<2.00	300	110	1,130	7.97	7.75	1.53	1.1		1.69
LNL03P04	<0.50	31	4.5	19	<0.50	1.3	<0.50	140,000	50,000	6,500	11.45	8.1	1.95	3.7	0.09	0.49
LNL03P04																
LNL03P04	<0.50	29	3.4	19	<0.50	1	<0.50	22,000	2,500	810	8.2	7.86	1.32	3.5	0.08	1.32
LNL03P04	<0.50	20	2.7	15	<0.50	0.63	<0.50	100,000	30,000	3,600	9.73	7.98	1.88	2.5	<0.05	1.64
LNL03P04	<0.50	31	3.5	20	<0.50	<0.50	<0.50	30,000	6,900	3,500	9.22	7.62	2.22	4.7	0.13	1.56
LNL03P04	<0.50	25	2.6	13	<0.50	0.54	<0.50	9,500	690	1,200	5.69	7.5	2.01	4.3	0.15	0.92
LNL03P04	<0.50	13	3.6	13	<0.50	<0.50	<0.50	9,000	1,300	1,000	6.03	7.61	2.18	3	0.07	1.35
LNL03P04	<0.50	12	4.7	26	<0.50	1.5	<0.50	6,100	320	870	9.64	7.93	1.91	5.4	0.09	3.45
LNL03P04	<0.50	13	6.2	20	<0.50	0.9	<0.50	400	<10	100	5.23	7.77	0.61	3.6	0.07	1.38
LNL03P04	<0.50	31	2	22	<0.50	0.77	<0.50	8,000	900	1,900	6.08	7.78	1.41	3.7	0.06	1.79
LNL03P04	<0.50	16	2.6	18	<0.50	<0.50	<0.50	74,000	380	5,200	5.38	7.49	6.62	3.2	0.11	1.31
LNL03P04	<0.50	10	2.6	9.4	<0.50	<0.50	<0.50	>21,000	640	2,000	7.15	7.93	2.46	2.8	0.1	1.11
LNL03P04	<0.50	10	3.6	7.3	<0.50	<0.50	<0.50	>10,700	830	4,100	6.82	8	14.4	2	0.12	0.78
LNL03P04	<0.50	15	7.8	69	<0.50	0.84	<0.50	>1,300	70	190	8.15	7.86	0.85	2.9	0.1	0.45
LNL03P06	<8.00	38	15	41	<2.00	2.6	<2.00	1,900	1,400	1,100	8.77	7.38	1.35	7.3	<0.05	1.27
LNL03P06	<8.00	42	19	51	<2.00	2.3	<2.00	9,300	6,300	2,600	8.95	6.99	2.04	6.9	0.1	1.53
LNL03P06	<8.00	19	6.4	17	<2.00	4.3	<2.00	62,000	28,000	22,000	8.48	8.14	4.36	0.7	<0.05	0.45
LNL03P06	<8.00	11	7.4	42	<2.00	<1.00	<2.00	1,210	440	450	7.52	7.52	1000	1.4	0.1	0.27
LNL03P06	<8.00	42	36	43	<2.00	3.2	<2.00	38,000	13,200	42,000	1.11	8.03	8.89	7.9	0.21	1.86
LNL03P06	<8.00	33	18	91	<2.00	2.4	<2.00	78,000	45,000	18,800	7.54	7.95	24.3		0.18	2.71
LNL03P06	<8.00	41	29	86	<2.00	4.2	<2.00	26,000	8,050	10,300	8.26	7.79	7.23	4.5		1.73
LNL03P06	<8.00	31	22	11	<2.00	<1.00	<2.00	36,000	26,000	6,500	8.33	7.4	3.43	4.7		1.43
LNL03P06	<8.00	18	11	27	<2.00	<1.00	<2.00	65,000	34,000	11,900	13.39	8.05	81.7	2.6	0.2	2.24

LNL03P06	<8.00	24	21	68	<2.00	1.2	<2.00	<200,000	<200,000	<200,000	12.85	8.19	15	7.3	1.3	4.79
LNL03P06	<0.50	110	8.1	72	<0.50	8.2	<0.50	30,000	310	5,400	8.66	7.85	3.48	6	<0.05	0.83
LNL03P06	<0.50	80	9.6	41	<0.50	5.2	<0.50	90,000	3,400	3,900	9.12	7.56	2.26	7.8	0.1	1.31
LNL03P06	3.1	16	6.1	80	0.98	3.9	2.9	9,000	3,100	430	9.15	8	616	3.1	0.15	0.45
LNL03P06	<0.50	44	7.1	26	<0.50	2.1	<0.50	120,000	80,000	11,000	8.4	8	3.27	7.5	0.07	1.58
LNL03P06	0.59	200	7.5	49	<0.50	4.9	<0.50	45,000	33,000	3,700	8.4	7.81	2.3	5.8	0.08	1.16
LNL03P06	<0.50	24	13	45	<0.50	1.9	<0.50	43,000	10,000	880	7.04	7.29	3.42	5.3	0.11	5.39
LNL03P06	1	34	21	190	<0.50	5.8	0.66	45,000	130	250	7.51	7.47	10.3	5.9	1.6	6.65
LNL03P06	<0.50	28	7.9	32	<0.50	2.3	<0.50	23,000	<10	320	6.5	7.42	3.06	8	<0.05	5.43
LNL03P06	1.6	16	9.2	45	<0.50	2.5	<0.50	4,200	160	800	7.4	7.56	3.34	9.4	0.11	5.08
LNL03P06	<0.50	24	6.3	26	<0.50	2.7	<0.50	23,000	<10	<10	0	7.8	1.39	5.9	<0.04	3.64
LNL03P06	<0.50	48	15	38	<0.50	3.1	<0.50	37,000	780	700	8.59	7.75	3.19	8.9	0.12	3.25
LNL03P06	<0.50	25	13	26	<0.50	1.7	<0.50	25,000	900	6,100	8.98	7.92	1.51	8.7	0.12	2.02
LNL03P06	<0.50	23	13	20	<0.50	0.87	<0.50	140,000	55,000	13,000	7.38	7.96	1.67	6.9	0.05	2.3
LNL03P06	<0.50	12	4.7	20	<0.50	0.79	<0.50	50,000	23,000	47,000	7.96	7.75	1.63	6.2	0.05	2.48
LNL03P06	<0.50	13	9	27	<0.50	0.94	<0.50	320,000	19,000	6,000	6.3	7.8	3.99	4.3	0.11	3.22
LNL03P06	<0.50	16	7.1	21	<0.50	1.1	<0.50	35,000	3,700	5,200	8.93	7.96	4.3	6.6	0.1	1.19
LNL03P06	<0.50	16	4.5	20	<0.50	1.3	<0.50	27,000	3,300	2,300	10.88	8.18	1.87	4.2	0.08	0.65
LNL03P06	<0.50	24	4.8	13	<0.50	0.74	<0.50	13,000	>3,300	2,200	12.36	8.12	2.41	3.2	0.1	0.83
LNL03P06	<0.50	84	4.7	20	<0.50	3.1	<0.50	>124,000	46,000	23,000	8.68	7.72	38	14.3	0.1	5.31
LNL03P06	<0.50	30	6.3	21	<0.50	1.8	<0.50	84,000	18,400	8,400	10.87	8.04	3.99	8.3	0.15	2.74
LNL03P06	<0.50	84	8.2	38	<0.50	3.7	<0.50	>64,000	3,300	12,500	8.45	7.92	2.87	13.8	0.1	1.32
LNL03P06	<0.50	110	7.8	64	<0.50	2	<0.50	34,000	1,800	3,300	10.29	7.98	2.42	13.5	0.1	1.92
LWI02P18	<0.50	2.1	5.6	7.7	<0.50	<0.50	<0.50	31,000	4,400	3,900	9.6	7.7	4.67	1.9	0.08	0.75
LWI02P18	<0.50	1.9	1.4	<2.00	<0.50	<0.50	<0.50	18,000	990	2,800	7.84	7.76	835	1.1	0.09	0.57
LWI02P18	<0.50	4	3.5	6.6	<0.50	<0.50	<0.50	40,000	6,000	4,900	0	7.88	9.22	1.2	0.08	1.52
LWI02P18	<0.50	3.7	2.5	3.2	<0.50	<0.50	<0.50	7,100	700	1,300	8.2	7.67	23.3	1.8	0.06	1.85
LWI02P18	<0.50	4.9	2.1	6.2	<0.50	<0.50	<0.50	36,000	8,300	6,500	5.84	7.87	25.9	1.3	0.12	1.6
LWI02P18	<0.50	3.9	4.2	9.5	<0.50	<0.50	<0.50	>9,500	140	8,000	9.87	7.82	3.73	2.3	0.15	0.36
LWI02P18	<0.50	3.8	1.4	5.6	<0.50	<0.50	<0.50	36,000	24,000	5,700	12.27	7.85	12.9	2	0.11	0.3
LWI02P18	<0.50	4.4	1.8	6.2	<0.50	<0.50	<0.50	9,700	860	3,700	7.06	7.88	13.7	2	0.1	0.34

LWIO2P18	<0.50	5.1	3.5	8.9	<0.50	<0.50	<0.50	16,000	2,500	8,200	7.31	7.35	21	2	0.25	0.45
LWIO2P18	<0.50	3.7	1	3.6	<0.50	<0.50	<0.50	26,000	620	3,200	11.8	7.66	22.8	2	0.1	0.41
LWIO2P18	<0.50	2.9	3.9	5	<0.50	<0.50	<0.50	2,300	210	500	9.41	7.61	14.1	2	0.1	0.3
LWIO2P18	<0.50	2.9	6.6	6.7	<0.50	<0.50	<0.50	21,000	1,600	5,700	10.2	7.76	17.9	2	0.21	0.3
LWJ01ASVM	<0.50	100	2.4	27	<0.50	32	<0.50	9,000	3,500	130	8.94	7.34	0.31	1	0.1	1.08
LWJ01ASVM																
LWJ01ASVM	<0.50	110	2.6	29	<0.50	14	<0.50	3,100	330	200	9.42	7.75	0.26	1.1	<0.05	0.99
LWJ01ASVM	<0.50	97	2.1	20	<0.50	15	<0.50	16,000	13,000	240	8.62	7.61	0.37	3.5	<0.05	1.15
LWJ01ASVM	<0.50	90	2.2	16	<0.50	11	<0.50	17,000	3,700	740	8.16	7.55	0.4	1.6	<0.05	1.19
LWJ01ASVM	<0.50	100	2.7	55	<0.50	16	<0.50	27,000	2,000	1,900	8.12	7.72	0.6	1.9	<0.05	1.08
LWJ01ASVM	<0.50	120	2.4	26	<0.50	23	<0.50	2,600	1,100	490	13.4	7.6	0.96	1.9	0.06	1.18
LWJ01ASVM	<0.50	110	2.3	18	<0.50	17	<0.50	2,600	130	460	9.26	7.72	0.44	1.5	0.08	1.53
LWJ01ASVM	<0.50	100	2.1	18	<0.50	17	<0.50	3,700	540	220	8.72	7.7	0.56	0.9	0.09	1.4
LWJ01ASVM	<0.50	100	2	17	<0.50	11	<0.50	8,200	2,800	170	9.75	7.33	0.33	1.7	<0.05	1.27
LWJ01ASVM	<0.50	85	2.9	11	<0.50	23	<0.50	5,000	<10	<10	8.72	7.76	0.29	1.4	<0.05	1.15
LWJ01ASVM	<0.50	67	3.4	16	<0.50	12	<0.50	1,600	200	140	13.37	7.92	0.27	1.3	0.12	1.2
LWJ01ASVM	<0.50	68	3	18	<0.50	10	<0.50	3,100	1,700	1,100	9.21	7.95	0.31	0.8	0.05	1.14
LWJ01ASVM	<0.50	56	0.98	13	<0.50	6.2	<0.50	5,600	2,000	1,300	8.09	7.78	0.66	0.7	0.05	1.3
LWJ01ASVM	<0.50	57	2.6	15	<0.50	2.4	<0.50	17,000	6,900	4,100	8.05	7.86	2.79	0.4	0.5	1.32
LWJ01ASVM	<0.50	54	0.95	7	<0.50	0.68	<0.50	2,800	400	300	8.5	7.84	0.76	0.6	0.05	1.24
LWJ01ASVM	<0.50	83	1.8	18	<0.50	5.9	<0.50	>21,000	900	14,400	9.47	7.94	3.68	2	0.1	1.22
LWJ01ASVM	<0.50	78	0.93	14	<0.50	2.2	<0.50	>940	<9	200	8.72	7.68	0.56	2	0.1	0.96
LWJ01ASVM	<0.50	77	2.1	16	<0.50	11	<0.50	>10,400	1,800	1,130	7.83	7.84	1.68	2	0.12	1.39
LWJ01ASVM	<0.50	83	1.7	10	<0.50	6.8	<0.50	>900	210	60	10.06	7.71	1.83	1	0.1	1.12
LWJ01ASVM	<0.50	68	2	17	<0.50	10	<0.50	4,100	440	520	7.63	7.75	0.69	2	0.1	1.25
LWJ01ASVM	<1.00	76	2.6	19	<1.00	6.3	<1.00	>1,220	250	540	10.04	7.84	0.64	2	0.1	0.83
LWJ01ASVM								2,200	240	280	11.95	7.87	0.77	2	0.1	0.98
MVJ01P03	<8.00	5.5	19	70	<2.00	<1.00	2.1	27,000	12,000	40,400	7.28	7.93	5.44	1	0.19	1.13
MVJ01P03	<8.00	<4.00	6.1	37	<2.00	<1.00	<2.00	25,000	6,000	15,400	9.5	7.21	1.68	0.9	0.14	1.77
MVJ01P03	<8.00	4	12	35	<2.00	<1.00	<2.00	60,000	43,000	16,100	1.35	7.86	1.66	1.1	0.33	0.48

MVJ01P03	<8.00	4.6	16	40	<2.00	<1.00	<2.00	18,600	5,200	70	6.57	7.35	3.66	1.5	0.1	1.45
MVJ01P03	<8.00	<4.00	17	34	<2.00	<1.00	<2.00	34,000	7,600	15,800	2.17	7.62	4.65	1.6	0.3	1.36
MVJ01P03	<8.00	4.5	6.6	45	<2.00	<1.00	<2.00	25,000	15,200	7,000	11.1	7.89	2.85	1.5	0.1	1.37
MVJ01P03	<8.00	6.6	9.7	47	<2.00	<1.00	<2.00	85,000	70,000	23,000	7.8	7.7	2.3	1.5	0.25	7.82
MVJ01P03	<8.00	7.9	39	53	<2.00	<1.00	<2.00	28,000	13,000	49,000	7.79	7.57	3.72	1.9		1.82
MVJ01P03	<8.00	13	38	40	<2.00	<1.00	<2.00	106,000	71,000	18,400	6.8	7.7	3.6	1.8	0.2	2.04
MVJ01P03	<8.00	7	16	30	<2.00	<1.00	<2.00	47,000	30,000	34,000	7.9	7.52	4.13	2.1	0.4	2.33
MVJ01P03	2.4	9.4	72	35	<0.50	<0.50	<0.50	77,000	21,000	27,000	11.4	7.46	36.1	2.6	0.02	1.11
MVJ01P03	<0.50	13	11	19	<0.50	<0.50	<0.50	320,000	56,000	19,000	7.79	7.01	1.47	1.9	0.27	1.38
MVJ01P03	1.7	15	14	27	<0.50	<0.50	<0.50	200,000	11,000	3,900	8.75	7.43	1.34	3.1	<0.05	1.4
MVJ01P03	<0.50	9.8	4.2	14	<0.50	<0.50	<0.50	80,000	62,000	19,000	7.57	7.52	1.66	2.1	0.07	1.37
MVJ01P03	<0.50	7.5	3.4	9.9	<0.50	<0.50	<0.50	54,000	33,000	5,900	7.24	7.44	24.7	2.1	0.18	1.45
MVJ01P03	1.1	16	7.8	21	<0.50	<0.50	<0.50	53,000	29,000	3,000	9.6	7.4	1.96	2.7	<0.05	1.02
MVJ01P03	<0.50	<0.50	<0.50	<2.00	<0.50	<0.50	<0.50	1,050,000	130,000	3,900	8.02	7.52	3.79	2.6	0.12	0.91
MVJ01P03	0.65	5.9	12	27	<0.50	<0.50	<0.50	230,000	13,000	37,000	7.27	7.47	2.29	1.9	0.14	1.37
MVJ01P03	0.52	4.9	9	15	<0.50	<0.50	<0.50	41,000	33,000	4,900	7.62	7.16	1.69	1.7	0.13	1.33
MVJ01P03	<0.50	11	7.5	17	<0.50	<0.50	<0.50	310,000	25,000	7,200	11.9	7.61	1.49	1.5	<0.05	1.29
MVJ01P03	0.53	4.4	17	22	<0.50	<0.50	<0.50	350,000	11,000	16,000	8.73	7.75	2.38	2	0.11	0.71
MVJ01P03	1.2	4.9	8.7	16	<0.50	<0.50	<0.50	5,800	1,000	15,000	8.11	7.6	2.15	1.8	0.13	1.22
MVJ01P03	<0.50	5.5	3.6	13	<0.50	<0.50	<0.50	>1,200,000	18,000	>120,000	5.79	7.77	675	1.9	0.32	1.38
MVJ01P03	<0.50	4.3	7.3	13	<0.50	<0.50	<0.50	110,000	18,000	11,000	7.67	7.74	1.95	2.1	0.37	1.48
MVJ01P03	<0.50	4.6	13	13	<0.50	<0.50	<0.50	50,000	28,000	7,700	7.59	7.73	1.95	1.6	0.12	1.38
MVJ01P03	<0.50	4.9	6.9	15	<0.50	<0.50	<0.50	32,000	3,800	4,200	8.78	7.52	1.66	2.7	0.43	2
MVJ01P03	<0.50	5.2	6.3	18	<0.50	<0.50	<0.50	>40,000	2,200	12,200	9.46	7.81	1.56	1.5	0.1	1.1
MVJ01P03	<0.50	5.8	4	15	<0.50	<0.50	<0.50	48,000	7,500	3,300	7.24	7.95	1.61	0.2	0.12	1.29
MVJ01P03	<0.50	6	6.2	25	<0.50	<0.50	<0.50	>121,000	29,000	13,700	8.68	7.41	5.29	2.5	0.27	1.43
MVJ01P03	<0.50	4.1	4.8	20	<0.50	<0.50	<0.50	102,000	15,000	10,000	10.78	8.15	3.86	2	0.14	1.29
MVJ01P03	0.56	5	6.7	17	<0.50	<0.50	<0.50	39,000	320	2,600	7.94	7.69	1.86	2	0.34	0.74
MVJ01P03	0.52	7.1	5.5	22	<0.50	<0.50	<0.50	29,000	870	7,400	8.77	7.5	1.72	2.1	0.1	1.6
MVJ01P03											8.78	7.94	1.7	2.2	0.33	1.4
MVJ07P02	<8.00	8	18	50	<2.00	<1.00	<2.00	2,180	1,260	750	12.66	7.9	195	2.1	<0.05	1.87

MVJ07P02	<8.00	12	6.7	57	<2.00	1.5	<2.00	52,000	27,000	48,000	6.12	7.73	12.5	1.7	<0.05	0.94
MVJ07P02	<8.00	4.9	8.9	50	<2.00	1.3	<2.00	10,500	8,700	9,500	8.35	7.97	11.3	0.7	0.32	0.74
MVJ07P02	<8.00	6.9	13	52	<2.00	<1.00	<2.00	13,600	2,400	6,200	11.84	8.13	3.38	3.3		2.05
MVJ07P02	<8.00	<4.00	12	34	<2.00	<1.00	<2.00	123,000	81,000	18,600	7.96	8.31	5.66	2.8	0.22	1.31
MVJ07P02	<8.00	13	79	380	<2.00	2	3.3	159,000	95,000	197,000	9.21	8.03	7.37	3.1	0.25	3.81
MVJ07P02	<0.50	6.9	6.8	15	<0.50	<0.50	<0.50	270,000	>120,000	5,900	8.91	7.74	1.86	3.7	0.13	1.44
MVJ07P02	<0.50	5.9	9	13	<0.50	<0.50	<0.50	20,000	9,000	11,000	8.7	7.89	1.75	2.2	<0.05	1.66
MVJ07P02	<0.50	7.6	4.9	54	<0.50	<0.50	<0.50	240,000	140,000	10,400	7.77	7.96	7.4	3	0.09	1.81
MVJ07P02	<0.50	4.5	9.4	23	<0.50	<0.50	<0.50	170,000	5,300	4,000	8.3	8.22	2.23	1.6	0.18	1.01
MVJ07P02	0.53	3.7	9.8	17	<0.50	<0.50	<0.50	46,000	30,000	8,200	8.36	7.94	8.31	1.4	0.08	1.35
MVJ07P02	0.64	5.8	14	19	<0.50	<0.50	<0.50	190,000	32,000	7,100	8.05	8.02	2.06	0.9	0.1	1.98
MVJ07P02	<0.50	5.3	8.9	15	<0.50	<0.50	<0.50	140,000	4,000	6,000	9.61	8.33	1.69	1.6	0.19	1.67
MVJ07P02	<0.50	5.3	8.6	35	<0.50	<0.50	<0.50	38,000	25,000	13,000	8.6	8.07	3.52	2.3	0.15	1.49
MVJ07P02	<0.50	6.3	8.4	27	<0.50	<0.50	<0.50	160,000	6,000	7,300	10.58	8.17	2.32	3.1	0.1	1.62
MVJ07P02	<0.50	3.8	7.6	11	<0.50	<0.50	<0.50	>72,000	22,000	9,600	5.77	8.1	2.17	2.2	0.16	1.44
MVJ07P02	<0.50	6.4	10	30	<0.50	<0.50	<0.50	52,000	21,000	9,500	7.41	8.17	4	2.1	0.28	1.1
MVJ07P02	<0.50	4.6	4.5	8.9	<0.50	<0.50	<0.50	>10,600	2,100	1,590	13.66	8.39	1.6	2.8	0.1	1.61
MVJ07P02											9.66	8.29	4.47	3.6	0.1	1.65
MVL02P14	<0.50	13	6.6	14	<0.50	1.4	<0.50	270,000	270,000	21,000	4.69	7.63	3.16	5.1	0.14	1.35
MVL02P14	<0.50	11	7.4	13	<0.50	1.9	<0.50	390,000	20,000	31,000	8.97	7.86	3.38	2.1	0.2	1.42
MVL02P14	<0.50	12	11	35	<0.50	1.3	<0.50	420,000	170,000	33,000	7.42	7.62	5.94	2.2	0.14	1.17
MVL02P14	<0.50	7.8	13	10	<0.50	1.6	<0.50	230,000	9,000	51,000		7.72	5.34	1.6	0.11	1.44
MVL02P14	<0.50	7.7	9	13	<0.50	1.1	<0.50	170,000	40,000	15,000	11.32	8.02	2.54	12.8	<0.05	1.22
MVL02P14	<0.50	4.2	6.9	8.5	<0.50	<0.50	<0.50	10,700	9,100	8,800	9.57	8.05	3.6	2.1	0.1	1.36
MVL02P14	<0.50	3.3	6.4	9.1	<0.50	<0.50	<0.50	270,000	4,500	21,000	8.85	8.05	2.97	1.5	0.09	1.52
MVL02P14	<0.50	3.5	5.6	7.1	<0.50	<0.50	<0.50	65,000	14,000	17,000	8.22	8.35	4.01	1.4	0.11	1.59
MVL02P14	<0.50	4	8.4	7.6	<0.50	<0.50	<0.50	190,000	16,000	28,000	8.27	8.21	4.75	1.7	0.1	1.81
MVL02P14	<0.50	3.4	4.8	7.6	<0.50	<0.50	<0.50	270,000	54,000	48,000	7.93	8.01	5.38	1.2	0.05	1.88
MVL02P14	<0.50	4.2	5.2	10	<0.50	0.57	<0.50	>64,000	11,500	7,000	9.3	8.2	6.53	2.3	0.08	1.05
MVL02P14	<0.50	3.7	4.7	8	<0.50	<0.50	<0.50	>35,000	5,300	12,900	5.19	8.08	2.76	2.1	0.11	0.81
MVL02P14	<0.50	3.8	5.4	7.6	<0.50	<0.50	<0.50	>84,000	32,000	10,000	8.86	8.37	3.92	2	0.12	1.02

MVL02P14	<0.50	5.3	4.6	6	<0.50	0.53	<0.50	>124,000	38,000	14,100	9.75	8.16	2.38	2.3	0.1	1.04
MVL02P14	<0.50	4.1	4.3	7.1	<0.50	<0.50	<0.50	150,000	84,000	71,000	11.64	8.02	90.7	2	0.15	1.2
MVL02P14	<0.50	4.3	6.8	9	<0.50	<0.50	<0.50	34,000	5,800	11,100	10.29	8.29	3.74	2.5	0.1	1.48
MVL02P14											9.38	8.13	3.09	1.9	0.1	1.05
MVL02P20	<8.00	<4.00	9	20	<2.00	<1.00	<2.00	400	155	190	10.73	8.57	9.64	1.8	0.06	1.21
MVL02P20	<8.00	<4.00	7.8	27	<2.00	<1.00	<2.00	8,100	3,400	6,600	9.79	7.37	3.45	1.3	0.07	1.4
MVL02P20	<8.00	4.3	15	27	<2.00	<1.00	<2.00	75,000	42,000	53,000	8.92	7.98	1.9	1	0.2	0.65
MVL02P20																
MVL02P20	<8.00	8.7	16	77	<2.00	<1.00	<2.00	52,000	28,000	42,000	9.12	8.24	6.94	0.9	0.4	1.31
MVL02P20	<8.00	4	9.1	35	<2.00	<1.00	<2.00	36,000	28,000	10,600	8.66	8.41	2.37	1.5	0.16	1.82
MVL02P20	<8.00	5.1	7.6	29	<2.00	<1.00	<2.00	88,000	58,000	9,850	9.13	8.14	4.95	1.7	0.1	1.7
MVL02P20	1.1	7.1	22	48	<0.50	0.5	0.8	280,000	>120,000	33,000	8.78	7.74	26.6	2.5	38.8	1.36
MVL02P20	<0.50	6.1	5	11	<0.50	<0.50	<0.50	340,000	47,000	12,000	8.63	8.23	1.72	3.5	<0.05	1.44
MVL02P20	<0.50	4.6	8.7	10	<0.50	<0.50	<0.50	120,000	75,000	21,000	8.89	7.89	2.5	2	<0.05	2.54
MVL02P20	0.62	5.3	9.7	15	<0.50	<0.50	<0.50	240,000	16,000	10,000	4.94	7.74	2.83	1.9	0.15	21.35
MVL02P20	<0.50	4	10	9.1	<0.50	<0.50	<0.50	40,000	5,700	7,600	9.7	7.99	2.8	2	0.12	1.25
MVL02P20	<0.50	3.7	6.7	9.3	<0.50	<0.50	<0.50	270,000	170,000	65,000		7.82	4.48	1	0.21	1.64
MVL02P20	<0.50	2	4.6	6.2	<0.50	<0.50	<0.50	5,800	3,700	8,800	10.91	8.27	2.86	2.2	0.06	1.06
MVL02P20	<0.50	2.3	7.9	11	<0.50	<0.50	<0.50	47,000	7,000	48,000	8.5	8.18	4.87	1.8	0.07	1.53
MVL02P20	<0.50	3	6.6	21	<0.50	<0.50	<0.50	250,000	10,000	11,200	9.48	8.38	3.36	1.3	0.25	1.26
MVL02P20	<0.50	3.7	7.9	32	<0.50	<0.50	<0.50	>45,000	4,100	12,000	9.28	8.22	2.7	2.6	0.22	1.27
MVL02P20	<0.50	2.7	8.1	15	<0.50	<0.50	<0.50	>98,000	49,000	23,000	9.27	8.24	2.71	3.5	0.1	2.11
MVL02P20	<0.50	2.7	6.7	8.5	<0.50	<0.50	<0.50	61,000	12,000	12,300	8.86	8.21	4.38	3	0.1	1.15
MVL02P20	<0.50	2.2	5.9	9.4	<0.50	<0.50	<0.50	3,100,000	8,000	102,000	9.78	8.19	3.43	2.1	0.13	0.92
MVL02P20											9.49	8.09	5.34	2.8	0.14	4.87
MVL03P09	<0.50	71	3.6	29	<0.50	18	<0.50	25,000	2,300	1,300	8.17	6.67	7.42	1.3	<0.05	1.07
MVL03P09	0.73	82	5.1	36	<0.50	19	<0.50	33,000	2,000	2,800	7.83	6.5	2.01	2.6	<0.05	1.17
MVL03P09	<0.50	130	4.8	45	<0.50	33	<0.50	28,000	16,000	700	7.48	6.82	1.96	<0.20	<0.05	0.79
MVL03P09	<0.50	97	3.3	40	<0.50	15	<0.50	47,000	35,000	5,400	6.91	6.74	5	2.4	<0.05	1.44
MVL03P09	<0.50	110	4.2	37	<0.50	29	<0.50	41,000	20,000	980	7.27	7.09	4.1	2.3	0.06	0.73

MVL03P09	<0.50	110	6	41	<0.50	26	<0.50	50,000	6,000	300	8.47	6.8	1.75	3.2	<0.05	0.86
MVL03P09	<0.50	87	5.2	49	<0.50	18	<0.50	170,000	30,000	26,000	8.07	6.97	12.3	2.9	<0.05	1.23
MVL03P09	<0.50	79	4.8	40	<0.50	24	<0.50	43,000	20,000	8,000	7.35	7.2	15.7	2.1	0.11	1.13
MVL03P09	0.68	62	11	31	<0.50	15	<0.50	80,000	40,000	12,000	6.98	6.59	15.8	3.2	0.09	1.62
MVL03P09	<0.50	98	3.9	37	<0.50	24	<0.50	41,000	29,000	4,200	13.68	7.43	3.71	3.3	0.12	0.93
MVL03P09	<0.50	100	5.1	45	<0.50	26	<0.50	55,000	1,900	1,070	7.37	6.8	3.93	2	0.05	1.28
MVL03P09	0.91	87	5	38	<0.50	23	<0.50	25,000	10,000	4,600	7.63	6.97	9.01	2.4	0.08	1.24
MVL03P09	<0.50	100	4.5	40	<0.50	26	<0.50	37,000	7,600	1,500	7.24	7.36	2.16	2.2	0.05	0.84
MVL03P09	<0.50	67	6.2	30	<0.50	16	<0.50	110,000	28,000	21,000	7.21	7.11	5.1	1.7	0.1	1.02
MVL03P09	<0.50	60	4.1	28	<0.50	16	<0.50	220,000	42,000	9,000	8.02	7.25	2.38	1.9	0.06	1.34
MVL03P09	<0.50	65	4.1	26	<0.50	17	<0.50	21,000	890	860	8.72	7.02	3.33	3.2	0.1	0.82
MVL03P09	<0.50	89	4.6	33	<0.50	22	<0.50	>4,600	370	1,900	8.67	6.98	2.83	2.8	0.11	0.65
MVL03P09	<0.50	28	2.1	16	<0.50	4.3	<0.50	>8,000	5,300	1,070	7.93	7.82	6.26	2.1	0.1	1.01
MVL03P09	<0.50	66	4.8	27	<0.50	15	<0.50	>116,000	54,000	11,000	8.75	6.98	3.67	2.8	0.1	0.85
MVL03P09	<0.50	64	3.5	32	<0.50	18	<0.50	20,000	3,000	4,100	12.38	7.4	3.44	2.2	0.1	0.77
MVL03P09	<0.50	99	4.5	35	<0.50	21	<0.50	>38,000	1,400	3,100	7.3	7.11	3.17	2.2	0.13	0.62
MVL03P09	<0.50	69	5.5	30	<0.50	15	<0.50	>55,000	2,900	6,600	8.21	7.13	9.75	2.6	0.1	1.04
MVL03P09											8.85	7.3	4.04	2.2	0.1	0.62
MVL03P11	<8.00	8.4	7.3	18	<2.00	1.1	<2.00	40	<10	<10	11.16	7.96	7.5	2.4	0.15	2.5
MVL03P11	<8.00	8.1	5.2	26	<2.00	1.6	<2.00	28,000	12,200	2,800	9.72	7.21	1.14	2.1	<0.05	1.23
MVL03P11	<8.00	6	9.4	23	<2.00	1.5	<2.00	62,000	48,000	7,800	3.05	8.26	1.11	0.5	0.28	0.28
MVL03P11	<8.00	10	7.7	41	<2.00	<1.00	<2.00	15,300	8,800	6,700	8.08	8.2	2.18	2	1.1	0.08
MVL03P11	<8.00	13	7.5	22	<2.00	1.1	<2.00	29,000	15,600	6,000	8.33	8.18	1.87	2.7	0.15	0.85
MVL03P11	<8.00	12	6.9	22	<2.00	1.1	<2.00	52,000	32,000	19,600	9.28	8.17	3.28	1.7	0.1	0.96
MVL03P11	<0.50	19	4	8.5	<0.50	0.71	<0.50	69,000	10,700	87,000	8.93	7.64	11.1	3.2	0.09	1.58
MVL03P11	<0.50	20	6.7	18	<0.50	1.3	<0.50	18,000	8,000	3,400	8.13	7.83	1.9	2.5	0.92	1.52
MVL03P11	<0.50	14	5.6	25	<0.50	0.76	0.5	330,000	150,000	>120,000	8.32	8.12	2.18	2.9	<0.05	1.67
MVL03P11	<0.50	28	18	33	<0.50	2.2	0.6	30,000	12,000	1,300	5.68	7.92	3.84	3.1	0.11	1.34
MVL03P11	<0.50	24	4.2	7.8	<0.50	0.94	<0.50	46,000	3,300	3,600	9.37	7.88	1.31	2.9	0.1	0.94
MVL03P11	<0.50	9.5	5.7	7.9	<0.50	0.69	<0.50	70,000	16,000	17,000	8.83	7.86	4.18	1.8	0.06	1.38
MVL03P11	<0.50	6.6	4.7	9.4	<0.50	0.58	<0.50	7,600	4,000	18,000	9.5	8.19	2.35	3.6	0.05	1.28

MVL03P11	2.8	5.3	5.8	6.9	<0.50	0.71	<0.50	23,000	2,100	4,400	8.41	8.14	3.33	2.4	0.1	1.02
MVL03P11	0.89	7.3	5.1	8.2	<0.50	<0.50	<0.50	56,000	11,000	3,500	9.03	8.19	12	1.8	0.05	0.99
MVL03P11	<0.50	9	5.6	14	<0.50	0.74	<0.50	>20,000	5,400	5,900	9.54	8.16	4.79	2.4	0.2	1.2
MVL03P11	<0.50	6	3.7	4.8	<0.50	0.66	<0.50	56,000	8,400	5,600	8.21	8.18	1.78	2	0.11	1.11
MVL03P11	<0.50	4.4	3.6	5.3	<0.50	<0.50	<0.50	46,000	6,600	10,100	11.65	8.6	2	2.2	0.1	0.93
MVL03P11											9.55	7.93	0.78	2.6	0.1	0.91
RSML02@AP	<0.50	3.7	1.9	7.2	<0.50	<0.50	<0.50	>68,000	4,800	10,000	9.01	8.02	1.59	2	0.1	1.59
RSML02@AP	<0.50	2.1	1.8	4.4	<0.50	<0.50	<0.50	27,000	2,000	9,400	9.77	8.09	5.85	2	0.1	0.61
RSML02@AP	<0.50	2.3	2.6	5.2	<0.50	<0.50	<0.50	>76,000	24,000	5,200	9.28	8.06	1.63	2	0.45	0.3
RSML02@AP	<0.50	4.5	2.9	14	<0.50	<0.50	<0.50	6,400,000	2,200,000	1,490,000	9.77	7.81	11.3	2.3	0.12	1.03
RSML02@AP	<0.50	6.8	2.4	5.6	<0.50	<0.50	<0.50	64,000	14,000	7,500	12.62	7.9	2.76	2	0.2	0.85
RSML02@AP	<0.50	5.7	2.3	5.7	<0.50	<0.50	<0.50	38,000	390	5,000	10.25	7.98	1.86	2	0.11	1.12
RSML02@AP											9.54	7.86	2.11	2	0.1	0.99
RSML02P25	<8.00	<4.00	9.3	27	<2.00	<1.00	<2.00	8,200	4,700	7,050	8.94	8.19	2.7	1.5	0.2	1.42
RSML02P25	<8.00	<4.00	3.3	35	<2.00	<1.00	<2.00	37,000	7,850	1,900	9.29	7.28	6.87	1.9	<0.05	1.31
RSML02P25	<8.00	<4.00	4.5	23	<2.00	<1.00	<2.00	36,000	22,000	66,000	9.57	7.95	3.47	1.4	0.07	0.35
RSML02P25	<8.00	<4.00	4.2	43	<2.00	<1.00	<2.00	34,000	27,000	11,000	9.26	8	2.98		<0.05	0.55
RSML02P25	<8.00	5.2	6.5	32	<2.00	<1.00	<2.00	42,000	19,800	21,000	9.51	7.94	2.89	1.5		1.43
RSML02P25	<8.00	4.8	3.2	25	<2.00	<1.00	<2.00	31,000	21,000	10,600	8.38	7.93	1.75	0.9		0.74
RSML02P25	<0.50	6.9	2.6	7.9	<0.50	<0.50	<0.50	45,000	15,000	3,800	9.67	7.5	1.62	2.3	<0.05	0.65
RSML02P25	<0.50	5.9	2.7	9.2	<0.50	<0.50	<0.50	41,000	8,000	6,300	8.89	8.02	2.92	3.1	<0.05	1.25
RSML02P25	<0.50	6.9	2.5	6.9	<0.50	<0.50	<0.50	130,000	23,000	5,000	8.75	7.96	1.6	2	<0.05	0.96
RSML02P25	<0.50	10	3.2	9.9	<0.50	<0.50	<0.50	50,000	12,000	530	8.86	7.87	1.28	2.5	0.07	0.79
RSML02P25	<0.50	9.6	3.6	16	<0.50	<0.50	<0.50	44,000	7,000	25,000	9.14	7.82	2.4	2	<0.05	1.56
RSML02P25	<0.50	2.2	4	7.7	<0.50	<0.50	<0.50	36,000	26,000	17,000	8.62	7.7	2.41	1.3	0.07	0.92
RSML02P25	<0.50	2.3	2.8	5	<0.50	<0.50	<0.50	48,000	17,000	5,800	9.81	7.9	1.64	2.1	0.05	1
RSML02P25	<0.50	2.3	3.3	4.8	<0.50	<0.50	<0.50	63,000	22,000	7,300	7.2	8.1	2.44	1.4	0.05	0.99
RSML02P25	<0.50	2.3	2.1	4.6	<0.50	<0.50	<0.50	51,000	32,000	10,000	8.81	8.01	2.11	4.1	0.05	1.93
RSML02P25	<0.50	3.3	3.7	7.1	<0.50	<0.50	<0.50	>9,000	1,700	3,100	9.37	7.97	1.25	2.1	0.1	0.83
RSML02P25	<0.50	2.6	2.8	4	<0.50	<0.50	<0.50	21,000	8,500	6,200	9.78	8.55	1.95	2	0.12	0.74

RSML02P25	<0.50	2.3	2.3	3.9	<0.50	<0.50	<0.50	>7,900	3,900	5,100	12.81	8.23	0.99	2	0.12	0.69
RSML02P25	<0.50	4.8	4	4	<0.50	<0.50	<0.50	>7,100	1,200	2,000	11.12	8.08	1.09	2	0.1	0.76
RSML02P28	<8.00	17	19	75	<2.00	<1.00	<2.00	10,000	5,600	5,150	8.55	8.23	25.8	1.1	0.3	0.85
RSML02P28	<8.00	17	19	75	<2.00	<1.00	<2.00	4,200	1,450	1,850	9.33	6.77	10.2	1.8	0.22	0.17
RSML02P28	<8.00	4.1	16	61	<2.00	<1.00	<2.00	37,000	2,800	7,600	8.81	7.85	5.22	1	0.45	0.23
RSML02P28	<8.00	6.1	15	63	<2.00	<1.00	<2.00	11,200	7,200	6,800	14	8.3	5.59	1.4	0.55	1.13
RSML02P28	<8.00	7.4	6.4	63	<2.00	<1.00	<2.00	6,400	1,460	3,400	9	7.96	42.8	1.8		0.97
RSML02P28																
RSML02P28	0.88	7.4	19	50	<0.50	<0.50	0.6	340,000	800	970	9.91	7.84	5.99	1.4	0.6	1.57
RSML02P28	<0.50	6	7.5	20	<0.50	<0.50	<0.50	31,000	21,000	1,500	9.08	8.05	2.3	2.1	0.08	1.38
RSML02P28	<0.50	4.1	2.6	13	<0.50	<0.50	<0.50	20,000	1,190	1,900	8.52	8.2	3.1	2	<0.05	0.55
RSML02P28	<0.50	3.3	2.4	17	<0.50	<0.50	<0.50	5,100	3,200	150	9.45	8.4	0.98	2	0.08	0.41
RSML02P28	0.52	8.9	21	120	<0.50	<0.50	<0.50	420,000	68,000	4,300	9.26	8.11	4.21	2.1	0.35	1.03
RSML02P28	3.8	1	6.6	4.7	<0.50	<0.50	<0.50	5,600	3,100	200	8.69	8.22	25.9	1.4	0.06	0.62
RSML02P28	<0.50	2	9.4	20	<0.50	<0.50	<0.50	400,000	27,000	52,000	9.97	8.97	5.18	2.7	0.06	1.76
RSML02P28	<0.50	1.5	7.1	12	<0.50	<0.50	<0.50	460,000	66,000	4,400	7.21	8.32	2.3	1.7	0.05	0.74
RSML02P28	<0.50	2.2	5.1	15	<0.50	<0.50	<0.50	16,000	3,000	1,400	9.04	8.4	1.09	2.3	0.05	0.94
RSML02P28	5.1	15	25	410	<0.50	<0.50	0.71	>38,000	4,400	6,400	9.83	8.46	8.75	2.4	0.42	6.3
RSML02P28	2	6.4	6.9	470	<0.50	<0.50	<0.50	>9,100,000	>8,400	240,000	8.63	8.29	11.9	3.6	0.43	0.54
RSML02P28																
RSML02P28	<0.50	3.7	6	15	<0.50	<0.50	<0.50	>11,800	1,100	2,100	11.6	8.45	1.78	2.7	0.1	0.72
RSML02P32	<8.00	<4.00	23	41	<2.00	<1.00	<2.00	29,000	18,000	24,800	6.91	7.98	5.89	3.6	<0.05	1.15
RSML02P32	<8.00	<4.00	22	34	<2.00	<1.00	<2.00	4,950	1,800	3,300	9.34	7.01	11.6	2.4	0.22	1.34
RSML02P32	<8.00	<4.00	11	24	<2.00	<1.00	<2.00	8,900	6,200	8,000	7.93	7.71	3.16	1.2	0.15	0.39
RSML02P32	<8.00	<4.00	6.7	70	<2.00	<1.00	<2.00	16,100	8,950	10,000	8.41	8.1	4.9	3.9	0.13	1.21
RSML02P32	<8.00	4.8	12	41	<2.00	<1.00	<2.00	31,000	24,000	50,000	9.21	8.02	1.93	3		1.68
RSML02P32	<8.00	5.4	9.4	31	<2.00	<1.00	<2.00	45,000	35,000	9,450	8.71	7.77	2.88	2.9		1.34
RSML02P32	<0.50	4.7	24	12	<0.50	<0.50	<0.50	52,000	40,000	1,900	9.44	7.36	2.82	4.6	0.07	0.96
RSML02P32	<0.50	3.9	5.3	21	<0.50	<0.50	<0.50	33,000	8,000	7,000	8.37	8.02	6.59	3.4	0.08	1.4
RSML02P32	<0.50	4.4	5.2	11	<0.50	<0.50	<0.50	20,000	8,600	6,500	8.42	7.92	1.6	3.1	<0.05	1.48

RSML02P32	0.59	5.9	9.9	18	<0.50	<0.50	<0.50	190,000	150,000	53,000	8.98	7.87	8.05	3.4	<0.05	0.97
RSML02P32	<0.50	5.6	15	20	<0.50	<0.50	<0.50	19,000	4,100	17,000	9.2	7.84	1.95	3.4	0.48	2.3
RSML02P32	<0.50	1.9	7.5	11	<0.50	<0.50	<0.50	58,000	25,000	43,000	8.57	7.79	2.85	2.7	0.1	29.9
RSML02P32	0.64	1.2	3.3	9.2	<0.50	<0.50	<0.50	6,100	4,400	1,220	9.65	8.16	0.61	2.9	0.08	0.8
RSML02P32	0.53	1.9	6.7	11	<0.50	<0.50	<0.50	680,000	580,000	86,000	6.98	8.07	6.56	1	0.06	3.77
RSML02P32	<0.50	1.3	3.8	10	<0.50	<0.50	<0.50	57,000	28,000	16,000	8.8	8.17	1.6	2.1	0.23	1.29
RSML02P32	2.1	2.2	3.6	15	<0.50	<0.50	<0.50	>12,600	4,400	5,800	10.23	8.23	1.98	3.2	0.1	0.89
RSML02P32	0.54	2.5	4.6	10	<0.50	<0.50	<0.50	28,000	8,800	8,600	8.79	8.11	1.59	3	0.1	0.83
RSML02P32	<0.50	2	4.4	6.1	<0.50	<0.50	<0.50	49,000	11,000	15,400	12.75	7.94	2.39	3.4	0.1	0.9
RSML02P32	<0.50	1.4	4.8	7.8	<0.50	<0.50	<0.50	27,000	3,000	11,000	9.65	8.19	1.85	2	0.1	0.76
RSML02P32											9.72	8.14	0.86	2.5	0.1	0.97
RSML02P45	<8.00	<4.00	10	36	<2.00	<1.00	<2.00	9,550	8,300	5,500	7.74	8.26	7.81	3.5	<0.05	1.33
RSML02P45	<8.00	<4.00	4.2	22	<2.00	<1.00	<2.00	2,900	2,700	6,550	7.18	6.9	4.17	4.5	<0.05	0.36
RSML02P45	<8.00	<4.00	4.9	27	<2.00	<1.00	<2.00	26,000	14,600	8,100	7.84	8.1	2.85	1	0.1	0.33
RSML02P45	<8.00	<4.00	4.3	34	<2.00	<1.00	<2.00	30,000	23,000	10,600	7.17	7.9	1.74	1.7		0.96
RSML02P45	<8.00	6.1	7.3	37	<2.00	<1.00	<2.00	7,800	6,300	6,600	9.15	8.13	3.56	2.9	<0.05	1.72
RSML02P45	<8.00	<4.00	3.6	26	<2.00	<1.00	<2.00	10,600	7,300	5,600	9.53	7.97	2.91	2.7		1.28
RSML02P45	<0.50	5.8	4.7	5.5	<0.50	<0.50	<0.50	41,000	9,300	10,000	7.57	7.88	10.4	2.6	0.13	0.77
RSML02P45	<0.50	4.5	9	14	<0.50	<0.50	<0.50	17,000	11,000	5,200	8.89	7.94	1.35	2.5	<0.05	1.47
RSML02P45	<0.50	4.6	3.5	7.7	<0.50	<0.50	<0.50	43,000	7,500	4,900	21.82	8.03	1.3	2.9	<0.05	1.14
RSML02P45	<0.50	5.5	4.7	9.6	<0.50	<0.50	<0.50	120,000	17,000	1,200	8.84	8.01	3.82	2.8	0.08	1.07
RSML02P45	<0.50	4.8	4.1	6.5	<0.50	<0.50	<0.50	40,000	15,000	5,400	9.17	8.08	2.81	2.9	0.11	1.35
RSML02P45	0.65	8	7.4	5.7	<0.50	<0.50	<0.50	39,000	8,000	12,000	8.1	7.85	3.57	1.5	0.7	2.38
RSML02P45	<0.50	1.3	2.5	7.2	<0.50	<0.50	<0.50	40,000	5,100	8,100	10.71	8.28	1.23	2.5	0.1	1
RSML02P45	<0.50	1.3	3	7.8	<0.50	<0.50	<0.50	61,000	5,200	3,900	9.43	8.22	1.98	2.1	0.1	0.96
RSML02P45	<0.50	1.4	2.4	4.3	<0.50	<0.50	<0.50	39,000	8,000	7,200			1.64	2	0.1	0.79
RSML02P45	<0.50	1.9	4.8	9.5	<0.50	<0.50	<0.50	>52,000	38,000	88,000	11.34	8.33	3.56	2.4	0.2	1.01
RSML02P45	0.67	2.6	7.7	17	<0.50	<0.50	<0.50	>39,000	17,000	7,200	8.65	8.19	4.74	4.6	0.7	1.5
RSML02P45	<0.50	2.4	3.3	4.4	<0.50	<0.50	<0.50	>57,000	5,000	60,000	12.84	8.05	1.82	2.4	0.1	1.15
RSML02P45	<0.50	1.2	3.6	5.7	<0.50	<0.50	<0.50	46,000	2,700	9,300	9.82	8.22	1.73	2	0.1	0.45
RSML02P45											9.92	8.13	3.36	2.3	0.1	0.57

RSML11P02	<8.00	<4.00	26	58	<2.00	<1.00	<2.00	26,400	10,600	11,300	10.53	7.96	8.8	2.4	0.9	1.44
RSML11P02	<8.00	<4.00	9	42	<2.00	<1.00	<2.00	16,300	7,400	9,900	8.1	8.5	3.59	<0.20	<0.05	2.65
RSML11P02	<8.00	<4.00	8.2	22	<2.00	<1.00	<2.00	41,000	25,000	33,000	19.01	8.24	8.75	2	<0.05	1.73
RSML11P02	<8.00	<4.00	9.3	35	<2.00	<1.00	<2.00				8.36	8.23	2.13	2.9	0.08	1.44
RSML11P02	<8.00	<4.00	7.1	26	<2.00	<1.00	<2.00	42,000	7,900	28,000	8.37	8.04	5.22	2.8	0.15	1.4
RSML11P02	<8.00	5.5	7.6	39	<2.00	<1.00	<2.00	114,000	45,000	116,000	12	7.8	5.4	2.2	0.1	1.59
RSML11P02	0.59	6.1	17	19	<0.50	<0.50	<0.50	800,000	6,700	2,300	7.6	7.98	2.65	1.5	0.45	1.63
RSML11P02	<0.50	4.3	4.9	11	<0.50	<0.50	<0.50	240,000	210,000	44,000	9.4	7.94	4.17	2.2	<0.05	1.93
RSML11P02	<0.50	4	6.7	17	<0.50	<0.50	<0.50	300,000	130,000	34,000	9.03	8.15	4.6	2.2	0.1	1.56
RSML11P02	0.64	10	36	180	<0.50	<0.50	<0.50	330,000	65,000	42,000	8.63	7.94	8.49	3	<0.05	2.08
RSML11P02	<0.50	5.1	9.1	15	<0.50	<0.50	<0.50	360,000	120,000	20,000	9.13	8.09	5.54	1.9	0.25	1.89
RSML11P02	<0.50	6	4.6	12	<0.50	<0.50	<0.50	150,000	90,000	23,000	8.64	7.91	4.34	1.5	0.1	1.71
RSML11P02	<0.50	2.4	12	12	<0.50	<0.50	<0.50	38,000	4,300	8,300	9.43	8.2	11	2.9	0.13	1.13
RSML11P02	<0.50	1.9	5.5	11	<0.50	<0.50	<0.50	190,000	22,000	23,000	9.32	8.16	3.46	2.3	0.09	1.27
RSML11P02	<0.50	2.6	4.5	8.5	<0.50	<0.50	<0.50	70,000	26,000	32,000			3.98	2.7	0.25	1.91
RSML11P02	<0.50	2.6	5.6	17	<0.50	<0.50	<0.50	34,000	5,900	13,200	11.03	8.32	3.73	2.4	0.18	0.87
RSML11P02	<0.50	2.8	8.6	13	<0.50	<0.50	<0.50	380,000	110,000	500,000	8.61	8.2	3.14	2.4	0.11	1.21
RSML11P02	<0.50	2.5	3.1	7.4	<0.50	<0.50	<0.50	680,000	38,000	42,000	12.92	7.93	3.8	2.2	0.12	1.31
RSML11P02	<0.50	1.8	6.5	8.4	<0.50	<0.50	<0.50	33,000	2,400	23,000	9.74	8.2	3.21	2.1	0.1	0.87
RSML11P02											9.77	8.2	8.14	2	0.1	0.74
SCBS@M02	<8.00	41	62	220	<2.00	3.2	4.3	78,000	37,000	58,000	5.23	7.89	18.8	2.6	2.6	12.76
SCBS@M02	<8.00	18	3.9	30	<2.00	1.9	<2.00	62,000	14,000	4,300	5.32	7.32	8.13	3.2	0.12	1.26
SCBS@M02	<8.00	18	7.1	44	<2.00	<1.00	<2.00	<10	<10	<10	5.23	8	10.2	1.8	0.3	0.27
SCBS@M02	<8.00	21	9.1	27	<2.00	<1.00	<2.00	14,500	27,000	78,000	1.69	8.04	5	0.9	0.55	0.22
SCBS@M02	<8.00	19	18	52	<2.00	2.2	<2.00	166,000	46,000	119,000	1.75	8.01	10.6	0.8	1.35	0.86
SCBS@M02																
SCBS@M02	<8.00	21	8.4	62	<2.00	<1.00	<2.00	10,400	8,850	12,700	7.66	8.19	7.48	4.4	0.38	2.02
SCBS@M02	<8.00	20	9	39	<2.00	<1.00	<2.00	64,000	37,000	11,200	8.85	8.18	7.82	4.7	0.13	1.27
SCBS@M02	<8.00	26	13	97	<2.00	<1.00	<2.00	<200,000	<200,000	129,000	7.98	8.13	6.5	3	0.45	1.69
SCBS@M02	<8.00	29	10	15	<2.00	<1.00	<2.00	28,000	20,222	49,000	14.4	8.3	6.7	4.4	0.15	1.04

SCBS@M02	<8.00	31	5.2	16	<2.00	<1.00	<2.00	7,900	4,800	2,100	14	8.3	33.7	2.32	0.2	1.36
SCBS@M02	<0.50	71	5.9	28	<0.50	4.5	<0.50	38,000	30,000	3,000	7.73	8.03	2.03	3	<0.05	0.52
SCBS@M02	<0.50	86	4.6	11	<0.50	1.4	<0.50	370,000	47,000	9,400	8.9	7.53	1.7	5.1	0.14	0.55
SCBS@M02	0.89	36	7	4.2	<0.50	1.6	<0.50	200,000	150,000	4,200	9.05	8.03	1.52	2.9	0.29	0.51
SCBS@M02	<0.50	67	6.1	11	<0.50	2	<0.50	720,000	190,000	240	8.8	8.02	1.8	3.3	<0.05	0.43
SCBS@M02	<0.50	54	9.2	3	<0.50	1.3	<0.50	310,000	45,000	1,700	8.88	8.05	1.2	5	<0.05	0.44
SCBS@M02	<0.50	45	5.8	16	<0.50	1.9	<0.50	200,000	58,000	730	8.43	8.04	1.22	5.1	0.44	0.35
SCBS@M02	<0.50	39	4.4	9.6	<0.50	1.6	<0.50	76,000	42,000	2,200	9.03	7.97	1.44	3.9	0.12	0.62
SCBS@M02	1.3	49	17	20	<0.50	1.6	<0.50	160,000	10	18,300	7.44	8.08	5.91	3.5	0.32	1.01
SCBS@M02	<0.50	34	9.3	14	<0.50	1.4	<0.50	1,190,000	480,000	4,100	7.92	7.87	1.71	3.3	0.5	0.73
SCBS@M02	<0.50	37	5.8	4.8	<0.50	0.53	<0.50	87,000	12,000	9,600	9.98	7.81	3.75	2.2	0.15	0.5
SCBS@M02	0.53	14	18	17	<0.50	1.5	<0.50	>1,200,000	>1,200,000	640	7.94	8.12	6.12	5.8	0.65	2.32
SCBS@M02	1.1	30	67	130	<0.50	1.2	1.1	270,000	6,300	62,000	8.1	8.19	113	4.5	5.2	2.92
SCBS@M02	<0.50	13	5.4	6.2	<0.50	<0.50	<0.50	36,000	7,700	5,500	9.5	8.06	5.26	3.4	0.05	0.83
SCBS@M02	<0.50	16	4.6	7.8	<0.50	<0.50	<0.50	30,000	1,700	4,900	9.48	8.16	4.19	4	0.05	0.97
SCBS@M02	0.73	14	5.8	23	<0.50	<0.50	<0.50	240,000	2,900	3,800	6.65	8.05	4	4.2	0.15	0.43
SCBS@M02	<0.50	17	5.2	9.4	<0.50	0.92	<0.50	390,000	6,100	3,100	9.72	8.21	4.65	2.3	0.23	0.56
SCBS@M02	<0.50	8.8	3.4	4.4	<0.50	<0.50	<0.50	51,000	2,800	3,900	8.92	8.28	2.98	2.8	0.11	0.54
SCBS@M02	<2.50	11	4	<10.00	<2.50	<2.50	<2.50	9,600,000	43,000	7,800	9.16	8.03	20.5	5.1	1.05	0.74
SCBS@M02	<0.50	10	3.9	8.6	<0.50	<0.50	<1.00	31,000	2,700	1,140	12.22	8.06	2.6	5.7	0.33	0.69
SCBS@M02	<1.00	11	13	8.8	<1.00	<1.00	<0.50	640,000	46,000	84,000	13.94	8.16	21.9	4.7	0.15	0.95
SCBS@M02	<1.00	13	4.5	9.1	<1.00	<1.00	<2.50	116,000	>99	8,400	10.85	8.21	1.45	2.8	0.24	0.45
SCBS@M02	<0.50	9.9	7.8	23	<2.50	<2.50	<2.50	95,000	2,200	42,000	15.85	8.21	3.15	4.9	0.19	0.51
SCM00P03	<8.00	15	12	62	<2.00	<1.00	<2.00	89,000	42,000	10,800	13.6	8.19	2.77	0.4	0.65	0.27
SCM00P03																
SCM00P03	<8.00	18	6.5	39	<2.00	<1.00	<2.00				8.07	7.75		2.4	0.35	0.69
SCM00P03	<8.00	19	8.2	36	<2.00	<1.00	<2.00	27,000	17,800	1,400	4.18	7.58	1.6	2.1	0.15	0.74
SCM00P03	0.53	24	13	81	<0.50	0.54	<0.50	370,000	4,600	13,000	9.08	7.65	3.35	2.9	0.18	1.4
SCM00P03	0.58	39	8.6	6.2	<0.50	1.1	<0.50	15,000	2,400	800	12.17	8.27	2.01	0.4	<0.03	0.6
SCM00P03	0.85	18	23	66	<0.50	0.78	1.1	37,000	31,000	2,500	9.52	8.14	4.43	4.4	1.02	2.95
SCM00P03	0.79	38	11	20	<0.50	0.85	<0.50	3,200	600	2,000	13.92	8.27	16.1	1.3	0.08	0.67

SCM00P03	1	9.9	14	500	<0.50	<0.50	<0.50	>1,200,000	5,100	7,400	9.08	8.25	22.9	1.8	4.3	1.49
SCM00P03	1.8	15	8.9	77	<0.50	<0.50	<0.50	160,000	21,000	11,000	9.73	8.22	4.49	1.9	0.7	1.37
SCM00P03	<0.50	10	6.7	47	<0.50	0.63	<0.50	2,800	1,200	1,100	9.94	8.28	2.66	2.5	0.09	1.48
SCM00P03	<0.50	14	6.6	62	<0.50	3.5	<0.50	3,800	500	600	5.79	8.21	4.85	2.1	0.05	1.26
SCM00P03																
SCM00P03	<0.50	19	5.8	52	<0.50	0.73	<0.50	>2,400	110	590	10.85	8.14	0.33	2	0.11	0.53
SCM00P03	0.51	14	4.6	48	<1.00	<1.00	<1.00	49,000	>130	8,200	8.71	8.01	4.8	2.2	0.1	0.83
SCM00P03	<2.00	16	5.7	15	<0.50	<0.50	<0.50	27,000	240	3,400	13.51	7.66	15.6	3.6	0.12	0.76
SCM00P03											9.8	8.06	7	2	0.1	1.26
SCM02XXX	<8.00	760	<2.00	130	<2.00	54	<2.00	16,000	2,850	12,650	10.54	7.89	7.82	6.7	<0.05	0.3
SCM02XXX	120	9.8	9.6	50	<2.00	<1.00	<2.00	3,800	3,100	1,760	8.87	8.1	403	1.3	0.45	0.18
SCM02XXX	<8.00	14	7.4	160	<2.00	<1.00	<2.00	12,000	6,100	3,900	9.33	8.27	13.5	0.7	0.1	1.56
SCM02XXX	<8.00	25	13	54	<2.00	5.4	<2.00	77,000	67,000	4,700	7.02	7.38	3.44	3.1	1.5	2.49
SCM02XXX																
SCM02XXX	<8.00	12	7.8	<10.00	<2.00	<1.00	<2.00	111,000	85,000	17,200	9.14	8.1	62.1	1.5		2.33
SCM02XXX	0.82	22	6.1	4.5	<0.50	0.52	<0.50	22,000	5,200	13,000	7.23	8.3	7.13	3.5	<0.05	1.5
SCM02XXX	0.54	29	5.2	4.1	<0.50	<0.50	<0.50	65,000	27,000	5,700	9.75	8.05	46.9	1.7	<0.05	1.28
SCM02XXX	0.58	24	4	3.3	<0.50	0.52	<0.50	25,000	12,000	4,800	9.6	8.13	3.1	1.8	0.06	1.51
SCM02XXX	0.64	11	5.3	7.6	<0.50	<0.50	<0.50	5,900	3,600	530	9.49	8.14	16.9	1.8	0.35	0.79
SCM02XXX	<0.50	7.6	6.9	11	<0.50	<0.50	<0.50	630	270	400	9.26	8.14	16.1	1.9	0.08	1.64
SCM02XXX	<0.50	12	5.9	75	<0.50	<0.50	<0.50	52,000	2,900	3,000	8.34	8.02	16.1	4	0.06	1.67
SCM02XXX	0.55	16	4.6	6.8	<0.50	0.53	<0.50	15,000	9,000	4,900	10.34	8.26	5.17	2.8	0.09	1.23
SCM02XXX	0.69	14	4.9	7.9	<0.50	0.56	<0.50	37,000	930	2,000	7.45	8.19	3.95	3.1	0.05	1.39
SCM02XXX	<0.50	7.8	3.7	18	<0.50	<0.50	<0.50	150,000	22,000	39,000	6.5	7.8	3.51	11.2	0.07	2.35
SCM02XXX																
SCM02XXX	0.52	12	6.4	9.9	<0.50	0.57	<0.50	32,000	2,600	2,400	11.26	8.08	676	4	0.11	1.1
SCM02XXX	<0.50	9.9	5.4	15	<0.50	0.62	<0.50	>44,000	28,000	51,000	11.48	8.16	6.2	3.1	0.12	3.11
SCM02XXX	<0.50	11	4.2	8	<0.50	0.52	<0.50	33,000	5,300	9,200	15.27	8.23	6.93	4.1	0.1	1.77
SCM02XXX											11.16	7.92	2.36	2.8	0.1	1.64
SCM03P01	<8.00	22	8	35	<2.00	3.3	<2.00	94,000	56,000	2,950	7.86	7.44	17.6	2	<0.05	0.53

SCM03P01	<8.00	17	8.4	19	<2.00	2	<2.00	59,000	5,000	3,200	7.08	7.8	4.88	3.2	0.15	1.98
SCM03P01	<8.00	26	9.2	53	<2.00	4.3	<2.00	4,500	3,200	5,900	7.83	7.47	6.94	1.1	0.1	0.41
SCM03P01	<8.00	37	9.3	63	<2.00	8.8	<2.00	8,000	2,800	6,000	7.67	7.34	3.07	2.6		1.24
SCM03P01	<8.00	14	7	21	<2.00	<1.00	<2.00	84,000	49,000	58,000	9.34	8.3	4.79	1.5	0.1	1.24
SCM03P01	<8.00	30	9	54	<2.00	5.9	<2.00	3,200	1,400	1,080	6.53	7.33	1.59	2.5	0.1	1.53
SCM03P01	0.5	42	5.8	22	<0.50	6.6	<0.50	36,000	30,000	8,000	5.02	7.3	2.03	3.4	<0.05	1.14
SCM03P01	<0.50	42	6.9	26	<0.50	7.9	<0.50	180,000	190,000	13,800	6.56	7.17	2.13	3.2	<0.05	1.12
SCM03P01	<0.50	35	5.5	19	<0.50	6.6	<0.50	48,000	16,000	6,200	7.55	7.48	2.5	2.9	<0.05	1.36
SCM03P01	0.58	66	5.3	40	<0.50	15	<0.50	28,000	2,400	800	7.56	7.4	0.85	5.3	<0.03	1.02
SCM03P01	<0.50	59	6.7	46	<0.50	13	<0.50	1,080,000	570,000	>1,200,000	7.59	7.57	2.57	3.6	0.28	2.06
SCM03P01	<0.50	57	6.1	37	<0.50	12	<0.50	450,000	50,000	86,000	4.8	7.71	2.56	4.8	0.18	1.94
SCM03P01	<0.50	60	5.3	32	<0.50	13	<0.50	4,600	50,000	500	6.24	7.44	1.12	5	0.1	0.99
SCM03P01	<0.50	73	7	45	<0.50	16	<0.50	290,000	27,000	20,000	4.81	7.63	1.4	5.4	0.07	1.19
SCM03P01	<0.50	81	4.5	54	<0.50	21	<0.50	5,000	3,000	500	6.47	7.43	1.82	5.6	0.05	1.27
SCM03P01	<0.50	11	5.3	13	<0.50	1.3	<0.50	>35,000	6,400	10,800	8.96	7.65	2.35	5.2	0.17	1.17
SCM03P01	<0.50	26	3.9	15	<0.50	3.5	<0.50	20,000	3,600	3,100	8.57	7.96	2.12	3.7	0.1	1.61
SCM03P01	<0.50	24	2.1	21	<0.50	2.4	<0.50	>8,000	2,700	7,400	10.67	8.2	2.53	4.7	0.1	1.21
SCM03P01											7.54	6.96	5.1	5.6	0.14	1.35
SJCL01@CC	<8.00	<4.00	5	56	<2.00	<1.00	<2.00	2,070	725	580	10.88	8.41	2.4	0.8	<0.05	0.82
SJCL01@CC	<8.00	6.9	13	370	<2.00	<1.00	6.1	39,000	960	1,030	10.2	7.62	5.43	6.4	<0.05	1.22
SJCL01@CC	<8.00	<4.00	3.5	17	<2.00	<1.00	<2.00	1,130	980	960	8.69	7.82	1.14	1.7	<0.05	0.44
SJCL01@CC	<8.00	<4.00	12	42	<2.00	<1.00	<2.00	8,200	4,300	6,100	7.6	8.21	6.72	0.8	0.18	0.16
SJCL01@CC	<8.00	<4.00	2.2	15	<2.00	<1.00	<2.00	8,700	3,300	3,900	9.7	8.29	0.88	0.9	<0.05	0.17
SJCL01@CC	<8.00	5.3	12	80	<2.00	<1.00	2.2	79,000	72,000	2,800	10.23	8.51	3.05	1.2	0.24	1.43
SJCL01@CC	<8.00	6.2	10	88	<2.00	<1.00	<2.00	4,700	3,300	1,290	4.24	7.84	10.9	1.3	0.15	1.68
SJCL01@CC	<8.00	5.1	7.2	40	<2.00	<1.00	<2.00	11,400	8,900	1,210	9.51	8.36	1.95	0.8	0.15	1.03
SJCL01@CC	<8.00	23	9.2	37	<2.00	<1.00	<2.00	73,000	58,000	87,000	14.6	8.2	6.4		0.1	3.85
SJCL01@CC	<8.00	7.1	10	150	<2.00	<1.00	<2.00	62,000	50,000	53,000	13.8	8.6	15.9		0.9	3.87
SJCL01@CC	<0.50	4.4	5.5	28	<0.50	<0.50	<0.50	30,000	400	3,000	8.11	8.26	1.97	2.7	0.08	0.77
SJCL01@CC	<0.50	10	15	460	<0.50	0.62	3.7	820,000	>100,000	103,000	8.2	7.53	2.4	1.4	0.45	5.02
SJCL01@CC	1.5	5.1	3.6	60	0.72	1.1	1.4	>1,200,000	>120,000	>120,000	7.36	7.87	2.11	0.9	0.6	1.15

SJCL01@CC	<0.50	4.4	3.5	25	<0.50	<0.50	<0.50	40,000	18,000	6,000	8.41	8.28	1.08	4.7	0.11	1.83
SJCL01@CC	<0.50	5	4.5	55	<0.50	<0.50	<0.50	24,000	7,900	1,500	8.29	8.08	2.1	2.8	0.14	1.82
SJCL01@CC	<0.50	8.2	8.6	49	<0.50	<0.50	<0.50	600,000	110,000	3,400	10.25	8.08	1.93	3.3	0.5	1.14
SJCL01@CC	<0.50	5.5	7.8	39	<0.50	<0.50	<0.50	710,000	9,200	3,000	8.75	8.07	4.3	1.4	0.22	1.61
SJCL01@CC	<0.50	6.1	6.9	45	<0.50	<0.50	<0.50	39,000	<10	7,700	9.09	8.21	1.6	1.5	0.15	1.56
SJCL01@CC	<0.50	1.9	6	31	<0.50	<0.50	<0.50	24,000	5,000	4,300	9.1	7.88	1.58	1.7	0.22	1.45
SJCL01@CC	<0.50	1.3	4.1	14	<0.50	0.64	<0.50	<10	<10	<10	0	8.34	0.34	1.6	0.12	0.23
SJCL01@CC	1.1	2.4	8.2	35	<0.50	<0.50	<0.50	30,000	3,000	1,000	9.06	8.12	6.51	2.1	0.18	0.74
SJCL01@CC	<0.50	5.9	13	500	<0.50	0.67	5.2	14,000	1,500	6,200	8.81	8.14	1.22	0.8	0.48	2.71
SJCL01@CC	<0.50	3.2	10	47	<0.50	<0.50	0.53	22,000	4,200	15,000	7.5	8.37	1.61		0.27	1.33
SJCL01@CC	<0.50	3.2	5.4	43	<0.50	<0.50	<0.50	540,000	220,000	84,000	8.99	8.03	1.58	1.8	0.3	2
SJCL01@CC	1.3	4.4	7.3	43	<0.50	<0.50	3	800,000	210,000	18,000	8.04	8.17	13.3	1.2	0.45	2.19
SJCL01@CC	<0.50	4.1	6.1	39	<0.50	<0.50	<0.50	6,400	5,600	2,400	9.74	8.3	4.51	2.3	0.3	1.46
SJCL01@CC	<0.50	2.9	5.6	41	<0.50	<0.50	<0.50	40,000	8,600	7,400	10.67	8.33	2.74	0.2	0.25	1.04
SJCL01@CC	<0.50	5.9	7.9	250	<0.50	<0.50	2	166,000	98,000	145,000	12.7	8.2	2.8	2.4	0.83	1.9
SJCL01@CC	<0.50	3.5	4.8	41	<0.50	<0.50	<0.50	>7,800	3,100	4,000	11.05	8.29	2.81	2	0.12	0.73
SJCL01@CC	<0.50	4.3	6.8	44	<0.50	<0.50	<0.50	410,000	48,000	13,100	8.95	8.33	5.48	2.5	0.18	1.16
SJCL01@CC	<0.50	3.2	5.1	30	<0.50	<0.50	<0.50	79,000	25,000	51,000	9.66	8.25	2.95	2	0.14	1.09
SJCL01@CC	<0.50	6	8	100	<0.50	<0.50	<0.50	7,900,000	24,000	58,000	10.59	8.22	3.81	2	0.36	0.52
SJCL01P03	<8.00	<4.00	15	19	<2.00	<1.00	<2.00	29,000	17,000	13,750	8.62	8.28	3.96	6	<0.05	0.63
SJCL01P03	<8.00	<4.00	6.2	96	<2.00	<1.00	<2.00	24,000	6,550	5,450	8.23	8.02	9.74	2.8	<0.05	0.61
SJCL01P03	<8.00	<4.00	4.1	19	<2.00	<1.00	<2.00	7,100	6,200	6,500	8.47	8.33	2.43	7	<0.05	0.88
SJCL01P03	<8.00	8.2	5.8	44	<2.00	<1.00	<2.00	12,400	9,750	5,200	9.72	8.36	3.6	2.5	0.08	1.02
SJCL01P03	<8.00	6.6	7.5	75	<2.00	<1.00	<2.00	52,000	44,000	10,000	7.57	8.23	3.17	5.6	<0.05	1.03
SJCL01P03	<8.00	5.7	12	25	<2.00	<1.00	<2.00	15,200	11,600	17,000	10.32	8.01	7.03	5.6		1
SJCL01P03	<0.50	13	3.8	13	<0.50	0.9	<0.50	100,000	2,800	5,400	8.4	7.69	2.65	5.9	<0.05	0.63
SJCL01P03	<0.50	9.5	3.3	10	<0.50	<0.50	<0.50	53,000	17,000	17,000	8.17	8.05	7.92	4.6	<0.05	4.36
SJCL01P03								270,000	48,000	30,000	8.01	8.22	16.7	2.9	0.07	3.01
SJCL01P03	0.52	11	2.8	9.1	<0.50	<0.50	<0.50	66,000	11,700	3,400	8.68	8.18	1.7	4.3	0.08	<0.06
SJCL01P03	<0.50	8.5	4.6	9.2	<0.50	<0.50	<0.50	85,000	1,400	34,000	7.65	7.98	64.3	4.2	0.13	2.09
SJCL01P03	0.56	3.7	11	25	<0.50	<0.50	1.2	140,000	18,000	17,000	6.71	8.21	227	3.5	0.25	1.74

SJCL01P03	<0.50	2.3	3	10	<0.50	<0.50	<0.50	19,000	5,900	6,100	8.72	8.18	3.4	4	0.08	0.95
SJCL01P03	<0.50	3.6	2.2	6	<0.50	<0.50	<0.50	30,000	3,400	8,900	8.11	8.3	2.97	4.4	0.1	1.36
SJCL01P03	<0.50	3.2	3.4	13	<0.50	<0.50	<0.50	47,000	5,400	7,600	7.5	8.05	52.3	3.3	0.35	1.34
SJCL01P03	<0.50	3.5	6.2	11	<0.50	<0.50	<0.50	>34,000	3,500	7,600	8.14	8.12	2.24	4	0.12	0.69
SJCL01P03	<0.50	2.5	2.6	2.9	<0.50	<0.50	<0.50	41,000	5,600	6,400	8.18	8.54	3.24	2	0.1	0.47
SJCL01P03	0.5	4.8	2.9	5.6	<0.50	<0.50	<0.50	32,000	3,600	8,100	13.68	8.33	0.66	3.3	0.1	0.68
SJCL01P03											8.82	8.2	3.71	2	0.1	1.21
SJCL01S01	<0.50	5.3	3.6	7.7	<0.50	<0.50	<0.50	31,000	3,800	3,300	9.61	8.14	1.92	3.1	0.12	0.61
SJCL01S01	0.53	5.8	5.6	14	<0.50	1.3	<0.50	>5,100	220	780	9.29	8.09	3.06	3.9	0.12	0.87
SJCL01S01	<0.50	1.6	2.2	16	<0.50	<0.50	<0.50	3,700	210	9,400	11.06	7.98	1.94	2	0.1	0.3
SJCL01S01	<0.50	7.3	4	13	<0.50	<0.50	<0.50	>39,000	13,000	10,900	9.85	8.07	9.53	4.1	0.1	1.17
SJCL01S01	<0.50	6.4	2.9	4.8	<0.50	<0.50	<0.50	21,000	3,400	8,800	9.47	8.06	1.67	3.6	0.1	0.86
SJCL01S01	<0.50	6.9	4.2	5.1	<0.50	<0.50	<0.50	>5,900	100	600	10.29	8.24	2.23	3.2	0.1	0.92
SJCL01S01	<0.50	3.1	4.4	5.8	<0.50	<0.50	<1.00	38,000	330	1,860	13.2	8.12	2.95	4.2	0.1	1.61
SJCL01S01											10.32	8.06	3.16	3.7	0.1	0.99
SJCL01TBN1	<0.50	4.3	12	9.5	<0.50	<0.50	<0.50	100,000	8,000	4,000	7.78	9.07	7.38	1.9	0.2	1.23
SJCL01TBN1	<0.50	5.2	11	11	<0.50	<0.50	<0.50	220,000	14,000	26,000	8.49	7.71	6.12	2.6	0.2	2.38
SJCL01TBN1	0.76	4.6	15	11	<0.50	<0.50	<0.50	140,000	38,000	16,000	8.94	7.99	10	2	0.08	1.86
SJCL01TBN1	93	92	23	87	<0.50	25	26	NR	NR	NR	8.02	8.1	6.1	1	0.1	1.2
SJCL01TBN1	0.59	6.8	4.1	18	<0.50	<0.50	<0.50	62,000	38,000	38,000	8.86	8.04	3.3	1.6	0.35	1.9
SJCL01TBN1	0.54	5	11	8.5	<0.50	<0.50	<0.50	23,000	8,000	3,900	9.51	8	3.23	3.6	0.18	1.51
SJCL01TBN1	0.85	4.8	13	8	<0.50	<0.50	<0.50	280,000	480	56,000	10.75	8.46	4.86	5.1	0.1	3.43
SJCL01TBN1	0.63	6.4	16	19	<0.50	<0.50	<0.50	24,000	3,200	10,000	11.27	8.5	3.46	3.9	0.25	2.73
SJCL01TBN1	<0.50	2.1	13	8.8	<0.50	<0.50	<0.50	470,000	54,000	57,000	9.99	8.17	4.65	3.3	0.18	3.65
SJCL01TBN1	<0.50	2.9	8.1	5.7	<0.50	<0.50	<0.50	210,000	22,000	12,000	12.3	8.1	2.41	1.8	<0.05	1.3
SJCL01TBN1	0.61	3.1	20	13	<0.50	<0.50	<0.50	102,000	20,000	15,000	3.94	8.21	3.63	6.3	0.8	2.94
SJCL01TBN1	<0.50	1.4	20	5.1	<0.50	<0.50	<0.50	6,300	790	5,100	9.28	8.17	1.32	2.7	0.11	3.77
SJCL01TBN1	<0.50	2.1	9.6	5.5	<0.50	<0.50	<0.50	36,000	13,000	56,000	0.2	8.16	2.2	3.1	0.05	3.51
SJCL01TBN1	<0.50	1.7	8.4	4.4	<0.50	<0.50	<0.50	32,000	1,600	4,100	8.51	8.11	5.2	2.2	0.1	1.37
SJCL01TBN1	<0.50	2.4	7.9	9	<0.50	<0.50	<0.50	63,000	15,000	4,000	6.4	8.18	3.46	2.9	0.25	3.26

SJCL01TBN1																
SJCL01TBN1	<0.50	2.7	9.9	9.9	<0.50	<0.50	<0.50	28,000	2,400	9,700	8.84	8.04	1.63	3.2	0.1	1.03
SJCL01TBN1	<0.50	2.9	8.2	12	<0.50	<0.50	<0.50	>75,000	3,800	11,100	11.95	8.06	3.33	4.3	0.3	2.44
SJCL01TBN1																
SJCL01TBN1	<0.50	2.9	6	4.2	<0.50	<0.50	<0.50	163,000	9,700	6,700	7.01	8.13	6.43	2.3	0.1	1.37
SJCL01TBN1	<0.50	3.9	9.3	12	<0.50	<0.50	<0.50	>24,000	>230	20,000	7.86	7.98	4.69	3	0.33	1.6
SJCL01TBN1	0.88	2.3	8.9	11	<0.50	<0.50	<0.50	>69,000	4,300	14,500	9.68	8.04	4.53	2	0.56	2.41
SJCL01TBN1																
SJCL02P02	<8.00	4.9	8.5	36	<2.00	<1.00	<2.00	87,000	42,000	50,660	7.08	7.99	6.31	0.9	0.2	2.9
SJCL02P02	24	35	77	2900	<2.00	3.2	16	98,000	41,000	3,450	4.61	7.46	19.4	2.1	<0.05	2.01
SJCL02P02	<8.00	4.3	11	41	<2.00	<1.00	<2.00	81,000	36,000	66,000	7.46	7.5	3.76	2.9	0.17	1.43
SJCL02P02	<8.00	6.9	22	190	<2.00	<1.00	<2.00	18,500	12,600	8,450	7.27	7.95	2.89	1.3	0.16	1.81
SJCL02P02	<8.00	6.4	10	84	<2.00	<1.00	6.2	>200,000	110,000	76,000	6.56	8.05	3.96	0.8	0.33	2.25
SJCL02P02	<8.00	7.9	5.9	69	<2.00	<1.00	<2.00	<200,000	58,000	170,000	5.26	7.55	12.4	0.9	0.6	2.97
SJCL02P02	<0.50	10	7.6	17	<0.50	<0.50	<0.50	180,000	6,000	3,800	6.63	7.44	1.46	1.4	0.08	1.52
SJCL02P02																
SJCL02P02	<0.50	4.4	2.2	6	<0.50	<0.50	<0.50	200,000	47,000	7,900	7.07	8.02	16.7	1.8	<0.05	1.56
SJCL02P02	<0.50	6.4	5.9	9.8	<0.50	<0.50	<0.50	40,000	4,800	3,800	10.46	8.1	2.02	0.7	0.06	<0.06
SJCL02P02	<0.50	6.9	6.4	18	<0.50	<0.50	<0.50	45,000	720	6,900	6.72	7.99	1.78	3.7	0.17	2.11
SJCL02P02	<0.50	4.5	4.1	10	<0.50	<0.50	<0.50	53,000	10,000	11,000	6.22	8.04	6.2	0.9	0.4	1.53
SJCL02P02	<0.50	7	7.7	27	<0.50	<0.50	<0.50	160,000	80,000	48,000	9.3	8.03	4.65	1.2	0.15	2.58
SJCL02P02	0.86	5.6	13	29	<0.50	<0.50	0.5	43,000	1,100	5,900	6.43	8.03	5.66	4.7	0.32	3
SJCL02P02	<0.50	2.6	4.2	8.9	<0.50	<0.50	<0.50	170,000	48,000	30,000	6.88	8.1	4.78	3	0.8	1.85
SJCL02P02	<0.50	3.9	8	19	<0.50	<0.50	<0.50	>41,000	2,500	2,800	12.8	8.61	2.31	1.8	0.42	1.25
SJCL02P02	0.86	7.3	14	85	<0.50	<0.50	1.4	480,000	80,000	44,000	5.57	8.04	17.2	1.1	1.15	1.82
SJCL02P02	<0.50	2.8	1.8	11	<0.50	<0.50	<0.50	99,000	11,900	30,000	12.09	8.2	3.18	2	0.2	1.44
SJCL02P02											12.35	8.29	6.8	2	0.78	1.92

**CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
SAN DIEGO REGION**

FACT SHEET / TECHNICAL REPORT

FOR

**ORDER NO. R9-2009-0002
NPDES NO. CAS0108740**

WASTE DISCHARGE REQUIREMENTS

FOR

**DISCHARGES OF RUNOFF FROM
THE MUNICIPAL SEPARATE STORM SEWER SYSTEMS (MS4s)
DRAINING THE WATERSHEDS OF THE
COUNTY OF ORANGE,
THE INCORPORATED CITIES OF ORANGE COUNTY,
AND THE ORANGE COUNTY FLOOD CONTROL DISTRICT
WITHIN THE SAN DIEGO REGION**

December 16, 2009

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LIST OF ACRONYMS AND ABBREVIATIONS

ADT - Average Daily Traffic
ASBS - Area of Special Biological Significance
AST - Active Sediment Treatment
BAT - Best Available Technology
BIA - Building Industry Association of San Diego County
BMP - Best Management Practice
Basin Plan - Water Quality Control Plan for the San Diego Basin
BU - Beneficial Uses
CASQA - California Stormwater Quality Association
CCC - California Coastal Commission
CDFG - California Department of Fish and Game
CEQA - California Environmental Quality Act
CFR - Code of Federal Regulations
Copermittees - County of Orange, the 11 incorporated cities within the County of Orange in the San Diego Region, and the Orange County Flood Control District
CWA - Clean Water Act
CWC - California Water Code
CZARA - Coastal Zone Act Reauthorization Amendments of 1990
DAMP - Drainage Area Management Plan
ESAs - Environmentally Sensitive Areas
FR - Federal Register
GIS - Geographic Information System
HMP - Hydromodification Management Plan
IBI - Index of Biotic Integrity
IC/ID - Illicit Connections and Illicit Discharges
JRMP - Jurisdictional Runoff Management Plan
LARWQCB - California Regional Water Quality Control Board, Los Angeles Region
LID - Low Impact Development
MEP - Maximum Extent Practicable
MRP - Receiving Waters Monitoring and Reporting Program
MS4 - Municipal Separate Storm Sewer System
NOI - Notice of Intent
NPDES - National Pollutant Discharge Elimination System
NRDC - Natural Resources Defense Council
NURP - Nationwide Urban Runoff Program
OCVCD - Orange County Vector Control District
Regional Board - California Regional Water Quality Control Board, San Diego Region
RGOs - Retail Gasoline Outlets
ROWD - Orange County Copermittees' Report of Waste Discharge (application for NPDES reissuance)
RWLs - Receiving Water Limitations
SAL - Storm Water Action Level
SIC - Standard Industrial Classification Code
SSMP - Standard Storm Water Mitigation Plan
State Board - State Water Resources Control Board
SWMP - Storm Water Management Plan
SWPPP - Storm Water Pollution Prevention Plan
SWQPA - State Water Quality Protected Area
TAC - State Water Resources Control Board Urban Runoff Technical Advisory Committee
TIE - Toxicity Identification Evaluation
TMDL - Total Maximum Daily Load
USEPA - United States Environmental Protection Agency

USACE – United States Army Corps of Engineers
WDRs - Waste Discharge Requirements
WLA - Waste Load Allocation
WQC - Water Quality Criteria
WQBEL - Water Quality Based Effluent Limitations
WQMP – Water Quality Management Plan
WSPA - Western States Petroleum Association
WRMP - Watershed Runoff Management Plan

I. FACT SHEET FORMAT

This Fact Sheet briefly sets forth the principle facts and the significant factual, legal, methodological, and policy questions that the California Regional Water Quality Control Board, San Diego Region (Regional Board) considered in preparing Order No. R9-2009-0002. In accordance with the Code of Federal Regulations (CFR) title 40 parts 124.8 and 124.56, this Fact Sheet includes, but is not limited to, the following information:

- A. Contact information
- B. Public process and notification procedures
- C. Background information
- D. Permitting approach
- E. Economic issues
- F. Legal authority
- G. Findings
- H. Directives

Tentative Order No. R9-2008-0001 was distributed for review on February 9, 2007. A public hearing was subsequently held on April 11, 2007 in the City of Mission Viejo to receive oral comments from interested persons, and the Regional Board accepted written comments on the Tentative Order until April 25, 2007. Following review of the comments, a Revised Tentative Order was distributed on July 6, 2007 with a Response to Comments document (RTC 1). A second set of written comments were received on the revisions until August 23, 2007. Following review of the second round of written comments, the Regional Board further revised specific sections of the Order and distributed a second Response to Comments document (RTC 2). Tentative Order No. R9-2008-0001 was submitted to the Board for adoption on February 13, 2008. Upon review and comment, the Board chose not to adopt Tentative Order No. R9-2008-0001 and sent the Order back to staff with comments for changes. Tentative Order No. R9-2009-0002 was distributed for review on March 13, 2009. Written comments received on the tentative Order prior to June 19, 2009 were provided to Regional Board members for a public hearing regarding the Tentative Order held on July 1, 2009. On August 12, 2009, the sixth version of the Tentative Order was distributed for review. On November 18, 2009 an adoption hearing was held on the Tentative Order. The Regional Board directed staff to make specific changes and bring the Tentative Order back for consideration.

The Regional Board's files applicable to the issuance of Order No. R9-2009-0002 are incorporated into the administrative record in support of the findings and requirements of Order No. R9-2009-0002.

II. CONTACT INFORMATION

Regional Board

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The Order and other related documents can be downloaded from the Regional Board website at http://www.waterboards.ca.gov/sandiego/programs/oc_stormwater.html.

All documents referenced in this Fact Sheet and in Order No. R9-2009-0002 are available for public review at the Regional Board office, located at the address listed above. Public records are available for inspection during regular business hours, from 8:00 am to 5:00 pm Monday through Friday. To schedule an appointment to inspect public records, contact Sylvia Wellnitz at 858-637-5593 or DiAnne Broussard at 858-492-1763.

Copermittees

County of Orange	City of Laguna Woods
Orange County Flood Control District	City of Lake Forest
City of Aliso Viejo	City of Mission Viejo
City of Dana Point	City of Rancho Santa Margarita
City of Laguna Beach	City of San Clemente
City of Laguna Hills	City of San Juan Capistrano
City of Laguna Niguel	

III. PUBLIC PROCESS AND NOTIFICATION PROCEDURES

The Regional Board followed the schedule listed below for the preparation of Order No. R9-2009-0002:

- A. In April 2006 and July 2006, the Northern Watershed Unit of the Regional Board met with the Copermitees to discuss the Report of Waste Discharge (ROWD) and potential changes to the permit based on the annual reports and the tentative permit for San Diego County.
- B. On August 18, 2006, the Regional Board received the ROWD for the permit renewal.
- C. On October 20, 2006 the Regional Board provided written comments on the ROWD to the Copermitees.
- D. On November 15, 2006, the Regional Board received the 2005-06 annual reports from the Copermitees for the existing permit.
- E. On January 11, 2007, the Regional Board notified all known interested parties that an electronic email listserv had been established to provide information and notices on the reissuance of the municipal storm water NPDES permit for southern Orange County.
- F. On February 9, 2007, the Regional Board released the tentative Order and notified interested parties of a planned workshop. Written comments were accepted until April 25, 2007.
- G. A public workshop was held on March 12, 2007.
- H. A public hearing of the tentative Order was conducted on April 11, 2007.
- I. A revised tentative Order was released on July 6, 2007. Written comments were accepted until August 23, 2007.
- J. A second revised tentative Order was released on December 12, 2007.
- K. A public hearing was conducted on February 13, 2008. The Regional Board chose not to adopt the tentative Order, and sent it back to staff for revision.
- L. On March 13, 2009 the Regional Board released a fourth version of the revised tentative Order and notified interested parties of a planned workshop.
- M. On April 03, 2009 and May 06, 2009 the Regional Board held public workshops.
- N. A public hearing of the tentative Order was held on July 01, 2009.
- O. On August 12, 2009 the Regional Board released an additional version of the revised tentative Order for public review. Written comments were accepted until September 28, 2009.
- P. An adoption hearing of the tentative Order was conducted on November 18, 2009. The Regional Board chose not to adopt the tentative Order and directed staff to make specific changes.

IV. BACKGROUND

Tentative Order No. R9-2009-0002 is the fourth iteration of the storm water permit for the municipal separate storm sewer systems (MS4s) in the Orange County portion of the San Diego region. The first permit was adopted in 1990, and the permit was reissued in 1996 and 2002.

Municipal Storm Water Permits are required by the Federal Clean Water Act 1987 Amendments. The federal Clean Water Act (CWA) was amended in 1987 to address storm water runoff from municipal and industrial dischargers. One requirement of the amendment was that many municipalities throughout the United States were obligated for the first time to obtain National Pollutant Discharge Elimination System (NPDES) permits for discharges of storm water runoff from their MS4s. In response to the CWA amendment (and the pending federal NPDES regulations which would implement the amendment), the Regional Board issued a municipal storm water permit, Order No. 90-38, in July 1990 to the Copermittees for their MS4 discharges.¹

The First and Second Term Permits, Order Nos. 90-38 and 96-03, provided maximum flexibility. Order No. 90-38 contained the “essentials” of the 1990 regulations, but the requirements were written in very broad, generic terms. This was done in order to provide the maximum amount of flexibility to the Copermittees in implementing the new requirements (flexibility was, in fact, the stated reason for issuing the permit in advance of the final regulations). This lack of specificity was reflected in the Drainage Area Management Plan (DAMP) implemented under this First Term Permit in 1993 and renewed under the Second Term Permit in 1996. From staff’s perspective however, this same lack of specificity, combined with the lack of funding and political will, also provided the Copermittees with ample reasons to take few substantive steps towards permit compliance. The situation was exacerbated by the Regional Board’s own lack of storm water resources.

By 2000 the Regional Board and Copermittees recognized the importance of an improved storm water program. Although renewed in 1996 as Order No. 96-03, the 1993 DAMP implemented by the Copermittees was not significantly updated until 2000. The 2000 DAMP submitted to the Regional Board for the Third-Term Permit renewal was improved over the earlier DAMP. Regional Board staff concluded, however, that it reflected only the basic requirements of the 1990 Federal Regulations and in most cases did not represent significant improvement over the 1993 DAMP. Continued implementation of the DAMP without amendment would not have adequately addressed the impacts to receiving waters resulting from the discharge of storm water runoff and would not have achieved the maximum extent practicable standard (MEP) as defined in the Order.

¹ The 1990 permit was issued to the County of Orange, the Orange County Flood Control District, and six incorporated cities. Additional municipalities have been added to the MS4 NPDES permit as they have incorporated.

In order to provide the Copermittees with the minimum requirements to meet the MEP standard for storm water of the Regional Board, a more detailed Order was adopted (Order No. R9-2002-01) that emphasized the strong jurisdictional level programs developed by the Copermittees during the First and Second Term Permits as well as the watershed-level approach embodied in the proposed DAMP.

The Third-Term Permit introduced specific requirements. The regulatory approach incorporated into Order No. R9-2002-01 was a significant departure from the regulatory approach of the First and Second-Term Permits. Where Order Nos. 90-38 and 96-03 included broad, nonspecific requirements in order to provide the Copermittees with the maximum amount of flexibility in developing their programs, Order No. R9-2002-01 used detailed, specific requirements which outlined the minimum level of implementation required for the Copermittees' programs. The shift in permitting approaches resulted from the Regional Board's conclusion that the lack of specificity in earlier Orders resulted in frequently unenforceable permit requirements, which in turn allowed some Copermittees to only make limited progress in implementing their programs.

The Third-Term Permit followed the San Diego County permit template. The shift in regulatory approaches for MS4 permits was first manifested in the 2001 MS4 permit to the owners and operators of San Diego County MS4s (Order No. R9-2001-01). The Third-Term Orange County Permit included similar requirements as the 2001 San Diego County Permit. Both the San Diego and Orange County Permits were appealed to the State Water Resources Control Board (State Board).² Minor modifications of each were made by the State Board, but the vast majority of the requirements were upheld. The San Diego County permit was also challenged in the Superior Court of the State of California and the Court of Appeal, Fourth Appellate District. Further litigation on the Orange County permit was held pending the precedential decisions on the San Diego Permit. The San Diego Permit was largely upheld in the Superior and Appellate Courts. The State of California Supreme Court declined to hear a final appeal from the Building Industry Association in March 2005. Thus, the Third-Term Orange County permit requirements remained as slightly modified by the State Board.

² Seven petitions were filed with the State Board over the Third-Term Orange County Permit. Six were placed in abeyance. Three of the petitioners sought stays. One stay request was dismissed and one was withdrawn. The active petition and stays were addressed by the State Board in Order No. WQO 2002-0014. That Order stayed provision F.5.f regarding sewage spills and modified Finding No. 26 regarding chronic toxicity.

The Third-Term Permit was adopted following substantial public participation.

Public participation was extensive during the adoption process of the Third-Term Permit. The draft permit was released for public review and comment on July 2, 2001, and revised in response to comments and State Board Order WQ 2001-15 on the petition to review the San Diego Municipal Storm Water Permit. Because the proposed requirements for Orange County were similar to those that had recently been adopted and contested in San Diego County, much of the public participation dialogue echoed the discussions held during the San Diego renewal. Approximately 684 comments were received and responded to during two public workshops and a written comment period on the Tentative Order for the Third-Term Orange County permit. Following the extensive public participation process, the Regional Board adopted Order No. R9-2002-01 on February 13, 2002.

Storm water programs have improved under the Third-Term Permit. Since adoption of Order No. R9-2002-01, the Copermittees' storm water programs have expanded dramatically. Audits of the Copermittees' programs and reviews of annual reports exhibit that the Copermittees' jurisdictional programs are largely in compliance with the Order. Some of the efforts currently being conducted on a regular basis by the Copermittees that were not conducted on a widespread basis prior to adoption of Order No. R9-2002-01, include: construction site storm water inspections, industrial and commercial facility storm water inspections, municipal facility storm water inspections, management of storm water quality from new development, development of BMP requirements for existing development, interdepartmental coordination, comprehensive water quality monitoring, and assessment of storm water program effectiveness.

Significant challenges remain. When viewed relative to the magnitude of the storm water runoff problem, enormous challenges remain, particularly regarding the management of storm water runoff on a watershed scale. Today, storm and non-storm water discharges from the MS4 continue to be the leading cause of water quality impairment in the San Diego Region.³ The Copermittees' monitoring data exhibits persistent exceedances of water quality objectives in most watersheds.⁴ Many watersheds also have conditions that are frequently toxic to aquatic life. Bioassessment data from the watersheds further reflects these conditions, finding that macroinvertebrate communities in creeks have widespread Poor to Very Poor Index of Biotic Integrity ratings. Finally, the now too familiar "health advisory" or "beach closure" signs, which often result from high levels of bacteria in storm and non-storm water, exhibit the continued threat to public health by such discharges.

³ The potential sources of impairments are identified on the CWA section 303(d) list of impaired water bodies for the San Diego Region.

⁴ Data is provided in annual reports to the Regional Board. A summary of data collected during the third-term permit is provided in the Copermittees' application for permit reissuance. That summary is available on-line at: http://www.ocwatersheds.com/StormWater/documents_ROWd.asp

V. PERMITTING APPROACH (PROGRAM INTEGRATION, FLEXIBILITY, AND DETAIL)

The Order contains an increased emphasis on storm water discharge management on a watershed basis. This shift towards increased watershed management is consistent with planning efforts conducted by the Regional Board regarding reissuance of the San Diego Permit (Order No. R9-2007-0001), and it is also consistent with the Copermittees' most recent Report of Waste Discharge (ROWD).⁵ This shift reflects recognition of the maturity of the storm water programs since they began implementing the Third-Term Permit. Addressing storm water discharge management on a watershed basis is only possible if effective jurisdictional programs have been established, and maintaining effective jurisdictional programs is crucial to the success of watershed-focused management.

There are several reasons for this shift in emphasis. First, the Copermittees are generally doing an effective job at implementing their jurisdictional programs; while on the other hand, an emphasis on watersheds is necessary to shift the focus of the Copermittees from program development and implementation to water quality results. After over 15 years of Copermittee program implementation, it is critical that the Copermittees link their efforts with positive impacts on water quality. Addressing storm water on a watershed scale focuses on water quality results by emphasizing the receiving waters within the watershed. The conditions of the receiving waters drive management actions, which in turn focus on the water quality problems in each watershed.

Focusing on watershed implementation does not mean that the Copermittees must expend funds outside of their jurisdictions. Rather, the Copermittees within each watershed are expected to collaborate to develop a watershed strategy to address the high priority water quality problems within each watershed. They have the option of implementing the strategy in the manner they find to be most effective. Each Copermittee can implement the strategy individually within its jurisdiction, or the Copermittees can group together to implement the strategy throughout the watershed.

While the Order includes a new emphasis on addressing storm water discharges on a watershed basis, the Order includes recognition of the importance of continued program implementation on jurisdictional and countywide levels. The Order also acknowledges that jurisdictional, watershed, and countywide efforts are not always mutually exclusive. For this reason, an attempt has been made to allow for the Copermittees' jurisdictional, watershed, and countywide programs to integrate.

⁵ The Report of Waste Discharge (ROWD) was submitted to the Regional Board on August 18, 2006 by the Principal Permittee (County of Orange) on behalf of all Copermittees.

In the Order, the watershed requirements serve as the mechanism for this program integration. Since jurisdictional and countywide activities can also serve watershed purposes, such activities can be integrated into the Copermitees' watershed programs, provided the activities meet certain criteria. In this manner, the Copermitees' activities do not always need to distinguish between jurisdictional, watershed, and countywide levels of implementation. Instead, they can be integrated on multiple levels.

Such opportunities for program integration inherently provide flexibility to the Copermitees in implementing their programs. Program integration can be expanded or minimized as the Copermitees see fit. For example, there is flexibility provided in determining the activities to be integrated and implemented in the watershed programs – watershed-based efforts, countywide efforts, enhanced jurisdictional efforts, or a mixture of the three. Significant flexibility is also provided throughout other portions of the Order.

Copermitees can choose the best management practices (BMPs) to be implemented, or required to be implemented, for development, construction, and existing development areas. Flexibility to determine which industrial or commercial sites are to be inspected is also provided to the Copermitees. Educational approaches are also to be determined by the Copermitees under the Order. Implementation of certain efforts on a countywide basis is largely optional for the Copermitees as well. Significant leeway is also provided to the Copermitees in using methods to assess the effectiveness of their various runoff management programs. This flexibility is further extended to the monitoring program requirements, which allow the Copermitees to develop monitoring approaches to several aspects of the monitoring program.

The challenge in drafting the Order is to provide the flexibility described above while ensuring that the Order is still enforceable. To achieve this, the Order frequently prescribes minimum measurable outcomes, while providing the Copermitees with flexibility in the approaches they use to meet those outcomes. Enforceability has been found to be a critical aspect of the Order. For example, the watershed requirements of Order No. R9-2002-01 were some of the Order's most flexible requirements. This lack of specificity in the watershed requirements resulted in inefficient watershed compliance efforts. This situation reflects a common outcome of flexible permit language. Such language can be unclear and unenforceable, and it can lead to implementation of inadequate programs.

To avoid these types of situations, a balance between flexibility and enforceability has been crafted into the Order. Minimum measurable outcomes are utilized to ensure the Order is enforceable, while the Copermitees are provided flexibility in deciding how they will implement their programs to meet the minimum measurable outcomes.

GENERAL CRITERIA

Non-storm water discharges may contain pollutants which result from various activities that occur within areas draining into the MS4. This includes, but is not limited to, illicit discharges and connections, exempted categories of discharge not a source of pollutants (40 CFR 122.26(d)), and discharges into the MS4 covered under a separate NPDES permit. As such, existing and proposed discharges of non-storm water from MS4s:

- a) Result from similar activities through the MS4 system;
- b) Are the same type of water;
- c) Require similar effluent limitations for the protection of the Beneficial Uses of the receiving waters;
- d) Require similar monitoring;
- e) Are under the control of the owner and operator of the MS4 system;
and
- f) Are more appropriately regulated under a general permit than individual permits.

VI. ECONOMIC ISSUES

Economic discussions of storm and non-storm water management programs tend to focus on the significant costs incurred by municipalities in developing and implementing the programs. However, when considering the cost of implementing the programs, it is also important to consider the alternative costs incurred by not fully implementing the programs, as well as the benefits which result from program implementation. For instance, unhealthful coastal water quality conditions negatively affect residents, tourists, and related portions of the Orange County economy.⁶

⁶ Orange County 2006 Community Indicators Project. 2006. Sponsored by the County of Orange, the Orange County Business Council, and the Children and Families Commission of Orange County. Available on-line at www.oc.ca.gov/ceocommunity.asp

It is very difficult to ascertain the true cost of implementation of the Copermittees' management programs because of inconsistencies in reporting by the Copermittees. Reported costs of compliance for the same program element can vary widely from city to city, often by a very wide margin that is not easily explained.⁷ Despite these problems, efforts have been made to identify management program costs, which can be helpful in understanding the costs of program implementation. The Orange County Municipalities plan to prepare a common fiscal reporting strategy to better define the expenditure and budget line items included in annual reports.⁸

Estimates of Phase I Storm Water Program Costs.

The United States Environmental Protection Agency (USEPA), the California Regional Water Quality Control Boards, and the State Board have attempted to evaluate the costs of implementing municipal storm water programs. The assessments demonstrate that true costs are difficult to ascertain and reported costs vary widely. Nonetheless, they provide a useful context for considering the costs of requirements within Tentative Order No. R9-2008-0001. In addition, reported fiscal analyses tend to neglect the costs incurred to municipalities when storm water runoff is not effectively managed. Such costs result from pollution, contamination, nuisance, and damage to ecosystems, property, and human health.

In 1999 USEPA reported on multiple studies it conducted to determine the cost of management programs. A study of Phase II municipalities determined that the annual cost of the Phase II program was expected to be \$9.16 per household. USEPA also studied 35 Phase I municipalities, finding costs to be \$9.08 per household annually, similar to those anticipated for Phase II municipalities.⁹ The USEPA cost estimate for Phase I municipalities is valuable because it considers municipalities in Orange County.

A study on program cost was also conducted by the California Regional Water Quality Control Board, Los Angeles Region (LARWQCB), where program costs reported in the municipalities' annual reports were assessed. The LARWQCB estimated that average per household cost to implement the MS4 program in Los Angeles County was \$12.50.¹⁰ Since the Los Angeles County permit is very similar to Order No. R9-2002-01, this estimate is also useful in assessing general program costs in Orange County.

⁷ LARWQCB, 2003. Review and Analysis of Budget Data Submitted by the Permittees for Fiscal Years 2000-2003. P. 2.

⁸ Orange County Storm Water Copermittees. 2006. Report of Waste Discharge (San Diego Region)

⁹ Federal Register / Vol. 64, No. 235 / Wednesday, December 8, 1999 / Rules and Regulations. P. 68791-68792.

¹⁰ LARWQCB, 2003. Review and Analysis of Budget Data Submitted by the Permittees for Fiscal Years 2000-2003. P. 2.

The State Board also recently commissioned a study by the California State University, Sacramento to assess costs of the Phase I MS4 program. This study includes an assessment of costs incurred by Phase I MS4s throughout the State to implement their programs. Annual cost per household in the study ranged from \$18-46, with the City of Encinitas in San Diego County representing the upper end of the range.¹¹ Although no Orange County municipalities were assessed, the cost of the City of Encinitas' program may be somewhat representative of the upper range of Orange County MS4 programs. Encinitas shares similarities with southern Orange County, including the similarity of the San Diego MS4 permit to the Orange County MS4 permit, the city's coastal location, and its reliance on tourism. However, the City's program cost can be considered as the high end of the spectrum for management program costs because the City has a consent decree with environmental groups regarding its program, and City of Encinitas has received recognition for implementing a superior program.

It is important to note that reported program costs are not all attributable to compliance with MS4 permits. Many program components, and their associated costs, existed before any MS4 permits were ever issued. For example, street sweeping and trash collection costs cannot be solely or even principally attributable to MS4 permit compliance, since these practices have long been implemented by municipalities. Therefore, true program cost resulting from MS4 permit requirements is some fraction of reported costs. The California State University, Sacramento study found that only 38 percent of program costs are new costs fully attributable to MS4 permits. The remainder of the program costs were either pre-existing or resulted from enhancement of pre-existing programs.¹² In 2000, the County of Orange found that even lesser amounts of program costs are solely attributable to MS4 permit compliance, reporting that the amount attributable to implement the Drainage Area Management Plan (DAMP), was less than 20 percent of the total budget. The remaining 80 percent was attributable to pre-existing programs.¹³

Estimating Costs of Reissued Storm Water Permits

The vast majority of costs that will be incurred as a result of implementing Order No. R9-2009-0002 are not new. Storm water management programs have been in place in Orange County for over 15 years. Any increase in cost to the Copermitttees will be incremental in nature. Moreover, since Order No. R9-2009-0002 "fine tunes" the requirements of Order No. R9-2002-01, these cost increases are expected to be modest.

¹¹ State Water Board, 2005. NPDES Stormwater Cost Survey. P. ii.

¹² Ibid. P. 58.

¹³ County of Orange, 2000. A NPDES Annual Progress Report. P. 60. More current data from the County of Orange is not used in this discussion because the County of Orange no longer reports such information.

The anticipated costs of program changes are difficult to estimate because of the flexibility inherent within the Permit and the recognition that program modifications will vary among the municipalities in response to the specific needs of the local and watershed programs. In other words, the Permit is intended to allow each Permittee to de-emphasize some program components and strengthen others based on the experience of the jurisdictional programs.

The changes in Order No. R9-2009-0002 reflect the iterative process of BMP implementation and the necessarily adaptive nature of storm water management that is expected by the USEPA. In 1996, USEPA recognized that changes to MS4 programs would occur during the reapplication period based on new information on the relative magnitude of a problem, new data on water quality impacts of the storm water discharges, and experience gained under the prior permit.¹⁴ Some program changes have been proposed by the Copermittees in the permit reapplication package, and others have been included because the Regional Board considers those measures necessary and feasible to protect water quality from the effects of MS4 discharges.

Other Economic Considerations.

Economic considerations of management programs cannot be limited only to program costs. Evaluation of programs requires information on the implementation costs and information on the benefits derived from environmental protection and improvement.¹⁵ Attention is often focused on program costs, but the programs must also be viewed in terms of their value to the public.

For example, household willingness to pay for improvements in fresh water quality for fishing and boating has been estimated by USEPA to be \$158-210.¹⁶ This estimate can be considered conservative, since it does not include important considerations such as marine waters benefits, wildlife benefits, or flood control benefits. The California State University, Sacramento study corroborates USEPA's estimates, reporting annual household willingness to pay for statewide clean water to be \$180.¹⁷ When viewed in comparison to household costs of existing management programs, household willingness to pay estimates exhibit that per household costs incurred by Copermittees to implement their management programs remain reasonable.

¹⁴ Federal Register / Vol. 61, No. 155 / Friday, August 9, 1996 / Rules and Regulations. Interpretive policy memorandum on reapplication requirements for MS4s.

¹⁵ Ribaldo M.O. and D. Heelerstein. 1992, *Estimating Water Quality Benefits: Theoretical and Methodological Issues*. U.S. Department of Agriculture. Technical Bulletin No. 1808.

¹⁶ Federal Register / Vol. 64, No. 235 / Wednesday, December 8, 1999 / Rules and Regulations. P. 68793.

¹⁷ State Board, 2005. NPDES Stormwater Cost Survey. P. iv.

The effect of storm and non-storm water discharges on receiving waters can also influence the value of real estate in southern Orange County. For instance, recent marketing of new developments in the region prominently features access or proximity to the ocean.¹⁸ This demonstrates the added value of healthy aquatic environments to property values. The real estate industry recognizes that home buyers are willing to pay for access to clean water environments. The ability to market water-based recreational activities is dependent on healthy water quality conditions.

Municipalities and business groups in Orange County recognize the value of programs to prevent and treat storm water pollution in Orange County. For instance, both coastal and inland Orange County cities positively promote their access to the Pacific Ocean as a valuable quality of life feature.¹⁹ In addition, the South Orange County Regional Chamber of Commerce's legislative policy for infrastructure includes the support of programs and solutions for non-point source storm water runoff. This demonstrates that the business community realizes the negative economic effects that result from polluted storm water.

Another important way to consider management program costs is to consider implementation in terms of costs incurred by not improving the programs. Storm and non-storm water discharges from MS4s in southern California has been found to cause illness in people bathing near storm drains.²⁰ A study of south Huntington Beach and north Newport Beach (both located in northern Orange County) found that an illness rate of about 0.8 percent among bathers at those beaches resulted in about \$3 million annually in health-related expenses.²¹ Extrapolation of such numbers to the wide range of beaches of Orange County could result in huge public expenses.

¹⁸ Examples include the "Marblehead Coastal" project in San Clemente (<http://www.marbleheadonthecoast.com>), the "Pacifica San Juan" project in San Juan Capistrano (<http://pacificasanjuan.com>), and "The Strand at Headlands" in Dana Point (<http://strandoc.com>).

¹⁹ For a coastal city, see Laguna Beach Overview at <http://www.lagunabeachcity.net/about/overview>. For an inland city, see the Lake Forest 2005 Economic Profile at <http://www.theharbor.info/pdf/2005%20Economic%20Profile.pdf>.

²⁰ Haile, R.W., et al, 1996. An Epidemiological Study of Possible Adverse Health Effects of Swimming in Santa Monica Bay. Santa Monica Bay Restoration Project.

²¹ Dwight, R.H., et al., 2005. Estimating the Economic Burden From Illnesses Associated With Recreational Coastal Water Pollution – A Case Study in Orange County, California. *Journal of Enviro. Management* Vol.76. No.2 p.95-103. Also reported in: Los Angeles Times, May 2, 2005. Here's What Ocean Germs Cost You: A UC Irvine Study Tallies the Cost of Treatment and Lost Wages for Beachgoers Who Get Sick.

Storm and non-storm water MS4 discharges, and their impact on receiving waters also affect tourism. In past years, Orange County was featured in the national press for its water quality problems. Such news is likely to have a negative impact on tourism, since polluted beaches are generally not attractive to tourists. According to the Orange County Community Indicators Project, the County's visitors spent an average of \$107.70 per day in 2004.²² The experience of Huntington Beach provides an example of the potential economic impact of poor water quality. Approximately eight miles of Huntington Beach were closed for two months in the middle of summer of 1999, severely impacting beach visitation. When considered with the number of visitors and their average expenditure, the negative effects to the local economy are obvious.

Coastal tourism is an important industry in Orange County and is dependent upon effective management of storm water pollution and the prevention of non-storm water pollution. The following examples reflect that relationship.

DANA POINT: In response to a Grand Jury finding (1999-2000 Rainy Season's First Flush Hits the Harbors of Orange County), the city of Dana Point notes the interrelationship between the clean coastal water and the economic health of the city. Dana Point reports receiving \$5.2 million in transit occupancy tax funds in FY 1999-2000 "due in large part because of proximity to the beach. Without clean beaches, Dana Point risks losing its major revenue source."²³ More recently, the City budget report estimates that transit occupancy taxes comprise 35 percent of general fund revenues for the 2006 fiscal year.

LAGUNA BEACH: Tourism is one of the primary components of the Laguna Beach economy, and the beach is one of the main tourist attractions in the city. In 1999, hotel/motel bed tax revenue was approximately \$3 million, representing 13 percent of the City's general fund revenue.²⁴ In 2006, the City expects transit occupancy taxes to represent about 11 percent of general fund revenue.²⁵ The proportional decrease is due to an increase in property taxes, which is also affected in part by the quality of coastal waters. The City Council recognizes the value of the beaches to tourists, and the local population and has funded several low-flow non-storm water diversion systems in an attempt to prevent beach pollution and beach closures.

²² Orange County 2006 Community Indicators Project. 2006. Sponsored by the County of Orange, the Orange County Business Council, and the Children and Families Commission of Orange County. Available on-line at www.oc.ca.gov/ceocommunity.asp

²³ Orange County Grand Jury. 1999-2000 Rainy Season's First Flush Hits the Harbors of Orange County.

²⁴ Laguna Beach at a Glance. May 2000. Prepared by Moore Iacofano Goltsman, Inc.

²⁵ City of Laguna Beach, adopted budget 2006-2007. Available on-line at: <http://www.lagunabeachcity.net/government/reference/budget07>

DOHENY STATE BEACH: In 1997, the U.S. Army Corps of Engineers (USACE) prepared an economic analysis as part of the San Juan Creek and Aliso Creek Watershed Study. Recreational value for Doheny State Beach, based on annual visitation of 670,545 people in 1995, was calculated at \$2,850,000. Furthermore, the USACE notes that lifeguards reported that beach attendance falls dramatically when there are unhealthy conditions in the ocean. In 1999, the USACE prepared an updated economic study as part of the Feasibility Phase of the San Juan Creek Watershed Management Study. The 1999 study reports that average beach attendance from 1996 to 1998 increased to 918,735. The USACE places a recreation value per visitor at \$5.76, which implies the annual recreational value of Doheny State Beach for 1996 to 1998 was \$5,291,914.

ALISO BEACH: In 1997, the USACE prepared an economic analysis as part of the San Juan Creek and Aliso Creek Watershed Study. Recreational value for Aliso Beach, based on annual visitation of 3,477,369 people in 1995, was calculated at \$14,779,000. In the 1999 Draft Feasibility Report for the Aliso Creek Watershed Management Study, the USACE noted that the average beach attendance from 1996 to 1998 decreased to 1,148,374. The recreation value per visitor was calculated at \$4.50 and the average annual impact from water quality-related beach closures at Aliso Beach Park was estimated to be \$468,392. This number is comparable to an economic analysis conducted as part of the Aliso Creek Watershed 205(j) study that estimated the annual average recreational value impact of beach closures at Aliso Beach Park to be \$468,400.

Finally, it is important to consider the benefits of management programs in conjunction with their costs. A recent study conducted by the University of Southern California and University of California, Los Angeles assessed the costs and benefits of implementing various approaches for achieving compliance with the MS4 permits in the Los Angeles Region. The study found that non-structural systems would cost \$2.8 billion but provide \$5.6 billion in benefit. If structural systems were determined to be needed, the study found that total costs would be \$5.7 to \$7.4 billion, while benefits could reach \$18 billion.²⁶ Costs are anticipated to be borne over many years – probably ten years at least. As can be seen, the benefits of the programs are expected to considerably exceed their costs. Such findings are corroborated by USEPA, which found that the benefits of implementation of its Phase II storm water rule would also outweigh the costs.²⁷

Additional discussion of economic issues can be found at section 3 of the Fact Sheet/Technical Report for Regional Board Order No. R9-2002-01, available at:

http://www.waterboards.ca.gov/sandiego/programs/oc_stormwater.html.

²⁶ LARWQCB, 2004. Alternative Approaches to Stormwater Control.

²⁷ Federal Register / Vol. 64, No. 235 / Wednesday, December 8, 1999 / Rules and Regulations. P. 68791.

VII. LEGAL AUTHORITY

The following statutes, regulations, and Water Quality Control Plans provide the basis for the requirements of Order No. R9-2009-0002: Clean Water Act (CWA), California Water Code (CWC), 40 CFR Parts 122, 123, 124 (National Pollutant Discharge Elimination System Permit Application Regulations for Storm Water Discharges, Final Rule), Part II of 40 CFR Parts 9, 122, 123, and 124 (National Pollutant Discharge Elimination System – Regulations for Revision of the Water Pollution Control Program Addressing Storm Water Discharges; Final Rule), Water Quality Control Plan – Ocean Waters of California (California Ocean Plan), Water Quality Control Plan for the San Diego Basin (Basin Plan), 40 CFR 131 Water Quality Standards; Establishment of Numeric Criteria for Priority Toxic Pollutants for the State of California; Rule (California Toxics Rule), and the California Toxics Rule Implementation Plan.

The legal authority citations below generally apply to directives in Order No. R9-2009-0002, and provide the Regional Board with ample underlying authority to require each of the directives of Order No. R9-2009-0002. Legal authority citations are also provided with each permit section discussion in section IX of this Fact Sheet/Technical Report.

CWA 402(p)(3)(B)(ii) – The CWA requires in section 402(p)(3)(B)(ii) that permits for discharges from municipal storm sewers “shall include a requirement to effectively prohibit non-storm water discharges into the storm sewers.”

CWA 402(p)(3)(B)(iii) – The CWA requires in section 402(p)(3)(B)(iii) that permits for discharges from municipal storm sewers “shall require controls to reduce the discharge of pollutants to the maximum extent practicable, including management practices, control techniques and system, design and engineering methods, and such other provisions as the Administrator or the State determines appropriate for the control of such pollutants.”

40 CFR 122.26(d)(2)(i)(B,C,E, and F) – Federal NPDES regulations 40 CFR 122.26(d)(2)(i)(B,C,E, and F) provide that each Copermitttee’s permit application “shall consist of: (i) Adequate legal authority. A demonstration that the applicant can operate pursuant to legal authority established by statute, ordinance or series of contracts which authorizes or enables the applicant at a minimum to: [...] (B) Prohibit through ordinance, order or similar means, illicit discharges to the municipal separate storm sewer; (C) Control through ordinance, order or similar means the discharge to a municipal separate storm sewer of spills, dumping or disposal of materials other than storm water; [...] (E) Require compliance with condition in ordinances, permits, contracts or orders; and (F) Carry out all inspection, surveillance and monitoring procedures necessary to determine compliance and noncompliance with permit conditions including the prohibition on illicit discharges to the municipal separate storm sewer.”

40 CFR 122.26(d)(2)(iv) – Federal NPDES regulation 40 CFR 122.26(d)(2)(iv) provides that the Copermitttee shall develop and implement a proposed management program which “shall include a comprehensive planning process which involves public participation and where necessary intergovernmental coordination, to reduce the discharge of pollutants to the maximum extent practicable using management practices, control techniques and system, design and engineering methods, and such other provisions which are appropriate. The program shall also include a description of staff and equipment available to implement the program. [...] Proposed programs may impose controls on a system wide basis, a watershed basis, a jurisdiction basis, or on individual outfalls. [...] Proposed management programs shall describe priorities for implementing controls.”

40 CFR 122.26(d)(2)(iv)(A - D) – Federal NPDES regulations 40 CFR 122.26(d)(2)(iv)(A - D) require municipalities to implement controls to reduce pollutants in storm water runoff from new development and significant redevelopment, construction, and commercial, residential, industrial, and municipal land uses or activities. Prevention of illicit discharges is also required.

CWC 13377 – CWC section 13377 provides that “Notwithstanding any other provision of this division, the State Board or the regional boards shall, as required or authorized by the CWA, as amended, issue waste discharge requirements and dredged or fill material permits which apply and ensure compliance with all applicable provisions of the act and acts amendatory thereof or supplementary, thereto, together with anymore stringent effluent standards or limitation necessary to implement water quality control plans, or for the protection of beneficial uses, or to prevent nuisance.”

Order No. R9-2009-0002 is an essential mechanism for achieving the water quality objectives that have been established for protecting the beneficial uses of the water resources in the San Diego Regional Board’s portion of Orange County. Federal NPDES regulation 40 CFR 122.44(d)(1) requires MS4 permits to include any requirements necessary to “achieve water quality standards established under CWA section 303, including State narrative criteria for water quality.” The term “water quality standards” in this context refers to a water body’s beneficial uses and the water quality objectives necessary to protect those beneficial uses as established in the Basin Plan and antidegradation policies.

VIII. FINDINGS

The findings of the Order have been modified to reduce repetition in their discussions and address new requirements. Each finding of the Order is provided and discussed below. Additional discussion relative to the findings can be found in section IX of the Fact Sheet, which provides discussions of the Order's directives.

A. Basis For the Order

Finding A.1. This Order is based on the federal Clean Water Act (CWA), the Porter-Cologne Water Quality Control Act (Division 7 of the Water Code, commencing with Section 13000), applicable state and federal regulations, all applicable provisions of statewide Water Quality Control Plans and Policies adopted by the State Water Resources Control Board (State Board), the Water Quality Control Plan for the San Diego Basin adopted by the Regional Board, the California Toxics Rule, and the California Toxics Rule Implementation Plan.

Discussion of Finding A.1. In 1987, Congress established CWA Amendments to create requirements for storm water discharges under the NPDES program, which provides for permit systems to regulate the discharge of pollutants. Under the Porter-Cologne Water Quality Control Act, the State Board and the nine Regional Water Quality Control Boards have primary responsibility for the coordination and control of water quality, including the authority to implement the CWA. Porter-Cologne (section 13240) directs the Regional Water Quality Control Boards to set water quality objectives via adoption of Basin Plans that conform to all State policies for water quality control.

As a means for achieving those water quality objectives, Porter-Cologne (section 13243) further authorizes the Regional Water Quality Control Boards to establish waste discharge requirements (WDRs) to prohibit waste discharges in certain conditions or areas. Since 1990, the San Diego Regional Board has issued area-wide MS4 NPDES permits. The Order will renew Order No. R9-2002-01 to comply with the CWA and attain water quality objectives in the Basin Plan by limiting the contributions of pollutants conveyed by storm water and by including numeric action levels for dry weather non-storm water discharges designed to ensure that the Copermittees comply with the requirement to effectively prohibit all types of unauthorized non-storm water discharges into their MS4. Further discussions of the legal authority associated with the prohibitions and directives of the Order are provided in section VII this document.

Finding A.2. This Order renews National Pollutant Discharge Elimination System (NPDES) Permit No. CAS0108740, which was first issued on July 16, 1990 (Order No. 90-38), and then renewed on August 8, 1996 (Order No. 96-03) and February 13, 2002 (Order No. R9-2002-01). On August 21, 2006, in accordance with Order No. R9-2002-01, the County of Orange, as the Principal Permittee, submitted a Report of Waste Discharge (ROWD) for renewal of the MS4 Permit.

Discussion of Finding A.2. This Order renews National Pollutant Discharge Elimination System (NPDES) Permit No. CAS0108740, which was first issued on July 16, 1990 (Order No. 90-38), and then renewed on August 8, 1996 (Order No. 96-03) and February 13, 2002 (Order No. R9-2002-01). On August 21, 2006, in accordance with Order No. R9-2002-01, the County of Orange, as the Principal Permittee, submitted a Report of Waste Discharge (ROWD) for renewal of the MS4 Permit. Supporting information discussing the topic of this finding can be found in section V of this document.

Finding A.3. This Order is consistent with the following precedential Orders adopted by the State Water Resources Control Board (State Board) addressing municipal storm water NPDES Permits: Order 99-05, Order WQ-2000-11, Order WQ 2001-15, Order WQO 2002-0014, and Order WQ-2009-0008 (*SWRCB/OCC FILE A-1780*).

Discussion of Finding A.3. In recent years the State Board has considered several appeals of MS4 permits issued by the Regional Boards. In Order 99-05, the State Board established language for Receiving Water Limitation Language for MS4 permits. In Order No. WQ-2000-11, the State Board addressed design standards for Standard Urban Storm Water Mitigation Plan (SUSMP) requirements. Order WQ 2001-15 addressed Petitions of the San Diego County MS4 Permit issued by the Regional Board in 2001 (Order No. R9-2001-01). Order WQO 2002-0014 addresses Petitions of the Orange County MS4 Permit issued by the Regional Board in 2002 (Order No. R9-2002-01).

B. Regulated Parties

Finding B.1. Each of the persons in Table 1 of the Order, hereinafter called Copermittees or dischargers, owns or operates a municipal separate storm sewer system (MS4), through which it discharges storm water and non-storm water into waters of the United States within the San Diego Region. These MS4s fall into one or more of the following categories: (1) a medium or large MS4 that services a population of greater than 100,000 or 250,000 respectively; or (2) a small MS4 that is “interrelated” to a medium or large MS4; or (3) an MS4 which contributes to a violation of a water quality standard; or (4) an MS4 which is a significant contributor of pollutants to waters of the United States.

Discussion of Finding B.1. Section 402 of the CWA prohibits the discharge of any pollutant to waters of the United States from a point source, unless that discharge is authorized by a NPDES permit. Though storm water and non-storm water may come from a diffuse source, it is discharged through MS4s, which are point sources under the CWA. Federal NPDES regulation 40 CFR 122.26(a) (iii) and (iv) provide that discharges from MS4s, which service medium or large populations greater than 100,000 or 250,000 respectively, shall be required to obtain a NPDES permit. Federal NPDES regulation 40 CFR 122.26(a)(v) also provides that a NPDES permit is required for “A [storm water] discharge which the Director, or in states with approved NPDES programs, either the Director or the USEPA Regional Administrator, determines to contribute to a violation of a water quality standard or is a significant contributor of pollutants to waters of the United States.” Such sources are then designated into the program.

Other small MS4s, such as those serving universities and military installations, also exist within the watersheds of Orange County in the San Diego Region. While these MS4s are not subject to this Order, they are subject to the Phase II NPDES storm water regulations. Over time, these MS4s will be designated for coverage under the State Board’s statewide general storm water permit for small MS4s.

C. Discharge Characteristics

Finding C.1. Runoff discharged from an MS4 contains waste, as defined in the California Water Code (CWC), and pollutants that adversely affect the quality of the waters of the State. The discharge of runoff from an MS4 is a “discharge of pollutants from a point source” into waters of the U.S. as defined in the CWA.

Discussion of Finding C.1. Section 13050(d) of the CWC defines “waste” as “sewage and any and all other waste substances, liquid, solid, gaseous, or radioactive, associated with human habitation, or of human or animal origin, or from any producing, manufacturing, or processing operation, including waste placed within containers of whatever nature prior to, and for purposes of, disposal.” 40 CFR 122.2 defines “point source” as “any discernable, confined, and discrete conveyance, including but not limited to, any pipe, ditch, channel, tunnel, conduit, well, discrete fissure, container, rolling stock, concentrated animal feeding operation, landfill leachate collection system, vessel or other floating craft from which pollutants are or may be discharged. This term does not include return flows from irrigated agriculture or agricultural storm water runoff.” 40 CFR 122.2 defines “discharge of a pollutant” as “Any addition of any pollutant or combination of pollutants to waters of the U.S. from any point source.” Also, the justification for control of pollution into waters of the state can be found at CWC section 13260(a)(1). State Board Order WQ 2001-15 verifies that discharges from the MS4 contain waste.²⁸

The term urban runoff has been removed throughout Tentative Order R9-2009-0002 and replaced with storm water (wet weather) or non-storm water (dry weather) runoff. This clarification is necessary to prevent the misunderstanding that regulation under this permit is subject only to urbanized areas. The term “urban runoff” is not defined in the Code of Federal Regulations or Federal Register in the regulation of phase 1 MS4 discharges.

The discharge of runoff from an MS4 is a “discharge of pollutants from a point source” into waters of the U.S. as defined in the Clean Water Act (CWA). The Permit defines runoff as all flows in a storm water conveyance system (MS4 defined below) and consists of the following components:

- (1) storm water (wet weather flows) and
- (2) non-storm water discharges (dry weather flows).

The Permit defines an MS4 as a conveyance or system of conveyances (including roads with drainage systems, municipal streets, catch basins, curbs, gutters, ditches, man-made channels, or storm drains):

²⁸ State Board, 2001. Order WQ 2001-15. In the Matter of Petitions of Building Industry Association of San Diego County and Western States Petroleum Association: For Review of Waster Discharge Requirements Order No. 2001-01 for Urban Runoff from San Diego County [NPDES No. CAS0108758] Issued by the Regional Board.

- (i) Owned or operated by a State, city, town, borough, county, parish, district, association, or other public body (created by or pursuant to State law) having jurisdiction over disposal of sewage, industrial wastes, storm water, or other wastes, including special districts under State law such as a sewer district, flood control district or drainage district, or similar entity, or an Indian tribe or an authorized Indian tribal organization, or designated and approved management agency under section 208 of the CWA that discharges to waters of the United States;
- (ii) Designated or used for collecting or conveying storm water;
- (iii) Which is not a combined sewer;
- (iv) Which is not part of the Publicly Owned Treatment Works (POTW) as defined at 40 CFR 122.26.

Permit finding D.3.c. includes natural streams that convey runoff as part of the MS4. The presence of an MS4 system is not limited to areas considered to be “urban” in nature. Though the term urban is often referred to specifically as pertaining to cities, runoff means all flows in a storm water conveyance system, regardless of the location of the conveyance system. A conveyance system owned or operated by a State, city, town, borough, county, parish, district, association, or other public body (created by or pursuant to State law), may be located in a setting (e.g. unincorporated area, low density residential) that is not considered by the public to be “urban” in nature. These areas are contributing pollutants to the MS4 system that must be addressed. The term runoff applies to all flows in an MS4 system, no matter where the MS4 may be located in regards to incorporated or unincorporated property.

The Code of Federal Regulations (CFR) at 40 CFR 122.26 requires that large and medium MS4s obtain a permit for all discharges from their systems. Appendix I to 40 CFR 122 designates Orange County as having a large and medium MS4 requiring a permit. The regulations do not differentiate discharges from urban or rural MS4 systems. Rather, the regulations require the permit for all discharges from their systems. In the Final Rule establishing the Phase 1 storm water regulations, the USEPA clarified that all discharges are subject to a permit. On page 48041 of the Final Rule, the USEPA states:

“EPA recognizes that some of the counties addressed by today’s rule have, in addition to areas with high unincorporated urbanized populations, areas that are essentially rural or uninhabited and may not be the subject of planned development. While permits issued for these municipal systems ***will cover*** (*emphasis added*) *municipal systems discharges in unincorporated portions of the county* (*emphasis added*), it is the intent of EPA that management plans

and other components of the programs focus on the urbanized and developing areas of the county.”

So, while the Permit covers all MS4 discharges regardless if that discharge is in an urban or unincorporated area; the Copermittees management program should focus on urbanized areas. Due to the Permit’s requirements, the Copermittees management programs will naturally focus on urbanized areas. Urbanized areas have more industry, construction, pollution and MS4s that require more inspection, maintenance, monitoring, enforcement and complaint follow-up.

USEPA further clarified on page 48041 that all MS4 discharges require permit coverage when addressing highway MS4 systems:

“[The regulations] will result in discharges from separate storm sewer systems serving State highways and other highways through storm sewers ... in unincorporated portions of specified unincorporated portions of specified counties being included as part of the large or medium municipal separate storm sewer systems, since all municipal separate storm sewers within the boundaries of these political entities are included.”

In their summary on page 48043, the USEPA states:

“The definition [of MS4] provides that all systems within a geographical area including highways and flood controls will be covered, thereby avoiding fragmented and ill-coordinated programs;”

Neither the State Board’s storm water permit for Caltrans (Order No. 99-06-DWQ) nor the Los Angeles Regional Board’s draft MS4 permit for Ventura County include the term “urban runoff” in a significant regulatory capacity. The Caltrans permit has one reference to “urban runoff” where the term is used interchangeably with “storm water.” The draft Ventura permit uses the term “urban runoff” when referring to titles of reference documents, previously adopted management plans and municipal ordinances that may contain the phrase.

Understandably, the Copermittees have expressed concern regarding the regulation of pollutants from natural, undeveloped areas that enter the MS4 in an unincorporated area. The MS4 collection could change a natural sheet flow discharge to a concentrated point discharge. The MS4 does not provide natural infiltration or other pollutant remediation that these flows would receive in an otherwise natural drainage system. The MS4 may concentrate these natural pollutants and flows. In some cases, the MS4 may ultimately discharge the elevated concentrations of natural pollutants and flow rates to waters of the US far from the natural pollutant and flow source, causing a condition of pollution or a violation of water quality standards.

Finding C.2. MS4 storm water and non-storm water discharges are likely to contain pollutants that cause or threaten to cause a violation of surface water quality standards, as outlined in the Regional Board's Water Quality Control Plan for the San Diego Basin (Basin Plan). Storm water and non-storm water discharges from the MS4 are subject to the conditions and requirements established in the San Diego Basin Plan for point source discharges. These water quality standards must be complied with at all times, irrespective of the source and manner of discharge.

Discussion of Finding C.2. This finding is a clarification regarding the potential for discharges of storm water and non-storm water to impact the Beneficial Uses as described in the Basin Plan. As such these point source discharges require Waste Discharge Requirements (WDRs) to ensure that water quality standards are met. Furthermore, since point source discharges require WDRs, the discharges are subject to the prohibitions, conditions and requirements of the Basin Plan.

In addition, municipal discharges have been split into storm water and non-storm water discharges to represent the differing regulations applicable to storm water and non-storm water, though both types of discharges are likely to contain pollutants.

Finding C.3. The most common categories of pollutants in runoff include total suspended solids, sediment (due to anthropogenic activities); pathogens (e.g., bacteria, viruses, protozoa); heavy metals (e.g., copper, lead, zinc and cadmium); petroleum products and polynuclear aromatic hydrocarbons; synthetic organics (e.g., pesticides, herbicides, and PCBs); nutrients (e.g., nitrogen and phosphorus fertilizers); oxygen-demanding substances (decaying vegetation, animal waste); detergents; and trash.

Discussion of Finding C.3. The National Urban Runoff Program (NURP) study showed that heavy metals, organics, coliform bacteria, nutrients, oxygen demanding substances (e.g., decaying vegetation), and total suspended solids are found at relatively high levels in storm water and non-storm water discharges.²⁹ It also found that MS4 discharges draining residential, commercial, and light industrial areas contain significant loadings of total suspended solids and other pollutants. The Basin Plan goes on to identify runoff pollutants to include lawn and garden chemicals, household and automotive care products dumped or drained on streets, and sediment that erodes from construction sites.³⁰ In addition, the State Board Urban Runoff Technical Advisory Committee (TAC) finds that urban runoff pollutants include sediments, nutrients, oxygen-demanding substances, heavy metals, petroleum hydrocarbons, pathogenic bacteria, viruses, and pesticides.³¹ Runoff that flows over streets, parking lots, construction sites, and industrial, commercial, residential, and municipal areas carries these untreated pollutants through storm drain networks directly to the receiving waters of the San Diego Region.

Finding C.4. The discharge of pollutants and/or increased flows from MS4s may cause or threaten to cause the concentration of pollutants to exceed applicable receiving water quality objectives and impair or threaten to impair designated beneficial uses resulting in a condition of pollution (i.e., unreasonable impairment of water quality for designated beneficial uses), contamination, or nuisance.

Discussion of Finding C.4. The 1992, 1994, and 1996 National Water Quality Inventory Reports to Congress prepared by USEPA showed a trend of impairment in the nation's waters from contaminated storm and non-storm water runoff.³² The 1998 National Water Quality Inventory Report showed that runoff discharges affect 11 percent of rivers, 12 percent of lakes, and 28 percent of estuaries. The report states that ocean shoreline impairment due to runoff increased from 55 percent in 1996 to 63 percent in 1998. The report notes that runoff discharges are the leading source of pollution and the main factor in the degradation of surface water quality in California's coastal waters, rivers, and streams. Furthermore, the NURP study found that pollutant levels from illicit non-storm water discharges were high enough to significantly degrade receiving water quality, and threaten aquatic life, wildlife, and human health.³³

²⁹ Ibid.

³⁰ Regional Board, 1994. Water Quality Control Plan, San Diego Basin, Region 9. San Diego.

³¹ State Board, 1994. Urban Runoff Technical Advisory Committee Report and Recommendations. Nonpoint Source Management Program.

³² USEPA, 2000. Quality of Our Nation's Waters: Summary of the National Water Quality Inventory 1998 Report to Congress – USEPA 841-S-00-001; Water Quality Conditions in the United States: Profile from the 1998 National Water Quality Inventory Report to Congress – USEPA 841-F-00-006.

³³ USEPA, 1993. Results of the Nationwide Urban Runoff Program, Volume 1 – Final Report.

In addition, the Region's CWA section 303(d) list, which identifies water bodies with impaired beneficial uses within the region, also indicates that the impacts of storm water and non-storm water runoff on receiving waters are significant. Many of the impaired water bodies on the 303(d) list are impaired by constituents that have been found at high levels within storm water and non-storm water runoff by the County of Orange storm water monitoring program.³⁴ Examples of constituents frequently responsible for beneficial use impairment include indicator fecal bacteria, heavy metals, and sediment; these constituents have been found at high levels in runoff both regionally and nationwide.^{35,36} In addition, impairments may be caused by synergistic effects of multiple contaminants or by pollutants not currently monitored by storm water programs³⁷.

Finding C.5. Pollutants in runoff can threaten and adversely affect human health. Human illnesses have been clearly linked to recreating near storm drains flowing to coastal waters. Also, runoff pollutants in receiving waters can bioaccumulate in the tissues of invertebrates and fish, which may be eventually consumed by humans.

³⁴ County of Orange, 2006. Orange County Municipal Copermittees 2005-2006 Annual Storm Water Program Report, Section 11.

³⁵ Ibid.

³⁶ USEPA, 1983. Results of the Nationwide Urban Runoff Program, Volume 1 – Final Report.

³⁷ County of Orange, 2006. Orange County Municipal Copermittees 2005-2006 Annual Storm Water Program Report, Section 11.

Discussion of Finding C.5. A landmark study, conducted by the Santa Monica Bay Restoration Project, found that there was an increased occurrence of illness in people that swam in proximity to a flowing storm drain.³⁸ A study of south Huntington Beach and north Newport Beach (both located in northern Orange County) found that an illness rate of about 0.8 percent among bathers at those beaches resulted in about \$3 million annually in health-related expenses.³⁹ Furthermore, runoff pollutants in receiving waters can bioaccumulate in the tissues of invertebrates and fish, which may eventually be consumed by humans. Pollutants such as heavy metals and pesticides, which are commonly found in MS4 runoff, have been found to bioaccumulate and biomagnify in long-lived organisms at the higher trophic levels.⁴⁰ Since many aquatic species are utilized for human consumption, toxic substances accumulated in species' tissues can pose a significant threat to public health. USEPA supports this finding when it states, "As runoff flows over areas altered by development, it picks up harmful sediment and chemicals such as oil and grease, pesticides, heavy metals, and nutrients (e.g., nitrogen and phosphorus). These pollutants often become suspended in runoff and are carried to receiving waters, such as lakes, ponds, and streams. Once deposited, these pollutants can enter the food chain through small aquatic life, eventually entering the tissues of fish and humans."⁴¹

Finding C.6. Runoff discharges from MS4s often contain pollutants that cause toxicity to aquatic organisms (i.e., adverse responses of organisms to chemicals or physical agents ranging from mortality to physiological responses such as impaired reproduction or growth anomalies). Toxic pollutants impact the overall quality of aquatic systems and beneficial uses of receiving waters.

³⁸ Haile, R.W., et al., 1996. An Epidemiological Study of Possible Adverse Health Effects of Swimming in Santa Monica Bay. Santa Monica Bay Restoration Project.

³⁹ Dwight, R.H., et al., 2005. Estimating the Economic Burden From Illnesses Associated With Recreational Coastal Water Pollution – A Case Study in Orange County, California. *Journal of Environ. Management* Vol.76. No.2 p.95-103. Also reported in: Los Angeles Times, May 2, 2005. Here's What Ocean Germs Cost You: A UC Irvine Study Tallies the Cost of Treatment and Lost Wages for Beachgoers Who Get Sick.

⁴⁰ Abel, P.D., 1996. *Water Pollution Biology*.

⁴¹ USEPA, 2000. Storm Water Phase II Compliance Assistance Guide. Washington D.C. EPA 833-R-00-002.

Discussion of Finding C.6. The Copermittees' monitoring data exhibits frequent toxic conditions in runoff during storm events and dry weather. Toxicity is observed in both fresh and marine receiving waters, but varies significantly within and among sites and over time. However, according to the County of Orange, toxicity in both dry and wet weather appears concentrated along the coast. This supports the conclusion that toxicity is associated with anthropogenic activities and is caused by pollutants that flow downstream and become concentrated near the bottom of developed watersheds. Physical channel modification and hydromodification are also greatest near the coast and likely contribute to findings of toxicity. The cause of toxicity may vary between locations, dates, and indicator organisms. The actual cause may be influenced by various factors such as development, runoff management, habitat modification, hydromodification, and native aquatic environment. Toxicity identification evaluations (TIEs) have failed to confirm initial findings of toxicity. Follow-up studies by the County of Orange implicate both pollutants and physical stream habitat degradation (e.g. channel modification and hydromodification) as factors related to toxicity findings.⁴²

Finding C.7. The Copermittees discharge runoff into lakes, drinking water reservoirs, rivers, streams, creeks, bays, estuaries, coastal lagoons, the Pacific Ocean, and tributaries thereto within one of the eleven hydrologic units (San Juan Hydrologic Unit) comprising the San Diego Region as shown in Tables 2a and 2b. Some of the receiving water bodies have been designated as impaired by the Regional Board and the United States Environmental Protection Agency (USEPA) in 2006 pursuant to CWA section 303(d). Also shown in the Tables are the watershed management areas (WMAs) as defined in the Regional Board report, Watershed Management Approach, January 2002.

Discussion of Finding C.7. This finding identifies the Copermittees responsible for MS4 discharges in each watershed management area. The list is identical to Order No. R9-2002-0001. The CWA Section 303(d) List of Impaired Waters, 2006 Update has been approved by the Regional Board, State Board, and USEPA.⁴³ This 303(d) list identifies waters that do not meet water quality standards after applying certain required technology-based effluent limits ("impaired" water bodies). As part of this listing process, states are required to prioritize waters/watersheds for future development of Total Maximum Daily Loads (TMDLs). The listed 303(d) pollutant(s) of concern do not necessarily reflect impairment of the entire corresponding WMA or all corresponding major surface water bodies. The specific impaired portions of each WMA are listed in the State Board's 2006 Section 303(d) List of Water Quality Limited Segments.

⁴² County of Orange, 2006. Orange County Municipal Copermittees 2005-2006 Annual Storm Water Program Report, Section 11.

⁴³ The approved 2006 Clean Water Act Section 303(d) List of Water Quality Limited Segments is on-line at: http://www.waterboards.ca.gov/tmdl/303d_lists2006.html

Finding C.8. Trash is a persistent pollutant which can enter receiving waters from the MS4 resulting in accumulation and transport in receiving waters over time. Trash poses a serious threat to the Beneficial Uses of the receiving waters, including, but not limited to, human health, rare and endangered species, navigation and human recreation.

Discussion of Finding C.8. The Copermittees to date have documented high volumes of trash coming from the MS4 system and in receiving waters.⁴⁴

The Basin Plan specifies the following narrative Water Quality Objective (WQO) for Floating Material:

“Waters shall not contain floating material, including solids, liquids, foams, and scum in concentrations which cause nuisance or adversely affect beneficial uses.”

The Basin Plan specifies the following narrative WQO for Suspended and Settleable Solids: Material:

“Waters shall not contain suspended and settleable solids in concentrations of solids that cause nuisance or adversely affect beneficial uses.”

Additionally, high density urban areas in Southern California have been shown to be responsible for up to 60 percent of the trash that enters receiving waters from the MS4.⁴⁵ The retrofitting of existing MS4 systems, such as catch basins, in targeted high trash areas can result in significant reductions in the amount of trash entering receiving waters from the MS4.

Trash, as litter in both solid and liquid form, is consistently found on and adjacent to roadways. A California Department of Transportation Litter Management Pilot Study found that of roadway trash, plastics and Styrofoam accounted for 33 percent of trash by weight, and 43 percent by volume. Further, the study found that approximately 80 percent of the litter associated with roadways was floatable, indicating that, without capture, this litter would enter Waters of the State after a storm event, resulting in the impairment of Beneficial Uses.⁴⁶ The study, however, relied upon a mesh capture size of 0.25 inches (6.35 millimeters). This size is too large to effectively capture plastic pre-production pellets (aka “nurdles”), which are roughly 3 mm in size, and likely underestimated the total contribution of plastics. Plastics, including pre-production pellets, have been found to be the dominant pollutant on beaches in the County of Orange.⁴⁷ Furthermore, pre-production plastic pellets, which are small enough to be easily digested, have been found to carry persistent organic pollutants, including PCBs

⁴⁴ Aliso Creek Watershed 27th, 28th, 29th and 30th Quarterly Progress Reports. 2007-2008.

⁴⁵ The City of Los Angeles Meets Trash TMDLs Compliance with CB Inserts and Opening Covers. August 06, 2008.

⁴⁶ California Department of Transportation District 7 Litter Management Pilot Study. June 26, 2000.

⁴⁷ Moore, S.L., Gregorio, D., Carreon, M., Weisberg, S.B. and M. K. Leecaster. 1998. Composition and Distribution of Beach Debris in Orange County, California. *Marine Pollution Bulletin*. Vol. 42

and DDT.⁴⁸

Finding C.9. The Copermittees' water quality monitoring data submitted to date documents persistent violations of Basin Plan water quality objectives for various runoff-related pollutants (fecal coliform bacteria, total suspended solids, turbidity, metals, etc.) at various watershed monitoring stations. Persistent toxicity has also been observed at some watershed monitoring stations. In addition, bioassessment data indicates that the majority of urbanized receiving waters have Poor to Very Poor Index of Biotic Integrity ratings. In sum, the above findings indicate that runoff discharges are causing or contributing to water quality impairments, and are a leading cause of such impairments in Orange County.

Discussion of Finding C.9. The Copermittees have produced data that demonstrates water quality objectives are frequently not met during dry and wet weather. The 2006 Report of Waste Discharge and the 2005-06 Annual Reports document that receiving water monitoring stations often fail to meet water quality objectives established in the Basin Plan. Similar conclusions are found in monitoring reported to the Regional Board pursuant to Investigative Orders issued between 2001 and 2006 for Aliso Creek, Salt Creek⁴⁹, Prima Deshecha⁵⁰, and North Creek at Doheny Beach⁵¹. Monitoring reported to the State Board pursuant to funding grant agreements also demonstrates that discharges from MS4s routinely exceed water quality objectives.^{52,53, 54, 55, 56}

⁴⁸ Rios, L.M., Moore, C. and Patrick R. Jones. 2007. Persistent organic pollutants carried by synthetic polymers in the ocean environment. *Marine Pollution Bulletin*. Vol. 54.

⁴⁹ An Investigative Order was issued on March 6, 2003 to the City of Dana Point for water quality conditions of Salt Creek near Monarch Beach.

⁵⁰ An Investigative Order was issued on July 3, 2002 to the City of San Clemente and the County of Orange for water quality conditions of Prima Deshecha Canada (including Poche Beach).

⁵¹ Investigative Order No. R9-2006-0039 was issued on April 4, 2006 to the City of Dana Point and Quantum Ozone, Inc. for an assessment of water quality conditions at North Creek, Doheny Beach.

⁵² City of Dana Point. 2005. *Final Report for the Del Obispo Storm Drain Project*. Prepared for the State Water Resources Control Board Agreement No. 02-216-550-0.

⁵³ City of Dana Point. 2004. *Final Report For The Alipaz Storm Drain Treatment And Low Flow Diversion Project* by the City of Dana Point. Prepared for State Water Resources Control Board Agreement Number: 01-068-550-0.

⁵⁴ James Volz. 2005. *Final Report for Poche Beach Urban Runoff Ultraviolet Light Bacteria Disinfection Project*. Prepared by the County of Orange for State Water Resources Control Board Agreement No. 01-236-550-1.

⁵⁵ Max Anderson. 2005. *Final Report: Aliso Beach Clean Beach Initiatives, J01P28 Interim Water Quality Improvement Package Plant Best Management Practices*. Prepared by the County of Orange for State Water Resources Control Board Agreement No. 01-227-550-0.

⁵⁶ City of Laguna Niguel and CH2MHILL. 2004. *Final Report: Wetland Capture and Treatment (WetCAT) Network*. Prepared for State Water Resources Control Board Agreement No. 01-122-259-0.

Water quality in receiving waters downstream of MS4 discharges fail to meet Ocean Plan standards⁵⁷, California Toxics Rule standards⁵⁸, and Basin Plan objectives. Data submitted in the MS4 Annual Reports indicate that at various times chemical, bacteria, pesticide, and metal concentrations may exceed water quality objectives in marine and fresh water receiving waters in both wet and dry weather conditions. Although wet weather MS4 effluent data is not generally reported, dry-weather non-storm water MS4 effluent data demonstrates that the effluent contains concentrations of pollutants that would exceed receiving water quality objectives.

In most of these watersheds, there are no other significant NPDES permits discharging to the creeks. For instance, there are no live-stream discharges of treated waste water in south Orange County. The few NPDES permits in the watersheds are mainly for recycled water which only discharges occasionally during the rainy season. Because the water quality monitoring indicates exceedances of water quality standards and MS4 discharges are the main source of pollutants in the watersheds, it can be inferred that the MS4 discharges are causing or contributing to water quality impairments, and are a leading cause of such impairments in Orange County.

Finding C.10. When natural vegetated pervious ground cover is converted to impervious surfaces such as paved highways, streets, rooftops, and parking lots, the natural absorption and infiltration abilities of the land are lost. Therefore, runoff leaving a developed area is significantly greater in runoff volume, velocity, and peak flow rate than pre-development runoff from the same area. Runoff durations can also increase as a result of flood control and other efforts to control peak flow rates. Increased volume, velocity, rate, and duration of runoff greatly accelerate the erosion of downstream natural channels. Significant declines in the biological integrity and physical habitat of streams and other receiving waters have been found to occur with as little as a 3-5 percent conversion from natural to impervious surfaces. The increased runoff characteristics from new development must be controlled to protect against increased erosion of channel beds and banks, sediment pollutant generation, or other impacts to beneficial uses and stream habitat due to increased erosive force.

Finding C.11. Development creates new pollution sources as human population density increases and brings with it proportionately higher levels of car emissions, car maintenance wastes, municipal sewage, pesticides, household hazardous wastes, pet wastes, trash, etc. which can either be washed or directly dumped into the MS4. As a result, the runoff leaving the developed area is significantly greater in pollutant load than the pre-development runoff from the same area. These increased pollutant loads must be controlled to protect downstream receiving water quality.

⁵⁷ The Basin Plan incorporates terms and conditions of the State Board's *Water Quality Control Plan for Ocean Waters of California* (Ocean Plan) as a water quality objective for Ocean Waters in the San Diego Region.

⁵⁸ The California Toxics Rule criteria promulgated by the USEPA are directly applicable water quality standards for certain priority toxic pollutants in inland surface waters and enclosed bays and estuaries in California.

Discussion of Findings C.10 and C.11.

The Natural Resources Defense Council (NRDC) 1999 Report, "*Stormwater Strategies, Community Responses to Runoff Pollution*" identifies two main causes of the storm water pollution problem in developed areas. Both causes are directly related to development:

1. Increased volume and velocity of surface runoff. There are three types of human-made impervious covers that increase the volume and velocity of runoff: (i) rooftop, (ii) transportation imperviousness, and (iii) non-porous (impervious) surfaces. As these impervious surfaces increase, infiltration will decrease, forcing more water to run off the surface, picking up speed and pollutants.
2. The concentration of pollutants in the runoff. Certain industrial, commercial, residential and construction activities are large contributors of pollutant concentrations in storm water runoff. As human population density increases, it brings with it proportionately higher levels of car emissions, car maintenance wastes, municipal sewage, pesticides, household hazardous wastes, pet wastes, trash, etc.

As a result of these two causes, runoff leaving developed areas is significantly greater in volume, velocity, and pollutant load than pre-development runoff from the same area.

By accommodating the traditional approach to storm water management, development has also altered the flow regime (rate, magnitude, frequency, timing, and flashiness of runoff) that supports aquatic and riparian habitats. These hydrologic changes are driven by the loss of water storage capacity in the watersheds,⁵⁹ and exacerbated by physical alterations of the stream channel network.⁶⁰ This relationship between development and stream channel integrity has been documented nationally and in southern California.

⁵⁹ Konrad, Christopher P. and Derek K. Booth, 2005. *Hydrologic Changes in Urban Streams and Their Ecological Significance*. American Fisheries Society Symposium Vol.47 pp.157-177.

⁶⁰ Poff, N.L. et al. 1997. The Natural Flow Regime: A paradigm for river conservation and restoration. *Bioscience* Vol. 47, No. 11, pp.769-784.

Hydrologic changes from development also directly and indirectly adversely affect wetlands. Natural wetlands support many beneficial uses and provide important water-quality related ecological services, including pollutant removal, flood attenuation, and groundwater recharge.⁶¹ The Center for Watershed Protection recently provided USEPA with a synthesis of more than 100 scientific studies on the direct and indirect impacts of development, particularly urbanization, on wetlands and the role wetlands play in watershed quality. The report found that the three changes from land development with the most potential to impact wetlands include: Increased storm water runoff; decreased groundwater recharge; and flow constriction.⁶² Each of these changes can often be avoided or minimized by implementing LID and hydromodification BMPs.

When Order No. R9-2002-01 was adopted, studies had shown that the level of imperviousness in an area strongly correlates with the quality of nearby receiving waters.⁶³ One comprehensive study, which looked at numerous areas, variables, and methods, revealed that stream degradation occurs at levels of imperviousness as low as 10 – 20 percent.⁶⁴ Stream degradation is a decline in the biological integrity and physical habitat conditions that are necessary to support natural biological diversity. For instance, few urban streams can support diverse benthic communities with imperviousness greater than or equal to 25 percent.⁶⁵ To provide some perspective, a medium density, single-family home area can be from 25 percent to 60 percent impervious (variation due to street and parking design).⁶⁶

More recently, a report on the effects of impervious in southern California streams found that local ephemeral and intermittent streams are more sensitive to such effects than streams in other parts of the country. This study, by the Southern California Coastal Water Research Program, estimated a threshold of response at a two to three percent change in percent of impervious cover in a watershed.⁶⁷ This threshold is lower than the previously reported estimates by the USEPA that were cited in the Fact Sheet for Order No. R9-2002-01.

⁶¹ Wright, Tiffany, et al. 2006. "Direct and Indirect Impacts of Urbanization on Wetland Quality." Prepared by the Center for Watershed Protection. Available at: <http://www.cwp.org>. 81p.

⁶² Ibid p.26

⁶³ USEPA, 1999. Part II. 40 CFR Parts 9, 122, 123, and 124. National Pollutant Discharge Elimination System – Regulations for Revision of the Water Pollution Control Program Addressing Storm Water Discharges; Final Rule. Federal Register.

⁶⁴ Ibid.

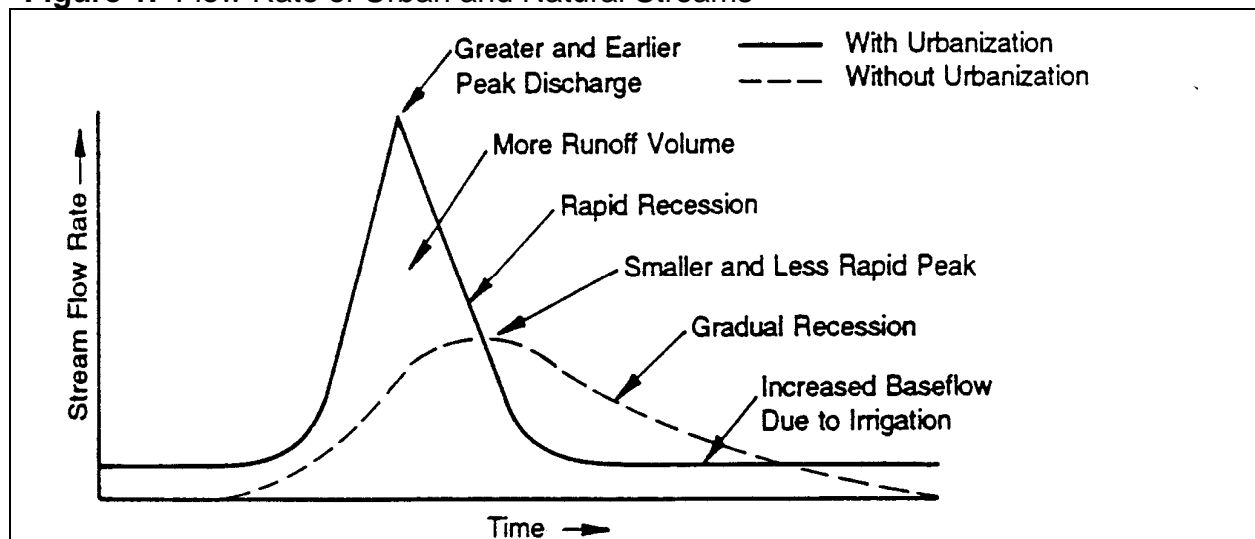
⁶⁵ Ibid.

⁶⁶ Schueler, T.R., 1994. The Importance of Imperviousness. Watershed Protection Techniques. As cited in 64 Fed. Reg. 68725.

⁶⁷ Coleman, Derrick, et al. 2005. *Effect of Increases in Peak Flows and Imperviousness on the Morphology of Southern California Streams*. Technical Report No. 450 of the Southern California Coastal Water Research Project.

To demonstrate the principle of increased volume and velocity of runoff from urbanization, Figure 1 shows the flow rate of an urban vs. a natural stream. What the figure demonstrates is that urban stream flows have greater peaks and volumes, as well as shorter retention times than natural stream flows. The greater peak flows and volumes result in stream degradation through increased erosion of stream banks and damage to aquatic habitat. The shorter retention times result in less time for sediments and other pollutants to settle before being carried out to the ocean. This sediment, and the associated pollutants it carries, can be a significant cause of water quality degradation.

Figure 1. Flow Rate of Urban and Natural Streams⁶⁸



Increased volume and velocity of runoff adversely impacts receiving waters and their beneficial uses in many ways. According to the Urban Runoff TAC report,⁶⁹ increases in population density and imperviousness result in changes to stream hydrology including:

1. Increased peak discharges compared to pre-development levels;
2. Increased volume of storm water runoff with each storm compared to pre-development levels;
3. Decreased travel time to reach receiving water; increased frequency and severity of floods;
4. Reduced stream flow during prolonged periods of dry weather due to reduced levels of infiltration;
5. Increased runoff velocity during storms due to a combination of effects of higher discharge peaks, rapid time of concentration, and smoother hydraulic surfaces from channelization; and

⁶⁸ Adapted from Schueler, T.R., 1987. Controlling Urban Runoff: A Practical Manual for Planning and Designing Urban BMPs. Metropolitan Washington Council of Governments.

⁶⁹ State Board, 1994. Urban Runoff Technical Advisory Committee Report and Recommendations. Nonpoint Source Management Program.

6. Decreased infiltration and diminished ground water recharge.

Even though the rainfall depths in arid watersheds are lower, watershed development can greatly increase peak discharge rates during rare flood events.⁷⁰ A study conducted in arid watersheds around Riverside, CA showed that, over two decades, impervious cover increased from 9 percent to 22 percent, which resulted in an increase of more than 100 percent in the peak flow rate for the two-year storm event. The study also showed that the average annual storm water runoff volume had increased by 115 percent to 130 percent over the same time span.⁷¹

Prior hydromodification studies in California have shown that the increase in impervious cover, and thus change in runoff volume, velocity, rate, and duration, results in a shift in the range of storms that produce geomorphically significant flows within receiving waters (see above discussion). Additionally, studies in California have determined that ninety percent of the geomorphic “work” done within channels receiving flows from developed areas now occurs from flows below the 10 year peak flow event.⁷²

This increased volume, velocity, rate, and duration of runoff greatly accelerates the erosion of the beds and banks within downstream receiving waters. Additionally, storm water flows which runoff directly from impervious surfaces into the MS4 and thus receiving waters prevent the associated runoff of natural sediments which would occur in pre-project conditions. This combined alteration of the physical condition of storm water runoff results in accelerated downstream erosion of receiving water bed and banks. The excessive erosion of stream beds and banks releases pollutants found in soils into receiving waters, degrades macroinvertebrate habitat (see D.2.c), eliminates spawning habitat, reduces associated wetland and riparian habitat, and threatens existing infrastructure adjacent to receiving waters. Bank sloughing within creeks and streams increases the pollutant loading to those receiving waters, particularly for turbidity and phosphorous.⁷³ In arid environments, accelerated channel erosion has been shown to have synergistic impacts within watersheds. Increased channel erosion within Las Vegas wash has resulted in the loss of over 1,000 acres of wetland and riparian habitat, released additional pollutants into downstream receiving waters, and eliminated in-stream habitat and water quality conditions required for existing threatened and endangered species.⁷⁴

⁷⁰ Schueler and Holland, 2000. Storm Water Strategies for Arid and Semi-Arid Watersheds (Article 66). The Practice of Watershed Protection. P. 695-706.

⁷¹ Ibid.

⁷² Santa Clara Valley Hydromodification Management Plan. April 21, 2005.

⁷³ Sekely, A.C., Mulla, D.J. and D.W. Bauer. 2002. Streambank slumping and its contribution to the phosphorus and suspended sediment loads of the Blue Earth River, Minnesota. *Journal of Soil and Water Conservation*. September 2002 vol. 57 no. 5 243-250.

⁷⁴ Tuttle, P.L. and E.L. Orsak. 2002. Las Vegas Wash Water Quality and Implications to Fish and Wildlife. U.S.

Regarding the impact of development on storm water runoff pollutant loads, the Regional Board's Basin Plan states:

Nonpoint source pollution is primarily the result of man's uses of land such as urbanization, roads and highways, vehicles, agriculture, construction, industry, mineral extraction, physical habitat alteration (dredging/filling), hydromodification (diversion, impoundment, channelization), silviculture (logging), and other activities which disturb land.⁷⁵ As a result, when rain falls on and drains through urban freeways, industries, construction sites, and neighborhoods it picks up a multitude of pollutants. The pollutants can be dissolved in the runoff and quickly transported by gravity flow through a vast network of concrete channels and underground pipes referred to as storm water conveyance systems. Such systems ultimately discharge the polluted runoff, without treatment, into the nation's creeks, rivers, estuaries, bays, and oceans.⁷⁶

According to the Center for Watershed Protection, urbanization strongly shapes the quality of both surface and ground water in arid and semi-arid regions of the southwest. Since rain events are so rare, pollutants have more time to build up on impervious surfaces compared to humid regions. Therefore, the pollutant concentrations of storm water runoff from arid watersheds tends to be higher than that of humid watersheds.⁷⁷ The effect of antecedent rainfall events is demonstrated in a recent report from the California Department of Transportation (Caltrans) that found the concept of a seasonal first flush is applicable to the southern California climate.⁷⁸

Finding C.12. Development and urbanization especially threaten environmentally sensitive areas (ESAs), such as water bodies designated as supporting a RARE beneficial use (supporting rare, threatened or endangered species) and CWA 303(d)-impaired water bodies. Such areas have a much lower capacity to withstand pollutant shocks than might be acceptable in other areas. In essence, development that is ordinarily insignificant in its impact on the environment may become significant in a particularly sensitive environment. Therefore, additional control to reduce storm water pollutants from new and existing development may be necessary for areas adjacent to or discharging directly to an ESA.

Fish and Wildlife Service.

⁷⁵ Regional Board, 1994. Water Quality Control Plan for the San Diego Basin. P. 4-66.

⁷⁶ Ibid. P. 4-69 - 4-70.

⁷⁷ Schueler and Holland, 2000. Storm Water Strategies for Arid and Semi-Arid Watersheds (Article 66). The Practice of Watershed Protection. P. 695-706.

⁷⁸ Stenstrom, Michael and Masoud Kayhanian, 2005. *First Flush Phenomenon Characterization*. Prepared for Caltrans. Report No. CTSW-RT-05-73-02.6 Study jointly performed by UCLA and UCD. Most of the data presented was collected from three highly urbanized highway sites in west Los Angeles. Much effort went into developing a quantitative way of defining the mass first flush. Other aspects include: variability of water quality during storm events, litter characteristics, correlation among constituents, first flush of organics and particle size distribution, new methods for measuring oil and grease, and grab and composite sampling strategies. The report is available on-line at: <http://www.dot.ca.gov/hq/env/stormwater/special/newsetup/>

Discussion of Finding C.12. ESAs are defined in the Order as “Areas that include but are not limited to all CWA Section 303(d) impaired water bodies; areas designated as Areas of Special Biological Significance by the Basin Plan ; water bodies designated with the RARE beneficial use by the Basin Plan; areas designated as preserves or their equivalent under the Natural Communities Conservation Program within the Cities and County of Orange; and any other equivalent environmentally sensitive areas which have been identified by the Copermitees.”

Areas that meet this definition are inherently sensitive habitats containing unique, rare, threatened, or endangered species, or are not achieving their designated beneficial uses. As discussed above, runoff is known to contain a wide range of pollutants and has demonstrated toxicity to plants and animals. Therefore, it is necessary to apply additional storm water controls for developments within, adjacent to, or directly discharging to ESAs. This need for additional storm water controls is addressed within each component of the Order. USEPA supports the requirement for additional storm water controls, stating “For construction sites that discharge to receiving waters that do not support their designated use or other waters of special concern, additional construction site controls are probably warranted and should be strongly considered.”⁷⁹ Further support for requiring additional controls to reduce pollutants in storm water discharges to ESAs can be found in *Mitigation of Storm Water Impacts From New Developments in Environmentally Sensitive Areas*, a technical report written by the LARWQCB.⁸⁰

ESAs within the area subject to this Order are expected to be substantially similar to the previous Order. Additions may be necessary once the South County Natural Community Conservation Plan/Habitat Conservation Plan (NCCP/HCP) is formally adopted. Other modifications may reflect updated descriptions or findings of threatened or endangered aquatic species.

Finding C.13. Although dependent on several factors, the risks typically associated with properly managed infiltration of runoff (especially from residential land use areas) are not significant. The risks associated with infiltration can be managed by many techniques, including (1) designing landscape drainage features that promote infiltration of runoff, but do not “inject” runoff (injection bypasses the natural processes of filtering and transformation that occur in the soil); (2) taking reasonable steps to prevent the illegal disposal of wastes; (3) protecting footings and foundations; (4) ensuring that each drainage feature is adequately maintained in perpetuity; and (5) pretreatment.

⁷⁹ USEPA, 1992. Guidance Manual for the Preparation of Part II of the NPDES Permit Applications for Discharges from Municipal Separate Storm Sewer Systems. Washington D.C. EPA/833-B-92-002.

⁸⁰ LARWQCB, 2001. *Mitigation of Storm Water Impacts From New Developments In Environmentally Sensitive Areas*.

Discussion of Finding C.13. Infiltration is an effective means for managing runoff. However, measures must be taken to protect groundwater quality when infiltration of runoff is implemented. USEPA supports runoff infiltration and provides guidance for protection of groundwater: “With a reasonable degree of site-specific design considerations to compensate for soil characteristics, infiltration may be very effective in controlling both urban runoff quality and quantity problems. This strategy encourages infiltration of urban runoff to replace the natural infiltration capacity lost through urbanization and to use the natural filtering and sorption capacity of soils to remove pollutants; however, the potential for some types of urban runoff to contaminate groundwater through infiltration requires some restrictions.”⁸¹ The restrictions placed on runoff infiltration in this Order are based on recommendations provided by the USEPA Risk Reduction Engineering Laboratory. The State Board found in Order WQ 2000-11 on the appeal of the LARWQCB’s Standard Urban Storm Water Mitigation Plan (SUSMP) requirements that the guidance provided in the above referenced document by the USEPA Risk Reduction Engineering Laboratory is sufficient for the protection of groundwater quality from runoff infiltration. To further protect groundwater quality, the Order also includes guidance from the LARWQCB,⁸² the State of Washington,⁸³ and the State of Maryland.⁸⁴ Subsequently, the California Storm Water Quality Association (CASQA) has produced technical guidance for post-construction treatment BMPs to protect ground water quality⁸⁵.

Finding C.14. Non-storm water (dry weather) discharge from the MS4 is not considered a storm water (wet weather) discharge and therefore is not subject to regulation under the Maximum Extent Practicable (MEP) standard from CWA 402(p)(3)(B)(iii), which is explicitly for “Municipal ... *Stormwater Discharges* (emphasis added)” from the MS4. Non-storm water discharges, per CWA 402(p)(3)(B)(ii), are to be effectively prohibited. Such dry weather non-storm water discharges have been shown to contribute significant levels of pollutants and flow in arid, developed Southern California watersheds and are not to be effectively prohibited under the Clean Water Act.

Discussion of Finding C.14.

Permitting Framework

The Clean Water Act (CWA) employs the strategy of prohibiting the discharge of any pollutant from a point source into waters of the United States unless the discharger of the pollutant(s) obtains a NPDES permit pursuant to Section 402 of the Clean Water

⁸¹ USEPA, 1994. Potential Groundwater Contamination from Intentional and Nonintentional Stormwater Infiltration. EPA 600 SR-94 051.

⁸² LARWQCB, 2000. Standard Urban Storm Water Mitigation Plan for Los Angeles County and Cities in Los Angeles County.

⁸³ Washington State Department of Ecology, 1999. Draft Stormwater Management in Washington State. Volume V – Runoff Treatment BMPs. Pub. No. 99-15.

⁸⁴ Maryland Department of the Environment, 1999. 2000 Maryland Stormwater Design Manual. Volume I.

⁸⁵ CASQA. The New Development and Redevelopment Handbook, 2003. Available on-line at <http://www.cabmphandbooks.org/Development.asp>

Act. The discharge of storm water and/or non-storm water from an MS4 system is considered a discharge from a point source. As discussed below, however, the Clean Water Act regulates storm water and non-storm water discharges under different standards.

In 1987 the CWA was amended to include provisions that specifically concerned NPDES permitting requirements for storm water discharges from MS4 systems. Section 402(p) of the CWA regulates the discharge of storm water from a point source, the municipal separate storm sewers. Such discharges of storm water are subject to the maximum extent practicable (MEP) storm water standard and the related iterative process. The MEP standard for storm water discharges reflects Congress' recognition that the variability of flow and intensity of storm events render difficult strict compliance with water quality standards by MS4s. However, this standard was not considered applicable to non-storm water discharges, which under 402(p) are required to be effectively prohibited from entering the MS4. Clearly, if non-storm water discharges must be effectively prohibited from entering the MS4, the very next requirement (402(p)(3)(B)(iii)) requiring discharges from the MS4 be reduced to the MEP intends that the discharge of pollutants be limited to storm water. Unless exempt or authorized under a separate NPDES permit, non-storm water discharges are not authorized to enter the MS4 in the first instance and are considered to be illicit discharges.

The Federal Register further clarifies that such discharges through an MS4 are not authorized under the CWA (55 Fed. Reg. 47995):

“Today’s rule defines the term “illicit discharge” to describe any discharge through a municipal separate storm sewer system that is not composed entirely of storm water and that is not covered by an NPDES permit. Such illicit discharges are not authorized under the Clean Water Act. Section 402(p)(3)(B) requires that permits for discharges from municipal separate storm sewers require the municipality to “effectively prohibit” non-storm water discharges from the municipal separate storm sewer...Ultimately, such non-storm water discharges through a municipal separate storm sewer must either be removed from the system or become subject to an NPDES permit.”

The federal regulations (40 Code of Federal Regulations (CFR) 122.26(d)(vi)(2)(B)) require that the municipal separate storm sewer discharger prohibit “through ordinance, order or similar means, illicit discharges to the municipal separate storm sewer.” As owners and operators of the MS4, Copermittees cannot passively receive discharges from third parties (Federal Register 68766) and thus are responsible for the discharge of any non-storm water from their MS4.

The State Water Board’s recent precedential order (Order WQ-2009-0008) affirming a Los Angeles County MS4 permit modification, consistent with USEPA’s prior interpretations, recognizes that “[n]either the Clean Water Act nor the federal storm water regulations define ‘non-storm water.’ ‘Illicit discharge’ is defined as any discharge to an MS4 ‘not composed entirely of storm water.’[fn]. Thus, ‘illicit

discharge' is the most nearly applicable definition of 'non-storm water' found in federal law and is often used interchangeably with that term."⁸⁶

Storm Water and Non-storm Water Definitions

By definition non-storm water is not precipitation related. 40 CFR 122.26(b)(13) states that: "Storm water means storm water runoff, snowmelt runoff, and surface runoff and drainage." While "surface runoff and drainage" is not defined in federal law, it is related to precipitation events such as rain and/or snowmelt (see 55 Fed Reg 47995-96). The Federal Register (55, page 47995) includes an entire section on the definition of storm water and non-storm water. The term "surface runoff and drainage" does not include all incidental flows in the MS4 system, but consists of flows relating to precipitation events as clarified by the Federal Register, USEPA's documents and permitting, and other Regional Board Orders.

The Federal Register (55 Fed Reg 47995-47996) provides clarification on the distinction between storm water and non-storm water discharges, including their regulation:

"In response to the comments which requested EPA to define the term storm water broadly to include a number of classes of discharges **which are not in any way related to precipitation events, EPA believes that this rulemaking is not an appropriate forum for addressing the appropriate regulation of such non-storm water discharges**, even though some classes of non-storm water discharges may typically contain only minimal amounts of pollutants. Congress did not intend that the term storm water be used to describe any discharge that has a de minimis amount of pollutants, not did it intend for section 402(p) to be used to provide a moratorium from permitting other non-storm water discharges."

As recently recognized by the State Water Board in a precedential decision upholding an MS4 permit modification adopted by the Los Angeles Regional Water Board, "U.S. EPA has previously rejected the notion that 'storm water,' as defined at 40 Code of Federal Regulations section 122.26(b)(13), includes dry weather flows. In U.S. EPA's preamble to the storm water regulations, U.S. EPA rejected an attempt to define storm water to include categories of discharges 'not in any way related to precipitation events.'^[fn]."⁸⁷ Thus, USEPA has made it clear that it deems discharges unrelated to precipitation events to be non-storm water discharges. 40 CFR 122.26(d)(iv)(B) itself provides specific examples of non-storm water discharges:

"...the following category of non-storm water discharges or flows shall only be addressed where such discharges are identified by the municipality as sources of pollutants to the United States: water line flushing, landscape irrigation,

⁸⁶ State Water Board Order WQ-2009-0008 (*In the Matter of the Petition of County of Los Angeles and Los Angeles County Flood Control District*, adopted August 4, 2009), p. 4.

⁸⁷ State Water Board Order WQ-2009-0008 (*In the Matter of the Petition of County of Los Angeles and Los Angeles County Flood Control District*, adopted August 4, 2009), p. 7.

diverted stream flows, rising ground waters, uncontaminated groundwater infiltration (as defined at 40 CFR 35.2005(20) to separate storm sewers, uncontaminated pumped groundwater,..."

USEPA also removed street wash waters from the definition of storm water, as USEPA specifically identified this discharge as being non-storm water (55 Fed. Reg. page 47996). Additionally, section 1.2.2.2. of USEPA's Multi-Sector General Permit for Industrial Activities (MSGP-2000) considers fire hydrant flushings, irrigation drainage, landscape watering, and foundation or footing drains to be non-storm water discharges. USEPA's September 1999 Storm Water Management Fact Sheet for Non-Storm Water Discharges to Storm Sewers states that non-storm water discharges can include discharges of process water, air conditioning condensate, non-contact cooling water, vehicle wash water, or sanitary wastes.

While these types of non-storm water discharges (or illicit discharges) may be regulated under storm water permits because as a practical matter they can enter and be discharged from the MS4 systems, they are not regulated as storm water discharges under the Clean Water Act because they are unrelated to precipitation events. As indicated above, the State Water Resources Control Board recent discussion of this issue supports the conclusion that non-storm water discharges are unrelated to precipitation events. In its Order affirming amendments to the Los Angeles County MS4 permit to implement a TMDL to control bacteria in dry weather flows, the State Water Board rejected petitioners County of Los Angeles and the Los Angeles County Flood Control District implied assertion that the definition of "storm water" contained in the federal regulations (defined as "surface run-off and drainage") includes the run-off and drainage from non-storm events. The State Water Board notes that the challenged permit provisions do not apply to storm water flows in that they apply only during dry weather conditions as defined in the permit. In upholding the challenged order, the State Water Board notes that the Los Angeles Water Board's permit language followed USEPA's approach, referring to USEPA's rejection of attempts to define storm water to include categories of discharges "not in any way related to precipitation events."⁸⁸

Lastly, the Regional Board and State Board have issued multiple permits for non-storm water discharges, including, but not limited to, R9-2008-0002 (extracted groundwater), R9-2002-0020 (hydrostatic discharge) and 2006-008 DWQ (utility vaults), pursuant to section 402 of the CWA.

Permitting Non-storm Water Discharges

The U.S. EPA's approach (and the Regional Board's under its approved program) for non-storm water discharges from MS4s is to regulate these discharges under the existing 402 NPDES framework (Fed Reg 47995 and 48037 see below) for discharges

⁸⁸ State Water Board Order WQ-2009-0008 (*In the Matter of the Petition of County of Los Angeles and Los Angeles County Flood Control District*, adopted August 4, 2009), p. 7 (quoting 55 Fed. Reg. 47990. 47995).

to surface waters. The NPDES program (40 CFR 122.44(d)) utilizes discharge prohibitions and effluent limitations as regulatory mechanisms to regulate non-storm water discharges, including the use of technology and water quality-based effluent limitations. Non-numerical effluent limitations, such as BMPs for non-storm water discharges may only be authorized where numerical effluent limits are infeasible or where the practices are reasonably necessary to achieve effluent limitations and standards or to carry out the purposes and intent of the CWA (40 CFR 122.44(k) see below).

The Federal Register (55, page 48037) provides clarification that non-storm water discharges from the MS4 are to be regulated under section 402, not 402(p):

“Conveyances which continue to accept other “non-storm water” discharges (e.g. discharges without an NPDES permit) with the exceptions noted above (*exempted discharges that are not a source of pollutants*) do not meet the definition of municipal separate storm sewer and are not subject to 402(p)(3)(B) of the CWA unless such discharges are issued separate NPDES permits. Instead, conveyances which continue to accept non-storm water discharges which have not been issued separate NPDES permits are subject to sections 301 and 402 of the CWA.”

This regulatory approach is consistent with the approach recently upheld by the State Water Board in a precedential order adopted on August 4, 2009. In this Order, the State Water Board rejected a challenge to amendments to the Los Angeles County MS4 permit that require compliance with receiving water limitations and discharge prohibitions for dry weather, non-storm water discharges. Petitioners there argued that the receiving water limits and discharge prohibitions for dry weather dischargers were inappropriate and that the Los Angeles Water Board should instead have regulated the discharges with the maximum extent practicable standard, through an iterative process. The State Water Board concludes that dry weather discharges, as defined in the permit and in the underlying TMDL, “are more appropriately regarded as non-storm water discharges, which the Clean Water Act requires to be effectively prohibited.”⁸⁹

As stated above, for NPDES permits under 402 of the CWA, the Code of Federal Regulations (122.44(k)) clarify that a discharger may utilize BMPs to control or abate the discharge of pollutants when:

- “(1) Authorized under section 304(e) of the CWA for the control of toxic pollutants and hazardous substances from ancillary industrial activities;
- (2) Authorized under section 402(p) of the CWA for the control of storm water discharges;
- (3) Numeric limits are infeasible; or
- (4) The practices are reasonably necessary to achieve effluent limitations and standards or to carry out the purposes and intent of the CWA.”

⁸⁹ State Water Board Order WQ-2009-0008 (*In the Matter of the Petition of County of Los Angeles and Los Angeles County Flood Control District*, adopted August 4, 2009), p. 8

For the last 19 years, Southern Orange County NPDES permits for discharges of storm water have regulated non-storm water discharges from the MS4. These permits required Copermittees (dischargers) to prohibit non-storm water discharges into (thus through and from) their MS4 systems, implement a program to prevent illicit discharges, and monitor to identify illicit discharges and exempted discharges that are a source of pollution. These measures are considered Best Management Practices (BMPs), are required to be included in NPDES permits issued under Section 402(p) of the CWA, and are considered by USEPA to be an interim approach to permitting non-storm water discharges from the MS4 in accordance with section 402 of the CWA and CFR 122.44(k).

As explained in the discussion of Finding C.15., below, the Copermittees' reliance on BMPs for the past 19 years has not resulted in compliance with applicable water quality standards. The Regional Board has evaluated (in accordance with 40 CFR 122.44(d)(1)) past and existing controls (BMPs), non-storm water effluent monitoring results, the sensitivity of the species in receiving waters (e.g. endangered species), and the potential for effluent dilution, and has determined that existing BMPs to control pollutants in storm water discharges are not sufficient to protect water quality standards in receiving waters and the existing requirement that Copermittees effectively prohibit all types of unauthorized non-storm water discharges into the MS4 historically results in the discharge of pollutants to the receiving waters. Thus, numeric action levels for non-storm water, dry weather, discharges from the MS4 and required actions following observed exceedances of numeric action levels have been established. For further discussion regarding the development of action levels please see Finding E.12 and discussion.

Dry weather action levels are applicable to non-storm water discharges of effluent from the MS4 system. Non-storm water effluent discharges from the MS4 are those which occur during dry weather conditions. These action levels are not applied to storm water discharges, as defined within the Order. Storm water discharges regulated by the Order are required to meet the MEP standard and related iterative process and have separate action levels.

Dry weather action levels are applicable to non-storm water discharges from the MS4 system into receiving waters. Non-storm water discharges are already required to be prohibited unless specifically exempted or covered under a separate NPDES permit. Dry weather action levels apply to non-storm water discharges of effluent from a point source into receiving waters. The MS4 is not a receiving water. Should a discharger wish to discharge a non-exempt category to the MS4 system, such discharges require a separate NPDES permit pursuant to sections 402 and 301 of the CWA. It is also infeasible to monitor and sample every discharge into the MS4, as such discharges are diffuse by nature and may vary spatially and temporally.

Finding C.15. Non-storm water discharges to the MS4 granted an influent exception (i.e., which are exempt from the effective prohibition requirement set forth in CWA section 402(p)(3)(B)(ii)) under 40 CFR 122.26 are included within this Order. Any exempted discharges identified by Copermittees as a source of pollutants are subsequently required to be *addressed* (emphasis added) as illicit discharges through prohibition and incorporation into existing IC/ID programs. The Copermittees have identified landscape irrigation, irrigation water and lawn water, previously exempted discharges, as a source of pollutants and conveyance of pollutants to waters of the United States.

Discussion of Finding C.15. The Federal Register (55, page 48037) and 40 CFR 122.26(d)(iv)(B) clarify that certain components and categories of non-storm water discharges into the MS4 are not required to be prohibited. The Code of Federal Regulations requires the discharger have:

“...a program, including inspections, to implement through ordinance, orders or similar means to prevent illicit discharges to the municipal separate storm sewer system; this program shall address all types of illicit discharges, however, the following category of non-storm water discharges or flows shall only be addressed where such discharges are identified by the municipality as sources of pollutants to the United States: water line flushing, landscape irrigation, diverted stream flows, rising ground waters, uncontaminated groundwater infiltration (as defined at 40 CFR 35.2005(20) to separate storm sewers, uncontaminated pumped groundwater...”

As such, the identification of any of these categories as a source of pollutants requires them to be addressed as illicit discharges, which are not authorized under the CWA, and are required to be “effectively prohibited” as illicit discharges via ordinance, order or similar means. The prohibition of previously exempted discharges of non-storm water to waters of the United States from entering, and necessarily being discharged from an MS4, conforms with CWA requirements for standards and enforcement for effluent limitations to necessary to meet water quality standards (33 U.S.C. 1311(b)(1)(C)).

To date the Copermittees have identified overspray and drainage from potable and reclaimed water landscape irrigation as a substantial source and conveyance mechanism for pollutants into waters of the United States. Irrigation runoff into the MS4, as identified by the Copermittees, is a source of pollutants to waters of the United States, and is required to be *addressed* (emphasis added) as an illicit discharge per 40 CFR 122.26(d)(2)(iv)(B)(1) by prohibition through implementing and enforcing an ordinance, order or similar means. The Copermittees have identified irrigation water as a source of pollutants and conveyance of pollutants to waters of the United States, when applied improperly in excess and thereafter entering the MS4, in the following documents:

- Per requirements of 401 Water Quality Certification 02C-055, the County of Orange conducted a **Drainage Area Reconnaissance and Urban Runoff**

Characterization study. From the reconnaissance and characterization, the County of Orange determined that:

“...water quality results provided two important findings.” First, *“analytical data strongly indicates that irrigation overspray and drainage constitutes a very substantial source and conveyance mechanism for fecal indicator bacteria into Aliso Creek, and suggests that reduction measures for this source of urban runoff could provide meaningful reduction in bacteria loading to the stream.”*

- Aliso Creek, currently 303(d) listed as impaired for Indicator Bacteria, is included in the Bacteria Project I TMDL adopted by the Regional Board on December 12, 2007. Secondly, reclaimed water high in electrical conductivity and Nitrate was indicated as:
“...the source water at three of the excessive runoff locations (P1,P2,J01). These dissolved nitrogen concentration and flow rates create relatively high nitrogen loadings, which have the potential to contribute to undesirable levels of periphytic algal growth in Aliso Creek.”
- On November 15, 2007 the **Unified Annual Progress Report Program Effectiveness Assessment** for the 2006-2007 reporting period was submitted by the Copermittees. Within the report, the Copermittees demonstrate that a *“wide range of constituents exceeded the tolerance interval bounds”*, including orthophosphate. Tolerance interval bounds are pollutant levels set by the Copermittees that represent when a problem may be occurring. These tolerance levels sometimes equate with Basin Plan Objectives (BPOs) and California Toxic Rules (CTR) and USEPA Criteria. The report states that *“high levels of orthophosphate concentration are most likely the result of fertilizer runoff or reclaimed water runoff”*. Aliso Creek is currently 303(d) listed as impaired for phosphorous.
- On November 15, 2007 the **Watershed Action Plan Annual Report(s)** for the 2006-2007 reporting period was submitted by the County of Orange, Orange County Flood Control District and Copermittees within the San Juan Creek, Laguna Coastal Streams, Aliso Creek, and Dana Point Coastal Streams Watersheds. San Juan Creek, Laguna Coastal Streams, Aliso Creek and Dana Point Coastal Streams are all currently 303(d) listed as impaired for Indicator Bacteria within their watersheds and/or in the Pacific Ocean at the discharge points of their watersheds. These locations are included in the Bacteria Project I TMDL adopted by the Regional Board on December 12, 2007. The Copermittees, within their Watershed Action Strategy Table for Fecal Indicator Bacteria
“Support programs to reduce or eliminate the discharge of anthropogenic dry weather nuisance flow throughout the [...] watershed. Dry weather flow is the transport medium for bacteria and other 303(d) constituents of

concern". Additionally, they state that "conditions in the MS4 contribute to high seasonal bacteria propagation in-pipe during warm weather. Landscape irrigation is a major contributor to dry weather flow, both as surface runoff due to over-irrigation and overspray onto pavements; and as subsurface seepage that finds its way into the MS4."

- In 2006, the State Water Quality Control Board (State Board) allocated Grant funding to the **SmartTimer/Edgescape Evaluation Program (SEEP)**. Project partners include the following Copermittees: the Cities of Aliso Viejo, Dana Point, Laguna Beach, Laguna Hills, Laguna Nigel, Laguna Woods, Lake Forest, Mission Viejo, Rancho Santa Margarita and San Juan Capistrano. Also included in the study were the Metropolitan Water District of Southern California, the Department of Agriculture and ten south Orange County water districts. The project targets irrigation runoff by retrofitting existing development and documenting the conservation and runoff improvements. The Grant Application states that:

"Irrigation runoff contributes flow & pollutant loads to creeks and beaches that are 303(d) listed for bacteria indicators."

Furthermore, the grant application states:

"Regional program managers agree that the reduction and/or elimination of irrigation-related urban flows and associated pollutant loads may be key to successful attainment of water quality and beneficial use goals as outlined in the San Diego Basin Plan and Bacteria TMDL over the long term."

This is reinforced in the project descriptions and objectives:

"Elevated dry-weather storm drain flows, composed primarily in the South Orange County Region of landscape irrigation water wasted as runoff, carry pollutants that impair recreational use and aquatic habitats all along Southern California's urbanized coastline. Storm drain systems carry the wasted water, along with landscape derived pollutants such as bacteria, nutrients and pesticides, to local creeks and the ocean. Given the local Mediterranean climate, excessive perennial dry season stream flows are an unnatural hydrologic pattern, causing species shifts in local riparian communities and warm, unseasonal contaminated freshwater plumes in the near-shore marine environment".

The basis of this grant project, conducted by the Copermittees and additional water use partners, is that over-irrigation (landscape irrigation, irrigation water and lawn watering) into the MS4 is a source and conveyance of pollutants. In addition, they indicate that this alteration of natural flows is impacting the Beneficial Uses of Waters of the State and U.S.

D. Runoff Management Programs

Finding D.1.a. This Order specifies requirements necessary for the Copermittees to reduce the discharge of pollutants in storm water runoff to the maximum extent practicable (MEP). However, since MEP is a dynamic performance standard, which evolves over time as runoff management knowledge increases, the Copermittees' runoff management programs must continually be assessed and modified to incorporate improved programs, control measures, best management practices (BMPs), etc. in order to achieve the evolving MEP standard. Absent evidence to the contrary, this continual assessment, revision, and improvement of runoff management program implementation is expected to ultimately achieve compliance with water quality standards in the Region.

Discussion of Finding D.1.a. Under CWA section 402(p), municipalities are required to reduce the discharge of storm water pollutants from their MS4s to the maximum extent practicable (MEP). MEP is the critical technology-based performance standard that municipalities must attain. The MEP standard is an ever-evolving, flexible, and advancing concept, which considers technical and economic feasibility. As knowledge about controlling storm water runoff continues to evolve, so does that which constitutes MEP. Reducing the discharge of storm water pollutants to the MEP requires Copermittees to assess each program component and revise activities, control measures, best management practices (BMPs), and measurable goals, as necessary to meet MEP.

To achieve the MEP standard, municipalities must employ whatever BMPs are technically feasible (i.e., are likely to be effective) and are not cost prohibitive. The major emphasis is on technical feasibility. Reducing storm water pollutants to the MEP means choosing effective BMPs, and rejecting applicable BMPs only where other effective BMPs will serve the same purpose, or the BMPs would not be technically feasible, or the cost would be prohibitive. In selecting BMPs to achieve the MEP standard, the following factors may be useful to consider:

1. Effectiveness: Will the BMPs address a pollutant (or pollutant source) of concern?
2. Regulatory Compliance: Is the BMP in compliance with storm water regulations as well as other environmental regulations?
3. Public Acceptance: Does the BMP have public support?
4. Cost: Will the cost of implementing the BMP have a reasonable relationship to the pollution control benefits to be achieved?
5. Technical Feasibility: Is the BMP technically feasible considering soils, geography, water resources, etc?

If a municipality reviews a lengthy menu of BMPs and chooses to select only a few of the least expensive BMPs, it is likely that MEP has not been met. On the other hand, if a municipal discharger employs all applicable BMPs except those where it can show that they are not technically feasible in the locality, or whose cost is prohibitive, it would have met the standard. Where a choice may be made between two BMPs that should provide generally comparable effectiveness, the discharger may choose the least expensive alternative and exclude the more expensive BMP. However, it would not be acceptable either to reject all BMPs that would address a pollutant source, or to pick a BMP based solely on cost, which would be clearly less effective. In selecting BMPs the municipality must make a serious attempt to comply and practical solutions may not be easily dismissed. In any case, the burden is on the municipal discharger to show compliance with its permit. After selecting BMPs, it is the responsibility of the discharger to ensure that all BMPs are implemented.⁹⁰

A definition of MEP is not provided in either the federal statute or in the federal regulations. The final determination regarding whether a municipality has reduced storm water pollutants to the MEP can only be made by the Regional Board or the State Board, and not by the municipal discharger. While the Regional Board or the State Board ultimately define MEP, it is the responsibility of the Copermittees to initially propose actions that implement BMPs to reduce storm water pollution to the MEP. In other words, the Copermittees' runoff management programs to be developed under the Order are the Copermittees' proposals of MEP. Their total collective and individual activities conducted pursuant to their runoff management programs become their proposal for MEP as it applies both to their overall effort, as well as to specific activities. The Order provides a minimum framework to guide the Copermittees in meeting the MEP standard for storm water.

It is the Regional Board's responsibility to evaluate the proposed programs and specific BMPs to determine what constitutes MEP, using the above guidance and the court's 1994 decision in NRDC v. California Department of Transportation, Federal District Court, Central District of California. The federal court stated that a Copermittee must evaluate and implement BMPs except where (1) other effective BMPs will achieve greater or substantially similar pollution control benefits; (2) the BMP is not technically feasible; or (3) the cost of BMP implementation greatly outweighs the pollution control benefits. In the absence of a proposal acceptable to the Regional Board, the Regional Board will define MEP by requiring implementation of additional measures by the Copermittees.

⁹⁰ State Water Resources Control Board, 1993. Memo Entitled Definition of Maximum Extent Practicable.

The Copermittees' continual evolution in meeting the MEP standard is expected to achieve compliance with water quality standards. USEPA has consistently supported this expectation. In its Interim Permitting Approach for Water Quality-Based Effluent Limitations (WQBELs) in Storm Water Permits, USEPA states "the interim permitting approach uses best management practices (BMPs) in first-round storm water permits, and expanded or better-tailored BMPs in subsequent permits, where necessary, to provide for attainment of water quality standards."⁹¹ USEPA reiterated its position in 1999, when it stated regarding the Phase II municipal storm water regulations that "successive iterations of the mix of BMPs and measurable goals will be driven by the objective of assuring maintenance of water quality standards" and "EPA anticipates that a permit for a regulated small MS4 operator implementing BMPs to satisfy the six minimum control measures will be sufficiently stringent to protect water quality, including water quality standards [...]."⁹²

The requirements of the Order are expected to achieve compliance with receiving water quality standards. The approach to be used is the continual assessment, revision, and improvement of Copermittee best management practice implementation. This approach is consistent with the Clean Water Act and State Board guidance. In *Defenders of Wildlife v. Browner* (1999, 197 F. 3d 1035), the United States Court of Appeals for the Ninth Circuit states: "Under 33 U.S.C. section 1342 (p)(3)(B)(iii), the EPA's choice to include either management practices or numeric limitations in the permits was within its discretion." In addition, the approach is consistent with State Board Order WQ 99-05, which outlines an iterative approach for achieving compliance with water quality standards.

Finding D.1.b. The Copermittees have generally been implementing the jurisdictional runoff management programs required pursuant to Order No. R9-2002-01 since February 13, 2003. Prior to that, the Copermittees were regulated by Order No. 96-03 since August 8, 1996. Runoff discharges, however, continue to cause or contribute to violations of water quality standards as evidenced by the Copermittees monitoring results.⁹³

⁹¹ Federal Register / Vol. 61, No. 166 / August 26, 1996 / P. 43761.

⁹² Federal Register / Vol. 64, No. 235 / Wednesday, December 8, 1999 / Rules and Regulations. P. 68753-68754.

⁹³ Orange County Storm Water Program, 2006. Unified Annual Progress Report, Program Effectiveness Assessment (San Diego Region).

Discussion of Finding D.1.b. In response to Order No. R9-2002-01, the Copermittees have improved their runoff management programs. For instance, comprehensive runoff management plans have been developed. In order to implement the plans, the Copermittees have, among other things, developed BMP requirements, improved inter- and intra-governmental coordination, improved training programs, improved illicit discharge detection procedures, and improved their monitoring efforts. Although the programmatic improvements have led to better implementation of BMPs, the Copermittees' monitoring data demonstrate that additional or revised BMPs are necessary to prevent discharges from MS4s from causing and contributing to violations of water quality standards. A discussion of data collected by the Copermittees is included in the discussion for Finding C.9.

Finding D.1.c. This Order contains new or modified requirements that are necessary to improve Copermittees' efforts to reduce the discharge of storm water pollutants in runoff to the MEP and achieve water quality standards. Some of the new or modified requirements, such as the revised Watershed Runoff Management Program section, are designed to specifically address these high priority water quality problems. Other new or modified requirements address program deficiencies that have been noted during audits, report reviews, and other Regional Board compliance assessment activities.

Discussion of Finding D.1.c. The Copermittees are required to update and expand their runoff management programs on jurisdictional and watershed levels in order to improve their efforts to reduce the contribution of storm water pollutants in runoff to the MEP and meet water quality standards. Changes to Order No. R9-2002-01's requirements have been made to help ensure these two standards are achieved by the Copermittees.

The Orders' jurisdictional requirements have changed based on findings by the Regional Board during typical compliance assurance activities or receipt of complaints.⁹⁴ The Regional Board performed full jurisdictional program audits of 8 of the 13 Copermittees during the Order No. R9-2002-01 permit term. Where the audits found common implementation problems, requirements have been altered to better ensure compliance. In addition, the Regional Board conducted detailed reviews of every jurisdictional annual report submitted by the Copermittees. Updates to the Copermittees' programs are also based on recommendations found in the Copermittees' ROWD.⁹⁵ In many instances, the Copermittees and the Regional Board have identified similar issues that merit program modifications.

⁹⁴ Audit reports, report reviews, and inspection reports are available for review at the Regional Board office.

⁹⁵ All significant changes made to the Order's requirements are described and explained in detail in Fact Sheet section X.

To better focus on attainment of water quality standards, the Order's watershed requirements have been improved. The conditions of the receiving waters now drive management actions, which in turn focus diminishing resources on the highest priority water quality problems within the receiving waters in each watershed. Improvements to watershed requirements were also made to facilitate a mutually clear understanding of the requirements between the Regional Board and Copermittees.

Finding D.1.d. Updated Jurisdictional Runoff Management Plans (JRMPs) and Watershed Runoff Management Plans (WRMPs), which describe the Copermittees' runoff management programs in their entirety, are needed to guide the Copermittees' runoff management efforts and aid the Copermittees in tracking runoff management program implementation. It is practicable for the Copermittees to update the JRMPs and WRMPs within one year, since significant efforts to develop these programs have already occurred.

Discussion of Finding D.1.d. Development of runoff management plans is a crucial runoff management measure and should be considered a BMP. The plans help organize and focus the Copermittees' programs and guide their implementation. In its statewide assessment report to USEPA Region IX and the State Board, Tetra Tech, Inc. concluded that the lack of a master storm water planning document must be considered a serious program deficiency⁹⁶. When submitted to the Regional Board, the plans provide useful correspondence between the Copermittees and the Regional Board. The Plans also become available for review by the public, and thus facilitate public participation in runoff management decisions. Finally, while development and submittal of runoff management plans are not necessary to ensure compliance of the Copermittees' runoff management programs with the Order, the Regional Board is provided with a means to track Copermittee implementation.

The focus of the Order is on development and implementation of storm water programs which meet MEP, rather than creation of Copermittee plans which exhibit MEP. While the Order does not rely upon the plans to ensure MEP and other standards are achieved, the plans still serve a useful purpose. As stated above, the plans serve to organize the Copermittees' efforts to address runoff. As a practical matter, any program of the size required by the Order should be documented in writing. This serves to guide implementation of the program by the numerous individuals responsible for program implementation.

⁹⁶ Tetra Tech, Inc. 2006. *Assessment Report on Tetra Tech's Support of California's MS4 Stormwater Program*. Produced for USEPA Region IX and the California State and Regional Water Quality Control Boards.

Runoff management plans are not necessary for ensuring compliance with the Order because the Order itself contains sufficient detailed requirements to ensure that compliance with discharge prohibitions, receiving water limitations, and the narrative standard of MEP for storm water are achieved. Implementation by the Copermittees of programs in compliance with the Order's requirements, prohibitions, and receiving water limitations is the pertinent compliance standard to be used under the Order, as opposed to assessing compliance by reviewing the Copermittees' implementation of their plans alone. The Regional Board ensures compliance with the Order by reviewing annual reports, conducting inspections, performing audits, and through other general program oversight.

Runoff management plans are particularly important and useful for municipalities when program implementation is spread across several departments and/or when municipalities experience staff turnover.⁹⁷ Each Copermittee relies on multiple employees or contractors for program implementation, but the spread of responsibility varies among Copermittees.⁹⁸ Written jurisdictional plans ensure appropriate coordination within each municipality.

Copermittees' runoff management plans are simply descriptions of their runoff management programs required under the Order. These plans serve as procedural correspondence which guides program implementation and aids the Copermittees and Regional Board in tracking implementation of the programs. In this manner, the plans are not functional equivalents of the Order. For these reasons, the Copermittees' runoff management plans need not be an enforceable part of the Order.

The Copermittees' plans and programs can be updated within one year because much of their plans and programs are already in existence. In fact, many parts of their plans and programs have been in place for 15 years. Moreover, the adoption of Order No. R9-2002-01 required a larger scale reorganization of the Copermittees' programs than Tentative Order No. R9-2009-0002, but also allowed one year for program updates. The Copermittees were generally able to meet the time schedule required under Order No. R9-2002-01.

Finding D.1.e. Pollutants can be effectively reduced in storm water runoff by the application of a combination of pollution prevention, source control, and treatment control BMPs. Pollution prevention is the reduction or elimination of pollutant generation at its source and is the best "first line of defense". Source control BMPs (both structural and non-structural) minimize the contact between pollutants and flows (e.g., rerouting run-on around pollutant sources or keeping pollutants on-site and out of receiving waters). Treatment control BMPs remove pollutants that have been mobilized by wet-weather or dry-weather flows.

⁹⁷ Tetra Tech, Inc. 2005. Program Evaluation Report. Orange County Storm Water Program: Cities of Laguna Beach, Laguna Hills, Lake Forest, and Rancho Santa Margarita.

⁹⁸ Responsible departments and employees are described in the 2005-06 Annual Reports for the MS4 programs.

Discussion of Finding D.1.e. The State Board finds in its Order No. WQ 98-01 that BMPs are effective in reducing pollutants in storm water runoff, stating that “implementation of BMPs [is] generally the most appropriate form of effluent limitations when designed to satisfy technology requirements, including reduction of pollutants to the maximum extent practicable.” A State Board TAC further supports this finding by recommending “that nonpoint source pollution control can be accomplished most effectively by giving priority to [BMPs] in the following order:

1. Pollution Prevention – implementation of practices that use or promote pollution free alternatives;
2. Source Control – implementation of control measures that focus on preventing or minimizing urban runoff from contacting pollution sources;
3. Treatment Control – implementation of practices that require treatment of polluted runoff either onsite or offsite.”⁹⁹

Pollution prevention, the reduction or elimination of pollutant generation at its source, is an essential aspect of BMP implementation. Fewer pollutants are available to be washed from developed areas when the generation of pollutants by activities is limited. Thus, pollutant loads in storm water discharges are reduced from these areas. In addition, there is no need to control or treat pollutants that are never generated.¹⁰⁰ Furthermore, pollution prevention BMPs are generally more cost effective than removal of pollutants by treatment facilities or cleanup of contaminated media.^{101,102}

In the Pollution Prevention Act of 1990, Congress established a national policy that emphasizes pollution prevention over control and treatment. CWC section 13263.3(a) also supports pollution prevention, stating “The Legislature finds and declares that pollution prevention should be the first step in a hierarchy for reducing pollution and managing wastes, and to achieve environmental stewardship for society. The Legislature also finds and declares that pollution prevention is necessary to support the federal goal of zero discharge of pollutants into navigable waters.” Finally, the Basin Plan also supports this finding by stating “To eliminate pollutants in storm water, one can either clean it up by removing pollutants or prevent it from becoming polluted in the first place. Because of the overwhelming volume of storm water and the enormous costs associated with pollutant removal, pollution prevention is the only approach that makes sense.”¹⁰³

⁹⁹ State Board, 1994. Urban Runoff Technical Advisory Committee Report and Recommendations. Nonpoint Source Management Program.

¹⁰⁰ Orange County Storm Water Copermittees. 2006. Report of Waste Discharge (San Diego Region).

¹⁰¹ Deviny, J.S. et al. 2004. *Alternative Approaches to Stormwater Quality Control*. Prepared for the Los Angeles Regional Water Quality Control Board. Found as Appendix H to *NPDES Stormwater Cost Survey*. Prepared for the California State Water Resources Control Board by the Office of Water Programs California State University, Sacramento. Available on-line at: <http://www.owp.csus.edu/research/npdes/>

¹⁰² Schueler, T.R., 2000. Center for Watershed Protection. Assessing the Potential for Urban Watershed Restoration, Article 142.

¹⁰³ Regional Board, 1994. Water Quality Control Plan, San Diego Basin, Region 9.

USEPA also supports the utilization of a combination of BMPs to address pollutants in runoff. For example, USEPA has found there has been success in addressing illicit discharge related problems through BMP initiatives like storm drain stenciling and recycling programs, including household hazardous waste special collection days.¹⁰⁴ Structural BMP performance data has also been compiled and summarized by USEPA.¹⁰⁵

The summary provides the performance ranges of various types of structural BMPs for removing suspended solids, nutrients, pathogens, and metals from storm water flows. These pollutants are generally a concern in storm water in the San Diego Region and Orange County.¹⁰⁶ For suspended solids, the least effective structural BMP type was found to remove 30-65 percent of the pollutant load, while the most effective was found to remove 65-100 percent of the pollutant load. For nutrients, the least effective structural BMP type was found to remove 15-45 percent of the pollutant load, while the most effective was found to remove 65-100 percent of the pollutant load. For pathogens, the least effective structural BMP type was found to remove <30 percent of the pollutant load, while the most effective was found to remove 65-100 percent of the pollutant load. For metals, the least effective structural BMP type was found to remove 15-45 percent of the pollutant load, while the most effective was found to remove 65-100 percent of the pollutant load.

Several studies conducted in the last few years have measured the effectiveness of treatment BMPs in southern Orange County. Studies have been conducted on both dry weather and wet weather flows. Each demonstrates that treatment control BMPs can, to varying degrees, remove pollutants from runoff, but that pollution prevention and source control BMPs are necessary to reduce storm water pollutant discharges to the point of supporting water quality objectives in the receiving waters. A partial list of such studies includes:

1. "Assessment of Best Management Practice (BMP) Effectiveness" by the Southern California Coastal Water Research Project (SCCWRP).¹⁰⁷ This project assesses the effectiveness of BMPs in southern California for improving water quality related to toxicity.
2. "Final Report for the Del Obispo Storm Drain Project" by the City of Dana Point.¹⁰⁸ This report assesses the implementation of a solids removal unit and low-flow diversion project.

¹⁰⁴ USEPA, 1999. 40 CFR Parts 9, 122, 123, and 124 National Pollutant Discharge Elimination System-Regulations for Revision of the Water Pollution Control Program Addressing Storm Water Discharges. 64 FR 68728.

¹⁰⁵ USEPA, 1999. Preliminary Data Summary of Urban Storm Water Best Management Practices. EPA 821-R-99-012.

¹⁰⁶ Orange County Stormwater Program, Appendix E1 BMP Effectiveness and Applicability for Orange County (updated June 2005).

¹⁰⁷ Jeffrey S. Brown and Steven M. Bay 2005. *Assessment of Best Management Practice (BMP) Effectiveness*. SCCWRP Technical Report 461.

¹⁰⁸ City of Dana Point. 2005. *Final Report for the Del Obispo Storm Drain Project*. Prepared for the State Water Resources Control Board Agreement No. 02-216-550-0.

3. "Final Report for the Alipaz Storm Drain Treatment and Low Flow Diversion Project" by the City of Dana Point.¹⁰⁹ This report assesses the implementation of a solids removal unit and low-flow diversion project.
4. "Final Report for Poche Beach Urban Runoff Ultraviolet Light Bacteria Disinfection Project" by the County of Orange.¹¹⁰ This report assesses the implementation of an ultraviolet system within a box culvert.
5. Final Report for J01P28 Interim Water Quality Improvement Package Plant Best Management Practices.¹¹¹ This report assesses the implementation of an ultraviolet treatment system at an inland waters storm drain outfall.
6. "Final Report for Wetland Capture and Treatment (WetCAT) Network" by the City of Laguna Niguel.¹¹² This report assesses the implementation of constructed wetlands.

Results of these recent studies demonstrate that treatment at the MS4 outfalls for pollutants that have already been discharged *into* the MS4 is generally unlikely to reduce pollutant concentrations to levels that would support water quality objectives. It also demonstrates that non-storm water discharges are occurring into the MS4 that are illicit discharges, exempted discharges that are a source of pollutants and/or discharges under a separate NPDES permit that are in violation of that permit.

It is important to note that the Clean Water Act and NPDES federal regulations clearly require control of discharges into the MS4. Section 402(p)(3)(B)(ii) of the Clean Water Act states that MS4 permits must "prohibit non-storm water discharges into the storm sewers." 40 CFR 122.26(d)(2)(iv)(B) requires Copermittees to "detect and remove [...] illicit discharges and improper disposal into the storm sewer." See Finding C.14 and Discussion.

¹⁰⁹ City of Dana Point. 2004. *Final Report For The Alipaz Storm Drain Treatment And Low Flow Diversion Project* by the City of Dana Point. Prepared for State Water Resources Control Board Agreement Number: 01-068-550-0.

¹¹⁰ Volz, James. 2005. *Final Report for Poche Beach Urban Runoff Ultraviolet Light Bacteria Disinfection Project*. Prepared by the County of Orange for State Water Resources Control Board Agreement No. 01-236-550-1.

¹¹¹ Anderson, Max. 2005. Final Report: Aliso Beach Clean Beach Initiatives, J01P28 Interim Water Quality Improvement Package Plant Best Management Practices. Prepared by the County of Orange for State Water Resources Control Board Agreement No. 01-227-550-0.

¹¹² City of Laguna Niguel and CH2MHILL. 2004. *Final Report: Wetland Capture and Treatment (WetCAT) Network*. Prepared for State Water Resources Control Board Agreement No. 01-122-259-0.

The Order's approach to regulating discharges into and from the MS4 is in accordance with State Board Order WQ 2001-15. In that order, the State Board reviewed the San Diego County permit (Order No. 2001-01) requirements and made one change to one prohibition.¹¹³ The Order upheld all other requirements of the current permit. Order No. R9-2009-0002 incorporates the one change made by the State Board, and continues the approach of Order No. 2001-01 (the basis for the current permit), as it was upheld by the State Board in Order WQ 2001-15. State Board Order WQ 2001-15 supports such requirements, stating: "It is important to emphasize that dischargers into MS4s continue to be required to implement a full range of BMPs, including source control."

The Court of Appeals, Fourth Appellate District, found that the current permit's approach to regulation of discharges into the MS4 was appropriate. Since the Tentative Order utilizes the same approach, the court decision supports the Tentative Order's requirements.

Finding D.1.f. Runoff needs to be addressed during the three major phases of urban development (planning, construction, and use) in order to reduce the discharge of storm water pollutants to the MEP, effectively prohibit non-storm water discharges and protect receiving waters. Development which is not guided by water quality planning policies and principles can unnecessarily result in increased pollutant load discharges, flow rates, and flow durations which can impact receiving water beneficial uses. Construction sites without adequate BMP implementation result in sediment runoff rates which greatly exceed natural erosion rates of undisturbed lands, causing siltation and impairment of receiving waters. Existing development generates substantial pollutant loads which are discharged in runoff to receiving waters.

Discussion of Finding D.1.f. MS4 permits are issued to municipalities because of their land use authority. The ultimate responsibility for the pollutant discharges, increased runoff, and inevitable long-term water quality degradation that results from development lies with local governments. This responsibility is based on the fact that it is the local governments that have authorized the development (i.e., conversion of natural pervious ground cover to impervious surfaces) and the land uses that generate the pollutants and runoff. Furthermore, the MS4 through which the pollutants and increased flows are conveyed, and ultimately discharged into natural receiving waters, are owned and operated by the same local governments. In summary, the Copermitees under the Order are responsible for discharges into and out of their MS4s because (1) they own and operate the MS4; and (2) they have the legal authority that authorizes the very development and land uses with generate the pollutants and increased flows in the first place.

¹¹³ The State Board removed the prohibition of discharges *into* the MS4 that cause or contribute to exceedances of water quality objectives. The revision allows for treatment of storm water flows once the pollutants have entered the MS4. It does not affect the effective prohibition on certain dry-weather flows into the MS4 that is required by the Clean Water Act.

For example, since grading cannot commence prior to the issuance of a local grading permit, the Copermittees have a built-in mechanism to ensure that all grading activities are protective of receiving water quality. The Copermittee has the authority to withhold issuance of the grading permit until the project proponent has demonstrated to the satisfaction of the Copermittee that the project will not violate their ordinances or cause the Copermittee to be in violation of its MS4 permit. Since the Copermittee will ultimately be held responsible for any discharges from the grading project by the Regional Board, the Copermittee will want to use its own permitting authority to ensure that whatever measures the Copermittee deems necessary to protect discharges into its MS4 are in fact taken by the project proponent.

The Order holds the local government accountable for this direct link between its land use decisions and water quality degradation. The Order recognizes that each of the three major stages in the development process (development planning, construction, and the use or operational stage) are controlled by and must be authorized by the local government. Accordingly, this permit requires the local government to implement, or require others to implement, appropriate best management practices to reduce storm water pollutant discharges and increased flow during each of the three stages of development.

Including plans for BMP implementation during the design phase of new development and redevelopment offers the most cost effective strategy to reduce storm water runoff pollutant loads to surface waters.¹¹⁴ The Phase II regulations for small municipalities reflect the necessity of addressing runoff during the early planning phase. Due to the greater water quality concerns generally experienced by larger municipalities, Phase II requirements for small municipalities are also applicable to larger municipalities such as the Copermittees. The Phase II regulations direct municipalities to develop, implement, and enforce a program to address storm water runoff from new development and redevelopment projects that disturb greater than or equal to one acre, including projects less than one acre that are part of a larger common plan of development or sale. The program must ensure that controls are in place that would prevent or minimize water quality impacts. This includes developing and implementing strategies which include a combination of structural and/or non-structural BMPs appropriate to the locality. The program must also ensure the adequate long-term operation and maintenance of BMPs.¹¹⁵ USEPA expands on the Phase II regulations for urban development when it recommends that Copermittees:

¹¹⁴ USEPA, 2000. Storm Water Phase II Compliance Assistance Guide. EPA 833-R-00-002.

¹¹⁵ USEPA, 1999. 40 CFR Parts 9, 122, 123, and 124 National Pollutant Discharge Elimination System-Regulations for Revision of the Water Pollution Control Program Addressing Storm Water Discharges; Final Rule. 64 FR 68845.

“Adopt a planning process that identifies the municipality’s program goals (e.g., minimize water quality impacts resulting from post-construction runoff from new development and redevelopment), implementation strategies (e.g., adopt a combination of structural and/or non-structural BMPs), operation and maintenance policies and procedures, and enforcement procedures. In developing your program, you should consider assessing existing ordinances, policies, programs and studies that address storm water runoff quality.”

Management of storm water runoff during the construction phase is also essential. USEPA explains in the preamble to the Phase II regulations that storm water discharges generated during construction activities can cause an array of physical, chemical, and biological water quality impacts. Specifically, the biological, chemical and physical integrity of the waters may become severely compromised due to runoff from construction sites. Fine sediment from construction sites can adversely affect aquatic ecosystems by reducing light penetration, impeding sight-feeding, smothering benthic organisms, abrading gills and other sensitive structures, reducing habitat by clogging interstitial spaces within the streambed, and reducing intergravel dissolved oxygen by reducing the permeability of the bed material. Water quality impairment also results, in part, because a number of pollutants are preferentially absorbed onto mineral or organic particles found in fine sediment. The interconnected process of erosion (detachment of the soil particles), sediment transport, and delivery is the primary pathway for introducing key pollutants, such as nutrients, metals, and organic compounds into aquatic systems.¹¹⁶

Finally, storm water and non-storm water runoff from existing development must be addressed. The Copermittees’ monitoring data exhibits that significant water quality problems exist in receiving waters which receive runoff from areas with extensive existing development, such as Aliso Creek. Source identification, BMP requirements, inspections, and enforcement are all important measures which can be implemented to address runoff from existing development. USEPA supports inspections and enforcement by municipalities when it states “Effective inspection and enforcement requires [...] penalties to deter infractions and intervention by the municipal authority to correct violations. Enforcement mechanisms [...] also must be described.”¹¹⁷

Finding D.1.g. Annual reporting requirements included in this Order are necessary to meet federal requirements and to evaluate the effectiveness and compliance of the Copermittees’ programs.

Discussion of Finding D.1.g. The annual reporting requirements are consistent with federal NPDES regulation 40 CFR 122.41, which states:

¹¹⁶ Ibid., 64 FR 68728.

¹¹⁷ USEPA, 1992. Guidance Manual for the Preparation of Part II of the NPDES Permit Applications for Discharges from Municipal Separate Storm Sewer Systems. EPA 833-B-92-002.

“The operator of a large or medium municipal separate storm sewer system of a municipal separate storm sewer system that has been designated by the Director under section 122.26(a)(1)(v) of this part must submit an annual report by the anniversary of the date of the issuance of the permit for such a system. The report shall include: (1) The status of implementing the components of the storm water management program that are established as permit conditions; (2) Proposed changes to the storm water management program that are established as permit condition, Such proposed changes shall be consistent with § 122.26(d)(2)iii) of this part; (3) Revisions, if necessary, to the assessment of controls and the fiscal analysis reported in the permit application under § 122.26(d)(2)iv) and (d)(2)v) of this part; (4) A summary of data, including monitoring data, that is accumulated throughout the reporting year; (5) Annual expenditures and budget for year following each annual report; (6) A summary describing the number and nature of enforcement actions, inspections, and public education programs; and (7) Identification of water quality improvements or degradation.”

CWC section 13267 provides that “the regional board may require that any person who has discharged [...] shall furnish, under penalty of perjury, technical or monitoring reports which the regional board requires.”

The Regional Board must assess the reports to ensure that the Copermittees’ programs are adequate to assess and address water quality. The reporting requirements can also be useful tools for the Copermittees to review, update, or revise their programs. Areas or issues which have received insufficient efforts can also be identified and improved.

Finding D.1.h. This Order establishes Storm Water Action Levels (SALs) for selected pollutants based on USEPA Rain Zone 6 (arid southwest) Phase I MS4 monitoring data for pollutants in storm water. The SALs were computed as the 90th percentile of the data set, utilizing the statistical based population approach, one of three approaches recommended by the California Water Board’s Storm Water Panel in its report, ‘The Feasibility of Numerical Effluent Limits Applicable to Discharges of Storm Water Associated with Municipal, Industrial and Construction Activities (June 2006). SALs are identified in Section D of this Order. Copermittees shall implement a timely, comprehensive, cost-effective storm water pollution control program to reduce the discharge of pollutants in storm water from the permitted areas so as not to exceed the SALs. SALs express an integration of the adequacy/inadequacy of programmatic measures and BMPs required in this Order.

Discussion of Finding D.1.h. Section 402(p) of the CWA states MS4 permits for storm water shall require controls to reduce the discharge of pollutants to the maximum extent practicable, including management practices, control techniques and system, design and engineering methods, and such other provisions as the

Administrator or the State determines appropriate for the control of such pollutants. This includes requiring numeric effluent limitations for storm water.

SALs are not numeric effluent limitations, which is reflected in language which clarifies an excursion above a SAL does not create a presumption that MEP is not being met. Instead, a SAL exceedance is to be used by the Copermittee as an indication that the MS4 storm water discharge point is a definitive "bad actor," and the result from the monitoring needs to be considered as part of the iterative process for reducing pollutants in storm water to the MEP.

The CWA defines effluent limitations as:

"Any restriction imposed by the Director on quantities, discharge rates, and concentrations of pollutants which are "discharged" from "point sources" into "waters of the United States"..." A SAL is not a restriction on a quantity, rate or concentration, but is a level at which actions that further reduce pollutants from that discharge point need to be evaluated in order to reduce storm water pollutants to the MEP. Thus, SALs are not effluent limitations as defined by the CWC or CWA.

The approach of using "action levels" is consistent with recommendations made by USEPA in their Interim Permitting Approach for Water Quality-Based Effluent Limitations in Storm Water Permits, dated August 26, 1996:

"Under the Clean Water Act(CWA) and NPDES regulations, permitting authorities may employ a variety of conditions and limitations in storm water permits, including best management practices, performance objectives, narrative conditions, monitoring triggers, action levels (e.g., monitoring benchmarks, toxicity reduction evaluation action levels), etc., as the necessary water-quality based limitations, where numeric water quality based effluent limitations are determined to be unnecessary or infeasible". As such, these action levels are not considered numeric water quality-based effluent limitations.

It should be noted that a purpose of monitoring, required under this and previous Orders, is to aid in the evaluation of implemented programs and BMPs in reducing pollutants in storm water discharges to the MEP. The tentative Monitoring and Reporting Program states:

This Receiving Waters and Runoff Monitoring and Reporting Program is intended to meet the following goals:

2. Measure and improve the effectiveness of the Permittees' runoff management programs;
 3. Assess the chemical, physical, and biological impacts to receiving waters resulting from runoff discharges;
 4. Characterize runoff discharges;
 5. Identify sources of specific pollutants;
 6. Prioritize drainage and sub-drainage areas that need management actions;
- and

9. Provide information to implement required BMP improvements.

For the past 4 permit cycles (19 years), Copermittees have utilized non-numerical limitations (BMPs) to control and abate the discharge of any pollutants in storm water discharges to the MEP. Copermittees have been accorded 19 years to research, develop, and deploy BMPs that are capable of reducing storm water discharges from the MS4 to levels represented in SALs. Storm Water Action Levels are set at such a level that any exceedance of a SAL will clearly indicate BMPs being implemented are insufficient to protect the Beneficial Uses of waters of the State. Copermittee shall utilize the exceedance information as a high priority consideration when adjusting and executing annual work plans, as required by this Permit. Failure to appropriately consider and react to SAL exceedances in an iterative manner creates a presumption that the Copermittee(s) have not complied to the MEP.

SALs have been developed utilizing Phase I storm water effluent data (updated February 2008, <http://rpitt.eng.ua.edu/Research/ms4/mainms4.shtml>) from the arid west region (USEPA Rain Zone 6). USEPA Rainfall Zone 6, which includes MS4 effluent data from Orange, San Diego, Los Angeles and Ventura County. While the County of Orange has a large monitoring data set, Regional Board staff have concluded that there is a lack of effluent monitoring from major outfalls that are representative of conditions throughout the Region. The approach taken to derive SALs is a straightforward percentile approach, with the SAL being set as the 90th percentile of the dataset for each constituent. This approach is consistent with the 2006 State Board Panel Report:

"The statistically based population approach would once again rely on the average distribution of measured water quality values developed from many water quality samples taken for many events at many locations. In this case, however, the Action Level would be defined by the central tendency and variance estimates from the population data. For example, the Action Level could be set as two standard deviations above the mean, i.e. if measured concentrations are consistently higher than two standard deviations above the mean, an Action Level would be triggered. Other population based measures of central tendency could be used (i.e. geomean, median, etc.) or estimates of variance (i.e. prediction intervals, etc.). Regardless of which population based estimators are used (or percentile from above), the idea would be to identify the [statistically derived] point at which managers feel concentrations are significantly beyond the norm."

SALs are a measurable criteria which quantifies the performance of BMPs for a particular watershed or subwatershed that discharges storm water MS4 effluent from that particular discharge point. Thus, Copermittees can utilize SAL results to determine the effectiveness BMPs on the effluent from a particular area of the MS4.

SALs represent the lowest 10 percent of pollutant reduction for USEPA Rain Zone 6 MS4 Phase I programs discharging to waters of the United States. For the past 4

permit cycles (19 years), Copermitees have utilized non-numerical limitations (BMPs) to control and abate the discharge of any pollutants in storm water discharges to the MEP. Copermitees have been accorded 19 years to research, develop, and deploy BMPs that are capable of reducing storm water discharges from the MS4 to levels represented in SALs. Storm Water Action Levels are set at such a level that any exceedance of a SAL will indicate to the Copermitee(s) that the discharge is within the lowest 10% of monitored outfalls. Therefore, an exceedance of a SAL warrants priority consideration within the Copermitee iterative process.

Finding D.2.a. The Standard Storm Water Mitigation Plan (SSMP) requirements contained in this Order are consistent with Order WQ-2000-11 adopted by the State Water Resources Control Board (State Board) on October 5, 2000. In the precedential order, the State Board found that the design standards, which essentially require that runoff generated by 85 percent of storm events from specific development categories be infiltrated or treated, reflect the MEP standard. The order also found that the SSMP requirements are appropriately applied to the majority of the Priority Development Project categories contained in Section D.1 of this Order. The State Board also gave Regional Water Quality Control Boards the needed discretion to include additional categories and locations, such as retail gasoline outlets (RGOs), in SSMPs.

Discussion of Finding D.2.a. The post-construction requirements and design standards contained in the SSMP section of Order No. R9-2009-0002 constitute MEP consistent with State Board guidance, court decisions, and Regional Board requirements. The State Board and Regional Boards have made several recent decisions in regards to inclusion of SSMP requirements in MS4 permits. In a precedential decision, State Board WQ Order No. 2000-11, the State Board found that the SSMP provisions constitute MEP for addressing storm water pollutant discharges resulting from Priority Development Projects. The provisions of the SSMP section of the Order are also consistent with those previously issued by the Regional Board for Orange County (Order No. R9-2002-0001) and San Diego County (Order Nos. R9-2001-01 and R9-2007-0001), as well as requirements in the Los Angeles County MS4 permit (Order No. R4-2001-182). In State Board Order WQ 2001-15, the State Board reaffirmed that SSMP requirements constitute MEP. Moreover, the SSMP requirements of the San Diego County MS4 permit (Order No. R9-2001-01) were upheld when the California State Supreme Court declined to hear the matter on appeal.

Finding D.2.b. Controlling runoff pollution by using a combination of onsite source control and site design BMPs augmented with treatment control BMPs before the runoff enters the MS4 is important for the following reasons: (1) Many end-of-pipe BMPs (such as diversion to the sanitary sewer) are typically ineffective during significant storm events. Whereas, onsite source control BMPs can be applied during all runoff conditions; (2) End-of-pipe BMPs are often incapable of capturing and treating the wide range of pollutants which can be generated on a sub-watershed scale; (3) End-of-pipe BMPs are more effective when used as polishing BMPs, rather than the sole BMP to be implemented; (4) End-of-pipe BMPs do not protect the quality or beneficial uses of receiving waters between the pollutant source and the BMP; and (5) Offsite end-of-pipe BMPs do not aid in the effort to educate the public regarding sources of pollution and their prevention.

Discussion of Finding D.2.b. Many end-of-pipe BMPs are designed for low flow conditions because their end-of-pipe location prevents them from being designed for large storm events. This results in the end-of-pipe BMPs being overwhelmed, bypassed, or ineffective during larger storm events more frequently than onsite BMPs designed for larger storms. BMPs are also frequently most effective for a particular type of pollutant (such as sediment). Such BMPs may be appropriate for small sites with a limited suite of pollutants generated; however, end-of-pipe BMPs must typically be able to address a wide range of pollutants generated by a sub-watershed, limiting their effectiveness and/or increasing costs. Moreover, the location of some end-of-pipe BMPs allow for untreated pollutants to be discharged to and degrade receiving waters prior to their reaching the BMPs. This fails to protect receiving waters, which is the purpose of BMP implementation. In addition, opportunities to educate the public regarding runoff pollution can be lost when end-of-pipe BMPs are located away from pollutant sources and out of sight. Onsite BMPs can lead to a better public understanding of runoff issues since their presence can provide a visible and/or tangible lesson in pollution prevention.

Finding D.2.c. Use of Low-Impact Development (LID) site design BMPs at new development, redevelopment and retrofit projects can be an effective means for minimizing the impact of storm water runoff discharges from the development projects on receiving waters. LID is a site design strategy with a goal of maintaining or replicating the pre-development hydrologic regime through the use of design techniques. LID site design BMPs help preserve and restore the natural hydrologic cycle of the site, allowing for filtration and infiltration which can greatly reduce the volume, peak flow rate, velocity, and pollutant loads of storm water runoff. Current runoff management, knowledge, practices and technology have resulted in the use of LID BMPs as an acceptable means of meeting the storm water MEP standard.

Discussion of Finding D.2.c. The Clean Water Act (CWA) is the cornerstone of surface water quality protection in the United States. (The Act does not deal directly with ground water nor with water quantity issues.) The statute employs a variety of regulatory and nonregulatory tools to sharply reduce direct pollutant discharges into

waterways, and manage polluted runoff. These tools are employed to achieve the broader goal of restoring and maintaining the chemical, physical, and biological integrity of the nation's waters so that they can support the protection and propagation of fish, shellfish, wildlife and recreation in and on the water.

Increasing the volume, velocity, frequency and discharge duration of storm water runoff from developed areas will eventually greatly accelerate downstream erosion, impair stream habitat in natural drainages, and negatively impact beneficial uses. Development and urbanization increase pollutant loads and volume while simultaneously increasing impervious area. Impervious surfaces can neither absorb water nor remove pollutants and thus lose the purification and infiltration provided by naturally vegetated soil. Furthermore, impervious surfaces tend to concentrate pollutants on the top of the surface that are then washed off into the MS4 and waters of the State in a concentrated manner. The use of Low-Impact Development (LID) site design BMPs can be an effective means of minimizing the impact of runoff discharges on receiving waters. By reducing water pollution, reducing runoff and increasing groundwater recharge, LID helps to improve the quality of receiving surface waters, stabilize the flow rates of receiving waters (preventing downstream hydromodification), reduce downstream flooding and protect and enhance water supply sources. Current runoff management, knowledge, practice and technology has resulted in the use of LID BMPs as an acceptable means of meeting the MEP standard for storm water treatment.

Current municipal codes may oppose or hinder the design, use and implementation of specific elements of LID. These codes include, but are not limited to, emergency services access requirements, building landscape ordinances, building height limits and parking space requirements. It is essential for Copermittees to work with other responsible agencies and/or update codes that have the potential to impact the use of LID.

The Local Government Commission, a non-profit organization working to build livable communities, developed a set of principles known as the *Ahwahnee Water Principles for Resource-Efficient Land Use*¹¹⁸ that provide the opportunity to reduce costs and improve the reliability and quality of our water resources. Implementation of LID incorporates several of the Ahwahnee principles such as:

1. "Community Design should be compact, mixed use, walkable and transit-oriented so that urban runoff pollutants are minimized and the open lands that absorb water are preserved to the maximum extent possible."
3. "Water holding areas such as creek beds, recessed athletic fields, ponds, cisterns, and other features that serve to recharge groundwater, reduce runoff, improve water quality and decrease flooding should be incorporated into the urban landscape."

¹¹⁸ Local Government Commission, "The Ahwahnee Water Principles – A Blueprint for Regional Sustainability", http://water.lgc.org/Members/tony/docs/lgc_water_guide.pdf

4. "All aspects of landscaping from the selection of plants to soil preparation and the installation of irrigation systems should be designed to reduce water demand, retain runoff, decrease flooding, and recharge groundwater."
5. "Permeable surfaces should be used for hardscape. Impervious surfaces such as driveways, streets, and parking lots should be minimized so that land is available to absorb storm water, reduce polluted urban runoff, recharge groundwater and reduce flooding."

The use of LID site design BMPs helps reduce the amount of impervious area associated with development and allows storm water to infiltrate into the soil. Natural vegetation and soil filters storm water runoff and reduces the volume and pollutant loads of storm water. Studies have revealed that the level of imperviousness resulting from development and urbanization is strongly correlated with the water quality impairment of nearby receiving waters.¹¹⁹ In many cases, the impacts on receiving waters due to changes in hydrology can be more significant than those attributable to the contaminants found in storm water discharges.¹²⁰ These impacts include stream bank erosion (increased sediment load and subsequent deposition), benthic habitat degradation, and decreased diversity of macroinvertebrates. Although conventional BMPs do reduce storm water pollutant loads, they may not effectively control adverse effects from changes in the discharge hydrologic conditions.¹²¹

The Order includes requirements for developments to include site design BMPs that mimic or replicate the natural hydrologic cycle. Open space designs which maximize pervious surfaces and retention of "natural" drainages have been found to reduce both the costs of development and pollutant export.¹²² Moreover, USEPA finds including plans for a "natural" site design and BMP implementation during the design phase of new development and redevelopment offers the most cost effective strategy to reduce storm water pollutant loads to surface waters.¹²³ In addition, a recent U.S. Department of Housing and Urban Development guidance document on low-impact development notes that the use of LID-based storm water management design allows land to be developed, but in a cost-effective manner that helps mitigate potential environmental impacts.¹²⁴

¹¹⁹ USEPA, 1999. 40 CFR Parts 9, 122, 123, and 124 National Pollutant Discharge Elimination System – Regulations for Revision of the Water Pollution Control Program Addressing Storm Water Discharges; Final Rule.

¹²⁰ Ibid.

¹²¹ USEPA, 2000. Low-Impact Development: A literature review. EPA-841-B-00-005. 35p.

¹²² Center for Watershed Protection, 2000. "The Benefits of Better Site Design in Residential Subdivisions." Watershed Protection Techniques. Vol. 3. No. 2.

¹²³ USEPA, 1999. 40 CFR Parts 9, 122, 123, and 124 National Pollutant Discharge Elimination System – Regulations for Revision of the Water Pollution Control Program Addressing Storm Water Discharges; Final Rule.

¹²⁴ U.S. Department of Housing and Urban Development, Office of Policy Development and Research, 2003. "The Practice of Low Impact Development." Prepared by: NAHB Research Center, Inc. Upper Marlboro, Maryland. Contract No. H-21314CA. 131p.

Finding D.2.d. Retail Gasoline Outlets (RGOs) are significant sources of pollutants in storm water runoff. RGOs are points of convergence for motor vehicles for automotive related services such as repair, refueling, tire inflation, and radiator fill-up and consequently produce significantly higher loadings of hydrocarbons and trace metals (including copper and zinc) than other developed areas.

Discussion of Finding D.2.d. RGOs are included in the Order as a Priority Development Project category because RGOs produce significantly greater loadings of hydrocarbons and trace metals (including copper and zinc) than other developed areas. To meet the storm water MEP standard, source control and structural treatment BMPs are needed at RGOs that meet the following criteria: (a) 5,000 square feet or more or (b) an ADT of 100 or more vehicles per day. These are appropriate thresholds since vehicular development size and volume of traffic are good indicators of potential impacts of storm water runoff from RGOs on receiving waters.

This finding has been added to satisfy State Board WQ Order No. 2000-11's requirements for including RGOs as a Priority Development Category. Order No. 2000-11 acknowledged that a threshold (size, average daily traffic, etc.) appropriate to trigger SSMP requirements should be developed for RGOs and that specific findings regarding RGOs should be included in MS4 permits to justify the requirement.¹²⁵ Additional detail to support the inclusion of RGOs can be found in the Fact Sheet discussion of Section D.1.d.2.j.

Finding D.2.e. Industrial sites are significant sources of pollutants in runoff. Pollutant concentrations and loads in runoff from industrial sites are similar or exceed pollutant concentrations and loads in runoff from other land uses, such as commercial or residential land uses. As with other land uses, LID site design, source control, and treatment control BMPs are needed at industrial sites in order to meet the MEP standard. These BMPs are necessary where the industrial site is larger than 10,000 square feet. The 10,000 square feet threshold is appropriate, since it is consistent with requirements in other Phase I NPDES storm water regulations throughout California.

¹²⁵ State Board, 2000. Order WQ 2000-11. In the Matter of the Petitions of The Cities Of Bellflower, Et Al., The City Of Arcadia, And Western States Petroleum Association Review of January 26, 2000 Action of the Regional Board And Actions and Failures to Act by both the California Regional Water Quality Control Board, Los Angeles Region and Its Executive Officer Pursuant to Order No. 96-054, Permit for Municipal Storm Water and Urban Run-Off Discharges Within Los Angeles County [NPDES NO. CAS614001] SWRCB/OCC FILES A-1280, A-1280(a) and A-1280(b)

Discussion of Finding D.2.e. Industrial sites can be a significant source of pollutants in storm water runoff. In an extensive review of storm water literature, the LARWQCB found widespread support for the finding that "industrial and commercial activities can also be considered hot spots as sources of pollutants." It also found that "industrial and commercial areas were likely to be the most significant pollutant source areas" of heavy metals.¹²⁶ Likewise, storm water runoff from heavy industry in the Santa Clara Valley has been found to be extremely toxic.¹²⁷ These findings are corroborated by USEPA, which states in the preamble to the 1990 Phase I NPDES storm water regulations that "Because storm water from industrial facilities may be a major contributor of pollutants to municipal separate storm sewer systems, municipalities are obligated to develop controls for storm water discharges associated with industrial activity through their system in their storm water management program." Since heavy industrial sites can be a significant source of pollutants in runoff in a manner similar to other SSMP project categories such as commercial development or automotive repair shops, it is appropriate to include heavy industrial sites as a SSMP category in the Order.

The Phase I NPDES storm water regulations require the Copermittees to "control through ordinance, permit, contract, order, or similar means, the contribution of pollutants to the municipal storm sewer by storm water discharges associated with industrial activity and the quality of storm water discharged from sites of industrial activity" (40 CFR 122.26(d)(2)(i)). In addition, it has been established that the MEP standard for the control of storm water runoff from new development projects includes incorporation of the SSMP requirements. Since the Copermittees must both control storm water pollutants from industrial sites and meet the storm water MEP standard for new development, it is appropriate to apply the SSMP requirements to heavy industrial sites.

The State Board's Order WQ 2000-11 indicates that it is appropriate to apply SSMP requirements to categories of development where evidence shows the category of development can be a significant source of pollutants. As evidenced above, heavy industrial sites can be a significant source of pollutants. Therefore, the Order includes heavy industrial sites as a SSMP Priority Development Project category.

¹²⁶ Los Angeles Regional Water Quality Control Board. 2001.

¹²⁷ Schueler and Holland, 2000. Storm Water Strategies for Arid and Semi-Arid Watersheds (Article 66). The Practice of Watershed Protection.

Finding D.2.f. If not properly designed or maintained, certain BMPs implemented or required by municipalities for runoff management may create a habitat for vectors (e.g. mosquitoes and rodents). However, proper BMP design and maintenance to avoid standing water can prevent the creation of vector habitat. Nuisances and public health impacts resulting from vector breeding can be prevented with close collaboration and cooperative effort between municipalities, the Orange County Vector Control District, and the California Department of Public Health during the development and implementation of runoff management programs.

Discussion of Finding D.2.f. The implementation of certain structural BMPs or other runoff treatment systems can result in significant vector problems in the form of increased breeding or harborage habitat for mosquitoes, rodents or other potentially disease transmitting organisms. The implementation of BMPs that retain water may provide breeding habitat for a variety of mosquito species, some of which have the potential to transmit diseases such as Western Equine Encephalitis, St. Louis Encephalomyelitis, and malaria. Recent BMP implementation studies by Caltrans¹²⁸ in District 7 and District 11 have demonstrated mosquito breeding associated with some types of BMPs. The Caltrans BMP Retrofit Pilot study cited lack of maintenance and improper design as factors contributing to mosquito production. However, a Watershed Protection Techniques article describes management techniques for selecting, designing, and maintaining structural treatment BMPs to minimize mosquito production.¹²⁹ State and local runoff management programs that include structural BMPs with the potential to retain water have been implemented in Florida and the Chesapeake Bay region without resulting in significant public health threats from mosquitoes or other vectors.¹³⁰

Finding D.2.g. The increased volume, velocity, frequency and discharge duration of storm water runoff from developed areas has the potential to greatly accelerate downstream erosion, impair stream habitat in natural drainages, and negatively impact beneficial uses. Development and urbanization increase pollutant loads in storm water runoff and the volume of storm water runoff. Impervious surfaces can neither absorb water nor remove pollutants and thus lose the purification and infiltration provided by natural vegetated soil. Hydromodification measures for discharges to hardened channels allow for the future restoration of the hardened channels to their natural state, thereby restoring the chemical, physical, and biological integrity and Beneficial Uses of local receiving waters.

¹²⁸ Caltrans, 2000. BMP Retrofit Pilot Studies: A Preliminary Assessment of Vector Production.

¹²⁹ Watershed Protection Techniques, 1995. Mosquitoes in Constructed Wetlands: A Management Bugaboo? 1(4):203-207.

¹³⁰ Shaver, E. and R. Baldwin, 1995. Sand Filter Design for Water Quality Treatment in Herricks, E., Ed. Stormwater Runoff and Receiving Systems: Impact, Monitoring, and Assessment, CRC Lewis Publishers, New York, NY.

Discussion of Finding D.2.g. Increasing the volume, velocity, frequency and discharge duration of storm water runoff from developed areas will eventually greatly accelerate downstream erosion, impair stream habitat in natural drainages, and negatively impact beneficial uses. Development and urbanization increase pollutant loads and volume while simultaneously increasing impervious area. Impervious surfaces can neither absorb water nor remove pollutants and thus lose the purification and infiltration provided by naturally vegetated soil.

Historic hydromodification impacts, such as concrete lining and channelization, have impacted the natural physical habitat of urban streams resulting in low Index of Biotic Integrity (IBI) scores. The Copermittee's 2006-2007 monitoring indicated decreased IBI scores in the developed watersheds. In the absence of water chemistry and toxicity impacts, these low scores were attributed to be a result of poor physical habitat conditions.¹³¹

Hydromodification impacts result in poor physical habitat conditions through streambed scour, erosion, vegetation displacement, sediment deposition, channelization and channel modifications. Increased sediment loads from hydromodification causes other impacts to physical habitats including increased turbidity which then may cause increased temperatures. In addition, an increased sediment load may have an increased biological content thereby increasing the sediment oxygen demand and lowering the dissolved oxygen available for aquatic life.¹³²

The objective of the CWA is "to restore and maintain the chemical, *physical*, and biological integrity of the Nation's waters (emphasis added)." Stream restoration by removing concrete and other unnatural materials is a major step toward achieving that objective. The success of future stream restoration and stabilization is, however, dependent on preventing and reducing physical impacts from activities upstream. Therefore, hydromodification management measures are necessary upstream of modified (e.g. concrete, rip rap, etc.) channels in addition to non-modified channels.

Please see discussion of Findings C.10 and C.11.

¹³¹ Orange County Copermittees, November 15, 2007. 2006-2007 Unified Annual Progress Report Program Effectiveness Assessment (San Diego Region).

¹³² USEPA, National Management Measures to Control Nonpoint Source Pollution from Hydromodification, EPA 841-B-07-002, July 2007.

Finding D.3.a. In accordance with federal NPDES regulations and to ensure the most effective oversight of industrial and construction site discharges, discharges of runoff from industrial and construction sites are subject to dual (state and local) storm water regulation. Under this dual system, each Copermitttee is responsible for enforcing its local permits, plans, and ordinances, and the Regional Board is responsible for enforcing the General Construction Activities Storm Water Permit, State Board Order 99-08 DWQ, NPDES No. CAS000002 (General Construction Permit) and the General Industrial Activities Storm Water Permit, State Board Order 97-03 DWQ, NPDES No. CAS000001 (General Industrial Permit). NPDES municipal regulations require that municipalities develop and implement measures to address runoff from industrial and construction activities. Those measures may require the implementation of additional BMPs than are required under the statewide general permits for activities subject to both state and local regulation.

Discussion of Finding D.3.a. USEPA finds the control of pollutant discharges from industry and construction so important to receiving water quality that it has established a double system of regulation over industrial and construction sites. This double system of regulation consists of two parallel regulatory systems with the same common objective: to keep pollutants from industrial and construction sites out of the MS4. In this double system of regulation for runoff from industrial and construction sites, local governments must enforce their legal authorities (i.e., local ordinances and permits) while the Regional Board must enforce its legal authority (i.e., statewide general industrial and construction storm water permits). These two regulatory systems are designed to complement and support each other. Municipalities are not required to enforce Regional Board and State Board permits; however, they are required to enforce their ordinances and permits. The Federal regulations are clear that municipalities have responsibility to prevent non-storm water and address storm water runoff from industrial and construction sites which enters their MS4s.

Municipalities have this responsibility because they have the authority to issue land use and development permits. Since municipalities are the lead permitting authority for industrial land use and construction activities, they are also the lead for enforcement regarding runoff discharges from these sites. For sites where the municipality is the lead permitting authority, the Regional Board will work with the municipality and provide support where needed. The Regional Board will assist municipalities in enforcement against non-compliant sites after the municipality has exhibited a good faith effort to bring the site into compliance.

According to USEPA, the storm water regulations envision that NPDES permitting authorities and municipal operators will cooperate to develop programs to monitor and control pollutants in storm water discharges from industrial facilities.¹³³ USEPA discusses the “dual regulation” of construction sites in its Storm Water Phase II Compliance Assistance Guide, which states “Even though all construction sites that disturb more than one acre are covered nationally by an NPDES storm water permit, the construction site runoff control minimum measure [...] is needed to induce more localized site regulation and enforcement efforts, and to enable operators [...] to more effectively control construction site discharges into their MS4s.”¹³⁴ While the Storm Water Phase II Compliance Assistance Guide applies to small municipalities, it is applicable to the Copermittees, because they are similar in size and have the potential to discharge similar pollutant types as Phase II municipalities.

Finding D.3.b. Identification of sources of pollutants in runoff (such as municipal areas and activities, industrial and commercial sites/sources, construction sites, and residential areas), development and implementation of BMPs to address those sources, and updating ordinances and approval processes are necessary for the Copermittees to ensure that discharges of pollutants from its MS4 in storm water are reduced to the MEP and that non-storm water discharges are not occurring. Inspections and other compliance verification methods are needed to ensure minimum BMPs are implemented. Inspections are especially important at high risk areas for pollutant discharges.

Discussion of Finding D.3.b. Source identification is necessary to characterize the nature and extent of pollutants in discharges and to develop appropriate BMPs. It is the first step in a targeted approach to runoff management. Source identification helps identify the location of potential sources of pollutants in runoff. Pollutants found to be present in receiving waters can then be traced to the sites which frequently generate such pollutants. In this manner source inventories can help to target inspections, monitoring, and potential enforcement. This allows for limited inspection, monitoring, and enforcement time to be most effective. USEPA supports source identification as a concept when it recommends construction, municipal, and industrial source identification in guidance and the federal regulations.^{135,136}

¹³³ USEPA, 1992. Guidance Manual for the Preparation of Part II of the NPDES Permit Applications for Discharges from Municipal Separate Storm Sewer Systems. EPA 833-B-92-002.

¹³⁴ USEPA, 2000. Storm Water Phase II Compliance Assistance Guide. EPA 833-R-00-002.

¹³⁵ USEPA, 1992. Guidance Manual for the Preparation of Part II of the NPDES Permit Applications for Discharges from Municipal Separate Storm Sewer Systems. EPA 833-B-92-002.

¹³⁶ 40 CFR 122.26(d)(2)(ii)

The development of BMPs for identified sources will help ensure that appropriate, consistent controls are implemented at all types of development and areas. Copermittees must reduce the discharge of pollutants in storm water runoff to the maximum extent practicable. To achieve this level of pollutant reduction, BMPs must be implemented. Designation of minimum BMPs helps ensure that appropriate BMPs are implemented for various sources. These minimum BMPs also serve as guidance as to the level of water quality protection required. USEPA requires development and implementation of BMPs for construction, municipal, commercial, industrial, and residential sources at 40 CFR 122.26(d)(2)(iv)(A-D).

Updating ordinances and approval processes is necessary in order for the Copermittees to control discharges to their MS4s. USEPA supports updating ordinances and approval processes when it states “A crucial requirement of the NPDES storm water regulation is that a municipality must demonstrate that it has adequate legal authority to control the contribution of pollutants in storm water discharged to its MS4. [...] In order to have an effective municipal storm water management program, a municipality must have adequate legal authority to control the contribution of pollutants to the MS4. [...] ‘Control,’ in this context, means not only to require disclosure of information, but also to limit, discourage, or terminate a storm water discharge to the MS4.”¹³⁷

Inspections provide a necessary means for the Copermittees to evaluate compliance of pollutant sources with their municipal ordinances and minimum BMP requirements. USEPA supports inspections when it recommends inspections of construction, municipal, and industrial sources.¹³⁸ Inspection of high risk sources are especially important because of the ability of frequent inspections to help ensure compliance, thereby reducing the risk associated with such sources. USEPA suggests that inspections can improve compliance when it states “Effective inspection and enforcement requires [...] penalties to deter infractions and intervention by the municipal authority to correct violations.”¹³⁹

Finding D.3.c. Historic and current development makes use of natural drainage patterns and features as conveyances for runoff. Urban streams used in this manner are part of the municipalities MS4 regardless of whether they are natural, anthropogenic, or partially modified features. In these cases, the urban stream is both an MS4 and receiving water.

¹³⁷ USEPA, 1992. Guidance Manual for the Preparation of Part II of the NPDES Permit Applications for Discharges from Municipal Separate Storm Sewer Systems. EPA 833-B-92-002.

¹³⁸ Ibid.

¹³⁹ USEPA, 1992. Guidance Manual for the Preparation of Part II of the NPDES Permit Applications for Discharges from Municipal Separate Storm Sewer Systems. EPA 833-B-92-002.

Discussion of Finding D.3.c. An MS4 is defined in the federal regulations as a conveyance or system of conveyances (including roads with drainage systems, municipal streets, catch basins, curbs, gutters, ditches, man-made channels, or storm drains), owned or operated by a Copermittee, and designed or used for collecting or conveying runoff.¹⁴⁰ Natural drainage patterns and urban streams are frequently used by municipalities to collect and convey runoff away from development within their jurisdiction. Therefore, the Regional Board considers natural drainages that are used for conveyances of runoff, regardless of whether or not they've been altered by the municipality, as both part of the MS4s and as receiving waters. To clarify, an unaltered natural drainage, which receives runoff from a point source (channeled by a Copermittee to drain an area within their jurisdiction), which then conveys the runoff to an altered natural drainage or a man-made MS4, is both an MS4 and a receiving water.¹⁴¹

Finding D.3.d. As operators of the MS4s, the Copermittees cannot passively receive and discharge pollutants from third parties. By providing free and open access to an MS4 that conveys discharges to waters of the U.S., the operator essentially accepts responsibility for discharges into the MS4 that it does not prohibit or control. These discharges may cause or contribute to a condition of contamination or a violation of water quality standards.

¹⁴⁰ USEPA, 2000. EPA Administered Permit Programs: The National Pollutant Discharge Elimination System. Code of Federal Regulations, Vol. 40, Part 122.

¹⁴¹ Regional Board, 2001. Response in Opposition to Petitions for Review of California Regional Water Quality Control Board San Diego Region Order No. 2001-01 – NPDES Permit No. CAS0108758 (San Diego Municipal Storm Water Permit).

Discussion of Finding D.3.d. CWA section 402(p) requires operators of MS4s to prohibit non-storm water discharges into their MS4s. This is necessary because pollutants which enter the MS4 generally are conveyed through the MS4 to be eventually discharged into receiving waters. If a municipality does not prohibit non-storm water discharges, it is providing the pathway (its MS4) which enables pollutants to reach receiving waters. Since the municipality's storm water management service can result in pollutant discharges to receiving waters, the municipality must accept responsibility for the water quality consequences resulting from this service. Furthermore, third party discharges can cause a municipality to be out of compliance with its permit. Since pollutants from third parties which enter the MS4 will eventually be discharged from the MS4 to receiving waters, the third party discharges can result in a situation of municipality non-compliance if the discharges lead to an exceedance of water quality standards. For these reasons, each Copermittee must prohibit and/or control discharges from third parties to its MS4. USEPA supports this concept when it states "the operators of regulated small MS4s cannot passively receive and discharge pollutants from third parties" and "the operator of a small MS4 that does not prohibit and/or control discharges into its system essentially accepts 'title' for those discharges. At a minimum, by providing free and open access to the MS4s that convey discharges to the waters of the United States, the municipal storm sewer system enables water quality impairment by third parties."¹⁴²

Finding D.3.e. Waste and pollutants which are deposited and accumulate in MS4 drainage structures will be discharged from these structures to waters of the U.S. unless they are removed. These discharges may cause or contribute to, or threaten to cause or contribute to, a condition of pollution in receiving waters. For this reason, pollutant discharges from storm water into MS4s must be reduced using a combination of management measures, including source control, and an effective MS4 maintenance program must be implemented by each Copermittee.

Discussion of Finding D.3.e. When rain falls and drains freeways, industries, construction sites, and neighborhoods, it picks up a multitude of pollutants. Gravity flow transports the pollutants to the MS4. Illicit discharges and connections also can contribute a significant amount of pollutants to MS4s. MS4s are commonly designed to convey their contents as quickly as possible. Due to the resulting typically high flow rates within the concrete conveyance systems of MS4s, pollutants which enter or are deposited in the MS4 and not removed are generally flushed unimpeded through the MS4 to waters of the United States. Since treatment generally does not occur within the MS4, in such cases reduction of storm water pollutants to the MEP must occur prior to discharges entering the MS4.

¹⁴² Federal Register / Vol. 64, No. 235 / Wednesday, December 8, 1999 / Rules and Regulations. P. 68765-68766.

The importance of this concept is supported by the tons of wastes/pollutants that have been removed from the Copermittees' MS4s as reported in their ROWD.¹⁴³ Moreover, these pollutants will be discharged into receiving waters unless an effective MS4 and structural treatment BMP maintenance program is implemented by the Copermittees. The requirement for Copermittees to conduct a MS4 maintenance program is specifically directed in both the Phase I and Phase II storm water regulations. Regarding MS4 cleaning, USEPA states "The removal of sediment, decaying debris, and highly polluted water from catch basins has aesthetic and water quality benefits, including reducing foul odors, reducing suspended solids, and reducing the load of oxygen-demanding substances that reach receiving waters."¹⁴⁴ It goes on to say, "Catch basin cleaning is an efficient and cost-effective method for preventing the transport of sediment and pollutants to receiving water bodies." USEPA also finds that "Lack of maintenance often limits the effectiveness of storm water structural controls such as detention/retention basins and infiltration devices. [...] The proposed program should provide for maintenance logs and identify specific maintenance activities for each class of control, such as removing sediment from retention ponds every five years, cleaning catch basins annually, and removing litter from channels twice a year."¹⁴⁵

Finding D.3.f. Enforcement of local runoff related ordinances, permits, and plans is an essential component of every runoff management program and is specifically required in the federal storm water regulations and this Order. Each Copermittee is individually responsible for adoption and enforcement of ordinances and/or policies, implementation of identified control measures/BMPs needed to prevent or reduce pollutants in storm water runoff, and for the allocation of funds for the capital, operation and maintenance, administrative, and enforcement expenditures necessary to implement and enforce such control measures/BMPs under its jurisdiction. Education is an important aspect of every effective runoff management program and the basis for changes in behavior at a societal level. Education of municipal planning, inspection, and maintenance department staffs is especially critical to ensure that in-house staffs understand how their activities impact water quality, how to accomplish their jobs while protecting water quality, and their specific roles and responsibilities for compliance with this Order. Public education, designed to target various urban land users and other audiences, is also essential to inform the public of how individual actions affect receiving water quality and how adverse effects can be minimized.

¹⁴³ Orange County Storm Water Copermittees. 2006. Report of Waste Discharge (San Diego Region).

¹⁴⁴ USEPA, 1999. Storm Water O&M Fact Sheet, Catch Basin Cleaning. EPA 832-F-99-011.

¹⁴⁵ USEPA, 1992. Guidance Manual for the Preparation of Part II of the NPDES Permit Applications for Discharges from Municipal Separate Storm Sewer Systems. EPA 833-B-92-002.

Discussion of Finding D.3.f. The Federal NPDES regulations 40 CFR 122.26(d)(2)(iv)(A – D) are clear in placing responsibility on municipalities for control of runoff from third party activities and land uses to their MS4.¹⁴⁶ In order for municipalities to assume this responsibility, they must implement ordinances, permits, and plans addressing runoff from third parties. Assessments for compliance with their ordinances, permits, and plans are essential for a municipality to ensure that third parties are not causing the municipality to be in violation of its municipal storm water permit. When conditions of non-compliance are determined, enforcement is necessary to ensure that violations of municipality ordinances and permits are corrected. When the Copermittees determine a violation of its storm water ordinance, it must pursue correction of the violation. Without enforcement, third parties do not have incentive to correct violations. USEPA supports enforcement by municipalities when it states “Effective inspection and enforcement requires [...] penalties to deter infractions and intervention by the municipal authority to correct violations. Enforcement mechanisms [...] also must be described.”¹⁴⁷

Education is a critical BMP and an important aspect of runoff management programs. USEPA finds that “An informed and knowledgeable community is critical to the success of a storm water management program since it helps ensure the following: Greater support for the program as the public gains a greater understanding of the reasons why it is necessary and important, [and] greater compliance with the program as the public becomes aware of the personal responsibilities expected of them and others in the community, including the individual actions they can take to protect or improve the quality of area waters.”¹⁴⁸

Regarding target audiences, USEPA also states “The public education program should use a mix of appropriate local strategies to address the viewpoints and concerns of a variety of audiences and communities, including minority and disadvantaged communities, as well as children.”

Finding D.3.g. Public participation during the development of runoff management programs is necessary to ensure that all stakeholder interests and a variety of creative solutions are considered.

Discussion of Finding D.3.g.

This finding is supported by the Phase II Storm Water Regulations, which state “early and frequent public involvement can shorten implementation schedules and broaden public support for a program.” USEPA goes on to explain, “Public participation is likely to ensure a more successful storm water program by providing valuable expertise and a conduit to other programs and governments.”¹⁴⁹

¹⁴⁶ USEPA, 2000. EPA Administered Permit Programs: The National Pollutant Discharge Elimination System. Code of Federal Regulations, Vol. 40, Part 122.

¹⁴⁷ USEPA, 1992. Guidance Manual for the Preparation of Part II of the NPDES Permit Applications for Discharges from Municipal Separate Storm Sewer Systems. EPA/833-B-92-002.

¹⁴⁸ USEPA, 2000. Storm Water Phase II Compliance Assistance Guide. EPA 833-R-00-002.

¹⁴⁹ Federal Register / Vol. 64, No. 235 / Wednesday, December 8, 1999 / Rules and Regulations. P. 68755.

Finding D.3.h. Retrofitting existing development with storm water treatment controls including LID, is necessary to address storm water discharges from existing development that may cause or contribute to a condition of pollution or a violation of water quality standards. Although SSMP BMPs are required for redevelopment, the current rate of redevelopment will not address water quality problems in a timely manner. Cooperation with private landowners is necessary to effectively identify, implement and maintain retrofit projects for the preservation, restoration, and enhancement of water quality.

Discussion of Finding D.3.h. Existing BMPs are not sufficient to protect the Beneficial Uses of receiving waters from storm water MS4 discharges, as evidenced by 303(d) listings and exceedances of Water Quality Objectives from the Copermittees monitoring reports. Implementing more advanced BMPs, including the retrofitting of existing development with LID, is part of the iterative process. Based on the current rate of redevelopment compared to existing BMPs, the use of LID only on new and redevelopment will not adequately address current water quality problems, including downstream hydromodification. Retrofitting existing development is practicable for a municipality through a systematic evaluation, prioritization and implementation plan focused on impaired water bodies, pollutants of concern, areas of downstream hydromodification, feasibility and effective communication and cooperation with private property owners.

Finding D.4.a. Since runoff within a watershed can flow from and through multiple land uses and political jurisdictions, watershed-based runoff management can greatly enhance the protection of receiving waters. Such management provides a means to focus on the most important water quality problems in each watershed. By focusing on the most important water quality problems, watershed efforts can maximize protection of beneficial use in an efficient manner. Effective watershed-based runoff management actively reduces pollutant discharges and abates pollutant sources causing or contributing to watershed water quality problems. Watershed-based runoff management that does not actively reduce pollutant discharges and abate pollutant sources causing or contributing to watershed water quality problems can necessitate implementation of the iterative process outlined in section A.3 of the Tentative Order. Watershed management of runoff does not require Copermittees to expend resources outside of their jurisdictions. Watershed management requires the Copermittees within a watershed to develop a watershed-based management strategy, which can then be implemented on a jurisdictional basis.

Discussion of Finding D.4.a. In recent years, addressing water quality issues from a watershed perspective has increasingly gained attention. Regarding watershed-based permitting, the USEPA *Watershed-Based NPDES Permitting Policy Statement* issued on Jan. 7, 2004 states the following:

USEPA continues to support a holistic watershed approach to water quality management. The process for developing and issuing NPDES permits on a watershed basis is an important tool in water quality management. USEPA believes that developing and issuing NPDES permits on a watershed basis can benefit all watershed stakeholders, from the NPDES permitting authority to local community members. A watershed-based approach to point source permitting under the NPDES program may serve as one innovative tool for achieving new efficiencies and environmental results. USEPA believes that watershed-based permitting can:

- Lead to more environmentally effective results;
- Emphasize measuring the effectiveness of targeted actions on improvements in water quality;
- Provide greater opportunities for trading and other market based approaches;
- Reduce the cost of improving the quality of the nation's waters;
- Foster more effective implementation of watershed plans, including total maximum daily loads (TMDLs); and
- Realize other ancillary benefits beyond those that have been achieved under the CWA (e.g., facilitate program integration including integration of clean water act and safe drinking water act programs).

Watershed-based permitting is a process that ultimately produces NPDES permits that are issued to point sources on a geographic or watershed basis. In establishing point source controls in a watershed-based permit, the permitting authority may focus on watershed goals, and consider multiple pollutant sources and stressors, including the level of nonpoint source control that is practicable. In general, there are numerous permitting mechanisms that may be used to develop and issue permits within a watershed approach.

This USEPA guidance is in line with State Board and Regional Board watershed management goals. For example, the State Board's TAC recommends watershed-based water quality protection, stating "Municipal permits should have watershed specific components." The TAC further recommends that "All NPDES permits and Waste Discharge Requirements should be considered for reissuance on a watershed basis."

In addition, the Basin Plan states that "public agencies and private organizations concerned with water resources have come to recognize that a comprehensive evaluation of pollutant contributions on a watershed scale is the only way to realistically assess cumulative impacts and formulate workable strategies to truly protect our water resources. Both water pollution and habitat degradation problems can best be solved by following a basin-wide approach."

In light of USEPA's policy statement and the State Board's and Regional Board's watershed management goals, the Regional Board seeks to expand watershed management in the regulation of runoff from the MS4. Watershed-based MS4 permits can provide for more effective receiving water quality protection by focusing on specific water quality problems. The entire watershed for the receiving water can be assessed, allowing for critical areas and practices to be targeted for corrective actions. Known sources of pollutants of concern can be investigated for potential water quality impacts. Problem areas can then be addressed, leading to eventual improvements in receiving water quality. Management of runoff on a watershed basis allows for specific water quality problems to be targeted so that efforts result in maximized water quality improvements.¹⁵⁰

Finding D.4.b. Some runoff issues, such as general education and training, can be effectively addressed on a regional basis. Regional approaches to runoff management can improve program consistency and promote sharing of resources, which can result in implementation of more efficient programs.

Discussion of Finding D.4.b. Copermittees in Orange County participate in several runoff-related activities whose scope extends beyond the area subject to this Order. These include countywide activities (e.g., portions of Orange County fall under the jurisdiction of the Santa Ana Regional Board), southern California, and statewide activities. Copermittees' participation in these regional activities is generally directed at improving management capability, preventing redundancy and taking advantage of economies of scale. For instance, Copermittees seek to develop consistency between watershed and/or jurisdictional programs (e.g., through standards development), and to collaborate on certain program activities such as education, training, and monitoring. The Copermittees report agreeing that jurisdictional, watershed, and regional programs cannot be effectively developed and implemented in isolation. In addition, the Copermittees, through WRMP implementation efforts, have learned that many watershed activities can be more effectively implemented (e.g., achieve more water quality benefits) at the regional level due to economies of scale and agree watershed protection should be increasingly emphasized as a focal point of Copermittee efforts under the re-issued Permit.¹⁵¹

Finding D.4.c. It is important for the Copermittees to coordinate their water quality protection and land use planning activities to achieve the greatest protection of receiving water bodies. Copermittee coordination with other watershed stakeholders, especially Caltrans, the Department of Defense, and water and sewer districts, is also important.

¹⁵⁰ Regional Board, 2004. San Diego County Municipal Storm Water Permit Reissuance Analysis Summary. P. 1.

¹⁵¹ Orange County Storm Water Copermittees. 2006. Report of Waste Discharge (San Diego Region).

Discussion of Finding D.4.c. Conventional planning and zoning can be limited in their ability to protect the environmental quality of creeks, rivers, and other waterbodies. Watershed-based planning is often ignored, despite the fact that receiving waters unite land by collecting runoff from throughout the watershed. Since watersheds unite land, they can be used as an effective basis for planning. Watershed-based planning enables local and regional areas to realize economic, social, and other benefits associated with growth, while conserving the resources needed to sustain such growth, including water quality.

This type of planning can involve four steps: (1) Identify the watersheds shared by the participating jurisdictions; (2) Identify, assess, and prioritize the natural, social, and other resources in the watersheds; (3) Prioritize areas for growth, protection, and conservation, based on prioritized resources; and (4) Develop plans and regulations to guide growth and protect resources. Local governments have started with simple, yet effective, steps toward watershed planning, such as adopting a watershed-based planning approach, articulating the basic strategy in their General Plans, and beginning to pursue the basic strategy in collaboration with neighboring local governments who share the watersheds. Examples of new mechanisms created to facilitate watershed-based planning and zoning include the San Francisquito Creek Watershed Coordinated Resource Management Process and the Santa Clara Basin Watershed Management Initiative.¹⁵²

¹⁵² Bay Area Stormwater Management Agencies Association., 1999. Start at the Source. Forbes Custom Publishing. Available on-line at: http://www.scvurppp-w2k.com/basmaa_satsm.htm

E. Statute and Regulatory Considerations

Finding E.1. The Receiving Water Limitations (RWL) language specified in this Order is consistent with language recommended by the USEPA and established in State Board Water Quality Order 99-05, *Own Motion Review of the Petition of Environmental Health Coalition to Review Waste Discharge Requirements Order No. 96-03, NPDES Permit No. CAS0108740*, adopted by the State Board on June 17, 1999. The RWL in this Order require compliance with water quality standards, which for storm water discharges is to be achieved through an iterative approach requiring the implementation of improved and better-tailored BMPs over time. Compliance with receiving water limitations based on applicable water quality standards is necessary to ensure that MS4 discharges will not cause or contribute to violations of water quality standards and the creation of conditions of pollution.

Discussion of Finding E.1. The RWLs in the Order require storm water compliance with water quality standards through an iterative approach for implementing improved and better-tailored BMPs over time. The iterative BMP process requires the implementation of increasingly stringent BMPs until receiving water standards are achieved. This is necessary because implementation of BMPs alone cannot ensure attainment of receiving water quality standards. For example, a BMP that is effective in one situation may not be applicable in another. An iterative process of BMP development, implementation, and assessment is needed to promote consistent compliance with receiving water quality objectives. If assessment of a given BMP confirms that the BMP is ineffective, the iterative process should be restarted, with redevelopment of a new BMP that is anticipated to result in compliance with receiving water quality objectives.

The issue of whether storm water discharges from MS4s must meet water quality standards has been intensely debated in past years. The argument arises because CWA section 402(p) fails to clearly state that municipal dischargers of storm water must meet water quality standards. On the issue of industrial discharges of storm water, the statute clearly indicates that industrial dischargers must meet both (1) the technology-based standard of “best available technology economically achievable (BAT)” and (2) applicable water quality standards. On the issue of municipal discharges however, the statute states that municipal dischargers must meet (1) the technology-based standard of “MEP” and (2) “such other provisions that the Administrator or the State determines appropriate for the control of such pollutants.” The statute fails, however, to specifically state that municipal dischargers must meet water quality standards.

As a result, the municipal storm water dischargers have argued that they do not have to meet water quality standards; and that they only are required to meet MEP for storm water. Environmental interest groups maintain that not only do MS4 discharges have to meet water quality standards, but that MS4 permits must also comply with numeric effluent limitations for the purpose of meeting water quality standards. On the issue of water quality standards, USEPA, the State Board, and the Regional Board have consistently maintained that MS4s must indeed comply with water quality standards. On the issue of whether water quality standards must be met by numeric effluent limitations, USEPA, the State Board (in Orders WQ 91-03 and WQ 91-04), and the Regional Board have maintained that MS4 permits can contain narrative requirements for the implementation of BMPs in place of numeric effluent limitations for storm water discharges.¹⁵³

In addition to relying on USEPA's legal opinion concluding that MS4s must meet MEP for storm water and water quality standards, the State Board also relied on the CWA's explicit authority for States to require "such other provisions that the Administrator or the State determines appropriate for the control of such pollutants" in addition to the technology-based standard of MEP for storm water discharges. To further support its conclusions that MS4 permit dischargers must meet water quality standards, the State Board relied on provisions of the CWC that specify that all waste discharge requirements must implement applicable Basin Plans and take into consideration the appropriate water quality objectives for the protection of beneficial uses.

The State Board first formally concluded that permits for MS4s must contain effluent limitations based on water quality standards in its Order WQ 91-03. In that Order, the State Board also concluded that it was appropriate for Regional Boards to achieve this result by requiring best management practices, rather than by inserting numeric effluent limitations into MS4 permits. Later, in Order WQ 98-01, the State Board prescribed specific precedent setting Receiving Water Limitations language to be included in all future MS4 permits. This language specifically requires that MS4 dischargers meet water quality standards and allows for the use of narrative BMPs (increasing in stringency and implemented in an iterative process) as the mechanism by which water quality standards can be met for storm water discharges.

In Order WQ 99-05, the State Board modified its receiving water limitations language in Order WQ 98-01 to meet specific objections by USEPA (the modifications resulted in stricter compliance with water quality standards). State Board Order WQ 99-05 states:

¹⁵³ For the most recent assessment, see Storm Water Panel Recommendations to the California State Water Resources Control Board, 2006. *The Feasibility of Numeric Effluent Limits Applicable to Discharges of Storm Water Associated with Municipal, Industrial, and Construction Activities.*

“In Order WQ 98-01, the State Board ordered that certain receiving water limitation language be included in future municipal storm water permits. Following inclusion of that language in permits issued by the San Francisco Bay and San Diego Regional Boards for Vallejo and Riverside respectively, the USEPA objected to the permits. The USEPA objection was based on the receiving water limitation language. The USEPA has now issued those permits itself and has included receiving water limitation language it deems appropriate.

In light of USEPA’s objection to the receiving water limitation language in Order WQ 98-01 and its adoption of alternative language, the State Board is revising its instructions regarding receiving water limitation language for municipal storm water permits. It is hereby ordered that Order WQ 98-01 will be amended to remove the receiving water limitation language contained therein and to substitute the USEPA language. Based on the reasons stated here, and as a precedent decision, the following receiving water limitation language shall be included in future municipal storm water permits.”

In the 1999 case involving MS4 permits issued by USEPA to several Arizona cities (*Defenders of Wildlife v. Browner*, 1999, 197 F. 3d 1035), the United States Court of Appeals for the Ninth Circuit upheld USEPA’s requirement for MS4 dischargers to meet water quality standards, but it did so on the basis of USEPA’s discretion rather than on the basis of strict compliance with the Clean Water Act. In other words, while holding that the Clean Water Act does not require all MS4 discharges to comply strictly with state water quality standards, the Court also held that USEPA has the authority to determine that ensuring strict compliance with state water quality standards is necessary to control pollutants. On the question of whether MS4 permits must contain numeric effluent limitations, the court upheld USEPA’s use of iterative BMPs in place of numeric effluent limitations for storm water discharges.

On October 14, 1999, the State Board issued a legal opinion on the federal appellate decision and provided advice to the Regional Boards on how to proceed in the future. In the memorandum, the State Board concludes that the recent Ninth Circuit opinion upholds the discretion of USEPA and the State to (continue to) issue storm water permits to MS4s that require compliance with water quality standards through iterative BMPs. Moreover, the memorandum states that “[...] because most MS4 discharges enter impaired water bodies, there is a real need for permits to include stringent requirements to protect those water bodies. As TMDLs are developed, it is likely that MS4s will have to participate in pollutant load reductions, and the MS4 permits are the most effective vehicles for those reductions.” In summary, the State Board found that the Regional Boards should continue to include the RWL established in State Board Order WQ 99-05 in all future permits.

The issue of the RWLs language was also central to BIA's (and others') appeal of Order No. 2001-01 (San Diego MS4 permit), which was used as a template for Order No. R9-2002-01. BIA contended that the storm water MEP standard was a ceiling on what could be required of the Copermitees in implementing their runoff management programs, and that Order No. 2001-01's receiving water limitations requirements exceeded that ceiling. In other words, BIA argued that the Copermitees could not be required to comply with receiving water limitations if they necessitated efforts which went beyond the MEP standard. Again, the courts upheld the Regional Board's discretion to require compliance with water quality standards in municipal storm water permits, without limitation. The Court of Appeal, Fourth Appellate District found that the Regional Board has "the authority to include a permit provision requiring compliance with water quality standards."¹⁵⁴ On further appeal by BIA, the California State Supreme Court declined to hear the matter.

While implementation of the iterative BMP process is a means to achieve compliance with water quality objectives for storm water MS4 discharges, it does not shield the discharger from enforcement actions for continued non-compliance with water quality standards. Consistent with USEPA guidance,¹⁵⁵ regardless of whether or not an iterative process is being implemented, discharges that cause or contribute to a violation of water quality standards are in violation of Order No. R9-2008-0001.

Finding E.2. The Water Quality Control Plan for the San Diego Basin (Basin Plan), identifies the following beneficial uses for surface waters in Orange County: Municipal and Domestic Supply (MUN)¹⁵⁶, Agricultural Supply (AGR), Industrial Process Supply (PROC), Industrial Service Supply (IND), Ground Water Recharge (GWR), Contact Water Recreation (REC1) Non-contact Water Recreation (REC2), Warm Freshwater Habitat (WARM), Cold Freshwater Habitat (COLD), Wildlife Habitat (WILD), Rare, Threatened, or Endangered Species (RARE), Freshwater Replenishment (FRSH), Hydropower Generation (POW), and Preservation of Biological Habitats of Special Significance (BIOL). The following additional beneficial uses are identified for coastal waters of Orange County: Navigation (NAV), Commercial and Sport Fishing (COMM), Estuarine Habitat (EST), Marine Habitat (MAR), Aquaculture (AQUA), Migration of Aquatic Organisms (MIGR), Spawning, Reproduction, and/or Early Development (SPWN), and Shellfish Harvesting (SHELL).

¹⁵⁴ Building Industry Association et al., v. State Water Resources Control Board, et al. 2004.

¹⁵⁵ USEPA, 1998. Jan. 21, 1998 correspondence, "State Board/OCC File A-1041 for Orange County," from Alexis Strauss to Walt Petit, and March 17, 1998 correspondence from Alexis Strauss to Walt Petit.

¹⁵⁶ Subject to exceptions under the "Sources of Drinking Waters" Policy (Resolution No. 89-33)

Discussion of Finding E.2. The southern portion of Orange County is within the San Diego Region. The Orange County portion of the San Diego Region falls within and comprises the majority of the San Juan Hydrologic Unit. Major streams within the Orange County watersheds include San Juan Creek, Trabuco Creek, and San Mateo Creek. Other surface water bodies include Aliso Creek, Prima Deshecha Canada, Segunda Deshecha Canada, Oso Creek, Salt Creek, Laguna Canyon Channel, Canada Gobernadora, and Bell Canyon. Several small canyon streams drain directly to the Ocean. Major inland waterbodies include Oso Reservoir, El Toro Reservoir, and Sulphur Creek Reservoir.

The Orange County watersheds include unincorporated portions of Orange County, the Cities of Aliso Viejo, Dana Point, Laguna Beach, Laguna Hills, Laguna Niguel, Laguna Woods, Lake Forest, Mission Viejo, Rancho Santa Margarita, San Clemente, and San Juan Capistrano. The uppermost portions of the San Mateo, San Juan, Trabuco, and Aliso Creek watersheds are within the Cleveland National Forests.

Approximately 500,000 people reside within the permitted area. This estimate is based on the 2000 census, which does not represent exact numbers because three municipalities (County of Orange and the Cities of Laguna Hills and Lake Forest) lie within both the San Diego Region and the Santa Ana Region. In addition, new developments have increased the housing stock of the area since the 2000 census. This includes the master planned developments of Ladera Ranch in the San Juan Creek watershed and Talega in the San Clemente Coastal and San Mateo Creek watersheds.

Finding E.3. This Order is in conformance with State Board Resolution No. 68-16, *Statement of Policy with Respect to Maintaining High Quality Waters in California*, and the federal Antidegradation Policy described in 40 CFR 131.12.

Discussion of Finding E.3. Runoff management programs are required to be designed to reduce pollutants in storm water MS4 discharges to the maximum extent practicable and achieve compliance with water quality standards. Therefore, implementation of runoff management programs, which satisfy the requirements of Order No. R9-2009-0002, will prevent violations of receiving water quality standards. The Basin Plan states that "Water quality objectives must [...] conform to US EPA regulations covering antidegradation (40 CFR 131.12) and State Board Resolution 68-16, *Statement of Policy with Respect to Maintaining High Quality of Waters in California*." As a result, when water quality standards are met, USEPA and State Board antidegradation policy requirements are also met.

Finding E.4. Section 6217(g) of the Coastal Zone Act Reauthorization Amendments of 1990 (CZARA) requires coastal states with approved coastal zone management programs to address non-point pollution impacting or threatening coastal water quality. CZARA addresses five sources of non-point pollution: agriculture, silviculture, urban, marinas, and hydromodification. This NPDES permit addresses the management measures required for the urban category, with the exception of septic systems. The adoption and implementation of this NPDES permit relieves the Permittee from developing a non-point source plan, for the urban category, under CZARA. The Regional Board addresses septic systems through the administration of other programs.

Discussion of Finding E.4. Coastal states are required to develop programs to protect coastal waters from nonpoint source pollution, as mandated by the federal CZARA. CZARA Section 6217 identifies polluted runoff as a significant factor in coastal water degradation, and requires implementation of management measures and enforceable policies to restore and protect coastal waters. In lieu of developing a separate NPS program for the coastal zone, California's NPS Pollution Control Program was updated in 2000 to address the requirements of both the CWA section 319 and the CZARA section 6217 on a statewide basis. The California Coastal Commission (CCC), the State Board, and the nine Regional Water Quality Control Boards are the lead State agencies for upgrading the program, although 20 other State agencies also participate. Pursuant to the CZARA (6217(g) Guidance Document the development of runoff management programs pursuant to this NPDES permit fulfills the need for coastal cities to develop an runoff non-point source plan identified in the State's Non-point Source Program Strategy and Implementation Plan.¹⁵⁷

Finding E.5. Section 303(d)(1)(A) of the CWA requires that "Each state shall identify those waters within its boundaries for which the effluent limitations...are not stringent enough to implement any water quality standard (WQS) applicable to such waters." The CWA also requires states to establish a priority ranking of impaired waterbodies known as Water Quality Limited Segments and to establish Total Maximum Daily Loads (TMDLs) for such waters. This priority list of impaired waterbodies is called the Section 303(d) List. The current Section 303(d) List was approved by the State Board on February 4, 2003 and on July 25, 2003 by USEPA. The List was recently updated by the State Board on October 25, 2006. On June 28, 2007 the 2006 303(d) list for California was given final approval by the United States Environmental Protection Agency (USEPA).

¹⁵⁷ State Board/CCC, 2000. Nonpoint Source Program Strategy and Implementation Plan, 1998-2013 (PROSIP).

Discussion of Finding E.5. Section 303(d) of the federal CWA (CWA, 33 USC 1250, et seq., at 1313(d)), requires States to identify waters that do not meet water quality standards after applying certain required technology-based effluent limits (“impaired” water bodies). States are required to compile this information in a list and submit the list to USEPA for review and approval. This list is known as the Section 303(d) list of impaired waters. As part of this listing process, States are required to prioritize waters/watersheds for future development of TMDLs. The State Board and Regional Boards have ongoing efforts to monitor and assess water quality, to prepare the Section 303(d) list, to prioritize waters/watersheds for TMDL development and to subsequently develop TMDLs. TMDLs developed and adopted by the Regional Board are incorporated into the Basin Plan via a Basin Plan Amendment as authorized under section 13240 of the California Water Code. The 2006 California 303(d) List identifies impaired receiving water bodies and their watersheds within the State of California. Storm water and non-storm water runoff that is discharged from the Copermittees’ MS4s is a leading cause of receiving water quality impairment in the San Diego Region.¹⁵⁸ TMDLs Project I and II for bacteria are considered priority development TMDLs due to impacts to REC 1 benefits due to impairment of waters for human contact recreation.

Finding E.6. This Order does not constitute an unfunded local government mandate subject to subvention under Article XIII B, Section (6) of the California Constitution for several reasons, including, but not limited to, the following. First, this Order implements federally mandated requirements under federal Clean Water Act section 402. (33 U.S.C. § 1342(p)(3)(B).) Second, the local agency Copermittees’ obligations under this Order are similar to, and in many respects less stringent than, the obligations of non-governmental and new dischargers who are issued NPDES permits for storm water and non-storm water discharges. Third, the local agency Copermittees have the authority to levy service charges, fees, or assessments sufficient to pay for compliance with this Order. Fourth, the Copermittees have requested permit coverage in lieu of compliance with the complete prohibition against the discharge of pollutants contained in federal Clean Water Act section 301, subdivision (a) (33 U.S.C. § 1311(a)) and in lieu of numeric restrictions on their storm water discharges. Fifth, the local agencies’ responsibility for preventing discharges of waste that can create conditions of pollution or nuisance from conveyances that are within their ownership or control under State law predates the enactment of Article XIII B, Section (6) of the California Constitution. Likewise, the provisions of this Order to implement total maximum daily loads (TMDLs) are federal mandates. The federal Clean Water Act requires TMDLs to be developed for water bodies that do not meet federal water quality standards. (33 U.S.C. sec. 1313(d).) Once the U.S. Environmental Protection Agency or a state develops a TMDL, federal law requires that permits must contain effluent limitations consistent with the assumptions of any applicable wasteload allocation. (40 C.F.R. sec. 122.44(d)(1)(vii)(B).)

¹⁵⁸ The approved 2006 Clean Water Act Section 303(d) List of Water Quality Limited Segments is on-line at: http://www.waterboards.ca.gov/tmdl/303d_lists2006.html.

Discussion of Finding E.6. This Order does not constitute an unfunded local government mandate subject to subvention under Article XIII B, Section (6) of the California Constitution for several reasons, including, but not limited to, the following. First, this Order implements federally mandated requirements under federal Clean Water Act section 402, subdivision (p)(3)(B). (33 U.S.C. § 1342(p)(3)(B).) This includes federal requirements to effectively prohibit non-storm water discharges, to reduce the discharge of pollutants in storm water to the maximum extent practicable, and to include such other provisions as the Administrator or the State determines appropriate for the control of such pollutants. Federal cases have held these provisions require the development of permits and permit provisions on a case-by-case basis to satisfy federal requirements. (Natural Resources Defense Council, Inc. v. U.S. E.P.A. (9th Cir. 1992) 966 F.2d 1292, 1308, fn. 17.)

The authority exercised under this Order is not reserved state authority under the Clean Water Act's savings clause (cf. Burbank v. State Water Resources Control Bd. (2005) 35 Cal.4th 613, 627-628 [relying on 33 U.S.C. § 1370, which allows a state to develop requirements which are not "less stringent" than federal requirements]), but instead, is part of a federal mandate to develop pollutant reduction requirements for municipal separate storm sewer systems. To this extent, it is entirely federal authority that forms the legal basis to establish the permit provisions. (See, City of Rancho Cucamonga v. Regional Water Quality Control Bd.-Santa Ana Region (2006) 135 Cal.App.4th 1377, 1389; Building Industry Ass'n of San Diego County v. State Water Resources Control Bd. (2004) 124 Cal.App.4th 866, 882-883.)

Second, the local agency Copermittees' obligations under this Order are similar to, and in many respects less stringent than, the obligations of non-governmental dischargers who are issued NPDES permits for storm water discharges. With a few inapplicable exceptions, the Clean Water Act regulates the discharge of pollutants from point sources (33 U.S.C. § 1342) and the Porter-Cologne regulates the discharge of waste (Wat. Code, § 13263), both without regard to the source of the pollutant or waste. As a result, the "costs incurred by local agencies" to protect water quality reflect an overarching regulatory scheme that places similar requirements on governmental and nongovernmental dischargers. (See County of Los Angeles v. State of California (1987) 43 Cal.3d 46, 57-58 [finding comprehensive workers compensation scheme did not create a cost for local agencies that was subject to state subvention].)

The Clean Water Act and the Porter-Cologne Water Quality Control Act largely regulate storm water with an even hand, but to the extent there is any relaxation of this even-handed regulation, it is in favor of the local agencies. Except for municipal separate storm sewer systems, the Clean Water Act requires point source dischargers, including discharges of storm water associated with industrial or construction activity, to comply strictly with water quality standards. (33 U.S.C. § 1311(b)(1)(C), *Defenders of Wildlife v. Browner* (1999) 191 F.3d 1159, 1164-1165 [noting that industrial storm water discharges must strictly comply with water quality standards].) As discussed in prior State Water Resources Control Board decisions, this Order does not require strict compliance with water quality standards. (SWRCB Order No. WQ 2001-15, p. 7.) The Order, therefore, regulates the discharge of waste in municipal storm water more leniently than the discharge of waste from non-governmental sources.

Third, the local agency Copermittees have the authority to levy service charges, fees, or assessments sufficient to pay for compliance with this Order. The fact sheet demonstrates that numerous activities contribute to the pollutant loading in the municipal separate storm sewer system. Local agencies can levy service charges, fees, or assessments on these activities, independent of real property ownership. (See, e.g., *Apartment Ass'n of Los Angeles County, Inc. v. City of Los Angeles* (2001) 24 Cal.4th 830, 842 [upholding inspection fees associated with renting property].) The ability of a local agency to defray the cost of a program without raising taxes indicates that a program does not entail a cost subject to subvention. (*County of Fresno v. State of California* (1991) 53 Cal.3d 482, 487-488.)

Fourth, the Copermittees have requested permit coverage in lieu of compliance with the complete prohibition against the discharge of pollutants contained in federal Clean Water Act section 301, subdivision (a) (33 U.S.C. § 1311(a)) and in lieu of numeric restrictions on their storm water discharges. To the extent, the local agencies have voluntarily availed themselves of the permit, the program is not a state mandate. (*Accord County of San Diego v. State of California* (1997) 15 Cal.4th 68, 107-108.) Likewise, the Copermittees have voluntarily sought a program-based municipal storm water permit in lieu of a numeric limitations approach on their storm water discharge. (See *City of Abilene v. U.S. E.P.A.* (5th Cir. 2003) 325 F.3d 657, 662-663 [noting that municipalities can choose between a management permit or a permit with numeric limitations].) The local agencies' voluntary decision to file a report of waste discharge proposing a program-based permit is a voluntary decision not subject to subvention. (See *Environmental Defense Center v. USEPA* (9th Cir. 2003) 344 F.3d 832, 845-848.)

Fifth, the local agencies' responsibility for preventing discharges of waste that can create conditions of pollution or nuisance from conveyances that are within their ownership or control under state law predates the enactment of Article XIII B, Section (6) of the California Constitution.

Finding E. 7. Runoff treatment and/or mitigation must occur prior to the discharge of runoff into receiving waters. Treatment BMPs must not be constructed in waters of the U.S. or State unless the runoff flows are sufficiently pretreated to protect the values and functions of the water body. Federal regulations at 40 CFR 131.10(a) state that in no case shall a state adopt waste transport or waste assimilation as a designated use for any waters of the U.S. Authorizing the construction of an runoff treatment facility within a water of the U.S., or using the water body itself as a treatment system or for conveyance to a treatment system, would be tantamount to accepting waste assimilation as an appropriate use for that water body. Furthermore, the construction, operation, and maintenance of a pollution control facility in a water body can negatively impact the physical, chemical, and biological integrity, as well as the beneficial uses, of the water body. Without federal authorization (e.g., pursuant to Clean Water Act Section 404), waters of the U.S. may not be converted into, or used as, waste treatment or conveyance facilities. Similarly, waste discharge requirements pursuant to California Water Code Section 13260 are required for the conversion or use of waters of the State as waste treatment or conveyance facilities. Diversion from waters of the U.S./State to treatment facilities and subsequent return to waters of the U.S. is allowable, provided that the effluent complies with applicable NPDES requirements.

Discussion of Finding E.7. Runoff treatment and/or mitigation in accordance with any of the requirements in the Order must occur prior to the discharge of storm water into receiving waters. Allowing storm water polluted runoff to enter receiving waters prior to treatment to the MEP will result in degradation of the water body and potential exceedances of water quality standards, from the discharge point to the point of dissipation, infiltration, or treatment. Furthermore, the construction, operation, and maintenance of a pollution control facility in a water body can negatively impact the physical, chemical, and biological integrity, as well as the beneficial uses, of the water body. This requirement is supported by federal regulation 40 CFR 131.10(a) and USEPA guidance. According to USEPA,¹⁵⁹ "To the extent possible, municipalities should avoid locating structural controls in natural wetlands. Before considering siting of controls in a natural wetland, the municipality should demonstrate that it is not possible or practicable to construct them in sites that do not contain natural wetlands... Practices should be used that settle solids, regulate flow, and remove contaminants prior to discharging storm water into a wetland."

Additional Federal guidance discusses the implementation of wetlands to treat municipal storm water discharges (USEPA, 2000. *Guiding Principles for Constructed Treatment Wetlands: Providing for Water Quality and Wildlife Habitat*). It states:

¹⁵⁹ USEPA, 1992. Guidance Manual for the Preparation of Part II of the NPDES Permit Applications for Discharges from Municipal Separate Storm Sewer Systems. EPA 833-B-92-002.

“..treatment wetlands should not be constructed in a waters of the U.S. unless you can sufficiently pretreat the stormwater flows to protect the values and functions of the waters of the U.S. Because storm water is an unpredictable effluent source and can contain high levels of toxic substances, nutrients, and pathogens, we strongly encourage that you construct the treatment wetland in uplands and use best management practices in these projects.”¹⁶⁰

Consistent with USEPA guidance, the conversion or use of waters of the U.S./State into runoff treatment facilities or conveyance facilities for untreated storm water discharges must be appropriately reviewed by both Federal and State resource agencies. Such projects may be subject to federal permitting pursuant to Clean Water Act Section 404 if discharges of dredged or fill material is involved.

The placement of hydromodification controls within waters of the U.S./State may also be subject to federal and/or state permitting, but would not necessarily be considered a pollutant treatment BMP. Provided the grade control structures are designed to re-establish a natural channel gradient and correct excessive changes to the sediment transport regime caused by urbanization, rather than to create a series of artificial hydrological impoundments for the purpose of treating pollution, this type of project is not considered an in-stream treatment BMP.

Finding E. 8. The issuance of waste discharge requirements and an NPDES permit for the discharge of runoff from MS4s to waters of the U.S. is exempt from the requirement for preparation of environmental documents under the California Environmental Quality Act (CEQA) (Public Resources Code, Division 13, Chapter 3, section 21000 et seq.) in accordance with the CWC section 13389.

Discussion of Finding E. 8. CWC Section 13389 exempts the adoption of waste discharge requirements (such as NPDES permits) from CEQA requirements: “Neither the State Board nor the regional boards shall be required to comply with the provisions of Chapter 3 (commencing with section 21100) of Division 13 of the Public Resources Code prior to the adoption of any waste discharge requirement, except requirements for new sources as defined in the Federal Water Pollution Control Act or acts amendatory thereof or supplementary thereto.”

¹⁶⁰ USEPA, 2000. Guiding Principles for Constructed Treatment Wetlands: Providing for Water Quality and Wildlife Habitat, (EPA 843-B-00-003).

This CEQA exemption was challenged during BIA's (and others') appeal of Order No. 2001-01. BIA contended that the CEQA exemption did not apply to permit requirements where the Regional Board utilized its discretion to craft permit requirements which were more prescriptive than required by federal law. The Court of Appeal, Fourth Appellate District disagreed with this argument, stating "we also reject Building Industry's argument to the extent it contends the statutory CEQA exemption in Water Code section 13389 is inapplicable to a particular NPDES permit provision that is discretionary, rather than mandatory, under the CWA."¹⁶¹ On further appeal by BIA, the California State Supreme Court declined to hear the matter.

In a recent decision, the Court of Appeal of the State of California, Second Appellate District, upheld the CEQA exemption for municipal storm water NPDES permits (County of Los Angeles, et al. v. California State Water Resources Control Board, et al.).¹⁶²

Finding E.9. Multiple water bodies in Orange County have been identified as impaired and placed on the 303(d) list. In 2004, Bacteria Impaired Waters TMDL Project II included six bacteria impaired shorelines in Dana Point Harbor and San Diego Bay: Baby Beach in Dana Point Harbor and Shelter Island Shoreline Park, B Street, G Street Pier, Tidelands Park, and Chula Vista Marina in San Diego Bay. Since then, only Baby Beach in Dana Point Harbor and Shelter Island Shoreline Park in San Diego Bay can be confirmed as still impaired by indicator bacteria. On June 11, 2008 the Regional Board adopted a Basin Plan amendment to incorporate *Bacteria Impaired Waters TMDL Project II for San Diego Bay and Dana Point Harbor Shorelines*. On June 16, 2009, the State Board approved the Basin Plan amendment. This action meets requirements of section 303(d) of the Clean Water Act (CWA). The Basin Plan amendment process is authorized under section 13240 of the Water Code. The State's Office of Administrative Law (OAL) approved the TMDLs on September 15, 2009. The effective date of the TMDLs is the date of OAL approval. USEPA approved the TMDLs on October 26, 2009.

Finding E.10. Storm water discharges from developed and developing areas in Orange County are significant sources of certain pollutants that cause, may be causing, threatening to cause or contributing to water quality impairment in the waters of Orange County. Furthermore, as delineated in the CWA section 303(d) list in Table 3, the Regional Board has found that there is a reasonable potential that municipal storm water and non-storm water discharges from MS4s cause or may cause or contribute to an excursion above water quality standards for the following pollutants: Indicator Bacteria, Phosphorous, Toxicity and Turbidity. In accordance with CWA section 303(d), the Regional Board is required to establish Total Maximum Daily Loads (TMDLs) for these pollutants to these waters to eliminate impairment and attain water quality standards. Therefore, certain early pollutant control actions and further pollutant impact assessments by the Copermitttees are warranted and required

¹⁶¹ Building Industry Association et al., v. State Water Resources Control Board, et al. 2004.

¹⁶² Los Angeles County Super. Ct. No. BS080792. Partial publication dated November 6, 2006.

pursuant to this Order.

Finding E.11. This Order incorporates only those MS4 Waste Load Allocations (WLAs) developed in TMDLs that have been adopted by the Regional Water Board and have been approved by the State Board, Office of Administrative Law and U.S. EPA. Approved TMDL WLAs are to be addressed using water quality-based effluent limitations (WQBELs) calculated as numeric limitations (either in the receiving waters and/or at the point of MS4 discharge) and/or as BMPs. In most cases, the numeric limitation must be achieved to ensure the adequacy of the BMP program. Waste load allocations for storm water and non-storm water discharges have been included within this Order only if the TMDL has received all necessary approvals. This Order establishes WQBELs and conditions consistent with the requirements and assumptions of the WLAs in the TMDLs as required by 40 CFR 122.44(d)(1)(vii)(B).

A TMDL is the total amount of a particular pollutant that a water body can receive and still meet Water Quality Standards (WQSs), which are comprised of Water Quality Objectives (WQOs), Beneficial Uses and the States Policy on Maintaining High Quality Waters¹⁶³. The WQOs serve as the primary basis for protecting the associated Beneficial Use. The Numeric Target of a TMDL interprets and applies the numeric and/or narrative WQOs of the WQSs as the basis for the WLAs. This Order addresses TMDLs through Water Quality Based Effluent Limitations (WQBELs) that must be consistent with the assumptions and requirements of the WLA¹⁶⁴. Federal guidance¹⁶⁵ states that when adequate information exists, storm water permits are to incorporate numeric water quality based effluent limitations. In most cases, the numeric target(s) of a TMDL are a component of the WQBELs. When the numeric target is based on one or more numeric WQOs, the numeric WQOs and underlying assumptions and requirements will be used in the WQBELs as numeric effluent limitations by the end of the TMDL compliance schedule, unless additional information is required. When the numeric target interprets one or more narrative WQOs, the numeric target may assess the efficacy and progress of the BMPs in meeting the WLAs and restoring the Beneficial Uses by the end of the TMDL compliance schedule.

This Order fulfills a component of the TMDL Implementation Plan adopted by this Regional Board on June 11, 2008 for indicator bacteria in Baby Beach by establishing WQBELs expressed as both BMPs to achieve the WLAs and as numeric limitations¹⁶⁶ for the City of Dana Point and the County of Orange. The establishment of WQBELs expressed as BMPs should be sufficient to achieve the WLA specified in the TMDL. The Waste Load Allocations (WLAs) and Numeric Targets are the necessary metrics to ensure that the BMPs achieve appropriate concentrations of bacterial indicators in

¹⁶³ State Water Resources Control Board, Resolution No. 68-16

¹⁶⁴ 40 CFR 122.44(d)(1)(vii)(B)

¹⁶⁵ USEPA, *Interim Permitting Approach for Water Quality-Based Effluent Limitations in Storm Water Permits*, 61 FR 43761, August 26, 1996

¹⁶⁶ The Waste Load Allocations are defined in Resolution No. R9-2008-0027, A Resolution to Adopt an Amendment to the *Water Quality Control Plan for the San Diego Basin (9)* to Incorporate Total Maximum Daily Loads for Indicator Bacteria, Baby Beach in Dana Point Harbor and Shelter Island Shoreline Park in San Diego Bay.

the receiving waters.

Discussion of Finding E.9, E.10, E.11. Section 303(d)(1)(A) of the Clean Water Act (CWA) requires that:

“Each state must identify those waters within its boundaries for which the effluent limitations...are not stringent enough to implement any water quality standard (WQS) applicable to such waters.”

The CWA also requires states to establish a priority ranking of impaired waterbodies known as Water Quality Limited Segments and to establish Total Maximum Daily Loads (TMDLs) for such waters. This priority list of impaired waterbodies is called the Section 303(d) List. The current Section 303(d) List was approved by the State Water Resources Control Board (State Board) on October 25, 2006. On June 28, 2007 the 2006 303(d) list for California was given final approval by the United States Environmental Protection Agency (USEPA). Every two years the State of California is required by CWA section 303(d) and 40 CFR(130.7) to develop and submit to the USEPA for approval an updated 303(d) list of impaired waterbodies. The Regional Board is currently undergoing the required 2 year (2008) update for submittal to the State Board.

Multiple water bodies in Orange County have been identified as impaired and placed on the Section 303(d) list. The Regional Board has 78 current 303(d) listings for which TMDLs must be prioritized and subsequently developed. The 303(d) listing of a waterbody and subsequent TMDL development is required when regulations under current permits, such as Technology Based Effluent Limitations (TBELS), are not stringent enough to meet Water Quality Standards and protect the Beneficial Uses of Waters of the State. In 2004, the *Bacteria Impaired Waters TMDL Project II* addressed six bacteria impaired shorelines including Baby Beach in Dana Point Harbor. On June 11, 2008 the Regional Board adopted a Basin Plan amendment to incorporate *TMDLs for Indicator Bacteria, Baby Beach in Dana Point Harbor and Shelter Island Shoreline Park in San Diego Bay*. On June 16, 2009, the State Board approved the Basin Plan amendment. The *TMDLs for Indicator Bacteria, Baby Beach in Dana Point Harbor and Shelter Island Shoreline Park in San Diego Bay* are pending approval by the State Office of Administrative Law (OAL) and USEPA.

Storm water discharges from developed and developing areas in Orange County are a significant source of certain pollutants that cause, may be causing, threatening to cause or contributing to water quality impairment in the waters of Orange County. Furthermore, the CWA section 303(d) list indicates that there is a reasonable potential that municipal storm water and dry weather discharges from MS4s cause or may cause or contribute to an excursion above water quality standards for the following pollutants: Indicator Bacteria, Phosphorous, Toxicity and Turbidity. In accordance with CWA section 303(d), the Regional Board is required to establish TMDLs for these pollutants in these waters to eliminate impairment and attain water quality standards. Per 40 CFR(130.7), WLAs are required for all point sources, including storm water and

non-storm water discharges from MS4s. Therefore, focused pollutant control actions and further pollutant impact assessments by the Copermittees are warranted and required pursuant to this Order.

MS4 Permits address only those TMDL WLAs that have been adopted by the Regional Board and have been approved by the State Board, OAL and USEPA. WLAs are portions of a receiving water's loading capacity that is allocated to one of its existing or future point sources of pollution. The TMDL WLAs in MS4 Permits can be addressed using water quality-based numeric effluent limitations (WQBELs) calculated at end-of-pipe. WQBELs must be consistent with the assumptions and requirements of the WLAs.¹⁶⁷

Assessment of compliance with WLAs is to be assessed at the point of discharge to the receiving water and within the receiving water. TMDL WLAs evaluated end-of-pipe will be assessed using WQBELs. Determination of compliance may also be assessed within the receiving waters to evaluate WLA reductions, program effectiveness and to assess overall water quality. As Numeric Targets serve to establish WLAs, they are part of the underlying assumptions of the WLA and can serve as points of compliance.

Finding E.12. This Order requires each Copermittee to effectively prohibit all types of unauthorized discharges of non-storm water into its MS4. However, historically pollutants have been identified as present in dry weather non-storm water discharges from the MS4s through 303(d) listings, monitoring conducted by the Copermittees under Order No. R9-2002-0001, and there are others expected to be present in dry weather non-storm water discharges because of the nature of these discharges. This Order includes action levels for pollutants in non-storm water, dry weather, discharges from the MS4 designed to ensure that the requirement to effectively prohibit all types of unauthorized discharges of non-storm water in the MS4 is being complied with. Action levels in the Order are based upon numeric or narrative water quality objectives and criteria as outlined in the Basin Plan, Water Quality Control Plan for Ocean Waters of California (Ocean Plan), and State Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California (State Implementation Policy or SIP). An exceedance of an action level requires specified responsive action by the Copermittees. This Order describes what actions the Copermittees must take when an exceedance of an action level is observed. Exceedances of non-storm water action levels do not alone constitute a violation of this Order but could indicate non-compliance with the requirement to effectively prohibit all types of unauthorized non-storm water discharges into the MS4 or other prohibitions established in this Order. Failure to undertake required source investigation and elimination action following an exceedance of a non-storm water action level (NAL or action level) is a violation of this Order. The Regional Board recognizes that use of action levels will not necessarily result in detection of all unauthorized sources of non-storm water discharges because there may be some

¹⁶⁷ Per 40 CFR 122.44(d)(1)(vii)(B)

discharges in which pollutants do not exceed established action levels. However, establishing NALs at levels appropriate to protect water quality standards is expected to lead to the identification of significant sources of pollutants in dry weather non-storm water discharges.

Discussion of Finding E.12. This Order includes the existing requirement that Copermitees effectively prohibit all types of unauthorized non-storm water discharges in the MS4s. It also includes the following prohibition set forth in the Basin Plan: “The discharge of waste to waters of the state in a manner causing, or threatening to cause a condition of pollution, contamination or nuisance as defined in California Water Code section 13050 is prohibited.” (Prohibition A.1.) As discussed in the Order’s Findings on discharge characteristics, e.g., C.2., C.4., C.6., C.7., C.9., C.14., and C.15., the Copermitees’ reliance on BMPs for the past 19 years has not resulted in compliance with applicable water quality standards or compliance with the requirement to effectively prohibit all types of unauthorized discharges of non-storm water in the MS4. The Regional Board has evaluated (in accordance with 40 CFR 122.44(d)(1)) past and existing control (BMPs), non-storm water effluent monitoring results, the sensitivity of the species in receiving waters (e.g. endangered species), and the potential for effluent dilution and has determined that existing BMPs to control pollutants in storm water discharges are not sufficient to protect water quality standards in receiving waters and the existing requirement that Copermitees effectively prohibit all types of unauthorized non-storm water discharges into the MS4 historically results in the discharge of pollutants to the receiving waters.

Therefore it is appropriate to establish dry weather non-storm water action levels based upon established water quality standards to measure pollutants levels in the discharge of dry weather non-storm water that could indicate non-compliance with the requirement to effectively prohibit all types of unauthorized non-storm water discharges into the MS4 and/or that these discharges are causing, or threatening to cause, a condition of pollution, contamination or nuisance in the receiving waters. NALs are not numeric effluent limitations. While not alone a violation of this Order, an exceedance of an NAL requires the Copermitees to initiate a series of source investigation and elimination actions to address the exceedance. Results from the NAL monitoring are to be used in developing the Copermitees annual work plans. Failure to undertake required source investigation and elimination action following an exceedance of an NAL is a violation of this Order. Please see further discussion in the directives section C of the fact sheet.

A purpose of monitoring, required under this and previous Orders, as stated in the Monitoring and Reporting Program is to “detect and eliminate illicit discharges and illicit connections to the MS4” and to answer the following core management questions:

1. Are conditions in receiving waters protective, or likely to be protective, of beneficial uses?

2. What is the extent and magnitude of the current or potential receiving water problems?
3. What is the relative MS4 discharge contribution to the receiving water problem(s)?
4. What are the sources of MS4 discharge that contribute to receiving water problem(s)?
5. Are conditions in receiving waters getting better or worse?

For the past 4 permit cycles (19 years), Copermittees have utilized their IC/ID program to identify and eliminate non-storm water discharges that are sources of pollutants to the MS4. The Copermittees are also subject to the requirement to effectively prohibit all types of unauthorized discharges of non-storm water into the MS4s. Historically, discharges of unauthorized non-storm water do occur, resulting in the discharge of pollutants to the receiving water. NALs have been included in this Order to ensure that the Copermittees comply with the requirement to effectively prohibit all types of unauthorized non-storm water discharges that are a source of pollutants in the receiving waters.

F. Public Process

Finding F.1. The Regional Board has notified the Copermitttees, all known interested parties, and the public of its intent to consider adoption of an Order prescribing waste discharge requirements that would serve to renew an NPDES permit for the existing discharge of runoff.

Discussion of Finding F.1. Public notification of development of a draft permit is required under Federal regulation 40 CFR 124.10(a)(1)(ii). This regulation states “(a) Scope. (1) The Director shall give public notice that the following actions have occurred: (ii) A draft permit has been prepared under Sec. 124.6(d).” Public notifications “shall allow at least 30 days for public comment,” as required under Federal regulation 40 CFR 124.10(b)(1).

Finding F.2. The Regional Board has held public hearings on April 11, 2007, February 13, 2008, July 1, 2009, and November 18, 2009 and heard and considered all comments pertaining to the terms and conditions of this Order.

Discussion of Finding F.2. Public hearings are required under CWC Section 13378, which states “Waste discharge requirements and dredged or fill material permits shall be adopted only after notice and any necessary hearing.” Federal regulation 40 CFR 124.12(a)(1) also requires public hearings for draft permits, stating “The Director shall hold a public hearing whenever he or she finds, on the basis or requests, a significant degree of public interest in a draft permit(s).” Regarding public notice of a public hearing, Federal regulation 40 CFR 124.10(b)(2) states that “Public notice of a public hearing shall be given at least 30 days before the hearing.”

IX. DIRECTIVES

This section discusses significant changes which have been made to the requirements of the Order from the requirements which were previously included in Order No. R9-2002-0001. For each section of the Order that has been changed there is a discussion which describes the change that was made and provides the rationale for the change. In addition, comments on the Copermittees' ROWD recommendations, as they pertain to each changed requirement of the Order, are provided.

Requirements of the Order that are not discussed in this section have not been significantly changed from those requirements previously included in Order No. 2002-0001. For such requirements, discussions and rationale for the requirements can be found in section VII of the Fact Sheet/Technical Report for Regional Board Order No. R9-2002-0001, dated February 13, 2002. Section VII also provides additional background information for those requirements that have undergone significant change which are described in detail in this report. The Fact Sheet/Technical Report is available for download at:

http://www.waterboards.ca.gov/sandiego/programs/oc_stormwater.html

Legal authority citations are provided for each major section of the Tentative Order. These citations apply to all applicable requirements within the section for which they are provided.

A. Prohibitions and Receiving Water Limitations

The following legal authority applies to section A:

Broad Legal Authority: CWA sections 402(p)(3)(B)(ii-iii), CWC section 13377, and Federal NPDES regulations 40 CFR 122.26(d)(2)(i)(B, C, E, and F) and 40 CFR 122.26(d)(2)(iv).

Specific Legal Authority: The Regional Board Water Quality Control Plan for the San Diego Basin (Basin Plan) contains the following waste discharge prohibition: "The discharge of waste to waters of the state in a manner causing, or threatening to cause a condition of pollution, contamination, or nuisance as defined in California Water Code Section 13050, is prohibited."

California Water Code section 13050(l) states "(1) 'Pollution' means an alteration of the quality of waters of the state by waste to a degree which unreasonably affects either of the following: (A) The water for beneficial uses. (B) Facilities which serve beneficial uses. (2) 'Pollution' may include "contamination."

California Water Code section 13050(k) states “‘Contamination’ means an impairment of the quality of waters of the state by waste to a degree which creates a hazard to public health through poisoning or through the spread of disease. ‘Contamination’ includes any equivalent effect resulting from the disposal of waste, whether or not waters of the state are affected.”

California Water Code section 13050(m) states “‘Nuisance’ means anything which meets all of the following requirements: (1) Is injurious to health, or is indecent or offensive to the senses, or an obstruction to the free use of property, so as to interfere with the comfortable enjoyment of life or property. (2) Affects at the same time an entire community or neighborhood, or any considerable number of persons, although the extent of the annoyance or damage inflicted upon individuals may be unequal. (3) Occurs during, or as a result of, the treatment or disposal of wastes.”

California Water Code section 13241 requires each regional board to “establish such water quality objectives in water quality control plans as in its judgment will ensure the reasonable protection of beneficial uses and the prevention of nuisance [...]”

California Water Code Section 13243 provides that “A regional board, in a water quality control plan or in waste discharge requirements, may specify certain conditions or areas where the discharge of waste, or certain types of waste, will not be permitted.”

California Water Code Section 13263(a) provides that waste discharge requirements prescribed by the Regional Board implement the Basin Plan.

Federal NPDES regulations 40 CFR 122.26(d)(2)(iv)(A - D) require municipalities to implement controls to reduce pollutants in storm water runoff from commercial, residential, industrial, and construction land uses or activities.

Federal NPDES regulations 40 CFR 122.26(d)(2)(i)(A - D) require municipalities to have legal authority to control various discharges to their MS4.

Federal NPDES regulation 40 CFR 122.44(d)(1) requires municipal storm water permits to include any requirements necessary to “[a]chieve water quality standards established under section 303 of the CWA, including State narrative criteria for water quality.”

Federal NPDES regulation 40 CFR 122.44(d)(1)(i) requires NPDES permits to include limitations to “control all pollutants or pollutant parameters (either conventional, nonconventional, or toxic pollutants) which the Director determines are or may be discharged at a level which will cause, have reasonable potential to cause, or contribute to an excursion above any State water quality standard, including State narrative criteria for water quality.”

Section A of the Order combines two previously distinct requirement sections – Prohibitions and RWLs. These sections have been combined into one section for organization purposes and to reduce redundancy, since both sections address the same issue. These changes have no net effect on the implementation and enforcement of the Order.

Section A.3 describes the “iterative process.” The Copermitees must reduce the discharge of storm water pollutants to the MEP and ensure that their MS4 discharges do not cause or contribute to violations of water quality standards. If the Copermitees have reduced storm water pollutant discharges to the MEP, but their discharges are still causing or contributing to violations of water quality standards, the Order provides a clear and detailed process for the Copermitees to follow. This process is often referred to as the "iterative process" and can be found at section A.3. The language of section A.3 is prescribed by the State Board and is included in MS4 permits statewide. Section A.3 essentially requires additional BMPs to be implemented until MS4 storm water discharges no longer cause or contribute to a violation of water quality standards.

The State Policy with respect to maintaining high quality waters has been added to clarify that discharges from the MS4 that cause or contribute to a violation of the Policy for high quality waters is prohibited.

B. Non-Storm Water Discharges

The following legal authority applies to section B:

Broad Legal Authority: CWA sections 402, 402(p)(3)(B)(ii-iii), CWC section 13377, and Federal NPDES regulations 40 CFR 122.26(d)(2)(i)(B, C, E, and F), 40 CFR 122.26(d)(2)(iv) and 40 CFR 122.44.

Specific Legal Authority: Federal NPDES regulation 40 CFR 122.26(d)(2)(iv)(B) requires MS4 operators “to detect and remove (or require the discharger to the municipal separate storm sewer to obtain a separate NPDES permit for) illicit discharges and improper disposal into the storm sewer.”

Federal NPDES regulation 40 CFR 122.26(d)(2)(iv)(B)(1) provides that the Copermitees shall prevent all types of illicit discharges into the MS4 except for certain non-storm water discharges.

Section B of the Order has been reworded to simplify and clarify the requirements for addressing non-storm water discharges that are not prohibited. This rewording has no net effect on the implementation and enforcement of the Order.

Section B.2 has been modified by the removal of landscape irrigation, irrigation water and lawn watering from the list of non-storm water discharges that are not prohibited, i.e. landscape irrigation, irrigation water and lawn watering discharges into and from the MS4 are now prohibited. Saline swimming pool discharges have been added as a footnote to the list provided the discharge is directly to a saline water body (see Finding C.14 and Discussion). Language has been added to the section to clarify differences in the federal regulations under 40 CFR 122.26(d)(iv)(B) and for the authority of the Director (Regional Board) in regards to exempted discharges.

The following exemptions have been removed from Section B, per identification as a source and conveyance of pollutants to waters of the United States when discharged from the MS4: landscape irrigation, irrigation water and lawn watering. Therefore, these illicit discharges must be addressed per 40 CFR 122.26(B). These previously exempted discharges have been identified by Permittees as a source of pollutants and conveyance of pollutants to waters of the United States in the following:

The County of Orange conducted, per requirements of 401 Water Quality Certification 02C-055, a Drainage Area Reconnaissance and Urban Runoff Characterization study. From the reconnaissance and characterization, the County of Orange determined that “water quality results provided two important findings”. First, “analytical data strongly indicates that irrigation overspray and drainage constitutes a very substantial source and conveyance mechanism for fecal indicator bacteria into Aliso Creek, and suggests that reduction measures for this source of urban runoff could provide meaningful reduction in bacteria loading to the stream”. Aliso Creek, currently 303(d) listed as impaired for Indicator Bacteria, is included in the Bacteria Project I TMDL adopted by the San Diego Regional Board on December 12, 2007. Secondly, reclaimed water high in electrical conductivity and Nitrate was indicated as “the source water at three of the excessive runoff locations (P1,P2,J01P02). These dissolved nitrogen concentration and flow rates create relatively high nitrogen loadings, which have the potential to contribute to undesirable levels of periphytic algal growth in Aliso Creek”.

The County of Orange, Cities of Orange County and Orange County Flood Control District on November 15, 2007 submitted their Unified Annual Progress Report for the 2006-2007 reporting period. Within the report, the Copermitees demonstrate that a “wide range of constituents exceeded the tolerance interval bounds”, including orthophosphate. “These high levels of orthophosphate concentration are most likely the result of fertilizer runoff or reclaimed water runoff”. Aliso Creek is currently 303(d) listed as impaired for phosphorous.

The County of Orange, Orange County Flood Control District and Permittees within the San Juan Creek, Laguna Coastal Streams, Aliso Creek, and Dana Point Coastal Streams Watersheds on November 15, 2007 submitted their Watershed Action Plan Annual Reports for the 2006-2007 reporting period. San Juan Creek, Laguna Coastal Streams, Aliso Creek and Dana Point Coastal Streams are all currently 303(d) listed as impaired for Indicator Bacteria within the watershed and/or Pacific Ocean at the discharge point of the watershed. These locations are included in the Bacteria Project I TMDL adopted by the San Diego Regional Board on December 12, 2007. The Copermitees, within their Watershed Action Strategy Table for Fecal Indicator Bacteria “Support programs to reduce or eliminate the discharge of anthropogenic dry weather nuisance flow throughout the [...] watershed. Dry weather flow is the transport medium for bacteria and other 303(d) constituents of concern”. Additionally, they state that “conditions in the MS4 contribute to high seasonal bacteria propagation in-pipe during warm weather. Landscape irrigation is a major contributor to dry weather flow, both as surface runoff due to over-irrigation and overspray onto pavements; and as subsurface seepage that finds its way into the MS4”.

In 2006, the State Water Quality Control Board allocated Grant funding to the Smarttimer/Edgescape Evaluation Program (SEEP). Project partners include the cities of Aliso Viejo, Dana Point, Laguna Beach, Laguna Hills, Laguna Nigel, Laguna Woods, Lake Forest, Mission Viejo, Rancho Santa Margarita and San Juan Capistrano as well as the Metropolitan Water District of Southern California, the Department of Agriculture and ten south Orange County water districts. The project targets irrigation runoff by retrofitting existing development and documenting the conservation and runoff improvements. The Grant Application states that "Irrigation runoff contributes flow & pollutant loads to creeks and beaches that are 303(d) listed for bacteria indicators". Furthermore, the grant application states that "Regional program managers agree that the reduction and/or elimination of irrigation-related urban flows and associated pollutant loads may be key to successful attainment of water quality and beneficial use goals as outlined in the San Diego Basin Plan and Bacteria TMDL over the long term". This is reinforced in the project descriptions and objectives: "Elevated dry-weather storm drain flows, composed primarily in the South Orange County Region of landscape irrigation water wasted as runoff, carry pollutants that impair recreational use and aquatic habitats all along Southern California's urbanized coastline. Storm drain systems carry the wasted water, along with landscape derived pollutants such as bacteria, nutrients and pesticides, to local creeks and the ocean. Given the local Mediterranean climate, excessive perennial dry season stream flows are an unnatural hydrologic pattern, causing species shifts in local riparian communities and warm, unseasonal contaminated freshwater plumes in the near-shore marine environment". The basis of this grant project, conducted by the Permittees and additional water use partners, is that over-irrigation (landscape irrigation, irrigation water and lawn watering) into the MS4 is a source and conveyance of pollutants. In addition, they indicate that the alteration of natural flows is impacting the Beneficial Uses of waters of the State.

Section B.3 has been clarified by the recognition of building fire suppression system maintenance (e.g. fire sprinklers) as an illicit discharge. The Regional Board has found that such discharges contain waste, and as such the Regional Board is requiring these discharges be addressed as illicit discharges by the Copermittees. This is consistent with the Federal Regulations (55 Fed Reg 48037). Thus, the discharges are to be prohibited via ordinance, order or similar means and incorporated as part of the Copermittees IC/ID program.

C. Non Storm Water Dry Weather Action Levels

The following legal authority applies to Section C:

Broad Legal Authority: CWA section 402, 402(p)(3)(B)(ii), CWC §13377. 40 CFR 122.26(d)(2)(i)(B, C, E, and F), and 40 CFR 122.26(d)(2)(iv).

Specific Legal Authority:

The Clean Water Act section 402(p)(3)(B)(ii) provides that MS4 permits “shall include a requirement to effectively prohibit non-storm water discharges into the storm sewers.”

Federal NPDES regulations 40 CFR 122.26(d)(2)(iv)(B) provides that the proposed management program “shall be based on a description of a program including a schedule, to detect and remove (or require the discharger to the municipal storm sewer to obtain a separate NPDES permit for) illicit discharges and improper disposal into the storm sewer.”

Federal NPDES regulation 40 CFR 122.26(d)(2)(iv)(B)(1) provides that the Copermittee include in its proposed management program “a program, including inspections, to implement and enforce an ordinance, orders or similar means to prevent illicit discharges to the municipal storm sewer system; this program description shall address all types of illicit discharges, however the [listed exempt] category of non-storm water discharges or flows shall be addressed where such discharges are identified by the municipality as sources of pollutants to waters of the United States.”

Federal NPDES regulation 40 CFR 122.26(d)(2)(iv)(B)(2) provides that the Copermittee include in its proposed management program “a description of procedures to conduct on-going field screening activities during the life of the permit, including areas or locations that will be evaluated by such field screens.”

Federal NPDES regulation 40 CFR 122.26(d)(2)(iv)(B)(3) provides that the Copermittee include in its proposed management program “procedures to be followed to investigate portions of the separate storm sewer system that, based on the results of the field scree, or other appropriate information, indicate a reasonable potential of containing illicit discharges or other sources of non-storm water.”

Section C establishes non-storm water dry weather action levels (see also Finding C.14, Finding E.12, and the Discussion for those sections).

Non-exempted, non-storm water discharges are to be effectively prohibited from entering the MS4 or become subject to another NPDES permit (see Federal Register, Vol. 55, No. 222, pg. 47995). Conveyances which continue to accept non-exempt, non-storm water discharges do not meet the definition of MS4 and are not subject to

section 402(p)(3)(B) of the CWA unless the discharges are issued separate NPDES permits. Instead, conveyances that continue to accept non-exempt, non-storm water discharges that do not have a separate NPDES permit are subject to sections 301 and 402 of the CWA (see Federal Register, Vol. 55, No. 222, pg. 48037).

The Order requires the sampling of a representative percentage of major outfalls and other identified stations within each hydrologic subarea. While it is important to assess all major outfall discharges from the MS4 into receiving waters, to date the Copermittees have implemented a dry-weather monitoring program that has identified major outfalls that are representative of each hydrologic subarea and have randomly sampled other major outfalls. Thus, it is expected that the Copermittees will utilize past dry weather monitoring in the selection and annual sampling of a representative percentage of major outfalls in accordance with the requirements under Section C.4.

Background and Rationale for Requirements

The Regional Board developed the requirements for dry weather, non-storm water action levels based upon an evaluation of existing controls, monitoring and reporting programs (effluent and receiving water), special studies, and based upon Findings C.1 C.3, C.4, C.6, C.7 and C.14.

Water Quality Control Plan

Section 303(C) of the Clean Water Act requires the state to establish Water Quality Standards (WQS). WQS define the water quality goals of a waterbody, or part thereof, by designating their use or uses to be made of the water and by setting criteria necessary to protect those uses.

The Regional Board's Water Quality Control Plan for the San Diego Basin (Basin Plan) designates beneficial uses, establishes water quality objectives, and contains implementation programs and policies to achieve those objectives for all waters addressed through the Basin Plan. The Basin Plan was adopted by the Regional Board on September 8, 1994, and was subsequently approved by the State Board on December 13, 1994. Subsequent revisions to the Basin Plan have also been adopted by the Regional Board and State Board.

State Board Resolution No. 88-63 establishes state policy that all waters, with certain exceptions, should be considered suitable or potentially suitable for municipal and domestic supplies. Requirements of this Order do not include effluent limitations reflecting municipal and domestic supply use as all waters within the County of Orange under this Order are specifically exempted from municipal and domestic supply as a Beneficial Use.

The State Board adopted the Water Quality Control Plan for Ocean Waters of California (Ocean Plan) in 2005, it was approved by USEPA, and became effective on February 14, 2006. The Ocean Plan establishes Water Quality Objectives, general requirements for management of waste discharged to the ocean, effluent quality

requirements, discharge provisions, and general provisions. Limitations derived from the Ocean Plan have been included in this Order as action levels to protect the Beneficial Uses of enclosed bays and estuaries because their Beneficial Uses are similar

National Toxics Rule (NTR) and California Toxics Rule (CTR)

The USEPA adopted the NTR on December 22, 1992, which was amended on May 4, 1995, and November 9, 1999. The CTR was adopted by USEPA on May 18, 2000, and amended on February 13, 2001. These rules include water quality criteria for priority pollutants and are applicable to non-storm water discharges from the MS4. Criteria for 126 priority pollutants are established by the CTR. USEPA promulgated this rule to fill a gap in California water quality standards that was created in 1994 when a California court overturned the State's water quality control plans containing criteria for priority toxic pollutants. The federal criteria are legally applicable in the State of California for inland surface waters, enclosed bays and estuaries for all purposes and programs under the CWA.

Antidegradation Policy

Section 131.12 of 40 CFR requires that the State water quality standards include an antidegradation policy consistent with the federal policy. The State Board established California's antidegradation policy in State Board Resolution No. 68-16. Resolution No. 68-16 incorporates the federal antidegradation policy where the federal policy applies under federal law. Resolution No. 68-16 requires that existing quality of waters be maintained unless degradation is justified based on specific findings. The Regional Boards' Basin Plans implement, and incorporate by reference, both the State and federal antidegradation policies. Permitted non-storm water discharges from the MS4 are consistent with the antidegradation provision of 40 CFR section 131.12 and State Board Resolution No. 68-16.

Monitoring and Reporting

40 CFR Section 122.48 requires that all NPDES permits specify requirements for recording and reporting monitoring results. Sections 13267 and 13383 of CWC authorize the Regional Boards to require technical and monitoring reports. The Monitoring and Reporting Program establishes monitoring and reporting requirements to implement state and federal regulations. The Monitoring and Reporting Program can be found as Attachment E of the Order.

Dilution or Mixing Zones

In order to protect the Beneficial Uses of receiving waters from pollutants as a result of non-storm water MS4 discharges, this Order does not provide for a mixing zone or a zone of initial dilution except when the discharge is to the surf zone.

The San Diego Region has predominately intermittent and ephemeral rivers and streams (Inland Surface Waters) which vary in flow volume and duration at spatial and temporal scales. Therefore, it is assumed that any non-storm water discharge from

the MS4 into the receiving water is likely to be of a quantity and duration that does not allow for dilution or mixing. For ephemeral systems, non-storm water discharges from the MS4 are likely to be the only surface flows present within the receiving water during the dry season.

MS4 discharge points to bays, estuaries and lagoons are not designed to achieve maximum initial dilution and dispersion of non-storm water discharges. Thus, initial dilution factors for non-storm water discharges from the MS4 into bays, estuaries, and lagoons are conservatively assumed to equal zero.

It is appropriate to base numeric action levels for dry weather non-storm water discharges on these considerations.

California Ocean Plan

A discharge to a surf zone occurs when the non-storm water discharge point from the MS4 discharges:

- a) Directly into the ocean in a wave induced area subject to long-shore conditions;
or
- b) Across a primarily sandy substrate beach and subsequently directly into a wave induced area subject to long-shore conditions;

Establishment of Action Levels

Action levels in the Order are based upon numeric or narrative water quality objectives and criteria as defined in the Basin Plan, the Water Quality Control Plan for Ocean Waters of California (Ocean Plan), and the State Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California (State Implementation Policy or SIP). The Regional Board recognizes that use of action levels will not necessarily result in detection of all unauthorized sources of non-storm water discharges because there may be some discharges in which pollutants do not exceed established action levels.

In June of 2006, the California Water Board's Blue Ribbon Storm Water Panel released its report titled 'The Feasibility of Numerical Effluent Limits Applicable to Discharges of Storm Water Associated with Municipal, Industrial and Construction Activities.' The report only examined numerical limits as applied to storm water and not non-storm water. In the recommendations, the Blue Ribbon panel proposed storm water action levels which are computed using statistical based population approaches. For example, Section D of the Permit uses a recommended statistical approach to develop storm water action levels. The Blue Ribbon panel did not examine the efficacy of action levels or recommendations for development of action levels for non-storm water discharges.

For discharges to inland surface waters, action levels are based on the EPA water quality criteria for the protection of aquatic species, the EPA water quality criteria for the protection of human health, water quality criteria and objectives in the applicable

State plans, effluent concentration available using best available technology, and 40 CFR 131.38. Since the assumed initial dilution factor for the discharge is zero and a mixing zone is not allowed, a non-storm water discharge from the MS4 could not cause an excursion from numeric receiving water quality objectives if the discharge is in compliance with the action levels contained in the Order. Likewise, discharges in compliance with action levels to the surf zone cannot cause excursions from water quality objectives.

Dry weather monitoring of non-storm water MS4 effluent conducted under the previous Order (R9-2002-001), which relies on BMPs as controls to protect water quality standards, has identified pollutants that are found in non-storm water discharges. Monitoring of pH, Dissolved Oxygen, Phosphorus, Nitrate, Turbidity and Methylene Blue Active Substances (MBAS) in non-storm water MS4 discharges has shown that the effluent exceeds state water quality criteria. It is appropriate to establish numeric action levels for these pollutants to ensure that the Copermittees are complying with the requirement to effectively prohibit all types of unauthorized non-storm water discharges into the MS4s.

Water Quality Limited Segments on the current 303(d) list (2006) within the jurisdiction of this Order have been identified due to exceedances of Sulfate, Chloride and Total Dissolved Solids criteria from a source which is currently unknown (see Table 2a). These pollutants are not monitored for under the current non-storm water MS4 effluent monitoring program. While this Order does not establish a numeric action level for these constituents at this time, this Order now requires non-storm water MS4 discharge monitoring to include monitoring for Sulfates, Chlorides and Total Dissolved Solids.

Priority pollutants analyzed included Cadmium, Copper, Chromium, Lead, Nickel, Silver and Zinc. These priority pollutants are likely to be present in non-storm water MS4 discharges (see Finding C.3) and dissolved metal effluent monitoring is available from the previous Order. The most stringent applicable water quality criteria have been identified for these seven metals and, excluding Chromium (VI), and all are dependent on receiving water hardness. The conversion factors for Cadmium and Lead are also water hardness dependent (40 CFR 131.38(b)(2)). These levels are established as the action levels for these constituents.

While effluent monitoring is available from the previous Order, the monitoring was done for dissolved concentrations and lacked a measurement of receiving water hardness. Due to the multiple point source discharges of non-storm water from the MS4, a discharge may enter a receiving water whose hardness will vary temporally. In addition, hardness may vary spatially within and among receiving waters.

However, other information is available to determine the appropriateness of an action level. Existing effluent monitoring concentrations absent of receiving water data, no dilution credit or mixing zone allowance, current 303(d) listings of receiving waters for

other pollutants, receiving water monitoring data, and the classification of waters as critical habitat for endangered and species of concern, provide evidence that NALs are appropriate for these priority pollutants at this time in order to ensure that the Copermittees comply with the requirement to effectively prohibit all types of unauthorized non-storm water discharges into the MS4s.

Existing effluent data (see attachment F), absent receiving water hardness, provides evidence that it is appropriate to include NALs based on a conservative hardness level. Absent receiving water hardness, all analyzed metals, are discharged at concentrations which may be in exceedance of CTR criteria depending on receiving water hardness. Chromium effluent data that is available is in the form of total Chromium. However, per the SIP, Chromium criteria are for Chromium III and Chromium VI. Therefore, the total Chromium measurement is inadequate, but can be used as an estimate of Chromium III and VI concentrations.

As discussed, inland surface waters, enclosed bays, and estuaries have conservatively been allotted a mixing zone and dilution credit of zero. As such, any discharge of these priority pollutants is likely to impact the receiving water, regardless of the quantity or rate of discharge.

As discussed in Finding C.7 and discussion, multiple receiving waters within the County of Orange are 303(d) listed for a number of pollutants, including toxicity. The 303(d) listing of a waterbody as impaired provides evidence that the receiving water(s) are already experiencing negative impacts. These water quality limited segments are more susceptible to degradation from the synergistic addition of more pollutants, even from upstream discharges. It is therefore appropriate to include numeric action levels designed to ensure that the Copermittees are complying with the requirement to effectively prohibit all types of unauthorized discharges of non-storm water into the MS4s.

Copermittees have monitored the receiving waters for MS4 discharges pursuant to requirements under Order R9-2002-0002. Dry weather receiving water data indicates poor conditions within waters receiving non-storm water MS4 discharges. Urban stream bioassessment conducted under the Order (2002-2008) has documented all non-reference sites as consistently having poor or very poor Index of Biotic Integrity (IBI) scores, in part due to receiving water toxicity¹⁶⁸.

Receiving waters within the jurisdiction of this Order are classified as critical habitat, including being designated with the RARE beneficial use, for endangered, threatened and species of concern including, but not limited to, *O. mykiss irideus*, *E. newberryil*, *A. marmorata pallida* and *G. orcutti*.

¹⁶⁸ 2006-07 and 2007-08 Unified Annual Progress Reports.

The Regional Board evaluated discharges to the surf zone, per the California Ocean Plan, Appendix VI and in accordance with 40 CFR 122.44(d). Indicator bacteria, pH, turbidity (NTU), and metals were analyzed for the purpose of determining the levels of these constituents in non-storm water discharges from the MS4.

The Regional Board has determined that there is not sufficient information at this time to develop action levels for pH, turbidity and metals. While non-storm water MS4 effluent data is available, the data collected is for discharges to inland surface waters, enclosed bays and estuaries. Preliminary receiving water data and limited non-storm water MS4 discharge data collected under the Ambient Coastal Receiving Water Monitoring indicates some exceedances of criteria for metals in the discharge, and toxicity in receiving waters¹⁶⁹. However, the Regional Board believes the level of data available is insufficient, and is requiring additional monitoring of pH, turbidity and metals in non-storm water MS4 discharges to ocean waters (discharges to the surf zone).

Water Quality Limited Segments on the current 303(d) list (2006) for the Pacific Ocean shoreline within the jurisdiction of this Order have been identified due to exceedances of Indicator Bacteria criteria whose known source includes non-storm water discharges from the MS4. These 303(d) listed segments support extensive REC-1 beneficial uses and are located within State Marine Reserves and Conservation Areas. The listing of receiving waters as 303(d) listed for bacteria supports the inclusion of action levels to ensure that the Copermitttees are complying with the requirement to effectively prohibit all types of unauthorized non-storm water discharges into the MS4. In addition, no dilution credit or mixing zone allowance is included in developing numeric action levels for the discharge of a pollutant to waters which are 303(d) listed as impaired for that pollutant.

Dry Weather Non-Storm Water Action Levels Calculations for Discharges to Inland Surface Waters, Enclosed Bays, and Estuaries

On the basis of the foregoing discussion, the NALs were calculated with the following considerations and assumptions:

No dilution credit is considered for the discharge. Therefore, the discharge must comply with the Water Quality Objective at the point of discharge.

For NALs based on CTR, implementation was done using the procedure list as outlined in the SIP (see below example).

NAL CTR/SIP Calculation – Zinc Example:

Criteria for Priority Toxic Pollutants in the State of California is described in the CTR

¹⁶⁹ 2007-08 Unified Annual Progress Report.

table listed in 40 CFR 131.38.

A		B Freshwater		C Saltwater		D Human Health (10 ⁻⁶ risk for carcinogens) For consumption of:	
# Compound	CAS Number	Criterion Maximum Conc. ^d B1	Criterion Continuous Conc. ^d B2	Criterion Maximum Conc. ^d C1	Criterion Continuous Conc. ^d C2	Water & Organisms (µg/L) D1	Organisms Only (µg/L) D2
1. Antimony	7440360					14 a,s	4300 a,t
2. Arsenic ^b	7440382	340 i,m,w	150 i,m,w	69 i,m	36 i,m		
3. Beryllium	7440417					n	n
4. Cadmium ^b	7440439	4.3 e,i,m,w,x	2.2 e,i,m,w	42 i,m	9.3 i,m	n	n
5a. Chromium (III)	16065831	550 e,i,m,o	180 e,i,m,o			n	n
5b. Chromium (VI) ^b	18540299	16 i,m,w	11 i,m,w	1100 i,m	50 i,m	n	n
6. Copper ^b	7440508	13 e,i,m,w,x	9.0 e,i,m,w	4.8 i,m	3.1 i,m	1300	
7. Lead ^b	7439921	65 e,i,m	2.5 e,i,m	210 i,m	8.1 i,m	n	n
8. Mercury ^b	7439976	[Reserved]	[Reserved]	[Reserved]	[Reserved]	0.050 a	0.051 a
9. Nickel ^b	7440020	470 e,i,m,w	52 e,i,m,w	74 i,m	8.2 i,m	610 a	4600 a
10. Selenium ^b	7782492	[Reserved] p	5.0 q	290 i,m	71 i,m	n	n
11. Silver ^b	7440224	3.4 e,i,m		1.9 i,m			
12. Thallium	7440280					1.7 a,s	6.3 a,t
13. Zinc ^b	7440666	120 e,i,m,w,x	120 e,i,m,w	90 i,m	81 i,m		

Saltwater criterion maximum concentration (CMC) = 90 ug/L
Saltwater criterion continuous concentration (CCC) = 81 ug/L

These criteria are expressed in terms of the dissolved fraction of the metal in the water column. [See footnote “m” to Table in paragraph (b)(1) of 40 CFR 131.38].

40 CFR 122.45(c) requires that this Order include effluent limitations as total recoverable concentration; therefore it is appropriate to include action levels also as total recoverable concentration.

The SIP requires that if it is necessary to express a dissolved metal value as a total recoverable and a site-specific translator has not yet been developed, the Regional Board shall use the applicable conversion factor from 40 CFR 131.38.

The term “Conversion Factor” (CF) represents the recommended conversion factor for converting a metal criterion expressed as the total recoverable fraction in the water column to a criterion expressed as the dissolved fraction in the water column.

Total recoverable concentration * CF = Dissolved concentration criterion

or

Total recoverable concentration = Dissolved concentration criterion/ CF

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Metal	Conversion factor (CF) for freshwater acute criteria	CF for freshwater chronic criteria	CF for saltwater acute criteria	CF = for saltwater chronic criteria
Silver	0.85	(d)	0.85	(d)
Thallium	(d)	(d)	(d)	(d)
Zinc	0.978	0.986	0.946	0.946

CF for Zinc = .946, so the total recoverable concentrations for zinc:
 90 ug/L dissolved (CMC)/ 0.946 (CF) = 95 ug/L total recoverable CMC
 81 ug/L dissolved (CCC) / 0.946 (CF) = 86 ug/L total recoverable CCC

Effluent Variability multiplier and Coefficient of Variation (CV)

For each concentration based on an aquatic life criterion, the long-term average (LTA) is calculated by multiplying the concentration with a factor that adjusts for effluent variability. The multiplier can be found in Table 1 of the SIP. Since this Order does not have existing data to properly conduct a variability analysis in accordance with the SIP, the CV has been set equal to 0.6 per SIP requirements. The current effluent data is limited due to the small number of representative outfalls sampled, the lack of outfalls discharging to representative waterbodies within the Region, and the targeted nature of the sampling design.

Based upon a CV of 0.6, Table 1 of the SIP requires an effluent variability as follows:

Acute Multiplier = 0.321
 Chronic Multiplier = 0.527

The long-term average (LTA) is calculated by multiplying the total recoverable concentrations for zinc with the acute and chronic multipliers:

LTA Acute = 95 ug/L * 0.321 = 30.5
 LTA Chronic = 86 ug/L * 0.527 = 45.3

The MDAL and AMAL will be based on the most limiting of the acute and chronic LTA, in the case for copper the most limiting LTA is the acute of 30.5 ug/L

NALs are calculated by multiplying the most limiting LTA with a multiplier that adjusts for the averaging periods and exceedance frequencies of the criteria and the effluent limitations. The multiplier can be found in Table 2 of the SIP. Since this Order has insufficient data, the CV has been set to 0.6 and since sampling frequency is four times a month or less, n has been set equal to 4 per the SIP.

Table 2. Long-Term Average (LTA) Multipliers for Calculating Effluent Limitations

Coefficient of Variation	MDEL Multiplier	AMEL Multiplier			MDEL/AMEL Multiplier		
	99 th Percentile Occurrence Probability	95 th Percentile Occurrence Probability			MDEL = 99 th Percentile AMEL = 95 th Percentile Occurrence Probability		
(CV)		n = 4	n = 8	n = 30	n = 4	n = 8	n = 30
0.1	1.25	1.08	1.06	1.03	1.16	1.18	1.22
0.2	1.55	1.17	1.12	1.06	1.33	1.39	1.46
0.3	1.90	1.26	1.18	1.09	1.50	1.60	1.74
0.4	2.27	1.36	1.25	1.12	1.67	1.82	2.02
0.5	2.68	1.45	1.31	1.16	1.84	2.04	2.32
0.6	3.11	1.55	1.38	1.19	2.01	2.25	2.62

Therefore, from Table 2 of the SIP, the LTA multipliers will be as follows:

MDAL Multiplier = 3.11

AMAL Multiplier = 1.55

The MDAL and AMAL limits are calculated by multiplying the LTA with an LTA multiplier for each limit:

MDAL = 30.5 ug/L * 3.11 = 95 ug/L

AMAL = 30.5 ug/L * 1.55 = 47 ug/L

Dry Weather Non-Storm Water Action Levels Calculations for Discharges to the Surf Zone

Based on the foregoing discussion, the Average Monthly and Maximum Daily NALs were calculated with the following considerations and assumptions:

No dilution credit is considered for the discharge. Therefore, the discharge must comply with the Water Quality Objective at the point of discharge.

Whole Effluent Toxicity (WET) Testing Requirements

A WET limit is required if a discharge causes, has a reasonable potential to cause, or contributes to an exceedance of applicable water quality standards, including numeric and narrative. Since these types of discharges are prohibited under this Order, WET limits are not applicable.

Discussion of AMALs, MDALs and Instantaneous Maximums

Where practical, action levels in this Order have been expressed as both AMALs and MDALs. Certain action levels may not practicably be expressed as AMALs and MDALs due to specific BPO language, sampling requirements and/or a lack of Criteria. Based upon the likely sampling frequency of the Copermittees, the frequency of sampling will occur such that grab samples are taken once per sampling day. This single sample would then be subject to MDALs and Instantaneous Maximum levels. In this case, the more conservative action level would apply. In addition, it is expected that some effluent monitoring will occur less than or equal to once per month. In this scenario, the MDAL, AMAL and Instantaneous Maximum levels would need to be met based upon one sample, unless sampling did not occur. For some BPOs, AMALs have been excluded and only MDALs/Instantaneous Maximums set to prevent redundancy in action levels.

Compliance with Action levels (Priority Pollutants)

Compliance with action levels shall be determined as follows:

Dischargers shall be deemed out of compliance with this Order if the Copermittee failed to take the prescribed action in response to a concentration of the priority pollutant in the monitoring sample that is greater than the action level and greater than or equal to the reported Minimum Level (exceedance of an action level). Regardless of the Copermittee's actions in response to an exceedance, they are still subject to the prohibitions found in Section A and B of the Order.

When determining to take an action in response to the AMALs and more than one sample result is available in a month, the discharger shall compute the arithmetic mean unless the data set contains one or more reported determinations of DNQ or ND. In those cases, the discharger shall compute the median in place of the arithmetic mean in accordance with the following procedure:

- (1) The data set shall be ranked from low to high, reported ND determinations lowest, DNQ determinations next, followed by quantified values (if any). The order of the individual ND or DNQ determinations is unimportant.
- (2) The median value of the data set shall be determined. If the data set has an odd number of data points then the median is the middle value. If the data set has an even number of data points, then the median is the average of the two values around the middle unless one or both of those points are ND or DNQ, in which case the median value shall be the lower of the two data points where DNQ is lower than a value and ND is lower than DNQ.

D. Storm Water Action Levels

Section D has been added to establish storm water action levels (see also Finding D.1.h and Discussion).

Introduction

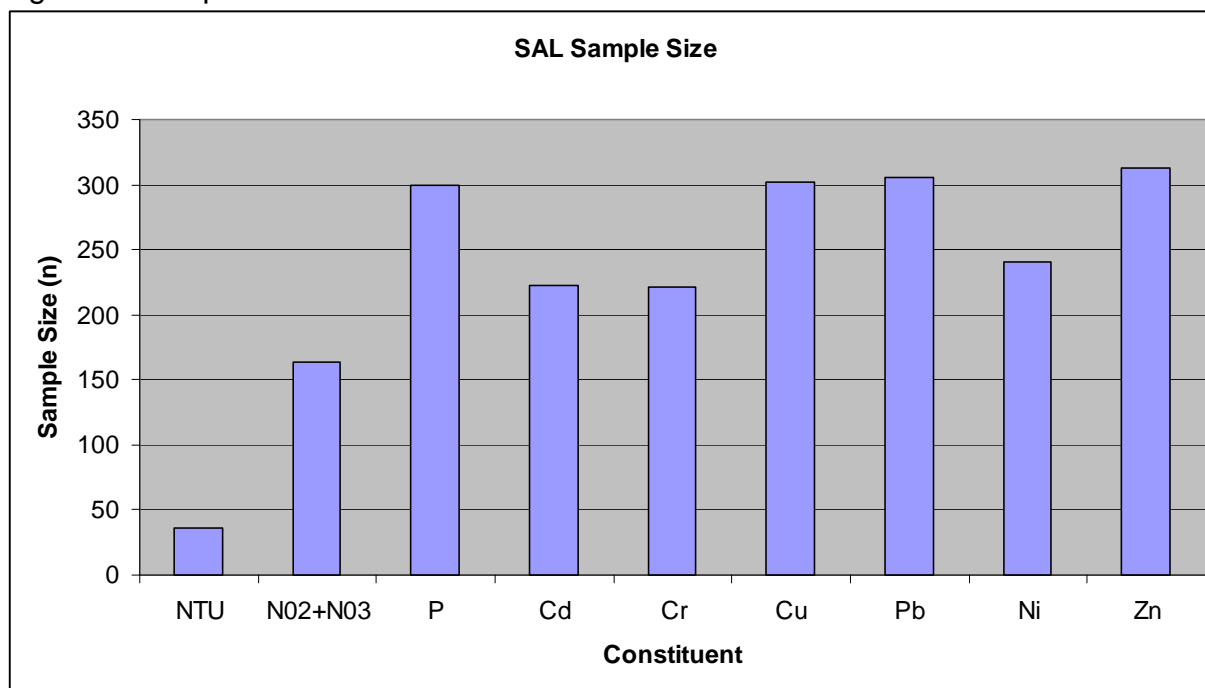
In response to comments at the initial public workshop, meetings with the principle Permittees, and comments from the July 01, 2009 Regional Board meeting, SAL concentrations, standards and constituents have been updated, Order language has been clarified and additions to the monitoring requirements have been made.

SAL Concentration/Standards Updates

SAL pollutant levels have been updated and now come from a regional subset of nationwide Phase I MS4 data. Regional Board staff have chosen to update SALs by using USEPA Climate Zone 6 (arid west) data when computing SALs. Utilizing data from USEPA Climate Zone 6 is expected to produce SALs which closely reflect the environmental conditions experienced in Orange County. The localized subset of data includes sampling events from multiple Southern California locations including Orange, San Diego, Riverside, Los Angeles and San Bernardino Counties. The dataset includes samples taken from highly built-out impervious areas and from storm events representative of Southern California conditions.

Additionally, utilization of regional data is appropriate due to the addition of data into the nationwide Phase I MS4 monitoring dataset in February 2008. This additional data increased the number of USEPA Climate Zone 6 samples to more than 400, and included additional monitoring events within Southern California (see Figure 2).

Figure 2. Sample Sizes Used to Calculate Storm Water Action Levels



Additional changes have been made by staff to update SALs to reflect the water quality standards in the San Diego Regional Water Quality Control Board Basin Plan, the California Toxic Rule and USEPA Water Quality Criteria. Since it is the goal of the SALs, through the iterative and MEP process, to have outfall storm water discharges meet all applicable water quality objectives, the list of constituents to be tested and protocol for testing has been updated to provide a reference point to evaluate the iterative MEP process. As such, Kjeldahl Nitrogen (TKN) and Total Suspended Solids (TSS) have been removed from the SAL table. There currently are no appropriate criteria for TKN or TSS, and alternate constituents are available which do have BPOs for comparative purposes. Instead, Nitrate/Nitrite and Turbidity, which have BPOs of 1.0 mg/L and 20 NTUs respectively, are included with associated SALs.

Metals included in SALs include Cadmium, Chromium, Nickel, Zinc, Lead and Copper. In receiving water quality monitoring collected by the Copermittees to date, these metals have been detected and shown to contribute to toxicity at mass loading stations within Southern Orange County.

Monitoring Updates

SAL language has been updated to require the measurement of hardness and to provide more specificity in the assessment of samples with SALs for total metal concentrations. While USEPA Climate Region 6 data includes a large sample size for concentrations of total metals, the impact the concentration will have on receiving waters will vary with receiving water hardness. Since it is the goal of the SALs,

through the iterative and MEP process, to have MS4 storm water discharges meet all applicable water quality objectives, the hardness of the receiving water should be used when assessing the total metal concentration of a sample. Thus, when an exceedance of a SAL concentration is detected for a metal the Copermittee must determine if that exceedance is above the existing applicable water quality limitation based upon the hardness of the receiving water. The water quality limitations Permittees must use to assess total metal SAL exceedances are the California Toxic Rule (CTR) and USEPA National Recommended Water Quality Criteria for Freshwater Aquatic Life 1 hour maximum concentrations. The 1 hour maximum concentration is to be used for comparison since it is expected to most replicate the impacts to waters of the State from the first flush following a precipitation event.

E. Legal Authority

The following legal authority applies to section E:

Broad Legal Authority: CWA sections 402(p)(3)(B)(ii-iii), CWC section 13377, and Federal NPDES regulations 40 CFR 122.26(d)(2)(i)(B, C, E, and F) and 40 CFR 122.26(d)(2)(iv).

Specific Legal Authority: Federal NPDES regulation 40 CFR 122.26(d)(2)(i)(A) provides that the Copermittees shall develop and implement legal authority to “Control through ordinance, order or similar means, the contribution of pollutants to the municipal storm sewer by storm water discharges associated with industrial activity and the quality of storm water discharged from sites of industrial activity.”

Federal NPDES regulation 40 CFR 122.26(d)(2)(i)(D) provides that the Copermittees shall develop and implement legal authority to “Control through interagency agreements among coapplicants the contribution of pollutants from one portion of the municipal system to another portion of the municipal system.”

Illicit discharge is defined under Federal NPDES regulation 40 CFR 122.26(b)(2) as “any discharge to a municipal separate storm sewer system that is not composed entirely of storm water except discharges pursuant to a NPDES permit (other than the NPDES permit for discharges from the municipal separate storm sewer) and discharges resulting from fire fighting activities.”

Federal NPDES regulations 40 CFR 122.26(d)(2)(iv)(A - D) require municipalities to implement controls to reduce pollutants in storm water runoff from commercial, residential, industrial, and construction land uses or activities.

Federal NPDES regulation 40 CFR 122.26(d)(1)(ii) requires from the Copermittee “A description of existing legal authority to control discharges to the municipal separate storm sewer system.”

Section E.1.b Prohibit all identified illicit discharges not otherwise allowed pursuant to section B.2 including but not limited to:

- (1) Sewage;
- (2) Discharges of wash water resulting from the hosing or cleaning of gas stations, auto repair garages, or other types of automotive services facilities;
- (3) Discharges resulting from the cleaning, repair, or maintenance of any type of equipment, machinery, or facility including motor vehicles, cement-related equipment, and port-a-potty servicing, etc.;
- (4) Discharges of wash water from mobile operations such as mobile automobile washing, steam cleaning, power washing, and carpet cleaning, etc.;

- (5) Discharges of wash water from the cleaning or hosing of impervious surfaces in municipal, industrial, commercial, and residential areas including parking lots, streets, sidewalks, driveways, patios, plazas, work yards and outdoor eating or drinking areas, etc.;
- (6) Discharges of runoff from material storage areas containing chemicals, fuels, grease, oil, or other hazardous materials;
- (7) Discharges of pool or fountain water containing chlorine, biocides, toxic amounts of salt, or other chemicals; discharges of pool or fountain filter backwash water;
- (8) Discharges of sediment, pet waste, vegetation clippings, or other landscape or construction-related wastes; and

Duplicative language has been removed from this section.

Section E.1.j has been added to the Order to ensure that BMPs implemented by third parties are effective. Since the Copermittees cannot passively receive and discharge pollutants from third parties, the Copermittees must ensure discharges of storm water pollutants to the MS4 are reduced to the MEP. In order to achieve this, the Copermittees must be able to ensure that effective BMPs are being implemented by requiring the third parties to document BMP effectiveness. Regarding the Copermittees' ability to require documentation and reporting from third parties, USEPA states "municipalities should provide documentation of their authority to enter, sample, inspect, review, and copy records, etc., as well as demonstrate their authority to require regular reports."¹⁷⁰

¹⁷⁰ USEPA, 1992. Guidance Manual for the Preparation of Part 2 of the NPDES Permit Applications for Discharges from Municipal Separate Storm Sewer Systems. EPA 833-B-92-002.

F. Jurisdictional Runoff Management Program

F.1. Development Planning

The following legal authority applies to section F.1:

Broad Legal Authority: CWA sections 402(p)(3)(B)(ii-iii), CWA section 402(a), CWC section 13377, and Federal NPDES regulations 40 CFR 122.26(d)(2)(i)(B, C, E, and F), 40 CFR 131.12, and 40 CFR 122.26(d)(2)(iv).

Specific Legal Authority: Federal NPDES regulation 40 CFR 122.26(d)(2)(iv)(A)(2) provides that Copermittees develop and implement a management program which is to include “A description of planning procedures including a comprehensive master plan to develop, implement and enforce controls to reduce the discharge of pollutants from municipal separate storm sewers which receive discharges from areas of new development and significant redevelopment. Such plans shall address controls to reduce pollutants in discharges from municipal separate storm sewers after construction is completed.”

Federal NPDES regulation 40 CFR 122.44(d)(1) requires municipal storm water permits to include any requirements necessary to “[a]chieve water quality standards established under section 303 of the CWA, including State narrative criteria for water quality.”

Sections F.1.a and F.1.b (General Plan and Environmental Review Process) require the Copermittees to update and revise their General Plan (or equivalent plan) and environmental review processes to ensure water quality and watershed protection principles are included. The Copermittees are required to detail any changes to the General Plan or environmental review process in their Jurisdictional Runoff Management Program Annual Reports.

The change made to these sections requires updating the General Plan and Environmental Review Process on an as-needed basis, is supported by information provided in the Copermittees’ Report of Waste Discharge (ROWD) and Annual Reports. Each Copermittee has either updated, is in the process of updating, or has assessed its General Plan to ensure the General Plans include the required principles and are in compliance with Order No. R9-2002-0001. The ROWD also states that although all the Copermittees have reviewed their environmental review processes, a number of Copermittees want the overall planning approval process to more effectively ensure that water quality protection is considered in the earliest phases of project consideration.

Section F.1.a has been modified to include redevelopment projects in the General Plan. This change requires Copermitees to update their General Plan to include water quality and watershed protection for all new development and redevelopment projects.

Section F.1.c (Approval Process Criteria and Requirements) requires that all development projects (regardless of size) implement BMPs to reduce storm water pollutant discharges to the MEP. Source control and site design BMP requirements were not clearly described in this section of Order No. R9-2002-0001. Additional detail has been added to this section to better describe the source control and site design BMPs needed for implementation. This additional detail is consistent with the requirements of the SSMP, known in Orange County as the Water Quality Management Plan (WQMP). However, only source control and site design BMPs that apply to all types of development projects are required (i.e., properly designed trash storage areas).

The requirements are consistent with Order No. R9-2002-0001, section F.1.b.1. However, some elements are not contained in the current or proposed DAMP¹⁷¹ (e.g., buffer zones). One exception is that Order No. R9-2002-0001's requirement that applicants must provide evidence of coverage under the General Industrial Permit has been removed, since industrial tenants for a development project are usually not known during the planning stage.

The section has been modified to reflect the prohibition of over-irrigation runoff to the MS4, as well as LID requirements. Additionally, this section requires the use of native and/or low water use plants for landscaping, where feasible.

Sections F.1.d and F.1.d.(1) (Standard Storm Water Mitigation Plans) require the Copermitees to review and update their local SSMPs (also known in Orange County as Water Quality Management Plans – WQMPs) for compliance with the Order. The sections also require all Priority Development Projects falling under certain categories to meet SSMP requirements. The update is necessary to ensure that the Copermitees' local SSMPs are consistent with the changes that have been made to the Order's SSMP requirements. The requirement for the development/adoption of a Model SSMP has been removed since a model was completed and adopted in 2003.

The SSMP section of the Order has been reformatted for clarity. There are also some significant changes. Changes have been made in response to experience gained by the Orange County Storm Water program, USEPA program evaluations, recent BMP development and effectiveness studies, recent reports on the magnitude of problems caused by hydromodification, and reviews of annual reports and the ROWD submitted by the Copermitees.

¹⁷¹ Orange County Storm Water Copermitees. *Drainage Area Management Plan (DAMP) 2007*. July 21, 2006. The 2007 DAMP was submitted to the Regional Board with the Report of Waste Discharge as part of the application for NPDES Permit reissuance.

In addition, the Order requires that a one-acre threshold be phased in over three years for the priority development category. This threshold was selected to be consistent with the Phase II NPDES regulations for small municipalities. The one-acre determination applies to the amount of ground area disturbed, not the total size of the parcel or project. Each Copermittee may also lower this threshold if desired.

Section F.1.d.(2) (Priority Development Project Categories) includes several changes to improve, simplify, and clarify the Priority Development Project categories.

The most significant change is that where a new Development Project feature, such as a parking lot, falls into a Priority Development Project Category, the entire project footprint is subject to SSMP requirements. This criterion was not included in Order No. R9-2002-0001. It is included, however, in the Model San Diego SSMP that was approved by the Regional Board in 2002. It is included in this Order because existing development inspections by Orange County municipalities show that facilities included in the Priority Development Project Categories routinely pose threats to water quality. This permit requirement will improve water quality and program efficiency by preventing future problems associated with partly treated storm water runoff from redevelopment sites. This approach to improving storm water runoff from existing developments is practicable because municipalities have a better ability to regulate new developments than existing developments.

Industrial sites and retail gasoline outlets have been added to the priority development categories. This heavy industrial category was not included in Order No. R9-2002-0001 because industrial NPDES requirements already establish storm water criteria. This category is included in the Order to be consistent with Phase II rules and to close loopholes. A discussion of retail gasoline outlets is below.

The criterion for commercial developments has been lowered to one acre from 100,000 square feet (2.3 acres). It is modified in order to be consistent with USEPA Phase II guidance, and to reflect the findings from Permittees that smaller commercial developments pose high threats to storm water discharges.

Housing and restaurant criteria have been clarified. The two housing development categories are now combined into one category that includes 10 or more housing units. In addition, requirements which specifically apply to restaurants have been combined in this section. The section has been modified to clarify that restaurants with less than 5,000 square feet of development are subject to SSMP requirements, except for the treatment control BMP and hydromodification control requirements. This is consistent with Order No. R9-2002-0001's approach for applying SSMP requirements to restaurants.

Section F.1.d.(2)(j) includes Retail Gasoline Outlets (RGOs) as a Priority Development Project category because RGOs are points of confluence for motor vehicles for automotive related services such as repair, refueling, tire inflation, and radiator fill-up. RGOs consequently produce significantly greater pollutant loadings of hydrocarbons and trace metals (including copper and zinc) than other developed areas. To meet the storm water MEP standard, source control and structural treatment BMPs are needed at RGOs that meet the following criteria: (a) 5,000 square feet or more of developed area, or (b) a projected average daily traffic of 100 or more vehicles per day. These are appropriate thresholds since development size and volume of traffic are good indicators of potential impacts of runoff from RGOs on receiving waters. RGOs were proposed, but not included in Order No. R9-2002-0001 pending guidance from the State Board in its review of the San Diego MS4 Permit, Order No. 2001-0001.

In State Board WQ Order No. 2000-11, the State Board removed RGOs as a SSMP category because the State Board found that RGOs were already heavily regulated and limited in their ability to construct infiltration devices or perform treatment. Order No. 2000-11 also acknowledged that a threshold (size, average daily traffic, etc.) appropriate to trigger SSMP requirements should be developed, and that specific findings regarding RGOs should be included in MS4 permits to justify the requirement.¹⁷² The State Board also removed the RGO category from the San Diego County MS4 permit (Order No. 2001-01) because the Regional Board did not specifically address the issues raised in WQ Order No. 2000-11.

As discussed further below, the LARWQCB and the Regional Board have adequately addressed these issues. RGOs have been included as a SSMP category in the Los Angeles County MS4 permit (Order No. R4-01-182), the statewide general Phase II MS4 permit (WQ Order No. 2003-0005-DWQ), and the Regional Board Southern Riverside County MS4 permit (Order No. R9-2004-001). The State Board also addressed the inclusion of RGOs through the appeals of MS4 permits issued by the Los Angeles and San Francisco Bay Area Regional Boards. The State Board held a workshop addressing RGOs and identified RGOs as significant sources of pollutants. The State Board then dismissed the petitions for removal of RGOs from the SSMP requirements in the Los Angeles and San Francisco Bay Area MS4 permits.

Inexpensive and effective structural treatment BMPs which reduce storm water pollutants and control peak flow rates and velocities are available for use at RGOs. Studies have shown that some catch basin inserts can remove hydrocarbons and heavy metals, which are typical pollutants of concern at RGOs. Sand or media filters have also been found to be effective and available for use at RGOs. Site design measures to control flow include cisterns, small weirs, baffles, and redirecting roof runoff to pervious areas.

¹⁷² State Board, 2000. Order WQ 2000-11.

No evidence has been provided to indicate that use of these structural BMPs at RGOs will pose a safety risk. In fact, filter BMPs have been installed at RGOs in some municipalities without apparent adverse safety effects. In addition, similar BMPs such as oil/water separators have been used for years by RGOs without safety problems.

Threshold - Studies indicate that runoff from RGOs contains similar pollutants to runoff from commercial parking lots. In precedential WQ Order 2000-11, the State Board determined that parking lots with a size threshold of 5,000 square feet or more is an appropriate SUSMP category. Based in part on the similarity of pollutants, the 5,000 square feet size threshold was also included for RGOs in the Order. In addition, other municipalities currently use similar size thresholds for RGOs when requiring design standards to mitigate storm water runoff. To provide additional flexibility for the Copermittees, another threshold of 100 or more motor vehicles ADT has been added to the Order. This threshold is based on requirements used in Washington and Oregon for what are considered "high use" sites. This is an appropriate threshold since vehicular traffic is a good indicator of the amount of pollutants generated at a site.

The Regional Board followed the State Board's direction regarding RGOs by including the above discussion in this Fact Sheet, as well as a specific finding that justifies the regulation of runoff from RGOs that meet certain criteria. Considering all of the supporting documentation discussed above, it is appropriate to include RGOs as a Priority Development Project category.

Additional detailed supporting information can be found in the 2001 technical report titled *Retail Gasoline Outlets: New Development Design Standards for Mitigation of Storm Water Impacts* by the LARWQCB and the Regional Board.

Section F.1.d.(3) (Pollutants of Concern) requires Copermittees to update their procedures for identifying pollutants of concern for each Priority Development Project. This is important to do periodically because of changing water quality conditions and designations of impairments or areas of concern. Furthermore Copermittees continually learn more about pollutant-generating activities as they conduct inspections and investigations, and that information must be incorporated into the SSMP process.

Section F.1.d.(4) This Section has been modified to clarify some elements of low impact development. This section requires Copermittees to require or implement site design BMPs at Priority Development Projects in order to reduce the amount of polluted storm water runoff from those sites. The primary approach in site design BMPs is to limit the permanent loss of existing infiltration capacity because loss of infiltration is a major contributor to wet weather pollution discharges. General means to accomplish that goal include retaining natural infiltration areas of a site and limiting the amount of impervious surfaces. The Order does not require a specific or relative amount of pervious surfaces be added to a project. The Order seeks to retain on-site capture of the 85th percentile storm.

The site design BMP options listed in these sections are consistent with the site design BMPs currently required by the Copermittees in the Model WQMP. In the ROWD, the Copermittees propose to improve the process of selecting site design BMPs. Specifically, they propose to develop recommendations for incorporating low-impact design (LID) techniques and site design BMPs. However, the Model WQMP employs an open-ended approach to requirements for site design BMPs, requiring implementation of site design BMPs “where applicable and feasible” and “where appropriate.” Unfortunately, this approach has proven to be ineffective in integrating site design BMPs in project designs. Audits conducted in 2005 of four Copermittees found that municipalities need to work with project applicants to improve the quality of site design BMPs.¹⁷³ As a result, the Order establishes two sets of site design BMP criteria.

First, section F.1.d.(4)(b) of the Order directs the Copermittees to require, rather than consider, new development projects to employ certain classes of site design BMPs. The required site design BMPs take advantage of features that are incorporated into the Priority Development Project, such as landscaping or walkways. It also requires that projects seek to maintain natural water drainage features rather than instinctively convey water in buried pipes and engineered ditches that eliminate natural water quality treatment functions. These types of site design BMPs are both effective and achievable. These requirements are consistent with the guidelines of Order No. R9-2002-0001 and both the 2003 and 2007 DAMPs.¹⁷⁴

Next, section F.1.d.(4)(d) of the Order requires that LID BMPs be sized and designed to ensure onsite retention without runoff, of the volume of runoff produced from a 24-hour 85th percentile storm event. This is consistent with other municipal stormwater NPDES permits recently adopted by the Los Angeles and Santa Ana Regional Boards. In those permits, the stakeholders were involved in drafting the numerical performance criteria. The requirement for a numerical BMP design standard is well established for treatment control BMPs and is required in permits throughout the nation such as in Pennsylvania, West Virginia, Georgia, and Washington D.C. Since the 85th percentile storm event has previously been used as the numeric design standard for treatment control BMPs; the same size storm event can be applied as the numeric design standard for LID BMPs. According to information provided by the County of Orange, the 24 hour, 85th percentile rainfall is between 0.7 to 0.8 inches of rain for the majority of the area covered by this permit.

¹⁷³ Tetra Tech, Inc. 2005. Program Evaluation Report. Orange County Storm Water Program: Cities of Laguna Beach, Laguna Hills, Lake Forest, and Rancho Santa Margarita.

¹⁷⁴The 2003 and 2007 DAMPs include preserving natural drainage features as a recommended site design BMP requirement that was to be reviewed and used where applicable and feasible. The DAMPs note this as a way to mimic a site's natural hydrologic regime.

The retention of natural drainage features, such as ephemeral streams, wetlands, and depressions, can be particularly important because small tributaries are essential to the maintenance of the chemical, biological, and physical integrity of larger waterbodies.¹⁷⁵ The loss and modification of such natural water resources to accommodate post-development storm water management leads to direct and indirect adverse effects on water quality that are felt both on the project site and off the site within the watershed.^{176,177,178} Effects to aquatic beneficial uses from altered drainage features can occur downstream and upstream. The length of upstream or downstream effect of channel modifications is dependant on the specific structure type and channel slope.¹⁷⁹ For instance, road culverts can act as partial barriers to upstream distribution of native aquatic macroinvertebrates in urban streams, while bridges can provide adequate passage.¹⁸⁰ As a result of the adverse effects to water quality and beneficial uses, the State of California nonpoint source pollution program management measures for urban areas includes limiting the destruction of natural drainage features and natural conveyance areas.¹⁸¹

Through its process of conditioning development projects under the CWA section 401 Water Quality Certification program, the Regional Board finds that the level of site design BMP implementation in the Order is feasible for all projects. This site design BMP requirement will help ensure that site design BMPs are implemented for new development projects. Site design BMPs are a critical component of storm water runoff management at new development projects, since the BMPs provide multiple benefits including preservation of hydrologic conditions, reduction of pollutant discharges, cost effectiveness, and green space.

¹⁷⁵ Aquatic scientists comment letter (April 10, 2003) on the Advanced Notice of Proposed Rulemaking (ANPRM) on the Clean Water Act Regulatory Definition of "Waters of the United States." (Docket ID No. OW-2002-0050). This letter is a synthesis of scientific information regarding ephemeral, intermittent, and headwater streams. It was written to USEPA by 85 leading aquatic scientists.

¹⁷⁶ Wright, Tiffany, et al. 2006. *Direct and Indirect Impacts of Urbanization on Wetland Quality*. Prepared by the Center for Watershed Protection for the USEPA Office of Wetlands, Oceans, and Watersheds. 81p. Available online at <http://www.cwp.org>

¹⁷⁷ Konrad, Christopher P. and Derek K. Booth, 2005. *Hydrologic Changes in Urban Streams and Their Ecological Significance*. American Fisheries Society Symposium. Vol. 45 pp.157-177.

¹⁷⁸ Coleman, Derrick, et al. 2005. *Effect of Increases in Peak Flows and Imperviousness on the Morphology of Southern California Streams*. Technical Report No. 450 of the Southern California Coastal Water Research Project.

¹⁷⁹ Fischenich, J.C. 2001. "Impacts of stabilization measures," EMRRP Technical Notes Collection (ERDC TNEMRRP- SR-32), U.S. Army Engineer Research and Development Center, Vicksburg, MS. <http://www.wes.army.mil/el/emrrp>

¹⁸⁰ Blakely, Tanya J., et al. 2006. *Barriers To The Recovery Of Aquatic Insect Communities In Urban Streams* Freshwater Biology Vol. 51(9), 1634-1645.

¹⁸¹ California Nonpoint Source Encyclopedia, Management Measure 3.1.b. Runoff from Developing Areas, Site Development and Management Measure 3.3.a. Runoff from Existing Development, Existing Development.

The site design BMP options listed do not need to be costly.¹⁸² Some design options, such as concave vegetated surfaces or routing rooftop or walkway runoff to landscaped areas, are cost neutral.¹⁸³ Other site design BMPs, such as minimizing parking stall widths or use of efficient irrigation devices, are oftentimes already required. In addition, use of site design BMPs reduces storm water runoff quantity, allowing for treatment control BMPs and other storm water infrastructure on site to be smaller, therefore savings costs for both developers and municipalities.^{184,185}

Because of the potential economic and environmental benefits of using low-impact development site design, the U.S. Department of Housing and Urban Development, Office of Policy Development and Research, developed “*The Practice of Low Impact Development (LID)*” to assist the housing industry during the land development process.¹⁸⁶ This document focuses specifically on technologies that affect both the cost impacts and environmental issues associated with land development. Much of the report focuses on storm water management because low-impact development storm water management systems can save capital costs for developers and maintenance costs for municipalities.¹⁸⁷ The executive summary of the HUD report notes:

This approach to land development, called Low Impact Development (LID), uses various land planning and design practices and technologies to simultaneously conserve and protect natural resource systems and reduce infrastructure costs. LID still allows land to be developed, but in a cost-effective manner that helps mitigate potential environmental impacts. LID is best suited for new, suburban development.

Developers can use site and structure designs that reduce building footprints, decrease the amount of paved infrastructure, and provide for dispersed drainage and infiltration of runoff from impervious surfaces to reduce the effective impervious surface.¹⁸⁸ The concept of effective impervious surface is important, because when runoff from these surfaces is directed to pervious areas rather to an impervious drainage system (i.e., curbs, gutters, street surfaces, storm drain pipes), it can infiltrate, evaporate, or be taken up by vegetation, thereby reducing the total volume of storm water runoff leaving a site.

¹⁸² USEPA, 2000. Low-Impact Development: A literature review. EPA-841-B-00-005. 35p.

¹⁸³ Bay Area Stormwater Management Agencies Association., 1999. Start at the Source. Forbes Custom Publishing. Available on-line at: http://www.scvurppp-w2k.com/basmaa_satsm.htm. pp. 149.

¹⁸⁴ National Association of Home Builders Research Center. *Builders Guide to Low Impact Development*. Available on-line at <http://www.toolbase.org>

¹⁸⁵ National Association of Home Builders Research Center. *Municipal Guide to Low Impact Development*. Available on-line at <http://www.toolbase.org>

¹⁸⁶ U.S. Department of Housing and Urban Development, Office of Policy Development and Research, 2003. *The Practice of Low Impact Development*.” Prepared by: NAHB Research Center, Inc. Upper Marlboro, Maryland. Contract No. H-21314CA.

¹⁸⁷ Ibid. Executive Summary, p.x.

¹⁸⁸ Bay Area Stormwater Management Agencies Association. 2003. *Using Site Design Techniques to Meet Development Standards for Stormwater Quality*. Available on-line at: <http://www.basmaa.org/>

The Order continues to provide the Copermittees with flexibility in implementing site design BMP requirements by providing a LID BMP waiver program.

Section F.1.d.(5) (Source Control BMP Requirements) requires that Priority Development Projects implement minimum source control BMPs. This section has been added to provide more detail and clarify the Order's requirements for source control BMPs. The minimum source control BMPs listed in the section are consistent with the Model WQMP.

Section F.1.d.(6) (Treatment Control BMP Requirements) is consistent with Order No. R9-2002-0001, with two exceptions. First, the Order limits the selections of methods used to determine the appropriate volume of storm water runoff to be treated. The modification ensures that priority development project proponents utilize the most accurate information to determine the volume or flow of runoff which must be treated. Using detailed local rainfall data, the County of Orange has developed the 85th Percentile Precipitation Isopluvial Map, which exhibits the size of the 85th percentile storm event throughout Orange County.¹⁸⁹ Since this map uses detailed local rainfall data, it is more accurate for calculating the 85th percentile storm event than other methods which were included in Order No. R9-2002-0001. The other methods found in Order No. R9-2002-0001 were included as options to be used in the event that detailed accurate rainfall data did not exist for various locations within Orange County. The development of the 85th Percentile Precipitation Isopluvial Map makes these other less accurate methods superfluous. Therefore, these other methods for calculating the 85th percentile storm event have been removed from the current Order.

Second, the Order requires that treatment control BMPs selected for implementation at Priority Development Projects have a removal efficiency rating that is higher than the "low removal efficiency," as presented in the Model SSMP/WQMP. The requirement allows exceptions for those projects that, with a feasibility analysis, can justify the use of a treatment control BMP with a low removal efficiency for a Priority Development Project. This requirement is needed because to date, the Copermittees have generally approved low removal efficiency treatment control BMPs without justification or evidence that use of higher efficiency treatment BMPs was considered and found to be infeasible. Specifically, it has been found during audits of the Copermittees' SSMP programs that many SSMP reports do not adequately describe the selection of treatment control BMPs.¹⁹⁰ Moreover, USEPA's contractor Tetra Tech, Inc. recommends that "project proponents should begin with the treatment control that is most effective at removing the pollutants of concern [...] and provide justification if that treatment control BMP is not selected."¹⁹¹

¹⁸⁹ The isopluvial map can be found as Exhibit 7.II in the Model WQMP.

¹⁹⁰ Tetra Tech, Inc. 2005. Program Evaluation Report. Orange County Storm Water Program: Cities of Laguna Beach, Laguna Hills, Lake Forest, and Rancho Santa Margarita.

¹⁹¹ Tetra Tech, Inc., 2005. Program Evaluation Report –San Diego Standard Urban Storm Water Mitigation Plan (SUSMP) Evaluation. P. 5.

In the ROWD, the Copermittees acknowledge the need for further attention to the selection and implementation of effective treatment BMPs. They propose to revise the model WQMP table of BMP effectiveness. The requirement is needed to provide clarification that selection of low efficiency treatment control BMPs over high efficiency BMPs without justification does not meet permit requirements and is not in compliance with the storm water MEP standard.

In addition, treatment control BMPs must be designed and implemented with measures to avoid the creation of nuisance or pollution associated with vectors, such as mosquitoes, rodents, and flies. Related guidelines are identified in guidance from CASQA.¹⁹² Additional considerations are outlined in publications from the California Department of Health Services and University of California Division of Agriculture and Natural Resources.¹⁹³

Section F.1.d.(7). (Low-Impact Design BMP Waiver Program) allows Copermittees to develop a LID BMP waiver program, under which projects where it is technically infeasible to implement the required LID BMPs could substitute with treatment control BMPs and a mitigation project, payment into an in-lieu funding program, and/or watershed equivalent BMPs. Some sites may be technically infeasible to implement the required LID BMPs due to the site constraints. For this reason, the Regional Board has added to the Order a requirement for the Copermittees to develop such a program. The program would provide the opportunity for development projects to avoid partial or full LID BMP implementation in exchange for implementation of treatment control BMPs and mitigation. The program would maintain equal water quality benefits as properly implemented LID BMPs when partial LID BMPs are coupled with a mitigation project or in-lieu funding.

The Order includes specific minimum requirements so that the program will achieve similar water quality benefits. Any program which allows development projects to forgo LID BMP implementation must include provisions which will achieve similar water quality benefits. To ensure that this is the case for the LID BMP waiver program, minimum provisions for the program have been added to the Order

¹⁹² For example, see the California Stormwater BMP Handbook guidelines for Extended Detention Basins (TC-22) at <http://www.cabmphandbooks.org>.

¹⁹³ Marco Metzger. "Managing Mosquitoes in Stormwater Treatment Devices." University of California Division of Agriculture and Natural Resources Publication No. 8125. Available at <http://anrcatalog.ucdavis.edu>.

Section F.1.d.(8). (BMP Design Standards) addresses a need for the Copermittees to develop and apply consistent criteria for the design and maintenance of structural treatment BMPs. Correct BMP design is critical to ensure that BMPs are effective and perform as intended. Without design criteria, there is no assurance that this will occur, since there is no standard for design or review. As an example, Ventura County has developed a BMP manual that includes standard design procedure forms for BMPs. Ventura County's *Technical Guidance Manual for Storm Water Quality Control Measures* is available at <http://www.vcstormwater.org/publications.htm>.¹⁹⁴ California Stormwater Quality Association (CASQA) also confirms the necessity of design criteria when it includes such criteria in its New Development and Redevelopment BMP Handbook.¹⁹⁵ This issue is noted in the ROWD, and the Copermittees propose to develop standard design checklist/plans/details for selected source control and treatment BMPs.

Section F.1.d.(9). (Implementation process) requires the Copermittee to implement a process to verify compliance with SSMP requirements. As part of the SSMP, requires identification at what point in the planning process that projects must meet SUSMP requirements and what are roles/responsibilities of municipal departments. The intent of this requirement is to provide consistency in the application of the SSMPs between the Copermittees. This requirement was included in previous Order No. R9-2002-0001.

Section F.1.d.(10) (Annual Review of Treatment BMPs) requires Copermittees to keep their SSMPs up to date with BMP effectiveness studies for low-impact design and treatment control BMPs. The ROWD includes commitments to develop a library of BMP performance reports and to revise the model WQMP table for the latest information on BMPs. This requirement will ensure that two important types of information be included in those efforts: Site design BMPs and treatment BMPs that are assessed as part of contracts with the State Board and Regional Board. The later types of projects include those funded with Clean Beach Initiative grants and other grants. Projects funded with such state grants must include effectiveness assessments using a quality assurance plan. As a result, such studies generally provide reliable sources of local data and should be included in local SSMPs.

¹⁹⁴ Ibid.

¹⁹⁵ California Stormwater Quality Association, 2003. Stormwater Best Management Practice Handbook – New Development and Redevelopment.

Sections F.1.e and F.1.f. (BMP Verification and Treatment BMP Maintenance Tracking) are included in the Order to improve the effectiveness of the BMP requirements. They are included in response to findings from the Audits¹⁹⁶ and recommendations from USEPA.¹⁹⁷ The Copermittees recognize a need to improve the verification of post-construction BMPs. The 2007 DAMP proposes to verify 90 percent of WQMPs (including structural and non-structural BMPs) by inspection, self-certifications, surveys or other means. The Regional Board finds that 90 percent is a reasonable annual target, but considers inspections to be essential to achieve optimal results. Therefore, the Order requires high priority sites to be inspected annually, and allows other measures to be used for lower priority treatment control BMPs.

Section F.1.h. (Hydromodification) expands and clarifies current requirements for control of MS4 discharges to limit hydromodification effects caused by changes in runoff resulting from development and urbanization. The requirements are based on findings and recommendations of the Orange County Storm Water Program, the Stormwater Monitoring Coalition (SMC),^{198,199} and the Storm Water Panel on Numeric Effluent Limits (Numeric Effluent Panel).²⁰⁰ Added specificity is needed due to the current lack of a clear standard for controlling hydromodification resulting from development. More specific requirements are also warranted because hydromodification is increasingly recognized as a major factor affecting water quality and beneficial uses, and the Copermittees have proposed only vague and voluntary modifications to the Model WQMP. The Order is intended to ensure the intent of the proposed modifications is incorporated into each Copermittees' SSMP.

¹⁹⁶ The 2005 audits performed by Tetra Tech, Inc. found that cities are not tracking post-construction BMPs. The final audit report recommended (Section 2.1.2) that each city should develop a system to verify implementation and track post-construction BMPs to ensure that they are adequately maintained.

¹⁹⁷ Federal Register / Vol. 64, No. 235 / Wednesday, December 8, 1999 / Rules and Regulations. P. 68845. USEPA recommends such practices in the Phase II storm water regulations, promoting "inspections during construction to verify BMPs are built as designed."

¹⁹⁸ Coleman, Derrick, et al. 2005. *Effect of Increases in Peak Flows and Imperviousness on the Morphology of Southern California Streams*. Technical Report No. 450 of the Southern California Coastal Water Research Project.

¹⁹⁹ Stein, Eric and Susan Zaleski. 2005. *Managing Runoff to Protect Natural Streams: The Latest Developments on Investigation and Management of Hydromodification in California*. Proceedings of a special technical workshop co-sponsored by California Stormwater Quality Association (CASQA), Stormwater Monitoring Coalition (SMC), and University of Southern California Sea Grant (USC Sea Grant). Technical Report No. 475 of the Southern California Coastal Water Research Project.

²⁰⁰ Storm Water Panel Recommendations to the California State Water Resources Control Board. 2006. *The Feasibility of Numeric Effluent Limits Applicable to Discharges of Storm Water Associated with Municipal, Industrial, and Construction Activities*.

Hydromodification is the change in a watershed's runoff characteristics resulting from development, together with associated morphological changes to channels receiving the runoff. As the total area of impervious surfaces increases, infiltration of rainfall decreases, causing more water to run off the surface and at a higher velocity. Runoff from developed areas can produce erosive flows in channels under rainfall conditions which were not previously problematic. Moreover, runoff from developed areas increases the duration of time that channels are exposed to erosive flows. The increase in the volume of runoff and the length of time that erosive flows occur ultimately intensify sediment transport, causing changes in sediment transport characteristics and the hydraulic geometry (width, depth, and slope) of channels.²⁰¹

These types of changes have been documented in southern California. It has been reported that researchers studying flood frequencies in Riverside County have found that increases in watershed imperviousness of only 9-22 percent can result in increases in peak flow rates for the two-year storm event of up to 100 percent.²⁰² Such changes in runoff have significant impacts on channel morphology. It has recently been found that ephemeral/intermittent channels in southern California appear to be more sensitive to changes in imperviousness than channels in other areas. Morphology of small channels in southern California was found to change with only 2-3 percent watershed imperviousness, as opposed to 7-10 percent watershed imperviousness in other parts of the nation.²⁰³

Effects of hydromodification are evident in southern Orange County and recognized by the Copermittees. Analyses of bioassessment data, for example, indicate that physical changes to stream channels caused by hydromodification are likely responsible, in part, for the low bioassessment scores in urbanized settings.²⁰⁴ It is important to recognize that the physical changes are a direct result of MS4 discharges, but that two separate mechanisms are involved. First, is a change in the flow regime caused by the increase in impervious surfaces and loss of natural conveyance systems. Discharges to receiving waters from the MS4 outfalls do not mimic the natural discharges from former tributaries to that receiving water, and the change results in erosion. Second, the physical stream habitat in many places has been severely modified in order to efficiently convey those increased storm water discharges to the ocean. Where streams are hardened and/or buried to convey storm water, they cannot provide adequate water quality and other necessary conditions to support beneficial uses. Both of these issues are addressed in the Order.

²⁰¹ Santa Clara Valley Urban Runoff Pollution Prevention Program, 2005. Hydromodification Management Plan. P. 1-1.

²⁰² Schueler and Holland, 2000. Storm Water Strategies for Arid and Semi-Arid Watersheds (Article 66). The Practice of Watershed Protection.

²⁰³ Coleman, et. al., 2005. Effect of Increases in Peak Flows and Imperviousness on the Morphology of Southern California Streams. P. iv.

²⁰⁴ See Chapter 11 of the ROWD and the 2005-06 Unified Annual Report for the analyses.

The Copermitees' recognize the need to improve management of hydromodification. The ROWD proposes to revise the Model WQMP to incorporate additional information from ongoing hydromodification studies conducted by the SMC. The Order allows the Copermitees to adopt criteria consistent with future SMC findings in the development of their Hydromodification Management Plan (see below).

Section F.1.h. requires the Copermitees to submit a Hydromodification Management Plan (HMP) within two years of permit adoption. This is consistent with other Southern California MS4 permits and in direct response to comments from the USEPA on Tentative Order R9-2008-001.

Section F.1.h (1) describes several elements that must be included in the HMP. For example, the HMP must identify a method for assessing susceptibility of channel segments which receive runoff discharges from Priority Development Projects, and include a channel standard to ensure that the stability of the channel is not compromised as a result of discharges from the Priority Development Projects. The HMP must also identify a range of flows where Priority Development Projects could cause hydromodification effects and subsequent stream instability.

Additionally, the HMP must require Priority Development Projects to implement hydrologic control measures (such as LID or detention basins) to prevent hydromodification and resultant degradation of stream conditions downstream of project sites. To compare post-project flow rates and durations to pre-project flow rates and durations, the HMP must specify that the pre-developed (naturally occurring) flow rates and durations shall be used when assessing pre-project conditions, so that the naturally occurring hydrology is eventually restored.

In cases where a stream has been armored with concrete, rip rap, or other man-made materials, the HMP shall require the assessment of a comparable soft-bottom channel as the channel standard, as opposed to using the characteristics of the hardened channel as the channel standard. This is to ensure that hydromodification management measures are already in place should any portion of the hardened channel be returned to its natural state, thereby restoring the physical integrity of the creek and its Beneficial Uses. For this reason, the waiver provision for hydromodification management measures for projects discharging into hardened channels was deleted from the Tentative Order. The remaining exception is for projects that discharge storm water runoff into underground storm drains discharging directly into bays or the ocean and for projects discharging to waters where the entire channel bed and banks have been concrete lined all the way to ocean receiving waters.

The HMP must also include metrics for assessing impacts to downstream watercourses from Priority Development Projects, as well as assessing improvements to these watercourses. One metric that must be included is the Index of Biotic Integrity (IBI) score for benthic macroinvertebrates. This is because historic hydromodification

impacts, such as concrete lining and channelization, have impacted the natural physical habitat of urban streams resulting in low IBI scores. The Copermittee's 2006-2007 monitoring indicated decreased IBI scores in the urbanized watersheds. In the absence of water chemistry and toxicity impacts, these low scores were attributed to be a result of poor physical habitat conditions.²⁰⁵ Therefore, the IBI score will be a useful metric in terms of assessing both impacts to streams from Priority Development Projects and improvements due to implementation of management measures.

In addition to the hydrologic control measures that must be included in the HMP to prevent or minimize hydromodification effects from Priority Development Projects, the HMP must also include additional measures to be used on Priority Development Projects based on a prioritized consideration of the following elements in this order: 1) site-design hydrologic control measures, 2) on-site management measures, 3) the use of regional controls upstream of receiving waters, and lastly, 4) in-stream controls (not to include reinforcement with non-naturally occurring materials). The suite of management measures must also include stream restoration as a viable option to achieve the channel standard and subsequently restore Beneficial Uses.

Section F.1.h (5) describes interim hydromodification criteria that must be implemented by the Copermittees within one year of adoption of the Tentative Order and concurrent to development of the local HMP. The values chosen for the interim criteria are those currently being implemented by Copermittees in the San Diego area.

Finally, the requirements included in section F.1.h do not supersede the requirements for LID presented in section F.1.d. (4). In certain situations, the requirements to incorporate LID will satisfy the requirements for hydromodification management. For example, detention basins are a common BMP used to manage high flow rates but behave hydrologically different than distributed systems used in LID. Using LID is a viable option for both accomplishing hydromodification management and pollutant load reductions.

F.2. Construction

The following legal authority applies to section F.2:

Broad Legal Authority: CWA sections 402(p)(3)(B)(ii-iii), CWC section 13377, and Federal NPDES regulations 40 CFR 122.26(d)(2)(i)(B, C, E, and F) and 40 CFR 122.26(d)(2)(iv).

²⁰⁵ Orange County Copermittees, November 15, 2007. 2006-2007 Unified Annual Progress Report Program Effectiveness Assessment (San Diego Region).

Specific Legal Authority: Federal NPDES regulation 40 CFR 122.26(d)(2)(iv)(D) provides that the proposed management program include “A description of a program to implement and maintain structural and non-structural best management practices to reduce pollutants in storm water runoff from construction sites to the municipal storm sewer system.”

Federal NPDES regulation 40 CFR 122.26(d)(2)(iv)(D)(1) provides that the proposed management program include “A description of procedures for site planning which incorporate consideration of potential water quality impacts.”

Federal NPDES regulation 40 CFR 122.26(d)(2)(iv)(D)(2) provides that the proposed management program include “A description of requirements for nonstructural and structural best management practices.”

Federal NPDES regulation 40 CFR 122.26(d)(2)(iv)(D)(3) provides that the proposed management program include “A description of procedures for identifying priorities for inspecting sites and enforcing control measures which consider the nature of the construction activity, topography, and the characteristics of soils and receiving water quality.”

Federal NPDES regulation 40 CFR 122.26(d)(2)(iv)(D)(4) provides that the proposed management program include “A description of appropriate educational and training measures for construction site operators.”

Federal NPDES regulation 40 CFR 122.26(d)(2)(i)(A) provides that each Copermitttee must demonstrate that it can control “through ordinance, permit, contract, order or similar means, the contribution of pollutants to the municipal storm sewer by storm water discharges associated with industrial activity and the quality of storm water discharged from site of industrial activity.”

Federal NPDES regulation 40 CFR 122.26(b)(14) provides that “The following categories of facilities are considered to be engaging in ‘industrial activity’ for the purposes of this subsection: [...] (x) Construction activity including cleaning, grading and excavation activities [...].”

Federal NPDES regulation 40 CFR 122.44(d)(1)(i) requires NPDES permits to include limitations to “control all pollutants or pollutant parameters (either conventional, nonconventional, or toxic pollutants) which the Director determines are or may be discharged at a level which will cause, have reasonable potential to cause, or contribute to an excursion above any State water quality standard, including State narrative criteria for water quality.”

Section F.2 has additions to ensure the protection of threatened and endangered species and requires the consideration of potential impacts from the use of Active Treatment Systems. These requirements were added to ensure additional protection of the Beneficial Uses of waters of the State.

Section F.2.a. (Ordinance Update) requires each Copermittee to review and update its grading and storm water ordinances as necessary to comply with the MS4 permit. By updating the grading and storm water ordinances, the Copermittees will have the necessary legal authority to require construction sites to implement effective BMPs that will reduce pollutant discharges to the maximum extent practicable. The Order allows the Copermittees 365 days to review and update their ordinances. The 365 days should be adequate to allow for the relatively minor changes that might be needed since their ordinances were last updated under Order No. R9-2002-0001.

Section F.2.b. (Source Identification) requires the Copermittees to develop and update a watershed based inventory of all construction sites regardless of size or ownership. This section has been modified to require the inventory be updated regularly, rather than annually. More frequent updates will ensure the Copermittees have a more accurate inventory of construction sites within their jurisdiction. A regularly updated inventory of active construction sites will assist the Copermittees in ensuring that all sites are inspected per Order requirements. The Order does not specify the frequency of updates, and instead relies on each Copermittee to develop updates appropriate to local construction activity. The 2007 DAMP proposes that the inventory be updated “at a minimum” prior to the start of the rainy season. Such a minimum standard may not be appropriate for each Copermittee. Failure to maintain a useful inventory would be a violation of the Order.

Section F.2.c. (Site Planning and Project Approval Process) requires Copermittees to incorporate consideration of potential water quality impacts prior to approval and issuance of construction and grading permits. The Copermittees²⁰⁶ and our program evaluations in 2005²⁰⁷ recommend that storm water requirements need to be better incorporated into the pre-construction process.

²⁰⁶ Orange County Storm Water Copermittees. 2006. Report of Waste Discharge (San Diego Region), Section 7, New Development.

²⁰⁷ Tetra Tech, Inc. 2005. Program Evaluation Report. Orange County Storm Water Program: Cities of Laguna Beach, Laguna Hills, Lake Forest, and Rancho Santa Margarita.

This section now requires the Copermittees to review project proponents' runoff management plans for compliance with local regulations, policies, and procedures. USEPA recommends that it is often easier and more effective to incorporate storm water quality controls during the site plan review process or earlier.²⁰⁸ In the Phase I storm water regulations, USEPA states that a primary control technique is good site planning.²⁰⁹ USEPA goes on to say that the most efficient controls result when a comprehensive storm water management system is in place.²¹⁰ To determine if a construction site is in compliance with construction and grading ordinances and permits, USEPA states that the "MS4 operator should review the site plans submitted by the construction site operator before ground is broken."²¹¹ Site plan review aids in compliance and enforcement efforts since it alerts the "MS4 operator early in the process to the planned use or non-use of proper BMPs and provides a way to track new construction activities."²¹² During audits of Orange County Copermittee storm water programs, it was found that site plan and SWPPP review were inadequate and inconsistent.²¹³

Section F.2.d. (BMP Implementation) includes modifications to the requirements for each Copermittee to designate and ensure implementation of a set of minimum BMPs at construction sites. These modifications are based on Regional Board findings and experience during implementation of Order No. R9-2002-0001.

²⁰⁸ USEPA, 1992. Guidance 833-8-92-002. Section 6.3.2.1.

²⁰⁹ Federal Register / Vol. 55, No. 222 / Friday, November 16, 1990 / Rules and Regulations. P. 48034.

²¹⁰ Ibid.

²¹¹ USEPA, 2000. Guidance 833-R-00-002. Section 4.6.2.4, P. 4-30.

²¹² Ibid., P. 4-31.

²¹³ Tetra Tech, Inc. 2005. Program Evaluation Report. Orange County Storm Water Program: Cities of Laguna Beach, Laguna Hills, Lake Forest, and Rancho Santa Margarita.

Unlike Order No. R9-2002-0001, this Order does not require the Copermittee to designate a set of minimum BMPs for high, medium, and low threat to water quality construction sites. This change was made in recognition of most Copermittees' application of one consistent set of BMPs throughout their jurisdictions. The Copermittees also desire to move toward a risk-based approach to BMP requirements.²¹⁴ As a result, the Order requires a minimum set of BMPs to be designated for all sites and that enhanced BMPs, including advanced treatment systems, be designated for sites upstream of 303(d) impairments and ESAs. Advanced treatment has been effectively implemented extensively in the other states and in the Central Valley Region of California.²¹⁵ In addition, the Regional Board's inspectors have observed advanced treatment being effectively implemented at large sites greater than 100 acres and at small, less than 5 acre, in-fill sites. Advanced treatment is often necessary for Copermittees to ensure that discharges from construction sites are not causing or contributing to a violation of water quality standards. For example, the Basin Plan lists the water quality objective for turbidity as 20 NTU for all hydrologic areas and subareas except for the Coronado HA (10.10) and the Tijuana Valley (11.10). For certain construction sites with large slopes and exposed areas, the only technology that is likely to meet 20 NTU is advanced treatment combined with erosion and sediment controls. To ensure the MEP standard and water quality standards are met, the requirement for implementation of advanced treatment at high threat construction sites has been added to the Order, while still providing sufficient flexibility for each Copermittee's unique program.

²¹⁴ Orange County Storm Water Copermittees. 2006. Report of Waste Discharge (San Diego Region), Section 8, Construction

²¹⁵ SWRCB, 2004. Conference on Advanced Treatment at Construction Sites.

The Order does not include seasonal restrictions on grading. Seasonal restrictions on grading for storm water are difficult to implement due to the conflict between seasonal grading restrictions, endangered birds' breeding seasons and the seasonal passage of endangered salmonids; therefore the seasonal grading restrictions have not been included with the other BMPs in the Order. Found in southern California, the Least Bell's Vireo and the Coastal California Gnatcatcher are listed as federally endangered and threatened, respectively.²¹⁶ Permits issued by the California Department of Fish and Game (CDFG) restrict grading during these birds' breeding seasons, which is from April 10 to August 31 for the Least Bell's Vireo²¹⁷ and from February 15 to August 31 for the Coastal California Gnatcatcher.²¹⁸ Ideally storm water restrictions on grading would be during the wet season from October 1 through April 30.²¹⁹ Combined, these restrictions would limit construction grading to be during the month of September, which is infeasible. Section D.2.d of the Order still requires project proponents to minimize grading during the wet season and coincide grading with seasonal dry weather periods to the extent feasible.

Section F.2.e. (Inspections) establishes criteria for inspections based on risk factors including size, season, and location of the construction site. Modifications have been made to requirements of Order No. R9-2002-0001 based on the experience of the Copermitees and Regional Board construction programs.

The Order requires sites in active grading during the wet season that are over 30 acres be inspected every two weeks, rather than sites over 50 acres being inspected weekly. In south Orange County approximately 15 percent (34 sites) of construction sites over one acre are larger than 30 acres, whereas about 9 percent (21 sites) of sites are over 50 acres.²²⁰ This may result in a net decrease of inspections of large sites, although more sites will be covered. The reduction in inspection frequency for sites greater than 50 acres is justified because the sites have generally improved their erosion and sediment control measures since adoption of Order No. R9-2002-0001. Biweekly inspections of these sites in the future should be sufficient to ensure compliance with local regulations.

²¹⁶ State of California, Department of Fish and Game, 2005. State and Federally Listed Endangered and Threatened Animals of California.

²¹⁷ United States Department of the Interior, Fish and Wildlife Service, 2001. Least Bell's Vireo Survey Guidelines.

²¹⁸ United States Department of the Interior, Fish and Wildlife Service, 1997. Coastal California Gnatcatcher (*Polioptila californica californica*) Presence/Absence Survey Guidelines.

²¹⁹ Regional Board, 2001. Order No. 2001-01, San Diego County MS4 Permit. Directive F.2.g.(2).

²²⁰ Based on the State Board's database of sites covered by the Construction Storm Water General NPDES Permit, Order No. 99-08-DWQ. That general permit requires sites disturbing over one acre to file for coverage, so it provides a good basis for assessment.

The Order lowers the size of construction sites adjacent to or discharging directly to ESAs that receive scrutiny. Order No. R9-2002-0001 requires such sites five acres and more to be inspected weekly during the wet season. This Order requires such sites one acre and above to be inspected every two weeks during the wet season and once during August or September. The lower size threshold is consistent with Phase II storm water permits.

The Order omits Order No. R9-2002-0001's provision allowing a Copermittee to decrease the inspection frequency for high priority sites if the Copermittee certifies in writing to the Regional Board that they have recorded the site's Waste Discharge Identification Number, reviewed the site's Storm Water Pollution Prevention Plan (SWPPP), assured the site's SWPPP is in compliance, and assured the SWPPP is properly implemented at the site. Under Order No. R9-2002-0001, the Regional Board never received from any of the Copermittees a certification to decrease the inspection frequency at high priority sites. Since the certification process was never used, the language has been deleted from the Order.

This section also requires the Copermittees to track the number of inspections for each inventoried construction site. This requirement has been added to ensure that the Copermittees can demonstrate that construction sites are inspected at the minimum frequencies.

Section F.2.g.2 includes an additional requirement for notification to the Regional Board regarding construction sites has been added to this section. Copermittees are required to annually notify the Regional Board of construction sites that have suspected violations. This was added to enhance Regional Board and Permittee communication and coordination in regulating construction sites.

F.3 Existing Development

F.3.a. Municipal

The following legal authority applies to section D.3.a:

Broad Legal Authority: CWA sections 402(p)(3)(B)(ii-iii), CWC section 13377, and Federal NPDES regulations 40 CFR 122.26(d)(2)(i)(B, C, E, and F) and 40 CFR 122.26(d)(2)(iv).

Specific Legal Authority: Federal NPDES regulation 40 CFR 122.26(d)(2)(iv)(A)(1) provides that the proposed management program include "A description of maintenance activities and a maintenance schedule for structural controls to reduce pollutants (including floatables) in discharges from municipal separate storm sewers."

Federal NPDES regulation 40 CFR 122.26(d)(2)(iv)(A)(3) provides that the proposed management program include “A description for operating and maintaining public streets, roads and highways and procedures for reducing the impact on receiving waters of discharges from municipal storm sewer systems, including pollutants discharged as a result of de-icing activities.”

Federal NPDES regulation 40 CFR 122.26(d)(2)(iv)(A)(4) provides that the proposed management program include “A description of procedures to assure that flood management projects assess the impacts on the water quality of receiving water bodies and that existing structural flood control devices have been evaluated to determine if retrofitting the device to provide additional pollutant removal from storm water is feasible.”

Federal NPDES regulation 40 CFR 122.26(d)(2)(iv)(A)(5) provides that the proposed management program include “A description of a program to monitor pollutants in runoff from operating or closed municipal landfills or other treatment, storage or disposal facilities for municipal waste, which shall identify priorities and procedures for inspections and establishing and implementing control measures for such discharges.”

Federal NPDES regulation 40 CFR 122.26(d)(2)(iv)(A)(6) provides that the proposed management program include “A description of a program to reduce to the maximum extent practicable, pollutants in discharges from municipal separate storm sewers associated with the application of pesticides, herbicides, and fertilizer which will include, as appropriate, controls such as educational activities, permits, certifications, and other measures for commercial applicators and distributors, and controls for application in public right-of-ways and at municipal facilities.”

Federal NPDES regulation 40 CFR 122.44(d)(1)(i) requires NPDES permits to include limitations to “control all pollutants or pollutant parameters (either conventional, nonconventional, or toxic pollutants) which the Director determines are or may be discharged at a level which will cause, have reasonable potential to cause, or contribute to an excursion above any State water quality standard, including State narrative criteria for water quality.”

Section F.3.a.2. (General BMP Implementation) requires the Copermittees to designate minimum BMPs for general municipal areas and activities, regardless of their threat to water quality. The requirement that different types of BMPs be designated for different threats to water quality categories of municipal areas and activities has been removed from the Order. This was done to help simplify and clarify the Order’s requirements. BMPs required to be implemented at a site can now be based on the sources or activities present at the site. This is closer to the approach taken by the Copermittees in their JRMPs. Threat to water quality is used to determine inspection frequencies in section F.3.a.(7).

Section F.3.a.3, F.3.a.4, and F.3.a.5. (Specific BMP Implementation Categories) establishes requirements for specific categories of activities and areas. These are selected based on the CWA and findings of the Permittees in annual reports and ROWD that identify these activities as warranting special attention.

Pesticides, Herbicides, and Fertilizers. 40 CFR 122.26(d)(2)(iv)(A)(6) requires a description of a storm water program for pesticides, herbicides, and fertilizers. In addition, water quality data demonstrates widespread presence of such pollutants in receiving waters and MS4 discharges. In response to similar requirements of Order No. R9-2002-0001, the Copermitees have developed a specific model Integrated Pest Management, Pesticides, and Fertilizer guidelines.

Flood Control Structures. In order to more closely meet the intent of the federal regulations and guidance, the requirement has been modified. 40 CFR 122.26(d)(2)(iv)(A)(4) requires "A description of procedures to assure that flood management projects assess the impacts on the water quality of receiving water bodies and that existing structural flood control devices have been evaluated to determine if retrofitting the device to provide additional pollutant removal from storm water is feasible." Retrofitting flood control devices can reduce storm water pollutants and improve water quality. Copermitees have conducted many flood control retrofit projects, many of which have been partially funded with State grant awards.

USEPA expands on the federal provision with the following information: "Storm water management devices and structures that focus solely on water quantity are usually not designed to remove pollutants, and may sometimes harm aquatic habitat and aesthetic values" (1992). As flood control structures and other elements of the MS4 age and retrofitting becomes necessary, opportunities for water quality improvements arise.

Conveyance systems which take water quality consideration into account (such as grassed swales, vegetated detention ponds, etc.) can often cost less to construct than traditional concrete systems. Evaluation of the applicability of such systems during retrofitting must occur to ensure that pollutants in storm water runoff are reduced to the maximum extent practicable. USEPA supports utilizing BMPs for pollution reduction in flood management projects, stating that "The proposed management program must demonstrate that flood management projects take into account the effects on the water quality of receiving water bodies. [...] Opportunities for pollutant reduction should be considered".²²¹

²²¹ USEPA, 1992. Guidance Manual for the Preparation of Part II of the NPDES Permit Applications for Discharges from Municipal Separate Storm Sewer Systems. Washington D.C. EPA/833-B-92-002.

Existing Copermittee projects include two types of retrofits. The first type involves adding an engineered device to an existing structure in order to treat or divert runoff. Examples include catch basin inlet filters/screens, ultraviolet disinfection facilities, hydrodynamic separators, and diversions to the sanitary sewer. The second type involves re-installing pervious or natural treatment features to facilities. Examples include removing concrete portions of conveyances to create pervious conveyances; and creating treatment wetlands within flood detention facilities. The later type of retrofit is preferred by the Regional Board. They are likely more sustainable over the long-term because they may require less rigorous operation and maintenance than the former. They may also provide the additional benefit of providing significant or incidental opportunities for beneficial uses (e.g., recreation, wildlife, water supply).^{222,223}

Sweeping of Municipal Areas. Sweeping municipal areas would likely be done in the absence of the Order. However, in certain cases it is an important component of a jurisdictional runoff management program. The Order contains requirements to ensure that the use of street sweeping is optimized for runoff applications if it is to be used and reported as a BMP. The criteria in the Order are taken from industry guidance as reported by the Permittees in the Aliso Creek watershed.²²⁴

Section F.3.a.(6). (Operation and Maintenance of MS4 and Structural Controls) requires the Copermittees to inspect and remove waste from their MS4s prior to the rainy season.

Maintenance is critical to the successful implementation of every storm water runoff management program. USEPA finds that “Lack of maintenance often limits the effectiveness of storm water structural controls such as detention/retention basins and infiltration devices. [...] The proposed program should provide for maintenance logs and identify specific maintenance activities for each class of control, such as removing sediment from retention ponds every five years, cleaning catch basins annually, and removing litter from channels twice a year.

²²² Burton, Carmen et al. 2005. Assessing Water Source and Channel Type as Factors Affecting Benthic Macroinvertebrate and Periphyton Assemblages in the Highly Urbanized Santa Ana River Basin, California. American Fisheries Society Symposium. Vol.47 pp.239-262.

²²³ Stromberg, Juliet C. 2001. Restoration of Riparian Vegetation in the South-Western United States: the importance of flow regimes and fluvial dynamism. Journal of Arid Environments. Vol49, pp.17-34.

²²⁴ See 20th and 21st quarterly reports for the Aliso Creek watershed bacteria investigation, prepared by the Orange County Copermittees within the Aliso Creek watershed.

If maintenance activities are scheduled infrequently, inspections must be scheduled to ensure that the control is operating adequately. In cases where scheduled maintenance is not appropriate, maintenance should be based on inspections of the control structure or frequency of storm events. If maintenance depends on the results of inspections or if it occurs infrequently, the applicant must provide an inspection schedule. The applicant should also identify the municipal department(s) responsible for the maintenance program".²²⁵ The MS4 maintenance requirements are based on the above USEPA recommendations. This maintenance will help ensure that structural controls are in adequate condition to be effective year round, but especially at the beginning of and throughout the rainy season.

Two requirements have been added to the Order that were not within Order No. 2002-0001. Subsection (3) allows a decreased inspection frequency for facilities that are routinely clean, and Subsection (4) requires trash to be removed from channels in a timely manner. Typically, Copermittees have reported annual or semi-annual creek cleanups as significant BMPs. The large volumes of trash reported to be removed during these events demonstrates the significant amount of trash that accumulates in the channels. In addition, storm water runoff is a leading contributor to the accumulation of trash and debris along the beaches of Orange County.²²⁶ In order to reduce the effect of the trash, the Order requires that trash be removed more frequently.

Section F.3.a.(7). (Sewage Infiltration) requires the Copermittees to implement controls and measures to prevent and eliminate sewage infiltration or seepage from municipal sanitary sewers to MS4s through thorough, routine preventive maintenance of the MS4. This requirement is in Order No. R9-2002-0001 in the section on Illicit Discharge Detection and Elimination (section F.5.i).

Sections F.3.a.(8) and F.3.a.(9). (Inspections and Enforcement) establishes a minimum set of municipal areas and activities for oversight and inspection by the Copermittees and requires that Copermittees properly enforce runoff requirements at municipal areas and activities.

²²⁵ USEPA, 1992. Guidance Manual for the Preparation of Part II of the NPDES Permit Applications for Discharges from Municipal Separate Storm Sewer Systems. Washington D.C. EPA/833-B-92-002.

²²⁶ Moore, S.L., D. Gregorio, M. Carreon, S B. Weisberg, and M. K. Leecaster. 2001. *Composition and distribution of beach debris in Orange County, California*. Marine Pollution Bulletin 42(3): 241-245..

F.3.b. Industrial and Commercial

The following legal authority applies to section F.3.b:

Broad Legal Authority: CWA sections 402(p)(3)(B)(ii-iii), CWC section 13377, and Federal NPDES regulations 40 CFR 122.26(d)(2)(i)(B, C, E, and F) and 40 CFR 122.26(d)(2)(iv).

Specific Legal Authority: Federal NPDES regulation 40 CFR 122.26(d)(2)(iv)(C) provides that the proposed management program include “A description of a program to monitor and control pollutants in storm water discharges to municipal systems from municipal landfills, hazardous waste treatment, disposal and recovery facilities, industrial facilities that are subject to section 313 of title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA), and industrial facilities that the municipal permit applicant determines are contributing a substantial pollutant loading to the municipal storm sewer system.”

Federal NPDES regulation 40 CFR 122.26(d)(2)(iv)(C)(1) provides that the Copermittee must “identify priorities and procedures for inspections and establishing and implementing control measures for such discharges.”

Federal NPDES regulation 40 CFR 122.26(d)(2)(iv)(C)(2) provides that the proposed management program shall “Describe a monitoring program for storm water discharges associated with the industrial facilities identified in paragraph (d)(2)(iv)(C) of this section, to be implemented during the term of the permit, including the submission of quantitative data on the following constituents: any pollutants limited in effluent guidelines subcategories, where applicable; any pollutant listed in an existing NPDES permit for a facility; oil and grease, COD, pH, BOD5, TSS, total phosphorus, total Kjeldhal nitrogen, nitrate plus nitrite nitrogen, and any information on discharges required under 40 CFR 122.21(g)(7)(iii) and (iv).”

Federal NPDES regulation 40 CFR 122.26(d)(2)(ii) provides that the Copermittee “Provide an inventory, organized by watershed of the name and address, and a description (such as Standard Industrial Classification [SIC] codes) which best reflects the principal products or services provided by each facility which may discharge, to the municipal separate storm sewer, storm water associated with industrial activity.”

Federal NPDES regulation 40 CFR 122.44(d)(1)(i) requires NPDES permits to include limitations to “control all pollutants or pollutant parameters (either conventional, nonconventional, or toxic pollutants) which the Director determines are or may be discharged at a level which will cause, have reasonable potential to cause, or contribute to an excursion above any State water quality standard, including State narrative criteria for water quality.”

Federal NPDES regulation 40 CFR 122.26(d)(2)(i)(A) provides that each Copermitttee must demonstrate that it can control “through ordinance, permit, contract, order or similar means, the contribution of pollutants to the municipal storm sewer by storm water discharges associated with industrial activity and the quality of storm water discharged from site of industrial activity.”

Federal NPDES regulation 40 CFR 122.26(d)(2)(iv)(A) provides that the Copermitttee develop a proposed management program which includes “A description of structural and source control measures to reduce pollutants from runoff from commercial and residential areas that are discharged from the municipal storm sewer system that are to be implemented during the life of the permit, accompanied with an estimate of the expected reduction of pollutant loads and a proposed schedule for implementing such controls.”

Section F.3.b. (Industrial and Commercial) requires the Copermitttees to implement an industrial and commercial program to reduce pollutants in storm water runoff from all industrial and commercial sites/sources. The industrial and commercial sections of Order No. 2002-0001 have been combined into one section in this Order. This change will streamline and simplify the Order, without negatively impacting water quality. This change is not unprecedented because industrial and commercial facilities are commonly addressed together. For example, the Southern Riverside County MS4 Permit²²⁷ combined industrial and commercial programs into one section. In addition, in their Annual Reports and ROWD,²²⁸ the Copermitttees jointly address industrial and commercial components. USEPA contractor Tetra Tech also evaluated and reported on the industrial and commercial programs jointly during their program evaluations.²²⁹

Section F.3.b.(1)(a) (Source Identification) requires that building material retailers and storage, animal facilities, and power washing services be included in the Copermitttees' inventory of commercial sites/sources. These activities have been identified annual MS4 program reports and quarterly Aliso Creek watershed reports as potentially significant sources of pollutants. This is not a significant change because Order No. R9-2002-0001 requires that any commercial site or source determined by a Copermitttee to contribute a significant pollutant load to the MS4 be added to its inventory of commercial sites. Furthermore, the commercial BMP fact sheets developed by the Copermitttees generally address the types of activities occurring at these facilities and practices.

²²⁷ Regional Board, 2004. Order No. R9-2004-001; Riverside County MS4 Permit. Section H.2; P. 24.

²²⁸ Orange County Storm Water Copermitttees. 2006. Report of Waste Discharge (San Diego Region). Section 9.

²²⁹ Tetra Tech, Inc., 2005. Program Evaluation Reports Orange County Storm Water Programs: Cities of Laguna Beach, Laguna Hills, Lake Forest, and Rancho Santa Margarita.

The Order has revised requirements for identifying industrial sites/sources. The revised requirements are identical to those found in the Southern Riverside County MS4 permit.²³⁰ USEPA requires the same identification: "Measures to reduce pollutants in storm water discharges to municipal separate storm sewers from municipal landfills, hazardous waste treatment, disposal and recovery facilities, industrial facilities that are subject to section 313 of title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA)."²³¹ USEPA "also requires the municipal storm sewer permittee to describe a program to address industrial dischargers that are covered under the municipal storm sewer permit."²³² In order to more closely follow USEPA's guidance, this Order also includes operating and closed landfills, and hazardous waste treatment, disposal, storage and recovery facilities.

Section F.3.b.3. (Mobile Businesses) requires each Copermittee to develop and implement a program to reduce the discharge of storm water pollutants from mobile businesses to the MEP and to prevent the discharge of non-storm water. Mobile businesses are service industries that travel to the customer to perform the service rather than the customer traveling to the business to receive the service. Examples of mobile businesses are power washing, mobile vehicle washers, carpet cleaners, port-a-potty servicing, pool and fountain cleaning, mobile pet groomers, and landscapers. These mobile services produce waste streams that could potentially impact water quality if appropriate BMPs are not implemented.

Order No. R9-2002-0001 also requires BMP implementation for certain mobile businesses (e.g., mobile vehicle washing and mobile carpet cleaning). These storm water requirements of Order No. R9-2009-0002 are not significantly different from the existing requirements. The Order specifies mobile businesses must prevent non storm water dry weather flows from entering the MS4 (see C.1.b) for special attention based on reports from the Copermittees that mobile businesses have been difficult to control with existing programs.

Mobile businesses present a unique difficulty in storm water regulation. Due to the transient nature of the business, the regular, effective practice of unannounced inspections is difficult to implement. Also, tracking these mobile businesses is difficult because they are often not permitted or licensed and their services cross Copermittee jurisdictions. Mobile businesses that operate within a municipality may be based in another municipality or even outside the Region. The Order takes into account the difficulties in regulating mobile businesses.

Because BMPs have been developed already, but communication with mobile businesses may be difficult, the Order provides broad flexibility to the Copermittees for developing a targeted program within the Commercial portion of each JRMP.

²³⁰ Regional Board, 2004. Order No. R9-2004-001; Riverside County MS4 Permit. Section H.2.b)(2); P. 25.

²³¹ Federal Register / Vol. 55, No. 222 / Friday, November 16, 1990 / Rules and Regulations. P. 48056.

²³² Ibid.

Section F.3.b.4. (Inspections) includes requirements for inspections of industrial and commercial sites/sources. The Order is similar to the Southern Riverside County MS4 permit²³³ in requiring that inspections check for coverage under the General Industrial Permit; assessment of compliance with Copermittee ordinances and permits related to storm water and non-storm water runoff; assessment of BMP implementation, maintenance, and effectiveness; visual observations for non-storm water discharges, potential illicit connections, and potential discharge of pollutants in storm water runoff; and education and outreach on storm water pollution prevention. The Order also requires that inspections include review of BMP implementation plans if the site uses or is required to use such a plan, and the review of facility monitoring data if the site monitors its runoff. Order No. 2002-0001 did not contain requirements for inspection procedures.

Changes in the Order's requirements for inspection procedures mimic USEPA's guidance: "Site inspections should include (1) an evaluation of the pollution prevention plan and any other pertinent documents, and (2) an onsite visual inspection of the facility to evaluate the potential for discharges of contaminated storm water from the site and to assess the effectiveness of the pollution prevention plan."²³⁴ In 1999, USEPA "recognized visual inspection as a baseline BMP for over 10 years," and "visual inspections are an effective way to identify a variety of problems. Correcting these problems can improve the water quality of the receiving water."²³⁵ Most, if not all, of the Order's procedures are being conducted by the Copermittees that follow the Model Existing Development Program of the DAMP.

With the exception of restaurants, the Order allows Copermittees to establish inspection frequencies, as long as at least 20 percent of the sites are inspected annually. Restaurants are now required to be inspected annually. Inspection frequencies in the Order have been modified from Order No. R9-2002-0001. Order No. R9-2002-0001 specifies frequencies for inspecting industrial sites based on threat to water quality and requires high priority commercial sites to be inspected as needed. Copermittees have been inspecting industrial sites according to Order No. R9-2002-0001. The Copermittees have been inspecting restaurants annually as part of the County Health Department inspections. For other commercial sites, the Copermittees have been focusing annual activities on certain commercial sectors, such as automobiles, with the goal of inspecting every high priority site at least once during the permit term. This change is not considered significant because it should allow the Copermittees to continue existing programs.

²³³ Regional Board, 2004. Order No. R9-2004-001; Riverside County MS4 Permit. Section H.2.d)(3);

²³⁴ USEPA, 1992. Guidance 833-8-92-002, section 6.3.3.4 "Inspection and Monitoring".

²³⁵ USEPA, 1999. 832-F-99-046, "Storm Water Management Fact Sheet – Visual Inspection".

Reports from the Aliso Creek watershed Copermittees demonstrate that as-needed inspections for restaurants means at least annually. Restaurants have been found to present many threats to water quality and standard educational efforts are not effective because restaurants are subject to frequent management changes. For these reasons, the Order requires restaurants to be inspected annually.

An additional notification to the Regional Board regarding industrial sites has been added. Copermittees are required to annually notify the Regional Board of industrial sites that have suspected violations. This was added to enhance Regional Board and Permittee communication and coordination in regulating industrial sites.

Section F.3.b.(6). (Training and Education) requires training and education measures generally consistent with the existing storm water programs. One distinction is that the Order requires each Copermittee to notify the owner/operator of each inventoried industrial and commercial site/source of the BMP requirements applicable to the site/source. This requirement is necessary to ensure that the owners and operators of commercial sites stay informed of appropriate BMPs. This is especially important because sites may be inspected as little as once every five years.

Section F.3.c. (Residential Component)

The following legal authority applies to section F.3.c:

Broad Legal Authority: CWA sections 402(p)(3)(B)(ii-iii), CWC section 13377, and Federal NPDES regulations 40 CFR 122.26(d)(2)(i)(B, C, E, and F) and 40 CFR 122.26(d)(2)(iv).

Specific Legal Authority: Federal NPDES regulation 40 CFR 122.26(d)(2)(iv)(A) provides that the Copermittee develop a proposed management program which includes “A description of structural and source control measures to reduce pollutants from runoff from commercial and residential areas that are discharged from the municipal storm sewer system that are to be implemented during the life of the permit, accompanied with an estimate of the expected reduction of pollutant loads and a proposed schedule for implementing such controls.”

Federal NPDES regulation 40 CFR 122.44(d)(1)(i) requires NPDES permits to include limitations to “control all pollutants or pollutant parameters (either conventional, nonconventional, or toxic pollutants) which the Director determines are or may be discharged at a level which will cause, have reasonable potential to cause, or contribute to an excursion above any State water quality standard, including State narrative criteria for water quality.”

Section F.3.c (Residential Component) moves the common interest areas / homeowners' association component and the requirement for proper management of used oil, toxic materials, and other household hazardous wastes to the residential section of the Order, since these requirements generally apply to residential areas. These changes improve the organization of the Order and have no net effect on its implementation and enforcement. Other requirements for prioritization, BMP implementation, and enforcement are consistent with Order No. R9-2002-01.

Section F.3.d. (Retrofitting Existing Development)

Legal Authority: The legal authority for retrofitting existing development is the same legal authority as that identified for municipal, industrial, commercial and residential development sections (See fact sheet discussion on those sections, F.3.a – c). In particular, CWA sections 402(p)(3)(B)(ii-iii), and CWC section 13377 give the Regional Board the legal authority to require retrofitting of existing development.

A section has been added to require the retrofit of existing development (see Finding D.3.i and Discussion). This section contains specific requirements for the retrofit process. Retrofitting existing development is a widespread practice across the United States. Successful retrofitting programs have been implemented in such diverse locations as Seattle, Washington²³⁶; Portland Oregon²³⁷, Santa Monica, California²³⁸; Kansas City, Kansas²³⁹; and Montgomery County, MD²⁴⁰. When appropriately applied as the draft Tentative Order, retrofitting existing development meets the maximum extent practicable standard.

Existing BMPs are not sufficient, as evidenced by 303(d) listings and exceedances of Water Quality Objectives from the Copermitees monitoring reports. More advanced BMPs, including the retrofitting of existing development with LID, are part of the iterative process. Previous permits limited the requirement of treatment control BMPs to new development and redevelopment. Based on the current rate of redevelopment compared to existing BMPs, the use of LID only on new and redevelopment will not adequately address current water quality problems, including downstream hydromodification. Retrofitting existing development is practicable for a municipality through a systematic evaluation, prioritization and implementation plan focused on impaired water bodies, pollutants of concern, areas of downstream hydromodification, feasibility and effective communication and cooperation with private property owners.

²³⁶ SEA Street, http://www.seattle.gov/dpd/Planning/CityDesign/What_We_Do/Outreach/Folio/DPDS_008014.asp

²³⁷ Clean River Rewards, <http://www.portlandonline.com/BES/index.cfm?c=edeef>

²³⁸ City of Santa Monica, Urban Runoff program,

<http://www.smgov.net/Departments/OSE/categories/content.aspx?id=4007>

²³⁹ 10,000 Rain Gardens, <http://www.rainkc.com/>

²⁴⁰ Rainscapes, <http://www.montgomerycountymd.gov/Content/DEP/Rainscapes/home.html>

F.4. Illicit Discharge Detection and Elimination

The following legal authority applies to section F.4:

Broad Legal Authority: CWA sections 402(p)(3)(B)(ii-iii), CWC section 13377, and Federal NPDES regulations 40 CFR 122.26(d)(2)(i)(B, C, E, and F) and 40 CFR 122.26(d)(2)(iv).

Specific Legal Authority: Federal NPDES regulations 40 CFR 122.26(d)(2)(iv)(B) provides that the proposed management program “shall be based on a description of a program, including a schedule, to detect and remove (or require the discharger to the municipal storm sewer to obtain a separate NPDES permit for) illicit discharges and improper disposal into the storm sewer.”

Federal NPDES regulation 40 CFR 122.26(d)(2)(iv)(B)(1) provides that the Copermitttee include in its proposed management program “a program, including inspections, to implement and enforce an ordinance, orders or similar means to prevent illicit discharges to the municipal storm sewer system.”

Federal NPDES regulation 40 CFR 122.26(d)(2)(iv)(B)(2) provides that the Copermitttee include in its proposed management program “a description of procedures to conduct on-going field screening activities during the life of the permit, including areas or locations that will be evaluated by such field screens.”

Federal NPDES regulation 40 CFR 122.26(d)(2)(iv)(B)(3) provides that the Copermitttee include in its proposed management program “procedures to be followed to investigate portions of the separate storm sewer system that, based on the results of the field screen, or other appropriate information, indicate a reasonable potential of containing illicit discharges or other sources of non-storm water.”

Federal NPDES regulations 40 CFR 122.26(d)(2)(iv)(B)(4) provides that the Copermitttee include in its proposed management program “a description of procedures to prevent, contain, and respond to spills that may discharge into the municipal separate storm sewer.”

Federal NPDES regulations 40 CFR 122.26(d)(2)(iv)(B)(5) provides that the Copermitttee include in its proposed management program “a description of a program to promote, publicize, and facilitate public reporting of the presence of illicit discharges or water quality impacts associated with discharges from municipal separate storm sewers.”

Federal NPDES regulations 40 CFR 122.26(d)(2)(iv)(B)(6) provides that the Copermittee include in its proposed management program “a description of educational activities, public information activities, and other appropriate activities to facilitate the proper management and disposal of used oil and toxic materials.”

Federal NPDES regulations 40 CFR 122.26(d)(2)(iv)(B)(7) provides that the Copermittee include in its proposed management program “a description of controls to limit infiltration of seepage from municipal sanitary sewers to municipal separate storm sewer systems where necessary.”

Section F.4.a-b. (Prevent and Detect Illicit Discharges) requires the Copermittees to implement a program to actively seek and eliminate illicit connections and discharges (IC/ID). Additional wording has been added to this section to clarify and ensure that all appropriate (i.e., field personnel) municipal personnel are utilized in the program to observe and report these illicit discharges and connections. requirement has been added requiring submittal of the GIS layers of the MS4 map within 365 days of Order adoption.

Section F.4.e (Investigations) requires the Copermittees to conduct follow up investigations and inspect portions of the MS4 for illicit discharges and connections, based on dry weather effluent analytical monitoring results. The section also requires the Copermittees to establish criteria for triggering follow up investigations. Additional language has been added to this section to clarify the minimum level of effort and timeframes for follow up investigations when dry weather limitations are exceeded. Timely investigation and follow up of exceedances is necessary to identify sources of illicit discharges, especially since many of the discharges are transitory. The requirements for a 48-hour minimum response time when action levels are exceeded and for immediate response to obvious illicit discharges is necessary to ensure timely response by the Copermittees.

The Copermittees currently use action levels to facilitate the determination of when source investigation studies are warranted based on data from the dry-weather monitoring program. One set of criteria is based on regional averages of constituent concentrations that were developed based on randomly selected storm drains. Another set of criteria is based on trends at a particular station. These are reasonable criteria if decision-makers are properly trained and action levels set by the County are in compliance with dry weather non-storm water action levels as required in Section C. The ability of the local managers to interpret dry-weather monitoring data collected by the County has greatly improved in the last two years, and continued training is required in section F.4.i.

Section F.4.h. (Spill Response) requires each Copermittee to implement measures to prevent and respond to spills into its MS4. These requirements are similar to Order No. R9-2002-0001 and based on federal regulations at 40 CFR 122.26(d)(2)(iv)(B)(4). Those federal NPDES regulations clearly require that owners and operators of MS4s have procedures to prevent, contain, and respond to spills that may discharge into the municipal separate storm sewer.

The Tentative Order includes sewage and non-sewage spills in the requirement for spill prevention and response. Federal regulations clearly define sewage as an illicit discharge that must be addressed by municipalities (see Phase II Final Rule, p.68758). Sewage is an illicit discharge to the MS4 that threatens public health. As such, the Copermittees must implement measures to prevent sewage from entering the MS4 system and must respond to illicit discharges that have entered the system. This section has been revised to clarify that management measures and procedures must be implemented to prevent, respond to, and cleanup spills.

This same requirement was adopted by the Regional Board in Order No, 2002-0001, but was subsequently stayed by the State Board in Order WQO 2002-0014. The City of Mission Viejo challenged the requirement to prevent and respond to sewage spills on the grounds that since the sanitary sewer systems in the City are operated by three water districts already regulated by a NPDES permit from the Regional Board, this requirement would cause delayed spill responses as the City and agencies try to determine jurisdiction and responsibilities. The State Board found that the costs of this requirement did not constitute harm, but agreed that harm could ensue from potential response delay and confusion. Although the entire permit requirement was stayed, neither the State Board, nor the Petitioner discussed spills other than sewage.

Subsequently, the Copermittees and the local sewer agencies have developed mature relationships and implemented procedures for spill response and sewage spill response.²⁴¹ As a result, the concerns expressed by the State Water Board are no longer warranted. The Model Sewage Spill Response Procedure is outlined in the Copermittees' Proposed 2007 Drainage Area Management Plan (DAMP). According to the 2007 DAMP, regardless of where the spill originates, if the spill has entered or may enter the storm drain system, the Copermittees respond to assist with the cleanup and remediation of the area.

Only three Permittees (Laguna Beach, San Clemente, and San Juan Capistrano) own or operate their own sewage collection systems, yet all Copermittees implement the programs for spill response. For the Copermittees that do not own or operate sewage systems, the Regional Board expects that they will continue to respond appropriately to reported or identified spills to the MS4 system.

²⁴¹ Sections 10.2.4 and 10.2.5 in the 2007 DAMP.

Section F.3.a.7 of the Tentative Order includes requirements for measures that must be taken to prevent sewage spills. Examples of measures being implemented by Copermittees include inspections of fats, oils, and grease management at restaurants. Other preventative measures can be implemented during routine planning efforts for new development and redevelopment projects. Similarly, building permit inspections should be used to verify the integrity of the sanitary and storm sewer infrastructure and ensure that cross-connections between the two are avoided.

G. Watershed Runoff Management Programs

The following legal authority applies to section G:

Broad Legal Authority: CWA sections 402(p)(3)(B)(ii-iii), CWC section 13377, and Federal NPDES regulations 40 CFR 122.26(d)(2)(i)(B, C, E, and F) and 40 CFR 122.26(d)(2)(iv).

Specific Legal Authority: Federal NPDES regulation 40 CFR 122.26(a)(3)(ii) states: “The Director may [...] issue distinct permits for appropriate categories of discharges [...] including, but not limited to [...] all discharges within a system that discharge to the same watershed [...]”

Federal NPDES regulations 40 CFR 122.26(a)(3)(v) states: “Permits for all or a portion of all discharges from large or medium municipal separate storm sewer systems that are issued on a system-wide, jurisdiction-wide, watershed, or other basis may specify different conditions relating to different discharges covered by the permit, including different management programs for different drainage areas [watersheds] which contribute storm water to the system.”

Federal NPDES regulation 40 CFR 122.26(a)(5) states: “The Director may issue permits for municipal separate storm sewers that are designated under paragraph (a)91)(v) of this section on a system-wide basis, a jurisdiction-wide basis, watershed basis, or other appropriate basis.”

Federal NPDES regulation 40 CFR 122.26(d)(2)(iv) states: “Proposed programs may impose controls on a system-wide basis, a watershed basis, a jurisdiction basis, or on individual outfalls.”

Section G. (Watershed Runoff Management Program) requires Copermittees to continue implementation of their watershed runoff management programs (WRMPs), however the implementation approach has changed. Order No. R9-2002-01 required watershed RMPs to include a collaborative strategy to abate the sources and reduce the discharges causing high priority water quality problems. This strategy was to guide Watershed Copermittee’s selection and implementation of Watershed Activities, so that the activities selected and implemented would remove that pollutant contribution responsible for the identified high priority water quality problem. Outcomes of these requirements were not able to demonstrate improvements to water quality.

Revised language in Order R9-2009-002 attempts to focus watershed copermittee's efforts and resources on addressing the highest water quality problems in the watershed by focusing attention on the health of the receiving water body and the most efficient use of the Watershed Copermittee's time and resources. Order R9-2009-002 requires the Watershed Copermittee's to follow a workplan approach towards assessing receiving water body conditions, prioritizing the Watershed Management Area's (WMAs) highest priority water quality problems, implementing effective BMPs, and measuring water quality improvement in the receiving water.

G1. (Lead Watershed Copermittee Identification) requires the watershed copermittee's to identify a Lead Watershed Copermittee for their WMA.

This requirement is the same to that found in Order 2002-01.

G.2 a-f. (Watershed Workplan) requires the Watershed Copermittees to develop and implement a collective watershed strategy to assess and prioritize the water quality problems within the watershed's receiving waters, identify and model sources of the highest priority water quality problem(s), develop a watershed-wide BMP implementation strategy to abate highest priority water quality problems, and a monitoring strategy to evaluate BMP effectiveness and changing water quality prioritization in the WMA. Development of a workplan rather than watershed activities will allow the Copermittees flexibility to iteratively modify their watershed strategy over the course of future planning years as priorities change.

G.3. Watershed Workplan Implementation – Watershed Copermittee's shall begin implementing the Watershed Workplan within 30-days of approval by the Regional Board Executive Officer. Since the Copermittees are already familiar with the watershed program requirements implementing the watershed workplan within 30-days of approval by the Regional Board Executive Officer is reasonable.

G.4. Copermittee Collaboration – Watershed Copermittees shall collaborate to develop and implement the Watershed Workplan. Watershed Copermittee collaboration shall include frequent regularly scheduled meetings.

This requirement is the same to that found in Order 2002-01.

G.5. Public Participation – Watershed Copermittees shall implement a watershed-specific public participation mechanism within each watershed. A required component of the watershed-specific public participation shall be a minimum 30-day public review of the Watershed Workplan. Opportunity for the public to review and comment on the Watershed Workplan must occur before the workplan is implemented.

This requirement is similar to that found in Order 2002-01.

G.6. Watershed Workplan Review and Updates – Watershed Copermittees shall

review and update the Watershed Workplan annually to identify need changes to the prioritized water quality problem(s) listed in the workplan. All updates to the Watershed Workplan shall be presented during an Annual Watershed Review Meeting. Annual Watershed Review Meetings shall be conducted by the Watershed Copermittees, open to the public and adequately noticed, and occur once every calendar year. Individual Watershed Copermittees shall also review and modify their jurisdictional programs and JRMP Annual Reports, as necessary, so that they are consistent with the updated Watershed Workplan.

This section requires the copermittee's to review and update their workplan each year to incorporate changing priorities and evolving watershed strategies. This requirement is meant to take the place of Order No. 2002-01 requirement to submit Watershed Annual Reports.

G.7. Aliso Creek Watershed RMP Provisions. This requirement is the same to that found in Order 2002-01.

H. Fiscal Analysis

The following legal authority applies to section H:

Broad Legal Authority: CWA sections 402(p)(3)(B)(ii-iii), CWC section 13377, and Federal NPDES regulations 40 CFR 122.26(d)(2)(i)(B, C, E, and F) and 40 CFR 122.26(d)(2)(iv).

Specific Legal Authority: Federal NPDES regulation 40 CFR 122.26(d)(2)(vi) provides that “[The Copermittee must submit] for each fiscal year to be covered by the permit, a fiscal analysis of the necessary capital and operation and maintenance expenditures necessary to accomplish the activities of the programs under paragraphs (d)(2)(iii) and (iv) of this section. Such analysis shall include a description of the source of funds that are proposed to meet the necessary expenditures, including legal restrictions on the use of such funds.”

Section H has been expanded in order to develop more useful and meaningful fiscal reporting. The Copermittees have identified a need to assess the current fiscal reporting process and have proposed to prepare a fiscal reporting strategy to better define the expenditure and budget line items included in the fiscal reports.²⁴² The Regional Board agrees that the process should be improved. A revamped fiscal reporting strategy will provide the Regional Board and the Copermittees with better capability to manage performance of the programs.

The Copermittees’ effort is expected to provide standardization of reporting so that figures between Copermittees are comparable, which is one of many types of information which can be used by the Regional Board to better understand Copermittee program implementation. Standardization and comparison of fiscal analysis reporting is supported by the State Board funded NPDES Stormwater Cost Survey, which finds that “standards for reporting costs and stormwater activities are needed to allow accurate cost comparisons to be made between stormwater activities.”²⁴³ This document also provides guidance regarding categorization of expenditures for tracking and reporting.

The Order establishes criterion for when Copermittees must add narrative evaluations to the tables. This will address some of the variability in reporting and will provide the public and Regional Board with improved understanding of how resources are shifted in response to annual assessments. This will also help ensure that projected annual costs adequately reflect planned program modifications described in the annual reports.

²⁴² Orange County Storm Water Copermittees. 2006. Report of Waste Discharge (San Diego Region), section 2.3.4.

²⁴³ Currier, et al., 2005. *NPDES Storm Water Cost Survey Final Report*. Prepared for California State Water Resources Control Board by Office of Water Programs, California State University, Sacramento. P. 63.

The Regional Board has chosen not to require a description of fiscal benefits realized from implementation of the storm water protection program. This is a recommendation from the National Association of Flood and Stormwater Management Agencies.²⁴⁴ For instance, the current fiscal assessment does not address city-wide fiscal benefits of protection (e.g., public health, tourism, property values, economic activity, beneficial uses, etc.), even though many costs currently reported to the Regional Board are for related activities. This type of assessment may help Copermittees improve the allocation of resources and it may help the Copermittees secure adequate funding for the program. Finally, it will provide a clearer picture of the storm water and non-storm water runoff program to the public and Regional Board. However, qualitative assessments could be overly subjective and most Copermittees likely lack the ability to provide accurate quantitative assessments. The Regional Board encourages Copermittees to consider means for conducting assessments of fiscal benefits derived from the programs. Such assessments could be conducted on a regional scale similar to studies of program costs conducted by the State Water Board²⁴⁵ or community indicators by the Community Indicators Project.²⁴⁶

Currently, each Orange County municipality's annual report includes a table based on a template developed by the principal Copermittee. The template was meant to facilitate reporting consistency among the 13 Copermittees. The annual report table contains estimates of spending during the reported period and estimates of the next year's spending. The tables separate capital costs from operations and maintenance costs and are arranged by program element. In addition to the tables, each municipality reports on the sources of the funds, (e.g., general fund, special fee, grants, etc.) to demonstrate that resources have been secured. There is very heavy reliance on general funds.

Review of the fiscal analysis tables included in the annual reports has not been as straightforward as expected, and the value of the information is moderate. Generally, questions regarding the financial reporting process of individual Permittees have been adequately resolved during meetings to discuss the annual reports. Based on those meetings, the Regional Board staff has found that cities do not use consistent methods to fill in the tables because they use different accounting and budgeting processes, and certain stormwater program expenditures are not easily categorized into the table formats. Furthermore, stormwater permit-related activities involve several departments, which makes it difficult for the storm water manager to gather and decipher actual costs.

²⁴⁴ National Association of Flood and Stormwater Management Agencies. 2006. *Guidance for Municipal Stormwater Funding*. Prepared under a grant provided by the USEPA.

²⁴⁵ State Water Board, 2005. NPDES Stormwater Cost Survey.

²⁴⁶ Orange County 2006 Community Indicators Project. 2006. Sponsored by the County of Orange, the Orange County Business Council, and the Children and Families Commission of Orange County. Available on-line at www.oc.ca.gov/ceocommunity.asp

These issues also make it difficult for the Copermittees to accurately compartmentalize expenditures within the format. The Copermittees are aware of the reporting discrepancies and have planned to modify the reporting template and guidelines. As a result, the current financial reporting provides estimates at best and cannot be reliably used to compare program implementation among most municipalities.

I. Total Maximum Daily Loads

This section has been added to address any TMDLs that are adopted by the Regional Board. See Finding E.10 and Discussion.

J. Program Effectiveness Component

The following legal authority applies to section J:

Broad Legal Authority: CWA sections 402(p)(3)(B)(ii-iii), CWC section 13377, and Federal NPDES regulations 40 CFR 122.26(d)(2)(i)(B, C, E, and F) and 40 CFR 122.26(d)(2)(iv).

Specific Legal Authority: Federal NPDES regulation 40 CFR 122.26(d)(2)(v) provides that the Copermittees must include “Estimated reductions in loadings of pollutants from discharges of municipal storm sewer constituents from municipal storm sewer systems expected as the result of the municipal storm water quality management program. The assessment shall also identify known impacts of storm water controls on ground water.” Under Federal NPDES regulation 40 CFR 122.42(c) applicants must provide annual reports on the progress of their storm water management programs.

Section J.1 (jurisdictional program effectiveness assessments) of the Order requires the Copermittees to assess the effectiveness of the implementation of their jurisdictional programs and activities. The section requires that the effectiveness strategy of the programs be designed around four classes of objectives and that the results are used to direct program modifications. The section does not specify the assessments to be conducted, but does require that assessment measures conform to the guidance developed by the California Storm Water Quality Association (CASQA). The Orange County Storm Water Program is supportive of the CASQA effort, and use of CASQA assessment techniques is consistent with the methodology proposed in the ROWD.^{247 248}

The section is also consistent with the plan of the Copermittees to improve the efficacy of the assessment process.²⁴⁹ The Copermittees currently report a series of metrics for spatial and temporal assessments across the County. The Program Effectiveness requirements of the Order provide the Copermittees with the framework for improving their standard assessment metrics.

²⁴⁷ The structure of planned program effectiveness is proposed in section 1.2.2 of the 2007 ROWD. The ROWD then identifies current and potential assessment outcome levels within each major program chapter (e.g., new development, construction, etc.).

²⁴⁸ CASQA 2007. Municipal Stormwater Program Effectiveness Assessment Guidance.

²⁴⁹ Orange County Storm Water Copermittees. 2006. Report of Waste Discharge (San Diego Region), section 3.3.2.

The Order provides focus to the assessment methodology by requiring that impaired waterbodies and environmentally-sensitive areas are specifically addressed. In this way, the high priority water quality issues will receive a high level of attention, consistent with USEPA and CASQA guidance for prioritization. The Order provides flexibility to establish the actual metrics for each assessment outcome level. The Order also provides the Copermittees flexibility to develop objectives for the general program components based on the CASQA guidance, as is proposed in the ROWD and DAMP.

In addition, Section J.1 requires that an effectiveness assessment strategy is developed and implemented in response to actions taken by a Copermittee to comply with Section A.3 (Prohibitions and Receiving Water Limitations) of the Order. Section A.3 outlines the procedure for addressing instances when jurisdictional programs implement control actions in response to determinations that discharges from the MS4 are causing or contributing to violations of water quality standards.

This section includes a requirement for the Copermittees to develop and implement a workplan identifying and addressing the highest priority issues in the watershed. The workplan requirement in the JRMP section has been added to ensure Copermittees are allocating resources and effort to address priority problems and pollutants identified in the watershed analysis. This section has been added to ensure Copermittees use the annual watershed water quality assessment to assess, adjust and tailor their JRMP programs.

Section J.2 (program modification) of the Order requires the Copermittees to improve jurisdictional activities or BMPs when they are found to be ineffective or when water quality impairments are continuing. This requirement fulfills the purpose of conducting effectiveness assessments – to improve and refine the Copermittees’ programs. The requirement is consistent with USEPA’s Phase II regulations, which state: “If the permittee determines that its original combination of BMPs are not adequate to achieve the objectives of the municipal program, the MS4 should revise its program to implement BMPs that are adequate [...]”²⁵⁰

Section J.3 (reporting) of the Order describes the information required to be submitted in jurisdictional annual reports pertaining to program effectiveness assessments, review, and response. The reporting will demonstrate whether Copermittees have appropriately responded to the effectiveness assessments.

²⁵⁰ Federal Register / Vol. 64, No. 235 / Wednesday, December 8, 1999 / Rules and Regulations. P. 68762.

K. Reporting

The following legal authority applies to section K:

Broad Legal Authority: CWA sections 402(p)(3)(B)(ii-iii), CWC section 13377, and Federal NPDES regulations 40 CFR 122.26(d)(2)(i)(B, C, E, and F) and 40 CFR 122.26(d)(2)(iv).

Specific Legal Authority: Federal NPDES regulation 40 CFR 122.42(c) requires that “The operator of a large or medium municipal separate storm sewer system or a municipal separate storm sewer system that has been designated by the director under § 122.26(a)(1)(v) of this part must submit an annual report by the anniversary of the date of the issuance of the permit for such system. The report shall include: (1) The status of implementing the components of the storm water management program that are established as permit conditions; (2) Proposed changes to the storm water management program that are established as permit condition. Such proposed changes shall be consistent with § 122.26(d)(2)(iii) of this part; (3) Revisions, if necessary, to the assessment of controls and the fiscal analysis reported in the permit application under § 122.26(d)(2)(iv) and (d)(2)(v) of this part; (4) A summary of data, including monitoring data, that is accumulated throughout the reporting year; (5) Annual expenditures and budget for year following each annual report; (6) A summary describing the number and nature of enforcement actions, inspections, and public education programs; (7) Identification of water quality improvements or degradation.”

California Water Code section 13267 provides that “the Regional Board may require than any person who has discharged [...] shall furnish, under penalty of perjury, technical or monitoring reports which the regional board requires.”

Section K.1 (Jurisdictional Runoff Management Plans and Watershed Workplans) outlines the process and due dates for submitting plans. The information to be included in the Jurisdictional and Watershed plans must be sufficient to demonstrate the capacity to implement the requirements of Section G and Section J, respectively, of the Order.

Two general modifications from Order No. R9-2002-0001 result in reduced reporting effort by the Copermittees. First, in many cases, the requirements of the Order should not necessitate a complete rewrite of the plans, as was basically done in 2003. Only sections of the Order which are new or have been significantly changed should warrant rewriting of plans' sections. Second, the WRMP annual reporting is no longer due in January. Annual reporting will occur during a watershed review meeting conducted some time during the calendar year. The Regional Board plans to work with the Copermittees and provide guidance regarding where JRMPs must be updated in accordance with the Order. This will help ensure that rewriting, reporting, and review efforts are minimized.

The reporting requirements include two significant additions. The first addition is a summary reporting checklist which has been added to the reporting requirements. The checklist has been added to ensure that Copermittees evaluate and demonstrate compliance with all requirements in the Order.

Section K.2 (Other Required Reports) include requirements for information to be included in the SSMP update and the Report of Waste Discharge for the next permit reissuance. The Order requires submittal of a ROWD prior to the expiration of the Order. The section identifies the minimum information to be included in the ROWD, based on USEPA's May 17, 1996 guidance "Interpretive Policy Memorandum on Reapplication Requirements for Municipal Separate Storm Sewer Systems."

Section K.3 (Annual Reports) outlines the process and roles of the Copermittees for developing and submitting the JRMP annual report. Information to be included in the annual reports is described in Section K.3.a.3. The due dates have been changed. The JRMP is due approximately six weeks earlier than under Order No. R9-2002-0001. This change is necessary because the existing timelines prevented efficient response by the Copermittees to comments from the Regional Board and the Copermittees' own review. However, the Copermittees may propose alternate reporting criteria and schedules, as part of their updated JRMP, for the Executive Officer's acceptance.

Each Copermittee is required to maintain records demonstrating that Permit activity requirements have been met, which allows the Regional Board to confirm compliance as needed, such as via inspections, program audits, or requests for information per California Water Code Sections 13225 and 13267.

Reporting requirements in the Order focus on results and responses to the effectiveness assessments conducted by the Copermittees. This will allow the Regional Board to determine how appropriately municipalities adapt and tailor their programs to findings from activities and monitoring results. Assessment of progress toward meeting the objectives is possible because the data collected by the Copermittees under Order No. R9-2002-0001 can be used to establish baseline conditions. Compared to activity-based reporting, this will greatly enhance the ability of the Regional Board, Copermittees, and the public to determine whether the programs are successful.

The Order reduces the amount of program activity-based reporting from Order No. R9-2002-0001. Under the CASQA assessment model, activity-based reporting includes primarily outcomes that document compliance with permit requirements (Level 1 outcomes), rather than being indicators of the impact of activity implementation.²⁵¹ This approach is consistent with guidance from the USEPA, which notes that annual reports should highlight program effectiveness as well as describing activities.²⁵² This emphasis is also consistent with recommendations from the National Academy of Public Administration in its report to USEPA on Evaluating Environmental Progress, which suggest that reviewing activities data provides limited value when evaluating the effectiveness of programs and resulting environmental conditions.²⁵³

The Order maintains some reporting requirements for certain activity-based outcomes. These are mostly focused on activities that establish or revise municipal processes related to storm water runoff and management. The processes required by the Order are especially important in situations where sustaining water quality improvements may require activities that extend beyond the five-year period of the NPDES permit.

In addition, the Order maintains many activity-based reporting requirements related to enforcement of local requirements, with an emphasis on the results from such activities. This is intended to facilitate review of the contributions that inspection and enforcement activities have made toward meeting the goals of the Order. Reporting of these types of activities is supported by recommendations from the National Academy of Public Administration in its report to the USEPA: *Evaluating Environmental Progress: How EPA and the States Can Improve the Quality of Enforcement and Compliance Information* (June 2001).²⁵⁴ Other activity-based reporting has been reduced to selected items based on consideration of program priorities.

Another source of prioritization for activity-based reporting is the *Storm Water Panel Recommendations to the California State Water Resources Control Board The Feasibility of Numeric Effluent Limits Applicable to Discharges of Storm Water Associated with Municipal, Industrial and Construction Activities* (June 19, 2006). In particular, the panel highlighted needs to improve the design, maintenance, and inspections of best management practices.

²⁵¹ Level 1 outcomes under the CASQA guidance include documentation that required activities have been implemented.

²⁵² USEPA 2007. *MS4 Program Evaluation Guidance*. USEPA Office of Wastewater Management EPA-833-R-07-003. January 2007 field test version.

²⁵³ National Academy of Public Administration 2001. *Evaluating Environmental Progress: How EPA and the States Can Improve the Quality of Enforcement and Compliance Information* (June 2001). <http://www.napawash.org>

²⁵⁴ The National Academy of Public Administration report is available on-line at <http://www.napawash.org>

L. Modification of Programs

The following legal authority applies to section L:

Broad Legal Authority: CWA sections 402(p)(3)(B)(ii-iii), CWC section 13377, and Federal NPDES regulations 40 CFR 122.26(d)(2)(i)(B, C, E, and F) and 40 CFR 122.26(d)(2)(iv).

Section L of the Order provides a process for the Copermitees to modify their runoff management programs. This process will be useful so that the Copermitees can continue to refine and improve their programs based on the findings of their annual program effectiveness assessments. The process allows for minor modifications to the Copermitees' programs where the Copermitees can exhibit that the modifications meet or exceed existing legal requirements under the Order. Such a process avoids lengthy and time consuming formal approvals of proposed modifications before the Regional Board, while still ensuring compliance with applicable legal standards and the Order. The process included in the Order is based on a process utilized by the San Francisco Bay Area Regional Water Quality Control Board in their MS4 permit for Alameda County.²⁵⁵

²⁵⁵ San Francisco Bay Area Regional Water Quality Control Board, 2003. Order No. R2-2003-0021. P. 45.

M. Principal Permittee Responsibilities

The following legal authority applies to section M:

Broad Legal Authority: CWA sections 402(p)(3)(B)(ii-iii), CWC section 13377, and Federal NPDES regulations 40 CFR 122.26(d)(2)(i)(B, C, E, and F) and 40 CFR 122.26(d)(2)(iv).

Specific Legal Authority: Federal NPDES regulation 40 CFR 122.26(a)(3)(iii)(C) provides that "A regional authority may be responsible for submitting a permit application."

Federal NPDES regulation 40 CFR 122.26(d)(2)(i)(D) provides that "[The Copermitttee must demonstrate that it can control] through interagency agreements among coapplicants the contribution of pollutants from one portion of the municipal system to another portion of the municipal system."

No significant changes were made to this section.

N. Receiving Waters Monitoring and Reporting

The following legal authority applies to section N:

Broad Legal Authority: CWA sections 402, 402(p)(3)(B)(ii-iii), CWC section 13377, and Federal NPDES regulations 40 CFR 122.26(d)(2)(i)(B, C, E, and F) and 40 CFR 122.26(d)(2)(iv).

Specific Legal Authority: Copermitees must conduct a comprehensive monitoring program as required under Federal NPDES regulations 40 CFR 122.26(d)(2)(iii) and 122.44.

See section T of this Fact Sheet/Technical Report for a discussion of changes to the Receiving Waters Monitoring and Reporting Program.

O. Standard Provisions, Reporting Requirements, And Notifications

The following legal authority applies to section O:

Broad Legal Authority: CWA sections 402(p)(3)(B)(ii-iii), CWC section 13377, and Federal NPDES regulations 40 CFR 122.26(d)(2)(i)(B, C, E, and F) and 40 CFR 122.26(d)(2)(iv).

Specific Legal Authority: Standard provisions, reporting requirements, and notifications are consistent to all NPDES permits and are generally found in Federal NPDES regulation 40 CFR 122.41.

Section L.2 of the Order has been changed to remove the statement that all plans and reports submitted in compliance with the Order are an enforceable part of the Order. This statement has been removed because it is unnecessary. The Order itself contains sufficient detailed requirements to ensure that compliance with discharge prohibitions, receiving water limitations, non-storm water action levels and the narrative standard of MEP for storm water are achieved. Implementation by the Copermittees of programs in compliance with the Order's requirements, prohibitions, and receiving water limitations is the pertinent compliance standard to be used under the Order, as opposed to assessing compliance by reviewing the Copermittees' implementation of their plans alone.

Rather than being substantive components of the Order itself, the Copermittees' management plans are simply descriptions of their runoff management programs required under the Order. These plans serve as procedural correspondence which guides program implementation and aids the Copermittees and Regional Board in tracking implementation of the programs. In this manner, the plans are not functional equivalents of the Order. For these reasons, the Copermittees' runoff management plans need not be an enforceable part of the Order.

P. Attachment A – Basin Plan Prohibitions

The following legal authority applies to Attachment A:

Broad Legal Authority: CWA sections 402(p)(3)(B)(ii-iii), CWC section 13377, and Federal NPDES regulations 40 CFR 122.26(d)(2)(i)(B, C, E, and F) and 40 CFR 122.26(d)(2)(iv).

Specific Legal Authority: California Water Code Section 13243 provides that “A regional board, in a water quality control plan or in waste discharge requirements, may specify certain conditions or areas where the discharge of waste, or certain types of waste, will not be permitted.”

California Water Code Section 13263(a) provides that waste discharge requirements prescribed by the SDRWQCB implement the Basin Plan.

No significant changes were made to this attachment.

Q. Attachment B – Standard Provisions

The following legal authority applies to Attachment B:

Broad Legal Authority: CWA sections 402(p)(3)(B)(ii-iii), CWC section 13377, and Federal NPDES regulations 40 CFR 122.26(d)(2)(i)(B, C, E, and F) and 40 CFR 122.26(d)(2)(iv).

Specific Legal Authority: Standard provisions, reporting requirements, and notifications are consistent to all NPDES permits and are generally found in Federal NPDES regulation 40 CFR 122.41.

Attachment B includes Standard Provisions which have been developed by the State Board. These Standard Provisions ensure that NPDES permits are consistent and compatible with USEPA's federal regulations. Some Standard Provisions sections specific to publicly owned sewage treatment works are not included in Attachment B.

R. Attachment C – Definitions

The following legal authority applies to Attachment C:

Broad Legal Authority: CWA sections 402(p)(3)(B)(ii-iii), CWC section 13377, and Federal NPDES regulations 40 CFR 122.26(d)(2)(i)(B, C, E, and F) and 40 CFR 122.26(d)(2)(iv).

Attachment C contains definitions for terms found in the Order. In addition, definitions for terms previously defined in Order No. R9-2002-0001 Attachment D, but which are not found in the current Order, have been deleted.

An additional section which includes acronyms and abbreviations has been added. This is to ensure clarity and prevent confusion of terms. Definitions have been added for new terms used in the permit to provide a clear understanding of their meaning and use.

S. Attachment D – Summary of Submittals

The following legal authority applies to Attachment D:

Broad Legal Authority: CWA sections 402(p)(3)(B)(ii-iii), CWC section 13377, 13383, and Federal NPDES regulations 40 CFR 122.26(d)(2)(i)(B, C, E, and F) and 40 CFR 122.26(d)(2)(iv) and 122.44(i).

Specific Legal Authority: Federal NPDES regulation 40 CFR 122.42(c) requires that “The operator of a large or medium municipal separate storm sewer system or a municipal separate storm sewer system that has been designated by the director under § 122.26(a)(1)(v) of this part must submit an annual report by the anniversary of the date of the issuance of the permit for such system. The report shall include: (1) The status of implementing the components of the storm water management program that are established as permit conditions; (2) Proposed changes to the storm water management program that are established as permit condition. Such proposed changes shall be consistent with § 122.26(d)(2)(iii) of this part; (3) Revisions, if necessary, to the assessment of controls and the fiscal analysis reported in the permit application under § 122.26(d)(2)(iv) and (d)(2)(v) of this part; (4) A summary of data, including monitoring data, that is accumulated throughout the reporting year; (5) Annual expenditures and budget for year following each annual report; (6) A summary describing the number and nature of enforcement actions, inspections, and public education programs; (7) Identification of water quality improvements or degradation.”

California Water Code section 13267 provides that “the regional board may require than any person who has discharged [...] shall furnish, under penalty of perjury, technical or monitoring reports which the regional board requires.”

Attachment D to the Order provides a table summary of scheduled submittals required by the Order. Unscheduled submittals are no longer added to the table, since there is no proper due date for such submittals. A task summary has not been created for the Order, since the previous task summary was found to be redundant, repeating information found in the submittal summary and elsewhere in the Order.

A Jurisdictional Runoff Management Program (JRMP) Annual Report Checklist has been added to the reporting requirements. This addition is to determine and ensure that all requirements of the permit are being met. A Jurisdictional Runoff Management Program (JRMP) Annual Report Checklist has been added to the reporting requirements. This addition is to determine and ensure that all requirements of the permit are being met.

T. Attachment E - Receiving Waters and MS4 Discharge Monitoring and Reporting Program

The following legal authority applies to the Receiving Waters and MS4 Discharge Monitoring and Reporting Program:

Broad Legal Authority: CWA sections 402, 402(p)(3)(B)(ii-iii), CWC section 13377, and Federal NPDES regulations 40 CFR 122.26(d)(2)(i)(B, C, E, and F) and 40 CFR 122.26(d)(2)(iv), 122.44 and 122.45.

Specific Legal Authority: Copermitttees must conduct a comprehensive monitoring program as required under Federal NPDES regulations 40 CFR 122.26(d)(2)(iii).

Federal NPDES regulation 40 CFR 122.42(c) requires that “The operator of a large or medium municipal separate storm sewer system or a municipal separate storm sewer system that has been designated by the director under § 122.26(a)(1)(v) of this part must submit an annual report by the anniversary of the date of the issuance of the permit for such system. The report shall include: (1) The status of implementing the components of the storm water management program that are established as permit conditions; (2) Proposed changes to the storm water management program that are established as permit condition. Such proposed changes shall be consistent with § 122.26(d)(2)(iii) of this part; (3) Revisions, if necessary, to the assessment of controls and the fiscal analysis reported in the permit application under § 122.26(d)(2)(iv) and (d)(2)(v) of this part; (4) A summary of data, including monitoring data, that is accumulated throughout the reporting year; (5) Annual expenditures and budget for year following each annual report; (6) A summary describing the number and nature of enforcement actions, inspections, and public education programs; (7) Identification of water quality improvements or degradation.”

California Water Code section 13267 provides that “the regional board may require than any person who has discharged [...] shall furnish, under penalty of perjury, technical or monitoring reports which the regional board requires.”

1. Purpose

According to USEPA, the benefits of sampling data include, but are not limited to:

1. Providing a means for evaluating the environmental risk of storm water discharges by identifying types and amounts of pollutants present;
2. Determining the relative potential for storm water discharges to contribute to water quality impacts or water quality standard violations;
3. Identifying potential sources of pollutants; and

4. Eliminating or controlling identified sources more specifically through permit conditions.²⁵⁶

Equally important, monitoring programs are an essential link in the improvement of storm water management efforts. Data collected from monitoring programs can be assessed to determine the effectiveness of management programs and practices, which is vital for the success of the iterative approach used to meet the MEP standard for storm water. Specifically, when data indicates that a particular BMP or program component is not effective, improved efforts can be selected and implemented. Also, when water quality data indicate that water quality standards or objectives are being exceeded, particular pollutants, sources, and drainage areas can be identified and targeted for specific management efforts.

Considering the benefits described above, the Receiving Waters Monitoring and Reporting Program (MRP) has been designed to determine impacts to receiving water quality and beneficial uses from storm water runoff and to use the results to refine the Copermittees' storm water runoff management programs for the reduction of storm water pollutant loadings to the MEP. For non-storm water discharges, monitoring has been designed for the identification of prohibited illicit discharges and to determine appropriate actions to take in response to dry weather non-storm water action levels. Additionally, the results from dry weather non-storm water monitoring can be used to evaluate exempted non-storm water discharges as a source or conveyance of pollutants. The primary goals of the MRP include:

1. Assess compliance with Order No. R9-2009-0002;
2. Measure and improve the effectiveness of the Copermittees' runoff management programs;
3. Assess the chemical, physical, and biological impacts of receiving waters from MS4 discharges;
4. Characterize storm water runoff discharges;
5. Identify sources of specific pollutants;
6. Prioritize drainage and sub-drainage areas that need management actions;
7. Detect and eliminate illicit discharges and illicit connections to the MS4;
8. Assess the overall health of receiving waters; and
9. Provide information to implement required BMP improvements

²⁵⁶ USEPA, 1992. NPDES Storm Water Sampling Guidance Document. EPA/833-B-92-001.

Each of the components of the MRP is necessary to meet the objectives listed above. In addition, the MRP has been designed in accordance with the guidance provided by the Southern California Stormwater Monitoring Coalition's Model Monitoring Technical Committee in its August 2004 "Model Monitoring Program for Municipal Separate Storm Sewer Systems in Southern California." This guidance document was developed in response to Senate Bill 72 (Kuehl), which addressed the standardization of sampling and analysis protocols in municipal stormwater monitoring programs. The technical committee which developed the guidance included representatives from Southern California Regional Water Quality Control Boards (including San Diego), municipal storm water Permittees (including the County of Orange), Heal the Bay, and the Southern California Coastal Water Research Project.

As its title suggests, the guidance essentially developed a model municipal storm water monitoring program for use in Southern California. The model program is structured around five fundamental management questions, outlined below. The MRP is designed as an iterative step towards ensuring that the Copermittees' monitoring program can fully answer each of the five management questions.

1. Are conditions in receiving waters protective, or likely to be protective, of beneficial uses?
2. What is the extent and magnitude of the current or potential receiving water problems?
3. What is the relative storm water runoff contribution to the receiving water problem(s)?
4. What are the sources of storm water runoff that contribute to receiving water problem(s)?
5. Are conditions in receiving waters getting better or worse?

The justifications for each component of the monitoring program are discussed below.

2. Monitoring Program

Mass Loading Station Monitoring

The intent of current mass loading monitoring as conducted by the Copermittees is to use water chemistry data from storm events and dry weather flows to calculate pollutant loads and to assess water quality with respect to applicable acute and chronic toxicity criteria from the California Toxics Rule (CTR).²⁵⁷

²⁵⁷ Orange County Storm Water Permittees. 2006. Report of Waste Discharge, section C-11.3.2.

Section II.A.1 of the MRP requires mass loading and toxicity monitoring at monitoring stations located at the bottom of major watersheds within Orange County. The mass loading monitoring will provide data representing event mean concentrations of pollutants, total pollutant loadings, and toxicity conditions from specific drainage areas. Mass loading monitoring stations are recommended by the Model Monitoring Technical Committee in order to answer management questions 1, 2, and 5.²⁵⁸ The stations are also expected to contribute towards meeting MRP goals 1, 2, 3, 4, 6, and 8. The locations of the mass loading monitoring stations are not changed from Order No. R9-2002-0001. However, the frequency of monitoring has been changed, and some revisions to the constituents have been made.

The frequency of mass loading monitoring in Order No. 2009-0002 has been modified to include two wet and two dry weather events. Currently three wet events have been targeted (though usually two or less have been sampled). This modification is not expected to affect long-term trend analyses for storm events since the monitoring to date has been sporadic.²⁵⁹ Dry weather monitoring is necessary because dry-weather flows in these watersheds are now perennial and changes have been made to the Order for non-storm water discharges. The addition of dry weather monitoring provides a more comprehensive temporal view of the watershed, which will improve the Copermittees' ability to understand the dynamics of annual pollutant loading.

In addition, the required constituents include some revisions to Order No. R9-2002-0001. The changes are made to be compatible with the federal NPDES regulations and in response to data collected during the current permit term. The changes include:

1. All events must now include Biological Oxygen Demand, 5-day Chemical Oxygen Demand, Total Organic Carbon, Dissolved Organic Carbon. These are specifically identified in 40 CFR 122.26(d)(2)(iii)(B), but were omitted from Order No. R9-2002-01.
2. Carbamate and Pyrethroid pesticides must initially be monitored in Prima Deshecha and Segunda Deshecha watersheds. If carbamate and/or pyrethroid pesticides are found to correlate with observed acute or chronic toxicity, then sampling and analysis for that pesticide must be added to all stations displaying toxicity. The Copermittees suggest adding these pesticides to Prima and Segunda Deshecha watersheds in an attempt to find a cause for observed persistent toxicity at those stations.²⁶⁰ If these pesticides are found in these watersheds, then they will likely be present in the other developed watersheds of the Region.

²⁵⁸ Model Monitoring Technical Committee, 2004. Model Monitoring Program for Municipal Separate Storm Sewer Systems in Southern California. Chapter 5.

²⁵⁹ Mass loading monitoring has been hampered by technical difficulties. For instance, only four of six stations were operational during the 2004-05 season, and only three stations were operational during 2002-04 season.

²⁶⁰ Orange County Storm Water Permittees. 2006. Report of Waste Discharge, section C-11.4.1.

3. Impaired water body pollutants. Specific pollutants have been added in response to the U.S. Environmental Protection Agency approval of California's 2004-2006 Section 303(d) Water Quality Limited Waters List. Monitoring for these pollutants is specific to the watershed in which the impairment is located.
4. Dimethoate monitoring has been eliminated because data collected to date has not observed any significant levels at the mass emissions stations.
5. A requirement to collect a grab sample for total petroleum hydrocarbons whenever a sheen is observed has been added at the suggestion of the County of Orange.

Bioassessment

Section II.A.2 of the MRP requires the Copermitttees to conduct bioassessment monitoring. Bioassessment monitoring is a cost-effective tool that measures the effects of water quality over time.²⁶¹ It is an important indicator of stream health and impacts from storm water and non-storm water runoff. It can detect impacts that chemical and toxicity monitoring cannot. USEPA encourages permitting authorities to consider requiring biological monitoring methods to fully characterize the nature and extent of impacts from runoff.²⁶² Therefore, the Regional Board commonly requires bioassessment monitoring in MS4 and other types of discharge permits.

Bioassessment is the direct measurement of the biological condition, physical condition, and attainment of beneficial uses of receiving waters (typically using benthic macroinvertebrates, periphyton, and fish). Bioassessment monitoring integrates the effects of both water chemistry and physical habitat impacts (e.g., sedimentation or erosion) of various discharges on the biological community native to the receiving waters. Moreover, bioassessment is a direct measurement of the impact of cumulative, sub-lethal doses of pollutants that may be below reasonable water chemistry detection limits, but that still have biological affects.

²⁶¹ California Department of Fish and Game, 2002. California Regional Water Quality Control Board, San Diego Region 2002 Biological Assessment Report: Results of May 2001 Reference Site Study and Preliminary Index of Biotic Integrity.

²⁶² USEPA, 1999. Rapid Bioassessment Protocols for Use in Wadeable Streams and Rivers. EPA 841-B-99-002. P. 2-5.

Because bioassessment focuses on communities of living organisms as integrators of cumulative impacts resulting from water quality or habitat degradation, it defines the ecological risks resulting from storm water and non-storm water MS4 runoff. Bioassessment not only identifies that an impact has occurred, but also measures the effect of the impact and tracks recovery when control or restoration measures have been taken. These features make bioassessment a powerful tool to assess compliance, evaluate the effectiveness of BMPs, and to track both short and long-term trends (MRP goals 1,2,3, and 8). Bioassessment can also help answer management questions 1, 2, and 5.

The Order also identifies the most current established protocol to be used in identifying bioassessment reference stations. The protocol referenced in the Order is specified because it provides a qualitative and repeatable method for identifying reference sites. Moreover, the protocol is well established, since it has been peer reviewed and published.

The Order includes four modifications to the bioassessment monitoring required under Order 2002-0001. These changes include:

1. Bioassessment monitoring must utilize the targeted riffle composite approach, which is consistent with the State Board's Surface Water Ambient Monitoring Program (SWAMP) Quality Assurance Management Plan (QAMP), as amended. Through SWAMP, various bioassessment methods were evaluated and it was found that the targeted riffle composite approach was a particularly efficient method, providing accurate data in a cost efficient manner.
2. Bioassessment monitoring to include assessment of periphyton (algae). Advantages of bioassessment using periphyton include: (1) they have rapid reproduction rates and very short life cycles, making them valuable indicators of short-term impacts; (2) as primary producers, they are most directly affected by physical and chemical factors; (3) sampling is easy and inexpensive; and (4) algal assemblages are sensitive to some pollutants which may not visibly affect other aquatic assemblages.²⁶³ Future bioassessment must use algal IBI scores, when developed.

²⁶³ USEPA, 1999. Rapid Bioassessment Protocols for Use in Wadeable Streams and Rivers. EPA 841-B-99-002. P. 3-3.

3. One of the two required annual monitoring events has been eliminated for streams exhibiting perennial flows. The Copermittees suggest this approach in response to analyses that indicate that the physical habitat conditions are better correlated than aquatic chemistry data with IBI scores.²⁶⁴ The Copermittees analyses indicate that although biological communities are different in the Fall and Spring, both seasonal communities indicate the same common relationships to spatial biological patterns and potential variables that explain the differences. For instance, downstream urbanized locations which exhibit perennial flows display lower IBI scores than reference sites regardless of the season, even if the biological community at a downstream site differs between the Fall and Spring.
4. The number of bioassessment stations has been reduced from 12 to six. This will allow resources to be available to implement the Stormwater Monitoring Coalition's program for Regional Monitoring of Southern California's Coastal Watersheds (Section II.D.3). The Regional Monitoring program calls for six sites to be sampled each year and includes each of the basic elements within the Copermittees' bioassessment monitoring program. Although the amount of toxicity tests are reduced, wetland status analyses will also be analyzed. The Regional Monitoring program is discussed in Section II.D.3 below.

Follow-up Analyses and Actions

Section II.A.3 of the MRP requires the Copermittees to use the results of the chemistry, toxicity, and bioassessment monitoring to determine if impacts from MS4 discharges are occurring and when follow-up actions are necessary. The triad approach allows a wide range of measurements to be combined to more efficiently identify pollutants, their sources, and appropriate follow-up actions. Results from the three types of monitoring shall be assessed to evaluate the extent and causes of pollution in receiving waters and to prioritize management actions to eliminate or reduce the sources. The framework provided is to be used to determine conclusions from the data and appropriate follow-up actions. The framework is proposed by the Copermittees and derived from the Model Monitoring Program for Municipal Separate Storm Sewer Systems in Southern California.²⁶⁵ These follow-up actions are expected to primarily help answer management questions 2 and 4, as well as address MRP goals 2, 4, 5, 6 and 7.

²⁶⁴ Orange County Storm Water Copermittees. 2006. Report of Waste Discharge (San Diego Region), section 11 and 2005-06 Annual Report section 11.3

²⁶⁵ Model Monitoring Technical Committee, 2004. Model Monitoring Program for Municipal Separate Storm Sewer Systems in Southern California. P. 5-61.

When, based on the framework in Table 2 of the M&R Program, data indicates the presence of toxic pollutants in runoff, the Copermittees are required to conduct a Toxicity Identification Evaluation (TIE). A TIE is a set of procedures used to identify the specific chemical(s) responsible for toxicity to aquatic organisms. When discharges are toxic to a test organism, a TIE must be conducted to confirm potential constituents of concern and rule out others, therefore allowing Copermittees to determine and prioritize appropriate management actions. If a sample is toxic to more than one species, it is necessary to determine the toxicant(s) affecting each species. If the type and source of pollutants can be identified based on the data alone and an analysis of potential sources in the drainage area, a TIE is not necessary.

When a TIE identifies a pollutant associated with MS4 discharge as a cause of toxicity, it is then necessary to conduct follow-up actions to identify the causative agents of toxicity, isolate the sources of toxicity, evaluate the effectiveness of toxicity control options, and then confirm the reduction in toxicity. Follow-up actions should analyze all potential source(s) causing toxicity, potential BMPs to eliminate or reduce the pollutants causing toxicity, and suggested monitoring to demonstrate that toxicity has been removed.

Ambient Coastal Receiving Waters Monitoring

The Copermittees have been implementing a phased Ambient Coastal Monitoring Program that initially involved monitoring chemistry and aquatic toxicity of dry and storm water discharges to ecologically sensitive areas along the coastline. Later, aerial photographs of storm water plumes were taken to estimate the spatial extent of the impact of storm water runoff. The results were used to identify storm drains for source and toxicity identification studies, including sampling of storm water plumes.

Section II.A.4 of the MRP allows the Copermittees to continue the existing program, while requiring that the special studies be consistent with the MRP goals and that stations be located within Areas of Special Biological Significance.

Coastal Storm Drain Monitoring

Section II.A.5 of the MRP has been extensively modified and changed to a Regional Monitoring Program.

Section II.A.5.a. Coastal storm drain monitoring has been replaced with a Regional Bacteria Monitoring section. Coastal storm drain monitoring is critical because one of the primary impacts to coastal receiving waters is the loss of recreational beneficial uses resulting from high levels of bacteria in storm water and non-storm water MS4 runoff. The regional monitoring program is expected to help answer management questions 1, 2, 3, 4 and 5, as well as address MRP goals 1, 2, 3, 4, 5, 6, 7, and 8.

The changes to the coastal storm drain monitoring program have been made in response to the Copermittees' request. The Copermittees recommend participation in the regional program to save cost, prevent redundancy, improve notification times and provide more effort toward intensive investigations of problematic storm drains.²⁶⁶ This section has been modified to allow the Copermittees to participate in the development and subsequent regional bacteria monitoring program upon review and approval from the Executive Officer. An adaptive approach is consistent with the Model Monitoring Technical Committee's recommendations.

High Priority Inland Aquatic Habitats

Section II.A.6 of the MRP has been removed.

Wet Weather MS4 Runoff Discharge Monitoring

Section II.B of the MRP requires the Copermittees to develop and implement a program to monitor and characterize pollutant discharges from MS4 outfalls. Currently the Copermittees do not monitor the discharge of storm water from the MS4 outfalls. As a result, a substantial amount of information regarding the quality of MS4 effluent is unknown. The collection of wet-weather data will enable the Copermittees to assess the effectiveness of existing storm water BMP measures. This data can be used to more effectively target storm water management program efforts. The MRP also requires compliance with Section D of the Order for Storm Water Action Levels.

The monitoring of outfalls is expected to be used to identify storm drains that are discharging pollutants in concentrations that may pose a threat to receiving waters. Source investigations are expected to be conducted as a response to the data.

The MRP provides the Copermittees great flexibility in assigning stations for wet-weather monitoring. Copermittees are to choose the number and frequency of monitoring stations, thus determining the overall cost of their program.

The monitoring requirements also include a requirement to measure receiving water hardness when comparing storm water MS4 discharge data to Storm Water Action Levels for priority pollutants (e.g. metals). The effect of these constituents upon receiving waters will vary depending upon the hardness of receiving waters.

²⁶⁶ Ibid

Section II.B.2 requires the Copermittees to develop and implement a program to identify sources of discharges of pollutants causing the high priority water quality problems within each watershed. This requirement should be easily met because of the foundation already developed by the Copermittees in response to Order No. R9-2002-0001. To some extent, the Copermittees do conduct follow-up monitoring in response to dry-weather outfall data. The ROWD and 2007 DAMP describe some guidance that is provided by the County to the Copermittees, and it is expected that the Copermittees will develop follow-up monitoring programs for storm water discharges. The ROWD does recommend that additional training be provided for the municipalities with respect to interpreting and using the data collected by the County. In addition, many of the Copermittees have developed procedures and experience in conducting follow-up investigations in response to the bacteria investigations in the Aliso Creek watershed.²⁶⁷

Identification of sources causing high priority water quality problems is a central purpose of storm water runoff management programs. Monitoring which enables the Copermittees to identify sources of water quality problems aids the Copermittees in focusing their management efforts, improving their programs and choosing additional and/or better BMPs. In turn, the Copermittees' programs can abate identified sources, which will improve the quality of storm water runoff discharges and receiving waters. This monitoring is needed to address management question 4. Moreover, in its review of the San Diego County Copermittees' monitoring proposal, Tetra Tech, Inc. finds that "after some years of assessment monitoring, it is time to look more systematically at determining the relative urban contributions and the sources of urban runoff that contribute to identified receiving water problems."²⁶⁸

Non-storm Water Dry Weather Action Levels

Section II.C of the MRP describes the monitoring to be conducted by the Copermittees to determine compliance with dry weather, non-storm water action levels.

Section II.B.3 has been changed by removal of the Dry Weather Field Screening and Analytical Monitoring and subsequent replacement with section II.C for Dry Weather Non-Storm Water Action Level Monitoring. This change is required to assess compliance with action levels for non-storm water discharges from the MS4 into receiving waters. The required sampling frequency has been changed to allow Copermittees to sample a representative number of discharge points and the sampling methodology has been changed to grab sampling. This is expected to allow Copermittees to maintain a cost-neutral dry weather monitoring program that is similar to their existing IC/ID monitoring program.

²⁶⁷ Copermittees in the Aliso Creek watershed include the County of Orange and the Cities of Aliso Viejo, Laguna Beach, Laguna Hills, Laguna Niguel, Laguna Woods, Lake Forest, and Mission Viejo.

²⁶⁸ Tetra Tech Inc., 2006. Review of San Diego County MS4 Monitoring Program.

Special Studies

Section II.D.1 of the MRP absorbs the bacteria monitoring and reporting program currently in place in the Aliso Creek watershed.²⁶⁹ This monitoring effort has been required by the Regional Board pursuant to authorities provided under California Water Code sections 13225 and 13267. The monitoring and reporting is focused solely on the MS4s in the Aliso Creek watershed and has effectively been integrated already into the Copermittees' programs. Inclusion of it into the MRP is done for organizational purposes and will have no other net effect.

Section II.D.3 includes a requirement to participate in the program for Regional Monitoring of Southern California's Coastal Watersheds developed by the Stormwater Monitoring Coalition. That program calls for the sampling of six locations within the Permit area each year. All sampling will be SWAMP comparable. Sampling includes water chemistry, aquatic toxicity (*Ceriodaphnia dubia*), physical habitat, benthic macroinvertebrates, wetland status (based on California Rapid Assessment Method protocols), and periphyton.

Section II.D.4 includes a requirement that the Copermittees conduct a sediment toxicity special study. This study has been added to the Monitoring and Reporting requirements to assess the quality of urban stream sediments and possible contamination due to runoff from the MS4. Toxicity tests focusing on aqueous toxicity may not account for the full toxicity of receiving waters if constituents, such as heavy metals or pesticides, are bound to sediments. Southern California studies have shown that stream sediments can exhibit significant levels of toxic metals and pesticides.^{270,271}

Section II.D.5 includes a requirement that the Copermittees conduct a Trash and Litter Impairment Investigation (see Finding C.8 and Discussion).

Monitoring Provisions

Section II.E of the MRP includes monitoring provisions which are standard requirements for all municipal storm water permits.

²⁶⁹ On October 12, 2005, the Regional Board accepted the revised Aliso Creek watershed bacteria monitoring plan proposal from the MS4 Permittees. The Regional Board concluded that the scope of the current bacteria monitoring in the watershed was no longer warranted and that the proposed changes would constitute an effective interim program until adoption of a Total Maximum Daily Load, requiring a bacteria reduction and assessment program for the watershed. In addition, the Regional Board recognized that as a result of reduced monitoring costs, the municipalities expect to direct additional resources toward implementation of management practices to reduce indicator bacteria and pathogens.

²⁷⁰ Holmes, R.W., Anderson, B.S., Phillips, B.M., Hunt, J.W., Crane, D.B., Mekebri, A. and V. Connor. 2008. Statewide Investigation of the Role of Pyrethroid Pesticides in Sediment Toxicity in California's Urban Waterways. *Environmental Science Technology* 42: 7003-7009..

²⁷¹ Crane, D.B. and C. Younghans-Haug. 1992. Oxadiazon residue concentrations in sediment, fish, and shellfish from a combined residential/agricultural area in Southern California. *Bulletin of Environmental Contamination and Toxicology*. Volume 48, no. 4.

2. Reporting Program

Section III of the MRP discusses submittal of the Jurisdictional Runoff Management Program Annual Reports and the Receiving Waters Monitoring Annual Reports. In effect, a description of the monitoring program will be submitted with the Jurisdictional RMPs, and the monitoring data and assessment will be submitted one month later. The MRP continues the reporting approach utilized under the requirements of Order No. R9-2002-0001, where Lead Permittees for each watershed submit their annual reports to the Principal Permittee to be unified into one document.

The reporting requirements for the Aliso Creek watershed are also specified in this section. These reporting requirements are identical to the current reporting required by the Regional Board for the bacteria investigation. They are specified in this section because the requirements are more specific than reporting required for other watershed RMPs.

U. Attachment F - Source Data

Attachment F contains data utilized for the development of Storm Water Action Levels and Non-storm Water Action Levels.

ATTACHMENT 36

**CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD,
SAN DIEGO REGION**

Response to Comments IV

Section X.4 of the Fact Sheet / Technical Report for

Tentative Order No. R9-2009-0002

July 01, 2009

A. Background

This document provides responses to the fifth round of written comments received on draft permits for reissuance of NPDES Waste Discharge Requirements for Discharges of Urban Runoff from the Municipal Separate Storm Sewer Systems (MS4s) draining the watersheds of the County of Orange, the Orange County Flood Control District, and the incorporated Cities of Aliso Viejo, Dana Point, Laguna Beach, Laguna Hills, Laguna Niguel, Laguna Woods, Lake Forest, Mission Viejo, Rancho Santa Margarita, San Clemente, and San Juan Capistrano within the San Diego Region. (Tentative Order No. R9-2009-0002, formerly Tentative Order Nos. R9-2008-0001 & R9-2007-0002, NPDES Permit No. CAS0108740).

The revised Tentative Order was distributed on March 13, 2009. This is the fourth version of the Tentative Order. The original Tentative Order was distributed on February 9, 2007. Three previous responses to comments documents (RTC I, II and III) have addressed comments from the prior comment periods.

This document summarizes and responds to written comments received between March 13, 2009 and May 15, 2009 on the fourth revised Tentative Order. A public workshop was held on April 3, 2009 at the City of Mission Viejo. At the request of the Copermittees, Regional Board staff met separately with them on April 16, 2009, April 20, 2009, and May 12, 2009. Further public meetings were held on May 6, 2009 and May 26, 2009.

B. Contents of This Document

A total of 18 commenters submitted over 300 comments. Commenters included members of the public, representatives of the MS4 Copermittees, governmental and non-governmental organizations, and businesses. Every written comment received has been reviewed and considered. Responses to specific comments are provided within this document for comments received. Each specific comment has been assigned a comment number, and comments are generally ordered according to commenter. A legend for commenters can be found on the

coversheet and in Table 1(below).

Comments received were concerned with a variety of topics in the Tentative Order. Some comments reiterated concerns that were previously addressed in RTC I, II and III. Some comments requested changes that had already been made in RTC I, II and III. New responses have not been drafted for repeat comments that lacked sufficient new information. Many comments have already been addressed by Regional Board staff in response to comments from the public and Copermittees during the meetings following the distribution of the Tentative Order on March 13, 2009. Consideration of written and oral comments has resulted in proposed revisions to the requirements in the Tentative Order and can be found in the Tentative Errata Sheet and updated Tentative Supplemental Fact sheet.

In this document, the comments have not been summarized or paraphrased. When comments received from one commenter were similar to other comments received, the Regional Board response usually references back to a previous comment number in order to minimize redundancy.

C. Order Adoption

The California Regional Water Quality Control Board, San Diego Region (Regional Board) is tentatively scheduled to consider adoption of the Tentative Order on October 14, 2009.

Table 1. Commenter Legend.

Commenter	Commenter Number
Michael Beanan	1
South Laguna Civic Association	2
Charlotte Masarik	3
County of Orange	4
City of Dana Point	5
National Resources Defense Council	6
City of Lake Forest	7
City of Laguna Beach	8
Fire Protection Services	9
Rancho Mission Viejo	10
Riverside County Flood Control District	11
City of San Diego	12
City of Laguna Niguel	13
Jim Fitzpatrick Pronto Car Wash	14
City of Laguna Hills	15
United States Environmental Protection Agency	16
Armando Baez	17
City of Mission Viejo	18

Draft Response to Comments R9-2009-0002

Comment No.	Commenter	Subject	Section	Specific Comment	Comment Response
1	1	Hydromod	F.1	<p>The MS4 System of the Aliso Watershed represents a failed engineering design. Too much water from storm events and dry weather nuisance flows are systematically directed to Aliso Creek and coastal receiving waters under the regulatory responsibility of the SDRWQCB. Remediation must first re-engineer anthropogenic induced flows to remain within the residential development boundaries utilizing a variety of Low Impact Development practices. Peak storm flows can be re-conceptualized as a critical resource in a drought stricken, semi-arid ecology and source of revenues from local rainwater capture techniques. Each gallon of rainwater captured for beneficial reuse saves on costly repairs to Aliso Creek and surrounding infrastructure. Rainwater polished for local reuse will also generate funding for operations and maintenance of filtration equipment.</p>	<p>The draft Tentative Order Errata sheet includes changes to the permit language that require low impact development practices to retain onsite and/or biofilter the volume of runoff produced from a 24-hour 85th percentile storm event. Onsite retention may be accomplished through BMPs that infiltrate, evapotranspire or as the commenter suggests harvest the rainwater for reuse. Due to the current drought conditions and the natural semi arid environment in Southern California, development and redevelopment proponents should consider rainwater harvest and reuse projects. In addition, the draft Tentative Order requires the Copermittees to examine opportunities for retrofitting existing development projects. Rainwater harvesting for reuse can be as simple as installing a rainbarrel on existing rain gutters. The Copermittees also may require new development and redevelopment projects that are unable to implement the required LID BMPs to contribute to a mitigation fund that may be used as incentives for retrofitting existing development. Nothing in the permit expressly prohibits an agency or community from implementing a larger watershed based water harvesting project provided all necessary permits are obtained.</p>
2	2	LID	F.1	<p>While immediate interventions with a sense of the imperative are urgently in need of support from the SDRWQCB and other regulatory agencies, new developments and redevelopments including residential remodels can benefit from incorporation of Low Impact Development (LID) Standards and Strategies. Immediate, short term interventions coupled with LID Standards can restore the natural semi-arid ecology of the Aliso Watershed.</p>	<p>The draft Tentative Order and Errata has updated Low Impact Development requirements for new development and redevelopments. Low Impact Development practices can prevent pollutant discharges and minimize hydromodification impacts. Where a watershed is experiencing impacts from hydromodification, Low Impact Development practices should be considered to alleviate those impacts prior to in stream measures that further degrade beneficial uses.</p>
3	2	LID	F.1	<p>SDRWQCB interventions can include: Strategic capture of MS4 discharges for filtration and local beneficial reuse until Copermittees demonstrate measurable results over the next 3 to 10 years capable of removing dry weather urban runoff for beneficial reuse and water/energy conservation mandates.</p>	<p>While strategic capture of MS4 discharges for filtration and local beneficial reuse may be protective of water quality, the Copermittees are required to prohibit non-storm water illicit discharges into, through and thus from the MS4 (40 CFR 122.26(d)(iv)(B) and 55 Fed Reg 47995). Furthermore, the Regional Board cannot dictate the manner that Copermittees capture and/or reuse non-storm water discharges that are exempted (and not a source of pollution) or that are covered under a separate NPDES permit.</p>

Comment No.	Commenter	Subject	Section	Specific Comment	Comment Response
4	2	LID	F.1	<p>Relative to Low Impact Development (LID):</p> <p>A. Expand the definition of "Priority Development Project" to include all new development and redevelopment projects.</p> <p>B. Adopt a standard of 3% maximum allowable Effective Impervious Area (EIA) in all Priority Development Projects and Redevelopment Projects</p> <p>C. Identify all LID BMPs as the principle storm drain management strategy for development and redevelopment projects</p> <p>D. Require a three month timeline for Copermittees to develop guidelines for LID strategies</p>	<p>The definition of Priority Development Project has been expanded to be consistent with other Southern California MS4 permits. The modified definition of Priority Development Project includes any development greater than 10,000 square feet. Through discussions with the Copermittees and the interested parties, a metric using Effective Impervious Area (EIA) was not included in the Tentative Order's requirements. In lieu of the EIA metric, the draft Tentative Order requires Low Impact Development BMPs to retain and/or biofilter the volume of runoff produced from the 24 hour 85th percentile storm. A three month timeline for Copermittees to develop guidelines for LID strategies is unreasonable. The Copermittees will need longer than three months to adequately develop the LID guidelines. The draft Tentative Order allows the Copermittees up to 2 years to develop the LID guidelines. This timeframe coincides with the hydromodification management plan due date in order to expedite public review and staff resources.</p>
5	2	LID	F.1.	<p>Treatment BMP Review: The Copermittees must review and update the BMPs that are listed in their local SUSMPs as options for treatment control during the first year of implementation of this Order. At a minimum, the update must include removal of obsolete or ineffective BMPs and replacement with LID BMPs that can be used for treatment, such as bioretention cells, bioretention swales, cisterns, etc. Promote cisterns networks in hydrologic sub units scaled to receive all dry weather flows, first flush events and peak flows to measurably reduce creek erosion and to create a local water supply for beneficial reuse and mandated water conservation purposes.</p>	<p>We agree with the commenter that Copermittees must review and update the BMPs that are listed in their local SUSMPs as options for treatment control. The draft Tentative Order allows the Copermittees two years to accomplish this review along with inclusion of LID BMPs, substitution programs and the hydromodification management plan. The modified Low Impact Development language requires onsite retention and/or LID Biofiltration of the volume of runoff produced from a 24-hour 85th percentile storm event. Onsite retention may be accomplished by the Copermittees through a network of cisterns in hydrologic sub units.</p>
6	1	General	General	<p>Built settings must be rebuilt to correct past deficiencies. An improperly wired house will not be permitted for occupancy by any city until remediation of deficiencies is implemented. Likewise, when cities accept significant increases in the property tax base from large-scale residential developments they are obliged to insure these revenue sources are properly built to eliminate negative environmental impacts to downstream habitats, communities and recreational users. Environmental justice requires the SDRWQCB to enforce measures capable of immediate clean-up and abatement of nonpermitted flows. The absences of full enforcement throughout the present permit cycle by the SDRWQCB to demand cessation of dry weather nuisance flows with known pollutants is among the primary causes for the past seven years of habitat degradation and ocean pollution. Over 1.5 billion gallons each year of dry weather flows are illegally discharged at the mouth of Aliso Creek allowing Co-permittees to economically benefit from pollution by avoiding basic expenditures for point source controls.</p>	<p>The San Diego Regional Board has a long history of progressive enforcement throughout the region. For example in the past year, the Regional Board has assessed civil liabilities greater than \$200,000 for violations of non-stormwater discharge permits. The Regional Board has a progressive enforcement policy with multiple levels to ensure fair, firm and consistent enforcement. The possible enforcement actions at the Regional Board's discretion range from a verbal warning, staff enforcement letter, notice of violation, cleanup and abatement order, cease and desist order, time schedule order, referral to the State of California's attorney general's office, and assessment of civil liability up to \$10,000 per day per violation. When considering what enforcement action to take, the Regional Board examines the nature, extent and gravity of the violation, the magnitude of the violation, the water quality impacts resulting from the violation, and the compliance history of the violator.</p>

Comment No.	Commenter	Subject	Section	Specific Comment	Comment Response
7	1	General	F.1	The costs associated with educating and savings in water conservation offsets enforcing wise water management. Moreover, the expensive restoration of damaged ecosystems, loss of safe and healthy recreation opportunities and, eventually, diminished property values from polluted water tax strained public revenue sources. The right to live in South Orange County carries the responsibility to respect the rights of others, including natural wildlife and seafit communities, to live in a non-polluted, healthy environment. The SDRWQCB cannot allow use of wildlife mitigation parks and natural creeks as flood control channels for the residential development industry's liquid waste.	The Regional Board agrees that the use of mitigation areas to compensate for impacted creeks should be minimized and that natural creeks should not be used strictly as flood control channels for runoff. The Tentative Order contains several provision to reduce or eliminate "liquid waste," or excess runoff. Please see the response to Comment No. 21.
8	1	Hydromod	F.1	The MS4 System of the Aliso Watershed represents a failed engineering design. Too much water from storm events and dry weather nuisance flows are systematically directed to Aliso Creek and coastal receiving waters under the regulatory responsibility of the SDRWQCB. Remediation must first re-engineer anthropogenic induced flows to remain within the residential development boundaries utilizing a variety of Low Impact Development practices. Peak storm flows can be re-conceptualized as a critical resource in a drought stricken, semi-arid ecology and source of revenues from local rainwater capture techniques. Each gallon of rainwater captured for beneficial reuse saves on costly repairs to Aliso Creek and surrounding infrastructure. Rainwater polished for local reuse will also generate funding for operations and maintenance of filtration equipment.	Please see response to comment #1.

Comment No.	Commenter	Subject	Section	Specific Comment	Comment Response
9	1	Monitoring	Attachment E	<p>Extensive monitoring activities waste precious limited local revenues needed for infrastructure repairs. Rather than monitoring an obviously distressed and dying watershed, funds should be reallocated to support clean up and abatement initiatives. A "Zero tolerance" dry weather discharge policy with dramatic, punitive penalties and fines can reduce reporting requirements to a minimum while advancing immediate solutions to water pollution.</p> <p>With over 20 years of monitoring data, the SDRWQCB can identify subwatershed residential developments with special needs in relation to waste water. "Special need" communities must be required to intercept, treat and promote beneficial reuse of low flows at individual residential, neighborhood and development levels of analysis. Copermittees must upgrade and commit funds for installation; operations and maintenance over the prescribed five year permit timeframe.</p> <p>Funding can be derived from fines, subwatershed "Urban Runoff Special Districts for Gross Dischargers" within specific residential development boundaries, runoff/capture/reuse revenues and bond funding among rainwater utility districts are among potential capital resources. Simple low flow diversion inserts consisting of stormdrain T-fittings and shallow dry wells can transport non-permitted flows to centralized package treatment plants or POTW facilities.</p>	<p>Comment noted.</p> <p>Storm water monitoring is required in order to assess watershed pollutant loading, measure effectiveness of Best Management Practice (BMP) selection and implementation, and identify areas which require additional and/or better tailored BMPs to reduce storm water pollutants to the maximum extent practicable as part of the iterative process. The goal of the iterative process is to reduce storm water pollutants discharged from the MS4 to meet applicable water quality standards. Thus, the Regional Board feels that storm water monitoring should not be eliminated.</p> <p>Current regulations (see Code of Federal Regulation 40 CFR 122.26(d)(2)(I) and (iv)) require that non-storm water discharges into the MS4 system be prohibited unless specifically exempted. Exempted discharges are allowable unless identified as a source of pollutants in the United States. Dry weather monitoring is conducted by the Copermittees to identify illicit discharges, illegal connections and exempted categories of pollutants that are a source of pollution. Thus, the Regional Board feels elimination of dry weather monitoring is not warranted.</p> <p>The federal Clean Water Act (CWA) requires States to identify and make a list of polluted surface water bodies. These water bodies, referred to in law as "water quality limited segments," do not meet water quality standards even after discharges of wastes from point sources have been treated by the minimum required levels of pollution control technology. Wastewater treatment plants, a city's storm drain system, or a boat yard, are a few examples of point sources that discharge wastes to surface waters. States are required to compile these water bodies into a list, referred to as the "Clean Water Act Section 303(d) List of Water Quality Limited Segments" (List). States must also prioritize the water bodies on the List and develop Total Maximum Daily Loads (TMDLs) to improve the water quality. Monitoring conducted has contributed to identifying "water quality limited segments" and Copermittees are required to use monitoring information to identify areas in the watershed that are "special need" and implement BMPs to the MEP for storm water flows. It is expected that Low Impact Development (LID) requirements for new and existing development will intercept, treat and promote beneficial reuse of storm flows.</p> <p>The Regional Board is not involved with funding determinations of the Copermittees.</p>

Comment No.	Commenter	Subject	Section	Specific Comment	Comment Response
10	1	Economic	General	The SDRWQCB has access to funding mechanisms to promote wise water management. Co-permittees should be provided with incentives and prompt, efficient technical assistance to acquire state and federal funding in remediating impacts caused by failed engineering projects and infrastructure within the watershed.	The Regional Board manages grant projects that receive funding through public proposition bonds. The Copermittees are encouraged to apply for grants when available. The Copermittees have received grant funding for projects in the past. For example, the Municipal Water District of Orange County received a grant to retrofit up to 12 urban subwatersheds with smart landscape irrigation controllers, irrigation distribution improvements and/or landscape modifications to reduce nuisance runoff and reduce bacteria/nutrient pollutant loads discharged to receiving waters. Other projects funded through grants in Southern Orange County include, the South Orange County IRWM plan, Munger Storm Drain Filtration basin in Aliso Creek, Bell, Dove, and Tick Creek Water Reclamation and Habitat Restoration projects, Upper Sulphur Creek Restoration, Wetland Capture & Treatment Network, and Heisler Park ASBS Protection and Preservation Project. The Regional Board will continue to support worthy Copermittee projects in the grant competition process.
11	2	NEL	B	The SLCA joins other environmental organizations and responsible citizen groups demanding immediate cessation of illegal MS4 Discharges to creek and coastal receiving waters and adoption of Low Impact Development (LID) Standards for all new development and redevelopment projects along with other Recommended Actions as previously submitted.	The Code of Federal Regulations (40 CFR 122.26(d)(iv)) requires Copermittees to prohibit through ordinance, order or similar means, illicit (illegal) discharges and connections to the MS4 system. It is expected that non-storm water dry weather numeric effluent limitations will evaluate whether discharges from the MS4 into creek and coastal receiving waters are causing or contributing to a condition of pollution. This would indicate an illicit discharge of waste is occurring into the MS4 system, a currently exempted non-storm water discharge needs to be removed from the exempted list and prohibited, and/or an existing discharge is exceeding its NPDES permit (other than the MS4 Permit) limitations for its discharge into the MS4.

Comment No.	Commenter	Subject	Section	Specific Comment	Comment Response
12	2	Legal	Legal	The proposed Draft MS4 Permit is inappropriate and improper in that it violates laws and regulations pertaining to enforcement of Cleanup and Abatement Orders (California Water Code Section 13304); the SWRCB Water Quality Enforcement Policy (February 19, 2002; pages 3,4,11,26, 39,42); the Porter-Cologne Clean Water Act; and is a discriminatory violation of the State of California definition governing Environmental Justice (Government Code Section 65040.12 and Public Resources Code Section 72000).	<p>Although the California Water Code authorizes the Regional Board to issue Cleanup and Abatement Orders, the enforcement action is taken at the discretion of the Regional Board. As the Enforcement Policy states,</p> <p>"Every violation deserves an appropriate enforcement response. However, because resources are limited, the RWQCBs must continuously balance the need to complete non-enforcement program tasks with the need to address violations. Within available resources for enforcement, the RWQCBs must then balance the importance or impact of each potential enforcement action with the cost of that action. Informal enforcement actions are usually very cost effective and are therefore the most frequently used enforcement response. Most formal enforcement actions are relatively costly and must therefore be targeted to the RWQCB's highest priority violations."</p> <p>We fail to understand how the Regional Board can be in violation of the water code by not conducting a discretionary enforcement action.</p> <p>The accusation that the proposed draft MS4 permit is a discriminatory violation of the Environmental Justice code is vague. It clearly is not the intent of the Regional Board to violate the Environmental Justice code. Without more specific information detailing this accusation, the Regional Board cannot address this comment.</p> <p>All references to the use of Cleanup and Abatement Orders to implement TMDLs have been deleted from the Tentative Order.</p>
13	2	General	General	The pattern of negligence and waste characterizing systematic failed measures by Copermitees demands intervention by the SDRWCB to institute Cleanup and Abatement measures aimed at numerical reductions of contaminated flow rates in a prompt, specific timetable at known inland MS4 facility "point sources".	The Regional Board has the discretion to issue Cleanup and Abatement Orders after considering all aspects of the violation. The Regional Board has yet to issue a cleanup and abatement order for the alleged violations. Nevertheless, the draft Tentative Order does include dry weather non-stormwater numeric effluent limits.

Comment No.	Commenter	Subject	Section	Specific Comment	Comment Response
14	2	General	General	To encourage compliance with basic water quality protection measures, mandatory citations must be issued against Copermittees for creating and perpetuating an attractive public nuisance by knowingly allowing inland dry weather MS4 discharges to accumulate and pollute a coastal estuarine wetland, Aliso Beach and the South Laguna Beach State Marine Park.	<p>Comment Noted.</p> <p>The inclusion of non-storm water dry weather numeric effluent limits will require all non-storm water discharges from the MS4 to meet effluent limits that are based upon applicable water quality criteria (Basin Plan Objective, California Toxic Rule, etc.). Thus, any non-storm water discharge from the MS4 that is in compliance with effluent limitations will not be causing a condition of pollution in the downstream receiving waters. Copermittees are currently required to prohibit all non-storm water discharges (see response to Comment No. 77), and must have a program in place to educate the public regarding such illicit discharges. The Copermittees must also conduct active investigative monitoring, maintain a public reporting hotline and inspect for illicit non-storm water discharges. Furthermore, the identification and subsequent removal of landscape and lawn irrigation water as a source and conveyance of pollutants by the Copermittees will require Copermittees to prohibit said irrigation water entering their MS4 system.</p>
15	2	General	General	<p>SDRWQCB interventions can include:</p> <p>Diversions to inland SOCWA facilities for treatment and reuse as reclaimed water. The City of Laguna Beach received SDRWQCB Approvals for 13 dry weather/first flush diversions to the Coastal Treatment Plant for beneficial reuse as reclaimed water. The Aliso Watershed, as the largest watershed in the City, has yet to receive approvals for any diversions. The inconsistent application of regulatory actions raises issues of fairness and legal propriety. The Aliso Watershed must target proximate historic natural flow regimes to achieve any reasonable restoration of the habitat: creeks, canyons, coast and ocean.</p>	<p>The Regional Board to date has yet to receive an application for a waste discharge requirement, NPDES permit, or CWA section 401 certification regarding a diversion for reuse in the Aliso watershed. Therefore, the Regional Board cannot take an action without an application. It should be noted that diversion from the MS4 to the sanitary sewer for treatment is allowable from a Regional Board perspective, provided the effluent from the sewage treatment facility can meet its NPDES requirements. Any diversion of in-stream flows for reuse is subject to review and approval by the State Board Division of Water Rights and is not addressed under a NPDES MS4 permit. A CWA Section 401 Water Quality Certification will be required if a federal permit (e.g. 404 or Section 10) is needed. The City of Laguna Beach's dry weather diversions from the MS4 did receive funding from proposition 84 - Areas of Special Biological Significance grant program. The commenter is encouraged to apply for funding from future grant programs.</p>

Comment No.	Commenter	Subject	Section	Specific Comment	Comment Response
16	2	General	General	<p>SDRWQCB interventions can include:</p> <p>Immediate fines levied against offending subwatersheds, cities, homeowner associations, golf courses and others with elevated dry season discharge rates detected during monitoring activities at known point sources.</p> <p>Fines levied against offending inland water districts for failing to control urban runoff (i.e. "imported water byproduct") through monitoring, punitive pricing structure and more aggressive recycled water programs.</p>	<p>Except for mandatory minimum penalties, the assessment of civil liability is at the discretion of the Regional Board. The Regional Board has a progressive enforcement policy with multiple levels to ensure fair, firm and consistent enforcement. The possible enforcement actions at the Regional Board's discretion range from a verbal warning, staff enforcement letter, notice of violation, cleanup and abatement order, cease and desist order, time schedule order, referral to the State of California's attorney general's office, and assessment of civil liability up to \$10,000 per day per violation. When considering what enforcement action to take, the Regional Board examines the nature, extent and gravity of the violation, the magnitude of the violation, the water quality impacts resulting from the violation, and the compliance history of the violator. Assessment of civil liability is a possible enforcement action at the Regional Board's disposal. Since, the MS4 permit only directly regulates the Copermittees, any enforcement action due to violations of the MS4 permit would be issued to the offending Copermittee. Although homeowner associations, private golf courses, and water districts may be indirectly regulated through the MS4 permit, enforcement of the MS4 permit would not be directly on those entities. The Copermittee is expected to conduct any necessary enforcement using their jurisdiction.</p>
17	2	Legal	Legal	<p>During the current permit period, Copermittees have failed to achieve measurable reductions in MS4 discharges. SDRWQCB must exercise authority and assume control over the present, clearly defective watershed management programs. Private subcontractor services can be retained with stipulations for numerical reductions of flows and constituents within time certain performance parameters. Funds for such services can be recovered by reallocating funds presently wasted by failed Copermittee watershed management practices.</p>	<p>The California Water Code does not provide the Regional Board the powers to assume control over defective watershed management programs, nor can it require that the discharges hire private subcontractors to implement the MS4 permit. The water code does provide the Regional Board with a suite of enforcement actions to induce compliance with permits.</p>
18	2	General	General	<p>As mitigation for a pattern of failed watershed management programs that flood creek and coastal waters, Copermittees should be directed to restore the Aliso Coastal Estuary Wetlands to 1970 water levels for the reintroduction of the federally listed tidewater goby (designated "Potential Reintroduction Site" – US Fish and Wildlife Service, South Coast Recovery Unit: Sub-Unit SC 1 (Eastern Half), 2005).</p>	<p>The Regional Board is aware of the status of and the possibility of re-introduction of the tidewater goby. While the Tentative Order regulates discharges from the MS4, the comment is unclear as to what "water levels" are/were. The Tentative Order does not require mitigation for failed Best Management Practices, but does require additional and better tailored BMPs be implemented to treat storm water pollutants to the MEP. It is expected that municipal action levels and non-storm water numeric effluent limits will attain water quality that will fully support re-introduction of the tidewater goby. The Basin Plan for the San Diego Region currently does not have water quality objectives or criteria for maintaining or reducing "water levels" if "water levels" are referring to the amount of flow within receiving waters.</p>

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19	2	Monitoring	Attachment E	In support of recommended action C.2., revise timeframes to require each Copermittee, beginning no later than the First not 3rd year following adoption of this Order, shall begin the non-storm water dry weather numeric effluent monitoring as described in Attachment E of the Order.	Comment noted. The Regional Board has made a concerted effort to maintain consistency between the Copermittees existing non-storm water IC/ID monitoring program and that required under the Tentative Order to determine compliance with numeric limits. It is expected, however, that some changes will be required, and the Regional Board recognizes that time may be needed to implement such changes. This does not, however, exempt Copermittees from prohibiting non-storm water discharges into the MS4, conducting IC/ID investigations, nor identifying any additional exempted discharges that are a source of pollution.
20	2	Legal	E.	Relative to item E.1. f., Utilize aggressive enforcement mechanisms to require compliance with Copermittee storm water ordinances, permits, contracts, or orders; To save municipal funds for staff enforcement, provide rewards and bountys to citizen monitors for information leading to identification of prohibited runoff discharges to MS4 infrastructure.	The Regional Board has a progressive enforcement policy with multiple levels to ensure fair, firm and consistent enforcement. The possible enforcement actions at the Regional Board's discretion range from a verbal warning, staff enforcement letter, notice of violation, cleanup and abatement order, cease and desist order, time schedule order, referral to the State of California's attorney general's office, and assessment of civil liability up to \$10,000 per day per violation. When considering what enforcement action to take, the Regional Board examines the nature, extent and gravity of the violation, the magnitude of the violation, the water quality impacts resulting from the violation, and the compliance history of the violator. The Regional Board does not have the authority or resources to provide rewards and bounties to citizen watchdog groups.
21	2	Hydromod	F.	Throughout the Order, water quantity is rarely mentioned or given adequate consideration as it relates to transportation of pollutants and erosion of local receiving waters.	Scientific data and knowledge is increasingly aware that water quantity is an issue intimately related to water quality. Importing water from other areas can cause harm to beneficial uses in those areas due to pumps and water diversions. Imported water containing high dissolved salts can have a negative impact on groundwater supplies and native beneficial uses. Excess water quantity can cause a habitat type change from saline or brackish habitat to freshwater. Excess water quantity can cause devastating hydromodification impacts. To that end, the draft Tentative Order contains several provisions to address water quantity. First, the draft Tentative Order has removed over-irrigation from the list of non-storm water discharges exempted from prohibition. Second, the draft Tentative Order has requirements for the Copermittees to draft and implement a hydromodification management plan. Third, the draft Tentative Order requires priority development projects to implement low impact development BMPs that retain onsite and/or biofilter the volume of runoff from the 24 hour 85th percentile storm event. Lastly, the draft Tentative Order requires the Copermittees to examine retrofitting opportunities within their jurisdiction.

Comment No.	Commenter	Subject	Section	Specific Comment	Comment Response
22	2	General	General	<p>Twenty years and \$20 million represents too much time and too much money wasted on mismanagement of dry weather urban runoff pollution contaminating Aliso Creek, Aliso Beach and the South Laguna Beach State Marine Park. According to Stream Gage Information (Appendix D, Aliso Creek Watershed Chapter), "Data consisting of periodic discharge measurements was measured at one site on Aliso Creek between the years of 1932 and 2002....Historically (pre-urbanization), Aliso Creek was an ephemeral creek". Water quality laws and regulations are not intended to be implemented for the convenience of Copermittees, inland Water Districts and their cohorts among the Residential Development and Building Industries. Dry weather MS4 discharges are directly attributable to the collective practices of these entities and constitutes an industrial wastewater by product from known point sources.</p> <p>Arguments to perpetuate and allow ongoing water pollution based upon "Maximum Extent Practicable", while being a scientifically imprecise concept, does not on balance take into account "practical" protection of irreplaceable coastal wetlands and ocean resources unnecessarily flooded by dry weather MS4 discharges. Nor does this argument account for the "unpractical" and costly poisoning of local sea mammals, birds and humans with water borne illnesses.</p> <p>The San Diego Watershed Treatment System, supervised by the Santa Ana Regional Water Quality Control Board, demonstrates the effectiveness of strategic interventions sited among known inland point sources. Removing harmful dry weather urban runoff water quality constituents and elevated flows is possible through aggressive leadership by Regional Boards.</p>	<p>The draft Tentative Order includes numeric effluent limits for non-storm water dry weather discharges. In addition, since over-irrigation has been identified by the Copermittees as a source and conveyance of pollutants, the draft Tentative Order now prohibits over-irrigation discharges. These two measures show leadership by the San Diego Regional Board in addressing pollutants in the MS4 discharge. Treatment devices within receiving waters are not allowed by the draft Tentative Order. As the discussion of Finding E.7 in the fact sheet states:</p> <p>"Allowing polluted runoff to enter receiving waters prior to treatment to the MEP will result in degradation of the water body and potential exceedances of water quality standards, from the discharge point to the point of dissipation, infiltration, or treatment. Furthermore, the construction, operation, and maintenance of a pollution control facility in a water body can negatively impact the physical, chemical, and biological integrity, as well as the beneficial uses, of the water body. This requirement is supported by federal regulation 40 CFR 131.10(a) and USEPA guidance. According to USEPA,146 "To the extent possible, municipalities should avoid locating structural controls in natural wetlands. Before considering siting of controls in a natural wetland, the municipality should demonstrate that it is not possible or practicable to construct them in sites that do not contain natural wetlands... Practices should be used that settle solids, regulate flow, and remove contaminants prior to discharging storm water into a wetland."</p>

Comment No.	Commenter	Subject	Section	Specific Comment	Comment Response
23	3	General	General	<p>Instead of damming up the creek as proposed by the SUPER Project, I wholeheartedly support you in your efforts to tighten the MS4 Permit so that the 6 cities upstream and Laguna Beach downstream are forced to significantly reduce their toxic run-off. I believe that as a result of this we do not need the SUPER Project (or any other Army Corps of Engrs flood control for that matter) which will destroy our wilderness park in Aliso Canyon. Besides the destruction of our wilderness park at the very most the SUPER Project will only clean the bacteria at the outflow of the creek not in the wilderness park and the chemical effluents will remain as a nasty soup flowing into the ocean.</p> <p>Furthermore, based on our research, we have found that the clean up area proposed for the end of the creek will be the first item to be cut from the project. If that should happen, the SUPER Project will have done nothing but destroy our wilderness park and leave the water quality as an unresolved major issue. I have grandchildren that I would like to see be assured of swimming, skim boarding and surfing in clean ocean water not the toxic mess that exists today because of the Upstream Cities and my own city's inability to support the MS4 Permit. Laguna Beach should be working with the 6 Upstream Cities to bring them on board, not acting as just another deterrent to a much needed strengthening of the MS4 Permit.</p> <p>We need the 6 Upstream Cities to take responsibility one by one to contain and drastically reduce their urban run-off and by tightening the MS4 Permit will demand that they do so.</p>	<p>Comment noted. The SUPER project will be subject to the MS4 permit where applicable. The SUPER project will require a Clean Water Act Section 401 water quality certification from the Regional Board. The Regional Board plans on a closer review of the SUPER project through the 401 certification process.</p>

Comment No.	Commenter	Subject	Section	Specific Comment	Comment Response
24	4	General	General	<p>Last February, the Copermittees took from your closing remarks a commitment that your staff would look at consistency with existing and draft MS4 permits, including those from the Regional Water Quality Control Boards (RWQCBs) for the Santa Ana and Los Angeles regions. At the same time, USEPA also expressed an interest in seeing greater permitting consistency between RWQCBs. More recently, the final report of the Little Hoover Commission identified the lack of consistency between RWQCBs as a critical area of concern with respect to the ability of the State to deliver on its water quality protection mandates. It is also a key issue for the Orange County Stormwater Program which is subject to the jurisdiction of two RWQCBs.</p> <p>Nonetheless, and in spite of precious assurances and concerns, the March 13, 2009 Tentative Order is fundamentally different from the current draft MS4 permit for North Orange County (Tentative Order R8-2009-0030) in many key programmatic areas. While your staff has acknowledged that they will likely incorporate the North Orange County permit's land development provisions, they are reluctant to eliminate other areas of inconsistency. This disinclination erodes the credibility of the regulatory framework for stormwater in California and serves to confound the ability of local government and the regulated community to effectively address a key environmental mandate at a time of unprecedented fiscal constraint. It is therefore necessary for us to continue to seek revisions to the Tentative Order supportive of a cohesive and cogent alignment of the North and South County permits on the basis that consistency is important to the credibility of our respective efforts to manage urban runoff and is vital to sustaining the obvious cost effectiveness of a single and coordinated Countywide program in Orange County.</p>	<p>It is important to note that consistency between permits does not imply that permits be identical. The San Diego Regional Board's draft Tentative Order for MS4 discharges in Southern Orange County does meet a level of consistency to allow those few cities and the County of Orange who are in both Regions to develop a comprehensive program that is protective of the unique water quality standards in Southern Orange County. In addition, nothing in the draft Tentative Order is in conflict or contradicts the municipal permit recently adopted by the Santa Ana Regional Board. Requirements for low impact development, and the definition of a priority development project are particularly consistent if not identical to the requirements in the Riverside Regional Board's recently adopted MS4 permit for North Orange County.</p> <p>The San Diego Regional Board staff met several times in 2008 to seek consistency with staff from the Los Angeles Regional Board, Riverside Regional Board, State Board and the USEPA. Consistency, unfortunately, was not much of an issue for the other Regional Boards due to a lack of comments or requests to be consistent from their stakeholders. Consistency among all MS4 Permits in Southern California is beyond the San Diego Regional Board's authority due to the semi-autonomous Regional Board system established by State law.</p> <p>Nevertheless, we are sensitive to the Copermittee's concerns of consistency and have sought to write the draft Tentative Order to protect Water Quality and allow the County and those affected Cities to develop a single program. First and foremost, the draft Tentative Order is consistent with the Clean Water Act, Code of Federal Regulations and USEPA guidance. These federal regulations are the driving force behind the requirement for the MS4 permit and this reissuance. To reach consistency with the federal regulations, several changes are in the draft Tentative Order, namely, the removal of the term "urban runoff," prohibition of over-irrigation discharges, and the numeric effluent limitations for dry weather non-storm water discharges. In addition, the draft Tentative Order must comply with the anti-backsliding requirements found in 40 CFR 122.44(l): "[W]hen a permit is renewed or reissued, interim effluent limitations, standards or conditions must be at least as stringent as the final effluent limitations, standards, or conditions in the previous permit."</p> <p>The draft Tentative Order has to be consistent with the San Diego Regional Board's Basin Plan. The Basin Plan defines the unique water quality objectives and beneficial uses in Southern California that the draft Tentative Order is seeking to protect and restore. South Orange County is unique from North Orange County in several aspects. Besides the obvious differences of land use, population density, cultural makeup and geology, several receiving waters in Southern Orange County have been identified as having Warm and Cold habitat</p>

Comment No.	Commenter	Subject	Section	Specific Comment	Comment Response
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beneficial uses. Receiving waters in Northern Orange County have not been identified as having Warm and Cold habitat beneficial uses.

The Regional Board also has to be concerned about consistency with other MS4 permits issued by the San Diego Regional Board. The Regional Board has three separate MS4 permits to write and enforce. To have a fair and consistent enforcement policy implemented by the Regional Board, the MS4 permits issued by the Regional Board need to be consistent. The difficulty for Regional Board staff to understand, review reports and adequately enforce inconsistent MS4 permits puts an unnecessary strain on the Regional Board's limited resources.

The County of Orange's criteria for consistency cannot be a hindrance to improvements in the science and regulation of water quality. Some might argue that to be truly consistent would be a return to the regulations and water quality observed in 1990 when the first NPDES permit was issued for MS4 discharges. This progressive increase in water quality science and knowledge is supported in USEPA guidance. For example, in its "Interim Permitting Approach for Water Quality-Based Effluent Limitations in Storm Water Permits" (61 FR 43761), USEPA states, "In cases where adequate information exists to develop more specific conditions or limitations to meet water quality standards, these conditions or limitations are to be incorporated into storm water permits, as necessary and appropriate."

Even with these constraints on consistency, the draft Tentative Order is consistent with the Santa Ana Regional Board's North Orange County MS4 permit, especially in regard to the requirements for Low Impact Development at Priority Development Projects. While being consistent, this draft Tentative Order is also implementing the USEPA's policy on watershed permitting. At this point in time, adopting an identical permit to that in a separate watershed could be construed to be in violation of USEPA's stated policy on implementing NPDES permitting activities on a watershed basis.

The state's water quality protection requirements within the Tentative Order are authorized by Federal Law, are necessary to meet the federal MEP standard, and are not unfunded mandates. Please see comments #155 and 165.

Comment No.	Commenter	Subject	Section	Specific Comment	Comment Response
25	4	MAL	D.	<p>The Permittees' concerns with the imposition of Municipal Action levels (MALs) and Numeric Effluent Limits (NELs) have been presented to your staff. The Permittees' fundamental concern is that the method of application is clearly inconsistent with the definitive guidance in this area, specifically the State Water Board's Blue Ribbon panel report on the feasibility of numeric effluent limits. In June 2006, this panel concluded that it is not feasible at this time to set numeric effluent criteria for municipal BMPs and in particular urban discharges. In 2009, this conclusion continues to be the published position of USEPA on this issue. Clearly, both the RWQCBs and the Permittees have a keen interest in being able to demonstrate and report the effectiveness of their stormwater protection and management efforts. However, this effort by your staff to include MALs as the basis for compliance with the MEP standard in the permit is inappropriate on both technical and legal grounds. Likewise, the water quality based NELs established for non-stormwater discharges are legally and regulatorily unsupported. Nonetheless, we recognize the value of action levels and will continue to seek provisions that support the better application of published guidance on program effectiveness assessment including the development and application of benchmarks. Indeed, the Permittees commend the Dry Weather Reconnaissance Program to you as the model application of water quality benchmarks in a manner entirely consistent with the recommendations of the BlueRibbon Panel.</p>	<p>The Regional Board has reviewed and taken into consideration the findings from the Blue Ribbon report: The Feasibility of Numeric Effluent Limits Applicable to Discharges of Storm Water Associated with Municipal, Industrial and Construction Activities, dated June 14, 2006. The report, written specifically for discharge of storm water, finds it infeasible to establish numeric effluent limitations and recommends utilizing action levels based upon a nationwide and/or localized dataset. The Tentative Order has included action levels, or Municipal Action Levels (MALs), which are not numeric effluent limitations. Language in the updated errata has been changed and a MAL exceedance no longer creates a presumption that MEP is not being met. Thus, MALs are not representative of the MEP standard, but shall be used by Copermittees to determine priorities for BMP implementation (see response to Comment 33 for further discussion).</p> <p>In regards to the non-storm water numeric effluent limits (NELs), the Blue Ribbon report was specifically written to address discharges of storm water. Non-storm water discharges are not addressed by the report. While the dry weather reconnaissance program has established benchmarks and successfully detected, investigated and eliminated illicit discharges, the discharges of non-storm water from the MS4 are causing or have the reasonable potential to cause excursions above applicable water quality standards. Thus, in order to protect the Beneficial Uses of the waters of the State, numeric effluent limits for these non-storm water discharges have been proposed. Inclusion of numeric effluent limits is consistent with other adopted Orders for non-storm water discharges (see response to Comment 39 for further discussion).</p>

Comment No.	Commenter	Subject	Section	Specific Comment	Comment Response
26	4	General	General	<p>At the inception of the Stormwater Program, the County of Orange, as Principal Permittee, and the Permittees developed a Drainage Area Management Plan (DAMP) to serve as the principal policy and programmatic guidance document for the Program. Since 1993, the DAMP has been modified through an adaptive management process to reflect the needs of the Permittees, ensure Permittee accountability, and deliver positive water quality and environmental outcomes. The DAMP now provides definitive guidance to each Permittee in the development of its Local Implementation Plan (LIP) which specifically describes how the Program will be implemented on a city/jurisdiction basis. It also includes Watershed Action Plans (WAPs) for each of the six South Orange County watersheds targeting pathogen indicator bacteria. Concurrently, the annual progress report has been developed into a systematic assessment of program effectiveness at jurisdictional, watershed and countywide levels of resolution, using program effectiveness assessment guidance from the California Stormwater Quality Association (CASQA) and a comprehensive environmental quality dataset. Nevertheless, the Tentative Order seeks to impose additional planning requirements including jurisdictional workplans, a business plan and additional planning efforts that might be triggered by exceedances of a water quality action level. The Permittees believe that strategically adjusting the existing planning processes, rather than simply creating additional planning requirements, should be the basis of the Tentative Order's programmatic requirements. Such an approach also offers the additional potential benefit of identifying opportunities to reduce rather than increase the administrative burden of the Program for both the RWQCB and for the Permittees.</p>	<p>While the DAMP may play an important role in aiding the Copermittees in their development of effective local programs, its development is not required in the Tentative Order. It generally serves as a collection of model program components from which the Copermittees have chosen to base their own individual programs. The DAMP and Report of Waste Discharge (ROWD) submitted to the Regional Board in August 2006 constitute the application for reissuance of the municipal storm water permit. The Regional Board is not obligated to accept the proposed program as the equivalent of the NPDES requirements. Instead, the Regional Board has the responsibility of requiring measures that are reasonable and necessary to protect water quality objectives in the Permit area. While the Copermittees may elect to incorporate elements of the DAMP into their local programs, certain requirements in the Tentative Order must be specific enough to ensure that the local programs will reduce discharges of storm water pollutants from municipal separate storm sewer systems (MS4s) to the maximum extent practicable (MEP) and effectively prohibit non-storm water discharges (unless exempted or covered by a separate permit). The DAMP is not an enforceable document by the Regional Board. When Copermittees choose to follow the DAMP, ultimately the individual Copermittee has a responsibility to comply with the draft Tentative Order whether or not the DAMP guides them in compliance. Therefore, the draft Tentative Order allows each individual Copermittee the flexibility to tailor their programs to their individual needs through the Local Implementation Plan and jurisdictional work plans.</p> <p>Please note that the requirements for a business plan have been removed from the Tentative Order.</p>
27	4	SUSMP	F.1	<p>With land development projects, the installation and subsequent maintenance of treatment controls certainly needs to be verified. However, self certification is already a verification mechanism being used by Permittees and it and other third party verification mechanisms should not be precluded by the Tentative Order in exclusive favor of [Cop]ermittee inspection. The current opportunity to strategically re-consider the use of inspection resources should be used to target and focus these activities rather than simply expand their scope. Furthermore, given the current state of the economy, the [Cop]ermittees, like all municipalities, are facing shrinking budgets. Consequently the RWQCB should give great weight to the best use of limited resources in achieving water quality objectives.</p>	<p>The requirements to track and annually inspect high priority post-construction BMPs is in response to findings from the 2005 audits and from USEPA guidance. The 2005 audits found that the Copermittees were not adequately tracking post-construction BMPs. The final audit report recommended that each city should develop a system to verify implementation and track post-construction BMPs to ensure adequate maintenance. The draft Tentative Order does not preclude the Copermittees from using self certification or other equally effective approaches for low or medium priority post construction BMPs. Inspections are required for high priority BMPs due to their threat to water quality. Inspections are more reliable than self-certifications in verifying compliance. Inspections can also be a means of checking on the accuracy of self-certifications. The requirements in the draft Tentative Order are consistent with the requirements in the adopted San Diego County MS4 permit, Order No. R9-2007-0001.</p>

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28	4	Overirrigation	B.	<p>The prescribed prohibition on irrigation runoff also needs to be very carefully considered. Project Pollution Prevention, the public education and outreach initiative of the Program, is already targeting overwatering as a residential practice of concern. Moreover, the effectiveness of the overall public education effort has been validated by public opinion surveys that show incremental and statistically significant increases in public awareness of stormwater issues, as well as positive changes in protective behaviors. In light of this progress, implementation of the prohibition would risk eroding general public support for a Program that is successfully fostering a stewardship ethic in residential environments. There is also concern that the provision would force the expenditure of scarce resources on an issue that is already being addressed by water districts dealing with water conservation imperatives.</p>	<p>The Regional Board disagrees that removing the exemption for irrigation-related discharges from the non-storm water prohibition will erode the public from fostering and stewarding their residential environments. Several citizens at recent public meetings have voiced their support for this action.</p> <p>Furthermore, the removal of the exemption is required by federal law. Section 402(p)(3)(B)(ii), permit requirements for municipal discharges, states that municipal storm water NPDES permits: "shall include a requirement to effectively prohibit non-storm water discharges into the storm sewers." The Federal Register (55, page 48037) and 40 CFR 122.26(d)(iv)(B) clarifies that certain components and categories of discharges are not required to be prohibited. The Code of Federal Regulations requires the discharger have: "...a program, including inspections, to implement through ordinance, orders or similar means to prevent illicit discharges to the municipal separate storm sewer system; this program shall address all types of illicit discharges, however, the following category of non-storm water discharges or flows shall only be addressed where such discharges are identified by the municipality as sources of pollutants to the United States: water line flushing, landscape irrigation, diverted stream flows, rising ground waters, uncontaminated groundwater infiltration (as defined at 40 CFR 35.2005(20) to separate storm sewers, uncontaminated pumped groundwater..." As such, the identification of any of these categories as a source of pollutants requires them to be addressed as illicit discharges, which are not authorized under the CWA, and are required to be "effectively prohibited" via ordinance, order or similar means. Therefore, the prohibition on irrigation runoff is required by the federal regulations since the Copermittees have identified irrigation runoff as a source and conveyance of pollutants (as identified in the Supplemental Fact Sheet).</p> <p>It is encouraging to hear that the County believes their overall public education effort is showing improvements in public awareness and changes in protective behavior. Therefore, the overirrigation prohibition will dovetail into their already effective public education programs. As public agencies, the Copermittees must be aware and address their public concerns and the Copermittees are expected to use appropriate discretion through their education and enforcement mechanisms to alleviate those public concerns. As long as the Copermittees have a program in place to effectively prohibit over-irrigation runoff from entering the MS4, they are likely to be in compliance with this Tentative Order. Coordination with the water districts is an acceptable and preferred method of compliance.</p>

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29	4	Existing Development	F.3.	<p>The last area of prescribed new regulatory oversight is mobile businesses. The Permittees have already produced educational materials for these businesses, cooperatively developed wash water disposal options with Orange County's sewerage agencies, and coordinated on enforcement. The further required regulation of these businesses is a potentially resource intensive undertaking that currently appears to lack a strong technical rationale.</p>	<p>Mobile businesses have been identified as sources of pollutants in storm water runoff. The current MS4 Permit lists mobile businesses as one category for which BMPs must be developed. Separation of BMP implementation for Mobile Businesses in the Tentative Order is not a significant change from the existing Order. It is appropriate to segregate mobile businesses from fixed location businesses in the reissued Permit, because of the unique difficulties associated with regulating mobile businesses. The language in the Tentative Order is intended to provide broad flexibility to the Copermittees to account for the individual make-up of each municipality and for the difficulties with identifying and communicating with mobile business operators.</p> <p>Understandably, identifying mobile businesses within each jurisdiction and enforcing storm water regulations on those mobile businesses is a challenge. The draft Order's requirement for Mobile Businesses provides flexibility in dealing with these difficulties by allowing the Copermittees to coordinate and share mobile business inventories. The mobile business section includes the option for the Copermittees to share mobile business inventories, BMP requirements, enforcement action information, and education methodologies. Sharing this type of information would save resources.</p>
30	4	LID	F.1	<p>More recently the County provided the Santa Ana RWQCB with a more detailed conception of a framework for land development. It predicates permit compliance on management of the 85th percentile storm volume. presumes the application of LID BMPs based upon a prioritized consideration of infiltration, capture and re-use, evapotranspiration, and bio-retention/biofiltration, and requires treatment of residual runoff volumes for which the application of LID BMPs has been determined to be infeasible at site, sub-regional and regional scales. The framework also integrates options for water quality credits and provides for alternate compliance approaches including participation in a watershed project and contributions to an "in-lieu~ fund.</p> <p>It also explicitly recognizes bio-retention/bio-filtration BMPs as LID BMPs and the continued and entirely legitimate contribution of effective structural BMPs such as constructed wetlands and detention ponds to the practice of stormwater quality management.</p> <p>The [Cop]ermittees believe that it is imperative that there be a uniform countywide development standard for water quality protection. Consequently, the framework language that is currently being supported by both the North Orange County Permittees and staff of the Santa Ana Regional Board should be the starting point for discussion with respect to the subject Tentative Order.</p>	<p>The draft Tentative Order and errata sheet has updated LID language that is consistent with the recently adopted Riverside Regional Board (Region 8) MS4 permit for North Orange County. The updated language has provisions for the inclusion of LID biofiltration while protecting water quality. The LID language also provides an individual city the freedom and flexibility to implement development standards independent of the County that are more protective of water quality and more suited for the unique conditions found in their city.</p>

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31	4	General	General	<p>In advance of preparing the Report of Waste Discharge (ROWD) the Permittees undertook a detailed program assessment drawing upon prior annual report findings, a comprehensive environmental quality database, audit findings, facilitated workshops, and the CASQA Program Effectiveness Guidance. This assessment provided a strong technical basis for the further improvements to the Orange County Stormwater Program recommended in the ROWD, these improvements have been subsequently validated in later annual progress reports. These informational resources and, in particular, the environmental quality database, have been compiled at great expense and provide unique and site specific information on the state of Orange County's surface waters and the performance of the Orange County Stormwater Program. To the extent that the Tentative Order prescribes requirements supplemental to the ROWD recommendations they need to be explicitly supported by a strong technical justification that is developed from the information that has been compiled over the last 18 years by the [Cop]ermittees. New requirements also need to be consistent with the federal stormwater regulations and within the scope of the Clean Water Act.</p>	<p>The Regional Board appreciates and respects the expertise of the Copermittees in implementing local programs. The commenter, however, incorrectly restricts the Regional Board to using information compiled only by the Copermittees in the last 18 years. In addition, to the data provided by the Copermittees, the fact sheet cites technical information from federal guidance, State plans and policies, and independent studies. The draft Tentative Order is consistent with the federal stormwater regulations and within the scope of the Clean Water Act. Several changes to the draft Tentative Order were made to be consistent with the federal regulations including the removal of the term "urban runoff," inclusion of non-stormwater dry weather numeric effluent limits, and the prohibition on over irrigation water.</p>
32	4	MAL	D.	<p>Contrary To Established Federal Law, the Tentative Order Would Require Permittees to Meet Numeric Effluent Limits for Discharges from the MS4</p> <p>A. Basing Permit Compliance on Municipal Action Levels is Inconsistent with Federal and State Guidance and Not Required by the Clean Water Act.</p> <p>The March 13, 2009 draft of the Tentative Order imposes on Permittees for the first time the concept of "Municipal Action Levels" or "MALs." Beginning in the fourth year after adoption of the permit, discharges from the MS4 that exceed the MALs (which are numeric concentration levels for designated pollutants) would give rise to a presumption that the Permittee was not complying with the MEP standard. In other words, the Permittee would be presumed to be in violation of the permit. The County objects to this significant new requirement for several reasons.</p>	<p>MAL language has been changed and new language is located in the Updates to the Tentative Order. Language has been changed so the exceedance of a MAL does not give rise to the presumption that the Copermittee is not complying with the MEP standard. Please see full response to Comment 33.</p>

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33	4	MAL	D	<p>1. As Proposed, the Municipal Action Levels for Discharges from the MS4 Could Be Considered Numeric Effluent Limits Not Required by Federal Law</p> <p>First, to the extent the MALs are considered numeric effluent limitations, they are not required by the Clean Water Act. The Clean Water Act defines "effluent limitation" as "any restriction established by a State or [the U.S. EPA] on quantities, rates, and concentrations of chemical, physical, biological, and other constituents which are discharged from point sources..." CWA § 502; 33 U.S.C. § 1362(11). The proposed MALs meet this definition. Because an exceedance of a MAL may result in a permit violation, the MALs represent a restriction on concentrations of designated constituents discharged from the MS4. Because they are expressed numerically rather than through narrative, they would be considered numeric effluent limitations.</p>	<p>The MAL language has been updated to reflect that an excursion above a MAL does not create a presumption that MEP is not being met. Instead, a MAL exceedance is to be used by the Copermittee as an indication that the MS4 storm water discharge point is a definitive "bad actor," and the result from the monitoring needs to be considered as part of the iterative process for reducing pollutants in storm water to the MEP. A MAL is not a restriction on a quantity, rate or concentration, but is a level at which actions that further reduce pollutants from that discharge point need to be evaluated in order to reduce storm water pollutants to the MEP. Thus, MALs are not effluent limitations as defined by the CWC or CWA. This is further discussed in the updated Supplemental Fact Sheet.</p> <p>The approach of using "action levels" is consistent with recommendations made by USEPA in their Interim Permitting Approach for Water Quality-Based Effluent Limitations in Storm Water Permits, dated August 26, 1996: "Under the Clean Water Act(CWA) and NPDES regulations, permitting authorities may employ a variety of conditions and limitations in storm water permits, including best management practices, performance objectives, narrative conditions, monitoring triggers, action levels (e.g., monitoring benchmarks, toxicity reduction evaluation action levels), etc., as the necessary water-quality based limitations, where numeric water quality based effluent limitations are determined to be unnecessary or infeasible". As such, these action levels are not considered numeric water quality-based effluent limits.</p> <p>It should be noted that a purpose of monitoring, required under this and previous Orders, is to aid in the evaluation of implemented programs and BMPs in reducing pollutants in storm water discharges to the MEP. The tentative Monitoring and Reporting Program states:</p> <p>A. This Receiving Waters and Urban Runoff Monitoring and Reporting Program is intended to meet the following goals:</p> <ol style="list-style-type: none"> 2.Measure and improve the effectiveness of the Permittees' urban runoff management programs; 3.Assess the chemical, physical, and biological impacts to receiving waters resulting from runoff discharges; 4.Characterize runoff discharges; 5.Identify sources of specific pollutants; 6.Prioritize drainage and sub-drainage areas that need management actions; 9.Provide information to implement required BMP improvements <p>The state's water quality protection requirements within the Tentative Order are authorized by Federal Law, are necessary to meet the federal MEP standard, and are not unfunded mandates. Please see comments #155 and 165.</p>

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34	4	MAL	D	<p>The Clean Water Act does not require that MS4 permits include numeric effluent limitations. Instead, MS4 permits “shall require controls to reduce the discharge of pollutants to the maximum extent practicable, including management practices, control techniques and system, design and engineering methods...” CWA § 402(p)(3)(B)(iii); 33 U.S.C. § 1342(p)(3)(B)(iii). In other words, discharges from the MS4 must meet the so-called “MEP” standard. Unlike other technology-based standards, the MEP standard is not defined in the Clean Water Act or in federal regulations. It is intended to be flexible, to allow the development of site-specific permit conditions based on the best professional judgment of the permit writer. See, e.g., 55 Fed. Reg. 47989, 48038 (Nov. 16, 1990); 64 Fed. Reg. 68721, 68754 (Dec. 8, 1999); U.S. EPA Region IX, Storm Water Phase I MS4 Permitting: Writing More Effective, Measurable Permits (February 2003).</p>	Please see response to comment 33.
35	4	MAL	D	<p>The Clean Water Act also provides that MS4 permits include “other provisions as [U.S. EPA] or the State determines appropriate for the control of [] pollutants” discharged from the MS4. CWA § 402(p)(3)(B)(iii); 33 U.S.C. § 1342(p)(3)(B)(iii). Case law has interpreted this language to allow, but not require, U.S. EPA or a State to impose requirements in MS4 permits that go beyond the MEP standard, such as numeric effluent limits. See, e.g., <i>Defenders of Wildlife v. Browner</i>, 191 F.3d 1159, 1166-67 (9th Cir. 1999); <i>Building Industry Association of San Diego County v. State Water Resources Control Board</i>, 124 Cal.App.4th 866, 885-86 (2005). In other words, the MEP standard is the statutory floor for MS4 permits. MS4 permits must require that discharges from the MS4 meet the MEP standard. The Clean Water Act allows, but does not require, MS4 permits to include requirements more stringent than the MEP standard. Therefore, to the extent the MALs are considered numeric effluent limitations, more stringent than what is required by the MEP standard, they are not required by the Clean Water Act.</p>	<p>Please see response to comment 33.</p> <p>The state's water quality protection requirements within the Tentative Order are authorized by Federal Law, are necessary to meet the federal MEP standard, and are not unfunded mandates. Please see comments #155 and 165.</p>
36	4	MAL	D	<p>2. Defining MEP in Terms of the MALs is Inconsistent with Established State and Federal Guidance.</p> <p>To the extent the MALs are defining MEP rather than imposing requirements that go beyond MEP, they also are inappropriate. As proposed, the Tentative Order provides that if a discharge exceeds a MAL, it will be presumed that the Permittee has not met the MEP standard. In other words, at a minimum, the MAL for a given pollutant represents MEP. This is inconsistent with federal and state guidance on the MEP standard.</p>	Please see response to comment 33.

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37	4	MAL	D	<p>As discussed above, the MEP standard is not defined by the Clean Water Act or by U.S. EPA. After its initial experience with the MEP standard as implemented through the Phase I MS4 permits, U.S. EPA provided additional guidance as to the standard in the preamble to its Phase II regulations for small MS4s: EPA has intentionally not provided a precise definition of MEP to allow maximum flexibility in MS4 permitting. MS4s need the flexibility to optimize reductions in storm water pollutants on a location-by-location basis. EPA envisions that this evaluative process will consider such factors as conditions of receiving waters, specific local concerns, and other aspects included in a comprehensive watershed plan. Other factors may include MS4 size, climate, implementation schedules, current ability to finance the program, beneficial uses of receiving water, hydrology, geology, and capacity to perform operation and maintenance. The pollutant reductions that represent MEP may be different for each small MS4, given the unique local hydrologic and geologic concerns that may exist and the differing possible pollutant control strategies. . . . EPA envisions application of the MEP standard as an iterative process. MEP should continually adapt to current conditions and BMP effectiveness and should strive to attain water quality standards. Successive iterations of the mix of BMPs and measurable goals will be driven by the objective of assuring maintenance of water quality standards. . . . 64 Fed. Reg. at p. 68754.</p>	<p>Please see response to comment 33.</p> <p>Furthermore, proposed changes to the Tentative Order include a requirement to update MALs to include end-of-pipe storm water monitoring data, thus creating a more localized dataset, which is the approach preferred by the 206 Blue Ribbon report. It is expected that utilizing local data will create MALs that more closely reflect the MEP standard for Copermittees, which may result in MALs that are higher and/or lower based upon local conditions.</p>
38	4	MAL	D	<p>Similarly, the State Water Board has not defined the MEP standard. However, it too has provided guidance that emphasizes the flexible nature of the standard: If, from [a] list of BMPs, a permittee chooses only a few of the least expensive methods, it is likely that MEP has not been met.</p> <p>On the other hand, if a permittee employs all applicable BMPs except those where it can show that they are not technically feasible in the locality, or whose cost would exceed any benefit to be derived, it would have met the standard. MEP requires permittees to choose effective BMPs, and to reject applicable BMPs only where other effective BMPs will serve the same purpose, the BMPs would not be technically feasible, or the cost would be prohibitive. State Water Board Order WQ 2000-11 at p. 20. In light of this state and federal guidance, it is inappropriate for the Tentative Order to attempt to define MEP for a given pollutant with a numeric concentration, i.e., a MAL. For the above reasons, the County requests that Section D be removed from the next draft of the Tentative Order.</p>	<p>Please see response to comment 33.</p>

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39	4	NEL	E	<p>B. The Proposed Numeric Effluent Limits For Discharges of Non-Stormwater From The MS4 Are Not Supported By Federal Law.</p> <p>1. The Clean Water Act Requires That MS4 Permits Include Requirements To “Effectively Prohibit” Discharges Of Non-Storm Water Into The MS4 And Controls To Reduce The Discharge Of Pollutants From The MS4 To The Maximum Extent Practicable; The Act Does Not Require That Non Stormwater Discharges From The MS4 Meet Numeric Effluent Limitations.</p> <p>The Tentative Order would explicitly impose numeric effluent limits (NELs) on discharges from MS4s. Section C incorporates NELs for non-stormwater dry weather discharges into receiving waters. The Tentative Order provides no legal authority for imposing this new and significant requirement. The Supplemental Fact Sheet simply states that because Permittees’ past efforts at controlling pollutants in non-stormwater discharges have been ineffective, NELs on those pollutants are necessary. To the extent there is legal authority for imposing NELs on nonstormwater discharges from the MS4, it is not found in the Clean Water Act.</p>	<p>The Clean Water Act (CWA) employs the strategy of prohibiting the discharge of any pollutant from a point source unless the discharger of the pollutant(s) obtains a NPDES permit pursuant to Section 402 of the Clean Water Act. The discharge of storm water and non-storm water from an MS4 system is considered a discharge from a point source.</p> <p>In 1987 the CWA was amended to include provisions that specifically concerned NPDES permitting requirements for storm sewer discharges from the MS4. Section 402(p), for Municipal and Industrial Stormwater Discharges, regulates the discharge of storm water from a point source (e.g. the municipal separate storm sewers). Storm water means storm water runoff, snowmelt runoff, and surface runoff and drainage (related to precipitation events, see 40 CFR 122.26(b)(13) and 55 Fed Reg 47995-96).</p> <p>Section 402(p)(3)(B), permit requirements for municipal discharges, states that municipal storm water NPDES permits:</p> <p>“(j) may be issued on a system- or jurisdiction-wide basis;</p> <p>(ii) shall include a requirement to effectively prohibit non-stormwater discharges into the storm sewers; and</p> <p>(iii) shall require controls to reduce the discharge of pollutants to the maximum extent practicable, including management practices, control techniques and system, design and engineering methods, and such other provisions as the Administrator or the State determines appropriate for the control of such pollutants.”</p> <p>Thus, non-storm water discharges into, through and thus from the MS4 are not covered under 402(p)(3)(B)(iii), as they are required to be effectively prohibited, not reduced to the maximum extent practicable. This is, in effect, a narrative prohibition of discharge. The Federal Register (Vol. 55, No. 222, page 47995) provides further clarification regarding non-storm water discharges, defined as “Illicit Discharges”:</p> <p>“Today’s rule defines the term “illicit discharge” to describe any discharge through a municipal separate storm sewer system that is not composed entirely of storm water and that is not covered by an NPDES permit. Such illicit discharges are not authorized under the Clean Water Act. Section 402(p)(3)(B) requires that permits for discharges from municipal separate storm sewers require the municipality to “effectively prohibit” non-storm water discharges from the municipal separate storm sewer...Ultimately, such non-storm water discharges through a municipal separate storm sewer must either be removed from the system or become subject to an NPDES permit.”</p> <p>The Federal Register (47995-47996) goes on to state that:</p> <p>“Congress did not intend that the term storm water be used to describe any discharge that has a de minimis amount of pollutants, not did it intend for section 402(p) to be used to provide a</p>

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moratorium from permitting other non-storm water discharges.”

Those wishing to continue non-storm water discharges into (and thus through and from) the MS4 are required to obtain coverage under a separate NPDES permit, pursuant to section 402, not 402(p). The federal regulations (40 CFR 122.26(d)(vi)(2)(B)) require that the municipal separate storm sewer discharger: “Prohibit through ordinance, order or similar means, illicit discharges to the municipal separate storm sewer.”

However, the Federal Register (55, page 48037) and 40 CFR 122.26(d)(iv)(B) clarifies that certain components and categories of discharges are not required to be prohibited. The Code of Federal Regulations requires the discharger have: “. . .a program, including inspections, to implement through ordinance, orders or similar means to prevent illicit discharges to the municipal separate storm sewer system; this program shall address all types of illicit discharges, however, the following category of non-storm water discharges or flows shall only be addressed where such discharges are identified by the municipality as sources of pollutants to the United States: water line flushing, landscape irrigation, diverted stream flows, rising ground waters, uncontaminated groundwater infiltration (as defined at 40 CFR 35.2005(20) to separate storm sewers, uncontaminated pumped groundwater, . . .” As such, the identification of any of these categories as a source of pollutants requires them to be addressed as illicit discharges, which are not authorized under the CWA, and are required to be “effectively prohibited” via ordinance, order or similar means.

Separate permits for discharges to the municipal storm sewer system can be obtained. The Federal Register (55, page 48037) states that: “Permits for such discharges must meet applicable technology-based and water quality-based requirements of Sections 402 and 301 of the CWA. If the permit for a non-storm water discharge to a municipal separate storm sewer contains water quality-based limitations, then such limitations should generally be based on meeting applicable water quality standards at the boundary of the State established mixing zone (for States with mixing zones) located in the receiving waters of the United States.” The Regional Board and State Board have issued multiple permits for non-storm water discharges into MS4 systems, including R9-2008-0002 (extracted groundwater), R9-2002-0020 (hydrostatic discharge) and 2006-008 DWQ (utility vaults), pursuant to section 402 of the CWA. These discharges are required to meet limitations upon discharge into the MS4 system.

The Federal Register (55, page 48037) provides additional clarification on how non-storm water discharges from the MS4 are to be regulated: “Conveyances which continue to accept other “non-storm water” discharges (e.g. discharges without an NPDES permit) with the exceptions

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noted above (exempted discharges that are not a source of pollutants) do not meet the definition of municipal separate storm sewer and are not subject to 402(p)(B) of the CWA unless such discharges are issued separate NPDES permits. Instead, conveyances which continue to accept non-storm water discharges which have not been issued separate NPDES permits are subject to sections 301 and 402 of the CWA.”

As such, non-storm water discharges that occur are not subject to the MEP standard under 402(p), as 402(p) is for storm water discharges. Any non-storm water discharges from the MS4 that occur are:

- i) illicit discharges;
- ii) exempted categories that are not a source of pollution; and/or
- iii) discharges subject to a separate NPDES permit under section 402 of the CWA.

Owners and operators of the MS4 (dischargers) cannot passively receive discharges from third parties (Federal Register 68766) and thus are responsible for the discharge of non-storm water from their MS4, and the discharge of non-storm water from the MS4 that is a source of pollutants is considered an illicit discharge, which is not authorized under the CWA. Such discharges are required to be prohibited or subject to a NPDES permit under section 402 of the CWA. They are not to be reduced to the maximum extent practicable under 402(p)(B)(iii).

For the last 19 years, Southern Orange County NPDES permits for discharges of runoff (non-storm water and storm water) have required Copermittees (dischargers) to prohibit non-storm water discharges into (thus through and from) their MS4 systems, implement a program to prevent illicit discharges, and monitor to identify illicit discharges and exempted discharges that are a source of pollution. These measures are considered Best Management Practices (BMPs), are required under 402(p), and are considered by USEPA to be an interim approach to permitting non-storm water discharges from the MS4 in accordance with section 402 of the CWA.

For NPDES permits under 402 of the CWA, the Code of Federal Regulations (122.44(k)) clarify that a discharger may utilize BMPs to control or abate the discharge of pollutants when:

- “(1) Authorized under section 304(e) of the CWA for the control of toxic pollutants and hazardous substances from ancillary industrial activities;
- (2) Authorized under section 402(p) of the CWA for the control of storm water discharges;
- (3) Numeric limits are infeasible; or
- (4) The practices are reasonably necessary to achieve effluent limitations and standards or to carry out the purposes and intent of the CWA.”

As BMPs have been utilized by the discharges for the past 19 years, the Regional Board has evaluated (in accordance with 40 CFR 122.44(d)(1)) past and existing controls (BMPs), non-storm water effluent monitoring results, the sensitivity of the species in receiving waters (e.g. endangered species), and the potential for

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					effluent dilution, and has determined that BMPs are not sufficient to protect water quality standards as non-storm water discharges from the MS4 continue to cause, have the reasonable potential to cause, or contribute to excursions above applicable water quality criteria. Thus, numeric effluent limitations have been established in accordance with federal regulations under 40 CFR 122.44 to control the discharge of pollutants to protect water quality standards (see the updated Supplemental Fact Sheet for further information).
40	4	NEL	E	The Clean Water Act very clearly defines the discharge requirements for permits for discharges from municipal storm sewers (i.e., MS4s permits). Such permits may be issued on a system or jurisdiction-wide basis, must include a requirement to effectively prohibit non-stormwater discharges into the storm sewer, and must require controls to reduce the discharge of pollutants from the storm sewer to the maximum extent practicable. CWA § 402(p)(3)(B); 33 U.S.C. § 1342(p)(3)(B). It is the discharge of pollutants from the MS4, regardless of whether they are in stormwater or non-stormwater, which must be reduced to the maximum extent practicable. Section 402(p) of the Clean Water Act does not distinguish between wet weather and dry weather discharges. Thus the Clean Water Act does not require or provide authority for imposing NELs on the discharge of non-stormwater from MS4s.	Please see response to comment 39. As detailed in the response to comment no. 39, CWA § 402(p) pertains to 'storm water.' The very title of the section is "Municipal and Industrial Stormwater."
41	4	NEL	E	2. The Federal Stormwater Regulations Implement the Clean Water Act's "Effective Prohibition" Requirement. Nor do the federal stormwater regulations impose separate requirements on discharges of nonstormwater from the MS4. Instead, tracking the Clean Water Act language, the federal regulations and preamble impose specific requirements as to how Permittees are to address non-stormwater discharges into the MS4 (i.e., "effectively prohibited"). The regulations use the term "illicit discharge," which means any discharge to the MS4 that is not composed entirely of stormwater, except discharges pursuant to a separate NPDES permit and discharges resulting from fire fighting activities. 40 C.F.R. § 122.26(b)(2). Permittees must have a program to prevent illicit discharges into the MS4. 40 C.F.R. § 122.26(d)(2)(iv)(B)(1). The regulations also require Permittees to address "improper disposal" into the MS4 of used oil and toxic materials through educational activities on the proper management and disposal of these materials. 40 C.F.R. § 122.26(d)(2)(iv)(B)(6).	Section 402(p) of the Clean Water Act is specifically for municipal and industrial storm water discharges (see response to Comment 39). Section 402(p) does include a requirement that permits include a limitation on non-storm water discharges into the MS4 (zero discharge), unless those discharges into the MS4 are covered under a separate NPDES permit under Section 402 of the Clean Water Act, or are exempted and not a source of pollutants (40 CFR 122.26(d)). As discussed in the updated Supplemental Fact Sheet, non-storm water discharges from the MS4 are likely to contain pollutants that cause or threaten to cause an exceedance of the water quality standards, as outlined in the Regional Board's Water Quality Control Plan for the San Diego Basin. As such, to prevent the discharge of non-storm water from causing or contributing to a condition of pollution in the receiving waters, appropriate limitations have been included that ensure the effective prohibition of non-storm water discharges into the MS4 and identify any exempted discharges that are a source of pollution and need to be addressed as illicit discharges through prohibition.

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42	4	NEL	E	<p>U.S. EPA (and presumably Congress) was very aware of the problem that discharges of nonstormwater into the MS4 could create. However, rather than imposing on MS4 owners and operators (e.g., Permittees) numeric limits on the discharge of non-stormwater from the MS4, the federal scheme requires that the owners/operators of such non-stormwater discharges obtain NPDES permits to discharge into the MS4. Permits for such discharges must meet applicable technology-based and water-quality based requirements of the Clean Water Act. By comparison, as part of the MEP standard applicable to discharges of all pollutants from the MS4 (regardless of whether in stormwater or non-stormwater), the owner/operator of the MS4 must develop a program to prevent illicit discharges into the MS4.</p>	<p>The Regional Board acknowledges that USEPA (and presumably US Congress) was indeed aware of the problem that non-storm water discharges into the MS4 could create. The Regional Board contends that the federal regulations under 40 CFR 122.26(d) are clear, and any discharge of non-storm water that is a source of pollutants is required to be addressed as an illicit discharge. Such discharges are not subject to MEP. Please see response to Comment 39 and the Supplemental Fact Sheet for further discussion.</p>
43	4	NEL	E	<p>The Supplemental Fact Sheet suggests that 40 C.F.R. § 122.44(k) somehow requires the imposition in MS4 permits of NELs for the discharge of non-stormwater from the MS4. That is not correct. As discussed above, the only standard applicable to discharges from an MS4 is the Clean Water Act-mandated MEP standard. Section 122.44(k) simply provides that BMPs are to be included in NPDES permits generally when authorized under Clean Water Act section 402(p) or when NELs are infeasible. It says nothing about requiring NELs in MS4 permits.</p>	<p>The supplemental fact sheet has been clarified to explain that Copermittees are using Best Management Practices to attain the requirement of effective prohibition (zero discharge) for non-storm water illicit discharges into, through and from the MS4 system. Discharges of non-storm water from the MS4 are not subject to the MEP standard under 402(p), which is specifically for discharges of storm water from the MS4 (see response to Comment 39 and Supplemental Fact Sheet). Instead, discharges of non-storm water to waters of the United States are regulated under Section 402 of the Clean Water Act. Thus, federal regulations under 40 CFR 122.44(k) are applicable to non-storm water discharges.</p> <p>The state's water quality protection requirements within the Tentative Order are authorized by Federal Law, and are not unfunded mandates. Please see comments #155 and 165.</p>

Comment No.	Commenter	Subject	Section	Specific Comment	Comment Response
44	4	NEL	E	<p>3. Non-Stormwater Discharges Into The MS4 May Be Controlled By Separate NPDES Permits For The Discharger Of The Non-Stormwater.</p> <p>To the extent discharges of non-stormwater into the MS4 are permitted under separate NPDES permits, the Permittees likely have no control over the pollutants, or pollutant concentrations, discharged from the MS4. Depending on the terms of the non-stormwater NPDES permits, the discharge from the MS4 may or may not meet the proposed effluent limits in Section C of the Tentative Order. Permittees cannot be held strictly responsible for meeting numeric limits when they have no control over such discharges.</p> <p>For the above reasons, the County requests that Section C be removed from the next draft of the Tentative Order.</p>	<p>As owners and operators of the MS4 system, the Copermittees are required to prohibit non-storm water discharges, can prohibit exempted discharges and can prohibit discharges subject to a separate NPDES permit from entering their MS4 system. Copermittees have control over such discharges into their MS4 and cannot passively receive discharges from third parties (Federal Register 68766). Non-storm water point source discharges, including those into MS4s, are subject to Section 402 of the Clean Water Act. For example, Order R9-2008-0002, for discharges of groundwater into surface waters, requires water-quality based effluent limitations be met for discharges entering surface waters, including via the MS4 system, and requires the groundwater discharger to obtain permission from the owner and operator of the MS4 prior to discharge into, and thus from, the MS4 system. This Order (R9-2008-0002) applies to multiple non-storm water discharges that are currently exempted at 40 CFR 122.26(d).</p> <p>Discharges that are subject to a separate NPDES permit are required to discharge into the MS4 as if that MS4 is a surface water with associated water quality standards. Thus, the Copermittees resulting non-storm water discharge, from allowing the non-storm water discharge under a separate NPDES permit to enter the MS4, should result in a MS4 discharge at a level which will not cause excursions above effluent limitations in the Tentative Order. Those limitations are based upon the same water quality standards under CWA 402. The requirements of Section C.1 of the Tentative Order recognize that other, permitted sources could be discharging into the MS4. That is why the section is written to provide for an investigation of the source of the discharge to occur after an exceedances of an NEL is found. Please see response to Comment 39 and the Supplemental Fact Sheet for further discussion.</p>
45	4	Retrofitting	F.3	<p>T.O. Section F.3.d. As drafted, Permittees could meet the new retrofitting requirements of Section F.3.d and still be in violation of the Order if, among other things, they didn't also solve chronic flooding problems.</p>	<p>Comment noted, the language has been changed to "address chronic flooding problems". Although considered a goal of the retrofitting requirement, the draft Tentative Order does not set an enforceable timeframe to achieve this goal in Section F.3.d.</p>

Comment No.	Commenter	Subject	Section	Specific Comment	Comment Response
46	4	Retrofitting	F.3.	<p>Aside from the breadth of the new requirements, the County objects to the retrofit provision to the extent it would be impracticable and incredibly onerous (if possible at all) to implement and is not required by the Clean Water Act. To the extent such a provision is appropriate in an MS4 permit, it must be clear that Permittees may have no means of compelling private property owners to retrofit their existing developments. Proposed section F.3.d.(3), which says that Permittees "must" require select developments to implement retrofitting activities, and section F.3.d.(4), which talks about "requiring retrofitting on existing development," should be revised accordingly. And since Permittees cannot force owners to retrofit their developments, it makes little sense to require Permittees to identify existing developments that are sources of pollutants and then evaluate and rank them to prioritize retrofitting as sections F.3.d(1) and (2) would do. Without legal support for the retrofitting requirement and unless the requirement is substantially revised to reflect that it would be largely a voluntary program, the County requests that Section F.3.d be removed from the next draft of the Tentative Order.</p>	<p>The requirement to retrofit is consistent with the federal regulations and the Clean Water Act. The Clean Water Act in section 402(p)(3)(B)(ii-iii) states "Permits for discharges from municipal storm sewers shall require controls to reduce the discharge of pollutants [in storm water] to the maximum extent practicable, including management practices, control techniques and system, design and engineering methods, and such other provisions as the Administrator or the State determines appropriate for the control of such pollutants." Retrofitting existing development is an appropriate management practice and control technique that includes design and engineering methods.</p> <p>Since this provision seeks to reduce impacts from storm flows, the permit language has been modified to reflect the maximum extent practicable standard. The Regional Board realizes that Copermittees cannot force owners to retrofit their developments, hence the inclusion of section F.3.d.(4). By identifying these sites, the Copermittees are prepared to reach out to the landowners and prioritize their program for education, demonstration projects, public and private partnerships, and subsidized retrofitting projects. Also by identifying these privately held areas for retrofitting, the Copermittees are prepared in the event that the landowner decides to retrofit, or to reach out to the new landowner in the event that the property changes ownership.</p> <p>The key word in Section F.3.d.3 is the word "select." The Copermittees must only consider a retrofit project in that years work plan after conducting the evaluation and rankings of Section F.3.d.4. If a retrofit project ranks as one of the top work plan priorities in the process identified in Sections G.3 and J.4 the Copermittees must implement the selected retrofit project. Section F.3.d.3 is revised to reflect this intent.</p>

Comment No.	Commenter	Subject	Section	Specific Comment	Comment Response
47	4	Urban Runoff	General	<p>Without explanation, the Tentative Order universally deletes the word "urban" from everywhere it formerly modified the word "runoff" (and sometimes the term "Stormwater"). Thus Jurisdictional Urban Runoff Management Plans (JURMPs) are now simply Jurisdictional Runoff Management Plans (JRMPs). The Standard Urban Storm Water Mitigation Plan or SUSMP is now just the Standard Stormwater Mitigation Plan or SSMP. Staff has indicated that this universal change was intended to clarify that Permittees are responsible not just for urban runoff that is discharged from their MS4s, but all runoff.</p> <p>Even if "urban runoff" is not defined in the Clean Water Act or federal stormwater regulations, it is clear that it is urban runoff that is the problem the federal regulations seek to address. Stormwater runoff from natural, undeveloped land generally does not create water quality problems.</p> <p>Regulation of stormwater has always focused on urban runoff. After the 1972 amendments to the Federal Water Pollution Control Act (aka the Clean Water Act) began regulating point source discharges of industrial process wastewater and municipal sewage, "it became evident that more diffuse sources (occurring over a wide area) of water pollution, such as agricultural and urban runoff were also major causes of water quality problems." 55 Fed. Reg. at p. 47991. Because agricultural stormwater discharges are statutorily exempt from the NPDES program, the focus turned to urban runoff. Id. "[I]t is the intent of EPA that [stormwater] management plans and other components of the programs focus on the urbanized and developing areas of the county." Id. at p. 48041.</p>	<p>The supplemental fact sheet explains the rationale behind the removal of the term "urban runoff." Among other reasons, this is consistent with federal regulations (40 CFR 122.26). The Copermittees are responsible for all discharges from their MS4 whether from an urban, suburban, or semi-rural land use. By owning and operating the MS4 system, the Copermittee is responsible for the discharge from the MS4 and cannot passively receive discharges from third parties (Federal Register 68766). We agree that storm water runoff from natural, undeveloped land generally does not create water quality problems. The draft Tentative Order does regulate discharges from the Copermittee's MS4 system, as such, the Copermittee's cannot simply blame the nature of their discharge on upstream contributions outside of their control; again, the Copermittees cannot passively receive discharges from third parties. The Copermittees are required to address storm water discharges from third parties to the MEP.</p> <p>The term "urban runoff" was well known to the authors of the Clean Water Act and the federal storm water regulations as evidenced in the discussion of the final rule for the phase 1 regulations (Federal Register Vol. 55, No. 222, November 16, 1990) and the discussion of the final rule for the phase 2 regulations (Fed. Reg. Vol. 63, No. 235, December 8, 1999). Yet, the regulatory authors deliberately chose not to use the term "urban runoff" in the codified Phase 1 regulations (40 CFR 122.26).</p> <p>The term "urban" has been legally defined by the US Census Bureau as an area with a population density of at least 1,000 people per square mile (55 FR 42592, October 22, 1990). The phase 2 regulations for MS4 discharges use this definition of "urban" in determining permittees in urbanized areas. Contrary to phase 2, the phase 1 MS4 discharge regulations require NPDES permits for all MS4 discharges in the defined regulatory areas, including Orange County. The discussion in the federal register makes clear that the intent is to regulate all MS4 discharges and not just MS4 discharges from urban areas.</p> <p>Although, the Commenter quoted the federal register as saying "[I]t is the intent of EPA that [storm water] management plans and other components of the programs focus on the urbanized and developing areas of the county." The full text of the Federal Register states, "While permits issued for these municipal systems will cover municipal systems discharges in unincorporated portions of the county, it is the intent of EPA that management plans and other components of the programs focus on the urbanized and developing areas of the county." (Fed. Reg. Vol. 55, No. 222, November 16, 1990, 48041) Although the Tentative Order does cover all MS4 discharges, including discharges not in an urban area, the Regional Board expects the Copermittees to focus on the urbanized and developing areas within their</p>

Comment No.	Commenter	Subject	Section	Specific Comment	Comment Response
					<p>jurisdiction. This focus will be a natural outgrowth of their program, because the urbanized areas will have more population and development that will require more education, BMPs, and complaint response.</p> <p>The federal register goes on in several places clarifying that the intent of the regulations is to cover all MS4 discharges within the permitted area. "[The regulations] will result in discharges from separate storm sewer systems serving State highways and other highways through storm sewers ... in unincorporated portions of specified counties being included as part of the large or medium municipal separate storm sewer systems, since all municipal separate storm sewers within the boundaries of these political entities are included." (55 FR. 48041) and "The definition [of MS4] provides that all systems within a geographical area including highways and flood controls will be covered, thereby avoiding fragmented and ill-coordinated programs." (ibid 48043)</p> <p>The removal of the term "urban runoff" is consistent with the code of federal regulations regarding storm water. In addition, removing the term "urban runoff" is consistent with the Los Angeles Regional Board's recently adopted MS4 permit for Ventura County and consistent with the State Board's MS4 permit for the California Department of Transportation.</p> <p>Furthermore, this change is supported by the USEPA (please see Comment No. 306).</p>

Comment No.	Commenter	Subject	Section	Specific Comment	Comment Response
48	4	Urban Runoff	General	<p>This emphasis on urban runoff is reflected in the foreword to the 1982 Final Report of EPA's Nationwide Urban Runoff Program (NURP):</p> <p>The possible deleterious water quality effects of nonpoint sources in general, and urban runoff in particular, were recognized by the Water Pollution Control Act Amendments of 1972. Because of uncertainties about the true significance of urban runoff as a contributor to receiving water quality problems, Congress made treatment of separate stormwater discharges ineligible for Federal funding when it enacted the Clean Water Act in 1977. To obtain information that would help resolve these uncertainties, the Agency established the Nationwide Urban Runoff Program (NURP) in 1978. This five year program was designed to examine such issues as:</p> <ul style="list-style-type: none"> • The quality characteristics of urban runoff, and similarities or differences at different urban locations; • The extent to which urban runoff is a significant contributor to water quality problems across the nation; and • The performance characteristics and the overall effectiveness and utility of management practices for the control of pollutant loads from urban runoff. <p>NURP Report at p. iii. According to the NURP Report, as early as 1964 the federal government had become concerned about identified pollutants in urban runoff and concluded that there may be significant water quality problems associated with stormwater runoff. NURP Report at p. 2-1.</p>	Please see further discussion on comment 47.
49	4	Urban Runoff	F.3	<p>The focus on urban runoff also is reflected in U.S. EPA's website where, on its NPDES Stormwater FAQ page, U.S. EPA states that the "NPDES stormwater permit regulations, promulgated by EPA, cover the following classes of stormwater discharges on a nationwide basis:</p> <ul style="list-style-type: none"> • Operators of MS4s located in "urbanized areas" as delineated by the Bureau of the Census, • Industrial facilities in any of the 11 categories that discharge to an MS4 or to waters of the United States; all categories of industrial activity (except construction) may certify to a condition of "no exposure" if their industrial materials and operations are not exposed to stormwater, <p>thus eliminating the need to obtain stormwater permit coverage,</p> <ul style="list-style-type: none"> • Operators of construction activity that disturbs 1 or more acres of land; construction sites less than 1 acre are covered if part of a larger plan of development. See U.S. EPA's web page at http://cfpub.epa.gov/npdes/faqs.cfm?program_id=6#302 (emphasis added). 	<p>The USEPA website mentioning "urbanized areas" is referencing the text of the Phase 2 MS4 regulatory language in CFR Section 122.32: "As an operator of a small MS4, am I regulated under the NPDES storm water program? (a) ... you are regulated if you operate a small MS4, ... , and (1) Your small MS4 is located in an urbanized area ..."</p> <p>The draft Tentative Order is a phase 1 permit therefore the referenced language does not apply to the draft Tentative Order. Instead, the phase 1 regulations require permits for all MS4 discharges within the designated area of Orange County." Please see response to Comment No. 47.</p>

Comment No.	Commenter	Subject	Section	Specific Comment	Comment Response
50	4	Urban Runoff	F.3	<p>Finally, the urban runoff focus also is reflected in the San Diego Board's own Basin Plan which discusses the problem of stormwater runoff in terms of urbanization and cites to the NURP report. See Basin Plan at pp. 4-78 & 79. Because the focus of stormwater regulation is urban runoff and because the Tentative Order provides no compelling reason to remove the term "urban" from the permit (e.g., improved water quality), the County requests that the term be restored in the next draft of the Tentative Order.</p>	<p>The term "urban runoff" in the Basin Plan is used in a general sense as previously defined in MS4 permits, as being all flows in a storm water conveyance system and consists of the following components: (1) storm water (wet weather flows) and (2) non-storm water illicit discharges (dry weather flows). In this definition of the term, it is not used to limit or distinguish between urban and non-urban MS4 systems; but rather only as a collective term regarding the discharge from such MS4 systems whether they be in a urban or non-urban area. The term is not used in a strict regulatory capacity, as it would convey if used in the draft Tentative Order or the Code of Federal Regulations. Please see response to Comment No. 47 for more discussion.</p>
51	4	FETD	F.3.	<p>The previous drafts of the Tentative Order proposed to regulate so-called FETDs – Facilities that Extract, Treat and Discharge to waters of the U.S. The current draft of the Tentative Order mentions these so-called FETDs but does not regulate them.² To the extent such facilities discharge non-stormwater to the MS4, the County believes it is appropriate to regulate them as a category of non-stormwater discharges in Section B. of the Order. Under Section B, to the extent the discharge from a FETD is not a significant source of pollutants to waters of the U.S., Permittees would not be required to effectively prohibit the discharge.</p> <p>The following language, from the Santa Ana Regional Board's current draft North County MS4 permit, could be added as Section B.5 of the Tentative Order:</p> <p>5. Permittees shall effectively prohibit discharges from FETDs to the MS4 unless the following conditions are met:</p> <ol style="list-style-type: none"> The discharge must not contain pollutants added by the treatment process or in greater concentration than in the influent; The discharge must not cause or contribute to downstream erosion; The discharge must be in compliance with Section 404 of the Clean Water Act; and Permittees conduct monitoring of the FETD discharge in accordance with the Monitoring and Reporting Program in Attachment E. <p>The County requests the above language be included in the next draft of the Tentative Order.</p>	<p>The Regional Board disagrees with the comment, which states that FETDs are not a source of pollutants and thus should be included as an exempted non-storm water discharge under Section B of the Order. Section B of the Order requires that Copermitees prohibit discharges into the MS4, unless the discharge is specifically exempted (and not a source of pollutants) or subject to a separate NPDES permit. FETDs extract from waters of the U.S., treat the extracted water and then return the treated water to waters of the U.S. The activities from FETDs do not involve discharges into the MS4 system and thus are not subject to exempted categories. FETDs are further discussed in the updated Supplemental Fact Sheet.</p> <p>The requirements suggested by the County are almost exactly the same as those contained in the previous version of this permit (no. R9-2008-0001). It was those very same provisions that the County argued were 'prohibitive' at the Feb 2008 meeting. Further, in written comments submitted on Jan 24, 2008, the County states that "...these requirements are not supported by law and will impose unnecessary burdens..." and that "...there is no basis for regulating FETDs under the federal NPDES permit program..." The Counties Jan 08 letter again requested that "... the FETD requirements be deleted." In partial response to these types of comments, the Regional Board Executive Officer informed the Board that FETDs be removed from the tentative Order and regulated either individually or in a separate general permit specific to FETDs.</p> <p>Discharges from FETDs must meet water quality standards, including numeric water objectives for applicable beneficial uses in the receiving waters. The Regional Board has consistently stated that regulating these discharging facilities as BMPs is an interim measure and that eventually a non-MS4 NPDES permit will be needed. Any entity that withdraws water from a stream has total responsibility for the water's quality upon discharge to receiving waters. If a FETD operator wants to discharge to a stream, that water, like any other water, needs to be treated to a quality that supports all the stream's beneficial uses and will not cause the Basin Plan objectives for surface waters to be exceeded.</p>

Comment No.	Commenter	Subject	Section	Specific Comment	Comment Response
52	4	Overirrigation	B	<p>Finding C.14 of the Tentative Order says that the Permittees have identified landscape irrigation, irrigation water, and lawn water as sources of pollutants to waters of the U.S. These three categories are exempt non-stormwater discharges under the current permit. Section B.2 of the Tentative Order removes these three categories from the list of exempt non-stormwater discharge categories. Removing the three categories would be inconsistent with the federal stormwater regulations.</p> <p>The federal stormwater regulations include a list of categories of "exempt" non-stormwater discharges or flows. 40 C.F.R. § 122.26(d)(2)(iv)(B)(1). Permittees' illicit discharge and illegal disposal program must address these discharges or flows when they have been identified by Permittees as sources of pollutants to waters of the U.S. Id. The preamble to the federal regulations make clear that the illicit discharge program is meant to implement the Clean Water Act's mandate that stormwater permits include a requirement to effectively prohibit nonstormwater discharges to the MS4. 55 Fed. Reg. at pp. 48037 and 48055.</p> <p>The preamble also makes clear that Permittees' illicit discharge program need not prevent discharges of the "exempt" categories into the MS4 "unless such discharges are specifically identified on a case-by-case basis as needing to be addressed." 55 Fed. Reg. at 47995. In other words, individual discharges within exempt categories must be addressed when the particular discharge is a source of pollutants to waters of the U.S. The federal regulations do not allow for removing entire categories of exempt non-stormwater discharges. U.S. EPA confirmed this case-by-case approach in its Guidance Manual for the Preparation of Part 2 of the NPDES Permit Applications for Discharges from Municipal Separate Storm Sewer Systems (November 1992) ("Part 2 Guidance Manual") where it states: If an applicant knows . . . that landscape irrigation water from a particular site flows through and picks up pesticides or excess nutrients from fertilizer applications, there may be a reasonable potential for a storm water discharge to result in a water quality impact. In such an event, the applicant should contact the NPDES permitting authority to request that the authority order the discharger to the MS4 to obtain a separate NPDES permit (or in this case, the discharge could be controlled through the storm water management program of the MS4.)</p> <p>Part 2 Guidance Manual at p. 6-33 (emphasis added). Accordingly, the County requests that the landscape irrigation, irrigation water, and lawn water non-stormwater categories be restored in the next draft of the Tentative Order.</p>	<p>The Regional Board disagrees with the comment that: "The federal regulations do not allow for removing entire categories of exempt non-stormwater discharges."</p> <p>The Federal Register (as referenced in the above comment), in discussion of exempted categories of non-storm discharges states: "in general, municipalities will not be held responsible for prohibiting some specific components of discharges or flows listed below through their municipal separate storm sewer system, even though such components may be considered non-storm water discharges, unless such discharges are specifically identified on a case-by-case basis as needing to be addressed." (55 Fed Reg 47995). The Regional Board maintains that 40 CFR 122.26(d)(2)(iv)(B)(1) and the Federal Register are clear in discussion of "components" and "categories" of non-storm water discharges, and that the exempted components and categories of non-storm water discharges are required to be addressed through prohibition on a case-by-case basis, not on a discharger by discharger basis.</p> <p>The Federal Register further clarifies that once a category of exempted non-storm water discharges has been identified and prohibited, "operators of such non-storm water discharges need to obtain NPDES permits for these discharges under the present framework of the CWA..." as "such illicit discharges are not authorized under the CWA" (55 Fed Reg 47995, see response to Comment 39). This is consistent with existing NPDES permits applicable to categories of discharges.</p> <p>Furthermore, in addition to the regulations under 40 CFR 122.26(d), the Federal Register (55 Fed Reg 48037) clearly states that "the Director may include permit conditions that either require municipalities to prohibit or otherwise control any of these types of discharges where appropriate."</p> <p>The state's water quality protection requirements within the Tentative Order are authorized by Federal Law, and are not unfunded mandates. Please see comments #155 and 165.</p>

Comment No.	Commenter	Subject	Section	Specific Comment	Comment Response
53	4	Finding	Finding	<p>“Runoff from an MS4” is inaccurate and likely confusing. It would be more accurate to describe runoff into an MS4 and a discharge from the MS4. The permit should track the language of the Clean Water Act, which requires that MS4 permits include requirements to effectively prohibit non-stormwater discharges into the MS4 and to control the discharge of pollutants from the MS4 to the maximum extent practicable.</p>	<p>The Regional Board feels the use of runoff is not inaccurate, as the tentative Order defines runoff as: "All flows in a storm water conveyance system and consists of the following components: (1) storm water (wet weather flows) and (2) non-storm water illicit discharges (dry weather flows)."</p> <p>The Tentative Order does track the Clean Water Act, as Section B requires the effective prohibition of "non-storm water discharges."</p> <p>Please see response to Comment No. 39 regarding storm water and non-storm water discharges from the MS4.</p>
54	4	Finding	Finding	<p>This finding implies that discharges from the MS4 must strictly comply with water quality standards. That is not correct. The Clean Water Act requires that discharges meet the MEP standard. See, e.g., <i>Defenders of Wildlife v. Browner</i>, supra, 191 F.3d at pp. 1166-67.</p>	<p>On the issue of water quality standards, USEPA, the State Board, and the Regional Board have consistently maintained that MS4s must indeed comply with water quality standards. Those water quality standards may be met with numeric effluent limits or by narrative effluent limits. USEPA guidance on the matter, in fact requires that MS4 discharges comply with water quality standards. In a letter to State Board dated January 21, 1998, the USEPA clarified that "EPA's NPDES permitting regulations include 40 CFR 122.44(d), which implements CWA Section 301(b)(1)(C). Section 122.44(d)(1)(i) provides that "[L]imitations must control all pollutants or pollutant parameters...which the Director determines are or may be discharged at a level which will cause, have the reasonable potential to cause or contribute to an excursion above any State Water Quality standard..." This requirement clearly applies to all excursions above WQS."</p> <p>Please see response to Comment No. 39 regarding non-storm water discharges. While implementation of the iterative BMP process is a means to achieve compliance with water quality objectives for storm water discharges, it does not shield the discharger from enforcement actions for continued non-compliance with water quality standards.</p> <p>The commenter is correct in reading that the Clean Water Act does not explicitly require discharges to meet the MEP standard. The decision in <i>Defenders of Wildlife v. Browner</i>, however, find that the Clean Water Act gives the administrator "the discretion to determine what pollution controls are appropriate. Under that discretionary provision, the EPA has the authority to determine that ensuring strict compliance with state water-quality standards is necessary to control pollutants."</p> <p>The state's water quality protection requirements within the Tentative Order are authorized by Federal Law, are necessary to meet the federal MEP standard, and are not unfunded mandates. Please see comments #155 and 165.</p>

Comment No.	Commenter	Subject	Section	Specific Comment	Comment Response
55	4	Finding	Findings	The inaccurate language of this finding, imposing different standards on wet weather and dry weather discharges, continues throughout the permit. The Clean Water Act does not require Permittees to reduce the discharge of pollutants from stormwater to the MEP. Rather, the requirement is to reduce the discharge of pollutants from the MS4 to the MEP (regardless of whether the discharge is of wet weather or dry weather flows). Similarly, the federal requirement is to eliminate illicit discharges into the MS4 (which if accomplished would largely eliminate dry weather flows from the MS4), not to eliminate pollutants in dry weather flows.	Please see response to Comment 39.
56	4	Finding	Finding	Under the Clean Water Act, discharges from the MS4 are required to meet the MEP standard. To the extent the permit, when read with the Basin Plan, requires discharges to meet receiving water limitations, it must be a state law requirement. This finding should be clarified accordingly.	Please see response to Comment 39 for clarification regarding applicability of MEP to non-storm water discharges. Finding E.13 from the March 2009 Tentative Order has been removed, as it is redundant with Finding C.2, which states: "Municipal storm water and non-storm water discharges are likely to contain pollutants that cause or threaten to cause a violation of the water quality standards, as outlined in the Regional Board's Water Quality Control Plan for the San Diego Basin (Basin Plan). Storm water and non-storm water discharges are subject to the conditions and requirements established in the San Diego Basin Plan for point source discharges. These water quality standards must be complied with at all times, irrespective of the source and manner of discharge."
57	4	prohibition	A.	Finding A.3 says the permit is consistent with the State Board's precedential Order 99-05. However, the language in section A.3.b of the Order (which requires Permittees to continue the iterative process unless directed otherwise by the Executive Officer) is not consistent with Order 99-05 (which says Permittees do not have to repeat the process unless directed otherwise by the E.O.). Accordingly, Section A.3.b should be revised consistent with State Board Order 99- 05.	The Tentative Order has been modified to clarify that through adoption of this Tentative Order, the Executive Officer issues a standing order that the Copermittees must repeat the process until directed otherwise. The language has been modified to conform with the rest of the permit.
58	4	ASBS	A	The Ocean Plan prohibition of discharges to ASBS is controversial. Moreover, it is a state law, not federal requirement. Unless the Board can justify it in a MS4 permit, it should be deleted.	The Regional Board has removed ASBS/SWQPA language from the tentative Order. Please note ASBS/SWQPAs, like all water bodies, remain subject to receiving water limitations and discharge prohibitions under the Tentative Order.

Comment No.	Commenter	Subject	Section	Specific Comment	Comment Response
59	4	TMDL	I	<p>The Clean Water Act does not require that an MS4 permit include numeric limits derived from waste load allocations (WLAs) in adopted TMDLs. To the extent the Tentative Order will implement such WLAs, compliance should be through the accepted iterative process for complying with water quality standards.</p>	<p>This Order addresses TMDLs through Water Quality Based Effluent Limits (WQBELs) that must be consistent with the assumptions and requirements of the WLA [40 CFR 122.44(d)(1)(vii)(B)]. Federal guidance states that when adequate information exists storm water permits are to incorporate numeric water quality based effluent limitations (USEPA, Interim Permitting Approach for Water Quality-Based Effluent Limitations in Storm Water Permits, 61 FR 43761, August 26, 1996). In most cases, the numeric target(s) of a TMDL are a component of the WQBELs.</p> <p>When the numeric target is based on one or more numeric WQOs, the numeric WQOs and underlying assumptions and requirements will be used in the WQBELs as numeric effluent limitations by the end of the TMDL compliance schedule, unless additional information is required. When the numeric target interprets one or more narrative WQOs, the numeric target may assess the efficacy and progress of the BMPs in meeting the WLAs and restoring the Beneficial Uses by the end of the TMDL compliance schedule. In either case, the dischargers will have to monitor and implement BMPs using an iterative process to meet the MS4 WLA, restore impaired beneficial uses, and comply with Water Quality Standards.</p>

Comment No.	Commenter	Subject	Section	Specific Comment	Comment Response
60	4	General	General	<p>The Response to Comments issued by the Regional Board dated July 6, 2007, contends that the Drainage Area Management Plan (DAMP) is an unnecessary document and “serves as a collection of model program components from which the Permittees have chosen to base their own program components.” The County takes exception to this view of the DAMP. The DAMP and Local Implementation Plans (LIPs) are fundamental and necessary elements of the MS4 program since they serve as the primary policy and guidance documents for the program and describe the methods and procedures that will be implemented to reduce the discharge of pollutants to the maximum extent practicable and achieve compliance with the MS4 permit performance standards. Indeed, the CWA regulations speak directly to the necessity and importance of the stormwater management plan in the permitting process. The management program “shall include a comprehensive planning process.....to reduce the discharge of pollutants to the maximum extent practicable using management practices, control techniques and system, design and engineering methods, and such other provisions which are appropriate.....Proposed management program shall describe priorities for implementing controls.” 40 CFR 122.16(d)(2)(iv). The necessary detail and prioritization of management efforts must remain at the local level and be described within the DAMP and not in the permit. The significance of the DAMP should therefore be recognized rather than dismissed.</p>	<p>The Regional Board stands by the previous response to comments document and continues to hold the view that the DAMP is a document not required by the Permit. Although it may have some role in guiding the Copermittees in their development of their Local Implementation Plan, the DAMP itself is not an enforceable component of the permit. The Regional Board's legal authority is with issuing requirements to the discharger; for this permit, it is the Copermittee. If the DAMP erroneously leads a Copermittee into a violation of the Tentative Order's requirements, the Regional Board would issue enforcement measures to that individual Copermittee and not to the County. While the individual Copermittees may elect to incorporate certain elements of the DAMP into their local programs, certain requirements in the Tentative Order must be specific enough to ensure that the local programs will reduce discharges of storm water pollutants to the maximum extent practicable (MEP) and effectively prohibit non-storm water discharges (unless exempted or covered by a separate permit).</p> <p>We agree that Local Implementation Plans are fundamental and necessary elements of the MS4 program since they serve as the primary policy and guidance documents for the program and describe the methods and procedures that will be implemented to reduce pollutants in storm water discharges to the maximum extent practicable and to prohibit non-storm water discharges.</p> <p>The commenter misinterprets the Clean Water Act regulations. Where the CWA regulations speak to the necessity and importance of the storm water management plan, the regulations do so in regards to the Jurisdictional Runoff Management Plan and not to the DAMP. We disagree with the commenter's importance placed on the DAMP rather than the JRMPs. Each Copermittee's JRMP allows the individual Copermittee to form and implement their own storm water program as they need to for their unique City. The JRMP allows the Copermittee the freedom to improve water quality without needing to adhere to an overarching mandated document that is not required by the Permit and may not reflect the individual Copermittee's unique interests and priorities.</p>

Comment No.	Commenter	Subject	Section	Specific Comment	Comment Response
61	4	General	General	<p>It is noted that the current draft of the Tentative Order comprises 91 pages compared to the 54 pages of the 2008 Tentative Order. The expanding document connotes an increasingly top down approach that potentially reduces the ability of the Permittees to adaptively manage their programs to meet the MEP standard. This approach seems contrary to the discussion of MEP in the Fact Sheet, which stresses the dynamic aspect of the MEP standard and concludes with the statement that The Order provides a minimum framework to guide the Permittees in meeting the MEP standard.</p> <p>The increasingly prescriptive and detailed permits provisions erode the flexibility and local responsibility of Permittees for continued development and improvement of the MS4 program based upon their extensive and collective experience in managing the program. This shift runs counter to the purpose and intent of the federal stormwater management program as set forth in the federal CWA regulations and USEPA guidance. Notwithstanding these statements, the County supports the need to establish performance standards or metrics within the DAMP that will be used to support our program and direct limited resources effectively.</p>	<p>The commenter provides misleading and inaccurate information mis-characterizes the Tentative Order. The 2008 Tentative Order had 81 pages of text not the 54 pages as claimed by the commenter. Also, the draft Tentative Order is in underline strikeout format which inherently lengthens the document.</p> <p>To base the number of pages as defining the MEP standard is a gross over simplification. Regardless of the number of pages, the draft Tentative Order does provide the minimum framework in meeting the MEP standard. As the body of knowledge in storm water permitting and science progresses, MS4 permits naturally become longer and more complex. The preamble of the Federal NPDES storm water regulations places discretion for permit requirements with the permit writer when it states:</p> <p>"The purpose of the two-part application process is to develop information in a reasonable time frame that would build successful decisions with regard to developing permit conditions" (55 FR 48044) and "Proposed management programs will [...] be evaluated in the development of permit conditions" (55 FR 48052).</p> <p>This discretion is further reinforced in the Federal Register by USEPA in its "Interim Permitting Approach for Water quality-Based Effluent Limitations in Storm Water Permit" (61 FR 43761), which states:</p> <p>"In cases where adequate information exists to develop more specific conditions or limitations to meet water quality standards, these conditions or limitations are to be incorporated into storm water permits, as necessary and appropriate."</p> <p>More recent guidance from the USEPA Environmental Appeals Board also supports permit writer discretion, stating:</p> <p>"Congress therefore created the 'maximum extent practicable' ('MEP') standard [...] in an effort to allow permit writers the flexibility necessary to tailor permits to the site specific nature of the MS4 discharges [...] Included in that flexibility was the capacity to direct permit requirements at the sources of pollution in the MS4 rather than solely at the end of pipe." (NPDES Appeal No. 00-18).</p> <p>The Regional Board finds it disconcerting that the commenter characterizes the evolution of the regulatory process as being an "increasingly top down approach." The very nature of the NPDES permitting process (e.g. 5 year reissuance, BAT requirements, TBELS, etc.) requires that NPDES permits be updated over time to reflect updated standards, including those relating to the MEP process for storm water discharges.</p> <p>This draft Tentative Order is the first MS4 permit in Southern Orange County to include numeric effluent limitations for dry weather non-storm water discharges and municipal action levels for wet weather discharges. Following an effectiveness evaluation after the next permit cycle, the use of water-quality based</p>

Comment No.	Commenter	Subject	Section	Specific Comment	Comment Response
					<p>performance criteria could possibly reduce the level of prescriptiveness needed in other permit areas. In addition, as Total Maximum Daily Loads are developed and implemented in the MS4 permits, the level of prescriptiveness will increase. More prescriptive requirements provide more clarity to the discharger on actions and standards needed to meet compliance.</p>

Comment No.	Commenter	Subject	Section	Specific Comment	Comment Response
62	4	General	General	<p>The Tentative Order persists in the inappropriate reference to data that exceed Water Quality Objectives (WQOs) as violations. In several instances the language in the Tentative Order has been changed from the prior Order (R9-2002-0001) to replace the term “exceedance” with the term “violation”. For example, “exceedances of water quality objectives” has been replaced with “violations of water quality objectives” (emphasis added). In some cases, the change is inappropriate.</p> <p>The Tentative Order should use the term “exceedance” where it refers to a comparison of data with criteria such as water quality objectives that are relevant to evaluation of the data. The Tentative Order should use the term “violation” when it is referring to a failure to comply with a prohibition or other requirement of the Tentative Order. Careful use of these terms is important, because an “exceedance” does not equate with a “violation.” For example, while it may be useful to compare water quality monitoring data to receiving water quality objectives and use identified “exceedances” to target potential problems areas and pollutants, it is inappropriate to make this same comparison and determine that there is a “violation”. Indeed, the use of the term “violation” to refer to any exceedance detected would, in effect, be using the water quality objectives or other relevant reference criteria as de-facto numeric effluent limitations. The County again requests modification of the Tentative Order language to use the word “exceedance” instead of “violation” when referring to the comparison of water quality monitoring data to reference criteria. The locations in the permit where these changes should be made are:</p> <ul style="list-style-type: none"> • Page 5, Finding C.9. • Page 6, Finding D.1.b. • Page 10, Finding D.3.d. • Page 12, Finding E.1. • Page 17, A.3. <p>The term “violation” in this section is inconsistent with SWRCB Order WQ 99-05 and needs to be modified to “exceedance“. The iterative language in the receiving water limitations speaks to exceedances of water quality standards, not violations. Urban runoff data cannot in itself indicate a violation of water quality standard. A water quality standard consists of two elements: the beneficial use that we’re trying to protect and the water quality objective established to protect that use. The exceedance of a water quality objective does not necessarily result in a violation of a water quality standard. Runoff data can be described as exceeding water quality objectives, but the assessment of whether or not water quality standards are violated is based upon samples and data from the receiving water and impacts or lack of impacts on beneficial uses. The County further notes that similar MS4 permits draw distinctions between assessing urban runoff monitoring results and describing the receiving water. These permits include the</p>	<p>This comment is one that is continuous with previous objections to the use of the term “violation” in Revised Tentative Orders R9-2008-001 and R9-2007-002, when referring to instances when water quality objectives are exceeded. The commenter prefers the term “exceedance,” as has been used in previous Regional Board documents. This comment was addressed via written response for the 2007 and 2008 tentative Orders.</p> <p>The word “violation” is appropriately used in the referenced Findings as a violation is an exceedance of applicable Basin Plan water quality objectives (and other applicable criteria), and such violations have persistently been documented with sufficient, reliable data for a number of storm water and non-storm water related pollutants in water bodies in Orange County. The comment incorrectly implies that the Findings, which reference violations of water quality objectives, are tantamount to enacting numeric effluent limits (see response to Comment 33 and 39 regarding numeric effluent limits).</p>

Comment No.	Commenter	Subject	Section	Specific Comment	Comment Response
				<p>areawide permits issued by: the San Diego Regional Board to the MS4s draining the watersheds of San Diego County (Order No. R9-2007-0001, NPDES No. CAS0108758, January 24, 2007); and Riverside County (Order No. R9-2004-0001, NPDES No. CAS0108766, July 14, 2004); and those issued by the Santa Ana Regional Board to the MS4s draining the watersheds of San Bernardino County (Order No. R8-2002-0012, NPDES No. CAS618036, April 26, 2002); Riverside (Order No. R8-2002-0011 NPDES NO. CAS 618033, October 25, 2002); and Orange County (Order No. R8-2002-0010 NPDES No. CAS618030, January 18, 2002), and the May 1, 2009 Draft Tentative Order R8-2009-0030 NPDES No. CAS618030). In these permits the monitoring data is described as, or actions are predicated upon, exceedances of water quality standards while prohibitions regarding receiving water tend to use the terminology 'shall not cause or contribute to a violation of water quality standards'. Although the latter is not universal and many permits use the language 'shall not cause or contribute to an exceedance of water quality standards'.</p>	
63	4	Finding	Finding	<p>Finding C.2 seems to be establishing the fact that MS4s are responsible for all sources of pollutant and manner of discharges (see last sentence). The County would submit that municipalities are limited in their ability to control all sources of pollutants (e.g. air pollutants being transported to the receiving waters from the MS4). We recommend that the last sentence be deleted.</p>	<p>Finding C.2 has been modified to clarify that discharges from the MS4 must comply with water quality standards, no matter the source or manner of that discharge. Please see response to Comment 39 regarding non-storm water discharges and response to Comment 54 regarding storm water discharges.</p>
64	4	Monitoring	Findings	<p>Finding C.9. states, in part, that the water quality monitoring data collected to date indicates that there are violations of Basin Plan objectives for a number of pollutants and that the data indicates that runoff discharges are the leading cause of impairment. While the receiving water quality may exceed Basin Plan objectives for constituents identified by the municipalities as pollutants of concern, there is inadequate data to make such a definitive statement that the runoff discharges are the leading cause of impairment in Orange County. This statement does not take into account the other sources within the watershed or the uncertainty within many of the studies that have been conducted. Accordingly, the last sentence of that paragraph should be modified to read, "In sum, the above findings indicate that urban runoff discharges may be causing or contributing to water quality impairments, and warrant special attention."</p>	<p>Finding C.9 (below) does state that runoff discharges are the leading cause of impairment. This is based upon monitoring data submitted to date, as well as sources of impairment identified in 303(d) listings. The commenter does not provide adequate evidence of other discharges, permitted or otherwise, to support the assertion. Furthermore, water quality data does show that discharges of effluent from the MS4 exceed applicable water quality criteria.</p> <p>Finding C.9: The Copermittees' water quality monitoring data submitted to date documents persistent violations of Basin Plan water quality objectives for various runoff related pollutants (fecal coliform bacteria, total suspended solids, turbidity, metals, etc.) at various watershed monitoring stations. Persistent toxicity has also been observed at some watershed monitoring stations. In addition, bioassessment data indicates that the majority of urbanized receiving waters have Poor to Very Poor Index of Biotic Integrity ratings. In sum, the above findings indicate that runoff discharges are causing or contributing to water quality impairments, and are a leading cause of such impairments in Orange County.</p>

Comment No.	Commenter	Subject	Section	Specific Comment	Comment Response
65	4	General	Finding	<p>Finding D.1.c. states that the Tentative Order “contains new or modified requirements that are necessary to improve the Permittees’ efforts to reduce the discharge of pollutants to the MEP and achieve water quality standards”. The Finding further states some of these new or modified requirements “address program deficiencies that have been noted in audits, report reviews, and other Regional Board compliance assessment activities.” In fact, in many cases the new or modified requirements do not have adequate findings of fact and technical justification.</p> <p>In many instances the Fact Sheet not only provides little or no justification of the need for the new requirement, it also does not identify the “program deficiency” that warrants the modification. In many cases the Fact Sheet also does not consider the thorough program analysis that the Permittees conducted as a part of their preparation of the ROWD and the deficiencies and program modifications that Permittees themselves identified as necessary for the program. The Permit Provisions comments in the next section of these comments identify many of the areas where new or modified provisions of the Tentative Order lack factual or technical support in the Fact Sheet.</p>	<p>The Tentative Order's fact sheet and supplemental fact sheet provides all the necessary information regarding program deficiencies and technical justification. The comment is vague and without the necessary detail describing the specific Tentative Order's sections that the commenter believes needs more justification. Where the commenter has sought more information through other sections of their comment letter, the Regional Board has responded accordingly.</p>
66	4	SUSMP	Finding	<p>Finding D.2.b. seems to be making the case that treatment control BMPs are ineffective and should not be used. This Finding overstates or incorrectly states the constraints of treatment control BMPs. It is fair to say that without a performance standard for treatment control BMPs then treatment control BMPs suffer from the constraints noted. However, treatment control BMPs can be effective in removing pollutants for a wide range of storms and, when combined with source control BMPs, provide a comprehensive pollutant reduction strategy. This finding should be significantly modified to support the statement that “using a combination of onsite source control and site design BMPs augmented with treatment control BMPs... is important.”</p>	<p>The Finding simply points out the difference between on-site source control / site design BMPs and end-of-pipe BMPs. The finding describes the importance of on-site source control and site design BMPs by pointing out potential detriments to end-of-pipe BMPs. While end-of-pipe BMPs are effective at reducing pollutants, they nevertheless have some drawbacks and are not preferable to on-site source control and site design BMPs.</p>
67	4	Existing Development	Finding	<p>Finding D.2.e. states that the one-acre threshold for heavy industrial sites is appropriate “since it is consistent with the requirements in the Phase II NPDES stormwater regulations that apply to small municipalities”. The Phase II stormwater regulations do not apply to the Phase I communities. 40 CFR 122.32. The reference to Phase II NPDES regulations and, as discussed below, the corresponding change in the permit provisions should be deleted.</p>	<p>The language in Finding D.2.e does not imply that Phase II storm water regulations apply to Phase I municipalities. The language simply states that smaller municipalities are required to apply the one-acre threshold, thus requiring the same of a larger (Phase I) municipality is reasonable and appropriate. Furthermore, the threshold has been lowered to 10,000 square feet in consistency with other phase 1 MS4 permits throughout California.</p>

Comment No.	Commenter	Subject	Section	Specific Comment	Comment Response
68	4	Hydromod	Finding	<p>Finding D.2.g. identifies that increased volume, frequency, and discharge duration of storm runoff from developed areas has the potential to greatly accelerate downstream erosion, impair stream habitat in natural drainages, and negatively impact beneficial uses. However, it does not acknowledge that hardened or stabilized channels will likely not be susceptible to hydromodification impacts. It is recommended that the Finding be modified as follows:</p> <p>The increased volume, velocity, frequency and discharge duration of storm water runoff from developed areas has the potential to accelerate downstream erosion in natural drainages and unimproved channels, impair stream habitat in natural drainages, and negatively impact beneficial uses. Development and urbanization increase pollutant loads in stormwater and volume of stormwater runoff. Impervious surfaces can neither absorb water nor remove pollutants and thus lose the purification and infiltration provided by naturally vegetated soil. Some channels that are either engineered and maintained, or hardened may not be susceptible to the impacts of hydromodification.</p>	<p>The Regional Board will include the final language suggested by the commenter. In addition, the following sentence will also be added as the last sentence of the paragraph: “Nevertheless, it is important to include hydromodification measures upstream of hardened channels in the event that the hardened channels are restored to their natural state, thereby restoring the chemical, physical, and biological integrity and Beneficial Uses of local creeks.”</p> <p>The Regional Board disagrees with the commenter’s suggestion to modify the text to address natural drainages as “unimproved channels.” This implies that hardened channels are “improved” over natural drainages. In terms of water quality and Beneficial Uses of surface waters, such an interpretation is highly inaccurate. According to the Copermittees’ 2006-2007 monitoring data, urban streams have low Index of Biotic Integrity (IBI) scores. In the absence of water chemistry and toxicity impacts, these low scores were attributed to poor physical habitat conditions, i.e. concrete lining and channelization. Therefore, it is contradictory to refer to such concrete-lined channels as “improved” over natural drainages. The goal of hydromodification requirements are to prevent or further prevent hydromodification impacts on downstream watercourses and eventually restore natural flow regimes. The restoration of natural flow regimes is a major component necessary to protect and restore the physical, chemical and biological integrity of receiving waters, which is a major objective of the Clean Water Act.</p>

Comment No.	Commenter	Subject	Section	Specific Comment	Comment Response
69	4	SUSMP	Finding	<p>Finding E.7. states that, "[u]rban runoff treatment and/or mitigation must occur prior to the discharge of urban runoff into a receiving water." We believe that Finding E.7. is based on a misinterpretation of CWA regulations and misconstrues USEPA guidance on stormwater treatment BMPs. This concern is discussed in detail in Attachment A (Pages 1-7). We wish to comment here on the implications it has for watershed restoration activities.</p> <p>Prohibiting treatment and mitigation in receiving waters severely limits the potential locations for installation of treatment control BMPs and will adversely affect many watershed restoration projects. For example, this Finding may have unintended adverse effects for the Aliso Creek Water Quality SUPER Project.</p> <p>The Aliso Creek Water Quality SUPER Project proposes a multi-objective approach to Aliso Creek watershed development and enhancement, accommodating channel stabilization, flood hazard reduction, economic uses, aesthetic and recreational opportunities, water quality improvements, and habitat concerns. The project is aimed at water supply efficiency and system reliability through reclamation, along with benefits for flood control and overall watershed management and protection. The ecosystem restoration and stabilization component of the project will include:</p> <ul style="list-style-type: none"> • Construction of a series of low grade control structures and reestablishment of aquatic habitat connectivity; • Shaving of slide slopes to reduce vertical banks; and • Invasive species removal and riparian revegetation and restoration of floodplain moisture. <p>The Permittees are concerned that some of these activities may be deemed "urban runoff treatment and/or mitigation" in a receiving water and, thus, may not be allowed, compromising the project objectives. In addition, this Finding seems to conflict with Existing Development Component Section 3.a.(4) Page 51 of the Tentative Order, which requires the Permittees to evaluate their flood control devices and identify the feasibility of retrofitting the devices to provide for more water quality benefits.</p> <p>Given the lack of any proper legal or factual basis for these limitations as well as the adverse impacts on watershed restoration efforts, the Finding should be deleted from the Tentative Order.</p>	<p>This comment was addressed in the 2007 response to comments on a previous version of this draft permit and stated: "The intent of the Finding, and related requirements, is to prevent the conversion of waters of the U.S. and State into waste treatment facilities consistent with Federal guidance. It in no way prevents restoration of natural hydrological, biochemical, and habitat functions. Similarly, providing treatment of urban runoff after it has been discharged from the MS4 to waters of the U.S. does not relieve the Copermittees of their responsibility to implement source control, pollution prevention, and treatment BMPs before the water is discharged from the MS4. If diverted water is treated, then discharged back to waters of the U.S., it is likely to need an individual NPDES Permit. Diversion to the sanitary sewer for treatment is allowable, provided the effluent from the sewage treatment facility can meet its NPDES requirements. This Finding is supported by federal regulation 40 CFR 131.10(a) and USEPA guidance. 40 CFR 131.10(a) is very clear "In no case shall a State adopt waste transport or waste assimilation as a designated use for any waters of the United States.""</p> <p>Where a CWA section 404 permit has been issued by the U.S. Army Corps of Engineers for the conversion of a water body into a non-jurisdictional water, then the placement of a treatment BMP in that area would be consistent with the Tentative Order. However, the placement of fill and other material into the water body may be subject to waste discharge requirements from the Regional Board. Generally, the Copermittees cannot assume that such conversion would be allowed. The Tentative Order requirements for priority projects (Section D.1.d.4) acknowledge that some conversion is likely to be permitted. However, the Copermittees must recognize that limiting such conversions can be a practical site design BMP.</p>

Comment No.	Commenter	Subject	Section	Specific Comment	Comment Response
70	4	FETD	Finding	<p>This finding identifies that the Order does not regulate the discharge of Facilities that Extract, Treat and Discharge (FETDs) to waters of the U.S. It also indicates the intention of the Regional Board to require individual NPDES Permits for each of these types of facilities. Such an approach to the regulation of these facilities is deemed highly problematic to the Permittees for the same reasons that were presented in early 2008, principally that separate permits would likely preclude the use of facilities currently necessary for protecting public health at Orange County's beaches. The Permittees were working on potential FETD language with previous Permit staff during the first draft Permit adoption process prior to postponement by the Board. That language is significantly similar to the draft language found in the Region 8 draft. It is provided below and commended to you for incorporation into the Order. "Discharges from facilities that extract, treat and discharge water diverted from waters of the U.S: These discharges shall meet the following conditions: (1) The discharges to waters of the US must not contain pollutants added by the treatment process or pollutants in greater concentration or load than the influent; (2) the discharge must not cause or contribute to a condition of erosion; (3) The extraction and treatment must be in compliance with Section 404 of the Clean Water Act; and (4) Conduct Monitoring in accordance with Monitoring and Reporting Program attached to this Order."</p>	<p>The intent of Finding E.9 is to clarify that the Order is specifically for discharges from the MS4 system. FETDs are facilities that would be extracting from waters of the U.S. It is important to note that non-storm water discharges from the MS4 should not need any treatment to protect public health, as non-storm water discharges into, through and from the MS4 that are a source of pollutants are considered illicit discharges, are not authorized under the Clean Water Act and are to be prohibited (see response to Comment 39).</p> <p>Also, please see response to Comment 51.</p>
71	4	TMDL	Finding	<p>This new finding identifies that MS4 WLAs from adopted TMDLs are incorporated into the Tentative Order, and additionally early TMDL requirements may be included in the Tentative Order. The County has significant concerns about the use of either Clean Up and Abatement Orders (CAOs) (as indicated in the Tentative Order) or Cease and Desist Orders (CDOs) (as indicated in the supplemental Tentative Fact Sheet) as the means by which to incorporate forthcoming TMDL WLAs into the MS4 permit. CAOs and CDOs are types of enforcement actions used to compel compliance, typically of an uncooperative discharger. These tools were neither envisioned by the State Water Board in its TMDL and impaired water policy documents or by USEPA in its recent draft handbook TMDLs to Stormwater Permits4.</p>	<p>All references to CDOs and CAOs, in regards to TMDL implementation, have been removed from the Tentative Order. This does not, however, preclude the Regional Board from future consideration of the use of these authorities to address TMDLs.</p>

Comment No.	Commenter	Subject	Section	Specific Comment	Comment Response
72	4	TMDL	Finding	<p>Further, this finding indicates that it is the intention of the Regional Board to incorporate MS4 WLAs as end-of-the-pipe numeric Water Quality Based Effluent Limitations for adopted TMDLs. US EPA's 2002 guidance memorandum⁵ on establishing stormwater permit requirements to implement WLAs stated that EPA expected that most WQBELs for NPDES-regulated municipal ... will be in the form of BMPs and that numeric limits will be used only in rare instances [emphasis added]. This reference was specifically cited in the Beaches and Creeks TMDL Technical Report and reflects the intent of the Regional Board staff and the understanding of the Stakeholder Advisory Group as to how the TMDL would be incorporated into the NPDES permit. This approach to incorporating WLAs into stormwater permits is maintained in the draft handbook TMDLs to Stormwater Permit, in which Chapter 6 identifies method of coordinating TMDLs and stormwater permits. Six options are put forward as methods for permit writers to incorporate TMDLs in a stormwater permit, the last of which is to consider numeric effluent limitations. Furthermore the County would also note that as required by 40 C.F.R. § 122.44(d)(1)(vii)(B), the Permit must be "consistent with the assumptions and requirements of available WLAs". The Regional Board should seriously consider and not foreclose the palette of options available to implement water quality controls for impaired waters in stormwater permits.</p> <p>The Regional Board should follow the guidance in the 2002 Memorandum and the Draft Handbook and the intent of the Regional Board TMDL staff and express the WLAs in the Tentative Order as being implemented through the BMPs. This is especially true in California where an implementation plan is required for TMDLs and which in turn may be incorporated into the Permit consistent with EPA guidance.</p>	<p>The 2002 USEPA guidance does not preclude the establishment of WLAs as end-of-pipe numeric Water Quality Based Effluent Limits (WQBELs). The 02 guidance also directs the reader to the "Interim Permitting Approach for Water Quality-Based Effluent Limitations in Storm Water Permits, 61 FR 43761, Aug 26, 1996," which states that when adequate information exists storm water permits are to incorporate numeric water quality based effluent limitations.</p> <p>The Implementation Plan in the December 17, 2007 Technical Report for the "Bacteria Impaired Waters TMDL Project I for Beaches and Creeks," specifically states that WQBEL WLAs may be expressed as numeric effluent limitations using a different metric [e.g., derived from the Numeric Targets or from the Basin Plan Water Quality Objectives] or as BMP development, implementation, and revision requirements. It is expected that an iterative BMP Program will be a component of the WQBELs, but at the end of the TMDL compliance schedule the numeric targets and/or numeric WQOs may serve as numeric effluent limitations, unless additional information is required.</p> <p>This Order does not "...foreclose the palette of options..." available because it requires a BMP Program (up to the Copermitees to develop and implement) that will meet the Numeric Targets within the time period allowed to meet the required WLA reductions. This approach is consistent with the Draft USEPA Technical Document "TMDLs to Stormwater Permits Handbook." Furthermore, it is consistent with USEPA comments received on this Order (no. 305) that "We [USEPA] are also pleased by the apparent intent of the Regional Board as indicated in Finding E.12 and Section I of the draft permit to express permit effluent limits, when necessary to ensure consistency with applicable WLAs, as numeric effluent limits. Numeric limits provide greater assurance of consistency with WLAs than the alternative of BMPs which are sometimes used, given the uncertainty in the performance of many of the BMPs commonly used for stormwater pollution control."</p>

Comment No.	Commenter	Subject	Section	Specific Comment	Comment Response
73	4	General	Finding	<p>The intention of this new Finding is not clear and appears to be redundant with the receiving water limitations language in Section A, Prohibitions and Receiving Water Limitations. Finding E.13 states that the Permittees discharge from the MS4 is required to meet receiving water limitations [emphasis added]. This requirement is already stated more effectively and within the context of the Receiving Water Limitations language - the Permittees evaluate the discharges and the receiving waters to determine if the discharges cause or contribute to an exceedance of water quality standards and follow the outlined process in cases where the discharge is determined to be causing or contributing to a WQS exceedance in the receiving water. It is recommended that this Finding be deleted.</p>	<p>Finding E.13 from the March 2009 Tentative Order has been removed as it is redundant with Finding C.2.</p>
74	4	General	A	<p>In section A.3.b., the Regional Board has modified the standard state-wide receiving water limitations language to require the Permittees to repeat the assessment process for exceedances of the same water quality standard. This modification is inconsistent with State Water Board WQ Order 99-05. In the previous permit, and in permits throughout the state, including the permit recently issued by the Regional Board to MS4 dischargers to the watersheds draining San Diego County, this provision of the RWL language is set up such that the process is only repeated once unless otherwise directed. The original language recognizes the length of time it can take for new BMP programs to be developed, deployed, and fully implemented before a change in water quality may be observed and avoids pointless reassessments of the same pollutant.</p> <p>Even in cases where there has been a significant reduction of the source of a pollutant, it typically takes several years for monitoring programs to see the change in the receiving water. In cases where the pollutant is persistent in the environment, it can take decades to detect changes in water quality or indicator monitoring.</p> <p>It is recommended that the Regional Board reinstate the original language from WQ Order 99-05 (see below) regarding iterations of the assessment process for exceedances of the same water quality standard.</p> <p>So long as the Copermittee has complied with the procedures set forth above and is implementing the revised Jurisdictional Urban Runoff Management Program, the Copermittee does not have to repeat the same procedure or continuing or recurring exceedances of the same receiving water limitations unless directed by the Regional Board to do so.</p>	<p>The Permit language in section A.3.b has been amended. Please see comment #57.</p>

Comment No.	Commenter	Subject	Section	Specific Comment	Comment Response
75	4	Overirrigation	B	<p>The Regional Board has modified the list of conditionally exempt non-stormwater discharges so that it no longer includes landscape irrigation, irrigation water, and lawn watering. The Findings explain that these discharges have been identified by the Permittees as a source of pollutants (Finding C.14, Page 6). We would contend that a prohibition on these discharges is potentially problematic from the perspective of fostering and sustaining public support for the Program and that the approach should be focused more on public education and water conservation.</p> <p>The Orange County DAMP contains a variety of BMPs and efforts to reduce pollutants in discharges associated landscape irrigation. These practices include public outreach on the use of landscape chemicals (fertilizers and pesticides) and overwatering, implementation of integrated pest management (IPM) practices within municipal programs, and water conservation measures that mandate the use of efficient irrigation systems, as well as other programs that general control pollutant sources which reduce the pollutants that might be conveyed into the MS4s by excess irrigation flows. The use of BMPs to reduce pollutants associated with runoff is a preferable and more practical approach.</p> <p>Additionally, as noted in the Supplemental Fact Sheet, Permittees have sought grant funding to assist with the implementation of programs to reduce irrigation-related urban runoff. Grant programs frequently prohibit the award of grants to meet requirements of NPDES permits requirements. The inclusion of the prohibition could limit the types of grants the Permittees might otherwise be eligible for to help address this discharge.</p>	<p>Please see comment # 28. The Copermittees are expected to use appropriate discretion in implementing their education and enforcement programs to address public concerns and to effectively prohibit this non-storm water discharge. This action in no way should deter the County from continuing their outreach and retrofit efforts.</p> <p>The Copermittees are encouraged to continue seeking grant funding for projects and are encouraged to help define and craft any future bills heard by the legislature that could restrict the uses of grant funds from State propositions.</p>
76	4	Overirrigation	B	<p>Finally, a prohibition of irrigation-related runoff may be in conflict with other permits that allow such discharges including the industrial general permit and the construction general permit. In particular, the construction permit authorizes such discharges if they are necessary for the completion of construction (and are identified in the SWPPP with appropriate BMPs). The final phase of construction includes the installation and establishment of landscaping (also known as vegetative stabilization). The establishment of new plantings to ensure long-term survival typically requires higher than normal levels of irrigation to ensure good root growth and vegetative cover prior to the onset of the rainy season to reduce erosion and sediment transport from the project site. The complete prohibition of irrigation related runoff may impede the ability of the Permittees to establish erosion resistant vegetative covering.</p>	<p>The prohibition is against irrigation runoff and not against irrigation application. Construction sites can adjust their irrigation schedules appropriately to eliminate runoff while maintaining plant growth. Further, the locations and types of landscaping can be adjusted to require much less water. Prior to erosion-preventative vegetative covering being established, a construction site is expected to implement temporary erosion controls. The draft Tentative Order is consistent with the Statewide General Construction Permit in this regard. The Construction permit states "discharges of non-storm water are authorized only where they do not cause or contribute to a violation of any water quality standard." The Copermittees in South Orange County have identified over irrigation as causing or contributing to a violation of a water quality standard; therefore overirrigation discharges from construction sites must no longer be authorized.</p>

Comment No.	Commenter	Subject	Section	Specific Comment	Comment Response
77	4	NEL	C	<p>The Tentative Order makes the case (see Finding C.14) that non-stormwater discharges are not subject to the maximum extent practicable standard and therefore subject to water quality based effluent limits (see Table 3). The County disagrees with this assessment for a number of technical and legal reasons which are discussed in the following paragraphs and in Attachment A respectively.</p> <p>The Regional Board in Finding C.14 incorrectly interpreted CWA section 402(p)(3)(B)(ii). In Finding C.14 the Board staff concludes that non-stormwater discharges are to be effectively prohibited unless specifically exempted. Furthermore the finding goes on to include a contradictory statement that "exempted discharges as a source of pollutants are required to be addressed through prohibition". On the one hand non-stormwater discharges are prohibited unless exempted but exempted discharges with pollutants are prohibited. The question that begs to be asked is why exempt a non-stormwater discharge that is a source of pollutants from the prohibition is[in] the first place.</p> <p>CWA section 402(p) (3) (B) (ii) reads as follows: (B) Municipal Discharge – Permits for discharges from municipal storm sewers – (ii) shall include a requirement to effectively prohibit non-stormwater discharges into the storm sewer; The provision does not provide any reference to exemptions. Rather the section may be read that a permit shall "effectively prohibit non-stormwater discharges" but may exempt certain discharges that are not significant sources of pollutants from the prohibition. The section does not require a full prohibition but rather an effective prohibition. The operative word is "effective". The more precise and correct finding should note that non-stormwater discharges are effectively prohibited (per 402 (p) (3) (B) (ii)). However discharges that are not significant sources of pollutants are exempted from the prohibition.</p>	<p>The section referenced in Finding C.14 reads as follows: "Non-storm water (dry weather) discharge is not considered a storm water (wet weather) discharge and therefore is not subject to regulation to the Maximum Extent Practicable (MEP) from CWA 402(p)(3)(B)(iii), which is explicitly for "Municipal and Industrial Stormwater Discharges (emphasis added)". Non-storm water discharges, per CWA 402(p)(3)(B)(ii) are to be effectively prohibited unless specifically exempted. Exempted discharges identified as a source of pollutants are required to be addressed through prohibition."</p> <p>Section 402(p)(3)(B)(ii) of the Clean Water Act clearly requires the "effective prohibition" of non-storm water discharges into the MS4. This is further clarified by the Federal Register which states that "Congress did not intend that the term storm water be used to describe any discharge that has a de minimis amount of pollutants, nor did it intend for section 402(p) to be used to provide a moratorium from permitting other non-storm water discharges" (55 Fed. Reg. 47995-96). Instead, non-storm water discharges into, through and from the MS4 are Illicit Discharges not authorized under the Clean Water Act, except for specific discharges identified under 40 CFR 122.26(d)(iv)(B) that are not thought to be a source of pollution and are therefore exempted from prohibition. These specific discharges into the MS4 are exempted unless identified as a source of pollutants, in which case they are subsequently required to be addressed by the Copermittee as illicit discharges, per language and requirements in 40 CFR 122.26(d). Nonetheless, Finding C.14 has been updated to prevent any confusion of language.</p> <p>The Federal Register does clarify that certain non-storm water discharges were expected to not pose environmental problems in every case, and goes further to provide that "the Director may include permit conditions that either require municipalities to prohibit or otherwise control any of these types of discharges where appropriate" (55 Federal Register 48037). Thus Finding C.14 is not contradictory, and the Director is further authorized to take action regarding exempted non-storm water discharges, even if said discharges are not identified as a source of pollutants by the municipality. The updated Supplemental Fact Sheet provides further clarification regarding NELs.</p>

Comment No.	Commenter	Subject	Section	Specific Comment	Comment Response
78	4	NEL	C	<p>The County would submit that the technology based standard for non-stormwater discharges is "effectively prohibit" just as "maximum extent practicable" is the technology based standard for stormwater discharges.</p> <p>Furthermore, the County would submit that this technology based limit is in fact protective of water quality and compliance with water quality standards. The County has an extensive dry weather monitoring program to identify problematic discharges, including illegal discharges, which support the protection of water quality standards. It is unclear to the County how the Board has determined that these efforts are in fact inadequate to necessitate the development of water quality based effluent limits.</p> <p>Furthermore the TMDL program as noted in Finding E.11 and E.12 provide the appropriate regulatory vehicle to address stormwater and non-stormwater discharges that are causing and contributing to an exceedance of a water quality standard.</p>	<p>The Regional Board does not agree with the County of Orange's submission that the narrative prohibition of non-storm water discharges under Section 402 of the CWA is a technology based standard, as technology based limitations are to be promulgated by USEPA in accordance with Section 301 of the CWA. The Regional Board contends that the Clean Water Act's "effectively prohibit" narrative requirement for non-storm water discharges into the MS4 should result in a net numeric discharge from the MS4 of zero. Under a scenario of zero discharge, the discharge would be protective of water quality criteria as there would simply be no discharge into and thus from the MS4 system. However, as 40 CFR 122.26(d) and 55 Federal Register 222 explain, certain categories of non-storm water discharges are conditionally exempt from the discharge prohibition unless found to be a source of pollutants, which would then require their discharge into the MS4 to be effectively prohibited. Additionally, other non-storm water NPDES permits (utility vaults, dewatering, etc) may allow discharge into the MS4 if done in compliance with the limitations present within those permits and after garnering authorization from the owner and operator of the MS4.</p> <p>The updated errata and supplemental fact sheet clarify why water-quality based effluent limitations are required for non-storm water discharges from the MS4.</p>

Comment No.	Commenter	Subject	Section	Specific Comment	Comment Response
79	4	NEL	C	<p>Should the Regional Board choose a numeric metric to define the technology based narrative limit of “effectively prohibit” then the development of technology based numeric effluent limits must be consistent with Federal and State regulations and policy. The County would submit that the proposed NELs in Table 3 are not. USEPA has provided significant guidance⁶ for the development of technology based effluent limits (TBELs) for industrial dischargers in order to comply with best practicable control technology currently available (BPT) and best available technology economically achievable (BAT) standards. Consistent with this guidance TBELs are based on demonstrated performance of a reasonable level of treatment that is within the economic means of the discharger. (Page 49-50, NPDES Permit Writers’ Manual). This guidance provides insight into how one may develop TBELs for municipal dischargers. For industrial dischargers, the development of TBELs should consider the following parameters:</p> <ul style="list-style-type: none"> • Data collection – Sufficient technical and economic data must be available and should be obtained from various sources with respect to trends, environmental impacts, BMPs, and economics. • Discharger and site profile – Discharger specific information should be obtained through surveys, site visits, etc. to develop a profile. The profile should include: <ul style="list-style-type: none"> o General description/definition and NAICS and/or SIC codes o Industry practices and trends o Manufacturing processes used o General facility information (age of equipment and facilities involved) o Discharge characteristics o Based on the data gaps identified as a part of the existing data collection efforts, additional field sampling and statistical analyses may be necessary o Local climatological data. • Technology Assessment – The technology assessment should determine the depth and breadth of effectiveness data for various industry related source and treatment BMPs and identify the quantity and quality of data available to describe the performance of all currently used and innovative practices, the ability of each to effectively control impacts due to runoff and the design criteria or standards currently used to size each practice to ensure effective control of runoff. For each source and treatment BMP, the assessment should include: <ul style="list-style-type: none"> o General Description of the BMP o Applicability o Design and installation criteria o Design and/or site considerations and/or variations o Effectiveness o Limitations o Maintenance o Cost • Regulatory Options – Once the Data Collection, Industry Profile and Technology Assessment has been completed, the State 	<p>Please see response to Comment No. 78. The Supplemental Fact Sheet clarifies why water-quality based effluent limitations are required for non-storm water discharges from the MS4. To date, USEPA has not promulgated national effluent limitations guidelines for non-storm water discharges from the MS4. Furthermore, the Regional Board will not be developing TBELs for non-storm water discharges from the MS4 based upon Best Professional Judgement (BPJ).</p> <p>Furthermore, the commenter incorrectly interprets the NPDES permit writers manual (page 49-50) as stating, "TBELs are based on demonstrated performance of a reasonable level of treatment that is within the economic means of the discharger." The full correct passage is as follows: "For industrial sources, the national ELGs are developed based on the demonstrated performance of a reasonable level of treatment that is within the economic means of specific categories of industrial facilities. Where national ELGs have not been developed, the same performance-based approach is applied to a specific industrial facility based on the permit writers BPJ". The updated Supplemental Fact Sheet provides discussion regarding the evaluation of TBELs when establishing numeric limitations for non-storm water discharges.</p>

Comment No.	Commenter	Subject	Section	Specific Comment	Comment Response
				<p>should identify the regulatory options that are available. This effort should identify industry impacts, which pollutants to address as well as other non-water quality related impacts (such as energy requirements).</p> <ul style="list-style-type: none"> • Economic analysis7 - Once the regulatory options are identified (see above), the State should evaluate the costs and environmental benefits and determine the appropriate option based on factors such as: <ul style="list-style-type: none"> o Total Costs o Monetized and non-monetized environmental benefits o Ease of implementation o Industry financial impacts o Industry acceptance 	
80	4	NEL	C	<p>As demonstrated above, the development of TBELs for industrial dischargers must be comprehensive and consider many factors. A similar approach for municipal dischargers is appropriate. The County was unable to confirm whether the State completed such an analysis as it appears the State defaulted to Basin Plan water quality objectives to establish a technology based standard. In essence the Tentative Order has stipulated water quality based limits as equivalent to the technology based limits.</p>	<p>Please see response to comment 79. The Regional Board has not stipulated water quality-based limitations as equivalent to TBELs. Please see the updated Supplemental Fact Sheet for further discussion (discussion of Section C of the Order).</p>
81	4	NEL	C	<p>Notwithstanding the argument that water quality based effluent limits are inappropriate and not justified, the Board, if it determines that technology based limits are insufficient to meet water quality standards, is obligated to stipulate additional requirements consistent with 40 CFR 122.44. In this context the Regional Board must determine whether the discharge has a "reasonable potential" to cause or contribute to an excursion of the applicable water quality standard. (40 CFR 122.44 (d)(1)(i-iii)). If determined to cause or contribute then effluent limits (either narrative or numeric) must be developed for the discharge. The County was unable to determine whether such an analysis was completed and the subsequent basis for Table 3 of the Revised Tentative Order. Furthermore, if numeric effluent limits are developed then they must be consistent with 40 CFR 122.45. Again we were unable to verify this consistency as Table 3 is not consistent with 40 CFR 122.45 (c). In fact there is conflicting information in Table 3 and Finding E. 11. In Table 3 the Board has established numeric effluent limits for a list of some 28 constituent/hydrologic area combinations. This table would imply that the Board has determined reasonable potential for each of these constituents. However, in Finding E.11 the Board acknowledges that only four pollutants have been shown to have reasonable potential.</p>	<p>The Supplemental Fact Sheet contains the reasonable potential analysis for non-storm water discharges from the MS4 (discussion of Section C in the Supplemental Fact Sheet), including metals as referenced by the commenter in regards to 40 CFR 122.45(c).</p>

Comment No.	Commenter	Subject	Section	Specific Comment	Comment Response
82	4	NEL	C	<p>Of primary importance to the County is that the Regional Water Board adopt a permit that is reasonable, feasible and protects water quality. At this time, the Permittees are exposed to significant risk to comply with the numeric effluent limits for dry weather discharges. We have completed a comparison of existing dry weather discharges with the selected NELs noted in Table 3. The results of that comparison are shown below:</p> <p>Constituent Hydrologic Unit Percentage of time NELs</p> <p>Total Dissolved Solids* Group 1 74.5 Total Dissolved Solids* Group 2 97.1 Total Phosphorus@ Group 1 and 2 93.0 Nitrate + Nitrite Group 1 and 2 93.8 Fecal coliform Group 1 and 2 90.0 Nickel (dissolved) Group 1 and 2 0.3 Copper (dissolved) Group 1 and 2 9.5 Cadmium (dissolved) Group 1 and 2 18.1</p> <p>*A factor of 0.6 was multiplied by the specific conductance measurements to estimate TDS @Proposed NEL was compared to measurements of reactive orthophosphate as P</p> <p>As a result, the County/Permittees will face enforcement action for not complying with all the NELs. Where there is exceedance, the Permittees will be faced with liability under several different enforcement regimes. First, the NELs, as proposed in the Revised Tentative Order, would clearly constitute numeric effluent limitations. Violation of effluent limitations in an NPDES permit subjects the Permittees to mandatory minimum penalties (MMPs). (See Water Code §§ 13385 and 13385.1). In addition, non-compliance with the NELs may subject the Permittees to additional enforcement actions imposed by the Regional Water Board and through third party actions under the citizen suit provisions of the CWA. Although the Tentative Order (see 4/29/09 Tentative Updates) attempts to clarify that compliance with Non-Stormwater Dry Weather Numeric Effluent Limits Section C is met by one of three follow-up actions, the structure of the Tentative Order negates such a compliance option and stipulates a hard and fast numeric effluent limit and the resulting exposure to MMPs.</p>	<p>The Regional Board acknowledges that excursions above non-storm water numeric effluent limits may subject the Permittees to multiple enforcement mechanisms, including mandatory minimum penalties (MMPs). MMPs are subject to the requirements under CWC 13385.1 including, but not limited to, the definitions for a serious violation, the number of violations within a given sampling time frame, and the provisions under subdivision (j). Furthermore, the requirements of Section C.1 of the Tentative Order recognize that other, permitted sources could be discharging into the MS4. That is why the section is written to provide for an investigation of the source of the discharge to occur after an exceedance of an NEL is found.</p>

Comment No.	Commenter	Subject	Section	Specific Comment	Comment Response
83	4	NEL	C	As a final point the County would submit that the use of numeric limits for non-stormwater discharges is premature at best. The TMDL program provides the safety net for ensuring that our water bodies are protected in the most reasonable and effective manner. The direct translation of water quality objectives into numeric effluent limits bypasses the TMDL process. It is likely that some of our non-stormwater discharges will exceed the NEL but have no effect on the receiving water quality or beneficial uses. But under the proposed Order the Permittees would be obligated to expend considerable resources without a reciprocal water quality benefit. This is poor public policy and use of public funds.	Irregardless of the TMDL process, discharges of waste from point sources to waters of the United States are required to apply for and obtain permit coverage under a NPDES permit. A 303(d) listing and subsequent TMDL development does not provide an exemption from NPDES permitting requirements, and the TMDL process may, in fact, result in discharge requirements which are more stringent than the non-storm water numeric effluent limits proposed under the Tentative Order because TMDLs often incorporate a Margin of Safety. In addition, the argument that non-storm water numeric limits should not be included due to the likelihood that some discharges may not have an effect on receiving water quality or Beneficial Uses is inconsistent with NPDES permitting requirements, specifically in regards to Section 301 of the CWA and 40 CFR 122.44. Finally, the Regional Board maintains that ensuring compliance with water quality criteria to protect the receiving waters and Beneficial Uses in accordance with the Clean Water Act is neither poor public policy nor poor use of public funds.
84	4	NEL	C	In summary, the establishment of NELs for non-stormwater discharges is fundamentally flawed from a technical and legal perspective. If the NELs are proposed are [as] technology based effluent limits then they must be developed pursuant to USEPA guidance (USEPA NPDES Permit Writers' Manual). If, on the other hand, they are proposed as water quality based numeric limits then their derivation must also follow Federal and state regulations (40 CFR 122.44). The County was unable to determine whether either of these efforts took place. Furthermore, the technical feasibility of complying with these numeric limits is questionable especially since our drinking water supply would not be able to comply with the limits.	Please see response to comment 81. Furthermore, aquatic life criteria may, in some cases, be more restrictive than drinking water criteria due to the sensitivity of aquatic life in the receiving waters (e.g. 40 CFR 131).
85	4	MAL	D	The County has considerable concerns regarding the development and application of MALs. Overall, we contend that the MALs are not technically sound, and more importantly, are not legal in the manner proposed in the Draft Tentative Order. Our legal discussion is provided in Attachment A, County of Orange Legal Comments. The Tentative Order (with updates) attempts to walk a fine line of using MALs to identify the adequacy/inadequacy of the program (see Finding D.h.1, page 8) without calling them numeric effluent limits. However, we would submit that the current configuration of MALs in the Tentative Order may be considered effluent limitations under state law (See Water Code § 13385.1 where effluent limitation means "a numerically expressed narrative restriction.") and exceedances of the MALs after Year 3 may subject the Permittees to mandatory minimum penalties. Our comments here highlight and summarize the relevant points to MALs.	Please see response to Comment 33.

Comment No.	Commenter	Subject	Section	Specific Comment	Comment Response
86	4	MAL	D	<p>A) Establishment of TBELs must reflect EPA Guidance</p> <p>The Tentative Order (see 4/29/09 Tentative Updates at page 4) contains a combination of purported technology based MALs and water quality based MALs. To the extent that municipal action levels are used to define the technology based standard of maximum extent practicable (MEP) they should be consistent with EPA guidance⁸, and federal law and regulations. As noted previously in the discussion regarding non-stormwater, USEPA has provided significant guidance for the development of technology based effluent limits (TBELs) for industrial dischargers in order to comply with best practicable control technology currently available (BPT) and best available technology economically achievable (BAT) standards. Consistent with this guidance, TBELs are based on demonstrated performance of a reasonable level of treatment that is within the economic means of the discharger (Page 49-50, NPDES Permit Writers' Manual). This guidance provides insight into how one may develop TBELs for municipal dischargers. For industrial dischargers, the development of TBELs should consider the following parameters:</p> <ul style="list-style-type: none"> • Data collection – Sufficient technical and economic data must be available and should be obtained from various sources with respect to trends, environmental impacts, BMPs, and economics. • Discharger and site profile – Discharger specific information should be obtained through surveys, site visits, etc. to develop a profile. The profile should include: <ul style="list-style-type: none"> o General description/definition and NAICS and/or SIC codes o Industry practices and trends o Manufacturing processes used o General facility information (age of equipment and facilities involved) o Discharge characteristics o Based on the data gaps identified as a part of the existing data collection efforts, additional field sampling and statistical analyses may be necessary o Local climatological data. • Technology Assessment - The technology assessment should determine the depth and breadth of effectiveness data for various industry related source and treatment BMPs and identify the quantity and quality of data available to describe the performance of all currently used and innovative practices, the ability of each to effectively control impacts due to runoff and the design criteria or standards currently used to size each practice to ensure effective control of runoff. For each source and treatment BMP, the assessment should include: <ul style="list-style-type: none"> o General Description of the BMP o Applicability o Design and installation criteria o Design and/or site considerations and/or variations 	Please see response to Comment 33.

Comment No.	Commenter	Subject	Section	Specific Comment	Comment Response
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- o Effectiveness
- o Limitations
- o Maintenance
- o Cost
- Regulatory Options - Once the Data Collection, Industry Profile and Technology Assessment has been completed, the State should identify the regulatory options that are available. This effort should identify industry impacts, which pollutants to address as well as other non-water quality related impacts (such as energy requirements).
- Economic analysis⁹ - Once the regulatory options are identified (see above), the State should evaluate the costs and environmental benefits and determine the appropriate option based on factors such as:
 - o Total Costs
 - o Monetized and non-monetized environmental benefits
 - o Ease of implementation
 - o Industry financial impacts
 - o Industry acceptance

As demonstrated above, the development of TBELs for industrial dischargers must be comprehensive and consider many factors. A similar approach for municipal stormwater dischargers is appropriate. The County was unable to confirm whether the State completed such an analysis as it appears the State defaulted to a regional dataset to arbitrarily establish a technology based standard.

87 4 MAL D

Furthermore, to the extent that the Tentative Order establishes water quality based numeric effluent limits (WQBELs), the WQBELs must be established consistent with Federal and State regulations and policy. The Board, if it determines that technology based limits are insufficient to meet water quality standards, is obligated to stipulate additional requirements consistent with 40 CFR 122.44. In this context the Regional Board must determine whether the discharge has a “reasonable potential” to cause or contribute to an excursion of the applicable water quality standard. (40 CFR 122.44 (d)(1)(i-iii)). If determined to cause or contribute, then effluent limits (either narrative or numeric) must be developed for the discharge. The County was unable to determine whether such an analysis was completed and the subsequent basis for Table 4 of the Revised Tentative Order. Furthermore, if numeric effluent limits are developed then they must be consistent with 40 CFR 122.45. The Board basically stipulated that end of pipe discharges must comply with water quality objectives for pH, TDS and mercury regardless of whether the MS4 discharges were causing or contributing to a water quality standard exceedance.

Please see response to Comment 33.

Furthermore, the values for pH, TDS and Mercury expressed as action levels. The levels are based upon Phase I arid west regional data, of which the calculated action levels would be set below applicable water quality criteria for those constituents (pH, TDS and Mercury). Since it is expected that the iterative process will result in a storm water effluent discharge which meets all applicable water quality criteria and thus protects the Beneficial Uses of the receiving waters, these action levels were raised to their respective water quality criteria. As they are action levels, they are not restrictions on the storm water discharge.

Comment No.	Commenter	Subject	Section	Specific Comment	Comment Response
88	4	MAL	D	<p>B) The MALs Contained in the Tentative Order Are Not Supported by SWRCB Blue Ribbon Panel Findings and Recommendations. The County submits that the specific MALs contained in the Tentative Order are not technically supportable or valid. The technical validity of establishing numeric limits for outfalls was posed to a State Water Resources Board Control Board (State Water Board) convened group of experts referred to as the Blue Ribbon Panel (BRP). The results and conclusions of the BRP are highlighted in a June 2006 Blue Ribbon Panel Report¹⁰. The BRP Report unequivocally states the position that numeric limits for municipal stormwater discharges are not possible at this time. However, the Panel did agree that "action levels" may be used to identify "bad actor" catchments. Specifically, the BRP Report states: It is not feasible at this time to set enforceable numeric effluent criteria for municipal BMPs and in particular urban discharges ... For catchments not treated by a structural or treatment BMP, setting a numeric effluent limit is basically not possible. However, the approach of setting an 'upset' value, which is clearly above the normal observed variability, may be an interim approach which would allow "bad actor" catchments to receive additional attention. For the purposes of this document, we are calling this "upset" value an Action Level because the water quality discharge from such locations are enough of a concern that most all could agree that some action should be taken ... (BRP Report at p. 8, emphasis added.) The Tentative Order attempts to disguise these numeric effluent limits by defining them as Action Levels. However, the intent and application of these numeric limits are consistent with numeric effluent limits (See Water Code §13385.1 where effluent limitation means "a numerically expressed narrative restriction.") and not action levels.</p>	Please see response to Comment 33.

Comment No.	Commenter	Subject	Section	Specific Comment	Comment Response
89	4	MAL	D	<p>Action levels come into play when the stormwater is clearly above the normal observed variability. To develop an appropriate action level, the State's Blue Ribbon Panel suggested various options, which included: (1) consensus based approach; (2) ranked percentile distribution; and, (3) statistically based population parameters. The Tentative Order claims to use a statistical approach that used the central tendency of the dataset and accounting for data variability (Tentative Order, at p. 8). In its actual calculation, it appears that the Tentative Order took the median value of a regional data set and multiplied it by the coefficient of variation. There is no basis for this approach in establishing action levels. This calculation actually reflects the variability of the data (measured as the standard deviation) and does not account for central tendency of the dataset.¹¹ The Tentative Order's approach is not consistent with the State's Blue Ribbon Panel suggestion for a statistically relevant calculation.</p>	<p>The Regional Board contends that the statistical approach taken to develop MALs is one recommended by the Blue Ribbon report, which allows for flexibility when taking a statistically based population approach. The report states:</p> <p>"The statistically based population approach would once again rely on the average distribution of measured water quality values developed from many water quality samples taken for many events at many locations. In this case, however, the Action Level would be defined by the central tendency and variance estimates from the population data. For example, the Action Level could be set as two standard deviations above the mean, i.e. if measured concentrations are consistently higher than two standard deviations above the mean, an Action Level would be triggered. Other population based measures of central tendency could be used (i.e. geomean, median, etc.) or estimates of variance (i.e. prediction intervals, etc.). Regardless of which population based estimators are used (or percentile from above), the idea would be to identify the [statistically derived] point at which managers feel concentrations are significantly beyond the norm."</p> <p>The Regional Board used a measure of central tendency (the median) and of variation (the coefficient of variation) to develop MALs on a pollutant by pollutant basis. The commenter states that there is no basis for this approach, and that the calculation does not account for the central tendency of the dataset. The Regional Board does not agree with the commenter.</p> <p>In addition, in meeting with the Copermittees regarding the tentative Order, the Regional Board has made it clear that selection of the median and coefficient of variation was done to be consistent with the statistical approach taken by the Los Angeles Regional Board. Furthermore, Regional Board staff had made it clear to the Copermittees that this approach was one of many recommended by the Blue Ribbon panel, and that Regional Board staff were/are open to discussing alternative statistical approaches when developing MALs. The commenter disputes the approach, but do offer an alternative of using a 90th percentile approach for a localized dataset (see Comment 96). While it is unclear if the Copermittees would accept a 90th percentile approach utilizing the USEPA Rain Zone 6 data, the Regional Board remains open to further discussion regarding alternative statistical approaches.</p>

Comment No.	Commenter	Subject	Section	Specific Comment	Comment Response
90	4	MAL	D	<p>In addition, the Tentative Order's use of USEPA Rainfall zone 6 database (4/29/09 Fact Sheet Changes at p. 11) is not appropriate to generate the MALs if a sufficient local data base is available. The State's Blue Ribbon Panel noted that there is greater opportunity to use various data sets for establishing the MALs. Three options proposed in the Report, in order or preference, are:</p> <ul style="list-style-type: none"> • Local urban stormwater monitoring data (the Panel even notes the existence of such data sets from Los Angeles County, Orange County and other California MS4 programs) • Combine municipal permit monitoring datasets if there is a lack of data for specific constituents in any one location • National database <p>In this case, the Tentative Order selects the second preferred option to generate the MALs even though there are local stormwater data sets available. In fact, in California and specifically in Orange County, the MS4s have comprehensive data sets. While the Climate zone 6 database is much preferred over the use of the national dataset, the County would submit that our monitoring dataset is sufficiently robust to generate MALs.</p>	<p>The Regional Board acknowledges that local data sets are the preferred option for developing MALs. For this reason, the data set for MALs was changed to reflect USEPA Rainfall Zone 6, which includes MS4 effluent data from Orange, San Diego, Los Angeles and Ventura County. While the County of Orange has a large monitoring data set, Regional Board staff have concluded that there is a lack of effluent monitoring from major outfalls that are representative of conditions throughout the Region. Furthermore, staff do not feel it is appropriate to utilize storm water receiving water data to develop MALs, as the resultant MALs may not be representative of storm water effluent and result in MALs that may be higher or lower than storm water effluent for the region.</p> <p>Since the Regional Board acknowledges the importance of localized data, the Tentative Order updates includes the following language: "Section D.5 (new section) The MALs will be reviewed and updated at the end of every permit cycle. The data collected pursuant to D.2 above can be used to create MALs based upon local data. It is the goal of the MALs, through the iterative and MEP process, to have outfall storm water discharges meet all applicable water quality objectives."</p>
91	4	MAL	D	<p>Furthermore, the derivation and use of action levels as envisioned by the State's Blue Ribbon Panel reflects an approach to identify the "bad actors." (Report at page 8) The use of MALs in the Tentative Order establishes a numeric end point for assessing MEP. The Tentative Order does introduce the iterative process to address exceedances of MALs and subject to the action or lack of action by the MS4s to address these exceedances, the discharger may be viewed to be out of compliance with the MEP standard. Such a permit strategy is unique but it does not diminish the fact that a numeric value is being used to define MEP. Notwithstanding this statement, the Tentative Order notes the absence of MAL exceedances does not give rise to a presumption that the discharger in compliance with the MEP criteria. Thus it's fair to say regardless of the outcome of the MAL comparison the Board will ultimately decide whether the dischargers are complying with MEP. This somewhat convoluted logic poses difficulties for all parties and makes the interpretation of the Tentative Order even more difficult. With that in mind, the County submits that consistent with the Blue Ribbon Panel recommendations, MALs should be used as assessment tools to identify "bad actors" and not as compliance metrics.</p>	<p>Please see previous response to comment no. 33 regarding MALs and the MEP standard.</p> <p>Also, language in the updated errata has been modified to clarify that meeting a MAL does not exempt the Copermittees from the implementation of other required storm water programs. The Regional Board will look at multiple lines of evidence, including reaction to MAL exceedances, in assessing the Copermittees compliance with the MEP standard to reduce pollutants in storm water discharges from the MS4.</p>

Comment No.	Commenter	Subject	Section	Specific Comment	Comment Response												
92	4	MAL	D	<p>C) MALs Are More Restrictive than the Basin Plan and Establish New Water Quality Objectives for a Water Body</p> <p>Instead of identifying “bad actors,” the MALs as calculated in the Tentative Order may actually establish new water quality objectives for a waterbody or, at the very least, may establish action levels that are more restrictive than applicable water quality objectives for the waterbodies in question. For example, the Tentative Order proposes a MAL for total nickel of 26.34 ug/L that must be compiled with 80% of the time based on a running average. A comparison of the nickel MAL with the Basin Plan water quality objective is shown below in Table 3.</p> <p>Table 3 - Comparison of MALs v. Basin Plan Water Quality Objective for Nickel</p> <p>Constituent Units Municipal Action Levels</p> <p>Basin Plan3 Nickel ug/L 26.34 469</p> <ol style="list-style-type: none"> 1. Measured as total 2. Table 4, as modified in 4/29/09 Tentative Updates. 3. From California Toxic Rule and assuming acute criterion and 100 mg/L as CaCO3 hardness and default conversion factors. <p>A review of the table demonstrates that the MAL is considerably more restrictive than the water quality objectives (in the case of nickel, the MAL is nearly 18 times more restrictive than the water quality objective). Thus it is very possible that the County would be held responsible for significantly reducing its lead and nickel concentrations even though the water body receiving the discharge is in compliance with the water quality standard. To demonstrate this point, water quality data were compiled for mass emission stations located on various creeks in Orange County. This compilation is shown in Table 4. A review of the table shows that the creeks are out of compliance with the MAL even though they are in general in compliance with the Basin Plan objective for these same waters.</p> <p>Table 4. Comparison of Orange County Waterbodies with Nickel MAL and Water Quality Objectives</p> <table border="1"> <thead> <tr> <th>Waterbody</th> <th>Percentage of time1 > MAL of 26.34 ug/L</th> <th>Percentage of samples1 > CTR water quality objective of 469 ug/L</th> </tr> </thead> <tbody> <tr> <td>Aliso Creek</td> <td>58.5 0</td> <td></td> </tr> <tr> <td>Prima Deshecha</td> <td>100.0 2.1</td> <td></td> </tr> <tr> <td>Segunda Deshecha</td> <td>93.4 0</td> <td></td> </tr> </tbody> </table>	Waterbody	Percentage of time1 > MAL of 26.34 ug/L	Percentage of samples1 > CTR water quality objective of 469 ug/L	Aliso Creek	58.5 0		Prima Deshecha	100.0 2.1		Segunda Deshecha	93.4 0		<p>Regional Board staff, prior to submission of this comment by the County of Orange, updated MAL language to include a clause that provides a sliding scale for those priority pollutant MALs which have California Toxic Rule values dependent on the hardness of the receiving water. This was presented to the Copermittees in proposed updated erratta documents submitted to the Copermittees on April 29th and May 5th, 2009.</p>
Waterbody	Percentage of time1 > MAL of 26.34 ug/L	Percentage of samples1 > CTR water quality objective of 469 ug/L															
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Segunda Deshecha	93.4 0																

Comment No.	Commenter	Subject	Section	Specific Comment	Comment Response
93	4	MAL	D	<p>Table 5. Characteristics of Ventura County Land Use -Specific Outfalls for Nickel Industrial Outfall Residential Outfall</p> <p>Number of samples 26 26</p> <p>Mean, ug/L 28.9 17.6</p> <p>Range <5 - 120 <1 - 53</p> <p>% of time above MAL 42 22</p> <p>Assuming runoff in Orange County is similar to runoff in Ventura County we would submit that the application of MALs to Orange County will create a situation where our receiving waters will be in compliance with the Basin Plan but that discharges from our outfalls will not be in compliance with the MALs. Furthermore, because the water body (see Table 4) is significantly in compliance with the applicable water quality objective, discharges from residential storm drain outfalls are clearly not causing or contributing to an exceedance of a water quality standard. Thus, the MS4 discharges and the waterbody do not exceed or impact the Basin Plan water quality standards, but due to the application of the MAL, the Permittees without corrective action to lower the discharge level, would be out of compliance with the Tentative Order and would potentially be subject to mandatory minimum penalties for failing to comply with an effluent limits. Unnecessary and significant costs will therefore accrue to the Permittees from the obligation to address discharges that present regulatory rather than environmental concerns.</p>	<p>Please see previous response to comment no. 33 regarding MALs and the MEP standard. MALs are not effluent limitations and will not result in MMPs. Furthermore, MALs are not set below applicable water quality objectives. Please see responses to comment nos. 87 and 92.</p>

Comment No.	Commenter	Subject	Section	Specific Comment	Comment Response
94	4	MAL	D	<p>D. Compliance with MALs will prove to be problematic</p> <p>The Tentative Order (as modified in the 4/29/09 Tentative Updates) provides clarification regarding the follow-up action required should the outfalls exceed the MALs. The Tentative Order requires each Permittee to affirmatively augment and implement all necessary stormwater controls and measures to reduce the discharge of the associated class of pollutants(s) in the affected watershed to the MEP. The definition of MEP (at Attachment C, page C-7) provides a broad definition that primarily focusing on source control BMPs and treatment control BMPs only if source control BMPs prove ineffective¹². Given the current lack of knowledge regarding the effectiveness of source control BMPs and the liability of non compliance with numeric effluent limits (and resulting mandatory minimum fines) the Permittees would be well served to implement treatment control BMPs. As a result, the Tentative Order is structured to effectively require Permittees to retrofit all outfalls with treatment control BMPs. However, the language in the Tentative Order creates an illusion that the Permittees can comply with the MALs through a traditional stormwater management program. If it is the Regional Water Board's intent to structure compliance through the implementation of treatment control BMPs (see Provision 3.d Retrofitting Existing Development at pg. 65), then the Tentative Order must clearly state that all outfalls are to be retrofitted with treatment control BMPs. Obviously, the costs and ramifications on Permittees for such a requirement are huge and in some cases may not be possible without displacing existing development.</p>	<p>As modified, the Tentative Order updates language does not, as the comment states, effectively require Permittees to retrofit all outfalls with treatment control BMPs. The language requires:</p> <p>"each Copermittee to affirmatively augment and implement all necessary storm water controls and measures to reduce the discharge of the associated class of pollutants(s) in the affected watershed to the MEP. The Copermittee shall utilize the exceedance information as a high priority consideration when adjusting and executing annual work plans, as required by this Permit. Failure to appropriately consider and react to MAL exceedances in an iterative manner creates a presumption that the Copermittee(s) have not complied to the MEP."</p> <p>Thus, Copermittees are required to evaluate exceedances and react in an iterative manner. It is expected that the Copermittees will take the presence of exceedances as a priority when making decisions on what actions should be taken in the short and long term as part of the iterative process. The Regional Board contends that MALs are not restrictions, but an additional identification and evaluation tool for Copermittees to utilize as part of the iterative process to reduce pollutants in storm water discharges to the MEP.</p>
95	4	MAL	D	<p>Furthermore, it is unclear to the County that even after retrofitting all of our outfalls that we would comply with the MAL numeric effluent limits. As a case in point, the County reviewed options for lowering the nickel concentrations to the MAL level and were unable to verify that the BMPs purported to be practicable in the national ASCE database could in fact reduce nickel to levels required for compliance. Basically, the ASCE BMP database has no supporting documentation demonstrating the effectiveness of treatment control BMPs to reduce nickel. Similarly, the database did not contain performance data for mercury removal; thus, it's unclear what options are available to the MS4 should the discharge exceed the MAL for mercury.</p>	<p>Please see response to Comment No. 94. An exceedance does not necessarily mean an outfall requires immediate retrofitting. The exceedance of the MAL is expected to be used to evaluate all programs, including implementation of addition BMPs. It is expected that the Copermittee, during evaluation of MAL data, may set priorities based upon the available BMP options at the time. The Regional Board does not expect that MALs will require Copermittees to go above and beyond the MEP standard for storm water.</p>

Comment No.	Commenter	Subject	Section	Specific Comment	Comment Response
96	4	MAL	D	<p>E. County’s Alternative Approach for Use of MALs</p> <p>The Tentative Order’s use of MALs to define MEP is ill conceived as it is inconsistent with state and federal policies, is technically flawed, results in requirements more stringent than federal law, and creates limits that are more restrictive than adopted water quality objectives contained in the Basin Plan. While the County disagrees with the use of MALs to define MEP as a numeric value to determine compliance, we understand the Regional Water Board is looking for a new mechanism to ensure Orange County’s stormwater program is effective and protective of water quality. Thus, instead of using MALs as proposed in the Tentative Order, we propose an alternative method consistent with the approach proposed by the State Water Resources Control Board’s “Blue Ribbon Panel of Experts,” as expressed in the June 2006 Blue Ribbon Panel Report (“BRP Report”). This approach would meet the Regional Water Board’s desire to include performance measures in a municipal stormwater program for Orange County. To achieve these goals, we support an approach that “would set “an ‘upset’ value, which is clearly above the normal observed variability, which would allow bad actor catchments to receive additional attention” through creation of an upset value (see BRP Report at p. 8.). The BRP Report termed upset value as “...an Action Level because the water quality discharge from such locations are enough of a concern that most all could agree that some action should be taken...” (Id.) The strikeout/underline language in Attachment B presents the Permittee’s proposal for how MALs should be developed and used to achieve the purpose set forth in the BRP Report. The Permittees’ proposal is to use locally relevant data to create MALs as a tool which, together with additional investigation and attention, will ensure that water quality is improved in the subject subwatershed. Such a proposal would also include the deletion of any references of MALs</p> <p>to support the determination of MEP. To develop MALs for this purpose, the Permittees propose to use the 90th percentile of local, countywide data to develop MALs. Any sub-watershed that exceeds the 90th percentile would be above the normal observed variability and in need of additional attention. In addition, we propose to develop MALs only for those pollutants where there is water quality impairment (based on the section 303(d) list), or have been identified as pollutants of concern and that are present in significant quantities in MS4 discharges. The Permittees’ approach would avoid using public resources unwisely and inefficiently and focus on pollutants that are causing water quality concerns.</p>	<p>Please see response to Comment Nos. 33 and 90.</p> <p>In addition, while the Regional Board appreciates the alternative suggestion regarding MALs, Regional Board staff contend that MALs as presented in the Tentative Order updates are sufficient given the available storm water effluent data. As previously discussed, the Phase I effluent monitoring data, including localized data, is for pollutants that are expected to be present in storm water runoff from the MS4. Furthermore, the Regional Board encourages the Copermittees to incorporate sampling for constituents above and beyond what is proposed in the Tentative Order, particularly for additional pollutants of concern to the Copermittees and/or any 303(d) listed constituents. Additional sampling for such constituents can be used in developing localized MALs, as described in Comment 90, and by Copermittees to determine if additional priorities for other pollutants, including 303(d) listed impairments, are needed.</p>

Comment No.	Commenter	Subject	Section	Specific Comment	Comment Response
97	4	MAL	D	<p>Where a sub-watershed exceeds a MAL due to the MS4 discharge, the Permittees propose that the responsible Permittee be required to submit an "MAL Action Plan" to the Regional Water Board's Executive Officer. The plan would need to include an assessment of the sources responsible for the abnormal pollutant levels, the existing BMPs that address those sources, an assessment of additional BMPs and actions that could be implemented, and, based on such analyses, the additional BMPs and/or actions the responsible Permittee proposes to implement to achieve the MAL to the MEP. The Executive Officer, in approving the plan, would have the opportunity to identify additional BMPs or actions the Regional Water Board believes necessary to address the constituent of concern. In summary, Permittees propose that MALs be used to identify poor performing catchments or sub-watersheds for pollutants of concern to implement further practical controls. Where MALs are exceeded, the Permittees, in conjunction and with approval by the Regional Water Board's Executive Officer would be required to implement additional actions deemed necessary to address the high concentration. Thus, MALs are used to elevate municipal responsibility in a manner that is reasonable and practical while improving water quality.</p>	<p>Please see response to Comments 33, 90 and 96.</p> <p>The Tentative Order has been changed to include language very similar to what is proposed by the comment. The Regional Board, however, feels that every MAL exceedance would not warrant submission of an individual "MAL Action Plan." It is expected that Copermittees will evaluate MAL exceedances in a comprehensive scenario on a watershed and pollutant basis when setting BMP priorities. This is already a requirement of all monitoring programs conducted under the Order. Thus, the Regional Board contends that "MAL Action Plans" should be incorporated into the overall work plans (Sections G.3 and J.4) for Copermittees and used as a tool for setting priorities and implementing BMPs within the MEP process.</p>
98	4	Legal	E	<p>LEGAL AUTHORITY</p> <ul style="list-style-type: none"> • Effectiveness of BMPs (Section E.1.j, Page 24) <p>The Tentative Order includes a new provision that requires the Permittees to demonstrate that they have the legal authority to require documentation on the effectiveness of BMPs. This provision is redundant with other requirements in the permit in that it ignores the fact that the New Development/Significant Redevelopment section of the DAMP (Section 7.0) establishes a process for the selection, design, and long-term maintenance of permanent BMPs for new development and significant redevelopment projects and requires developers to select BMPs that have been demonstrated as effective for their project category. In addition, it ignores the fact that the Permittees have already established legal authority for their development standards so that project proponents have to incorporate and implement the required BMPs. This provision should be deleted from the Order.</p>	<p>This section has been added to the Order to ensure that BMPs implemented by third parties are effective. Since the Copermittees cannot passively receive and discharge pollutants from third parties, the Copermittees must ensure discharges of storm water pollutants to the MS4 are reduced to the MEP. In order to achieve this, the Copermittees must be able to ensure that effective BMPs are being implemented by requiring the third parties to document BMP effectiveness. Regarding the Copermittees' ability to require documentation and reporting from third parties, USEPA states "municipalities should provide documentation of their authority to enter, sample, inspect, review, and copy records, etc., as well as demonstrate their authority to require regular reports."</p>

Comment No.	Commenter	Subject	Section	Specific Comment	Comment Response
99	4	LID	F.1	<p>LID BMPs (Section F.1.c.(2), Page 26) Provision F.1.c.2 identifies that the LID BMPs listed in the provision shall be implemented at all Development Projects where applicable and feasible, however no definition of “applicable and feasible” is identified in the provision or within the fact sheet. The determination of feasibility of implementing the LID BMPs identified in the provision should be the responsibility of the Permittees.</p> <p>It is recommended that the Provision be modified as follows: The following LID BMPs listed below shall be implemented at all Development Projects where applicable and feasible as determined by the permittee.</p>	<p>The LID requirements have been extensively modified following meetings with the Copermitees and the interested stakeholders. The Tentative Order addresses the conditions of technical infeasibility. More robust criteria is expected in the Copermitee's updated SUSMP document.</p>

Comment No.	Commenter	Subject	Section	Specific Comment	Comment Response
100	4	SUSMP	F.1.	<p>• Infiltration and Groundwater Protection (Section F.1.c.(6), Page 26)</p> <p>The Regional Board Response to Comments dated July 6, 2007 regarding this section makes reference to the Order No. R9-2002-0001 Fact Sheet and recommendations provided by the U.S. EPA Risk Reduction Engineering Laboratory related to restrictions on infiltration of stormwater. The Order No. R9-2002-0001 Fact Sheet references the document U.S. Environmental Protection Agency. 1994. Potential Groundwater Contamination from Intentional and Nonintentional Stormwater Infiltration. EPA 600 SR- 94 051. This document that is referenced as guidance for infiltration of stormwater is more than 15 years old and does not provide an adequate technical basis for many of the requirements related to infiltration of stormwater. A closer review of this document will show that the study evaluated the impact of industrial stormwater discharges into local groundwater. However, the site soil conditions had a poorly defined soil structure and included gravel. Thus stormwater from the industrial site was discharged in an almost direct conduit to the groundwater. The County would submit that the Tentative Order should require the Permittees to develop criteria for the use of infiltration BMPs that consider land use, runoff quality, groundwater depth, site soil conditions and other information relevant to groundwater protection. The Regional Board Response to Comments dated July 6, 2007 also identifies that language contained in the Tentative Order also allows the Permittees to develop alternative criteria to replace the suggested restrictions. As currently drafted the restrictions are more than “suggestions” and are actually more restrictive than requirements for onsite septic systems currently being considered by the State Water Board. If the restrictions are “suggested” then they should not be required as provision but should be identified as suggested or removed from the permit. If the intent is to allow the Permittees to develop criteria for infiltration of stormwater than the provision should be that the Permittees should develop the criteria and the “suggested” criteria should be deleted from the permit.</p> <p>Since the Fact Sheet, and the Regional Board Response to Comments dated July 6, 2007 does not provide adequate technical basis for the requirements and the Regional Board Response to Comments dated July 6, 2007 identifies the requirements as “suggested”, Section F.1.c.(6) should be deleted from the Tentative Order.</p> <p>Jurisdictional Runoff Management Program (JRMP) Section F.1.c.(6)(g) restricts the use of infiltration treatment control BMPs in areas of industrial or light industrial activity and areas subject to high vehicular traffic. High vehicular traffic is defined as 25,000 or greater average daily traffic on main roadway or 15,000 or more average daily traffic on any intersecting roadway. There is no specific technical basis for this restriction or the definition of “high vehicular traffic” included within the Fact</p>	<p>The Tentative Order continues to give the Copermitees the needed flexibility to develop criteria for infiltration treatment devices. The criteria set forth in the Permit are the minimum requirements for infiltration if the Copermitees choose not to develop separate criteria. The language will remain in the Permit as we have no knowledge of an individual Copermitee implementing separate infiltration criteria. Any separate infiltration criteria developed by the Copermitees, must be submitted as part of their updated SSMP for public review and comment. The restriction on areas with high vehicular traffic is included on the recommendation of the USEPA guidance that the commenter cited.</p> <p>The requirement in Section F.1.c.6.(g) restricting infiltration in certain areas has been modified to be allow infiltration, provided the runoff is treated or filtered to remove pollutants prior to entering the infiltration device. This change is in light of the findings of the Los Angeles and San Gabriel Rivers Watershed Council's Water Augmentation Study Phase II Final Report. The study found that "Filtration methods employed at industrial sites seemed to be effective at removing certain pollutants prior to entering the infiltration system, which may make infiltration more feasible at these more polluted sites." This provision is in keeping with the goal of maximizing infiltration opportunities to benefit surface water quality and maximize local sources of water supply.</p>

Comment No.	Commenter	Subject	Section	Specific Comment	Comment Response
101	4	SUSMP	F.1	<p>Sheet and the reference to the EPA Guidance in the Regional Board Response to Comments dated July 6, 2007 does not provide an adequate technical basis. As such, prescriptive requirements should not be included in the Tentative Order unless there is a strong technical basis. Although SWRCB Order WQ 2000-11 provides guidance on some of the restrictions on the use of infiltration treatment control BMPs contained in the Tentative Order, there is no mention of restrictions related to areas subject to high vehicular traffic. Moreover, we are not aware of any demonstrated relationship between traffic counts and frequency of materials deposited on the street.</p> <p>• Native/Low Water Landscaping (Section F.1.c.(7), Page 27) This new provision identifies that landscaping with native or low water species where feasible shall be preferred in areas that drain to the MS4 or waters of the U.S. It is unclear to the County as to the nexus between the use of native plants and runoff water quality. For what purpose does this provision have to protect water quality and beneficial uses? This provision would appear to be outside the jurisdiction of the Regional Board.</p>	<p>This provision is not an Order requirement, and is simply a suggestion to use native species where feasible. Invasive plant species can degrade the Beneficial Uses of the waters of the State, and the Regional Board is encouraged by the actions taken to date by Copermittees to prevent many non-native species from being introduced to waters of the U.S. and State, especially via the MS4 system. Furthermore, native/low water landscaping is likely to require fewer fertilizers that could be mobilized to jurisdictional waters and cause nutrient-related water quality impacts.</p>

Comment No.	Commenter	Subject	Section	Specific Comment	Comment Response
102	4	SUSMP	F.1	<p>• Standard Stormwater Mitigation Plans (SSMPs) (Section F.1.d, Page 27-28) Section F.1.d. requires each Permittee to implement an updated local SSMP within twelve months of adoption of the Order. The schedule for the update of the SSMP is overly aggressive and does not allow the time necessary for the Permittees to incorporate changes and implement an updated SSMP. This provision adds language that requires the inclusion of the hydromodification requirements in provision F.1.h in an updated local SSMP within one year of the adoption of the Order. The requirements in provision F.1.h include the development of watershed specific HMPs within two years of adoption of the Order. The timeframe to update the local SSMPs in Provision F.1.d should be consistent with the time frame identified to develop the watershed specific HMPs in provision F.1.h. It is recommended that the Provision be modified as follows:</p> <p>Each Copermittee must implement an updated local SSMP, upon completion of the watershed specific HMP(s) in their jurisdiction, which meets the requirements of section F. 1. d. of this Order and (1) reduces Priority Development Project discharges of storm water pollutants from MS4 to the MEP, (2) prevents Priority Development Project runoff discharges from the MS4 from causing or contributing to a violation of water quality standards, (3) manages increases in runoff discharge rates and durations from Priority Development Projects that are likely to cause increased erosion of stream beds and banks, silt pollution generation, or other impacts to beneficial uses and stream habitat due to increased erosive force and (4) implements the hydromodification requirements in section F.1.h.</p>	<p>The Tentative Order has been revised to allow up to two years to develop the updated SSMP in conjunction with the hydromodification management plan.</p>

Comment No.	Commenter	Subject	Section	Specific Comment	Comment Response
103	4	SUSMP	F.1	<ul style="list-style-type: none"> • Priority Development Project Categories (Section F.1.d.(2), Page 29) <p>The Regional Board Response to Comments dated July 6, 2007 regarding this section does not provide any technical basis for requiring that a new Development project feature requires the entire project footprint being subject to SSMP requirements. The Response to Comments only mentions that the provision is “a particularly important requirement since municipalities have greater latitude during development to require pollution prevention than they have with existing development”, however pollution prevention is not required from land uses that are not Priority Development Project Categories and so the Response to Comments fails to address this potential situation and does not provide any technical basis for the provision. Furthermore, this requirement, Provision F.1.d.(2), appears in direct conflict with Provision F.1.d.(1)(b) which defines the area subject to SUSMP requirements. Given that provision F.1.d.(1)(b) is consistent with Board Order WQ 2000-11, provision F.1.d.(2) should be deleted. Since the previous comments on this issue were not addressed in the Regional Board’s Response to Comments, the comments are being resubmitted.</p>	<p>Although a priority development project is defined throughout the permit, the entire project footprint is subject to SSMP requirements. This is reasonable and protective of water quality because specific priority development projects have amenities that may generate pollutants. This common sense approach that the SSMP requirements apply to the entire project footprint is recognized in the County of Orange's Local Implementation Plan that is contrary to their comment. Table A-7.VI-2, Anticipated and Potential Pollutants Generated by Land Use Type, in the County's LIP describes parking lots as potentially generating nutrients, pesticides, sediments and oxygen demanding substances if landscaping exists onsite. If the SSMP applied to only the criteria triggering a priority development project, the County's table would not list those substances as being generated from a parking lot. For example, although a housing subdivision of 10 or more dwelling units defines one type of priority development project, the entire project would be subject to SSMP requirements. The SSMP would need to treat runoff from the yards, streets, and driveways as well as runoff from the houses.</p> <p>The commenter misreads provision F.1.d.(1)(b). The requirement is not in conflict but is demonstrating the difference associated with redevelopment and new development categories. It is appropriate to have a different requirement for redevelopment due to expected site constraints encountered with redevelopment.</p>

Comment No.	Commenter	Subject	Section	Specific Comment	Comment Response
104	4	SUSMP	F.1	<p>Section F.1.d.(2) defines Priority Development Project Categories. In an introduction to the listed categories, this section states that, where a new development project feature, such as a parking lot, falls into a Priority Development Project Category, the entire project footprint is subject to SUSMP requirements. As currently written this provision would require a new development that has a 5,000 square foot parking lot feature and 100,000 square feet of other land uses that are not Priority Development Project Categories, to provide treatment for the entire project (105,000 square feet). This requirement would unduly burden the landowner in this case with the cost of treating runoff from 105,000 square feet when only 5,000 square feet should be subject to SUSMP requirements and treatment controls.</p> <p>The need to treat runoff from a greatly increased land area will require an increase in the size of treatment controls, which will increase the volume of water treated without a likely commensurate increase in pollutant removal. This requirement will unnecessarily increase the cost of treatment control BMPs without commensurate pollutant removal benefits and likely discourage re-development.</p> <p>The Fact Sheet fails to provide any information showing that development land uses that are not in the Priority Development Project Category contribute pollutants to the MS4 and are a threat to water quality. The Fact Sheet (page 78) states that this provision “is included in the Order because existing development inspections by Orange County municipalities show that facilities included in the Priority Development Project Categories routinely pose threats to water quality. This permit requirement will improve water quality and program efficiency by preventing future problems associated with partially treated runoff from redevelopment sites. This explanation does not demonstrate any connection between development land uses that are not in the Priority Development Project Category and the observed “threats to water quality.” In addition, although the explanation focuses on the water quality benefits for redevelopment projects, the Section is for “new development” projects”. Since the Fact Sheet does not provide any technical information showing that land uses that are not Priority Development Project Categories are a significant source of pollutants and a threat to water quality, the introductory paragraph of Section F.1.d.(2) subjecting the entire project footprint to SUSMP requirements should be removed from the permit.</p>	<p>See response to Comment No.103. In addition, the commenter appears to be confusing the difference between the project footprint and the lot size. Project footprint is that area that is being developed. Within a property owner's lot, there may be natural undisturbed areas in addition to the project footprint. Clearly, runoff from the natural, left undisturbed areas need not be treated.</p>

Comment No.	Commenter	Subject	Section	Specific Comment	Comment Response
105	4	SUSMP	F.1.	<p>• Commercial Developments (Section F.1.d.(2)(b), Page 29) Section F.1.d.(2)(b) lowers the threshold criterion for commercial developments required to comply with SUSMP requirements from 100,000 square feet (2.3 acres) to one acre. The Fact Sheet states that this provision has been modified to be consistent with US EPA Phase II Guidance. However, EPA Phase II guidance is not relevant to a Phase I permit.</p> <p>The Fact Sheet also states that this Provision is based on Permittee findings that smaller commercial facilities pose high threats to water quality. This is not the case. The Permittees indicated that commercial facilities of 100,000 square feet or less receive a score of 3 out 5 (a medium threat) in Table 9-8 in the 2007 DAMP. Since the Fact Sheet does not provide any technical basis for lowering the threshold criterion for commercial developments required to comply with SUSMP requirements from 100,000 (2.3 acres) square feet to one acre, the category should be described as, "Commercial developments greater than 100,000 square feet."</p>	<p>The Tentative Order has been changed to make the definition of a priority development project consistent with the recently adopted Region 8 MS4 permit for North Orange County. The modified requirement defines any commercial development greater than 10,000 square feet to be a priority development project requiring a SSMP. This criteria was redefined to adequately address potential pollutant sources, which may exist at properties that undergo development for commercial uses.</p>
106	4	SUSMP	F.1	<p>• Industrial Developments (Section F.1.d.(2)(c), Page 29) Section D.1.d.(2)(c) requires industrial developments of greater than one acre to comply with SUSMP requirements. The Fact Sheet states that this provision has been modified to be consistent with US EPA Phase II Guidance. Again, EPA Phase II guidance is not relevant to a Phase I permit. In addition, the Fact Sheet does not provide a technical basis for adding industrial sites to the Priority Development Project Categories and consequently Section D.1.d.(2)(c) should be deleted from the permit.</p>	<p>The Tentative Order has been changed to make the definition of a priority development project consistent with the recently adopted Region 8 MS4 permit for North Orange County. The modified requirement defines any industrial development greater than 10,000 square feet to be a priority development project requiring a SSMP. This criteria was redefined to adequately address potential pollutant sources, which may exist at properties that undergo development for industrial uses.</p>

Comment No.	Commenter	Subject	Section	Specific Comment	Comment Response
107	4	SUSMP	F.1	<ul style="list-style-type: none"> • Retail Gasoline Outlets (Section F.1.d.(2)(j), Page 30) <p>Section F.1.d.(2)(j) includes as a Priority Development Project Category Retail Gasoline Outlets (RGOs) that meet the criteria of 5,000 square feet or more or have a projected Average Daily Traffic (ADT) of 100 or more vehicles per day. SWRCB Order WQ 2000- 11 provides guidance on whether RGOs are subject to SSMP requirements. The State Board states in this Order that “In considering this issue, we conclude that construction of RGOs is already heavily regulated and that owners may be limited in their ability to construct infiltration facilities. Moreover, in light of the small size of many RGOs and the proximity to underground tanks, treatment may not always be feasible, or safe.”</p> <p>Although the State Board does not prohibit subjecting RGOs to SSMP requirements, the State Board provides a number of reasons for not doing so, including that fact that RGOs are already heavily regulated. It should also be noted that the DAMP already prescribe a suite of BMPs specific to RGOs. Subjecting RGOs to SSMP requirements imposes duplicity where it is not needed. Section F.1.d.(2)(j) should be removed from the permit.</p>	<p>The inclusion of Retail Gasoline Outlets was discussed at length in the Fact Sheet. Please see the discussion in the fact sheet for Finding D.2.d. on page 52, and Section D.1.d.(2)(j) on page 86. This section has not been changed or modified.</p>

Comment No.	Commenter	Subject	Section	Specific Comment	Comment Response
108	4	LID	F.1.	<p>• LID Site Design BMP Requirements (Section F.1.d.(4), Page 30-33) This provision identifies that each Permittee must require LID stormwater practices or make a finding of infeasibility for each Priority Development Project (PDP) for inclusion of LID. This provision effectively requires each PDP to perform an analysis of the applicability of LID BMPs for a given project and either incorporate LID BMPs into the project or provide documentation that supports a finding that LID BMPs cannot be incorporated, which presents a significant change in the way development projects are planned and designed and presents an additional burden on developers and municipal plan checkers.</p> <p>The Tentative Updates and Errata document released on May 5th changes this language by specifying that each Permittee must require a project to include LID stormwater practices or, alternatively, participate in the LID substitution program described in Section F.1.d.(8). The analysis of the feasibility of LID BMPs is most appropriate to be included under this provision as the LID Site Design Substitution Program, as discussed later, is confusing and an unnecessary provision.</p> <p>It is recommended that Section F.1.d.(4)(a)(i) not be changed per the Tentative Updates and Errata document release on May 5th and remain as worded in the March 13th Tentative Order as follows: Each Copermittee must require LID storm water practices or make a finding of infeasibility for each Priority Development Project.</p>	<p>The Tentative Order has been modified to address the commenter's concern. The finding of infeasibility is subject to the criteria outlined in the LID substitution program.</p>
109	4	LID	F.1	<p>Section F.1.d.(4)(a)(iii) requires each PDP to perform an assessment of the potential for collection of stormwater for beneficial use on-site or off-site prior to discharging from the MS4. The language "discharging from the MS4" is confusing and the meaning should be defined or the language should be changed to "discharging to the MS4". There is no language in the Tentative Order that identifies how extensive the analysis should be and there is no supporting language in the Fact Sheet as to why this analysis should be done. The requirement to perform this assessment for off-site use, which is not defined, puts an undue burden on developers to identify potential uses beyond the area and control of the PDP. This provision likely goes beyond the authority of the Regional Boards per Water Code § 13360, which prohibits the Regional Board from specifying the manner of compliance with its regulations. It is recommended that Section (a)(iii) of this provision be modified as follows: The review of each Priority Development Project shall consider potential collection of storm water for beneficial use on-site prior to discharging to the MS4.</p>	<p>The Tentative Order has been changed in response to this comment. The phrase, "on site or off site prior to discharging from the MS4" has been removed.</p>

Comment No.	Commenter	Subject	Section	Specific Comment	Comment Response
110	4	LID	F.1	<p>Section F.1.d.(4)(a)(vi) requires that within 365 days of adoption of the Order that each Permittee review its local codes and ordinances and identify barriers therein to implementation of LID stormwater practices. One year, however is not adequate time for each Permittee to identify barriers to LID in its local codes and ordinances as similar projects to identify barriers to LID have taken multiple years. A minimum of two (2) years should be provided for the Permittees to identify these barriers which would allow a thorough understanding of the types of barriers present in local codes and ordinances, and the time to create ordinances that are compatible and support the other stormwater program elements.</p> <p>It is recommended that Section F.1.d.(4)(a)(vi) be modified as follows: Within 365 days two (2) years after adoption of this Order, each Copermittee must review its local codes and ordinances and identify barriers therein to implementation of LID storm water practices. Following the identification of these barriers to LID implementation, where feasible the Copermittee must take appropriate actions to remove barriers directly under Copermittee control by the end of the permit cycle.</p>	<p>The Tentative Order has been changed to allow the Copermittee's up to two years to review their local ordinances as part of the updated SSMP. Although the Copermittee has two years to identify the local ordinances, the Copermittee has up to five years, the next permit cycle, to create and amend their ordinances to be compatible and support LID, i.e. remove barriers.</p>
111	4	LID	F.1.	<p>Section F.1.d.(4)(b)(i) requires PDPs to maintain or restore natural storage reservoirs and drainage corridors in drainage networks in preference to pipes, culverts, and engineered ditches. The intent of the provision appears to be to assist in maintaining the pre-development hydrology, however this provision specifies how a PDP is to maintain the pre-development hydrology which may go beyond the limitations in Water Code § 13360.</p> <p>It is recommended that Section F.1.d.(4)(b)(i) be modified as follows: Consider maintaining or restoring natural storage reservoirs and drainage corridors (including depressions, areas of permeable soils, swales, and ephemeral and intermittent streams) in drainage networks in preference to pipes, culverts, and engineered ditches.</p>	<p>After meeting with the Copermittees, the Tentative Order has been modified to remove the term "in drainage networks in preference to pipes, culverts, and engineered ditches."</p>

Comment No.	Commenter	Subject	Section	Specific Comment	Comment Response
112	4	LID	F.1.	<p>Section F.1.d.(4)(b)(ii) of this provision requires draining a portion of the impervious area to pervious areas before discharge to the MS4, specifying that the amount of runoff shall correspond to the total capacity of the pervious areas. Section (b)(iii) of this provision identifies that pervious or landscaped areas should be properly designed and constructed to effectively receive and infiltrate or treat runoff. The effect of these provisions requires that all landscaped and pervious areas are sized and designed as stormwater treatment devices, such as bioretention or vegetated swales. Using landscaped and pervious areas as stormwater treatment devices is not always feasible and is dependant on site specific constraints.</p> <p>It is recommended that Section F.1.d.(4)(b)(ii) and Section F.1.d.(4)(b)(iii) of this provision be modified as follows: Section F.1.d.(4)(b)(ii) - Projects with landscaped or other pervious areas shall, where feasible, drain a portion of impervious areas (rooftops, parking lots, sidewalks, walkways, patios, etc) into pervious areas prior to discharge to the MS4. The amount of runoff from impervious areas that is to drain to pervious areas shall correspond with the total capacity of the project's pervious areas to infiltrate or treat runoff, taking into consideration the pervious areas' soil conditions, slope, and other pertinent factors.</p> <p>Section F.1.d.(4)(b)(iii) - Projects with landscaped or other pervious areas shall, where feasible, properly design and construct the pervious areas to effectively receive and infiltrate or treat runoff from impervious areas, prior to discharge to the MS4. Soil compaction for these areas shall be minimized. The amount of the impervious areas that are to drain to pervious areas must be based upon the total size, soil conditions, slope, and other pertinent factors.</p>	The Tentative Order has been updated to incorporate the commenter's suggestion.

Comment No.	Commenter	Subject	Section	Specific Comment	Comment Response
113	4	LID	F.1.	<p>• LID Site Design BMPs Sizing and Design (Section F.1.d.(4)(c), Page 33) The Tentative Updates and Errata document released on May 5th (page 7) contains a new section which requires that LID structural site design BMPs to be sized and designed to ensure capture of the 85th percentile storm event for all flows from the development in accordance with Section F.1.d.(6)(a)(i) and Section F.1.h. The objective of Low Impact Development is for a development site to maintain pre-development site hydrology by implementing site-design techniques that function similar to natural processes. LID BMPs should therefore not be designed to capture the 85th percentile storm event but rather to capture the difference in volume between the 85th percentile storm event for the pre-development condition and the 85th percentile storm event for the post-development condition (delta volume). By sizing and designing LID BMPs to the delta volume this will help to ensure that the pre-development hydrology is maintained which is the objective of the Low Impact Development stormwater approach.</p> <p>This new section also requires that any volume over and above the design capture volume, that is not captured by the LID BMPs shall be treated using conventional treatment control BMPs in accordance with Section F.1.d.(6). This language appears to require treatment beyond the 85th percentile storm event which unnecessary as most pollutants are removed through treatment or capture of the 85th percentile storm event, it is likely infeasible in many locations, and it would but an unnecessary burden on PDPs without much added pollutant removal benefit.</p> <p>It is recommended that the Provision be modified as follows: LID structural site design BMPs shall be sized and designed to ensure capture of the difference between 85th percentile storm event (“design capture volume”)for the predevelopment condition and the 85th percentile storm event (“design capture volume”)for the post-development condition for all flows from the development or redevelopment project in accordance with Section F.1.d.(6)(a)i. and Section F.1.h below.</p>	<p>The Tentative Order's language regarding Low Impact Development requirements has been modified to be consistent with the Region 8's recently adopted MS4 permit for North Orange County. The language still requires onsite retention through infiltration, evapotranspiration or rainwater harvesting. In addition, the Permit allows properly designed biofiltration BMPs to be used as allowed by the Region 8 permit. Retention on site and/or biofiltration is required of all flows resulting from storm up to and including the 24-hour 85th-percentile storm event.</p>

Comment No.	Commenter	Subject	Section	Specific Comment	Comment Response
114	4	LID	F.1.	<p>Alternatively the term “capture” as used in the Tentative Updates and Errata document released on May 5th should be defined as capturing water for treatment using LID BMPs and should not be defined as retention of the 85th percentile storm event. Retention of the 85th percentile storm event is an artificial metric that does not meet the objective of Low Impact Development which is to maintain pre-development site hydrology. If retention is used as the definition of capture there will be many development site locations where this will be infeasible due to site constraints. Capture should be defined as treatment of the 85th percentile storm event which is likely feasible at almost all development site locations. The benefits of LID are realized with the definition of capture as treatment, as retention will still occur on sites where it is feasible through infiltration and evapotranspiration, and on sites where retention is not feasible, vegetated LID BMPs will still provide treatment and volume reduction will occur through some infiltration and evapotranspiration.</p> <p>Alternatively it is recommended that the Provision be modified as follows:</p> <p>LID structural site design BMPs shall be sized and designed to ensure capture treatment of the 85th percentile storm event (“design capture volume”) for all flows from the development or redevelopment project in accordance with Section F.1.d.(6)(a)i. and Section F.1.h below.</p>	<p>The Tentative Order's language regarding Low Impact Development requirements has been modified to be consistent with the Region 8's recently adopted MS4 permit for North Orange County. The language still requires onsite retention through infiltration, evapotranspiration or rainwater harvesting. In addition, the Permit allows properly designed biofiltration BMPs to be used as allowed by the Region 8 permit.</p>

Comment No.	Commenter	Subject	Section	Specific Comment	Comment Response
115	4	SUSMP	F.1.	<p>• Treatment Control BMP Requirements (Section F.1.d.(6)(f) and (g), Page 34) The Regional Board Response to Comments dated July 6, 2007 regarding this section does not provide any technical basis for these provisions and it does not adequately address the comments provided stating that “the concerns are addressed within the Tentative Order”. Since the previous comments on this issue were not adequately addressed in the Regional Board’s Response to Comments, the comments are being resubmitted.</p> <p>Section F.1.d.(6)(f) require treatment control BMPs be implemented prior to discharging into waters of the U.S. and provision F.1.d.(6)(g) requires that treatment controls not be constructed within waters of the U.S. or waters of the State. These provisions of the Tentative Order greatly limit the use of regional BMP and watershed-based approaches. The provisions demand a lot-by-lot approach in implementing BMPs that is analogous to the site-by-site septic tank approach that has been discredited as an effective strategy for sewage treatment in urban areas. Similarly, the Permittees submit that such an approach is also ineffective for stormwater and will lead to a diversion of limited resources to managing thousands of site-by-site treatment controls, which are managed by parties that have limited or no experience, instead of hundreds of regional controls, that are managed by parties and governmental agencies that have expertise in BMP management.</p> <p>The Tentative Order encourages a renewed focus on the ‘watershed approach’ but the proposed restriction on regional BMPs is antithetical to a watershed approach. The USEPA in its National Management Measures Guidance to Control Nonpoint Source Pollution from Urban Areas, Management Measure 5: New Development Runoff Treatment dated November 2005 (page 5-38) states that “regional ponds are an important component of a runoff management program.” and that the costs and benefits of regional, or off-site, practices compared to on-site practices should be considered as part of a comprehensive management program. The EPA guidance acknowledges that a regional approach can effectively be used for BMPs.</p> <p>In addition, the Fact Sheet does not provide any technical justification for these provisions. Since neither the Findings nor the Fact Sheet provide any technical basis for precluding regional BMPs and EPA guidance recommends the use of regional BMPS, these provisions should be deleted from the permit.</p>	<p>This issue was addressed in the 2007 fact sheet and response to comments. Please see the response to Comment No. 69.</p>

Comment No.	Commenter	Subject	Section	Specific Comment	Comment Response
116	4	LID	F.1.	<ul style="list-style-type: none"> • LID Site Design BMP Substitution Program (Section F.1.d.(8)(d), Page 36) <p>In the March 13th Tentative Order the provision has been modified to require that for PDPs participating in the Substitution Program that all LID site design BMPs meet the requirements in Section F.1.d.(4). As LID BMPs are now required in every PDP the Substitution Program essentially becomes a moot provision since if it is feasible to incorporate LID BMPs a PDP would most likely not need to include treatment control BMPs. The May 5th Tentative Updates and Errata document modifies this provision to include a feasibility analysis for PDPs where LID BMPs are not feasible. This new language effectively changes the meaning of Provision F.1.d.(8) from a LID Site Design BMP Substitution Program to a Treatment Control BMP Substitution Program as the Tentative Order requires LID site design BMPs unless they are demonstrated to be infeasible, which then Treatment BMPs appear to be able to be substituted. It is recommended that the Provision be deleted and that the LID feasibility provisions under Section F.1.d.(8)(d) from the May 5th Tentative Updates and Errata document be moved under Section F.1.d.4.(a)(i).</p>	<p>The commenter is correct that it is the intent of this section that LID BMPs are required unless demonstrated to be infeasible, which then Treatment BMPs are able to be substituted and mitigation implemented. The language in the Tentative Order has been modified to clarify that intent.</p>
117	4	SUSMP	F.1.	<ul style="list-style-type: none"> • Treatment Control BMP Maintenance Tracking (Section F.1.f, Page 38) <p>The Regional Board Response to Comments dated July 6, 2007 regarding this section identifies that the provision has been modified to “allow the Permittees more latitude with verifying treatment control BMP operations through self-certification, third party inspection and/or verification by the Copermittee,” however the self-certification program is required to comply with the same very prescriptive provisions. The Provision should be amended to properly allow the Permittees to develop a self-certification inspection program that will meet the intent of the provision without having pre-determined requirements which undermine the benefits of a self-certification inspection program.</p> <p>It is recommended that the Provision be modified as follows: (c) Verify implementation, operation, and maintenance of treatment BMPs by inspection, through the development of a self-certification BMP inspection program within 12 months of the adoption of this Order.</p>	<p>Please see the response to Comment #27. Copermittee inspections are preferable to self certification programs for high priority projects. The requirements in the Tentative Order are on the verification program as a whole including inspections and self certifications. The requirements define when it is appropriate to use the self certification program.</p>

Comment No.	Commenter	Subject	Section	Specific Comment	Comment Response
118	4	Hydromod	F.1.	<ul style="list-style-type: none"> Requirements for Hydromodification and Downstream Erosion (Section F.1.h, Page 39) Section F.1.h. discusses the hydromodification requirements for Priority Development Projects. The hydromodification provisions are of concern to the Permittees for several reasons. As a general matter, the hydromodification provisions may actually discourage smart growth and sustainable development and encourage urban sprawl. High density urban development generally does not have the space to allocate to onsite hydromodification controls. However, urban development has other water quality benefits such as incorporating subterranean parking garages, retail and office workspace, and residential space into a single impervious footprint. As a result, these types of developments have a much smaller impervious footprint than suburban developments that accommodate the same features. This Provision should be amended to include an exception for urban development based on impervious footprint. 	<p>The Regional Board agrees that urban development is preferable to urban sprawl for the reasons stated by the commenter. Nevertheless, the Regional Board disagrees that the hydromodification requirements should include an exception for urban development. New urban development must provide opportunities to incorporate LID design features and green spaces that can infiltrate runoff from smaller, frequent storms. In order to incorporate the necessary design features to capture runoff from larger storms per the hydromodification requirements, land developers have the option to use regional treatment controls where space is limited. Section F.1.h of the Tentative Order has been modified to include the use of regional treatment controls as an option to meet the hydromodification requirements.</p>
119	4	Hydromod	F.1.	<p>Section F.1.h.(3) (Page 40) requires each Permittee to implement, or require implementation of, a suite of management measures within each Priority Development Project to protect downstream beneficial uses and prevent adverse physical changes to downstream stream channels. This section should not apply to watersheds or watershed plans that already include sufficient hydromodification measures. For example, the County of Orange and major landowners, such as Rancho Mission Viejo have put in place a comprehensive watershed land use/open space strategy for the San Juan Creek Watershed/Western San Mateo Watershed which includes water quality/quantity management as an integral component. The Tentative Order should be amended to provide an exception to this section for those watersheds where a watershed plan that contains sufficient hydromodification measures has been developed.</p>	<p>The Regional Board disagrees that the hydromodification measures stated in section F.1.h should not apply to certain watersheds. Although certain watersheds may have an existing watershed land use/open space strategy, there is no assurance that this strategy would maintain the same level of protection from hydromodification that the measures in section F.1.h provide. Additionally, the hydromodification measures call for a collective strategy to be developed by all the Copermitees to ensure a consistent, effective, region-wide approach. Allowing exceptions because of alternative management plans does not accomplish a consistent approach.</p>
120	4	Hydromod	F.1.	<p>This section should also recognize that the common hydromodification management measures for complying with the hydromodification requirements don't necessarily apply directly to flood control projects.</p>	<p>Part of the tasks in developing an HMP by the copermitees is defining a range of flows for which hydromodification management measures must be applied. Flows outside of that range (including flows that may cause flooding) need not be controlled.</p>
121	4	Hydromod	F.1.	<p>Section F.1.h.3.(b) (Page 40) requires that management measures must be based on a sequenced consideration of site design measures, on-site management controls, and then in-stream controls. The provision does not include an option to address hydromodification on a regional or watershed basis. This provision should be amended to include an option to address hydromodification on a regional or watershed basis.</p>	<p>Section F.1.h of the tentative order has been modified to include a provision for regional controls. Regional controls shall be an option after site design measures and on-site controls have been considered.</p>

Comment No.	Commenter	Subject	Section	Specific Comment	Comment Response
122	4	Hydromod	F.1.	<p>Section F.1.h.(3)(b)(i) (Page 40) requires that site design measures for hydromodification must be implemented on all Priority Development Projects. It is neither necessary nor prudent to require hydromodification controls on all priority projects. Some priority projects may be too small to have hydromodification effects and some may discharge into engineered channels, which makes these measures unnecessary. The receiving channel must always be part of the assessment of whether hydromodification controls will be required. This Provision should be amended to include language that the controls are required unless a waiver per paragraph (c) of this section is granted.</p>	<p>The Regional Board recognizes that some priority development projects may be too small to have hydromodification effects; for that reason, the Copermittees must define a range of flow rates for which hydromodification management measures must be implemented. If a project is estimated to generate flows outside of this range, then the flows need not be controlled. Additionally, for smaller projects, it is likely that the hydromodification management measures will be met through the use of LID features, which are required per section F.1.d (4).</p> <p>Although some projects may discharge into engineered channels, the hydromodification management measures must still be implemented to ensure bank stability if the engineered channel is ever returned to its natural, pre-armored state. Therefore the assessment of the receiving channel will be included in the HMP, and in cases where the receiving channel has been hardened, the assessment shall be done for a comparable soft-bottomed channel, as described in section F.h.(1)(b). Alternatively, if the Copermittees determine that it is infeasible to perform the assessment on a hardened channel as though it were a soft-bottomed, then the Copermittees may use the hardened channel as the channel standard. However, the Copermittees must also conduct a feasibility study to explore the removal of concrete in the channel as a means towards stream restoration. The study must include an analysis of the maximum flows that could be tolerated by a stable soft-bottomed creek bed and bank, and an analysis of the flow reductions required per sub-watershed to achieve a stable soft-bottomed creek bed and bank.</p> <p>Because the hydromodification controls will be required upstream of hardened channels, or a feasibility study for restoring the creek will be required, the Regional Board will not modify the language regarding waivers per the commenter's suggestion.</p>

Comment No.	Commenter	Subject	Section	Specific Comment	Comment Response
123	4	Hydromod	F.1.	<ul style="list-style-type: none"> Hydromodification & Engineered Channels (Section F.1.h.3.(c)(ii), Page 41) Provision F.1.h.3.(c)(ii) has been deleted, which removes the waiver of hydromodification requirements for those PDPs that discharges to concrete-lined or significantly hardened channels downstream to their outfall in bays or the ocean. The waiver for PDPs that discharge to concrete-lined or significantly hardened channels should be included as hydromodification requirements are not appropriate for channels that are designed to accept increased flows from upstream development as the potential for erosion is minimal or not present. The fact sheet does not provide any discussion under this provision of why the waiver was removed and the discussion under Finding D.2.g does not adequately address hydromodification requirements related to concrete lined or significantly hardened channels. It is recommended that the Provision providing conditional waivers for hydromodification requirements for concrete-lined or significantly hardened channels be added back into the Tentative Order. 	The fact sheet has been modified to include a discussion regarding the removal of the waiver of hydromodification requirements for Priority Development Projects which discharge to concrete-lined channels.
124	4	Hydromod	F.1.	<ul style="list-style-type: none"> Hydromodification Management Plans (Section F.1.h.(4) & (5), Page 41-43) Provisions F.1.h.(4) & (5) have been modified to require the development of watershed specific Hydromodification Management Plans that include specific criteria for minimizing and mitigating hydrologic modification at all development and redevelopment projects within two years of adoption of the Order. The timeframe for development of HMPs for each watershed is too short to ensure an optimized program. Interim criteria assures that there will not be unregulated construction in the interim. A minimum of three years, which was the length of time to develop criteria identified in the previous Tentative Order, should be allowed for their development. It is recommended that the Provisions be modified as follows: Section F.1.h.(4) - Each Copermittee must revise its SSMP/WQMP to implement a watershed specific Hydromodification Management Plan (HMP) to include specific criteria for minimizing and mitigating hydrologic modification at all development and redevelopment projects, unless hydromodification requirements have already been developed for a watershed which can be integrated into the SSMP/WQMP. Section F.1.h.(5) (a) - Within 3 years of adoption of the Order, the Permittees shall submit to the Regional Board a draft HMP that has been reviewed by the public, including the analysis that identifies the appropriate limiting range of flow rates. 	<p>The Regional Board will not modify the language in the Tentative Order to allow for the use of an alternate hydromodification management plan that may not have as rigorous of requirements for the reasons discussed in the response to comment No. 119.</p> <p>Given that a Hydromodification Management Plan (HMP) is nearing completion in the San Diego area, it is not appropriate to delay the development of an HMP in the Orange County area by adding another year. The Regional Board fully expects the Orange County copermittees to utilize the findings from the San Diego copermittees in developing a local HMP.</p>

Comment No.	Commenter	Subject	Section	Specific Comment	Comment Response
125	4	Hydromod	F.1.	<ul style="list-style-type: none"> Interim Hydromodification & Effective Impervious Area (Section F.1.h.(6)(i), Page 43) <p>Section F.1.h.(6)(i) has been modified to require, as an interim measure that each PDP, not just projects disturbing 20 acres or more, disconnect impervious areas by reducing the percentage of Effective Impervious Area to less than five percent of total project area. EIA is not an adequate metric for hydromodification as there is a lack of a technical consensus on a performance standard relating the disconnection of impervious area and either water quality or hydromodification. This performance standard will ultimately be a very land intensive requirement which may promote sprawl and not conserve natural areas. The 5% EIA number was originally identified in the context of watershed imperviousness and not for a specific development site. The fact sheet identifies that the 5% EIA number was added in direct response to comments from the USEPA on Tentative Order R9-2008-001, however USEPA, in several statements made by Dr. Cindy Lin at the November 14, 2008 CASQA General Meeting, suggested that the 5% EIA metric should only be considered as an example and that USEPA is open to consideration of other metrics for LID. It is unclear whether the language in the Tentative Updates and Errata document released on May 5th replaces and removes the 5% EIA metric from the Tentative Order or if the language is in addition to the 5% EIA metric. In addition the new language from the Tentative Updates and Errata document released on May 5th should be based on the 85th percentile storm event runoff volume. It is recommended that the current language of the Draft North Orange County permit be substituted.</p>	<p>The language regarding the interim hydromodification and EIA has been removed from section F.1.h.(6)(i). The requirements involving EIA are discussed under the LID requirements (section F.1.d.(4)). Please response to Comment No. 4 for discussion on the revised LID metric.</p>
126	4	Construction	F.2	<p>Construction Component</p> <ul style="list-style-type: none"> Permit Fees <p>Since the previous comments on this issue were not addressed in the Regional Board's two Response to Comments documents, the comments are being resubmitted. Although not directly addressed within the Tentative Order, the Permittees take issue with the requirement that they must pay a significant fee for the municipal stormwater permit, which covers their construction responsibilities and are also required to pay an additional fee when they submit an NOI to obtain coverage under the Statewide Construction General Permit. Since there is some discretion in how the Regional Water Board addresses these fees, the Permittees request that their municipal stormwater fees cover all municipal activities including construction and that they not be held liable for additional fees when submitting NOIs.</p>	<p>Each person for whom waste discharge requirements have been prescribed pursuant to section 13263 of the Water Code shall submit, to the State Board, an annual fee in accordance with the schedules prescribed in California Code of Regulations Title 23, Division 3, Chapter 9, Waste Discharge Reports and Requirements Article 1, Fees Section 2200, Annual Fee Schedules. The fee shall be submitted for EACH waste discharge requirement order issued to that person. The Regional Board does not have the discretion to combine, reduce, or waive fees for waste discharge requirements. The Regional Board is required by the California Code of Regulations to collect fees for each order issued to an entity wanting to discharge waste to waters of the State of California.</p>

Comment No.	Commenter	Subject	Section	Specific Comment	Comment Response
127	4	Construction	F.2.	<p>• BMP Implementation (Section F.2.d, Page 46-47) The previous comments on this issue made by the Permittees were not addressed in the Regional Board's two Response to Comments documents, and are therefore resubmitted.</p> <p>Section F.2.d.(1)(a)(ii) requires the development and implementation of a site-specific stormwater management plan. To make the language consistent with the changes made to Section F.2.c.2 (Page 46), the County suggests the following change: (ii) Development and implementation of a site-specific stormwater management plan erosion and sediment control plan (or equivalent BMP plan);</p>	<p>Comment noted. In order to be consistent the permit language on Page 46 will strike the requirement of an erosion and sediment control plan and replace it with a runoff management plan. The new language will read as follows:</p> <p>Provision F.2.c.2 - "Prior to permit issuance, the project proponent's runoff management plan (or equivalent construction BMP plan) must be required to comply, and reviewed to verify compliance, with the local grading ordinance, other applicable local ordinances, and this Order.</p> <p>Provision F.2.d.(1)(a) – Management Measures Provision F.2.d.(1)(a)(ii) - "Development and implementation of a runoff management plan;"</p> <p>To provide further clarity, runoff is defined in Appendix B of the Order.</p>
128	4	Construction	F.2.	<p>• Construction Reporting of Non-compliant Sites (Section F.2.g.(2), Page 50) This new provision requires that each Permittee must annually notify the Regional Board of all construction sites with potential violations prior to the commencement of the wet season. This reporting requirement should be limited to the sites meeting the criteria specified in F.2.e.1 that are required to be inspected in August and September of each year.</p> <p>The County recommends the following modifications. Each Copermittee shall annual notify the Regional Board, prior to the commencement of the wet season, of all construction sites inspected in accordance with F.2.e.4 that meet the criteria specified in F.2.e.1, with potential violations. ..."</p>	<p>The Tentative Order has been updated and "potential" replaced with the word "suspected." The intent of the requirement is to allow the Regional Board to evaluate and prioritize inspections of construction sites, and is not intended to be used to determine Copermittee compliance with the Order. While suspect sites can include those under F.2.e.1, and the Regional Board does not discount their importance, the Regional Board expects suspect sites will include the following:</p> <ol style="list-style-type: none"> 1) Sites where the Copermittees have issued enforcement, but a follow-up inspection has not occurred. 2) Sites that have not been inspected. 3) Sites that have received 3rd party complaints. 4) Sites that Copermittees have otherwise identified as warranting further inspection. <p>The required information can be included with the JRMP Annual Report.</p>

Comment No.	Commenter	Subject	Section	Specific Comment	Comment Response
129	4	Existing Development	F.3.	<p>Municipal</p> <ul style="list-style-type: none"> Flood Control Structures (Section F.3.a.(4)(c), Page 53) <p>Section F.3.a.(4)(c) requires the Permittees to evaluate existing flood control devices to identify those that are causing or contributing to a condition of pollution, identify measures to reduce or eliminate the structure's effect on pollution, and evaluate the feasibility of retrofitting the structure. This provision is problematic for several reasons as described below. The federal regulations [40 CFR, Part 122.26(d)(2)(vi)(A)(4)] focus on evaluating flood control devices and determining if retrofitting the device is feasible. The regulations state: (4) A description of procedures to assure that flood management projects assess the impacts on the water quality of receiving water bodies and that existing structural flood control devices have been evaluated to determine if retrofitting the device to provide additional pollutant removal from stormwater is feasible. The language should be modified so that it is aligned with the current stormwater permit, recognizes the work that has been completed, is consistent with the intent of the federal regulations, and is consistent with the justification within the Fact Sheet.</p> <p>The proposed language modification is as follows:</p> <p>(4). BMP Implementation for Flood Control Structures (c) Each Permittee who owns or operates flood control devices/facilities must continue to evaluate its existing flood control devices/facilities, identify devices causing or contributing to a condition of pollution, identify measures to reduce or eliminate the structure's effect on pollution, as needed and identify opportunities and the feasibility of configuring and/or reconfiguring channel segments/structural devices to function as pollution control devices to protect beneficial uses. The inventory and updated evaluation must be completed by July 1, 2008/10 and submitted to the Regional Board with the Fall 2008/10 annual report.</p>	<p>The Regional Board appreciates the fact that many structural flood control devices are owned and operated by the Orange County Flood Control District, which is also a Copermittee. Each Copermittee, however, must meet the requirements of the Tentative Order for its structural flood control devices. The Regional Board expects that the Flood Control District and other Copermittees will communicate with each other regarding structures owned by the District that serve other municipalities.</p> <p>This comment was addressed at length in the Response to Comments Documents Nos. 1 and 2, and the Fact Sheet. No changes have been made to the Order in response to this comment.</p>

Comment No.	Commenter	Subject	Section	Specific Comment	Comment Response
130	4	Existing Development	F.3.	<p>• Infiltration from Sanitary Sewer to MS4 (Section F.3.a.(7), Page 54) Although the first portion of the Tentative Order provision (7)(a) is consistent with the current permit (Order No. R9-2002-0001), the Permittees submit that the provisions regarding sanitary sewer maintenance are more applicable to sanitary sewer agencies, not stormwater agencies. It is inappropriate to include sanitary sewer maintenance requirements in a stormwater permit even where the two systems may be operated by the Permittee. Where similar maintenance requirements are included in the wastewater treatment plant or collection system permit¹³, these provisions are an unnecessary duplication of other regulatory programs. On a similar issue, the State Board stayed a provision in the existing permit finding that “the regulation of sanitary sewer overflows by municipal storm water entities, while other public entities are already charged with that responsibility in separate NPDES permits, may result in significant confusion and unnecessary control activities.” [emphasis added] (WQ 2002-0014 at p.8). Therefore we submit that part (a) of the provision (7) should be deleted from the Tentative Order. While the Permittees agree that stormwater agencies must also address aspects of sanitary sewer incursions into the MS4s, the provisions in (7)(b) are aspects of other portions of the stormwater program and should be moved to those sections of the Tentative Order.</p> <p>The proposed changes include:</p> <ul style="list-style-type: none"> i. Adequate plan checking for construction and new development – incorporate in the Construction and New Development programs ii. Incident response training for municipal employees that identify sanitary sewer spills – incorporate in the Illegal Discharges/Illicit Connections (ID/IC) program. iii. Code enforcement inspections – delete, this is covered by other programs iv. MS4 maintenance and inspections – incorporate in the Municipal program, provision D.3.a(6). v. Interagency coordination with sewer agencies – incorporate in the ID/IC program vi. Proper education of municipal staff and contractors conducting field operations on the MS4 or municipal sanitary sewer (if applicable) – incorporate in the Municipal program 	<p>Section F.3.a.7 identifies requirements regarding infiltration of sewage into the MS4 and preventive maintenance of the MS4. The requirements in the Tentative Order are specific to maintenance of the storm drain system and other tasks typically performed by the Copermittee and not the sanitary sewer agency, except in circumstances where the Copermittee operates its own sanitary sewer system. The requirements that apply to agencies which also operate sanitary sewers are clearly identified. Other requirements are reasonable functions of MS4 operators. This section has not been revised. See Also July 6, 2007 Response to Comments Document. No.44</p>

Comment No.	Commenter	Subject	Section	Specific Comment	Comment Response
131	4	Existing Development	F.3.	<p>Commercial/Industrial • Commercial Sites/Sources (Section F.3.b.(1)(a)(i), Page 57) The Tentative Order added four new categories of commercial sites/sources: food markets, building material retailers and storage, animal facilities, and power washing services. The Fact Sheet notes that these facilities were added because these activities were identified as potentially significant sources of pollutants in annual reports. While we agree that sites/sources that are identified by the Permittees as contributing a significant pollutant load to the MS4 should be incorporated into the inventory, we disagree with adding them to the list in the Tentative Order unless universally identified, by all the Permittees as a significant source.</p> <p>The determinations of significance need to be made at a local level and incorporated into the local JURMP. As noted in the Regional Board's first response to comments document in discussing the balance of flexibility and enforceable criteria:</p> <p>"... the Tentative Order sets numeric criteria regarding commercial inspections, but relies on each Copermittee to select inspection targets based on its local knowledge."</p> <p>It is important that these determinations be made at a local level and if identified as a common problem, then apply the requirement applied countywide, otherwise the Board staff may inadvertently be diverting resources from high priority issues to lower priority issues in some areas.</p> <p>The new categories should be deleted from the Tentative Order and, instead, recognize that those sites/sources have been locally determined to contribute a significant pollutant load to the MS4 be should be incorporated into the local JURMP(s).</p>	<p>The new categories of pollutant generating activities and areas were identified in the annual MS4 program reports and quarterly Aliso Creek watershed reports. It is appropriate to include these new categories within the Tentative Order. Watersheds generally do not follow jurisdictional boundaries. Pollutant generating businesses and activities identified by some Copermittees were not jurisdictionally specific. The requirement in the Tentative Order applying to all Copermittees would prevent a "Tragedy of the Commons" whereby a less stringent requirement in a neighboring jurisdiction encourages the business to move operations to the jurisdiction with the less stringent requirement. The business is more than likely not to change practices or BMPs to reduce pollutant loads in the new jurisdiction with the less stringent requirement.</p> <p>Although, the Copermittee must identify the additional pollutant generating businesses, the Tentative Order provides great flexibility in determining what businesses the Copermittee must inspect. The addition of the categories is consistent with the requirements in the MS4 permit for San Diego County and the MS4 permit for North Orange County recently adopted by Region 8.</p>

Comment No.	Commenter	Subject	Section	Specific Comment	Comment Response
132	4	Existing Development	F.3	<p>• Mobile Businesses (Section F.3.b(3)(a), Page 59) The Tentative Order adds a new requirement to develop and implement a program to address discharges from mobile businesses. The program must include the identification of BMPs for the mobile business, development of an enforcement strategy, a notification effort, the development of an outreach and education program, and inspection as needed.</p> <p>In our previous comment letter we noted the difficulties associated with initiating this program, concerns which were mirrored in the Fact Sheet. For the reasons previously noted and acknowledged by the Regional Board, we request that the requirement for this program be changed to the development of a pilot program for the mobile business category. The pilot program would allow the Permittees to work together on a regional basis to develop an appropriate framework for addressing mobile business and determine whether the program is effective prior to expending a significant amount of resources on multiple categories of mobile businesses.</p>	<p>This comment was addressed in the July 2007 response to comments. The requirement for the inclusion of mobile business is not a significant change from the existing Order because several categories of mobile businesses are required to implement BMPs. The separate requirement only specifies the unique circumstances of mobile businesses; therefore the section has been segregated from the fixed location businesses. Conducting a pilot program would be unnecessary, because nothing in the Tentative Order prohibits the Copermittees from working together on a watershed basis to address mobile businesses. In addition, since the existing Order already requires BMP implementation at some of the identified mobile businesses; any lessening of that requirement would be considered backsliding and not compliant with anti-backsliding regulations within CFR 122.44(l).</p>
133	4	Existing Development	F.3.	<p>• Inspection of Industrial and Commercial Sites/Sources (Section F.3.b(4)(b), Page 60) This new provision requires that each Permittee must annually notify the Regional Board of all commercial and industrial sites/sources with potential violations prior to the commencement of the wet season. Similar to the new requirement for inspecting and reporting non-compliant construction sites, this requirement is ambiguous and subject to potential misinterpretation because Permittees do not inspect all commercial and industrial sites/sources each year.</p> <p>This reporting requirement should be revised so that it does not imply an expansion of the inspection frequency or change in inspection timing than that identified in the subsequent findings and JURMPs.</p> <p>"Each Permittee shall annual notify the Regional Board, prior to the commencement of the wet season, of all the Industrial Sites and Industrial Facilities subject to the General Industrial Permit or other individual NPDES permit with potential violations that were inspected within the preceding 6 months."</p>	<p>The Tentative Order has been modified to clarify the provision. Please see response to Comment 178 and 257.</p>

Comment No.	Commenter	Subject	Section	Specific Comment	Comment Response
134	4	Existing Development	F.3.	<p>• Food Facility Inspections (Section F.3.b.(4)(d), Page 61)</p> <p>The Permittees appreciate the elimination of the proposed expanded requirement to address maintenance of greasy roof vents. As noted in our April 2007 comments, the existing Food Facility Inspection program, which focuses on the major water-quality related issues associated with restaurants including disposal methods for food wastes, fats, oils and greases, wash water, dumpster management and floor mat cleaning has be shown to be effective.</p> <p>The Permittees submit that the additional expanded requirement, (c)(iv) identification of outdoor sewer and MS4 connections, either be deleted from the Tentative Order or the subject of further technical justification of its need for this successful program element.</p>	<p>Provision F.3.b.(4)(d) requires a Copermittee to conduct inspections at food facilities for compliance with its water quality ordinances. Sub-provisions (i) through (v) identify 5 areas an inspector should review during their inspection. Sub-provision (iv) specifically calls to attention a review of any outdoor sewer and MS4 connections. Review of surrounding outdoor sewer and MS4 connections is reasonable to evaluate how the facility's drainage is connected and if any illegal connections are present. No changes were made to this section.</p>
135	4	Existing Development	F.3.	<p>• Third Party Inspections (Section F.3.b(4)(e), Page 61) The previous comment on this issue was not addressed in the Regional Board's two Response to Comments documents, and is therefore resubmitted. The Tentative Order includes new, prescriptive requirements for third party inspections that provide a significant amount of detail as to how the inspection program must be managed. However, the Findings and the Fact Sheet do not address the need for these expanded requirements or provide any rationale as to how these new requirements would make the third-party inspection program more effective. In fact, this level of detail should be determined locally and should be included as a part of the program within the model DAMP and local JURMPs. After the inclusion of the industrial and commercial inspection programs in the third term permit, the Permittees determined that they could leverage their resources by utilizing and expanding upon existing inspection programs to assist them in complying with the permit instead of creating duplicative inspection programs. The ability to utilize third-party inspections as an effective part of the program, has allowed the Permittees to maximize their resources. An example of a third party inspection program that has been developed and implemented is the use of the Orange County Health Care Agency (OCHCA) inspectors to assist the Permittees in inspecting 10,000 restaurants countywide on an annual basis.</p> <p>The Permittees have developed this program in conjunction with OCHCA so that it is only an incremental burden on their limited resources, effective, and allows for clear communication between the inspectors and the Permittees. Since the Permittees have already developed an effective framework for a third-party inspection program, provisions (i)(a) through (i)(d) are unnecessary and should be deleted from the Tentative Order.</p>	<p>The Regional Board recognizes the utilization of third party inspectors for verifying compliance may aid the Copermittees in their program effectiveness. Thus, the Tentative Order allows for the use of third party inspections while reiterating that Copermittees are responsible for quality assurance and quality control for those inspections. The requirements are intended to retain flexibility while incorporating necessary inspection elements to ensure compliance with other permit requirements and conditions (e.g. illicit and illegal discharges). Furthermore, requirements are meant to encourage cooperative enforcement between the Copermittees and the Regional Board.</p>

Comment No.	Commenter	Subject	Section	Specific Comment	Comment Response
136	4	Retrofitting	F.3.	<p>• Retrofit Existing Development (Section F.3.d, Pages 65-66)</p> <p>This new provision requires that each Permittee must implement a retrofitting program for existing developments (i.e. municipal, industrial, commercial, residential). These new requirements present a significant change and present a substantial burden to the municipal stormwater program.</p> <p>Currently, new development requirements are imposed as conditions of approval for new projects and projects that are voluntarily undergoing redevelopment. A thorough legal review is required to determine whether municipalities have the authority to compel land development requirements absent a voluntary land development application and if such authorities can be developed given other legal constraints.</p> <p>The Permittees do not concur with the statement of the Regional Board in the supplemental fact sheet that "Retrofitting existing development is practicable for a municipality..." The Permittees request that the Regional Board provide a technical justification for this statement. A systematic evaluation of the technical and legal opportunities and constraints of a requirement to require retrofitting, especially of private landowners, is necessary to determine whether or not such a requirement is practicable. The evaluation must precede the permit provision to mandate MS4s require retrofitting of existing development.</p> <p>These provisions of the permit represents an entire new approach to existing development that places an unknown significant burden on the Permittees and ultimately to property owners in the south Orange County area. The Permittees therefore request that this unprecedented requirement be eliminated from the permit.</p>	<p>The updated supplemental fact sheet provides several examples of municipalities across the nation that have found retrofitting existing development to be practicable. The requirements in the Tentative Order have been written in a manner to address the municipalities constraints in requiring retrofitting projects on privately held land. In addition, this permit section only requires the Copermittees to look for and identify potential retrofitting opportunities and to implement those that are a high priority based upon their evaluations and rankings.</p> <p>The state's water quality protection requirements within the Tentative Order are authorized by Federal Law, are necessary to meet the federal MEP standard, and are not unfunded mandates. Please see comments #155 and 165.</p> <p>Also, please see response to comment no. 46.</p>

Comment No.	Commenter	Subject	Section	Specific Comment	Comment Response
137	4	Monitoring	F.4.	<p>ID/IC Program</p> <ul style="list-style-type: none"> Investigation/Inspection and Follow Up (Section D.4.e(2)(b) and (c), Page 68-69) <p>The County appreciates the acknowledgement of the concern in the Regional Board's first Response to Comments document regarding the intent of the permit language. However the language of the Tentative Order was not altered to match the Regional Board's stated intent that the investigation must be initiated within the specified timeframe. The requirements in the Tentative Order are that the Permittees must conduct the investigation within the specified time frame. The following language changes are requested within the Tentative Order to better meet the intent of this requirement as stated by the Regional Board.</p> <p>(b) Field screen data: Within two business days of receiving dry weather field screening results that exceed action levels, the Permittees must either initiate an investigation to identify the source of the discharge or document the rationale for why the discharge does not pose a threat to water quality and does not need further investigation.</p> <p>(c) Analytical data: Within two business days of receiving analytical laboratory results the exceed action levels, the Permittees must either initiate an investigation to identify the source of the discharge or document the rationale for why the discharge does not pose a threat to water quality and does not need further investigation.</p>	<p>The Regional Board agrees that the requested change is reasonable. The Tentative Order updates have been changed to include the modified language.</p>

Comment No.	Commenter	Subject	Section	Specific Comment	Comment Response
138	4	WURMP	G	<p>Watershed Urban Runoff Management Program (Section G, Page 70)</p> <p>The Tentative Order includes increasingly prescriptive requirements for the Watershed Urban Runoff Management Program (WURMP). The Fact Sheet states that the increased prescriptiveness for the WURMP provision was necessary because enforceability of the permit has been a critical aspect. The Fact Sheet further states that: "For example, the watershed requirements of Order No. R9-2002-01 were some of the Order's most flexible requirements. This lack of specificity in the watershed requirements resulted in inefficient watershed compliance efforts. This situation reflects a common outcome of flexible permit language. Such language can be unclear and unenforceable, and it can lead to implementation of inadequate programs¹⁴."</p> <p>Not only do the Permittees take strong exception to this statement, but the Fact Sheet is inconsistent with the Findings, which simply state that the WURMPs need to focus on the high priority water quality issues. In addition, the Fact Sheet does not acknowledge any of the notable Permittee successes including 1) the development of a South Orange County Integrated Regional Watershed Management Plan (IRWMP), which resulted in a \$25 million IRWMP competitive grant award, (2) the 303(d) de-listing efforts that are ongoing and have been submitted for consideration; and 3) the efforts of the County of Orange and major landowners, such as Rancho Mission Viejo to put in place a comprehensive watershed land use/open space strategy for the San Juan Creek Watershed/Western San Mateo Watershed through the approved Southern Subregion Habitat Conservation Plan (HCP) and Special Area Management Plan (SAMP) both of which include water quality/quantity management as an integral component.</p> <p>The Permittees submit that the increased prescriptiveness of the Tentative Order is unwarranted and antithetical to a watershed management approach, which should be founded on a stakeholder driven process. Successful watershed-based programs follow a stakeholder driven process and are developed from the "bottom-up" not from the "top-down". The Permittees must be given latitude in how the watershed-based programs are developed and implemented, especially since many of the pollutants of concern (Cu, Zn, pesticides, pathogen indicators, etc.) and issues are the same within and among watersheds. The language must be modified to provide the flexibility that is necessary within a watershed management program (similar to the language in Order No. R9-2002-0001) and, instead, focus on the major objectives for the program. Some language changes that would assist the Board in making these changes are provided below.</p>	<p>The full excerpt from the Fact Sheet is as follows: "The challenge in drafting the Order is to provide the flexibility described above while ensuring that the Order is still enforceable. To achieve this, the Tentative Order frequently prescribes minimum measurable outcomes, while providing the Copermittees with flexibility in the approaches they use to meet those outcomes. Enforceability has been found to be a critical aspect of the Order. For example, the watershed requirements of Order No. R9-2002-01 were some of the Order's most flexible requirements. This lack of specificity in the watershed requirements resulted in inefficient watershed compliance efforts. This situation reflects a common outcome of flexible permit language. Such language can be unclear and unenforceable, and it can lead to implementation of inadequate programs.</p> <p>To avoid these types of situations, a balance between flexibility and enforceability has been crafted into the Order. Minimum measurable outcomes are utilized to ensure the Order is enforceable, while the Copermittees are provided flexibility in deciding how they will implement their programs to meet the minimum measurable outcomes."</p> <p>The Regional Board does not state, as the commenter suggests, that all programs are deficient. Instead, the flexibility in the previous Order did not require minimum outcomes from WRMP activities that the Regional Board felt were needed. The Finding in the Tentative Order states: "This Order contains new or modified requirements that are necessary to improve Copermittees' efforts to reduce the discharge of pollutants in storm water runoff to the MEP and achieve water quality standards. Some of the new or modified requirements, such as the expanded Watershed Runoff Management Program section, are designed to specifically address high priority water quality problems. Other new or modified requirements address program deficiencies that have been noted during audits, report reviews, and other Regional Board compliance assessment activities."</p> <p>It is unclear to the Regional Board why the Copermittees should not address high priority water quality problems, which the Copermittees are required to do as part of the iterative process. The Regional Board is not dictating what each Copermittee's high priority water quality problem is, and as such there is flexibility within the WRMP requirements. Furthermore, the language provides the Copermittees with flexibility in the development and implementation of BMPs.</p> <p>The WRMP section of the Order has been restructured to retain this flexibility but provide guidance and enforceable outcomes. Provision G has been streamlined requiring only one Watershed Work Plan that covers the 5 year permit cycle and annual watershed review meetings. Annual watershed review meetings</p>

Comment No.	Commenter	Subject	Section	Specific Comment	Comment Response
139	4	WURMP	G	<p>• Lead Watershed Permittee (Section G.1.a, Page 71)</p> <p>The Tentative Order has designated which entity within the watershed should be the default lead Permittee and what those responsibilities entail. The Permittees contend that this level of detail is inappropriate for a permit provision and should, instead, be a collaborative decision that is made among the various watershed stakeholders based on locally determined criteria and needs.</p> <p>The Permittees propose that the language be modified as follows: a. Lead Watershed Permittee Identification Watershed Permittees may must identify the Lead Watershed Permittee for their WMA. In the event that a Lead Watershed Permittee is not selected and identified by the Watershed Permittees, by default the Permittee identified in Table 3 as the Lead Watershed Permittee for that WMA must be responsible for implementing the requirements of the Lead Watershed Permittee in that WMA. The Lead Watershed Permittees must will serve as liaisons between the Permittees and Regional Board, where appropriate.</p>	<p>are required to be appropriately noticed and open to the public. It is expected that the Copermittees will consider these meetings to be an important stakeholder process for evaluating what the public considers high priority water quality problem(s), as well as provide for an evaluation and update of the overall BMP strategy and implementation to address the high priority water quality problems. The Regional Board expects that this will contribute to what the commenter wants in a "bottom-up" stakeholder process.</p> <p>The requested modification to the Tentative Order has been made.</p>
140	4	WURMP	G	<p>• BMP Implementation and Assessment (Section G.1.e, Page 74)</p> <p>The Tentative Order requires an arbitrary minimum number of watershed activities to occur in each year. The Fact Sheet states that the Permittees have completed the assessments, prioritization, and collaboration and now need to implement the activities identified. While the Permittees agree that there are activities that will be undertaken in conformance with the WURMP, the Tentative Order should not presuppose that the Permittees will not follow through with implementation of the WUMRPs now they have been developed. Since this requirement is unfounded, onerous, arbitrary, and dictates a top-down approach for managing the watersheds, the language should be modified to incorporate the flexibility necessary for the stakeholders to identify the BMPs to be implemented and the details of that implementation. The Tentative Order language should be modified to remove the prescriptive detail and incorporate more flexible language that will ensure that the WURMPs contain performance standards, timeframes for implementation, responsible parties and methods for measuring the effectiveness of their programs.</p>	<p>Provision G has been modified to provide the Copermittees sufficient flexibility to identify their watershed's highest priority water quality problem(s), develop a watershed BMP implementation strategy to abate the identified highest priority water quality problem(s), model and monitor improvements in receiving water quality, determine their schedule for development and implementation of the Watershed Work plan, and report on WRMP updates annually during a meeting (as opposed to lengthy yearly written reporting submittals). This modification provides the flexibility requested and promotes efficient use resources.</p>

Comment No.	Commenter	Subject	Section	Specific Comment	Comment Response
141	4	Economic	H	<p>Fiscal Analysis (Section H, Page 78) Section F of the Tentative Order requires the Permittees to secure the resources necessary to implement the permit, conduct a fiscal analysis of the stormwater program, and develop a long term funding strategy and business plan. While the Permittees agree with Board staff that there is an identified need to prepare a fiscal reporting strategy to better define the expenditure and budget line items and to reduce the variability in the reported program costs and have committed to do such in the ROWD, the Permittees take exception to the requirement to develop a long-term funding strategy and business plan. The concerns for these new requirements are discussed in further detail below.</p>	<p>This comment was addressed in the 2007 response to comments. This section has been expanded in order to develop more useful and meaningful fiscal reporting. However, the Business Plan requirement has been removed from the Tentative Order.</p>
142	4	Economic	H	<p>• Long Term Funding Strategy and Business Plan (Section H.3, Page 78) The Tentative Order requires that each Permittee submit a funding business plan that identifies the long-term strategy for program funding decisions. The Fact Sheet states that this requirement is based on the need to improve the long-term viability of the program and is based on the 2006 Guidance for Municipal Stormwater Funding from the National Association of Flood and Stormwater Management Agencies (NAFSMA). The Fact Sheet further indicates that, without a clear plan, that the Board has uncertainty regarding the implementation of the program.</p> <p>The Permittees have a demonstrated history of compliance and leadership in developing, implementing and adequately funding the stormwater program. Regardless of the source of funds, a historical review of the expenditures to date provide undisputable evidence that the Permittees are dedicated to the program, plan their budgets accordingly, and have adequately funded the program for the past 16 years. In our previous comments we provided a historical review of the shared and individual costs of program implementation that demonstrates the commitment of the Permittees to funding the program. It is an unnecessary diversion of the Permittees resources to invest in the development of a new tool for a program component that has been successfully met for 16 years.</p> <p>The Regional Board staff relies on the 2006 NAFSMA Guidance for Municipal Stormwater Funding to justify this new requirement. We note that this national guidance document was developed to provide a resource to local governments as they address stormwater program financing challenges and primarily focuses on the considerations and requirements for developing a service/user/utility fee. While the guidance document states that the most “successful” programs have developed a business plan, such guidance is not a one size fits all approach, and in light of the history of the Orange County Program it is not warranted and should be removed from the permit.</p>	<p>Please see response to Comment 141.</p> <p>In addition, this comment is a repeat of comments received and responded to in 2007; please see http://www.waterboards.ca.gov/sandiego/water_issues/programs/stormwater/oc_stormwater.shtml for previous responses to comments.</p>

Comment No.	Commenter	Subject	Section	Specific Comment	Comment Response
143	4	TMDL	I	<ul style="list-style-type: none"> • TMDLs (Section I, Page 79) <p>This new provision supports Finding E.12 and identifies that adopted TMDL WLAs will be incorporated as numeric effluent limits for specific pollutants and watersheds. As noted previously in these comments (see comments on Finding E12), the County has significant reservations about the use of either Clean Up and Abatement Orders (as indicated in the TO) or Cease and Desist Orders (as indicated in the supplemental Tentative Fact Sheet) as the means by which to incorporate forthcoming TMDL WLAs into the MS4 permit. The Permittees request an explanation as to why the Regional Water Board plans to use these two types of enforcement tools to specify TMDL requirements.</p>	<p>All references to CDOs and CAOs, in regards to TMDL implementation, have been removed from the Tentative Order. This does not, however, preclude the Regional Board from future consideration of the use of these authorities to address TMDLs.</p>
144	4	TMDL	I	<p>Also as noted previously, the Permittees are concerned that it appears the Regional Board plans to incorporate WLAs as numeric effluent limits in the stormwater permit without consideration of other options or as to how the TMDL may be written, which might include:</p> <ul style="list-style-type: none"> • Requiring implementation of specific BMPs in the permit; • Providing a recommended menu of potential BMPs in the TMDL, implementation plan, or the permit for sources to evaluate and select; • Referencing BMP performance standards in the TMDL, implementation plan, or the permit; • Recommending the selection of BMPs and developing benchmark values or performance measures; and • Requiring the review of existing BMPs and selecting additional BMPs to achieve progress. <p>The USEPA draft handbook TMDLs to Stormwater Permit lists the above options and notes that: "There are no guidelines for determining which approach is most appropriate to use. It is likely that a variety of factors, including type of source, type of permit, and availability of resources, will influence which approach makes the most sense." It does not appear that the Regional Board has consider the variety of factors in determining that numeric effluent limitations are most appropriate method of incorporating the WLAs for all pollutants in all watersheds into the MS4 stormwater permit.</p>	<p>Please see response to comment no. 72.</p> <p>Further, the "TMDL Implementation Plan" contained in Attachment A to Resolution R9-2008-0027 specifically states that meeting Waste Load Allocations of the TMDL will result in full attainment of Water Quality Standards. And, by the end of the compliance period, applicable Water Qulaity Objectives will be met in the receiving waters.</p>

Comment No.	Commenter	Subject	Section	Specific Comment	Comment Response
145	4	General	J	<p>Program Effectiveness Assessment (Section J, Page 79)</p> <p>The previous comments on this issue made by the Permittees were not addressed in the Regional Board's two Response to Comments documents, and are therefore resubmitted. Section J. of the Tentative Order requires the Permittees to assess the effectiveness of their JURMP, identify necessary program modifications, and report that information to the Regional Water Board on annual basis. Section J.1.a. identifies specific water quality-based objectives for 303(d) listed water bodies, environmentally sensitive areas (ESAs), and the major program components.</p> <p>Although the concept and intent of the provision is understood and supported by the Permittees, the specificity and inclusion of the required water quality-based objectives and focus on the 303(d) listed water bodies and ESAs is misplaced and has not been developed within the context of the California Stormwater Quality Association (CASQA) Guidance, the existing Orange County program effectiveness assessment framework and metrics, or the recommendations within the ROWD (Section 1.2.2). In addition, the Tentative Order also requires that each Permittee conduct their own assessments including integrated assessments, which are more effective on a regional scale and over a longer timeframe. As written, this section of the Tentative Order does not provide flexibility for the Permittees to develop objectives and an overall strategy for the effectiveness assessment and will result in resources being expended without achieving the intended goal.</p> <p>Since the Permittees have already developed and implemented a program effectiveness assessment framework and programmatic and environmental performance metrics and have committed to developing metric definitions and guidance to improve the efficacy of the assessments in the ROWD, the provision should be modified to allow the Permittees to functionally update their long-term effectiveness assessment approach. The updated approach would build on the existing framework that has been utilized within the County for the past four years as well as the CASQA Municipal Stormwater Program Effectiveness Assessment Guidance Document, May 2007, and would assess the jurisdictional, countywide, and watershed-based elements of the stormwater program. The long-term strategy would include the purpose, objectives, and methods for the assessments and achieve the Regional Water Board staff objectives.</p> <p>The proposed language, which is provided below, would replace J.1. and J.2. of the Tentative Order and is based on the current permit requirements.</p> <p>The proposed language is: a. As part of its individual JURMP, each</p>	<p>This comment was raised in 2007 and responded to at that time (comment #56, page 70 of Response to Comments on Tentative Order No. R9-2007-0002, July 6, 2007). The comment does not raise any new arguments on the subject.</p> <p>The Regional Board disagrees with the commenter who suggested that the Tentative Order not require each Copermittee to conduct annual effectiveness assessments. The commenter based its recommendation on the grounds that assessments are more appropriately conducted on a regional basis, rather than jurisdictional basis. The Regional Board considers annual assessments of individual programs crucial to the implementation of effective programs. For instance, without such assessments, the Copermittees would be challenged to properly implement the iterative process of the Receiving Waters Limitation language. Annual assessments should be based on an evaluation of the findings of the individual program's components and water quality data. A regional assessment can help provide some context for the total effort or proportional effort of various components, but it cannot substitute for an assessment of the actual effectiveness of the jurisdictional program.</p> <p>In regards to the CASQA guidance and the recommendations within the ROWD, the Regional Board is not obligated to write the Tentative Order to be identical with such documents. The CASQA document is more suited as guidance for the Copermittees in complying with MS4 permits rather than guidance for the Regional Board in writing MS4 permits. The Regional Board considers that information as part of the body of knowledge in crafting the requirement. We disagree that effectiveness assessments are better suited on a regional level rather than on a jurisdictional level. Assessments conducted on a regional level are inflexible to the needs and concerns of the individual Copermittee, but rather reflect the priorities and mandates of the regional authority who conducts the assessment. The individual Copermittee is responsible for the discharge from their MS4 and for compliance with the MS4 permit, not the regional authority. The permit requires watershed based assessment through the WRMP program (Section G), which is more appropriate than a regional assessment.</p>

Comment No.	Commenter	Subject	Section	Specific Comment	Comment Response
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Permittee shall update their long-term strategy for assessing the effectiveness of its individual Jurisdictional URMP based on lessons learned from the existing program framework and available guidance. The long-term assessment strategy shall identify the purpose, objectives, methods and specific direct and indirect measurements that each Permittee will use to track the long-term progress of its individual Jurisdictional URMP towards achieving improvements in receiving water quality. Methods used for assessing effectiveness shall include the following or their equivalent: surveys, pollutant loading estimations, and receiving water quality monitoring. The long-term strategy shall also discuss the role of monitoring data in substantiating or refining the assessment.

b. As part of its individual Jurisdictional URMP Annual Report, each Permittee shall include an assessment of the effectiveness of its Jurisdictional URMP using the direct and indirect assessment measurements and methods developed in its long-term assessment strategy. The updated long-term strategy shall be submitted within 365 days after adoption of the permit.

c. Long-term strategy for assessing the effectiveness of the Watershed URMP. As part of the WURMPs, the watershed Permittees shall update their long-term strategy for assessing the effectiveness of the WURMPs based on lessons learned from the existing program framework and available guidance. The long-term assessment strategy shall identify the purpose, objectives, methods and specific direct and indirect performance measurements that will track the long-term progress of Watershed URMP towards achieving improvements in receiving water quality impacted by urban runoff discharges. Methods used for assessing effectiveness shall include the following or their equivalent: surveys, pollutant loading estimations, and receiving water quality monitoring. The longterm strategy shall also discuss the role of monitoring data in substantiating or refining the assessment. The updated long-term strategy shall be submitted within 365 days after adoption of the permit.

Comment No.	Commenter	Subject	Section	Specific Comment	Comment Response
146	4	General	K	<p>Reporting (Section K, Pages 83-85, and Section G, Page76)</p> <p>The previous comments on this issue made by the Permittees were not addressed in the Regional Board's two Response to Comments documents, and are therefore resubmitted. Section H of the Tentative Order requires the Permittees to submit the following reports:</p> <ul style="list-style-type: none"> • Individual and Unified JURMP annual reports - September 30 of each year (July 1 – June 30) • Individual and Unified WURMP annual reports - January 31 of each year (July 1 – June 30) <p>Although the Permittees understand that the Tentative Order included these changes to allow for a longer time period between the two sets of submittals, the Permittees would receive more benefit from keeping the two timelines for the submittals aligned. As such, the language should be revised so that the JURMPs and WURMPs are submitted January 31 of each year. This will allow the Permittees to assess their stormwater program and water quality monitoring program and conduct an integrated assessment to identify water quality improvements.</p> <p>Section G.4. requires that the Permittees submit the Aliso Creek WURMP annual report by March 1 of each year for the period January – December of the previous year. Since the Watershed Action Plan Annual Report for the Aliso Creek Watershed has historically been submitted in November of each year and has been based on the fiscal year like the other WURMP reports, it is unclear why Board staff are requiring this change. As such, the Aliso Creek WURMP submittal is now inconsistent with the other WURMP submittals both in the date for submittal and the time period for which the report covers.</p> <p>The submittal date for the Aliso Creek WURMP annual report should be modified to be aligned with the other WURMP submittals. The proposed language modification is as follows:</p> <p>4. Aliso Creek Watershed RMP Provisions b. Each Copermittee must provide annual reports by March 1 January 31 of each year beginning in 20089 for the preceding annual period of January July 1 through December June 30...</p>	<p>In addition to allowing the Coermittees more time to prepare each set of the submittals, the staggered submittal schedule allows the Regional Board more time to review the annual reports. Also, separating the WRMP and JRMP annual reports provides separate attention to the watershed program so that the watershed priorities do not become confused, lost and diminished in light of the jurisdictional reports. Section K. Reporting of the Tentative Order has been revised to allow the Copermittees to propose an alternate reporting criteria and schedule as part of their updated JRMP.</p>

Comment No.	Commenter	Subject	Section	Specific Comment	Comment Response
147	5	NEL	C	<p>The Draft Permit’s misapplication, or in some cases lack of application, of the Maximum Extent Practicable (“MEP”) standard remains a primary overarching defect with the Permit. The Draft Permit contains numerous provisions that simply ignore the MEP standard that governs municipal storm water discharges under the Clean Water Act (“CWA”). In effect, the Draft Permit attempts to treat municipal dischargers in the same manner as industrial dischargers by applying strict numeric effluent limits to all dry weather discharges (through the use of specific numeric effluent limits) and wet weather discharges (through the use of what are referred to as Municipal Action Levels or “MALs”). ...</p> <p>In sum, these terms: (i) replace the MEP standard with numeric effluent limits for all dry weather discharges (Section C.2, Section C.14), (ii) apply MALs as numeric limits for wet weather discharges (Section D), These provisions are contrary to the CWA and California law.</p>	Please see response to Comments 33, 39 and 79.
148	5	TMDL	I	<p>The Draft Permit’s misapplication, or in some cases lack of application, of the Maximum Extent Practicable (“MEP”) standard remains a primary overarching defect with the Permit. The Draft Permit contains numerous provisions that simply ignore the MEP standard that governs municipal storm water discharges under the Clean Water Act (“CWA”). ... The Draft Permit likewise seeks to require strict compliance with all waste load allocations from adopted Total Maximum Daily Loads (“TMDLs”). ... (iii) directly incorporate waste load allocations from adopted TMDLs as strict discharge prohibitions (Section I, p. 79), and (iv) enforces TMDLs through the use of Cease and Desist orders. These provisions are contrary to the CWA and California law.</p>	<p>All references to CDOs and CAOs, in regards to TMDL implementation, have been removed from the Tentative Order. This does not, however, preclude the Regional Board from future consideration of the use of these authorities to address TMDLs.</p> <p>Please see response to comment no. 59.</p> <p>The Regional Board (San Diego) does not agree that these provisions, which have been removed for the most part, are contrary to the CWA or California Law. It is not clear what aspects of the CWA and of CA Law the City is invoking and/or calling into question.</p>
149	5	Urban Runoff	General	<p>Notably, the Draft Permit’s universal deletion of “urban” from the phrase “urban runoff” also appears to reflect a policy shift to completely remove the MEP standard from the Permit. But this attempt to effectively revise the CWA is directly contrary to U.S. EPA’s regulations under the CWA, which define storm water as including urban runoff: “Storm water means storm water runoff, snow melt runoff, and surface runoff and drainage.” (40 CFR 122.26(b)(13).) Because “storm water,” by definition, specifically includes not only “storm water runoff” and “snow melt runoff” but also “surface runoff and drainage,” the plain language of the regulation demonstrates that EPA expressly intended for “urban” runoff to be included in the definition of storm water.</p>	<p>The commenter misinterprets the definition of storm water in the Code of Federal Regulations. In no way does “surface runoff and drainage” connote “urban runoff” nor restrict that surface runoff only comes from urbanized areas. The plain language of the definition in the Code of Federal Regulations does not include the term “urban runoff,” a term that was well known to the USEPA. The Final Rule to the Code of Federal Regulations expressly declares that MS4 permits apply to all MS4 discharges in the designated areas and is not limited to those MS4 discharges in urban areas, but also includes MS4 discharges in suburban and semi-rural areas where the Copermittees own and operate a MS4. Please see the response to Comment No. 47 for more information.</p>

Comment No.	Commenter	Subject	Section	Specific Comment	Comment Response
150	5	NEL	C	Likewise, the Draft Permit's effort to remove "dry-weather" discharges from regulation as "storm water" is directly contrary to law and should be deleted. The CWA simply does not treat dry weather discharges as a separate category of non-storm water discharge. In short, the Draft Permit's attempt to distinguish between wet weather runoff, versus other urban runoff, and the desired enhanced regulation of municipal dischargers which follows in the Draft Permit from this ill-conceived distinction, is contrary to law.	Please see response to Comments 39 and 79.
151	5	Legal	General	When viewed collectively, the Draft Permit's terms operate to eliminate the application of the MEP standard to municipal discharges and to replace the MEP standard with strict numeric limits. Time and again, however, courts, U.S. EPA, and the State Board have recognized that storm water discharges are different than traditional point source discharges, and storm water must be analyzed and treated as such under the CWA. For example, in <i>Building Industry Association of San Diego County v. State Water Resources Control Board</i> (2004) 124 Cal. App. 4th 866, 874 the court found that "Congress amended the Clean Water Act to add provisions that specifically concerned NPDES permit requirements for Storm Sewer discharges. [Citations] In these amendments, enacted as part of the Water Quality Act of 1987, Congress distinguished between industrial and municipal storm water discharges. . . . With respect to municipal storm water discharges, Congress clarified that the EPA has the authority to fashion NPDES permit requirements to meet water quality standards without specific numeric effluent limits and instead to impose controls to reduce the discharge of pollutants to the maximum extent practicable." (Id. citing 33 USC § 1342 (p)(3)(B)(iii) & <i>Defenders of Wildlife v. Brown</i> (9th Cir. 1999) 191 F.3d 1159, 1163.)	<p>Please see response to Comments 33 and 39.</p> <p>The Regional Board agrees regarding the differing treatment of municipal and industrial storm water discharges under 402(p) of the CWA, hence the amendments to section 402 in 1987. However, the Regional Board maintains that the regulations under 402(p) and USEPA are clear regarding the applicability and use of numeric limits for municipal stormwater discharges, though none are proposed under this Tentative Order. The Federal Register states that NPDES permits for municipal storm water discharges must require controls to reduce the discharge of pollutants to the MEP and where necessary water quality based controls (55 Fed Reg 47994, 47995). This is further supported by USEPA in their Interim Permitting Approach for Water Quality-Based Effluent Limitations in Storm Water Permits, dated August 26, 1996. The document states: "The interim permitting approach uses best management practices in first-round storm water permits, and expanded or better-tailored BMPs in subsequent permits, where necessary, to provide for the attainment of water quality standards. In cases where adequate information exists to develop more specific conditions of limitations to meet water quality standards, these conditions or limitations are to be incorporated into storm water permits, as necessary and appropriate. This interim permitting approach is not intended to affect those storm water permits that already include appropriately derived numeric water quality-based effluent limitations. Since the policy only applies to water quality-based effluent limitations, it is not intended to affect technology-based limitations, such as those based on effluent guidelines or the permit writer's best professional judgement, that are incorporated into storm water permits".</p> <p>In addition, as noted in <i>Building Industry Association of San Diego County et al. v. State Water Resources Control Board, et al.</i> ((2004) 124 Cal.App.4th 866, 142-143), the Ninth Circuit in <i>Defenders of Wildlife v. Browner</i> [(9th Cir. 1999) 191 F.3d 1159] rejected arguments "that 'the EPA may not, under the [Clean Water Act], require strict compliance with state water-quality standards, through numerical limits or otherwise.'" (<i>Defenders of Wildlife v. Browner, supra</i>, 191 F.3d at p. 1166).</p>

Comment No.	Commenter	Subject	Section	Specific Comment	Comment Response
152	5	NEL	General	<p>EPA also has expressly acknowledged that storm water discharges must be treated differently than industrial discharges, and that urban runoff need not meet numeric limits or implement costly end-of-pipe controls. For example, when adopting the California Toxics Rule ("CTR"), EPA made the following comments in its Preamble and/or in its Responses to Comments on CTR:</p> <p>Thus, under the CWA, EPA's promulgation of water quality criteria or standards establishes standards that the State, in turn, implements through the NPDES permit process. The State has considerable discretion in deciding how to meet the water quality standards and in developing discharge limits as needed to meet the standards. In circumstances where there is more than one discharger to a water body that is subject to water quality standards or a criteria, a State also [has] discretion in deciding on the appropriate limits for the different dischargers. While the State's implementation of federally-promulgated water quality criteria or standards may result indirectly in new or revised discharge limits for small entities, the criteria or standards themselves do not apply to any discharger, including small entities. (65 Fed. Reg. 31682, 31708-09 [Ex. 3].)</p> <p>In EPA's Responses to certain Ventura County Comments on CTR, EPA stated that: If you look across the country, across the U.S., there are many, many states that have standards on the books, water quality standards that are far more stringent than the numbers we're promulgating or proposing to promulgate in Southern California. If you look at their standards, you won't see any black boxes on the end of those storm water discharges. Nobody builds treatment for storm water treatment in this country. They've been implementing standards for 15 years, California is no different. (See Ex. 3 hereto, EPA Response to CTR H-002-017.) In EPA's Response to Comments from Los Angeles County, EPA stated: EPA did not ascribe benefits or costs of controlling storm water discharges in the proposed or final Economic Analysis. EPA believes that many storm water dischargers can avoid violation of water quality standards through the application of best management practices that are already required by the current storm water permits. The commenter claims that even with the application of current BMPs, its storm water dischargers would still violate water quality standards due to the CTR criteria. The commenter appears to assume that storm water discharge would be subject to numeric water quality based effluent limits, which would be equivalent to the criteria values and applied as effluent limits never to be exceeded or calculated in the same manner that effluent limits are calculated for other point sources, such as POTWs. The comment then appears to assume that such WQBELs would then require the construction of very costly end-of-pipe controls. EPA contends that neither scenario is valid with regard to developing WQBELs for storm water discharges or</p>	<p>Please see response to Comments 33, 39 and 79.</p> <p>The Regional Board disagrees with the commenters statement that EPA "has expressly acknowledged that storm water discharges must be treated differently than industrial discharges, and that urban runoff need not meet numeric limits or implement costly end-of-pipe controls". Please see response to comment 151. In comments received on this Tentative Order, USEPA states: "We believe that the use of numeric effluent limits for non-stormwater discharges would be a significant step in the right direction and we support the proposed limits. // As noted in the fact sheet, additional information has become available to the Board about the discharges over the years, and we agree that the numeric effluent limits are now appropriate." Please see comment no. 307.</p>

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establishing compliance with WQBELs.... EPA will continue to advocate the use of BMPs, as discussed in the CTR preamble. EPA will continue to work with the State to implement storm water permits that comply with water quality standards with an emphasis on pollution, prevention, and best management practices rather than costly end-of-pipe controls. (Ex. 3, EPA Response to CTR-001-007.) In EPA's Response to Comments of Sacramento County, it admitted that: EPA believes the applicability of water quality standards to storm water discharges is outside the scope of the rule. (Ex. 3, EPA Response to CTR-040- 014b.) In EPA's Response to the Fresno County Metropolitan Flood Control District's Comments, it acknowledged as follows: EPA believes that implementation of the criteria [CTR] as applied to wet weather will not require the construction of end-of- pipe facilities. (Ex. 3, EPA Response to CTR-031-005b.) In other EPA responses to various comments, it again confirmed that stormwater is to be treated differently than traditional point source discharges: As further described in the responses to CTR-021-008, CTR-013- 003 and CTR-040-004, EPA believes that the final CTR will not significantly affect the current storm water program being implemented by the State, which includes the requirement to develop best management practices to control pollutants in storm water discharges. As such, EPA believes that inclusion of end-of- pipe treatment costs for storm water are inappropriate. (Ex. 3, EPA Response to CTR-035-044c.) EPA's Comments in CTR to the California Storm Water Task Force included the following: EPA disagrees with the cost estimates provided by the commenter as EPA does not believe that storage and treatment of storm water would be required to ensure compliance with the CTR. (Ex. 3, EPA Response to CTR H-001-001b.) EPA believes that the CTR language allows for the practice of applying maximum extent practicable (MEP) to MS4 permits, along with best management practices (BMPs) as effluent limits to meet water quality standards where infeasible or insufficient information exists to develop WQBELs. (Ex. 3, EPA Responses to CTR-040-004.) Importantly, when adopting the rule EPA specifically determined that CTR was not to have a direct effect on NPDES sources not typically subject to numeric water quality based effluent limits or urban runoff, and that "compliance with water quality standards through the use of best management practices (BMPs) is appropriate." (65 Fed. Reg. 31703 [Ex. 3].)

Comment No.	Commenter	Subject	Section	Specific Comment	Comment Response
153	5	TMDL	I	<p>Moreover, in a November 22, 2002 EPA Guidance Memorandum on Establishing TMDLs (EPA Guidance Memo, Ex. 4), EPA explained that for NPDES-regulated municipal storm water discharges, any water quality based effluent limit for such discharges should be “in the form of BMPs, and that numeric limits will be used only in rare instances.” (EPA Guidance Memo, Ex. 4, p. 6.) EPA recommended that “for NPDES-regulated municipal . . . discharges effluent limits should be expressed as best management practices (BMPs) or other similar requirements, rather than as numeric effluent limits.” (Id. at p. 4.) EPA went on to expressly recognize in this Guidance Memo the general difficulties in regulating Stormwater discharges, where it stated that: EPA’s policy recognizes that because storm water discharges are due to storm events that are highly variable in frequency and duration and are not easily characterized, only in rare cases will it be feasible or appropriate to establish numeric limits for municipal and small construction storm water discharges. The variability in the system and minimal data generally available make it difficult to determine with precision or certainty actual and projected loadings for individual dischargers or groups of dischargers. Therefore, EPA believes that in these situations, permit limits typically can be expressed as BMPs, and that numeric limits will be used only in rare instances. (EPA Guidance Memo, Ex. 4, p. 4.)</p>	Please see responses to comments Nos. 59, 72 and 144.

Comment No.	Commenter	Subject	Section	Specific Comment	Comment Response
154	5	MEP	General	<p>In addition, the policy of the State of California provides that strict numeric limits are not an appropriate means by which to implement the MEP standard. The State’s policy to apply the MEP standard through iterative BMP implementation and not through strict numeric discharge limitations is reflected in prior orders and other documentation from the State Board. (See, e.g., Order No. 91-04, p. 14 [“There are no numeric objectives or numeric effluent limits required at this time, either in the Basin Plan or any statewide plan that apply to storm water discharges.” p. 14] [Ex. 5]; Order No. 96-13, p. 6 [“federal laws does not require the [San Francisco Reg. Bd] to dictate the specific controls.”] [Ex. 6]; Order 98-01, p. 12 [“Stormwater permits must achieve compliance with water quality standards, but they may do so by requiring implementation of BMPs in lieu of numeric water quality-based effluent limitations.”] [Ex. 7]; Order No. 2001- 15, p. 8 [“While we continue to address water quality standards in municipal storm water permits, we also continue to believe that the iterative approach, which focuses on timely improvements of BMPs, is appropriate.”] [Ex. 8, emph. added]; State Board Order No. 2006-12, p. 17 [“Federal regulations do not require numeric effluent limitations for discharges of stormwater”] [Ex. 9]; Stormwater Quality Panel Recommendations to The California State Water Resources Control Board – The Feasibility of Numeric Effluent Limits Applicable to Discharges of Stormwater Associated with Municipal, Industrial and Construction Activities, June 19, 2006, p. 8 [“It is not feasible at this time to set enforceable numeric effluent criteria for municipal BMPs and in particular urban dischargers.”] 1 [Ex. 10]; and an April 18, 2008 letter from the State Board’s Chief Counsel to the Commission on State Mandates, p. 6 [“Most NPDES Permits are largely comprised of numeric limitations for pollutants. . . . Stormwater permits, on the other hand, usually require dischargers to implement BMPs”] [Ex.11].) In light of this state and federal authority, any attempt to impose strict compliance with numeric limits at this time--through numeric effluent limits for dry weather dischargers, MALs for wet weather, or waste load allocation from TMDLs--is wholly unsupportable and contrary to law.</p>	<p>Please see response to Comment Nos. 33(MALs), 39(NELs), 79(NELs) and 151(legal).</p>

Comment No.	Commenter	Subject	Section	Specific Comment	Comment Response
155	5	unfunded mandate	General	<p>The Permit's use of more stringent compliance measures than is required by federal law (see <i>Defenders of Wildlife v. Brown</i> (9th Cir. 1999) 191 F.3d, 1159, 1166) triggers an obligation to comply with a series of requirements imposed under State law. As was the case with the prior proposed permit, because the Draft Permit imposes various requirements that go beyond federal law requirements (e.g., compliance with MALs for wet weather runoff, numeric effluent limits for dry weather runoff, strict compliance with TMDL waste load allocations, the complete prohibition of irrigation waters entering the MS4, LID requirements, retrofit requirements and other terms discussed in prior comments), the Regional Board must comply with the Porter- Cologne Act. Specifically, the Board must consider all of the factors and considerations delineated in California Water Code Sections 13000 and 13241 before adopting the Draft Permit. (See <i>City of Burbank v. State Water Resources Control Board</i> (2005) 35 Cal.4th 613, 627.)</p>	<p>The requirements of the Tentative Order do not exceed federal law. The Tentative Order contains requirements more explicit (i.e. detailed) than the federal NPDES storm water regulations, for the purpose of achieving compliance with the CWA provision that MS4 permits "shall require controls to reduce the discharge of pollutants to the maximum extent practicable" (CWA section 402(p)(3)(B)(iii)). As such, the Tentative Order's (space removal) requirements are necessary to comply with federal law, rather than exceed it. Therefore, the Regional Board need not consider the factors listed in Water Code section 13241 in adopting the Tentative Order. (<i>City of Burbank v. State Water Resources Control Board</i> (2005) 35 Cal.4th 613.) To the extent that information about cost is submitted, the Regional Board will nonetheless consider it. To the extent that information about cost is submitted, the Regional Board will nonetheless consider it. The Fact Sheet for Finding E.6 discusses this matter in further detail. Nothing presented in this comment changes the Fact Sheet discussion.</p>
					<p>The Regional Board's Tentative Order provides more detail to implement performance standards in the CWA or NPDES regulations. NPDES regulations specify terms and conditions that must, at a minimum, be included in NPDES requirements; they do not limit states or U.S EPA from including other provisions that may be necessary to ensure that municipalities with MS4 reduce storm water pollutants to the MEP. In fact, the Clean Water Act requires the Regional Board to "require ... other provisions as the Administrator or the State determine appropriate for the control of such pollutants." (CWA Section 402(p)(3)(B)(iii)) The burden to determine the appropriateness of the required provisions lies with the State rather than the Copermittee, because a discharger cannot self regulate their discharge.</p>
					<p>No portion of the proposed MS4 requirements exceed the level of "governmental service" (i.e., performance) necessary to reduce pollutants in storm water to the MEP as mandated by Section 402(p)(3)(B)(iii) of the CWA [33 U.S.C. Section 1342(p)(3)(B)(iii)]. While, technically, all NPDES requirements issued by the Regional Boards "fall under the legal authority of the state" because they are promulgated in waste discharge requirements issued pursuant to Sections 13260 and 13263 of the Water Code, requirements issued for discharges of pollutants from point sources to waters of the United States, including requirements for discharges of storm water in MS4s, implement the provisions of the federal CWA and the federal NPDES regulations, as contemplated by Chapter 5.5 of the Porter-Cologne Water Quality Control Act (Section 13370, et seq.). Therefore, nothing in the proposed order renewing NPDES requirements for discharges in Orange County MS4 exceeds the scope of regulation necessary to implement NPDES regulations for MS4.</p>

Comment No.	Commenter	Subject	Section	Specific Comment	Comment Response
156	5	NEL	C	To be sure, the above-referenced statutory, regulatory, and case authority all clearly confirm not only that municipal dischargers are to be treated differently than other NPDES dischargers, but also that numeric limits should not and cannot be applied to municipal dischargers at this time. "It is not feasible at this time to set enforceable numeric effluent criteria for municipal BMPs and in particular urban dischargers." (Numeric Limits Panel Report, [Ex.9 p. 8].) Given that Congress specifically provided a different standard for municipal dischargers-- the MEP standard, and in light of the demonstrated infeasibility of complying with numeric limits at this time (Ex. 9), the Draft Permit's terms that seek to force strict compliance with numeric effluent limits impose impossible requirements. These requirements therefore are unenforceable. (See <i>Hughey v. JMS Development Corp.</i> (11th Cir. 1996) 78 F.3d 1523, 1529- 30.)	Please see response to Comment nos. 25, 33, 39, 79 and 151.
157	5	TMDL	I	A prime example of this impossibility is found in the Draft Permit terms which provide that TMDL waste load allocations incorporated into the Permit will be enforced through "Cease and Desist" orders issued under Water Code section 13331. That law states: "Upon the failure of any person or persons to comply with any cease and desist order issued by a regional board or the state board, the Attorney General, upon request of the board, shall petition the superior court for the issuance of a preliminary or permanent injunction, or both, as may be appropriate, restraining such person or persons from continuing the discharge in violation of the cease and desist order." (Water Code § 13331(a).) These cease and desist provisions plainly presume that the alleged violator has control over the discharge and has the ability to cease "continuing the discharge." But there is no evidence it is possible for municipal dischargers to strictly comply with numeric limits. In fact, the primary purpose of the Numeric Limits Panel Report was to evaluate this very issue, and the Report concluded that it was "infeasible" to do so at this time. In other words, the Report concluded that it is not "possible" for municipal dischargers to achieve compliance with numeric limits.	All references to CDOs and CAOs, in regards to TMDL implementation, have been removed from the Tentative Order. This does not, however, preclude the Regional Board from future consideration of the use of these authorities to address TMDLs. In regards to numeric limits, please see response to Comments 25, 33 and 39.
158	5	NEL	C	Finally, it is well settled that the CWA does not require that municipal dischargers strictly comply with numeric limits. Any attempt by the Regional Board to compel compliance with strict numeric limits plainly requires a consideration of all of the factors and considerations set forth under Water Code Sections 13241 and 13000 before imposition of any such numeric effluent limits (whether through MALs or waste local allocation from TMDLs). But there is no evidence at this time (whether in the record, Fact Sheet, or in any other analysis made public by Regional Board Staff to date), that these mandatory factors and considerations were analyzed.	Please see response to Comments 33, 39, 79, 81, 151 and 155.

Comment No.	Commenter	Subject	Section	Specific Comment	Comment Response
159	5	Overirrigation	B	<p>As was the case with the prior version, the Draft Permit improperly renders municipalities responsible for the discharging activities of third parties that are beyond Dana Point's control. Indeed, read literally, the Permit requires that Dana Point prohibit all non-point source "Landscape irrigation," "Irrigation water," and "lawn water," from entering any storm sewer system. But meeting such a requirement is not just impracticable, it is impossible. (See Hughey, 78 F.3d at 1529-30.)</p> <p>For example, to prohibit all "irrigation" and "lawn" waters from "entering" the MS4, Dana Point would have to adopt and enforce an ordinance that prevents any overwatering from entering the storm sewer, and it essentially would have to require a large percentage of its residents to remove grass from yard landscaping. Such a requirement is not found in the CWA, and as such again triggers the need to comply with Water Code Sections 13000 and 13241.</p> <p>Moreover, if any non-point source irrigation water or other runoff enters the City's storm drain system, the City would be subject to penalties and citizen suits (and attorney's fees) under the CWA, regardless of whether the irrigation waters are the cause of an exceedance of receiving water limitations. It appears that to comply with these measures, Dana Point would need to hire staff to act as full time policing agents of irrigation water runoff.</p>	<p>Please see response to Comments 39, 42 and 44.</p> <p>The commenter misapplies the decision in <i>Hughey v. JMS development</i>, 78 F.3d. The commenter's interpretation of a prohibition of non-stormwater discharges into the MS4 may seem absurd (impossible) on the surface; but their proposed implementation of the prohibition is speculative and is not the expectation of the Tentative Order or the federal regulations. The history of Copermittees prohibiting non-stormwater discharges does not support the commenter's contention. The previous MS4 permit for South Orange County and all other MS4 permits in Southern California prohibit the discharge of non-stormwater to the MS4 with certain case-by-case exceptions. Other examples of prohibited non-stormwater discharges other than overirrigation include powerwashing, commercial car washing and chlorinated swimming pool discharges. Copermittee's programs to comply with the previous Permit's prohibition of non-stormwater discharges did not result in an absurd (impossible) requirement. Clearly, the Regional Board has not expected the Copermittee's to do the impossible in the past, and the Regional Board does not expect the Copermittee's to do the impossible in the future. A reasonable approach to address the prohibition on overirrigation would be through the Copermittee's existing programs to prohibit non-stormwater discharges, e.g. prohibition ordinances, education of the public, response to complaints, progressive enforcement as needed, and to work in concert with the water providers.</p> <p>In addition, the Regional Board expects that the removal of irrigation water (lawn water, residential landscape water, etc.) will require Permittees to incorporate such non-storm water discharges into their current IC/ID programs for detecting and eliminating illicit discharges. The Regional Board does not anticipate that the Copermittee would have to require property owners to remove grass or yard landscaping. As current and past versions of the Order include and have included requirements prohibiting the discharge of non-storm water into the MS4 (see updated Supplemental Fact Sheet), any non-storm water discharge into the MS4 which currently occurs, that is not exempt or subject to a separate NPDES permit, is in violation of the discharge prohibition contained in the Order. Thus, requiring the prohibition of an additional non-storm water discharge is not subjecting the Copermittee to any enforcement mechanisms not already present in the current Order.</p> <p>The prohibition of over irrigation runoff is practicable. The Copermittees already have demonstrated the ability to adopt ordinances prohibiting other non-storm water discharges such as commercial car washing, power washing and chlorinated swimming pool discharges. The Copermittees have developed a program of education, complaint response, and progressive enforcement to address non-storm water discharges. The prohibition of over irrigation</p>

Comment No.	Commenter	Subject	Section	Specific Comment	Comment Response
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					<p>would be easily implemented through their existing programs that address non-storm water discharges. The Regional Board realizes that the effectiveness of such measures dealing with over irrigation runoff will not be realized over night.</p> <p>The claim that the City will need to require its residents to remove grass from yard landscaping is a "slippery slope" logical fallacy. The prohibition of over irrigation in the MS4 permit certainly does not require the removal of grass; nor does the Regional Board expect a City to go to such extreme measures. The Copermittees will have to exercise due care and discretion in addressing the prohibition on over irrigation to assuage public concerns. A reasonable approach to address the prohibition on over irrigation would be to educate the public, respond to complaints, conduct progressive enforcement as needed, and work in concert with the water providers.</p>
160	5	NEL	C	<p>As noted in prior comments and by the County's concurrent comments, the CWA requires only that city's work to "effectively" prohibit non-storm water discharges and illegal discharges/illicit connections to storm drain systems. (See 40 C.F.R. 122.26 (d)(2)(iv)(B)(1). Under EPA's regulations implementing the CWA, municipalities comply with this requirement by enacting and reasonably enforcing ordinances to prohibit discharges of non-storm water containing pollutants to storm drains. (Id.) The Draft Permit, however, goes much further than federal law requires. It essentially holds municipalities strictly liable for third party discharges and non-point source dry-weather runoff into storm drain systems by making any exceedance of numeric limits--found in the MALs and water quality based effluent limitations incorporated into the Draft Permit--actionable as a violation. Such provisions are contrary to law, and therefore should not be included in the Permit. Moreover, because these terms are not required anywhere under federal law, the Draft Permit is contrary to State law because the Board has failed to comply with Water Code Sections 13000 and 13241 before imposing such provisions.</p>	<p>Please see response to Comments 39, 43, 79, 81, 82, 155 and 165.</p> <p>In addition, past Orders and the Tentative Order prohibit non-storm water discharges into the MS4 and require that Copermittees prohibit non-storm water discharges into the MS4 via ordinances, orders or similar means (see response to Comments 39, 42, 44). As such, any non-storm water discharges into the MS4 that are not exempted or subject to a NPDES permit would be in violation of the current and tentative Order.</p>

Comment No.	Commenter	Subject	Section	Specific Comment	Comment Response
161	5	Legal	F.1	<p>The Permit’s LID and retrofitting provisions (e.g. Section D.3.d, F.3.d) are contrary to law. These retrofitting provisions are beyond the power of the Board to require. For example, there is no existing legislative mandate that requires mandatory structural changes be made to existing developments to limit runoff. But the retrofitting requirements plainly command that cities evaluate candidates for retrofitting. Taken to its logical conclusion, such a provision violates the separation of power clause under the California Constitution. (Cal. Const. Art. 4, § 1; Knudsen Creamery Co. of California v. Brock (1951) 37 Cal.2d 485, 492.) The executive branch of government is charged with enforcing laws, but it cannot adopt laws itself. (Id.) The executive branch also cannot adopt regulations that conflict with local agencies’ powers under the State Constitution. The detailed legal enforcement provisions of the Draft Permit, including the provisions requiring enforcement of specific obligations in relation to particular property owners, such as HOAs (section D.3.c.(5)(b)), unduly restrict the inherent legislative power of cities.</p>	<p>The requirement for the Copermittees to implement a retrofitting program is authorized by law under the Clean Water Act 402(p)(3)(B)(ii-iii), California Water Code section 13377 and Federal NPDES regulations 40 CFR 122.26(d)(2)(iv). Permits for discharges from municipal storm sewers shall require controls to reduce the discharge of storm water pollutants to the maximum extent practicable. The requirements for retrofitting are consistent with the maximum extent practicable standard as written. Retrofitting has been conducted throughout the country in diverse communities and watersheds. The requirements for retrofitting as written do not conflict with any local agencies’ powers or authorities. Section F.3.d.(4) was specifically written to be within those local agencies’ powers.</p>
162	5	Retrofitting	F.3	<p>In addition to compromising the separation of powers doctrine, the retrofitting provisions of the permit act as an underground regulation of the private property owners who are the true subjects of the regulatory command for retrofitting. A regulation enacted without adherence to the Administrative Procedure Act’s (“APA”) notice and hearing requirements is void. (Tidewater Marine Western, Inc. v. Bradshaw (1996) 14 Cal.4th 557, 573-576) “The APA was designed in part to prevent the use by administrative agencies of ‘underground’ regulations [citation], and it is the courts, not administrative agencies, which enforce that prohibition.” (California Advocates for Nursing Home Reform v. Bonta (2003) 106 Cal. App.4th 498, 506.) In Tidewater Marine, 14 Cal.4th at 569 the California Supreme Court recognized that: “One purpose of the APA is to ensure that those persons or entities whom a regulation will affect have a voice in its creation [citation], as well as notice of the law’s requirements so that they can conform their conduct accordingly.” Here, the Draft Permit is directly affecting private property owners subject to the “retrofitting” assessment, but there has been no effort to comply with the APA.</p>	<p>The Tentative Order does not place any requirements on private landowners. Rather, Section F.3.d.(4) requires the copermittees to cooperate with private landowners in encouraging retrofitting projects, similar to other retrofitting projects throughout the country such as in Kansas City, KS and Montgomery County Maryland. The actual decision to retrofit on privately held land would be at the discretion of the private landowner. Also, please see response to comment no. 46.</p>

Comment No.	Commenter	Subject	Section	Specific Comment	Comment Response
163	5	Legal	F.3	<p>Moreover, as discussed in regard to various provisions in the prior Draft Permits, the retrofitting provisions are contrary to the California Environmental Quality Act (“CEQA,” Public Resources Code § 21000 et seq.) because they change the environmental review process applicable to projects involving retrofitting, and they completely remove the discretion of local governmental entities that expressly provided by law. (See Ex. 2, Dana Point’s January 21, 2008 Comments, pages 12-14.)</p>	<p>The Regional Board does not propose to impose requirements that exceed federal law in the CWA and NPDES regulations but may impose requirements necessary to meet the minimum federal MEP standard. Therefore, the Regional Board does not have to comply with CEQA requirements because the Tentative Order’s requirements do not exceed the level of regulation necessary to implement the MEP performance standards for stormwater discharges. The requirements are not intended to circumvent or alter CEQA as applied to local agencies in carrying out their authorities.</p> <p>The Tentative Order contains requirements more explicit than the federal NPDES storm water regulations, for the purpose of achieving compliance with the CWA provision that MS4 permits “shall require controls to reduce the discharge of [storm water] pollutants to the maximum extent practicable” (CWA section 402(p)(3)(B)(iii)). As such, the Tentative Order’s requirements are necessary to comply with federal law by meeting the minimum federal MEP standard, rather than exceed it. This matter is further discussed in the Fact Sheet discussion for Finding E.6.</p> <p>The Regional Board is not precluded from issuing MS4 requirements that “go beyond” NPDES regulations, either, as in this case by providing more detail to implement performance standards in the CWA or NPDES regulations: NPDES regulations specify terms and conditions that must, at a minimum, be included in NPDES requirements; they do not limit states or U.S EPA from including other provisions that may be necessary to ensure that municipalities with MS4s reduce stormwater pollutants to the MEP. No portion of the proposed MS4 requirements exceed the level of “governmental service” (i.e., performance) necessary to reduce stormwater pollutants to the MEP as mandated by Section 402(p)(3)(B)(iii) of the CWA [33 U.S.C. Section 1342(p)(3)(B)(iii)]. While, technically, all NPDES requirements issued by the Regional Boards “fall under the legal authority of the state” because they are promulgated in waste discharge requirements issued pursuant to Sections 13260 and 13263 of the Water Code, requirements issued for discharges of pollutants from point sources to waters of the United States, including requirements for discharges of storm water in MS4s, implement the provisions of the federal CWA and the federal NPDES regulations, as contemplated by Chapter 5.5 of the Porter-Cologne Water Quality Control Act (Section 13370, et seq.). Therefore, nothing in the proposed order renewing NPDES requirements for discharges in Orange County MS4 exceeds the scope of regulation necessary to implement NPDES regulations for MS4.</p>

Comment No.	Commenter	Subject	Section	Specific Comment	Comment Response
164	5	Legal	F.1.	<p>In addition, the Draft Permit’s LID and retrofitting provisions raise significant constitutional issues by forcing property owners to incur costs of mandated physical changes to the configuration of their property. As such, implementation of the retrofitting provisions plainly implicates the taking provision of the U.S. Constitution and California Constitution, which require that public entities provide just monetary compensation to property owners for private property that is altered to further a public use. The due process clauses of the state and federal Constitutions guarantee property owners “due process of law” when the state “deprive[s] [them] of . . . property.” (Cal. Const., art. I, §§ 7, 15; U.S. Const., 14th Amend., § 1.) And the takings clauses of the state and federal Constitutions guarantee property owners “just compensation” when their property is “taken for public use.” (Cal. Const., art. I, § 19; U.S. Const., 5th Amend; see also, e.g., <i>Kavanau v. Santa Monica Rent Control Bd.</i> (1997) 16 Cal. 4th 761, 774.)</p>	<p>In no way does the Tentative Order force property owners to incur costs of mandated physical changes to the configuration. The retrofitting program as written in the Tentative Order is voluntary for the private property owner and requires the Copermittees to develop a program encouraging retrofitting for those private property owners. The commenter has misinterpreted the draft language in the Tentative Order.</p> <p>The state's water quality protection requirements within the Tentative Order are authorized by Federal Law, are necessary to meet the federal MEP standard, and are not unfunded mandates. Please see comments #155 and 165.</p>

Comment No.	Commenter	Subject	Section	Specific Comment	Comment Response
165	5	Legal	F.1.	<p>Finally, the LID and retrofitting requirements unlawfully impose on cities unfunded mandates. Any NPDES requirements that are not dictated by federal law must be funded by the state. And because these provisions are not required by federal law, they violate Article XIII B, Section 6 of the California Constitution. (County of Los Angeles v. Commission on State Mandates (2007) 150 Cal.App.4th 898, 915-916.) Despite prior comments on this point, the revised Draft Permit and related materials do not address the unfunded mandates that are being imposed on the Permittees. Contrary to contentions made by the Regional Board on this issue that such unfunded mandates are appropriate where they are being imposed pursuant to a federal program, it is only where the federal program mandates a particular requirement upon the state agency that the exception to Article XIII B, Section 6 for federal mandates applies. Where the federal program provides discretion to the State agency to impose a local program, any mandate imposed upon the local municipality through the exercise of that discretion is considered an unfunded mandate and, as such, is prohibited by the California Constitution. (See Hayes v. Commission on State Mandates (1992) 11 Cal. App.4th 1564, 1570.) It is only when the State has no "true choice" in implementing a federal mandate that the prohibition under the California Constitution can be avoided. (See id. at 1593.)</p> <p>As noted in its prior comments, the Regional Board's imposition of compliance obligations that exceed the CWA, and which are thereby not required by federal law, must be accompanied by state funding to be valid. Accordingly, Draft Permit requirements such as the retrofitting of any public property (e.g., storm drains) clearly must be accompanied by state funding to be valid.</p>	<p>The LID and retrofitting requirements are not unlawful and are not unfunded mandates. The requirements are authorized by the Clean Water Act section 402(p)(3)(B)(iii) and necessary to reduce pollutants to the MEP as mandated by federal law. The contention that NPDES permits and their requirements are unfunded state mandates has been repeatedly heard and denied by the State Water Board. (See Order Nos. WQ 90-3 and WQ 91-08). Indeed, the unfunded state mandate argument was recently heard by the State Water Board when it considered the appeal of the Los Angeles Regional Board standard urban stormwater mitigation plan (SUSMP) requirements. The Los Angeles Regional Board SUSMP requirements are municipal storm water permit requirements for new development that are similar or identical to many of the requirements of the Tentative Order. The unfunded state mandate argument was summarily rejected by the State Water Board in that instance (Order WQ 2000-11). The Board notes that in 2007, the Court of Appeal in County of Los Angeles v. Commission on State Mandates ((2007) 150 Cal.App.4th 898) invalidated a Government Code statute that had exempted Regional Water Board orders from constitutional state mandates subvention requirements. To the extent that basis was relied upon previously by the State or Regional Water Boards to assert that provisions were not unfunded state mandates, such a basis is no longer available; however where, as here, provisions are necessary to meet the federal MEP standard and expand upon existing programs, they do not constitute unfunded state mandates. In addition, because local agencies can pay for compliance with permit provisions by reallocating costs or levying service charges, fees or assessments to pay for implementation, the provisions do not constitute unfunded state mandates requiring subvention.</p> <p>The California Constitution addresses reimbursement for additional "services" mandated by the State upon local agencies, not regulatory requirements imposed upon all Permittees, including cities and counties. The intent of the constitutional section was not to require reimbursement for expenses incurred by local agencies complying with laws that apply to all state residents and entities. (See City of Sacramento v. State of California, 50 Cal. 3d. 51 (1990) citing County of Los Angeles v. State of California, 43 Cal. 3d. 46).</p> <p>A central purpose of the principle of state subvention is to prevent the state from shifting the cost of government from itself to local agencies. (Hayes v. Commission on State Mandates, 11 Cal. App. 4th 1564, 1581 (1992)). In this instance, no such shifting of the cost of government has occurred. The responsibility and cost of complying with the CWA and Phase I NPDES municipal storm water regulations lies squarely with the local agencies which own and operate MS4s, not with the State. The State cannot shift responsibilities and costs to local agencies when</p>

Comment No.	Commenter	Subject	Section	Specific Comment	Comment Response
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the responsibilities and costs lie with the local agencies in the first place.

The commenter attempts to assert that any use of discretion on the part of the Regional Board in implementing a federal program reflects "a matter of true choice," and is therefore a state mandate. This is a misrepresentation of the case law. In *Hayes v. Commission on State Mandates*, above, the Court only contemplates whether participation itself in a federal program is "a matter of true choice" in order to determine if an unfunded state mandate has occurred. It does not contemplate whether any use of discretion on the part of a regulatory agency in implementing the necessary details of a federal program constitutes an unfunded state mandate.

Therefore, the case does not support the commenters' claims. Any discretion exercised by the Regional Board in implementing federal law in the

Tentative Order is in accordance with federal law and guidance. For example, use of permit writer discretion and the inclusion of more detailed requirements in the Tentative Order is consistent with USEPA guidance. The preamble to the Phase I NPDES storm water regulations states "this rule sets out permit application requirements that are sufficiently flexible to allow the development of site-specific permit conditions" (FR 48038). In addition, in its review of a City of Irving Texas NPDES municipal storm water permit, the USEPA Environmental Appeals Board stated that Congress "created the 'maximum extent practicable' ('MEP') standard and the requirement to 'effectively prohibit non-storm water discharges' into the MS4 in an effort to allow permit writers the flexibility necessary to tailor permits to the site-specific nature of MS4 discharges" (2001). The Tentative Order, to be issued to implement a federal program, does not become an unfunded state mandate simply because the

Regional Board appropriately exercised its discretion in defining the particulars.

The Regional Board's implementation of a federal program according to federal law and guidance does not constitute an unfunded state mandate. The state's water quality protection requirements within the Tentative Order are authorized by Federal Law, are necessary to meet the federal MEP standard, and are not unfunded mandates.

Please see the fact sheet, response to comment #5 in the July 2007 response to comments and response to comment #155 for more information.

Comment No.	Commenter	Subject	Section	Specific Comment	Comment Response
166	5	TMDL	Findings	T.O., page 2, #2, the last statement, "These water quality standards must be complied with at all times, irrespective of the source and manner of discharge." This is in conflict with the intent expressed by Regional Water Quality control Board (RWQCB) Staff during numerous workshops, the Amendment to the Water Quality Control Plan for the San Diego Basin (9) to incorporate implementation provisions for indicator bacteria water quality objectives to account for loading from natural, uncontrollable sources within the context of a Total Maximum Daily Load, Resolution, R9-2008-0028, as well as subsequently updates in Sections C.1., C.3., D.4., etc. as identified in the T.U. The City feels that the intent of the paragraph is preserved with the removal of this sentence. Please remove said sentence.	Regional Board Resolution No. R9-2008-0028, "A Resolution Amending the Water Quality Control Plan for the San Diego Basin (9) to Incorporate Implementation Provisions for Indicator Bacteria Water Quality Objectives to Account for Loading from Natural Uncontrollable Sources Within the Context of a Total Maximum Daily Loads," has essentially revised the Water Quality Standards for bacteria in water bodies that are addressed by TMDLs. The Water Quality Standards for bacteria, within the context of a TDML, allows for exceedances of the bacteria WQOs, as long as the exceedances are due to natural and background (non-anthropogenic) sources using a "reference system and antidegradation approach" or a "natural sources exclusion approach." To date, a TMDL containing either approach has not been fully approved in Southern Orange County. The Bacterial Indicators TMDL for Baby Beach has the option of developing a "natural sources exclusion approach." Once developed, the TMDL must be amended prior to any changes to the MS4 Permit to be consistent with the assumptions and requirements of the TMDL Waste Load Allocations. The requested deletion is not made.
167	5	LID	Finding	T.O., page 6 #13, The City disagrees with the statement "... The risks typically associated with properly managed infiltration of runoff (especially from residential land use areas are not significant." Please provide scientific data supporting this statement, appropriate for the soil and geologic conditions found in south Orange County, including an economic evaluation or delete this statement. From experience, the City has found that many of the "management techniques" identified to address the existing clay soils and risks and liabilities associated with landslides have made infiltration for certain projects economically infeasible with a high level of risk of which the City cannot pursue nor approve.	The key phrase is "properly managed." We agree that when not properly managed infiltration of runoff can carry significant risks. The Regional Board expects all Copermittees to properly manage the infiltration of runoff to minimize risks. Please see the USEPA's fact sheets on infiltration basins, infiltration trenches, grass swales, and porous pavement. http://cfpub1.epa.gov/npdes/stormwater/menuofbmps/index.cfm?action=min_measure&min_measure_id=5
168	5	Existing Development	Finding	T.O. page 7, #d. As this T.O. is significantly different than the current permit, we request a longer time to effectively and efficiently update our programs. There are some significant issues that will affect our constituencies in significant ways and the development process must allow time for outreach to garner support. We suggest that you allow 18-24 months in lieu of proposed 12, acknowledging the historical successes of south Orange County copermittees working together, garnering stakeholder support and producing quality products.	One year from the date of adoption of the Order is a sufficient amount of time to update the jurisdictional programs to address the areas of the Order that have changed. The Copermittees are more than familiar with storm water regulations, as are its stakeholders. A change to extend the time to implement requirements is not made at this time.

Comment No.	Commenter	Subject	Section	Specific Comment	Comment Response
169	5	Existing Development	Finding	<p>T.O., page 9 e. Industrial sites are regulated under a State issued Industrial General Permit.</p> <p>Why are requirements addressed here rather than under the industrial permit, resulting in redundancy and confusion? We feel any requirement relating to the regulated industrial sites should be omitted from this Permit and be addressed in the Industrial Permit. We understand that the Industrial Permit is due for renewal and this would be an appropriate time for RWQCB to suggest requirements to be included in the new Order.</p>	<p>This Finding is under the Development Planning section of the Findings. The finding is for the development and re-development of industrial sites, which is under the purview of the Tentative Order. The finding clarifies that the development of industrial sites classified as priority development projects require the implementation of LID to meet the MEP standard. Furthermore, USEPA, in requiring separate storm water permits for industrial dischargers and MS4 owners and operators expected the permits to act in a dual complimentary manner (55 Fed Reg 48000-01). Thus, the Copermittees retain responsibility for industrial development and inspections, which is expected to work in concert with the requirements under the industrial permit when the facility discharges storm water to the MS4. As such, the finding will remain in the Tentative Order.</p>

Comment No.	Commenter	Subject	Section	Specific Comment	Comment Response
170	5	FETD	Finding	<p>T.O. page 14 & S.F.S. page 18– FETDs. We continue to disagree with the Discussion of Finding E.9. We feel that it is appropriate to regulate FETDs within the MS4 Permit, as these facilities are installed and operated to meet the requirements of the Permit and are part of the MS4 system.</p> <p>In addition to our previous concerns regarding FETDs provided in Exhibits 1 and 2 of Attachment A, we offer the following comments in regards to the current FETD language provided in this draft:</p> <p>We encourage consistency and encourage you to consider the language that was proposed in the recent Region 8 draft which captures the intent of the first reiteration of FETD language which we saw in the first draft of this Permit back in 2007. We will also note that the copermittees were working on potential FETD language with previous Permit staff during the first draft Permit process, prior to postponement by the Board, which is significantly similar to the draft language found in the Region 8 draft, and therefore we support it. The draft language in Region 8’s Order is provided below for consideration:</p> <p>“Discharges from facilities that extract, treat and discharge water diverted from waters of the U.S: These discharges shall meet the following conditions: (1) The discharges to waters of the US must not contain pollutants added by the treatment process or pollutants in greater concentration or load than the influent; (2) the discharge must not cause or contribute to a condition of erosion; (3) The extraction and treatment must be in compliance with Section 404 of the Clean Water Act; and (4) Conduct Monitoring in accordance with Monitoring and Reporting Program attached to this Order.” Please note we suggest the one minor modification to the language in the Region 8 draft, which is underlined. Please also note that the existing 401 Certification and Grant Agreement for our existing Salt Creek Ozone Treatment Facility are also attached for reference in Exhibit B-2 & B-3, respectively.</p>	Please see response to Comments 51 and 70.
171	5	TMDL	Finding	<p>T.O. Page 15, #11 -303(d) list – We suggest that you clarify which water bodies are impacted by the listed pollutants, as we are aware that not all waterbodies in south Orange County are impaired by each of the pollutants listed.</p>	A table has been added to the Findings of the Tentative Order containing the 303(d) listed water bodies for Southern Orange County.

Comment No.	Commenter	Subject	Section	Specific Comment	Comment Response
172	5	TMDL	Finding	T.O. Page 15, #12 The City believes and agrees with statements made by certain RWQCB staff and State Water Resource Control Board (SWRCB) staff during workshops that the language regarding TMLD and WLAs may be premature and should be omitted from the Permit at this time since there are no TMDLs that are approved by the State, Office of Administrative Law and/or EPA to date. The City also deems it necessary for TMDL staff and Permit staff to work together to incorporate the TMDLs into the permit at the appropriate time to retain the intent and implementation strategies that were developed through the several year TMDL development process. Prior to incorporating TMDLs into the Permit, we suggest that the permit writers work with TMDL staff and also refer to the strategically developed implementation plan(s) that were developed as part of the TMDL.	Regional Board staff from the TMDL and Surface Water Units have had several meetings to discuss the incorporation of TMDLs into storm water permits. This dialogue will continue as final approval of Resolution No. R9-2008-0027, "A Resolution to Adopt an Amendment to the Water Quality Control Plan for the San Diego Basin (9) to Incorporate Total Maximum Daily Load for Indicator Bacteria, Baby Beach in Dana Point Harbor and Shelter Island Shoreline Park in San Diego Bay" nears. The State Board is scheduled to hear and approve the item on 16 June 2009.
173	5	ASBS	A	T.O. page 18, #5 & page 20 #5 – "As ASBS's or SWQPA's are already regulated separately by the State Board, page 18 #5 and Page 20 #5 are redundant and should be deleted from the MS4 Permit."	The Regional Board has removed ASBS/SWQPA language from the tentative Order. Please note ASBS/SWQPAs, like all water bodies, remain subject to receiving water limitations and discharge prohibitions under the Tentative Order.
174	5	Overirrigation	B	<p>T.O. page 19, #2– The removal of landscape irrigation, irrigation water and lawn watering for the list of exempted discharges is problematic and we are concerned that the tentative prohibition will diminish public support of the Permit and the City's water quality protection program. Our residents and businesses will not accept that, without proof, potable water running over grass is a pollutant worthy of illegal declaration.</p> <p>Regarding urban runoff from over-irrigation, please note that copermittees and water districts are working aggressively and cooperatively to address this issue. Please see the attached excerpts from South Coast Water District Water Conservation Ordinance (No. 206) that has already been adopted (Exhibit B-1), covering the majority of Dana Point and parts of Laguna Beach and San Clemente. As we have discussed with your staff, all water districts have or will be adopting similar ordinances. Also, significant water rate increases (34% plus proposed for SCWD, effective July 1, upon approval) and allocations are on the way. Please reconsider whether this comprehensive water conservation approach, along with the new AB1881 requirements that will address new developments, will suffice to address the concern of urban runoff from over-irrigation for this Permit cycle, in lieu of the elimination of the exemption.</p> <p>We all want to reduce runoff carrying pollutants in dry weather and we feel that our proposed approach will receive greater public acceptance and commensurate results without stimulating blow back and rejection by a significant segment of the public, which could result in stalling or setting us back in our efforts to progress in improvements in water quality.</p>	Please see response to comments Nos. 28, 39, 42, 44, 52, and 159. The Copermittees program of education and cooperation with the water districts would likely meet the requirements of the Permit in addition to the Copermittees modifying their existing programs that address non-stormwater to also address overirrigation discharges. The Copermittees are expected to use the proper discretion in conducting education, complaint response, and progressive enforcement to alleviate public concerns. The programs and rate increases by the water district are in response to the current water shortage and are likely to be ceased once the water shortage has been addressed. The water quality impacts from overirrigation discharges will exist in drought years and in surplus years; therefore the Copermittees need to implement a program to address overirrigation. It is our expectation that removal of the exemption to improve water quality will work in concert with conservation efforts aimed at source control.

Comment No.	Commenter	Subject	Section	Specific Comment	Comment Response
175	5	SUSMP		Page 38f.c. – given the options for verification in (c), the word “inspection” in (iii), (iv), (v), (vi), (vii) (viii), and (ix) should be changed to “verification” for consistency, please.	The word inspection was deliberately chosen to be used in section F.1.f.(2)(c). Inspections provide greater assurance that post construction BMPs are properly maintained, operated and implemented. The inspections are limited to high priority BMPs, but a Copermittee may choose to inspect all the BMPs rather than just the high priority BMPs. Self certifications, surveys or other effective means are reserved for those BMPs that are not a high priority.
176	5	Construction	F.2.	T.O. Page 47, (b) iii – The requirement for slope stabilization on all active slopes during rain events regardless of season does not appear to be consistent with the proposed General Construction Permit; nor is practical in many situations. We suggest that the language in the proposed General Construction Permit be reviewed so that this language can be revised to allow flexibility in implementation of erosion and sedimentation control while keeping with the intent of keeping sediment and pollutants on site.	The statewide general construction permit has not yet been adopted and is likely to be further amended; therefore it is not appropriate to attempt consistency with a permit that has not been adopted. We encourage the commenter to bring their concern to the State Board, so that the General Construction Permit may be amended to be consistent with the Tentative Order. The Regional Board's experience is that it is practicable to implement temporary soil stabilization BMPs prior to rain events and this requirement also keeps with the intent of preventing erosion and sediment transport.
177	5	Construction	F.2.	T.O. Page 50 g.1 Please clarify what the RWQCB intends to do with the information provided in the proposed reporting of construction sites with stop work order or high enforcement due to stormwater violations. This information is already reported annually in the annual report. Unless the RWQCB intends to effectively use this instantaneous information, this requirement is an additional administrative task without perceived commensurate benefit. Historically, we know that Dana Point and other south Orange County Permittees have been very proactive in coordinating with RWQCB regarding the regulation of construction sites when needed, including setting up pre-rainy season inspections with RWQCB staff and contractors at high priority sites and also requesting assistance or guidance when challenging issues arise.	The requirement regarding notification of stop work orders or high enforcement is required to provide the Regional Board with additional information in order to evaluate and prioritize construction site inspections. The Regional Board acknowledges that many Copermittees have been historically proactive in regulatory coordination, and the submittal of this information further provides for complimentary enforcement.
178	5	Construction	F.2.	T.O. Page 50 g.2. The requirement to annually notify the Regional Board of all construction sites with “potential” violations is questioned. Virtually every site could fit into this “potential” category at some point, and basically we would be sending the entire construction site inventory. The term “potential” is too hard to define and will lead to widely varying compliance of copermittees. Please remove this requirement.	Please see response to Comment 128.
179	5	Monitoring	F.4	14. T.O. Page 67 & 68, b. The last sentence conflicts with the previous sentences which indicates that GIS is “highly recommended”. If GIS is not used, the layers cannot be submitted. We suggest the modification: “The GIS layers of the MS4 map or a hard copy of map, if GIS is not used, must be submitted with the updated Jurisdictional.....”.	The Tentative Order language has been updated to reflect that GIS is required, not recommended.

Comment No.	Commenter	Subject	Section	Specific Comment	Comment Response
180	5	Monitoring	F.4.	T.O. Page 70, (2), As the water districts serving the City of Dana Point (South Coast Water District, Moulton Niguel Water District and San Juan Capistrano Utilities) are charged with the responsibility of regulating sanitary sewer overflows and serve as the primary spill prevention and response coordination authority, we request that the Regional Board remove this provision so as to reduce duplicity of effort, confusion and the implementation of unnecessary control activities, when an effective program is already in place and regulated.	<p>The Regional Board recognizes that sewage spill containment and cleanup may be the responsibility of agencies not under the Copermittees control or responsibility. It should be noted this comment was previously received and language was relaxed in the 2007 Tentative Order. Language under (2), for sewage spills, was changed to read "management measures and procedures" to reflect the concern that is raised by this comment. It is unclear to the Regional Board why the language should now be removed.</p> <p>The response to the original comment is still applicable and reads: "The Tentative Order includes sewage and non-sewage spills in the requirement for spill prevention and response. Federal regulations clearly define sewage as an illicit discharge that must be addressed by municipalities (see Phase II Final Rule, p.68758). Sewage is an illicit discharge to the MS4 that threatens public health. As such, the Copermittees must implement measures to prevent sewage from entering the MS4 system and must respond to illicit discharges that have entered the system. This section has been revised to clarify that management measures and procedures must be implemented to prevent, respond to, and cleanup spills.</p> <p>When the State Water Board stayed the sewage provision from Regional Board Order No. R9-2002-01, it found that the costs of the requirement did not constitute harm, but agreed that harm could ensue from potential response delay and confusion (Order WQO 2002-0014). Subsequently, the Copermittees and the local sewer agencies have developed mature relationships regarding sewage spill response. As a result, the concerns expressed by the State Water Board are no longer warranted. For instance, the Copermittees have developed and implemented procedures for spill response and sewage spill response. The Model Sewage Spill Response Procedure is outlined in the Copermittees' Proposed 2007 Drainage Area Management Plan (DAMP). According to the 2007 DAMP, regardless of where the spill originates, if the spill has entered or may enter the storm drain system, the Copermittees respond to assist with the cleanup and remediation of the area.</p> <p>Section D.3.a.7 of the Tentative Order includes requirements for measures that must be taken to prevent sewage spills. Examples of measures being implemented by Copermittees include inspections of fats, oils, and grease management at restaurants. Other preventative measures can be implemented during routine planning efforts for new development and redevelopment projects. Similarly, building permit inspections should be used to verify the integrity of the sanitary and storm sewer infrastructure and ensure that cross-connections between the two are avoided.</p>

Comment No.	Commenter	Subject	Section	Specific Comment	Comment Response
181	5	WURMP	G	<p>T.O. Page 70 (1) and page 71 b. The City believes that it would be prudent to update Watershed Runoff Management Plans (WRMPs) concurrently with TMDL bacteria load reduction plans (BLRP) or comprehensive load reduction plans (CLRP), as they will most likely be one comprehensive document. This makes sense as the watershed management areas are consistent with TMDL waterbodies. As we have WRMPs in place and are implementing them, we suggest revising the timeframe for updates to be concurrent with the development of the BLRP/CLRPs to maximize efficiency. Please also coordinate this effort with your fellow TMDL staff, as we as copermittees have already drafted a outline of these plans.</p> <p>The same comments apply to the watershed map. It is prudent that we create a map that can be used for watershed and TMDL planning and implementation and we request that you allow flexibility in the timeframe for development of the map so that the copermitties can effectively and efficiently prepare a map that will meet TMDL planning requirements.</p>	<p>The WRMP section of the Order has been restructured. Section G has been streamlined to allow Copermittee's to report their WRMP updates annually. The Order does not specify when during that year a Copermittee has to submit a report, therefore the Copermittee is able to coordinate reporting WRMP updates with BLRP or CLRP submittals. This change gives the Copermitted flexibility and encourages efficient use of resources.</p>
182	5	WURMP	G	<p>T.O., page 74, (e) (2) RWQCB staff and copermittees agreed to delete the word "each" from this section.</p>	<p>The WRMP section of the Order has been restructured. The term "each" has been removed from this section.</p>
183	5	General	K	<p>T.O., page 85, #3 Annual Reports – During conversations and workshop with RWQCB staff, both RWQCB staff and copermittees agreed that it makes sense to add some language providing flexibility and allowing copermittees to propose an alternative report format and/or annual submittal dates for review and approval by RWQCB. We support language to this effect and look forward to seeing it in a subsequent draft or errata.</p>	<p>Section K. Reporting of the Tentative Order has been revised to allow the Copermittees to propose an alternate reporting criteria and schedule as part of their updated JRMP.</p>
184	5	TMDL	Supplemental Fact Sheet	<p>S.F.S. Page 19 – No TMDLs have been approved by State Board, Office of Administrative Law and/or EPA and therefore this Finding and other references to WLA or TMDLs should be omitted.</p>	<p>All references to CDOs and CAOs, in regards to TMDL implementation, have been removed from the Tentative Order and Fact Sheet. This does not, however, preclude the Regional Board from future consideration of the use of these authorities to address TMDLs.</p> <p>Two TMDLs for Bacterial Indicators are likely to be approved in the next five years. Title 40 CFR 122.44(d)(1)(vii)(B) requires MS4 Permits to be consistent with the Waste Load Allocation (WLA) assumptions and requirements. Therefore, the discussion on incorporation of WLAs should already have begun. On June 16, 2009, the State Water Resources Control Board approved Resolution R9-2008-0027 amending the Basin Plan to incorporate Total Maximum Daily Loads (TMDLs) for indicator bacteria for Baby Beach in Dana Point Harbor and Shelter Island Shoreline Park in San Diego Bay. Final approvals by the Office of Administrative Law and the USEPA are expected to be garnered prior to adoption consideration of this re-issuance of the MS4 Permit for So. Orange County.</p>

Comment No.	Commenter	Subject	Section	Specific Comment	Comment Response
185	6	LID	F.1	<p>We are disappointed with the Tentative Order. It is inconsistent with state and federal law in absolute terms and does not adequately respond to comments from both EPA and NRDC or reflect the direction of the Board at the conclusion of the last hearing. With respect to low impact development (“LID”), it continues to pursue highly flawed approaches that are vague and ambiguous and fail to implement the federal maximum extent practicable standard. Indeed, the flaws in the LID approach are even more apparent in contrast to the recent adoption by the Los Angeles Regional Water Quality Control Board of LID provisions which require onsite retention of the 85th percentile design storm. The requirements imposed by the Los Angeles Regional Board also require offsite mitigation when onsite compliance is not feasible. Notably, NRDC, other environmental groups, and all of the permittees in Ventura County supported these provisions. During the South Orange County permit workshop held on May 6, staff provided some indication that further modifications of the permit would be forthcoming to make it both clearer and consistent with the federal MEP standard. We strongly encourage this direction.1</p>	<p>The Tentative Order has been modified in the errata sheet to clarify requirements that LID BMPs require onsite retention and/or biofiltration of the 85th percentile design storm and offsite mitigation when onsite compliance is not technically feasible.</p>

Comment No.	Commenter	Subject	Section	Specific Comment	Comment Response
186	6	LID	F.1	<p>The Tentative Order lacks a clear performance standard—tied to onsite retention of stormwater—that requires robust implementation of LID techniques;</p> <p>The Tentative Order’s Development Planning Component remains legally inadequate and is not based on the evidence in the record before the Regional Board. As currently written, the Tentative Order does not require any specific level of LID implementation and would, as explained below, essentially allow the Copermittees to regulate themselves and to grant wholesale waivers of otherwise universally applicable SUSMP sizing criteria. There is no stated analysis that supports the staff’s proposals or provides even a general assessment of the water quality impact of the proposed approach. Furthermore, the Tentative Order’s Development Planning Component fails to address the known water quality problems that staff articulate in the Fact Sheet (See, e.g., Revised Fact Sheet for Tentative Order 2008-001, at 26) and falls well below many other stormwater permits and regulatory documents around the country. In all of these respects, staff have failed to adequately respond to the issues raised when the last draft of the Permit was rejected by the Regional Board, and the revisions in the current draft do not address the fundamental weaknesses of the Tentative Order.</p> <p>While we appreciate the fact that the Tentative Order does require some undefined level of LID implementation unless the Copermittee makes a finding of infeasibility, the Tentative Order remains legally insufficient due to the lack of a numeric performance requirement for LID, the availability of all-encompassing waivers from treatment standards, the improper placement of and failure to define the Tentative Order’s 5% “effective impervious area” (“EIA”) limitation, and the ill-conceived nature of other provisions. These problems with the Development Planning Component, elaborated below, need to be remedied before the Tentative Order will meet the Clean Water Act’s MEP standard for pollutant reduction.</p>	<p>The 5 percent EIA requirement has been removed in favor of requirements that LID BMPs require onsite retention and/or biofiltration of the 85th percentile design storm and offsite mitigation when onsite compliance is not technically feasible.</p>

Comment No.	Commenter	Subject	Section	Specific Comment	Comment Response
187	6	SUSMP	F.1	<p>The Tentative Order contains unlawfully vague and general new development and redevelopment provisions;</p> <p>As noted in our January 24, 2008, letter, which we incorporate by reference herein, the previous draft of the Tentative Order was rife with vague and unenforceable provisions.¹³ Some of these provisions have been improved in the new draft, but many remain unacceptable. This is particularly problematic where the Tentative Order fails to establish the necessary numeric performance standards which would ensure that the most effective, pollution-reducing BMPs— i.e., LID practices—are implemented to the maximum extent practicable.</p> <p>These flaws are all the more apparent because they stand in contrast to recently adopted LID requirements for Ventura County, adopted on May 7, 2009, by the Los Angeles Regional Water Quality Control Board. The new Ventura County MS4 permit requires that 95% of the volume from the 85th percentile storm be retained onsite through infiltration, harvesting and reuse, or evapotranspiration. If full onsite management of the design storm volume is technically infeasible, the retention obligation may be reduced, but offsite mitigation with equivalent results must be performed (or funds must be contributed to a public mitigation fund in an amount sufficient to offset the project’s onsite non-compliance). Notably, this requirement resulted from a collaboration and agreement between NRDC, Heal the Bay, and all of the Ventura County permittees. This is the type of performance standard that is lacking in the Tentative Order.</p> <p>The Tentative Order’s LID provisions are still a collection of largely hortatory provisions with no specific measurable outcome. Unfortunately, even the vast majority of the revisions to the Development Planning Component fall into this category, requiring only “assessments” of LID practices or applying LID requirements only “where applicable and feasible.” Narrative and subjective terms are, thus, still prominent, e.g.: “The following LID BMPs ... shall be implemented ... where applicable and feasible,” (Tentative Order ¶ F.1.c.(2)), “Buffer zones for natural water bodies, where feasible,” (Tentative Order ¶ F.1.c.(3)), “Where feasible, landscaping with native or low water species shall be preferred,” (Tentative Order ¶ F.1.c.(7)), “The review ... must include an assessment of techniques to infiltrate, filter, store, evaporate, or detain runoff,” (Tentative Order ¶ F.1.d.(4)(a)(iv)), “[W]here feasible the Copermittee must take appropriate actions,” (Tentative Order ¶ F.1.d.(4)(a)(vi)), “[D]rain a portion of impervious areas,” (Tentative Order ¶ F.1.d.(4)(b)(ii)), etc. Such vague provisions would not enable the Regional Board or the Copermittees to measure the outcomes of, or to enforce, the Tentative Order’s requirements since implementation could vary enormously.</p>	<p>The Tentative Order has been modified in the errata sheet to with more specific requirements that LID BMPs require onsite retention and/or biofiltration of the 85th percentile design storm and offsite mitigation when onsite compliance is not technically feasible. In addition to the design storm criteria, the Tentative Order includes other specific performance measures, wet weather municipal action levels and dry weather non-storm water numeric effluent limits.</p>

Comment No.	Commenter	Subject	Section	Specific Comment	Comment Response
188	6	SUSMP	F.1.	<p>The control measures included in the Development Planning Component do not meet the “maximum extent practicable” (“MEP”) standard of the Clean Water Act, especially given other stormwater control measures being implemented in California and around the U.S.;</p> <p>Section 402(p) of the Clean Water Act establishes the MEP standard as a requirement for pollution reduction in stormwater permits. (33 U.S.C. § 1342(p)(3)(B)(iii).) Regional Board staff have failed to implement this standard effectively, and currently the Permit does little more than pay lip service to superior stormwater management practices commonly implemented around the country. Nonetheless, “the phrase ‘to the maximum extent practicable’ does not permit unbridled discretion. It imposes a clear duty on the agency to fulfill the statutory command to the extent that it is feasible or possible.” (Defenders of Wildlife v. Babbitt (D.D.C. 2001) 130 F.Supp.2d 121, 131 (internal citations omitted); Friends of Boundary Waters Wilderness v. Thomas (8th Cir. 1995) 53 F.3d 881, 885 (“feasible” means “physically possible”).)</p> <p>Similarly, in South Orange County, an onsite retention standard based on the effective impervious area of a site would be a technologically feasible approach that would reduce stormwater discharges and pollution far more than the non-specific measures contained in the Tentative Order.²⁰ We have even called to the Regional Board’s attention an EPA study which found that LID practices are frequently less costly than conventional stormwater BMPs.²¹ Regional Board staff have offered no justification for ignoring our and EPA’s comments regarding the need for a specific, enforceable, numeric performance standard and no evidence that meeting our proposed onsite retention standard of 3% EIA would be infeasible, assuming that—as we have suggested—the Tentative Order includes an appropriate infeasibility provision tied to a technically equivalent alternative compliance requirement. Indeed, the Tentative Order’s inclusion of a 5% EIA limitation (albeit inadequately defined) for hydromodification purposes strongly implies that Regional Board staff, too, believe that this standard could be feasibly implemented in South Orange County.</p> <p>Other Phase I MS4 permits within California (beyond the abovementioned Ventura County MS4 permit), despite their problems, are also heading in this direction. The North Orange County draft permit, for instance, establishes a hierarchy of options (from onsite to regional systems) that each require onsite retention—or biofiltration through LID—of the 85th percentile design storm volume.²⁹ With such precedents in California and in other parts of the country, the Tentative Order’s failure to adopt a numeric performance standard beyond the barebones SUSMP hydraulic sizing criteria is particularly remarkable. The decision to</p>	<p>The Tentative Order has been modified in the errata sheet to clarify requirements that LID BMPs require onsite retention and/or biofiltration of the 85th percentile design storm and offsite mitigation when onsite compliance is not technically feasible. This is consistent with the recently adopted Region 8 MS4 permit for North Orange County.</p>

Comment No.	Commenter	Subject	Section	Specific Comment	Comment Response
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189	6	General	General	<p>waive these bare-bones criteria without even requiring offsite mitigation, as discussed below, evidences an even more flagrant disregard for the MEP standard.</p> <p>The control measures in the Tentative Order do not constitute “best management practices,” as required by law;</p> <p>As detailed in our January 24th Letter, the provisions of the Tentative Order, which remain largely unchanged from previous drafts, are insufficient to constitute “best management practices” (“BMPs”), as required by the Clean Water Act. To reiterate our comments briefly, the Tentative Order, at most, sets forth ideas around which a proposed management program and articulated BMPs could be developed, which is required in the application for an MS4 permit. (See 40 C.F.R. § 122.26.) Missing are the actual BMPs and accompanying performance standards that must be described in the Tentative Order. The closest the Tentative Order comes to identifying actual BMPs is the list of general LID design practices in Section F.1.d.(4)(b). (Tentative Order ¶ F.1.d.(4)(b).) However, these design measures need not be hydraulically sized to treat any particular amount of stormwater. This is tantamount to no requirement at all and does not satisfy EPA’s counsel that, among other components, BMPs must be attached to measurable goals that include “a quantifiable target to measure progress toward achieving the activity or BMP.” As the examples from EPA’s guidance document—included in our January 24th Letter—highlight, merely outlining a general technique with no quantifiable requirement for implementation does not satisfy the Clean Water Act’s mandates.</p> <p>The State Water Board has also voiced its support for establishing numeric requirements that apply to stormwater BMPs, stating that, “[t]he addition of measurable standards for designing the BMPs provides additional guidance to developers and establishes a clear target for the development of the BMPs.”³¹ Despite pointing out the necessity of such targets to the Regional Board in our last comment letter, the Tentative Order’s site design requirements still fail to include more than a requirement for some undetermined amount of LID implementation.</p> <p>As a result, the provisions of the Tentative Order fail to satisfy EPA regulations and guidance and are invalid under the Clean Water Act.</p>	<p>The Tentative Order has been modified in the errata sheet to clarify requirements that LID BMPs require onsite retention and/or LID biofiltration of the 85th percentile design storm and offsite mitigation when onsite compliance is not technically feasible. The design storm is a quantifiable target to measure progress toward achieving the activity or BMP. In addition, the Tentative Order includes other performance criteria including wet weather municipal action levels and dry weather non-storm water numeric effluent limitations.</p>
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190	6	SUSMP	F.1	<p>The Tentative Order would allow unlawful waivers from hydraulic sizing criteria and does not adequately require mitigation for non-complying projects;</p> <p>The Tentative Order’s waiver section sets forth a skeletal process for allowing projects not to comply with the Permit’s already lacking requirements whenever Copermittees deem compliance “infeasible,” yet this section would not require any equivalent performance through offsite mitigation or maximize the implementation of stormwater management practices, as required by the MEP standard. Indeed, there are no criteria established by the Tentative Order to determine what constitutes “infeasibility” that would allow for waivers, and there is no evidence in the record to demonstrate that any sites are incapable of meeting the barebones SUSMP sizing criteria. We suggest instead the establishment of an onsite retention standard, such as 3% EIA, with the option for onsite treatment paired with offsite mitigation in situations of technical infeasibility. This type of standard has been adopted in wide-ranging locations around the US, including last week in Ventura County, as mentioned above, and we have submitted expert reports analyzing its feasibility in various locations around California. The waiver section provides the perfect opportunity to adopt far more robust and appropriate requirements regarding offsite mitigation when onsite compliance is infeasible, but despite facts in the record to support such requirements, the Tentative Order has created a blanket waiver of the state-law-backstop hydraulic sizing criteria without even addressing why this is necessary.</p> <p>The Tentative Order’s Waiver Provisions Contravene Federal and State Law and Are Ill-Conceived.</p> <p>Through the waiver provision, Priority Development Projects can receive a waiver from “the requirement of implementing treatment BMPs with numeric sizing criteria if infeasibility can be established.” (Tentative Order ¶ F.1.d.(7).) Projects receiving waivers must consider all available treatment BMPs;33 however, because the Tentative Order does not define infeasibility, the determination of what is infeasible is left entirely to the Copermittees, which amounts to impermissible self-regulation, as discussed in this letter and in our previous comment letter. In other words, the Tentative Order, as written, could allow qualifying projects to install treatment systems that are incapable of handling more than one milliliter of rainfall, yet this would constitute compliance with the Tentative Order. No offsite mitigation would be required because the waiver provision leaves it to the discretion of the Copermittees to “collectively or individually develop a program [for] a storm water mitigation fund.” (Tentative Order ¶ F.1.d.(7)(b).) This is an unlawful result. Federal</p>	<p>The Tentative Order has been modified in the errata sheet to clarify requirements that LID BMPs require onsite retention and/or biofiltration of the 85th percentile design storm and offsite mitigation when onsite compliance is not technically feasible. The Tentative Order includes criteria to define technical infeasibility consistent with Region 8’s recently adopted MS4 permit for North Orange County.</p>

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law and state law require that all Priority Development Projects, some of which would be exempted from hydraulic sizing criteria by the Tentative Order, meet certain minimum standards. Federal regulations mandate that MS4 permits impose requirements to reduce the discharge of stormwater pollution from new development and redevelopment projects. (40 C.F.R. § 122.26.) The State Water Board—through the Bellflower decision—has gone further and established the SUSMP hydraulic sizing criteria as a compliance floor for all Priority Development Projects.³⁴ A permit cannot meet the MEP standard if it does not impose these criteria to reduce stormwater pollution, yet these criteria are exactly what the Tentative Order waives entirely for projects that meet the Copermittees’ own definition of “infeasibility.” This is unlawful. Certainly, what constitutes MEP now is not a lesser standard than what constituted MEP nearly a decade ago.

The Requirements for Priority Development Projects that Receive Waivers Are Unlawfully Lax.

For projects that receive waivers of hydraulic sizing criteria, the Tentative Order would apparently require no stormwater management at all except perhaps whichever BMPs the Copermittee has—at its own discretion—found to be feasible. (Tentative Order ¶ F.1.d.(7).) As mentioned above, there is no obligation to undertake offsite mitigation because the requirement to contribute funds for offsite mitigation remains at the discretion of the Copermittees; moreover, the offsite mitigation funding option is tied to avoided cost and thus bears no relationship to water quality results. (Tentative Order ¶ F.1.d.(7)(b).) This runs counter to the several nationwide examples cited above, where offsite mitigation is required in proportion to the extent of onsite non-compliance. It also runs counter to U.S. EPA’s recent advice on other MS4 permits in California: “We ... recognize that there may be situations where achievement of specified volumetric criteria for management of stormwater via LID design elements may be infeasible due to physical site constraints. The permit should include a clearly defined, enforceable process for requiring off-site mitigation for projects where use of LID design elements is infeasible.” “[T]he permit could require the retention of stormwater at an offsite location corresponding to 1.5 times the volume which cannot be practically managed via LID.”

Without remedying these very substantial deficiencies in the waiver provisions, the Tentative Order would unlawfully allow many Priority Development Projects to do far less than is required to meet the MEP standard. As mentioned elsewhere in this letter, these deficiencies also hamstring the Tentative Order’s ability to move South Orange County toward compliance with water quality standards in the area’s many impaired watersheds. We strongly urge the Regional Board to redraft the Permit such that

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all Priority Development Projects must meet an onsite retention-based, numeric performance standard (e.g., 3% EIA, properly defined) and, where onsite compliance is technically infeasible, provide offsite mitigation that achieves at least equivalent water quality results (e.g., require the contribution of in-lieu funds sufficient to retain 1.5 times the design storm volume not retained onsite).

191	6	SUSMP	General	<p>The Tentative Order precludes meaningful Regional Board and public review of critical aspects of the Permit;</p> <p>As discussed in our previous comment letter, the general lack of guidance and requirements for Regional Board and public review of relevant standards and documents in the Tentative Order's provisions would allow the Copermittees to make essentially all meaningful decisions related to stormwater mitigation by themselves. The particularly important provisions of the Development Planning Component that now fail to require Regional Board and public review include:</p> <ul style="list-style-type: none"> • Updates to Local SSMPs to comply with the Permit (F.1.d.); • Copermittee review of local codes and ordinances to remove barriers to LID implementation (F.1.d.(4)(a)(vi)); • Waivers of numeric sizing criteria (F.1.d.(7)(a)); • Development of programs to require the contribution of funds for offsite mitigation (F.1.d.(7)(b)); • LID Site Design BMP Substitution Programs (F.1.d.(8)); and • Copermittee requirements in SSMPs or WQMPs that establish hydromodification criteria (F.1.h.). 	The Tentative Order has been revised to allow a public review of the the updated SSMP and hydromodification management plan.
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192	6	Hydromod	F.1.	<p>The hydromodification provisions are inadequate to prevent adverse geomorphological changes;</p> <p>The Tentative Order includes three requirements for interim hydromodification control criteria, and project applicants can meet the third requirement through three different means. The first and second of these three means improperly establish the “pre-construction” or “preproject” condition as the baseline for analysis and comparison. (Tentative Order ¶ F.1.h.(6)(a)(iii).) This standard is acceptable only for new development on land that has remained in its natural state until the time of construction, but it is wholly unacceptable for infill and redevelopment projects where the land has already been developed.</p> <p>Because of the prevalence of now-antiquated stormwater management practices that focused on peak flow and not on matching discharge rates and durations, pre-construction or pre-project rates and durations for infill and redevelopment sites will almost always represent measurements that we now want to avoid. Imagine, for example, the redevelopment of a 1950s era surface parking lot: under the Tentative Order’s standard, a developer could comply with the permit by doing essentially nothing to mitigate the effects of hydromodification—after all, a parking lot constructed in the 1950s would shunt all runoff directly to storm drains as rapidly as possible, resulting in the early, high peak flows that are at the root of the hydromodification problem. Nonetheless, under the Tentative Order, this unnatural “pre-construction” or “preproject” hydrograph would be the standard against which the new project would be measured. Instead of requiring projects not to exceed pre-construction or pre-project runoff rates and durations, the Tentative Order should require projects not to exceed pre-development runoff rates and durations. This will ensure that hydromodification criteria result in measurable progress and stream geomorphology benefits, rather than the institutionalization of detrimental, antiquated stormwater management practices. Technical experts and other jurisdictions have supported this type of standard. The Southern California Coastal Water Research Project, for instance, suggests that “attempting to have the post-development condition match pre-development runoff magnitude and duration should be an initial consideration for all circumstances.”³⁸ And Los Angeles County has implemented the following standard: “Mimic undeveloped stormwater and urban runoff rates and volumes in any storm event up to and including the ‘50-year capital design storm event.’”</p> <p>To address the technical inadequacy of the Tentative Order’s hydromodification provisions, the first and second options under the third interim requirement should be changed to reference “pre-development”</p>	<p>The Regional Board agrees that the standard to which post-construction hydrograph matching must occur is the hydrograph resulting from the pre-developed, naturally occurring condition. Therefore, the Tentative Order has been clarified by adding the following sentence:</p> <p>“Where the proposed project is located on an already developed site, the pre-project discharge rate and duration shall be that of the pre-developed, naturally occurring condition.”</p> <p>Additionally, the phrase “pre-project” has been replaced with “pre-development (naturally occurring)” to avoid any confusion with the use of this term. Also, specific criteria have been included in section F.1.h that addresses the last part of the comment.</p>

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conditions as the baseline. (Tentative Order ¶ F.1.h.(6)(a)(iii).) Without this revision, the hydromodification provisions will not meet the MEP standard of the Clean Water Act and will not necessarily ensure the health of aquatic ecosystems and the maintenance of stream geomorphology.

2. The Requirements for Addressing Hydromodification Do Not Establish a Clear Standard for the Copermittees to Meet through their Hydromodification Management Plans.

We remain very concerned about the vagueness of the (non-interim) requirements to address hydromodification, and we incorporate our prior comments here by reference. The revisions to these provisions have failed to establish a clear standard that the Copermittees must implement—the closest the new language comes to establishing such a standard is Section F.1.h.(4)(c), but the Tentative Order does not unequivocally state that maintaining Erosion Potential at 1 is obligatory. The Tentative Order should be rewritten to make this a requirement.

193 6 SUSMP F.1.

The Tentative Order’s applicability criteria for the Development Planning Component must be significantly lowered to meet the MEP standard;

The Tentative Order’s applicability criteria stand out as exceptionally weak compared to other Phase I MS4 permits in California and must be revised accordingly. The current criteria could hardly be construed as meeting the MEP standard since both the San Francisco Bay and North Orange County Phase I MS4 permits under consideration for adoption, for instance, contain more stringent applicability criteria, generally setting thresholds at 5,000 square feet or, at most, 10,000 square feet.⁴⁰ The particularly problematic thresholds in the Tentative Order are: the catchall of one acre or whatever the Copermittees collectively identify as an equivalent threshold, (Tentative Order ¶ F.1.d.(1)(c)), the residential threshold of 10 or more dwelling units, the commercial and industrial development thresholds of one acre, and the lack of any automotive repair shop size threshold at all. (Tentative Order ¶ F.1.d.(2).) The Permit should set the catchall at or below 10,000 square feet, commensurate with other California MS4 permits and with the significant, cumulative impacts that projects under one acre can have, while specific land uses that generate especially high levels of pollution should be subject to lower thresholds.

The Tentative Order’s designation of a Priority Development Project has been modified to be more consistent with Region 8’s recently adopted North Orange County MS4 permit.

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194	6	TMDL	I	<p>The Tentative Order needs to clarify that waste load allocations from adopted TMDLs are enforceable Permit limitations and/or will be included in the Permit;</p> <p>TMDLs establish wasteload allocations (“WLAs”)—or the maximum amount of a pollutant that each point source discharger may release into a particular waterway—that constitute a form of water quality-based effluent limitation. (See 33 U.S.C. 1313(d)(4)(A); 40 C.F.R. § 130.2.) Once a TMDL has been adopted, NPDES permits are required to include WLAs and to contain effluent limitations and conditions consistent with the assumptions and requirements of the TMDL from which they are derived. (40 C.F.R. § 122.44(d)(1)(vii)(B).)</p> <p>The Regional Board has adopted two TMDLs for the Orange County Permittees: for Indicator Bacteria Project I – Beaches and Creeks in the San Diego Region, and for Indicator Bacteria Baby Beach in Dana Point Harbor and Shelter Island Shoreline Park in San Diego Bay. However, to date, neither has been approved by the State Board, the Office of Administrative Law (“OAL”), or the U.S. EPA. As such, there are no TMDLs currently in effect for Orange County in Region 9.41 However, the Tentative Order and Fact Sheet state that “[w]ater qualitybased effluent limits for storm water discharges have been included within this Order if the TMDL has received all necessary approvals.” (Tentative Order Fact Sheet, at 20-21; see also Tentative Order, at Finding E.12.) The Tentative Order then states that “[a]dopted TMDLs will be addressed as Cleanup and Abatement Orders (CAOs) subject to approval and adoption by the Regional Board in a public process,” (Tentative Order, at Finding E.12), and that the Tentative Order will “incorporate adopted TMDL WLAs as numeric limits on a pollutant by pollutant, watershed by watershed basis. Reduction schedules and monitoring requirements will be inserted into this Order as individual Cleanup and Abatement Orders.” (Tentative Order ¶ I.)</p> <p>We believe that a superior approach would be to include the WLAs identified in the two adopted TMDLs in the Permit at adoption, with a provision that the WLAs—as well as any interim or early TMDL requirements based on compliance schedules contained in the TMDLs⁴²—are to come into effect for the Copermitees upon completion of the approval process by the State Board, the OAL, and the U.S. EPA. Through inclusion of the WLAs at this stage, the Regional Board can ensure that the permit remains consistent with the assumptions and requirements of the TMDL upon its approval, and that the imposition of adopted WLAs and compliance therewith are clearly identified as a stated condition of the permit. Given that the U.S. EPA has stated that MS4 permits should “explicitly state that the wasteload allocations (WLAs) established by . . . TMDLs are intended to be enforceable permit</p>	<p>First, to clarify, the Bacteria Project I TMDL has been withdrawn by the Regional Board and will be revised and heard again later this fall. Approval of the revised Bacteria Project I TMDL by State Board, OAL and USEPA may not occur until late 2010 or early 2011. The details of implementation remain in flux. Therefore, it is pre-mature to include the WLAs of the Bacteria Project I TMDL in this Order.</p> <p>The TMDL for "Indicator Bacteria Baby Beach in Dana Point Harbor and Shelter Island Shoreline Park in San Diego Bay" is expected to have gained approval from the State Board, Office of Administrative Law and the USEPA prior to adoption consideration of this re-issuance of the MS4 Permit for So. Orange County. The Tentative Order has been updated to clarify that the final Waste Load Allocations (WLAs) for the Indicator Bacteria TMDL for Baby Beach in Dana Point must be met by the end of the TMDL implementation compliance schedule provided in Resolution No. R9-2008-0027, "A Resolution to Adopt an Amendment to the Water Quality Control Plan for the San Diego Basin (9) to Incorporate Total Maximum Daily Load for Indicator Bacteria, Baby Beach in Dana Point Harbor and Shelter Island Shoreline Park in San Diego Bay." Furthermore, the Tentative Order has also been revised to require that all discharges to Baby Beach in Dana Point meet the Numeric Targets of the TMDL by the end of the compliance schedule in order to be consistent with the assumptions and requirements of the WLAs.</p>

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effluent limitations and that compliance is a permit requirement,"43 the Tentative Order should be revised to include the adopted TMDLs rather than provide for their delayed incorporation at some unspecified later date.

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195	6	Legal	General	<p>The Tentative Order allows the discharge of pollutants from new dischargers and sources;</p> <p>Approval of the Tentative Order will authorize the discharge of pollutants to impaired water bodies from “new sources” or “new dischargers” in violation of the CWA’s implementing regulations. 40 C.F.R. § 122.4(i) explicitly prohibits discharges from these sources, stating that: No permit may be issued:</p> <p>... (i) To a new source or a new discharger, if the discharge from its construction or operation will cause or contribute to the violation of water quality standards. The owner or operator of a new source or new discharger proposing to discharge into a water segment which does not meet applicable water quality standards or is not expected to meet those standards ... and for which the State or interstate agency has performed a pollutants load allocation for the pollutant to be discharged, must demonstrate, before the close of the public comment period, that: (1) There are sufficient remaining pollutant load allocations to allow for the discharge; and</p> <p>(40 C.F.R. § 122.4(i).) Under 40 C.F.R. § 122.2, a “new discharger” is defined as “any building, structure, facility, or installation: (a) From which there is or may be a ‘discharge of pollutants;’ . . . (c) Which is not a ‘new source;’ and (d) Which has never received a finally effective NPDES permit for discharges at that ‘site.’” (40 C.F.R. § 122.2.) A “new source” is defined as “any building, structure, facility, or installation from which there is or may be a ‘discharge of pollutants . . .’” that may be subject to applicable standards of performance under section 306 of the Clean Water Act. (40 C.F.R. § 122.2.) Thus, the Tentative Order may not authorize the development or redevelopment of any building or structure, including, without limitation, a new subdivision, industrial facility, or commercial structure, within the Copermittees’ jurisdiction, if runoff from the new discharge adds any pollutant to discharges from the MS4 that “will cause or contribute to the violation of water quality standards” for a water body impaired for that pollutant. Furthermore, the applicant for the permit must prove the availability of any exception to this provision, as set forth above.</p> <p>In <i>Friends of Pinto Creek v. U.S. E.P.A.</i>, the Ninth Circuit Court of Appeals vacated an NPDES permit issued by the U.S. EPA to a new discharger on the grounds that the Copermittees’ “discharge of dissolved copper into a waterway that is already impaired by an excess of the copper pollutant” would violate the CWA. (9th Cir. 2007) 504 F.3d 1007, 1011.) Citing 40 C.F.R. § 122.4(i), the court stated that “[t]he plain language of the first sentence of the regulation is very clear that no permit may be issued to a new discharger if the discharge will contribute to the violation of water quality standards.” (Id. at 1012.) The</p>	<p>We disagree with the commenter that the Tentative Order will authorize the discharge or pollutants from “new sources” or “new discharger” in violation of the CWA’s implementing regulations. The permit regulates the discharge from the existing MS4. While new development or redevelopment may change the characteristics of the discharge entering the MS4 and hence the receiving water, each new development or redeveloped area does not constitute a new source or discharge. Further, the current MS4 permit addresses pollutant loads through an iterative process. The Tentative Order has requirements for LID at new development and redevelopment priority development projects to meet water quality standards. Through the Tentative Order’s construction, existing development and education components, Copermittees must reduce storm water pollutants to the MEP and meet water quality standards for runoff discharges from new development and redevelopment projects that are not priority development projects.</p> <p>The case primarily relied on in this comment, <i>Friends of Pinto Creek v. USEPA</i>, 504 F.3d 1007, did not involve an MS4 permit. Rather, it involved an individual NPDES permit for an individual discharger discharging directly into a water of the United States. Here, NRDC asks that the Regional Board expand the holding of that case to prohibit discharges into an MS4 system. These are two very different contexts, as the regulatory scheme/NPDES permitting requirements for an MS4 system are distinct from that of an individual discharger discharging directly into federal waters. Thus, to the extent that <i>Friends of Pinto Creek</i> is factually, distinguishable from the current situation, the holding is not applicable to this permit.</p> <p>New buildings developments, and construction projects are not “new discharges” or “new dischargers” unless there is an associated “discharge of pollutants”. 40 CFR 122.2 defines “discharge of a pollutant” as “Any addition of any ‘pollutant’ ... to ‘waters of the United States’ from any ‘point source.’” Addition of pollutants onto surface area which is thereafter mobilized by surface runoff and drainage, or directly into surface runoff and drainage, that is thereafter channeled into a point source that ultimately discharges into waters of the United States is not in and of itself a discharge of pollutants into waters of the United States. In other words, the definition of “new discharge” or “new discharger” was not intended to reach each and every construction project that is up gradient of an MS4 permit. The various construction projects and restraints thereon in the construction and MS4 permits are not regulated directly as NPDES facilities under CWA section 402 subds. (a) and (b), but rather, under subds. (p)(2)(E) and (p)(3) because they may contribute pollutants to storm water that is discharged from a point source to waters of the United States—not because they are themselves point</p>

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court noted that a single exception to this rule exists where a TMDL has been performed, and the “new source can demonstrate that, under the TMDL, the plan is designed to bring the waters into compliance with applicable water quality standards.” (Id.) Thus, where no TMDL has been completed for a specified water body and pollutant, new discharges that add pollutants that will cause or contribute to a violation of water quality standards are prohibited absolutely. Additionally, the court in Friends of Pinto Creek observed that unless a TMDL explicitly provides that existing discharges into the impaired water body are “subject to compliance schedules designed to bring the segment into compliance with applicable water quality standards,” issuance of a permit for new discharge is also prohibited under 40 C.F.R. § 122.4(j). (Id. at 1013.) In effect, a permit for new discharges may not be issued, even when a TMDL for the relevant pollutant exists, unless it firmly establishes that “there are sufficient remaining pollutant load allocations under existing circumstances.” (Id. at 1012.)

source discharges of pollutants to waters of the United States. As such, the Friends of Pinto Creek case is not on point.

For the reasons set forth above, under the holding of Friends of Pinto Creek, the Regional Board is prohibited from approving a permit that allows new sources or dischargers of any pollutant to waterbodies already impaired by that pollutant, unless the Tentative Order demonstrates that an existing TMDL specifically provides sufficient waste load allocations for the discharge.

Even if a TMDL adopted by the Regional Board were to come into effect during the term of the Tentative Order, following the court’s holding in Friends of Pinto Creek, the permit could allow new dischargers or sources of pollutants to be approved only in the event that the applicable TMDL explicitly establishes that (1) existing discharges into the impaired water body are “subject to compliance schedules designed to bring the segment into compliance with applicable water quality standards,” and (2) additional allocations are available for the specified water body. (Friends of Pinto Creek, 504 F.3d at 1013.) Absent an approved TMDL in effect for a specific waterbody and meeting these conditions, there is no authority for the Regional Board to issue the Tentative Order. In order to be lawful, the Tentative Order must establish measures to ensure that stormwater discharges, from existing or future sources, do not cause or contribute to identified impairments, and the Tentative Order has not done so.

We stress that these concerns highlight the need for the Tentative Order to contain both clearly articulated performance standards for LID-based retention of stormwater onsite and strict limitations on the use of alternative compliance measures in order to address water quality problems associated with urban runoff. One critical means of ensuring that runoff from new sources or dischargers will not contribute additional pollutants to an impaired waterbody

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is to mandate the proper implementation of LID practices through the imposition of either an EIA standard or an equivalent onsite-retention standard.

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196	6	Overirrigation	B	<p>The Tentative Order fails to prohibit all non-stormwater discharges;</p> <p>Federal law requires that MS4 permits “shall include a requirement to effectively prohibit non-stormwater discharges into the storm sewers.” (33 U.S.C. § 1342(p)(3)(B)(ii).) However, the Tentative Order and Tentative Order Fact Sheet state that “the federal regulations . . . included a list of specific non-storm water discharges that ‘need not be prohibited.’” (Tentative Order Fact Sheet at 15.) This exception violates the clear language of the CWA and its implementing regulations. Section 402(p)(3)(B)(ii) of the CWA requires that permits for discharge from municipal sewers “effectively prohibit non-stormwater discharges,” 33 U.S.C. § 1342(p)(3)(B)(ii), and does not create any authorization for exemption of such discharges. The Tentative Order states that “[n]on-storm water discharges, per CWA 402(p)(3)(B)(ii) are to be effectively prohibited unless specifically exempted.” (Tentative Order, Finding C.14.) The Tentative Order states that the “following categories of non-storm water discharges are not prohibited unless a Copermittee or the Regional Board identifies the discharge category as a source of pollutants to waters of the U.S. For such a discharge category, the Copermittee must either prohibit the discharge category or develop and implement appropriate control measures to prevent the discharge of pollutants to the MS4 and report to the Regional Board pursuant to Section K.1 and K.3 of this Order.” (Tentative Order ¶ B.1.) However, section 402(p) places a clear, mandatory duty on the Copermittee to prohibit non-stormwater discharges to the MS4 system. The Copermittee, or Regional Board, has no discretion to deviate from this requirement. In ascertaining the meaning of a statute, construction must begin with the text. (Duncan v. Walker (2001) 533 U.S. 167, 172.) “If there is no ambiguity, then we presume the lawmakers meant what they said, and the plain meaning of the language governs.” (Day v. City of Fontana (2001) 25 Cal.4th 268, 272.) There is no ambiguity present in the CWA’s requirement that a permit “effectively prohibit nonstormwater discharges,” and the Tentative Order’s provision of categorical exceptions stands in clear violation of its terms.</p> <p>Neither the CWA, nor its implementing regulations under 40 C.F.R. §122.26(d)(2)(iv)(B)(1) allow exemptions from the prohibition against non-stormwater discharges, as the Fact Sheet implies. (Tentative Order Fact Sheet, at 10.) The regulations set forth the circumstances under which the Copermittee must specifically design a program to prevent certain illicit discharges: “the following category of non-storm water discharges or flows shall be addressed where such discharges are identified by the municipality as sources of pollutants to waters of the United States.” The cited regulation, providing for an enforcement program to “prevent illicit discharges,” does not support</p>	<p>The Regional Board contends that the exception language in 40 CFR 122.26(d)(iv)(B) and the Federal Register (55 Fed Reg 47995-47996 and 48037) is clear regarding exempted discharges and discharges covered under a separate NPDES permit.</p> <p>Please see response to Comment 199.</p>

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the construction, seemingly implemented by the Tentative Order, that certain specified categories of non-stormwater discharges “are not prohibited unless” they are identified as a source of pollution. (Tentative Order ¶ B.2.) Indeed, the interpretation adopted in the Tentative Order, allowing for categorical exemptions for non-stormwater discharges, is not found in the plain language of the regulation, and the Tentative Order’s provisions would place the regulations in direct conflict with the overlying statute. As written, the entire scheme of the Tentative Order is inconsistent with both the regulations and the statute that they purport to implement.

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197	6	Legal	General	<p>The Permit application does not include an assessment of the likely effectiveness of the control measures imposed.</p> <p>A permit application for discharge from a large- or medium-sized MS4 must contain an assessment of controls, including “[e]stimated reductions in loadings of pollutants from discharges of municipal storm sewer constituents from municipal storm sewer systems expected as the result of the municipal storm water quality management program.” (40 C.F.R. § 122.26(d)(2)(v).) Neither the application, the Tentative Order, the Tentative Order Fact Sheet, nor other supporting documents include any required information or other discussion of the amount of pollution that will be reduced through its controls. The approval of the Tentative Order without this information fundamentally violates basic precepts of administrative procedure, not only because required evidence in the record is lacking, but also because the findings and related subfindings in the record are therefore devoid of necessary guideposts as to why and how provisions were included or rejected. The Tentative Order does not provide sufficient evidence to demonstrate that the management practices included in the Tentative Order are adequate to meet relevant requirements and water quality standards.</p> <p>The U.S. EPA has previously released guidance purporting to “allow[] permitting authorities to develop flexible reapplication requirements that are site-specific.” (61 F.R. 41698.) However, nothing in the CWA’s implementing regulations permits such flexibility, and this or other guidance cannot reduce or remove the regulatory requirement that the Tentative Order include estimated reductions in pollutant loadings. It is axiomatic that where agency guidance is inconsistent with an unambiguous statutory scheme or its enabling regulations, the regulations must govern. (See, e.g., <i>Christensen v. Harris County</i> (2000) 529 U.S. 576, 588 (“To defer to the agency’s position would be to permit the agency, under the guise of interpreting a regulation, to create de facto a new regulation”); <i>Davis v. Florida Power & Light Co.</i> (11th Cir. 2000) 205 F.3d 1301, 1307 (rejecting agency policy guidance as inconsistent with its overlying statutory scheme).) In order for the Tentative Order application to meet the requirements of the CWA, the Tentative Order must include an estimate of the pollutant load reduction that it is expected to achieve.</p> <p>Even if the guidance were not in direct conflict with the regulations, the guidance does not in itself specifically exempt permits from including this information. The guidance states that “as a practical matter, most first-time permit application requirements are unnecessary for purposes of second round MS4 permit application;” it does not state that all such information is unconditionally unnecessary. (61 F.R. 41698 (emphasis</p>	<p>The USEPA published an Interpretive Policy Memorandum on Reapplication Requirements for Municipal Separate Storm Sewer Systems (MS4s), (40 CFR Part 122; Federal Register, Volume 61, Number 155). The memorandum explains that MS4 permit applicants and NPDES permit writers have considerable discretion to customize appropriate and streamlined reapplication requirements in subsequent term permits. The memorandum states that “The MS4 permit application requirements at 40 CFR 122.26(d)(1) and (2) apply to the first round permit applications required of large and medium MS4s. The permit application deadline regulations in 40 CFR 122.26(e) (3) & (4) clearly reflect the “one time” nature of the Part I & II application requirements for large and medium MS4s.” The Memorandum rhetorically asks “Are Initial MS4 Permit Application Requirements Applicable To Permit Reapplication?” and definitively answers “No.” Nevertheless, the Report of Waste Discharge submitted by the Copermittees did include an effectiveness assessment of their program. Several program measures do not provide a direct assessment of pollutant load reduction, (e.g. education, fiscal analysis). Some program measures such as street sweeping and trash collection do provide a direct assessment of assumed pollutant load reduction and that information is included in the Report of Waste Discharge. Where the commenter does not agree with the USEPA guidance, the commenter should contact USEPA.</p>

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added).) The omitted pollutant reduction estimates represent a fundamentally different type of information from that required by most of the other provisions of 40 C.F.R. § 122.26(d)(2), such as identifying already identified “major outfalls,” for which repeating the exercise “would be needlessly redundant,” especially “where it has already been provided and has not changed.” (61 F.R. 41698.) Instead, the required pollutant load reduction estimates are self-evidently relevant to crafting and assessing the core requirements of the new permit. Such estimates are an essential means of determining whether or not the permit will ensure that water quality standards will be met and what improvements can be expected; they are not merely an administrative detail that has no effect on the permit’s functionality.

The missing information is further indispensable when, as here, the Tentative Order and the provisions included in it represent a substantial change from the previously adopted Permit. Indeed, the Tentative Order itself notes that “[t]he Order contains new or modified requirements that are necessary to improve Copermitees’ efforts to reduce the discharge of pollutants in runoff to the MEP and achieve water quality standards.” (Tentative Order, Finding D.1.c.) Given changes from the prior Permit, the necessity of basing the Tentative Order on information about its estimated efficacy should be clear. The Tentative Order and application must be revised to include the required estimates.

Comment No.	Commenter	Subject	Section	Specific Comment	Comment Response
198	6	LID	F.1.	<p>The Tentative Order fails to set a specific numeric performance standard for the implementation of LID at Priority Development Projects. As a result, provided that a project installs some de minimis LID features, it would comply with the Tentative Order. In effect, LID features would not have to be sized to accommodate any meaningful quantity of stormwater. This is completely contrary to the exhortations of expert agencies and scientists, as described above, or the standard now adopted by the Los Angeles Regional Water Quality Control Board for Ventura County.</p> <p>The specific provisions that fail to establish the necessary, numeric performance standard are the “Low Impact Development Site Design BMP Requirements,” which were revised in the current draft. (Tentative Order ¶ F.1.d.(4)(a).) These provisions merely state that “[e]ach Copermittee must require LID storm water practices or make a finding of infeasibility for each Priority Development Project.” (Tentative Order ¶ F.1.d.(4)(a)(i).) Nowhere in this section, however, or anywhere in the Development Planning Component is there a requirement that establishes a level of implementation for LID practices. Indeed, the closest thing to a numeric performance standard is the section on “Treatment Control BMP Requirements,” which merely mirrors the SUSMP criteria of the State Board’s Bellflower decision.¹⁷ (Tentative Order ¶ F.1.d.(6).) These are not referenced or included as a numeric performance standard in the LID provisions, though, which contain instead the various vague requirements listed above. In terms of requiring onsite retention through LID implementation, the Tentative Order is far from meeting the MEP standard because the Tentative Order merely mandates that “[t]he review of each Priority Development Project must include an assessment of techniques to infiltrate, filter, store, evaporate, or detain runoff close to the source of runoff.” (Tentative Order F.1.d.(4)(a)(iv).) This amounts to no requirement at all for onsite retention.</p> <p>The Tentative Order should state: Copermittees must require that each Priority Development Project retain onsite— through infiltration, evapotranspiration, or harvesting and reuse—the design storm volume listed in Section F.1.d.(6)(a)(i). Onsite retention standards of this form are becoming prevalent across the country, as discussed below, and since their implementation is not only feasible, but will result in better stormwater pollution reduction, the Permit cannot meet the Clean Water Act’s MEP standard without such a performance requirement. As currently written, the Tentative Order’s provisions do no more than encourage the implementation of some, non-hydraulically-sized LID features—just as the last draft of the permit did.</p>	<p>The Tentative Order's requirements regarding the implementation of low impact development practices has been changed to be consistent with Region 8's recently adopted MS4 permit.</p> <p>The state's water quality protection requirements within the Tentative Order are authorized by Federal Law, are necessary to meet the federal MEP standard, and are not unfunded mandates. Please see comments #155 and 165.</p>

Comment No.	Commenter	Subject	Section	Specific Comment	Comment Response
199	6	NEL	C	<p>In an attempt to “assure non-storm water dry weather discharges from the Orange County MS4 into receiving waters are not causing, threatening to cause or contributing to a condition of pollution or nuisance and to protect designated Beneficial Uses,” (Tentative Order ¶ C.1), the Tentative Order incorporates “Non storm water dry weather TMDLs . . . in this Order as QBELs.” (Tentative Order Fact Sheet, at 21.) Generally speaking, we approve of the Regional Board’s use of numeric limits to assure that water quality standards are met, and of including provisions that Copermittees must monitor progress toward and attain numeric standards for discharges from the MS4 system. While this provision represents a positive step toward preventing illicit discharges of non-stormwater to the MS4 system, the appropriate means of implementing the requirements of section 402(p) is not through the use of “dry weather TMDLs,”⁵⁴ but by effectively prohibiting discharges of non-stormwater altogether. To the extent that the Regional Board will incorporate numeric limitations on pollutants in non-stormwater discharges, Section C must, at a minimum, be revised to assure that the permit does not allow for non-stormwater discharges containing any quantity of pollution to occur, as opposed to only prohibiting those discharges that exceed the numeric limits. The Tentative Order states that Copermittees “shall monitor for and attain the non-storm water dry weather numeric limits” incorporated into the Order as a means of compliance. (Tentative Order ¶ C.5.)</p> <p>Under 40 C.F.R. § 122.26(d)(2)(iv)(B)(1), the Tentative Order must prohibit the discharge of any pollutant in non-stormwater discharges to waters of the United States, not just pollutants that exceed the numeric standards identified in Section C. In order to avoid confusion, the language of Section C must be revised to explicitly state: (1) that compliance with the Tentative Orders’ numeric limitations does not constitute compliance with the CWA’s requirement that nonstormwater discharges be “effectively prohibit[ed],” or (2) that categories of non-stormwater discharge which the Regional Board believes are exempt from this prohibition may not discharge any pollutants, regardless of whether they exceed numeric limitations. Though we question the Regional Board’s authority to exempt any categories of nonstormwater discharge from section 402(p)’s prohibition against discharges to the MS4 system, we note with approval the Tentative Order’s decision to remove landscape irrigation, irrigation water and lawn watering from the list of exempt discharges, effectively prohibiting discharge from these sources. (Tentative Order ¶ B.2.) Lawn irrigation has been identified as a “hot spot” for nutrient contamination in urban watersheds—lawns “contribute greater concentrations of Total N, Total P and dissolved phosphorus than other urban source areas . . . source research suggests that nutrient concentrations in lawn runoff can be as much as four times greater than other</p>	<p>Language in the Tentative Order has been updated to reflect that all non-storm water discharges are prohibited unless specifically exempted and not a source of pollutants to waters of the United States. This language has been modified to clarify that compliance with non-storm water numeric limits does not exempt Copermittees from effectively prohibiting non-storm water discharges that are not exempt or covered under a separate NPDES permit (see response to Comments 11, 41 and 77).</p> <p>The Regional Board does not agree that all non-storm water discharges are required to be effectively prohibited, as under 40 CFR 122.26(d)(iv)(B) certain categories of pollutants are exempt from the effective prohibition requirement and need not be addressed unless identified as a source of pollutants (see also 55 Fed Reg 47995-47996 and 48037). The Regional Board expects any non-compliance with non-storm water numeric effluent limits to result in the following: identification of illicit discharges, exempted categories that need to be addressed, and/or NPDES permit(s) that have discharge into the MS4 that is/are not meeting discharge requirements.</p>

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urban sources such as streets, rooftops or driveways.” 55 Given the strong evidence that these discharges are consistent sources of pollution to the MS4 system and waters of the United States within the Copermittees’ jurisdictions (see Tentative Order Fact Sheet at 5, 8-13, 22), we strongly support the Regional Board’s decision in this regard. In total, the Tentative Order’s approach does not uphold the CWA’s mandate that Copermittees “effectively prohibit non-stormwater discharges into the storm sewers.” (33 U.S.C. § 1342(p)(3)(B)(ii).) Given the evidence that pollution from non-storm discharges constitutes a serious and ongoing problem in receiving waters under the jurisdiction of the Copermittees, we underscore that, as with our comments in Section IV, these concerns emphasize the need for LID-based, onsite stormwater retention requirements, since these approaches will reduce nonstormwater runoff from new development to zero when properly implemented.

Comment No.	Commenter	Subject	Section	Specific Comment	Comment Response
200	7	General	General	<p>During the last public hearing on the Draft Permit, in February, 2008, the SDRWQCB Board directed Board Staff to revise the permit to achieve greater consistency with Phase I MS4 permits throughout the state, and to provide stakeholders and the regulated community with a meaningful opportunity to assist in the development of the revisions. Unfortunately, the Draft Permit was released without cooperative input from the regulated community prior to its release and, more significantly, is entirely inconsistent with other Large MS4 Permits issued throughout the state.</p> <p>Indeed, a brief comparison of the Draft Permit with the North Orange County MS4 Permit that is likely to be adopted by the California Regional Water Quality Control Board, Santa Ana Region ("SARWQCB") on May 22, 2009, reveals that there is a significant disparity between the two permits. The North Orange County MS4 Permit is of particular concern because many of the Copermittees, including the City, are subject to both the North Orange County Permit, and the Draft Permit. Inconsistencies between the two permits create bureaucratic hurdles that cost the City time and valuable resources. Furthermore, the conspicuous disparity between the permits are likely to cause confusion among the public, and discourage public acceptance and participation in clean water efforts.</p> <p>In addition to the consistency issues, the Draft Permit largely conflicts with guidance from the State Water Resources Control Board ("State Board") and the United States Environmental Protection Agency ("EPA"). This deviation from agency guidance, and industry practice is most stark in the Draft Permit's Numeric Effluent Limits ("NEL") and Municipal Action Level ("MAL") requirements. As described more fully below, these aspects of the Draft Permit exceed the standards for municipal discharges set forth in the Clean Water Act and/or completely ignore State Board studies on whether such provisions can be feasibly implemented in MS4 permits. The City's specific comments on the Draft Permit follow.</p>	Please see response to Comments 24, 25, 33 and 39.

Comment No.	Commenter	Subject	Section	Specific Comment	Comment Response
201	7	NEL	C	The Draft Permit attempts to impose a higher compliance standard for dry weather discharges. Pursuant to this heightened standard, the Draft Permit imposes NELs for dry weather discharges from the MS4. The Draft Permit states that this heightened standard is warranted because the Clean Water Act requires MS4 permits to prohibit discharges of non-stormwater, and dry weather flows constituted non-stormwater. The Clean Water Act clearly defines the discharge requirements for MS4 permits. Pursuant to the Clean Water Act, NPDES permits may be issued on a system or jurisdiction-wide basis, and must include a requirement to effectively prohibit nonstormwater discharges into the storm sewer, and must require controls to reduce the discharge of pollutants from the storm sewer to the maximum extent practicable. (33 U.S.C. § 1342(p)(3)(B).) The Clean Water Act does not distinguish between wet weather and dry weather discharges, and thus does not support a heightened standard for discharges of non-stormwater from MS4s.	Please see response to Comment 39.
202	7	NEL	C	Moreover, the NELs in the Draft Permit directly conflict with the findings of the State Water Resources Control Board's ("State Board") Blue-Ribbon Panel Report on the feasibility of numeric effluent limits in MS4 permits. After an exhaustive investigation into the feasibility of numeric effluent limits and action levels, the Blue Ribbon Panel found "[i]t is not feasible at this time to set enforceable numeric effluent criteria for municipal BMPs and in particular urban discharges." (Blue Ribbon Panel Report, pp. 8.) Nonetheless, the Draft Permit includes NELs for dry weather flows. When this inconsistency was brought to the attention of Regional Board staff, it was dismissed on the grounds that the Blue Ribbon Panel report applied only to wet weather flows. As stated above, the Clean Water Act makes no such distinction.	Please see response to Comment 25.
203	7	Legal	C	While the SDRWQCB may have the authority to impose restrictions in Waste Discharge Requirements that exceed the requirements of the Clean Water Act, when imposing such restrictions, the SDRWQCB must comply with applicable State laws. (City of Burbank v. State Water Resources Control Board (2005) 35 Cal.4th 613; see also Defenders of Wildlife v. Brown (9th Cir. 1999) 191 FJd, 1159, 1166.) These include but are not limited to the California Environmental Quality Act, and Water Code sections 13241 and 13000. The Draft Permit does not comply with these requirements. Imposing NELs in the Draft permit will result in numerous unintended consequences, including the possibility that the Copermittees will be held liable for mandatory minimum penalties for exceeding the NELs. For that reason, the City requests that the SDRWQCB remove the NEL requirements from the Draft Permit.	NELs do not exceed the requirements of section 402 of the Clean Water Act. Nonetheless, the Board will consider any economic information that is submitted. Please see response to Comments 39, 41, 42, 43, 79, 81, 82, and 155.

Comment No.	Commenter	Subject	Section	Specific Comment	Comment Response
204	7	MAL	D	<p>The Draft Permit includes MALs. Pursuant to the Draft permit, beginning in the fourth year after adoption of the permit, discharges from the MS4 that exceed the MALs create a presumption that the permittee is not complying with the Maximum Extent Practicable ("MEP") standard. In other words, the permittee would be presumed to be in violation of the permit. The decision to include MALs in the Draft Permit ignores guidance from the State Board and the EPA, as well as the MS4 Permits adopted by other Regional Boards. The MALs in the Draft Permit directly conflict with the State Board's Blue-Ribbon Panel Report findings. The MALs recommended by the Blue Ribbon Report were to be used as a management tool to indicate when additional Best Management Practices ("BMPs") are necessary, not a point of compliance. In contrast, the MALs in the Draft Permit are tied to MEP compliance and as a result are effectively NELs. As stated above, the Blue Ribbon Panel found that NELs for municipal BMPs and urban discharges are not feasible. By imposing NELs by a different name, the Draft Permit flatly ignores the Blue Ribbon Report's recommendations.</p>	Please see response to Comment 33.
205	7	MAL	D	<p>Additionally, the Draft Permit's attempt to tie compliance with the MEP standard to non-compliance with MALs is not supported by the Clean Water Act. The MEP standard is designed to allow the Copermitees flexibility to implement effective and feasible BMPs to address stormwater pollution. This interpretation of the MEP standard is supported by the EPA. (See 64 Fed. Reg. 68721,68754 (Dec. 8, 1999) ["EPA has intentionally not provided a precise definition of MEP to allow maximum flexibility in MS4 permitting. MS4s need the flexibility to optimize reductions in stormwater pollutants on a location by- location basis"].) It is also endorsed by the State Board. (State Water Board Order WQ 2000-11 at p. 20 ["MEP requires permittees to choose effective BMPs, and to reject applicable BMPs only where other effective BMPs will serve the same purpose, the BMPs would not be technically feasible, or the cost would be prohibitive"].)</p>	Please see response to Comment 33.
206	7	MAL	D	<p>Defining MEP compliance with a single MAL standard violates the intent of the Clean Water Act to give the municipal permittees the discretion and flexibility to do use BMPs to prevent and/or treat discharges from their MS4s. This is the approach taken by the other Regional Boards in Southern California when issuing MS4 Permits. Neither the recently adopted Ventura County Large MS4 Permit, nor the North Orange County Large MS4 Permit includes NELs or MALs.1 The Draft permit should reflect the national and statewide guidelines on MALs. For that reason, the SDRWQCB should either revise the Draft Permit to meet the recommendations from the Blue Ribbon Panel, or remove the MALs from the Draft Permit.</p>	<p>Please see response to Comment 33.</p> <p>Please note that regardless of the permit elements included or excluded from other Regional Board's MS4 permits, the San Diego Regional Board may include or exclude permit requirements as it deems necessary by State and federal law. For further, discussion please see response to Comment 24.</p>

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207	7	Urban Runoff	General	<p>The Draft permit has removed the word "urban" from everywhere it formerly modified the word "runoff". This universal change suggests that the Copermittees are responsible not just for urban runoff, but all runoff. Holding the Copermittees to this heightened standard exceeds the jurisdiction and intent of the Clean Water Act.</p> <p>MS4 Permits are NPDES Permits. Pursuant to the Clean Water Act, NPDES permits regulate point source discharges. By definition, agricultural discharges are not point sources, even when they are discharged from a conveyance that would meet the definition of a point source. By removing the term "urban" from the Draft permit, the Draft Permit would hold the Copermittees liable for agricultural and other non-point source discharges that enter and exit their MS4. Because agricultural discharges are not point sources, they are not subject to regulation with NPDES permits. Attempting to include agricultural discharges in the Draft Permit therefore exceeds the Clean Water Act's jurisdiction.</p> <p>The history of the Clean Water Act demonstrates that it was intended to regulate urban runoff rather than agricultural sources and other non-point discharges. Indeed, when issuing the MS4 Permit regulations in 1990, EPA stated, "it is the intent of EPA that [stormwater] management plans and other components of the programs focus on the urbanized and developing areas of the county." (55 Fed. Reg. 47989, 48041 (Nov. 16, 1990).) The urban discharge focus is reflected in the San Diego Region Basin Plan which discusses the problem of stormwater runoff in terms of urbanization and cites to EPA Guidance limiting regulation of stormwater to urban sources. (See San Diego Basin Plan, pp. 4-78, 4-79.) There is simply no support for the Draft permit's attempt to expand the scope of regulation by adding additional sources of regulated discharges.</p> <p>By removing the term "urban" from the Draft Permit, the SDRWQCB has potentially enlarged the scope of regulation to include agricultural discharges, other traditional nonpoint source discharges, and naturally occurring pollutant discharges. As stated above, regulation of these discharges is not within the scope of the Clean Water Act.² The City therefore requests that Draft Permit be revised to make clear that it only pertains to "urban" discharges.</p>	Please see response to Comment No. 47.
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Comment No.	Commenter	Subject	Section	Specific Comment	Comment Response
208	7	Retrofitting	F.3.	<p>Section FJ.d of the Draft Permit requires the Copermittees to develop a plan to retrofit existing development within their jurisdiction. Specifically, each permittee must implement a retrofitting program that:</p> <ul style="list-style-type: none"> • Solves chronic flooding problems, • Reduces impacts from hydromodification, • Incorporates Low Impact Development ("LID") principles, • Supports stream restoration, • Systematically reduces downstream channel erosion, • Reduces the discharges of stormwater pollutants from the MS4 to the MEP, and • Prevents discharges from the MS4 from causing or contributing to a violation of water quality standards. <p>These requirements are inconsistent with other recently issued MS4 Permits. More importantly, they are infeasible. While the Copermittees have traditional land use authority to impose requirements on new development as a condition of development, there is no similar authority to require property owners to retrofit existing development. The Draft Permit ignores this lack of authority and goes as far as to require the Copermittees to identify existing developments that are sources of pollutants and then evaluate and rank them to prioritize retrofitting. (Draft Permit, section FJ.d(1)-(2).) Additionally, because the City has limited authority to impose retrofit requirements on existing development within its jurisdiction, the Draft Permit's retrofit provisions will result in an allocation of resources that is not likely to benefit clean water. For example, the City will be required to dedicate significant resources and time to identify and inventory existing sites and then complete evaluations and prioritization of these sites for retrofits. These intensive activities will divert resources, time, and funding away from other vital permit related programs.</p> <p>Because the Copermittees have little authority to implement the Draft permit's existing development retrofit requirements, the City requests that they be removed from the Draft Permit.</p>	Please see response to Comments 46, 136 and 162.

Comment No.	Commenter	Subject	Section	Specific Comment	Comment Response
209	7	Overirrigation	B	<p>The Draft Permit has eliminated irrigation water as an exempt discharge. The federal stormwater regulations include a list of categories of "exempt" non-stormwater discharges or flows. (40 CFR 122.26(d)(2)(iv)(B)(1).) The Copermittees' illicit discharge and illegal disposal program must address these discharges or flows when they have been identified by the Copermittees as sources of pollutants to waters of the U.S. (Id.) Where individual sources of discharge are identified they need to be addressed on an individual basis. This approach is supported by the EPA. (See Part 2 Guidance Manual at p. 6-33.)</p> <p>This is a sound approach to addressing pollutants in irrigation water. While irrigation runoff may act as a conveyance of pollutants in some instances, whether it is a conveyance of pollutants needs to be evaluated on an case by case basis. This is because the tendency of irrigation water to convey pollutants is dependant on the pollutants and the source of those pollutants. Moreover, many of the pollutants that may be conveyed by irrigation overflows are naturally occurring, are regulated by the State under different permits or programs, or are diffuse and uncontrollable by the Permittees. Potable irrigation water itself is not a pollutant. Therefore, it is inappropriate to regulate irrigation runoff as a pollutant.</p>	Please see response to Comment no.s 28, 52, 75, and 174.
210	7	Overirrigation	B	<p>Furthermore, enforcing discharges of potable irrigation water from residential homes presents numerous challenges for the City. Residents without a significant water quality background are unlikely to agree that potable irrigation water is a pollutant. This will discourage public acceptance and participation in the water quality program, a program whose foundation is outreach and public education.</p>	Please see response to Comment #s 28, 52, 75, and 174.
211	7	Overirrigation	B	<p>Lastly, it is also important to recognize that irrigation runoff is a significant water supply issue. The City, the other Copermittees, and water districts throughout the region are working toward limiting excessive irrigation runoff through numerous water conservation programs and ordinances. Therefore, reduction of irrigation runoff will be achieved through other means, and does not need to be regulated in the Draft Permit. Regulation as a water supply issue has the added benefit of public acceptance and participation in conservation programs. This will allow the benefits of fewer irrigation overflow discharges to occur without undennining public support for the City's water quality program. The City therefore requests that the exemption for landscape irrigation be restored.</p>	<p>Please see response to Comment #s 28, 52, 75, and in particular 174.</p> <p>It is our expectation that removal of the exemption to improve water quality will work in concert with conservation efforts aimed at source control. Data discussed recently at the Water Conservation Summit (http://www.waterconservationsummit.com/ReTHINK_Water_-_Maureen_Stapleton.pdf) clearly indicate that voluntary actions are not enough to reach the conservation needed by the water districts. Therefore, it is not accurate to state public acceptance and participation has been sufficiently achieved for water conservation.</p>

Comment No.	Commenter	Subject	Section	Specific Comment	Comment Response
212	7	SUSMP	F.1	Draft Permit Section D.I.f. requires Copermittees to maintain a watershed based database to track and inventory approved treatment control BMPs. It additionally requires Copermittees to verify, on an annual basis, that the BMPs are being maintained and operated effectively. Compliance with this section will require a significant commitment from Copermittee staff, and may require the addition of staff. The value of the outlay of funds that compliance with this section will require is questionable in comparison to the overall benefit to stormwater quality. This section should be removed, or the Permit should be revised to allow for inspection and verification on an as needed basis.	This permit provision is necessary due to findings from audits of the Copermittees and recommendations from USEPA. The permit section requires that the Copermittees inspect at least the high priority post-construction BMPs annually and gives latitude to the Copermittee in deciding what post-construction BMPs are a high priority. The Copermittees may employ other less costly measures, such as self certifications, for low and medium priority BMPs. The Copermittees latitude in determining high priority BMPs and the use of measures other than inspections for other priority BMPs gives the Copermittees the flexibility needed to comply with this provision within their existing programs and constraints.
213	7	Hydromod	F.1.	During preparation of the Fourth Draft of the North Orange County Permit, the land development provision of the permit were the subject of a series of stakeholder meetings and subsequent comments by the EPA. These sections of the SARWQCB permit containing the land development provisions were revised and are currently scheduled for consideration of adoption by the SARWQCB on May 22,2009. The City requests that SDRWQCB staff include the same or very similar land development provision within the SDRWQCB Draft Permit to facilitate consistency and feasible implementation between the two regions within Orange County. As state above, this issue is very important to the City as it will be required to implement both programs within its jurisdiction. The North Orange County Permit's development provisions are more flexible than those currently included in the Draft Permit. It was nonetheless accepted by the EPA, the Copermittees, the building industry, and interested environmental groups. Those provisions represent mutually agreeable design standards that should be adopted in the Draft Permit.	<p>The language in section F.1.h describing the hydromodification management requirements have been substantially revised. Nevertheless, the requirements are not identical to the hydromodification management requirements described in Order No. R8-2009-0030.</p> <p>The requirements described in the Tentative Order are more stringent than Order No. R8-2009-0030 because they require that the Copermittees develop a Hydromodification Management Plan (HMP) to identify a range of flow rates and durations that will result in increased potential for erosion, and also implement hydrologic controls measures to mitigate for such flows. Under Order No. R8-2009-0030, the Copermittees must ensure that post-project hydrograph mimics the pre-project hydrograph for a 2 year frequency storm event. Because the range of flows to be controlled under the Tentative Order will likely include larger storms than the 2 year frequency storm event, the Copermittees regulated under the Tentative Order are likely to automatically comply with Order No. R9-2008-0030.</p> <p>Please see response to Comment No. 4 for a discussion of LID requirements that are substantially similar to those required by Region 8.</p>

Comment No.	Commenter	Subject	Section	Specific Comment	Comment Response
214	7	Existing Development	F.3.	<p>Draft Permit Section D.3.a.(5) requires Copermittees to design and implement a street sweeping program based on criteria which includes optimizing the pickup of "toxic automotive byproducts" based on traffic counts. Although the Permit does not specify what pollutants it is trying to capture, one can only assume that this provision is aimed at commonly utilized automotive products such as oil, gasoline, transmission fluid, brake fluid, brake dust and radiator fluids. Because the term is not defined, however, it could be broad enough to include air-deposited byproducts of combustion. Street sweeping, and street sweepers in general, were not designed to be the primary means of collecting these by-products. It is therefore unlikely that street sweeping will be effective at collecting many of them, including any liquids that have soaked into the pavement. Additionally, whether such by-products are deposited on a given street is not necessarily a function of the traffic volume on that street. There does not appear to be a direct correlation between traffic counts and the effectiveness or need for street sweeping. There are other pollutants such as litter, debris, and grass clippings etc. that could be detrimental to stormwater quality that are de-emphasized by the Permit's focus on traffic counts. This section should therefore be revised to both specify the types of pollutants the Copermittees should be seeking to reduce with their street sweeping programs, and to provide the Copermittees with the discretion to utilize street sweeping in a manner that maximizes its effectiveness.</p>	<p>This comment is a repeat comment previously raised by the City of Lake Forest, City of Laguna Hills, City of Aliso Viejo, City of Dana Point and County of Orange in regards to a previous version of the Tentative Order (R9-2007-0002). The section protested by the City of Lake Forest (D.3.a.5 for "toxic automotive byproducts") was removed in the July 06, 2007 Response to Comments. The requirement has not been present in Tentative Orders R9-2008-001 or R9-2009-002. Thus, the requested change was made almost two years ago and further changes are not warranted.</p>

Comment No.	Commenter	Subject	Section	Specific Comment	Comment Response
215	7	Existing Development	F.3	<p>The North Orange County permit, which the City will also be required to implement, no longer includes a mobile business tracking requirement. Instead, the North Orange Permit requires the County, as the principle permittee to develop a program over the next permit term that could be implemented by all of the Copermittees. This approach is preferable to the language in the Draft Permit because it gives the Copermittees the flexibility to develop a program they mutually agree upon.</p> <p>For that reason, the City requests that the SDRWQCB either remove the mobile business provisions from the Draft Permit, or replace them with language similar to that in the North Orange County permit. Draft Permit Section F.3.b.(3) requires the Copermittees to develop and implement a program to reduce the discharge of pollutants from various types of mobile businesses. This section requires Copermittees to develop a listing of mobile businesses, and requires the Copermittees to develop and implement a number of measures to limit the discharge of pollutants from them. As a practical matter, these requirements will be very difficult to enforce for the following reasons:</p> <ol style="list-style-type: none"> 1. What constitutes a mobile business is not well defined; 2. Mobile businesses operate in multiple jurisdictions and cannot be tracked as to time and place; 3. Mobile businesses may operate on private property out of the City's view; and 4. Additional staff time will be required to roam the City looking for mobile businesses. <p>The Fact Sheet that the SDRWQCB has issued in support of the Permit states that the Permit has targeted mobile businesses for special attention because the Copermittees reported that discharges from such businesses have been difficult to control with existing programs. Rather than finding a solution for this problem, the Permit directs Copermittees to implement a number of non-descript solutions that will not necessarily make regulation of mobile businesses any easier. The SDRWQCB should therefore revise this section of the Permit to provide the Copermittees with the discretion to focus on mobile sources when they feel it is necessary, or if they identify mobile businesses as a significant source of stormwater pollution within their jurisdiction.</p>	<p>Please see response to Comment 24, 29 and 256.</p> <p>Due to the nature of mobile businesses, it is unclear why the Copermittees should "focus on mobile sources when they feel it is necessary, or if they identify mobile businesses as a significant source of stormwater pollution within their jurisdiction". Mobile businesses should be focused upon for illicit discharges as part of the IC/ID program at all times, and should implement BMPs to reduce pollutants in storm water to the MEP. It is unclear how the Copermittees would distinguish what constitutes necessity and when a mobile business is a significant source of pollutants.</p>

Comment No.	Commenter	Subject	Section	Specific Comment	Comment Response
216	7	General	H	<p>Draft Permit Section F. requires the Copermittees to conduct an annual fiscal analysis of the capital, operation, and maintenance expenditures necessary to implement the Permit's requirements. This section additionally requires each analysis to "include a qualitative or quantitative description of fiscal benefits realized from implementation of the stormwater protection program." A review of the Fact Sheet indicates that the Permit is requiring the Copermittees to conduct an economic benefits analysis of their respective stormwater programs.</p> <p>This requirement is unnecessarily duplicative. As described in the Report of Waste Discharge, the Copermittees have already committed to develop a fiscal reporting strategy to better define the expenditure and budget line items included in the fiscal report. Furthermore, the SDRWQCB is already required to take the economic benefits and burdens of their actions into account when issuing stormwater permits. (See City of Burbank v. State Water Resources Control Board (2005) 35 Cal.4th 613; and California Water Code § 13263.) Requiring the Copermittees duplicate these requirements is a waste of resources that could be better spent on implementing other Permit provisions.</p> <p>Accordingly, this section should be modified to encourage rather than require the Copermittees conduct such an analysis.</p> <p>This section of the Permit additionally requires each Copermittee submit a business plan that identifies a long term funding strategy for program evolution and funding decisions.</p> <p>The Copermittees do not always have information on the future sources of funding as it is not often readily available. This makes production of such a document difficult. The SDRWQCB does not need to know the funding sources for each Copermittee's stormwater program. Requiring such a report is overreaching in a manner that will unnecessarily cost the Copermittees additional time and resources. This section of the Permit should therefore be modified to encourage rather than require the Copermittees develop a business plan.</p>	<p>Section H has been expanded in order to develop more useful and meaningful fiscal reporting. Please see response to Comment Nos.141 and 142. In regards to the Copermittees assertion that they have proposed a similar program in their Report of Waste Discharge, that document is not a binding or enforceable document. When drafting the Tentative Order, the permit writers consider the information provided in the Report of Waste Discharge by the Copermittees. The ad hoc funding of storm water programs in some jurisdictions may lead to Permit non-compliance. This requirement will improve the long-term viability of storm water programs and thus Permit compliance leading to better protection of water quality standards. The difficulty in providing information on the future sources of funding would only be where that funding has not been identified. Not identifying future funding for the storm water program puts in jeopardy in multi year planning and implementation for projects (structural and non-structural) that are needed to reduce pollutants in storm water discharges to meet water quality standards.</p> <p>Please note that the Business Plan requirement (H.3) has been removed from the Tentative Order.</p>

Comment No.	Commenter	Subject	Section	Specific Comment	Comment Response
217	7	unfunded mandate	General	The Draft Permit includes numerous requirements that exceed the requirements of federal law. While the SDRWQCB has the authority to include such requirements in the Draft Permit, it must comply with the statutory requirements set forth in the California Porter Cologne Water Quality Control Act. (City of Burbank v. State Water Resources Control Bd. (2005) 35 Cal. 4th 613.) This includes making the findings required by Water Code sections 13000, 13241 and 13263. Additionally, as these requirements represent state, rather than federal, mandates, if they are included the final permit, the Copermittees are entitled to reimbursement from the State for the costs associated with implementing them. (California Constitution, Article XIII B, § 6.)	The state's water quality protection requirements within the Tentative Order are authorized by Federal Law, are necessary to meet the federal MEP standard, and are not unfunded mandates. Please see comments #155 and 165.
218	8	ASBS	B	The City of Laguna Beach has reviewed the language pertaining to ASBS in the Tentative Order and suggests removing #5 from page 18 and #5 from page 20. The City is not opposed to using ASBS drainage as criteria for identifying LID retrofit opportunities as seen on page 66 of the Tentative Order. Possible alternative language in place of the deleted text may read: "Dry and we weather discharges into ASBS or SWQPAs are separately regulated by the State Board" The City feels that adding an ASBS discharge prohibition to the permit is not necessary because the ASBS discharge prohibition is covered in much more detail by the (draft)"Special Protections for Selected Storm Water and Nonpoint Source Discharges into Areas of Special Biological Significance" issued by the State Board. Having two branches of the same agency regulating the ASBS is simply an extra burden on City and State personnel with no measurable water quality benefit. Laguna Beach has focused water quality control and storm water BMP efforts in the Heisler Park ASBS over the past several years and has achieved measureable results. The ASBS language in the permit is not necessary to further these efforts. Since the City faces enforcement actions from the State Board for illegal discharges outside the NPDES permit, the City requests the deletions noted above.	The Regional Board has removed ASBS/SWQPA language from the tentative Order. Please note ASBS/SWQPAs, like all water bodies, remain subject to receiving water limitations and discharge prohibitions under the Tentative Order.

Comment No.	Commenter	Subject	Section	Specific Comment	Comment Response
219	9	Existing Development	B	<p>Federal and state laws require that commercial buildings install fire suppression systems the majority of which include standard ceiling sprinklers. These systems are seldom used, resulting in water typically sitting in piping for five years, or until required testing results in its discharge. During that time, harmful pollutants such as chemicals, rust, oils, disease-causing agents, nitrates, minerals and bacteria build up in the standing water and are discharged onto open surfaces and into storm drains. It has been estimated that sprinkler technicians flush about 2.35 gallons of water per square foot through piping during testing. California has roughly 460,000 to 550,000 commercial buildings containing between 6.6 billion to 7.0 billion square feet of space (based on extrapolations from the Energy Information Administration report Overview of Commercial Buildings 2003). At 2.35 gallons per square foot, about 2.9 billion to 3.2 billion gallons of polluted water are discharged from buildings every year. The vast majority of this amount drains into our oceans and waterways while the remainder is left to percolate into the water table, a source of fresh water for many cities.</p> <p>Several California municipalities, in compliance with Federal Clean Water Act and the NPDES, require sprinkler technicians to capture polluted fire sprinkler discharge at the source and to transport it to purification centers. Moreover, there are other emerging developments that are more portable, easier to use and capable of processing water at the source. They include the newly developed portable water cleaning process of Hydro(gen) Innovations Inc. and Abtech Corporation's Smart Sponge called the EcoSmart Filter which is used in draining maintenance.</p> <p>Given that there are newer technologies and easier means for fire sprinkler companies to contain and clean polluted water, it is imperative that the California EPA and Water Quality Boards move to the next step - mandating building owners and managers and fire sprinkler technicians to clean polluted water before discharging it into public storm drain systems. This would also require ensuring that there is oversight and authority to cite and prosecute so that laws are being met and that those involved are acting within the requirements of state law.</p>	<p>To date, no municipalities (Copermittees) have identified discharges or flows from fire fighting as significant sources of pollutants to waters of the United States. Thus, under 40 CFR 122.26(d)(B)(1), such flows are not required to be addressed as illicit discharges. The Federal Register (55 Fed Reg 48037), however, states that:</p> <p>"In the case of fire fighting it is not the intent of these rules to prohibit in any circumstances the protection of life and public or private property through the use of water or other fire retardants that flow into separate storm sewers. However, there may be instances where specified management practices are appropriate where these flows do occur (controlled blazes are one example)."</p> <p>The Regional Board contends that the flushing of building fire suppression systems (e.g. fire sprinklers), constitutes a fire fighting maintenance activity. The Federal Register (55 Fed Reg 48037) allows the Director to "include permit conditions that either require municipalities to prohibit or otherwise control any of these types of discharges where appropriate."</p> <p>The Regional Board has identified that maintenance of building fire suppression systems results in a discharge that contains waste, and as such new language has been added requiring Copermittees to address these maintenance activities as illicit discharges.</p>

Comment No.	Commenter	Subject	Section	Specific Comment	Comment Response
220	10	General	Finding	<p>To support the programmatic approach to water quality and water body protection that has taken place in southern Orange County, the Regional Board should incorporate into the Final Order two new Findings in Section D.4 Watershed Runoff Management as follows:</p> <p>d. The South Orange County municipal storm water permits have, since the first term permit, directed the co-permittees to implement methods of coordinating land use planning at the watershed scale and to address the impacts of development on water resources as early in the planning process as possible. In response to those permit requirements, the County and cities in South Orange County developed processes to review and approve land use plans in a way that implemented these requirements. The County's approval of the Ranch Plan embodies the results of this process, and exemplifies what can be achieved when the co-permittees and the development community embrace the goals and intent of the water quality regulatory program.</p> <p>e. The San Juan Creek Watershed and Western San Mateo Creek Watershed Special Area Management Plan and Southern Subregion Habitat Conservation Plan, both regional watershed-based planning programs, will contribute to the protection of beneficial uses through i) the conservation and management of the Southern Subregion Habitat Reserve and its associated Aquatic Resource Conservation Areas and ii) implementation of the site design, source control, treatment control, and hydromodification control measures contained in the Conceptual Water Quality Management Plan for Priority Development Projects within the SAMP and HCP Study Areas.</p>	<p>It is not appropriate for the Tentative Order to include findings or requirements for a specific development project. Where appropriate, the Tentative Order may be changed to address commonalities in all new development. While Regional Board staff participated in an advisory role for the SAMP process, the Regional Board addresses dredge and fill impacts to waters of the United States that require a federal permit by issuing individual 401 Water Quality Certifications, pursuant to Section 401 of the Clean Water Act. As such, these findings are not included in the Tentative Order.</p>

Comment No.	Commenter	Subject	Section	Specific Comment	Comment Response
221	10	LID	F.1	<p>The proposed development project criteria and requirements contained in Section F.1 (i.e., Sections F.1(c), F.1(d)(4), and F.1(h)(6)) do not provide for Projects that have addressed these requirements through the development and application of basic principles of hydrology and geomorphology at the sub-watershed and watershed scale. For example, the first LID BMP on page 26 of the Revised Tentative Order states "Conserve natural areas, including existing trees, other vegetation and soils". In our case, this LID BMP has been accomplished at the watershed scale resulting in 20,868 acres of RMV lands that will be preserved as open space (including all main stem creeks) and dedicated to a Habitat Reserve over time. Table 1 (attached) takes each Site Design BMP, Buffer Zone and Infiltration and Groundwater Protection requirement from this section and illustrates how this has been achieved at the watershed and sub-watershed scale on RMV. Additionally, an excerpt from the WQMP that summarizes the Watershed Planning Principles and approaches taken by RMV to implement these principles is provided in Attachment 1. Because of the protections to water quality and water bodies achieved through watershedbased projects such as the Ranch Plan, the Regional Board should define Watershed Planning as an alternative and co-equal approach to the project-specific requirements as follows:</p> <p>Suggested Language Insert for the Tentative Order Section F. 1.(c) (p. 27):</p> <p>Suggest inserting the following new item (8) to Section F.1.(c):</p> <p>"Alternative Performance Criteria for Watershed-Based Projects. Where a Project has been prepared using watershed and/or sub-watershed based water quality, hydrologic, and fluvial geomorphologic planning principles that meet the intent of the criteria and requirements of this Order, such standards shall govern review of Projects with respect to Section F.1.of this Order and shall be deemed to satisfy this Order's requirements for LID/site design, buffer zone, infiltration and groundwater protection standards, source control, treatment control, and hydromodification control standards."</p>	We agree with the commenter on the importance of watershed and sub-watershed based planning and development to protect water quality. The Tentative Order's requirements have been changed to allow regional LID treatment approaches.

Comment No.	Commenter	Subject	Section	Specific Comment	Comment Response
222	11	General	General	<p>As described in the Little Hoover Commission Report (January 2009), policies developed on a Regional Water Quality Control Board (Regional Board) by Regional Board basis result in ineffective and inefficient stormwater programs. The Little Hoover Commission Report specifically states:</p> <p>The Commission found a critical need for a more unified regulatory agency that has clear priorities and procedures that can be implemented throughout the state. While current statutes give the State Water Resources Control Board ample authority to direct the nine Regional Water Quality Control Boards, in practice the regional boards are too independent, with differing policies and processes on even some of the most important statewide issues. (Page 93)</p> <p>Many of the Findings and Provisions set forth in the Draft South OC MS4 Permit represent significant shifts in policy on issues that are of statewide importance. Several of these are identified herein and as described are inconsistent with the Federal Regulations, State policy as established by the State Water Resources Control Board (State Board), and/or current statewide practices and understanding. Such significant changes in policy related to the administration and implementation of the NPDES Phase I MS4 stormwater permit program should be addressed by the State Board, through the development of a statewide policy and should not be independently implemented by the San Diego Regional Board.</p>	Please see comment #24 regarding consistency on a statewide level.

Comment No.	Commenter	Subject	Section	Specific Comment	Comment Response
223	11	NEL	B	<p>The NPDES Phase I MS4 permits issued in California since 1990 have reflected a clear understanding that Clean Water Act (CWA) section 402(p)(3)(B)(iii), which defines that the "discharge of pollutants" must be reduced to the Maximum Extent Practicable (MEP), also applies to the discharge of pollutants that may exist in non-stormwater. This understanding reflects the reality that, although the discharge from a MS4 may constitute a point source to the receiving water, the sources of the pollutants are often "non-point" in nature. Additionally, unlike industrial wastewater discharges, pollutants that may be in both wet and dry weather runoff are not under the direct control of the MS4 Permittees and cannot practicably be regulated or eliminated as though this were the case. Dry weather non-point source discharges can be described as akin to other property related land use violations - on a long-term basis they can be managed, but never eliminated. The Draft South OC MS4 Permit proposes to re-define the performance standards, and exclude non-stormwater from being subject to the MEP performance standard and require strict prohibition similar to an industrial wastewater discharge. Implementing MS4 permit provisions that deviate from the MEP performance standard should not be made at the discretion of Regional Board staff. If the Regional Board believes that such a shift in policy or standard is necessary, the Regional Board should pursue a statewide policy through the State Board. Not doing so continues to impose inconsistent and ineffective regulations upon the regulated community, an outcome which was criticized in the Little Hoover Commission report. Additionally the strict prohibition of non-stormwater discharges as required in the Draft South OC MS4 Permit is contrary to the Final Phase I Regulations, 55FR222, on Page 48037 which state: EPA is clarifying that section 402(P)(3)(b) of the CWA (which requires permits for municipal separate storm sewers to 'effectively' prohibit non-stormwater discharges) does not require permits for municipalities to prohibit certain discharges or flows of non-stormwater to waters of the United States through municipal separate storm sewer systems in all cases. Accordingly 122.26(d)(2)(iv)(B)(l) states that the proposed management program shall include: "A description of a program including inspections, to implement and enforce an ordinance, orders or similar means to prevent illicit discharges to the municipal separate storm sewer system. " As clearly stated in the regulations, the 'effective' prohibition of non-stormwater discharges does not require 'strict' prohibition, but rather a management program focused on prohibiting illicit discharges to the MS4 system. Further, the clear intent of the Federal regulations is that only those exempted non-stormwater discharges that are found to be illicit discharges be managed. It was not expected that whole classes of exempted discharges would be prohibited.</p>	Please see response to Comments 39, 43, 44, 52, and 77.

Comment No.	Commenter	Subject	Section	Specific Comment	Comment Response
224	11	Overirrigation	B	<p>The Draft South OC MS4 Permit removes landscape irrigation, irrigation water and lawn watering (collectively, "irrigation runoff") from the list of conditionally-exempted discharges. Regional Board staff has asserted that data submitted by the Orange County MS4 Permittees supports this action. However, the Orange County MS4 Permittees do not draw the same conclusions from their data. In any case, the data leading to the Regional Board's conclusion is specific to Orange County, and as such, incorporation of a similar requirement in Riverside County would be inappropriate and unwarranted. Nevertheless, the Riverside County Permittees have identified the following issues with the approach the Regional Board is taking in the prohibition of irrigation runoff.</p>	<p>This Tentative Order applies to South Orange County. The applicability of removing the exemption for Riverside County is best addressed at the time of reissuance of the permit for their region.</p> <p>Please see response to Comments 28, 52, 75, 77, and 174.</p> <p>Furthermore, the Federal Register (55 Fed Reg 48037) clearly states that "the Director may include permit conditions that either require municipalities to prohibit or otherwise control any of these types of discharges where appropriate."</p>
225	11	Overirrigation	B	<p>At the May 6th public workshop Regional Board staff stated that their "hands were tied" and that the Regional Board is "required" to prohibit discharges of irrigation runoff. On the contrary, when conditionally exempt discharges are determined to be a source of pollutants to receiving waters, there is no requirement that they be outright prohibited. Both the Final Phase I Rule V.55 No. 222, page 48037 and 40CFR 122.26 (d) (2) (iv) (B) (I) clearly state that these "non-stormwater discharges or flows shall be addressed (emphasis added) where such discharges are identified by the municipality (emphasis added) as sources of pollutants to waters of the United States." Finding C.14 in the Draft South Orange County MS4 Permit inappropriately adds onto this language by stating that "Exempted discharges identified as a source of pollutants are required to be addressed through prohibition. The term 'addressed' does not implicate nor require prohibition, but instead, and as described in the above referenced final rule, should consist of a "program, including inspections, to implement and enforce an ordinance, orders or similar means to prevent (the discharge) to the municipal storm sewer." The Federal regulations clearly do not require the prohibition of irrigation runoff and as such (and not withstanding the other comments herein on this matter) the language in Finding C.14 should be removed.</p>	<p>The Regional Board maintains that exempted non-storm water discharges that are identified as a source of pollutants are to be "addressed" via effective prohibition. Please see response to Comments 52 and 77.</p> <p>The reference from 40 CFR 122.26(d)(iv)(B) reads as follows: "A description of a program, including a schedule, to detect and remove (or require the discharger to the municipal separate storm sewer to obtain a separate NPDES permit for) illicit discharges and improper disposal into the storm sewer. The proposed program shall include: (1) A description of a program, including inspections, to implement and enforce an ordinance, order or similar means to prevent illicit discharges to the municipal separate storm sewer system; this program shall address all types of illicit discharges, however the following categories of non-storm water discharges or flows shall be addressed where such discharges are identified..."</p> <p>The Regional Board maintains that exempted discharges that are identified as a source of pollutants are to be prohibited and subsequently addressed by the Copermitees as illicit discharges.</p>

Comment No.	Commenter	Subject	Section	Specific Comment	Comment Response
226	11	Overirrigation	B	<p>An MS4 Permittee's ability to eliminate irrigation runoff as required in the Draft South OC MS4 Permit is akin to any government's ability to eliminate crime or homelessness. It is something that can be managed, but never eliminated. In the April 3rd Public Workshop, Regional Board staff stated that they intend to use discretion when enforcing this permit provision, and not necessarily enforce it in every instance, pending a determination by Regional Board staff as to whether reasonable controls had been implemented. This statement reveals that even San Diego Regional Board staff does not believe that an outright prohibition of irrigation runoff is reasonable or enforceable. Yet, the Draft South OC MS4 Permit includes findings and provisions that would nevertheless put the MS4 Permittees in unavoidable non-compliance and subject to citizen suits for noncompliance under the Clean Water Act. It is the responsibility of the Regional Board to develop permits that have clear and attainable requirements.</p> <p>A programmatic approach to addressing non-point sources of pollution (instead of prohibition) is especially appropriate in the case of irrigation runoff, where outright prohibition would effectively require the MS4 Permittees to commit significant financial and staffing resources in tracking down and enforcing against every potential source of irrigation runoff including broken sprinklers, overspraying nozzles, inappropriately set residential sprinkler timers, etc. The language in the Draft South OC MS4 Permit should instead be revised to promote control of irrigation runoff through various programs such as public education and cooperative programs with water purveyors, rather than inappropriately prohibiting this discharge. Despite implementation of an extensive and expensive program to attempt to enforce a prohibition on irrigation runoff, it is unlikely that such a program could ever be successful in completely eliminating this discharge, again resulting in unavoidable non-compliance. Additionally, when evaluating the economic considerations of a strict prohibition of irrigation runoff, implementation of such a program would provide little benefit to designated beneficial uses relative to the significant costs that would be required.</p> <p>The Permit writers and the Orange County Permittees should be working together to define appropriate county-specific programs that can be written into the Draft South OC MS4 Permit to address this issue.</p>	<p>Please see response to Comments 39, 42, 43, 44, 159 and 160.</p> <p>To be clear regarding enforcement, the Regional Board's goal is to enforce any alleged violation of the Permit that they identify. The Regional Board, however, has the discretion to choose the level of enforcement befitting the nature and extent of the violation and the limited resources available to respond. Violation of this discharge prohibition would be handled similarly to any other violation of permit provisions. The permit does not dictate to the Copermittees the manner of compliance with the prohibition. The proposed changes simply remove the exemptions against the prohibition. It will be up to the Copermittees to determine the manner of compliance, types of new ordinances needed and programs necessary to comply with the discharge prohibition.</p>

Comment No.	Commenter	Subject	Section	Specific Comment	Comment Response
227	11	Urban Runoff	General	<p>Through Finding C.2 and removal of references to 'urban' runoff, the Draft South OC MS4 Permit makes the Permittees responsible for exceedances of water quality standards irrespective of the source and manner of discharge. While MS4 Permittees have successfully developed and implemented effective programs to control sources of pollution under their jurisdiction, typically there are entities within a watershed over which the Permittees have no authority/ability to regulate, including:</p> <ul style="list-style-type: none"> • Tribal entities • Federal installations • State facilities • Agricultural operations <p>Additionally, some pollutants discharged from natural sources and conserved lands can cause MS4 discharges to exceed water quality standards. Identification and characterization of the sources of these natural loads is often beyond the technical and fiscal resources of the MS4 Permittees.</p> <p>Despite the inability of MS4 Permittees to regulate the quality of discharges from these sources, the California Rule establishes that if any of these lands are upstream of lands under the jurisdiction of the Permittees, the Permittees must accept tributary flows from these areas, and these flows and any pollutants contained therein will inevitably enter the Permittees' MS4. The Draft South OC MS4 Permit stipulates that in the event these flows contribute pollutants that cause or contribute to an exceedance of water quality standards in receiving waters, the Permittees will be held in violation despite the fact that they have no regulatory authority to control these sources.</p> <p>In contrast, State law specifically grants the Regional Board responsibility and authority to directly regulate the discharges from the entities not under the jurisdiction of the MS4 Permittees and has the responsibility to correct water quality standards to accommodate background pollutant concentrations from natural sources. The USEPA has authority to regulate Federal facilities and tribal entities not under the jurisdiction of the Regional Board. It is inappropriate for the Regional Board to attempt to transfer the responsibilities of the Regional Board and the USEPA to MS4 Permittees, and hold them responsible for the actions of dischargers over which they have no jurisdiction.</p>	<p>Please see the response to Comment No. 47. In addition, since the Copermittees own and operate their MS4s, they cannot passively receive discharges from third parties (Federal Register 68766).</p> <p>Having the legal authority to terminate a storm water discharge to the MS4 can be a powerful tool for the Copermittees to effectively control those storm water discharges and to compel implementation of best management practices (BMPs) from various entities. Commenters cite this discussion as requiring Copermittees to terminate or cut-off access by various third parties to their MS4, which could lead to unintended damage from flooding. The Fact Sheet, however, clearly explains that the development and implementation of a comprehensive BMP-based program is appropriate for controlling the contribution of pollutants into the MS4 system. Preventing or terminating access of pollutants to the MS4 is one of the BMPs that must be available for the Copermittees to use at their discretion.</p>

Comment No.	Commenter	Subject	Section	Specific Comment	Comment Response
228	11	Urban Runoff	Finding	<p>The Riverside County Permittees generally support the proposed addition of Section D.4 to the Draft South OC MS4 Permit in the tentative updates dated May 5, 2009, which clarifies that the intent of the permit is not to regulate natural sources and conveyances. However, the subsequent requirement to demonstrate that the likely and expected cause of the exceedance is non-anthropogenic in nature can be difficult and expensive for some constituents (i.e., pH, total dissolved solids, total suspended solids, metals, bacteria, etc.). In order to adequately demonstrate this, MS4 Permittees would be obligated to spend a significant amount of resources for each exceedance, even when the source of the exceedance may be found to be from natural sources or sources that have otherwise not been adequately regulated by the Regional Board or USEPA under existing or needed permits. This difficulty is also reflected in our comments below pertaining to the applicability of Water Quality Based Effluent Limits in stormwater permits.</p>	<p>The referenced finding was removed from the Tentative Order following discussion with the interested stakeholders. Where an MS4 system receives runoff from natural areas, the MS4 system unnaturally converts the discharge from a non-point source to a point source discharge. The MS4 system does not allow for natural infiltration and attenuation of pollutants and could concentrate pollutants at the discharge point to ultimately cause an exceedance of water quality standards. The finding is not found in the MS4 permit adopted for San Diego County.</p>
229	11	NEL	C	<p>The Panel of Experts commissioned by the State Board to determine the appropriateness and applicability of numeric effluent limits to stormwater discharges (hereinafter referred to as the Blue Ribbon Panel), stated in their 2006 Report: "It is not feasible at this time to set enforceable numeric effluent criteria for ... urban discharges". Despite and contrary to the recommendations of this State Board-commissioned report, the Regional Board staff has proposed Water Quality Based Effluent Limits (WQBELs) as both Wet Weather and Dry Weather Compliance metrics in the Draft South OC MS4 Permit. The Riverside County Permittees object to the use of WQBELs as compliance objectives in MS4 permits for the same reasons as presented in that report, and due to the distributed (non-point) and quite often random nature of the source(s) of the pollutants of concern. As stated previously, the Riverside County Permittees have significant concern where the Draft South OC MS4 Permit departs from current State policy. Inasmuch as Regional Board staff has indicated their intent to use the South OC MS4 Permit as a model for the MS4 permit to be issued to Riverside County, the Riverside County Permittees proactively outlined more appropriate approach for Municipal Action Levels in their January 2009 ROWD that warrants consideration in the development of their MS4 permit.</p>	<p>Please see response to Comment 25 and 33.</p>

Comment No.	Commenter	Subject	Section	Specific Comment	Comment Response
230	12	Finding	Finding	Change [Finding C.1] to: "may" contain waste	<p>This comment was addressed in the July 2007 response to comments. It says:</p> <p>"The Findings are appropriately supported and have not been revised. Finding C.1 states that "runoff contains waste." This was supported in State Water Board Order WQ 2001-15, which reviewed the previous San Diego County MS4 Permit (Regional Board Order No. R9-2001-01). Discharges from MS4s to receiving waters are considered point source discharges to be regulated by NPDES requirements. Finding C.3 notes that discharges from MS4s may cause or threaten to cause conditions of pollution, contamination, or nuisance. The Fact Sheet relies on national and local water quality studies to support this conclusion.</p> <p>"Clearly, not all storm water discharged from MS4s is waste. Much of it is precipitation. That storm water, however, can pick up waste and pollutants along its path to and through the MS4. The Copermittees must ensure implementation of storm water BMPs to limit the amount of pollution that is discharged with the precipitation from the MS4s. Limited storm water monitoring conducted by the Copermittees demonstrates this, and the Tentative Order includes requirements to conduct storm water monitoring at storm drains to better assess the conditions (Attachment E). Runoff also includes dry-weather discharges. In southern Orange County, dry-weather runoff has been increasingly monitored under the existing MS4 Permit. The data demonstrates significant amounts of pollution that cannot be attributed to nonanthropogenic sources."</p>
231	12	Finding	Finding	Table 2a says "Aliso Creek uses the term "toxicity." Specify what kind of toxicity?	<p>Aliso Creek is 303(d) listed for toxicity. Listings for toxicity are based on the evaluation of data from required MS4 monitoring, SWAMP monitoring and any other applicable data source. The Regional Board evaluates any acute and chronic effects on organisms (e.g. Hyalla azteca) and compares sampling data to LC50 values, controls, etc. to determine toxicity.</p>
232	12	Finding	Finding	Finding says: "Municipal storm water...discharges are likely to contain..." Change to: "may" contain	<p>Please see response to Comment No. 230.</p>
233	12	Finding	Finding	Discharges exempted are still required to be addressed through prohibition if they are identified as a source of pollutants. If specific types of discharges are known to be a source of pollutants and contribute to the degradation of water quality, they should not be exempt. The finding should state that discharges identified as asource of pollutants should be addressed and not include discharges that are known sources of pollutants as exempt.	<p>Finding C.14 has been clarified to prevent confusion.</p>
234	12	Finding	Finding	Non-storm water discharges...are to be effectively prohibited... Prohibiting flow will dry up wetlands; violation of US Army Corps of Engineers permit	<p>The Clean Water Act requires non-storm water discharges to be effectively prohibited (402(p)). It is unclear how the prohibition of non-storm water discharges will violate a US Army Corps of Engineers permit.</p>

Comment No.	Commenter	Subject	Section	Specific Comment	Comment Response
235	12	MAL	Finding	Basing MALs on nationwide MS4 data is not appropriate for this region.	Please see response to Comments Nos. 37 and 90 as the MALs have been updated to reflect regional data.
236	12	WURMP	Finding	This is a very important finding that should be kept within the permit as finalized and should be included in future MS4 permits throughout the region. Change to: "Watershed management of runoff does not require Copermittees to expend resources outside of their jurisdictions".	The proposed change is already in the March 13, 2009 Tentative Order and has been present since the release of Tentative Order R9-2007-002.
237	12	unfunded mandate	Finding	Finding claims that the permit is not an unfunded mandate with one reason listed as "the local agency...[has] the authority to levy service charges, fees, or assessments sufficient to pay with this Order." The finding should acknowledge that under State law, local agencies cannot levy assessments or property related fees without a majority vote of the affected electorate or affected property owner.	The state's water quality protection requirements within the Tentative Order are authorized by Federal Law, are necessary to meet the federal MEP standard, and are not unfunded mandates. Please see comments #155 and 165. The commenters request to identify the existing State law is superfluous because it only addresses one avenue for the Copermittee to raise funds. The fact sheet demonstrates that numerous activities contribute to the pollutant loading in the municipal separate storm sewer system. Local agencies can levy service charges, fees, or assessments on these activities, independent of real property ownership. (See, e.g., Apartment Ass'n of Los Angeles County, Inc. v. City of Los Angeles (2001) 24 Cal.4th 830, 842 [upholding inspection fees associated with renting property].) The ability of a local agency to defray the cost of a program without raising taxes indicates that a program does not entail a cost subject to subvention. (County of Fresno v. State of California (1991) 53 Cal.3d 482, 487-488.)
238	12	unfunded mandate	Finding	Finding E.6 states one reason why the permit is not an unfunded mandate is that the copermittees have "requested permit coverage... in lieu of numeric restrictions on their discharges." Yet MALs are a condition imposed within this permit and the technical fact sheet in the discussion of finding D.1.h confirms that MALs are a form of numeric limits If MALs remain a requirement, the finding should not be made that this permit does not constitute an unfunded mandate.	This language for the Tentative Order has been changed to reflect that the language applies to numeric limitations for discharges of storm water from the MS4. The state's water quality protection requirements within the Tentative Order are authorized by Federal Law, are necessary to meet the federal MEP standard, and are not unfunded mandates. Please see comments #155 and 165.
239	12	General	General	All references to human health need to be removed This is not a public health permit	Within the San Juan Hydrologic Unit for Southern Orange County where the Copermittees MS4s discharge, all inland surface waters and coastal receiving waters have been designated as having or the potential to have the Contact Water Recreation 1 beneficial use per the San Diego Basin Plan. This beneficial use includes uses of water for recreational activities involving body contact with water, where ingestion of water is reasonably possible. These uses include, but are not limited to, swimming, wading, water-skiing, skin and SCUBA diving, surfing, white water activities, fishing or use of natural hot springs. To protect this beneficial use, the Tentative Order appropriately references public health.

Comment No.	Commenter	Subject	Section	Specific Comment	Comment Response
240	12	NEL	C	Table 3: MBAS, all metals MBAS AL is lowered. Metals #'s are not correlated to a hardness... how to intepret this?	The Tentative Order updates includes chages to metal criteria according to receiving water hardness per the Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California..
241	12	MAL	D	This section is not consistent with D.1.h and the discussion of the finding in the Supplemental Fact Sheet. The fact sheet states "Compliance with MAL levels is considered at least compliant with the Maximum Extent Practicable (MEP) regulation for storm water" and explains why "MALs have been determined to be the appropriate regulatory measurement of achieving the [MEP]." Permit section D.3 should be revised to state "compliance with MAL levels is considered compliant with MEP."	Please see response to Comment 33. It is important to note that MAL monitoring results which do not exceed MALs do not create a presumption that MEP is being met, nor does it exempt Copermittees from implementing other programs and requirements under the Tentative Order.
242	12	unfunded mandate	D	The finding states one reason why the permit is not an unfunded mandate is that the copermittees have "requested permit coverage... in lieu of numeric restrictions on their discharges." The technical fact sheet in the discussion of finding D.1.h confirms that MALs are a form of numeric limits. Remove the requirement for MALs, a form of numeric limits.	Please see response to Comment 33. The state's water quality protection requirements within the Tentative Order are authorized by Federal Law, are necessary to meet the federal MEP standard, and are not unfunded mandates. Please see comments #155 and 165.
243	12	SUSMP	F.1	An NPDES permit should address pollution of surface waters and clarify what level of effort is considered MEP. Pest control is handled by other regulations. Remove	The Regional Board received comments from the Orange County Vector Control District on the 2007 draft of the Tentative Order. When not properly designed or maintained, certain BMPs implemented or required by municipalities for runoff management may create a habitat for vectors. Post construction BMPs must not be a nuisance to the public; therefore, it is appropriate that the BMPs be designed to prevent vector issues. The Tentative Order includes universal requirements to address vectors rather than prescriptive requirements, because the specific requirements are more appropriately applied by local vector control agencies.
244	12	LID	F.1	It is very challenging to incorporate LID when widening public roads. Allowance for building BMPs in roadways outside of the project footprint would allow for more successful implementation of LID in context of the watershed. Provide more latitude for applying the LID substitution program to roads, highways and freeways, with measures to ensure that the substitution attains equivalent water quality benefit.	The Tentative Order's requirements for low impact development have been modified to be consistent with Region 8's recently adopted MS4 permit for North Orange County. The substitution program is to be developed by the So. Orange County Copermittees.

Comment No.	Commenter	Subject	Section	Specific Comment	Comment Response
245	12	Hydromod	F.1.h	<p>Requiring all PDPs to achieve less than 5% EIA may be infeasible, particularly if the definition of a PDP includes redevelopment of an existing roadway. Also, requirements for a mandatory maximum EIA tend to be counter to smart growth goals which are a better approach when viewed at the watershed level.</p> <p>Either remove the requirement since LID requirements already exist in the permit, or provide more allowance for determining feasibility and allow exceptions for projects that are consistent with a smart growth master plan.</p>	The Regional Board has removed the language requiring maximum 5 percent EIA from the interim hydromodification requirements. Please see section F.1.d.(4) of the Tentative Order for LID requirements.
246	12	Hydromod	F.1.h	<p>Allowance for in-stream controls is appropriate but need to provide more clarification on what is meant by requirements "geomorphically referenced channel design techniques."</p> <p>Provide additional clarity.</p>	The above referenced term has been deleted from the Tentative Order.
247	12	Hydromod	F.1.h.	<p>Requiring curve hydrograph matching and less than 5% EIA and LID, seems redundant. If a project applicant significantly demonstrates hydrograph matching and includes LID where appropriate according to the site specific feasibility study, then that should be sufficient. For small projects it may be more effective to allow the applicant to incorporate a specified level of LID instead of hydrograph matching or a maximum EIA. Requiring continuous simulation modeling would be very unreasonable for small projects; therefore the nomograph or other simpler methods should be offered as an option.</p> <p>Consider revising interim hydromodification requirements based on this rationale.</p>	The Regional Board agrees that both curve-matching and 5 percent EIA criteria are redundant. The EIA discussion has been removed from this section of the Tentative Order.
248	12	WURMP	G	<p>"Goal of the work plan is to..."</p> <p>Typo</p>	The typo has been corrected.
249	12	Existing Development	F.3	<p>Establishes deadline for flood control retrofit evaluation.</p> <p>This requirement would require a substantial effort on behalf of Copermittees due to the high number of these types of structures. Therefore, the City suggests a phased or tiered evaluation approach be considered.</p>	Comment Noted. Provision F.3.a(4) shall be modified to as follows: The inventory and evaluation must be completed and submitted to the Regional Board in the second year Annual Report after issuance of this Order.
250	12	Existing Development	F.3.	<p>Allows for Copermittees to "optimize" their municipal sweeping programs based on several factors (land type, season, trash pick-up schedules, etc.) as opposed to our Permit that requires mandatory sweeping frequencies dependant on trash volumes. The City views this approach as more efficient means of conducting its jurisdictional street sweeping programs as it affords Copermittees greater flexibility in making decisions and the ability to tailor fit solutions based on the often unique challenged faced by Copermittees. The City further encourages the Regional Board to apply this adaptive approach to other municipal programs as the City feels it would result in both more efficient programs and enhanced compliance.</p>	Comment noted.

Comment No.	Commenter	Subject	Section	Specific Comment	Comment Response
251	12	Existing Development	F.3.	<p>Sections (a) and (b) are redundant.</p> <p>The City recommends deletion of section (b) as the implementation of the provisions in section (a) would maximize pollutant reductions by providing greater flexibility to Copermittees to manage their programs.</p>	<p>Provision F.3.a.(7)(b) has been retained within the Order. Please note that as an illicit discharge into the MS4, sewage infiltration is to be eliminated, not reduced (please see response to Comment 39). 40 CFR 122.26(d) requires that Copermittees use controls, as necessary, to limit the infiltration of sewage into the MS4 system. As an illicit discharge, it is expected that these controls will prevent and eliminate infiltration and seepage from the sanitary sewer. The controls listed under section (b) are BMP measures that currently should be a part of the Copermittees IC/ID program to prevent and eliminate illicit discharges. It is unclear how deletion would provide greater flexibility, as Copermittees are already required to implement these BMPs.</p>
252	12	Existing Development	F.3.	<p>Permit adds new subheading text "Added 'ESAs and 303(d) Listed Waterbodies'</p> <p>Recommend support of this provision since it's already in our permit, but the Orange County Permit just places more attention to these two waterbodies.</p>	<p>Development and urbanization especially threaten environmentally sensitive areas (ESAs), such as water bodies designated as supporting a RARE beneficial use (supporting rare, threatened or endangered species) and CWA 303(d)-impaired water bodies. Such areas have a much lower capacity to withstand pollutant shocks than other areas. In essence, sites and sources that are ordinarily insignificant in impacting the environment may become significant in a particularly sensitive environment. Therefore, additional control to reduce pollutants from new and existing development and commercial/industrial sites and sources may be necessary for areas adjacent to or discharging directly to an ESA.</p> <p>ESAs are defined in the Order as "Areas that include but are not limited to all CWA Section 303(d) impaired water bodies; areas designated as Areas of Special Biological Significance by the Basin Plan; water bodies designated with the RARE beneficial use by the Basin Plan; areas designated as preserves or their equivalent under the Natural Communities Conservation Program within the Cities and County of Orange; and any other equivalent environmentally sensitive areas which have been identified by the Copermittees."</p>
253	12	Existing Development	F.3.b.	<p>Deleted "as necessary to comply with this Order."</p> <p>Recommend that this text be included in this provision in order to provide flexibility. Our permit has this text in the same provision.</p>	<p>Comment noted. Presence or absence of the language does not reduce the Copermittee's flexibility to comply with this Order. No change to the permit is made at this time.</p>
254	12	Existing Development	F.3.b	<p>Other sites and sources with a history of unauthorized discharges.</p> <p>This will add an unknown number to the inventory.</p>	<p>Provision F.3.b.(1)(a)(i)[z] is listed so that a Copermittee does not exclude a site or source from their inventory just because the category has not been listed in [a] through [y]. This subprovision also further refines the scope of what is expected by the included language "with a history of un-authorized discharge to the MS4." Therefore, no changes to the Tentative Order are made.</p>

Comment No.	Commenter	Subject	Section	Specific Comment	Comment Response
255	12	Existing Development	F.3.b	<p>Permit requires, besides implementing BMPs design and implementation, that additional measures be based on inspections, incident responses, and water quality data. This is a new language provision, which is not in our Permit.</p> <p>Recommend support of this provision because it provides guidance on how to design "additional measures."</p>	<p>Provision F.3.b(2)(d) is a straight forward requirement that directs Copermittee's to implement BMPs at commercial or industrial facilities or require facility owner/operators to implement previously designated BMPs at the facilities to reduce discharges of storm water pollutants from the MS4 to the MEP, and prevents discharges from the MS4 from causing or contributing to a violation of water quality standards. "Additional measures" are those BMPs or other measures that when implemented (as seen/learned during past inspections or past implementation history) are successful in reducing discharges of storm water pollutants to the MS4 to the MEP, and preventing discharges from the MS4 from causing or contributing to a violation of water quality standards. No change to the permit is warranted.</p>
256	12	Existing Development	F.3.b	<p>This provision is in our permit but as a standalone provision - "Regulation of Mobile Businesses." Draft Orange County Permit transfers this provision to the BMP subsection.</p> <p>Recommend support of this provision, since it's currently in our permit, and it appears the transfer is intended to place more attention on BMP implementation for this business type.</p>	<p>The Regional Board notes the City of San Diego's support for this provision. Provision F.3.b.(3) requires each Copermittee to develop and implement a program to reduce the discharge of pollutants from mobile businesses to the MEP. Mobile businesses are service industries that travel to the customer to perform the service rather than the customer traveling to the business to receive the service. Examples of mobile businesses are power washing, mobile vehicle washers, carpet cleaners, port-a-potty servicing, pool and fountain cleaning, mobile pet groomers, and landscapers. These mobile services produce waste streams that could potentially impact water quality if appropriate BMPs are not implemented. Order No. R9-2002-01 also requires BMP implementation for certain mobile businesses (e.g., mobile vehicle washing and mobile carpet cleaning). The requirements of Order No. R9-2009-0002 are not significantly different from the existing requirements. The Order specifies mobile businesses for special attention based on reports from the Copermittees that mobile businesses have been difficult to control with existing programs.</p> <p>Mobile businesses present a unique difficulty in storm water regulation. Due to the transient nature of the business, the regular, effective practice of unannounced inspections is difficult to implement. Also, tracking these mobile businesses is difficult because they are often not permitted or licensed and their services cross Copermittee jurisdictions. Mobile businesses that operate within a municipality may be based in another municipality or even outside the Region. The Order takes into account the difficulties in regulating mobile businesses. Because BMPs have been developed already, but communication with mobile businesses may be difficult, the Order provides broad flexibility to the Copermittees for developing a targeted program within the Commercial portion of each JURMP.</p>

Comment No.	Commenter	Subject	Section	Specific Comment	Comment Response
257	12	Existing Development	F.3.b	<p>Permit contains a new reporting requirement. The Copermittee will be mandated to notify the Regional Board of any facilities with potential SW violations prior to the rainy season.</p> <p>Recommend deletion of this provision; already provide this information in our JURMP annual report and periodic reports to the Regional Board.</p>	<p>No modification to the Order is made. Provision F.3.b(4)(b) is the standard requirement to report non-compliant sites to the Regional Board and is consistent with the reporting requirements of Provision K. The section provides more specific reporting requirements to enable the Regional Board to evaluate and prioritize inspections. Since the Annual JRMP is submitted to the Regional Board on or before September 30 prior to the wet season (October 1 - April 30) this requirement is not duplicative. Language has been added to clarify that the information may be provided in the JRMP. Please also see response to Comment No. 178.</p>
258	12	Existing Development	F.3.b	<p>Annually notify the Regional Board, prior to the commencement of the wet season of all Industrial Sites with potential violations of the General Industrial Permits.</p> <p>Recommend deletion of this provision. This is an extra reporting requirement. We already report this to the Regional Board in our Annual report as well as throughout the year as inspections occur.</p>	<p>Please see response to Comment 257.</p>
259	12	Existing Development	F.3.b	<p>At a minimum 20 percent of sites inventoried are to be inspected (excluding mobile sources and food facilities) must be inspected each year.</p> <p>Recommend deletion of this provision. This lowers the percentage of inspections but does not give credit for inspecting food facilities to meet the 20% inspections. Food facilities must still be inventoried and included in the overall number that is used to calculate the 20%. This would result in us inspecting approx. 50% of our inventory every year (-10,000/year).</p>	<p>Provision F.3.b.(1) requires a Copermittee to establish an inventory of commercial sites/sources that could contribute a significant pollutant load to the MS4. Eating or drinking establishments, including food markets, are listed as commercial site/sources to be included within an inventory. Provision F.e.b.(4)(c) describes the frequencies by which a Copermittee must inspect those facilities on the inventory excluding mobile sources and food facilities, therefore a Copermittee would subtract the number of food facilities, mobile automotive washing, and mobile carpet cleaners from their inventory before taking 20 percent to determine the number of inspections required each year. The intent of Provision F.3.b(4)(c) is to give the Copermittee flexibility to inspect the top 20 percent of their worst commercial / industrial sites for storm water violations each year. The requirement is flexible such that the facilities that are included in that 20 percent may change from year to year. Inspection requirement for food facilities is covered under Provision F.3.b(4)(d).</p>
260	12	Existing Development	F.3.b	<p>Each food facility must be inspected annually</p> <p>This dramatically increases the number of inspections required.</p>	<p>No change is made to Provision F.3.b.(4)(d). Restaurants are potential significant sources of storm water pollutants therefore, inspection of their business practices as they impact storm water are necessary. To be efficient, Code enforcement officers trained in multiple disciplines may be able to visit a restaurant and inspect under multiple programs.</p>

Comment No.	Commenter	Subject	Section	Specific Comment	Comment Response
261	12	Existing Development	F.3.b.	Permit requires each food facility to be inspected annually. This is a new inspection requirement, and will result in a dramatic increase to inspection inventory because provision requires inspection of each food facility annually. Recommend deletion of this provision. Although the data is not in, the WURMP inspections program is attempting to identify certain food facilities (outdoor eateries vs. indoor eateries) which may be more prone to pollutant generation. It will not be efficient to inspect food facilities that are NOT prone to storm water contamination which this provision proposes to do by requiring inspection of each food facility.	No change is made to Provision F.3.b.(4)(d). Restaurants are potential significant sources of storm water pollutants therefore, inspection of their business practices as they impact storm water are necessary. To be efficient, Code enforcement officers trained in multiple disciplines may be able to visit a restaurant and inspect under multiple programs.
262	12	Existing Development	F.3.b	Permit adds this new provision "To the extent that third part inspections are conducted to fulfill requirements of this Order, the Copermittee will be responsible conducting and documenting quality assurance and quality control of 3rd party inspections." This provision provides flexibility for the Copermittee to decide how to evaluate and conduct quality assurance of third party inspections. Our permit contains these requirements: certification program, inspection form templates, etc, which the Orange County permit does not contain. Recommend support of this provision due to flexibility	Provision F.3.b.(4)(e) is intended to be flexible in allowing a Permittee more discretion to develop its third party inspection program to be efficient and effective. No additional change to the language is made at this time. Please see response to Comment No. 135.
263	12	Retrofitting	F.3.	The first statement says Copermittee must "require" retrofits, but subsequent sentence says "shall encourage". It is not clear to what degree these retrofits are voluntary or mandatory, or how many retrofits would be sufficient to satisfy the permit conditions. Retrofits are only feasible where there is a willingness of property owners to participate. Additionally, there will be a huge fiscal burden to implement this requirement and we think focusing the limited resource on implementing LID's in new development projects is alot more efficient. Recommend deletion of this requirement	The Regional Board has updated language to clarify that retrofits are to be done when feasible and considered a high-priority. The tentative Order has appropriate regulations addressing the constraints with retrofitting on privately held land. Please see response to Comments 46, 136 and 162.
264	12	Retrofitting	F.3.d.	Depending on the size of the retrofit program, it may be challenging for municipalities to accommodate the costs of monitoring the ongoing maintenance. Suggest further evaluation of the fiscal effects.	Please see response to Comment Nos. 46, 136, 162 and 263.

Comment No.	Commenter	Subject	Section	Specific Comment	Comment Response
265	12	WURMP	G	<p>Permit states that there must be an annual assessment of receiving water quality and use the information to effectively update BMP information and select management practices in response to the annual evaluation which is based on the annual assessment. Improvements to the receiving waters most likely cannot be observed after only a single year of implementing a specific BMP or specific suite of BMPs. Additionally, for a number of BMPs, implementation spans more than one year between concept and construction.</p> <p>Revise the two sections to allow for longer term assessment of the receiving waters for the purpose of setting priorities and updating BMPs strategies for each watershed.</p>	<p>The WRMP section of the Order has been restructured. Section G has been streamlined requiring one Watershed Workplan that covers the 5 year permit cycle and annual watershed review meetings. If assessment of a BMP requires more than one year, the Copermitee would report it during the annual watershed review meeting within a public setting. Assessments taking uncharacteristically long periods of time will be closely evaluated by the Regional Board and may trigger issuance of investigative or cleanup and abatement orders.</p>
266	12	WURMP	G	<p>The draft Permit states that Copermitees must implement and assess activities that improve the high priority water quality problems. While the City agrees with the intent of this requirement, it is important to note that a program that is structured in a way that mandates implementation of only activities guaranteed to be successful will serve as a major impediment to innovative approaches and ultimately improvements in program efficiencies that can lead to superior protection and improvement of water quality. This is seemingly in conflict with the intent of the increasingly complex effectiveness assessment in Section J, which would mandate additional layers of assessment as a way of forcing program improvements. Incorporating greater incentives, rather than additional restrictions to watershed activity implementation and additional components to effectiveness assessment, if structured in a way that encourages innovation and mandates improvements (rather than only mandating guaranteed outcomes). The WRMP section of the Permit should be restructured to facilitate adaptive management where innovation is encouraged and attainment of greater efficiencies through program improvements is required. For example, Section F.3.a.5 requires the implementation of a municipal street sweeping program that optimizes pickup of trash and debris.</p>	<p>The WRMP section of the Order has been restructured. Section G has been streamlined requiring one Watershed Workplan that covers the 5 year permit cycle and annual watershed review meetings. Annual watershed review meetings are required to be appropriately noticed and open to the public.</p> <p>The state's water quality protection requirements within the Tentative Order are authorized by Federal Law, are necessary to meet the federal MEP standard, and are not unfunded mandates. Please see comments #155 and 165.</p>
267	12	WURMP	G	<p>The Work Plan appears to require the same information that the Watershed RMP Annual Report requires.</p> <p>Remove the requirement of the Work Plan entirely or require the Work Plan to be a section within the Watershed RMP Annual Report to make reporting more efficient.</p>	<p>The WRMP section of the Order has been restructured. Section G has been streamlined requiring only one Watershed Workplan that covers the 5 year permit cycle and annual watershed review meetings. Annual watershed review meetings are required to be appropriately noticed and open to the public.</p>

Comment No.	Commenter	Subject	Section	Specific Comment	Comment Response
268	12	WURMP	G	<p>This requirement conflicts with the Regional Board TMDL program. Additionally, there appear to be no economic considerations and time schedule included in this permit condition.</p> <p>Remove this requirement due to its duplication with the Regional Board's existing TMDL program. Additionally, these programs are very costly to implement in all watersheds every year and don't consider using information from one watershed across to another watershed. If this condition remains, it needs to be included in the economic analysis.</p>	<p>Provision G.c.(2) has been modified to include TMDLs as one of the factors a Copermittee can use to identify their highest priority water quality problems. If a Copermittee identifies a TMDL as their highest water quality problem, work on the TMDL can be used towards compliance with the requirements of Section G, the Watershed Runoff Management Program. Efficient use of resources was considered when developing section G. Allowing a Copermittee to count the work done on a TMDL as compliance with the Watershed component of the Order is considerate of the need to use resources efficiently.</p>
269	12	TMDL	I	<p>No need for other enforcement actions inside of a permit.</p> <p>The City questions the need for any additional enforcement mechanisms within a permit which can apply numeric limits. Recommend removal of other enforcement mechanisms from permit.</p>	<p>All references to CDOs and CAOs, in regards to TMDL implementation, have been removed from the Tentative Order and Fact Sheet. This does not, however, preclude the Regional Board from future consideration of the use of these authorities to address TMDLs.</p>
270	12	General	J	<p>Per the definition in Attachment C, environmentally sensitive areas include 303(d) listed waterbodies. It is therefore redundant and inefficient to require assessment for both 303(d) waterbodies and for environmentally sensitive areas.</p> <p>Remove either Section J.1.a(1) or J.1.a(2).</p>	<p>The commenter is correct that Environmentally Sensitive Areas (ESAs) do include 303(d) listed waterbodies.</p> <p>The Regional Board, however, does not agree that the inclusion of two separate sections is redundant. 303(d) listed waterbodies have been identified as impaired and, depending upon identified impairment sources, require a reduction of storm water pollutant loadings to the MEP, which may include further investigation into sources of pollutants in MS4 storm water discharges. This will likely entail different measures of assessment as well. The Copermittees may choose to establish different priorities under Section J.1.a.1 for 303(d) listed waterbodies than under Section J.1.a.2 for ESAs due to the impairment. Furthermore, while ESAs do include 303(d) listed waterbodies, ESAs also include other waters the Copermittees may determine need different types of management and measurements of outcome.</p>

Comment No.	Commenter	Subject	Section	Specific Comment	Comment Response
271	12	General	J	<p>Requires Copermittees to establish annual assessment measures for reducing discharges of pollutants into 303(d)s and ESAs for all six outcome levels, and then annually conduct each measure to evaluate its outcome to determine effectiveness. Because Copermittees generally implement both larger jurisdictional programs and even smaller targeted watershed activities at scales larger than individual drainage areas of water bodies, the new 303(d) and ESA components to the effectiveness assessment program would result in a cumbersome assessment effort that would result in repetitious reporting of assessment information for individual water bodies.</p> <p>It is understood that the fundamental purpose of the assessment program is to facilitate improvement of Copermittee efforts. Rather than require additional detailed layers of assessment that will likely yield proportionately little new information, the Permit should be restructured to facilitate adaptive management where innovation is encouraged and attainment of greater efficiencies through program improvements is required. For example, see comment regarding Section G.1.e.</p>	<p>The effectiveness assessment states the objective for 303(d) listed water bodies as "Reduce pollutant loadings" and for ESAs as "Prevent MS4 discharges from causing or contributing to conditions of pollution, nuisance, or contamination." A separate detail of assessment is appropriate for 303(d) listed waterbodies as they have already been listed as pollutant impaired. The Environmentally Sensitive Areas also deserve a specific assessment to preserve and restore their unique character. In this way, the high priority water quality issues will receive a high level of attention, consistent with USEPA and CASQA guidance for prioritization. The Order provides flexibility to establish the actual metrics for each assessment outcome level. The Order also provides the Copermittees flexibility to develop objectives for the general program components based on the CASQA guidance.</p>
272	12	General	K	<p>Copermittees must include Reporting Checklist in each Annual Report (see attachment D for details).</p>	<p>This comment is noted.</p>
273	12	Monitoring	N	<p>Unclear where the samples are to be collected if the flow is diverted away from the outfall (Coastal Storm Drain Monitoring).</p> <p>State where the samples should be collected. (Before the diversion?)</p>	<p>Section 5 of Attachment E: Coastal Storm Drain Monitoring has been removed and replaced with Regional Bacteria Monitoring. This new section provides flexibility for Copermittees to participate in a regional monitoring effort, which is expected to reduce cost and redundancy.</p>
274	12	Monitoring	N	<p>Unclear of the purpose of storm event sampling (Coastal Storm Drain Monitoring). Are there action levels or are the results strictly for comparison?</p> <p>State what if any follow-up actions are required for storm event sampling.</p>	<p>Please see response to Comment 273.</p>
275	12	Monitoring	N	<p>Weekly sampling was determined to be unnecessary and would be excessive with over 100 monitoring stations (Coastal Storm Drain Monitoring).</p> <p>Change the sampling frequency to monthly (as it is currently).</p>	<p>Please see response to Comment 273.</p>
276	12	Monitoring	N	<p>Unclear how special investigation stations are selected (Coastal Storm Drain Monitoring).</p> <p>State selection criteria or considerations for special investigation stations.</p>	<p>Please see response to Comment 273.</p>

Comment No.	Commenter	Subject	Section	Specific Comment	Comment Response
277	13	General	General	<p>The current Storm Water Permit for South Orange County (Order No. R9-2002-0001) imposed a very comprehensive and prescriptive set of storm water management and regulatory requirements on the City of Laguna Niguel and the other Co-Permittees. The Draft Permit substantially expands the requirements and prescriptions of the Current Permit without clear or compelling supportive findings, evidence or rationale. As a general comment, the City believes that the Draft Permit remains too prescriptive and limits the discretion and flexibility of the City to implement storm water management programs and practices that are appropriate, sensible and practical for our community.</p> <p>The City requests that the Regional Board carefully review and reconsider the new requirements of the Draft Permit. Wherever possible, maximum storm water management and program discretion and flexibility should be left to the Co-Permittees.</p>	MS4 permits become more prescriptive following several permit cycles. The body of knowledge and science behind protecting water quality increases and therefore, so do the MS4 requirements. The Tentative Order has balanced the Copermittee's need for flexibility by defining the minimum level of requirements through the Permit that are necessary to meet the MEP standard.
278	13	General	General	<p>A cursory comparison of the Draft Storm Water Permit for South Orange County and the Current Storm Water Permit for San Diego County reveals material differences and many new regulations and requirements that are proposed to be imposed on the South Orange County Co-Permittees. These include, but are not limited to, the following:</p> <ul style="list-style-type: none"> • Removal of the word "urban" to describe the runoff discharge that is regulated by the Storm Water Permit • Removal of landscape irrigation, irrigation water and lawn watering from the categories of non-stonn water discharges that are not prohibited by the Storm Water Permit • Establishment of Non-Storm Water Dry Weather Numeric Effluent Limits • Establishment of Stonn Water MuniCipal Action Levels • Implementation of a Retrofitting Program for Existing Development • Requirement to submit a Municipal Stonn Water Funding Business Plan <p>The City requests that the Regional Board cite the specific legal authority for the proposed inclusion of each of the above-referenced items in the proposed Storm Water Permit for South Orange County. The City further requests that the Regional Board identify the specific water quality issues and conditions that differentiate South Orange County from San Diego County and warrant the imposition of these new and different requirements on the South Orange County Co-Permittees.</p>	Please see the supplemental fact sheet for the specific legal authority. Please also see comment #24 regarding consistency with other Permits.

Comment No.	Commenter	Subject	Section	Specific Comment	Comment Response
279	13	LID	F.1	The Draft Storm Water Permit imposes additional requirements on New Development and Significant Redevelopment Projects. The current International / National / State economic climate suggests that this is a most inappropriate time to saddle the development community with costly new requirements such as Low Impact Development Site Design and Treatment Control BMPs, and Hydromodification Assessments and Management Strategies. The City requests that the Regional Board carefully review and reconsider the necessity, appropriateness and timing of these new requirements.	The Copermitees have two years to develop and implement the low impact development and hydromodification requirements. It is unclear what the economic climate will be in two years. Furthermore, USEPA has found that implementing low impact development is often actually cheaper than conventional storm water treatment controls and, in some cases, could increase property values. Low impact development measures also address hydromodification by retaining onsite the runoff flows.
280	13	unfunded mandate	General	The City believes that many of the new regulations and requirements in the Draft Storm Water Permit exceed the requirements of the Clean Water Act. As such, these new regulations and requirements must be considered and evaluated in accordance with applicable provisions of the State Porter Cologne Act. If such regulations and requirements are included in the Final Storm Water Permit, the City believes that they would constitute unfunded State mandates.	The state's water quality protection requirements within the Tentative Order are authorized by Federal Law, are necessary to meet the federal MEP standard, and are not unfunded mandates. Please see comments #155 and 165.
281	13	Economic	General	<p>As mentioned above, the imposition of new regulations and requirements on the private development community could not come at a worse time in light of the current economic climate. The same can be said about the financial impacts of the Draft Storm Water Permit on the Municipal Co-Permittees. Many of the Co-Permittees are anticipating year-over-year declines in municipal revenues in numerous revenue categories (i.e. Property Tax, Sales Tax, Real Property Transfer Tax, Planning and Building Fees, Interest Income). Yesterday, the Governor proposed a FY 09-10 State Budget Alternative that may "borrow" \$2 Billion from local government property tax revenues for up to three years. Against this backdrop, it will be challenging for the Co-Permittees to maintain current funding levels for our existing Storm Water Management Programs.</p> <p>This may be an appropriate time to extend the current South Orange County Storm Water Permit for an additional 3-5 years without burdening the Co-Permittees with new requirements and costs. At the very least, the Regional Board should make every effort to ensure that the new South Orange County Storm Water Permit is "cost-neutral" to the Co-Permittees.</p>	The low impact development and hydromodification requirements have been modified to be more consistent with Region 8's recently adopted MS4 permit for North Orange County. In addition, those programs have two years to be developed and implemented. Please see comment #279 for more information. The USEPA conducted a study that in some cases LID was actually cheaper than conventional treatment technologies and increased home values. The monitoring requirements have also been designed to remain cost neutral. Please see response to comment no. 317.

Comment No.	Commenter	Subject	Section	Specific Comment	Comment Response
282	13	Overirrigation	B	<p>The Draft Storm Water Permit removes landscape irrigation, irrigation water and lawn watering from the categories of non-storm water discharges that are not prohibited. In effect, this change requires the Co-Permittees to enact and enforce ordinances that prohibit any water from leaving private or public property and entering the MS4, apparently under a zero-tolerance standard rather than to the maximum extent practicable. The City questions the legal authority of the Regional Board to unilaterally declare that these categories of urban runoff are now to be deemed prohibited discharges. The City further believes that these changes will not be accepted or tolerated by the general public and may compromise continuing public education and pollution prevention programs. The City requests that the Regional Board keep these non-storm water discharges in the non-prohibited categories.</p>	<p>Please see response to Comment #s 28, 52, 75, and 174. Please also see comment # 77. Non-storm water discharges identified as a source of pollutants must be addressed under federal law.</p>
283	13	NEL	C	<p>c. - Non-Stonn Water Dry Weather Numeric Effluent Limits D. - Municipal Action Levels I. - Total Maximum Daily Loads</p> <p>The Draft Storm Water Permit proposes to incorporate enforceable numeric effluent limits at the end of every pipe for both dry weather and storm flows for numerous constituents, including those subject to TMDLs. Available data already suggest that these provisions will place the Co-Permittees in immediate and continuous violation of the Permit. This situation leaves the Co-Permittees responsible for greatly expanded monitoring, as well as vulnerable to penalties and third-party litigation. It is unknown and uncertain whether it is technically or economically feasible to bring all discharges into full compliance. The City believes that these proposed new requirements greatly exceed and overreach the Co-Permittee's basic legal obligations under the Clean Water Act to implement an iterative sequence of BMPs to reduce the discharge of pollutants to receiving waters to the maximum extent practicable. It is our understanding that no other MS4 permit in the entire country imposes numeric effluent limits at the end-of-pipe for such a broad range of constituents. The City requests that the Regional Board delete these provisions from the Permit</p>	<p>Please see response to Comments 39, 42, 43, 44, 79 and 82.</p> <p>The Regional Board has modified sampling requirements for non-storm water numeric limits to provide the Copermittees with the flexibility to adjust monitoring to best match exist levels of effort under the IC/ID program monitoring. Please see response to Comment 317 for further discussion.</p>

Comment No.	Commenter	Subject	Section	Specific Comment	Comment Response
284	13	LID	F.1.	<p>The City is concerned about the appropriateness of encouraging Site Design BMPs that "infiltrate" or "filter" runoff close to the source of runoff. Many areas of Laguna Niguel and South Orange County have experienced slope failures and landslides attributable to storm water and non-storm water causes. Given local soil and geological conditions, it may be more appropriate to discourage Site Design BMPs that "infiltrate" or "filter" runoff. As mentioned before, the City is also concerned about the financial impact of such requirements on New Development and Significant Redevelopment Projects. The City requests that the Regional Board carefully review and reconsider the necessity, appropriateness and timing of these new requirements.</p>	<p>The Tentative Order already includes specific language to address the commenter's concern as Section F.1.c.(6) covers "Infiltration and Groundwater Protection." The City has the flexibility to apply more restrictive requirements on infiltration BMPs. The Tentative Order also provides a waiver for when it is technically infeasible to infiltrate on site.</p>
285	13	Retrofitting	F.3	<p>This section requires each Co-Permittee to implement a retrofitting program that solves chronic flooding problems, reduces impacts from hydromodification, incorporates Low Impact Development, supports stream restoration, systematically reduces downstream channel erosion, reduces the discharges of storm water pollutants from the MS4 to the MEP, and prevents discharges from the MS4 from causing or contributing to a violation of water quality standards. First, it is difficult to imagine the scope and cost of performing the retrofitting evaluation required by Section F.3.d. Second, even if such an evaluation was performed, the Co-Permittees have no legal authority to compel private landowners of existing developments to implement or cooperate on retrofit projects. The City requests that the Regional Board delete Section F.3.d from the Storm Water Permit.</p>	<p>The section has not been deleted from the Tentative Order. Retrofitting is a needed requirement to address pollutant load discharges from existing development that are not meeting water quality standards. Although the section lists several "goals", the requirement does not include an enforceable time schedule to meet that goal. The Regional Board realizes the limitations the Copermittees have in requiring private landowners to retrofit existing developments. Section F.3.d.(4) has been revised to reflect those limitations. Please also see response to comment Nos. 46, 136, and 162.</p>
286	13	Economic	H.	<p>This section requires each Co-Permittee to submit a Municipal Storm Water Funding Business Plan that identifies a long-term funding strategy for the Storm Water Management Program. Since the Co-Permittees have no legal authority to impose new, significant Storm Water Program revenue sources without voter or property-owner approval, the long-term funding strategy for most Co-Permittees is limited to using existing General Fund revenues to support the local Storm Water Program. This is an unnecessary administrative requirement that will not provide any useful information to the Regional Board or Co-Permittees. The City requests that the Regional Board delete Section H.3 from the Storm Water Permit.</p>	<p>This comment was addressed in the 2007 response to comments. This section has been expanded in order to develop more useful and meaningful fiscal reporting. However, the Business Plan requirement has been removed from the Tentative Order.</p>

Comment No.	Commenter	Subject	Section	Specific Comment	Comment Response
287	13	Overirrigation	B	<p>The summary report for the SEEP grant project just completed by the South Orange County Copermittees in partnership with the water supply agencies.</p> <p>What's interesting about the findings is they suggest that, in this region due to peculiarities of local geology, reducing the volume of landscape irrigation runoff may increase the relative proportion of subsoil water seepage in the storm drains, and end of driving the concentrations of certain geologically-derived constituents UP, even while overall discharge loads go DOWN. The SEEP study shows this effect for phosphates. The County has done some source investigations showing that the same may be true in some locations for several metals (cadmium, nickel, zinc).</p>	<p>The Regional Board has reviewed the findings of the SEEP study and disagrees with the conclusion that reducing or eliminating the volume of landscape irrigation runoff will increase concentrations of discharges.</p> <p>Notwithstanding disagreement regarding the findings by the Regional Board, the commenter appears to present the argument that the possibility of one source of pollutants warrants the allowance of a non-storm water discharge that has been identified as a source of pollution. The Regional Board is concerned as the Copermittees have identified landscape irrigation as a source of the pollutants that are specifically impairing the waterbodies (303(d) listed, see Finding C.7) that are receiving the non-storm water discharge. If after irrigation runoff is effectively prohibited another pollutant source is revealed to be problematic, it will be addressed at that time.</p> <p>Furthermore, the Regional Board finds it disturbing that the commenter appears to favor discharges which contain larger mass loads of pollutants in lower concentrations than smaller mass loads with potentially higher concentrations, even given the scenario is such where both would be a source of pollutants. The Regional Board maintains that federal regulations make it clear that dilution is not a substitute for treatment of discharges pursuant to federal requirements(40 CFR 122.45(f)).</p>
288	14	Existing Development	F.3	<p>Here is my concern . I have spoken to several Cities in South OC. They have made it clear that as a Co Permitte, they take their direction from the County as Primary Permittee. When I have spoken to the County, their interpretation of the current Permit is that a Mobile Car Wash & Detail operation can go onto private property, detail an engine using a degreaser and knock all the grease, grime, gas, anti freeze, etc to the ground. Spray toxic acid as a cleaner for BMW rims with nasty break dust build up, etc. And as long as the water does not leave the property and enter the public right of way today, then no harm no foul. Another example is that sometimes people focus on making sure the soaps are biodegradable . but if you apply a soap, then hose it to the ground, the fish cannot distinguish the good water from the waste water. Same thing I argue with the irrigation. It is not that water hitting the conveyance system it is that the water coming off the property contains fertilizers, pesticides, pet waste, etc.</p> <p>I am suggesting that the Permit be prescriptive in the intent and clearly communicate that it is trying to capture contaminants and pollution, not contain the water. We require this with a Traditional Boulevard Car Wash, so why not hold a Mobile Car Wash to Commercial standards? The pollution created today is Non Point Source Pollution, clearly, and will become tomorrow's Storm Water Pollution.</p>	<p>Finding C defines the characteristics of the discharges regulated by the Order and brings focus to the pollutants in runoff and their potential to impact receiving waters. Provision F.3.b.(3) addresses requirements for Mobile Businesses and documents the Regional Boards intent to focus on reduction of pollutants in runoff rather than total elimination of runoff from a location. The Regional Board is aware of the potential water quality impacts from mobile car washers and addressed the discharge in this Section of the permit.</p>

Comment No.	Commenter	Subject	Section	Specific Comment	Comment Response
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289	14	Existing Development	F.3	<p>In my previous Comments sent, I outlined the ProntoWash model, which since we started debating the new Permit a year ago has seen tremendous increases. I welcome the competition, think it is great. But both water conservation requirements I(cleans with 1 Pint of Water) and now the requirement to control run off in San Diego & LA . not yet anywhere in Orange County !!!!!!!!!!! This model continues rapid expansion based on those compelling events. I also listed many reasonable options for the traditional wash with a bucket & hose or pressure washer where a zero discharge standard can be achieved. I say reasonable because in the LA Cities that have implemented this standard, they have many Mobile Car Wash & Detailing companies that have achieved permission to operate. Like the NRDC . I also suggest that that is evidence of "Practicable".</p> <p>I do not think "prohibit non storm water discharges" Permit language is prescriptive, and does not necessarily trigger a material change from current BMP's.</p> <p>Unfortunately, I do not have a suggestion for appropriate language. New to this. But something that clearly says prohibit from ever reaching the MS4 to necessitate a change in BMP's.</p>	Comment noted.
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290	14	Existing Development	F.3.b	<p>Solutions . I have several in the industry, competitors some might say, who have and will work with me and the Cities / Counties to work together on reasonable BMP's. One idea we are pushing is to get the County of Orange to do a County wide permit. Where all businesses, on a set criteria, can go to the County, pay a fee, and validate the process and chemicals used will satisfy the BMP's. Will save all a bunch of time and money!</p> <p>Lastly, if you do not intend to remove Home Car Washing from Exempt, I suggest you button up the Commercial Mobile Car Wash now, so you can make the leap in 5 , or so, years.</p> <p>Home Car Wash - I agree with the gentleman from Dana Point. Makes no sense to remove Landscape Irrigation and leave Home Car Washing.</p> <p>The State of Washington utilized the Car Wash Run Off Effluent Impact Study (I acquired it from the web site of the International Car Wash Association) as a basis for their Department of Ecology to change how Home Car Washing is done. To prevent Non Point Source Pollution and Dry Weather discharges, the Dept of Ecology requires residents to pull their car to the landscape, use a a natural filter to wash a car at home. They have deemed the driveway as a conveyance. I suggest you not utilize the same study to "build a body of knowledge", but to reasonably act.</p>	Comment noted.
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Comment No.	Commenter	Subject	Section	Specific Comment	Comment Response
291	14	Existing Development	F.3.b	<p>Again, I think the State of Washington Dept of Ecology satisfies proof of Practicable!</p> <p>I have all the bells & whistles for my homes irrigation. Smart Timer, everything. Based on the last stakeholder's meeting, I had my Mesa Consolidated Water come out, they could not improve my efficiencies, nor provide a solution to prevent my irrigation from watering my sidewalk and traveling into the curb & gutter. So I brought out a landscaper. Almost \$1,000 to make the necessary changes prevent the violation. Which, any code enforcer will never see because my Smart Timer comes on at 4 am, and the new conservation requirements and in some cases Ordinances prohibit watering during the day or hours the Enforcement will be working. Practicable with that cost and lack of enforcement opportunity?</p> <p>The solutions to prevent run off from the Home Car wash can be achieved with as little as no cost to \$25 for a berm or waterless spray bottles and micro fiber towels. Seems more Practicable to me!</p>	Comment noted.
292	15	Urban Runoff	General	<ul style="list-style-type: none"> The current draft has removed "Urban" from the term "Urban Runoff". Runoff is a general and vague term and Permittees should not be on the hook to address all sorts of runoff. The goal of the NPDES permit is to control urban runoff, and this phrase should not be altered. 	<p>The goal of the NPDES permit is not specifically "to control urban runoff" as the commenter states. An overall goal for the NPDES permit is not specifically stated in the Tentative Order. However, the NPDES permit is required by the federal clean water act, which states its objective as "to restore and maintain the chemical, physical, and biological integrity of the Nation's waters." Therefore, the NPDES permit implements the objective of the Clean Water Act. The term "urban runoff" only appears once in the Clean Water Act and that is in response to a specifically funded program to address pollution in the Great Lakes. The term "urban runoff" does not appear in section 402(p) which regulates storm water discharges from municipal storm systems. In addition, the term "urban runoff" does not appear in the code of federal regulations section CFR 122 that implements the storm water requirements in the Clean Water Act. Please see Comment No. 47 for more information.</p>
293	15	General	Finding	<ul style="list-style-type: none"> Finding C.15 states that this Order is not intended to address naturally occurring pollutants or flows except where the MS4 has altered or concentrated those natural pollutants or flows. The City believes the nature of the MS4 is to concentrate flows, and if natural occurring pollutants enter the MS4, the Permittees should not be held accountable for these pollutants. 	<p>The referenced finding was removed from the Tentative Order following disagreement from the interested stakeholders. Where an MS4 system receives runoff from natural areas, the MS4 system unnaturally converts the discharge from a non-point source to a point source discharge. The MS4 system would not allow for natural infiltration and attenuation of pollutants and could concentrate violations at the discharge point to ultimately cause an exceedance of water quality standards. The finding is not found in the MS4 permit adopted for San Diego County.</p>

Comment No.	Commenter	Subject	Section	Specific Comment	Comment Response
294	15	Overirrigation	B.	In the current draft of the subject Order, landscape irrigation, irrigation water, and lawn watering, have been removed from the “Non-Storm Water exempt discharges” table in Section B.2. The Cities are currently working with water agencies to develop and implement control measures to reduce irrigation runoff into the MS4. The foregoing discharges should remain on the exempt discharges list in the proposed fourth term permit so that the co-permittees are given an opportunity to demonstrate the effectiveness of their efforts to reduce and eventually eliminate irrigation runoff into the MS4. Direct removal of these discharges from the exemption may have a negative impact on the progress the Cities are making on this issue. The City proposes the following alternate language be added, “The Co-permittees shall work with local water purveyors to implement measures in order to eliminate irrigation runoff.”	Please see response to Comment #s 28, 52, 75, and 174.
295	15	Monitoring	D.	<ul style="list-style-type: none"> • Section D.4.e(2)b of the Tentative Order imposes new requirements that the Permittees conduct an investigation or document why a discharge does not require an investigation, within two business days of receiving dry weather field screening results that exceed action levels. This timeframe is not reasonable. The Board Staff has responded to this comment claiming that this section does not require a fully completed investigation; rather it requires the Co-Permittees to begin conducting an investigation. This clarification should be in the Tentative Order so the City is clear of the Board’s requirements. 	The Regional Board agrees that the requested change is reasonable. The Tentative Order updates have been changed to include the modified language.
296	15	Existing Development	D.	<ul style="list-style-type: none"> • Section D.4.h.1 and 2 states that co-permittees must implement management measures and procedures to contain and clean up sewage spills. It also directs the copermitees to implement a mechanism whereby they will be notified of all sewage spills. As the Water Districts regulate sanitary sewer overflows, the City would prefer this section be removed as to avoid duplicity of effort. However, if it is to remain, the City proposes the following language modification to Section D.4.h.2, “Each co-permittee must implement management measures and procedures to prevent, respond to, contain and clean up sewage from any such notification.” 	Please see response to Comment 180.

Comment No.	Commenter	Subject	Section	Specific Comment	Comment Response
297	15	LID	F.1	<ul style="list-style-type: none"> The Tentative Update document dated May 5, 2009 contains a new section F.1.d.(4)(c), which requires that LID structural site design BMPs to be sized and designed to ensure capture of the 85th percentile storm event for all flows from the development in accordance with Section F.1.d.(6)(a)(i) and Section F.1.h. This section should be modified to allow capture of the difference in volume between the 85th percentile storm event for the pre-development condition and the 85th percentile storm event for the post-development condition. Moreover, the term “capture” implies retention, and this is not feasible everywhere due to site constraints. The term “capture” should be removed from the language, so that the Co-Permittees are given the flexibility to treat and release, where feasible. 	<p>The Tentative Order includes waiver criteria that give the Copermittees the flexibility to require treat and release BMPs where onsite retention is not technically feasible. The Tentative Order's requirements regarding the implementation of low impact development practices has been changed to be consistent with Region 8's recently adopted MS4 permit. Treating only the delta volume of a storm is not meeting the MEP standard and not protective of water quality. The 85th percentile storm event is consistent with State Board Order No. WQ-2000-011, with the County's drainage area management plan and with other southern California MS4 permits.</p>
298	15	Economic	H.	<p>Section H.3 of the Order requires the submission of a “Municipal Storm Water Funding Business Plan” by the end of the permit term. The Plan would identify the longterm funding strategies for program evolution and funding decisions along with planned funding methods and mechanisms for Municipal Storm water Management. City Staff has stated its’ concerns on this section in both of the previous Tentative Order drafts and yet this section remains unchanged. Staff believes this provision is inappropriate, improper and unjustified. The City has consistently funded its Storm Water Management obligations and there is no evidence to suggest otherwise. Moreover, the City submits a Fiscal Analysis in its Annual reports, also known as Jurisdictional Urban Runoff Management Plans (JURMP or LIP). The Board Staff claims that the Business Plan is not subject to approval and does not restrict the Co-Permittees to the implementation of any of the methods in the plan. If that is the case, there shouldn’t be any need for the Business Plan. Furthermore, the mere existence of the requirement of a Business Plan in the Tentative Order makes it the purview of the Board regardless of the Staff’s comment. And, the Board should not work towards a funding mandate nor take any steps to involve itself in the Budget preparation of another governmental agency. The City’s budget is available for all to see as a public record and should suffice to respond to any staff concerns about funding commitments. This provision should be deleted from the Tentative Order.</p>	<p>This comment was addressed in the 2007 response to comments. This section has been expanded in order to develop more useful and meaningful fiscal reporting. However, the Business Plan requirement has been removed from the Tentative Order.</p>

Comment No.	Commenter	Subject	Section	Specific Comment	Comment Response
299	16	LID	F.1	<p>First of all, we understand that the Orange County permittees desire consistency between the LID requirements adopted by the Santa Ana and San Diego Regional Boards. As noted in our letter to the Santa Ana Regional Board dated May 8, 2009 (which we provided to you earlier), with a few relatively minor clarifications, we would be comfortable with the requirements of the Santa Ana Regional Board's permit for North Orange County (May 1, 2009 version). As discussed below, however, we have certain concerns with the LID requirements of the March 13, 2009 draft permit proposed by the San Diego Regional Board as well as the tentative update of April 29, 2009. If the adopted Santa Ana Regional Board North Orange County permit satisfactorily addresses EPA's May 8 comments, we would support direct incorporation of the North Orange County permit's LID provisions into your South Orange County permit. We will continue to consult with you regarding the status of the North Orange County permit.</p>	<p>The Tentative Order's requirements regarding the implementation of low impact development practices has been changed to be consistent with Region 8's recently adopted MS4 permit.</p>
300	16	LID		<p>a) We believe the draft permit should be revised to more clearly incorporate numeric criteria for LID implementation. This has been a priority of ours in our review of draft MS4 permits across the State including the recently-reissued permit for Ventura County and for the North Orange County permit. In the South Orange County permit, numeric LID criteria should be included in section F.1.d.4 of the permit, entitled "Low Impact Development Site Design BMP Requirements." This section of the draft permit describes LID BMPs, but does not include numeric performance criteria. We recognize that in a subsequent section of the permit, section F.1.h which, addresses hydromodification, there is a section entitled "Interim Requirements for Large Projects" (section F.1.h.6) which calls for the reduction of Effective Impervious Area (EIA) to less than 5%. While we support including an interim hydromodification requirement, to avoid confusion over the permit's expectations for LID, we believe the permit would be improved by including numeric criteria in the LID section F.1.d.4. An example of this recommended approach is the permit adopted by the Los Angeles Regional Board for Ventura County on May 7, 2009. This permit includes numeric criteria in the LID sections of the permits, and also contains appropriate, separate criteria for hydromodification.</p>	<p>The Tentative Order's requirements regarding the implementation of low impact development practices has been changed to be consistent with Region 8's recently adopted MS4 permit. This includes a numeric criteria that LID BMPs are required that retain onsite and/or biofilter the 24 hour 85th percentile storm event.</p>

Comment No.	Commenter	Subject	Section	Specific Comment	Comment Response
301	16	LID	F.1.	b) We would also point out that the South Orange County permit lacks storm sizing criteria to use in conjunction with the EIA requirement. The absence of such criteria resulted in criticism of an early version of the draft Ventura County permit. Additionally, we would note that the latest draft North Orange County permit no longer contains the 5% EIA requirement, but instead establishes numeric LID performance criteria in terms of a design storm volume. We are supportive of both the design storm volume approach proposed by the Santa Ana Regional Board and the 5% EIA approach used by the Los Angeles Regional Board for the Ventura County permit.	The Tentative Order's requirements regarding the implementation of low impact development practices have been changed to be consistent with Region 8's recently adopted MS4 permit. This includes a numeric criteria that LID BMPs are required to retain onsite and/or biofilter the 24 hour 85th percentile storm event.
302	16	LID	F.1.	c) We believe the South Orange County permit should include specific requirements for alternative programs when permittees conclude that implementation of LID is infeasible. However, the existing provisions in the permit related to waivers (sections F.1.d.7 and F.1.d.8) do not address this concern. Section F.1.d.7 is entitled "Waiver Provision for Numeric Sizing of Treatment Control BMP Requirements" and provides waivers for treatment requirements rather than LID. Further, section F.1.d.8, entitled "LID Site Design BMP Substitution Program" is written to substitute for "some or all treatment control BMPs." Our concern is with the draft permit's LID section (section F.1.d.a.i) which refers to a "finding of infeasibility" that permittees may make if LID implementation is not practical for a given project; additional clarification is needed concerning the circumstances when LID would be considered "infeasible."	The Tentative Order's requirements regarding the implementation of low impact development practices have been changed to be consistent with Region 8's recently adopted MS4 permit. The LID substitution program has been modified to contain specific criteria for determining the technical infeasibility of LID BMPs. The section has also been clarified that LID BMPs are required at all sites, but where technically infeasible may then be substituted with conventional treatment control devices.
303	16	LID	F.1.	a) New language would be added in section F.1.d.(4)(a)(i) which would require LID practices or participation in the LID substitution program of F.1.d.(8)(d). However, the permit still does not clarify the circumstances when LID would be considered infeasible (see comment 1c above) or require the permittees to develop such criteria for submittal to and approval by the Regional Board (as does the current draft of the Santa Ana Regional Board's permit). Further, the revised section F.1.d.(8)(d) seems misplaced (and is confusing) in that it is located within section F.1.d.(8) which sets forth an optional program to substitute LID for treatment controls.	The Tentative Order's requirements regarding the implementation of low impact development practices have been changed to be consistent with Region 8's recently adopted MS4 permit. The Tentative Order now specifies the circumstances when LID would be considered technically infeasible. The Copermitees are to develop the Substitution Program and submit it to the Regional Board. The Regional Board will accept public comments on the draft Program and the Executive Officer will determine the need for a Public Hearing prior to deciding upon the adequacy of the program in meeting permit requirements.

Comment No.	Commenter	Subject	Section	Specific Comment	Comment Response
304	16	LID	F.1.	<p>b) A new section F.I.d.(4)(c) would be added to the permit which would require capture of a design storm. However, the permit also provides a rather open-ended list of acceptable LID BMPs. We would recommend that acceptable LID measures be limited as suggested in the first comment in our May 8 letter to the Santa Ana Regional Board on the proposed North Orange County permit, in which LID is defined in terms of the way the BMP performs. The concern in our May 8 letter is that certain BMPs (even biofiltration which is listed in the North Orange County permit) may not necessarily perform consistent with LID principles, unless additional operational requirements are specified. Such concerns would also apply to certain BMPs on the list in your permit such as detention ponds and constructed wetlands.</p>	<p>The acceptable list of LID BMPs has been removed from the Tentative Order. Additional operational requirements have been placed on the design and implementation of LID biofiltration BMPs.</p>
305	16	TMDL	Finding	<p>We believe that additional clarification is needed concerning the consistency of the draft permit with approved TMDLs. Finding E.12 for the permit indicates the permit includes applicable wasteload allocations (WLAs) that have been adopted by the Regional Board and approved by the State Board, Office of Administration Law and EPA. However, we are not aware of any such WLAs for the MS4s subject to the permit. Table I in the fact sheet for the permit notes that certain TMDLs have been adopted by the Regional Board, but have not yet been approved by EPA. There is also a reference in the fact sheet to dry weather TMDLs included in section C of the draft permit, which apparently have received all the necessary approvals. Again, however, we are not aware of these TMDLs and the fact sheet should provide full and clear information concerning the approval status of TMDLs with WLAs applicable to the MS4s.</p> <p>Even if no applicable WLAs have been approved by EPA, it is helpful for the fact sheet to clarify this matter. Further, if applicable WLAs are approved by EPA prior to Regional Board adoption of the permit, they should be included in the permit. We are also pleased by the apparent intent of the Regional Board as indicated in Finding E.12 and Section I of the draft permit to express permit effluent limits, when necessary to ensure consistency with applicable WLAs, as numeric effluent limits. Numeric limits provide greater assurance of consistency with WLAs than the alternative of BMPs which are sometimes used, given the uncertainty in the performance of many of the BMPs commonly used for stormwater pollution control.</p>	<p>The Tentative Order has been updated to clarify that the final Waste Load Allocations (WLAs) for the Indicator Bacteria TMDL for Baby Beach in Dana Point must be met by the end of the TMDL implementation compliance schedule provided in Resolution No. R9-2008-0027, "A Resolution to Adopt an Amendment to the Water Quality Control Plan for the San Diego Basin (9) to Incorporate Total Maximum Daily Load for Indicator Bacteria, Baby Beach in Dana Point Harbor and Shelter Island Shoreline Park in San Diego Bay." Furthermore, the Tentative Order has also been revised to require that all discharges to Baby Beach in Dana Point meet the Numeric Targets of the TMDL by the end of the compliance schedule in order to be consistent with the assumptions and requirements of the WLAs.</p> <p>On June 16, 2009, the State Water Resources Control Board approved Resolution R9-2008-0027 amending the Basin Plan to incorporate Total Maximum Daily Loads (TMDLs) for indicator bacteria for Baby Beach in Dana Point Harbor and Shelter Island Shoreline Park in San Diego Bay. Final approvals by the Office of Administrative Law and the USEPA are expected to be garnered prior to adoption consideration of this re-issuance of the MS4 Permit for So. Orange County.</p>

Comment No.	Commenter	Subject	Section	Specific Comment	Comment Response
306	16	Urban Runoff	General	<p>You had asked for our views on the proposed replacement of the term "urban runoff", which was commonly used in the previous permit, with the terms "stormwater" and "non-stormwater" as the discharges regulated in the new permit. We would support this revision since it is actually more consistent with the terminology used in the EPA stormwater regulations at 40 CFR 122.26.</p> <p>However, we would point out that the new Finding C.14 and the discussion in the fact sheet incorrectly indicate that industrial stormwater discharges are subject to the maximum extent practicable (MEP) discharge standard in the Clean Water Act (CWA). Section 402(P)(3)(B) of the CWA provides that only municipal stormwater discharges are subject to the MEP standard; section 402(P)(3)(A) provides that industrial runoff is subject to all applicable requirements of sections 402(P) of the CWA, and section 301 of the CWA which includes BAT/BCT effluent limits and water quality standards compliance.</p>	<p>Comment noted that the removal of the term "urban runoff" is more consistent with federal storm water regulations. The Tentative Order and Supplemental Fact Sheet have been clarified as requested to reflect that Industrial Storm Water discharges are not subject to the MEP standard.</p>
307	16	NEL	C	<p>You also asked for our views on whether numeric effluent limits would be appropriate for non-stormwater discharges. As noted above in our comments on LID and TMDLs, we are seeking to ensure that permits include clear, measurable and enforceable requirements. We believe that the use of numeric effluent limits for non-stormwater discharges would be a significant step in the right direction and we support the proposed limits. In previous MS4 permits, the non-stormwater discharges addressed in the permits have typically been regulated through best management practices (BMPs) pursuant to 40 CFR 122.44(k) for the same reason that stormwater discharges themselves are often regulated by BMPs, which is the lack of good information about the discharges and the difficulty in deriving appropriate numeric effluent limits. This issue was recognized in a 1996 EPA guidance on water quality-based effluent limits for stormwater discharges which is cited by the fact sheet. However, the guidance also indicates that as additional information becomes available, more specific limits should be considered. As noted in the fact sheet, additional information has become available to the Board about the discharges over the years, and we agree that the numeric effluent limits are now appropriate.</p>	<p>Comment noted. The Regional Board appreciates the support of the USEPA as they are, arguably, the foremost experts on federal statutes regulating MS4 discharges.</p>

Comment No.	Commenter	Subject	Section	Specific Comment	Comment Response
308	17	General	General	<p>RE: Tentative Order No. R9-2007-0002 NPDES, No. CAS0108740</p> <p>I am a resident of Laguna Beach and live a couple of blocks from Aliso Creek and State Park. I am writing to you to add my voice in support of the Board's efforts to force the cities, that are contributing to the pollution of Aliso creek and cause its toxic soup to flow into our Oceans, to clean up their acts. I understand there have been many half hearted efforts to reduce this toxic discharge. These efforts have been, apparently, more cosmetic than real as the flow of polluted runoff during dry weather is continuing to increase. There are many ways that a city can prevent the discharge of polluted water into our watercourses and then into the ocean. It is time that your Board took real, forceful action to insist that the polluting cities take appropriate action.</p> <p>The Board has a clear path:</p> <ul style="list-style-type: none"> * Insist Cities divert polluted runoff to inland SOCWA facilities for treatment and reuse as reclaimed water. * Force capture of MS4 discharges for filtration and local beneficial reuse. * Levy substantial fines against offending subwatershed, cities, homeowner associations, golf courses and others with elevated dry season discharge rates and against offending inland water districts for failing to control urban runoff. <p>Please know that you have many residents behind you in this effort. You have the regulatory as well as the moral authority to make a difference. Building the SUPER project, as proposed by Orange County is a red herring. It is just another band aid that will do nothing to control and reduce polluted runoff into our watercourses. The SUPER Project is now seen as an effort to divert the Waterboard's attention away from the real culprit in this pollution. We hope you will not fall for these stall tactics.</p> <p>Thanks! Armando Baez 30792 Driftwood Drive, Laguna Beach, Ca. 92651</p>	<p>Please see response to Comment 1, 3, 6, 14, 16, 82.</p> <p>In regards to the SUPER Project, the project will be subject to a Clean Water Act 401 Water Quality Certification from the Regional Board. The 401 Certification requires the evaluation of avoidance, minimization and mitigation measures taken by the applicant for the proposed project. It is expected that the SUPER project applicant will address the commenters concerns on the project within the 401 process.</p>

Comment No.	Commenter	Subject	Section	Specific Comment	Comment Response
309	18	General	General	<p>The City of Mission Viejo shares its concerns with the County of Orange over the lack of permitting consistency with the North Orange County draft MS4 permit (Tentative Order R82009- 0030). We believe the lack of permitting consistency will lead to confusion by private developers, businesses, and residents over storm water regulatory requirements. While your staff has acknowledged that they will likely incorporate the North Orange County permit's land development provisions, they are reluctant to eliminate other areas of inconsistency. As the County points out, this disinclination will erode the credibility of the regulatory framework for stormwater in California and will confound the ability of local governments, including Mission Viejo, and the regulated community to effectively address a key environmental mandate at a time of unprecedented fiscal constraint. It is therefore necessary for us to continue to seek revisions to the Tentative Order supportive of a cohesive and cogent alignment of the North and South County pennits on the basis that consistency is important to the credibility of our respective efforts to manage urban runoff and is vital to sustaining the obvious cost effectiveness of a single and coordinated Countywide program in Orange County.</p>	<p>Please see the response to comments #24 on consistency between permits.</p> <p>The state's water quality protection requirements within the Tentative Order are authorized by Federal Law, are necessary to meet the federal MEP standard, and are not unfunded mandates. Please see comments #155 and 165.</p>
310	18	NEL	C & D	<p>The insertion of MALs and NELs is inconsistent with the State Water Board's Blue Ribbon panel report on the feasibility of numeric effluent limits. And, this conclusion continues to be the published position of USEPA on this issue.</p>	<p>Please see response to Comments 25, 33 and 39. The commenter has misinterpreted the findings of the State Board's Blue Ribbon Panel and the USEPA's published position.</p> <p>In regards to the position of USEPA, please see Comment 307.</p>
311	18	NEL	C & D	<p>The finding by the Regional Board staff that non-stonnwater discharges are not subject to the maximum extent practicable standard and therefore subject to water quality based effluent limits is not supported by law. Clean Water Act section 402(p) (3) (B) (ii) clearly states that discharges from municipal stonn sewers shall include a requirement to effectively prohibit non-stormwater discharges into the storm sewer. We argue that the section does not require a full prohibition but rather an effective prohibition. The City agrees with the County in that the technology based standard for non-stonnwater discharges is "effectively prohibit" just as "maximum extent practicable" is the technology based standard for stonnwater discharges.</p>	<p>Please see response to Comment 33, 77 and 78.</p>

Comment No.	Commenter	Subject	Section	Specific Comment	Comment Response
312	18	NEL	C	<p>The City is concerned with exposure to significant risk in complying with the Tentative Order. The County of Orange has completed a comparison of existing dry weather discharges with the selected NELs noted below.</p> <p>Constituent Hydrologic Unit Percentage of time NELs Total Dissolved Solids* Group 1 74.5 Total Dissolved Solids* Group 2 97.1 Total Phosphorus¹⁹ Group 1 and 2 93.0 Nitrate + Nitrite Group 1 and 2 93.8 Fecal colifonn Group 1 and 2 90.0 Nickel (dissolved) Group 1 and 2 0.3 Copper (dissolved) Group 1 and 2 9.5 Cadmium (dissolved) Group 1 and 2 18.1 *A factor of 0.6 was multiplied by the specific conductance measurements to estimate IDS @Proposed NEL was compared to measurements of reactive orthophosphate as P</p> <p>As a result, the City of Mission Viejo could face enforcement action for not complying with all the NELs. Where there is exceedance, the City may be faced with mandatory minimum penalties (MMPs) under Water Code §§ 13385 and 13385.1. In addition, noncompliance with the NELs may subject the City to additional enforcement actions imposed by the Regional Water Board and through third party actions under the citizen suit provisions of the Clean Water Act.</p>	Please see response to Comment 82.
313	18	NEL	C	<p>The use of numeric limits for non-stormwater discharges is premature. Extensive work has already been performed by the Stakeholders Advisory Group on the Bacteria I TMDL for San Diego Region Beaches and Creeks, which involved multiple parties environmental groups and the regulated community alike. The TMDL program provides the safety net for ensuring that our water bodies are protected in the most reasonable and effective manner. The direct translation of water quality objectives into numeric effluent limits bypasses the TMDL process. It is likely that some of our non-stormwater discharges will exceed the NEL but have no effect on the receiving water quality or beneficial uses. But under the proposed Order, the City may be obligated to expend considerable resources without a reciprocal water quality benefit. This is poor public policy and use of public funds.</p>	Please see response to Comment 83.

Comment No.	Commenter	Subject	Section	Specific Comment	Comment Response
314	18	Overirrigation	B	<p>The prescribed prohibition on irrigation runoff also needs to be very carefully considered. The City believes this outright prohibition would erode general public support for the City's and County's Storm Water Program. We believe implementation of the prohibition would risk eroding general public support for a Program that is successfully fostering a stewardship ethic in residential environments. For example, cities may be faced with issuing citations to a homeowner for irrigation runoff; whereas, the neighbor next door is free to wash his car in his driveway under the current Tentative Order exemption for residential car washing. There is also concern that the provision would force the expenditure of scarce resources on an issue that is already being addressed by water districts dealing with water conservation imperatives.</p>	<p>Please see response to Comment #s 28, 52, 75, and 174.</p> <p>The Regional Board is working within the parameters set forth in the federal regulations to remove exemptions to non-storm water discharge prohibitions. If the City of Mission Viejo has evidence that residential car washing is causing or contributing to a condition of pollution in receiving waters, the Regional Board would appreciate receiving the information.</p>

Comment No.	Commenter	Subject	Section	Specific Comment	Comment Response
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315	18	Existing Development	F.3.	<p>Page 69, Part F.3.h., of the Tentative Order states:</p> <p>"Each Copermittee must prevent, respond to, contain and clean up all sewage and other spills that may discharge into its MS4 from any source (including private laterals and failing septic systems.) Spill response teams must prevent entry of spills into the MS4 and contamination of surface water, ground water and soil. Each Copermittee must coordinate spill prevention, containment and response activities throughout all appropriate departments, programs and agencies so that maximum water quality protection is available at all times."</p> <p>For many cities (including the City of Mission Viejo), implementation of this provision is simply not feasible. For example, the City does not own or operate its own sewage system. All of the sewer systems in Mission Viejo are owned, operated, and maintained by water districts. These agencies have their own separate NPDES Permit. The City does not have the equipment or expertise to manage a sewage spill of any size, and its staff is not adequately trained to respond to potential spills. All of the water districts in Mission Viejo already respond to sewer spills (including sewer spills from private laterals). Furthermore, this provision is duplicative in the sense that the Regional Board is seeking to make the Permittees responsible for a task already delegated to the water districts. By making the City responsible for sewer spills, there is a high risk of creating confusion in determining who will respond to a spill (water district or City), who is responsible for the associated cost and reporting, etc.</p> <p>This issue is made even more troubling by the fact that the State Water Resources Control Board ("State Board") previously issued a stay of this very same issue in the prior generation of the NPDES Permit. After extensive hearings and briefing on the matter, the State Board issued Order WQO 2002-0014 on August 15, 2002, granting a stay as to this provision. In that Order, the State Board held:</p> <p>"The record shows that three separate water districts operate these sewers within Mission Viejo, and are regulated by a sanitary sewer NPDES permit issued by the Regional Board. Mission Viejo alleged that the duplication of effort that would ensue by having Mission Viejo also be responsible for preventing and responding to sanitary sewage spills could lead to delayed responses as agencies try to determine jurisdiction and primary responsibility. Orange County's cost table for the upcoming year estimated total copermittee costs of \$56,512 to implement this requirement. While these costs, by themselves do not constitute substantial harm, we find that the duplicative nature of the costs, combined with potential response delay and confusion, do." (State Board Order WQO 2002-0014, p. 6.)</p> <p>In deciding to grant a stay as to this provision, the State Board concluded:</p> <p>"The regulation of sanitary sewer overflows by municipal storm water entities, while other</p>	Please see response to Comment 180.
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Comment No.	Commenter	Subject	Section	Specific Comment	Comment Response
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public entities are already charged with that responsibility in separate NPDES permits, may result in significant confusion and unnecessary control activities. For example, the Permit appears to assign primary spill prevention and response coordination authority to the copermittees. While the federal regulations clearly assign some spill prevention and response duties to the copermittees, we find that the extent of these duties is a substantial question of law and fact."

[State Board Order WQO 2002-0014, p. 8. (emphasis added.)] Given the previous findings of the State Board on this same issue, and given that none of the factual reasons supporting this decision have changed, the Regional Board should remove or modify this provision so as to reduce duplicity of effort and the implementation of unnecessary control activities. As an alternative, the City recommends that the Regional Board consider adopting language similar to that contained in State Board Order No. 2006-0003 titled: "Statewide General Waste Discharge Requirements for Sanitary Sewer Systems" ("Order"). This Order applies solely to municipalities and other public entities that own or operate sanitary sewer systems greater than one mile in length that collect and/or convey untreated or partially treated wastewater. Adopting this caveat would not only serve to accomplish the primary goals behind the provision, but would also ensure Statewide consistency among Water Board regulations. If the Regional Board is concerned that the City will not work in cooperation with the water districts or provide notification to the water districts regarding spills that are initially reported to the City, the Regional Board could add additional language/requirements. For example, the following condition could be added, "For the Permittees that do not own or operate sanitary sewer systems and are exempt from the responsibility for spills, said Permittees shall develop a program to notify the Agency responsible for the sewage spill and shall provide assistance to the responsible Agency as necessary to prevent sewage from entering the MS4." Please note for the record that the City of Mission Viejo already has these procedures in place.

Comment No.	Commenter	Subject	Section	Specific Comment	Comment Response
316	18	LID	F.1	<p>More recently the County provided the Santa Ana RWQCB with a more detailed conception of a framework for land development. It predicates permit compliance on management of the 85th percentile storm volume, presumes the application of LID BMPs based upon a prioritized consideration of infiltration, capture and re-use, evapo-transpiration, and bio-retention/biofiltration, and requires treatment of residual runoff volumes for which the application of LID BMPs has been determined to be infeasible at site, sub-regional and regional scales. The framework also integrates options for water quality credits and provides for alternate compliance approaches including participation in a watershed project and contributions to an "in-lieu" fund. It also explicitly recognizes bio-retention/bio-filtration BMPs as LID BMPs and the continued and entirely legitimate contribution of effective structural BMPs such as constructed wetlands and detention ponds to the practice of stormwater quality management. The City agrees with the County and the other Permittees that it is imperative that there be a uniform countywide development standard for water quality protection. Consequently, the framework language that is currently being supported by both the North Orange County Permittees and staff of the Santa Ana Regional Board should be the starting point for discussion with respect to the subject Tentative Order.</p>	<p>The Tentative Order's requirements regarding the implementation of low impact development practices has been changed to be consistent with Region 8's recently adopted MS4 permit.</p>

Comment No.	Commenter	Subject	Section	Specific Comment	Comment Response
317	4	Economic	Attachement E:MRP	<p>The specific comments provided below are intended to ensure that any changes to environmental monitoring requirements are based on careful strategic assessments of the current effort to ensure that revisions ultimately continue to most effectively support DAMP implementation. Also, at a time of unprecedented fiscal challenge there can be no required commitment of additional resources to environmental monitoring. Any new monitoring requirements will require offsetting and compensatory reductions in existing monitoring obligations.</p>	<p>The Regional Board does not agree that "any new monitoring requirements will require offsetting and compensatory reductions in existing monitoring programs." The commenter does not provide any regulatory language or evidence to support this assertion.</p> <p>Furthermore, USEPA (61 Fed Reg 43761) has addressed the question regarding the quantity of storm water monitoring required for MS4 NPDES permits: "The amount and types of monitoring necessary will vary depending on the individual circumstances of each storm water discharge. EPA encourages dischargers and permitting authorities to carefully evaluate monitoring needs and storm water program objectives so as to select useful and cost-effective monitoring approaches. For most dischargers, storm water monitoring can be conducted for two basic reasons: 1) to identify if problems are present, either in receiving water or in the discharge, and to characterize the cause(s) of such problems; and 2) to assess the effectiveness of storm water controls in reducing contaminants and making improvements to water quality."</p> <p>The Regional Board maintains that it considers monitoring needs and program objectives when requiring monitoring. The Regional Board has considered the position of the Copermittees when evaluating the Tentative Monitoring and Reporting requirements and significant reductions and modifications have been made to the Tentative Order in an effort to maintain a cost-neutral monitoring program. The latest draft of the Tentative Order eliminates multiple monitoring requirements and allows the Copermittees to substitute participation in regional monitoring programs. These actions are expected to be more cost efficient and prevent redundancy.</p>

Comment No.	Commenter	Subject	Section	Specific Comment	Comment Response
318	4	Monitoring	Attachement E:MRP	<p>The 6-hour holding time for samples of indicator bacteria limit the length of time that sampling teams can spend in the field and do not allow sampling of some episodic events. A typical day of Bioassessment monitoring at three locations requires 8 hours in the field for PHAB assessment, and collection of benthic macroinvertebrate, water quality, and toxicity testing samples. Mass Emissions monitoring of stormwater runoff can occur on weekends and holidays when contract laboratory services are not available. Most importantly, monitoring bacteriological quality of stormwater at Mass Emissions site will not produce useful information since access to flood control channels is prohibited during periods of stormwater runoff and the Mass Emissions monitoring sites are generally great distances upstream of the coastal receiving waters.</p> <p>Proposed Modification: Exempt monitoring of bacteriological quality at Bioassessment sites and during stormwater events at Mass Emissions sites.</p>	<p>The Regional Board finds the exemption of Bioassessment sampling from bacteriological sampling to be a reasonable request. The Tentative Order has been updated to reflect the exemption.</p> <p>The Regional Board finds the exemption of Mass Loading sampling from bacteriological sampling to not be a reasonable request. The information provided to support this exemption is not of sufficient concern to warrant the exemption. The commenter's concerns with monitoring at Mass Loading stations include the monitoring itself, distance from coastal receiving waters, and availability of laboratory services and are addressed as follows:</p> <p>The comment regarding monitoring accessibility for mass loading stations and holding times appears to assume composites are required for bacteriological sampling. This is not the case, as II.A.1.d.2 clearly states grab samples are to undergo bacteriological analysis.</p> <p>The comment regarding the distance from coastal receiving waters is concerning, as coastal receiving waters are not the only waters which have REC-1 as a designated Beneficial Use. Inland surface waters within Southern Orange County are all classified as having REC-1 as a Beneficial Use or potential Beneficial Use.</p> <p>Lastly, the accessibility of laboratory services within Southern Orange County is not a sufficient reason for exempting water quality sampling. Furthermore, with the exception of the initial storm event, the remaining mass loading language allows for flexibility in choosing sampling dates.</p>
319	4	Monitoring	Attachement E:MRP	<p>Monitoring for oil and grease concentration will not detect lighter petroleum fractions such as gasoline and diesel. Oil and grease has rarely been detected in 5 years of monitoring in the Dry Weather Reconnaissance Monitoring Program.</p> <p>Proposed modification: Collect a grab sample for oil and grease during stormwater runoff monitoring at Mass Emissions and Ambient Coastal Receiving Water sites. Collect a grab sample for total petroleum hydrocarbons whenever a sheen is observed</p>	<p>As in Comment 318, sampling for Oil and Grease as required in the Order shall be done using grab samples for Mass Loading stations. The Regional Board agrees with the commenter's proposal that total petroleum hydrocarbons only be tested if a sheen is observed. The Tentative Order has been updated to reflect this modification.</p>
320	4	Monitoring	Attachement E:MRP	<p>A Stormwater Monitoring Coalition (SMC) review of Bioassessment data collected in Southern California has shown that at sites where flow is year-round there is no statistical difference in IBI scores between the spring and fall seasons.</p> <p>Proposed Modification: Modify the sampling frequency for Bioassessment to once a year.</p>	<p>The Regional Board finds this a reasonable request at this time. The Tentative Order has been updated to reflect the proposed changes.</p>

Comment No.	Commenter	Subject	Section	Specific Comment	Comment Response
321	4	Monitoring	Attachement E:MRP	<p>The waiver of a single, annual Bioassessment monitoring event to alternatively conduct a study on the effects of PHAB modification on WARM, WILD, and/or COLD beneficial uses of inland receiving waters would not constitute a quid quo pro exchange of resources. The special study would be much more costly.</p> <p>Proposed modification: The Regional Board should offer a more equitable option for alternative monitoring. One option could be reallocation of saved resources from a once-per-year sampling frequency (proposed above) to a collaborative SMC study on the effects of PHAB modification.</p>	<p>The Regional Board is amenable to providing flexibility and to the Copermittee's requests to address emerging issues or identified potential problems. The language under II.A.2.b.1 of the Tentative Order has been changed to allow Copermittees to propose and conduct (upon approval of the Regional Board Executive Officer) special studies or participate in regional special studies. This is also clarified in II.5.b for Regional Monitoring Programs.</p>
322	4	Monitoring	Attachement E:MRP	<p>It is unclear why the Pearl Street drain is included in the list of priority drains for special investigations. In the latest PEA submittal, Figures C-11.16b and C-11.16c show that none of the 51 samples collected from the surfzone near the drain outlet contained concentrations of indicator bacteria above the AB-411 single sample standards.</p> <p>Proposed Modification: Remove special study requirement for the PEARL street drain.</p> <p>The requirement that all special investigations be concluded by June 30, 2011 does not provide adequate time for determining if conditions in receiving waters are protective, or likely to be protective, of beneficial uses (I.B, Question 1). In order to answer Question 1 sufficiently, an epidemiological study must be conducted. The Doheny State Beach epidemiology study has shown that these methods are quite expensive and require a significant commitment of resources. Question 4 will be best answered when the methods of Microbial Source Tracking are more refined. Extending the reporting period for the special investigations will provide a better basis to address the Regional Board's concern about sources of bacteria and impacts on beneficial uses.</p>	<p>Section 5 (Coastal Storm Drain Monitoring) has been removed from the Tentative Order.</p>
323	4	Monitoring	Attachement E:MRP	<p>The requirement that the new Inland Aquatic Habitat monitoring program be implemented by the beginning of the rainy season 2010 does not provide adequate time to develop this new monitoring program nor reallocate staff resources from the existing monitoring program. Furthermore, Regional Board staff must recognize that any increase in any specific element of the monitoring effort will need to be offset by strategically considered compensatory reductions in other elements.</p> <p>Proposed modification: Program implementation of this new monitoring program should be postponed until the end of storm season 2010-11.</p>	<p>Please see response to Comment 317 regarding the commenter's statement that "Regional Board staff must recognize that any increase in any specific element of the monitoring effort will need to be offset by strategically considered compensatory reductions in other elements."</p> <p>Section 6 (High Priority Inland Aquatic Habitats) has been removed from the Tentative Order.</p>

Comment No.	Commenter	Subject	Section	Specific Comment	Comment Response
324	4	Monitoring	Attachement E:MRP	<p>II.B.1 Wet Weather Runoff Monitoring – MS4 Outfall Monitoring [page 15 and May 5 updates]</p> <p>See comment above with respect to implementation schedule.</p> <p>Proposed modification: Program implementation of this new monitoring program should be postponed until the 2010-2011 monitoring year.</p> <p>II.B.2 Wet Weather Runoff Monitoring – Source Identification Monitoring [page 15] The requirement that the new Source Identification monitoring program be implemented within each watershed and must begin no later than the 2008-2009 monitoring year occurs during a timeframe prior to permit adoption.</p> <p>Proposed modification: Program implementation of this new monitoring program should be postponed until the 2010-2011 monitoring year to allow the Permittees adequate time to develop this new monitoring program and integrate it into the next budget cycle (2001-11).</p>	<p>The Regional Board finds these to be reasonable requests for the Wet Weather Runoff Monitoring requirements. The Tentative Order has been updated to reflect the changed dates.</p>
325	4	Monitoring	Attachement E:MRP	<p>The 1-hour composite sampling requirement (if flow is observed) will make monitoring of three sites in a single day (by a single team) difficult because of holding time requirements for bacteriological samples.</p> <p>Proposed modification: Dry Weather Reconnaissance monitoring should be conducted with grab samples. Composite sampling should be considered as an ancillary assessment tool for use when additional source identification efforts are deemed necessary.</p>	<p>The Regional Board finds this to be reasonable request. The Tentative Order language has been updated to reflect the proposed changes.</p>
326	4	Monitoring	Attachement E:MRP	<p>The requirement that the Planned Monitoring Program be submitted September 1st of every year, beginning on September 1, 2009, does not allow adequate time for analysis of the monitoring data from the prior year as it is affected by management actions undertaken throughout the MS4, subject of the annual Performance Effectiveness Assessment.</p> <p>Proposed modification: Rather than additional reporting requirements to describe routine monitoring efforts, Board staff and the Permittees should conduct an annual meeting after submission of the Annual Report to discuss the content of the report and any changes to the monitoring program or suggestions for special studies. This approach will promote a more collaborative relationship between the Permittees and Board staff and may help streamline the renewal of future permits.</p>	<p>Comment noted. Please see response to Comment 183.</p> <p>In addition, the Regional Board proposes that the appropriate format to discuss the content of the monitoring annual report, including any changes or suggestions, would be for the Copermittees to include the monitoring in the annual watershed review meetings (see response to Comment 267).</p>

Comment No.	Commenter	Subject	Section	Specific Comment	Comment Response
327	4	Monitoring	Attachement E:MRP	<p>The requirement that the Receiving Waters and Urban Runoff Monitoring Annual Report be submitted October 1st of every year, beginning on October 1, 2010, does not provide adequate time for relevant analysis of the monitoring data collected in the 12-month period immediately prior to the proposed reporting date. Previous annual reports were submitted on November 15th of each year and assessed the results of monitoring activities conducted in the 12-month period ending 4 ½ months prior to the reporting date.</p> <p>Proposed modification: The Receiving Waters and Urban Runoff Monitoring Programs Annual Report should be submitted in conjunction with the Unified Annual Report and Performance Effectiveness Assessments</p>	Comment noted. Please see response to Comment 183.
328	4	Construction	F	<p>Section F.2.d.(1)(c)(i) (Page 48) states that the Permittees must require implementation of advanced treatment for sediment at construction sites that are determined to be an exceptional threat to water quality.</p> <p>The Fact Sheet provides no justification for this requirement. The newly released draft Statewide Construction General Stormwater Permit identifies the Active Treatment System (ATS) as an advanced sediment treatment technology. The ATS prevents or reduces the release of fine particles from construction sites by employing chemical coagulation, chemical flocculation, or electrocoagulation to aid in the reduction of turbidity caused by fine suspended sediment. The recently released (April 2009) Draft Construction General Stormwater Permit does not require use of ATS but identifies it as an available BMP. However, that permit acknowledges that the ATS is a newly emerging technology in California. The provisions requiring the use of ATS should be deleted from this permit, and the selection of BMPs for construction operations, especially an ATS, should be done under the aegis of the Statewide Construction General Stormwater Permit.</p>	<p>The requirements for active treatment systems in the Tentative Order are consistent with the requirements in the adopted MS4 permit for San Diego County. Although the draft General Construction Permit may have some basic requirements for active treatment systems, there is no assurance that those requirements will be in the final adopted version of the permit. The Copermittees have a greater knowledge and understanding of site conditions within their jurisdiction than the general permit. Therefore, the Copermittees are more appropriate to know when and how to implement ATS within their jurisdiction.</p> <p>Advanced treatment has been effectively implemented extensively in the other states and in the Central Valley Region of California. In addition, the Regional Board's inspectors have observed advanced treatment being effectively implemented at large sites greater than 100 acres and at small, less than 5 acre, in-fill sites. Advanced treatment is often necessary for Copermittees to ensure that discharges from construction sites are not causing or contributing to a violation of water quality standards. For example, the Basin Plan lists the water quality objective for turbidity as 20 NTU for all hydrologic areas and subareas except for the Coronado HA (10.10) and the Tijuana Valley (11.10). For certain construction sites with large slopes and exposed areas, the only technology that is likely to meet 20 NTU is advanced treatment combined with erosion and sediment controls. To ensure the MEP standard and water quality standards are met, the requirement for implementation of advanced treatment at high threat construction sites has been added to the Order, while still providing sufficient flexibility for each Copermittee's unique program.</p>

ATTACHMENT 37

**CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD,
SAN DIEGO REGION**

Response to Comments V

Section X.5 of the Fact Sheet / Technical Report for

Tentative Order No. R9-2009-0002

November 18, 2009

A. Background

This document provides responses to the written comments received on the draft permit for reissuance of NPDES Waste Discharge Requirements for Discharges of Runoff from the Municipal Separate Storm Sewer Systems (MS4s) draining the watersheds of the County of Orange, the Orange County Flood Control District, and the incorporated Cities of Aliso Viejo, Dana Point, Laguna Beach, Laguna Hills, Laguna Niguel, Laguna Woods, Lake Forest, Mission Viejo, Rancho Santa Margarita, San Clemente, and San Juan Capistrano within the San Diego Region (Tentative Order No. R9-2009-0002, formerly Tentative Order Nos. R9-2008-0001 & R9-2007-0002, NPDES Permit No. CAS0108740).

The fifth version of revised the Tentative Order was distributed on August 12, 2009. The original Tentative Order was distributed on February 9, 2007. Four previous responses to comments documents (RTC I, II, III, and IV) have addressed written comments on the four previous versions of the Tentative Order. One additional round of written comments occurred following close of the deadline for written comments to receive a written response on the December 2007 version. These comments were received prior to the close of the public comment period at the February 13, 2008 adoption hearing and were responded to verbally by Regional Board staff at the February 13, 2008 Board Meeting. This document summarizes and responds to written comments received between May 15, 2009 and September 28, 2009 on the fourth and fifth versions of the revised Tentative Order. A public hearing on the fourth version of the Tentative Order was held on July 01, 2009 at the Ocean Institute in Dana Point. At the July 01, 2009 public hearing on the Tentative Order, the Regional Board members directed staff to incorporate draft proposed changes to the March 12, 2009 version and to release the Tentative Order again for further public comment. Interested parties had a full 45-days to review the fifth version prior to the deadline for submission of written comments that would be responded to in writing prior to the November Hearing on the Tentative Order.

B. Contents of This Document

Twenty-two interested parties submitted comments on the March 13, 2009 version of the Tentative Order and thirty submitted comments on the August 12, 2009 version. This resulted in the submission of over 400 comments. Comments came from the public, MS4 Copermittees, governmental and non-governmental organizations, and businesses. Fifteen commenters from homeowner associations submitted identical comment letters. Their comments have been collected, considered, and responded together. The Regional Board reviewed and considered every written comment received. Responses to specific comments

are provided within this document. Each specific comment has been assigned a comment number, and comments are generally grouped by commenter. A legend for commenters can be found on the Page 2 of the coversheet and in Table 1 (below).

Comments received were concerned with a variety of topics in the Tentative Order. Most comments reiterated concerns that were previously addressed in RTC I, II, III and IV. Some comments requested changes that had already been made in RTC I, II, III and IV. New responses have not been drafted for repeat comments that lacked sufficient new information. Consideration of written and verbal comments has resulted in proposed revisions to the requirements in the Tentative Order and can be found in the Tentative Errata and Updates Sheet. In this document, the comments have not been summarized or paraphrased. When comments received from one commenter were similar to other comments received, the Regional Board response usually references back to a previous comment number in order to minimize redundancy. Please note that due to limitations of the comment database system employed to handle these numerous comments, some formatting from the original comment has been lost. Readers are recommended to review the comments as submitted in their original format to fully appreciate the commenter's sentiments. The original comments can be found as Supporting Document 7.

C. Order Adoption

The California Regional Water Quality Control Board, San Diego Region (Regional Board) is scheduled to consider adoption of the Tentative Order on November 18, 2009.

Table 1. Commenter Legend.

Commenter	Commenter Number
Development Resource Corporation	19
Penny Elia	20
Village Laguna	21
Jinger Wallace, Citizen of Laguna Beach	22
Sierra Club	23
Friends of Harbors Beaches and Parks	24
Clean Water Now! Coalition	25
City of Laguna Beach	26
City of Santee	27
Verna Rollinger, City of Laguna Beach	28
United States Environmental Protection Agency	29
NAIOP	30
Rancho Mission Viejo	31
Natural Resources Defense Council	32
United States Marine Corps, Marine Corps Base Camp Pendleton	33
Riverside County Flood Control and Water Conservation District	34
Construction Industry Coalition on Water Quality	35
City of Laguna Niguel	36
Orange County Public Works	37
San Diego County Water Authority	38
Clean Water Now! Coalition	39
Fire Prevention Services	40
Michael Bailey, Citizen of Mission Viejo	41
Jim Fitzpatrick, Pronto Car Wash	42
United States Environmental Protection Agency	43

Table 1 continued. Commenter Legend.

Commenter	Commenter Number
Contech Stormwater Solutions	44
City of San Diego	45
Rancho Mission Viejo	46
City of Laguna Niguel	47
Natural Resource Defense Council	48
County of Orange	49
Construction Industry Coalition on Water Quality	50
Orange County Coastkeeper	51
San Diego Coastkeeper	52
City of Mission Viejo	53
City of Lake Forest	54
City of Dana Point	55
David M. Sinthr*	56
Douglas E Savard*	56
Lynn Holmes*	56
Barbara Barry*	56
Walter Storch*	56
Rancho Santa Margarita Landscape and Recreation Corporation*	56
Dennis Pearson*	56
Rancho Cielo Homeowners Association*	56
Community Association of Rancho*	56
David Pearson*	56
Robert Rebholz*	56
Lee Anne Woods*	56
Trabuco Highlands Community Association*	56
Laura Quebbemann*	56
Ira Fleischer*	56

* These persons and groups submitted identical comments that received a group response.

Comments on R9-2009-0002

Comment No.	1	Commenter No.	19	Comment Subject	Finding
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Comment Finding C14
 This Finding seeks to prohibit all types of non-storm water (dry weather) discharges from a project site. Specifically, landscape irrigation, irrigation water and lawn water will no longer be allowed to enter an MS4 stormwater conveyance system. This runoff has been established to carry pollutants that can be detrimental to the downstream receiving waters.

Comments. The first question that arises is how can this prohibition be practically achieved? Also, will this prohibition apply to both existing and proposed developments? Will compliance involve application of efficient irrigation techniques and simple reduction of watering times for each zone? Or, will compliance require upgrading existing irrigation system components (i.e. heads and controllers) so that overspray and surplus runoff are minimized? Compliance may possibly require the capture of low flows and irrigation flows in basins or underground chambers so that the dry weather runoff does not leave the site. What is certain is that some capital expenditures will be required for both existing and new developments to eliminate the prohibited discharges. Doing so, however, would appear impossible from a practical viewpoint.

Recommendation. As written, the prohibition of "no non-storm water (dry weather) discharges," including irrigation runoff, is too restrictive and too rigid. It would be reasonable to apply a percent reduction to non-storm water discharges rather than requiring total elimination. The regulation should include the framework of a program stating how this measure will be achieved, what levels of discharge are considered compliant, who will be responsible for the implementing the program, and how the program can be phased over time. If the permit was adopted as written, there would be thousands of residential and commercial properties operating in violation of the regulations. In comments prepared by Orange County, they recommend leaving the reduction of irrigation runoff in the realm of public education and water conservation. DRC agrees with that assessment.

Response The Clean Water Act section 402(p)(3)(B)(ii), permit requirements for municipal dischargers, states that municipal storm water NPDES permits: "shall include a requirement to effectively prohibit non-storm water discharges into the storm sewers." This prohibition of non-storm water discharges has been in every MS4 permit to date. The Copermittees already have in place a program to detect and eliminate non-storm water discharges. The requirement to prohibit non-storm water discharges into the MS4 applies to the Copermittees. The specific method of compliance is up to the Copermittees to develop and enforce their ordinances. It is not certain that some capital expenditures will be required for existing and new developments to eliminate non-storm water discharges. As this is a specific, direct requirement of the Clean Water Act, we are not at liberty to apply a percent reduction to non-storm water discharges. The Regional Board expects the Copermittees to treat irrigation runoff, through ordinance and inspection, like any other prohibited non-storm water discharge.

Comment No.	2	Commenter No.	19	Comment Subject	SAL
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Comment Finding D.1.h

Municipal Action Levels (MALs) will establish the requirement for numeric effluent limits for specific stormwater runoff pollutants.

Comments. It is not clear who is responsible for compliance with MAL levels, the co-permittee (ie. city or county) or the private land owner. The text does not establish the time interval for sampling and monitoring. Is it one time after project completion, or on an annual basis? It is likely that the co-permittees will enact ordinances that will require the discharger to take samples of stormwater discharges and process them with a certified lab in accordance with accepted testing protocols. The Fact Sheet states that exceedance of MALs could result in enforcement actions such as stop work orders or cease and desist orders. Even if current treatment measures are adequate to satisfy the numeric effluent criteria, periodic sampling and testing will result in significant costs to the discharger.

Recommendation. The application of MALs is not justified or warranted according to comments from the County of Orange. They describe the Tentative Order's proposed use of MALs as not being legal in the manner proposed, and not technically supportable or valid. In fact, the Blue Ribbon Panel Report referred to in the Supplemental Fact Sheet does not support the use of numeric effluent criteria on stormwater discharges at this time. We would recommend the deletion of MALs and numeric effluent limits from the proposed General Permit changes. It will be cost prohibitive to comply with, unenforceable based on its scope and size, and not justified according to current CWA interpretations.

Response The Copermittee(s), as holders of the NPDES permit to discharge from the MS4, are responsible for compliance with MALs. Please note the nomenclature for MALs has been changed to SALs (Stormwater Action Levels). SAL compliance points are for discharges from the MS4, not individual project sites and current language in Attachment E (Monitoring and Reporting Requirements) allows the Copermittees to propose a monitoring program for SALs, including monitoring locations and frequency. SALs are action levels, not effluent limitations.

Please also see responses to Comment nos. 25 and 33 in the July 1, 2009, Response to Comments IV.

Comment No.	3	Commenter No.	19	Comment Subject	LID
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Comment Finding D.2.c

Sets the requirement that Low Impact Development (LID) site design strategies will be incorporated into new and existing projects.

Comments. Based on this change, LID will need to be considered in the early stages of site planning. As a developer works with an architect on a development proposal, it will be important to bring the civil engineer and landscape architect into the project at an early stage, in order to ensure that LID, Site Design BMPs and Treatment Control BMPs for stormwater quality are incorporated into the design layout. The cost impact from LID is the potential loss of developable land and the cost of additional treatment control BMPs.

Recommendation. While LID can be applied to new projects, there needs to be flexibility in how it is applied to a project based on site specific needs and constraints. The proposed changes should not impose compliance standards with respect to incorporating LID into a project design. LID should not be applied to retrofitting existing projects because the Regional Board and the co-permittees do not have the right to force private property owners to make improvements to their property at their expense.

Response The Clean Water Act requires the reduction of pollutants in storm water to the maximum extent practicable (MEP). Current management, knowledge, practices, and technology has resulted in the use of LID BMPs to meet the MEP standard. Any pollutant reduction required less than the MEP standard could be considered a violation. As such, some sites have specific technical conditions that may limit the site's ability to infiltrate, retain or evapotranspire the complete design storm volume. In those cases, the Tentative Order provides flexibility for a site to use other means of reducing pollutants.

The retrofitting requirements do not force private property owners to make improvements to their property at their expense. Rather, the Copermittees are required to cooperate with private property owners to encourage retrofitting through various means. LID may be used in retrofitting where feasible, but a project's potential to be retrofitted should not be limited by a site's capability to implement LID practices.

Comment No.	4	Commenter No.	19	Comment Subject	Hydromod
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Comment Finding D.2.g

Requires a development to analyze and mitigate potential impacts due to increased volume, velocity, frequency and discharge duration of stormwater. The objective here is to minimize hydromodification impacts to the downstream drainage courses and downstream habitat.

Comments. This is a difficult criteria to satisfy from an engineering standpoint because land development does in fact alter the natural drainage patterns on a site. Increased volume, higher velocities and earlier time of concentration are the result of introducing rooftops, paved parking lots, streets and hardscape. The use of detention basins is one of the main tools engineers employ to control the site discharge and limit it to the pre-development peak runoff rate. This Finding expands on the solutions to be applied to site development including hydrologic distribution using LID features, determining effective impervious area and preparation of a Hydromodification Management Plan. Mitigating these factors may require extraordinary storm drainage measures and off-site improvements. Expenses will increase as the need for physical mitigation measures increase.

Recommendation. This regulation cannot be reasonably satisfied when developing a project site. Hydromodification impacts from a project site need to be limited to industry standard of practice which is to regulate the developed condition discharge rate, in cubic feet per second, to be no greater than the undeveloped condition discharge rate. The project can also reduce velocities at the discharge point to non-erosive rates in order to minimize downstream erosion potential and habitat impact. What should not be controlled by regulation are the total volume of runoff and the duration of discharge into a natural drainage course or unimproved channel. These parameters are not easily modified to match the undeveloped condition and doing so places an unreasonable burden on the property owner and developer.

Response Specific hydromodification requirements are increasingly recognized as being needed to prevent impacts to water quality and beneficial uses from increased volume, duration, and intensity of flows from developed areas. This is because traditional methods to date have been ineffective, and more stringent controls are needed.

Similar hydromodification requirements to those stated in the Tentative Order have been required in other MS4 permits throughout the State of California. It is too soon to judge the difficulty and cost in implementing hydromodification controls in southern Orange County. Collectively using distributed LID features onsite and site design measures, along with conventional detention basins and regional controls, may defray the costs associated with simply expanding traditional methods to control flows. To protect water quality, matching the peak flow rate is not sufficient by itself without matching duration as well. Matching the peak flow rate, but extending the duration of that peak flow, may result in downstream erosion in a receiving water that cannot accommodate the increased duration of the peak flow.

Comment No.	5	Commenter No.	19	Comment Subject	Retrofitting
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Comment Finding D.3.i

Requires the cooperation of existing land owners to retrofit projects for the preservation, restoration and enhancement of water quality.

Comments. The main question here is how does the co-permittee identify which existing properties need to be retrofitted and who will pay for the cost of the required retrofit? The Regional Board and the co-permittees do not have the right to force a private property owner to make improvements to their property at their expense.

Recommendation. This Finding should be deleted from the General Permit because it cannot be effectively implemented.

Response Copermittees must identify and rank retrofitting opportunities through an analysis of several factors listed in the permit (e.g. feasibility, pollutant removal effectiveness, etc). The Tentative Order does not force a private property owner to make improvements to their own property. The Tentative Order requires Copermittees to cooperate with private property owners in seeking out retrofitting opportunities. Identifying the funding source for retrofitting projects is ultimately up to the Copermittees. Some potential funding sources at the Copermittees discretion may include general funds, development fees, grant funds, and pollutant mitigation accounts.

Comment Finding E.10

This Finding moves to establish Total Maximum Daily Loads (TMDLs) for 303(d) impaired water bodies in Orange County. We understand this to mean that measurement of pollutants in a water body will be taken at the most downstream point of the watershed and compared with numeric limits set for each pollutant originating from the subject watershed. The Supplemental Fact Sheet lists bacteria, phosphorous, toxicity and turbidity as target pollutants. Cease and desist orders or cleanup and abatement orders would be the primary enforcement mechanisms under the TMDL regulation.

Comments. The EPA has been working to implement TMDLs for many years now and originally started with major water courses such as the Los Angeles River and Santa Ana River. Progress has been slow and is behind schedule because of the complexities of analysis and implementation. One main obstacle is determining who is responsible for reducing the pollutant load in the watershed. How to equitably apply reduction measures that involve thousands of property owners and numerous cities is another significant problem to solve.

According to a presentation given by Dr. Cindy Lin with the EPA on April 16, 2008 in Corona, CA, the TMDL process requires identifying the problem pollutants, setting numeric targets for maximum concentrations, determining the sources of the pollutants in the watershed, linking the target pollutants and sources, and allocating pollutant loads to the sources. The last part is the hardest one to complete. In order to set a maximum discharge rate for a specific discharger, you need to have knowledge of the entire watershed and the point source and non-point source origins of the target pollutant. The process requires analysis of watershed subareas along with the cooperation of counties, municipalities and individual stakeholders. Assuming the Regional Board can set the TMDLs for the several 303(d) water bodies within their jurisdiction and the State and EPA approve them, it is not possible to determine the impact that this regulation would have on individual property owners.

Recommendation. The introduction of TMDLs into the General Permit should only be done if the entire program can be clearly identified. DRC recommends that TMDL Programs should be instituted via separate Board actions that address only one impaired water body and its associated watershed at a time. As presented, monitoring TMDL loads and effectively implementing pollutant reduction measures is unworkable. You only need to look at the efforts that have been underway for years on the Santa Ana River Watershed TMDL Program to know that this stormwater quality parameter is unworkable and impractical to impose on Orange County, its co-permittees and property owners.

Response

The Tentative Order only incorporates requirements consistent with the assumptions and waste load allocations of adopted TMDLs (see Finding E.11 and response to comment no. 79 for a discussion on adopted TMDLs). Finding E.10 does not establish TMDLs; the finding merely establishes cause for "early pollutant control actions and further pollutant impact assessments." Please see Directive J.1.a.1 for more information.

See the following web page for more information on TMDLs in progress:
http://www.waterboards.ca.gov/sandiego/water_issues/programs/

Comment No.	7	Commenter No.	19	Comment Subject	Hydromod
Comment	<p>Section III, Directives, of the Supplemental Fact Sheet Finding F.1.h</p> <p>For interim projects, a limit on the Effective Impervious Area (EIP) of 5% has been added.</p> <p>Comments: Taken literally, this Finding appears to limit the amount of impervious area on a project site to 5% of the total area. This is a completely unreasonable standard to impose on any project. Even if a project employed a green roof system, porous pavement and minimal concrete walks, this threshold would be extremely difficult to achieve. Under the USGBC LEED New Construction Reference Guide, Version 2.2, the credit for maximizing open space only requires 20% of the site to be set aside for vegetated open space. That leaves 80% of the site that can be impervious surfaces.</p> <p>Recommendation. The Regional Board should eliminate the 5% EIP limit from the General Permit. If an EIP limit must be established, it should be in a reasonable range of 50% to 75% of the available site area. Setting development restrictions that cannot be practically achieved is simply not acceptable.</p>				
Response	<p>The language regarding the Effective Impervious Area has been removed from section F.1.h.(6)(i). Through discussions with the Copermittees and the interested parties, a metric using Effective Impervious Area (EIA) was not included in the Tentative Order's requirements. In lieu of using EIA as a performance metric, the draft Tentative Order requires Low Impact Development BMPs to retain and/or biofilter the volume of runoff produced from the design storm (85th percentile storm event).</p>				

Comment No.	8	Commenter No.	20	Comment Subject	General
Comment	<p>FYI - this is something I have been trying to get City of Laguna Beach to do for several years.</p> <p>Yellow Tag Warning - Water Quality Violation</p> <p>Our Beach & Your Construction Site</p> <p>You Can Help Keep Our Beaches Clean (doorhanger)</p>				
Response	<p>The Tentative Order requires the Copermittees to implement an education program for developers, contractors, construction site personnel, municipal staff, industrial site operators, commercial site personnel, and their residents. The education and enforcement mechanisms proposed by the commenter are appropriate to meet the requirements of the Tentative Order and we support such efforts.</p>				

Comment No.	9	Commenter No.	21	Comment Subject	General
Comment	<p>Living as we do at the mouth of Aliso Creek, we have long been concerned about the pollution of the creek and the ocean that is caused by runoff from upstream. Recently we have also begun to worry about an Orange County proposal to clear the creek bed of vegetation, move some 1 million cubic yards of dirt there, and install concrete-and-rock drop structures in an attempt to control the excess flows caused by upstream development. The project would do nothing to reduce the excessive amount of water in the creek, and the version of it now being studied by the U.S. Army Corps of Engineers has no water treatment component.</p> <p>The proposed new MS4 regulations, which would prohibit dry weather discharges into the creek and require low impact development and retrofitting of existing development to control runoff, seem to promise a welcome solution to the creek's problems. We urge you to adopt them.</p>				
Response	<p>Comment noted. Please also see response to Comment No. 56.</p>				

Comment No.	10	Commenter No.	22	Comment Subject	General
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Comment SUBJECT: MS4 Permit

I am writing to give my complete support to approval of the proposed MS4 permit.

Inland cities have for far too long ignored their responsibilities and continue to allow urban runoff to pollute our ocean and coastal zones. Excuses such as "people like to wash their cars" or "People will be upset" are sad attempts by inland cities to avoid taking necessary and corrective action. At a recent public workshop I heard testimony from one city representative complaining how hard it is for people who live on hills to stop the runoff. This is a poor excuse. A simple remedy like a small grate with U-pipe below or low speed bump would send the water to plants on the side of a driveway rather than running off to the street, creeks and ocean. But, until SDWRQCB adopts the new MS4 permit, these solutions will be ignored.

There is broad public support for cleaning up our runoff and waste. This includes people who live in inland counties who are tired of their lakes and creeks being polluted as well residents of beach communities. Many inland residents go to the beach for weekends and holidays. The volume of urban runoff reaching and polluting the ocean appalls them as well as tourists and locals.

We now have laws requiring bicycle and motorcycle helmets, seat belts and the proper disposal of trash. This, too, is an issue whose time has come.

It is time that SDRWQCB took real, forceful action to stop cities from polluting. Cities have been out of compliance for the past 7 years. We need immediate relief.

Please insist that runoff be stopped or diverted to catchments/dissipaters or for filtration and beneficial reuse. Levy fines against offending violators. Until SDRWQCB uses their regulatory power to stop these polluting discharges, nothing will be done. Please do not postpone the inevitable and leave us with polluted creeks and coastal shores.

Response Comment noted.

The Regional Board has a progressive enforcement policy with multiple levels to ensure fair, firm and consistent enforcement. The possible enforcement actions at the Regional Board's discretion range from a verbal warning, staff enforcement letter, notice of violation, cleanup and abatement order, cease and desist order, time schedule order, referral to the State of California's attorney general's office, and assessment of civil liability up to \$10,000 per day per violation. When considering what enforcement action to take, the Regional Board examines the nature, extent and gravity of the violation, the magnitude of the violation, the water quality impacts resulting from the violation, and the compliance history of the violator.

Comment No.	11	Commenter No.	23	Comment Subject	General
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Comment As the Sierra Club Task Force Chair for Save Hobo Aliso, I have attended almost every stakeholders workshop on the new permit and have spoken at the Regional Board hearings in San Diego as to the negative impacts of the proposed SUPER Project on Aliso Creek. I also attended most of the workshops for the last MS4 Permit that was derailed by the Copermittees. During most of the workshops the Copermittees have been extremely vocal about how impossible the new permit will be to implement and enforce, how unfair this new permit will be, and the poor light it will put them in with businesses and residents that feel they have a God given right to not only waste water, but also pollute the very creek and receiving waters of the Pacific Ocean that the MS4 Permits attempts to protect and preserve.

At one of the first workshops for this current permit, the EPA representative was very clear in her refute to the Copermittees. She explained to them, and the rest of the audience, that non-compliance has been going on for almost 35 years. NOW is the time to stop polluting our watersheds and NOW is the time for the Copermittees to take responsibility for their runoff and pollution.

At a subsequent workshop a representative from NRDC made it very clear that NOW is the time for the Copermittees to comply and that their non-compliance has been tolerated since 2000, while our natural resources have been devastated. NOW is the time for clean up and abatement orders should the Copermittees continue to ignore existing permit requirements while they adamantly oppose strengthened regulations. Just as many businesses and residents feel it's their God given right to pollute, so do the Copermittees. This must stop and stop now, and the only apparent way to end this devastation to our watershed and natural resources is through adoption of the new MS4 Permit.

Response Comment noted.

Comment No.	12	Commenter No.	23	Comment Subject	General
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Comment The Sierra Club supports the entire permit with emphasis on the following:
Wet weather and dry weather discharges are subject to the conditions and requirements established in the San Diego Basin Plan for point source discharges. These water quality standards must be complied with at all times, irrespective of the source and manner of discharge.

Response Comment noted.

Comment No.	13	Commenter No.	23	Comment Subject	Hydromod
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Comment The Sierra Club supports the entire permit with emphasis on the following:
The increased runoff characteristics from new development must be controlled to protect against increased erosion of channel beds and banks, sediment pollutant generation, or other impacts to beneficial uses and stream habitat due to increased erosive force. Special note: With this implementation there would be no need for 26 concrete drop structures in Aliso Creek.

Response Comment noted.

Comment No.	14	Commenter No.	23	Comment Subject	General
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Comment The Sierra Club supports the entire permit with emphasis on the following:
Increased pollutant loads created by increased and uncontrolled urban development must be controlled to protect downstream receiving water quality.

Response Comment noted. The Tentative Order requires consideration of retrofitting existing development and the implementation low impact development controls at new development and redevelopment projects. These requirements are expected to address and control pollutant loads from urban developments.

Comment No.	15	Commenter No.	23	Comment Subject	SUSMP
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Comment The Sierra Club supports the entire permit with emphasis on the following:
Development that is ordinarily insignificant in its impact on the environment may become significant in a particularly sensitive environment. Therefore, additional controls to reduce pollutants from new and existing development must be required for areas adjacent to or discharging directly to an ESA. This holds particularly true for Aliso Creek. Development has been uncontrolled and unmonitored for far too long.

Response Comment noted.

Comment No.	16	Commenter No.	23	Comment Subject	Overirrigation
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Comment The Sierra Club supports the entire permit with emphasis on the following:
Non-storm water discharges should be effectively prohibited unless specifically exempted. Exempted discharges identified as a source of pollutants are required to be addressed through prohibition. Dry weather non-storm water discharges have been shown to contribute significant levels of pollutants and flow in arid, urban Southern California watersheds. The Copermittees have identified landscape irrigation, irrigation water and lawn water, previously exempted discharges, as a source of pollutants and conveyance of pollutants to waters of the United States. In the case of Aliso Creek this is a chronic problem that is leading to not only destruction of the watershed and associated wildlife, but also to our receiving waters.

Response Comment noted.

Comment No.	17	Commenter No.	23	Comment Subject	General
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Comment The Sierra Club supports the entire permit with emphasis on the following:
Copermittees MUST reduce the discharge of pollutants in storm water urban runoff. This can no longer be ignored and the ongoing pollution can no longer be tolerated.

Response Comment noted. The Storm Water Action Levels provide a measureable performance criteria on the reduction of pollutants discharged from the Copermittees MS4.

Comment No.	18	Commenter No.	23	Comment Subject	General
Comment	<p>The Sierra Club supports the entire permit with emphasis on the following:</p> <p>Pollutants can be effectively reduced in urban runoff by the application of a combination of pollution prevention, source control, and treatment control BMPs. Every available tool must be implemented now, with particular emphasis on construction and mobile businesses that include car detailing. Please see attached series of photos showing a car detailer that travels throughout the County detailing cars and allowing pollutants to run into the gutter and storm drains uncontrolled.</p>				
Response	<p>Comment noted. The Tentative Order includes requirements for the Copermittees oversight of mobile businesses such as car detailers.</p>				
Comment No.	19	Commenter No.	23	Comment Subject	General
Comment	<p>The Sierra Club supports the entire permit with emphasis on the following:</p> <p>With these photos in mind, I would like the Board to consider the adoption of a citizen based water quality monitoring program. Please see the attached draft graphics that have been developed by the City of Newport Beach. This concept has been shared with the City of Laguna Beach for several years, but due to a weakened MS4 Permit they have not seen the need to adopt.</p>				
Response	<p>Although not specifically required in the Tentative Order, a citizen based water quality monitoring program would have benefits to the Copermittees. Such a program could potentially defray monitoring costs and serve as a public education tool. Even though the Tentative Order does not require that the Copermittees develop a citizen based water quality monitoring program, the Tentative Order also does not prohibit a Copermittee from developing such a program. We leave it at the discretion of the Copermittee to develop such a program and feel that a citizen based monitoring program can be integrated with the existing requirements of the Tentative Order.</p> <p>The State is also available to assist interested citizens in forming their own monitoring group. http://www.waterboards.ca.gov/water_issues/programs/swamp/cwt_volunteer.shtml</p>				
Comment No.	20	Commenter No.	23	Comment Subject	SAL
Comment	<p>The Sierra Club supports the entire permit with emphasis on the following:</p> <p>Copermittees must be required to implement a timely, comprehensive, cost-effective storm water pollution control program to reduce the discharge of pollutants in storm water from the permitted areas so as not to exceed the MALs.</p>				
Response	<p>Comment Noted. Please note that the terminology has changed from "Municipal Action Levels" (MALs) to "Stormwater Action Levels" (SALs).</p>				
Comment No.	21	Commenter No.	23	Comment Subject	LID
Comment	<p>The Sierra Club supports the entire permit with emphasis on the following:</p> <p>Use of Low-Impact Development (LID) site design BMPs at new development, redevelopment and retrofit must be implemented.</p>				
Response	<p>Comment noted.</p>				
Comment No.	22	Commenter No.	23	Comment Subject	General
Comment	<p>The Sierra Club supports the entire permit with emphasis on the following:</p> <p>Enforcement of local urban runoff related ordinances, permits, and plans must be an essential component of every urban runoff management program and specifically required in the federal storm water regulations and this Order.</p>				
Response	<p>Comment noted.</p>				

Comment No.	23	Commenter No.	23	Comment Subject	Retrofitting
Comment	<p>The Sierra Club supports the entire permit with emphasis on the following:</p> <p>Retrofitting existing development with storm water treatment controls including LID, is mandatory to address storm water discharges from existing development that may cause or contribute to a condition of pollution or a violation of water quality standards. Cooperation with private landowners is mandatory to effectively identify, implement and maintain retrofit projects for the preservation, restoration, and enhancement of water quality.</p>				
Response	Comment noted.				
Comment No.	24	Commenter No.	23	Comment Subject	General
Comment	<p>The Sierra Club supports the entire permit with emphasis on the following:</p> <p>Runoff treatment and/or mitigation must occur prior to the discharge of urban runoff into receiving waters.</p>				
Response	Comment noted.				
Comment No.	25	Commenter No.	23	Comment Subject	SUSMP
Comment	<p>The Sierra Club supports the entire permit with emphasis on the following:</p> <p>Due to Orange County's significant, uncontrolled development, early pollutant control actions and further pollutant impact assessments by the Copermittees are mandatory.</p>				
Response	Comment noted.				
Comment No.	26	Commenter No.	23	Comment Subject	ASBS
Comment	<p>The Sierra Club supports the entire permit with emphasis on the following:</p> <p>Discharges of Waste to State Water Quality Protected Areas (SWQPAs) or Areas of Special Biological Significance (ASBS) must be prohibited except where allowable under a State approved Ocean Plan Exception or Special Condition.</p>				
Response	Please see response to Comment no. 49.				
Comment No.	27	Commenter No.	23	Comment Subject	SUSMP
Comment	<p>The Sierra Club supports the entire permit with emphasis on the following:</p> <p>Discharges from each approved development project must be subject to the most stringent of management measures.</p>				
Response	The standard for management measures is specified by the Clean Water Act. It specifies that controls are required to reduce the discharge of storm water pollutants to the maximum extent practicable and to effectively prohibit non-stormwater discharges.				
Comment No.	28	Commenter No.	23	Comment Subject	LID
Comment	<p>The Sierra Club supports the entire permit with emphasis on the following:</p> <p>It is mandatory that each Copermittee must require each Priority Development Project to implement LID BMPs which will collectively minimize directly connected impervious areas, limit loss of existing infiltration capacity, and protect areas that provide important water quality benefits necessary to maintain riparian and aquatic biota, and/or are particularly susceptible to erosion and sediment loss. With this in mind, it would be virtually impossible for the County of Orange or the Army Corps of Engineers to even remotely consider a project such as the SUPER Project.</p>				
Response	Comment noted.				

Comment No.	29	Commenter No.	23	Comment Subject	Hydromod
Comment	<p>The Sierra Club supports the entire permit with emphasis on the following:</p> <p>Each Copermittee must revise its SSMP/WQMP to implement a watershed specific Hydromodification Management Plan (HMP) to include specific criteria for minimizing and mitigating hydrologic modification at all development and redevelopment projects. Again, this would require the County of Orange and Army Corps of Engineers to discard any notion of a project that contains any characteristics similar to the SUPER Project. The Army Corps has been tasked with an ecosystem restoration of Aliso Creek. The Corps' implied support of the MS4 Permit will assist in this effort which would include disconnecting impervious areas by reducing the percentage of Effective Impervious Area (EIA) to less than five percent of total project area; also disconnect impervious area from receiving waters using on-site or off-site storm water reuse, evapotranspiration, and/or infiltration for small precipitation events, based on limitations imposed by soil conditions, groundwater contamination potential and considerations for the use of amendments to improve soil conditions.</p>				
Response	<p>The hydromodification requirements have been modified to be more consistent with the requirements in the San Diego County MS4 permit. Through discussions with the Copermittees and the interested parties, a metric using Effective Impervious Area (EIA) was not included in the Tentative Order's requirements. In lieu of the EIA metric, the draft Tentative Order now requires Low Impact Development BMPs to retain and/or biofilter the volume of runoff produced from the 24-hour 85th percentile storm.</p>				

Comment No.	30	Commenter No.	23	Comment Subject	Construction
Comment	<p>The Sierra Club supports the entire permit with emphasis on the following:</p> <p>Each Copermittee must annually notify the Regional Board, prior to the commencement of the wet season, of all construction sites with potential violations such as the SUPER Project or any other construction project in the Aliso Creek watershed.</p>				
Response	<p>Comment noted.</p>				

Comment No.	31	Commenter No.	23	Comment Subject	Retrofitting
Comment	<p>The Sierra Club supports the entire permit with emphasis on the following:</p> <p>Each Copermittee must implement a retrofitting program which meets the requirements of this section, solves chronic flooding problems, reduces impacts from hydromodification, incorporates LID, supports stream restoration, systematically reduces downstream channel erosion, reduces the discharges of storm water pollutants from the MS4 to the MEP, and prevents discharges from the MS4 from causing or contributing to a violation of water quality standards.</p>				
Response	<p>Comment noted.</p>				

Comment No.	32	Commenter No.	23	Comment Subject	WURMP
Comment	<p>The Sierra Club supports the entire permit with emphasis on the following:</p> <p>The Watershed Permittees must develop, implement, and update annually, a Watershed Water Quality Work Plan that ranks each watershed's highest priority issues. The Watershed Water Quality Work plan shall identify planned watershed assessment, BMP evaluation, BMP selection, and BMP implementation efforts for each watershed planning area for the full 5-year Permit cycle. The goal of the work plan to is to demonstrate a responsive and adaptive approach for the judicious and effective use of available resources to attack the highest priority problems on a watershed basis. This element should have special emphasis and be brought to the attention of the Army Corps of Engineers in light of their Aliso Creek Mainstem Ecosystem Restoration Project.</p>				
Response	<p>Comment noted.</p>				

Comment No.	33	Commenter No.	23	Comment Subject	General
Comment	<p>Restoration of a healthy ocean must be achieved. We cannot protect the ocean by poisoning it with our wastewater and urban runoff. No less an authority than Sylvia Earle, former Director of NOAA, went on national television recently (see MSNBC) to urge immediate efforts to end ocean pollution and protect the ocean's ability to naturally modulate climate conditions. Without swift action to restore a healthy ocean, we will witness even greater, devastating climate change. Similarly, Marcia McNutt, Director of the Monterey Bay Aquarium, reminds us that every second breath comes from the ocean's ability to produce oxygen.</p> <p>The solutions are readily technologically available as soon as citizens, resource agencies and elected representatives, working together, are ready to act.</p> <p>Sierra Club applauds Congresswoman Loretta Sanchez and her senior advisor, Dolores Gonzalez-Hayes for their proactive stance in bringing the environmental community, County of Orange Watersheds and Army Corps of Engineers together. It is imperative that these two agencies move forward with a plan that will eliminate concrete from Aliso Creek while adopting the policies of the new MS4 Permit which will dramatically minimize the runoff and current flow rates that are creating pollution and destroying the creek's natural resources. As discussed in our meeting of May 20th, these agencies are morally and ethically obligated to protecting and preserving our natural resources above all other mandates.</p>				
Response	Comment noted.				

Comment No.	34	Commenter No.	24	Comment Subject	General
Comment	<p>Friends of Harbors, Beaches, and Parks (FHBP) supports the proposed MS4 Permit requirements. Simultaneously, we oppose the County of Orange SUPER Project that proposes construction of 26 concrete drop structures in Aliso Creek, one of the last natural creeks in Orange County which flows through Aliso and Wood Canyons Wilderness Park. We also support efforts that would allow for restoration of this natural creek in conjunction with the implementation of a program that includes pollution prevention, upstream source control, and treatment-control Best Management Practices. Strengthened MS4 Permit regulations would be integral in this regard.</p>				
Response	Comment noted.				

Comment No.	35	Commenter No.	24	Comment Subject	General
Comment	<p>FHBP supports the entire MS4 permit with emphasis on the following:</p> <p>Wet weather and dry weather discharges are subject to the conditions and requirements established in the San Diego Basin Plan for point source discharges. These water quality standards must be complied with at all times, irrespective of the source and manner of discharge.</p>				
Response	Comment noted.				

Comment No.	36	Commenter No.	27	Comment Subject	Hydromod
Comment	<p>FHBP supports the entire MS4 permit with emphasis on the following:</p> <p>The increased runoff characteristics from new development must be controlled to protect against increased erosion of channel beds and banks, sediment pollutant generation, or other impacts to beneficial uses and stream habitat due to increased erosive force. Special note: With this implementation there would be no need for 26 concrete drop structures in Aliso Creek.</p>				
Response	Comment noted.				

Comment No.	37	Commenter No.	24	Comment Subject	General
Comment	<p>FHBP supports the entire MS4 permit with emphasis on the following:</p> <p>Increased pollutant loads created by increased and uncontrolled urban development must be controlled to protect downstream receiving water quality.</p>				
Response	Comment noted. The Tentative Order requires consideration of retrofitting existing development and the implementation low impact development controls at new development and redevelopment projects. These requirements are expected to address and control pollutant loads from urban developments.				

Comment No.	38	Commenter No.	24	Comment Subject	SUSMP
Comment	<p>FHBP supports the entire MS4 permit with emphasis on the following:</p> <p>Development that is ordinarily insignificant in its impact on the environment may become significant in a particularly sensitive environment. Therefore, additional controls to reduce pollutants from new and existing development must be required for areas adjacent to or discharging directly to an ESA. This holds particularly true for Aliso Creek. Development has been uncontrolled and unmonitored for far too long.</p>				
Response	Comment noted.				

Comment No.	39	Commenter No.	24	Comment Subject	WURMP
Comment	<p>FHBP supports the entire MS4 permit with emphasis on the following:</p> <p>Non-storm water discharges should be effectively prohibited unless specifically exempted. Exempted discharges identified as a source of pollutants are required to be addressed through prohibition. Dry weather non-storm water discharges have been shown to contribute significant levels of pollutants and flow in arid, urban Southern California watersheds. The Co-permittees have identified landscape irrigation, irrigation water and lawn water, previously exempted discharges, as a source of pollutants and conveyance of pollutants to waters of the United States. In the case of Aliso Creek this is a chronic problem that is leading to not only destruction of the watershed and associated wildlife, but also to our receiving waters.</p>				
Response	Comment noted.				

Comment No.	40	Commenter No.	24	Comment Subject	General
Comment	<p>FHBP supports the entire MS4 permit with emphasis on the following:</p> <p>Co-permittees MUST reduce the discharge of pollutants in storm water urban runoff. This can no longer be ignored and the ongoing pollution can no longer be tolerated.</p>				
Response	Comment noted. The Storm Water Action Levels provide a measureable performance criteria on the reduction of pollutants discharged from the Copermittees MS4.				

Comment No.	41	Commenter No.	24	Comment Subject	General
Comment	<p>FHBP supports the entire MS4 permit with emphasis on the following:</p> <p>Pollutants can be effectively reduced in urban runoff by the application of a combination of pollution prevention, source control, and treatment control BMPs. Every available tool must be implemented now, with particular emphasis on construction and mobile businesses that include car detailing.</p>				
Response	Comment noted. The Tentative Order includes requirements for the Copermittees oversight of mobile businesses such as car detailers.				

Comment No.	42	Commenter No.	24	Comment Subject	General
Comment	<p>FHBP supports the entire MS4 permit with emphasis on the following:</p> <p>We support the assertion of the Sierra Club that the Board consider adoption of a citizen-based water quality monitoring program.</p>				
Response	<p>Although not specifically required in the Tentative Order, a citizen based water quality monitoring program would have benefits to the Copermittees. Such a program could potentially defray monitoring costs and serve as a public education tool. Even though the Tentative Order does not require that the Copermittees develop a citizen based water quality monitoring program, the Tentative Order also does not prohibit a Copermittee from developing such a program. We leave it at the discretion of the Copermittee to develop such a program and feel that a citizen based monitoring program can be integrated with the existing requirements of the Tentative Order.</p> <p>The State is also available to assist interested citizens in forming their own monitoring group. http://www.waterboards.ca.gov/water_issues/programs/swamp/cwt_volunteer.shtml</p>				

Comment No.	43	Commenter No.	24	Comment Subject	SAL
Comment	<p>FHBP supports the entire MS4 permit with emphasis on the following:</p> <p>Co-permittees must be required to implement a timely, comprehensive, cost-effective storm water pollution control program to reduce the discharge of pollutants in storm water from the permitted areas so as not to exceed the MALs.</p>				
Response	<p>Comment Noted. Please note that the terminology has changed from "Municipal Action Levels" (MALs) to "Stormwater Action Levels" (SALs).</p>				
Comment No.	44	Commenter No.	24	Comment Subject	LID
Comment	<p>FHBP supports the entire MS4 permit with emphasis on the following:</p> <p>Use of Low-Impact Development (LID) site design BMPs at new development, redevelopment and retrofit must be implemented.</p>				
Response	<p>Comment noted.</p>				
Comment No.	45	Commenter No.	24	Comment Subject	General
Comment	<p>FHBP supports the entire MS4 permit with emphasis on the following:</p> <p>Enforcement of local urban runoff related ordinances, permits, and plans must be an essential component of every urban runoff management program and specifically required in the federal storm water regulations and this Order.</p>				
Response	<p>Comment noted.</p>				
Comment No.	46	Commenter No.	24	Comment Subject	Retrofitting
Comment	<p>FHBP supports the entire MS4 permit with emphasis on the following:</p> <p>Retrofitting existing development with storm water treatment controls including LID, is mandatory to address storm water discharges from existing development that may cause or contribute to a condition of pollution or a violation of water quality standards. Cooperation with private landowners is mandatory to effectively identify, implement and maintain retrofit projects for the preservation, restoration, and enhancement of water quality.</p>				
Response	<p>Comment noted.</p>				
Comment No.	47	Commenter No.	24	Comment Subject	General
Comment	<p>FHBP supports the entire MS4 permit with emphasis on the following:</p> <p>Runoff treatment and/or mitigation must occur prior to the discharge of urban runoff into receiving waters.</p>				
Response	<p>Comment noted.</p>				
Comment No.	48	Commenter No.	24	Comment Subject	SUSMP
Comment	<p>FHBP supports the entire MS4 permit with emphasis on the following:</p> <p>Due to Orange County's significant, uncontrolled development, early pollutant control actions and further pollutant impact assessments by the Co-permittees are mandatory.</p>				
Response	<p>Comment noted.</p>				
Comment No.	49	Commenter No.	24	Comment Subject	ASBS
Comment	<p>FHBP supports the entire MS4 permit with emphasis on the following:</p> <p>Discharges of Waste to State Water Quality Protected Areas (SWQPAs) or Areas of Special Biological Significance (ASBS) must be prohibited except where allowable under a State approved Ocean Plan Exception or Special Condition.</p>				
Response	<p>This Section of the Order was removed prior to the July 2009 Hearing. It was removed to prevent redundancy, as the State regulations governing ASBSs under the California Ocean Plan already provide sufficient protection from MS4 discharges.</p>				

Comment No.	50	Commenter No.	24	Comment Subject	SUSMP
Comment	<p>FHBP supports the entire MS4 permit with emphasis on the following:</p> <p>Discharges from each approved development project must be subject to the most stringent of management measures.</p>				
Response	<p>The standard for management measures is specified by the Clean Water Act. It specifies that controls are required to reduce the discharge of storm water pollutants to the maximum extent practicable and to effectively prohibit non-stormwater discharges.</p>				
Comment No.	51	Commenter No.	24	Comment Subject	LID
Comment	<p>FHBP supports the entire MS4 permit with emphasis on the following:</p> <p>It is mandatory that each Co-permittee must require each Priority Development Project to implement LID BMPs which will collectively minimize directly connected impervious areas, limit loss of existing infiltration capacity, and protect areas that provide important water quality benefits necessary to maintain riparian and aquatic biota, and/or are particularly susceptible to erosion and sediment loss. With this in mind, it would be virtually impossible for the County of Orange or the Army Corps of Engineers to even remotely consider a project such as the SUPER Project.</p>				
Response	<p>Comment noted.</p>				
Comment No.	52	Commenter No.	24	Comment Subject	Hydromod
Comment	<p>FHBP supports the entire MS4 permit with emphasis on the following:</p> <p>Each Co-permittee must revise its SSMP/WQMP to implement a watershed specific Hydromodification Management Plan (HMP) to include specific criteria for minimizing and mitigating hydrologic modification at all development and redevelopment projects. Again, this would require the County of Orange and Army Corps of Engineers to discard any notion of a project that contains any characteristics similar to the SUPER Project. The Army Corps has been tasked with an ecosystem restoration of Aliso Creek. The Corps' implied support of the MS4 Permit will assist in this effort which would include disconnecting impervious areas by reducing the percentage of Effective Impervious Area (EIA) to less than five percent of total project area; also disconnect impervious area from receiving waters using on-site or off-site storm water reuse, evapotranspiration, and/or infiltration for small precipitation events, based on limitations imposed by soil conditions, groundwater contamination potential and considerations for the use of amendments to improve soil conditions.</p>				
Response	<p>The hydromodification requirements have been modified to be more consistent with the requirements in the San Diego County MS4 permit. Through discussions with the Copermitees and the interested parties, a metric using Effective Impervious Area (EIA) was not included in the Tentative Order's requirements. In lieu of the EIA metric, the draft Tentative Order now requires Low Impact Development BMPs to retain and/or biofilter the volume of runoff produced from the 24-hour 85th percentile storm.</p>				
Comment No.	53	Commenter No.	24	Comment Subject	Construction
Comment	<p>FHBP supports the entire MS4 permit with emphasis on the following:</p> <p>Each Co-permittee must annually notify the Regional Board, prior to the commencement of the wet season, of all construction sites with potential violations such as the SUPER Project or any other construction project in the Aliso Creek watershed.</p>				
Response	<p>Comment noted.</p>				
Comment No.	54	Commenter No.	24	Comment Subject	Retrofitting
Comment	<p>FHBP supports the entire MS4 permit with emphasis on the following:</p> <p>Each Co-permittee must implement a retrofitting program which meets the requirements of this section, solves chronic flooding problems, reduces impacts from hydromodification, incorporates LID, supports stream restoration, systematically reduces downstream channel erosion, reduces the discharges of storm water pollutants from the MS4 to the MEP, and prevents discharges from the MS4 from causing or contributing to a violation of water quality standards.</p>				
Response	<p>Comment noted.</p>				

Comment No.	55	Commenter No.	24	Comment Subject	WURMP
Comment	<p>FHBP supports the entire MS4 permit with emphasis on the following:</p> <p>The Watershed Permittees must develop, implement, and update annually, a Watershed Water Quality Work Plan that ranks each watershed's highest priority issues. The Watershed Water Quality Work plan shall identify planned watershed assessment, BMP evaluation, BMP selection, and BMP implementation efforts for each watershed planning area for the full 5-year Permit cycle. The goal of the work plan is to demonstrate a responsive and adaptive approach for the judicious and effective use of available resources to attack the highest priority problems on a watershed basis. This element should have special emphasis and be brought to the attention of the Army Corps of Engineers in light of their Aliso Creek Mainstem Ecosystem Restoration Project.</p>				
Response	Comment noted.				

Comment No.	56	Commenter No.	24	Comment Subject	General
Comment	<p>Restoration of a healthy ocean must be achieved. We cannot protect the ocean by poisoning it with our wastewater and urban runoff. In addition, our County wilderness parks are set aside for recreation, wildlife habitat, open space, and protection of sensitive ecosystems and individual species of plants and animals. Our riparian wetland streambeds are the most productive ecosystems within the coastal sage-scrub and oak woodland zones of the chaparral ecosystems, and must be protected.</p> <p>Natural, non-invasive solutions are technologically available as soon as citizens, resource agencies and elected representatives, working together, are ready to act.</p> <p>FHBP applauds Congresswoman Loretta Sanchez and her senior advisor, Dolores Gonzalez-Hayes for their proactive stance in bringing the environmental community, County of Orange Watersheds and Army Corps of Engineers together. It is imperative that these two agencies move forward with a plan that will eliminate concrete from Aliso Creek (existing and future) while adopting the policies of the new MS4 Permit, which will dramatically minimize the runoff and current flow rates that are creating pollution and destroying the creek's natural resources.</p> <p>The proposal to build 26 step-dams (grade-control structures built 10' deep into the soil spanning the entire flow area) in the lower Aliso Creek should be eliminated as an alternative in this feasibility study. This "engineering wonder" would turn our park into a flood control channel device and do nothing to diminish the doubling of storm water flows and dry weather urban runoff that is polluting the ocean and eroding the banks.</p> <p>Alternatives that should be considered in the watershed and surrounding cities are as follows: large-scale cistern strategies that capture runoff for reuse; modernizing the Laguna Niguel sewage treatment plant by OCSD, including recycling of gray water and groundwater recharge, powering the facility with captured methane gas, and reducing the toxic sewage that is dumped 1.2 miles off Aliso Beach. As well, Low-Impact Development (LID) strategies must be applied to areas of the watershed where applicable including rain gardens and bioretention; rooftop gardens; sidewalk storage; vegetated swales, buffers, and tree preservation; rain barrels; permeable pavers; soil amendments; impervious surface reduction and disconnection; and pollution prevention programs instituted for residential properties.</p>				
Response	Comment noted. Interested parties with comments such as these should pay particular attention to opportunities to weigh-in on the environmental review process, for projects affecting Aliso Creek, conducted pursuant to the California Environmental Quality Act (CEQA).				

Comment No.	57	Commenter No.	25	Comment Subject	Finding
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Comment Below is a "cut & paste" from the new permit. I was under the impression that I needed to petition the Board to achieve parity (Same Beneficial Uses and Water Quality Objectives) due to this anadromous ES/ESU via BPO Amendments during the Triennial Review Process.

Does the new permit fulfill/accomplish my parity goal to protect this aquatic? In this case, I wouldn't need to waste either Staff or Board time.

In other words, can this NPDES accomplish by "fiat" what I thought I needed to formally petition as BPO amendments (plural)?

In the first sentence below, this NPDES doesn't APPEAR to cite Water Quality & Beneficial Use objectives on a watershed-by-watershed basis but rather generically. As there is no reference to EXISTING BPO, I'm unsure if this ambiguity might subsequently be challenged by ACW copermittees or lead agency The County of Orange.

I would ask Staff to note that the Central Coast (Region 3) BPO are more in alignment with the ABSOLUTE MINIMAL Dissolved Oxygen (DO) requirements for O. mykiss, that is 7.0 mg/l, not the 6.0 mg/l required in R9-2009-0021. Aquatic biologists and fishery experts seem unanimous that 8.0 mg/l assures healthy spawning conditions in urbanized streams like ACW that experience tremendous solar gain (elevated temperatures).

Will I be allowed to petition the Board at the R9-2009-0021 Hearing to slightly increase that BPO regarding DO for this reissued permit?

E. STATUTE AND REGULATORY CONSIDERATIONS
 2. The Water Quality Control Plan for the San Diego Basin (Basin Plan), identifies the following beneficial uses for surface waters in Orange County: Municipal and Domestic Supply (MUN), Agricultural Supply (AGR), Industrial Process Supply (PROC), Industrial Service Supply (IND), Ground Water Recharge (GWR), Contact Water Recreation (REC1) Non-contact Water Recreation (REC2), Warm Freshwater Habitat (WARM), Cold Freshwater Habitat (COLD), Wildlife Habitat (WILD), Rare, Threatened, or Endangered Species (RARE), Freshwater Replenishment (FRSH), Hydropower Generation (POW), and Preservation of Biological Habitats of Special Significance (BIOL). The following additional beneficial uses are identified for coastal waters of Orange County: Navigation (NAV), Commercial and Sport Fishing (COMM), Estuarine Habitat (EST), Marine Habitat (MAR), Aquaculture (AQUA), Migration of Aquatic Organisms (MIGR), Spawning, Reproduction, and/or Early Development (SPWN), and Shellfish Harvesting (SHELL).

Response The Tentative Order does not establish the same Beneficial Uses and Water Quality Objectives that the commenter seeks. Those designations are established by the Basin Plan in the triennial review process. We encourage the commenter to participate in the Basin Plan triennial review. Finding E.2 of the Tentative Order states in general all the Beneficial Uses identified for all of the surface waters within Orange County and is not limited to the Aliso Creek Watershed.

Comment No.	58	Commenter No.	26	Comment Subject	General
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Comment First, the City Council wishes to compliment the Regional Board and its staff for your efforts to reduce urban runoff and enhance water quality. Our City is fully committed to aggressively pursue all reasonable efforts to improve the quality of the water in our creeks and the ocean.

Response Comment noted.

Comment No.	59	Commenter No.	26	Comment Subject	FETD
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Comment The Council believes that your Board should adopt a permit which authorizes projects which provide for the diversion of nuisance water during dry weather into treatment facilities, whether they be existing sewer treatment plants or specialized programs to cleanse water in a creek. When filtration is employed to reduce bacteria and other pollutants, it should be allowed either at the source, i.e. before the pollutants enter a waterway, or at the end of the line before a creek empties into the ocean since our beaches afford a significant water contact recreational venue for thousands of Southern California residents.

Response The approval process for diversion systems in a creek would be through a Clean Water Act section 401 certification, Waste Discharge Requirements and/or individual NPDES permits. The Tentative Order is not the appropriate mechanism to regulate such facilities. Treatment systems at the end of the line before a creek empties into the ocean do not protect and enhance water quality in the creek upstream from the treatment facility. In fact, such systems could encourage degradation of the upstream portions of the creek because dischargers are aware that treatment exists at the mouth of the creek. In addition, such systems at the end of the creek have historically had implementation problems due to excessive flows, sediment loads, and design issues.

Comment No.	60	Commenter No.	26	Comment Subject	Economic
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Comment In supporting efforts to improve water quality in our creeks and ocean, the Council is also concerned about the cost of some of the proposed measures. Our small community is expecting a \$2 million "borrowing" of our property tax revenues by the State this year. At the same time, we are experiencing significant decreases in revenues from the sales tax and transient occupancy tax. We believe that virtually all governmental agencies in California are experiencing similar austerity. Therefore, the Board should carefully examine provisions of the proposed order to ensure that the proposed measures are both effective in reducing pollutants and reasonable in expense.

Response Several changes have been made to the Tentative Order to seek a cost neutral permit when compared to the previous permit. Most significantly, the Tentative Order eliminates multiple monitoring requirements and allows the Copermitees to substitute participation in regional Monitoring programs. These actions are expected to be more cost efficient and prevent redundancy. Regional Board staff considered submitted economic information in developing elements of the Tentative Order. The Regional Board, however, is not required to conduct a cost-benefit analysis.

Comment No.	61	Commenter No.	27	Comment Subject	NEL
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Comment Dry weather flows may originate from a number of sources including groundwater ingress, which is a natural source of water. Dry weather flow does not originate from consistent activities or locations, or at consistent flow rates. Assigning the word "effluent" infers that this is a relatively consistent, predictable and controllable flow originating from a single industrial process (such as a wastewater treatment plant). As such, it is relatively easy to control and treat. This is not the case with dry weather flows.

Response Effluent refers to the discharge of pollutants from a point source into waters of United States. The discharge of runoff from a MS4 is considered to be a discharge of pollutants from a point source into waters of the United States as defined in the Clean Water Act.

Comment No.	62	Commenter No.	27	Comment Subject	NEL
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Comment Assigning the term "effluent" to dry weather flow will trigger mandatory minimum penalties under the Clean Water Act. This is inappropriate for the above-referenced reasons, and will likely result in the relevant municipal separate storm sewer system (MS4) operator(s) being in immediate and consistent violation of the Clean Water Act. The term effluent should be replaced by the word "flow."

Response Please see response to Comment no. 61.

This comment has been previously addressed; please also see Comment no. 82 in the July 1, 2009, Response to Comments IV.

Comment No.	63	Commenter No.	27	Comment Subject	Urban Runoff
Comment	At present the stormwater programs apply to MS4 systems which tend to be located in urbanized areas. Removing the term "urban" infers that these requirements apply to all runoff. This is an expansion of the requirements under the Clean Water Act and would logically apply to all runoff within a jurisdiction whether or not the jurisdiction has control over the sources of runoff (agricultural sources, or undeveloped areas, for example) or the conveyance (natural drainage). Has any economic analysis been conducted to assess the impact of this change? We consider this an unfunded mandate that exceeds the requirements of an MS4 permit, as it appears to be applied to areas which do not necessarily drain to an MS4. The word "urban" should be reinstated when discussing runoff.				
Response	<p>Removal of the term "urban" is not an expansion of the requirements under the Clean Water Act and is actually more consistent with the Clean Water Act and the codified Federal Regulations. The term "urban runoff" does not appear in the Clean Water Act MS4 regulations nor the Code of Federal Regulations. The applicable regulations require a NPDES permit for all MS4 discharges in Orange County regardless if the MS4 is in an urban or rural area. Please see the discussion in the Tentative Order's fact sheet.</p> <p>The comment regarding unfunded mandates has been extensively considered in all previous response to comments. The comment does not raise any new issues from the previous comments. The State's water quality protection requirements within the Tentative Order are authorized by Federal Law, and are not unfunded mandates.</p> <p>The Fact Sheet and Response to comments Nos. 155 and 165 in the July 1, 2009, Response to Comments IV; Comment No. 5 in the July 6, 2007, Response to Comments I; Comment Nos. 1 and 9 in the December 12, 2007, Response to Comments II; Comment No. 1, 2, and 3 in the February 13, 2008 Response to Comments III; all provide discussions of these issues. No changes were made in response to this comment.</p>				

Comment No.	64	Commenter No.	27	Comment Subject	MEP
Comment	Introduction of Numeric Limits to define Maximum Extent Practicable (MEP). This is inconsistent with the concept of the iterative process where you have a chance to adapt BMPs based on observation, instead of reaching a numeric limit which is more commonly associated with Total Maximum Daily Loads (TMDLs). This is also inconsistent with the 2006 Blue Ribbon Panels recommendation that numeric limits are inappropriate for municipal permits. The NELs and the MALs should be removed from the permit.				
Response	<p>Please see response to Comments nos. 25, 33 and 39 in the July 1, 2009, Response to Comments IV, as this concern was addressed previously.</p> <p>Please also see the Regional Board Counsel Memorandum dated November 05, 2009.</p>				

Comment No.	65	Commenter No.	27	Comment Subject	SUSMP
Comment	Based on the regional model review for San Diego County updating the SUSMP annually is not feasible. It would be a more effective use of resources to update the SUSMP less frequently. Revise to incorporate findings from effectiveness studies once every permit cycle.				
Response	The Copermittees must update the BMPs in their local SSMP during the third year of implementation of the Tentative Order. The BMPs update is not required annually as the commenter implies. The Tentative Order does require the Copermittees to annually incorporate findings from local treatment BMP effectiveness studies (e.g., ones conducted by, or on-behalf of, public agencies in Orange County). This is not intended to be an annual comprehensive update of BMPs but rather an incorporation of existing data. As such, it is feasible for the Copermittees to incorporate these findings into their local SSMPs.				

Comment No.	66	Commenter No.	27	Comment Subject	Existing Development
Comment	<p>Based on our experience, not all food facilities warrant annual inspection (coffee shops, sale of largely prepackaged foods, such as ice cream parlors etc). It would not be an effective use of resources if the permittee cannot differentiate between facilities that genuinely have potential for exposures and those that do not.</p> <p>This should be revised to require that food facilities be prioritized based on potential for exposures and that the annual inspection requirement be only applied to those deemed to have the highest threat of exposure of pollutants to urban runoff. The permittees should be allowed to develop their own method to determine how the facilities should be prioritized, but this should be based on: observations from previous inspections; record of complaints and violations associated with the specific facility; potential sources of pollutants (sale of prepackaged products versus facilities with rendering bins, food preparation waste, outside eating areas, etc).</p>				
Response	<p>The Copermittees have already been inspecting restaurants annually as part of the County Health Department inspections. As such this change is not considered significant because it allows the Copermittees to continue with their existing programs. Restaurants have been found to present many threats to water quality and standard educational efforts are not effective because restaurants are subject to frequent management and personnel changes. For these reasons, the Tentative Order requires restaurants to be inspected annually.</p>				

Comment No.	67	Commenter No.	27	Comment Subject	Retrofitting
Comment	<p>Requirement to retrofit existing development (page 65). It is not clear what mechanism(s) will be available to accomplish this requirement, nor how it would be funded. Further clarification is needed on how this can be legally accomplished and how it would be funded.</p> <p>It would be a better use of resources for jurisdictions to develop measures during the review-of any discretionary project to ensure that retrofitting stormwater BMPs are considered. Preparing a comprehensive report on the City-wide potential for retrofit, when it is unlikely that there would be any legal opportunity, much less financial resources, to extensively implement it appears to be wasteful. The goal could be better attained by using the available permitting process to achieve retrofits where feasible.</p>				
Response	<p>Retrofitting existing development is a widespread practice across the United States. Although a Copermittee may not have the legal authority to explicitly require a private landowner to retrofit their property, the Copermittee has various other means to communicate and cooperate with the private property owner. The Tentative Order lists several mechanisms available to the Copermittee in cooperating with the private landowner such as demonstration projects, retrofits on public lands or easements, education and outreach, subsidies, retrofit projects as mitigation or ordinance compliance, public and private partnerships, and in lieu fee reductions for existing MS4 discharges. The Tentative Order requires the ranking and prioritization of retrofitting projects based in part on feasibility and cost effectiveness, thereby avoiding duplicative and wasteful efforts. This prioritization maximizes benefits by implementing retrofitting projects that will be most effective and affordable. No further changes have been made to this requirement.</p>				

Comment No.	68	Commenter No.	27	Comment Subject	Monitoring
Comment	<p>Expansion of monitoring requirements to include wet and year round dry sampling of MS4. Expansion of constituents to be analyzed. Introduction of new programs (sediment toxicity study and aquatic habitat monitoring)(Attachment E).</p> <p>Sediment toxicity may originate from historic sources which the permittee never had control over. Also current activities not under the control of the permittee will also impact aquatic habitats and sediment. It is inappropriate to use an MS4 permit as a catch-all for all monitoring that is conducted in a watershed. Monitoring should be focused on the impact from the MS4 and constituents of concern associated with the MS4.</p> <p>Presumably these studies are in addition to monitoring associated with TMDLs, therefore resulting in duplication of effort and costs.</p>				
Response	<p>The Regional Board has attempted to alleviate the costs from additional monitoring by introducing more flexibility into the requirements for Storm Water Action Levels and Dry Weather Non-storm Water Effluent monitoring. In addition, required Bioassessment sampling has been reduced and language has been added to allow for participation in Regionalized monitoring programs.</p> <p>The Regional Board agrees that some sediment toxicity, primarily in areas of historic industrial or agricultural activity, may be due to historic sources. For example, Dana Point harbor sediment sampling has detected DDE, indicating historic DDT use in the area. However, the Regional Board has included a required sediment toxicity study in urban streams for a number of reasons. First, as referenced in the fact sheet, recent studies and monitoring in the San Diego Region have shown that pesticides that are not "historic" impact urban stream receiving waters. Second, current bioassessment protocols include a measurement of water toxicity, but not sediment toxicity. Bioassessment conducted by the Copermittees under Order R9-2002-01 has shown consistently poor to very poor IBI scores with no strong relationship to water chemistry or physical habitat. Third, multiple waters within the San Diego Region have a current or proposed 303(d) listing for toxicity. It is expected this special study will complement, not duplicate, any TMDL efforts by the Copermittees to address these listings. Lastly, Copermittees have identified specific categories of non-storm water discharges as a source and conveyance of pollutants, including pesticides, to waters of the United States.</p> <p>Please remember that, the MS4 owner/operator is responsible for discharges into their MS4 system. Please see Comment no. 44 in the July 1, 2009, Response to Comments IV.</p>				

Comment No.	69	Commenter No.	27	Comment Subject	General
Comment	<p>Overall we are concerned at the additional layer of reporting required in the permit (annual workplans in addition to annual reports and management plans). This further diverts precious resources from direct improvements to water quality to the preparation of compliance documents that overlap. We strongly recommend that the RWQCB reconsider its need for such extensive documentation (which would be in addition to any TMDL reporting).</p>				
Response	<p>We are not aware of any additional layer of reporting requirements. A watershed workplan has taken the place of the WRMP requirements. The annual reports and management plans are preexisting requirements. As stated in section K. Reporting, the Copermittees may propose alternative reporting criteria and schedules for the Executive Officer's acceptance.</p>				

Comment No.	70	Commenter No.	28	Comment Subject	FETD
Comment	<p>I am writing on my own behalf to ensure that the action taken by the Laguna Beach City Council on June 2, 2009 is clearly represented. The following motion (taken from the Recap provided by the City Clerk) was passed in regard to item 13. COMMENTS ON NATIONAL POLLUTANT DISCHARGE ELEIMINATION SYSTEM PERMIT.</p> <p>"Moved by Mayor Pro Tem Pearson, seconded by Councilmember Rollinger and carried unanimously to send a letter to the San Diego Regional Water Quality Control Board over the Mayor's signature, incorporating the language in the first paragraph of the Memorandum written by the Environmental Committee and encouraging the allowance of dry weather diversion and filtration both at the source and at the end of the line. The letter is to include a statement that Laguna Beach is concerned, as are other cities, regarding costs related to enforcement monitoring."</p>				
Response	<p>Please see response to comment no. 59.</p> <p>Several changes have been made to the Tentative Order to seek a cost neutral permit when compared to the previous permit. Most significantly, the Tentative Order eliminates multiple monitoring requirements and allows the Copermittees to substitute participation in regional Monitoring programs. These actions are expected to be more cost efficient and prevent redundancy. To the extent economic information was submitted, the Regional Board staff considered economic considerations in developing elements of the Tentative Order but the Regional Board is not required to conduct a cost-benefit analysis.</p>				

Comment No.	71	Commenter No.	28	Comment Subject	General
Comment	<p>The following is the language in the first paragraph of the Memorandum written by the Environmental Committee:</p> <p>"The City Council of the City of Laguna Beach applauds SDRWQCB in its efforts to reduce runoff and improve water quality. We are especially concerned with the watershed of Aliso Creek where excess runoff has severely incised the waterways of the Aliso and Wood Canyons Wilderness Park. The waters of lower Aliso Creek, of its estuary and of the Pacific Ocean near the mouth of the creek have long shown high levels of a wide range of pollutants. We strongly support your efforts to reduce both storm water discharge and dry-season discharge into the creek as well as your efforts to increase the quality of the water entering the creek."</p> <p>As the City's elected City Clerk for nearly thirty years prior to my election as a Member of the City Council, it is important to me that the actions taken by the City Council be clearly transmitted. Thank you for your efforts on our behalf.</p>				
Response	<p>Comment noted.</p>				

Comment No.	72	Commenter No.	29	Comment Subject	Overirrigation
Comment	<p>First, we would like to express our support for one aspect of the March 13, 2009 Tentative Draft Permit which was not covered by our May 14 letter. We recognize that section B, regarding Non-Stormwater Discharges removes "landscape irrigation, irrigation water, and lawn watering" from the listed categories of non-prohibited nonstormwater discharges. We note that the draft Fact Sheet identifies discharges from these categories to be substantial sources of pollutants. We agree that it is valid for the Regional Board to remove these sources from the list of non-prohibited non-stormwater discharges.</p>				
Response	<p>Comment noted.</p>				

Comment No.	73	Commenter No.	29	Comment Subject	LID
Comment	<p>We are encouraged by the revisions made to the draft permit's Low Impact Development (LID) provisions in the June 8 update. We have been supportive of the Santa Ana Regional Board's Orange County MS4 permit, which was adopted on May 24, 2009. The LID provisions included in the June 8 update are generally consistent with the Santa Ana Regional Board's permit. We also appreciate that the June 8 update addresses the comments pertaining to LID in our May 14 letter.</p>				
Response	<p>Comment noted.</p>				

Comment No.	74	Commenter No.	29	Comment Subject	SUSMP
Comment	Section F .1.d requires the submittal of an updated model SUSMP within two years of permit adoption. We note that in other permits, including the May 24, 2009 Santa Ana Regional Board permit for Orange County, similar plans must be submitted within one year of permit issuance.				
Response	The Tentative Order requires the SSMP to be submitted within two years at the request of the Copermitees. They specifically requested that this requirement not be consistent with the Santa Ana Regional Board permit for Orange County. This change was made in response to comment No. 102 in the July 1, 2009, Response to Comments IV. By allowing two years to develop SSMP, this allows the update of the SSMP and the development of the HMP to coincide.				
Comment No.	75	Commenter No.	29	Comment Subject	LID
Comment	Section F .1.d.4.c.ii - The updated LID language includes the term "biofiltration." Although this term is commonly used, as a general matter, its exact meaning is unclear. For example, in some circumstances, distinctions have not been made between infiltration and biofiltration. Conceptually, we believe that a well designed and operated biofiltration system can be consistent with LID principles by reducing flow volumes and protecting water quality. However, without a clear definition of biofiltration, there is the potential for the use of approaches that are contrary to LID. This section of the draft permit takes a step in the right direction by providing a total volume requirement for an acceptable biofilter. We would be interested in conferring further with you to improve the permit's definition of biofiltration.				
Response	The latest Tentative Order includes a definition of biofiltration in Attachment C.				
Comment No.	76	Commenter No.	29	Comment Subject	TMDL
Comment	Lastly, we'd like to refer to our May 14 comment letter's mention of the permit's provisions regarding the incorporation of Total Maximum Daily Loads (TMDLs). We continue to believe that the draft permit's TMDL provisions should be clarified, and would be glad to consult with you on this issue.				
Response	Please see response to comment no. 305 from the July 1, 2009, Response to Comments IV.				
Comment No.	77	Commenter No.	30	Comment Subject	General
Comment	NAIOP SoCal has reviewed the comments submitted by the County of Orange in their May 15, 2009 document. We will not repeat what they have set forth, but will incorporate them by reference as though fully set forth herein. We agree with the issues they raised and do feel that further discussions would be very beneficial in developing a final permit that addresses everyone's goal; cleaner water.				
Response	Comment noted.				
Comment No.	78	Commenter No.	30	Comment Subject	SAL
Comment	NAIOP SoCal will highlight a few of the areas of concern. First, the draft permit attempts to establish Municipal Action Levels (MALs). NAIOP does not believe MALS are justified or warranted, as well as not being technically supportable. In fact, the Blue Ribbon Panel Report does not support the use of numeric effluent criteria on stormwater discharges, and should be deleted.				
Response	The issue raised by this comment is not new. Please see responses to Comment nos. 25 and 33 in the July 1, 2009, Response to Comments IV.				

Comment No.	79	Commenter No.	30	Comment Subject	TMDL
Comment	The draft permit also attempts to establish Total Maximum Daily Loads (TMDLs) for 303(d) impaired waters. Yet, there have been no TMDLs approved by the Federal or State governmental agencies. What is set forth in the draft permit appears to be unworkable and impracticable. Any interest in pursuing TMDLs should be done by working on one impaired body and its associated watershed at a time.				
Response	<p>On June 11, 2008, the San Diego Water Board adopted Resolution No. R9-2008-0027 amending the Basin Plan to incorporate Total Maximum Daily Loads (TMDLs) for indicator bacteria Baby Beach in Dana Point Harbor and Shelter Island Shoreline Park in San Diego Bay.</p> <p>On June 16, 2009 the State Water Resources Control Board adopted Resolution No. 2009-0053 to approve an amendment to the Water Quality Control Plan for the San Diego Region (Basin Plan) to incorporate Total Maximum Daily Loads for Indicator Bacteria in Baby Beach in Dana Point Harbor and Shelter Island Shoreline Park in San Diego Bay.</p> <p>The State's Office of Administrative Law (OAL) approved the TMDLs on September 15, 2009. The effective date of the TMDLs is the date of OAL approval.</p> <p>The United States Environmental Protection Agency (USEPA) approved the TMDLs on October 26, 2009.</p>				

Comment No.	80	Commenter No.	30	Comment Subject	SUSMP
Comment	Next is the limit on impervious area on a project site to 5% of the total area. This really is not reasonable or practical. Setting development restrictions that cannot be practically achieved is not an approach that leads to effective means of addressing the runoff issue. The 5% limit needs to be deleted.				
Response	Through discussions with the Copermittees and the interested parties, a metric using Effective Impervious Area (EIA) was not included in the Tentative Order's requirements. In lieu of the EIA metric, the draft Tentative Order requires Low Impact Development BMPs to retain and/or biofilter the volume of runoff produced from the 24-hour 85th percentile storm.				

Comment No.	81	Commenter No.	30	Comment Subject	SUSMP
Comment	We also want to emphasize the concept of a County-wide Model WQMP that is consistent for the entire County and one that does not include different standards for new development and redevelopment for North and South County areas.				
Response	The requirements of the Tentative Order do not prevent or obstruct the implementation of a consistent County-wide WQMP. The standards for new development and redevelopment in the Tentative Order and in the Santa Ana Regional Board's North Orange County MS4 permit are not mutually exclusive. A County-wide WQMP meeting the requirements of the Tentative Order would also meet the requirements of the North Orange County permit, and would be beneficial to the watersheds of both portions of Orange County.				

Comment No.	82	Commenter No.	30	Comment Subject	SUSMP
Comment	Sections XII.B.4A and B of the North County Permit provides several options for the treatment control BMP sizing calculations, whereas the South County Permit provides only one option. We request that the language in Section F.1.d.6 of the South County Permit be updated to reflect all of these options, which is consistent with Exhibit 7.11 of the OC DAMP (Page 7.11-47).				
Response	The Tentative Order limits the selections of methods used to determine the appropriate volume of storm water runoff to be treated. This limitation ensures that priority development project proponents utilize the most accurate information to determine the volume or flow of runoff that must be treated. Using detailed local rainfall data, the County of Orange has developed the 85th Percentile Precipitation Isopluvial Map, which exhibits the size of the 85th percentile storm event throughout Orange County. Since this map uses detailed local rainfall data, it is more accurate for calculating the 85th percentile storm event than other methods which were included in Order No. R9-2002-0001. The other methods found in Order No. R9-2002-0001 were included as options to be used in the event that detailed accurate rainfall data did not exist for various locations within Orange County. The development of the 85th Percentile Precipitation Isopluvial Map makes these other less accurate methods superfluous. Therefore, these other methods for calculating the 85th percentile storm event have been removed from the current Order. This limitation also simplifies compliance and oversight for the project developer, municipality, and Regional Board.				

Comment No.	83	Commenter No.	30	Comment Subject	SUSMP
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Comment Section XII.C.5 of the North County Permit discusses many of the issues that limit the applicability of LID principles in certain situations (e.g., unfavorable soil conditions, existing contamination issues, etc.). The option for the permittees to incorporate the LID principles into larger sustainability programs that balance the benefits of LID against other laudable sustainability objectives should be included in the South Orange County Permit.

Response Implementation of LID is a sustainability objective with the dual purpose of pollutant capture and hydromodification control. As such, it is difficult to substitute the benefits of LID with other laudable sustainability objectives that may not be measurable or water quality based. In addition, we must be careful where the ends do not justify the means. A site that meets other laudable sustainable objectives would still presumably be discharging the same pollutant load unless LID measures were implemented on site. We cannot support a program that would allow a project not to implement LID while still discharging the same pollutant load regardless of other laudable sustainability objectives. Therefore, the Tentative Order includes section F.1.d.(7)(g) allowing the Copermittee's to implement a pollutant credit system at their discretion provided that such a program exhibits that it does not allow a net impact from pollutant loadings over and above the impact caused by projects meeting LID requirements.

Comment No.	84	Commenter No.	30	Comment Subject	Overirrigation
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Comment As also discussed in previous comment letters provided by the County of Orange, we are concerned with the elimination of irrigation runoff required by the South County Permit. Our experience has taught us that irrigation runoff can be feasibly minimized, however complete elimination of irrigation runoff is unlikely to be 100% achievable. We recommend the language of Section XII.B.3.a that requires irrigation runoff to be minimized to the maximum extent practicable rather than eliminated.

Response The comment regarding the prohibition on overirrigation practices was addressed in the previous response to comments. The comment does not raise any new issues from the previous comments.

Please see the discussion in the Fact Sheet for finding C.15; and the July 1, 2009, Response to Comments IV, Response Nos. 28, 52, 76, and 159. No changes have been made in response to this comment.

The exemptions for irrigation runoff from prohibition have been removed as required per 40 CFR 122.26, which requires such illicit discharges be addressed where such discharges are identified as sources of pollutants. Furthermore, irrigation runoff is a non-storm water discharge that is required to be effectively prohibited by the Clean Water Act and is not subject to the maximum extent practicable standard. The Regional Board expects the Copermittees to treat irrigation runoff, through ordinance and inspection, like any other prohibited non-storm water discharge. The Copermittees current non-storm water prohibitions, that do not include prohibiting over irrigation runoff, are also not 100 percent effective. The Regional Board realizes that the large number and diffuse geography of storm drain inlets makes a 100 percent prohibition difficult to enforce. Nevertheless, the Copermittees currently have non-storm water prohibitions within their ordinances and it is expected that they make a good faith effort in enforcing those ordinances. The language suggested from Section XII.B.3.a appears to be contrary to federal regulations. Non-stormwater discharges are prohibited according to the Clean Water Act. 40 CFR 122.26 requires "a program including inspections, to implement and enforce an ordinance, orders or similar means to prevent illicit discharges to the municipal separate storm sewer system; this program description shall address all types of illicit discharges, however the following category of non-storm water discharges or flows [including overirrigation] shall be addressed where such discharges identified by the municipality as sources of pollutants to waters of the United States."

Comment No.	85	Commenter No.	30	Comment Subject	Hydromod
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Comment The interim hydromodification requirements of the South County Permit section F.1.h.6 are extensive and include the 1-year through the 10-year storm and potential for continuous modeling requirements along with an EIA requirement. The hydromodification requirement of the North County Permit (as set forth in Section XII.D) is limited to the 2-year storm and has clear provisions for determining compliance and for determining the applicability of the hydromodification requirement. Based on our consultation with several storm water and water quality engineers, the design and approval process for implementing a system that control multiple storms is exponentially more difficult than the design approval process for a single storm event. This increased complexity in design, however, does not translate to a radically altered design in the constructed condition. We feel the complexity does not greatly add to achieving the regional water quality objectives and recommend that the Regional Board replace the hydromodification language from the North County Permit with the South County Permit language entirely.

Response The interim hydromodification requirements have been rewritten and no longer contain references to the EIA. Additionally, the requirements call for use of a continuous simulation hydrologic model to implement flow control BMPs for flow rates that fall within 10 percent of the 2-year, and up to the 10 year, storm event. Flows leaving a project site that do not fall within this range do not need to be controlled under the interim requirements.

The Regional Board finds that mitigating runoff above the 2-year storm is necessary to prevent erosion and impacts to downstream receiving waters. Studies have shown that storms greater than the 2-year storm do most of the erosive work (SCVURPPP, 2005). The requirement for continuous modeling is necessary to help dischargers decipher both the applicability of hydrologic controls and whether or not compliance will be achieved with proposed BMPs. The Regional Board recognizes that Copermitees will need to learn how to perform continuous modeling and the design approval process associated with these hydromodification requirements. This process, however, is not without precedent. Copermitees in both the Bay area and San Diego area have successfully implemented requirements to perform continuous modeling for purposes of hydromodification management, and have been able to do so in evaluating effects from a range of storms (not a single storm event). The Regional Board disagrees that mitigating effects from a range of storms does not add to achieving regional water quality objectives because, as previously stated, storms greater in intensity than the 2-year storm perform the majority of the work that causes downstream erosion.

Comment No.	86	Commenter No.	30	Comment Subject	SUSMP
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Comment In general, the changes that NAIOP requests will not negatively impact water quality in the region and the recommended changes are consistent with the overall approach taken for water quality protection in the region. In fact, we strongly feel that a consistent Model WQMP for the entire County will increase the probability that the design measures in the Permits will be implemented in a more consistent manner when all cities have the same requirements. The overall differences with respect to new development/redevelopment in the adopted Permit for North Orange County and the draft permit for South Orange County are minimal enough that the objectives for both Permits can be achieved by a County-wide Model WQMP that reflects the specific design and numerical requirements set forth in the northern Orange County Permit.

Response The requirements of the Tentative Order do not prevent or obstruct the implementation of a consistent County-wide WQMP. The standards for new development and redevelopment in the Tentative Order and in the Santa Ana Regional Board's North Orange County MS4 permit are not mutually exclusive. A County-wide WQMP meeting the requirements of the Tentative Order would also meet the requirements of the North Orange County permit, and would be beneficial to the watersheds of both portions of Orange County.

Comment No.	87	Commenter No.	31	Comment Subject	SUSMP
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Comment Thank you for providing Rancho Mission Viejo (RMV) with the opportunity to review and comment on the referenced Revised Tentative Order ("Order"). We have received and reviewed the revised language concerning Low Impact Development recently distributed by the Regional Board. We are supportive of the addition of the Alternative Performance Criteria for Watershed-Based Projects (Section F.1.c. (8)).

Response Comment noted.

Comment No.	88	Commenter No.	32	Comment Subject	LID
Comment	NRDC believes that good policy and law require a standard both to retain onsite the design storm whenever possible and to provide offsite mitigation for any of the design storm volume not retained onsite. The most recent draft language issued by the Regional Board would require onsite retention but allow "biofiltration" to qualify toward meeting the design storm volume obligation when onsite retention is technically infeasible. Tentative Order ¶ F.1.d.(4)(c). For reasons previously elaborated in our comments and discussed briefly below, we do not support crediting water treated through biofiltration BMPs toward the onsite, 85th percentile storm retention obligation that otherwise applies to projects under Tentative Order ¶ F.1.d.(4)(c)(i). When biofiltration practices are used (we do not oppose their use when onsite retention of the design storm is technically infeasible), this should trigger the requirement to provide offsite mitigation or in-lieu funds.				
Response	<p>The Regional Board maintains that bio-filtration is part of a comprehensive LID program. Effective bio-filtration provides pollutant removal and energy dissipation. Biological removal of pollutants can even be an improvement over simply keeping pollutants on-site until rainfall over the design-storm criteria washes pollutants into receiving waters. Removal of pollutants and prevention of downstream hydromodification ensures any discharge to be low impact. The USEPA's Green Infrastructure website includes filtration as a Low Impact Development technique; http://cfpub.epa.gov/npdes/greeninfrastructure/information.cfm#glossary.</p> <p>In addition, the U.S. Department of Housing and Urban Development's report titled "The Practice of Low Impact Development," (July 2003, H-21314CA) incorporates filtration techniques. The County of San Diego's LID manual also utilizes bio-filtration as an acceptable LID practice. In the future as the science and knowledge of storm water treatment evolves, filtration may not be a suitable LID practice to meet the maximum extent practicable standard.</p> <p>For this permit iteration, LID BMPs that capture the design storm for reuse, infiltration or evapotranspiration are preferred over bio-filtration techniques. The draft permit provides design-criteria for "LID bio-filtration BMPs" in section F.1.4.d.ii and requires demonstration that retention LID BMPs are technically infeasible prior to implementing bio-filtration BMPs.</p>				

Comment No.	89	Commenter No.	32	Comment Subject	LID
Comment	To dispel misconceptions about onsite retention-based standards, such standards do not equate to a "no discharge" requirement because the design storm is relatively small and many precipitation events will exceed it. Implementing a full retention-based standard with appropriate alternative compliance provisions would mean, however, that Orange County would reap the benefit of a superior pollution discharge standard even if onsite retention were infeasible. This would be a critical step forward, particularly because the water retained, whether onsite or offsite through alternative compliance, would be infiltrated or otherwise reused. Such an approach mirrors similar approaches now being implemented or considered in locations as diverse as Washington, D.C., Philadelphia, West Virginia, and—through new requirements for federal buildings—everywhere in the United States.				
Response	Comment noted.				

Comment No.	90	Commenter No.	32	Comment Subject	LID
Comment	Critically in this connection, as discussed in our last letter, on May 7, 2009, the Los Angeles Regional Water Quality Control Board adopted NPDES No. CAS00402, a new MS4 permit for Ventura County and the incorporated cities therein. The adopted Ventura County MS4 permit requires onsite infiltration, harvesting and reuse, or evapotranspiration of the 85th percentile design storm, with no runoff. The critical difference between the Ventura County MS4 permit and the draft Tentative Order's LID performance standard is that, in Ventura County, biofiltration cannot count toward a site's LID volumetric obligations—the Tentative Order, as currently drafted, would allow a site that demonstrated technical infeasibility to discharge potentially all of its stormwater to the storm sewer system without undertaking any offsite mitigation. If the biofiltration BMPs installed are not 100% effective at removing pollutants (and they almost undoubtedly would not be 100% effective), the site will discharge more pollution than a site that meets the onsite retention standard. For this reason, offsite mitigation should be required in such situations.				
Response	Please see the response to comment No. 88. In addition, the biofiltration requirements are consistent with the Santa Regional Board's MS4 permit for North Orange County, R8-2009-0030.				

Comment No.	91	Commenter No.	32	Comment Subject	LID
Comment	A strict requirement (with appropriate alternative compliance options) for onsite infiltration, reuse, and evapotranspiration not only implements the MEP requirement (and others) contained in the Clean Water Act, it is also inarguably wise policy in drought stricken California. Governor Schwarzenegger recently declared a state of emergency in California due to severe drought. The major Southern California water supplier will cut water deliveries across the region this summer by ten percent, the first such cut since the drought of the early 1990s. Notably, the Governor's Proclamation orders public water agencies essentially to "find" more water through a variety of activities, including "...efforts to protect water quality or water supply." As such, a standard that requires retention of the design storm onsite is directly responsive to the Governor. The Tentative Order would potentially allow large quantities of biofiltered water to flow into receiving waters through storm sewers, providing no water supply benefit at all.				
Response	Please see the response to comment No. 88.				

Comment No.	92	Commenter No.	32	Comment Subject	LID
Comment	Thus, we strongly urge the Board to make a small but very important change to the Tentative Order by requiring that projects using biofiltration BMPs mitigate—through the LID substitution program—the quantity of stormwater that is not retained onsite. This will comport with the emerging stormwater management trend around the country and help ensure that the Permit meets the MEP standard.				
Response	Please see the response to comment No. 88.				

Comment No.	93	Commenter No.	32	Comment Subject	LID
Comment	We appreciate that the Regional Board has attempted to circumscribe the use of biofiltration BMPs by requiring that they be designed appropriately. However, as Orange County Coastkeeper Executive Director Garry Brown testified regarding the same issue in North Orange County, experience shows that this is easier said than actually implemented. As such, allowing biofiltration may serve as an "out" that will minimize environmental performance. In contrast to objectively clear requirements to "infiltrate, harvest and reuse, or evapotranspire," "biofilter" is a subjective term open to interpretation and abuse.				
Response	The latest Tentative Order includes a definition of biofiltration to avoid misuse and misinterpretation. Please see the response to comment No. 88.				

Comment No.	94	Commenter No.	32	Comment Subject	LID
Comment	Indeed, while we oppose the allowance for biofiltration as part of the main LID performance standard, we believe that if this language remains over our objections, clarifying language should close the loopholes that we have identified. There is consensus among the environmental NGOs and industry stakeholders, including the BIA and CICWQ, that biofiltration LID BMPs can be abused and therefore must be built and maintained to meet strong and clear requirements. CICWQ, for example, stated in its February 13, 2009 letter to the Santa Ana Regional Board: "we recommend that hard feasibility criteria should be specified in the model WQMP/DAMP upon its renewal — such that developers should not be able to bypass implementation of appropriate LID BMPs."				
Response	The Tentative Order has included some basic design criteria for biofiltration to avoid abuse. The LID biofiltration BMPs must be designed for an appropriate surface loading rate to prevent erosion, scour and channeling within the BMP. Due to the flow through design of biofiltration BMPs, the total volume of the BMP, including pore spaces and prefilter detention volume is allowed to be no less than 0.75 times the design storm volume.				

Comment No.	95	Commenter No.	32	Comment Subject	LID
Comment	<p>Therefore, if the Board does not delete references to biofiltration in the Tentative Order's LID provisions, it should, at minimum, make the following clarifications:</p> <p>Section F.1.d.(4)(c)(ii) should be elaborated and state as follows: "LID bio-filtration BMPs shall be designed to accommodate the design flow at a surface loading rate no greater than 5 inches per hour and shall have a total volume, including pore spaces and prefilter detention volume, no less than the runoff volume generated by the design storm depth times 0.75. Maximum ponding depth shall be 12 inches; minimum drainage time shall be 12 hours."</p> <p>"Runoff from impervious areas also may be dispersed to pervious landscaped areas in a ratio not to exceed 2 parts impervious area to one part pervious landscaped area. Pervious landscaped areas must be designed to pond and infiltrate runoff produced by the design storm depth. Maximum ponding depth shall be 2 inches and minimum topsoil-turf thickness 3 inches."</p>				
Response	<p>Comment noted. The latest Tentative Order includes similar language to meet the intent of the commenter. LID biofiltration BMPs must be designed for an appropriate surface loading rate to prevent erosion, scour and channeling within the BMP. Due to the flow through design of biofiltration BMPs, the total volume of the BMP, including pore spaces and prefilter detention volume is allowed to be no less than 0.75 times the design storm volume.</p>				

Comment No.	96	Commenter No.	32	Comment Subject	LID
Comment	<p>Currently, the Tentative Order includes provisions that establish apparently two separate alternative compliance options for regulated projects. The first—"Alternative Performance Criteria for Watershed-Based Projects"—allows the implementation of nebulously defined "planning principles" through regional LID BMPs. Tentative Order ¶ F.1.c.(8). The Tentative Order does state that these regional LID BMPs should be sized to retain or biofilter the 85th percentile storm, or else conventional treatment controls and participation in the "LID substitution program" are required. Id. This provision does not establish a hierarchy of LID practices, however, and would allow qualifying projects to use biofiltration without demonstrating the technical infeasibility of retention-based BMPs. This opens the door to inferior pollution removal and is notably less stringent than the standard LID BMP requirements of Section F.1.d.(4), which prioritize retention based BMPs. We therefore urge the Regional Board to establish the same hierarchy of LID BMPs as in Section F.1.d.(4) and to require, as suggested above, participation in the LID substitution program whenever the project does not retain the full design storm volume. Further, the provision should clearly state that any projects utilizing this alternative compliance option must ensure at least equivalent environmental performance (compared to Section F.1.d.(4)'s requirements) in terms of pollutant removal and volume reduction.</p>				
Response	<p>Comment noted. The requirement for technical infeasibility has been included in the section on regional LID BMPs. Also, Section F.1.c.(8) has been moved to section F.1.d.(11) as it is more appropriate in that section.</p>				

Comment No.	97	Commenter No.	32	Comment Subject	LID
Comment	<p>The second alternative compliance option—the LID substitution program—also does not clearly require equivalent performance for the in-lieu payment component. While Section F.1.d.(8)(a) does state that the "LID substitution program must clearly exhibit that it will not allow PDPs to result in a net impact from pollutant loadings over and above the impact caused by projects meeting LID requirements," Section F.1.d.(8)(f) describes the in-lieu payment component of the program and sets forth four requirements that do not include ensuring equivalent water quality benefits. Since there are two options for the LID substitution program (offsite mitigation and in-lieu payment) and the offsite mitigation provision is linked to pollutant load reduction, the absence of any reference to pollutant load reduction in the in-lieu payment provision is conspicuous and potentially subject to misinterpretation. For this reason, the in-lieu payment provision should be revised to include a fifth criterion that requires in-lieu payment programs to ensure that the funds contributed by priority development projects are correlated to offsetting the impact of their onsite non-compliance and ensuring equivalent environmental performance. Without such clarification, the LID substitution program will include a potential loophole that would allow permittees and projects not to fully mitigate their impacts as otherwise required by the Permit.</p>				
Response	<p>Comment noted. Section F.1.d.(7)(a) requires that prior to implementation, the LID waiver program must clearly exhibit that it will not allow PDPs to result in a net impact (after consideration of any mitigation and in-lieu payments) from pollutant loadings over and above the impact caused by projects meeting LID requirements. In addition, section F.1.d.(7)(h)(iv) requires that in-lieu payments must be proportional to the additional pollutant load discharged by not fully implementing LID.</p>				

Comment No.	98	Commenter No.	33	Comment Subject	LID
Comment	<p>There is much that the Proposed Order sets out to do which is laudable, and indeed, potentially beneficial for Camp Pendleton. Stormwater runoff can be a major source of pollutant loading - frustrating attainment of downstream beneficial uses and at times necessitating the implementation of expensive treatment as a prerequisite to use for municipal supply. Camp Pendleton, and the Department of Navy generally, support the concept of LID to decrease stormwater pollution and prevent net increases in stormwater runoff. See enclosed Department of Navy Low Impact Development Policy for Storm Water Management (November 2007). The implementation of LID-as prescribed in the Proposed Order for new development, combined with the proposed prohibition of dry-weather runoff from developed areas such as Rancho Mission Viejo-may increase the water quality (if not quantity) of flows (and baseflow) on Cristianitos and Talega Creeks into the San Mateo water production aquifers. Unfortunately, the potential benefits of LID as envisioned in the Proposed Order may also contribute to an attendant loss of flows that support Camp Pendleton's water supply.</p>				

Response Comment noted. The commenter's suggested language has been included in the Tentative Order to address this concern.

Comment No.	99	Commenter No.	33	Comment Subject	LID
Comment	<p>Camp Pendleton relies almost entirely upon local water sources-the vast majority of which are derived from wet weather surface water flows originating outside of the Base-to meet its national defense mission. The Office of Water Resources is concerned that the Proposed Order, as currently drafted, may indirectly harm Camp Pendleton's water supply by mandating a version of low impact development that has the potential to greatly diminish the volumes of water that reach (and recharge) Camp Pendleton's aquifers. In particular the Office of Water Resources is concerned about diminution of flows to the San Mateo aquifers in the northern portion of the Base. Such diminution of aquifer recharge may result from implementation of the Proposed Order's requirement of 85% stormwater recapture in existing municipal separate storm sewer system (MS4) drainages in the vicinity of Talega and Christianitos Creeks. Talega and Christianitos Creeks are tributaries of San Mateo Creek and the San Mateo groundwater aquifers which provide camp water supply to the northern portion of Camp Pendleton.</p> <p>Additionally, the stormwater recapture requirements identified for existing development in the Proposed Order could have significant implications if they are adopted as Regional Board policy and subsequently implemented in MS4 reissuances for stormwater discharges in the Santa Margarita River watershed. The Santa Margarita, and the groundwater aquifers it recharges, is the sole source of water for the entire southern portion of the Base (Camp Pendleton's primary cantonment area). The proposed Order's requirement to remove and treat 85% of storm flows during many storm events, raises legitimate concerns about Camp Pendleton's future ability to retain its water independence. However, since the Santa Margarita River watershed is not proposed for inclusion within the Proposed Order, the Office of Water Resources simply notes that the precedent associated with inclusion of large scale retrofit requirements to remove 85% of stormwater flows in existing developments, could be problematic for Camp Pendleton's sole source of water supply in the southern portion of the Base.</p>				

Response Comment noted. The commenter's suggested language has been included in the Tentative Order to address this concern.

Comment No.	100	Commenter No.	33	Comment Subject	LID
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Comment Implementation of the Proposed Order-which appears to require "retrofit" of existing drainages in the Christianitos, Talega and San Mateo watersheds (as well as imposing significant flow reduction requirements on "new" developments)---could result in a significant decrease in the amount of flows entering Christianitos, Talega and San Mateo Creeks. A confounding factor is whether, and to what extent, stormwater that is locally infiltrated, filtered or treated in accordance with the requirements of the Proposed Order, see Section F.1.d.(6)(a)(i), will in fact join groundwater and eventually flow down-gradient to San Mateo Creek. The Office of Water Resources is attempting to quantify the magnitude of such anticipated losses through hydrologic study. However, what is apparent is that if the Proposed Order operates as it appears to be designed, more surface water flow will be retained at the point of generation and used onsite, actively for irrigation or passively through root uptake/evapotranspiration. This greater magnitude of on-site use has the potential to adversely impact the water production capabilities of downstream riparians, overlies and appropriators.

Compounding our concerns regarding the Proposed Order's volumetric and flow restrictions is the fact that the Co-Permittees, once they receive stormflow into their MS4s, may find it difficult or impossible to return captured stormwater to the same stream system from which it was derived. As previously alluded, the Proposed Order appears to mandate that infiltrated, filtered or treated stormwater meet all basin plan standards at the point where such water is "discharged," and a discharge would appear to occur whenever such water leaves the MS4 conveyance system. See Proposed Order Sections C.2; E.g, 13. While the requirement to meet water quality standards at all times seems reasonable on its face, implementation could present difficulties that exacerbate harm to downstream water rights.

Response Comment noted. The commenter's suggested language has been included in the Tentative Order to address this concern.

Comment No.	101	Commenter No.	33	Comment Subject	LID
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Comment Additionally, if the Co-Permittees are required to meet basin plan standards prior to infiltrating the stormwater (or otherwise discharging to land), they may be unable to comply with the Proposed Order without constructing and implementing some form of treatment prior to discharge. Implementation of technology of this magnitude and footprint could be very expensive and would presumably require removal of stormwater from its watershed of origin in many instances so that CoPermittees could achieve sufficient economies of scale to make construction of necessary treatment facilities cost effective. Such stormwater may be lost to its watershed of origin. Moreover, if a Co-Permittee (or developer) spends many millions of dollars to construct and maintain a micro-filtration facility, they are likely to want to put such captured water to beneficial use for their own purposes after treatment (in order to recover outlays of capital needed to build the treatment facilities in the first instance). Finally, even assuming that "treated" stormwater flows are indeed infiltrated into groundwater aquifers within their watershed of origin, such aquifers may be many miles above downstream receiving waters and otherwise hydrologically disconnected from the streams and creeks that previously conveyed water to downstream water rights holders.

Response Comment noted. The commenter's suggested language has been included in the Tentative Order to address this concern.

Comment No.	102	Commenter No.	33	Comment Subject	LID
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Comment The problem described above is equally acute if the water is to be discharged to a surface water. Currently there is no known technology capable of reliably treating total nitrogen below 1 ppm, yet that is the default basin plan standard for total nitrogen in the San Mateo Basin and in other watersheds throughout Southern Orange County. If Basin Plan standards for nutrients are strictly applied at the point of discharge, as Section C.2 implies they must be, then even implementation of membrane technologies to "treat" or "filter" stormwater would be ineffective. A Co-Permittee could not release water from the MS4 system to receiving surface waters without violating the terms of the Proposed Order in many circumstances, leaving groundwater infiltration (which is problematic for the reasons stated above) as the only viable disposal alternative.

Response Comment noted. The commenter's suggested language has been included in the Tentative Order to address this concern.

Comment No.	103	Commenter No.	33	Comment Subject	LID
Comment	Camp Pendleton is home to 17 threatened or endangered species that rely directly (or indirectly) on the maintenance of flows in Camp Pendleton's creeks, rivers, lagoons and riparian areas. Potential impoundment of stormwater flows via the Proposed Order has the potential to also impact the maintenance of habitat that these riparian species rely upon for their survival.				
Response	Comment noted. The commenter's suggested language has been included in the Tentative Order to address this concern.				
Comment No.	104	Commenter No.	33	Comment Subject	Legal
Comment	In Section E of the Proposed Order (pages 22-24), language along the following lines should be inserted clarifying the Regional Board's intention to protect existing downstream water right holders from injury associated with stormwater recapture: a. "Nothing herein shall authorize a Co-Permittee or other discharger regulated under the terms of this order to divert, store or otherwise impound water if such action is reasonably anticipated to harm downstream water right holders in the exercise of their water rights."				
Response	The Regional Board has previously made the suggested change to the Tentative Order.				
Comment No.	105	Commenter No.	33	Comment Subject	General
Comment	Provide clarification in the Proposed Order that infiltration of water at the point of generation is not a "discharge" that requires strict compliance with basin plan standards. This would obviate the need for removal of water from the watershed of origin for off-site treatment (and probably appropriation) in a different watershed.				
Response	The clarification has been made that strict compliance with "surface" water quality standards is required.				
Comment No.	106	Commenter No.	33	Comment Subject	General
Comment	In Section F.3.d.6(d): Revise guidance for substitute regional mitigation projects for existing development to authorize: "Localized rainfall storage and reuse to the extent such projects are fully protective of downstream water rights."				
Response	The requested change has been made to the Tentative Order.				
Comment No.	107	Commenter No.	34	Comment Subject	General
Comment	Negotiations on the Draft Permit have been ongoing between the Regional Board and the Orange County Permittees since 2007. To date, the Riverside County Permittees and other Riverside County stakeholders have not been provided the opportunity to participate in the process in an equivalent manner as the Orange County Permittees and stakeholders. Nevertheless, the use of this Draft Permit as the model for the Riverside County Permit can create the false presumption that the requirements and programs contained therein have been thoroughly reviewed and commented upon by the Riverside County Permittees and Riverside County stakeholders, which is not the case. As the permit that results from this process will be specific to Orange County, the Riverside County Permittees have appropriately played a passive and mostly observational role in the development of this Permit. Although the Riverside County Permittees have provided comments on the Draft Permit, the extent and intent of their comments has been limited to addressing broad policy issues that the Riverside County Permittees are concerned are inappropriate and may set precedent for the renewed Riverside County Permit. There has been no effort on the part of the Riverside County Permittees to fully review or comment on the details of this Permit and, furthermore, the Riverside County Permittees have not been involved nor invited to the "Permittee" meetings in which the details of this Draft Permit have been discussed. Therefore, the Riverside County Permittees expect to be afforded, at minimum, an equivalent process for involvement in their permit renewal as has been provided to the Orange County Permittees and stakeholders for this Draft Permit.				
Response	Please note that the Tentative Order is for renewal of the NPDES permit for Copermittees within Southern Orange County. As such, Copermittee participation has been limited to those Copermittees under purview of R9-2002-001. While it is likely that the Tentative Order will be utilized as the model for renewal of R9-2004-001 (MS4 Permit for Riverside Co. in the Santa Margarita Hydrologic Unit), this does not imply that the public process and Copermittee/stakeholder participation for renewal of R9-2004-001 shall be limited in scope. Please note that the Regional Board does not anticipate that the duration of time needed to renew R9-2002-001 will mirror the time needed for renewal of R9-2004-001. R9-2002-001 was significantly delayed as the Regional Board lacked a quorum to hear the original draft Tentative Order.				

Comment No.	108	Commenter No.	34	Comment Subject	General
Comment	<p>Through previous permits, the Riverside County Permittees have developed watershed specific programs that are structured differently than those in Orange County. These programs have been in development and subsequent refinement for several years, and these programs have been molded into effective and efficient programs for the Upper Santa Margarita Watershed. As discussed in the 4th year annual report, these programs have been shown to be effective and are protective of receiving water quality, especially in light of the 300% growth and urbanization that has occurred within the Permit area. Forcing permit requirements upon the Riverside County Permittees that are structured based upon Orange County's existing permit and which have been negotiated between Regional Board staff and Orange County stakeholders could result in an unjustified overhaul and unnecessary re-invention of Riverside County's programs that will undermine the credibility of the Permittees' program, and will negatively affect their ability to protect water quality.</p> <p>The cookie cutter approach to permitting could negate progress the Permittees have made to date on developing Low Impact Development (LID) tools (including the District's LID BMP Testing and Demonstration Facility and pending LID Design Manual), hydromodification management tools (being developed in conjunction with the Southern California Coastal Watershed Research Program), Permittee efforts to develop and promote proper management of Pyrethroid Pesticides (including several presentations and meeting with leading scientists and Department of Pesticide Regulation managers) and other projects that we have undertaken for the last five years to manage water quality issues specific to the Santa Margarita Region of Riverside County. MS4 Permits should be written to take advantage of programs that Permittees are proactively undertaking and reflect the priorities that the Riverside County Permittees have identified for their watershed. By imposing permit requirements that obviate these existing efforts, the Regional Board is de incentivizing MS4 Permittees from being proactive.</p>				
Response	<p>Comments regarding program inclusion for the renewal of R9-2004-001 (MS4 Permit for Riverside Co. in the Santa Margarita Hydrologic Unit) will be addressed during that NPDES permit renewal process. It is expected that existing LID, hydromodification efforts and management measures will work in concert with proposed requirements, as many requirements are built upon the current Order (R9-2004-001). For example, R9-2004-001 requires Copermitees to initiate hydromodification efforts, and monitoring currently required lead to the identification of pyrethroid pesticides as a potential concern. The Regional Board will continue to build upon advances and improvements, gleaned from all three MS4 permits under their jurisdiction, when revising the next MS4 permit up for reissuance.</p>				

Comment No.	109	Commenter No.	34	Comment Subject	General
Comment	<p>Permits should reflect and accommodate the recommendations set forth by the Permittees in the Report of Waste Discharge (ROWD).</p> <p>For over 18 years, the Riverside County Permittees have been actively involved in statewide efforts to further develop and support the stormwater community and develop, review, test and implement appropriate Best Management Practice (BMP) technologies and programs. As part of the ROWD the Permittees thoroughly reviewed their existing compliance programs and committed to well thought-out programmatic revisions that will ensure that they continue to protect receiving water quality to the Maximum Extent Practicable (MEP) and implement measurable goals. Many of the recommended programs are actually proactive in that they provide similar end results as programs that are now being discussed for the draft South Orange County Permit.</p> <p>Although the recommended revisions result in an additional burden upon already stretched municipal budgets, the recommended programs have been formulated in a manner that ensure that their programs meet the MEP standard while remaining cost effective, transparent and integrate smoothly into the Riverside County Permittees' existing programs. It is important to recognize that the recommended programs described in the Riverside County Permittees' ROWD present an approach that will be more appropriate and effective within Riverside County and warrant serious consideration.</p>				
Response	<p>Comments regarding program inclusion for the renewal of R9-2004-001 will be addressed during that NPDES permit renewal process.</p> <p>Please note the MEP standard applies to storm water discharges and that non-storm water discharges are to be effectively prohibited (Please see Regional Board Counsel Memorandum dated November 05, 2009).</p>				

Comment No.	110	Commenter No.	34	Comment Subject	General
Comment	<p>Permits should focus resources on the actual water quality issues within each watershed.</p> <p>Inappropriately imposing requirements from other permit areas curtails the Permittees ability to develop and implement programs that address their specific water quality issues in a manner that is efficient and effective. Further, attempting to comply with requirements that are developed for areas with different climatic, land use and hydrologic conditions may actually decrease the effectiveness of the Permittees' overall program by diverting funding away from where it can provide the greatest benefit to water quality. The physical and socio-economic characteristics of the Santa Margarita Region of Riverside County are substantively different from Orange County and, as such, the water quality issues, and the most effective solutions to address those issues, may be vastly different than what is appropriate and effective in Orange County. Using Orange County's requirements as a model for the Riverside County Permit falsely presumes that Orange County's programs will be equally effective and efficient at addressing the water quality issues in Riverside County. On the contrary, such programs may actually be less effective than simply building upon the Riverside County Permittees' existing and already proven programs.</p>				
Response	<p>Comments regarding program inclusion for the renewal of R9-2004-001 will be addressed during that NPDES permit renewal process.</p> <p>NPDES permits are issued to protect water quality standards for those waters receiving the discharge. As such, different receiving waters may require different efforts due to 303(d) listings, TMDLs, Beneficial Uses, differing water quality criteria, and other factors that require consideration during the NPDES permitting process.</p>				

Comment No.	111	Commenter No.	34	Comment Subject	General
Comment	<p>Permit requirements should be reflective of the resources available within the permit area.</p> <p>MS4 Permit requirements are written to establish a framework by which MS4 Permittees can be measured for compliance with the MEP standard. The MEP is not and cannot be the same for all permit areas, as what is "practicable" is affected by many factors, including socio-economic factors, which are quite different between the Orange County and Riverside County Permit areas. South Orange County is a built-out, highly urbanized coastal community whereas the Santa Margarita Region of Riverside County is still essentially an urbanizing rural region in a semi-arid climate with less than 300,000 residents. These differences affect the ability of the Riverside County Permittees to secure the resources to comply with expanded permit requirements and define what is "practicable" for Riverside County. Therefore the scale, focus, and implementation of compliance programs will be necessarily different and should reflect the unique characteristics of the watershed and the communities located within it. The following information provides a limited example of some of the stark differences between the two Permit areas.</p> <p>Additionally, the sobering economic forecasts described in the 2009 ROWD have continued to not only be realized but actually exceeded in its negative impacts as Riverside County is one of the hardest hit areas in the country with a 13% unemployment rate and the 4th highest number of foreclosures in the nation. Further, City Councils and the County Board of Supervisors do not have the luxury to impose assessments nor allocate funds and resources irrespective of the general needs and will of the public. These factors further diminish the likelihood that additional assessments for enhanced compliance requirements would be voter approved in the current economic climate.</p> <p>Imposing the negotiated Orange County Permit requirements upon Riverside County would create an insurmountable burden that would likely result in unavoidable noncompliance due to their inability to secure the significant resources that would be required to not only reinvent their existing programs as described above, but to incorporate additional programmatic and reporting programs that are often excessive and do not in any way benefit water quality.</p>				
Response	<p>Comments regarding program inclusion for the renewal of R9-2004-001 will be addressed during that NPDES permit renewal process. Please also see response to Comment nos. 109 and 110.</p>				

Comment No.	112	Commenter No.	34	Comment Subject	NEL
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Comment Tentative updates to the Draft Permit released on May 5th describe the actions that must be taken in the event that monitoring data determines that a Numeric Effluent Limit (NEL) has been exceeded. Notwithstanding the comments provided in our previous comment letter submitted on May 15, 2009, the process that is required when an NEL is exceeded requires that the Permittees make one of three specific findings in response to the exceedance; 1) the discharge is demonstrably natural in origin, 2) the discharge results from an illicit connection and the discharge can be identified and eliminated, or 3) the discharge is determined to be a discharge that is conditionally exempt. The problem is that these options are based on the faulty assumption that a single and specific source of an exceedance can always be identified.

In at least some cases, transitory Illegal Connection/Illicit Discharge (IC/ID) events involving dissolved pollutants only detectable via lab analysis may trigger NEL provisions. However, lab results can take multiple days to process; by the time the Permittee becomes aware of the exceedance, the discharge may have ceased. In such a case, the Permittee would have not been able to make any of the allowable findings. Further, the area served by MS4s is not entirely under the control of the Permittees (compared to an industrial operator who is actually in direct control of his business) and MS4 discharges can originate from multiple diffuse sources. Detecting the source of an exceedance in such cases is complicated by many factors, including:

- a) The time it takes pollutants to migrate downstream within the MS4. By the time the exceedance is detected and a source investigation is initiated the discharge may no longer be occurring.
- b) The combination of many diffuse sources which would be difficult or impossible to individually pinpoint and quantify.
- c) The source could be natural such as arsenic, iron or selenium in rising groundwater, but making a demonstrable conclusion is not feasible given limited data sets.
- d) The exceedance may be for a constituent that can be attributed to many different types of sources and factors, (e.g., pH and TSS). As such, finding the true source can be likened to finding a needle in a haystack.

The required responses to exceedances of an NEL need to be realistic and recognized that it may not always be possible to determine with absolute certainty the source of the exceedance. Accordingly MS4 Permits should not hold Permittees responsible for inability to determine the source of an exceedance.

Response In regards to responsibility for discharges into the MS4 system, please see Comment no. 39 in the July 1, 2009, Response to Comments IV.

The Regional Board expects that the Copermittees respond to suspected illicit discharges and/or connections in compliance with Section C.1 and F.4 of the Order. Non-storm water discharges, no matter how diffuse in source, difficult to pinpoint or intermittent in nature, are a prohibited discharge unless specifically exempted. The Regional Board contends that the required responses to non-storm water discharges are realistic and required under federal regulations. The Copermittee must conduct further investigation into all non-storm water discharges unless it is known with certainty that the discharge either is exempted from prohibition or covered by another permit, as non-storm water discharges are to be effectively prohibited. This requirement to investigate the source of the discharge, regardless of chemical composition, is already part of the existing permit.

Please also see response to Comment #394.

Comment No.	113	Commenter No.	34	Comment Subject	SUSMP
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Comment Several provisions of the Draft Permit require the calculation of Pollutant Loads generated by sites and to determine the pollutant load reductions that occur through the implementation of BMPs. There is not a sufficient and defensible body of knowledge within the storm water community to support and justify inclusion of such requirements. These requirements need to be removed or restructured to include requirements that can be complied with utilizing the available and applicable body of knowledge.

Response Federal regulations at 40 CFR 122.26(d)(2)(iv)(A) requires, "a description of structural and source control measures to reduce pollutants from runoff ..., accompanied with an estimate of the expected reduction of pollutant loads ..." The Copermittees must calculate pollutant loads based on the available studies and knowledge. CASQA and CalTrans both have guidance on BMP pollutant removal effectiveness.

Comment No.	114	Commenter No.	34	Comment Subject	Hydromod
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Comment The Draft Permit requires implementation of three distinct hydromodification programs, all to be implemented potentially within the first three years of the Permit cycle. Each program is based on different sets of requirements and will likely result in three distinct programs where each program will only be implemented for approximately one year before the Permit will require the next program to be implemented. From an administrative point of view these requirements would have unreasonable impacts on the municipal staff, the development community and even the Regional Board staff. The repeated requirements to develop and re-develop programs are not reasonable and will only serve to create confusion and waste scarce resources. It is not practicable, nor is it good public policy to develop a program, train municipal staff and the development community on the program, and then implement the program all while developing a completely different successor program that will be implemented a year later. Alternatively and in light of the virtual cessation of development activity in the region, it would make more sense to require continuation of existing new development controls with possible minor enhancements until the completion of the Southern California Coastal Watershed Research Project (SCCWRP) hydromodification study, which all of Southern California has already committed to implement upon its completion.

Response Tentative Order No. R9-2009-0002 will not require the implementation of three distinct hydromodification programs, as the commenter suggests. Rather, provision F.1.h. describes the elements that must be included in a Hydromodification Management Plan (HMP) that will be developed by the Copermittees. While the HMP is being developed, the Copermittees are to immediately implement interim hydromodification criteria. This is to ensure that hydromodification controls are implemented to protect receiving waters from impacts from increased erosive force from PDPs that are approved before the permanent HMP is complete. The Copermittees are given 2 years to develop an HMP that contain specific requirements that are suitable for the Orange County area (not including time for review and approval from the Regional Board, and incorporation of the HMP into local ordinances). Interim criteria are necessary in order to protect downstream creeks and beneficial uses while the HMP is under development.

Because the interim criteria are already stated in the Order, there is no requirement to "develop and re-develop" programs. The requirement is to develop an HMP once. The commenter suggests that a preferred method is "continuation of existing new development controls." The Regional Board disagrees with this suggestion as the limited controls in place currently have done little to protect and restore the beneficial uses of downstream receiving waters, which is why a regional HMP is necessary.

The Regional Board agrees that the hydromodification study currently being done by SCCWRP will be useful in developing the HMP. The SCCWRP study is nearing completion and therefore the Copermittees will be able to access the information in developing their HMP.

Comment No.	115	Commenter No.	34	Comment Subject	General
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Comment In closing, we would like to thank you for the continued opportunity to comment on the Draft Permit and appreciate your consideration regarding the important concerns described herein. The Riverside County Permittees reiterate their request made in the ROWD submitted in January 2009 that the next Riverside County MS4 Permit be structured and based on our existing Permit and that any expansion of compliance requirements be limited and support our efforts to improve the effectiveness of existing compliance programs in addressing specific water quality impairments. We appreciate your consideration of our comments and look forward to meeting with Regional Board staff in the development of a MS4 Permit specific to Riverside County.

Response Comment noted. Comments regarding program inclusion for the renewal of R9-2004-001 will be addressed during that NPDES permit renewal process.

Comment No.	116	Commenter No.	35	Comment Subject	LID
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Comment The language in the Tentative Order, while specifying a volume capture approach to sizing LID BMPs, introduces a narrow definition of LID through restrictive application of BMPs to only those that infiltrate, harvest and use rainwater, and/or evapotranspire all of the captured water (See Section F.1.d.(4)(c)). In other words, permit language now requires that projects would be limited to zero discharge of a design storm volume with no cross-boundary runoff whatsoever allowed.

Unless the Tentative Order is better clarified, the draft provisions seemingly rule out the use of LID BMPs for filtration – and instead require that no storm water (except in the largest rains) can ever leave a developed or redeveloped parcel unless an infeasibility analysis is performed. If this is intended, it is a radical measure that should not be undertaken. It would violate millennia (literally) of civil law concerning the unconstrained flow of rain water (called “diffuse surface water”). Specifically, the law in California – which itself is derived from the laws of the Roman Empire – favors what is called the “natural flow doctrine,” which states that diffuse surface flows should be permitted to flow to their natural water course. See *Gdowski v. Louie*, 84 Cal.App.4th 1395, 1402 (2000) (“California has always followed the civil law rule. That principle meant ‘the owner of an upper ... estate is entitled to discharge surface water from his land as the water naturally flows. As a corollary to this, the upper owner is liable for any damage he causes to adjacent property in an unnatural manner.... In essence each property owner’s duty is to leave the natural flow of water undisturbed.’” – emphasis added by the court, quoting *Keys v. Romley*, 64 Cal.2d 396, 405-06 (1966)).

Response The purpose of the ruling in *Gdowski vs. Louie* was to protect downstream property holders from harm. In that regard, the Tentative Order includes provisions to protect the downstream water rights holders from harm. For example, section E.1 of the Tentative Order states “Nothing herein shall authorize a CoPermittee or other discharger regulated under the terms of this order to divert, store or otherwise impound water if such action is reasonable anticipated to harm downstream water right holders in the exercise of their water rights.” The Tentative Order does not rule out the use of LID BMPs for biofiltration. Biofiltration BMPs may be used without mitigation if infiltration, capture, and evapotranspiration BMPs are technically infeasible.

Comment No.	117	Commenter No.	35	Comment Subject	LID
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Comment Mandating the complete on-site retention of any sizable storm volume (i.e. runoff that never crosses any property boundary as surface flows) is not a reasonable approach. The Tentative Order seemingly seeks to implement LID in a way that is contrary to the EPA definition of LID by restricting BMPs to those that only achieve zero discharge—not allowing any BMPs that appropriately “filter” runoff, such as bioretention cells or other vegetated LID BMPs. Total, 100-percent on-site retention remains impractical and unwise in most circumstances, and is not a goal that can be achieved for most projects within reasonable costs, despite best efforts. Moreover, such a mandate abandons the goal to mimic predevelopment conditions to the extent practicable, as EPA encourages.

Response The Tentative Order’s requirements for implementing LID are similar to those requirements found in the Santa Ana Regional Board’s MS4 permit for North Orange County. The Tentative Order allows the use of biofiltration where total capture is technically infeasible. Implementation of LID is expected to help a project site more easily meet the hydromodification requirements.

Comment No.	118	Commenter No.	35	Comment Subject	LID
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Comment We provide, in Attachment 1, a comprehensive analysis done by Geosyntec Consultants of the feasibility of implementing rainfall and stormwater harvesting systems and the utility of these systems in achieving pollutant load reductions from stormwater runoff as compared to use of all types of LID BMP features. This document shows that attempts at harvesting alone may result in poor water quality treatment performance relative to a well designed system of LID BMPs that includes all types of BMPs, not just those that capture and retain stormwater. This document also identifies the current institutional barriers--code requirements--that will need to be adjusted long before total rainwater capture systems can be considered feasible in any practical sense.

Response Thank-you for providing the Geosyntec Consultants' analysis. The Regional Board understands that complete capture is not always technically feasible at all project sites. Therefore, for those sites where LID is technically infeasible, the Tentative Order provides alternative compliance options.

We do not draw the same conclusions as the commenter from our review of the analysis. The analysis does not look at the other two options for LID capture; infiltration and evapotranspiration. Therefore, the analysis presumes that all rainfall captured must be reused, without infiltration or evapotranspiration.

The analysis of rainfall and storm water harvesting appears to be conducted on a flow basis and did not consider pollutant loading. A well-documented phenomenon in storm water runoff is the "first flush." The first flush is the most polluted portion of runoff during the initial portion of a rain event following an extended dry period. During that dry period, pollutants accumulate on the surfaces and the first rain washes away the pollutants, depositing them in receiving waters. In back to back storms as looked at in the analysis, the first storm would probably carry a significant pollutant load due to the first flush. That pollutant load in the first flush would be captured by the LID BMPs. The successive storm event would not produce the same level of pollutant load as the first event due to less time being available for pollutants to accumulate. So, although the second storm event may not be fully captured by LID BMPs, the second storm would still produce runoff with a lesser pollutant load than found in the first rain event.

Comment No.	119	Commenter No.	35	Comment Subject	LID
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Comment To CICWQ, the retention BMPs of infiltration, harvesting, and evapotranspiration ("ET") may be described as preferred LID BMPs, but they should not be universally mandated to the exclusion of all other options. As the EPA definition of LID indicates, biofiltration, bioretention, filter strips, and other BMPs based on using vegetation to promote stormwater treatment via filtration are fundamental to LID implementation. These BMPs may be specified as secondary options (although they best mimic pre-development conditions), but project proponents should have considerable discretion to use these BMPs, and should not be required to perform a feasibility analysis to do so.

Response The Tentative Order has included biofiltration as a compliance option where LID retention BMPs are technically infeasible. Retention BMPs have a greater assurance of pollutant removal and thus are preferred. Due to their greater efficiency at pollutant removal, project sites should strive to implement these BMPs where feasible. The requirement for a technical feasibility analysis is appropriate to ensure that project sites are striving to implement retention BMPs to protect water quality.

Comment No.	120	Commenter No.	35	Comment Subject	SAL
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Comment The Tentative Order establishes Municipal Action Levels (MALs) for selected pollutants (pH; TSS; chemical oxygen demand; total Kjeldahl nitrogen; nitrate & nitrite; total phosphorous; and total cadmium, chromium, copper, lead, nickel, zinc, and mercury). In comparison, the Ventura County Tentative Order MALs are set for only those pollutants that were identified as pollutants of concern by the Ventura Program. Such an approach avoids using public resources unwisely and inefficiently by not requiring actions to address pollutants that are not resulting in local water quality concerns. The revised Ventura County Tentative Order includes MALs only for the following pollutants of concern: TSS; nitrate & nitrite; and total copper, lead, and zinc. If MALs are to be included in the South Orange County Tentative Order, they should be revised to include only those pollutants that are of particular concern in southern Orange County.

Response Please note that the terminology has changed from "Municipal Action Levels" (MALs) to "Stormwater Action Levels" (SALs).

Please note SALs have been revised and now include only the following constituents: Turbidity, Nutrients, Cadmium, Copper, Lead, Nickel and Zinc. Each of the above pollutants has been identified as a pollutant of concern through CWA Section 303(d) listing and/or monitoring conducted under Order R9-2002-01.

Comment No.	121	Commenter No.	35	Comment Subject	SUSMP
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Comment Section F.1.d(6)(g) – Treatment Control Requirements

The Revised Tentative Order states:

“Not be constructed within a waters of the U.S. or waters of the State.” The sentence should be modified to be consistent with the statement on page 14 of the Order regarding federal authorization as follows: “Without federal authorization (e.g. pursuant to Clean Water Act Section 404), not be constructed within a waters of the U.S. or waters of the State.”

Response Please see Comment no. 69 in the July 1, 2009, Response to Comments IV. This comment was also addressed in the 2007 Response to Comments.

Comment No.	122	Commenter No.	35	Comment Subject	Hydromod
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Comment The hydromodification control waivers contained in this subsection should expressly include waivers for projects that do not increase the potential for hydromodification impacts over the existing site conditions, or that discharge to a receiving water that is not susceptible to hydromodification impacts. Suggested edits are as follows:

(c) On-site hydromodification control waivers: Copermittees may develop a strategy for waiving hydromodification requirements for on-site controls (not site design BMPs) in situations where assessments of downstream channel conditions and proposed discharge hydrology clearly indicate that adverse hydromodification effects to present and future beneficial uses are unlikely. The waivers must be based on the following determinations:

(i) Lack of discharge-caused hydrology changes: Waivers may be implemented where the total impervious cover on a site is increased by less than 5% in new developments and decreased by at least 10% in redevelopments within the site’s watershed at planned build-out is less than 5%. This numeric criteria may be revised to be consistent with findings from reports from the Storm Water Monitoring Coalition and Southern California Coastal Waters Research Program. Alternatively, directly connected impervious area or effective impervious cover may be used as an indicator, provided that numeric criteria for the indicators are used and are based on hydromodification studies conducted in southern California. Waivers may also be implemented for the following projects that do not increase the potential for hydromodification impacts over the existing site conditions:

(A) Projects within a natural watershed where a geomorphically-based watershed study has been prepared that establishes that the potential for hydromodification impacts is not present.

(B) Significant redevelopment projects that do not increase impervious area or decrease the infiltration capacity of pervious areas compared to the pre-project conditions.

(C) Projects that discharge directly or via a storm drain to a substantially hardened channel, sump, a lake, area under tidal influence, or other receiving water that is not susceptible to hydromodification impacts.

Response Projects are exempt from hydromodification management requirements if they do not increase the potential for impacts over the site’s pre-development, naturally occurring condition, or that discharge to a receiving water that is not susceptible to hydromodification impacts. Section F.1.h.(c) requires hydrologic control measures at PDPs where hydromodification effects are expected, but does not require controls where hydromodification effects are not expected. Therefore, there is no need to incorporate the changes suggested by the commenter.

In terms of assessing whether or not a project would have impacts over existing site conditions, the commenter must be aware that the performance standard is that of the pre-development, naturally occurring condition. This is the only way to ensure that the natural flow regime of the watershed is restored in order to protect Water Quality Standards. Section F.1.h(3) already allows the Copermittees to exempt projects that discharge to a channel that is concrete lined all the way to the ocean, enclosed bay, reservoir or lake. The Regional Board agrees that such a receiving water is not susceptible to further hydromodification impacts (although the lining of the channel is already a negative impact on beneficial uses). In terms of assessing the amount of impervious cover that results from building of a project, the text of section F.1.h has removed references to this performance standard.

Comment No.	123	Commenter No.	35	Comment Subject	Hydromod
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Comment Section F.1.h (3)(c)(ii)(b) – Hydromodification Control Waivers, degraded stream channel condition

The waiver for discharges into degraded stream channels has been removed in the Revised Tentative Order. As stated in the Supplemental Fact Sheet

“If requirements for currently degraded channels are removed, there will be a diminished opportunity for future restoration of Beneficial Uses of that receiving water due to the lack of hydromodification controls.”

In areas tributary to channels that have been engineered as part of a Flood Control Master Plan that incorporated channel modifications and drop structures that control channel morphology and areas tributary to streams that are geomorphically unstable and have degraded to the point that controls on Priority Projects alone would not be effective in addressing impacts, projects should be allowed to contribute to in-stream or retrofit measures in lieu of onsite hydromodification controls.

Response The waiver for discharges into concrete lined channels has not been removed. If a stream has been channelized and hardened all the way from the PDP to the ocean, enclosed bay, reservoir, or lake, then the Copermittees have the discretion to waive the hydromodification management requirements for that PDP (section F.1.h.(3)(b)). The quoted text in the fact sheet has been removed to avoid confusion regarding restoration of concrete lined channels. The Tentative Order does not require the Copermittees to restore hardened channels to their natural state.

In certain cases, projects should be allowed to contribute to in-stream or retrofit measures in addition to (not in lieu of) onsite hydromodification controls (section F.1.h.(2)). For example, if there are measures taken to restore or rehabilitate a stream, then smaller hydrologic control measures might be needed at the project site than if no in-stream measures were taken. The Regional Board encourages efforts to restore the beneficial uses of creeks by returning them to their natural state.

Comment No.	124	Commenter No.	35	Comment Subject	Hydromod
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Comment Section F.1.h(6) – Interim Hydromodification Requirements

The Tentative Order includes an “Effective Impervious Area” (EIA) threshold requirement for Priority Projects as an interim hydromodification control requirement. The use of EIA as a regulatory metric for LID implementation is the subject of considerable debate and concern within the stormwater management and science community, as well as among urban planners and practicing landscape architects. Specific aspects of this concern include whether an EIA criterion should be used and, if used, if its application on a site-by-site basis is appropriate given its potential impact on urban redevelopment, smart growth, and sprawl. The use of an EIA requirement needs to be fully vetted to ensure that redevelopment of brownfields and infill development are not discouraged, but rather are encouraged, by the permit.

Although managing EIA is an important tool to achieving the goal of beneficial use protection, it should not be a goal in itself as it does not reflect the goals of the Clean Water Act. The origin of this measure is that it illustrated a threshold beyond which impacts could be identified in watersheds where treatment and hydromodification controls, including source controls, were generally not implemented. The adverse effects of impervious areas can be mitigated by a variety of tools including directing runoff to pervious surfaces, incorporating pervious material, or by controls located at the project scale, sub-watershed scale, or watershed scale. The issue is achieving beneficial use protection, not tool selection.

The volumetric control standards provided in section F.1.h(6)(a)(iii) are sufficient for interim hydromodification control. The inclusion of the EIA metric in F.1.h(6)(a)(i) is unnecessary and unwarranted.

Response Please see the response to Comment No. 7.

Comment No.	125	Commenter No.	35	Comment Subject	SUSMP
Comment	<p>The definition of Development Projects should clarify that for purposes of the Revised Tentative Order a land subdivision made for financing or legal purposes (i.e. without soil disturbing activities) is not considered a "Development Project." Modify the language as follows:</p> <p>"Development Projects – New development or redevelopment with land disturbing activities: structural development, including construction and installation of a building or structure, the creation of impervious surfaces, public agency projects, and land subdivision (except for financing or legal purposes)"</p>				
Response	<p>The definition is clear that development projects must include land disturbing activities. Land subdivision that does not include land disturbance would not be considered a development project. Land subdivision was included to prevent piecemealing of larger projects in an attempt to evade the requirements of the Tentative Order. No change is necessary in response to the comment.</p>				

Comment No.	126	Commenter No.	35	Comment Subject	Hydromod
Comment	<p>The definition of "Effective Impervious Area" does not accurately reflect the studies in which the term was derived. The definition should be edited as follows:</p> <p>"Effective Impervious Area (EIA) – that portion of the impervious area or pervious area incapable of retaining design storm flow that is hydrologically hydraulically connected via sheet flow or a discrete hardened conveyance to a drainage system or a receiving water body."</p> <p>Suggested edits to the definition of "Erosion Potential" are as follows:</p> <p>Erosion Potential (EP) - is determined as follows – A ratio calculated to estimate the likelihood of stream instability due to watershed land use changes. Ep is determined as follows: The total effective work done on the channel boundary is derived and used as a metric to predict the likelihood of channel adjustment given watershed and stream hydrologic and geomorphic variables. The A sediment transport or work index (W) under urbanized conditions is compared to the work index that under pre-urban conditions and expressed as a ratio (EP). The effective work index (W) is computed using applicable sediment transport or effective work equations, as appropriate to the channel materials and morphology. These equations quantify as the magnitude of excess shear stress that exceeds a exceeding the critical value for streambed mobility or bank material erosion, integrated over time, and represents thereby represent an estimate of the total work done on the channel boundary.</p> <p>The effective work index for presumed stable stream channels under pre-urban conditions is compared to stable and unstable channels under current proposed urbanized conditions to evaluate the adequacy of proposed hydromodification BMPs. The comparison, expressed as a ratio, is defined as the Erosion Potential (Ep)¹ (MacRae 1992, 1996).</p>				
Response	<p>References to both the Effective Impervious Area and Erosion Potential have been removed from the Tentative Order.</p>				

Comment No.	127	Commenter No.	36	Comment Subject	General
Comment	<p>Over the past several months, SDRWQCB Staff, South Orange County Copermittees and other stakeholders have been meeting to discuss potential revisions to the March 2009 draft of Tentative Order No. R9-2009-0002. The City of Laguna Niguel has appreciated these opportunities to share perspectives and work toward resolution of certain issues.</p> <p>In the course of these workshop meetings, SDRWQCB Staff solicited comments and then distributed several sets of "draft updates" to various sections of the text for discussion. The Staff also committed to issuing a complete redlined track-edited draft incorporating proposed text adjustments to all interested parties by June 19. Unfortunately, June 19 was also the specified deadline for submittal of written comments for purposes of the July 1 hearing.</p> <p>While we appreciate the need for SDRWQCB Staff to have adequate time to prepare their response to comments, the June 19 deadline provides no opportunity for the Copermittees and other stakeholders to provide written comments on the complete final draft permit that will be presented to the Board. We cannot effectively comment today on something we were not to see until today (and have not yet seen as of this writing on 3:30 p.m., Friday, June 19).</p> <p>Consequently, we would like to request that the written comment period not be closed at the end of the July 1 hearing, but instead be held open for another 10 days after the hearing - especially if additional errata are presented on July 1. Closing the comment period on July 10 would still allow the Staff a full month to respond prior to the scheduled adoption hearing on August 12.</p> <p>Thank you for your consideration of this request.</p>				
Response	<p>Regional Board staff have responded to all written comments received from the close of the March 2009 draft Tentative Order public comment period to the close of the current Tentative Order (August 2009) comment period. The latest version of the Tentative Order is essentially the June 19, 2009 red-line strikeout version. Thus, the Copermittees have had ample time to review and comment on the entirety of the Tentative Order. It must be noted that the substantial changes (NELs, SALs, removal of exemption to prohibition for over-irrigation, LID and Hydromodification requirements) were extensively discussed well in advance of the July 2009 Hearing.</p>				

Comment No.	128	Commenter No.	37	Comment Subject	SAL
Comment	<p>At the July 2, 2009 public hearing, one of your board members requested clarification regarding the proposed Municipal Action Level (MAL) for nickel and the assertion made in the presentation by Richard Boon, County of Orange, that it was more stringent than the Basin Plan objective (See Attachment 1 - Presentation Slide). Mr. Boon was not present at this time to clarify the data and, in his absence, your staff opined incorrectly that Mr. Boon had used a Maximum Contaminant Level (MCL) rather than a Basin Plan objective and that the MAL was not more stringent than the Basin Plan.</p> <p>The comparison of the proposed MAL for nickel (26/ug/l) with the Basin Plan objective for nickel was first presented in our comment letter of May 15 on the March 13, 2009, version of the Tentative Order. For the nickel objective, the Basin Plan incorporates the California Toxics Rule (CTR) by reference. CTR establishes both acute and chronic objectives. Since the MAL appeared to be an instantaneous value, the comparison was made to the California Toxic Rule acute criterion. The published value (see Attachment 1 - p . 37772 Federal Register/ Vol. 65, No. 97/Thursday, May 18, 2000/Rules and Regulations) for this criterion, which assumes 100mg/l as CaCO3 hardness, is 470ug/l. The MAL is therefore significantly more stringent than this Basin Plan objective.</p> <p>Constituent Nickel</p> <p>CTR Criterion - Maximum Concentration 470 ug/l</p> <p>Proposed MAL 26 ug/l</p> <p>It is requested that this clarification be provided to your Board members to eliminate any confusion on the response to the question.</p>				

Response	<p>Please note that the terminology has changed from "Municipal Action Levels" (MALs) to "Stormwater Action Levels" (SALs).</p> <p>The Regional Board appreciates the clarification regarding the presentation made by Mr. Boon.</p> <p>Please note that Regional Board staff, prior to the July 01, 2009 presentation by the County of Orange, clarified to the County that SALs were updated to include a measure of receiving water hardness to establish metals criteria in order to determine if a SAL was exceeded. Incorporation of a site and time specific hardness measure to determine the SAL for metals is a more accurate application of CTR, and thus the Basin Plan, than assuming a hardness value of 100 mg/L. This has already been incorporated in the August 09, 2009 Tentative Order.</p>
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Comment No.	129	Commenter No.	38	Comment Subject	General
Comment	<p>The Water Authority supports comments provided to the Regional Water Quality Control Board by USMC Camp Pendleton, dated June 19, 2009, on the Orange County Municipal Storm Water Permit Reissuance Order No. R9-2009-0002. Although Camp Pendleton is a member of the Water Authority, they remain almost fully self-sufficient by virtue of their reliance on local groundwater supplies from both the San Mateo and Santa Margarita groundwater basins. These local supplies are critical for Camp Pendleton's long-term sustainability and help maintain the overall sustainability of the San Diego Region.</p>				
Response	<p>Comment noted. It is expected that advances made in cleaning up storm water and non-storm water surface flows should improve water quality to the benefit of ground water supplies.</p>				

Comment No.	130	Commenter No.	38	Comment Subject	LID
Comment	<p>The Water Authority supports the use of low impact development (LID) approaches to storm water management to the extent that the LID improves water quality and does not reduce water available to our member agencies that may use local groundwater basins. Stormwater capture also has the potential to augment local water supplies if it is properly managed by capturing peak flows that would otherwise be lost to the ocean. Focusing efforts on those stormwater activities that would increase local supplies would have multiple benefits and would be supported by the Water Authority.</p>				
Response	<p>Comment noted.</p>				

Comment No.	131	Commenter No.	38	Comment Subject	Retrofitting
Comment	<p>We are concerned with the approach proposed in the proposed Permit that would require LID retrofits of existing properties in South Orange County. State Board policy encourages the use of LID and hydromodification to reduce hydrograph peaking and maintain water quality. In the past, the focus has been on using LID in new development in a manner that would maintain current flows. Retrofit of existing properties has the potential to alter the downstream flows in San Mateo Creek reducing the availability of water that is currently captured, recharged, and extracted in local water supply wells. This could potentially raise serious water rights issues. For each basin where LID is contemplated, the impact of such an action on the local water supply should be evaluated. Implementation of LID, as proposed in the Permit, should not be contemplated until a comprehensive evaluation and modeling of the groundwater basin is completed that would assess the overall impacts on water supply as a result of compliance with the Permit requirements.</p> <p>We support the Camp Pendleton's recommendations that are designed to protect their local water supply and water rights.</p>				
Response	<p>The Regional Board understands this concern and has previously included Camp Pendleton's recommended language into the Tentative Order.</p>				

Comment No.	132	Commenter No.	39	Comment Subject	FETD
Comment	<p>On Page 8 of the new NPDES (Development Planning) below a #6 should be added: Diversions Impair Ocean Outfall Discharges</p> <p>b. Controlling urban runoff pollution by using a combination of onsite source control and site design BMPs augmented with treatment control BMPs before the runoff enters the MS4 is important for the following reasons: (1) Many end-of-pipe BMPs (such as diversion to the sanitary sewer) are typically ineffective during significant storm events. Whereas, onsite source control BMPs can be applied during all runoff conditions; (2) End-of-pipe BMPs are often incapable of capturing and treating the wide range of pollutants which can be generated on a sub-watershed scale; (3) End-of-pipe BMPs are more effective when used as polishing BMPs, rather than the sole BMP to be implemented; (4) End-of-pipe BMPs do not protect the quality or beneficial uses of receiving waters between the pollutant source and the BMP; and (5) Offsite end-of-pipe BMPs do not aid in the effort to educate the public regarding sources of pollution and their prevention.</p>				
Response	<p>To the extent that such diversions impair ocean outfall discharges, such matters should be taken up with that ocean outfall discharger's individual NPDES permit. We understand that these types of diversions decrease the capacity of treatment works. Again, these issues are best handled through the individual treatment works NPDES permit. In-creek diversion systems are not regulated by the Tentative Order and are more appropriately regulated through Clean Water Act Section 401 Water Quality Certifications, Waste Discharge Requirements and/or individual NPDES permits.</p>				

Comment No.	133	Commenter No.	39	Comment Subject	FETD
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Comment It has become obvious that there has been NO attempt by the Board to halt these diversion activities. Worse, the Board has the power to deny or prohibit the local JPA, South Orange County Wastewater Authority (SOCWA) via its NPDES Ocean Outfall Pipe Discharges (off Dana Point and Aliso Creek Beaches) such diverted surface flows. The Board's silence is tacit approval.

The CLB sends almost .4 mgd, is legally allowed by SOCWA to send 50,000 gd per diversion. This equals potentially 1 mgd, and CWN!C has been able to confirm that the Coastal Treatment Plant (CTP) only processes about 3.5 mgd total of wastewater.

Co-mingled with the Aliso Creek Ocean Outfall Pipe (ACOOOP) is the recently approved .66 mgd diversion of briny waste from the Irvine Ranch Water District of the former MCAS El Toro contaminated aquifer cleanup. This has been projected to require as much as 20 years or more for remediation, and IRWD has admitted at Rehab Hearings that minor, "acceptable" traces of TCE and perchlorate are in the wastewater.

Adding insult to injury will be the .3 mgd of briny waste from the proposed South Coast Water District diversion of Aliso Creek, presently pending due to Cal Water Rights procurement.

The County of Orange, in its strategies, has included an Urban Runoff Treatment Plant with a capacity of approximately 6.5 mgd that will reduce bacteria and TDS in the Aliso Creek Estuary. Briny waste going into the ACOOP is projected to be 1-2 mgd.

CWN!C has NOT been able to ascertain exact numbers of such diversions or exact quantities/volumes of briny waste from Advanced Waste Treatment infrastructure at the Regional Plant (LNRP) in Laguna Niguel, volumes of which are included in the ACOOP discharge.

At the CTP, 1 mgd = Approx. 25% of the total emptied by the facility into the ACOOP. As the NPDES for the ACOOP isn't scheduled for renewal for several years it impinges upon the Board to stop giving tacit approval to these increased volumes NOW. It should be noted that by the time bio-assessment of longterm adverse impacts at the outfalls have taken place, "dead zones" may have occurred and be irreversible. Toxic biomagnification will have already taken its toll.

As the staff well knows, and the Board should, urban runoff contaminants are NOT reduced or removed by these plants UNLESS given AWT (tertiary) cleansing targeted or specifically designed for the pollutants of concern.

Response The regulation of in-stream diversion and treatment BMPs are not covered by this Tentative Order. These types of diversion systems are more appropriately regulated through Clean Water Act Section 401 water quality certifications, Waste Discharge Requirements and/or individual NPDES permits. Comments regarding the SOCWA ocean outfall pipe are best addressed through their NPDES permit renewal. The Tentative Order does not regulate SOCWA's ocean outfall.

Comment No.	134	Commenter No.	25	Comment Subject	FETD
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Comment Board and staff need to address the blatant disparity between policy and implementation. It is ludicrous that MS4 Permittees are allowed to solicit and receive state or federal funds in contradiction to the very goals of the NPDES process. Funding violators to circumvent compliance makes no sense.

Setting lofty goals while allowing Permittees to siphon funds more appropriate for legitimate mitigations, pilot/demos, BMPs, BETs, BCTs and BATs, etc. needs to be brought to the forefront.

Response Comment noted.

Comment No.	135	Commenter No.	39	Comment Subject	FETD
Comment	<p>Chronic violators who initially agreed that diversions were temporary have now PERMANENTLY included the infrastructure to accomplish their purpose of compliance WITHOUT source reduction, WITHOUT enforcement. While they claim both are too expensive the State and other agencies continue to fund the diversions, the Permittees continue to supplement these funds for the O & M costs. Who in their right mind believes that the Permittees will EVER dismantle these diversions? They are now widely integrated, insinuated into the MS4 systems themselves and lead agency strategy thinking---The Permittees will claim Economic Unfeasibility or Technological Impossibility if asked to remove or return them to historical configurations.</p> <p>Allowing these runoff diversions to be added to the South County outfalls only moves the problem, in fact creates toxic bundles discharged into critically sensitive marine habitats. In the case of both the San Juan and Aliso, these creek mouths are acknowledged corridors for the endangered species and ESU Southern Steelhead (O. mykiss). The outfalls are becoming DOMINATED by CTRs and Prop. 65 chemicals.</p>				
Response	<p>It is more appropriate to regulate FETDs through an individual or regional permit. This does not, however, preclude these facilities from any enrollment requirements under the Statewide Industrial Storm Water permit for storm water runoff or from obtaining a CWA Section 401 Water Quality Certification. The intake and subsequent discharge from FETDs will require a separate NPDES permit and/or Waste Discharge Requirements. The Tentative Order does not provide funds for the operation and maintenance costs of such facilities. The South County outfalls are regulated under separate NPDES permits. Comments regarding toxicity, pollutants, and capacity for those outfall discharges should be addressed to their respective NPDES permit.</p>				

Comment No.	136	Commenter No.	39	Comment Subject	FETD
Comment	<p>It is time for the SDRWQCB to drag SOCWA and its members into the 21st Century by mandating a 5 year phase-in of 100% Advanced Waste Treatment (tertiary) at ALL of its facilities in South OC.</p> <p>NPDES compliance will never take place if the Board does not take a stronger oppositional position. If it will not, then perhaps we should just suspend the entire process, abandon MS4 Permits as they will never drive CWA or Porter-Cologne compliance. Permittees will continue to find ways or fiscal means to avoid source tracking, reduction and prevention.</p>				
Response	<p>This permit does not regulate the SOCWA and its members with respect to their waste water discharges. Please address your comment regarding Advanced Waste Treatment to the appropriate NPDES permit.</p>				

Comment No.	137	Commenter No.	40	Comment Subject	General
Comment	<p>I want to thank you for your help in bringing to the attention of the San Diego Regional Water Quality Control Board the need to address the issue of contaminated fire sprinkler discharge.</p> <p>The Board's recommendation to require co-permittees to mandate fire sprinkler maintenance activities as illicit discharges speaks loudly about the need to begin regulating a number of sources of pollutants that for the most part drain to ground surfaces and storm drains. We can no longer ignore these sources of pollutants, especially since we now have the capacity to clean discharge at the source or transport it to cleaning centers. Through filtering and cleaning, we can recycle and reuse waste water, an important point to be considered in our current time of water shortages and reduced water allowances.</p> <p>Your board has set an example that I believe will be difficult for the other regional boards not to follow. Again, thank you for your assistance, and I look forward to seeing the new language to be added to regional water quality law.</p>				
Response	<p>Comment noted.</p>				

Comment No.	138	Commenter No.	41	Comment Subject	General
Comment	<p>I am the Member at Large on the Casa Loma Homeowners' Association Board of Directors. In fact, my building is practically next to Oso Creek as the creek heads to the golf course. I have read R9-2009-0002 and have the following comments on it. I like the report. It seems well written and took along time and lots of research to put together. The parts in it for retrofitting properties like Casa Loma is very good. And making the water quality control enhancements in such a way as to complement and not destroy natural features that can be part of water quality control is a great plus. The natural features of the land should be preserved and this Order does that. Storm water should be treated at its source to the greatest extent possible before heading to the storm drain system, and this Order calls for that. Also, we are working with two water districts to have a union supply line for recycled water go by our complex so we can use recycled water for the landscape; and I saw a small part in the report looking to see if storm water runoff could not be integrated with recycled water to the fullest extent possible which is another good thing. The way it is in the Order, the Pollutant Credit System seems good. And I am happy that the Order recommends against pouring more concrete onto stream and river banks but calls for restoration to natural conditions to the greatest extent possible. There is a part of the Oso Creek Trail on the Pacific Hills side between the Marguerite Parkway and La Paz Road trail entrances where old sections of curb, old brick chimnies, and old pieces of tennis courts with the paint still on them have been dumped along the creek bank. Those things really stand out from the natural features. There are also two large storm drain openings that empty into Oso Creek on either side of the La Paz Road overpass bridge and sometimes there are plastic bottles, tin cans, plastic wrapping at the mouths of these storm drains and plastic cups and bottles floating down in the creek that probably came in through the storm drains because they are not too far from the drains. Finally, if I was giving a grade to this report, I would give it between an A and A plus. It should be implemented.</p>				
Response	<p>Comment noted.</p>				

Comment No.	139	Commenter No.	42	Comment Subject	Existing Development
Comment	<p>I contact the City of Anaheim, received the same direction to contact the County, and received the attached BMP developed as a result of the adoption of the new NPDES MS4 Permit. It appears that my concerns shared in testimony and comments are valid. I have requested the Permit be prescriptive so that BMP's would be consistent with the spirit and intent of the Permit writers. The BMP has lumped all Mobile Businesses together and I believe that there are special practices associated with Wash & Detailing a car that are not addressed.</p> <p>My primary focus of concern is and has been pollution, not the waste water. Focus on pollution, you solve any and all issues with waste water. This BMP mentions pollution in the beginning, but all other language and Practice recommendations focus on the waste water. This water can be controlled and prohibited from entering the Storm Drain. However, the BMPs do not address the pollution left behind which are picked up in Storm Water Runoff as Non Point Source Pollution.</p>				
Response	<p>The Tentative Order prohibits non-storm water discharges from mobile car washing and detailing services. In addition, the Tentative Order requires that storm water discharges are minimized to the maximum extent practicable. Where BMPs are considered to meet the MEP standard, they should be required by the Copermitttees in compliance with the Tentative Order.</p>				

Comment No.	140	Commenter No.	42	Comment Subject	Existing Development
Comment	<p>Region 9 South Orange County</p> <p>You are finalizing your permit</p> <p>Do you see why I come to every meeting to champion a more prescriptive approach and specifying the standards you expect? You set standards on LID at the 85th percentile, so I know it is possible.</p> <p>With no action, even though you have the word pollution specifically inserted into the relevant section on Mobile businesses . There is valid concern that the County will not alter the BMP's.</p> <p>There is sufficient evidence that the Cities will take their direction from the Primary Permittee, the County of Orange.</p> <p>What can we, you or I do?</p> <p>Can you please help me to get a meeting with the County of Orange?</p>				
Response	<p>The Tentative Order prohibits non-storm water discharges from mobile car washing and detailing services. In addition, the Tentative Order requires that storm water discharges are minimized to the maximum extent practicable. Where BMPs are considered to meet the MEP standard, they should be required by the Copermitees in compliance with the Tentative Order. The Tentative Order requires the Copermitees to incorporate a mechanism for public participation in the updating, development, and implementation of the Jurisdictional Runoff Management Program. Failure to do so would be a violation of the Permit.</p>				

Comment No.	141	Commenter No.	43	Comment Subject	LID
Comment	<p>As we pointed out in our previous letters, Region 9 is seeking clear, measurable, and enforceable LID requirements in MS4 permits. The LID requirements of the latest draft are quite similar to the requirements in the North Orange County MS4 permit , adopted in May 2009, with Region 9's support, by the Santa Ana Regional Board (SARB). We believe the SDRB's draft permit would be consistent with our objectives for LID implementation with a few minor revisions discussed below:</p> <p>1) Page 8 (Finding D.2.c) - We recommend either removing the word "filtration" replacing it with "retention." This would be consistent with the draft permit's Part F.1.d.(4)(d) which requires LID BMPs to be sized and designed to ensure onsite retention of the design stonn event. We believe this would also better mirror the intent of mimicking natural hydrology via infiltration, harvesting and reuse, or evapotranspiration of stormwater, as opposed to the use of filtration systems which result in stormwater, flows into the MS4 via underdrains.</p>				
Response	<p>The Regional Board maintains that bio-filtration is part of a comprehensive LID program. Effective bio-filtration provides pollutant removal and energy dissipation. Biological removal of pollutants can even be an improvement over simply keeping pollutants on-site until rainfall over the design-storm criteria washes pollutants into receiving waters. Removal of pollutants and prevention of downstream hydromodification ensures any discharge to be low impact. The USEPA's Green Infrastructure website includes filtration as a Low Impact Development technique; http://cfpub.epa.gov/npdes/greeninfrastructure/information.cfm#glossary. In addition, the U.S. Department of Housing and Urban Development's report titled "The Practice of Low Impact Development," (July 2003, H-21314CA) incorporates filtration techniques. The County of San Diego's LID manual also utilizes bio-filtration as an acceptable LID practice.</p> <p>In the future as the science and knowledge of storm water treatment evolves, filtration may not be a suitable LID practice to meet the maximum extent practicable standard. For this permit iteration, LID BMPs that capture the design storm for reuse, infiltration or evapotranspiration are preferred over bio-filtration techniques. The draft permit provides design-criteria for "LID bio-filtration BMPs" in section F.1.4.d.ii and requires demonstration that retention LID BMPs are technically infeasible prior to implementing bio-filtration BMPs. Finding D.2.C will be modified to replace "filtration" with "bio-filtration."</p>				

Comment No.	142	Commenter No.	43	Comment Subject	LID
Comment	2) Page 31 (Part F .1.c.8) - The inclusion of "LID biofiltration" in this section pertaining to large development projects is inconsistent with both section F.1.d.(4)(d) of the draft permit (described above) and with the SARB MS4 permit for Orange County (Part XII.C.2), where "bio-treatment" is only considered to meet that permit's LID provisions if infiltration, harvesting and reuse, or evapotranspiration are not feasible. This section should be revised to clarify that retention BMPs are preferred, and that the use of biofiltration will comply with this provision only if retention BMPs are not feasible.				
Response	Thank you for the comment. The Regional Board did not intend to have a lesser standard applied to regional BMP implementation. The Tentative Order has been corrected.				
Comment No.	143	Commenter No.	43	Comment Subject	LID
Comment	3) Page 31 (Part F .1.c.8) - At the first mention of the feasibility of onsite retention or "LID biofiltration" there should be a reference to the requirement that feasibility criteria will be proposed by the co-permittees and approved by the Executive Officer (EO). Based on the mention of a "technical feasibility analysis" in section F .1.d. 7., it's our understanding that if the intent of the permit that this analysis must be submitted for the approval of the EO as part of the standard stormwater mitigation plans (SSMPs) and will be subject to public review and comment. The permit should be clarified to explicitly state the expectations for the timing of the submittal of this analysis and the review and approval process. These expectations should be included initially in this section, which is the first instance in the permit where this analysis would apply.				
Response	Section F.1.c.8 has been moved, as it is more appropriately placed as section F.1.d.11.				
Comment No.	144	Commenter No.	43	Comment Subject	LID
Comment	4) Page 34 (Part F.1.d.4.(a)(iv)) - We recommend deletion of the words "filter" and "detain" since they are not consistent with the intent of onsite retention as noted above.				
Response	The word "detain" has been removed and replaced with the word "retain" since retain means to hold on to indefinitely.				
Comment No.	145	Commenter No.	43	Comment Subject	LID
Comment	5) Page 36 (Part F.1.d.4.(d)(ii)) - Given the mention of technical infeasibility in this section) it should be noted here that the conclusions of feasibility will be made based on the approved feasibility analysis.				
Response	The Regional Board agrees with the intent of this provision. The Tentative Order has been clarified.				
Comment No.	146	Commenter No.	43	Comment Subject	LID
Comment	6) Page 36 (Part F.1.d.4.(d)(iii)) - We recommend the word "may" be changed to "must" to ensure conventional treatment is required when LID is determined to be infeasible.				
Response	Thank you for the comment. The Tentative Order has been changed.				
Comment No.	147	Commenter No.	43	Comment Subject	LID
Comment	7) Page 39 (part F.1.d.7) - As noted above, mention of the technical feasibility analysis should clarify expectations for the submittal of this analysis along with the fact that there will be an opportunity for public review 'and comments' and ultimate approval by the EO.				
Response	The first paragraph of this section, F.1.d.7, requires the Copermittees to submit the LID Waiver Program as part of the SSMP. The first paragraph of Section F.1.d requires submission of the updated SSMP within two years of permit adoption and stipulates that the SSMP will be subject to public review and comment. No change has been made in response to this comment. Submission of the updated SSMP within two years is adequate because that will coincide with the submittal of the Hydromodification Management Plan (HMP) and the SSMP should be integrated with the HMP.				

Comment No.	148	Commenter No.	43	Comment Subject	TMDL
Comment	As you know, the Baby Beach TMDL has not yet been approved by the State Office of Administrative Law (OAL) or EPA. Accordingly, Finding E.II is not currently accurate in stating that the permit includes wasteload allocations (WLAs) from fully approved TMDLs. However, we anticipate the Baby Beach TMDL will be approved by OAL and EPA prior to permit adoption) and we suggest you proceed under this assumption.				
Response	The Office of Administrative Law approved the Baby Beach TMDL on September 15, 2009. The United States Environmental Protection Agency approved the Baby Beach TMDL on October 26, 2009.				
Comment No.	149	Commenter No.	43	Comment Subject	TMDL
Comment	1) Page 79 (Part I) - The reference to Finding E.12 appears to be an error, and should be corrected.				
Response	Directive I has been corrected to reference Finding E.10.				
Comment No.	150	Commenter No.	43	Comment Subject	TMDL
Comment	2) Page 79 (Part I. 1. a) - Although Finding E.II identifies the particular copermitees which are affected by the TMDL requirements, it would be helpful for additional clarification to include the names of these co-permittees in Part I.I.a of the permit as well.				
Response	The Regional Board believes it is sufficient to name the Copermitees responsible for TMDL implementation only in Finding E.11. No change has been made in response to this comment.				
Comment No.	151	Commenter No.	43	Comment Subject	TMDL
Comment	3) Page 79 (Part I.I.b) - The permit should contain clear expectations for monitoring to ensure achievement of TMDL WLAs. Given that the referenced TMDL does not include a clear monitoring plan, the permit should require submittal of a monitoring plan and specify the date by which this plan must be submitted.				
Response	Attachment E of the Tentative Order has been modified to require submission of a Mornitoring Plan within 12 months of permit adoption.				
Comment No.	152	Commenter No.	43	Comment Subject	TMDL
Comment	4) Page 79 (Part I.I.c) • Since the date for compliance with the dry weather WLA is five years after permit adoption, it appears erroneous to require both the wet weather and dry weather WLAs to be met by 2019, ten years after permit adoption. It should be noted that dry weather WLAs must be met by the end of 2014.				
Response	Directive I.1.c of the Tentative Order has been corrected to reflect 2014 as the date dry weather Waste Load Allocations must be met.				
Comment No.	153	Commenter No.	43	Comment Subject	NEL
Comment	In our previous letter of May 14, 2009, we supported the inclusion of numeric effluent limiits for non-stormwater discharges, and we continue to do so. Establishing these limits is consistent with section 402(P)(3)(B)(ii) of the Clean Water Act, which states that permits for municipal stormwater must effectively prohibit non-stomwater discharges into the storm sewers:				
Response	Comment noted.				
Comment No.	154	Commenter No.	43	Comment Subject	NEL
Comment	1) Page 22 (part C.4) - We recommend clarification regarding the "representative percentage" of the major outfalls/stations which will be monitored. The permit should provide expectations for the magnitude of required monitoring pursuant to this section.				
Response	The Regional Board appreciates the comment regarding the monitoring. Regional Board staff have retained flexibility within the monitoring language to allow for the Copermitees to adjust their existing non-storm water monitoring efforts to match the new requirements in order to prevent any increases in monitoring costs. The Copermitee's Monitoring Program must be submitted to the Regional Board, at which time the Regional Board will provide careful scrutiny of submitted plans to ensure sufficient sampling occurs to assess compliance with the NELs. This approach received support from Board members at the July 01, 2009 public hearing. Thus, no change has been made to the Tentative Order.				

Comment No.	155	Commenter No.	43	Comment Subject	NEL
Comment	2) Page 23 (Table 4.a.2) - It appears that the numeric values in the columns for the saltwater AMELs and MDELs should be reversed, i.e., the MDELs should be the larger numbers.				
Response	The Regional Board appreciates the comment and the typographical error has been changed.				
Comment No.	156	Commenter No.	43	Comment Subject	SAL
Comment	We fully support the inclusion of stormwater action levels (SALs) in the permit. These requirements help to clarify MEP. We recommend the fact sheet include additional information describing how the particular values for the SALs were derived.				
Response	Finding D.1.h. of the Tentative Order has been updated to explain the derivation of the SALs. The data utilized can be found in Attachment F of the Tentative Order.				
Comment No.	157	Commenter No.	43	Comment Subject	SAL
Comment	1.) Page 25 (Part D.2.) - Again the permit requires Sampling of a "representative percent of the outfalls." Both here and in Part C.4, the permit should provide some degree of specificity so that the permittees and the public have an idea of the expectations for the number of outfalls to be monitored.				
Response	The Regional Board has included flexible language in the monitoring requirements in order to alleviate increased costs associated with the SAL monitoring in the permit. This language allows the Copermitees to propose monitoring for both Sections for review and approval. Please also see response to Comment no. 154.				
Comment No.	158	Commenter No.	43	Comment Subject	Retrofitting
Comment	We fully support the proposed requirements in the permit for retrofitting existing development with additional controls such as LID. The benefits of adding LID measures in particular in new developments have been documented in numerous reports of which the Board is well aware. Such benefits would also accrue from adding LID to existing developments. In addition to the support provided by the fact sheet, we would note that such requirements are encouraged by the State's 2005 report entitled "NPDES Stormwater Cost Survey" which also investigated alternative approaches to stormwater control.				
Response	Comment noted.				
Comment No.	159	Commenter No.	43	Comment Subject	Hydromod
Comment	We are pleased to see the draft permit continues to include requirements related to hydromodification, and that clear, measurable requirements are included to address the issue. We believe the requirements are fully supported in the fact sheet and are consistent with the requirements of other recent MS4 permits in California.				
Response	Comment noted.				

Comment No.	160	Commenter No.	44	Comment Subject	LID
Comment	<p>Section F.1.d.(4) - Reduce pollutants to the MEP or implement LID to the MEP? The Section F.1.d.(4).(d).(iii) requirement to participate in the LID waiver program effectively replaces the Clean Water Act directive to reduce the discharge of pollutants of concern to the maximum extent practicable (MEP) with a fundamentally new and more stringent standard of implementing a very narrow subset of LID BMPs to the maximum extent practicable. The two requirements are not interchangeable.</p> <p>Section F.1.d.(4) requires on site retention where feasible. Where retention is demonstrated to be infeasible, biofiltration is required. Where that is infeasible, "conventional treatment control BMPs in accordance with Section F.1.d.(6) must be used, and the project must participate in the LID waiver program.</p> <p>However, Section F.1.d.(6).(d).(ii) states that BMPs must, at a minimum, "be correctly sized and designed so as to remove storm water pollutants to the MEP". So, essentially the permit stipulates that if it is infeasible to meet the LID requirements, a site must still meet the MEP standard, and in addition must participate in the LID substitution program. In this context it is clear that the LID requirements and the triggering of the LID substitution program are additional requirements above and beyond the requirement to meet the MEP standard.</p> <p>It would be more consistent with the MEP standard to include an MEP waiver program in the permit instead of an LID waiver program. If for some reason a project is unwilling to implement the most effective controls that are also feasible, then it is perfectly reasonable to require participation in a waiver program to ensure that at least on a watershed basis impacts of development are mitigated.</p>				

Response	<p>The Clean Water Act requires that pollutants in storm water discharges are reduced to the maximum extent practicable (MEP). Current runoff management, knowledge, practices and technology consider the use of LID BMPs as meeting the storm water MEP standard. Therefore, the storm water treatment controls must also be designed to meet this same level of pollutant reduction to be considered MEP.</p> <p>The Regional Board realizes the difficulty in design and implementation of treatment controls to be able to reduce pollutants to the same standard as LID retention BMPs. Therefore, the Tentative Order allows project proponents to design conventional treatment controls at least up to the design storm as long as mitigation or in-lieu fees, which compensate for the pollutant load that would otherwise be retained by LID BMPs, are also implemented. A project proponent may choose to design their treatment controls to treat storm flows greater than the design storm that, in effect, would provide an equal pollutant removal as LID retention BMPs. In that case, mitigation would not be needed.</p>				
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Comment No.	161	Commenter No.	44	Comment Subject	LID
Comment	<p>Section F.1.d – Allow regional retention facilities where on-site retention is feasible, but not desirable. Section F.1.d of this permit requires that priority development projects retain the design storm on-site where feasible. We strongly support this requirement, with the caveat that off-site retention should be allowed where local retention is feasible but not desirable. For example, where there are confining layers at some depth below the surface, it may be possible to infiltrate on site, but excess groundwater inputs may create problematic seeps downstream or could otherwise disrupt the local hydrologic balance. It may also be more feasible to manage retention facilities, groundwater tables and water harvest systems regionally. A project should be allowed to discharge runoff to a regional retention BMP in accordance with a regional management plan without needing to first show that on-site retention is infeasible.</p>				
Response	<p>The Tentative Order allows regional mitigation projects through the LID BMP Waiver program. The regional mitigation projects must clearly exhibit that it will not allow a net impact from pollutant loading over and above the impact cause by projects meeting LID requirements.</p>				

Comment No.	162	Commenter No.	44	Comment Subject	LID
Comment	<p>Section F.1.d.(4).(d).(ii) - Replace "Biofilter" with "Filter".</p> <p>To resolve the conflict between implementing LID to the MEP and reducing pollutant discharge to the MEP, the term "biofiltration" in Section F.1.d.(4).(d).(ii) should be replaced with "filtration".</p> <p>We also strongly support the use of filtering BMPs where either local or regional retention BMPs are infeasible. However, the draft tentative order attempts to limit the range of allowable filtration BMPs by requiring "biofiltration" with storage for at least 75% of the volume of the design storm. These limitations are not justified by any clear performance benefit and may actually be counterproductive.</p> <p>The "bio" modifier and the term "biofilter" are unexplained. Taken literally, "biofilter" may exclude filters using inert filter media without a significant organic component, such as sand. However, nearly all filters, including sand filters will develop a biologically active microbial community of within and especially at the surface of the filter media that will improve pollutant removal and transformation. Presumably filters incorporating organic media, but not plants would qualify as "biofilters". Unfortunately, the term "bio" is often narrowly interpreted as meaning "incorporating plants". This interpretation would be especially unfortunate in this case since it would limit the range of filters allowed and would also ensure that BMPs add to irrigation water demand.</p>				
Response	<p>A definition of biofiltration has been included in Attachment C to clarify the interpretation.</p>				

Comment No.	163	Commenter No.	44	Comment Subject	LID
Comment	<p>Section F.1.d.(4).(d).(ii) – Replace the 75% design storm storage requirement with a requirement that filters must be moderately to highly effective for anticipated pollutants of concern on site.</p> <p>The 75% volume requirement in this section is poorly worded and unnecessary. It currently states that the “detention volume is allowed to be no less than 0.75 times the design storm volume.” Taken literally, this would require a BMP to store 75% of the total design storm volume even where a portion of the design storm is retained on-site by other BMPs. I doubt that this is the intent. At a minimum, this section must be revised to require that the biofiltration BMP be designed to retain 75% of the portion of the design storm that is not retained on site.</p> <p>Preferably the requirement would be removed altogether since it conflicts with an earlier observation in the same sentence that biofiltration facilities are designed as flow through BMPs. It is more appropriate to design filters based on a flow rate, rather than a volume. The 75% volume requirement will make these systems unnecessarily large and expensive. No performance based justification is given for this extra cost which will be substantial.</p> <p>For example, one impervious acre will produce 2,700 cubic feet of runoff from a 0.75” storm. Assuming a ponding depth of 6” and a soil depth of 18” with a generous void ratio of 30%, a landscape based “biofilter” must occupy at least 4.5% of the contributing impervious site area. This area simply will not be available downstream of impervious areas on many redevelopment sites. In such cases, a similarly effective subsurface, nonvegetated media filter would still be technically feasible since it could be installed under a paved surface.</p> <p>The existing 75% design storm storage standard should be replaced by a requirement that any filter implemented must have the ability to treat pollutants of concern expected to be generated on site with at least medium effectiveness as demonstrated in full scale field monitoring. With these changes, a technically feasible and effective solution will exist for all sites regardless of their development density, soil properties or other constraints.</p> <p>Currently, any discussion of the required performance capabilities of a “biofiltration” device is missing from this section. The result of this oversight will be development of designs that seek primarily to meet the “bio” and volume storage requirements instead of the MEP based performance requirements in section F.1.d.(6). These two sets of criteria are potentially conflicting. Requiring conformity with design details instead of the MEP performance standards stifles innovation and may actually prevent the maximum extent practicable standard from being met. For example, a site discharging to a water body with a bacteria TMDL, may be required to install a powered filtration and disinfection system if on-site retention is infeasible. As written, the permit would also require that they participate in the LID waiver program even though the quality of discharge may be far superior to that of a “biofilter”.</p>				
Response	<p>Biofilters are designed as flow through BMPs, therefore it is allowed for the prefilter detention volume to be 0.75 times the design storm volume. We do not agree that this requirement will make the biofilters unnecessarily large. The design storm volume can be distributed throughout a site. Also, the implementation of LID site design practices such as disconnecting downspouts and installing pervious pavement/pavers will lessen any site's design storm volume for treatment. The LID waiver program is a pollutant load based system. If a project site can demonstrate that they will meet or exceed the pollutant load reduction expected from implementing LID retention BMPs, then no mitigation would be required. The overall filtration design of the biofiltration unit must be for the whole design storm. The 75 percent allowance is for the prefilter detention volume.</p>				

Comment Media Filter Design and Performance Verification

Media filters are available in a wide variety of designs including some that have been proven to be effective for common stormwater pollutants and can be installed below grade in self contained structures. Performance of any media filter is impacted by many factors including hydraulic loading rate, media gradation and chemical properties, bed thickness and orientation, influent pollutant load and concentration, and longevity. Whether a filter has a vegetated component or not is just one additional design factor and may not be a critical factor at all.

At CONTECH we have been researching stormwater filter performance for over 15 years and offer a vegetated version, the UrbanGreen BioFilter® (Attachment 1) and several nonvegetated versions including the Stormwater Management StormFilter® (Attachment 2). Throughout the United States, more than 80,000 StormFilter cartridges have been installed, often in combination with infiltration or detention systems, or other stormwater management practices. In California there are over 25,000 StormFilter cartridges in operation. During the past permit term more than 130 separate StormFilter system installations have been completed in Orange County alone. This system is typically used on the densest and most challenging sites where infiltration and landscape based BMPs are not feasible. The flexibility to use this BMP and similarly effective controls such as sand filters without triggering waiver programs must be maintained for those projects where they are in fact the most effective controls that are technically feasible.

In laboratory tests verified by the Washington Department of Ecology, the StormFilter consistently removed sediment particles 5-10 microns in diameter and larger at full treatment capacity. In the field, the StormFilter has consistently shown the ability to reduce effluent TSS concentrations to less than 20 mg/L when influent concentrations are less than 100 mg/L and to remove greater than 80% of the TSS load at higher concentrations. A variety of StormFilter media options are also available to target specific pollutants such as sediment, phosphorous, heavy metals and oil and grease. The hydraulic loading rate of each cartridge can also be set to achieve various performance objectives. For your reference, a StormFilter performance summary is included with this letter (Attachment 2).

As of June 2009, the Stormwater Management StormFilter is the only proprietary filtering technology that has been field-tested and approved for stand alone use in the following peer reviewed nationally recognized programs:

Washington State Department of Ecology

The Technology Assessment Protocol - Ecology (TAPE)

The StormFilter is approved as stand-alone facility in meeting the Washington State Department of Ecology basic treatment standards.

http://www.ecy.wa.gov/programs/wq/stormwater/newtech/use_designations/StormFilterGULD12307.pdf

Protocol for Stormwater Best Management Practice Demonstrations

Technology Assessment Reciprocity Partnership (TARP)

StormFilter field monitoring data has been verified by New Jersey Corporation for Advanced Technologies (NJ CAT). The StormFilter is certified to remove 80% of typical stormwater sediment by the New Jersey Department of Environmental Protection.

http://www.nj.gov/dep/stormwater/docs/treatment_final_cert_stormfilter.pdf

ETV Protocol– Stormwater Source Area Treatment Technologies

US EPA - Environmental Technology Verification Program

The StormFilter was tested at three separate sites following the ETV protocol.

<http://www.epa.gov/nrmrl/std/etv/vt-wqp.html>

Investigation of Structural Control Measures for New Development

Sacramento Stormwater Quality Partnership

The StormFilter is conditionally approved pending final review of testing information from 33 storms.

<http://www.sacramentostormwater.org/SSQP/development/proprietary.asp>

Response Comment noted. To the extent that conventional storm water treatment controls are able to provide the same pollutant reduction as LID retention BMPs, then that project site would not have to do mitigation or in-lieu fees as part of the LID waiver program. The conventional storm water treatment controls may be designed for greater than the design storm to provide the same pollutant load reduction as LID retention BMPs.

Comment No.	165	Commenter No.	44	Comment Subject	LID
Comment	We strongly urge you to revise Section F.1.d.(4).(d).(ii) by replacing the term "biofilter" with "filter" and replacing the 75% design storm volume storage requirement with filter a performance standard. Without these changes, the only technically feasible treatment controls on some sites with poor soils and without adequate landscape area available for biofiltration may trigger participation in the LID substitution even while still requiring the MEP standard to be met on site.				
Response	Please see the responses to Comment Nos. 162 and 163.				
Comment No.	166	Commenter No.	45	Comment Subject	Construction
Comment	Make findings consistent with JRMP. Provide separate sections for Construction vs. Existing Development.				
Response	Thank-you for the comment, but we feel this change to the Findings is not warranted and unnecessary.				
Comment No.	167	Commenter No.	45	Comment Subject	Finding
Comment	Definition of "urban stream" contradicts 40 CFR 122. Provide clearer definition as to what an "urban stream" is.				
Response	Similar comments regarding urban streams being part of the MS4 have been considered in previous response to comments. Please see the Fact Sheet; December 12, 2007, Response to Comments II, Response No. 13; and July 6, 2007, Response to Comments I, Response No. 3. In summary, an MS4 is defined in the federal regulations as a conveyance or system of conveyances owned or operated by a Copermittee, and designed or used for collecting or conveying runoff. Therefore, the Regional Board considers natural drainages that are used by the Copermittees as conveyances of runoff, as both part of the MS4 and as receiving waters. No changes have been made in response to this comment.				
Comment No.	168	Commenter No.	45	Comment Subject	MEP
Comment	Discharge category found to be a source of pollutants requires implementation of appropriate control measures to prevent the discharge of pollutants to the MS4. Should state: Implement appropriate control measures to reduce the discharge of pollutants to the MEP.				
Response	Please see response to Comment no. 1. Please also see see Comments no. 28 in the July 1, 2009 in Response to Comments IV. Please also see the Regional Board Counsel Memorandum dated November 05, 2009 regarding non-storm water discharge regulation.				
Comment No.	169	Commenter No.	45	Comment Subject	General
Comment	Discharges into MS4 require authorization from owner and operator of the MS4 system, specifically for uncontaminated pumped ground water, foundation drains, and water from crawl space pumps. Support change, and recommend that dischargers are required to obtain authorization prior to the commencement of the discharge.				
Response	Comment noted. Please note this is a requirement for enrollees under the referenced NPDES permit (R9-2008-0002).				

Comment No.	170	Commenter No.	45	Comment Subject	General
Comment	States that building fire suppression system maintenance discharges contain waste and must be prohibited. Not clear what waste the discharges contain and the basis for prohibiting it.				
Response	The Regional Board has received public comments (e.g. Comment no. 137) concerned with non-storm water discharges associated with building fire suppression system maintenance and testing. The Regional Board has found that such activities do not qualify as fire fighting flows as the activities are strictly maintenance in purpose. The current Order (R9-2002-001) and draft Tentative Order contain non-storm water discharge exemptions for discharges associated with water line flushing. While building fire suppression systems lines may be filled with potable water, the systems are not utilized until: a) a fire occurs and triggers the system, or b) the system undergoes required maintenance. The Regional Board has found that water within the lines may contain metals that that may be a significant source of pollutants upon discharge. Furthermore, many of these discharges occur to MS4s, which discharge to receiving waters 303(d) listed for toxicity or identified as requiring listing under the Draft 2008 CWA 303(d) Report. As such, these non-storm water discharges are no longer exempted from prohibition.				
Comment No.	171	Commenter No.	45	Comment Subject	General
Comment	Must identify and control any non-prohibited discharge that creates water quality problems. Should define what is meant by control the discharge.				
Response	The Regional Board appreciates the comment and has provided clarification to Section B.4.				
Comment No.	172	Commenter No.	45	Comment Subject	NEL
Comment	Attachment E, page 12, uses the phrase "Dry weather non-storm water effluent limitations" as opposed to this section's title. Inconsistent. If this is the same, please change.				
Response	The Regional Board appreciates the comment and the change has been made.				
Comment No.	173	Commenter No.	45	Comment Subject	NEL
Comment	The footer on this page does not correspond to the section title. Change footer from "Directive D: Storm Water Action Levels" to "Directive C: Non-Storm Water NEL"				
Response	The Regional Board appreciates the comment and the change has been made.				
Comment No.	174	Commenter No.	45	Comment Subject	NEL
Comment	Requires review and acceptance of a determination that a effluent limitations discharge is from a natural source. Strike "acceptance" from section.				
Response	The comment provides no explanation for striking the word from the Section. Thus, the requested change has not been made. The evidence submitted by the Copermittee to support their source determination must be of acceptable scientific rigor to the Regional Board.				
Comment No.	175	Commenter No.	45	Comment Subject	NEL
Comment	This requires the Copermittee to determine whether a discharge type should be exempt. This is the responsibility of the Regional Board.				
Response	This is the responsibility of both the Regional Board and discharger. Either the Regional Board or the discharger may identify categories that should not be exempt. Please see the Regional Board Counsel Memorandum dated November 05, 2009 for discussion of non-storm water discharge regulation. Please also see response to Comment no. 52 in the July 1, 2009, Response to Comments IV.				

Comment No.	176	Commenter No.	45	Comment Subject	NEL
Comment	<p>This is a completely new program, above and beyond any requirement of the CWA.</p> <p>This is inconsistent with the CWA. Make program consistent with 40 CFR 122.</p>				
Response	<p>This program is consistent with CWA requirements. Please see the Regional Board Counsel Memorandum dated November 05, 2009 for discussion of regulation of non-storm water discharges.</p> <p>Please also see USEPA Comment no. 153.</p>				

Comment No.	177	Commenter No.	45	Comment Subject	NEL
Comment	<p>"This Permit does not regulate natural sources and conveyances of constituents listed in Table 4"</p> <p>This sentence is confusing. If it doesn't regulate "constituents listed in Table 4." What does it regulate and why is there a Table 4?</p>				
Response	<p>The Tentative Order regulates the discharge of pollutants from a point source (the MS4). Table 4 is applicable for non-storm water discharges from the MS4 into receiving waters. An exceedance of an NEL caused by a natural source being naturally conveyed would not trigger further action from the Regional Board.</p>				

Comment No.	178	Commenter No.	45	Comment Subject	NEL
Comment	<p>This Permit does not regulate natural sources and conveyances of constituents listed in Table 4.</p> <p>Should state clearly which Table(s) 4 (4.a.1, 4.a.2, 4.b. and/or 4.c).</p>				
Response	<p>This statement in the Tentative Order applies to all Tables under Table 4 (a-c).</p>				

Comment No.	179	Commenter No.	45	Comment Subject	NEL
Comment	<p>States that for natural sources the copermitttee must demonstrate discharge is not anthropogenic.</p> <p>Are there guidelines available to make this determination?</p>				
Response	<p>The Regional Board expects this determination to be made through Section F.4.e., which requires investigation and inspection in response to suspected illicit discharges and or connections. This is already required under the current Order. Determinations of origin are likely to be made on a case-by-case basis once the supporting evidence is submitted.</p>				

Comment No.	180	Commenter No.	45	Comment Subject	NEL
Comment	<p>Copermitttees must develop monitoring plans to sample a representative percentage of major outfalls and identified stations within each hydrologic subarea.</p> <p>Make consistent with 40CFR.</p>				
Response	<p>The NPDES regulations do not specify the exact location to be used for monitoring, and the permittee is ultimately responsible for providing a safe and accessible sampling point that is representative of the discharge (40 CFR 122.41(j)). The Regional Board has prescribed the monitoring in an effort to be consistent with the current monitoring done by the Copermitttees under the existing Order. The Regional Board finds it difficult to respond to the comment without a more specific reference to 40 CFR.</p>				

Comment No.	181	Commenter No.	45	Comment Subject	NEL
Comment	<p>The NELs as defined are receiving water standards. This would apply receiving water standards to the water within the MS4. Some of the NELs are not appropriately applied. (Fecal Coliform 400 for AMEL, this is a single sample standard not an average standard).</p> <p>There needs to be a way to account for receiving water quality.</p>				
Response	<p>The establishment of water quality-based effluent limitations must consider the discharge under critical conditions, including for flow (see 40 CFR 122.44(d)). As such, no mixing zone is allowed for discharges under the Tentative Order. For further information please see the Tentative Order Fact Sheet.</p> <p>Water within the MS4 is not required to meet receiving water standards. Under the Tentative Order, the discharge of non-storm water from the MS4 must meet numeric effluent limitations to protect waters receiving the discharge.</p> <p>In regards to the referenced Fecal Coloform Standard, the clarification has been made to the Tentative Order. The standard has been included in the AMEL because it is based on a 30-day period.</p>				

Comment No.	182	Commenter No.	45	Comment Subject	NEL
Comment	<p>Non-storm water discharges from MS4 to inland surface waters.</p> <p>What about when an MS4 flow discharges to dry sediment surface waters and not to actual water?</p>				
Response	<p>The described situation would be considered critical conditions for flow. The consideration of critical flow conditions is required under 40 CFR 122.44(d). A discussion regarding flow is also found in the Fact Sheet:</p> <p>"The San Diego Region has predominately intermittent and ephemeral rivers and streams (Inland Surface Waters) which vary in flow volume and duration at spatial and temporal scales. Therefore, it is assumed that any non-storm water discharge from the MS4 into the receiving water is likely to be of a quantity and duration that does not allow for dilution or mixing. For ephemeral systems, non-storm water discharges from the MS4 are likely to be the only surface flows present within the receiving water during the dry season."</p>				

Comment No.	183	Commenter No.	45	Comment Subject	NEL
Comment	<p>Need to define WARM & COLD water for DO effluent limitations.</p> <p>Should use > < with specific temperatures.</p>				
Response	<p>A change has been made to Table 4.a to clarify the WARM and COLD Beneficial Use designation. Please note that the DO limitations are not temperature dependent, as WARM and COLD are Beneficial Uses assigned by the Basin Plan to particular receiving waters.</p> <p>While the suggested use of >< for DO is the table is appreciated, this change has not been made as the language used in the table is directly from the Basin Plan for the San Diego Region.</p>				

Comment No.	184	Commenter No.	45	Comment Subject	NEL
Comment	<p>Fecal coliform AMELs are inappropriate for multiple reasons.</p> <p>Imposes AB411 standards for Rec 1 waters on non-storm water, non-recreational flows. If it must be applied then B should move to Instantaneous Maximum column.</p>				
Response	<p>A clarification has been made regarding fecal coliform and AMELs (please see response to Comment no. 181).</p> <p>The Tentative Order includes non-storm water numeric effluent limitations that are protective of receiving waters, including those downstream of the discharge. Please note that receiving waters under the Tentative Order are designated as having an existing or potential REC-1 Beneficial Use.</p> <p>Furthermore, it is inappropriate to consider waste assimilation as a Beneficial Uses of receiving waters. Please also see Comment no. 69 in the July 1, 2009, Response to Comments IV.</p>				

Comment No.	185	Commenter No.	45	Comment Subject	NEL
Comment	<p>Enterococcus inappropriately set to Ocean Plan Designated beach area standards.</p> <p>This is non-storm water, non-recreational flow. Why is it being held to beach standards when 5+ years of paired sampling data do not indicate strong links between even higher levels of bacteria than being allowed, and detected AB411 exceedances.</p>				
Response	Please see response to Comment no. 184.				
Comment No.	186	Commenter No.	45	Comment Subject	NEL
Comment	<p>MDEL limits.</p> <p>Where are MDELs defined in 40 CFR?</p>				
Response	Please see 40 CFR 122.2 and 122.45. A definition consistent with 40 CFR 122.2 and existing State and Regional Board NPDES permits and resolutions has been added to Attachment C for further clarification.				
Comment No.	187	Commenter No.	45	Comment Subject	NEL
Comment	<p>Table 4.a.1 does not list an instantaneous maximum for Fecal Coliform.</p> <p>Should list a maximum if less than 5 samples collected in 30-day period.</p>				
Response	Please see response to Comment no. 181.				
Comment No.	188	Commenter No.	45	Comment Subject	NEL
Comment	<p>Tables 4.a.1, 4.b, and 4.c subject storm drain flows to the very stringent AB-411 Rec-1 Criteria standards.</p> <p>The maximums should be adjusted to attainable limits.</p>				
Response	Please see response to Comment no. 184.				
Comment No.	189	Commenter No.	45	Comment Subject	NEL
Comment	<p>Turbidity.</p> <p>What is the justification for turbidity limitations in Region 9 being so much lower than other regions in the state?</p>				
Response	<p>The water quality criteria for Turbidity is determined in the Basin Plan for the San Diego Region. The criteria in the Basin Plan has been set to protect the Beneficial Uses of waters within the San Diego Region. The Basin Plan Objectives were appropriately used in the development of water quality-based effluent limitations for non-storm water discharges. Please note that issues pertaining to Basin Plan Objectives are to be addressed under the Triennial review process. More information may be found at: http://www.waterboards.ca.gov/sandiego/water_issues/programs/basin_plan/tri_review.shtml</p>				
Comment No.	190	Commenter No.	45	Comment Subject	NEL
Comment	<p>Freshwater criteria are based on site-specific water quality data (receiving water hardness).</p> <p>Should be changed to effluent water hardness.</p>				
Response	The Regional Board disagrees as this is required under State Water Board Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California.				
Comment No.	191	Commenter No.	45	Comment Subject	NEL
Comment	<p>pH.</p> <p>6.5 - 8.5 for freshwater 6-9 for saline waters - based on?</p>				
Response	As cited in Tables 4.a and 4.b, pH is based upon Basin Plan Objectives and Ocean Plan Criteria found within the Basin Plan for the San Diego Region and California Ocean Plan.				

Comment No.	192	Commenter No.	45	Comment Subject	NEL
Comment	<p>Fecal coliform AMELs are inappropriate.</p> <p>Imposes AB411 standards for Rec 1 waters on non-storm water, non-recreational flows. If it must be applied then B should move to Instantaneous Maximum column.</p>				
Response	Please see responses to Comments nos. 181 and 184.				
Comment No.	193	Commenter No.	45	Comment Subject	SAL
Comment	<p>This requires "implementation of all necessary storm water controls and measures to reduce .. ." when there is no evidence of a receiving water exceedance. The assessment point is "end-of-pipe" and SALs do not have any justification for applicability.</p> <p>This seems to require an action when there is no evidence of a receiving water violation.</p>				
Response	SALs are applicable as a tool to be used by the Copermittee(s) to determine the level of effectiveness of BMPs utilized within the drainage area discharging at the SAL outfall. This is part of the iterative process to reduce the discharge of pollutants in storm water from the MS4 to the MEP standard.				
Comment No.	194	Commenter No.	45	Comment Subject	SAL
Comment	<p>Metals SALs are in direct contradiction with statement on "table Levels 4.a.2: Priority Pollutants", page 23.</p> <p>Contradiction between NEL section and SAL in terms of metals values.</p>				
Response	Storm Water Action Levels (SALs) are for discharges of storm water from the MS4. Section C is for non-storm water discharges. The SALs were computed utilizing USEPA nationwide MS4 discharge data (Arid West Region), and SALs for metals have been set as the 90th percentile for this dataset. Additionally, the SALs for metals incorporate synoptic water hardness measurements. Please see Attachment E Section II.B.1.b.				
Comment No.	195	Commenter No.	45	Comment Subject	SAL
Comment	<p>" ... assessment points for determination of SAL compliance are all major outfalls " Seems to contradict the following sentence " ... monitoring plans to sample a representative percent of the outfalls "</p> <p>Sentences seem to contradict each other.</p>				
Response	Section D of the Order has been clarified in response to the comment. The word "all" has been removed, as the Copermittees are to sample a representative percent of major outfalls within each hydrologic subarea, not all major outfalls.				
Comment No.	196	Commenter No.	45	Comment Subject	SAL
Comment	<p>" ... to have outfall storm water discharges meet all applicable water quality standards."</p> <p>This applies receiving water standards to the storm drain.</p>				
Response	This is not a requirement of the Order, but a goal as discharges that meet applicable water quality standards are protective of the Beneficial Uses of the receiving waters.				
Comment No.	197	Commenter No.	45	Comment Subject	SUSMP
Comment	<p>"centralized infiltration devices" -This term needs to be clearly defined otherwise there will be confusion on when these infiltration devices" restrictions apply.</p> <p>Provide clear definition as to what "centralized infiltration" are</p>				
Response	Please see the July 6, 2007, Response to Comments I, Response No. 24. A centralized infiltration refers to applications such as large infiltration trenches and infiltration basins that collect water from various locations for the purpose of infiltration and does not refer to small infiltration systems dispersed throughout a development. The language proposed in Section D.1.c.6 is consistent with the language used in Section F.1.b.2.h of Order No. R9-2002-0001 (the current Permit). The Copermittees may collectively or individually develop alternative restrictions on the use of treatment control BMPs which are designed to primarily function as centralized infiltration devices.				

Comment No.	198	Commenter No.	45	Comment Subject	SUSMP
Comment	In practice, this results in treatment control and hydromodification facilities being installed in single family residences, which is not a good practice in terms of assuring adequate maintenance of permanent BMPs.				
	Exclude single family residences from this category if the provided adequate site design and source control.				
Response	Environmentally Sensitive Areas are inherently sensitive habitats containing unique, rare, threatened, or endangered species, or are not achieving their designated beneficial uses. Runoff is known to contain a wide range of pollutants and has demonstrated toxicity to plants and animals. Therefore, it is necessary to apply additional storm water controls for developments within, adjacent to, or directly discharging to ESAs. This need for additional storm water controls is addressed within each component of the Order. Although maintenance of BMPs at single family residences discharging to ESAs may be perceived as being difficult, the ESAs require this added protection. The implementation of LID BMPs and site design should lessen the maintenance requirements and difficulty.				
Comment No.	199	Commenter No.	45	Comment Subject	SUSMP
Comment	It is not clear what is intended to be included this category. A steep hillside development with known erosion soil conditions would need to address erosion. Treatment control and hydromodification requirements are not justified.				
	Remove this from the Priority Development Project Categories, and define elsewhere in Section F.1 how these projects would need to include measures that protect slopes from erosion.				
Response	This requirement is identical to that in the current Permit (Order No. R9-2002-0001), the San Diego MS4 Permit (Order R9-2007-0001), and the Santa Ana Permit (Order R8-2009-0030). These provisions are based on the Los Angeles Regional Board's SUSMP upheld by the precedential State Board Order WQ-2000-11. The State Board's order found that hillside residences can be a significant source of pollutants and/or runoff following development and it is appropriate that the design standards apply so that BMPs for these categories of development result in the infiltration or treatment of a significant amount of the runoff.				
Comment No.	200	Commenter No.	45	Comment Subject	SUSMP
Comment	Retention of the 85th percentile storm event does not mimic the natural hydrology. The amount of runoff under natural conditions is dependent on soil type and other factors.				
	Retention requirements should be revised with intent of matching hydrology under natural conditions.				
Response	Retention of the 85th percentile storm event provides for a high level of pollutant removal to protect water quality. This design storm does not necessarily result in zero discharge. The design storm is between 0.7 to 0.8 inches of rainfall for most of the developed area of Orange County. Larger storms will produce runoff to receiving waters. Also, retention of the design storm will begin to compensate for decades of previous, unchecked development creating impervious surfaces that have resulted in the increased runoff volumes and flow rates discharged to receiving waters.				
Comment No.	201	Commenter No.	45	Comment Subject	SUSMP
Comment	It may be unrealistic for municipalities to implement the various processes required under this section within the amount of time allowed.				
	Provide a feasible time schedule for municipalities to put such a program in place.				
Response	The commenter provides no basis or information for the change, nor specificity regarding the requested change. Thus, no change has been made.				

Comment No.	202	Commenter No.	45	Comment Subject	Construction
Comment	<p>It is neither wise nor necessary to mandate use of a particular technology for managing sediment from construction sites. The Construction General Permit has adequate and more appropriate measures for ensuring sediment discharges will not create a pollution problem.</p> <p>Remove the requirement that Copermitees mandate use of AST. Allow Copermitees to rely on the Risk based approach that was developed for the Construction General. Permit, which does not mandate a particular technology.</p>				
Response	<p>The Tentative Order does not mandate the use of a particular technology for managing sediment from construction sites. The Tentative Order defines Active Sediment Treatment variously as using mechanical or chemical means to flocculate and remove suspended sediment from runoff at construction sites prior to discharge. Examples of coagulants include chitosan, modified starches, alum, electro-coagulation, carbonic acid, ferric chloride, and polyacrylamides. Examples of sedimentation devices include settling basins, ponds, baker tanks, weir tanks, tube settlers, and centrifuges. Examples of polishing filter types include sand, engineered media, membrane and hydrocarbon. For certain construction sites, with specific soil types that are difficult to settle, ATS is likely the only method to meet the 20 NTU water quality objective specified in the Basin Plan. The ATS requirements in the Tentative Order are identical to the ATS requirements in the San Diego MS4 Permit adopted on January 24, 2007. As such, the authors of the Construction General Permit were aware of these existing requirements concerning ATS.</p>				
Comment No.	203	Commenter No.	45	Comment Subject	Construction
Comment	<p>This section requires inspection of construction sites of 1 acre or more at least monthly.</p> <p>Propose language that is definitive and require construction site inspections monthly for sites of 1 acre or more.</p>				
Response	<p>The Tentative Order requires the Copermitees to inspect at least monthly, all sites with one acre or more of soil disturbance.</p>				
Comment No.	204	Commenter No.	45	Comment Subject	Existing Development
Comment	<p>Requirement for use of an automated database system (e.g., GIS) to maintain an updated watershed-based inventory of municipal areas and activities is too restrictive.</p> <p>The use of an automated database system, such as Geographical Information System is highly recommended when applicable, but not required.</p>				
Response	<p>The previous Order (R9-2002-01) did not require the use of GIS, but included language stating it was highly recommended. In this next permit term the use of GIS has been determined to be required (Please also see Comment no. 277 in the July 1, 2009, Response to Comments IV) . It is important to note that section K allows the Copermitees to propose alternative reporting criteria and schedules for the Executive Officer's acceptance. Thus, if a particular Copermitee has difficulty in meeting the time requirement, they may elect to request the reporting be extended. Thus, no changes have been made.</p>				
Comment No.	205	Commenter No.	45	Comment Subject	Existing Development
Comment	<p>Reduction of pesticides, herbicides, and fertilizers into the storm Pesticides, Herbicides water to the MS4 and receiving waters.</p> <p>Support inclusion of "storm water" and "and receiving waters" in the opening paragraph.</p>				
Response	<p>Comment noted.</p>				
Comment No.	206	Commenter No.	45	Comment Subject	Existing Development
Comment	<p>Inspecting and cleaning all MS4 facilities between May 1 and September 30 is infeasible for those Copermitees that have tens of thousands of structures.</p> <p>Inspection and removal of accumulated waste at least once a year between May 1 and September 30 of each year for all MS4 facilities that receive or collect high volumes of trash and debris.</p>				
Response	<p>The Tentative Order provides in section F.3.a.(6)(iii) that "Following two years of inspections, any MS4 facility that requires inspection and cleaning less than annually may be inspected as needed, but not less than every other year;" Thereby, this requirement will give the Copermitees the ability to prioritize their MS4 maintenance activities following a sufficient data collection period.</p>				

Comment No.	207	Commenter No.	45	Comment Subject	Existing Development
Comment	<p>Sections (a) and (b) are redundant.</p> <p>Delete Section (b) as the implementation of the provisions in Sanitary Sewer to Section (a) would maximize pollutant reductions by providing greater flexibility to Copermittees to manage their programs.</p>				
Response	<p>This comment has already been addressed. Please see the July 1, 2009, Response to Comments, Response No. 251.</p>				

Comment No.	208	Commenter No.	45	Comment Subject	Existing Development
Comment	<p>The separation of food facilities from other industrial and commercial facilities and requiring a completely separate inspection program is problematic.</p> <p>We currently inspect 25% of inventory. New requirements would reduce general industrial and commercial inspections by 5%, but increases food facility inspections to 100%. For the City this would result in an inspection requirement of 40% of our inventory.</p>				
Response	<p>Copermittees have been inspecting restaurants annually as part of the County Health Department inspections. Reports from the Aliso Creek watershed Copermittees demonstrate that as-needed inspections for restaurants means at least annually. Restaurants have been found to present many threats to water quality and standard educational efforts are not effective because restuarants are subject to frequent manangement changes. For these reasons, the Order requires restaurants to be inspected annually.</p>				

Comment No.	209	Commenter No.	45	Comment Subject	Existing Development
Comment	<p>"Each food facility must be inspected annually for compliance with the Copermittee's water quality ordinances and this Order."</p> <p>This could be legally not possible. Does the City have the jurisdiction to enforce provision in the Order if there is not municipal code for the regulation in question?</p>				
Response	<p>Section E.1. requires that "Each Copermittee must establish, maintain, and enforce adequate legal authority to control pollutant discharges into and from its MS4 through ordinance, statute, permit, contract or similar means. ...This legal authority must, at a minimum, authorize the Copermittee to: ... Carry out all inspections, surveillance, and monitoring necessary to determine compliance and noncompliance with local ordinances and permits and with this Order, including the prohibition on illicit discharges to the MS4." A failure to establish such legal authority would be considered a violation of the Permit.</p>				

Comment No.	210	Commenter No.	45	Comment Subject	Retrofitting
Comment	<p>The draft language requires an evaluation of potential retrofit sites in establishing a prioritized list of activities and states that "highly feasible projects expected to benefit water quality should be given a high priority" to implement BMPs. However, Copermittees should possess the discretion to evaluate where to direct limited storm water program resources in the larger context of all efforts/activities. While the current language provides the possibility for this program wide consideration, it should be explicitly stated that the Copermittees retain such discretion. For example, the highest rated retrofit project may result in only a medium priority rating when compared to education campaigns, enforcement, street sweeping, or other controls identified in the work plan.</p> <p>Proposed Language: (3) Each Copermittee must consider the results of the evaluation in prioritizing potential retrofit projects with other activities in work plans for the following year. Where feasible, the retrofit projects should be designed in accordance with the SSMP requirements within sections F .1.d.(3) through F.1.d.(8). In addition, the Copermittee shall encourage retrofit projects to implement where feasible the Hydromodification requirements in Section F .1.h.</p>				
Response	<p>The prioritization of retrofitting opportunities does not bar the implementation of other worthy high priority activities. The Copermittees prioritization and implementation of retrofitting can be integrated into other identified high priority activities. For example, education can include homeowner education on installing rain barrels or rain gardens. Enforcement actions can result in offering retrofitting as mitigation in lieu of penalties. High priority street sweeping areas can be retrofitted with trash guards on storm drains or lot -sized LID BMPs that prevent pollutant transport to the streets. In summary, the requested flexibility is already present in the Tentative Order.</p>				

Comment No.	211	Commenter No.	45	Comment Subject	Retrofitting
Comment	<p>Section F.3.d.(3) states that retrofit projects should be designed to SSMP requirements. However, other requirements, such as TMDL or ASBS requirements, may be critically important to designing to retrofit projects. Because these requirements are spatially and temporally variable, the draft Permit should be revised to state that retrofit projects should consider applicable regulations and requirements, as feasible, and should not list specific criteria.</p> <p>Permit should be revised to state that retrofit projects should consider applicable regulations and requirements, as feasible, and should not list specific criteria.</p>				
Response	<p>The Tentative Order's language provides sufficient flexibility to design retrofitting projects according to applicable regulations and requirements. To our knowledge, neither TMDLs nor ASBS have design storm requirements. The SSMP design standards are to be applied to retrofitting only where feasible. The Tentative Order also states that retrofit project "should" (rather than "must") be designed in accordance with SSMP requirements. The Regional Board feels that it is important not to limit retrofitting opportunities to the design storm. Because retrofitting occurs in an already developed area, the space requirements needed to meet the design storm may not exist on a particular site. Space restrictions should not limit being able to retrofit the property to the maximum extent practicable. For example, where a site cannot design a retrofit practice to the 85th percentile storm, the site may be able to design a retrofit practice to the 50th percentile; thereby still improving storm water quality.</p>				

Comment No.	212	Commenter No.	45	Comment Subject	Monitoring
Comment	<p>Require "inspections for illegal discharges and connections must be conducted during routine maintenance of all MS4 facilities"</p> <p>This could be an added reporting burden. How are we supposed to document that an inspection for illegal discharges and connections is done? Delete "must" from sentence.</p>				
Response	<p>Federal regulations require that illicit discharges be prevented from entering the MS4. Federal regulations also require a program to detect and remove illicit discharges and improper disposal into the MS4. It is expected that staff conducting MS4 maintenance activities be trained to detect illegal discharges and connections. It is unclear how this requires additional documentation. If staff, during MS4 maintenance activities, identify a possible illegal discharge or connection it is expected that information is used in accordance with Section F.4.e (Investigation/Inspection and Follow-up).</p>				

Comment No.	213	Commenter No.	45	Comment Subject	Monitoring
Comment	<p>"The use of GIS is required" and "The GIS layers of the MS4 map must be submitted ... "</p> <p>Not a problem for us but for those jurisdictions that do not have this capability this would be a significant expense. Delete requirement for use of GIS.</p>				
Response	<p>The previous Order (R9-2002-01) did not require the use of GIS, but included language stating it was highly recommended. In this next permit term the use of GIS has been determined to be required (Please also see Comment no. 277 in the July 1, 2009, Response to Comments IV) . It is important to note that section K. allows the Copermittees to propose alternative reporting criteria and schedules for the Executive Officer's acceptance. Thus, if a particular Copermittee may have difficulty in meeting the time requirement, they may elect to request the reporting be extended. Thus, no changes have been made.</p>				

Comment No.	214	Commenter No.	45	Comment Subject	Monitoring
Comment	<p>Vague language.</p> <p>Provide a more specific description of the information to be confirmed and updated.</p>				
Response	<p>The intent of F.4.b is to require the Copermittees to update their MS4 maps in coordination with the dry weather field screening and analytical monitoring required under Section F.4.d. and Section F.4.e. It is expected that illicit discharge detection and elimination activities will confirm the accuracy of existing MS4 maps and potentially discover new or incorrect MS4 discharge points. As such, the map is simply required to be updated.</p>				

Comment No.	215	Commenter No.	45	Comment Subject	Monitoring
Comment	Paragraph makes a reference to attachment E, which does not in fact contain a description of this particular program. Include a description of the Dry Weather Field Screening and Analytical Monitoring Program in Attachment E.				
Response	Comment noted. Section F.4.d of the Order references Attachment E. The description of the program is contained within Section II.C of Attachment E for Dry Weather Numeric Effluent Limitations. The Tentative Order gives the Copermittees great flexibility to propose a program that meets these requirements.				

Comment No.	216	Commenter No.	45	Comment Subject	Monitoring
Comment	This seems to be the dry weather program we currently have. This appears to be in addition to the "Dry Weather NEL" program. In essence this appears to be a duplicate program. This is inconsistent with the CWA. Make program consistent with 40 CFR 122.				
Response	Please see response to Comment no. 215. The description of the program is contained within II.C of Attachment E for Dry Weather Numeric Effluent Limitations. The current program under Order R9-2002-01 must continue with minor additions. Subsequently, the Copermittees must incorporate criteria for non-storm water numeric effluent limitations. There is no duplicative effort required and the monitoring required under the Tentative Order is consistent with section 402 of the CWA and 40 CFR 122.26, 122.44 and 122.48. The Regional Board finds it difficult to respond to the comment as there is no basis for inconsistency cited.				

Comment No.	217	Commenter No.	45	Comment Subject	Monitoring
Comment	Reference "Attachment E" for description of this program. Add description of program in Attachment E. There is currently not a description for this program.				
Response	Please see response to Comment nos. 215 and 216.				

Comment No.	218	Commenter No.	45	Comment Subject	Monitoring
Comment	... based on results of field screening ... Field screening is not included as a component of any monitoring programs and should be removed from this sentence.				
Response	The Regional Board disagrees, as field screening is the quantitative and/or qualitative monitoring of MS4 outfalls for non-storm water discharges and associated observations regarding a discharge. For example, if a field screening of an MS4 major outfall detects a high turbidity from sediment in a non-storm water discharge, Section F.4.e directs that this screening should be used for investigating and inspecting that portion of the MS4.				

Comment No.	219	Commenter No.	45	Comment Subject	Monitoring
Comment	References a monitoring effort that does not exist anywhere else in the permit (field screening). The inconsistency in the permit for the different programs and the referenced sections need to be straightened out. Add description of referenced program to Attachment E.				
Response	Please see response to Comment nos. 215 and 216.				

Comment No.	220	Commenter No.		Comment Subject	
Comment	Transcription error. Please reuse this comment ID #.				
Response	Transcription error. Please reuse this comment ID #.				

Comment No.	221	Commenter No.	45	Comment Subject	Monitoring
Comment	<p>Contradictory paragraph. Numeric action levels must be developed, but "the criteria must consider numeric effluent limitation (see Section C)".</p> <p>The NELs from Section C or develop numeric action levels? Recommend selecting one criteria.</p>				
Response	<p>This paragraph has been clarified. Action levels are determined by the Copermittees as a point in which follow-up investigation is required. This includes levels set as effluent limitations under the Order. Effluent limitations must be used by the Copermittees as the maximum concentration at which follow up investigative action is required for those specific pollutants. However, Copermittees may wish to set action levels below effluent limitations. Furthermore, action levels are required for other pollutants which do not have effluent limitations under the Order.</p>				
Comment No.	222	Commenter No.	45	Comment Subject	Monitoring
Comment	<p>References Attachment E for program description. There is no program in Attachment E that relates to this.</p> <p>Add description of program in Attachment E.</p>				
Response	<p>Please see response to Comment nos. 215 and 216.</p>				
Comment No.	223	Commenter No.	45	Comment Subject	Monitoring
Comment	<p>Punctuation error.</p> <p>Remove apostrophe from "it's" in the last line.</p>				
Response	<p>The Regional Board appreciates the comment and the correction has been made.</p>				
Comment No.	224	Commenter No.	45	Comment Subject	WURMP
Comment	<p>The workplan is for development of a BMP strategy and implementation of BMPs to improve urban runoff water quality contributions to the receiving water. Calling it a "Water Quality" workplan is misleading because the regulated parties under this permit are not responsible for every contribution to every water body in the entire watershed.</p> <p>The requirements should focus on urban runoff contributions to the receiving waters for which the regulated parties are responsible.</p> <p>Revise the section to state: The Watershed Workplan shall describe the Permittees' development and implementation of a collective watershed strategy to assess and prioritize the water quality problems due to runoff discharging to the watershed's receiving waters, identify and/or model sources of the highest priority water quality problem(s), develop a watershed-wide BMP implementation strategy to abate highest priority water quality problems and the relative contribution from runoff discharges, and a monitoring strategy to evaluate BMP effectiveness and changing water quality prioritization in the WMA.</p>				
Response	<p>The Tentative Order is for the discharges from the Copermittees MS4s. Pollutant contributions that are not discharged from the Copermittees MS4 are not addressed by this permit or required to be addressed by the WRMP section. No changes have been made in response to this comment.</p>				
Comment No.	225	Commenter No.	45	Comment Subject	WURMP
Comment	<p>The permit required monitoring program does not support this level of analysis. If an attempt was made to use the data from the monitoring programs, misrepresentation and mischaracterization would occur because the program does NOT involve collection sufficient data to do this. The requirements should focus on urban runoff contributions to the receiving water for which the regulated parties are responsible.</p> <p>Remove this section or replace with a requirement more in line with the regulated parties' responsibility of contributions of runoff discharges to the receiving waters, such as the requirements in Order No. R9-2007-0001 for the San Diego County Copermittees.</p>				
Response	<p>The watershed characterization allows the Copermittees to consider all available data, reports, monitoring and information available. The Copermittees monitoring program should be designed and implemented to be consistent with other monitoring protocols and QA/QC procedures to allow data comparison. The Tentative Order is for the discharges from the Copermittees MS4s. Therefore, the Copermittees must analyze their discharge in relationship to other potential pollutant discharges in the receiving waters. No changes have been made in response to this comment.</p>				

Comment No.	226	Commenter No.	45	Comment Subject	WURMP
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Comment The regulated parties are responsible for urban runoff contributions to the receiving waters and are not necessarily responsible for attainment of the receiving water quality objectives, particularly if there are contributions to the degradation of receiving water quality from parties outside the purview of this permit.

Further, to require that BMPs not contributing to measured improvements in receiving water quality be removed and replaced could lead to no water quality improvement and is flawed considering the intent of the permit. If a BMP is not assessed with regard to its direct improvement to quality of runoff from the localized site but only to the receiving waters, it could be falsely interpreted that a BMP is ineffective and will be removed. BMPs may be effective in reducing pollutants in runoff, but may need the time to be replicated and installed in multiple locations to observe improvements in receiving water quality. Additionally, there may be lag time between installation of a BMP, the end of a reporting year, and the actual observed improvements in water quality. Lastly, If regulated parties were required to expend resources to remove an ineffective BMP (for high priority water quality problems) where said BMP may not be a contributing pollutant source, resources to remove the BMP may be redirected from other, more valuable, efforts to improve water quality.

Replace with: Develop a watershed BMP implementation strategy that focuses on attainment of receiving water quality objectives in the identified highest priority water quality problem(s) by improving discharge runoff water quality. The BMP implementation strategy shall include a schedule for implementation of the BMP projects to abate specific runoff discharge contributions to receiving water quality problems. BMPs not contributing to measured pollutant reductions or improvements to runoff discharge water quality must be modified or replaced with alternative BMPs. Identified watershed water quality problems may be the result of jurisdictional discharges that will need to be addressed with BMPs applied in a specific jurisdiction in order to generate a benefit to the watershed.

Response The cited requirement states that "BMPs not contributing to measured pollutant reductions or improvements to water quality ..." A measured pollutant reduction by the BMP shows a direct improvement to the quality of runoff treated by that BMP. The Copermittees assessment should provide sufficient time to maintain and troubleshoot BMPs to improve their performance. This time frame may be over several rainy seasons and reporting periods and is not prescribed by the Tentative Order. In summary, the Copermittees should not waste their resources on BMPs that are not achieving desired outcomes and the Copermittees should redirect those resources to more effective BMPs.

Comment No.	227	Commenter No.	45	Comment Subject	WURMP
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Comment Requiring modeling AND monitoring improvements to water quality will require regulated parties to expend resources inefficiently. Additionally parties are regulated because of their contribution, as MS4 dischargers, to receiving water quality impairments. The regulated parties called out in this permit are MS4 dischargers and are responsible for their relative contributions, not the entire receiving water body quality.

The use of the word "proper" for installation of BMPs is subjective and not defined by this permit. There may be many different ways to "properly" design and install a BMP, and the regulated parties may or may not choose to test different ways for each BMP to determine which works best.

Revise to state: Develop a strategy to model and/or monitor improvements in runoff discharge quality resulting from implementation of the BMPs described in the Watershed Workplan. The modeling and/or monitoring strategy shall generate the necessary data to report on the measured pollutant reduction that results from BMP implementation.

Response The monitoring and modeling requirements are required to assess the effectiveness of BMPs at improving water quality in an iterative manner. Then, the Copermittees can prioritize their resource expenditure on BMPs that are more efficient at meeting water quality objectives. We agree that this Tentative Order regulates the discharge from MS4s and that Copermittees are responsible for their relative contributions. Pollutant contributions outside of the scope of this Tentative Order are addressed through other regulatory mechanisms such as separate NPDES permits, Waste Discharge Requirements, CWA section 401 water quality certifications and the nonpoint source program. The term "proper" for describing BMP implementation is purposely left undefined in the Tentative Order. The Copermittees must determine what is the proper BMP implementation through manufacturer suggestions or BMP guidance manuals (e.g. CASQA). In some cases, "proper" BMP design and implementation may later be found to be faulty. The Tentative Order provides the Copermittee the flexibility to adjust and maintain BMPs to improve pollutant removal effectiveness. No changes have been made in response to this comment.

Comment No.	228	Commenter No.	45	Comment Subject	WURMP
Comment	<p>Add a timeframe in which the Regional Board must respond/accept the work plan prior to implementation. By not having a time certain for the Regional Board's response, this could cause unnecessary delay to the implementation of the program and prolong the currently unacceptable conditions of water quality.</p> <p>Add a specific timeframe in which the Regional Board must respond to/accept the work plan.</p>				
Response	<p>Directive G.3 has been modified by adding the following sentence: "If within 30 days of submittal, the Regional Board has not taken an action, the Workplan shall be deemed acceptable."</p>				

Comment No.	229	Commenter No.	45	Comment Subject	WURMP
Comment	<p>Public review should occur prior to the workplan being submitted to the Regional Board, not after (prior to implementation). Changes to the workplan may be warranted in response to public comments. If this is the case, the version the Regional Board would approve prior to public review would essentially be a draft.</p> <p>Reverse the order of the Regional Board's acceptance and the public review period.</p>				
Response	<p>The Tentative Order requirement for acceptance by the Regional Board Executive Officer is listed as requirement G.3. The requirement for the public review period is listed as requirement G.5. This order is by chance and does not indicate a chronological order. We agree that the public review period should be prior to submittal for acceptance by the Regional Board Executive Officer. Directive G.5 has been modified to require public review prior to submission to the Regional Board.</p>				

Comment No.	230	Commenter No.	45	Comment Subject	Economic
Comment	<p>Business plan requirements</p> <p>Recommend changing from the proposed 5-year plan to a 1-year plan similar to R9-2007-01, based on the uncertainties of the economy.</p>				
Response	<p>The Business Plan requirements were removed at the request of the Copermittees.</p>				

Comment No.	231	Commenter No.	45	Comment Subject	General
Comment	<p>Per the definition in Attachment C, Environmentally Sensitive Areas include 303(d) listed waterbodies. It is therefore redundant and inefficient to require assessment for both 303(d) waterbodies and for ESAs.</p> <p>Remove Section J.1.a.(1)</p>				
Response	<p>Please see Comment no. 270 in the July 1, 2009, Response to Comments IV.</p>				

Comment No.	232	Commenter No.	45	Comment Subject	General
Comment	<p>The mention here of a Work Plan is redundant and subsequently confusing. Does the JRMP Work Plan replace the JRMP Plan (K.1.a)? Clarification is needed.</p> <p>Remove the requirement for a Work Plan or clarify that the Work Plan replaces the JRMP.</p>				
Response	<p>There is a distinction within each section regarding the JRMP Work Plan (J.4) and Jurisdictional Runoff Management Plan (K.1.a). These requirements are not redundant, but complementary. The Jurisdictional Runoff Management Plan is a "written account of the overall program to be conducted by each Copermittee to meet the jurisdictional requirements of section F" of the tentative Order. The JRMP Work Plan is "a work plan to address their (Copermittees) high priority water quality problems in an iterative manner over the life of the permit."</p> <p>It is expected that portions of the Jurisdictional Runoff Management Plan may be modified through development of the JRMP Work Plan to address high priority areas. For example, the JRMP Work Plan may identify a high priority 303(d) listed waterbody that requires additional BMP efforts. This may result in program adjustments under Section F of the Order.</p>				

Comment No.	233	Commenter No.	45	Comment Subject	General
Comment	<p>The reference to a watershed workplan should use a consistent naming convention. It is referred to as a "Watershed Workplan" in Section K.1.b., and a "Watershed Water Quality Workplan" in Section G.2.</p> <p>The reference to a watershed workplan should use a consistent naming convention.</p>				
Response	<p>Section G.2 is for the "Watershed Water Quality Workplan (Watershed Workplan)." Therefore, the "Watershed Water Quality Workplan" is subsequently referred to as the "Watershed Workplan" throughout the remainder of the Tentative Order. The term "Watershed Water Quality Workplan" is only used once in the Tentative Order at G.2. Therefore, no change has been made.</p>				

Comment No.	234	Commenter No.	45	Comment Subject	General
Comment	<p>The required components of the watershed workplans is discussed in Sections G.2 and K.1 .b.(4). The requirements should be consolidated to Section G.2, as Section K.1.b.(4) should only address reporting process/requirements.</p> <p>The requirements should be consolidated to Section G.2, as Section K.1.b.(4) should only address reporting process/requirements.</p>				
Response	<p>Section G.2, as written, provides flexibility to Copermittees in development of their Watershed Water Quality Workplans (Watershed Workplans). The section allows Copermittees to use all applicable information, identify the highest priority problems and develop strategies. It is not expected that all the information used in Watershed Workplan development be conveyed to the Regional Board. Thus, the Reporting requirements for Watershed Workplans under Section K.1.b.4 represents the minimum requirements on Watershed Workplans to be conveyed to the Regional Board. Section K.1.b. does, as the commenter requests, only address reporting process/requirements because section K.1.b.4 represents the minimum reporting requirement(s).</p>				

Comment No.	235	Commenter No.	45	Comment Subject	General
Comment	<p>The process and requirements for reviewing and updating the workplans is discussed in Sections G.6 and K.1.b. These requirements should be consolidated to one section.</p> <p>Consolidate to one section all requirements for the Watershed Workplan.</p>				
Response	<p>Please see response to Comment no. 234. Please note that the Reporting Section (K.1.b) specifies the timeframe for submittal of the Watershed Workplan(s) to the Regional Board and the minimum information to be submitted to the Regional Board. It does not specify the requirements for reviewing and updating workplans.</p>				

Comment No.	236	Commenter No.	45	Comment Subject	General
Comment	<p>Providing information for each program component by watershed is inefficient as this information is provided the WURMP annual reports. Recommend removing the reference "by watershed" from this requirement.</p> <p>Revise to state: Information for each program component as described in the following Table 9:</p>				
Response	<p>It should be noted that requirements under Section F may be different from watershed to watershed. Please see Comment no. 232. Thus, no change has been made.</p> <p>Please note under Section K, the Copermittees "may propose alternate reporting criteria and schedules, as part of their updated JRMP, for the Executive Officer's acceptance." Thus, the Copermittees can suggest the requested change as part of their updated JRMP.</p>				

Comment No.	237	Commenter No.	45	Comment Subject	General
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Comment A requirement for a description of ordinances or similar means to prohibit non-storm water discharge categories that are allowable per Section B.2. conflicts section B.2. Section B.2. clearly allows for the prohibition of the discharged or the development and implementation of appropriate control measures to prevent the discharge of pollutants to the MS4. Additionally, it is not clear if section (4)(b) is a requirement for ALL prohibited non-storm water discharges or those that are an allowable category but are subsequently identified as a source of pollutants.

Revise to state: A description of ordinance or orders to prohibit non-storm water discharges identified as sources of pollutants per section (4)(a) above, or a description of control measures to prevent the discharge of pollutants to the MS4.

Response Section K.3.a.4.b requires:
 "A description of ordinances, orders, or similar means to prohibit non-storm water discharge categories identified under section B.2 above."

Section B.2 clearly states:
 "Where the Copermittee(s) have identified a category as a source of pollutants, the category shall be addressed as an illicit discharge and prohibited through ordinance, order or similar means. The Regional Board may identify categories of discharge that either requires prohibition or other controls."

Under federal regulations, all illicit discharges are to be prohibited by order, ordinance or similar means (see Regional Board Counsel Memorandum dated November 05, 2009). As stated in Comment no. 39 in the July 1, 2009, Response to Comments IV, for the last 19 years NPDES storm water permits for Southern Orange County have required Copermittees to prohibit illicit discharges. Section B.2 requires prohibition of exempted discharges where identified by the Copermittees as a source of pollutants or as identified by the Regional Board. The Regional Board contends that the reference is clear and no change has been made.

Comment No.	238	Commenter No.	45	Comment Subject	Monitoring
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Comment Typo at the base of the table: "Nitrate and nitrate may be Monitoring combined ... "
 Change to: "Nitrite and nitrate may be combined .. ."

Response The Regional Board appreciates the comment and the correction has been made.

Comment No.	239	Commenter No.	45	Comment Subject	Monitoring
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Comment Comparing Metals SALs with CTR values.
 Question is if you can use the "1 hour maximum concentration" criteria in this way?

Response The SALs have been set as the 90th percentile of arid west MS4 discharge data (please see comment no. 156). The Regional Board, however, recognizes that the impact of metals in freshwater is hardness dependent. Thus, the 1-hour maximum concentration was selected because SALs target the "first flush" of storm water from MS4s. If a SAL for a metal is exceeded, the receiving water hardness should be used to compare the "first flush" criteria with the 1 hour concentration. The Regional Board contends this comparison is more valid that the 4 day continuous concentration, which is not consistent with required post-construction BMP design for storm events and "first flush" parameters. Please also note this is done for comparative purposes, as SALs are to be used in the iterative process and are not effluent limitations.

Comment No.	240	Commenter No.	45	Comment Subject	Monitoring
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Comment This creates a watershed based program for monitoring MS4 discharges. MS4s are inherently jurisdictional in nature. MS4s do not typically cross jurisdictional boundaries, hence this does not lend itself to a watershed base evaluation.
 Is this suppose to be our MS4 Outfall Monitoring program broken apart into a Wet and Dry components?

Response This monitoring approach is consistent with the current Order (R9-2002-0001).

Comment No.	241	Commenter No.	45	Comment Subject	NEL
Comment	States that copermittes must conduct the following dry weather field screening and analytical monitoring tasks. Does not define or outline the field screening tasks.				
Response	The Section requires specific field screening tasks (see E.II.C.b) and requires current dry weather field screening to continue under the Order.				
Comment No.	242	Commenter No.	45	Comment Subject	NEL
Comment	"Stations must be all major outfalls" plus "other outfall points ... " This far exceeds CWA 500 point maximum for dry weather monitoring.				
Response	A clarification has been made to the section. The word "all" has been removed to be consistent with other sections of the Tentative Order (please see Section C.4 of the Order).				
Comment No.	243	Commenter No.	45	Comment Subject	NEL
Comment	Map sites as a separate GIS layer or map overlay. This is in contradiction with the 4.b. "Maintain MS4 Map" pg. 71 which states that GIS is required.				
Response	The Regional Board contends this is not in contradiction with the GIS requirement, as it is the identification of individual monitoring stations, not the MS4 system. This identification can be done as a GIS layer for the overall GIS MS4 map, which is recommended, or as a map overlay.				
Comment No.	244	Commenter No.	45	Comment Subject	NEL
Comment	"... must sample a representative number of major outfalls ... " Contradicts Section E.II.C.a.(1) of Attachment E, which states that "Stations must be all major outfalls."				
Response	Please see response to Comment no. 242 as a correction has been made .				
Comment No.	245	Commenter No.	45	Comment Subject	Monitoring
Comment	Copermittes must sample a representative number of major water effluent outfalls. Should define or outline how to determine a representative number of outfalls.				
Response	Please see response to Comment no. 154.				
Comment No.	246	Commenter No.	45	Comment Subject	NEL
Comment	If flow is evident a 1 hour composite sample may be taken. Should elaborate on sampling procedures for flowing outfalls.				
Response	Please see response to Comment no. 247.				
Comment No.	247	Commenter No.	45	Comment Subject	NEL
Comment	"if flow is evident a 1 hour composite sample may be taken" There is no definition of what comprises a composite sample. This would significantly increase this program.				
Response	Please note this is not a permit requirement, but a suggestion. The language is flexible to allow for the Copermittes to utilize grab or composite samples. Composite sampling is a technique where multiple temporally discrete samples are combined and subsequently treated as a single sample. The language includes a 1-hour requirement if composite samples are taken to allow for flexibility due to potential variation in flow conditions between monitoring locations.				

Comment No.	248	Commenter No.	45	Comment Subject	NEL
Comment	<p>Typo at bottom of page: "Effluent samples must also under analysis for .. . "</p> <p>Change to: "Effluent samples must also undergo analysis for ... "</p>				
Response	The Regional Board appreciates the comment and the change has been made.				

Comment No.	249	Commenter No.	45	Comment Subject	NEL
Comment	<p>"Develop and/or update criteria for "</p> <p>This seems to contradict the NELs from section C of the permit. They say to include the NELs from section C and LC50 values, when you develop your criteria.</p>				
Response	<p>The Copermittees are required to develop response criteria when monitoring for pollutants potentially discharged in non-storm water from the MS4. This criteria must include the NELs found in Section C of the Order, as an exceedance of an NEL requires follow-up investigation. The criteria, however, should include other criteria for pollutants which do not have numeric effluent limitations. Furthermore, a Copermittee may wish to set response criteria for pollutants that have a numeric effluent limitation at a concentration lower than the numeric effluent limitation.</p>				

Comment No.	250	Commenter No.	45	Comment Subject	NEL
Comment	<p>This section is unclear.</p> <p>Should be reworded clearly (Develop and/or update action level criteria for dry weather non-storm water effluent analytical monitoring results. Exceedances of the action level criteria require follow-up investigations to detect and eliminate the source causing the exceedance.</p>				
Response	<p>This section has been clarified to read as follows:</p> <p>"Develop and/or update criteria for dry weather non-storm water effluent analytical monitoring results:"</p>				

Comment No.	251	Commenter No.	45	Comment Subject	NEL
Comment	<p>Section refers to dry weather field screening and analytical monitoring procedures from Sections F.4.d and F.4.e.</p> <p>Sections F.4.d and F.4.e refer to the Attachment E for this program. This is a circular reference and the procedures are not defined anywhere in the permit or attachment. There is no description for dry weather field screening and analytical monitoring in either Order No. R9-2009-0002 or Attachment E.</p>				
Response	<p>The Section States:</p> <p>"If monitoring indicates an illicit connection or illegal discharge, conduct the follow-up investigation and elimination activities as described in submitted dry weather field screening and analytical monitoring procedures and sections F.4.d and F.4.e of Order No. R9-2009-0002."</p> <p>The field screening and analytical monitoring has already been done extensively under the current Order, and the references in Attachment E build upon the efforts already established and implemented to date. Additionally, the section states the following:</p> <p>"Until the dry weather non-storm water effluent analytical monitoring program is implemented under the requirements of this Order, each Copermittee must continue to implement dry weather field screening and analytical monitoring as it was most recently implemented pursuant to Order No. 2002-01."</p>				

Comment No.	252	Commenter No.	45	Comment Subject	NEL
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Comment "Copermittees must choose a subset of major outfalls ... that discharge to the surf zone in conjunction with the ACRWM."
 The ACRWM program is only suppose to sample within ecologically sensitive areas. There does not appear to be a link between the ACRWM and the dry weather field screening and analytical monitoring program. This needs to be further developed.

Response The commenter misconstrues the section, which states:
 "The Copermittees must choose a subset of major outfalls and identified stations that discharge to the surf zone...Sampling may be done in conjunction with Ambient Coastal Receiving Waters Monitoring."
 The language is flexible, and there is no requirement to sample at locations that discharge to ACRW areas. There are MS4 outfalls that discharge to Areas of Special Biological Significance, Marine Life Refuges and Dana Point Harbor. Furthermore, the Regional Board contends there is a link as Attachment E clearly states the purpose of the ACRW is "to assess the impact of MS4 discharge to ecologically-sensitive coastal areas by analyzing water chemistry and aqueous toxicity in both dry and wet weather."

Comment No.	253	Commenter No.	45	Comment Subject	Monitoring
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Comment Trash and Litter Impairment Investigation is listed under "Special Studies," but is presently a part of the regular Dry Weather Monitoring Program.
 Trash/Litter monitoring should be included as part of the regular Dry Weather Monitoring Program.

Response Please note the the Trash and Litter Impairment Special Study requires the identification of sampling stations for dry season and wet weather. It is expected that the dry weather portion of the study will work within existing efforts.

Comment No.	254	Commenter No.	45	Comment Subject	Monitoring
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Comment This creates a new and separate program.
 The trash assessment program for San Diego was incorporated into the existing monitoring programs. This is more efficient and can be linked to other monitoring results.

Response Please note that the requirements under E.II.D.5 do not prevent the Copermittees from incorporating the Special Study to coincide with existing monitoring efforts. In fact, this section was written with the flexibility to allow Copermittees to do so, as they are required to identify suitable sampling stations.

Comment No.	255	Commenter No.	45	Comment Subject	Monitoring
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Comment Requires all monitoring to comply with SWAMP, unless otherwise specified.
 There are not "otherwise specified" instances. This means all sampling, analysis and QA/QC must comply with SWAMP.

Response Please note that the Trash Special Study (II.D.5) has its own specified monitoring protocol to be developed.

Comment No.	256	Commenter No.	45	Comment Subject	Monitoring
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Comment "The individual(s) who performed the analyses;"
 Specify: in the case of contracted lab work, for example, is the name of the project manager/lab supervisor sufficient?

Response This name of the individual(s) who performed the analyses is required under federal regulations (40 CFR 122.41(j)(3)(iv)). This includes contracted lab work.

Comment No.	257	Commenter No.	45	Comment Subject	Monitoring
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Comment Electronic Monitoring reports must be CEDEN or SWAMP uploadable.
 Will have to retool reporting.

Response Comment noted.

Comment No.	258	Commenter No.	46	Comment Subject	SUSMP
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Comment We respectfully request that the language "and acceptable to the Regional Board" be deleted from the tentative order for the following reasons:

(1) The Regional Board already knows what planning principles we will be and are using in our planning to protect water quality; and

(2) As it currently is drafted this language could result in the Regional Board reviewing RMV's water quality management plans twice - once in the context of the County's approval of master area plans and once in the context of the Regional Board consideration of 401 certifications and/or waste discharge requirements. This would not appear to be the best use of staff time and RMV financial resources. In addition duplicate review places RMV in double jeopardy regarding an approval that should rightly lie with the County as the MS4 permittee.

Response The planning principles are vague and open to interpretation. We do not anticipate multiple review of the water quality management plan. Our expectation is that review of the WQMP under the context of a Clean Water Act section 401 water quality certification will suffice to meet the intent of the Tentative Order.

Comment No.	259	Commenter No.	36	Comment Subject	General
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Comment The Draft Permit Does Not Address Cost Neutrality. Legal Authority or Consistency Issues as Directed by the Board.

At the public hearing on July 1, 2009, the Board members highlighted three issues of general concern that needed further consideration: (1) cost neutrality compared to the 2002 Permit, in the context of the impact that the prevailing economic climate has had on Cities' ability to support expanded programs; (2) legal authority for declaring that nonstormwater discharges are not subject to the Maximum Extent Practicable (MEP) standard of compliance; and (3) consistency with other regional Permits, especially North Orange County. Despite what we understood to be the Board's direction to its staff, it does not appear that these issues have resulted in substantive reconsideration of Permit provisions since the July hearing took place.

Response Please see the Regional Board Counsel Memorandum dated November 05, 2009 regarding the regulation of non-storm water discharges.

As stated in the response to Comment No. 24 in the July 1, 2009, Response to Comments IV, the Regional Board is sensitive to the Copermittee's concerns of consistency and has sought to write the draft Tentative Order to both protect Water Quality and to assist the County and those affected Cities to develop a single program. Please also see Comment no. 373.

To the extent economic information was submitted, the Regional Board staff considered economic considerations in developing elements of the Tentative Order, but the Regional Board is not required to conduct a cost-benefit analysis. The Regional Board, however, has attempted to minimize increased costs in the Tentative Order. Since the Regional Board is prohibited from prescribing the exact manner of compliance with many provisions of the Tentative Order, it is inappropriate for the Regional Board to attempt to estimate costs. That is best left to the Copermittees. The Regional Board is only able to discuss the differences between the existing and proposed MS4 Permits.

It is important to note that existing efforts under Order 2002-001 are not sufficient to protect water quality standards, as evidenced in the Draft 2008 303(d) report, which has identified additional receiving waters proposed to be listed as impaired due to MS4 discharges, including for additional pollutants (see Comment no. 387). Additional requirements within the Tentative Order are required to address non-storm water discharges and are a component of the iterative process for treating storm water discharges to the MEP standard. These requirements are necessary to improve water quality and restore the Beneficial Uses of impaired waters.

Comment No.	260	Commenter No.	47	Comment Subject	NEL
Comment	<p>Dry Weather Numeric Effluent Limitations are Untenable</p> <p>We believe that the most critical intersection of the cost neutrality and legal authority issues is the imposition of Dry Weather Numeric Effluent Limitations (NELs) at the end-of-pipe. The City adopts and incorporates herein the legal positions taken by the County of Orange as Lead permittee and the other co-permittees regarding the applicability of the MEP standard. The practical ramifications of the proposed NELs are overwhelming: Dry Weather Monitoring Program measurements taken since 2002 at almost every pipe outfall in our City - and in all our Co- ermittee Cities - have shown that exceedances of the proposed bacteria, nutrients and dissolved solids NELs are the rule rather than the exception; and that exceedances of the metals NELs are common. A growing body of evidence suggests these constituents are largely natural in origin. Nevertheless, the proposed Permit provisions would appear to trigger the investigation requirement each time and every place that "an exceedance" occurs. Our experience has already shown that a single investigation may entail dozens of man-hours and substantial costs in equipment and laboratory analyses, and yet may still be inconclusive as to source, or be unable to confidently differentiate mixed natural versus anthropogenic sources. The way the NELs provisions are currently written, even naturally-occurring concentrations may be considered non-compliant if their "conveyance" is "anthropogenically-influenced" - a definition that would criminalize all dry-weather flow in the MS4, which locally carries spring flows and groundwater. Such stringent provisions and/or fuzzy outcomes would make the City (and all the other Co-Permittees) continuously non-compliant under the Permit provisions as currently drafted, making us subject to third-party lawsuits and/or enforcement actions and Mandatory Minimum Penalties. The potential costs cannot even be estimated. Such an ill-conceived framework will invite litigation on all fronts: even the Board itself could be subject to third-party lawsuits for failure to enforce. The City requests and recommends that the dry-weather NELs be removed from the draft Permit; or at a minimum be re-framed as Dry Weather Action Levels in essential conformance to the existing Dry Weather Monitoring Program parameters.</p>				
Response	<p>Please see Regional Board Counsel Memorandum dated November 05, 2009.</p> <p>The Copermittee must conduct further investigation into all non-storm water discharges unless it is known with certainty that the discharge either is exempted from prohibition or covered by another NPDES permit, as non-storm water discharges are to be effectively prohibited. This requirement to investigate the source of the discharge, regardless of chemical composition, is already part of the existing permit.</p> <p>Please also see Comment no. 82 in the July 1, 2009, Response to Comments IV.</p>				

Comment No.	261	Commenter No.	47	Comment Subject	General
Comment	<p>The Draft Permit Continues to be Overly Prescriptive</p> <p>The current Stormwater Permit (No. R9-2002-0001) imposed a comprehensive set of stormwater management and regulatory requirements on the Co-Permittees. The Draft Permit substantially expands the requirements and prescriptions of the current Permit without clear or compelling supportive findings, evidence or rationale. While some minor adjustments have been made to the Draft Permit language since the previous Draft version in response to these observations, the City believes that the it remains too prescriptive, increases costs, and limits the discretion and flexibility of the City to implement programs and practices that are appropriate, sensible and practical for our community. For example, the requirements for on-site storm retention, coupled with the prioritization scheme for selection of BMPs for new developments, impose procedures and costs that are locally unsuitable; furthermore the BMP maintenance tracking requirements are more detailed than is supportable. The City requests that the Regional Board carefully review and reconsider all the new requirements of the Draft permit, and wherever possible, provide maximum discretion and flexibility to the Co-Permittees.</p>				
Response	<p>Please see Comment Nos. 61 and 277 in the July 1, 2009, Response to Comments IV.</p> <p>The Copermittees requested the greater consistency in the LID provisions between the Tentative Order and the Santa Ana Regional Board's MS4 permit for North Orange County. The BMP maintenance tracking requirements are similar to those found in the San Diego County MS4 Permit and are wholly supported by the findings from audits of the Copermittee's programs and recommendations from USEPA.</p>				

Comment Intolerable Impacts on Municipal Co-Permittee Budgets

In addition to the ongoing budgetary 'wild card' represented by the Dry Weather NELs as discussed above, the City will incur significant extra one-time costs during the FY09-10 fiscal year for the development of new ordinances, plans, and assessments. Each of the new local requirements - revising the General Plan, updating the Environmental Review process, updating the Grading Ordinance, adopting Homeowner Association regulations, prohibiting irrigation runoff, reworking the Jurisdictional Urban Runoff Management Plan, setting up the Best Management Practices (BMP) Maintenance Tracking system, and developing an Existing Development Retrofitting Plan - may require dozens and in some cases hundreds of staff and/or consultant hours to be expended by each CoPermittee City for each task. Additionally, each City will be charged its cost-share for development by the Lead Permittee of new regional documents, including the Watershed Workplans, the Model Hydromodification Criteria and Waiver Programs, Regional Monitoring Programs, TMDL Load Reduction Plans, etc. The cumulative FY09-10 cost of all this is likely to be well over \$150,000 just in our City - more than doubling our Program Administration budget, without directly achieving any water quality improvement.

The City will also incur new costs on an annual basis for implementing all these new programs. While the City recognizes that the Regional Board has made some effort to 'cost-neutralize' the regional monitoring requirements by reducing some prior commitments while adding new ones in the Draft Permit, the City will still incur higher operational obligations for investigating NEL and Storm Water Action Level exceedances, inspecting existing developments, training staff, educating the public, enforcing the irrigation runoff prohibition, tracking BMP maintenance and reviewing new development proposals. Operational costs are estimated to go up by about 15%, or an additional \$200,000+ annually in this City alone. Capital improvement costs fluctuate year-to-year and cannot really be estimated before the planning efforts defining the projects are completed, but implementing retrofitting at existing developments may cost additional hundreds of thousands of dollars per year.

These cost increases could not come at a worse time for the City budget. The City has experienced a 6% decline overall in municipal revenues this year due to decreases in property tax, sales tax, real property transfer tax, planning and building fees, and interest income, so that we have had to draw on reserves just to maintain our current programs. Most of our planned capital improvement projects have been put on hold and no new ones are being scheduled for this year. Staff furloughs have been imposed in many CoPermittee cities. Against this backdrop, it is challenging for the Co-Permittees to maintain current funding levels for our existing Stormwater Programs, let alone increase funding. The City requests that the Regional Board make every effort to ensure that the new Permit is, at most, cost-neutral to the Co-Permittees. At the very least, we recommend substantially extending the timeframes for developing and deploying any new program plans and components, in order to reduce financial impacts concentrated during this lowest (we hope) point for local government operating revenues.

Response The Regional Board is well aware of the current economic climate. As such, several changes have been made to the Tentative Order to seek a cost neutral permit when compared to the previous permit. Most significantly, the Tentative Order eliminates multiple monitoring requirements and allows the Copermittees to substitute participation in regional Monitoring programs. These actions are expected to be more cost efficient and prevent redundancy.

Many of the costs associated with this permit are not new and recur every permit cycle, such as updating local ordinances and management plans. The cost to update these plans is likely lower than having to draft an entirely new management plan as was the case with the previous permit. The BMP Maintenance Tracking System is necessary in response to findings from program audits and recommendations from USEPA. The Tentative Order requires Copermittees to only inspect high priority and public agency projects. Other post construction BMPs may be verified through other means. The requirements to retrofit existing development have been extensively modified to require implementation only where feasible and should take advantage of simultaneous efforts to repair and maintain infrastructure. In addition, the South Orange County Integrated Regional Water Management Plan, May 2006, examined retrofitting opportunities in South Orange County. Many of the new programs are given several years to plan and prepare for implementation. For example, the numeric effluent limitations start after year three. The dry weather numeric effluent limitations fits into the City's already existing Illicit Discharge Detection and Elimination Program and requires only minor modification to existing monitoring by the City. The City should already be conducting follow up investigations for any dry weather flow that is prohibited and not known to be exempted or covered by another permit.

The cost share assessment by the Lead Permittee is outside of the Regional Board's control. Any concerns with the cost share by the Lead Permittee should be addressed to that Lead Permittee. The Copermittees also have the option of selecting a different Lead Permittee if they are not satisfied with the cost share or with actions taken by the Lead Permittee on their behalf.

Regional Board staff considered any submitted economic considerations in developing elements of the Tentative Order. The Regional Board, however, is not required to conduct a cost-benefit analysis.

Comment No.	263	Commenter No.	47	Comment Subject	SUSMP
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Comment Impacts on New Development and Re-Development

The Draft Permit's imposition of substantial additional requirements on New Development and Significant Redevelopment projects will create substantial cost impacts for developers as well as for existing businesses, institutions and residents in the City. The current economic climate - when property values are down by 30% or more - suggests that this is a most inappropriate time to create larger financial disincentives to the spread of low-impact design and re-design across the City. In particular, we note that the requirements continue to be more onerous than defined for North Orange County or for San Diego; and that new requirements to evaluate water rights and sediment loads have been added in the August Draft to the already-substantive burden of retroactively mitigating hydromodification impacts. The City requests that the Regional Board carefully review and reconsider the necessity, appropriateness and timing of these new requirements.

Response The changes are reasonable and necessary to further the protection of Water Quality Standards. In particular, the LID requirements within the Tentative Order are substantially consistent with the requirements found in the Santa Ana Regional Board's North Orange County MS4 permit. The requirements for water rights are necessary as pointed out by Camp Pendleton's comment letter. Improper implementation of the LID capture volume requirement could potentially diminish volumes of water that reach downstream receiving waters and ultimately recharge downstream aquifers. The hydromodification requirements include consideration of sediment load, as it is an important part of calculating hydromodification impacts. No changes have been made in response to this comment.

Comment No.	264	Commenter No.	47	Comment Subject	Overirrigation
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Comment Impacts on Residents

The Draft Permit's defining of landscape irrigation runoff as an illicit discharge that must be eliminated will overnight convert a large percentage of the City's 20,000 landowners into unintentional scofflaws. Whether they react voluntarily or in response to enforcement actions, eliminating irrigation runoff will cost homeowners money. A new single-family controller with automatic weather-based scheduling and multi-short-cycle capacity costs \$300 to \$500. Correcting overspray and distribution problems even on a flat home lot may cost a homeowner \$200 to \$1,200. If a homeowners' association has to retrofit thousands of feet of sprinkler lines on common areas, each resident will have to pay a share of potentially tens of thousands of dollars. Enforcement against residents who do not or cannot afford to comply will not be 100% because watering happens at night, half-hidden in back yards, for a few minutes at a time; and Cities cannot issue a citation without actually seeing the offense being committed. The reality is that irrigation runoff can only be controlled to the maximum extent practicable.

Response The comment regarding the prohibition on overirrigation practices was addressed in the previous response to comments. The comment does not raise any new issues from the previous comments.

Please see the discussion in the Fact Sheet for finding C.15; and the July 1, 2009, Response to Comments IV, Response Nos. 28, 52, 76, and 159. No changes have been made in response to this comment.

In summary, over irrigation is a non-storm water discharge required by federal regulations to be prohibited where identified to be a source of pollutants. The comment is over-reaching in asserting potential new costs to homeowners and their associations. Limiting overirrigation does not necessarily have to include capital outlay expenses for landscaping improvements. Instead, overirrigation can be limited simply by adjusting watering duration and frequency. Overirrigation can also be limited by adjusting sprinkler heads to not overspray impervious surfaces.

Comment No.	265	Commenter No.	47	Comment Subject	unfunded mandate
Comment	<p>Porter Cologne Act and Unfunded State Mandates</p> <p>The City believes that many of the new regulations and requirements in the Draft Permit exceed the requirements of the Clean Water Act. As such, these new regulations and requirements must be considered and evaluated in accordance with applicable provisions of the State Porter Cologne Act. If such regulations and requirements are included in the Final Permit, the City believes that they would constitute unfunded State mandates.</p>				
Response	<p>The comment regarding unfunded mandates has been extensively considered in all previous response to comments. The comment does not raise any new issues from the previous comments.</p> <p>The Fact Sheet and Response to comments Nos. 155 and 165 in the July 1, 2009, Response to Comments IV; Comment No. 5 in the July 6, 2007, Response to Comments I; Comment Nos. 1 and 9 in the December 12, 2007, Response to Comments II; Comment No. 1, 2, and 3 in the February 13, 2008 Response to Comments III; all provide discussions of these issues. No changes were made in response to this comment.</p> <p>In summary, the State's water quality protection requirements within the Tentative Order are authorized by Federal Law, and are not unfunded mandates</p>				

Comment No.	266	Commenter No.	47	Comment Subject	Overirrigation
Comment	<p>Finding E.14 and E.1, B.2 Removing Exemption of Non-Storm water Discharges</p> <p>The Draft Permit removes landscape irrigation, irrigation water and lawn watering from the categories of non-stormwater discharges that are not prohibited, and further declares that non-stormwater discharges are not subject to the MEP standard. The City does not believe that the Regional Board has the legal authority to unilaterally declare that these categories of urban runoff are now to be deemed prohibited discharges and must be completely eliminated. Even if the City passed an ordinance to prohibit such discharges, the most cost-intensive "zero tolerance" enforcement still could only achieve compliance to the MEP, and would likely be politically unacceptable to the public. The City also notes that our Dry Weather Monitoring Program investigations have shown that it is typically reclaimed water - not potable water from residents - that causes the most common water quality problems. The producers, purveyors and users of reclaimed water are separately regulated under permits that require them to control such discharge; Cities should not be required to shoulder the primary burden in their stead. The City requests that the Regional Board keep landscape irrigation on the non-prohibited list, and remove the language asserting that non-stormwater discharges are not subject to the MEP standard.</p>				
Response	<p>The comment regarding the prohibition on overirrigation practices was addressed in the previous response to comments. The comment does not raise any new issues from the previous comments.</p> <p>Please see the discussion in the Fact Sheet for findings C.14 and C.15; and the July 1, 2009, Response to Comments IV, Response Nos. 28, 52, 76, and 159. Please also see comments Nos. 84, and 264 in this Response to Comments. No changes have been made in response to this comment.</p> <p>In summary, over irrigation is a non-storm water discharge required by federal regulations to be prohibited where identified to be a source of pollutants. CWA sections 402, 402(p)(3)(B)(ii-iii), 40 CFR 122.26(d)(2)(iv)(B)(1) clearly give the legal authority to prohibit overirrigation discharges.</p>				

Comment No.	267	Commenter No.	47	Comment Subject	LID
Comment	F.1.d.(4) & F.1.d.(7) - Low Impact Development (LID) Requirements				
	<p>The City is very concerned about the proposed Low Impact Development (LID) requirement that stormwater be retained on-site. Many areas of South Orange County, including Laguna Niguel, have experienced slope failures and landslides. The proposed LID Site Design BMPs, which emphasize infiltration, could in combination with local soil and geological conditions have the potential to increase the risk of such events. As mentioned before, the City is concerned that the significant financial impacts associated with the various reviews, assessments and site improvements necessary to comply with the proposed LID requirements would discourage New Development and Significant Redevelopment, the primary means by which water quality objectives are currently achieved. The proposed requirements also would impose additional demands on the City's water quality program both in terms of staff resources and budgetary impacts. Given the potential negative impacts of such requirements as noted above, the City is particularly concerned with the underlying and inadequately supported presumption that LID methods are superior to conventional treatment methods in achieving water quality objectives.</p>				
Response	<p>The Tentative Order's requirements for LID provide exceptions for sites demonstrating technical infeasibility. The soil type of a site would not necessarily rule out rainwater harvesting for reuse, or evapotranspiration BMPs as technically infeasible. To the extent economic information was submitted, the Regional Board staff considered economic considerations in developing elements of the Tentative Order, but the Regional Board is not required to conduct a cost-benefit analysis. The Copermittees already have plan approval processes in place that can implement the LID provisions. No changes have been made in response to this comment.</p>				

Comment No.	268	Commenter No.	47	Comment Subject	Hydromod
Comment	G. Hydromodification Limitations				
	<p>The inclusion of hydromodification requirements in the current draft permit represents a significant shift away from the regulatory framework of prior permits. As stated in the draft permit, the purpose of this shift is to reduce erosion and/or facilitate removal of existing hardened channels. This justification however fails to address the fact that hardened channels are necessary to safeguard public health and safety and the general welfare in the event of a large storm event. The requirements also place a significant burden on the limited resources of the Copermittees to develop and implement a Hydromodification Management Plan, which includes on-going financial obligations and labor intensive tasks such as assessment of channel conditions, modifications to development review and approval processes, additional field inspections of development sites, and assessment of cumulative impacts within the watershed on channel morphology. As previously noted, these additional requirements also have the potential to inhibit the City's ability to achieve water quality objectives by discouraging New Development and Significant Redevelopment.</p>				
Response	<p>The Regional Board disagrees that the hydromodification requirements in the Tentative Order represents a significant shift away from the regulatory framework of prior permits. On the contrary, the requirements are consistent with recently adopted municipal permits such as the San Diego Municipal Permit (Order No. R9-2007-0001).</p> <p>The commenter incorrectly states that the requirements fail to address the fact that hardened channels are necessary to safeguard public health in the event of a large storm event. The Regional Board recognizes that it is not always possible to restore creek segments to their natural states because of concern for flood control. For this reason, section F.1.h of the Tentative Order does not contain requirements for the copermittees to restore creeks. Please also see response to Comment No. 123.</p> <p>The Regional Board disagrees that the requirements will place a significant burden on the Copermittees to develop a regional HMP. The Orange County Copermittees can look to HMPs developed elsewhere in the State for guidance (Contra Costa County, Santa Clara County, or San Diego County). The Regional Board expects the Copermittees to heavily reference these other HMPs in developing a local one. In terms of labor-intensive tasks, the hydromodification requirements can be incorporated into plan checking processes that already exist. Field inspections of development sites can be the responsibility of the developer, not the Copermittees. Furthermore, the Regional Board disagrees that the requirements have the potential to inhibit the City's ability to achieve water quality objectives because the requirements include measures to protect and restore degraded creeks, which will in turn help achieve water quality objectives.</p>				

Comment No.	269	Commenter No.	47	Comment Subject	Retrofitting
Comment	<p>F.3.d - Retrofitting Existing Development</p> <p>This section requires each Co-Permittee to implement a retrofitting program that reduces impacts from hydromodification, promotes Low Impact Development, supports riparian and aquatic habitat, reduces the discharges of storm water pollutants from the MS4 to the MEP, and prevents discharges from the MS4 from causing or contributing to a violation of water quality standards. First, it is difficult to imagine the scope and cost of performing the retrofitting evaluation required by Section F.3.d. Second, even if such an evaluation was performed, the Co-Permittees have no legal authority to compel private landowners of existing developments to implement or cooperate on retrofit projects. The City requests that the Regional Board delete Section F.3.d from the Storm Water Permit.</p>				
Response	<p>This comment regarding retrofitting has been considered in the previous response to comments. Please see the Fact Sheet discussion on retrofitting; and the July 1, 2009, Response to Comments IV, Response Nos. 46, 136, 161, and 162.</p> <p>In summary, the Tentative Order's requirements for retrofitting existing development is practicable for a municipality through a systematic evaluation, prioritization and implementation plan focused on impaired water bodies, pollutants of concern, areas of downstream hydromodification, feasibility and effective communication and cooperation with private property owners. The Tentative Order's requirement realized the legal limitations that the Copermittees have in requiring retrofitting on privately held land. Therefore, the Tentative Order requires the Copermittees to cooperate with private landowners in implementing retrofitting opportunities.</p>				

Comment No.	270	Commenter No.	47	Comment Subject	TMDL
Comment	<p>Finding E.11 and E.1. and I. Total Maximum Daily Loads</p> <p>The Draft Permit imposes strict concentration-based numeric targets for a bacteria TMDL in addition to strict load-based targets, for both dry and wet weather. This language disregards years of painstaking work by staff and stakeholders in crafting TMDL documents firmly promoting the need for better science and iterative-BMP-based WQBELs; and completely contradicts the implementation provisions of the Basin Plan Amendment approved last year, establishing bacteria TMDL implementation provisions under a Reference System/Natural Source Exclusion approach. The City requests and recommends that the concentration-based numeric targets and the load-based allocations both be qualified as "subject to adjustment in accordance with the bacteria TMDL implementation provisions contained in the Reference System/Natural Source Exclusion Basin Plan Amendment approved by the Board in 2008. "</p>				
Response	<p>The Tentative Order does not disregard the TMDL. The Waste Load Allocation Reductions, Final Allocations and Numeric Targets come directly from the adopted TMDL. This is in compliance with the requirement that all NPDES Permits are consistent with the assumptions and requirements of the Waste Load Allocations of adopted and applicable TMDLs [40 CFR 122.33(d)(1)(vii)(B)]. The Tentative Order requires the Copermittees to implement BMPs capable of achieving these allocations and targets. It is expected that an iterative approach will be taken. It must be remembered that the allocations and targets are chosen and designed to demonstrate protection of Water Quality Standards, which is the goal of the TMDL.</p> <p>Regional Board Resolution No. R9-2008-0028, "A Resolution Amending the Water Quality Control Plan for the San Diego Basin (9) to Incorporate Implementation Provisions for Indicator Bacteria Water Quality Objectives to Account for Loading from Natural Uncontrollable Sources Within the Context of a Total Maximum Daily Loads," has essentially revised the Water Quality Standards for bacteria in water bodies that are addressed by TMDLs. The Water Quality Standards for bacteria, within the context of a TDML, allows for exceedances of the bacteria WQOs, as long as the exceedances are due to natural and background (non-anthropogenic) sources using a "reference system and antidegradation approach" or a "natural sources exclusion approach." To date, a TMDL containing either approach has not been fully approved in Southern Orange County. The Bacterial Indicators TMDL for Baby Beach has the option of developing a "natural sources exclusion approach." Once developed, the TMDL must be amended prior to any changes to the MS4 Permit to be consistent with the assumptions and requirements of the TMDL Waste Load Allocations.</p>				

Comment No.	271	Commenter No.	48	Comment Subject	Overirrigation
Comment	We note with approval the progress the Regional Board has made towards drafting a Permit that will meet the Clean Water Act's maximum extent practicable ("MEP") standard, and again approve of the Board's decision to omit lawn irrigation from the list of permitted non-storm water discharges in section B.2. of the Discharge and Legal Provisions portion of the Permit.				
Response	Comment noted.				

Comment

A.

Biofiltration Should Not Count Towards the Permit's LID Obligations

Section F.1.d.(4)(d)(i) requires a site to use LID BMPs to retain onsite the runoff from a design storm event. Section F.1.d.(4)(d)(ii), in turn, allows a site to biofiltrate any portion of that runoff which cannot feasibly be retained onsite. The section allows biofiltrated runoff to count toward LID retention requirements, and would conceivably allow a site demonstrating technical infeasibility of onsite retention to discharge all of its stormwater to the MS4 system through biofiltration, without undertaking any offsite mitigation. But, as discussed in our previous comment letters, biofiltration is not as effective a means of reducing pollutant load as onsite retention, nor does biofiltration ensure downstream impacts such as flooding or erosion will be reduced to the same extent. As a result, biofiltration without offsite mitigation falls short of the maximum extent practicable standard.

Other jurisdictions have developed policies that reflect the strengths of retention and the shortcomings of biofiltration. As discussed in our previous letters, Philadelphia, West Virginia, and Anacostia (Washington D.C.) have adopted standards that infiltrate, use onsite, or evaporate all precipitation except that which exceeds a specified storm volume. More locally, the Los Angeles Regional Water Quality Control Board recently approved NPDES No. CAS00402, the MS4 permit for Ventura County and its incorporated cities. That permit does not, like the current draft Permit, allow biofiltration BMPs to count toward LID obligations. Rather, the Ventura permit requires that a project employing biofiltration must compensate through mitigation measures.

We recommend that you revise your Permit in a similar manner so that a site must mitigate offsite any reduction in the removal of pollutants resulting from the use of biofiltration instead of retention-based BMPs. Such a move could help to ensure compliance with the Clean Water Act and would further serve important policy goals of the State. Given our current state of drought, Governor Schwarzenegger has issued a proclamation calling on water agencies to take additional actions to protect and enhance water supplies. By requiring offsite mitigation through practices that retain stormwater runoff, captured or infiltrated water could be used to increase water supplies through onsite use or recharging groundwater, in furtherance of this goal. In contrast, as currently written the draft Permit would allow most or all of that water to be discharged through use of biofiltration, without any volume retained to increase water supplies.

Finally, given the Permit's current language we see no reason why the Regional Board should require a site to demonstrate that biofiltration is infeasible prior to deciding to implement conventional controls and participate in the LID waiver program under section F.1.d.(4)(d)(iii). The purpose of the permit's LID BMPs sizing criteria requirements is to reduce harmful water impacts to the maximum extent practicable. While onsite retention ensures that 100 percent of pollutants in the design storm volume of water never leave the site, both biofiltration and conventional controls fail to reduce impacts as effectively. But, as currently drafted, the Tentative Order would at least require a site employing conventional controls to participate in the LID waiver program, thereby ensuring that the site would achieve an equivalent level of pollutant reduction within the same hydrologic subdivision or unit. Thus, while biofiltration may in many circumstances represent an approach for addressing stormwater runoff that is preferable to the use of conventional controls, a site implementing conventional controls could counterintuitively achieve greater pollutant reduction due to its required participation in the waiver program.

The Regional Board can, and should, correct this result by requiring participation in the LID waiver program for any site implementing biofiltration to meet its LID obligations. But in the absence of any such requirement, a site should be able to participate in the waiver program even if biofiltration is a feasible practice. In the case where a site is able to demonstrate technical infeasibility of onsite retention, the site should be permitted to choose between biofiltration on the one hand, and conventional controls with participation in the waiver program on the other, and should not have to demonstrate that the use of biofiltration is infeasible as a prerequisite.

Response

The Regional Board maintains that bio-filtration is part of a comprehensive LID program. Effective bio-filtration provides pollutant removal and energy dissipation. Biological removal of pollutants can even be an improvement over simply keeping pollutants on-site until rainfall over the design-storm criteria washes pollutants into receiving waters. Removal of pollutants and prevention of downstream hydromodification ensures any discharge to be low impact.

The USEPA's Green Infrastructure website includes filtration as a Low Impact Development technique; <http://cfpub.epa.gov/npdes/greeninfrastructure/information.cfm#glossary>. In addition, the U.S. Department of Housing and Urban Development's report titled "The Practice of Low Impact Development," (July 2003, H-21314CA) incorporates filtration techniques. The County of San Diego's LID manual also utilizes bio-filtration as an acceptable LID practice.

In the future as the science and knowledge of storm water treatment evolves, filtration may not be a suitable LID practice to meet the maximum extent practicable standard. For this permit iteration, LID BMPs that capture the

design storm for reuse, infiltration or evapotranspiration are preferred over bio-filtration techniques. The draft permit provides design-criteria for "LID bio-filtration BMPs" in section F.1.4.d.ii and requires demonstration that retention LID BMPs are technically infeasible prior to implementing bio-filtration BMPs.

Comment No.	273	Commenter No.	48	Comment Subject	SUSMP
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Comment

B.
The Permit Should Require that Watershed-Based Projects Demonstrate the Infeasibility of Onsite Retention Before Allowing the Use of Biofiltration or Conventional Controls and Offsite Mitigation Measures.

Section F.1.c.(8) of the Permit provides that, for watershed or sub-watershed based development projects, "Regional BMPs may be used provided that the BMPs capture and retain the volume of runoff produced from the 24-hour 85th percentile storm event as defined in section F.1.d.(6)(a)(i)," mimicking the performance standard required for Priority Development Projects under section F.1.d.4(d)(ii). However, unlike the Priority Development Projects provision, which requires that a site demonstrate the technical infeasibility of onsite retention prior to implementing biofiltration or prior to implementing conventional treatment controls and participating in the Permit's offsite mitigation or in-lieu program, section F.1.c.(8) states that "[a]ny volume that is not retained by the LID BMPs, up to the design capture volume, must be treated using LID biofiltration," with no required demonstration of infeasibility. Likewise, section F.1.c.(8) states that "[a]ny volume up to and including the design capture volume, not retained by LID BMPs, nor treated by LID biofiltration, must be treated using conventional treatment control BMPs in accordance with Section F.1.d.(6) . . . and participate in the LID substitution program," again failing to require that the site demonstrate infeasibility of onsite retention. The wording of these provisions suggests that, so long as a large development is involved, a site need not satisfy any threshold condition before deciding to biofiltrate water or substitute conventional treatment controls, rather than retain the water onsite.

Instead, the draft language gives the developer discretion to determine what volume of water to retain and what volume of water to biofiltrate or treat with conventional controls. Thus, (and in addition to the problems identified with allowing biofiltration to count towards a site's LID obligations above), a developer of a watershed based project could, for reasons completely unrelated to any finding of technical infeasibility, choose not to retain any water onsite, yet still comply with the permit's LID requirements. By failing to ensure that water will be retained onsite absent a finding of infeasibility, this provision fails to meet the MEP standard. To correct this oversight, the Permit should require that a large development demonstrate infeasibility of onsite retention prior to use of biofiltration or conventional treatment and participation in the Permit's LID substitution program.

Response

Section F.1.c(8) regulates the implementation of regional-based BMPs on large projects, as such we agree that technical infeasibility must be demonstrated prior to using less than full LID for the 85th percentile storm. Language to that effect has been added to the Tentative Order.

Comment No.	274	Commenter No.	48	Comment Subject	LID
Comment	<p>C. Any LID Waiver Program Credit System Must be Closely Tied to Equivalent Water Quality Benefits to be Achieved and Subject to Public Notice and Comment</p> <p>Section F.1.d.(7)(g) allows a copermittee “to implement a pollution credit system as part of the LID waiver program provided that such a credit system clearly exhibits that it will not allow PDPs to result in a net impact from pollutant loadings over and above the impact caused by projects meeting LID requirements.” While we withhold comment on the propriety of a credit system in general, we state here that any pollutant credit system designed by the copermittees must be clearly tied to resulting water quality benefits, and not to benefits derived in furtherance of other environmental or policy oriented goals. For example, while projects such as brownfield redevelopment, construction of low-income housing, or development close to public transportation or transit centers may serve admirable purposes—even purposes for which we may advocate—these types of projects also may not provide any demonstrable benefit in terms of water quality or pollutant load reduction. In addition to requiring that any credit system not result in a net impact from pollutant loadings over and above the impact from meeting LID requirements, F.1.d.(7)(g) should be revised so that it clearly requires any credit system to award credits only for measures that yield equivalent water quality benefits.</p> <p>Further, in the current draft, any credit system that a copermittee devises only need “be submitted to the Executive Officer for review and approval as part of the waiver program.” But putting such review authority solely in the Executive Officer shields the credit system from oversight and creates a self-regulatory scheme in violation of the Clean Water Act. In <i>Environmental Defense Center, Inc. v. U.S. E.P.A.</i>, 344 F.3d 832, 854-56 (9th Cir. 2003), the court explained: “[S]tormwater management programs that are designed by regulated parties must, in every instance, be subject to meaningful review by an appropriate regulated entity ... Congress identified public participation rights as a critical means of advancing the goals of the Clean Water Act in its primary statement of the Act’s approach and philosophy.” Given that implementation of a credit system has the potential to exempt development participating in the LID waiver program from portions of the Permit’s core requirements to prevent the discharge of pollutants to the MS4 system, the public and the regional board must have a way to meaningfully review the system. In order to “ensure that each [MS4 permit] program reduces the discharges of pollutants to the maximum extent practicable,” any credit system under the LID waiver program should be publically noticed and presented for comment, and subject to approval by the Regional Board.</p>				
Response	<p>Any credit system proposed by the Copermittees will be part of the SSMP, which per section F.1.d. will have a 30-day public review and comment period. We agree with the commenter that otherwise laudable projects may not provide equal water quality benefits. In other words, the ends do not justify the means. That is why any credit system must demonstrate that any participating project will not result in a net impact from pollutant loadings over and above the impact caused by projects meeting LID requirements. The pollutant loadings in the context of the permit only refers to pollutant loadings that impact water quality.</p>				

Comment No.	275	Commenter No.	48	Comment Subject	LID
Comment	<p>D. The Permit Contains a Clerical Error with Regard to the LID Waiver Program</p> <p>Finally, we note that Sections F.1.c.(8) and F.1.d.(4)(c)(iii) both, while referencing the LID waiver program, refer to that program as falling under section F.1.d.(8). It appears that this section corresponds to the LID waiver program’s location in previous drafts of the Permit. In the current draft of the Permit, the LID waiver program is located at section F.1.d.(7), and all references to the LID waiver program in the Development Planning Component should be revised to correct this error.</p>				
Response	<p>Thank-you for the comment. The Tentative Order has been corrected.</p>				

Comment No.	276	Commenter No.	49	Comment Subject	General
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Comment At the Public Hearing on July 1, 2009, your Board members highlighted two key issues of common concern: the permit's consistency with May 2009 permit adopted in the Santa Ana Region and cost neutrality with our current permit in the San Diego Region. Permitting consistency is a key issue for the Orange County Stormwater Program because our compliance programs are integrated countywide and four jurisdictions are split between the two regions. Fundamentally different requirements between our two permits - particularly within the same city - damage the credibility of the regulatory framework and thwart our ability as local government to cost effectively address key environmental mandates. Since the Tentative Order continues to present a number of unprecedented requirements, it is necessary for us to continue to seek revisions to the Tentative Order that support alignment between the North and South County permit requirements.

Response Please see response to Comment No. 373. Please also see Comment no. 24 in the July 1, 2009, Response to Comments IV.

Please also see response to Comment 259 regarding cost neutrality.

Comment No.	277	Commenter No.	49	Comment Subject	NEL
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Comment With respect to "cost neutrality" and cost effectiveness, there are three aspects of the permit to bring to your attention. First, your staff has indicated its intention to remain steadfast on the inclusion of numeric effluent limits for dry weather flows. Even though exceedances of these limits are written to function as "action levels," by using the term "effluent limits" and specifically "numeric effluent limits" (NELs) the permit potentially subjects permittees to mandatory minimum penalties under the Water Code for exceedances of NELs. While we would strongly oppose any effort to impose mandatory minimum penalties in such a situation, the entire process imposes potentially significant legal and transactional costs upon the Permittees.

Response Please see Comment no. 82 in the July 1, 2009, Response to Comments IV.

Comment No.	278	Commenter No.	49	Comment Subject	NEL
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Comment Our analysis of environmental quality data shows that a number of these NELs will not be achieved at any time or in any part of our storm drain system. Moreover, they are not being achieved at reference sites in areas completely removed from any urban influence. Their technical derivation is clearly flawed and there is no legal requirement for their inclusion. Consequently, we strongly object to the inclusion of NELs in the Tentative Order and would once again recommend the model application of water quality benchmarks in our existing dry weather reconnaissance program as the basis of non-stormwater permitting. This approach will achieve meaningful water quality improvements in a cost effective manner and is consistent with the Santa Ana Region permit.

Response Please see Regional Board Counsel Memorandum dated November 05, 2009..

Please see response to Comment no. 317.

Comment No.	279	Commenter No.	49	Comment Subject	General
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Comment There is a second cost concern presented by the escalating administrative burden from a number of the Tentative Order's provisions. New requirements arbitrarily establish municipal responsibility for sanitary sewer collection systems already subject to separate State regulation. Annual inspection of treatment controls in completed land development and redevelopment projects would be required for the first time. Greater regulatory oversight of and attention on private residences and mobile businesses is prescribed. There is a requirement to augment existing countywide, regional, watershed, and jurisdictional plans, with an additional jurisdictional planning process. In addition, technically challenging new standards will need to be developed and implemented for land development. There are also significant new monitoring obligations. All of these new requirements have significant resource implications for local government. In the current economy, local governments in Orange County are dealing with shrinking budgets not unlike State agencies. Consequently, a key test of the acceptability of the Tentative Order will be a calculation that shows that all of the prescriptive new requirements represent the most cost effective and cost neutral means of achieving our common goal of further improved water quality.

Response Please see Comment nos. 44, 61 and 277 in the July 1, 2009, Response to Comments IV.

Please note the Regional Board has made significant reductions in monitoring requirements in an attempt to minimize the impact of additional monitoring requirements.

To the extent economic information was submitted, the Regional Board staff considered economic considerations in developing elements of the Tentative Order, but the Regional Board is not required to conduct a cost-benefit analysis. The Regional Board is not required, as the commenter states, to provide a "calculation that shows that all of the prescriptive new requirements represent the most cost effective and cost neutral means of achieving our common goal of further improved water quality." Please see the Fact Sheet; July 6, 2007, Response to Comments I, Response No. 5; December 12, 2007, Response to Comments II, Response Nos. 1 and 9; February 13, 2008, Response to Comments, Response No 3. No changes have been made in response to this comment.

It is important to distinguish that NPDES permits are not a right to discharge, and are issued to protect water quality standards for those waters receiving the discharge. The goal of NPDES permitting is not to determine cost neutrality, but to maintain and protect Water Quality Standards

Comment No.	280	Commenter No.	49	Comment Subject	LID
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Comment Finally, a major portion of the additional cost burden presented by the Tentative Order will ultimately be borne by the proponents of land development and redevelopment projects and therefore new owners of property. There is significant concern here regarding the potential imposition requirements that will stymie redevelopment, lead to limited environmental benefits and possibly even undesirable environmental outcomes, and for which there is currently no technical consensus. To illustrate this uncertainty, each recently released municipal stormwater permit in California applies its own version of hydromodification standards for land development. The North Orange County Permittees are now working to craft a model for land development that presumes the application of low impact development (LID) best management practices (BMPs) based upon a prioritized consideration of infiltration, capture and reuse, evapotranspiration, and bio-retention/bio-filtration, and requires treatment of residual runoff volumes when the application of LID BMPs has been determined to be infeasible at site, sub regional, and regional scales. The model will also integrate options for water quality credits and provide for alternate compliance approaches including participation in a watershed project and contributions to an in-lieu fund. Because it is imperative that the Order eventually adopted by the Board provide similar direction for land development as the North County permit, deliver meaningful water quality outcomes, and be accepted by the development community, there is now a vital need for a change in direction in this key area of the Tentative Order.

Response The Tentative Order's requirements for LID implementation are functionally identical to that in the Santa Ana Regional Board's North Orange County MS4 Permit, R8-2009-0030. The Tentative Order includes the same consideration of infiltration, capture and reuse, evapotranspiration, and bio-retention/bio-filtration, and requires treatment of residual runoff volumes when the application of LID BMPs has been determined to be technically infeasible. The Tentative Order's LID waiver provisions provide the Copermittees discretion to include regional or sub regional treatment of residual runoff volumes as mitigation projects. The Tentative Order also allows the Copermittees the discretion to implement a credit system as part of the waiver program.

Contrary to the Commenter's statement regarding hydromodification requirements being different, the Tentative Order's hydromodification requirements are significantly similar to those requirements found in the San Diego MS4 permit. The hydromodification requirements allow for specific differences in watersheds.

Comment

A. The Clean Water Act and Federal Regulations are Very Clear as to the Scope of Non-Stormwater Regulation Required in an MS4 Permit

Section 402(p)(3)(B)(ii) of the Clean Water Act requires that MS4 permits include a requirement to effectively prohibit non-stormwater discharges into the MS4. The federal regulations include two requirements or provisions designed to begin implementation of the "effective prohibition." 55 Fed. Reg. 47989, 48037 (Nov. 16, 1990). The first provision requires permittees to perform a screening analysis, intended to provide sufficient information to develop priorities for a program to detect and remove illicit discharges. 1 Id.; 40 C.F.R. 122.26(d)(1)(iv)(D). The second provision requires permittees to develop a recommended site-specific management plan to detect and remove illicit discharges (or ensure they are covered by an NPDES permit) and to control improper disposal to MS4s. Id.; 40 C.F.R. 122.26(d)(2)(B). The federal regulations, thus, focus on two types of non-stormwater discharges:

- Illicit discharges (discharges that are plumbed into the MS4 or that result from leakage of sanitary sewer systems); and
- Improper disposal of materials such as used oil and other toxic materials. Id. at 48055.2

Of the second provision to implement the "effective prohibition" standard, the preamble to the federal rule says that permittees are required to "detect and remove" or prevent illicit discharges (or ensure they are covered by an NPDES permit) and to "control" improper disposal. 55 Fed. Reg. at 48037.

1. Illicit Discharges

With respect to detecting and removing illicit discharges, the proposed stormwater rule required permittees to have a program to prevent all illicit discharges into the MS4. 53 Fed. Reg. 49415, 49472 (December 7, 1988); 40 C.F.R. 122.26(d)(2)(iv)(B)(1). Commenters on the proposed rule suggested that there was no need to prevent numerous categories of commonly occurring discharges that did not pose significant environmental problems. 55 Fed. Reg. at 48037. U.S. EPA disagreed that the commonly occurring discharges would never pose significant environmental problems, but did admit that it was unlikely that Congress intended to require permittees to effectively prohibit "seemingly innocent flows that are characteristic of human existence in urban environments and which discharge to municipal separate storm sewers." Id.

As a compromise, U.S. EPA revised the final rule by generally exempting from the illicit discharge prevention program the categories of discharges identified by commenters. As stated in the preamble: "the following categories of non-storm water discharges or flows [must be addressed by the program] only where such discharges are identified by the [permittee] as sources of pollutants to waters of the United States..."³ 55 Fed. Reg. at 48037 [emphasis added]. U.S. EPA summarized the requirement in its Guidance Manual for the Preparation of Part 2 of the NPDES Permit Application for Discharges from Municipal Separate Storm Sewer Systems, November 1992 ("Part 2 Guidance Manual"):

While EPA does not consider these flows to be innocuous, they are only regulated by the storm water program to the extent that they may be identified [by the permittee] as significant sources of pollutants to waters of the United States under certain conditions.

Part 2 Guidance Manual at p. 6-33.

Where a permittee identifies a specific discharge, within an otherwise exempt category, that is a source of pollutants to waters of the United States, the permittee must address the discharge as part of its illicit discharge program. See 55 Fed. Reg. at 47995 (discharges identified on a case-by-case basis); Part 2 Guidance Manual at p. 6-33 (landscape irrigation from a particular site may result in a water quality impact).

2. Improper Disposal

With respect to controlling improper disposal, the preamble provides that permittees' program is to "assist and facilitate in the proper management of used oil and toxic materials." 55 Fed. Reg. at 48056. The regulation itself provides that the program is to include a description of educational activities, public information activities, and other appropriate activities to facilitate the proper management of used oil and toxic materials. 40 C.F.R. 122.26(d)(2)(B)(6). Thus, rather than using a stick to mandate that no used oil or other toxic materials ever enter the MS4, the regulations require that permittees assist and facilitate, through public education, the proper disposal of these materials such that they shouldn't enter the MS4. Improper disposal does not have to be prevented, it has to be controlled.

The Tentative Order ignores much of these clear requirements for regulating non-stormwater through preventing illicit discharges and controlling improper disposal. It allows the Regional Board to identify as sources of pollutants discharges within otherwise exempt non-stormwater categories, rather than just permittees as provided by federal law. It deletes three entire categories of exempt non-stormwater discharges rather than just the specific discharges within those categories that may be a source of pollutants. More significantly, it imposes numeric effluent limitations on non-stormwater discharges from the MS4. Because none of these requirements or acts are authorized by federal law (and the Regional Board has not indicated it is relying on state law), as discussed below in more detail, the County requests that all of them be removed, revised or undone.

Response

Please see Regional Board Counsel Memorandum dated November 05, 2009.

The Regional Board agrees that federal regulations require the effective prohibition of non-storm water discharges into the MS4, as well as require a program to detect and remove illicit discharges.

The Regional Board, however, does not agree with the comment that there are two types of non-storm water discharges (illicit discharges and improper disposal). The federal regulations define an illicit discharge as any discharge to an MS4 that is not composed entirely of storm water except discharges pursuant to an NPDES permit and discharges resulting from fire fighting activities (40 CFR 122.26(b)). The improper disposal of materials into the MS4 is/are an activity that results in an illicit discharge, which is prohibited. Thus, federal requirements also require that activities that may result in illicit discharges be controlled through ordinance, order or similar means and not just education as the commenter states (Please see response to Comment no. 285).

Please see response to Comment no. 282 regarding categories of exempted discharges.

Comment

B. For Exempt Categories of Non-Stormwater Discharges, Only Where a Permittee Identifies a Specific Discharge of Non-Stormwater to the MS4 as a Source of Pollutants to Waters of the U.S. Must the Permittee Prevent the Discharge to the MS4

Staff's response to the County's May 15, 2009 comment on this issue ignores authority cited by the County, misreads other authority, and fundamentally misconstrues the reason U.S. EPA provided exempt categories of non-stormwater discharges.

The Part 2 Guidance Manual clearly explains, by way of example, that it is only where landscape irrigation runoff from a particular site results in a water quality impact that the MS4 permittee must address the discharge, either through its management plan or by requiring the discharger to obtain an NPDES permit. See Part 2 Guidance Manual at p. 6-33 (quoted in the County's May 15, 2009 comment letter). Staff's response to comments does not address this authority. Just because runoff from one site is a source of pollutants to waters of the United States doesn't mean that the entire landscape irrigation category loses its exempt status.

Staff does address language in the preamble to the federal regulation, but misreads it. U.S. EPA explains in the preamble the idea of exempt categories (or components) of non-stormwater:

[I]n general, municipalities will not be held responsible for prohibiting some specific components of discharges or flows listed below through their municipal separate storm sewer system, even though such components may be considered non-storm water discharges, unless such discharges are specifically identified on a case-by-case basis as needing to be addressed.

55 Fed. Reg. at 47995 (emphasis added). Staff somehow reads this language as providing authority for removing entire categories (or components) of non-stormwater discharges from the list of exempt categories of non-stormwater discharges provided in the federal regulations. The language, however, very clearly refers to "discharges" being identified on a case-by-case basis as needing to be addressed (i.e., a source of pollutants). It does not refer to "categories" being identified as needing to be addressed.

Moreover, as alluded to above, staff's position does not make sense. U.S. EPA established the list of exempt non-stormwater categories because Congress did not intend to require permittees to prohibit commonly occurring, "seemingly innocent flows that are characteristic of human existence in urban environments." 55 Fed. Reg. at 48037. Under staff's position, that is precisely the result. Any time a single discharge from an exempt discharge category is identified as a source of pollutants, the entire discharge category would be subject to the "effective prohibition" standard, regardless of whether any other discharges from that category presented a problem. This is not what U.S. EPA intended.

Finally, the County notes that the Tentative Order is inconsistent with federal law in that it allows the Regional Board to identify as sources of pollutants discharges within otherwise exempt non-stormwater categories. As discussed above, the federal regulations and guidance are clear that it is the permittees alone that are to identify such discharges.

For all of the above reasons, the County requests that the Board restore the three deleted exempt non-stormwater discharge categories in Directive B.2 (landscape irrigation, irrigation water, and lawn water) and strike "or the Regional Board" from the second line of the first paragraph of Directive B.2.

Response

The Regional Board does not agree with the commenter's assessment that Regional Board staff have ignored and misread authority as well as misconstrued the reasoning behind exempted categories. It is important to note that the copermitees have identified the discharge of landscape irrigation runoff as a source and conveyance of pollutants. The identification was not for a specific site, but for the discharge category. It is therefore appropriate to remove the category of non-storm water discharge from exempt status under 40 CFR section 122.26(d)(iv)(B). USEPA's preamble to the federal regulations clearly supports this approach. Where categories of non-storm water discharges have been identified as sources of pollutants, discharges in those categories must be addressed and the status as exempt from the effective prohibition requirement in the Clean Water Act is no longer appropriate.

Comment

C. The Proposed Numeric Effluent Limits For Discharges of Non-Stormwater From The MS4 Are Contrary to Federal Law and Could Subject Permittees to Mandatory Minimum Penalties

The Tentative Order proposes numeric effluent limitations for non-stormwater dry weather discharges from the MS4. In its May 15, 2009 comment letter the County pointed out that the Clean Water Act requires that discharges from the MS4 meet the MEP standard, not numeric effluent limitations. The Response to Comments suggests that staff fundamentally misconstrues the authority provided by federal law to regulate MS4s.

1. The Relevant Clean Water Act Provision and Federal Regulations Regulate Discharges From MS4s

In response to Comment No. 39, staff begins their analysis by stating that section 402(p) of the Clean Water Act "regulates the discharge of storm water from a point source." This is not entirely accurate. Section 402(p) does regulate discharges of stormwater from a point source (e.g., the MS4), but it also regulates discharges of non-stormwater from the MS4. More accurately stated, section 402(p)(3)(B) regulates the discharge of pollutants from the MS4. In the clearest language possible, the relevant section provides in pertinent part:

Permits for discharges from [MS4s] . . . shall require controls to reduce the discharge of pollutants to the maximum extent practicable [MEP]. . .

33 U.S.C. 1342(p)(3)(B)(iii).

Staff assert that, because section 402(p)(3)(B)(ii) requires permittees to effectively prohibit nonstormwater discharges into the MS4, the MEP standard in section 402(p)(3)(B)(iii) must apply only to discharges of stormwater. In essence, staff would re-write the Clean Water Act to provide:

Permits for discharges from [MS4s] . . . shall require controls to reduce the discharge of pollutants in stormwater to the maximum extent practicable . . .

That of course is not what the Clean Water Act says. If Congress had intended to apply the MEP standard only to stormwater discharges from the MS4, as suggested above, it would have been very easy to do. Congress, however, chose to apply the MEP standard to the discharge of pollutants from the MS4, regardless of the source. That makes sense in that it is pollutants, not stormwater or non-stormwater, that impacts receiving water quality.

This is consistent with *Defenders of Wildlife v. Browner*, 191 F.3d 1159 (9th Cir. 1999). There, in discussing the two different standards applicable to industrial dischargers and municipal dischargers, the Court consistently tracked the language from the Clean Water Act, referring to "industrial storm-water discharges" and "municipal storm-sewer discharges." See 191 F.3d at 1164-65 (emphasis added). The Court did not refer to the standard as applying to stormwater discharges or non-stormwater discharges. The Court, of course, held that "Congress did not require municipal storm-sewer discharges to comply strictly with 33 U.S.C. § 1311(b)(1)(C) [e.g., water quality standards]."

Response

Please see Regional Board Counsel Memorandum dated November 05, 2009. Noncompliance with numeric effluent limits for discharges of non-storm water from the MS4 that are subject to the effective prohibition requirement in Clean Water Act section 402(p)(3)(B)(ii) results in both a violation of the limitation and triggers the requirement to achieve one of three outcomes. The Regional Board disagrees with the Commenter's interpretation that the Clean Water Act requires discharges of unauthorized non-storm water to meet only the more relaxed MEP standard when in fact these discharges of non-storm water are required to be effectively prohibited in the first instance.

Comment No.	284	Commenter No.	49	Comment Subject	Legal
Comment	<p>2. All Discharges From the MS4 are Subject to the MEP Standard</p> <p>Staff assert, in their response to comments and in Finding C.14 that non-stormwater discharges from the MS4 are not subject to the MEP standard. An examination of the federal regulations and preamble indicates otherwise.</p> <p>The focus of the Clean Water Act and the federal regulations is on a management program or programs. Under the federal regulations, the overall goal of the management program is to include a comprehensive planning process to reduce the discharge of pollutants to the MEP. 40 C.F.R. 122.26(d)(2)(iv). One of the elements of the management program is the illicit discharge prevention program. 40 C.F.R. 122.26(d)(iv)(B)(1). Thus, the prevention of illicit discharges into the MS4 is intended to help achieve the overall MEP standard for discharges from the MS4. This is confirmed by the preamble to the federal regulations where U.S. EPA discusses the required elements of the management plans or programs. According to U.S. EPA:</p> <p>[Permittees are required] to develop management programs for four types of pollutant sources which discharge to large and medium municipal storm sewer systems. Discharges from large and medium municipal storm sewer systems are usually expected to be composed primarily of: (1) Runoff from commercial and residential areas; (2) storm water runoff from industrial areas; (3) runoff from construction sites; and (4) non-storm water discharges. Part 2 of the permit application has been designed to allow [permittees] the opportunity to propose MEP control measures for each of these components of the discharge.</p> <p>55 Fed. Reg. at 48052 (emphasis added). See also 55 Fed. Reg. at 48045 (“Part 2 of the proposed permit application [which includes the illicit discharge prevention requirement] is designed to . . . provide municipalities with the opportunity of proposing a comprehensive program of structural and non-structural control measures that will control the discharge of pollutants, to the maximum extent practicable, from municipal storm sewers.”) (Emphasis added.)</p> <p>Thus, just as the discharge of non-stormwater into the MS4 is subject to the “effective prohibition” standard, the discharge of pollutants in non-stormwater from the MS4 is subject to the MEP standard.</p>				
Response	<p>Please see Regional Board Counsel Memorandum dated November 05, 2009.</p>				

Comment 3. No "Narrative Prohibition" or "Zero Discharge" Requirement

In their Response to Comments, staff then go on to assert that the effective prohibition standard applicable to discharges of non-stormwater to the MS4 is, in effect a "narrative prohibition" of discharges of non-stormwater from the MS4; i.e., a "zero discharge" requirement. In support, staff assert that non-stormwater discharges are defined as "illicit discharges." This, again, is inaccurate.

First, as discussed above, "non-stormwater discharges" are not defined in federal law. As made clear in the preamble to the federal regulations, U.S. EPA intended to implement the "effective prohibition" mandate of the Clean Water Act by focusing on two types of non-stormwater discharges -- illicit discharges and improper disposal. While non-exempt categories of illicit discharges must be prevented from entering the MS4, improper disposal needs only be controlled, not prevented. Moreover, it is to be controlled not through direct enforcement or some "stick" approach, but rather through public education. In other words, U.S. EPA acknowledged and accepted that some non-stormwater likely would enter the MS4. There is not a "narrative prohibition" or "zero discharge" requirement on non-stormwater discharges from the MS4. This doesn't present significant risk to water quality, however, because all pollutants discharged from the MS4 must be controlled or reduced to the maximum extent practicable.

Second, as noted, U.S. EPA's approach to regulating non-stormwater arises from trying to implement the Clean Water Act's "effective prohibition" standard. Congress did not say that non-stormwater discharges into the MS4 had to be "absolutely prohibited" or "completely prohibited" or even just "prohibited." Congress said that non-stormwater discharges into the MS4 had to be "effectively prohibited." As indicated by U.S. EPA's regulations, something may be effectively prohibited even when some of it is allowed. Effectively prohibiting the discharge of non-stormwater into the MS4 suggests that some non-stormwater may still enter the MS4. Thus, there is no "zero discharge" requirement on discharges of non-stormwater from the MS4.

Response Please see Regional Board Counsel Memorandum dated November 05, 2009 regarding the definition of non-storm water and non-storm water regulation.

The Regional Board maintains that the federal language is clear: that the term "illicit discharge" is used to describe any discharge to (and thus through and from) a municipal separate storm sewer system that is not composed entirely of storm water and that is not covered by an NPDES permit. Such illicit discharges are not authorized under the Clean Water Act.

The Regional Board also disagrees with the comment regarding improper disposal. The federal regulations are clear under 40 CFR 122.26(d)(2)(i), which require Copermittees to:

"Control through ordinance, order or similar means, the discharge to a municipal separate storm sewer of spills, dumping or disposal of materials other than storm water." The Regional Board is concerned with the commenter's assertion that only education, and not enforcement, is required for improper disposal activities.

The Regional Board maintains that USEPA's preamble to the final storm water regulations (Please see Comment no. 39 in the July 1, 2009, Response to Comments IV) is quite clear in the "effective prohibition" of non-storm water discharges:

"Ultimately, such non-storm water discharges through a municipal separate storm sewer must either be removed from the system or become subject to an NPDES permit."

The Regional Board does not agree with the interpretation by the commenter of the word "effective." "Effectively" prohibit means to accomplish the result of prohibiting, whether using the tool of imposing a "prohibition" or some other means. Considered together with the discussion in the federal regulations and USEPA's preamble thereto, effectively prohibit does not imply that some level of unpermitted (non-storm water discharges that are not permitted either by a separate NPDES permit or excepted under 40 C.F.R. 122.26(d)(2)(iv)(B)) non-storm discharges is acceptable. "Effectively" prohibit requires the control of activities and accidents that can result in an illicit discharge to the MS4. The federal regulations require the prohibition of illicit discharges to the MS4 by the Copermittees and require Copermittees control spills, dumping or improper disposal (via ordinance, order or similar means). These are activities that may occur despite the legal implementation of an illicit discharge prohibition, and they may occur by accident. This in no way, as the commenter suggests, condones the introduction of illicit discharges into and from the MS4, or subjects non-storm water flows to the MEP standard.

Comment No.	286	Commenter No.	49	Comment Subject	Legal
Comment	<p>4. BMPs versus NELs</p> <p>Next staff appear to suggest that, because permittees' efforts at addressing non-stormwater discharges into the MS4 have not been successful, under 40 C.F.R. 122.44(k) and 122.44(d)(1), the Board can impose numeric effluent limits on discharges from the MS4. Once again staff is mistaken.</p> <p>Section 122.44(k) simply provides that NPDES permits shall include BMPs (when applicable) under certain circumstances. The regulation does not govern when NELs must be included in an NPDES permit. Staff characterize permittees' efforts to address non-stormwater discharges into the MS4 as BMPs and then, because staff assert the BMPs are not working, suggest section 122.44(d)(1) allows the Board to impose numeric effluent limits on the discharge of nonstormwater from the MS4. To the extent section 122.44(d)(1) is applicable, it does not require numeric effluent limitations. It simply provides the method for determining when effluent limitations generally -- not necessarily a numeric limit -- are required to achieve water quality standards.</p> <p>Because nothing in sections 122.44(k) or 122.44(d)(1) require numeric effluent limitations on the discharge of non-stormwater from the MS4, staff's reliance on these two sections is misplaced.</p>				
Response	<p>Please see Comment no. 307 by USEPA in the July 1, 2009, Response to Comments IV.</p> <p>Please also see Comment no. 39 in the July 1, 2009, Response to Comments IV.</p>				

Comment 5. State Board Order WQ 2009-0008

In the August 12, 2009 Fact Sheet/Technical Report, staff place reliance on the State Board's recent Los Angeles County TMDL decision (WQ 2009-0008 [LA County TMDL Order]) to support the notion that the Clean Water Act requires (or at least authorizes) NELs for discharges of non-stormwater from the MS4. Such reliance is misplaced.

The issue in the LA County TMDL Order was not whether the Regional Board could impose NELs on discharges of non-stormwater from the MS4. The issue addressed in the order was the implementation of dry weather wasteload allocations (WLAs) in the LA County MS4 permit. The relevant TMDL established a bacteria WLA for summer dry weather of zero days of exceedance of the bacteria water quality standards. The TMDL included a WLA for MS4s.

The Los Angeles Regional Board amended the LA County MS4 permit to implement the summer dry weather bacteria WLA. As amended, the permit provided, as a receiving water limitation, that during summer dry weather "there shall be no discharges of bacteria from MS4s into the Santa Monica Bay that cause or contribute to exceedances in the Wave Wash, of the applicable bacteria objectives." The amendment also included corresponding discharge prohibition language. Los Angeles County argued that the receiving water limitation and discharge prohibition were improper numeric effluent limits and that, therefore, the permit amendment should be remanded.

The State Board disagreed. Interpreting summer dry weather as applying only to nonstormwater flows the Board found the authority cited to by LA County as inapposite. The State Board found, generalizing federal law, an overarching principle that "[f]ederal law requires municipal storm water permit limitations to be consistent with applicable wasteload allocations."

Order WQ 2009-0008 at p. 9. Finding the permit amendment to be consistent with the dry weather bacteria WLA and with other federal and state requirements, the Board upheld the amendment.

Significantly for purposes of the Tentative Order, the Board held that the permit amendment did not impose NELs as asserted by LA County, but rather receiving water limitations.

The contested provisions are receiving water limitations, not numeric effluent limitations. The contested provisions do not impose a numeric limitation measured at a point source outfall. Instead, compliance with the limitation is measured in the receiving water, and more specifically, at the "wave wash" for the individual beaches.

Order WQ 2009-0008 at p. 10.

By comparison, the NELs at issue here are to be measured at a point source outfall -- "at the end-of-pipe prior to discharge into the receiving water." Tentative Order, Directive C.4 (emphasis added). Thus, because the LA County order pertains to implementing a TMDL through receiving water limitations, it provides no support for staff's assertion that NELs are appropriate (or required) for non-stormwater discharges from the MS4.

Because NELs are not required by federal law, the County requests that Directive C be removed from the Tentative Order.

Response The Regional Board disagrees with the commenter's assertion that State Board Order 2009-0008 does not support directives within the Tentative Order. The Regional Board is not saying the numeric effluent limitations for non-storm water discharges are specifically authorized by State Water Board Order WQ 2009-0008, but the Order does not foreclose the possibility and separate federal authority exists to establish the requirement.

Please see Regional Board Counsel Memorandum dated November 05, 2009.

Comment 6. NELs, SALs and MMPs

The Tentative Order includes both NELs for the discharge of non-stormwater and stormwater action levels (SALs) for the discharge of stormwater. Both require that permittees monitor discharges from the MS4. To the extent exceedances of either the NELs or SALs are detected, permittees have to investigate and address the probable cause of the exceedance. An exceedance of either an NEL or an SAL is not a violation of the permit per se.

With respect to the NELs in Directive C, the Tentative Order explicitly provides that compliance requires that an exceedance of an NEL must result in investigation of the source of the exceedance and a determination that the source is natural in origin, an illicit discharge, or a discharge from an exempt category of non-stormwater discharge. Depending on the source, appropriate action is required. Similarly an exceedance of a SAL requires that permittees to reevaluate and augment their stormwater control measures.

Notwithstanding that an NEL exceedance is not a permit violation and compliance with the NELs requires investigation and appropriate action, an exceedance of an NEL may still subject permittees to mandatory minimum penalties (MMPs) under section 13385 of the Water Code. The Tentative Order acknowledges this possibility in footnote 12 where it provides that permittees may not be subject to MMPs if they can show that an exceedance was caused by an intentional act of a third party.

Because there is little if any substantive difference between the NEL and SAL requirements, there is no reason for the difference in terminology. The County submits that, to the extent the final Order will include provisions similar to those currently provided in Directive C (and as discussed above the County strongly believes it should not), they should be re-characterized as non-stormwater action levels.

Response Please see Comment no. 82 in the July 1, 2009, Response to Comments IV.

The Regional Board disagrees with the deduction that there is little substantial difference between the NEL and SAL requirements and that NELs should be action levels. For non-storm water discharges, NELs are included pursuant to NPDES permitting requirements under 40 CFR 122.44, which requires a permit to contain effluent limitations when a discharge causes, has the reasonable potential to cause, or contributes to an exceedance of water quality criteria for a pollutant. Regardless of investigative outcome, an exceedance of a numeric effluent limitation may be considered a violation.

Conversely, the exceedance of a SAL is not a violation. A SAL exceedance may only be considered a violation if the SAL exceedance is not utilized as part of the iterative process to the MEP standard.

Comment No.	289	Commenter No.	49	Comment Subject	unfunded mandate
Comment	<p>C. Because NELs Are Not Required By Federal Law, To The Extent The Board Has Authority to Impose Them, The NELs Must Be Authorized by State Law and the Board Must Comply With All State Law Requirements</p> <p>Neither the Clean Water Act nor the federal regulations require NELs in MS4 permits. Staff's prior "tentative draft update" of the Tentative Order conceded this significant point: "Compliance with numeric limits does not constitute compliance with CWA requirements which require nonstorm water discharges into the MS4 to be effectively prohibited. . . " June 18, 2009 Draft Updates (Tentative) at p. 9 of 56.</p> <p>To the extent the Board has discretion under the Clean Water Act to impose NELs (see Defenders of Wildlife, supra), the California Supreme Court has made it clear that the Board must comply with state law requirements. See City of Burbank v. State Water Resources Control Board, 35 Cal.4th 613 (2005). These state law requirements include considering the water quality that could reasonably be achieved by the NEL requirement, and economic considerations. See Water Code sections 13263(a) and 13241. Moreover, because the NEL requirement is not mandated by federal law, it would constitute an impermissible unfunded state mandate (unless the State proposes to fund the costs of implementing the program). See, e.g., County of Los Angeles v. Commission on State Mandates (2007) 150 Cal.App.4th 898.</p> <p>For all of the above reasons, the County requests that the Board revise the Tentative Order consistent with and pursuant to federal and state law.</p>				

Response	<p>The comment regarding unfunded mandates has been extensively considered in all previous response to comments. The commenter misinterprets and misapplies the statement "Compliance with numeric limits does not constitute compliance with CWA requirements which require nonstorm water discharges into the MS4 to be effectively prohibited." This statement does not imply that NELs in MS4 permits are beyond the scope of the federal regulations. Rather, this statement points out that in effect, the Clean Water Act prohibits all non-storm water discharges regardless if those discharges comply with numeric effluent limits. Furthermore, the Clean Water Act and federal regulations do not prohibit the use of numeric effluent limitations for storm water or non-storm water discharges as evidenced by the many NPDES permits that have NELs for storm water discharges and non-storm water discharges. Please see the Fact Sheet and Response to Comment no. 320 for more discussion on NELs.</p> <p>The Fact Sheet and Response to comments Nos. 155 and 165 in the July 1, 2009, Response to Comments IV; Comment No. 5 in the July 6, 2007, Response to Comments I; Comment Nos. 1 and 9 in the December 12, 2007, Response to Comments II; Comment No. 1, 2, and 3 in the February 13, 2008 Response to Comments III; all provide discussions of these issues.</p> <p>The comment regarding the Regional Board's compliance with California Water Code §13263, 13241, and 13000 and the consideration of balancing factors has been extensively considered in previous response to comments.</p> <p>Please see the Fact Sheet; July 6, 2007, Response to Comments I, Response No. 5; December 12, 2007, Response to Comments II, Response Nos. 1 and 9; February 13, 2008, Response to Comments, Response No 3.</p> <p>To the extent economic information was submitted, the Regional Board staff considered economic considerations in developing elements of the Tentative Order, but the Regional Board is not required to conduct a cost-benefit analysis. In summary, the State's water quality protection requirements within the Tentative Order are authorized by Federal Law, and are not unfunded mandates. No changes have been made in response to this comment.</p>
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Comment No.	290	Commenter No.	49	Comment Subject	Legal
Comment	<p>II. Compliance With the Wasteload Allocations in The Tentative Order Should be Subject to the Iterative BMP Process</p> <p>Finding E.11 provides that the Tentative Order incorporates only those MS4 WLAs developed in TMDLs that have been adopted by the Regional Board and approved by the State Board, OAL, and U.S. EPA. However, federal law does not require that MS4 permits incorporate WLAs as numeric limits. Nowhere in the Clean Water Act, or the federal stormwater or TMDL regulations, does it say that MS4 permits shall incorporate TMDLs/WLAs. The federal regulations do say that, when developing water quality-based effluent limits (“WQBELs”) under 40 C.F.R. 122.44(d), the permitting authority must ensure that effluent limits developed to protect a narrative water quality criteria, a numeric water quality criteria, or both, “are consistent with the assumptions and requirements of any available wasteload allocation for the discharge prepared by the State and approved by EPA pursuant to 40 CFR 130.7” 40 C.F.R. 122.44(d)(1)(vii)(B) (emphasis added).</p> <p>This section itself does not apply to all NPDES permits. Section 122.44(d) applies only when an NPDES permit must include provisions to achieve water quality standards established under section 303 of the Clean Water Act (33 U.S.C. 1311). As discussed above, the Ninth Circuit in</p> <p>Defenders of Wildlife has held that MS4 permits do not have to strictly comply with water quality standards under section 303.12. Thus, section 122.44(d) does not necessarily apply to MS4 permits.</p> <p>Even if it is applicable, section 122.44(d)(1)(vii)(B) simply says that WQBELs in the permit must be “consistent with the assumptions and requirements” of the WLA. The permit does not have to incorporate the WLA as a numeric effluent limitation. U.S. EPA has indicated that an iterative BMP approach is appropriate for incorporating WQBELs in MS4 permits; numeric WQBELs are not required. 61 Fed. Reg. 43761 (Aug. 26, 1996) (U.S. EPA’s “Interim Permitting Approach for Water Quality-Based Effluent Limitations in Storm Water Permits”).</p> <p>The County appreciates that Directive I of the Tentative Order provides that permittees are to achieve the interim and final WLAs through implementation of BMPs. To be consistent with U.S. EPA’s guidance, this section should be revised to clarify that any exceedances of the</p> <p>WLAs will be addressed through the iterative BMP approach. As receiving water limitations, this would also be consistent with the required language of State Board Order WQ 99-05.</p>				
Response	<p>Please note the the Tentative Order is an NPDES permit for non-storm water and storm water discharges from the MS4. Please see Regional Board Counsel Memorandum dated November 05, 2009 for discussion of non-storm water discharges from the MS4. 40 CFR 122.44 establishes limitations, standards and other permit conditions for NPDES permits. The Regional Board does not agree that federal regulations under 40 CFR 122.44, specifically 122.44(d) do not apply to NPDES permits for MS4s.</p> <p>None of the sections cited by the commenter prevent the Regional Board from directly incorporating the Numeric Targets and Waste Load Allocations into the Tentative Order. Once these numeric allocations and targets are met, the Water Quality Standards of Baby Beach should no longer be negatively impacted by bacterial indicators.</p>				

Comment

Any Water Quality Benefits Achieved From the Retrofitting Requirement Will Be Significantly Outweighed by The Costs

The Tentative Order would require permittees to develop and implement a retrofitting program for existing development. While the County agrees that retrofitting existing development could have beneficial water quality impacts, the program required by the Tentative Order would be very expensive to develop and implement with very little if any water quality improvement to show for the effort. Moreover, the program is not authorized or required by federal law.

Permittees would be required to identify existing development candidates, evaluate and rank the candidate sites to prioritize them for retrofitting, cooperate with landowners of priority sites and encourage them to retrofit their properties, and track and inspect all sites that do complete retrofitting. Where constraints at a candidate site preclude retrofitting, permittees may propose regional mitigation projects. The weak link of this program is that permittees cannot force private landowners to retrofit their properties. So after all the expense of developing this program, there may be nothing gained from it.

Because permittees cannot necessarily force private landowners to retrofit their developments, U.S. EPA recognized that MS4 regulation would largely be limited to undeveloped sites (and sites being developed/redeveloped).

"[O]pportunities for implementing [structural control] measures may be limited in previously developed areas." 55 Fed. Reg. at 48054. "The unavailability of land in highly developed areas often makes the use of structural controls infeasible for modifying many existing systems." Id. at 48055. As a result, none of the five required components to reduce pollutants in runoff from commercial and residential areas include a retrofitting requirement. Id. at 48054-55.

Because the retrofitting requirement as proposed in the Tentative Order would exceed the requirements of the Clean Water Act, the Board can impose the requirement, if at all, only after it has considered certain factors, including economic considerations and the water quality condition that could reasonably be achieved by the requirement. See Water Code sections 13263(a) and 13241; City of Burbank, supra, 35 Cal.4th 613. In addition, unless funded by the State, the retrofitting requirement could be considered to be an impermissible unfunded state mandate. See, e.g., County of Los Angeles v. Commission on State Mandates, supra, 150 Cal.App.4th 898.

The County therefore requests that the retrofitting requirement be significantly revised or deleted from the Tentative Order.

Response

The comment regarding retrofitting was considered in the previous response to comments. Please see the Fact Sheet discussion on retrofitting; and the July 1, 2009, Response to Comments IV, Response Nos. 46, 136, 161, and 162.

In summary, the Tentative Order's requirements for retrofitting existing development is practicable for a municipality through a systematic evaluation, prioritization and implementation plan focused on impaired water bodies, pollutants of concern, areas of downstream hydromodification, feasibility and effective communication and cooperation with private property owners. The Tentative Order's requirement realized the legal limitations that the Copermittees have in requiring retrofitting on privately held land. Therefore, the Tentative Order requires the Copermittees to cooperate with private landowners in implementing retrofitting opportunities. Please note that prioritization ranking is to include review of a project's feasibility [see Directive F.3.d(2)(a)]. The presence of reluctant property owners would necessarily decrease a retrofitting project's feasibility.

Retrofitting is authorized by federal law. The Clean Water Act in section 402(p)(3)(B)(iii) states "Permits for discharges from municipal storm sewers shall require controls to reduce the discharge of pollutants [in storm water] to the maximum extent practicable, including management practices, control techniques and system, design and engineering methods, and such other provisions as the Administrator or the State determines appropriate for the control of such pollutants." Retrofitting existing development is an appropriate management practice and control technique that includes design and engineering methods. Because the Regional Board has determined that the requirement is necessary to meet the MEP standard, the requirement does not exceed federal law and tax monies are not required to pay for implementation of the requirement. As such, the requirement is not an unfunded mandate subject to reimbursement by the state. See also general discussion in Regional Board counsel legal memorandum dated November 5, 2009.

The comment regarding the Regional Board's compliance with California Water Code §13263, 13241, and 13000 and the consideration of balancing factors has been extensively considered in previous response to comments. Please see the Fact Sheet; July 6, 2007, Response to Comments I, Response No. 5; December 12, 2007,

Response to Comments II, Response Nos. 1 and 9; February 13, 2008, Response to Comments, Response No 3.

To the extent economic information was submitted, the Regional Board staff considered economic considerations in developing elements of the Tentative Order, but the Regional Board is not required to conduct a cost-benefit analysis. No changes have been made in response to this comment. To date, the Regional Board has not received any specific economic evaluations regarding the retrofitting requirement; but rather, has received non-specific broad comments on the cost of retrofitting such as "...the program required by the Tentative Order would be very expensive to develop and implement ..." without any economic analysis.

Comment No.	292	Commenter No.	49	Comment Subject	Legal
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Comment IV. Permittees Should be Provided Flexibility in Implementing Any Low Impact Development And/Or Hydromodification Management Plan Requirements

The County agrees that the concepts of Low Impact Development and reducing hydromodification may be effective tools in controlling the discharge of pollutants from the MS4. However, the County objects to the LID and hydromodification management plan (HMP) requirements in the Tentative Order because they go beyond the requirements of federal law and violate state law requirements.

Because nothing in the Clean Water Act or federal regulations requires that MS4 permits include LID or HMP requirements, as noted above, the Board can impose the requirements, if at all, only after it has considered certain factors, including economic considerations and the water quality condition that could reasonably be achieved by the requirement. See Water Code sections 13263(a) and 13241; City of Burbank, supra, 35 Cal.4th 613. In addition, unless funded by the State, these programs could be considered to be impermissible unfunded state mandates. See, e.g., County of Los Angeles v. Commission on State Mandates, supra, 150 Cal.App.4th 898.

In addition, because the Board can require that permittees meet the MEP standard but cannot prescribe the manner in which they do so, the LID/HMP requirements violate Water Code section 13360(a).

Response Federal law mandates that permits issued to MS4s require management practices that will result in reducing pollutants to the maximum extent practicable. The state is required, by law, to select the BMPs. (See NRDC v. USEPA (9th Cir. 1992) 966 F.2d 1292; Environmental Defense Center v. USEPA (9th Cir. 2002) 344 F.3d 832, 855; Rancho Cucamonga v. Regional Water Quality Control Bd., Santa Ana Region (2006) 135 Cal.App.4th 1377, 1389.) The Tentative Order's requirements for Low Impact Development and hydromodification controls do not go beyond federal law; but are authorized by federal law. Federal NPDES regulation 40 CFR 122.26(d)(2)(iv)(A)(2) provides that Copermittees develop and implement a management program which is to include "A description of planning procedures including a comprehensive master plan to develop, implement and enforce controls to reduce the discharge of pollutants from municipal separate storm sewers which receive discharges from areas of new development and significant redevelopment. Such plans shall address controls to reduce pollutants in discharges from municipal separate storm sewers after construction is completed." The exercise of some discretion in implementing the federal program does not mean that a provision exceeds federal law. See also general discussion of unfunded state mandates in Regional Board Counsel legal memorandum dated November 5, 2009.

The comment regarding the Regional Board's compliance with California Water Code §13263, 13241, and 13000 and the consideration of balancing factors has been extensively considered in previous response to comments. Please see the Fact Sheet; July 6, 2007, Response to Comments I, Response No. 5; December 12, 2007, Response to Comments II, Response Nos. 1 and 9; February 13, 2008, Response to Comments, Response No 3.

To the extent economic information was submitted, the Regional Board staff considered it in developing elements of the Tentative Order, but the Regional Board is not required to conduct a cost-benefit analysis. No changes have been made in response to this comment.

Comment No.	293	Commenter No.	49	Comment Subject	Legal
Comment	<p>V. Stormwater Action Levels May Be a Useful Tool But Permittees Should Benefit From Their Use</p> <p>The County appreciates the revisions that have been made to the Stormwater Action Levels (SALs) section of the Tentative Order. While we do not necessarily agree that the SAL provision, as currently crafted, is appropriate, we do agree that the concept of action levels may be a useful tool in addressing water quality impacts from the discharge of pollutants from the MS4. However, just as an exceedance of a SAL may give rise to a presumption that permittees are not meeting the MEP standard, to the extent permittees are meeting the SALs, there should be a presumption that they are meeting the MEP standard. That presumption would be lost if permittees do not implement other required elements of the permit.</p> <p>The County suggests that Directive D.3. be revised accordingly.</p>				
Response	<p>The exceedance of a Stormwater Action Levels (SALs) does not result in a direct presumption that MEP is not being met. In fact, the exceedance of a SAL is to be used in the iterative process to meet the MEP standard. Continued exceedances of a SAL without consideration in the iterative process may result in MEP not being met and enforcement from the Regional Board.</p> <p>If a specific outfall sampled does not exceed a SAL, then that information should be utilized by the Copermitees to indicate that the particular area draining the discharge point is not a "bad actor" discharge point and should be considered a lower priority for additional and/or better-tailored BMPs. It does not create a presumption that MEP is being met for the permit.</p>				

Comment No.	294	Commenter No.	49	Comment Subject	Legal
Comment	<p>I. Findings Finding D.3.c. -- Urban Streams</p> <p>The County has previously objected to the Board's characterization of urban streams as part of MS4. We point out now that, in addition to all of the other reasons why urban streams should not necessarily be considered to be part of the MS4, U.S. EPA has explicitly rejected this characterization. In the preamble to its proposed stormwater rule U.S. EPA states: "The Agency also wants to clarify that streams, wetlands and other water bodies that are waters of the United States are not storm sewers for the purpose of this rule." 55 Fed. Reg. 49415, 49442 (December 7, 1988).</p>				
Response	<p>Similar comments regarding urban streams being part of the MS4 have been considered in previous response to comments. Please see the Fact Sheet; December 12, 2007, Response to Comments II, Response No. 13; and July 6, 2007, Response to Comments I, Response No. 3.</p> <p>In summary, an MS4 is defined in the federal regulations as a conveyance or system of conveyances owned or operated by a Copermitee, and designed or used for collecting or conveying runoff. Therefore, the Regional Board considers natural drainages that are used by the Copermitees as conveyances of runoff, as both part of the MS4 and as receiving waters. No changes have been made in response to this comment. Although such language may have been in the proposal for the stormwater rule, such a distinction did not appear in the final rule. In addition, this finding appeared in the previous Tentative Order, R9-2002-0001, and did not receive comment from USEPA.</p>				

Comment No.	295	Commenter No.	49	Comment Subject	Legal
Comment	<p>II. Directives Directive A.3.b -- Prohibitions and Receiving Water Limitations</p> <p>As noted in the County's May 15, 2009 comments, Finding A.3 says the permit is consistent with the State Board's precedential Order 99-05. However, the language in Directive A.3.b (which requires permittees to continue the iterative process unless directed otherwise by the Executive Officer) is not consistent with Order 99-05 (which says permittees do not have to repeat the process unless directed otherwise by the E.O.). Accordingly, Section A.3.b should be revised consistent with State Board Order 99-05.</p> <p>In their Response to Comments and June 18, 2009 errata, staff addressed this issue (albeit inadequately). The current draft of the Tentative Order does not address the concern at all.</p>				
Response	<p>Section A.3.b is consistent with State Board Order 99-05. The State Board Order does not specify the manner in which the Executive Officer directs that the process be repeated.</p>				

Comment No.	296	Commenter No.	49	Comment Subject	Legal
Comment	<p>Directive E.1 -- Legal Authority</p> <p>This provision includes a statement that nothing in the permit “shall authorize a Co-Permittee or other discharger regulated under the terms of the order to divert, store or otherwise impound water if such action is reasonably anticipated to harm downstream water right holders in the exercise of their water rights.” As noted in our technical comments (Attachment B), this statement points out the conflict that the permit’s LID provisions have with common water rights law. Directive F.1.d(4)(d)(i) would require permittees to retain onsite all stormwater runoff. However, as apparently acknowledged by Directive E.1, this could harm the rights of downstream water rights holders.</p> <p>To resolve this conflict, the County suggests simply changing “authorize” to “require” in the above quoted language in Directive E.1.</p>				
Response	<p>LID is a site-specific practice. As such, the Tentative Order is not saying that LID practices in all cases harm downstream water rights. For the vast majority of Orange County watersheds, there is not a downstream water right holder. In the small areas where there is a downstream water rights holder, it is not assured that implementing LID practices would cause a harm to their water right. In addition, LID practices are required to capture only up to the design storm (0.7-0.8 inches of rainfall in 24 hours). Storms with rainfall above the design storm would not be captured and potentially flow to downstream water right holders. Furthermore, capture of the 85th percentile ensures that downstream water right holders receive water of a higher quality. Demonstrated impacts to downstream water rights should be considered as part of the Copermittees LID Waiver Program.</p>				

Comment No.	297	Commenter No.	49	Comment Subject	Legal
Comment	<p>Directive F -- JRMP</p> <p>Throughout this section of the Tentative Order, permittees are required to develop and implement programs meeting designated elements “and” to reduce discharges to the MEP standard, prevent discharges from causing or contributing to impairments, prevent illicit discharges, etc. See, e.g., Directive F.1, Directive F.1.d, Directive F.3.a, Directive F.3.b, Directive F.3.c. The County previously pointed out, in the context of the retrofitting requirement (Directive F.3.d), that the requirement should be for permittees to develop and implement a program that meets the required elements. The goal of the program should be to meet the MEP standard, prevent illicit discharges, etc. Otherwise, permittees could meet the required elements of a program, but still face charges that they have not met MEP, etc.</p> <p>Staff revised the retrofitting provision to clarify that permittees must meet the elements of the retrofitting program and that the goal of the program is to meet the MEP standard, etc. The County requests that the rest of Directive F be similarly clarified.</p>				
Response	<p>The inclusion of the language in the cited sections is appropriate to ensure the Copermittee's focus on improving water quality and not simply superficially complying with the requirements. As such, the requirements in the sections prescribe the elements needed in the Copermittee's program to fulfill the goals of directive.</p>				

Comment No.	298	Commenter No.	49	Comment Subject	Legal
Comment	<p>Directive F.1.d(6) -- Treatment Control BMP Requirements</p> <p>This Directive appears to be a vestige from the current permit, when the consensus was that treatment control BMPs (not LID BMPs) were the best practicable means of meeting the MEP standard. The Tentative Order now requires that LID BMPs be implemented at all priority development projects (PDPs). However, it still also requires that treatment control BMPs be implemented at all PDPs. It attempts to reconcile these to inconsistent requirements by providing, in footnote 16, that certain LID BMPs are considered treatment control BMPs. However, it is not clear that LID BMPs can meet all of the elements required for treatment control BMPs. The County would ask that these two requirements be carefully reconciled before adoption.</p>				
Response	<p>Comment noted. The Regional Board has added clarifying language to the Tentative Order to reconcile these requirements.</p>				

Comment No.	299	Commenter No.	49	Comment Subject	Legal
Comment	Directives F.2.d(c) and F.2.e(c) -- BMP Implementation and Inspection of Construction Sites The County would ask that "exceptional threat to water quality" in Directive F.2.d(c) and "significant threat to water quality" in Directive F.2.e(c) be reconciled.				
Response	The Regional Board finds that those construction sites under F.2.d.c that qualify are indeed exceptional, and that the risk is more than significant. For example, a construction site tributary to a 303(d) listed waterbody impaired for sediment arguably poses an exceptional risk to that waterbody.				

Comment No.	300	Commenter No.	49	Comment Subject	NEL
Comment	Non-Stormwater Numeric Effluent Limits (NELs) – The County's concerns with the imposition of non-stormwater NELs have been presented to your staff. However, the Tentative Order continues to make the case that the non-stormwater discharges are not subject to the maximum extent practicable standard and, therefore, subject to water quality based effluent limits. The application of the MEP standard to discharges from municipal storm drain systems is a fundamental tenet of the stormwater mandate and County strongly disagrees with the inclusion of NELs for a number of technical and legal reasons.				
Response	Please see Regional Board Counsel Memorandum dated November 05, 2009.				

Comment No.	301	Commenter No.	49	Comment Subject	LID
Comment	Development Planning Component – Low Impact Development (LID), has become the defining issue of permit renewal for municipal stormwater programs in California. Reflective of the significance of this issue was the creation by the Santa Ana Regional Board of a stakeholder group to assist specifically with creating land development requirements for its municipal permit. As a result of the many stakeholder meetings and discussion at the adoption hearing, a framework was created for land development that is technically robust and is broadly supported. It is absolutely vital for Orange County that the land development standards for water quality protection be uniform on a countywide basis. Consequently, the County is providing revised language that would effect a cogent alignment of the land development requirements in the two permits.				
Response	Comment noted. The Tentative Order's requirements for LID implementation are functionally identical to that in the Santa Ana Regional Board's North Orange County MS4 Permit, R8-2009-0030. The Tentative Order includes the same consideration of infiltration, capture and reuse, evapotranspiration, and bio-retention/bio-filtration, and requires treatment of residual runoff volumes when the application of LID BMPs has been determined to be technically infeasible. The Tentative Order's LID waiver provisions provide the Copermittees discretion to include regional or sub regional treatment of residual runoff volumes as mitigation projects. The Tentative Order also includes the Copermittees the discretion to implement a credit system as part of the waiver program.				

Comment No.	302	Commenter No.	49	Comment Subject	TMDL
Comment	The Total Maximum Daily Loads – As more and more TMDLs are adopted and the resulting language and allocations incorporated into permits, it is critical that the assumptions and requirements of the allocations are incorporated into the stormwater permits as they were intended. It is of concern to the County that the Tentative Order indicates that the Regional Board staff are interpreting the TMDL instead of incorporating the TMDL into the permit. In this regard the County is providing alternate language which is consistent with EPA guidance and has been successfully adopted into other municipal stormwater permits.				
Response	The Tentative Order does not interpret the TMDL. The Waste Load Allocation Reductions, Final Allocations and Numeric Targets come directly from the adopted TMDL. This is in compliance with the requirement that all NPDES Permits are consistent with the assumptions and requirements of Waste Load Allocations of adopted and applicable TMDLs [40 CFR 122.33(d)(1)(vii)(B)]. Please also see response to Comment no. 354.				

Comment No.	303	Commenter No.	49	Comment Subject	General
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Comment The County shares with the Board an interest in seeing a San Diego Region Municipal Stormwater Permit reasonably consistent with the Santa Ana Region Municipal Stormwater Permit (Order No. R8-2009-0030). This consistency is necessary to ensure that the Permittees who are regulated by both jurisdictions do not have conflicting and/or wholly different requirements to implement. Consistency between the permits will allow the Permittees to leverage their limited resources and increase the ability to convey consistent messages within the public education and outreach materials for the various program elements. Since, in spite of previous assurances and concerns, the August 12, 2009 Tentative Order is fundamentally different from the Santa Ana Region Municipal Stormwater Permit in many key programmatic areas, this is a critical issue identified within the technical comments presented below.

Response Please see Comment no. 24 in the July 1, 2009, Response to Comments IV.
The Regional Board contends that the Tentative Order is reasonably consistent with the Santa Anta Region Order. Please see response to Comment no. 373.

Comment No.	304	Commenter No.	49	Comment Subject	NEL
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Comment TENTATIVE ORDER INAPPROPRIATELY USES THE TERM "VIOLATION" INSTEAD OF "EXCEEDANCE"

The Tentative Order continues to persist in the inappropriate reference to data that exceed Water Quality Objectives (WQOs) as violations. In particular, the language in the Tentative Order has been changed from the prior Order (R9-2002-0001) to replace the term "exceedance" with the term "violation". For example, "exceedances of water quality objectives" has been replaced with "violations of water quality objectives" (emphasis added).

Although there are other instances of this within the Findings, the most notable section of the permit where this language change occurred is Page 19, Permit Section A.3. In this section of the permit the term "violation" is not only inconsistent with Order R8-2009-0030, it is also inconsistent with language within SWRCB Order WQ 99-05. The iterative language in the receiving water limitations speaks to exceedances of water quality standards, not violations. Further, it is unclear why both the terms "violations" and "exceedances" would be used within Permit Section A.3. The use of both terms would implicitly indicate that there is a difference between the interpretation and follow up actions resulting from a "violation" versus and "exceedance".

Careful use of these terms is important, because an "exceedance" does not equate with a "violation." For example, while it may be useful to compare water quality monitoring data to receiving water quality objectives and use identified "exceedances" to target geographic areas and pollutants, it is inappropriate to make this same comparison and determine that there is a "violation". The term "violation" connotes that the point of compliance is the actual comparison of the urban runoff data to the receiving water quality objective rather than the process and follow up actions as described within the receiving water limitations.

Urban runoff data should not be used, in itself, to indicate a violation of water quality standard since the standard consists of the beneficial use(s) and the water quality objective established to protect that use. The exceedance of a water quality objective does not necessarily result in a violation of a water quality standard. Runoff data can be described as exceeding water quality objectives, but the assessment of whether or not water quality standards are violated is based upon samples and data from the receiving water and impacts or lack of impacts on beneficial uses.

The County requests that the term "violation" in the noted sections be modified to the term "exceedance" to more accurately reflect point of compliance as well and the assessment and follow up action(s) that are required.

Response This comment repeats earlier comments to Revised Tentative Orders R9-2008-001 and R9-2007-002 that were addressed via written response for the 2007 and 2008 tentative Orders.
Please also see Comment no. 62 in the July 1, 2009, Response to Comments IV.

Comment No.	305	Commenter No.	49	Comment Subject	NEL
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Comment DISCHARGE CHARACTERISTICS

- Compliance with Water Quality Standards (Finding C.2, Page 2) Finding C.2. seems to be establishing the fact that MS4s are responsible for all sources of pollutants and manner of discharges (see last sentence). The County would submit that municipalities are limited in their ability to control all sources of pollutants (e.g. air deposition) and, in fact, are not responsible for discharges outside of the jurisdiction/control of the Permittees as well as those non-stormwater discharges that are identified in Section B.2. unless they are found to be a source of pollutants.

In fact, Order No. R8-2009-0030 recognizes this limitation within Findings C.8. and C.10. on pages 3 and 4, respectively.

C.8. This order is intended to regulate the discharge of pollutants in urban storm water runoff from anthropogenic (generated from human activities) sources and/or activities within the jurisdiction and control of the permittees and is not intended to address background or naturally occurring pollutants or flows.

C.10. The permittees may lack legal jurisdiction over urban runoff into their systems from some state and federal facilities, utilities and special districts, Native American tribal lands, waste water management agencies and other point and non-point source discharges otherwise permitted by the Regional Board. The Regional Board recognizes that the permittees should not be held responsible for such facilities and/or discharges. Similarly, certain activities that generate pollutants present in urban runoff may be beyond the ability of the permittees to eliminate. Examples of these include operation of internal combustion engines, atmospheric deposition, brake pad wear, tire wear and leaching of naturally occurring minerals from local geography.

The County requests that this Finding be modified to recognize that the permittees lack legal jurisdiction over runoff into their systems from some facilities, utilities, special districts, agencies and other point and non-point source discharges otherwise permitted by the Regional Board and that some pollutants in urban runoff may be beyond the ability of the permittees to eliminate.

Response Please see Comments nos. 44 and 159 in the July 1, 2009, Response to Comments IV.

It is important to note that the Tentative Order does not regulate discharges outside of the Copermitees jurisdiction. Once pollutants have entered the MS4, however, the Permittee is responsible for that discharge from their MS4. Please also see Finding D.4.c.

Comment No.	306	Commenter No.	49	Comment Subject	NEL
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Comment Water Quality Monitoring Data (Finding C.9, Page 4) Finding C.9. states, in part, that the water quality monitoring data collected to date indicates that there are persistent violations of Basin Plan objectives for a number of pollutants and that the data indicates that runoff discharges are a leading cause of such impairments. While the receiving water quality may exceed Basin Plan objectives for constituents identified by the municipalities as pollutants of concern, there is inadequate data to make such a definitive statement that the runoff discharges are the leading cause of impairment in Orange County.

The County requests that the last sentence of Finding C.9. be modified to read:

“In sum, the above findings indicate that urban runoff discharges may be causing or contributing to water quality impairments, and warrant special attention.

Response Please see Comment no. 64 in the July 1, 2009, Response to Comments IV as this comment has been previously submitted and addressed.

Comment New or Modified Requirements (Finding D.1.c, Page 6)

Finding D.1.c. states that the Tentative Order “contains new or modified requirements that are necessary to improve the Copermittees’ efforts to reduce the discharge of pollutants to the MEP and achieve water quality standards”. The Finding further states some of these new or modified requirements “address program deficiencies that have been noted in audits, report reviews, and other Regional Board compliance assessment activities.” In fact, in many cases the new or modified requirements do not have adequate findings of fact and technical justification within the accompanying Fact Sheet.

In many instances the Fact Sheet not only provides little or no justification of the need for the new requirement, it also does not identify the “program deficiency” that warrants the modification. In many cases the Fact Sheet also does not consider the thorough program analysis that the Permittees conducted as a part of their preparation of the ROWD and the deficiencies and program modifications that Permittees themselves identified as necessary for the program.

The Permit Provisions comments in the next section of these comments identify many of the areas where new or modified provisions of the Tentative Order lack factual or technical support in the Fact Sheet.

Response Please see the Fact Sheet discussion for Finding D.1.c. The Copermittees are required to update and expand their runoff management programs on jurisdictional and watershed levels in order to improve their efforts to reduce the contribution of storm water pollutants in runoff to the MEP and meet water quality standards. Changes to Order No. R9-2002-01’s requirements have been made to help ensure these two standards are achieved by the Copermittees

The Orders’ jurisdictional requirements have changed based on findings by the Regional Board during typical compliance assurance activities or receipt of complaints. The Regional Board performed full jurisdictional program audits of 8 of the 13 Copermittees during the Order No. R9-2002-01 permit term. Where the audits found common implementation problems, requirements have been altered to better ensure compliance. In addition, the Regional Board conducted detailed reviews of every jurisdictional annual report submitted by the Copermittees. Updates to the Copermittees’ programs are also based on recommendations found in the Copermittees’ ROWD. In many instances, the Copermittees and the Regional Board have identified similar issues that merit program modifications.

To better focus on attainment of water quality standards, the Order’s watershed requirements have been improved. The conditions of the receiving waters now drive management actions, which in turn focus diminishing resources on the highest priority water quality problems within the receiving waters in each watershed. Improvements to watershed requirements were also made to facilitate a mutually clear understanding of the requirements between the Regional Board and Copermittees.

No changes have been made in response to this comment.

Comment No.	308	Commenter No.	49	Comment Subject	Finding
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Comment Development Planning - Treatment Control BMPs (Finding D.2.b, Page 8)

Finding D.2.b. seems to be making the case that treatment control BMPs are ineffective and should not be used. This Finding overstates or incorrectly states the constraints of treatment control BMPs. It is fair to say that without a performance standard for treatment control BMPs then treatment control BMPs can suffer from the constraints noted. However, treatment control BMPs can be effective in removing pollutants for a wide range of storms and, when combined with source control BMPs, provide a comprehensive pollutant reduction strategy. This finding should be significantly modified to support the statement that “using a combination of onsite source control and site design BMPs augmented with treatment control BMPs... is important.”

NOTE: The previous comments on this issue made by the Permittees were not adequately addressed in the Regional Board’s Response to Comments document dated July 1, 2009, and are therefore resubmitted. The Response to Comments document dated July 1, 2009 identifies that “The Finding simply points out the difference between on-site source control / site design BMPs and end-of-pipe BMPs.”, however the finding goes further to identify that “end of pipe BMPs are often incapable of capturing and treating a wide-range of pollutants”, and that end-of pipe BMPs are more effective when used as polishing BMPs”. These statements are incorrect and should be deleted from the finding as many treatment control BMPs are very effective at removing pollutants and should not just be considered as a polishing BMP.

Given the insufficient technical basis for these statements the County requests that Finding D.2.b be deleted from the Tentative Order.

Response Please see the response to comment #66 in the July 1, 2009, Response to Comments IV. The Regional Board agrees that a combination of source control and treatment BMPs are both necessary components of a comprehensive strategy. Experience has shown that end of pipe treatment systems, such as the Munger Sand Filter Water Quality Project and the J01P28 Media Filter and UV treatment system, are not always reliable and sometimes even fail to deliver any substantial benefits.

Comment Hydromodification (Finding D.2.g, Page 9)

Finding D.2.g. identifies that hydromodification measures for discharges to hardened channels are needed for future restoration of the hardened channels to their natural state, thereby restoring the chemical, physical, and biological integrity and Beneficial Uses of local receiving waters. The Response to Comments document dated July 1, 2009 identifies that "The goal of hydromodification requirements are to prevent or further prevent hydromodification impacts on downstream watercourses and eventually restore natural flow regimes.", however if the downstream watercourses are designed (i.e hardened channels) to accept flows from upstream development then no hydromodification impacts would occur. The goal of eventually restoring natural flow regimes is not feasible in most parts of urbanized Orange County as the hardened channels in most cases are designed as a flood control features to prevent flooding and damage to the surrounding urbanized area. Removal of hardened channels in these areas would result in an unacceptable significant danger to life and property due to flooding and/or erosion and so removal and restoration of natural flow regimes is simply not feasible.

The concept of 'restoring' channels to a 'natural' state has been examined by the researchers at SCCWRP, they note that restoration is not feasible in watersheds with a total impervious area greater than about 10% (SCCWRP, 2005)3. This is due to the fact that the channel cross section, grade, and sediment supply have also been changed in the watershed. Simply restoring pre-development flows will not allow restoration of the channel to pre-development conditions and this reality should be acknowledged in the Finding.

Furthermore, the Santa Ana Regional Water Quality Control Board has identified in Order NO. R8-2009-0030 (MS4 Permit for Orange County) that a Hydrologic Condition of Concern does not exist if "All downstream conveyance channels that will receive runoff from the project are engineered, hardened and regularly maintained to ensure design flow capacity, and no sensitive stream habitat areas will be affected." Finding D.2.g should be revised to be consistent with the Santa Ana Regional Board Order NO. R8-2009-0030.

The County requests that Finding D.2.g be modified as follows:

The increased volume, velocity, frequency and discharge duration of storm water runoff from developed areas has the potential to accelerate downstream erosion in natural drainages, impair stream habitat in natural drainages, and negatively impact beneficial uses. Development and urbanization increase pollutant loads in stormwater and volume of stormwater runoff. Impervious surfaces can neither absorb water nor remove pollutants and thus lose the purification and infiltration provided by naturally vegetated soil. Some channels that are either engineered and maintained, or hardened may not be susceptible to the impacts of hydromodification.

Response

The stated objective of the Clean Water Act is "to restore and maintain the chemical, physical, and biological integrity of the Nation's waters." As such, the Copermittees in compliance with the Clean Water Act should seek to restore the physical integrity of these creeks and channels that have been greatly impaired by flood control projects. As a goal, it is premature to say it is infeasible to restore hardened channels to their beneficial uses without a full-blown assessment. Hydromodification controls alone may not be sufficient to restore some of the hardened channels. Some areas may need floodplain restoration, easements and setbacks. Nevertheless, the Copermittees are not required by the Tentative Order to restore concrete lined channels. Finding D.2.g has been modified to: "hydromodification measures for discharges to hardened channels allow for the future restoration of the hardened channels to their natural state..." This change has been made to avoid confusion regarding the perceived requirement to restore concrete lined channels. The Copermittees' development planning approval process, however, should explore creek restoration as an alternative to meet the hydromodification requirements of the Tentative Order.

The Commenter misinterprets the findings of the SCCWRP study. The SCCWRP study recommended four general strategies; preservation, restoration, rehabilitation, and stabilization. Areas with 10 to 20 percent total impervious area have stream channels that probably have experienced irreparable change and efforts will be to create a new "natural" stream channel configuration given existing constraints. Likewise, the Commenter has misinterpreted the findings of the Santa Ana Regional Water Quality Control Board's MS4 permit for Orange County that says "... no sensitive stream habitat areas will be affected." The reasoning that no sensitive stream habitat area will be affected is because sensitive stream habitat no longer exists in these engineered, hardened, and regularly maintained channels. The Santa Ana Regional Board's finding does not speak about the potential for future restoration of beneficial uses in the channel.

Comment Treatment and Waters of the U.S. (Finding E.7, Page 14)

Finding E.7. states that, "[u]rban runoff treatment and/or mitigation must occur prior to the discharge of urban runoff into a receiving water." We believe that Finding E.7. is based on a misinterpretation of CWA regulations and misconstrues USEPA guidance on stormwater treatment BMPs. The Fact Sheet refers to USEPA Guidance from 1992, which refers to locating structural controls in a natural wetland and not waters of the U.S. Furthermore in the Regional Board Response to Comments dated December 12, 2007 the Regional Board states "The Regional Board agrees that there is not a federal prohibition on placing pollution control practices within waters of the U.S." We wish to comment here on the implications it has for watershed restoration activities.

This concern has been discussed in detail in comments on previous versions of the Tentative Order (see, e.g., Attachment A (Pages 1-7) to the County's April 4, 2007 comment letter). We wish to comment here on the implications it has for watershed restoration activities

Prohibiting treatment and mitigation in receiving waters severely limits the potential locations for installation of treatment control BMPs and will adversely affect many watershed restoration projects. For example, this Finding may have unintended adverse effects for the Aliso Creek Water Quality SUPER Project.

The Aliso Creek Water Quality SUPER Project proposes a multi-objective approach to Aliso Creek watershed development and enhancement, accommodating channel stabilization, flood hazard reduction, economic uses, aesthetic and recreational opportunities, water quality improvements, and habitat concerns. The project is aimed at water supply efficiency and system reliability through reclamation, along with benefits for flood control and overall watershed management and protection. The ecosystem restoration and stabilization component of the project will include:

- Construction of a series of low grade control structures and reestablishment of aquatic habitat connectivity;
- Shaving of slide slopes to reduce vertical banks; and

Invasive species removal and riparian revegetation and restoration of floodplain moisture.

The Permittees are concerned that some of these activities may be deemed "urban runoff treatment and/or mitigation" in a receiving water and, thus, may not be allowed, compromising the project objectives. In addition, this Finding seems to conflict with Existing Development Component Section 3.a.(4) Page 51 of the Tentative Order, which requires the Permittees to evaluate their flood control devices and identify the feasibility of retrofitting the devices to provide for more water quality benefits.

Given the lack of any proper legal or factual basis for these limitations as well as the adverse impacts on watershed restoration efforts, the County requests that Finding E.7 be deleted from the Tentative Order.

Response The comment was responded to in the 2007 response to comments and again in the July 1, 2009, Response to Comments IV (Please see Comment no. 69). Furthermore, the commenter misconstrues the 2007 Regional Board response by only quoting a single sentence from the entire response. We have discussed the purported "implications" below:

The Regional Board remains firm in that federal regulations under 40 CFR 131.10(a) are very clear: "In no case shall a State adopt waste transport or waste assimilation as a designated use for any waters of the United States." The Regional Board encourages the restoration of waters of the United States via activities such as reestablishment of aquatic habitat connectivity (e.g. re-connection with the floodplain), invasive species removal, and riparian revegetation and restoration. It is important to make clear such activities are considered the restoration of Beneficial Uses of these waters. These activities are not and should not be considered as treatment BMPs for MS4 discharges. As quoted from the full 2007 Regional Board response:

"The Regional Board agrees that there is not a federal prohibition on placing pollution control practices within waters of the U.S. Finding E.7 was previously revised to provide clarification, and Response No. 11 of RTC 1 provided a detailed discussion with numerous examples to demonstrate the factors that must be considered when evaluating such proposals. It is also relevant to distinguish practices used to meet waste discharge / NPDES requirements from practices used to improve conditions within a water body. The NPDES regulations clearly require the use of management practices to remove pollutants to the maximum extent practicable from MS4 storm water discharges before such discharges enter waters of the U.S. Therefore, the Tentative Order must require treatment BMPs (Section D.1.6) to be implemented prior to receiving waters. In cases where practices are proposed within waters to improve ambient water quality conditions, the Regional Board will evaluate such proposals and consider the guidance provided by the U.S. EPA on constructed treatment wetlands. This may occur under the Regional Board's

responsibilities in the NPDES program or elsewhere, such as federal Clean Water Act Section 401 or CWC Section 13260. No changes have been made in response to this comment."

Thus, it is unclear if the purpose of the SUPER Project is to restore Beneficial Uses and improve ambient receiving water conditions or to treat discharges from the MS4.

Comment No.	311	Commenter No.	49	Comment Subject	Finding
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Comment TMDLs (Finding E.11, Page 16-17)

This finding indicates that it is the intention of the Regional Board to incorporate MS4 WLAs as end-of-the-pipe numeric Water Quality Based Effluent Limitations for adopted TMDLs. US EPA's 2002 guidance memorandum on establishing stormwater permit requirements to implement WLAs stated that EPA expected that most WQBELs for NPDES-regulated municipal ... will be in the form of BMPs and that numeric limits will be used only in rare instances [emphasis added]. This reference was specifically cited in the Beaches and Creeks TMDL Technical Report and reflects the intent of the Regional Board staff and the understanding of the Stakeholder Advisory Group as to how the TMDL would be incorporated into the NPDES permit. This approach to incorporating WLAs into stormwater permits is maintained in the draft handbook TMDLs to Stormwater Permit, in which Chapter 6 identifies methods of coordinating TMDLs and stormwater permits. Six options are put forward as methods for permit writers to incorporate TMDLs in a stormwater permit, the last of which is to consider numeric effluent limitations. Furthermore, the County would also note that as required by 40 C.F.R. §122.44(d)(1)(vii)(B), the Permit must be "consistent with the assumptions and requirements of available WLAs".

The Regional Board should follow the guidance in the 2002 Memorandum and the Draft Handbook and the intent of the Regional Board TMDL staff and express the WLAs in the Tentative Order as being implemented through the BMPs. This is especially true in California where an implementation plan is required for TMDLs and which in turn may be incorporated into the Permit consistent with EPA guidance.

In addition, it is of concern to the County that the Finding indicates that the Regional Board staff are interpreting the TMDL instead of incorporating the TMDL into the permit. The County submits that it is inappropriate for the Board staff to be interpreting the TMDL and, instead, that they should only be establishing in the permit effluent limitations consistent with the WLAs from any adopted TMDL.

In order to provide the greatest amount of flexibility and to be consistent with the adopted TMDL, the County requests that the Board replace the existing language with the following language from the recently adopted Ventura County MS4 Stormwater Permit (R4-09-0057 Pages 12 and 14):

This order incorporates applicable WLAs that have been adopted by the Regional Water Board and have been approved by the Office of Administrative Law and the U.S. EPA. The TMDL WLAs in the Order are expressed as water quality-based effluent limits in a manner consistent with the assumptions and requirements of the TMDL from which they are derived.

Collectively, the restrictions contained in the TMDL Provisions for Storm Water and Non-Storm water Discharges of this Order on individual pollutants are no more stringent than required to implement the provisions of the TMDL, which have been adopted and approved in a manner that is consistent with the CWA. Where a TMDL has been approved, NPDES permits must contain effluent limits and conditions consistent with the assumptions and requirements of the available WLAs in TMDLs (40 C.F.R. 122.44(d)(1)(vii)(B)).

Response Please see responses to comments nos. 59 and 72 in the July 1, 2009 Response to Comments IV as the majority of this comment is a repeat of a previously submitted comment.

The TMDL Wasteload Reduction Milestones, Final Waste Load Allocations, Final Numeric Targets and compliance dates come directly from adopted TMDL. No changes have been made to this section of the permit in response to the latest submission of this comment.

Comment No.	312	Commenter No.	49	Comment Subject	General
Comment	<p>Prohibitions and Receiving Water Limitations (Section A, Page 19)</p> <p>Despite the fact that this issue was raised during the last comment period, the Regional Board have further modified the permit to inherently make it inconsistent and counter to State Water Board WQ Order 99-05. The Response to Comments IV (comment #57 and #74) state “The Tentative Order has been modified to clarify that through the adoption of this Tentative Order, the Executive Officer issues a standing order that the Copermittees must repeat the process until directed otherwise.” In addition, this modification also sets up an inconsistency between the Tentative Order and the Fact Sheet for Finding A.3. which states “This Order is consistent with the following precedential Orders adopted by the State Board addressing municipal storm water NPDES Permits:.....Order 99-05”. In fact, this language is inconsistent with Order 99-05 as well as Order No. R8-2009-0030.</p> <p>In section A.3.b., the Regional Board has modified the standard state-wide receiving water limitations language to require the Permittees to repeat the assessment process for exceedances of the same water quality standard. In the previous permit, and in permits throughout the state, including the permit recently issued by the Regional Board to MS4 dischargers to the watersheds draining San Diego County, this provision of the RWL language is set up such that the process is only repeated once unless otherwise directed. The original language recognizes the length of time it can take for new BMP programs to be developed, deployed, and fully implemented before a change in water quality may be observed and avoids pointless reassessments of the same pollutant. Even in cases where there has been a significant reduction of the source of a pollutant, it typically takes several years for monitoring programs to see the change in the receiving water. In cases where the pollutant is persistent in the environment, it can take decades to detect changes in water quality or indicator monitoring.</p> <p>The County requests that the Regional Board reinstate the original language from WQ Order 99-05 (see below) regarding iterations of the assessment process for exceedances of the same water quality standard.</p> <p>So long as the Copermittee has complied with the procedures set forth above and is implementing the revised Jurisdictional Urban Runoff Management Program, the Copermittee does not have to repeat the same procedure or continuing or recurring exceedances of the same receiving water limitations unless directed by the Regional Board to do so.</p>				
Response	<p>Under Order State Board Order no. 99-05, Permittees do not have to repeat the process unless directed to do so by the Regional Board. Under the Tentative Order, the Executive Officer has directed that the Permittees must repeat the process until directed otherwise. It is unclear how this is inconsistent with State Board Order no. 99-05, as the Executive Officer has made the direction to continue.</p>				

Comment

Conditionally Exempt Non-Stormwater Discharges (Section B, Page 20-21)

The Regional Board has modified the list of conditionally exempt non-stormwater discharges so that it no longer includes landscape irrigation, irrigation water, and lawn watering. We would contend that a prohibition on these discharges is potentially problematic from the perspective of fostering and sustaining public support for the Program and that the approach should be focused more on collaborative public education and water conservation in conjunction with the water agencies.

The Orange County DAMP contains a variety of BMPs and efforts to reduce pollutants in discharges associated landscape irrigation. These practices include public outreach on the use of landscape chemicals (fertilizers and pesticides) and overwatering, implementation of integrated pest management (IPM) practices within municipal programs, and water conservation measures that mandate the use of efficient irrigation systems, as well as other programs that general control pollutant sources which reduce the pollutants that might be conveyed into the MS4s by excess irrigation flows. The use of BMPs to reduce pollutants associated with runoff is a preferable and more practical approach.

Additionally, the Permittees have sought grant funding to assist with the implementation of programs to reduce irrigation-related urban runoff. Grant programs frequently prohibit the award of grants to meet requirements of NPDES permits requirements. The inclusion of the prohibition may limit the types of grants the Permittees might otherwise be eligible for to help address this discharge since it will be a permit requirement.

Finally, a prohibition of irrigation-related runoff may be in conflict with other permits that allow such discharges including the industrial general permit and the construction general permit. In particular, the construction permit authorizes such discharges if they are necessary for the completion of construction (and are identified in the SWPPP with appropriate BMPs). The final phase of construction includes the installation and establishment of landscaping (also known as vegetative stabilization). The establishment of new plantings to ensure long-term survival typically requires higher than normal levels of irrigation to ensure good root growth and vegetative cover prior to the onset of the rainy season to reduce erosion and sediment transport from the project site. The complete prohibition of irrigation related runoff may impede the ability of the Permittees to establish erosion resistant vegetative covering.

The County requests that Section B. Non-Storm Water Discharges be modified to include landscape irrigation, irrigation water, and lawn watering in Section B.2.

Response

The Regional Board recognizes the efforts to date from the Copermittees to implement BMPs for non-storm water discharges such as landscape irrigation. The Regional Board, however, maintains that the federal regulation regarding the identification of exempted non-storm water discharges is clear (Please see Regional Board Counsel Memorandum dated November 05, 2009). Furthermore, the Regional Board cannot consider the ability of a Copermittee to obtain grants when considering the protection of water quality standards.

The removal of landscape irrigation as an exempted discharge is not in conflict with other NPDES requirements. As previously stated in Comment no. 227 in the July 1, 2009, Response to Comments IV, Copermittees are responsible for accepting flows into their MS4, and are required under federal regulations to have the legal authority to prevent these flows from occurring. In regards to vegetative stabilization, the establishment of vegetation is required under the NPDES General Construction permit as a post-construction BMP for erosion protection. Additional construction BMPs are available for use during the establishment of vegetation.

The comment regarding the prohibition on over-irrigation practices was addressed in the previous response to comments. The comment does not raise any new issues from the previous comments. Please see the discussion in the Fact Sheet for findings C.14 and C.15; and the July 1, 2009, Response to Comments IV, Response Nos. 28, 52, 76, and 159. Please also see comments Nos. 84, and 264 in this Response to Comments. No changes have been made in response to this comment.

In summary, over irrigation is a non-storm water discharge required by federal regulations to be prohibited where identified to be a source of pollutants.

Comment

The technology based effluent limitation of “effectively prohibit” should continue to be the compliance standard for non-stormwater.

CWA section 402(p) (3) (B) (ii) reads as follows:

(B) Municipal Discharge – Permits for discharges from municipal storm sewers –

(ii) shall include a requirement to effectively prohibit non-stormwater discharges into the storm sewer;

The corresponding regulations associated with the CWA section is 40 CFR 122.26.(d)(2)(iv)(B)(1) which clarified “effectively prohibit” by acknowledging that discharge exemptions are allowed if determined not to be sources of pollutants. Thus the CWA section and corresponding regulations may be read that a permit shall “effectively prohibit nonstormwater discharges” but may exempt certain discharges that are not sources of pollutants (i.e. de minimis discharges) from the prohibition. The CWA section does not require a full prohibition but rather an effective prohibition. The more correct finding for the Orange County permit is that non-stormwater discharges are effectively prohibited (per 402 (p) (3) (B) (ii)). However discharges that are not sources of pollutants are exempted from the prohibition.

The County would submit that the technology based standard for non-stormwater discharges into the MS4 is “effectively prohibit” just as “maximum extent practicable” is the technology based standard for all pollutants from the MS4. Furthermore, the County would submit that this technology based limit is in fact protective of water quality and compliance with water quality standards. The County has an extensive dry weather monitoring program to identify problematic discharges, including illegal discharges, which support the protection of water quality standards. It is unclear to the County how the Board has determined that these efforts are in fact inadequate to necessitate the development of water quality based effluent limits. Furthermore the TMDL program as noted in Finding E.10 and E.11 provide the appropriate regulatory vehicle to address discharges from the MS4 (both stormwater and non-stormwater discharges) that are causing and contributing to an exceedance of a water quality standard in impaired waters.

Moreover, not only are the proposed numeric WQBELs not technically or legally appropriate, they may put the permittees in constant non-compliance and subject to more draconian enforcement action (i.e. mandatory minimum penalties –see discussion below).

Response

Please see Regional Board Counsel Memorandum dated November 05, 2009.

Please note the development of water quality-based effluent limitations is discussed in the Tentative Order Fact Sheet.

Please also see responses to Comments nos. 317 and 319.

Comment The San Diego draft permit for Orange County is inconsistent with the Santa Ana adopted permit for Orange County

The Santa Ana issued permit for Orange County mirrors the approach noted above, that being non-stormwater discharges are subject to the “effectively prohibit” standard. The findings and provisions relevant to non-stormwater discharges in the Santa Ana issued permit are provided below:

Findings:

C.10. The permittees may lack legal jurisdiction over urban runoff into their systems from some state and federal facilities, utilities and special districts, Native American tribal lands, waste water management agencies and other point and non-point source discharges otherwise permitted by the Regional Board. The Regional Board recognizes that the permittees should not be held responsible for such facilities and/or discharges. Similarly, certain activities that generate pollutants present in urban runoff may be beyond the ability of the permittees to eliminate. Examples of these include operation of internal combustion engines, atmospheric deposition, brake pad wear, tire wear and leaching of naturally occurring minerals from local geology.

C. 11. This order regulates storm water runoff and certain types of de-minimus discharges specifically authorized under Section III of this order (collectively referred to as urban runoff) from areas under the jurisdiction of the permittees. For purposes of this order, urban runoff includes storm water and authorized non-storm water (see Section III) discharges from residential, commercial, industrial and construction areas within the permitted area and excludes discharges from feedlots, dairies, and farms. Urban runoff consists of surface runoff generated from various land uses in all the hydrologic drainage areas that discharge into waters of the US. The quality of these discharges varies considerably and is affected by land use activities, basin hydrology and geology, season, the frequency and duration of storm events, and the presence of illicit discharge practices and illicit connections.

M. 68. The MS4s generally contain non-storm water flows such as irrigation runoff, runoff from non-commercial car washes, runoff from miscellaneous washing and cleaning operations, and other nuisance flows generally referred to as de-minimus discharges. Federal regulations, 40 CFR Part 122.26(d)(2)(i)(B), prohibit the discharge of non-storm water containing pollutants into the MS4s and to waters of the U.S. unless they are regulated under a separate NPDES permit, or are exempt, as indicated in Discharge Prohibitions, Section III.3 of this order. The Regional Board adopted a number of NPDES permits to address de-minimus type of pollutant discharges.

Provision

III. 3. The permittees shall effectively prohibit the discharge of non-storm water into the MS4s, unless such discharges are authorized by a separate NPDES permit or as otherwise specified in this provision.

The County’s approach is consistent with Federal and State law and regulations. The significantly different approach being proposed by San Diego Board will lead to considerable costs not commensurate with the water quality benefits and unhelpfully redirect Program resources from baseline program implementation to special studies.

Response Please see Regional Board Counsel Memorandum dated November 05, 2009.

Please see Comments nos. 44 and 159 in the July 1, 2009, Response to Comments IV.

It is important to note that the Tentative Order does not regulate discharges outside of the Copermitees jurisdiction. Once pollutants have entered the MS4, however, the Permittee is responsible for that discharge from their MS4. Please also see Finding D.4.c

The Regional Board contends the Tentative Order is consistent with federal and State regulations.

Comment No.	316	Commenter No.	49	Comment Subject	NEL
Comment	<p>Numeric effluent limits were developed primarily based on Basin Plan water quality objectives and not all the constituents with NELs are relevant to water quality issues in southern Orange County.</p> <p>Notwithstanding the argument that water quality based effluent limits are inappropriate and not justified, the Board, if it determines that technology based limits are insufficient to meet water quality standards, is obligated to stipulate additional requirements consistent with 40 CFR 122.44. In this context the Regional Board must determine whether the discharge has a “reasonable potential” to cause or contribute to an excursion of the applicable water quality standard. (40 CFR 122.44 (d)(1)(i-iii). If determined to “cause or contribute” then effluent limits (either narrative or numeric) must be developed for the discharge. Furthermore, if numeric effluent limits are developed then they must be consistent with 40 CFR 122.45. However upon closer review there appears to be some inconsistencies between Table 4 and Finding E. 10. In Table 4 the Board has established numeric effluent limits for a list of some 17 constituents. This table would imply that the Board has determined reasonable potential for each of these constituents. However, in Finding E.10 the Board acknowledges that only four pollutants have been shown to have reasonable potential, indicator bacteria, phosphorus, toxicity, and turbidity. Furthermore Finding E.10 does not differentiate between non-stormwater and stormwater thus it’s difficult to determine which pollutant is associated with the different types of discharges.</p>				
Response	<p>The constituents included in the referenced Finding E.10 are based on the 2006 303(d) list for pollutants that have reasonable potential for both non-storm water and storm water discharges. Please refer to the Tentative Order Fact Sheet for the full reasonable potential analysis for non-storm water discharges from the MS4.</p>				

Comment No.	317	Commenter No.	49	Comment Subject	NEL
Comment	<p>Preliminary compliance assessment of outfall data showed frequent and ongoing exceedances of numeric limits which equates to ongoing investigation.</p> <p>Of primary importance to the County is that the Regional Water Board adopt a permit that protects water quality in a reasonable and feasible manner. As currently drafted, the Permittees are exposed to significant risk to comply with the NELs for dry weather discharges. We have completed a comparison of existing dry weather discharges with the selected NELs noted in Table 4. The results of that comparison are shown below:</p> <p>Constituent Percentage of time > NELs Turbidity 4.9 Surfactants 5.7 Dissolved Oxygen 5.4 below 5 ppm Total Phosphorus@ 93.6 Orthophosphate Fraction Nitrate + Nitrite >93.8 – NEL changed to Total N Fecal coliform 90.0 Enterococcus 97.3 Nickel (dissolved) >5.0 Copper (dissolved) >3.0 Cadmium (dissolved) >16.0</p> <p>Clear from this analysis is that for certain constituents, notably nutrients and bacteria, the entire drainage system will very rarely be found to be meeting the NELs. An analysis of data from Orange County stream reference sites, i.e. sites removed from urban influence, shows the same patterns of NEL exceedance.</p>				

Response	<p>Language has been added to the Order (Section C.3) to clarify that the Tentative Order does not regulate natural sources and conveyances of constituents.</p> <p>The Regional Board contends that the primary importance is to adopt a NPDES permit that protects water quality standards.</p> <p>It is important to note that the Copermitees have identified over-irrigation activities to be a source and conveyance of pollutants to waters of the United States, and that nutrients and indicator bacteria were included as identified pollutants. Thus, eliminating over-irrigation is likely to reduce the frequency of NEL exceedances for these constituents.</p> <p>Furthermore, the commenter has made a blanket statement regarding reference sites, but has failed to provide the analysis, nor the data, in support of their claim. Evidence exists in information submitted to the Regional Board that contradicts the Counties statement. For example, required aqueous chemistry conducted at bioassessment reference sites for the 2007-2008 reporting period shows receiving waters do not exceed NELs for dissolved oxygen, nutrients, turbidity, or metals (no reported measurement for surfactants).</p>				
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Comment No.	318	Commenter No.	49	Comment Subject	NEL
Comment	<p>Current language still exposes Municipalities to Mandatory Minimum Penalties for not complying with the numeric limits.</p> <p>As demonstrated above, the County/Permittees will face enforcement action for not complying with all the NELs. Where there is exceedance, the Permittees will be faced with financial liability under several different enforcement regimes. First, the NELs, as proposed in the Revised Tentative Order, would clearly constitute numeric effluent limitations. Violation of effluent limitations in an NPDES permit subjects the Permittees to potential mandatory minimum penalties (MMPs). (See Water Code §§ 13385(h) and 13385.1). In addition, non-compliance with the NELs may subject the Permittees to additional enforcement actions imposed by the Regional Water Board and through third party actions under the citizen suit provisions of the CWA. Although the Tentative Order is structured to clarify that compliance with Non-Stormwater Dry Weather Numeric Effluent limits Section C is met by one of three follow-up actions, the structure appears in conflict with the options available under §13385 to avoid MMPs. Once a numeric limits is established then there are limited options available to avoid MMPs. As a case in point during the 09/02/09 State Water Board hearing regarding the subject of MMPs resulting from non-compliance with proposed numeric effluent limits in the Construction General Permit, the State Board chair was seeking flexibility in implementing the numeric effluent limits without subjecting the discharger to MMPs. He suggested a phase in period. When this question was posed to Board legal counsel she said that such an approach was not legally valid and that MMPs would apply immediately. Thus it would appear that even though the San Diego Board staff may have intentions to provide flexibility to the Permittees to conduct the iterative process and follow up investigation efforts to avoid MMPs, the California Water Code does not provide such flexibility and the Permittees would be subject to MMP should they violate the NELs.</p>				
Response	<p>Please note the iterative process does not apply to non-storm water discharges (see Regional Board Counsel Memorandum dated November 05, 2009).</p> <p>Please see Comment no. 82 in the July 1, 2009, Response to Comments IV.</p>				

Comment

Derivation of numeric effluent limits are based on numerous assumptions and puts the Permittees in a position of endless monitoring and investigation.

Notwithstanding our comments above regarding the inappropriateness of WQBELs the County reviewed the derivation of the NELs and found a number of assumptions that will need to be verified to support modification of the NELs. We have highlighted some of the major assumptions below:

- No dilution was available for inland surface water bodies and bays and harbors. Such an approach assumes a worst case situation and essentially results in the dischargers having to meet water quality objectives at the point of discharge.
- Reasonable potential was not conducted on individual outfalls but rather on the overall drainage system, resulting in a single set of effluent limits for all outfalls to a specified water body. If, however, reasonable potential is done on an outfall by outfall basis the number of constituents and magnitude of the effluent limitations will be different.
- With the exception of chromium VI, freshwater water quality criteria were not used in determining effluent limitations. The Water Board calculated all effluent limitations using saltwater water quality criteria, which are not hardness-dependent. This approach essentially assumes that the receiving waters are all saltwater which is inappropriate for discharges to inland surface waters. The Tentative Order does allow adjustment in site specific hardness for determining the applicable water quality criteria when calculating effluent limitations. However, the use of the hardness-based water quality criteria equations needs to be clarified as to whether they apply to the receiving water and used in effluent limitation calculations or if they are the actual effluent limitations. In addition, all hardness-based water quality criteria equations should include an appropriate compliance period.
- Default conversion factors were used to convert dissolved metal water quality criteria to total metal water quality criteria. Again this assumption has typically been shown to be a worst case assumption and more appropriate conversion factors are available.

The overall effect of these assumptions is that reasonable potential was determined for a number of constituents for all outfalls. Given the exposure and liability of NELs the Permittees would be well served to conduct numerous special studies (e.g. dilution studies, translator studies) to validate the assumptions and develop site specific objectives for individual outfalls. Such an effort, although prudent from the Permittees perspective, seems misplaced and not the best use of our limited resources.

Response

The Regional Board followed required federal requirements when evaluating non-storm water discharges and considering a mixing zone or dilution. The Regional Board considered critical conditions for flow, pollutant concentrations and environmental effects. This is fully discussed in the Tentative Order Fact Sheet on page 109.

The Tentative Order is considered a General Order under 40 CFR 122.28.

In regards to freshwater water quality criteria, the Tentative Order is consistent with the requirements of the State Board Policy for Implementation of Toxics Standards for Surface Waters, Enclosed Bays and Estuaries. Section C.5 of the Order (see Table 4.a.2) specifically states:

"The Effluent Limitations for Cadmium, Copper, Chromium (III), Lead, Nickel, Silver and Zinc will be developed on a case-by-case basis because the freshwater criteria are based on site-specific water quality data (receiving water hardness). For these priority pollutants, the following equations (40 CFR 131.38.b.2) will be required:

- Cadmium (Total Recoverable) = $\exp(0.7852[\ln(\text{hardness})] - 2.715)$
- Chromium III (Total Recoverable) = $\exp(0.8190[\ln(\text{hardness})] + .6848)$
- Copper (Total Recoverable) = $\exp(0.8545[\ln(\text{hardness})] - 1.702)$
- Lead (Total Recoverable) = $\exp(1.273[\ln(\text{hardness})] - 4.705)$
- Nickel (Total Recoverable) = $\exp(.8460[\ln(\text{hardness})] + 0.0584)$
- Silver (Total Recoverable) = $\exp(1.72[\ln(\text{hardness})] - 6.52)$
- Zinc (Total Recoverable) = $\exp(0.8473[\ln(\text{hardness})] + 0.884)$ "

Thus, the hardness of the receiving water determines the effluent limitation.

In regards to conversion factors, again the Regional Board followed requirements of the State Board Policy for Implementation of Toxics Standards for Surface Waters, Enclosed Bays and Estuaries. The Policy clearly states that it is necessary to express a dissolved metal as total recoverable and, when a site-specific factor has not yet been developed, the Regional Board shall use the applicable conversion factor found in 40 CFR 131.38. The Regional Board will consider other conversion factors that are developed. The commenter provides a statement that there are more appropriate factors available, but fails to provide that information.

In summary, what the commenter claims to be "assumptions" are actually requirements under federal and State regulations for NPDES permitting. Furthermore, monitoring is required under 40 CFR 122.44. It is unclear how "endless monitoring and investigation" is a problem, as NPDES permits to discharge require monitoring and investigation of exceedances of effluent limitations. This is done to protect water quality standards.

Comment No.	320	Commenter No.	49	Comment Subject	NEL
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Comment

Closing

In closing, the County would submit that the use of NELs for non-stormwater discharges is inappropriate and premature at best. The TMDL program provides the safety net for ensuring that our water bodies are protected in the most reasonable and effective manner. The direct translation of water quality objectives into numeric effluent limits bypasses the TMDL process. Some of our non-stormwater discharges will exceed the NEL but have no effect on the receiving water quality or beneficial uses. But under the proposed Order the Permittees would be obligated to expend considerable investigative resources without a reciprocal water quality benefit. This requirement will prove to be poor public policy and use of public funds.

The establishment of NELs for non-stormwater discharges is fundamentally flawed from a technical and legal perspective. The current TBEL of "effectively prohibit" for non-stormwater discharges from the MS4 when implemented fully, coupled with the MEP standard for discharges of all pollutants from the MS4, will lead to compliance with water quality standards, negating the need for WQBELs. If, on the other hand, they are proposed as water quality based numeric limits then their derivation must also follow Federal and state regulations (primarily the State Implementation Plan). The County has suggested and continues to suggest that the values be used as "Non Stormwater Action Levels", similar to the approach taken with stormwater (see discussion that follows). Furthermore, the technical feasibility of complying with these numeric limits is questionable especially since our drinking water supply would not be able to comply with the limits.

Response

The Regional Board contends that the derivation of numeric effluent limitations follows Federal and State regulations as outlined in the Tentative Order Fact Sheet. Furthermore, as previously stated in Comment no. 39 in the July 1, 2009, Response to Comments IV, the Copermitees have implemented BMPs for the last 18 years for non-storm water discharges, and have failed to meet water quality standards, as evidenced by 303(d) listings and monitoring conducted to date.

In regards to the "effectively prohibit" interpretation and MEP, please see Regional Board Counsel Memorandum dated November 05, 2009 and Comment nos. 78 and 84 in the July 1, 2009, Response to Comments IV.

In regards to the drinking water comment please see Comment no. 84 in the July 1, 2009, Response to Comments IV.

Please also see responses to Comments nos. 319 and 391.

Comment

The County appreciates the Regional Board staff efforts to address our many concerns with the earlier draft Orders regarding municipal action levels. The County believes that the current structure for storm water action levels (SWALs) is consistent with the approach proposed by the State Water Resources Control Board's "Blue Ribbon Panel of Experts," as expressed in the June 2006 Blue Ribbon Panel Report ("BRP Report"). This approach would also meet the Regional Water Board's desire to include performance measures in a municipal stormwater program for Orange County.

To achieve these goals, we support an approach that "would set "an 'upset' value, which is clearly above the normal observed variability, which would allow bad actor catchments to receive additional attention" (see BRP Report at p. 8.). The BRP Report further clarified that upset value as "...an Action Level because the water quality discharge from such locations are enough of a concern that most all could agree that some action should be taken..." (Id.) In general, the August 12, 2009 Tentative Order accomplishes this goal.

However, the SWAL would be even more relevant and constructive to our Program by considering the following:

- Not all constituents for which action levels were developed are identified as pollutants of concern by the Program;
- Considerable resources are required to address this requirement without relief from other monitoring efforts; and
- No 'safe harbor' provision - thus municipalities may be in a never ending iterative process.

The County submits that Table 5 should be modified to reflect the Program constituents of concern (COCs). As such, SWALs should only include turbidity, nitrogen forms, total phosphorus, copper, lead and zinc. By focusing our limited resources on our COCs we will be better able to address water quality issues relevant to our discharges. In addition, some of our constituents of concern may serve as surrogates for a generic class of pollutants. Thus, by addressing one constituent, the program will receive the benefit of addressing the entire generic class (e.g. by addressing copper we will likely address lead, nickel and zinc).

More importantly, the Tentative Order represents a quantum leap in program costs associated with monitoring and follow-up investigations. Given our limited to non-existent ability to raise revenues to support our program and the general state of the economy, we respectfully request that the constituents subject to SWAL be limited to the constituents of concern noted above. Furthermore, we request that the Board develop a "program cost neutral" permit, meaning that the new Order will reflect the costs currently encumbered. SWAL monitoring for 2 outfalls in each hydrologic sub-area would require an immediate investment of an additional \$217,000 - \$224,000 in monitoring equipment and a significant subsequent commitment of staff and analytical resources.

The County requests that the SWALs only include turbidity, nitrogen forms, total phosphorus, copper, lead and zinc and that an opportunity to validate the utility of wet weather outfall monitoring using no more than 7 outfalls be provided prior to possible system-wide application of this approach to benchmarking.

Response

The Regional Board has reduced the list of required pollutants under the SALs. Those that remain have been identified as pollutants of concern through monitoring required under the current Order (R9-2002-0001).

In regards to relief from other monitoring efforts, the Regional Board has already reduced significant monitoring requirements in addition to allowing participation in a Regional Bacteria monitoring program. Furthermore, language in the monitoring section encourages proposals for participation in other regional monitoring efforts to supplement or replace existing monitoring requirements. The Regional Board expects the Copermittees to propose a monitoring program for SALs in compliance with Section D.2, which provides for flexibility in monitoring a representative percent of outfalls within each hydrologic subarea. It does not require 2 per hydrologic subarea.

While the Regional Board agrees that addressing one pollutant may benefit an entire class of pollutants., certain pollutants are associated with specific activities within the watershed area discharging at a particular SAL monitoring location. This will enable the Copermittees to better target BMPs at activities that produce that pollutant within the watershed.

Comment

Effectiveness of BMPs (Section E.1.j, Page 27)

The Tentative Order continues to include a new provision that requires the Permittees to demonstrate that they have the legal authority to require documentation on the effectiveness of BMPs. In fact, the County is unaware of any other MS4 permit within the State of California with this requirement. The County has concerns about this provision for the following reasons:

- As it is currently written, this provision broadly applies to any aspect of the stormwater program where BMPs have been implemented – the result is that this provision sets up a process for the establishment of multiple third party monitoring programs and expenditure of a significant amount of funds to monitor the effectiveness of BMPs. If the desire is to document the effectiveness of certain types of BMPs, it would be much more effective and scientifically sound to establish special studies by entities qualified to conduct such sampling instead of requiring potentially hundreds of third parties to conduct a monitoring program for every BMP that is implemented.
- This provision is redundant with other requirements in the permit in that it ignores the fact that the New Development/Significant Redevelopment section of the DAMP (Section 7.0) establishes a process for the selection, design, and longterm maintenance of permanent BMPs for new development and significant redevelopment projects and requires developers to select BMPs that have been demonstrated as effective for their project category. By going through a thorough process, the Permittees have determined what BMPs would be effective for a particular project – thus eliminating the need to establish a monitoring program for every BMP implemented.
- This provision ignores the fact that the Permittees have already established legal authority for their development standards so that project proponents have to incorporate and implement the required BMPs.
- In the Response to Comments IV, Regional Board staff state, as a part of their justification for this requirement, that USEPA identified that the MS4s need to have the authority to enter, sample, review, inspect, and require regular reports (in addition to some other aspects). However, while USEPA identified that they want the MS4s to establish basic legal authority – the legal authority did not, in fact, specifically extend to the monitoring of all BMPs implemented by third parties. In addition, this section of the guidance speaks to the municipalities legal authority to control the discharge of pollutants, which the County has pursuant to the codes and ordinances that have been adopted and the guidance documents that have been developed.

The County requests that this provision be deleted from the Order.

Response

This comment has been previously addressed in the July 1, 2009, Response to Comments IV (Comment no. 98).

The requirement is that the Copermittees have the legal authority to ensure that effective BMPs are being implemented by requiring the third parties to document BMP effectiveness. This legal requirement is not, as the commenter states, "a process for the establishment of multiple third party monitoring programs and expenditure of a significant amount of funds to monitor the effectiveness of BMPs." It does not, as the commenter implies, require that every BMP implemented by a third party be monitored for pollutant removal effectiveness. It requires the Copermittees have the legal authority to ensure that BMPs implemented are effective at treating storm water discharges.

The Regional Board acknowledges that the Copermittees already are required to review and approve BMPs for new/re-developments, and that BMP effectiveness is reviewed in the development phase. However, many post-construction BMPs can be rendered ineffective at treating storm water. For example, BMPs can be removed, reconfigured or lack proper maintenance. As such, no change has been made to the Tentative Order.

Comment No.	323	Commenter No.	49	Comment Subject	Legal
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Comment Water Rights Issue (Section E.1. Page 26 and Section F.1.d.(4)(d) Page 35-36) The Tentative Order appears to have conflicting objectives regarding water rights. The conflict arises in the following permit sections (the conflicting language is underlined below).

E.1. Each Copermittee must establish, maintain, and enforce adequate legal authority to control pollutant discharges into and from its MS4 through ordinance, statute, permit, contract or similar means. Nothing herein shall authorize a Co-Permittee or other discharger regulated under the terms of this order to divert, store or otherwise impound water if such action is reasonably anticipated to harm downstream water right holders in the exercise of their water rights. [emphasis added]

F.1.d.(4)(d) LID BMPs sizing criteria
 (i) LID BMPs shall be sized and designed to ensure onsite retention without runoff, of the volume of runoff produced from a 24-hour 85th percentile storm event, as determined from the County of Orange's 85th Percentile Precipitation Map15 ("design capture volume"); [emphasis added]

The LID BMP criterion clearly changes the natural water balance and may be construed to harm the downstream water rights holders. The effort to determine whether downstream water rights users are harmed from upstream development that changes the water balance will be a challenge and may ultimately lead to legal action. Given the uncertainty of downstream water rights, the Tentative Order should provide flexibility with the LID standard to allow runoff when conditions limit on-site retention. Whether these conditions are technical or legal in nature it is important to have flexibility in the permit to accommodate either or both conditions.

Since the framework for addressing new development and significant redevelopment must be as flexible in order to address the variety of issues that will arise during the course of the permit implementation, the County strongly recommends that the Development Planning Component be modified as necessary for greater consistency with Order R8-2009-0030 (Water Quality Management Plan for Urban Runoff) which provides for flexibility.

Response Please see response to Comment no. 296.

Comment No.	324	Commenter No.	49	Comment Subject	LID
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Comment LID BMPs (Section F.1.c.(2), Page 29)

Provision F.1.c.2 identifies that the LID BMPs listed in the provision shall be implemented at all Development Projects where applicable and feasible, however no definition of "applicable and feasible" is identified in the provision or within the fact sheet. The determination of feasibility of implementing the LID BMPs identified in the provision should be the responsibility of the Permittees.

NOTE: The previous comments on this issue made by the Permittees were not adequately addressed in the Regional Board's Response to Comments document dated July 1, 2009, and are therefore resubmitted. The Response to Comments document dated July 1, 2009 identifies that the LID requirements have been substantially modified and that more robust criteria is expected in the Copermittee's updated SUSMP document. The updated SUSMP document is the responsibility of the co-permittees which will include a definition of applicable and feasible for LID BMPs so ultimately it will be the determination by the permittee of where LID BMPs are applicable and feasible.

The County requests that the Provision be modified as follows:

Response This comment was adequately addressed in the July 1, 2009, Response to Comments IV, Response to comment No. 99, which states: "The LID requirements have been extensively modified following meetings with the Copermittees and the interested stakeholders. The Tentative Order addresses the conditions of technical infeasibility. More robust criteria is expected in the Copermittee's updated SUSMP document." LID BMP requirements are applicable at all priority development projects. The Copermittees are required to develop the specific criteria for the technical feasibility analysis per Section F.1.d(7)(b).

Comment No.	325	Commenter No.	49	Comment Subject	LID
Comment	<p>Infiltration and Groundwater Protection (Section F.1.c.(6), Page 29-30)</p> <p>The Regional Board Response to Comments dated July 1, 2009 identifies that the criteria set forth in this section are the minimum requirements for infiltration and that there is flexibility in the Tentative Order for the Copermittees to develop criteria for infiltration treatment devices. We have a number of concerns with this provision. First is the apparent free pass onsite infiltration BMPs receive even in areas with high groundwater and/or brown fields with legacy contamination issues. Such environmental conditions should be acknowledged and addressed. Second the “minimum requirements” identified in the Tentative Order are not minimum but are very prescriptive and no current technical basis is provided for these provisions in the Fact Sheet or in the Response to Comments dated July 1, 2009.</p> <p>The document U.S. Environmental Protection Agency. 1994. Potential Groundwater Contamination from Intentional and Nonintentional Stormwater Infiltration. EPA 600 SR- 94 051 that is referenced as guidance for infiltration of stormwater in the Order No. R9-2002-0001 Fact Sheet and in the Response to Comments dated July 1, 2009 is more than 15 years old and does not provide an adequate technical basis for the requirements related to infiltration of stormwater, except for provision F.1.c.(6) g.. And even for provision F.1.c.(6)g, a closer review of this document will show that the study evaluated the impact of industrial stormwater discharges into local groundwater. However, the site soil conditions had a poorly defined soil structure and included gravel. Thus stormwater from the industrial site was discharged in an almost direct conduit to the groundwater. The County would submit that the Tentative Order should require the Permittees to develop criteria for the use of infiltration BMPs (both on site and centralized BMPs) that consider land use, runoff quality, groundwater depth, site soil conditions and other information relevant to groundwater protection.</p> <p>Since the Fact Sheet, and the Regional Board Response to Comments dated July 1, 2009 does not provide adequate technical basis for the requirements, the County requests that Section F.1.c.(6) should be deleted and replaced with the following language:</p> <p>The Copermittees shall, within 2 years of the adoption of this order, develop criteria for the use of infiltration BMPs that consider land use, runoff quality, groundwater depth and quality, site soil conditions and other information relevant to groundwater protection.</p>				

Response	<p>This comment regarding the infiltration requirements has been answered in previous response to comments. The language proposed is consistent with the language used in Section F.1.b.2.h of Order NO. E9-2002-0001 (the current Permit). As discussed in the Fact Sheet for Order No. R9-2002-0001, the restrictions placed on urban runoff infiltration are based on recommendations provided by the U.S. EPA Risk Reduction Engineering Laboratory and supported by the State Water Board. The language contained in the Tentative Order also allows the Copermittees to develop alternative criteria to replace the suggested restrictions. Any separate infiltration criteria developed by the Copermittees, must be submitted as part of their updated SSMP for public review and comment.</p> <p>Please see the July 6, 2007, Response to Comments I, Response No. 24; December 12, 2007, Response to Comments II, Response No. 17; and July 1, 2009, Response to Comments IV, Response to comment No. 100.</p>
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Comment No.	326	Commenter No.	49	Comment Subject	LID
Comment	<p>The Copermittees shall, within 2 years of the adoption of this order, develop criteria for the use of infiltration BMPs that consider land use, runoff quality, groundwater depth and quality, site soil conditions and other information relevant to groundwater protection.</p> <p>Notwithstanding our comment and recommendation above we have specific concerns regarding the restrictions being specified in the draft Order.</p> <p>First, the requirement in Section F.1.c.(6)(a) to implement pretreatment prior to infiltration is excessive. It may be appropriate to require pretreatment for sites with certain pollutant generating activities but to have a broad brush requirement for pretreatment for all land uses make little sense and is not technically supported.</p> <p>In Section F.1.c.(6)(b) the requirement that infiltration BMPs cannot be used for dry weather flows containing significant pollutant loads is impractical and does not reflect the performance of the soil. The soil mantel is an effective treatment media and the blanket prohibition of the use of infiltration BMPs for dry weather flows eliminate an effective BMP from the permittees tool box.</p> <p>Section F.1.c.(6)(g) restricts the use of infiltration treatment control BMPs in areas of industrial or light industrial activity and areas subject to high vehicular traffic. High vehicular traffic is defined as 25,000 or greater average daily traffic on main roadway or 15,000 or more average daily traffic on any intersecting roadway. The Regional Board Response to Comments dated July 1, 2009 identifies that "The restriction on areas with high vehicular traffic is included on the recommendation of the USEPA guidance that the commenter (County of Orange) cited." The USEPA guidance that was cited is the U.S. Environmental Protection Agency. 1994. Potential Groundwater Contamination from Intentional and Nonintentional Stormwater Infiltration. EPA 600 SR-94 051, which contains no recommendation regarding vehicular traffic and infiltration devices and therefore doe not provide a specific technical basis for this restriction. As such, prescriptive requirements should not be included in the Tentative Order unless there is a strong technical basis. Moreover, we are not aware of any demonstrated relationship between traffic counts and frequency of materials deposited on the street, nor are such restrictions placed on the California Department of Transportation, which operates facilities that routinely exceed the ADT level indicated.</p> <p>Since the Fact Sheet, and the Regional Board Response to Comments dated July 1, 2009 does not provide adequate technical basis for the requirement, the County requests that Section F.1.c.(6)(g) should be deleted from the permit.</p>				

Response	<p>This comment regarding the infiltration requirements has been answered in previous response to comments. The language proposed is consistent with the language used in Section F.1.b.2.h of Order NO. E9-2002-0001 (the current Permit). As discussed in the Fact Sheet for Order No. R9-2002-0001, the restrictions placed on urban runoff infiltration are based on recommendations provided by the U.S. EPA Risk Reduction Engineering Laboratory and supported by the State Water Board. The language contained in the Tentative Order also allows the Copermittees to develop alternative criteria to replace the suggested restrictions. Any separate infiltration criteria developed by the Copermittees, must be submitted as part of their updated SSMP for public review and comment.</p> <p>Please see the July 6, 2007, Response to Comments I, Response No. 24; December 12, 2007, Response to Comments II, Response No. 17; and July 1, 2009, Response to Comments IV, Response to comment No. 100.</p> <p>The requirement in Section F.1.c.6.(g) restricting infiltration in certain areas has been modified to be allow infiltration, provided the runoff is treated or filtered to remove pollutants prior to entering the infiltration device. This change is in light of the findings of the Los Angeles and San Gabriel Rivers Watershed Council's Water Augmentation Study Phase II Final Report. The study found that "Filtration methods employed at industrial sites seemed to be effective at removing certain pollutants prior to entering the infiltration system, which may make infiltration more feasible at these more polluted sites." This provision is in keeping with the goal of maximizing infiltration opportunities to benefit surface water quality and maximize local sources of water supply.</p>
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Comment No.	327	Commenter No.	49	Comment Subject	SUSMP
Comment	Native/Low Water Landscaping (Section F.1.c.(7), Page 31)				
	<p>This provision identifies that landscaping with native or low water species where feasible shall be preferred in areas that drain to the MS4 or waters of the U.S. The Regional Board Response to Comments dated July 1, 2009 identifies that this provision is not an Order requirement, and is simply a suggestion to use native species where feasible. However, the language in provision F.1.c seems to counter this position as it states clearly that the project must include management measures that include native landscaping. Furthermore the provision, as written, requires the whole project areas to be subject to the native plant requirement</p> <p>The County requests that provision F.1.c.(7) be deleted from the Tentative Order.</p>				
Response	<p>Section F.1.c states that "Discharges from each approved development project must be subject to the following management measures:" which includes Section F.1.c.(7), which states: "Where feasible, landscaping with native or low water species shall be preferred in areas that drain to the MS4 or to waters of the United States."</p> <p>The management measure is that, where feasible, landscaping with native or low water species shall be preferred. Thus, using native species is not required.</p>				
Comment No.	328	Commenter No.	49	Comment Subject	LID
Comment	<p>Alternative Standards (Section F.1.c.(8), Page 31)</p> <p>The principles provided in this section are very similar with the approach specified in the Santa Ana permit for the North County. In fact we had suggested similar modifications to Section F.1.d.(4)(d) (page 35-36).</p> <p>The County requests that the language from this alternative standard section be incorporated into section F.1.d.(4)(d).</p>				
Response	The Regional Board agrees and has made the change to the Tentative Order.				

Comment No.	329	Commenter No.	49	Comment Subject	SUSMP
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Comment Standard Stormwater Mitigation Plans (SSMPs) (Section F.1.d, Page 31-32)

Section F.1.d. requires each Permittee to implement an updated local SSMP within twelve months of adoption of the Order. This is a change from the language in the June 18th Errata Sheet, where two years was provided to update the local SSMP. The Regional Board Response to Comments dated July 1, 2009 identifies that "The Tentative Order has been revised to allow up to two years to develop the updated SSMP in conjunction with the hydromodification management plan." The Tentative Order, however has not been revised to allow two years to develop and updated SSMP. This provision includes language that requires the inclusion of the hydromodification requirements in provision F.1.h in an updated local SSMP within one year of the adoption of the Order. The requirements in provision F.1.h include the development of an HMP within two years of adoption of the Order. The timeframe to update the local SSMPs in Provision F.1.d should be consistent with the time frame identified to develop the HMP in provision F.1.h.

The County requests that provision F.1.d be modified as follows:

Within 12 months of adoption of this Order, the Copermittees must submit an updated model SSMP, to the Regional Board's Executive Officer for a 30 day public review and comment period upon completion of the HMP as identified in section F.1.h. The Regional Board's Executive Officer has the discretion to determine the necessity of a public hearing. Within 180 days of determination that the Model SSMP is in compliance with this Permit's provisions, each Copermittee must update their own local SSMP, and amended ordinances consistent with the model SSMP, and shall submit both (local SSMP and amended ordinances) to the Regional Board. The Model SSMP must meet the requirements of section F. 1. d. of this Order and (1) reduce Priority Development Project discharges of storm water pollutants from MS4 to the MEP, (2) prevent Priority Development Project runoff discharges from the MS4 from causing or contributing to a violation of water quality standards, (3) manage increases in runoff discharge rates and durations from Priority Development Projects that are likely to cause increased erosion of stream beds and banks, silt pollution generation, or other impacts to beneficial uses and stream habitat due to increased erosive force and (4) implement the hydromodification requirements in section F.1.h.

Response The revised Tentative Order states that within 12 months of adoption the Copermittees must submit an updated Model SSMP. Within 180 days of determination that the Model SSMP is in compliance with the Permit's provisions, each Copermittee must update their own local SSMP. We agree with the commenter's concern regarding the timing of SSMP development and the HMP. Therefore language in F.1.d. has been revised to allow 2 years for SSMP submission.

Comment No.	330	Commenter No.	49	Comment Subject	SUSMP
Comment	<p>Section F.1.d.(2) defines Priority Development Project Categories. In an introduction to the listed categories, this section states that, where a new development project feature, such as a parking lot, falls into a Priority Development Project Category, the entire project footprint is subject to SUSMP requirements. As currently written this provision would require a new development that has a 5,000 square foot parking lot feature and 100,000 square feet of other land uses that are not Priority Development Project Categories, to provide treatment for the entire project (105,000 square feet). This requirement would unduly burden the landowner in this case with the cost of treating runoff from 105,000 square feet when only 5,000 square feet should be subject to SUSMP requirements and treatment controls. The need to treat runoff from a greatly increased land area will require an increase in the size of treatment controls, which will increase the volume of water treated without a likely commensurate increase in pollutant removal.</p> <p>The Fact Sheet fails to provide any information showing that development land uses that are not in the Priority Development Project Category contribute pollutants to the MS4 and are a threat to water quality. The Fact Sheet (page 125) states that this provision “is included in the Order because existing development inspections by Orange County municipalities show that facilities included in the Priority Development Project Categories routinely pose threats to water quality. This permit requirement will improve water quality and program efficiency by preventing future problems associated with partially treated runoff from redevelopment sites.” This explanation does not demonstrate any connection between development land uses that are not in the Priority Development Project Category and the observed “threats to water quality.”</p> <p>Since the Fact Sheet does not provide any technical information showing that land uses that are not Priority Development Project Categories are a significant source of pollutants and a threat to water quality, the County requests the introductory paragraph of Section F.1.d.(2) subjecting the entire project footprint to SUSMP requirements should be deleted from the permit.</p>				

Response	<p>This comment has been considered in previous response to comments. Please see the July 6, 2007, Response to Comments I, Response No. 28; and the July 1, 2009, Response to Comments IV, Response No. 103 and 104.</p> <p>In summary, the language in the introduction of Section D.1.d.2 of the Tentative Order regarding the inclusion of the entire project when at least one aspect of the project is categorized as a Priority Project is consistent with the Regional Board’s 2002 approval of the San Diego SUSMP. This is a particularly important requirement since municipalities have greater latitude during development to require pollution prevention than they have with existing development. Moreover, this is a reasonable requirement in that it limits confusion for property owners and ensures consistent implementation of SUSMP requirements. This section and related Finding have not been revised.</p>
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Comment No.	331	Commenter No.	49	Comment Subject	SUSMP
Comment	<p>Streets, Roads, Highways, and Freeways (Section F.1.d.(2)(g), Page 34)</p> <p>County comments regarding this provision were not addressed in the Regional Board Response to Comments dated July 1, 2009 and there is no mention of this provision in the Fact Sheet and so previous comments are resubmitted. Section F.1.d.(2)(g) includes as a Priority Development Project Category streets, roads, highways, and freeways including any paved surface of 5,000 square feet or greater that is used for transportation. Highways and freeways are not the jurisdiction of Permittees and fall under the jurisdiction of the California Department of Transportation, which is regulated by its own statewide stormwater permit.</p> <p>The County requests that the Provision be modified as follows:</p> <p>(i) Streets and roads, highways, and freeways. This category includes streets and roads any paved surface that is are 5,000 square feet or greater used for the transportation of automobiles, trucks, motorcycles, and other vehicles.</p>				
Response	<p>The inclusion of streets, roads, highways, and freeways as a priority development project was a requirement in the current Permit, Order No. 2002-0001, section F.1.b(2)(a).viii. The threshold only applies to streets, roads, highways, and freeways under the Copermittees jurisdiction. If the Copermittees do not have jurisdiction over any freeways, the threshold will not apply to freeway projects. Removal of the term, therefore, is not necessary. Although the Copermittees currently do not have any jurisdiction over highways or freeways, they may in the future have such jurisdiction, as is found in other California counties.</p>				

Comment

LID Site Design BMP Requirements (Section F.1.d.(4), Page 34-36)
 In this provision the Order contains a combination of planning procedures, design principles, and design criteria. However, all these ideas are labeled as LID BMPs which makes for a confusing provision. The provision would greatly benefit by reorganizing it around planning procedures, design principles, and design criteria. Our redline mark-up was prepared with this reorganization in mind.

Section F.1.d.(4)(a)
 This provision requires each PDP to perform an assessment of the potential for collection of storm water for on-site or off-site reuse opportunities. The Tentative Order is silent regarding how extensive the analysis should be and there is no supporting language in the Fact Sheet as to why this analysis should be done. This analysis should only be required when the project cannot meet the LID performance standard. The important effort in this section is to have the permittees require all PDP that cannot meet the LID standard perform an assessment of their efforts to comply with the LID performance standard. This effort would ultimately complement a request for a waiver should that option become necessary.

Section F.1.d.(4)(b) and Section F.1.d.(4)(d).
 Similar to the discussion above, this provision characterizes LID planning principles as LID BMPs. These principles are consistent with the definition of LID and should be acknowledged and supported. However, the County would like to note that Section F.1.d.(4)(b)(ii) is inconsistent with the LID sizing criteria in Section F.1.d.(4)(d). In section F.1.d.(4)(b)(ii) the permit correctly notes that site conditions will limit the amount of runoff that can be infiltrated. However, in Section F.1.d.(4)(d) no such acknowledgement is noted and full retention, with no runoff, is required for the water quality capture storm. The permit attempts to mitigate this requirement with granting off ramps for sites not able to meet the retention requirement. However, the two sections should be consistent and section F.1.d.(4)(d) should be modified to reflect the definition of LID and the language found in F.1.d.(4)(b).

The County requests that Section F.1.d.(4) be modified as follows:

(4) Low Impact Development BMP Requirements

Each Copermittee must require each Priority Development Project to implement LID BMPs which will collectively minimize directly connected impervious areas, limit loss of existing infiltration capacity, and protect areas that provide important water quality benefits necessary to maintain riparian and aquatic biota, and/or are particularly susceptible to erosion and sediment loss.

(a) In selecting LID BMPs the Co-permittees shall develop plan review procedures that The following LID BMPs must be implemented:

- (i) Require LID BMPs or make a finding of infeasibility for each Priority Development Project in accordance with the LID waiver program in Section F.1.d.(8);
- (ii) incorporate formalized consideration, such as thorough checklists, ordinances, and/or other means, of LID BMPs into the plan review process for Priority Development Projects;
- (iii) Ensure that the review of each Priority Development Project must include an assessment of potential collection of storm water for on-site or off-site reuse opportunities;
- (iv) Ensure that the review of each Priority Development Project must include an assessment of techniques to infiltrate, filter, store, evaporate, or detain runoff close to the source of runoff; and
- (v) Within 2 years after adoption of this Order, each Copermittee shall review its local codes, policies, and ordinances and identify barriers therein to implementation of LID BMPs. Following the identification of these barriers to LID implementation, where feasible, the Copermittee must take, by the end of the permit cycle, appropriate actions to remove such barriers.
- (vi) Within 12 months of the adoption of this order, the principal permittee, in collaboration with the co-permittees, shall develop technically-based feasibility criteria to determine the feasibility of implementing LID BMPs including infiltration, harvest and reuse, evapotranspiration, and biofiltration. The criteria shall include a prioritized selection process for BMP implementation

(b) The following LID design principles where technically and economically feasible shall be implemented at all Priority Development Projects as required below:

(i) Post development hydrograph shall mimic predevelopment hydrographs.

(ii) Maintain or restore natural storage reservoirs and drainage corridors (including depressions, areas of permeable soils, swales, and ephemeral and intermittent streams).

(iii) Projects with landscaped or other pervious areas must, where feasible, drain runoff from impervious areas (rooftops, parking lots, sidewalks, walkways, patios, etc) into pervious areas prior to discharge to the MS4. The amount of runoff from impervious areas that is to drain pervious areas shall not exceed the total capacity of the project's pervious areas to infiltrate or treat runoff, taking into consideration the pervious areas' geologic and soil conditions, slope, and other pertinent factors.

(iv) Projects with landscaped or other pervious areas must, where feasible, properly design and construct the pervious areas to effectively receive and infiltrate or treat runoff from impervious areas, prior to discharge to the MS4. Soil compaction for these areas shall be minimized. The amount of the impervious areas that are to drain to pervious areas must be based upon the total size, soil conditions, slope, and other pertinent factors.

(v) Projects with low traffic areas and appropriate soil conditions must construct walkways, trails, overflow parking lots, alleys, or other low-traffic areas with permeable surfaces, such as pervious concrete, porous asphalt, unit pavers, and granular materials.

(c) To protect ground water resources any infiltration LID BMPs must comply with Section F.1.(c)(6).

(d) LID BMPs sizing criteria:

(i) LID BMPs shall be sized and designed to ensure onsite retention, of the volume of runoff produced from a 24-hour 85th percentile storm event, as determined from the County of Orange's 85th Percentile Precipitation Map ("design capture volume");

(ii) If onsite retention LID BMPs are technically infeasible biofiltration BMPs may treat any volume that is not retained onsite by the LID BMPs. The LID biofiltration BMPs must be designed for an appropriate surface loading rate to prevent erosion, scour and channeling within the BMP. Due to the flow through design of biofiltration BMPs, the total volume of the BMP, including pore spaces and prefilter detention volume is allowed to be no less than 0.75 times the design storm volume;

(iii) If it is shown to be technically infeasible to treat the remaining volume up to and including the design capture volume using LID BMPs (retention or biofiltration), the project may implement conventional treatment control BMPs in accordance with Section F.1.d.(6) below or must participate in the LID waiver program in Section F.1.d.(8).

(e) All LID BMPs shall be designed and implemented with measures to avoid the creation of nuisance or pollution associated with vectors, such as mosquitoes, rodents, and flies.

Response

Planning procedures, design principles and design criteria are considered management practices. The assessment for storm water reuse is necessary to ensure that a project proponent has examined all options at LID retention BMPs prior to entering the LID waiver program. The full capture of the design storm may be through infiltration, evapotranspiration or retention for reuse. Storm water capture for reuse would fulfill the LID capture criteria. If a project meets the LID performance standard through other methods, then the assessment for storm water reuse would not need to be conducted.

Section F.1.d.(4)(b)(ii) ensures that runoff directed to pervious areas, such as lawns or landscaping, are able to adequately handle the storm flows. The requirements in section F.1.d.(4)(b)(ii) work with section F.1.d.(4)(d). In other words, a project site must direct runoff from impervious areas to pervious areas; and a project site must size and design LID BMPs to ensure onsite retention of the design storm. Where pervious areas cannot handle the storm flows from impervious areas, other LID retention BMPs, such as infiltration trenches or rain gardens, must be implemented.

Comment No.	333	Commenter No.	49	Comment Subject	SUSMP
Comment	<p>Treatment Control BMP Requirements (Section F.1.d.(6)(f) and (g), Page 38)</p> <p>The Fact Sheet does not provide any technical basis for these provisions and the Regional Board Response to Comments dated July 1, 2009 refers to the Regional Board Response to Comments dated July 6, 2007. The Regional Board Response to Comments dated July 6, 2007 regarding this section does not provide any technical basis for these provisions. Furthermore in the Regional Board Response to Comments dated December 12, 2007 the Regional Board states "The Regional Board agrees that there is not a federal prohibition on placing pollution control practices within waters of the U.S." Since the previous comments on this issue were not adequately addressed in the Regional Board's Response to Comments, the comments are being resubmitted.</p> <p>Section F.1.d.(6)(f) require treatment control BMPs be implemented prior to discharging into waters of the U.S. and provision F.1.d.(6)(g) prohibits the construction of treatment controls within waters of the U.S. or waters of the State. These provisions taken together limit the use of regional BMP and watershed-based approaches such as the Irvine Ranch Water District Natural Wetland System Project or Aliso Creek Water SUPER project. Such projects should be encouraged and not prohibited by the Order.</p> <p>The Tentative Order encourages a renewed focus on the 'watershed approach' but the proposed restriction on regional BMPs is antithetical to a watershed approach. The USEPA in its National Management Measures Guidance to Control Nonpoint Source Pollution from Urban Areas, Management Measure 5: New Development Runoff Treatment dated November 2005 (page 5-38) states that "regional ponds are an important component of a runoff management program." and that the costs and benefits of regional, or off-site, practices compared to on-site practices should be consider part of a comprehensive management program. The EPA guidance acknowledges that a regional approach can effectively be used for BMPs.</p> <p>The County requests that provisions F.1.d.(6)(f) and (g) be combined and modified to enable regional approaches to move forward. Our suggested language reflects this concept. (f) Be implemented close to pollutant sources, and prior to discharging into waters of the U.S. and not be constructed within a waters of the U.S. or waters of the State unless the BMP obtains coverage under a Section 404 permit.</p>				
Response	<p>Again, the commenter misconstrues the Regional Board's past response to comments by only quoting the first sentence of the response. Please see response to Comment no. 310.</p>				

Comment No.	334	Commenter No.	49	Comment Subject	LID
Comment	<p>LID BMP Waiver Program (Section F.1.d.(7), Page 38-40)</p> <p>On July 15, 2009 the Permittees met with the staff of the Regional Water Board to discuss, among many issues, the LID Waiver Program. One of the critical elements of that discussion was how to establish a pollutant credit system that is consistent with the water quality program. The fundamental principle that was agreed upon in that discussion was that regardless of which BMPs (LID based or treatment control based) is chosen for a site that the net impact from pollutant loadings be equal. Thus for a site that implements LID BMP for full retention of the water quality capture storm or implements a conventional BMP that captures the same pollutant loading the two are viewed equal in reducing pollutants. As an example and for the sake of comparison, an LID BMP designed to retain the 85% storm (i.e. the water quality capture storm) removes 85% of the pollutant load on an annual basis is equivalent to a conventional BMP if the conventional BMP can be designed to remove 85% of the annual pollutant load (in this case the conventional BMP would have to design to treat a larger storm than the water quality capture storm). In this situation the conventional BMP would be judged to be equivalent to the conventional BMP and the PDP would not be subject to additional mitigation measures. It is our understanding that the current draft Order allows this type of pollutant credit system to be established.</p> <p>If this is not the case then the County requests that the Tentative Order be modified to support the principle.</p>				
Response	<p>The Regional Board staff agrees with the comment.</p>				

Comment No.	335	Commenter No.	49	Comment Subject	SUSMP
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Comment Treatment Control BMP Maintenance Tracking (Section F.1.f.(3), Page 42-43)

This provision identifies that each Copermitee must verify that post-construction BMPs are operating effectively. In provision F.1.f(3)(c)(i) there appears to be conflicting statements. The first statement of this provision seems to imply annual verification of SSMPs while the second statement implies verification of BMPs once every four years. The provision is confusing and should be re-written or deleted. The Fact Sheet and the Regional Board Response to Comments dated July 1, 2009 does not effectively identify why 90 percent of approved and inventoried final public and private SSMPs must be verified annually. The finding in the Fact Sheet that "90 percent is a reasonable annual target" obviously does not take into account the significant amount of resources needed to complete these inspections. The North Orange County MS4 Permit provides an adequate provision related to inspection of structural treatment controls and inclusion of similar language would provided consistency between the two permits.

The County requests that Section F.1.f.(3) be deleted and replaced with the following language:

Within 12 months of adoption of this order and annually thereafter, all public agency structural treatment control BMPs, and at least 25% of priority development project structural treatment control BMPs, shall be inspected prior to the rainy season. All structural treatment control BMPs shall be inspected within every four year period. The permittees shall ensure that the BMPs are operating and are maintained properly and all control measures are working effectively to remove pollutants in runoff from the site. All inspections shall be documented and kept as permittee records. The permittees may accept inspections conducted and certified by state licensed professional engineers in lieu of permittee inspections.

Response The provision requires 90 percent of BMPs be verified annually. Theoretically, a Copermitee may choose to verify the same BMPs every year, leaving 10 percent of the BMPs to never have been verified. The second sentence ensures that all of the BMPs are verified every four years, in that way this ensures that the remaining 10 percent will be verified at least once during those four years. We assume that the Copermitees would not be verifying 100 percent of the BMPs in the fourth year but rotating which BMPs are verified each year.

The Copermitees 2007 DAMP proposes to verify 90 percent of WQMPs (including structural and non-structural BMPs) by inspection, self-certifications, surveys or other means. The Regional Board agrees and finds that 90 percent is a reasonable annual target given the ease of self-certifications and surveys.

Comment No.	336	Commenter No.		Comment Subject	
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Comment

Response Transcription error. Please reuse this number.

Comment No.	337	Commenter No.	49	Comment Subject	Hydromod
Comment	Requirements for Hydromodification and Downstream Erosion (Section F.1.h, Pages 44-48)				
<p>Section F.1.h.(1)(b) discusses requirements for the HMP, and identifies the range of runoff flow rates and durations that must compensate for the loss of sediment supply due to the development. Areas of a development, outside of natural stream courses, produce fine grain sediments in a naturally occurring state. This material is known as wash load because it often moves through the river system in suspension without being present in the river bed in significant quantities (Colby, 1957). Wash load consists of particles so small that they are essentially absent on the stream bed (Ritter, 1995)9. Decreased wash load does not cause erosion, because it is transported well below capacity (ASCE, 2008). Natural stream courses within a development do contribute to bed load of a downstream receiving water as the stream course bed material is composed of larger particle sizes. The provision should be changed to reflect that compensation for sediment loss is due to the affected natural stream courses within a development.</p> <p>The waiver for PDPs that discharge to concrete-lined or significantly hardened channel should be included as hydromodification requirements are not appropriate for cahnnels that are designed to accept increased flows from upstream development as the potential for erosion is minimal or not present.</p> <p>The County requests that provision F.1.h.(1)(b) be modified as follows:</p> <p>(b) Utilize continuous simulation of the entire rainfall record (or other analytical method proposed by the Copermittees and deemed acceptable by the Regional Board) to identify a range of runoff flows for which priority Development Project post-project runoff flow rates and durations shall not exceed pre-development (naturally occurring) runoff flow rates and durations by more than 10 percent, where the increased flow rates and durations will result in increased potential for erosion or other significant adverse impacts to beneficial uses. In addition, the identified range of runoff flow rates and durations must compensate for the loss of sediment supply due to affected natural stream courses within the development.</p>					

Response	<p>The commenter states that sediment loss is due to the affected natural stream courses within a development, and that the text of section F.1.h.(1)(b) should be changed to reflect that. The Regional Board agrees that sediment loss is due to the affected natural stream courses within a development. This is because once development occurs, course sediment that was once available to erode naturally from a landscape and aggregate into streams providing bed and bank replenishment is no longer available. Once developed, this natural sediment supply is entombed beneath concrete and asphalt, contributing to erosion of downstream receiving waters by preventing bed and bank replenishment. The Regional Board disagrees that the proposed changes regarding sediment loss improve the clarity of the text.</p> <p>The Regional Board disagrees with the suggestion to remove the qualification "naturally occurring" from the description of pre-development runoff flow rates. As stated in Finding D.2.g., the goal of the hydromodification requirements are to prevent or further prevent hydromodification impacts on downstream watercourses and eventually restore natural flow regimes. Only by using the "naturally occurring" pre-development runoff flow rates will the goal of restoring natural flow regimes be achievable. Natural flow regimes are necessary to protect downstream receiving waters.</p> <p>The commenter also suggests deleting language pertaining to the identification of the range of flow rates that must be controlled, including the removal of the description of the lower boundary of flows. The Regional Board disagrees with these proposed changes, as describing the lower boundary of the range of flows is necessary for Copermittees to understand the expectations of the requirements.</p>				
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Comment No.	338	Commenter No.	49	Comment Subject	Hydromod
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Comment Section F.1.h.(2) identifies that the HMP must include a suite of management measures to be used on PDPs to protect and restore downstream beneficial uses. As noted in our comments for Finding D.2.g. downstream restoration to its natural state is not always possible in highly urbanized areas and could lead to catastrophic impacts from flooding.

The County requests that provision F.1.h.(2) be modified as follows:

(2) In addition to the hydrologic control measures that must be implemented per section F.1.h.(1)(c), the HMP must include a suite of management measures to be used on Priority Development Projects to protect and restore downstream beneficial uses and prevent or further prevent adverse physical changes to downstream channels. The measures must be based on a prioritized consideration of the following elements in this order:

Response The Regional Board recognizes that it is not always possible to restore creek segments to their natural states because of concern for flood control. For this reason, section F of the Tentative Order does not contain requirements for the Copermittees to restore creeks.

The requirements set forth in section F.1.h do not necessarily apply to concrete lined channels that are hardened all the way from the point of discharge to ocean waters, enclosed bays, or water storage reservoirs and lakes (section F.1.h.(3)(b)). The Copermittees have the discretion to waive the requirements in these situations. If, however, there is a portion of a creek that is not concrete lined all the way from the point of discharge to the ocean, then the beneficial uses of this portion of the creek must be protected and restored. The management measures described in the HMP will aid in protecting and restoring the beneficial uses of any soft-bottomed creek segments occurring downstream of PDPs. The intent of the HMP requirements are to protect and restore the beneficial uses of soft-bottomed creek segments; however, there are no requirements to restore or rehabilitate concrete lined channels.

Although not a requirement, the Regional Board supports efforts to restore and rehabilitate degraded creek segments. In some instances, this entails removing concrete and restoring natural flow regimes. For this reason, section F.1.h.(1)(b) contains language regarding characterizing the erosive flows for concrete lined channels as if they were soft-bottomed creeks. This standard is useful because if concrete lined channels are restored to their full physical, biological and chemical integrity, then the HMP already describes the maximum flow that this creek can sustain before erosion and degradation of beneficial uses occurs. As stated earlier, if a creek is concrete lined from the point of discharge of the PDP all the way to the ocean, enclosed bay, or water storage reservoir, the project can be exempt from the requirements of section F.1.h.

Comment

Section F.1.h.(3) identifies where hydromodification requirements are not required at the Copermittees discretion. The waiver for PDPs that discharge to concrete-lined or significantly hardened channels should be included as hydromodification requirements are not appropriate for channels that are designed to accept increased flows from upstream development as the potential for erosion is minimal or not present. The comments for Finding D.2.g. are reemphasized for this provision as restoration is not always feasible. Furthermore the Fact Sheet and the Regional Board Response to Comments dated July 1, 2009 do not provide adequate technical basis for removing the waiver. The burden should not be on a PDP to identify if a downstream receiving water can be restored, rather that is the responsibility of the Regional Board. Further more it is very important that the exemptions to HMPs be consistent between north and south Orange County otherwise we have consistency and equitable issue that exposes the permittees to undue legal exposure.

The County requests that provision F.1.h.(3) be modified as follows:

(3) Section F.1.h. does not apply to Priority Development Projects where the project:

- (a) Discharges storm water runoff into underground storm drains discharging directly to bays or the ocean; or
- (b) Discharges storm water runoff into conveyance channels that are engineered, concrete lined, or are significantly hardened, and are regularly maintained to ensure flow capacity.
- (c) Site infiltrates at least the runoff from a two-year storm event. The permittees may request for a variance from these criteria, based on studies conducted by the Storm Water Monitoring Coalition, Southern California Coastal Water Research Project, or other regional studies. Requests for consideration of any variances should be submitted to the Executive Officer.
- (d) The volume and the time of concentration of storm water runoff for the post development condition do not significantly exceed those of the predevelopment condition for a two year frequency storm event (a difference of 5% or less is considered insignificant). This may be achieved through site design and source control BMPs.

Response

The Regional Board recognizes that creek restoration is not always feasible, and that hydromodification requirements are not appropriate for channels designed to accept increased flows (concrete lined). As such, section F.1.h of the Tentative Order does not contain any requirements for creek restoration.

Contrary to this comment, the revised section F did not remove the waiver of hydromodification management requirements for concrete-lined channels. Section F.1.h(3)(b) states that Copermittees have the discretion to waive the requirements for discharges of storm water runoff into conveyance channels whose bed and bank are concrete lined all the way from the point of discharge to ocean waters, enclosed bays, or water storage reservoirs. Furthermore, section F.1.h of the Tentative Order does not require the PDP or Copermittee to identify if a downstream receiving water can be restored. In cases where there is a soft-bottomed portion of a creek that is located downstream from the point of discharge of a PDP, however, then the requirements are needed to protect and restore the beneficial uses of this soft-bottomed creek segment.

The Regional Board disagrees with the commenter's suggestions for revised language regarding the exemptions. In terms of consistency with Order No. R8-2009-0030, the Copermittees can avoid consistency and equitable issues if they choose to adopt the more stringent requirements of the Tentative Order as the regional standard. The commenter suggests exempting projects that discharge into hardened channels that are maintained, yet this approach offers no protection to creek segments that are soft-bottomed, located downstream of hardened channels. The commenter further suggests exemptions from PDPs that infiltrate the runoff from a 2-year storm event, or volume or time of concentration of the discharge does not significantly exceed that of the 2-year storm event. Yet, much of the work done by erosive force occurs from storms larger than the 2-year event (SCVURPPP, 2005). As such, the suggestions from the commenter are not acceptable as they do not protect and restore the beneficial uses of receiving waters to the MEP. The Regional Board recommends that the Copermittees review hydromodification management plans in other parts of the State in developing the regional HMP, as the requirements are similar.

Comment No.	340	Commenter No.	49	Comment Subject	Hydromod
Comment	<p>Section F.1.h.(4)(a) requires within 2 years of adoption of the Order the Copermittees develop a draft HMP. The timeframe for development of HMPs for each watershed is too short to ensure an optimized program. Interim criteria assures that there will not be unregulated development in the interim. A minimum of three years, which was the length of time to develop criteria identified in the previous Tentative Order, should be allowed for their development.</p> <p>The County requests that provision F.1.h.(4)(a) be modified as follows:</p> <p>(a) Within 3 years of adoption of the Order, the Copermittees shall submit to some watersheds within south Orange County already have comprehensive watershed he County requests that the following provision be added to Section F.1.h. as follows: the Regional Board a draft HMP that has been reviewed by the public, including the analysis that identifies the appropriate limiting range of flow rates per section F.1.h(1)(b).</p>				
Response	<p>The commenter incorrectly states that HMPs for each watershed are required. Section F.1.h of the Tentative Order requires the Copermittees to collaborate to develop one HMP that serves all of Southern Orange County.</p> <p>The language in the Tentative Order allows the Copermittees 2 years to develop the first draft of the HMP. The Regional Board anticipates that the Copermittees will develop HMPs similar to others available in the State: Contra Costa County, Santa Clara County, and San Diego County. Given the available and newly developed resources related to this subject, extra time to develop the HMP is not warranted.</p>				

Comment No.	341	Commenter No.	49	Comment Subject	Hydromod
Comment	<p>Some watersheds within south Orange County already have comprehensive watershed plans that address hydromodification impacts. These watershed plans where appropriate can substitute for HMPs.</p> <p>The County requests that the following provision be added to Section F.1.h. as follows:</p> <p>(6) HMP Substitution. In watersheds where a comprehensive watershed plan has been developed and addresses hydromodification impacts consistent with this Order, the Copermittees may petition the Executive Officer to substitute the watershed plan for the HMP for that specific watershed.</p>				
Response	<p>See Response to Comment 119 dated July 1, 2009.</p>				

Comment No.	342	Commenter No.	49	Comment Subject	Hydromod
Comment	<p>Section F.1.h.(5) identifies interim hydromodification criteria and identifies those PDPs where the interim hydromodification criteria does not apply. A waiver of the interim hydromodification requirements should also be provided for PDPs per the proposed language for Section F.1.h.(3) identified above.</p> <p>The County requests that Section F.1.h.(5) be modified as follows:</p> <p>Within one year of adoption of this Order, each Copermittee must ensure that all Priority Development Projects are implementing the following criteria by comparing the predevelopment and post-project flow rates and durations using a continuous simulation hydrologic model such as USEPA's Hydrograph Simulation Program—Fortran (HSPF):</p> <p>(a) For flow rates from 10 percent of the 2-year storm event to the 5 year storm event, the post-project peak flows shall not exceed pre-development peak flows.</p> <p>(b) For flow rates from the 5 year storm event to the 10 year storm event, the post project peak flows may exceed pre-development flows by up to 10 percent for a 1-year frequency interval.</p> <p>The interim hydromodification criteria do not apply to Priority Development Projects that meet the conditions identified in Section F.1.h.(3).</p> <p>Within one year of adoption of this Order, each Copermittee must submit a signed, certification statement to the Regional Board verifying implementation of the interim hydromodification criteria.</p>				
Response	<p>The Regional Board disagrees with the proposed language regarding the exemptions from hydromodification management requirements for the reasons discussed in the response to Comments Nos. 337 (regarding the need to include "naturally occurring" to describe the pre-development condition) and 339 (regarding the rationale for the exemptions from the requirements).</p>				

Comment Although not directly addressed within the Tentative Order, the Permittees take issue with the requirement that they must pay a significant fee for the municipal stormwater permit, which covers their construction responsibilities and are also required to pay an additional fee when they submit an NOI to obtain coverage under the Statewide Construction General Permit.

In the Response to Comments IV, Regional Board staff indicate that "the Regional Board does not have the discretion to combine, reduce, or waive fees for waste discharge requirements". However, the County understands that there is some discretion and that this discretion could be consistent with the process that is established within Order No. R8-2009-0030.

Section XV of Order R8-2009-00030 (page 65 and 66) states:

1 This order authorizes the discharge of storm water runoff from construction projects that may result in land disturbance of one (1) acre or more (or less than one acre, if it is part of a larger common plan of development or sale which is one acre or more) that are under ownership and/or direct responsibility of any of the permittees. All permittee construction activities shall be in accordance with DAMP Sections 7 and 8.

2 All construction activities shall be in compliance with the latest version of State's General Permit for Storm Water Discharges Associated with Construction Activities except that an NOI need not be filed with the State Board.

3 Prior to commencement of construction activities, the permittees shall notify the Executive Officer of the Regional Board concerning the proposed construction project. Upon completion of the construction project, the Executive Officer shall be notified of the completion of the project.

4. The permittees shall develop and implement a storm water pollution prevention plan (SWPPP) and a monitoring program that is specific for the construction project greater than one acre, prior to the commencement of any of the construction activities, except for routine maintenance activities. The SWPPP shall be kept at the construction site and released to the public and/or Regional Board staff upon request.

5. The SWPPP (and any other plans and programs required under the General Permit) and the monitoring program for the construction projects shall be consistent with the requirements of the latest version of the State's General Construction Permit.

6. The permittees shall give advance notice to the Executive Officer of the Regional Board concerning any planned changes in the construction activity, which may result in non-compliance with the latest version of the State's General Construction Permit.

Based on the above language the municipalities convey the information that is necessary to the Santa Ana Region, but they do not have to file a formal NOI under the State Construction General permit or pay the permit fee since they have already paid the municipal stormwater program permit fee.

The County requests that language similar to Order R8-2009-0030 be included within the permit so that the municipal stormwater permit fees cover all municipal activities including construction and that they not be held liable for additional fees when submitting NOI-based information.

Response Federal regulations and guidance clearly establish a system of dual regulation by both the municipalities and the NPDES permitting authority (in this case the State) for industrial and construction sites that are subject to NPDES permits. The regulations do not provide any discretion to the permitting authority to waive the NPDES permit requirements for construction sites in areas covered by a MS4 permit. To our knowledge, the Region 8 MS4 permit is the only permit throughout California that waives enrollment in the construction general permit. This action appears contrary to federal law.

Comment No.	344	Commenter No.	49	Comment Subject	Construction
Comment	<p>BMP Implementation (Section F.2.d, Page 50)</p> <p>The Response to Comments IV misunderstood the request in the previous comment letter, therefore the comment is resubmitted.</p> <p>Section F.2.d.(1)(a)(ii) requires the development and implementation of a site-specific stormwater management plan, however this is inconsistent with Section F.2.c.2.</p> <p>The County requests the following change to F.2.d.(1)(a)(ii)</p> <p>(ii) Development and implementation of a site-specific stormwater management plan runoff management plan (or equivalent construction BMP plan such as an erosion and sediment control plan);</p>				
Response	<p>An erosion and sediment control plan is not considered equivalent to a site-specific stormwater management plan, because construction sites are also a source of non-visible pollutants such as metals and nutrients. To the extent that a storm water pollution prevention plan required by the Statewide Construction General Permit meets the requirements of the local jurisdictions codes and ordinances; such a plan may be considered equivalent. Keep in mind that local codes and ordinances can be more specific and stringent than those requirements found in the construction general permit. This requirement to develop a site-specific stormwater management plan also applies to sites less than one acre that are not covered by the Statewide Construction General Permit.</p>				

Comment No.	345	Commenter No.	49	Comment Subject	Construction
Comment	<p>BMP Implementation (Section F.2.d, Page 51-52)</p> <p>Since the County's comments on this issue, the State Water Board has reissued the Statewide Construction General Permit. Section F.2.d.(1)(c)(i) (Page 51-52) states that the Permittees must require implementation of advanced treatment for sediment at construction sites that are determined to be an exceptional threat to water quality.</p> <p>The Statewide Construction General permit adopted by the State Water Board on September 2, 2009, identifies Active Treatment Systems (ATS) as advanced sediment treatment technology. ATS prevents or reduces the release of fine particles of sediment (silts and clays) by employ chemical coagulation, chemical flocculation or electrocoagulation to aid the reduction of turbidity caused by fine suspended sediments.</p> <p>The recently adopted Construction General Permit also lays out a risk-based approach to permit requirements whereby the minimum requirements of the permit (e.g., BMPs, monitoring, and reporting) progressively increase as the risk level increases. Higher risk sites are also subject to numeric action levels and numeric effluent limitations for turbidity and pH.</p> <p>The Construction General Permit identifies ATS as an available technology that may be employed on construction sites, but does not mandate the use of ATS. The Construction General Permit acknowledges that ATS is an emerging technology in California, and establishes conditions (e.g. operation and monitoring requirements) for its use.</p> <p>Given that the Construction General Permit has established a risk approach whereby the highest risk construction projects will be subject to more stringent BMPs, rigorous monitoring, and compliance with numeric action levels and numeric effluent limitations, the County requests that the provisions requiring the use of ATS be deleted from this permit and that the selection of BMPs for construction operations, especially ATS be done under the aegis of the Statewide Construction General Permit.</p>				
Response	<p>The ATS requirements in the Tentative order are identical to the ATS requirements in the San Diego MS4 Permit adopted on January 24, 2007. As such, the authors of the construction general permit, that was only recently adopted, were well aware of these existing requirements for ATS. No changes are made in response to this comment.</p> <p>Please also see response to Comment no. 202.</p>				

Comment No.	346	Commenter No.	49	Comment Subject	Construction
Comment	<p>Construction Reporting of Non-compliant Sites (Section F.2.g.(2), Page 54)</p> <p>The County appreciates that the Regional Board staff clarified the intent of this provision regarding the need and use of the data being requested by the Permittees (see Response to Comments IV comment #128).</p> <p>However, the provision also states that the data be submitted from the Permittees to the Regional Board “prior to the commencement of the wet season” which is typically September and then further states “Information may be provided as part of the JRMP annual report” (which is November). Thus, the timeframe for submittal of the information needs to be clarified.</p> <p>Since F.2.g.(1) already requires that the Permittees notify the Board when the Permittee “issues a stop work order or other high level enforcement to a construction site” and the Permittees must follow the notification requirements in Attachment B, the County requests that the JRMP annual report be the mechanism for conveying the information so that the information is not submitted twice.</p> <p>The County requests the following modifications:</p> <p>(2) Each Copermittee shall annually notify the Regional Board, of all construction sites with alleged violations. Information may be provided as part of the JRMP annual report. Information provided shall include, but not be limited to, the following:</p> <ul style="list-style-type: none"> (a) WDID number if enrolled under the General Construction Permit; (b) Site Location, including address; (c) Current violations or suspected violations. 				
Response	<p>At the least, the Copermittees need to notify the Regional Board prior to the commencement of the wet season. Submission prior to the rainy season allows the Regional Board to coordinate inspections in a timely manner. Per Section K, the Copermittees may propose an alternate schedule. If the Copermittees propose a schedule where the JRMP annual reports are submitted prior to the commencement of the rainy season; then the notification of sites with alleged violations may be done as part of the JRMP annual report. Directive F.2.g.(2) has been corrected.</p>				

Comment Flood Control Structures (Section F.3.a.(4)(c), Page 56)

Section F.3.a.(4)(c) requires the Permittees to evaluate existing flood control devices to identify those that are causing or contributing to a condition of pollution, identify measures to reduce or eliminate the structure's effect on pollution, and evaluate the feasibility of retrofitting the structure. While some minor changes were made, the intent of the previously submitted comments has not been addressed.

The federal regulations [40 CFR, Part 122.26(d)(2)(vi)(A)(4)] focus on evaluating flood control devices and determining if retrofitting the device is feasible. The regulations state:

(4) A description of procedures to assure that flood management projects assess the impacts on the water quality of receiving water bodies and that existing structural flood control devices have been evaluated to determine if retrofitting the device to provide additional pollutant removal from stormwater is feasible.

The County requests that the language be modified so that it is aligned with the current stormwater permit, recognizes the work that has been completed to date, is consistent with the intent of the federal regulations, is consistent with the justification within the Fact Sheet, and is more consistent with Provision XIV.10. in Order No. R8-2009-0030. The proposed language modification is as follows:

(4) BMP Implementation for Flood Control Structures

(c) Each Copermittee who owns or operates flood control devices/facilities must continue to evaluate its existing flood control devices/facilities, and identify opportunities and the feasibility of configuring and/or reconfiguring channel segments/structural devices to function as pollution control devices to protect beneficial uses.

The inventory and evaluation must be completed by and submitted to the Regional Board in the 2nd year JRMP Annual Report.

Response The comment regarding flood control structures was considered in previous response to comments. Please see the Fact Sheet discussion for section F.3.a.(4)(c); the July 6, 2007, Response to Comments I, Response No. 42; the December 12, 2007, Response to Comments II, Response No. 26; the February 13, 2008, Response to Comments III, Comment No. 26; and the July 1, 2009, Response to Comments IV, Response No. 129.

In summary, the Tentative Order's requirements to evaluate retrofitting existing flood control devices are consistent with the intent of the federal regulations. The federal regulations call for flood management projects to assess the impacts on the water quality of receiving water bodies. In order to conduct such an assessment, the Copermittees will have to evaluate and identify those flood control devices that are causing or contributing to a condition of pollution. In order to evaluate feasibility of retrofitting flood control projects, they must first identify proposed measures to reduce or eliminate the structure's effect on pollution.

Comment No.	348	Commenter No.	49	Comment Subject	Existing Development
Comment	<p>Infiltration from Sanitary Sewer to MS4 (Section F.3.a.(7), Page 57-58)</p> <p>There continue to be several concerns with this section of the Tentative Order as outlined below:</p> <p>First - Although (7)(a) is consistent with the current permit (Order No. R9-2002-0001), the Permittees submit that the provisions regarding sanitary sewer maintenance are more applicable to sanitary sewer agencies, not stormwater agencies. It is fundamentally inappropriate to include sanitary sewer maintenance requirements in a stormwater permit even where the two systems may be operated by the Permittee. Where similar maintenance requirements are included in the wastewater treatment plant or collection system permit, these provisions are an unnecessary duplication of other regulatory programs.</p> <p>In addition, it is an inappropriate and ineffective use of public money to try to “prevent and eliminate infiltration of seepage from sewers to MS4s”. How are the permittees supposed to know where the infiltration is occurring throughout the hundreds of miles of storm drains so that the efforts can be focused to those areas? How are the permittees supposed to prevent infiltration in the storm drain system without sliplining the entire system? Although it may seem like this is something that the permittees can simply do through “routine preventative maintenance” this simply isn’t the case. Instead, the owner/operator of sewer system must have the primary responsibility to prevent exfiltration/leaks from occurring in the first place rather than relying on the recipient of the leaks to manage the problem.</p> <p>Second - On a similar issue, the State Board stayed a provision in the existing permit finding that “the regulation of sanitary sewer overflows by municipal storm water entities, while other public entities are already charged with that responsibility in separate NPDES permits, may result in significant confusion and unnecessary control activities.” [emphasis added] (WQ 2002-0014 at p.8).</p> <p>It is unclear why the Board staff are not conforming with this Stay from the previous permit. In addition, this portion of the comment was not addressed within the Response to Comments IV.</p> <p>The County requests that part (a) of the provision (7) should be deleted from the Tentative Order.</p>				
Response	<p>The comments regarding sanitary sewer infiltration and spill response have been extensively considered in previous response to comments. Please see the July 6, 2007 Response to Comments I, Response Nos 44, & 50; the December 12, 2007, Response to Comments II No. 28; the July 1, 2009, Response to Comments IV, Response No. 130 & 180.</p>				

Comment No.	349	Commenter No.	49	Comment Subject	Existing Development
Comment	<p>While the Permittees agree that stormwater agencies must also address aspects of sanitary sewer incursions into the MS4s, the provisions in (7)(b) are aspects of other portions of the stormwater program and should be moved to those sections of the Tentative Order.</p> <p>The County requests the following proposed changes:</p> <ol style="list-style-type: none"> i. Adequate plan checking for construction and new development – incorporate in the Construction and New Development programs ii. Incident response training for municipal employees that identify sanitary sewer spills – incorporate in the Illegal Discharges/Illicit Connections (ID/IC) program. iii. Code enforcement inspections – delete, this is covered by other programs iv. MS4 maintenance and inspections – incorporate in the Municipal program, provision D.3.a(6). v. Interagency coordination with sewer agencies – incorporate in the ID/IC program. vi. Proper education of municipal staff and contractors conducting field operations on the MS4 or municipal sanitary sewer (if applicable) – incorporate in the Municipal program. 				
Response	<p>This comment has previously been addressed please see the July 1, 2009 Response to Comments IV, Response No. 251.</p>				

Comment Mobile Businesses (Section F.3.b(3)(a), Page 62)

Although the Response to Comments IV addresses the County’s previously submitted comments, we respectfully disagree with Board staff that the new permit section “is not a significant change from the existing Order” and that our proposed recommendation of a pilot program focused on one or two categories of mobile business would be “a lessening of the requirement and considered backsliding”. In fact, the latter statement is not supported by the structure and description of the new section of the permit which states that the Permittees must develop the following (i.e. this is a new program that is not currently in existence pursuant to the previous Order):

- “a program to reduce the discharge of storm water pollutants from mobile businesses to the MEP”
- “minimum standards and BMPs”
- “an enforcement strategy”
- “an outreach and education strategy”

In our previous comment letter we noted the difficulties associated with developing this program, concerns which were mirrored in the Fact Sheet. For the reasons previously noted and acknowledged by the Regional Board, we request that the requirement for this program be changed to the development of a pilot program for the mobile business category. The pilot program would allow the Permittees to work together on a regional basis to develop an appropriate framework for addressing mobile business and determine whether the program is effective prior to expending a significant amount of resources on multiple categories of mobile businesses.

In addition, this would be consistent with the approach taken in the Santa Ana Region pursuant to Order No. R8-2009-0030 – Section X.8. (page 45) which states:

“Within 12 months of adoption of this order, the permittees shall develop a mobile business pilot program. The pilot program shall address one category of mobile business from the following list: mobile auto washing/detailing; equipment washing/cleaning; carpet, drape and furniture cleaning; mobile high pressure or steam cleaning. The pilot program shall include at least two notifications of the individual businesses operating within the County regarding the minimum source control and pollution prevention measures that the business must implement. The pilot program shall include outreach materials for the business and an enforcement strategy to address mobile businesses. The permittees shall also develop and distribute the BMP Fact Sheets for the selected mobile businesses. At a minimum, the mobile business Fact Sheets should include: laws and regulations dealing with urban runoff and discharges to storm drains; appropriate BMPs and proper procedure for disposing of wastes generated.”

The County requests that the Board modify this section of the permit to identify that a program will be developed as a pilot program focusing on one category of mobile businesses.

Response The Regional Board stands by their response in the July 1, 2009, Response to Comments IV, No. 29.

To elaborate, the previous permit, R9-2002-0001, section F.3.c, requires the Copermitttees to:

- "reduce pollutants in runoff", section F.3.c
- "designate a set of minimum BMPs", section F.3.c.(3)
- "enforce its storm water ordinance for all commercial sites and sources", Section F.3.c.(5)
- "develop an education component to address commercial communities", Section F.4.b

In comparison to the previous order, the commercial source identification inventory is identical regarding mobile businesses except for the addition of mobile pet services, and the Regional Board has not received comments contrary to their inclusion.

Comment Inspection of Industrial and Commercial Sites/Sources (Section F.3.b(4)(b), Page 63)

The County appreciates that the Regional Board staff clarified the intent of this provision regarding the need and use of the data being requested by the Permittees. However, the provision also states that the data be submitted from the Permittees to the Regional Board "prior to the commencement of the wet season" which is typically September and then further states "Information may be provided as part of the JRMP annual report" (which is November). Thus, the timeframe for submittal of the information needs to be clarified.

Since the Permittees already notify the Board when there are compliance issues at an industrial site/facility subject to the General Industrial Permit and the Permittees must follow the notification requirements in Attachment B, the County recommends that the JRMP annual report be the mechanism for conveying the information so that the information is not submitted twice.

The County requests the following modifications:

(2) Each Copermittee shall annually notify the Regional Board, prior to the commencement of the wet season, of all Industrial sites and Industrial Facilities subject to the General Industrial Permit or other individual NPDES permit with alleged violations. Information may be provided as part of the JRMP annual report.

Response At the least, the Copermittees need to notify the Regional Board prior to the commencement of the wet season. Submission prior to the rainy season allows the Regional Board to coordinate inspections in a timely manner. Per Section K, the Copermittees may propose an alternate schedule. If the Copermittees propose a schedule where the JRMP annual reports are submitted prior to the commencement of the rainy season; then the notification of sites with alleged violations may be done as part of the JRMP annual report. Directive F.3.b.(4)(b) has been corrected.

Comment Retrofit Existing Development (Section F.3.d, Pages 68-70)

This provision requires that each Permittee must implement a retrofitting program for existing developments (i.e. municipal, industrial, commercial, residential). These requirements present a significant change and present a substantial burden to the municipal stormwater program by requiring a host of engineering studies, capital improvements, land acquisition, etc.) This requirement is also inconsistent with Order R8-2009-0030.

Currently, new development requirements are imposed as conditions of approval for new projects and projects that are voluntarily undergoing redevelopment. A thorough legal review is required to determine whether municipalities have the authority to compel land development requirements absent a voluntary land development application and if such authorities can be developed given other legal constraints.

The Permittees do not concur with the statement of the Regional Board staff in the fact sheet that "Retrofitting existing development is practicable for a municipality..." A systematic evaluation of the technical and legal opportunities and constraints of a requirement to require retrofitting, especially of private landowners, is necessary to determine whether or not such a requirement is practicable. The evaluation must precede the permit provision to mandate MS4s require retrofitting of existing development.

These provisions of the permit represents an entire new approach to existing development that places an unknown significant burden on the Permittees and ultimately to property owners in the south Orange County area. It is concerning to the County that this provision sets up a process that goes well beyond the Federal regulations, especially regarding potential efforts on private property.

In addition, the provision sets up a requirement that will likely require the Permittees to address most, if not all, of the areas within the geographic area regulated under this permit, which simply is not feasible. The Permittees are required to inventory a multitude of candidate areas, prioritize them and then proceed with projects in those areas where retrofitting is feasible. In addition, provision d.6. further states that, "where constraints on retrofitting preclude effective BMP deployment...the Copermittee may propose a regional mitigation project", which then means that additional projects will have to be undertaken – not just those that are prioritized as "highly feasible".

The County requests that this unprecedented requirement be eliminated from the permit.

Response The comment regarding retrofitting has been considered in the previous response to comments. Please see the Fact Sheet discussion on retrofitting; and the July 1, 2009, Response to Comments IV, Response Nos. 46, 136, 161, and 162.

In summary, the Tentative Order's requirements for retrofitting existing development is practicable for a municipality through a systematic evaluation, prioritization and implementation plan focused on impaired water bodies, pollutants of concern, areas of downstream hydromodification, feasibility and effective communication and cooperation with private property owners. The Tentative Order's requirement realized the legal limitations that the Copermittees have in requiring retrofitting on privately held land. Therefore, the Tentative Order requires the Copermittees to cooperate with private landowners in implementing retrofitting opportunities.

Comment Watershed Urban Runoff Management Program (Section G, Page 74)

The County appreciates the modification to the WURMP section to provide for the flexibility that is necessary within a watershed management program.

The County requests that the WURMP Workplan be expanded to include the following so that the watershed work plans are comprehensive and address water quality in a more holistic manner:

- Municipal retrofit provision;
- Hydromodification;
- Water supply; and
- Habitat

Since it is not always necessary to “model” to demonstrate water quality improvements in the receiving waters, the County requests that provision G.2.e. be modified to allow for modeling and/or monitoring as necessary.

Response It is unnecessary to specifically reference or include those sections in the Watershed Workplan requirement. All jurisdictional components could be integrated into the watershed workplans depending on the specific pollutants of concern in the watershed. By not specifying specific components within the watershed workplan, the Tentative Order is actually more flexible for the Copermittees to determine BMPs and strategies to address pollutants of concern. The modeling will be necessary to assist the Copermittees in assessing the effectiveness of the BMPs, selecting BMPs for deployment, and prioritizing their resource expenditures.

Comment

This provision is supported by Finding E.11 which identifies that adopted TMDL WLAs will be incorporated as numeric effluent limits for specific pollutants and watersheds.

As noted previously, the Permittees are concerned that it appears that Regional Board staff plan to incorporate WLAs as numeric effluent limits in the MS4 permit without consideration of other options or as to how the TMDL may be written, which might include:

- Requiring implementation of specific BMPs in the permit;
- Providing a recommended menu of potential BMPs in the TMDL, implementation plan, or the permit for sources to evaluate and select;
- Referencing BMP performance standards in the TMDL, implementation plan, or the permit;
- Recommending the selection of BMPs and developing benchmark values or performance measures; and
- Requiring the review of existing BMPs and selecting additional BMPs to achieve progress.

The USEPA draft handbook TMDLs to Stormwater Permit lists the above options and notes that:

“There are no guidelines for determining which approach is most appropriate to use. It is likely that a variety of factors, including type of source, type of permit, and availability of resources, will influence which approach makes the most sense.”

However, it does not appear that the Regional Board has considered the variety of factors in determining that numeric effluent limitations are most appropriate method of incorporating the WLAs for all pollutants in all watersheds into the MS4 stormwater permit.

The County requests that the following language, which is from the adopted Ventura County MS4 Stormwater Permit (R4-09-0057 Page 95) be incorporated into this section within the introduction to clarify how the WLAs will be attained:

The Permittees shall attain the Waste Load Allocations by implementing BMPs in accordance with the TMDL Technical Report, Implementation Plan, or as identified as a result of TMDL special studies specified in the Basin Plan Amendment.

The Permittees shall comply with the Waste Load Allocations, consistent with the assumptions and requirements of the Waste Load Allocations documented in the Implementation Plans, including compliance schedules, associated with the State adoption and approval of the TMDL at compliance monitoring points established in the TMDL Monitoring Program (40 CFR 122.44(d)(1)(vii)(B)).

Response

The Regional Board has considered all options when considering how best to incorporate the TMDL into the Tentative Order. The Copermitees are given great flexibility in implementing BMPs capable of meeting the Waste Load Allocation Reductions, Final Allocations and Numeric Targets that come directly from the adopted TMDL. The USEPA approves of this approach as is evident by their letter of September 28, 2009 that supports adoption of the Tentative Order. No change has been made in response to this comment.

This comment has been previously submitted (albeit in a slightly different format). Please see response to Comment no. 144 from the July 1, 2009, Response to Comments IV. Please also see response to Comment nos. 59 and 72 from the July 1, 2009, Response to Comments IV.

Comment No.	355	Commenter No.	49	Comment Subject	General
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Comment Section J. of the Tentative Order requires the Permittees to assess the effectiveness of their JURMP, identify necessary program modifications, and report that information to the Regional Water Board on annual basis. Section J.1.a. identifies specific water quality-based objectives for 303(d) listed water bodies, environmentally sensitive areas (ESAs), and the major program components.

Although the concept and intent of the provision is understood and supported by the Permittees, the specificity and inclusion of the required water quality-based objectives and focus on the 303(d) listed water bodies and ESAs is misplaced and has not been developed within the context of the California Stormwater Quality Association (CASQA) Guidance or through the State's Storm Water Quality Task Force which was established pursuant to AB 739 to develop a comprehensive guidance document for evaluating and measuring the effectiveness of Municipal Storm Water Management Program (Guidance Document). Although the Guidance Document has not been finalized, it builds off of the CASQA Guidance Document concepts. In addition, this section is not consistent with Order R8-2009-0030.

As written, this section of the Tentative Order is not consistent with the CASQA Guidance Document and does not provide flexibility for the Permittees to develop objectives and an overall strategy for the effectiveness assessment and will result in resources being expended without achieving the intended goal.

Since the Permittees have already developed and implemented a program effectiveness assessment framework and programmatic and environmental performance metrics and have committed to developing metric definitions and guidance to improve the efficacy of the assessments in the ROWD, the provision should be modified to allow the Permittees to continue to use the approach that they have been using for several years.

The County requests that this provision be replaced with the following text: The annual report shall include an overall program assessment. The permittees may use the "Municipal Stormwater Program Effectiveness Assessment Guidance" developed by the California Stormwater Quality Association in May 2007 as guidance for assessing program activities at the various outcome levels. The assessment should include each program element required under this order, the expected outcome and the measures used to assess the outcome. The permittees may propose any other methodology for program assessment using measurable targeted outcomes.

Response This comment has been submitted and responded to twice previously. Please see Comment No. 145 in the July 1, 2009, Response to Comments IV and Comment No. 56, Response to Comments on Tentative Order No. R9-2007-0002, July 6, 2007.

In regards to consistency, please see Comment no. 373 . Please also see Comment No. 24 in the July 1, 2009, Response to Comments IV.

Comment No.	356	Commenter No.	49	Comment Subject	General
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Comment Section G.7. requires that the Permittees submit the Aliso Creek WURMP annual report by March 1 of each year. Since the Watershed Action Plan Annual Report for the Aliso Creek Watershed has historically been submitted in November of each year and has been based on the fiscal year like the other WURMP reports, it is unclear why Board staff are requiring this change. As such, the Aliso Creek WURMP submittal is now inconsistent with the other WURMP submittals both in the date for submittal and the time period for which the report covers. The County would prefer that the Aliso Creek WURMP annual report submittal date be aligned with the other WURMP submittals.

The County requests that the new language incorporated as a part of Section K. on page 84 also be included in the introduction to Section G.7. so that the reporting schedules are consistent.

The Copermittees may propose alternate reporting criteria and schedules, as part of their updated JRMP, for the Executive Officer's acceptance.

Response The language under Section K applies to all reporting criteria and schedules in the Tentative Order, not just for JRMP requirements. Any proposed criteria and suggested schedules should be included in the updated JRMP.

Comment No.	357	Commenter No.	49	Comment Subject	Monitoring
Comment	To enable staff, monitoring, and analytical resources for new monitoring program requirements to be acquired and integrated into current efforts, it is requested that implementation of new requirements should be specified in Attachment E to begin 12 months from the date of permit adoption.				
Response	The earliest monitoring required under the Tentative Order does not begin until October 01, 2010 (see E.III.B). Multiple facets of the monitoring (e.g. mass emissions and non-storm water) are continuations of monitoring programs under R9-2002-001. Furthermore, there are multiple extended time frames for other monitoring programs, such as the sediment toxicity special study. The Regional Board contends this is an ample time frame, as not all new monitoring requirements take effect October 01, 2010.				
Comment No.	358	Commenter No.	49	Comment Subject	Monitoring
Comment	<p>The 6-hour holding time for samples of indicator bacteria limits the length of time that sampling teams can spend in the field and consequently does not allow sampling of some episodic events. For example, a typical day of bioassessment monitoring at three locations requires 8 hours in the field for PHAB assessment and collection of benthic macroinvertebrate, water quality, and toxicity testing samples. Also, mass emissions monitoring of stormwater runoff can occur on weekends and holidays when contract laboratory services are not available. Additionally, monitoring bacteriological quality of stormwater at mass emissions site will not useful information considering access to flood control channels is prohibited during periods of stormwater runoff and the mass emissions monitoring sites are generally great distances upstream of the coastal receiving waters.</p> <p>The County requests that the requirement to conduct monitoring of bacteriological quality at bioassessment sites and during stormwater events at mass emissions sites be removed.</p>				
Response	Please see Comment no. 318 in the July 1, 2009, Response to Comments IV. The request for exemption of bacteriological sampling during bioassessment sampling was accepted in the July 01, 2009 response to comments. This has been clarified in Attachment E.				
Comment No.	359	Commenter No.	49	Comment Subject	Monitoring
Comment	<p>Monitoring for oil and grease concentration will not detect lighter petroleum fractions such as gasoline and diesel. Oil and grease has been detected in 13 of 900 samples in the Dry Weather Reconnaissance Program since 2003.</p> <p>The County requests that the requirement to collect a grab sample for oil and grease during stormwater runoff monitoring be limited to Mass Emissions and Ambient Coastal Receiving Water sites.</p>				
Response	Under Attachment E, the only required storm water sampling for oil and grease is for Mass Emissions and Ambient Coastal Receiving Water Monitoring sites.				
Comment No.	360	Commenter No.	49	Comment Subject	Monitoring
Comment	<p>Section E.II.B.1.b requires measurement of hardness in the receiving waters during composite stormwater sampling of the MS4 major outfalls. Since the hardness of the receiving waters can fluctuate considerably during a storm, a composite sampling of the receiving water would be the most appropriate method of determining the water hardness. This sampling of the receiving water however would require an extra automatic sampler.</p> <p>The County requests that if the total metal concentration of the composite sample from the major outfall exceeds the SAL, comparison will be made to the CTR CMC adjusted to a hardness value calculated from the Mass Emissions Database. The representative hardness value from each watershed area will be calculated as the median of the timeweighted hardness values of all storms monitored (2000-2008 reporting years) in the mass emissions program within the respective watershed area. The current mass emission monitoring protocol includes collection of 3-5 composite samples during a 4-day period after the onset of a storm. In order to more accurately characterize receiving water hardness during the first 24 hours (MS4 Major Outfall monitoring protocol) only the first two composite samples (1-hour first flush + second composite) of each storm would be used to calculate the time-weighted average concentration.</p>				
Response	<p>Attachment E of the Tentative Order currently does not prescribe the exact sampling methodology, and only states that a grab sample may be utilized.</p> <p>The Regional Board appreciates the suggestion to use historic mass emissions data, but this is more appropriate to propose in the Planned Monitoring Program, due September 1, 2010 (see Attachment E.III.A.1) under the Tentative Order. Since an exceedance of an SAL is to be combined with other information when the Copermitees consider iterative actions, the use of a median hardness value should not be a problem.</p>				

Comment No.	361	Commenter No.	49	Comment Subject	Monitoring
Comment	<p>Section E.II.C.b.(3) states that effluent samples must also include analysis for chloride, sulfate, and total dissolved solids. Although these constituents are listed in the Basin Plan they were removed from the lists of NELs that were in prior iterations of the permit.</p> <p>The County requests the removal of these three constituents from the Non-stormwater monitoring suite.</p>				
Response	<p>Chloride, sulfate and total dissolved solids have been identified as pollutants of concern, and may be found in illicit discharges and/or connections to the MS4. These pollutants were removed from the initial list of NELs as more information, including monitoring, was found to be required in order to evaluate the need for effluent limitations. The commenter provides no reason for their removal from IC/ID monitoring. Thus, no change has been made.</p>				
Comment No.	362	Commenter No.	49	Comment Subject	Monitoring
Comment	<p>Section F.4.e.(2)(c) of the Program Provisions states that: "Within two business days of receiving analytical laboratory results that exceed action levels, the Co-Permittees must either initiate an investigation to identify the source of the discharge or document the rationale for why the discharge does not pose a threat to water quality and does not need further investigation." The two-day response is an unrealistic expectation considering the weekly volume of data received from the laboratories, the time required to enter the data into the Co-Permittee database, and the data review process.</p> <p>The County requests the establishment of a protocol that specifies that within five business days of receiving analytical laboratory results that exceed action levels the Co-Permittee responsible for the watershed from which the discharge emanated will be notified. Within 2 business days after notification Co-Permittee will either initiate the an investigation to identify the source of the discharge or document the rationale for why the discharge does not pose a threat to water quality and does not need further investigation.</p>				
Response	<p>Please see response to Comment no. 260.</p> <p>The Regional Board has changed the required response criteria from 2 business days to 5 business days.</p>				
Comment No.	363	Commenter No.	49	Comment Subject	Monitoring
Comment	<p>The requirement that the Planned Monitoring Program be submitted September 1st of every year, beginning on September 1, 2009, does not allow adequate time for analysis of the monitoring data from the prior year as it is affected by management actions undertaken throughout the MS4, subject of the annual Performance Effectiveness Assessment.</p> <p>The County requests that consideration be given to an annual meeting after submittal of the Annual Report to discuss the content of the report and any changes to the monitoring program or suggestions for special studies. This approach will promote a more collaborative relationship between the Permittees and Board staff and may help streamline the renewal of future permits.</p>				
Response	<p>The Regional Board has already agreed that this is a good idea. Please see Comment nos. 326, 267 and 183 in the July 1, 2009, Response to Comments IV.</p>				
Comment No.	364	Commenter No.	49	Comment Subject	Monitoring
Comment	<p>The requirement that the Receiving Waters and Urban Runoff Monitoring Annual Report be submitted October 1st of every year, beginning on October 1, 2010, does not provide adequate time for relevant analysis of the monitoring data collected in the 12-month period immediately prior to the proposed reporting date. Previous annual reports were submitted on November 15th of each year and assessed the results of monitoring activities conducted in the 12-month period ending 4½ months prior to the reporting date.</p> <p>The County requests that the Receiving Waters and Urban Runoff Monitoring Programs Annual Report continue to be submitted in conjunction with the Unified Annual Report and Performance Effectiveness Assessments.</p>				
Response	<p>Please see Comment no. 183 in the July 1, 2009, Response to Comments IV.</p>				

Comment No.	365	Commenter No.	50	Comment Subject	LID
Comment	<p>We appreciate the Board's recognition that properly engineered LID filtration BMPs are available to a project developer to meet the LID performance standard. The Tentative Order language states that "due to the flow through design of biofiltration BMPs, the total volume of the BMP, including pore spaces and prefilter detention volume is allowed to be no less than 0.75 times the design storm volume."</p> <p>At a minimum, we ask that this section be revised to require that the biofiltration BMPs be designed to retain no less than 75% of the portion of the design storm that is not retained on site. We believe the intent of the Board is to allow biofiltration (or better stated, filtration LID BMPs) BMPs to be used to handle all or a portion of the design storm volume when it is shown through infeasibility that onsite retention BMPs alone cannot handle the total design storm volume. Sizing each and every biofiltration BMP to handle up to 0.75 of the total design storm volume is unnecessary and expensive.</p>				
Response	<p>The Regional Board agrees that the intent of the Tentative Order's requirement is that the total prefilter volume be 75 percent of the portion of the design storm that is treated by the biofiltration BMP. But please understand that the overall filtration design of the biofiltration unit must be for the whole design storm. The 75 percent allowance is for the prefilter detention volume.</p>				

Comment No.	366	Commenter No.	50	Comment Subject	Hydromod
Comment	<p>The hydromodification control waivers contained in this subsection should expressly include waivers for projects that do not increase the potential for hydromodification impacts over the existing site conditions, or that discharge to a receiving water that is not susceptible to hydromodification impacts. Suggested edits are as follows:</p> <p>Waivers may also be implemented for the following projects that do not increase the potential for hydromodification impacts over the existing site conditions:</p> <p>(A) Projects within a natural watershed where a geomorphically-based watershed study has been prepared that establishes that the potential for hydromodification impacts is not present.</p> <p>(B) Significant redevelopment projects that do not do not increase impervious area or decrease the infiltration capacity of pervious areas compared to the pre-project conditions.</p> <p>(C) Projects that discharge directly or via a storm drain to a substantially hardened channel, sump, a lake, area under tidal influence, or other receiving water that is not susceptible to hydromodification impacts.</p>				
Response	<p>Please see the response to Comment No. 122.</p>				

Comment No.	367	Commenter No.	51	Comment Subject	LID
Comment	<p>Our comments focus on the development and implementation of effective Low-Impact Development ("LID") utilizing progressive standards and reviews in order to ensure the integrity of the latest MS4 permit. Coastkeeper has consistently supported the inclusion and implementation of LID principles throughout the development of MS4 permits in Orange County and the Inland Empire. LID provides an environmentally preferred avenue for the reduction of harmful pollutants from the waterways of southern California as well as providing for groundwater recharge and a reduction in our region's reliance on imported water. In as much as we support the incorporation of LID principles into the south Orange County MS4 permit, we are also dedicated towards the adoption of a permit which accurately reflects the various LID best management practices ("BMPs") in a way which maximizes their utility.</p> <p>Chief among our concerns is this permit's pervasive reliance on "biofiltration" without including a working definition of the term or providing verifiable standards of which biofiltration BMPs must satisfy. Rather than provide clarity the permit instead reinforces ambiguity by providing a potentially unworkably vague term which does not guarantee onsite retention of pollutants. If biofiltration is adopted, then there should be additional guidance on the Regional Board's definition of biofiltration. Additionally, the Regional Board should ensure proper oversight of any proposed biofiltration device to guarantee that it is properly sized and designed.</p>				
Response	<p>The Tentative Order includes a definition of biofiltration in Attachment C and has included design criteria in section F.1.d(4)(c)(ii).</p>				

Comment No.	368	Commenter No.	51	Comment Subject	LID
Comment	Coastkeeper agrees with the Regional Board that structural, proprietary, and/or engineered biofiltration devices should be permitted where appropriate. However, the Regional Board should hold those biofiltration devices to equivalent water quality standards and require proper monitoring to prove their initial and continued effectiveness as pollution control devices. For example, a four to five year postconstruction monitoring regimen with at least annual reporting which includes data on wet and dry seasons would be an appropriate mechanism for analyzing biofiltration effectiveness for major developments.				
Response	<p>The Regional Board maintains that bio-filtration is part of a comprehensive LID program. Effective bio-filtration provides pollutant removal and energy dissipation. Biological removal of pollutants can even be an improvement over simply keeping pollutants on-site until rainfall over the design-storm criteria washes pollutants into receiving waters. Removal of pollutants and prevention of downstream hydromodification ensures any discharge to be low impact. The USEPA's Green Infrastructure website includes filtration as a Low Impact Development technique; http://cfpub.epa.gov/npdes/greeninfrastructure/information.cfm#glossary. In addition, the U.S. Department of Housing and Urban Development's report titled "The Practice of Low Impact Development," (July 2003, H-21314CA) incorporates filtration techniques. The County of San Diego's LID manual also utilizes bio-filtration as an acceptable LID practice.</p> <p>In the future as the science and knowledge of storm water treatment evolves, filtration may not be a suitable LID practice to meet the maximum extent practicable standard. For this permit iteration, LID BMPs that capture the design storm for reuse, infiltration or evapotranspiration are preferred over bio-filtration techniques. The draft permit provides design-criteria for "LID bio-filtration BMPs" in section F.1.4.d.ii and requires demonstration that retention LID BMPs are technically infeasible prior to implementing bio-filtration BMPs.</p>				

Comment No.	369	Commenter No.	51	Comment Subject	LID
Comment	Finally, Coastkeeper encourages the Regional Board to view the utilization of biofiltration as a "trigger" for LID offsite programs. As stated earlier, the use of biofiltration does not guarantee that pollutants are retained onsite and therefore the adoption of additional programs to address pollution should be included in a comprehensive approach to combat the discharge of harmful pollutants into the waters of Orange County. Possible offsite programs are discussed in the permit concerning the LID waiver program and include "green streets projects, existing development retrofit projects, retrofit incentive programs, regional BMPs and stream restoration."				
Response	Please see the response to Comment No. 368.				

Comment No.	370	Commenter No.	51	Comment Subject	LID
Comment	In conclusion, Coastkeeper appreciates the effort the Regional Board and its staff have put towards developing an effective MS4 permit for south Orange County which effectively and efficiently addresses the environmental concerns of the watershed in a transparent and comprehensive approach. We look forward to a constructive relationship with the Regional Board and hope our comments will assist in the development of a thoughtful and progressive permit.				
Response	comment noted.				

Comment

Section F.1.d.(4)(d)(ii) allows LID biofiltration BMPs to treat any volume that is not retained onsite by the LID BMPs, if onsite retention LID BMPs are technically infeasible. Section F.1.d.(4)(d)(iii) permits conventional treatment controls if it is shown to be technically infeasible to treat the remaining volume up to and including the design capture volume using LID BMPs (retention or biofiltration), and importantly, if the project participates in the LID waiver program in Section F.1.d.(8).

A critical failure of this section is that the use of biofiltration does not implicate the Waiver Program – a project using biofiltration would still be in compliance with the LID requirements. Although biofiltration is a legitimate and often effective technique to clean stormwater, it is simply not as effective as onsite recapture. Capture onsite ensures that absolutely zero pollution leaves the site via stormwater. By definition, any other technique, including biofiltration, is less effective since pollution could be released.

Additionally, biofiltration remains poorly defined in the permit. As such, it is a subjective term and could be abused. Simply allowing stormwater to pass over a lawn could meet the standard, a practice that would not meet the intent or goals of preventing downstream pollution.

Even if implemented properly, biofiltration will not be completely effective. It is unacceptable to imply an equal substitution of biofiltration for onsite retention when the two processes do not produce equal results.

If onsite retention is truly infeasible, and biofiltration is appropriate, the project should be governed by the Waiver Program, which would require the project to implement a mitigation project and payment into an in-lieu funding program. See Section F.1.d.(7). As part of the Waiver Program, a project would be allowed to implement either biofiltration or treatment control BMPs with off-site mitigation. This still encourages developers to use a biofiltration system after retention as biofiltration is often much less expensive than conventional controls, but prevents the loophole of equating onsite retention and biofiltration.

Response

The Regional Board maintains that bio-filtration is part of a comprehensive LID program. Effective bio-filtration provides pollutant removal and energy dissipation. Biological removal of pollutants can even be an improvement over simply keeping pollutants on-site until rainfall over the design-storm criteria washes pollutants into receiving waters. Removal of pollutants and prevention of downstream hydromodification ensures any discharge to be low impact. The USEPA's Green Infrastructure website includes filtration as a Low Impact Development technique; <http://cfpub.epa.gov/npdes/greeninfrastructure/information.cfm#glossary>. In addition, the U.S. Department of Housing and Urban Development's report titled "The Practice of Low Impact Development," (July 2003, H-21314CA) incorporates filtration techniques. The County of San Diego's LID manual also utilizes bio-filtration as an acceptable LID practice.

In the future as the science and knowledge of storm water treatment evolves, filtration may not be a suitable LID practice to meet the maximum extent practicable standard. For this permit iteration, LID BMPs that capture the design storm for reuse, infiltration or evapotranspiration are preferred over bio-filtration techniques. The draft permit provides design-criteria for "LID bio-filtration BMPs" in section F.1.4.d.ii and requires demonstration that retention LID BMPs are technically infeasible prior to implementing bio-filtration BMPs. The requirements for LID have been written to provide the Copermittees consistency with the provisions of the Santa Ana Regional Board's North Orange County MS4 permit.

The Tentative Order includes a definition of biofiltration in Attachment C and has included design criteria in section F.1.d(4)(c)(ii).

Comment No.	372	Commenter No.	52	Comment Subject	SUSMP
Comment	<p>The Tentative Order currently allows large-scale watershed based projects to go straight to biofiltration without first proving technical infeasibility. See Revised Tentative Order No. R9-2009-0002 at F.1.c.(8). Section F.1.c.(8) states “Any volume that is not retained by the LID BMPs, up to the design capture volume, must be treated using LID biofiltration.” If “any volume” not retained by the LID BMPs can immediately be treated using biofiltration, without any proof of technical infeasibility, then a developer could avoid any retention efforts and simply use biofiltration.</p> <p>By contrast, Priority Developments “require LID BMPs or make a finding of infeasibility for each Priority Development Project in accordance with the LID waiver program in Section F.1.d.(8).”</p> <p>There is no justification for treating large-scale watershed based projects differently. Both Priority Developments and large-scale watershed based projects have the potential to cause a great deal of damage if the lack of treatment techniques allows run-off. Section F.1.d.(2)(e) includes Environmentally Sensitive Areas (“ESA”) under the definition of a Priority Development Project. Because of their proximity to ESAs, any discharge from these Priority Developments would be especially damaging to the environment. These projects are similar to the large-scale watershed based projects, which are defined as a development project greater than 100 acres in total project size or smaller than 100 acres in size yet part of a larger common plan of development over 100 acres, that has been prepared using watershed and/or sub-watershed based water quality, hydrologic, and fluvial geomorphic planning principles that implement regional LID BMPs. Because of their size, any discharge from these projects has the same high potential as Priority Developments to cause damage.</p> <p>Because large-scale watershed based projects are similar to Priority Developments in that there is an increased risk of damage from run-off, Section F.1.c.(8) should be changed to include a finding of infeasibility before biofiltration is permitted, identical to the language governing Priority Developments in Section F.1.d.(4)(a)(i).</p>				
Response	<p>The Regional Board thanks you for the comment. The language in the tentative Order has been revised accordingly. Please also see response to Comment No. 273.</p>				

Comment The City of Mission Viejo continues to express its concerns with the lack of permitting consistency with the North Orange County MS4 Permit (Order R8-2009-0030). We believe the lack of permitting consistency will lead to confusion by private developers, businesses, and residents over storm water regulatory requirements. Specifically, the land development standards for water quality protection should be uniform on a countywide basis to lend credibility to our efforts to manage urban runoff and to sustain the obvious cost effectiveness of a single and coordinated County-wide NPDES Program in Orange County. Therefore, we support the County's comments and suggested language improvements on the Tentative Order to ensure that it is uniform with the North Orange County MS4 Permit.

Response To the extent economic information was submitted, the Regional Board staff considered economic considerations in developing elements of the Tentative Order, but the Regional Board is not required to conduct a cost-benefit analysis. Please also see response to Comment no. 259.

As stated in the response to Comment No. 24 in the July 1, 2009, Response to Comments IV, the Regional Board is sensitive to the Copermittee's concerns of consistency and has sought to write the draft Tentative Order to both protect Water Quality and to assist the County and those affected Cities to develop a single program. First and foremost, the draft Tentative Order is consistent with the Clean Water Act, Code of Federal Regulations and USEPA guidance. These federal regulations are the driving force behind the requirement for the MS4 permit and this reissuance. To reach consistency with the federal regulations, several changes are in the draft Tentative Order, namely, the removal of the term "urban runoff," prohibition of over-irrigation discharges, and the numeric effluent limitations for dry weather non-storm water discharges. In addition, the draft Tentative Order must comply with the anti-backsliding requirements found in 40 CFR 122.44(l): "[W]hen a permit is renewed or reissued, interim effluent limitations, standards or conditions must be at least as stringent as the final effluent limitations, standards, or conditions in the previous permit."

It is important to note the draft Tentative Order has to be consistent with the San Diego Regional Board's Basin Plan, TMDLs for the San Diego Region, and take into account 303(d) listed water bodies receiving discharges upon reissuance. The Basin Plan defines the unique water quality objectives and beneficial uses in Southern California that the draft Tentative Order is seeking to protect and restore. Southern Orange County has Warm and Cold habitat beneficial uses, whereas in Northern Orange County receiving waters have not been identified as having those same beneficial uses. Water quality standards may differ between regions, and NPDES permits are required to protect these standards.

The Regional Board also has to be concerned about consistency with other MS4 permits issued by the San Diego Regional Board. The Regional Board has three separate MS4 permits to write and enforce. To have a fair and consistent enforcement policy implemented by the Regional Board, the MS4 permits issued by the Regional Board need to be consistent. The difficulty for Regional Board staff to understand, review reports and adequately enforce inconsistent MS4 permits puts an unnecessary strain on the Regional Board's limited resources.

The criteria for consistency cannot be a hindrance to improvements in the science and regulation of water quality. Some might argue that to be truly consistent would be a return to the regulations and water quality observed in 1990 when the first NPDES permit was issued for MS4 discharges. USEPA guidance supports this progressive increase in regulation as water quality science and knowledge advances. For example, in its "Interim Permitting Approach for Water Quality-Based Effluent Limitations in Storm Water Permits" (61 FR 43761), USEPA states, "In cases where adequate information exists to develop more specific conditions or limitations to meet water quality standards, these conditions or limitations are to be incorporated into storm water permits, as necessary and appropriate."

Even with these constraints on consistency, the draft Tentative Order is reasonable consistent with the Santa Ana Regional Board's North Orange County MS4 permit, especially in regard to the requirements for Low Impact Development at Priority Development Projects. While being consistent, this draft Tentative Order is also implementing the USEPA's policy on watershed permitting. At this point in time, adopting an identical permit to that in a separate watershed could be construed to be in violation of USEPA's stated policy on implementing NPDES permitting activities on a watershed basis.

Additionally, the commenter is concerned regarding confusion by private developers, businesses and residents regarding regulatory requirements. The Regional Board, in past response to comments, has acknowledged the Copermittees success in implementing educational BMPs regarding non-storm water and storm water regulations. It is expected the Copermittees will continue these successful efforts under the re-issued permit.

Comment No.	374	Commenter No.	53	Comment Subject	NEL
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Comment The City of Mission Viejo continues to object to the inclusion of Numeric Effluent Limits (NELs) in the Tentative Order, but appreciates the Board staffs attempt to make the previously proposed Municipal Action Levels (MALs) more palpable by offering the use of Storm Water Action Levels (SWALs). Our main argument to the imposition of NELs are:

- The insertion of NELs is inconsistent with the State Water Board's Blue Ribbon panel report on the feasibility of numeric effluent limits.
- The finding by the Regional Board staff that non-stormwater discharges are not subject to the maximum extent practicable standard and therefore subject to water quality based effluent limits is not supported by law. Clean Water Act section 402(P) (3) (B) (ii) clearly states that discharges from municipal storm sewers shall include a requirement to effectively prohibit non-stormwater discharges into the storm sewer. We argue that the section does not require a full prohibition but rather an effective prohibition. The City agrees with the County in that the technology based standard for non-stormwater discharges is "effectively prohibit" just as "maximum extent practicable" is the technology based standard for stormwater discharges.
- The use of numeric limits for non-stormwater discharges is premature and bypasses the Bacteria I TMDL for San Diego Region Beaches and Creeks process. It is likely that some of our non-stormwater discharges will exceed the NEL but have no effect on the receiving water quality or beneficial uses. But under the proposed Order, the City may be obligated to expend considerable resources without a reciprocal water quality benefit. This is poor public policy and use of public funds.

Response Please see Regional Board Counsel Memorandum dated November 05, 2009.
Please also see responses to Comment nos. 317 and 391.

Comment No.	375	Commenter No.	53	Comment Subject	Overirrigation
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Comment The prescribed prohibition on irrigation runoff also needs to be very carefully considered. The City believes this outright prohibition would erode general public support for the City's and County's Storm Water Program. We believe implementation of the prohibition would risk eroding general public support for a Program that is successfully fostering a stewardship ethic in residential environments. For example, cities may be faced with issuing citations to a homeowner for irrigation runoff; whereas, the neighbor next door is free to wash his car in his driveway under the current Tentative Order exemption for residential car washing. There is also concern that the provision would force the expenditure of scarce resources on an issue that is already being addressed by water districts dealing with water conservation imperatives. We ask that Section B, Non-Storm Water Discharges, be modified to include landscape irrigation, irrigation water, and lawn watering in Section B.2.

Response The comment regarding the prohibition on overirrigation practices was addressed in the previous response to comments. The comment does not raise any new issues from the previous comments.

Please see the discussion in the Fact Sheet for findings C.14 and C.15; and the July 1, 2009, Response to Comments IV, Response Nos. 28, 52, 76, and 159. Please also see comments Nos. 84, and 264 in this Response to Comments. No changes have been made in response to this comment.

In summary, over irrigation is a non-storm water discharge required by federal regulations to be prohibited where identified to be a source of pollutants. The Regional Board disagrees that removing the exemption for irrigation-related discharges from the non-storm water prohibition will erode the public from fostering and stewarding their residential environments. Several citizens at recent public meetings have voiced their support for this action. As public agencies, the Copermittees must be aware and address their public's concerns and the Copermittees are expected to use appropriate discretion through their education and enforcement mechanisms to alleviate those public concerns. As long as the Copermittees have a program in place to effectively prohibit over-irrigation runoff from entering the MS4, they are likely to be in compliance with this Tentative Order. Coordination with the water districts is an acceptable and preferred method of compliance.

Comment Page 73, Part F.4.f., of the Tentative Order states:

"Each Copermittee must implement management measures and procedures to prevent, respond to, contain and clean up all sewage and other spills that may discharge into its MS4 from any source (including private laterals and failing septic systems.) Copermittees must coordinate with spill response teams, must prevent entry of spills into the MS4 and contamination of surface water, ground water and soil. Each Copermittee must coordinate spill prevention, containment and response activities throughout all appropriate departments, programs and agencies so that maximum water quality protection is available at all times."

We continue to object to the inclusion of this provision. The revision of "implement management measures and procedures" being introduced by the Tentative Order to preface the required actions the cities must undertake still leaves the cities responsible for responding to sewage spills. We suggested other language in our May 15, 2009 comment letter that is more appropriate.

As we have previously stated, the City does not own or operate its own sewage system. All of the sewer systems in Mission Viejo are owned, operated, and maintained by water districts. These agencies have their own separate NPDES Permit. The City does not have the equipment or expertise to manage a sewage spill of any size, and its staff is not adequately trained to respond to potential spills. All of the water districts in Mission Viejo already respond to sewer spills (including sewer spills from private laterals). Furthermore, this provision is duplicative in the sense that the Regional Board is seeking to make the Permittees responsible for a task already delegated to the water districts. By making the City responsible for sewer spills, there is a high risk of creating confusion in determining who will respond to a spill (water district or City), who is responsible for the associated cost and reporting, etc.

The "implement management measures and procedures" phase does not negate the previous State Water Resources Control Board Order issuing a stay on this same issue in the prior generation of the NPDES Permit. After extensive hearings and briefing on the matter, the State Board issued Order WQO 2002-0014 on August 15, 2002, granting a stay as to this provision. In that Order, the State Board held:

"The record shows that three separate water districts operate these sewers within Mission Viejo, and are regulated by a sanitary sewer NPDES permit issued by the Regional Board. Mission Viejo alleged that the duplication of effort that would ensue by having Mission Viejo also be responsible for preventing and responding to sanitary sewage spills could lead to delayed responses as agencies try to determine jurisdiction and primary responsibility. Orange County's cost table for the upcoming year estimated total copermittee costs of \$56,512 to implement this requirement. While these costs, by themselves do not constitute substantial harm, we find that the duplicative nature of the costs, combined with potential response delay and confusion, do." (State Board Order WQO 2002-0014, p. 6.)

In deciding to grant a stay as to this provision, the State Board concluded:

"The regulation of sanitary sewer overflows by municipal storm water entities, while other public entities are already charged with that responsibility in separate NPDES permits, may result in significant confusion and unnecessary control activities. For example, the Permit appears to assign primary spill prevention and response coordination authority to the copermittees. While the federal regulations clearly assign some spill prevention and response duties to the copermittees, we find that the extent of these duties is a substantial question of law and fact." [State Board Order WQO 2002-0014, p. 8. (emphasis added.)]

Given the previous findings of the State Board on this same issue, and given that none of the factual reasons supporting this decision have changed, the Regional Board should remove this provision so as to reduce duplicity of effort and the implementation of unnecessary control activities.

We once again, as an alternative, offer that the Regional Board consider adopting language similar to that contained in State Board Order No. 2006-0003 titled: "Statewide General Waste Discharge Requirements for Sanitary Sewer Systems" ("Order"). This Order applies solely to municipalities and other public entities that own or operate sanitary sewer systems greater than one mile in length that collect and/or convey untreated or partially treated wastewater. Adopting this caveat would not only serve to accomplish the primary goals behind the provision, but would also ensure Statewide consistency among Water Board regulations.

Response The Regional Board fully understands that some Copermittees may not own, operate or manage sewer systems.

This comment has been addressed during the prior two response to comments, and the response is still applicable. The comments regarding sanitary sewer infiltration and spill response have been extensively considered in previous response to comments. Please see the July 6, 2007 Response to Comments I, Response Nos 44, & 50; the December 12, 2007, Response to Comments II No. 28; the July 1, 2009, Response to Comments IV, Response No. 130 & 180.

In summary, when the State Water Board stayed the sewage provision from Regional Board Order No. R9-2002-01, it found that the costs of the requirement did not constitute harm, but agreed that harm could ensue from potential response delay and confusion (Order WQO 2002-0014). Subsequently, the Copermittees and the local sewer agencies have developed mature relationships regarding sewage spill response. As a result, the concerns expressed by the State Water Board are no longer warranted. For instance, the Copermittees have developed and implemented procedures for spill response and sewage spill response. The Model Sewage Spill Response Procedure is outlined in the Copermittees' Proposed 2007 Drainage Area Management Plan (DAMP). According to the 2007 DAMP, regardless of where the spill originates, if the spill has entered or may enter the storm drain system, the Copermittees respond to assist with the cleanup and remediation of the area.

Section D.3.a.7 of the Tentative Order includes requirements for measures that must be taken to prevent sewage spills. Examples of measures being implemented by Copermittees include inspections of fats, oils, and grease management at restaurants. Other preventative measures can be implemented during routine planning efforts for new development and redevelopment projects. Similarly, building permit inspections should be used to verify the integrity of the sanitary and storm sewer infrastructure and ensure that cross-connections between the two are avoided.

Comment No.	377	Commenter No.	54	Comment Subject	General
Comment	<p>As stated in previous correspondence, the City is subject to the jurisdiction of both the San Diego and Santa Ana Regional Water Quality Control Boards. Significant differences in the large municipal stormwater permits issued by either jurisdiction causes the City to incur unnecessary administrative costs. Moreover, disparities between the Santa Ana and San Diego permits are likely to cause confusion among the public, and discourage public acceptance and participation in clean water efforts. During the July 1, 2009, workshop, the SDRWQCB expressed concern about this cost burden, and stated a desire to have the Draft Permit be consistent where possible. Nonetheless, the Draft Permit remains basically unchanged from the draft considered at the July 1 workshop.</p> <p>Consistency among stormwater permits implicates the larger issue of compliance with the MEP standard. It is not feasible for stormwater permits with significantly different requirements to be mandated by the same, federal standard. Such permits may be consistent with a baseline MEP standard, however major deviations from one another demonstrate that the baseline has been exceeded. While the SDRWQCB may have the authority to exceed the MEP standard under the appropriate circumstances, as described more fully below, this requires compliance with applicable state laws, including but not limited to the California Constitution's prohibition on unfunded state mandates.</p> <p>This concern was also raised by the SDRWQCB members during the July 1, 2009 workshop on the Draft Permit. At that time, the SDRWQCB directed Regional Board staff to prepare a chart comparing the Draft Permit to the North Orange County permit, and explaining why it is different. As of September 28, 2009, the deadline for submitting written comments on the Draft Permit, that document has not been made public. Moreover, the Draft Permit is not any more consistent with other the other Southern California stormwater permits than it was at the July 1, 2009 Workshop. The following table provides a comparison of key permit requirements, and whether they are included in other regional permits (North Orange County, Ventura County, and San Diego County Permits).</p> <p>The Draft Permit and the Fact Sheet do not address why these requirements are different. The distinctions are especially meaningful for the North Orange permit and San Diego County permit. These permits govern areas geographically similar to South Orange County, yet do not impose many of the stringent requirements included in the Draft Permit. The City therefore requests that the SDRWQCB revise the Draft Permit to make it consistent with the North Orange and San Diego County permits on these issues.</p>				
Response	<p>We agree that Regional Board members directed Regional Board staff to prepare a comparison of the Tentative Order to the North Orange County permit. However, the commenter implies that this direction was required to be completed and sent out for public comment. That is incorrect, as the Regional Board members requested the comparison be made for Board consideration.</p> <p>The comment regarding unfunded mandates has been extensively considered in all previous response to comments. The comment does not raise any new issues from the previous comments. The State's water quality protection requirements within the Tentative Order are authorized by Federal Law, and are not unfunded mandates. The Fact Sheet and Response to comments Nos. 155 and 165 in the July 1, 2009, Response to Comments IV; Comment No. 5 in the July 6, 2007, Response to Comments I; Comment Nos. 1 and 9 in the December 12, 2007, Response to Comments II; Comment No. 1, 2, and 3 in the February 13, 2008 Response to Comments III; all provide discussions of these issues.</p> <p>In regards to consistency between the San Diego and Santa Ana Regional Board, please see Comment no. 24 in the July 1, 2009, Response to Comments IV. Additionally, the commenter states that the Tentative Order is inconsistent with both the Santa Ana Order and San Diego County Order (R9-2007-001). The Regional Board contends that the Tentative Order builds upon the San Diego County Order, including the efforts and experiences by Regional Board staff and Copermittees under R9-2007-001. Please also see Comment no. 61 in the July 1, 2009, Response to Comments IV. Please also see response to Comment No. 373.</p>				

Comment

The Draft Permit will increase costs for the City. Attached as Exhibit B is a chart that was filed with the County of San Diego's Test Claim challenging the San Diego County Permit as an unfunded state mandate. That chart lists how much each permittee is expected to spend on permit-related programs alleged to be unfunded state mandates. Similar programs have the potential to cost the City millions of dollars. For instance, in San Diego County, development of a Hydromodification Management Plan cost the Permittees \$1.5 million over two years. Countywide, costs associated with each of the challenged programs were estimated at over \$66 million in new unfunded program costs. Similar costs are likely in South Orange County, and in fact could be higher as a result of the large number of new programs in the Draft Permit that were not included in the San Diego County permit.

The SDRWQCB may have the discretion to impose some of the programs in the Draft Permit. However, imposing requirements more stringent than that required by the Clean Water Act and its implementing regulations triggers applicable state law requirements. (See *City of Burbank v. State Water Resources Control Bd.* (2005) 35 Cal.4th 613.) For waste discharge requirements that exceed the requirements of federal law, California law requires consideration of the following:

- (a) Past, present, and probable future beneficial uses of water.
- (b) Environmental characteristics of the hydrographic unit under consideration, including the quality of water available thereto.
- (c) Water quality conditions that could reasonably be achieved through the coordinated control of all factors which affect water quality in the area.
- (d) Economic considerations .
- (e) The need for developing housing in the region.
- (f) The need to develop and use recycled water. (Cal. Water Code § 13241.)

Of the above listed factors, the economic considerations can be the most difficult to navigate. In *City of Burbank v. State Water Resources Control Bd.* (2005) 35 Cal.4th 613, the California Supreme Court held that where an NPDES Permit exceeds the requirements of federal law, the Regional Boards are required to consider the "economic" impacts on dischargers. The Supreme Court defined the economic impact as the "discharger's cost of compliance." (Id. at 618, 625.) To date, the SDRWQCB has maintained that the entire Draft Permit is federally mandated, and thus consideration of the factors listed in Water Code section 13241, including the economic impacts to the Permittees, is not required.

As a result, the SDRWQCB has failed to fully consider the economic costs associated with the Draft Permit. The Fact Sheet includes a cursory discussion of costs associated with Large MS4 permits in general, but it does not analyze the cost of compliance for dischargers under the Draft Permit. As stated above, compliance with the Draft Permit's new requirements will run into the millions of dollars. Before the SDRWQCB imposes this obligation on the City, it needs to consider the direct economic costs placed on the City and the other permittees. The purpose of Water Code section 13241 is to ensure that the public has an opportunity to have an honest, open discussion about the ramifications, costs, and benefits of those permit requirements that exceed federal law. Sidestepping these considerations not only violates Section 13241, but more importantly denies the public this opportunity.

Lastly, pursuant to Article XIII B, Section 6 of the California Constitution, any NPDES requirements that are not explicitly required by federal law must be funded by the state. (*County of Los Angeles v. Commission on State Mandates* (2007) 150 Cal.App.4th 898, 915-916.) Where, as here, a federal program provides discretion to the State agency to impose a local program on a municipality, such as a TMDL, the municipality is entitled to reimbursement from the state. (See *Hayes v. Commission on State Mandates* (1992) II Cal. App.4th 1564, 1570.) Numerous programs in the Draft Permit exceed the requirements of federal law and thus represent state mandates. Pursuant to Article XIII B, Section 6 of the California Constitution, the City is entitled to reimbursement for the cost of implementing these programs.

Response

The comment regarding unfunded mandates has been extensively considered in all previous response to comments. The comment does not raise any new issues from the previous comments.

The Fact Sheet and Response to comments Nos. 155 and 165 in the July 1, 2009, Response to Comments IV; Comment No. 5 in the July 6, 2007, Response to Comments I; Comment Nos. 1 and 9 in the December 12, 2007, Response to Comments II; Comment No. 1, 2, and 3; in the February 13, 2008 Response to Comments III; all provide discussions of these issues.

The Table in Exhibit B of the comment letter is highly questionable. The table includes basic performances tasks undertaken by any City regardless of when or if they have an NPDES permit. For example, costs are accounted for street sweeping and conveyance system cleaning. In addition, the table accounts for costs that are very specifically required by federal regulations such as watershed programs, effectiveness assessment, education, and MS4 cleaning. Finally, the table includes costs initiated by the Lead Permittee or requested by the Copermittees such as Working Body support and Regional management programs. The Tentative Order's hydromodification plan requirements are similar to the MS4 permit for San Diego County. Therefore, the Orange County Copermittees are expected to reduce costs in developing their hydromodification plan by building on the efforts of the San Diego County Copermittees.

In summary, the State's water quality protection requirements within the Tentative Order are authorized by Federal Law, and are not unfunded mandates.

Comment

The Draft Permit's Numeric Effluent Limit ("NEL") requirements are fundamentally flawed and should be removed. The numbers assigned to each NEL do not reflect existing conditions in the South Orange County watersheds, nor do they reflect the limits of current technology to locate, analyze, and treat discharges that are causing NEL exceedances. To further this point, a County assessment indicates that the NELs are not even achievable at reference sites unaffected by urban influences. Moreover, the rationale relied upon for imposing the NELs is based on a flawed interpretation of the Clean Water Act. The Draft Permit's findings related to the need to require NELS are therefore factually untrue and fail to bridge the analytical gap between the Draft Permit's requirements and conditions in the South Orange County region.

The Clean Water Act requires MS4 permits to effectively prohibit non-stormwater discharges into the MS4, and holds all discharges from the MS4 are subject to the maximum extent practicable (MEP) standard. (33 USC § 1342(p)(3)(B).) Clean Water Act section 402(p)(B) states:

Municipal discharge. Permits for discharges from municipal storm sewers-

(i) may be issued on a system- or jurisdiction-wide basis;

(ii) shall include a requirement to effectively prohibit non-stormwater discharges into the storm sewers; and

(iii) shall require controls to reduce the discharge of pollutants to the maximum extent practicable, including management practices, control

techniques and system, design and engineering methods, and such other provisions as the Administrator or the State determines appropriate for the control of such pollutants.

(33 USC § 1342(p)(3)(B) [emphasis added].)

Thus the Clean Water Act does not impose a separate standard on the discharge of nonstormwater from the MS4. The discharge of any pollutant from the MS4 is subject to the MEP standard. The Draft Permit ignores this plain language of the Clean Water Act. It differentiates between discharges of stormwater and non-stormwater from the MS4, and attempts to justify imposition of NELs on the grounds that the Clean Water Act imposes different compliance standards on discharges of each. As demonstrated by the plain language of the act, the Clean Water Act does not distinguish between stormwater and non-stormwater when regulating discharges from an MS4. (33 USC § 1342(p)(3)(B)(iii).) The MEP standard expressly applies to discharges of pollutants from the MS4.

Application of the MEP standard to discharges from the MS4 is important in the instant case because it speaks to the appropriateness of including NELs in the Draft Permit. Both the State Water Resources Control Board (SWRCB), and US EPA have stated on numerous occasions that an iterative, BMP-based process should be employed to implement MS4 permits. Indeed, the SWRCB explicitly recognized this in Order WQ 2001-15, when it directed the SDRWQCB to revise the 2001 San Diego County Permit to clarify that the MEP standard applies to discharges from the MS4.

The permit must be clarified so that the reference to the iterative process for achieving compliance applies not only to the receiving water limitation, but also to the discharge prohibitions that require compliance with water quality standards. The permit should also be revised so that it requires that MEP be achieved for discharges "from" the municipal sewer system.

(SWRCB Order WQ 2001-15, pages 9-10, 17.)

If the Draft Permit is going to require compliance with NELs in an MS4 permit, the SDRWQCB needs to directly address why those authorities mandating an iterative, BMP based approach to municipal stormwater are not applicable. Side stepping the issue by claiming that the approach is mandated by federal law denies the public an opportunity to have an honest, open discussion about the ramifications, costs, and benefits of imposing NELs on the Permittees.

In addition to the flawed rationale, the actual numeric limits established for the NELs are overly conservative, and in some cases essentially guarantee that the Permittees will violate the Draft Permit's NEL requirements. For instance, for discharges of certain criteria pollutants, "inland surface waters, enclosed bays, and estuaries have conservatively been allotted a mixing zone and dilution credit of zero. As such, any discharge of these priority pollutants is likely to impact the receiving water, regardless of the quantity or rate of discharge." (Fact Sheet, p 112.) As a result, the NEL for these discharge points has been set at the water quality objective for the receiving water. (Fact Sheet, p 113.) There is no basis for imposing this discharge standard on the City and the other Permittees. The SDRWQCB's action in imposing such a standard is arbitrary and not reflective of current technological limits.

Response Please see Regional Board Counsel Memorandum dated November 05, 2009.
Please see responses to Comment nos. 181 and 319.

Comment No.	380	Commenter No.	54	Comment Subject	NEL
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Comment The Draft Permit needs to be revised to include a clear, meaningful exclusion for discharges caused by natural sources or third parties over which the City has little or no control. In its present form, the Draft Permit does not provide a safe harbor for discharge violations caused by natural sources or third party entities. This is best demonstrated by the Draft Permit's NEL requirements. The Draft Permit will impose the following NEL requirements on the City:

Compliance with numeric limitations does not excuse compliance with the nonstormwater discharge prohibition in Section B.I. Compliance with NELs provides an assessment of the effectiveness of the prohibition of non-stormwater discharges and of the appropriateness of exempted non-stormwater discharges.

Compliance with Section C of this Order requires that an exceedance of an NEL must result in one of the following outcomes:

- a. Copermittees investigate the source of the exceedance and determine that it is natural (non-anthropogenically influenced) in origin and conveyance. The findings are to be conveyed to the Regional Board for review and acceptance.
- b. Copermittees investigate the source of the exceedance and determine that the source is an illicit discharge or connection. The Copermittees are to eliminate the discharge to their MS4 and report the findings, including any enforcement action(s) taken, to the Regional Board. Those seeking to continue such a discharge must become subject to a separate NPDES permit.
- c. Copermittees investigate the source of the exceedance and determine that the source is an exempted non-stormwater discharge. The Copermittees shall investigate the appropriateness of the discharge continuing to be exempt and report the findings to the Regional Board.

The Draft Permit's NEL requirements do not provide an exemption for exceedances caused by natural sources or discharges from third parties beyond the City's jurisdiction. As a result, pursuant to Water Code section 13385, the City could still be held liable for NEL violations even if it complied with all of the listed remedial measures, and even if the violation was caused by a natural source or a source beyond the City's authority to control.

Response Please see Comments nos. 44 and 159 in the July 1, 2009, Response to Comments IV.

It is important to note that the Tentative Order does not regulate discharges outside of the Copermittees jurisdiction. Once pollutants have entered the MS4, however, the Permittee is responsible for that discharge from their MS4. Please also see Finding D.4.c.

Please also see Comment no. 82 in the July 1, 2009, Response to Comments IV.

Comment No.	381	Commenter No.	54	Comment Subject	Urban Runoff
Comment	<p>As drafted, the Draft Permit does not limit the impact Section 13385's mandatory minimum penalty requirements. In fact, since the term "Urban" has been removed from the text the Draft Permit, the Draft Permit appears to attempt to hold the City directly responsible for discharges from natural sources, agricultural sources, and other third party entities over which the City has little to no control. Draft Permit Finding D.3. is emblematic of this problem:</p> <p>As operators of the MS4s, the Copermittees cannot passively receive and discharge pollutants from third parties. By providing free and open access to an MS4 that conveys discharges to waters of the U.S., the operator essentially accepts responsibility for discharges into the MS4 that it does not prohibit or control.</p> <p>The City has no authority to refuse to accept discharges from other jurisdictions or entities. California law applies a "rule of reason" to flood control issues that requires cities to accept surface water flows from neighboring property owners. (Locklin v. City of Lafayette (1994) 7 CalAth 327, 349.) Thus the City cannot refuse to accept drainage from adjacent jurisdictions. The City likewise lacks authority over the conduct of state and local agencies within its jurisdiction. These entities are exempt from many conditions in the Draft Permit. (See Cal. Gov. Code § 53091; see also Hall v. Taft (1956) 47 Cal.2d 177 [holding that when the State engages in sovereign activities it is not subject to local regulations unless the California Constitution says it is, or the legislature has consented to it].)</p> <p>The Draft Permit's attempt to hold the City responsible for such discharges is especially frustrating given that many of the entities implicated by this requirement are required to obtain their own NPDES permits, and thus should be regulated directly by the SDRWQCB. The SDRWQCB's failure to regulate discharges from these entities should not be imputed to the City. The SDRWQCB's attempt to regulate such entities through the Draft Permit is therefore arbitrary, capricious, and without justification.</p>				
Response	<p>These issues have been fully considered previously.</p> <p>The Regional Board has removed the term "urban runoff" as it is more consistent with the federal regulation (40 CFR 122.26). Response to Comment No. 47 in the July 1, 2009, Response to Comments IV, provides discussion of this issue. No changes have been made in response to this comment.</p> <p>The Regional Board has followed federal guidance regarding third party discharges into the Copermittees' MS4s. Responses No. 2 and No. 7 in the July 7, 2007, Response to Comments I, provide discussions of these issues. No changes have been made in response to this comment.</p>				

Comment No.	382	Commenter No.	54	Comment Subject	SAL
Comment	<p>The Draft Permit's Stormwater Action Levels ("SALs") are unnecessary, exceed the requirements of federal law, and should be removed. The Draft Permit's SAL provisions represent a major increase in monitoring and reporting requirements for the City. Compliance with the SAL requirements will significantly increase the City's monitoring costs without a defined benefit to water quality. The Clean Water Act and its implementing regulations do not require the SDRWQCB to impose SALs in large MS4 permits, and the SDRWQCB has not demonstrated that SALs are necessary at this time. For that reason, the City requests that the SDRWQCB remove the SALs from the Draft Permit.</p>				
Response	<p>In regards to monitoring, the Tentative Order has provided the Copermittees flexibility in determining the level of monitoring under the SALs.</p> <p>Please see response to Comment no. 33 in the July 1, 2009, Response to Comments IV.</p>				

Comment No.	383	Commenter No.	54	Comment Subject	Overirrigation
Comment	<p>The Draft Permit has eliminated irrigation water as an exempt discharge. The federal stormwater regulations include a list of categories of "exempt" non-stormwater discharges or flows. (40 CFR 122.26(d)(2)(iv)(B)(1).) The City must address these discharges or flows when they have been identified by the City as sources of pollutants to waters of the U.S. (Id.) Where individual sources of discharge are identified they are to be addressed on an individual basis.</p> <p>Irrigation runoff may act as a conveyance of pollutants in some instances, however, it is not a conveyance of pollutants in all cases. Additionally, many of the pollutants that may be conveyed by irrigation overflows are naturally occurring, are regulated by the State under different permits or programs, or are diffuse and uncontrollable by the Permittees. Enforcing discharges of potable irrigation water from residential homes will therefore be very difficult. Residents without a significant water quality background are unlikely to agree that potable irrigation water is a pollutant. This will discourage public acceptance and participation in the water quality program, a program whose foundation is outreach and public education.</p> <p>It is also important to recognize that over irrigation is being addressed as a water conservation issue. The City, the other Permittees, and water districts throughout the region are working toward limiting excessive irrigation (and irrigation runoff) through numerous water conservation programs and ordinances. Reduction of irrigation runoff will therefore be achieved through other means, and does not need to be regulated in the Draft Permit. Regulation as a water conservation issue has the added benefit of public acceptance and participation in conservation programs. This will allow irrigation overflows to be regulated without undermining public support for the City's water quality program. The City therefore requests that the exemption for landscape irrigation be restored.</p>				

Response	<p>The comment regarding the prohibition on overirrigation practices was addressed in the previous response to comments. The comment does not raise any new issues from the previous comments.</p> <p>Please see the discussion in the Fact Sheet for findings C.14 and C.15; and the July 1, 2009, Response to Comments IV, Response Nos. 28, 52, 76, and 159. Please also see comments Nos. 84, and 264 in this Response to Comments. No changes have been made in response to this comment.</p> <p>In summary, over irrigation is a non-storm water discharge required by federal regulations to be prohibited where identified to be a source of pollutants. As long as the Copermittees have a program in place to effectively prohibit over-irrigation runoff from entering the MS4, they are likely to be in compliance with this Tentative Order. Coordination with the water districts is an acceptable and preferred method of compliance.</p>
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Comment No.	384	Commenter No.	54	Comment Subject	LID
Comment	<p>The City appreciates the SDRWQCB's efforts to revise the Draft Permit's Low Impact Development requirements to make them more similar to those in the North Orange County Permit. However, the City objects to the mitigation and fee requirements that the Draft Permit will impose on projects that cannot retain and treat stormwater on site. The Draft Permit has a stated preference for LID BMPs that treat stormwater on site. It is possible to require these development techniques where feasible, however such BMPs will not be feasible for all projects. There is no rationale basis for requiring these projects to pay a penalty when they can deploy other traditional BMPs that will treat stormwater to levels that are equivalent or better than the LID and retention requirements currently espoused by the Draft Permit. For that reason, the City requests that the Draft Permit be revised to remove this penalty.</p>				
Response	<p>The Clean Water Act requires that pollutants in storm water discharges are reduced to the maximum extent practicable (MEP). Current runoff management, knowledge, practices and technology consider the use of LID BMPs as meeting the storm water MEP standard. Therefore, the storm water treatment controls must also be designed to meet this same level of pollutant reduction to be considered MEP.</p> <p>The Regional Board realizes the difficulty in design and implementation of treatment controls to be able to reduce pollutants to the same standard as LID retention BMPs. Therefore, the Tentative Order allows project proponents to design conventional treatment controls at least up to the design storm as long as mitigation or in-lieu fees, which compensate for the pollutant load that would otherwise be retained by LID BMPs, are also implemented. A project proponent may choose to design their treatment controls to treat storm flows greater than the design storm that, in effect, would provide an equal pollutant removal as LID retention BMPs. In that case, mitigation would not be needed.</p>				

Comment No.	385	Commenter No.	54	Comment Subject	Retrofitting
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Comment Section F.3.d of the Draft Permit will require the City to develop a plan to retrofit existing development within its jurisdiction. The City has land use authority to impose requirements on new development as a condition of development, but lacks comparable authority to require property owners to retrofit existing development. The Draft Permit ignores this lack of authority and includes requirements to identify, inventory and prioritize existing developments that are potential sources of pollutants. (Draft Permit, section F.3.d(1)-(6).

The Draft Permit will require the City to identify existing development candidates, evaluate and rank the candidate sites to prioritize them for retrofitting, cooperate with landowners of priority sites and encourage them to retrofit their properties, and track and inspect all sites that do complete retrofitting. This will require the City to invest a significant amount of time and resources developing and implementing this program. The City's lack of authority to impose retrofit requirements on existing development means there will be no corresponding benefit to water quality. For that reason, the Draft Permit's retrofit requirements should be removed.

Response The comment regarding retrofitting has been considered in the previous response to comments. Please see the Fact Sheet discussion on retrofitting; and the July 1, 2009, Response to Comments IV, Response Nos. 46, 136, 161, and 162.

In summary, the Tentative Order's requirements for retrofitting existing development is practicable for a municipality through a systematic evaluation, prioritization and implementation plan focused on impaired water bodies, pollutants of concern, areas of downstream hydromodification, feasibility and effective communication and cooperation with private property owners. The Tentative Order's requirement realized the legal limitations that the Copermittees have in requiring retrofitting on privately held land. Therefore, the Tentative Order requires the Copermittees to cooperate with private landowners in implementing retrofitting opportunities.

Comment No.	386	Commenter No.	54	Comment Subject	General
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Comment Section J.4 of the Draft Permit will require the City to develop a Work Plan to address high priority water quality programs in an iterative manner. This requirement is duplicative, of other existing programs and is wholly unnecessary. At least four other planning level documents cover these issues. The City uses the Drainage Area Management Plan as the principal policy and guidance document; each jurisdiction also has a related Local Implementation Plan; the South Orange County area uses an Integrated Regional Water Management Plan; the watersheds are assessed and managed with a Watershed Action Plan; and the Aliso Creek Watershed has its own Watershed Runoff Management Plan. There is no reason to add yet another bureaucratic layer to the Draft Permit. This requirement will only increase costs without providing a corresponding benefit to water quality.

Response The Drainage Area Management Plan is not jurisdiction specific; nor is it a requirement of the Tentative Order; and it is not an enforceable document. The Integrated Regional Water Management Plan is also not a requirement of the Tentative Order. The Jurisdictional work plan closes the loop on implementation, monitoring, and effectiveness assessment. The work plan is the strategy by which the effectiveness assessment is used to prioritize the implementation of the Copermittee's storm water program. The work plan requirement in the JRMP section has been added to ensure Copermittees are allocating resources and efforts to address priority problems and pollutants identified in the watershed analysis. This section has been added to ensure Copermittees use the annual assessment to adjust and tailor their JRMP programs. The work plan is specifically designed for the Copermittees to prioritize their limited resources on water quality problems and on efforts that improve water quality. By planning and adapting, the Copermittees will be able to use their resources more effectively and not waste time and effort on actions that do not improve water quality. Other plans that meet the requirements of the Jurisdictional Work plan may be used to demonstrate compliance with this directive.

Comment No.	387	Commenter No.	55	Comment Subject	NEL
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Comment Water quality improvement has been the top priority strategic goal for the City of Dana Point this during past Permit Cycle. Dana Point and our fellow South Orange County Cities have been making great strides in Water Quality Improvement some of which we expressed in our Power Point presentation on July 1st. The San Diego Region's Draft 2008 303(d) listing proposal, released this August, proposes to delist or not list 28 of 42 locations covering the entire South Orange County coastline for the cities of Laguna Beach, Dana Point, and San Clemente. This is proof of our ongoing success in reducing current listings and using the iterative BMP approach for MEP, and non point sources without fines for compliance.

Yet as we turn our attention to better addressing dry weather flows in this new Permit Cycle, Staff has developed a new approach; mandatory minimum fines for Numeric Effluent Limits (NEL's). No other California NPDES Regional Permit has this regulatory bludgeon. There are multiple problems with this approach, seven of which we discuss below.

Response While the Regional Board acknowledges that certain 303(d) listed waters are proposed to be delisted, the Draft 305(b) and 303(d) Report shows that existing controls on discharges from the MS4 remain inadequate to protect water quality standards. For the San Juan hydrologic unit the 2006 303(d) list includes 17 waterbodies and 25 pollutant waterbody combinations. For 2008, the Draft 303(d) Report includes 33 waterbodies and 75 waterbody pollutant combinations.

Please see Regional Board Counsel Memorandum dated November 05, 2009.

Please also see Comment no. 82 in the July 1, 2009, Response to Comments IV.

Please also note that other State and Regional Board NPDES Regional Permits do contain narrative and/or numeric effluent limitations.

Comment No.	388	Commenter No.	55	Comment Subject	NEL
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Comment First, the Board has no flexibility in making reasonable decisions with this NEL proposal. Witness the July 1, 2009, Board Meeting when the Board's hands were tied, according to Staff, in fining SOCW A and SCWD \$204,000 for what we believe the board recognized was a permit language violation, not a water quality violation at the ocean discharge point.

Response Please see Comment no. 82 in the July 1, 2009, Response to Comments IV.

Comment No.	389	Commenter No.	55	Comment Subject	unfunded mandate
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Comment Second, inclusion of NEL's is the top priority concern with the draft permit for the County and the Co-Permittees. It really makes the Permit untenable and invites litigation. Similar concerns exist with the inclusion of language indicating that Permittees must strictly comply with waste load allocations in a TMDL, and strictly meet Stormwater Action Levels. Strict compliance with any of these numeric limits is not "reasonably achievable" as required by the California Water Code. Nor has there been any attempt to analyze the "economic" impacts of these requirements, as required under the Water Code. Please see our attached legal comments, responding to the discussion at the July I Board.

Response Non-storm water discharges are not storm water and must be effectively prohibited. As such, they are not subject to the MEP standard. They are appropriately regulated under CWA section 402, which allows the imposition of NELs. The Copermittees have ample time and method discretion to meet the Wasteload Allocation Reductions, Final Allocations and Numeric Targets. These allocations and targets are chosen because they are designed to protect Water Quality Standards, which is the goal of a TMDL. Please note that Storm water Action Levels are not numeric effluent limitations, and are a part of the iterative process.

The comment regarding the Regional Board's compliance with California Water Code §13263, 13241, and 13000 and the consideration of balancing factors has been extensively considered in previous response to comments. Please see the Fact Sheet; July 6, 2007, Response To Comments I, Response No. 5; December 12, 2007, Response To Comments II, Response Nos. 1 and 9; February 13, 2008, Response to Comments, Response No 3.

To the extent economic information was submitted, the Regional Board staff considered economic considerations in developing elements of the Tentative Order, but the Regional Board is not required to conduct a cost-benefit analysis. No changes have been made in response to this comment.

Comment No.	390	Commenter No.	55	Comment Subject	NEL
Comment	Third, the potential costs of mandatory minimum fines, and their impacts could be astronomical. The State Board is contemplating a standard non-compliance fine of \$2 per gallon per day for violations. As an example, Salt Creek dry weather flow is 300,000 to 600,000 gallons per day. This is just one medium sized outflow and fines could exceed one million-dollars a day. Per the proposed NEL criteria, we believe that Salt Creek will be in exceedance of NEL's from Day 1 of the new Permit for the Total Nitrogen standard. Nitrogen is abundantly found in the natural environment from air and decaying vegetation. Staff says that proof of natural occurrence will be accepted by RWQCB Staff as compliance. But what constitutes proof? How much study and cost justification will be acceptable? Will a Standard of Proof be litigated by a third party and will unfair fines be imposed by mandate?				
Response	Non-storm water numeric effluent limitation exceedance investigations will be handled on a case-by-case basis. Please see Comment no. 82 in the July 1, 2009, Response to Comments IV regarding MMPs.				

Comment No.	391	Commenter No.	55	Comment Subject	NEL
Comment	Fourth, the NEL standards proposed by Staff are unattainable in some cases, even in naturally occurring and pristine creeks, indicator bacteria is an example. Indicator bacteria has been studied by expert scientists at SCCWRP and has been found to be at levels which may exceed the NEL s in reference watersheds - the watersheds that represent the untouched/undeveloped areas of the County. Why is bacteria included as an NEL when we already have TMDL's for bacteria that the Board has approved? The TMDL recognizes this complex non-point source will probably take 10 years to control in huge watersheds like San Juan Creek which drains a 13.5 square mile area, yet the NEL requires compliance as soon as the permit is in effect.				
Response	Please see response to comment no. 317. Please also see Comment no. 83 in the July 1, 2009, Response to Comments IV. 303(d) listing of a receiving water as impaired is done because the existing controls on discharges to that waterbody has been found to be insufficient to protect Beneficial Uses. The 303(d) listing or subsequent TMDL does not prevent additional controls, including water quality-based effluent limitations, being implemented in NPDES permits.				

Comment No.	392	Commenter No.	55	Comment Subject	NEL
Comment	Fifth, dry weather flow is more characteristic of non-point source than point source flow. Every single property has the potential to over-irrigate and the source varies each day of the week. MS4 36" diameter pipes requiring monitoring each drain hundreds, and in many cases, more than 1000 properties each. The MEP standard for stormwater, which includes non rain water runoff, recognizes the practical unreasonableness of tracking down and treating every storm drain back to every watershed source to eliminate every pollutant immediately.				
Response	Please see Regional Board Counsel Memorandum dated November 05, 2009.				

Comment No.	393	Commenter No.	55	Comment Subject	NEL
Comment	Sixth, the detailed Permit language is flawed - for example in determining if the dry water flow is natural (non-anthropogenic), it requires permittees must determine it is from a natural influence in both "origin and conveyance". Since the MS4 is generally manmade pipe (the conveyance) this is generally an impossible standard to meet on its face.				
Response	The Regional Board contends that MS4 may receive natural flows which, upon entry into the MS4, are modified within the MS4 system. This includes, but is not limited to, the concentration of pollutants, addition of anthropogenic non-storm water discharges, and modified location of discharge. Please also see response to Comment no. 394.				

Comment No.	394	Commenter No.	55	Comment Subject	NEL
Comment	Seventh, Coastal bluff groundwater contributes heavily to South Orange County dry weather runoff. A confounding problem is that much of our dry weather flow is made up of groundwater. Our groundwater is known for having constituents such as Iron, Manganese, Nitrates, etc. Although the Permit language purports to "accept" natural constituents, again what is the standard of proof? This can be particularly difficult and costly to study and may be unable to yield completely definitive answers - again leading to potential third party litigation and potential fines.				
Response	Please see Comment no. 82 in the July 1, 2009, Response to Comments IV. Section C.3 of the Order includes language which states the Tentative Order does not regulate natural sources and conveyances of constituents. Though source investigation can be difficult, it is already required under the current Order. The Regional Board will handle each investigation and subsequent finding(s) on a case-by-case basis.				

Comment No.	395	Commenter No.	55	Comment Subject	NEL
Comment	<p>In summary, regarding NEL's, we currently we have a successful program that meets the intent of the NEL's. Orange County's dry weather monitoring program to identify and then address controllable pollutants is well recognized for the investigative information it provides, and Permittees are required to address pollutant discoveries. Please further consider the County's proposed program as an effective alternative to the NEL's. Let's explore and evaluate reasonable standards, natural sources and positive effects of reducing irrigation runoff during this cycle together.</p> <p>We are three months into the Fiscal Year and looking at how we can trim another 5% off of our operating budget due to declining revenues. The magnitude of the added costs for this Permit are addressed in the County's letter and are of significant concern. Please heed the facts stated therein as no economic analysis has been prepared or considered by Board Staff to date, in spite of the requirement under California Law to do so. Further, no cost consideration based changes have been made since the July 1 Board Meeting, despite Board Member inquiries, as well as the Board's expressed concern with imposing unfunded mandates on the Permittees.</p> <p>Please reconsider the issues of consistent regulations with the North Orange County Santa Ana Region Permit as no consistency related changes to the tentative draft have been made since the July 1 Board Meeting, despite Board inquiries.</p>				
Response	<p>Please see Regional Board Counsel Memorandum dated November 05, 2009.</p> <p>The comment regarding unfunded mandates has been extensively considered in all previous response to comments. The comment does not raise any new issues from the previous comments. The State's water quality protection requirements within the Tentative Order are authorized by Federal Law, and are not unfunded mandates.</p> <p>The Fact Sheet and Response to comments Nos. 155 and 165 in the July 1, 2009, Response to Comments IV; Comment No. 5 in the July 6, 2007, Response to Comments I; Comment Nos. 1 and 9 in the December 12, 2007, Response to Comments II; Comment No. 1, 2, and 3 in the February 13, 2008 Response to Comments III; all provide discussions of these issues. No changes were made in response to this comment.</p>				

Comment No.	396	Commenter No.	55	Comment Subject	unfunded mandate
Comment	As you can see from the attached legal comments, as well as the comments submitted by the County of Orange, there continues to be fundamental disagreement on the propriety of including NEL's, SALs and TMDLs in the Permit, particularly without the Regional Board first complying with the requirements of California Water Code sections 13241 and 13000. Further, there continues to be a significant difference of opinion on the legality of the Regional Board Staff's new permit requirement which would force the City to prohibit all "dry weather" runoff, specifically including "landscape irrigation," "irrigation waters," and "lawn waters," from entering the City storm drain system. Not only does the City believe that this requirement goes far beyond what is required by federal law, as evidenced by the fact that these discharges are allowed to be discharged into the storm drain system under the current permit, but in addition, it is apparent that the Regional Board Staff is attempting to impose this mandate on the City without first complying with the requirements of California Water Code sections 13241 and 13000.				
Response	<p>The comment regarding unfunded mandates has been extensively considered in all previous response to comments. The comment does not raise any new issues from the previous comments.</p> <p>The Fact Sheet and Response to comments Nos. 155 and 165 in the July 1, 2009, Response to Comments IV; Comment No. 5 in the July 6, 2007, Response to Comments I; Comment Nos. 1 and 9 in the December 12, 2007, Response to Comments II; Comment No. 1, 2, and 3; in the February 13, 2008 Response to Comments III; all provide discussions of these issues.</p> <p>In summary, the State's water quality protection requirements within the Tentative Order are authorized by Federal Law, and are not unfunded mandates. No changes have been made in response to this comment.</p> <p>The comment regarding the Regional Board's compliance with California Water Code §13263, 13241, and 13000 and the consideration of balancing factors has been extensively considered in previous response to comments.</p> <p>Please see the Fact Sheet; July 6, 2007, Response To Comments I, Response No. 5; December 12, 2007, Response To Comments II, Response Nos. 1 and 9; February 13, 2008, Response to Comments, Response No 3.</p> <p>To the extent economic information was submitted, the Regional Board staff considered economic considerations in developing elements of the Tentative Order, but the Regional Board is not required to conduct a cost-benefit analysis. No changes have been made in response to this comment.</p>				

Comment No.	397	Commenter No.	55	Comment Subject	unfunded mandate
Comment	Finally, because the imposition of NEL's, SALs, and WLAs from TMDLs are all new mandated limits that are not required under federal law, and similarly because a prohibition on dry weather and irrigation waters from entering the MS4 is a new mandate not required by federal law, as are the new LID and retrofitting and related requirements, none of these requirements may lawfully be imposed without the Regional Board first providing funding as required under the California Constitution for such mandates. For example, the retrofitting provisions in the Permit specifically require the City to "develop and implement a retrofitting program." This is a new program being mandated on the City, but without the State first providing funding as required by the California Constitution.				
Response	<p>The comment regarding unfunded mandates has been extensively considered in all previous response to comments. The comment does not raise any new issues from the previous comments.</p> <p>The Fact Sheet and Response to comments Nos. 155 and 165 in the July 1, 2009, Response to Comments IV; Comment No. 5 in the July 6, 2007, Response to Comments I; Comment Nos. 1 and 9 in the December 12, 2007, Response to Comments II; Comment No. 1, 2, and 3; in the February 13, 2008 Response to Comments III; all provide discussions of these issues.</p> <p>In summary, the State's water quality protection requirements within the Tentative Order are authorized by Federal Law, and are not unfunded mandates. No changes have been made in response to this comment.</p>				

Comment

THE MEP STANDARD UNDER THE CLEAN WATER ACT APPLIES TO ALL "DISCHARGES OF POLLUTANTS" FROM THE MS4, REGARDLESS OF WHETHER THE POLLUTANTS IN THE DISCHARGE ARISE FROM "STORM" WATER" OR ALLEGED "NON-STORMWATER."

The federal Clean Water Act ("CWA" or "Act") expressly applies the Maximum Extent Practicable ("MEP") Standard to all "pollutants" discharged "from" the Municipal Separate Storm Sewer System ("MS4"), whether the discharges are classified as "non-stormwater" or "stormwater." Although "non-stormwater" is required to be "effectively prohibited" from entering "into" the MS4, the CWA does not treat discharges "from" the MS4 any differently if the "pollutants" in issue arose as a result of a "stormwater" versus an alleged "non-stormwater" discharge. (33 U.S.C. § 1342(p)(3)(B)(iii).)

As such, if "dry weather" is improperly classified as "non-stormwater," such a classification should not in any way change how the "pollutants" in the discharge are to be addressed. Instead, under the CWA, regardless of the nature of the discharge, i.e., be it "stormwater" or alleged "non-stormwater," the MEP standard continues to apply. Moreover, the MEP Standard is the only standard required under the CWA to be applied to discharges from a City's MS4, and no numeric limits are required by the Act, regardless of whether the original sources of the discharge is non-stormwater.

The language in the Act requires municipalities to "require controls to reduce the discharge of pollutants to the maximum extent practicable." (Id.) The Act then applies the MEP Standard to the "discharge of pollutants" from the MS4, not to the discharge of "stormwater" or "non-stormwater" from the MS4. As such, the State Board's attempted classification of "dry weather" as "non-stormwater," for example, has no relevance to the issue of the types of "controls" required under the Act to address the "pollutants" in issue.

Section 1342(p)(3)(B) of the Act entitled "Municipal Discharge" provides, in its entirety, as follows:

Permits for discharges from municipal storm sewers -

- (i) may be issued on a system- or jurisdictional- wide basis;
- (ii) shall include a requirement to effectively prohibit non-stormwater discharges into the storm sewers; and
- (iii) shall require controls to reduce the discharge of pollutants to the maximum extent practicable, including management practices, control techniques and system, design and engineering methods, and such other provisions as the Administrator or the State determines appropriate for the control of such pollutants. (33 U.S.C. § 1342(p)(3)(B), emphasis added.)

This language in the CWA has consistently been interpreted as requiring an application of the MEP Standard to municipal discharges, rather than an application of a standard requiring strict compliance with numeric limits. Specifically, federal law only requires strict compliance with numeric effluent limits by industrial dischargers, but not by municipal dischargers. As the Ninth Circuit in *Defenders of Wildlife v. Brown* ("Defenders") (9th Cir. 1999) 191 F.3d 1159 found, "Congress required municipal storm-sewer dischargers 'to reduce the discharge of pollutants to the maximum extent practicable' finding that the Clean Water Act was 'not merely silent' regarding requiring 'municipal' dischargers to strictly comply with numeric limits, but in fact found that the requirement for traditional industrial waste dischargers to strictly comply with the limits was 'replaced' with an alternative requirement, i.e., 'that municipal storm-sewer dischargers 'reduce the discharge of pollutants to the maximum extent practicable ... in such circumstances, the statute unambiguously demonstrates that Congress did not require municipal storm-sewer discharges to comply strictly with 33 U.S.c. § 1311(b)(J)(C). (Id. At 1165; emphasis added.)

Similarly, in *Building Industry Association of San Diego County v. State Water Resources Control Board* ("BIA") (2004) 124 Cal.App.4th 866, there as well the Appellate Court, relying upon the Ninth Circuit's holding in *Defenders*, agreed that "with respect to municipal stormwater discharges, Congress clarified that the EPA has the authority to fashion NPDES permit requirements to meet water quality standards without specific numeric effluent limits and instead to impose 'controls to reduce the discharge of pollutants to the maximum extent practicable.'" (Id. at 874, emphasis added.) The Court of Appeal in the BIA Case explained the reasoning for Congress' different treatment of Stormwater dischargers versus industrial waste dischargers when it stated that:

Congress added the NPDES storm sewer requirements to strengthen the Clean Water Act and making its mandate correspond to the practical realities of municipal storm sewer regulation. As numerous commentators pointed out, although Congress was reacting to the physical differences between municipal storm water runoff and other pollutant discharges that made the 1972 legislation's blanket effluent limitations approach impractical and administratively burdensome, the primary points of the legislation was to address these administrative problems while giving the administrative bodies the tools to meet the fundamental goals of the Clean Water Act in the context

of stormwater pollution. (Id. at 884, emphasis added.)

The Draft Permit, by attempting to impose a series of numeric effluent limits on municipal dischargers, goes beyond what was required by Congress with the 1987 Amendments to the CW A, and treats municipal dischargers in precisely the same manner as industrial waste dischargers. Because the Draft Permit imposes a standard of strict compliance with numeric limits on municipalities, it goes beyond the requirements mandated by the CW A, and as such, plainly triggers the need to comply with Water Code sections 13000 and 13241. Moreover, and as also discussed below, such a significant shift in policy is directly contrary to well-established State Board and US EPA policy.

In State Board Order No. 91-04, the State Board addressed the propriety of the 1990 Municipal NPDES Permit for Los Angeles County, and particularly whether such permit, in order to be consistent with applicable State and federal law, was required to have included "numeric effluent limitations." In addition to the State Board's interchangeable use of the terms "storm water" and "urban runoff" when discussing the applicable standard to be applied under the CW A (see discussion below), the State Board confirmed that the MEP standard applies to the "discharge of pollutants" from the MS4, and made no mention of the need to apply a different standard if the "discharge of pollutants" arose from alleged "non-stormwater" rather than "storm water." To the contrary, the State Board recognized the MEP standard applied to "pollutants in runoff," irrespective of the source of the pollutants, finding as follows:

We find here also that the approach of the Regional Board, requiring the dischargers to implement a program of best management practices which will reduce pollutants in runoff, prohibiting non-storm water discharges, is appropriate and proper. We base our conclusion on the difficulty of establishing numeric effluent limitations which have a rational basis, the lack of technology available to treat storm water discharges at the end of the pipe, the huge expense such treatment would entail, and the level of pollutant reduction which we anticipate from the Regional Board's regulatory program. (State Board Order No. 91-04, p. 16-17, emph. added.)

This State Board Order, and others as discussed below, all show that although there are two requirements imposed upon municipalities under the CW A, one requiring that municipalities effectively prohibit "non-stormwater" "into" the MS4, and a second requiring municipalities to "reduce the discharge of pollutants to the maximum extent practicable," that the MEP standard applies to "pollutants in runoff" coming out of the MS4 system, regardless of whether such discharges are storm water or non-stormwater. The only difference in the requirements to be imposed upon the municipalities between stormwater and non-stormwater, involves the need for municipalities to "effectively prohibit non-stormwater discharges into the" MS4.

In addition, it is the present policy of the State of California not to use strict numeric limits as a means by which to implement the MEP standard under the Act. Instead, it is State policy to apply the MEP standard through an iterative BMP process, and not through the use of strict numeric discharge limitations. This policy is reflected in numerous State Board orders and other legal documentation from the State Board. (See, e.g., State Board Order No. 91-04, p. 14 ["There are no numeric objectives or numeric effluent limits required at this time, either in the Basin Plan or any statewide plan that apply to storm water discharges." p. 14]; State Board Order No. 96-13, p. 6 ["federal laws does not require the [San Francisco Reg. Bd] to dictate the specific controls."]; State Board Order No. 98-01, p. 12 ["Stormwater permits must achieve compliance with water quality standards, but they may do so by requiring implementation of BMPs in lieu of numeric water quality-based effluent limitations."]; State Board Order No. 2001-11, p. 3 ["In prior Orders this Board has explained the need for the municipal storm water programs and the emphasis on BMPs in lieu of numeric effluent limitations. '1; State Board Order No. 2001-15, p. 8 ["While we continue to address water quality standards in municipal storm water permits, we also continue to believe that the iterative approach, which focuses on timely improvements of BMPs, is appropriate. ']; State Board Order No. 2006-12, p. 17 ["Federal regulations do not require numeric effluent limitations for discharges of stormwater"]; Stormwater Quality Panel Recommendations to The California State Water Resources Control Board - The Feasibility of Numeric Effluent Limits Applicable to Discharges of Storm water Associated with Municipal, Industrial and Construction Activities, June 19, 2006, p.8 ["It is not feasible at this time to set enforceable numeric effluent criteria for municipal BMPs and in particular urban dischargers."]; and an April 18, 2008 letter from the State Board's Chief Counsel to the Commission on State Mandates, p. 6 ["Most NPDES Permits are largely comprised of numeric limitations for pollutants . . . Storm water permits, on the other hand, usually require dischargers to implement BMPs."].)

Moreover, as to TMDLs, the WLAs within a TMDL are similarly not required under the CW A to be strictly complied with by municipal dischargers. This conclusion was confirmed by U.S. EPA itself in an official November 22, 2002 EPA Guidance Memorandum, entitled "Establishing Total Maximum Daily Load (TMDL) Waste Load Allocations (WLAs) for Storm Water Sources and NPDES Permit Requirements Based on those WLAs." In this official Guidance Memorandum, EPA explained that for NPDES Permits regulating municipal storm water discharges, any water quality based effluent limit for such discharges, should be "in the form of BMPs and that numeric limits will be

used only in rare instances." (EPA Guidance Memo p. 6, emphasis added.) The EPA recommended that "for NPDES-regulated municipal... dischargers effluent limits should be expressed as best management practices (BMPs), rather than as numeric effluent limits." (Id. at p. 4.) EPA went on to expressly recognize the difficulties in regulating stormwater discharges, explaining its policy as follows:

EPA's policy recognizes that because storm water discharges are due to storm events that are highly variable in frequency and duration and are not easily characterized, only in rare cases will it be feasible or appropriate to establish numeric limits for municipal and small construction storm water discharges. The variability in the system and minimal data generally available make it difficult to determine with precision or certainty actual and projected loadings for individual dischargers or groups of dischargers. Therefore, EPA believes that in these situations, permit limits typically can be expressed as BMPs, and that numeric limits will be used only in rare instances. (EPA Guidance Memo, p. 4.)

Because EPA has expressly found, particularly when it comes to the incorporation of a TMDL into a Municipal NPDES Permit, "that numeric limits will be used only in rare instances," and because in this case there is no evidence this Permit is a "rare instance" that would justify the inclusion of numeric limits, any incorporation of the subject TMDLs, or any other numeric limits, into the Municipal NPDES Permit in issue should be limited to the inclusion of MEP-complaint BMPs, and not "numeric limits." In short, neither State or federal law, nor State or federal policy, provide for the incorporation of strict numeric limits into a Municipal NPDES Permit. In fact, they provide for the contrary, and recognize that numeric limits should only be incorporated into a municipal NPDES Permit in "rare instances," with the State Board's Numeric Effluent Limits Panel concluding going so far as to conclude that "it is not feasible at this time to set enforceable numeric effluent criteria for municipal BMPs and in particular urban dischargers." (Numeric Limits Permit Report, p. 8.)

Response The Regional Board disagrees with the commenter's interpretation of the Clean Water Act. Please see Regional Board Counsel Memorandum dated November 05, 2009.

Comment No.	399	Commenter No.	55	Comment Subject	Legal
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Comment The Draft Permit contains a number of provisions requiring strict compliance with Numeric Effluent Limitations ("NELs") for dry weather runoff, Stormwater Action Levels ("SALs") for wet weather runoff, and waste load allocations ("WLAs") and other numeric limits for both, pursuant to adopted and to be adopted Total Maximum Daily Loads ("TMDLs"). It also contains new requirements when compared to the existing municipal NPDES Permit that, in effect, require the Permittees to prohibit all "dry weather" discharges from entering the MS4, except for identified exempted discharges. Moreover, the prohibition on the discharge of dry weather discharges into the MS4 now specifically includes "Landscape Irrigation," "Irrigation Waters," and "Lawn Waters," all of which are exempted discharges in the existing Municipal NPDES Permit for South Orange County. Similarly, the Draft Permit seeks to impose a number of provisions known as "low impact development" ("LID") requirements, including new Standard Stormwater Mitigation Plan ("SSMP") requirements, along with Retrofitting and new Hydromodification requirements. None of the aforementioned proposed Draft Permit terms, however, appear to have been developed in accordance with Water Code sections 13241 and 13000.

Moreover, the NELs, SALs, and TMDL requirements, as well as the new dry weather prohibition requirement and the new LID, Retrofitting, Hydromodification and related requirements, are all new permit terms which are not required under the CW A or under any of the regulations thereunder. As such, these are requirements which can only be imposed once the Regional Board complies with the requirements under the Porter-Cologne Act, specifically including Water Code sections 13241 and 13000.

Response Please note that the SALs are not "effluent limitations" as defined in 40 CFR 122.2 and the commenter is incorrect in the statement that there is "strict compliance" required for SALs. SALs are action levels to be utilized in the iterative process for storm water discharges from the MS4.

Please see Regional Board Counsel Memorandum dated November 05, 2009.

Please also see Comment nos. 39 and 277 in the July 1, 2009, Response to Comments IV. The commenter states that the Tentative Order "contains new requirements when compared to the existing municipal NPDES Permit that, in effect, require the Permittees to prohibit all "dry weather" discharges from entering the MS4." As stated in Comment no. 39 in the July 1, 2009, Response to Comments IV, for the last 19 years NPDES storm water permits for Southern Orange County have required Copermitees to prohibit non-storm water discharges. Thus, the commenter is incorrect in stating this is a new requirement. The requirements complained of do not exceed federal law and the Regional Board is not required to conduct an analysis under Water Code section 13241 or 13000. Nonetheless, the Regional Board has considered all economic information provided.

Comment No.	400	Commenter No.	55	Comment Subject	Legal
Comment	<p>Section C.5. of the Draft Permit requires each co-permittee to "obtain the non-stormwater dry weather numeric limitations" set forth therein, including NELs for bacteria, nitrogen, phosphorus, and others, and including NELs for metals based on the California Toxics Rule ("CTR"). There are also separate NELs for dry weather runoff for the Dana Point Harbor and saline lagoon/estuaries, as well as for discharges to the surf zone.</p> <p>The Draft Permit also establishes various SALs, and provides that the "failure to appropriately consider and react to SAL exceedences in an iterative manner creates a presumption that the co-permittees have not complied with the MEP standard." (Draft Permit, D.1.)</p> <p>In addition, Section I of the Draft Permit entitled "Total Maximum Daily Loads" requires strict compliance with the waste load allocations ("WLAs") set forth in the Baby Beach bacteria TMDL, and also provides that the WLAs "of fully approved and adopted TMDLs are incorporated as Water Quality Based Effluent Limitations on a pollutant by pollutant, watershed by watershed basis." For Baby Beach, the Draft Permit requires that the WLAs "are to be met in Baby Beach receiving waters by the end of the year 2019" and that "the numeric targets are to be met once 100 percent of the WLA reductions have been achieved."</p> <p>Accordingly, the Draft Permit seeks to impose strict numeric effluent limits on both dry weather and wet weather discharges, either in the form of NELs for dry weather discharges, SALs for wet weather discharges, or TMDLs for both. However, as discussed in prior comments and further elaborated on herein, the CW A plainly only imposes a "maximum extent practicable" standard on all discharges "from" a municipalities' separate storm sewer system ("MS4").</p> <p>Because no aspect of the CW A, whether for dry weather or wet weather runoff, requires municipalities to strictly comply with numeric limits, but only requires compliance with the MEP Standard, all aspects of the California Porter-Cologne Act, Water Code section 13000, et seq., must be complied with, including, but not limited to, conducting an analysis of the factors set forth under Water Code section 13241, as well as of the policies and factors in section 13000. Yet, there is no indication anywhere in the record that such a 13241/13000 analysis has ever been conducted for any of the proposed NELs, SALs, or WLAs (from TMDLs), nor are there any findings anywhere in the Draft Permit indicating compliance with Water Code sections 13241 and 13000.</p>				
Response	<p>Please note that the SALs are not "effluent limitations" as defined in 40 CFR 122.2.</p> <p>Please see Regional Board Counsel Memorandum dated November 05, 2009.</p>				

Comment

The Draft Permit also attempts to mandate that the Permittees prohibit the discharge of all dry weather discharges from entering the MS4, by redefining all such discharges as "non-storm water" discharges. Specifically, the Draft Permit deletes from the list of exempted discharges any "Landscape Irrigation," "Irrigation Water," and "Lawn Waters." Deleting these previously exempted categories of discharges from entering the MS4, is an attempt to impose additional requirements upon the Permittees that are not mandated by the CW A, and as such, is an attempt to impose non-federal mandates without the Regional Board having first conducted the analysis required under Water Code sections 13241 and 13000.

As discussed further herein, and in other legal comments being submitted on behalf of the County of Orange, the definition of the term "stormwater" includes "surface runoff" and "drainage," and as such, the discharge of all dry weather runoff including Landscape Irrigation, Irrigation Water and Lawn Waters, cannot properly be classified as "non-stormwater," and, thus should not be categorically prohibited from entering the MS4. Accordingly, section 13241 (b)(3)(B)(ii) of the CW A requiring that Permittees effectively prohibit the discharge of "non-stormwater" into the MS4, has no application to the discharge of non-point source Landscape Irrigation, Irrigation Waters or Lawn Waters. For example, the federal regulations define an "illicit" discharge as a discharge that is not composed entirely of "stormwater" except for discharges allowed pursuant to an NPDES Permit and discharges resulting from fire fighting activities. (40 CFR § 122.26(b)(2).) Because the term "stormwater," as discussed below, plainly includes surface runoff and drainage in addition to precipitation (discussed below), all such Landscape Irrigation, Irrigation Waters and Lawn Waters cannot correctly be classified as an "illicit" discharge, and the CW A plainly does not require that the Permittees prohibit such discharges from entering the MS4. If the CWA did so require, then of course the Regional Board would have included such a prohibition in prior Municipal NPDES Permits.

Response

Please see Regional Board Counsel Memorandum dated November 05, 2009.

Interestingly, the commenter makes the argument that dry weather discharges are not "non-storm water discharges" and are in fact considered storm water. As outlined in the Regional Board Counsel Memorandum dated November 05, 2009, the Regional Board finds this assessment to be incorrect. Furthermore, the Regional Board finds the commenter's arguments to be contradictory, as the comment states:

"the discharge of all dry weather runoff including Landscape Irrigation, Irrigation Water and Lawn Waters, cannot properly be classified as "non-stormwater," and, thus should not be categorically prohibited from entering the MS4."

In previous comments, the commenter claims that all discharges from the MS4 are subject to the MEP standard, including non-storm water discharges. However, the commenter clearly states above that all dry weather runoff into the MS4 cannot be classified as non-storm water as it is storm water. This is contradictory as there would then be no non-storm water discharges, since they are all storm water, and there thus would be nothing required to be prohibited per 402(p) of the CWA. Furthermore, there would then be no non-storm water discharges from the MS4.

Moreover, the federal regulations exempt certain enumerated categories of non-storm water discharges" unless they are identified as sources of pollutants. Deletion of categories identified as sources of pollutants is required by federal law.

Comment No.	402	Commenter No.	55	Comment Subject	Legal
Comment	<p>The LID requirements and the related new SSMP, Retrofitting and Hydromodification requirements are similarly not mandated under the CW A. As such, these provisions can only be imposed after the Regional Board has first complied with the requirements of Water Code sections 13241 and 13000, as well as all other applicable requirements under California law.</p>				
Response	<p>The comment regarding unfunded mandates has been extensively considered in all previous response to comments. The comment does not raise any new issues from the previous comments. The Fact Sheet and Response to comments Nos. 155 and 165 in the July 1, 2009, Response to Comments IV; Comment No. 5 in the July 6, 2007, Response to Comments I; Comment Nos. 1 and 9 in the December 12, 2007, Response to Comments II; Comment No. 1, 2, and 3; in the February 13, 2008 Response to Comments III; all provide discussions of these issues.</p> <p>In summary, the State's water quality protection requirements within the Tentative Order are authorized by Federal Law, and are not unfunded mandates. No changes have been made in response to this comment.</p> <p>The comment regarding the Regional Board's compliance with California Water Code §13263, 13241, and 13000 and the consideration of balancing factors has been extensively considered in previous response to comments. Please see the Fact Sheet; July 6, 2007, Response to Comments I, Response No. 5; December 12, 2007, Response to Comments II, Response Nos. 1 and 9; February 13, 2008, Response to Comments, Response No 3.</p> <p>To the extent economic information was submitted, the Regional Board staff considered economic considerations in developing elements of the Tentative Order, but the Regional Board is not required to conduct a cost-benefit analysis. No changes have been made in response to this comment.</p>				

Comment

As discussed above, in *BIA San Diego County v. State Board*, supra, 124 Cal.App.4th 866, 874, the Court held that under the CWA, Congress distinguished between industrial and storm water discharges and clarified that with respect to municipal storm water discharges, "the EPA has the authority to fashion NPDES Permit requirements to meet storm water quality standards without specific numeric effluent limits" Accordingly, any attempt to proceed at this time and impose a permit term that requires strict compliance with any numeric limit, is a requirement that clearly goes beyond what is mandated under federal law.

In addition, clearly federal law does not require that municipalities prohibit the discharge of "Landscape Irrigation," "Irrigation Waters" or "Lawn Waters" from entering the MS4 or from treating all dry weather discharge as non-stormwater. If this were, in fact, a requirement under the CW A, such a prohibition would have been included in prior Municipal NPDES permits issued by the Regional Board. Because the definition of "stormwater," "surface runoff" and "drainage," in addition to "storm water" runoff and "snow melt," as discussed below, includes all landscape runoff and other dry weather runoff, it cannot properly be defined as "nonstormwater" under the CWA.

Furthermore, there is nothing in the CW A or the federal regulations, or otherwise, that would suggest that such discharges are to be classified as "illicit" discharges, or to otherwise be prohibited from entering the MS4. The fact that these discharges were previously consistently permitted in prior Municipal NPDES Permits issued by this Regional Board, is confirmation of the fact that the CWA does not require such a prohibition of these types of discharges from entering the MS4. Accordingly, any attempt at this time to force the Permittees to prohibit the discharge of all dry weather runoff, including but not limited to, Landscape Irrigation, Irrigation Waters or Lawn Waters, from entering the MS4, is a new requirement that goes beyond the requirements of the CW A, and is thus a new requirement that can only be imposed after the Regional Board has first complied with all aspects of the Porter-Cologne Act, specifically including, but not limited to, Water Code sections 13241 and 13000.

In addition, the new LID and related new SSMP, Retrofitting and Hydromodification requirements in the Draft Permit, are all provisions that are not required under any provision of the CW A or the regulations thereunder. As such, compliance with Water Code sections 13000 and 13241 is necessary before any such new permit terms can be imposed upon the Permittees.

Under the California Supreme Court's holding in *City of Burbank v. State Water Resources Control Board* (2005) 35 Ca1.4th 613, a regional board must consider the factors set forth in Water Code sections 13000 and 13241 when adopting an NPDES Permit, unless consideration of those factors "would justify including restrictions that do not comply with federal law." (Id.. at 627.) According to the Supreme Court in Burbank, "Section 13263 directs Regional Boards, when issuing waste discharger requirements, to take into account various factors including those set forth in Section 13241."

In Burbank, the California Supreme Court held that to the extent the NPDES Permit provisions in that case were not compelled by federal law, that the Boards were required to consider their "economic" impacts on the dischargers themselves, with the Court finding that the Water Boards must analyze the "dischargers cost of compliance." (Id .. at 618.) The Court specifically interpreted the need to consider "economics" as requiring the consideration of the "cost of compliance" on the cities involved in that case. (Id .. at 625 ["The plain language of Sections 13263 and 13241 indicates the Legislature's intent in 1969, when these statutes were enacted, that a regional board consider the costs of compliance when setting effluent limitations in a waste water discharge permit."].) And according to the California Supreme Court, the goal of the Porter-Cologne Act is to "attain the highest water quality which is reasonable, considering all demands being made and to be made on those waters and the total values involved, beneficial and detrimental, economic and social, tangible and intangible." (Id. at 618, citing Water Code § 13000.)

Accordingly, under the Burbank decision, Section 13241 compels the Boards to consider the following factors when developing NPDES Permit terms.

- (a) Past, present, and probable future beneficial uses of water.
- (b) Environmental characteristics of the hydrographic unit under consideration, including the quality of water available thereto.
- (c) Water quality conditions that could reasonably be achieved through the coordinated control of all factors which affect water quality in the area.
- (d) Economic considerations.
- (e) The need for developing housing in the region.
- (f) The need to develop and use recycled water.

In *US. v. State Board* (1986) 182 Cal.App.3d 82, the State Board issued revised water quality standards for salinity control because of changed circumstances which revealed new information about the adverse affects of salinity on the Sacramento-San Joaquin Delta ("Delta"). (Id.. at 115.) In invalidating the revised standards, the Court recognized the importance of complying with the policies and factors set forth under both Water Code sections 13000 and

13241, and emphasized section 13241 's requirement of an analysis of "economics," finding:

In formulating a water quality control plan, the Board is invested with wide authority "to attain the highest water quality which is reasonable, considering all demands being made and to be made on those waters and the total values involved, beneficial and detrimental, economic and social, tangible and intangible." (§ 13000.) In fulfilling its statutory imperative, the Board is required to "establish such water quality objectives ... as in its judgment will ensure the reasonable protection of beneficial uses ... " (§ 13241), a conceptual classification far-reaching in scope. (Id .. at 109-110, emphasis added.)

* * *

The Board's obligation is to attain the highest reasonable water quality "considering all demands being made and to be made on those waters and the total values involved, beneficial and detrimental, economic and social, tangible and intangible." (§ 13000, italics added.) (Id. at 116.)

Justice Brown in her concurring opinion in Burbank also made several significant comments regarding the importance of considering "economics" in particular, and the Water Code section 13241 factors in general, before including numeric effluent limitations in an NPDES Permit. These comments are equally relevant today to the Regional Board's Draft Order:

Applying this federal-state statutory scheme, it appears that throughout this entire process, the Cities of Burbank and Los Angeles (Cities) were unable to have economic factors considered because the Los Angeles Regional Water Quality Control Board (Board) - the body responsible to enforce the statutory framework -failed to comply with its statutory mandate.

For example, as the trial court found, the Board did not consider costs of compliance when it initially established its basin plan, and hence the water quality standards. The Board thus failed to abide by the statutory requirements set forth in Water Code section 13241 in establishing its basin plan. Moreover, the Cities claim that the initial narrative standards were so vague as to make a serious economic analysis impracticable. Because the Board does not allow the Cities to raise their economic factors in the permit approval stage, they are effectively precluded from doing so. As a result, the Board appears to be playing a game of "gotcha" by allowing the Cities to raise economic considerations when it is not practical, but precluding them when they have the ability to do so. (Id. at 632, J. Brown, concurring; emphasis added.)

Justice Brown went on to find that:

Accordingly, the Board has failed its duty to allow public discussion - including economic considerations - at the required intervals when making its determination of proper water quality standards.

What is unclear is why this process should be viewed as a contest. State and local agencies are presumably on the same side. The costs will be paid by taxpayers and the Board should have as much interest as any other agency in fiscally responsible environmental solutions. (Id. at 632-33.)

The above-referenced statutory, regulatory and case authority all confirm not only that municipal dischargers are to be treated differently than industrial dischargers, but also that "numeric limits" may only be applied to municipal dischargers after the analysis under Sections 13241/13000 have been complied with. They also confirm that "[i]t is not feasible at this time to set enforceable numeric effluent criteria for municipal BMPs and in particular urban dischargers." (Numeric Limits Panel Report, p. 8.) Accordingly, strict compliance with any numeric limits in a municipal NPDES Permit cannot be required at this time, and to the extent a numeric limit is attempted to be incorporated into the Draft Permit and strictly enforced as such through a means other than through the use of MEP-complaint BMPs, then all applicable requirements of State law, specifically including the analysis required under Water Code sections 13241/13000, must be plainly met.

Moreover, the new proposed requirements in the Draft Permit mandating that the Permittees prohibit the discharge of "Landscape Irrigation," "Irrigation Waters" or "Lawn Waters," from entering the MS4, are not requirements found anywhere in the CWA, and are thus new permit requirements that can only be imposed after the Regional Board has first complied with the requirements of Water Code sections 13241 and 13000.

Finally, as none of the LID, SSMP, Retrofitting and Hydromodification requirements are requirements that are mandated under federal law, the above-referenced provisions of Water Code sections 13241 and 13000 must be met before any such permit terms can lawfully be imposed under California law.

Response Please see Regional Board Counsel Memorandum dated November 05, 2009.

The comment regarding the prohibition on overirrigation practices was addressed in the previous response to comments. The comment does not raise any new issues from the previous comments. Please see the discussion

in the Fact Sheet for findings C.14 and C.15; and the July 1, 2009, Response to Comments IV, Response Nos. 28, 52, 76, and 159. Please also see comments Nos. 84, and 264 in this Response to Comments. No changes have been made in response to this comment. In summary, over irrigation is a non-storm water discharge required by federal regulations to be prohibited where identified to be a source of pollutants.

The comment regarding unfunded mandates has been extensively considered in all previous response to comments. The comment does not raise any new issues from the previous comments. The Fact Sheet and Response to comments Nos. 155 and 165 in the July 1, 2009, Response to Comments IV; Comment No. 5 in the July 6, 2007, Response to Comments I; Comment Nos. 1 and 9 in the December 12, 2007, Response to Comments II; Comment No. 1, 2, and 3; in the February 13, 2008 Response to Comments III; all provide discussions of these issues. In summary, the State's water quality protection requirements within the Tentative Order are authorized by Federal Law, and are not unfunded mandates. No changes have been made in response to this comment.

The comment regarding the Regional Board's compliance with California Water Code §13263, 13241, and 13000 and the consideration of balancing factors has been extensively considered in previous response to comments. Please see the Fact Sheet; July 6, 2007, Response To Comments I, Response No. 5; December 12, 2007, Response To Comments II, Response Nos. 1 and 9; February 13, 2008, Response to Comments, Response No 3.

To the extent economic information was submitted, the Regional Board staff considered economic considerations in developing elements of the Tentative Order, but the Regional Board is not required to conduct a cost-benefit analysis. No changes have been made in response to this comment.

Comment

The Draft Permit improperly provides that: "Non-storm water (dry weather) discharge from the MS4 is not considered a storm water (wet weather) discharge and therefore is not subject to regulation under the Maximum Extent Practicable (MEP) standard from CW A 402(p)(3)(B)(iii), which is explicitly for 'municipal ... Stormwater Discharges (emphasis added)' from the MS4 Non-storm water discharges per CWA 402(p)(3)(B)(ii), are to be effectively prohibited." (Draft Permit, Finding C.14.) The Draft Order then proceeds to not only require that the co-permittees prohibit all "non-storm water" discharges into the MS4, including prohibiting any dry weather runoff from entering the MS4 unless otherwise expressly permitted under the Permit, but also to impose strict numeric effluent limitations, i. e., NELs upon all such dry weather discharges.

Yet, the assertion that "dry weather" is something other than "storm water" is inaccurate and is directly controverted by the very regulations cited in the Draft Order. In addition, this purported finding that the term "storm water" does not include "dry weather," i.e., "urban runoff," was already been rejected by the Orange County Superior Court in that case entitled *City of Arcadia v. State Board*, OCSC Case No. 06CC02974, Fourth Appellate District Case No. G041545 (hereafter the "Arcadia Case"). This fact that the definition of "stormwater" includes "urban runoff," was also recently admitted to by the State Board and the Los Angeles Regional Board in the Arcadia Case, as well as by the NRDC, the Santa Monica Baykeeper and Heal the Bay. As such, any attempt to redefine the term "stormwater" to exclude "dry weather," is contrary to law and should be rejected.

First, it is clear from the plain language of the regulations that the term "Stormwater" includes all forms of "urban runoff" in addition to precipitation events. Specifically, section 122.26(b)(13) reads as follows: "Storm water means storm water runoff, snow melt runoff, and surface runoff and drainage." (40 C.F.R. § 122.26(b)(13); italics in original, bolding and underlining added.) This definition starts with the inclusion of "storm water" and "snow melt runoff," and is then further expanded to include not only "storm water" and "snow melt runoff," but also "surface runoff" and "drainage."

The Regional Board's proposed interpretation of this definition is an attempt to read the terms "surface runoff" and "drainage" out of the regulations. Such an interpretation is contrary to the plain language of the regulation itself, and is contrary to law. (See e.g., *Astoria Federal Savings and Loan Ass'n v. Solimino* (1991) 501 U.S. 104, 112 ["[W]e construe statutes, where possible, so as to avoid rendering superfluous any parts thereof."]; *City of San Jose v. Superior Court* (1993) 5 Cal.4th 47, 55 ["We ordinarily reject interpretations that render particular terms of a statute as mere surplusage, instead giving every word some significance."]; *Ferraro v. Chadwick* (1990) 221 Cal.App.3d 86, 92 ["In construing the words of a statute ... an interpretation which would render terms surplusage should be avoided, and every word should be given some significance, leaving no part useless or devoid of meaning. "]; *Brewer v. Palel* (1993) 20 Cal.App.4th 1017, 1022 ["We are required to avoid an interpretation which renders any language of the regulation mere surplusage."; and *Hart v. ,McLucas* (9th Cir. 1979) 535 F.2d 516, 519 ["[I]n the construction of administrative regulations, as well as statutes, it is presumed that every phrase serves a legitimate purpose and, therefore, constructions which render regulatory provisions superfluous are to be avoided. '])

Second, beyond the plain language of the federal regulation, prior orders of the State Board confirm that the term "urban runoff" is included within the definition of "storm water." For example, in State Board Order No. 2001-15, the State Board regularly interchanges the terms "urban runoff" with "storm water," and discusses the "controls" to be imposed under the Clean Water Act as applying equally to both. In discussing the propriety of requiring strict compliance with water quality standards, and the applicability of the MEP standard in Order No. 2001-15, the State Board asserted as follows:

Urban runoff is causing and contributing to impacts on receiving waters throughout the state and impairing their beneficial uses. In order to protect beneficial uses and to achieve compliance with water quality objectives in our streams, rivers, lakes, and the ocean, we must look to controls on urban runoff. It is not enough simply to apply the technology-based standards of controlling discharges of pollutants to the MEP; where urban runoff is causing or contributing to exceedances of water quality standards, it is appropriate to require improvements to BMPs that address those exceedances.

While we will continue to address water quality standards in municipal storm water permits, we also continue to believe that the iterative approach, which focuses on timely improvements of BMPs, is appropriate. We will generally not require "strict compliance" with water quality standards through numeric effluent limits and we will continue to follow a iterative approach, which seeks compliance over time. The iterative approach is protective of water quality, but at the same time considers the difficulties of achieving full compliance through BMPs that must be enforced through large and medium municipal storm sewer systems. (See Order 2001-15, p. 7-8; emphasis added.)

Moreover, at the urging of the petitioner in Order No. 2001-15, the State Board went so far as to modify the "Discharge Prohibition A.2" language, which was challenged by the Building Industry Association of San Diego County ("BIA"), because such Discharge Prohibition was not subject to the iterative process. The State Board found as follows in this regard: "The difficulty with this language, however, is that it is not modified by the iterative process. To clarify that this prohibition also must be complied with through the iterative process, Receiving Water Limitation C.2 must state that it is also applicable to Discharge Prohibition A.2 Language clarifying that the iterative approach applies to that prohibition is also necessary." (State Board Order No. 2001-15, p. 9.)

The State Board further required that the Municipal NPDES permit challenged in that case be modified because the permit language was overly broad, as it sought to apply the MEP standard not only to discharges "from" MS4s, but also to discharges "into" MS4s, with the BIA claiming that it was inappropriate to require the treatment and control of discharges "prior to entry into the MS4," and with the State Board agreeing that such a regulation of discharges "into" the MS4 was inappropriate. [Id at 9 ["We find that the permit language is overly broad because it applies the MEP standard not only to discharges 'from' MS4s, but also to discharges 'into' MS4s."].)

In State Board Order No. 91-04 discussed above, the State Board specifically relied upon EPA's Stormwater Regulations, to find that: "Storm water discharges, by ultimately flowing through a point source to receiving waters, are by nature more akin to non-point sources as they flow from diffuse sources over land surfaces." (State Board Order No. 91-04, p. 13-14.) The State Board then relied upon EPA's Preamble to said Stormwater Regulations, and quoted the following from the Regulation:

For the purpose of [national assessments of water quality], urban runoff was considered to be a diffuse source for non-point source pollution. From a legal standpoint, however, most urban runoff is discharged through conveyances such as separate storm sewers or other conveyances which are point sources under the [Clean Water Act]. 55 Fed.Reg. 47991. (State Board Order No. 91-04, p. 14; emphasis added.)

The State Board went on to conclude that the lack of any numeric objectives or numeric effluent limits in the challenged permit: "will not in any way diminish the permit's enforceability or its ability to reduce pollutants in storm water discharges substantially In addition, the (Basin] Plan endorses the application of 'best management practices' rather than numeric limitations as a means of reducing the level of pollutants in storm water discharges." (Id at 14, emphasis added.) (Also see Storm Water Quality Panel Recommendations to the California State Water Resources Control Board - The Feasibility of Numeric Effluent Limits Applicable to Discharges of Storm Water Associated with Municipal, Industrial and Construction Activities, June 19, 2008, p. 1 ["MS4 permits require that the discharge of pollutants be reduced to the maximum extent practicable (MEP)"], and p. 8 ["It is not feasible at this time to set enforceable numeric effluent criteria for municipal BMPs and in particular urban dischargers."]; State Board Order No. 98-01, p. 12 ["Storm water permits must achieve compliance with water quality standards, but they may do so by requiring implementation of BMPs in lieu of numeric water quality-based effluent limits."]; and State Board Order No. 2001-11, p. 3 ["In prior Orders this Board has explained the need for the municipal storm water programs and the emphasis on BMPs in lieu of numeric effluent limitations."].)

Third, in the Arcadia Case, in its Decision, Judgment and Writ of Mandate, the Superior Court found that the term "stormwater" was defined in the federal regulations to include not only "stormwater" but also "urban runoff." (See, Decision, Exhibit "1" hereto, p. 1 ["... the Standards apply to storm water [i.e., storm water and urban runoff]."]; Exhibit "2," Judgment in the Arcadia Case, p. 2, fn 2, [citing to 40 C.F.R. § 122.26(b)(13) and finding that: "Federal law defines 'storm water' to include urban runoff, i.e., 'surface runoff and drainage'."]; and Exhibit "3," Writ of Mandate in the Arcadia Case, p. 2, n. 2 ["Federal law defines 'storm water' to include urban runoff, i.e., 'surface runoff and drainage.'"].)

It is further important to note that this interpretation of the term "storm water" as including "urban runoff," by the Superior Court in the Arcadia Case, has not been challenged on appeal by the State or Los Angeles Regional Boards, and in fact, has been agreed to by both of these Boards, as well as by the Intervenor environmental organizations. Specifically, in the State and Regional Boards' Opening Appellate Brief in the Arcadia Case, they agreed that the term "Stormwater" is to include "urban runoff," where they stated as follows:

"Storm water," when discharged from a conveyance or pipe (such as a sewer system) is a "point source" discharge, but stormwater emanates from diffuse sources, including surface run-off following rain events (hence "storm water") and urban run-off. (See Exhibit "4" hereto, which is a true and correct copy of the cited portion from the Boards' Opening Appellate Brief in the Arcadia Case; emphasis added.)

Thus, both the State and the Los Angeles Regional Boards have acknowledged that the term "stormwater" includes not only "stormwater" runoff from "rain events," but also other discharges from a storm sewer conveyance system, specifically including "urban runoff." (Id.)

This definition of the term "Stormwater" as including "urban runoff," has also been accepted by the NRDC, the Santa Monica Baykeeper, and Heal the Bay (collectively, "Intervenors"). In the Intervenor's Opening Brief in the Arcadia Case, said Intervenors admit as follows:

For ease of reference, throughout this brief, the terms "urban runoff" and "stormwater" are used interchangeably to refer generally to the discharges from the municipal Dischargers' storm sewer systems. The definition of "stormwater" includes "storm water runoff, snow melt runoff, and surface runoff and drainage." (40 C.F.R. § 122.26(b)(13).) (See Exhibit "5," hereto, which is a true and correct copy of the cited portion of the Intervenors' Opening Appellate Brief in the Arcadia Case; emphasis added.)

In sum, in light of the plain language of the federal regulation defining the term "stormwater" to include "urban runoff," i.e., "surface runoff" and "drainage" in addition to "storm water" and "snow melt," and given the findings of the Superior Court in the Arcadia Case, as well as the admissions by the State and Regional Boards and the Intervenors in that case, it is clear that the term "stormwater" as defined in the federal regulations, includes "dry weather" runoff.

In short, the definition of "stormwater" plainly includes dry-weather runoff, i.e., "surface runoff and drainage," and as such, there is no basis to treat "dry-weather runoff" any differently under the CWA, e.g., to apply numeric effluent limits rather than the MEP Standard to dry weather runoff, or to require that municipalities prohibit all non-point source "Landscape Irrigation," "Irrigation Waters," "Lawn Waters," and other similar discharges, from entering the MS4.

Response

Please see Regional Board Counsel Memorandum dated November 05, 2009, for discussion of the definition of and authority to regulate non-storm water discharges from MS4s. In addition, the commenter refers to the ruling in the Cities of Arcadia, et al., v. State Water Resources Control Board (Super. Ct. Orange County, 2007, No. 06CC02974) (Arcadia II) to support its interpretation that storm water under federal law includes all urban runoff. Further, the commenter claims that this interpretation has been agreed to by both the State and Los Angeles Regional Water Boards. The commenter fails to note that Arcadia II only considered the definition of storm water and urban runoff in the context of precipitation related surface runoff and drainage. The issues before the court did not include "non-storm water" discharges. Thus, the commenter's references are taken out of context and do not support any change in the Regional Board's interpretation of the definition of storm water as related to precipitation events.

Comment No.	405	Commenter No.	55	Comment Subject	unfunded mandate
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Comment

Any requirements that goes beyond what is otherwise required under federal law, e.g., forcing the municipalities to strictly comply with numeric limits, as opposed to requiring compliance through the use of MEP-complaint BMPs, and any other accompanying mandates that go beyond the requirements of federal law, such as requiring municipalities to prohibit the discharge of Landscape Irrigation or other similar dry weather runoff from entering the MS4, or the new LID, SSMP, Retrofitting, and Hydromodification and related requirements, can only be imposed where adequate funds have first been provided to the municipalities to comply with such mandates. For example, Section F.3 of the Permit seeks to force the Permittees to "develop and implement a retrofitting program." Yet, this new mandated "restoration program" the Regional Board is attempting to force the Permittees to carry out, is not being funded by the State. Rather, the Draft Permit leaves it to the Municipal Permittees to fund this and many other new "programs" imposed by the Draft Permit."

Article XIII B, Section 6 of the California Constitution prohibits the Legislature or any State agency from shifting the financial responsibility of carrying out governmental functions to local governmental entities. Article XIII B, Section 6 provides, in relevant part, as follows:

Whenever the Legislature or any state agency mandates a new program or higher level of service on any local government, the state shall provide a subvention of funds to reimburse such local governments for the cost of such program or increased level of service

This reimbursement requirement provides permanent protection for taxpayers from excessive taxation and requires discipline in tax spending at both state and local levels. (County of Fresno v. State (1991) 53 Cal.3d 482, 487.) Enacted as a part of Proposition 4 in 1979, it "was intended to preclude the state/rom shifting financial responsibility to local entities that were ill equipped to handle the task." (Id.)

Accordingly, because the Regional Board is proposing to require strict compliance with numeric limits, a requirement that exceeds the MEP Standard set forth in federal law; is requiring municipalities to prohibit dry weather runoff including irrigation waters from entering their storm drain system, another requirement not found in the CWA; and is imposing new LID, SSMP, Retrofitting and Hydromodification requirements, none of which are required under the CW A; all such requirements are plainly new unfunded State mandates which may only be imposed where necessary funding has first been made available to the Permittees.

The incorporation of new permit requirements that are not mandated by federal law, and that go unfunded by the State, plainly violate Article XIII B, Section 6 of the California Constitution. (See County of Los Angeles v. Commission on State Mandates (2007) 150 Cal.App.4th 898, 914 ["We are not convinced that the obligations imposed by a permit issued by a Regional Water Board necessarily constitute federal mandates under all circumstances."].)

Response

The comment regarding unfunded mandates has been extensively considered in all previous response to comments. The comment does not raise any new issues from the previous comments.

The Fact Sheet and Response to comments Nos. 155 and 165 in the July 1, 2009, Response to Comments IV; Comment No. 5 in the July 6, 2007, Response to Comments I; Comment Nos. 1 and 9 in the December 12, 2007, Response to Comments II; Comment No. 1, 2, and 3; in the February 13, 2008 Response to Comments III; all provide discussions of these issues.

In summary, the State's water quality protection requirements within the Tentative Order are authorized by Federal Law, and are not unfunded mandates. No changes have been made in response to this comment.

Comment

Under Section C. of the Draft Permit imposing numeric effluent limitations for dry weather runoff, the municipalities are required to implement certain monitoring programs to assure compliance with the NELs. Also, under Section D. of the Draft Permit involving the SALs, again the Regional Board is proposing to impose various monitoring obligations on the municipalities as a means of requiring compliance with such SALs. Other portions of the Draft Permit, some of which were discussed in prior comments, similarly seek to impose monitoring and reporting obligations upon the permittees. Yet, under the Porter-Cologne Act, no monitoring and/or reporting requirements may be imposed upon local agencies, without the Boards first conducting a "cost benefit" analysis. To begin with, Water Code section 13225(c) provides as follows:

Each Regional Board, with respect to its region, shall, do all of the following:

(c) Require as necessary any state or local government to investigate and report on any technical factors involved in water quality control or to obtain and submit analyses of water; provided that the burden, including costs, of such reports shall bear a reasonable relationship to the need for the report and the benefits to be obtained therefrom. (Water Code § 13225(c).)

Similarly, Water Code Section 13267(b) provides, in relevant part, as follows:

* * *

(b)(1). In conducting an investigation specified in subdivision (a), the regional board may require that any person who has discharged

... or who proposes to discharge, waste within its region ... shall furnish, under penalty of perjury, technical or monitoring program reports which the regional board requires. The burden, including costs, of these reports shall bear a reasonable relationship to the need for the report and the benefits to be obtained from the reports. In requiring those reports, the regional board shall provide the person with a written explanation with regard to the need for the reports, and shall identify the evidence that supports requiring that person to provide the reports. (Water Code § 13267(b).)

With the Draft Permit, although the Porter-Cologne Act expressly requires the Regional Board in this context to conduct a cost benefit analysis, and specifically requires that the Regional Board provide the Permittees with a "written explanation with regard to the need for the reports" and "identify the evidence that supports requiring the person to provide the reports," there are no purported findings anywhere in the Draft Permit showing that any such cost benefit analysis was conducted, or any finding that the burden, including costs, of such monitoring and reporting obligations bear a "reasonable relationship" to the need for the same.

In addition, there is no evidence that has been identified anywhere in the record, either in the findings or otherwise, to show that any such cost benefit analysis, as required under Water Code Sections 13267 and 13225, has ever been performed. Accordingly, no monitoring or reporting obligations associated with any NEL, SAL, or TMDL can be imposed upon the municipalities through the Draft Permit, until the requirements of Water Code sections 13225 and 13267 have first been met.

Response

Please note that an exceedance of a SAL does not mean a discharger is out of compliance. A SAL exceedance is required to be utilized in the iterative process.

In addition, monitoring and reporting requirements in an NPDES permit are authorized by Water Code section 13383, and a Finding has been added to the Tentative Order for clarification. Water Code section 13383 does not include a requirement that the Regional Board provide an explanation in writing of the need for the report or to identify evidence that supports requiring the reports. Water Code section 13267 does not require a cost-benefit analysis, but rather, the burden, including costs, must "bear a reasonable relationship to the need for the report and benefits to be obtained from the reports." The findings in the Order supporting the inclusion of NELs for non-storm water discharges, inclusion of SALs, and implementation of the EPA approved TMDL establish the basis (both the reason for and evidence to support) for requiring the reports based upon monitoring. Monitoring is necessary to determine compliance with the permit provisions intended to achieve compliance with water quality standards and protection of beneficial uses in the affected receiving waters. In addition, exceedances of both NELs and SALs, for example, require the permittees to take additional steps to determine the causes of the exceedances and/or steps that will result in better protection of water quality. Absent monitoring, some of the additional steps will not be required. The requirements are consistent with requirements at comparable sites in the San Diego Region. Please see Section T of the Fact Sheet / Technical Report for Order No. R9-2009-0002 for further discussion of monitoring and reporting.

Comment

The LID provisions in the Draft Permit, along with the accompanying new SSMPs requirements and the Retrofitting and new Hydromodification requirements for development and redevelopment within the jurisdictional boundaries of the various municipalities, are all provisions that conflict with the requirements of the California Environmental Quality Act ("CEQ A"). As such these provisions are contrary to law and cannot appropriately be included in the subject NPDES Permit. For example, the LID provisions require the municipalities to "require each Priority Development Project to implement LID BMPs which will collectively minimize directly connected impervious areas, limit loss of existing infiltration capacity, and protect areas that provide important water quality benefits necessary to maintain riparian and aquatic biota, and/or are particularly susceptible to erosion and sediment loss." (Draft Permit, F.1.d.(4).)

The Draft Permit goes on to require that LID BMPs be implemented unless the subject city makes a "finding of infeasibility for each Priority Development Project," and further requires that the municipality "incorporate formalized consideration, such as thorough checklists, ... into the plan review process for Priority Development Projects." (Draft Permit, F.1.d.(4)(a)(i) & (ii).) The Draft Permit also requires that LID BMPs be implemented at all such priority Development Projects "where technically feasible," and provides that if onsite retention LID BMPs are "technically infeasible that LID bio-filtration BMPs may be utilized." (Draft Permit, F.1.d.(4)(b) & (d).) Further "source control BMPs" are required to be implemented which must include BMPs to "eliminate irrigation runoff." (Draft Permit, F.1.d.(5)(c).)

The Draft Permit also includes a BMP waiver program allowing Priority Development Projects to substitute the implementation of LID BMPs in certain instances, with the implementation of treatment control BMPs and payment into an in lieu funding program and/or watershed equivalent BMPs. The waiver program requires, at a minimum, the net impact of Priority Development Projects from pollutant loadings to be above and beyond the impact caused by projects meeting the LID requirements, after considering "mitigation and in lieu payments." It further requires a cost benefit analysis to be developed as a part of the criteria for the technical feasibility analysis, along with various other mitigation measures for pollutant loads expected to be discharged as a result of not implementing LID BMPs. (Draft Permit, F.1.d.(7).) The LID waiver program goes so far as to allow for a "pollutant credit system," and requires a number of other conditions as a part of the waiver process. (Id) Section F.3.d of the Draft Permit requires the Permittees to "develop and implement a retrofitting program" with the goal of reducing "hydromodification," promoting "LID," and supporting "riparian and aquatic habitat restorations," among other purposes. Beyond these requirements, there are several provisions within the Draft Permit that go so far as to prevent "occupancy and/or the intended use of any portion" of the project, where the various LID and SSMP requirements are not being met. (See Draft Permit, F.1.d.(9).)

It is apparent from these Draft Permit terms that they are all designed to address potential adverse impacts on water quality or riparian or aquatic habitat etc., which may occur from the proposed development project in issue. Such an analysis, however, is already required to be conducted by municipalities under the requirements of California Environmental Quality Act ("CEQA" Public Resources Code Sections 21000 et. seq.). In fact, CEQA imposes numerous specific requirements on municipalities when considering development projects within their respective jurisdictions, and particularly requires that the municipalities consider and mitigate potentially significant adverse environmental impacts that may be expected from the project, specifically including impacts that may be expected on water quality.

CEQA is a comprehensive statute that requires governments to analyze projects to determine whether or not they may have significant adverse environmental impacts. If such significant adverse impacts are determined to be present by the lead governmental agency, then under CEQA, these impacts must be disclosed and reduced or mitigated to the extent feasible. CEQA expressly provides local entities the discretion to analyze and approve projects that are deemed appropriate for the local community, following the environmental analysis directed by the Statute, including an analysis of the impacts of the project on water quality. One example of this discretion is the ability of municipalities to adopt a Statement of Overriding Considerations if the public agency finds that "specific overriding economic, legal, social, technological, or other benefits of the project outweigh the significant effects on the environment." (Public Resources Code [PRC] Section 21081)

By removing the City's discretion under CEQA to approve local developments, the Permit is in conflict with existing State law. For example, the Draft Permit directly conflicts with CEQA by unlawfully attempting to direct how a local governmental agency is to approve a project. Under Public Resources Code Section 21 081.6(c), a responsible agency such as the Regional Board cannot direct how a lead agency - such as a Permittee - is to comply with CEQA's terms:

Any mitigation measures submitted to a lead agency by a responsible agency or an agency having jurisdiction over natural resources affected by the project shall be limited to measures which mitigate impacts to resources which are subject to the statutory authority of an definitions applicable to, that agency. Compliance or non-compliance by a

responsible agency or agency having jurisdiction over natural resources affected by a project with that requirement shall not limit ... the authority of the lead agency to approve, condition, or deny projects as provided by this division or any other provision of law. (Pub. Res. Code § 21081.6(e); emphasis added.)

In direct conflict with the terms of CEQA, the Regional Board, through the Draft Permit, unlawfully seeks to impose Permit terms that plainly seek to "limit the authority of the lead agency to approve, condition, or deny projects."

PRC Section 21081.1 also states that the lead agency's determination "shall be final and conclusive on all persons, including responsible agencies, unless challenged as provided in Section 21167." It similarly states that the lead agency "shall be responsible for determining whether an environmental impact report, a negative declaration, or mitigated negative declaration shall be required for any project which is subject to this division." (PRC Section 21080.1 (a).)

Further, no additional procedural or substantive requirements beyond those expressly set forth in CEQA may be imposed upon a local agency's CEQA review process:

It is the intent of the Legislature that courts, consistent with generally accepted rules of statutory interpretation, shall not interpret this division or the state guidelines adopted pursuant to Section 21083 in a manner which imposes procedural or substantive requirements beyond those explicitly stated in this division or in the state guidelines. (PRC § 21083.1.)

PRC section 21001 provides that local agencies "should not approve projects as proposed if there are feasible alternatives or feasible mitigation measures available which would substantially lessen the significant environmental effects of such projects." (PRC § 21001.) However, the conclusion in the Draft Permit appears to be that all runoff from a wide class of new development and redevelopment projects will result in significant adverse impacts on the environment, and that such impacts must be mitigated by those particular mitigation measures as mandated in the Draft Permit. Thus, the Draft Permit dictates the environmental review, without regard for CEQA's provisions, and eliminates a local governmental agency's discretion to consider and approve feasible alternatives or mitigation measures - even if alternative measures might have a lesser effect on the environment.

In addition, PRC section 21002 provides that, "the Legislature further finds and declares that in the event specific economic, social, or other conditions make infeasible such project alternatives or such mitigation measures, individual projects may be approved in spite of one or more significant effects thereof." PRC section 21081(b) then establishes a mechanism for local agencies to approve projects with unmitigated adverse impacts, if they adopt a Statement of Overriding Considerations. The Draft Permit's design standard requirements would eliminate a municipality's discretion to approve a project without the design standards being met, even if a municipality adopts a Statement of Overriding Considerations.

Under the Draft Permit, therefore, environmentally preferable alternatives and/or mitigation measures that would otherwise be required pursuant to CEQA, could not be pursued and required because of the arbitrary requirements set forth in the Draft Permit. The Draft Permit must be revised so as to avoid conflict with State law, and the referenced provisions in issue should be deleted.

Response Please see Comment no. 163 in the July 1, 2009, Response to Comments IV.

Comment

I am a homeowner in [insert name of community association] (Association) and [insert name of city](City). Although the Tentative Order applies directly to the County of Orange as Principal Permittee and the many south Orange County city Co-Permittees, I will be impacted as I will be required to pay for the cost of implementing measures to assure that the permittees remain in compliance. It is from this perspective that these comments are offered in response to the Tentative Order, No. R-2009-2002 NPDES No. CASO 108740.

1. Adoption of the Tentative Order will require my Association to incur added costs which may result in higher assessments charged to homeowners and trigger a chain-reaction of events that will have devastating consequences to the Association, our homeowners and the City as a whole.

Our community is reeling from the consequences of the current state of the economy, and an ever increasing number of the owners and members of my Association are facing financial collapse and the loss of their homes. Under the terms of the Tentative Order, as the City implements and enforces the mandatory requirements, the Association will be subject to fines and penalties and other administrative actions. In order to respond to these new mandates and to avoid penalties and fines, my Association will be required to implement new administrative procedures and make capital improvements and renovations to existing infrastructure. My Association will be forced to increase dues and assessments charged to the homeowners to provide for these new services and improvements. I will be required to pay more dues and assessments to my Association and may be required to pay for homeowner improvements to assure that the City remains in compliance. These added costs will pose extraordinary hardship upon me and my neighbors and there is an increasing likelihood that I cannot or will not be able to pay increased assessments or the costs of homeowner improvements. The financial burdens imposed by the Tentative Order could be the tipping point in my financial situation and my Association, leading to catastrophic consequences.

Faced with ever increasing debt obligations, I and my neighbors will be forced to prioritize the debts we pay, and when we pay them, and unfortunately, my situation requires that I consider delaying payment of assessments. I am already financially challenged by the amount of taxes, homeowner maintenance costs, monthly mortgage payments and existing levels of assessments I pay. If my obligations increase I may face expensive legal fees, foreclosure and bankruptcy. I cannot afford to pay all of the costs which may result from the adoption of the Tentative Order and all of the other costs I pay for my daily existence. I do not have the resources to pay fines or penalties imposed by the City or the Board.

If the Tentative Order is adopted, my property values will decline and I will be unable to sell my property for a fair price as buyers will be driven away from purchasing property in my city and my Association, choosing instead to purchase property elsewhere to avoid the threat of penalties and fines levied by the City and the Board and increased assessments charged by the Associations to cover the added costs. Homes will sit empty and fall into disrepair, thus decreasing property values and threatening the safety and welfare of our community associations and the homeowners they serve.

The costs of implementing and enforcing the Tentative Order will trigger a financial maelstrom such that I may have inadequate resources to continue to meet my obligations.

The primary objective the Tentative Order is designed to achieve will be frustrated and delayed by the financial collapse of the organizations and homeowners like me who are most capable of making a positive difference in enhancing water quality. There is no evidence that in crafting the Tentative Order, the negative economic consequences were considered and properly addressed.

The Tentative Order should be revised to address and overcome negative economic consequences of implementation. The Tentative Order should support and compliment, and not detract from, the financial stability of the City, my Association and the homeowners like me that they serve.

Response

The Tentative Order does not require Homeowner Associations to increase their homeowner assessments. The homeowner should address such concerns with their respective Homeowner Association. The Tentative Order ensures homeowner associations are held accountable to the same standard as any other resident within the Copermittee's jurisdiction, as such, the Tentative Order does not require any additional requirements on Homeowner Associations. The Tentative Order promotes water conservation and rainwater harvesting that can produce cost savings in the HOAs water bills. In addition, the Tentative Order promotes the use of Low Impact Development which has been shown to increase home values. More likely, home values and assessments are based on market values and economics where the Tentative Order plays a miniscule part.

Comment

2. Adoption of the Tentative Order will unnecessarily create adversity and barriers to the implementation of successful strategies and will divert resources needed to achieve the ultimate objectives of NPDES frustrating and delaying the implementation of successful programs.

The Tentative Order will require the City to adopt a much more strident enforcement posture. I am fearful that the City will be forced to implement strategies using its police powers, rather than achieving favorable outcomes based upon education, mutual cooperation and alignment of systems and processes based upon alliances with me, my Association and my neighbors. This new direction will drastically alter the climate of mutual cooperation and support homeowners and the Association and the City have worked so hard to achieve. This change will result in unnecessary adversity and controversy which will delay and generate resistance to the process of making real progress in achieving the prime objective of enhancement of water quality.

Equally alarming is the change in relations between me and my Association and my neighbors which will result from the adoption of the Tentative Order. The Association will be required to pass increased costs of compliance through to the homeowners. This will enhance the debt burden imposed upon the owners by my Association, and create unnecessary hardship and tension between the Association and homeowners. Increasing dues and assessments in the current economic environment will create significant controversy, paralysis in the implementation process, and dysfunction within the community. The Association and homeowners will be caught in the cycle of ever increasing legal involvement to assure funding for the added costs which will result from adoption of the Tentative Order.

To survive financially, the Association will be forced to more aggressively pursue foreclosure and other legal remedies against delinquent homeowner members to collect unpaid assessments for these added costs. Those homeowners not in default will be required to pay even more to subsidize the debt of their delinquent neighbors.

Adoption of the Tentative Order will sow the seeds of community unrest, pitting neighbor against neighbor and homeowners against the Association and the City against the Association, homeowners and other community interest groups. Instead of achieving compliance with the requirements of NPDES and the Clean Water Act by creating a strong foundation of mutual support and cooperation, compliance will be imposed upon resisting homeowners and other community stakeholders by pursuing costly legal and administrative enforcement, penalties and fines.

The Tentative Order should be revised to support cooperation among key community stakeholders including the City, community associations, homeowners and other interest groups.

Response

The Copermittees are to continue their programs of citizen outreach and education, as has been used for the past 20 years and resulted in the state of today's water quality. The Copermittees already have the authority to issue citations for violations of their ordinances. The Tentative Order does not significantly change the Copermittees legal authority to enforce their ordinances or their public education program. Therefore, the burden of responsibility lies with the Copermittees for adverse citizen reaction due to a Copermittee using "police powers." The Tentative Order is not requiring a Homeowner Association to treat their residents any differently. The Tentative Order has oversight of HOAs to ensure they are abiding by the same pollution prevention regulations as the general populace. Any financial burden should be addressed directly to your HOA. Residents should be especially mindful that the Tentative Order is not used as a scapegoat to otherwise increase HOA coffers. We fail to see how the Tentative Order, in improving water quality, will sow the seeds of community unrest as the commenter fails to provide any logical reasoning behind the conjecture other than broad platitudes and speculation.

Comment No.	410	Commenter No.	56	Comment Subject	General
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Comment 3. The Tentative Order fails to acknowledge the successful efforts of homeowners to achieve compliance.

In spite of this record of accomplishment, the Tentative Order imposes new requirements without justification. Where is the evidence that the programs already in place in the City are not working?

Instead of encouraging the development of pilot programs and other management practices based upon the successful existing practices, systems and operations already implemented, the Tentative Order without justification and in an almost punitive fashion mandates new procedures and compliance to new standards which will be extremely costly to achieve and which will expose me, the City, my Association and my neighbors to civil liability and other administrative penalties.

The Tentative Order should be revised to support pilot programs before setting new standards. Revisions should be made to support existing programs until those programs are shown to be ineffective. New standards and requirements should not be adopted without justification. New requirements and standards should not be adopted until there is evidence that existing programs and systems implemented by the City, the Association and the homeowners are unsuccessful.

Response The Regional Board finds it difficult to respond directly to this comment, as the comment does not specify what new requirements and standards are being imposed without justification. Furthermore, the Tentative Order does not prevent the development of pilot programs and/or other management practices, and the Regional Board contends that many requirements within the Tentative Order are built upon existing pilot programs and management practices.

While many individual homeowners have likely implemented BMPs to protect water quality standards, the Draft 2008 303(d) Report has identified 33 waterbodies and 75 waterbody pollutant combinations within Southern Orange County that are recommended to be listed as impaired (see response to Comment No. 387).

Please also see response to Comment Nos. 408 and 409.

Comment No.	411	Commenter No.	56	Comment Subject	General
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Comment 4. Unequal Application of the permitting process and treatment under the law is not justified.

The requirements of the Tentative Order dramatically exceed those contained in all Orders adopted by the Board and all other regions of the California Water Quality Control Board and are inconsistent with the draft Order for North Orange County. There is no justification for the different and unequal application of the permitting process or the new draconian requirements included in the Tentative Order which if adopted will result in unfair and unequal treatment of me, the City and my Association. Why should owners living in community associations in North Orange County, San Diego County, or elsewhere in California benefit from demonstrably less restrictive standards and requirements in the Orders adopted for those regions than those imposed upon me and my neighbors living in the community associations within the City which will be subject to the Tentative Order if adopted? I strongly believe that homeowners like me, the City and my Association should not be singled out and forced to bear the cost and penalty of unequal treatment under the law. There is no justification for this unfair and unequal treatment.

The Tentative Order should be revised to be consistent with the Order adopted by the Board for San Diego County and with the draft Order of the California Water Quality Control Board, Santa Ana Region, North Orange County.

Response In regards to consistency between the San Diego and Santa Ana Regional Board, please see Comment no. 24 in the July 1, 2009, Response to Comments IV. Please also see response to Comment 373. The purpose of the NPDES Permit is to protect and maintain Water Quality Standards. The Tentative Order will move South Orange County closer to that goal.

Comment No.	412	Commenter No.	56	Comment Subject	General
Comment	<p>In conclusion, I would like to stress that revisions to the Tentative Order are required to assure fair and equal treatment under the law. Revisions are required to support existing programs which are working. New standards or requirements should not be adopted unless and until it has been shown that existing programs are ineffective. Revisions should be made to encourage use of pilot programs to develop and test new requirements and standards before implementation. Revisions are needed to support and encourage cooperation among community stakeholder groups and the City. The Tentative Order should be revised to address and overcome negative economic consequences of implementation. The Tentative Order should support and compliment, and not detract from, the financial stability of the City, the community associations and the homeowners they serve.</p> <p>I ask that you review the above-mentioned information and consider it when making final revisions to the Order. I look forward to your response and stand willing and ready to answer any questions you may have. Please contact me at [insert name and contact information] should you have any questions.</p>				
Response	<p>Please see response to Comment Nos. 387 and 410. It is also unclear what revisions are required and what existing programs, in the opinion of the commenter, are working.</p> <p>The Regional Board contends that the Tentative Order does encourage cooperation between community stakeholder groups and the Copermittees. For example, the WRMP section requires the Copermittees to have a public participation mechanism within each watershed.</p> <p>To the extent economic information was submitted, the Regional Board staff considered economic considerations in developing elements of the Tentative Order, but the Regional Board is not required to conduct a cost-benefit analysis. Please see the Fact Sheet; July 6, 2007, Response to Comments I, Response No. 5; December 12, 2007, Response to Comments II, Response Nos. 1 and 9; February 13, 2008, Response to Comments, Response No 3.</p> <p>In regards to consistency between the San Diego and Santa Ana Regional Board, please see Comment no. 24 in the July 1, 2009, Response to Comments IV. Please also see response to Comment No. 373.</p>				

ATTACHMENT 38

EXECUTIVE SUMMARY

The Orange County Stormwater Program (the Program) is a cooperative municipal regulatory compliance initiative focused on the management of urban and stormwater runoff for the protection and enhancement of Orange County's creeks, rivers, streams, and coastal waters. The main objective of the Program is to fulfill the commitment of Orange County's cities, the County of Orange and the Orange County Flood Control District to develop and implement a program that satisfies the requirements of area-wide municipal National Pollutant Discharge Elimination System (NPDES) permits (subsequently referred to as the Third Term Permits).

The purpose of this document is to comply with the requirement of the Third Term Permits, Regional Water Quality Control Board Orders R8-2002-0010 (Santa Ana Regional Board) and R9-2002-0001 (San Diego Regional Board) to submit a Report of Waste Discharge 180 days prior to permit expiration. This Report discusses the Permittees' Third Term Permit compliance activities and includes a description of accomplishments, an assessment of program effectiveness, and a proposed management program (a draft 2007 Drainage Area Management Plan) for the period 2007-2012.

The Program's accomplishments represent the culmination of the development and three years of implementation of a program that was substantially revised to meet the requirements of the Third Term NPDES Permits. Notable programmatic accomplishments include:

- Completion of the 2003 DAMP including 34 jurisdictional Local Implementation Plans (LIPs) (**DAMP Appendix A**), a formal training program (**DAMP Appendix B**) a program effectiveness assessment strategy (**DAMP Appendix C**), and 6 Watershed Action Plans (WAPs) (**DAMP Appendix D**) (**Section 2.0**);
- Establishment of 2 separate, but nonetheless similar and highly interdependent, planning processes targeting the control of pollutants in urban runoff and completion of studies to evaluate the effectiveness and applicability of various source control and treatment control Best Management Practices (**DAMP Appendix D**) (**Section 3.0**);
- Validation, through independent administrative and trial court review, of the robustness of the Permittees' local legal authority for DAMP implementation (**Section 4.0**);
- Development and implementation of (1) a Model Municipal Activities program at 2,302 municipal facilities, (2) Model Integrated Pest Management Guidelines which have reduced municipal fertilizer and pesticide use, and (3) an Established BMP performance reporting program that has indicated the increased effectiveness of street sweeping and trash and debris collection practices (**Section 5.0**);
- Development and implementation of a public education program that has created over 160,000,000 media impressions and produced measurable and positive changes in public awareness and behavior (**Section 6.0**);
- Development and implementation of a Model Water Quality Management Plan (WQMP) based program for new development, the approval of over 1,400 project WQMPs, and the creation and ongoing development of a web-based expert system to support coastal urban wetland management (**Section 7.0**);
- Development and implementation of a Model Construction Program under which 6,570 enforcement actions were taken within a pattern of increasing levels of compliance in the most recent annual reporting period (**Section 8.0**);
- Development and implementation of a Model Industrial/Commercial Program under which over 31,000 facilities have been subject to local regulatory review and 7,266

enforcement actions were taken within a pattern of increasing levels of compliance in the most recent annual reporting period (**Section 9.0**);

- The investigation of 8,866 complaints regarding illegal discharges or illicit connections, increased use of a telephone hotline for the reporting by the public of water quality concerns, and implementation of enhanced cooperative local agency procedures and practices for sewage spill response (**Section 10.0**);
- Development and approval of the Third Term Permit water quality monitoring program and development and implementation of a sophisticated environmental data management system (Labtrack) (**Section C-11.0**), and
- Implementation of the DAMP/Watershed Action Plans (WAPs) in the San Diego Regional Board area (**Section C-12.0**) and significant progress toward completion of WAPs for the Newport Bay and Santa Ana River watersheds.

In assessing the effectiveness of the Program, the Permittees evaluated a series of performance metrics termed Headline Measure, that are intended to confirm program implementation and validate achievement of outcomes. The basis of this approach draws on the hierarchical taxonomy of programmatic outcomes, being advocated by the California Stormwater Quality Association (CASQA), which creates a framework for defining the relationships between compliance actions and, ultimately, positive changes in water quality. In addition, the assessment has been informed by (1) the findings of the Countywide water quality monitoring programs, (2) a series of consultative workshops conducted with jurisdictional program coordinators, (3) reviews of audit reports and other Regional Water Quality Control Board (RWQCB) correspondence and meetings with RWQCB staff, and (4) the receiving water limitations provisions of the Permits.

In conducting the assessment, three major themes emerged during the review. These themes are:

Theme 1: Demonstrating the iterative management approach: Adapting the management program to more effectively address urban sources of pollutants that are causing or contributing to exceedances of water quality standards;

Theme 2: Enhancing Implementation: Improving program implementation through incorporation for auditable environmental management system concepts, and

Theme 3: Establishing watershed-based water quality planning: On a Countywide basis, creating 2 separate, but nonetheless highly inter-related, water quality planning processes, to address urban sources of pollutants.

The Program effectiveness assessment resulted in 2 types of programmatic recommendations, specifically (1) ROWD Commitments (New programmatic commitments to be developed and implemented over the period of the Fourth Term Permits) and (2) DAMP Modifications (Improvements to existing program commitments incorporated into the proposed 2007 DAMP). The ROWD Commitments comprise:

Iterative Management: Developing and implementing new BMP programs including Integrated Pest Management (IPM) approaches for pesticide toxicity, BMPs for the architectural use of copper and zinc in new development, and new BMPs and for municipal trash and debris

EXECUTIVE SUMMARY

control.

Enhancing implementation: Defining the expertise and competencies of staff with program implementation responsibilities and to develop staff skills and expertise through a strategic approach to training. Also, commitments to develop program guidance documentation and standards for source and treatment control BMPs.

Enhancing watershed-based water quality planning: Completing 11 Watershed Action Plans to establish countywide and watershed-based water quality planning processes across Orange County.

EXECUTIVE SUMMARY

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- Development and implementation of a public education program that has created over 160,000,000 media impressions and produced measurable and positive changes in public awareness and behavior (**Section 6.0**);
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enforcement actions were taken within a pattern of increasing levels of compliance in the most recent annual reporting period (**Section 9.0**);

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In assessing the effectiveness of the Program, the Permittees evaluated a series of performance metrics termed Headline Measure, that are intended to confirm program implementation and validate achievement of outcomes. The basis of this approach draws on the hierarchical taxonomy of programmatic outcomes, being advocated by the California Stormwater Quality Association (CASQA), which creates a framework for defining the relationships between compliance actions and, ultimately, positive changes in water quality. In addition, the assessment has been informed by (1) the findings of the Countywide water quality monitoring programs, (2) a series of consultative workshops conducted with jurisdictional program coordinators, (3) reviews of audit reports and other Regional Water Quality Control Board (RWQCB) correspondence and meetings with RWQCB staff, and (4) the receiving water limitations provisions of the Permits.

In conducting the assessment, three major themes emerged during the review. These themes are:

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Theme 2: Enhancing Implementation: Improving program implementation through incorporation for auditable environmental management system concepts, and

Theme 3: Establishing watershed-based water quality planning: On a Countywide basis, creating 2 separate, but nonetheless highly inter-related, water quality planning processes, to address urban sources of pollutants.

The Program effectiveness assessment resulted in 2 types of programmatic recommendations, specifically (1) ROWD Commitments (New programmatic commitments to be developed and implemented over the period of the Fourth Term Permits) and (2) DAMP Modifications (Improvements to existing program commitments incorporated into the proposed 2007 DAMP). The ROWD Commitments comprise:

Iterative Management: Developing and implementing new BMP programs including Integrated Pest Management (IPM) approaches for pesticide toxicity, BMPs for the architectural use of copper and zinc in new development, and new BMPs and for municipal trash and debris

control.

Enhancing implementation: Defining the expertise and competencies of staff with program implementation responsibilities and to develop staff skills and expertise through a strategic approach to training. Also, commitments to develop program guidance documentation and standards for source and treatment control BMPs.

Enhancing watershed-based water quality planning: Completing 11 Watershed Action Plans to establish countywide and watershed-based water quality planning processes across Orange County.

1.0 INTRODUCTION

The cities of Anaheim, Brea, Buena Park, Costa Mesa, Cypress, Fountain Valley, Fullerton, Garden Grove, Huntington Beach, Irvine, La Habra, La Palma, Laguna Hills, Laguna Woods, Lake Forest, Los Alamitos, Newport Beach, Orange, Placentia, Santa Ana, Seal Beach, Stanton, Tustin, Villa Park, Westminster, and Yorba Linda (collectively the Santa Ana Region Permittees) and the cities of Aliso Viejo, Dana Point, Laguna Beach, Laguna Hills, Laguna Niguel, Laguna Woods, Lake Forest, Mission Viejo, Rancho Santa Margarita, San Clemente, and San Juan Capistrano (collectively the San Diego Region Permittees) operate municipal storm drain systems and discharge stormwater and urban runoff pursuant to National Pollutant Discharge Elimination System (NPDES) Permits.

These Permits require that the Permittees work together to:

- Effectively prohibit non-stormwater discharges to the stormdrain system, and
- Implement controls to reduce the discharge of pollutants in stormwater to the Maximum Extent Practicable (MEP).

The Permits were first adopted in 1990 and subsequently renewed in 1996 (Second Term) and 2002 (Third Term) (See **Table 1.1**). This **Report of Waste Discharge** has been prepared in anticipation of the expiration of the Third Term Permits in early 2007 and comprises:

- An evaluation of NPDES permit compliance over the period of the Third Term Permits;
- A proposed management program, the **2007 Drainage Area Management Plan (2007 DAMP)** (see **Appendix A**) for the Fourth Term Permits;
- A comparison of land use in Orange County in 2002 and 2005 (see **Appendix B**), and,
- A compendium of maps showing changes to the storm drain system infrastructure over the period of the Third Term Permits (see **Appendix C**).

1.1 Background

1.1.1 Drainage Area Management Plan

The **Drainage Area Management Plan (DAMP)** is the principal policy and program guidance document for the *Orange County Stormwater Program*, a cooperative municipal regulatory compliance initiative focused on the management and protection of Orange County's streams, rivers, creeks and coastal waters. The main objective of the DAMP is to fulfill the commitment of the Permittees to develop and implement a program that satisfies NPDES permit requirements.

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The DAMP describes the agreements, structures and programs that:

- Provide the framework for the program management activities and plan development (**DAMP Section 2.0** and **Section 3.0**);
- Provide the legal authority for prohibiting unpermitted discharges into the storm drain system and for requiring BMPs in new development and significant redevelopment (**DAMP Section 4.0**);
- Improve existing municipal pollution prevention and removal best management practices (BMPs) to further reduce the amount of pollutants entering the storm drain system. (**DAMP Section 5.0**);
- Educate the public about the issues of urban stormwater and non-stormwater pollution and obtain their support in implementing pollution prevention BMPs (**DAMP Section 6.0**);
- Ensure that all new development and significant redevelopment incorporates appropriate Site Design, Source Control and Treatment Control BMPs to address specific water quality issues. (**DAMP Section 7.0**);
- Ensure that construction sites implement control practices that address control of construction related pollutants discharges including an effective combination of erosion and sediment controls and on-site hazardous materials and waste management (**DAMP Section 8.0**);
- Ensure that existing development addresses discharges from industrial facilities, selected commercial businesses, residential development and common interest areas/homeowner associations (note: the San Diego permit explicitly outlines a residential component, but the Santa Ana permit is more general about residential requirements). (**DAMP Section 9.0**);
- Detect and eliminate illegal discharges/illicit connections to the municipal storm drain system (**DAMP Section 10.0**);
- Identify urban impacts on receiving waters; produce environmental quality information to direct management activities, including prioritization of pollutants to support the development of specific controls to address these problems; and determine pollutant load reductions and changes in the quality of receiving waters (**DAMP Section 11.0**); and
- Assess watershed constituents of concern and manage urban runoff on a watershed basis (**DAMP Section 12.0**).

1.1.2 Runoff from Urban Areas

The Program is concerned with the imprint of urban development on the landscape.

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Urbanization creates rooftops, driveways, roads and parking lots (Schueler and Holland, 2000,¹ use the term *Imperviousness* as the unifying theme for understanding the adverse hydrologic impacts of urbanization), which (1) increase the timing and volume of rainfall runoff (compared to pre-development conditions) and (2) provide a source of pollutants that are flushed or leached by rainfall runoff into aquatic systems. The environmental consequences of these impacts are loss or impairment of aquatic beneficial uses due to:

- Water quality degradation resulting from increased loadings of sediment nutrients, metals hydrocarbons, pesticides and bacteria;
- Stream channel instability and habitat loss resulting from increased severity and frequency of floods;
- Increased water temperatures resulting from solar energy absorption by urban surfaces and elimination of riparian shading; and
- Loss of groundwater recharge.

1.1.3 Regulatory History

The Orange County Stormwater Program was initiated in 1990 as a cooperative local government response to a 1987 amendment to the federal Clean Water Act (CWA). This amendment extended the provisions of CWA Section 402 (National Pollutant Discharge Eliminations System permitting) to municipal storm drain system operators thereby making local governments (and some industrial activities) responsible for the quality of their stormwater discharges. Permit application requirements were promulgated by US Environmental Protection Agency (EPA) in 1990 (40 CFR 122) and form the basis of the current program.

Orange County's first NPDES Permits were issued in 1990 with renewals in 1996 and 2002. There are separate NPDES Permits administered by the Santa Ana and San Diego Regional Water Quality Control Boards (RWQCBs). The Permits prescribe that surface water quality protection be addressed in local governments' oversight of construction and development, its regulation of industry and commerce, and in its construction, operation and maintenance of the public urban infrastructure.

Program managers maintain the compliance of their jurisdiction with the applicable permit (or permits) through implementation of a BMP-based environmental management system (i.e. the DAMP) that is subject to both annual self auditing and reporting and external regulatory compliance audits which, in the Santa Ana Regional Board are, is an enforceable part of the Third Term Permit.

¹ Thomas R. Schuler and Heather K. Holland. *The Practice of Watershed Protection: Techniques for protecting our nation's streams, lakes, rivers and estuaries* (Maryland: Center for Watershed Protection, 2000).

1.2 Approach to Preparing Report of Waste Discharge

1.2.1 Themes

The immediate objective of the ROWD is to fulfill the commitment of the Permittees to undertake a program assessment and propose revisions to the management program in response to the information learned. While compliance with the Third Term Permits is maintained by implementation of prescribed management actions, program assessment must be undertaken with regard to the Permits' receiving water limitations provisions which require adaptation of the Orange County Stormwater Program where urban sources are causing or contributing to exceedances of applicable water quality standards. The first of the major themes that has framed preparation of the ROWD is a focusing of management efforts on identified water quality constituents of concern identified by the environmental monitoring programs.

The Third Term Permits transformed the Orange County Stormwater Program developed under the First and Second Permit Terms. The major escalation in compliance obligations prescribed new requirements for local governments' oversight of construction and development, regulation of industry and commerce, and its construction, operation and maintenance of the public urban infrastructure. These new compliance obligations required a major realignment of the program implemented over two years with the consequence that program performance metrics are generally available for three years. Program effectiveness assessments over the limited period of full implementation have indicated positive programmatic impacts, as detailed in subsequent sections of this report. However, annual assessments have also indicated significant variability in performance reporting between jurisdictions. In addition, regulatory agency reviews have identified differences in regulatory agency and Permittee expectations in key areas of the Program, particularly with respect to regulation and oversight. The second major theme of the ROWD is therefore a focus on enhancing existing program implementation rather than the proposed development of major new program initiatives.

The third major theme is a focus on the watershed approach and specific water quality constituents of concern. The Third Term Permits required the Permittees under the jurisdiction of the San Diego RWQCB to develop Watershed Urban Runoff Management Plans (WURMPs) to address priority water quality constituents of concern, and similar plans are being developed for watersheds in the Santa Ana Region. The WURMPs, termed DAMP Watershed Action Plans, while continuing to evolve, provide a basis for both cooperative targeted actions that complement the countywide approach and optimizing management actions on a regional, sub-regional or jurisdictional basis.

Major Themes of the ROWD

- Demonstrating the Iterative Management Approach: Implementing policy shifts based upon the findings of the environmental monitoring programs.

- Enhancing Implementation: Focusing on program implementation through incorporation of environmental management system concepts.
- Emphasizing the Watershed Approach: Establishing and enhancing watershed-based water quality planning on a countywide basis.

1.2.2 Assessment

The DAMP incorporates three separate but nonetheless related water quality planning processes which are identified as “countywide,” “jurisdictional,” and “watershed-based” water quality management. Each process is iterative and incorporates annual phases of assessment focused on determining whether programmatic outcomes are being achieved (See **DAMP Appendix C - Program Effectiveness Assessment**). These annual assessments have previously been reported (see Unified and jurisdictional Annual Progress Reports).

DAMP Appendix C also recognizes the additional phase of assessment required in the ROWD every five years. While the longer term perspective of the ROWD allows a focus on environmental outcomes, both the annual and ROWD assessments necessarily consider the same performance metrics, both programmatic and environmental. In addition to considering these metrics, preparation of effectiveness assessments in the ROWD were additionally informed by:

- A longer term (rather than annual) review of the findings of the countywide water quality monitoring programs;
- Review of audit reports and other regulatory correspondence regarding the Program and meetings with RWQCB staff;
- A series of facilitated consultation meetings with jurisdictional program coordinators, including in-depth interviews on key program areas; and
- Input from the public at workshops.

The assessment has produced two types of programmatic recommendations:

1. ROWD Commitments, and
2. DAMP Modifications.

ROWD commitments represent shifts in programs that will be implemented upon completion of a development process with the Permittees, and are identified at the end of each program section of the ROWD. DAMP Modifications are characterized as programmatic modifications for improving program implementation and have been incorporated into the proposed 2007 DAMP.

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Program Effectiveness

An activity, program element, or overall program is effective if it is producing a desired outcome. **Figure 1.1** shows that outcomes can be construed in terms of six levels and illustrates the progression of each successive level toward the ultimate goal of environmental improvement. In general, Levels 1 to 3 can be considered *Implementation Outcomes*, Levels 5 and 6 *Water Quality Outcomes* and Level 4 a combination of the two. Each level has value in informing the management process. However, it bears emphasis that not all are necessary or possible in every instance (CASQA, 2005).²

Assessment measures may be variously categorized. In this ROWD, two categories are recognized, related to (1) the shorter term confirmation of BMP implementation (Implementation or Process Measures, also termed Programmatic Indicators), corresponding to Levels 1-3 in **Figure 1.1**, and (2) the longer term verification of environmental improvement (Validation or Results Measures, typically actual indicators of environmental change). In essence, the categorization of measures reflects two basic assessment questions:

- Are program elements being implemented correctly?
- Are environmental improvements being realized?

Headline Indicators are intended to be a sub-set of measures that reflect in simple terms how a stormwater program is progressing towards its goals and are easily understandable. The Orange County Stormwater Program Headline Indicators that have been reported over the Third Term Permits are presented in **Table 1.2**.

Effectiveness assessment requires the establishment of a set of baseline conditions. Thereafter effectiveness can be determined by comparisons of successive years of indicator information against the baseline data. Where the period of evaluation is characterized by the implementation of new program requirements, determinations of program effectiveness will be limited to confirmation of program implementation. Indeed, it must be recognized that evidence of positive environmental outcomes can be elusive because:

- Water quality changes in response to program implementation are likely to be very slow; and
- Establishing a link between receiving water condition and program activities is difficult at the watershed scale when programs are being implemented incrementally.

While program effectiveness assessment is a key step in the iterative process of program

² California Stormwater Quality Association (CASQA). 2005. "An Introduction to Stormwater Program Effectiveness Assessment." Available at: http://www.scvurppp-w2k.com/pdfs/0405/CASQA%20White%20Paper_An%20Introduction%20to%20Stormwater%20Program%20Effectiveness%20Assessment4.pdf.

SECTION 1.0, INTRODUCTION

implementation, it should be realized that effectiveness assessment tools are still evolving. Assessing program effectiveness is recognized as a challenge for program managers across California, and the Orange County Stormwater Program is supporting the effort of the California Stormwater Quality Association (CASQA) to develop guidance in this area at a statewide level.

Environmental Assessment

A summary of the major findings of the water quality monitoring program is presented in **Section 11**. This summary has identified a number of water quality constituents of concern, specifically, metals (copper and zinc) and pesticides, based upon frequent exceedances of water quality standards and the occurrence of toxicity, respectively. In addition, Total Maximum Daily Loads (TMDL) and 13225 and 13267 Directives (see **Section 12**) for pathogen indicator bacteria and regulatory interventions regarding trash and debris require that these constituents also be considered water quality constituents of concern that will be the focus of targeted management efforts over the period of the Fourth Term Permits.

Regulatory Assessment

Over the period of the Third Term Permits, most of the municipal entities have been the subject of compliance audits which have served to highlight the successes (national recognition by USEPA) and shortcomings (three instances of administrative civil liabilities) of the Program. Since the primary objective of the DAMP is to fulfill the commitment of the Permittees to develop and implement a program that satisfies NPDES permit requirements, regulatory agency findings regarding permit compliance and the performance of the Orange County Stormwater Program must be considered in effectiveness assessments. Indeed, many of the commitments made in the subsequent sections follow from regulatory findings. In addition, current Total Maximum Daily Load (TMDL) development in the South County area and a regulatory intervention regarding trash and debris in the north County area, elevate fecal indicator bacteria and trash and debris to the status of Orange County Stormwater Program water quality constituents of concern.

Permittee Assessment

The Permittees have undertaken a comprehensive review of the current programs, identifying areas that are ineffective and require modification, and ones requiring additional emphasis. This assessment, coupled with the environmental and regulatory assessments, are the foundational underpinnings for this ROWD.

Table 1.1: Permit History

Permit Term	Santa Ana Regional Board			San Diego Regional Board		
	Order No.	NPDES No.	Date Adopted	Order No.	NPDES No.	Date Adopted
First (1990-1996)	90-71	CA 8000180	July 1990	90-38	CA 0108740	July 1990
Second (1996-2002)	96-31	CAS618030	March 1996	96-03	CAS0108740	August 1996
Third (2002-2007)	R8-2002-0010	CAS618030	January 2002	R9-2002-0001	CAS0108740	February 2002

Table 1.2: Headline Measures

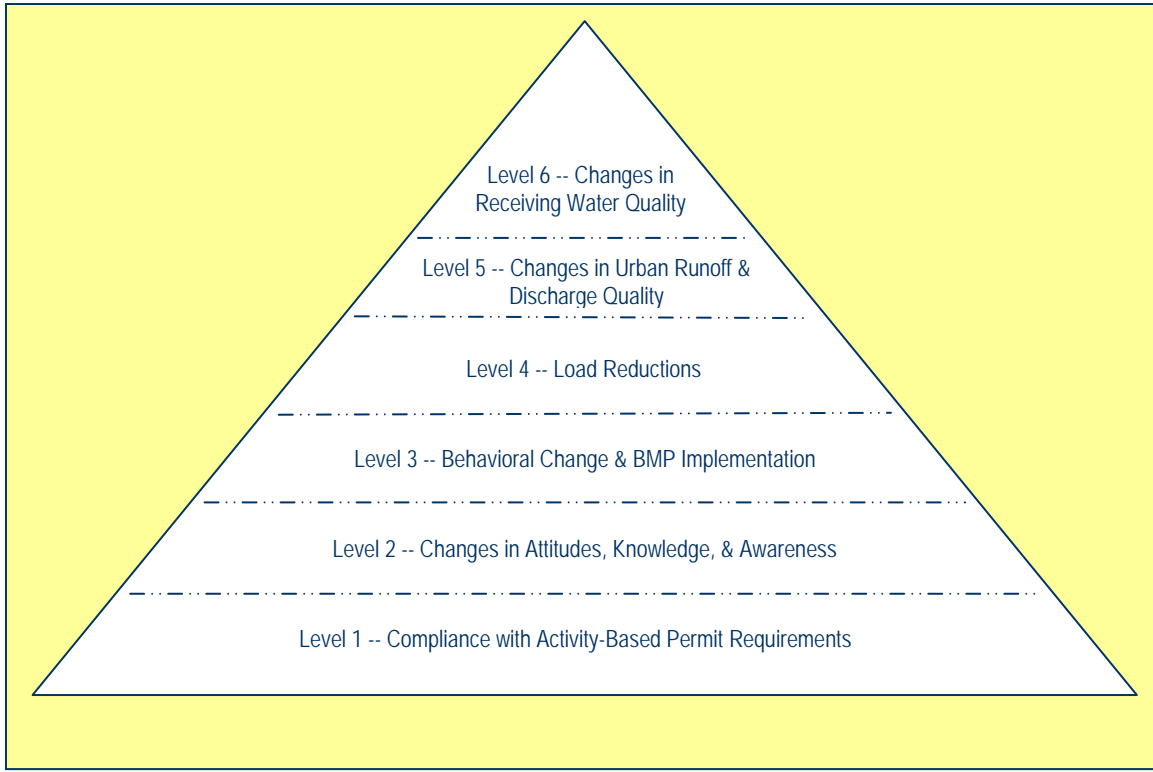
Program Element	Headline Measure	Process Measure	Result Measure	
			Indirect	Direct
2.0 Program Management	Participation in General Permittee Committee	X		
5.0 Municipal Activities	Solid Waste Collected		X	
	Drainage Facility Maintenance - Solid Waste Collected		X	
	Catchbasin Stenciling	X		
	Street Sweeping - Solid Waste Collected		X	
	Household Hazardous Waste Collected		X	
	Used Oil Collected		X	
	# of Facilities Inspected	X		
	Prioritization (High, Medium, Low) of Facilities		X	
	Reduction in Total Pesticide Application		X	
	Reduction in Total Fertilizer (Nitrogen) Application		X	
	Reduction in Total Fertilizer (Phosphorus) Application		X	
6.0 Public Education	# of Impressions	X		
	Changes in Public Awareness and Behavior		X	

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Table 1.2: Headline Measures

Program Element	Headline Measure	Process Measure	Result Measure	
			Indirect	Direct
7.0 New Development	# of WQMPs processed	X		
	Area (Acreage) to which BMPs have been Applied		X	
	# of BMPs Implemented		X	
8.0 Construction	# of Sites Inspected	X		
	Extent of Compliance		X	
	# and Level of Enforcement Actions	X		
9.0 Existing Development	# of BMPs Implemented		X	
	Prioritization of Facilities		X	
	# and Level of Enforcement Actions	X		
10.0 ID/IC	# of Complaints		X	
	# and Level of Enforcement Actions	X		
11.0 Water Quality	Monitoring			X

Figure 1.1: General Classification of Outcome Types



2.0 PROGRAM MANAGEMENT

2.1 Introduction

The key elements of program management comprise the Principal Permittee and Permittee relationship, the Implementation Agreement, the structure and hierarchy of committees (termed Management Framework), and policy and program documentation (i.e. the DAMP). At the inception of the Orange County Stormwater Program, the Permittees in both Regional Board areas agreed that the County of Orange would be the Principal Permittee and the cities and the Orange County Flood Control District would be Co-Permittees on the permit (all parties are now collectively referred to as Permittees). Principal Permittee and Permittee responsibilities are specified in the Permits and reiterated in the NPDES Stormwater Permit Implementation Agreement (referred to as Implementation Agreement) which also provides a funding mechanism for the shared costs (administration, program development, public education, and environmental monitoring) of the Orange County Stormwater Program. To further support the development and implementation of a coordinated countywide program, a management framework was created during the First Permit Term. With the Third Term Permits this framework has evolved into a four tier structure (Permittees, City Managers' Water Quality Committee, Technical Advisory Committee (TAC) and Program Committees/Task Forces). Concurrently, the DAMP was substantially revised to address the significant escalation in compliance requirements prescribed in the Third Term Permits.

2.2 Accomplishments

2.2.1 Implementation Agreement

The Implementation Agreement, originally entered into in December of 1990, was amended in October of 1993 to include two additional Permittees (Laguna Hills and Lake Forest) and formally establish the TAC.

- Implementation Agreement: On June 25, 2002, the Implementation Agreement was amended again and fully restated to include three additional Permittees (Aliso Viejo, Laguna Woods and Rancho Santa Margarita).

2.2.2 Management Framework

The Permittees established (in early 2002) and maintained a tiered management framework consisting of committees, task forces, sub-committees and ad hoc work groups to direct the development and implementation of the Orange County Stormwater Program (**Figure 2.1**). A greater level of participation in all aspects of the program has been evident by high Permittee participation in the management framework. This framework is composed of:

- City Manager's Water Quality Committee
-

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The City Manager's Water Quality Committee meets as needed to provide budget and overall program review and governance direction.

- City Engineer's Technical Advisory Committee (TAC)

The TAC serves in a program advisory role and provides policy direction on program budget and program development and implementation. It is comprised of one Public Works Director/City Engineer, or selected representative, from each of the County Supervisor Districts and a representative from the County of Orange. It meets 4-6 times annually.

- General Permittee Committee

The General Permittee Committee is the principal forum for disseminating information for program coordinators. The Committee meets monthly (except November).

In 2004-05, thirty four (34) out of thirty five (35) Permittees reported 80% or higher participation in the General Permittee Committee.

- Task Forces/ Sub-Committees

The *Task Forces/ Sub-Committees* provide for the continued development of the program in a specified area of program responsibility and oversight. The Task Forces/ Sub-Committees which were active in 2004-05, are:

- Trash and Debris Task Force
 - Purpose: To foster and sustain partnership approaches to dealing with trash and debris in stormwater and urban runoff (quarterly meeting schedule). Recent products include a strategic assessment of Orange County's trash and debris control efforts.
 - Legal/Regulatory Authority Task Force
 - Purpose: To review the legal authorities that the Permittees have in complying with the permit requirements and recommend changes as needed and to track stormwater related litigation that may affect the Orange County Stormwater Program (quarterly meeting schedule).
 - Water Use Efficiency Task force
 - Purpose: To study and support a comprehensive effort to curb urban runoff through efficient water usage in Orange County (quarterly meeting schedule).
-

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- Data and Information Management Sub-Committee
 - Purpose: To oversee the development and implementation of information technology solutions to program data management and reporting requirements (monthly meeting schedule). Recent products include an internet-based system for preparation of the annual reports/Program Effectiveness Assessments (PEAs).
 - LIP/PEA Sub-Committee
 - Purpose: To provide oversight and technical direction to the management of core DAMP/Local Implementation Plan (LIP) programs (bi-monthly meeting schedule).
 - Public Education Sub-Committee
 - Purpose: To provide regional consistency and oversight for the stormwater public education program efforts (monthly meeting schedule). The sub-committee directs development and dissemination of all education and outreach materials.
 - Inspection Sub-Committee
 - Purpose: To provide a forum for the coordination, investigation, enforcement and training aspects of the existing development inspection program and Illegal Discharges/Illicit Connections (ID/IC) programs (bi-monthly meeting schedule). Recent products include the Investigative Guidance Manual and self-audit checklist.
 - Water Quality Sub-Committee
 - Purpose: To provide oversight and technical input for the revision of the water quality monitoring programs, ongoing water quality data evaluation, and special water quality investigations and BMP effectiveness studies (quarterly meeting schedule).
 - Ad-Hoc Group – Wastewater Disposal
 - Purpose: To develop a list of BMPs for the disposal of washwater/wastewater generated by mobile businesses. The Group was convened specifically to address wastewater disposal issues and worked cooperatively with the sewerage agencies to produce best management practice guidance (BMP Fact Sheet IC24). This ad-hoc group has now sunsetted.
-

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- Watershed Committees
 - Seven Watershed Committees (Newport Bay, Laguna Coastal streams, Aliso Creek, Dana Point Coastal Streams, San Juan Creek, San Clemente Coastal Streams, and San Mateo Creek) were established and have met regularly since their inception.
 - Other Watershed Committees/Work Groups

The Permittees have also participated in the Newport Bay Executive and Management Committees (the latter held jointly for a period with the Army Corp of Engineers (ACOE) Study Management Team), the Huntington Harbour Water Quality Task Force, the Dana Point Harbor Water Quality Task Force, the Coastal Coalition, and the Aliso Creek Tier I and Tier II stakeholder meetings. These watershed groups focus their activities and discussions on broader watershed issues of concern, such as habitat restoration and flood control in addition to water quality issues resulting from Total Maximum Daily Loads (TMDLs) and special directives.

- Other Representation/Participation

The Principal Permittee actively represents the Permittees on various advisory stormwater fora, including, California Stormwater Quality Association (CASQA), Southern California Coastal Water Research Project (SCCWRP) (the County, representing the Orange County Stormwater Program, joined SCCWRP in 2005-06), Plastic Debris - Rivers to Sea Project, Nitrogen and Selenium Management Program, and Waste Discharge Requirements (WDR) for Fats, Oils and Grease (FOG) Program.

2.2.3 Program Documentation

The completion of the 2003 DAMP marked the culmination of a major program documentation overhaul and revision that was initiated by the preparation of the Report of Waste Discharge submitted on September 1, 2000. In addition to the revised policy commitments and model programs, the DAMP was expanded through the addition of appendices to include 34 individual jurisdictional LIPs (the Permittees formally identified which departments have responsibility for implementation of each program element), an extensive compendium of training materials, regional and jurisdictional program effectiveness assessment and reporting, and six watershed management plans.

2.2.4 Watershed Mapping

To support the development of the DAMP/Watershed Chapters, GIS-based mapping was undertaken for the S. County area initially to define watershed boundaries. It will be completed for the entire County area by the end of 2006 and will, for the first time, establish definitive watershed and sub-watershed boundaries for Orange County.

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Orange County Watersheds (See **Figure 12.1**)

Orange County – Santa Ana Region	South Orange – San Diego Region
San Gabriel / Coyote Creek Watershed (within Orange County)	Laguna Coastal Streams Watershed
Anaheim Bay/Huntington Harbour Watershed	Aliso Creek Watershed
Santa Ana River Watershed (within Orange County)	Dana Point Coastal Streams Watershed
Newport Bay Watershed	San Juan Creek Watershed
Newport Coastal Streams Watershed	San Clemente Coastal Streams Watershed
	San Mateo Creek Watershed (within Orange County)

2.2.5 Fiscal Analyses

Annual fiscal analyses have been conducted since the inception of the Program. Each analysis identifies *shared costs* and *individual costs*. Shared costs are those that fund activities performed by the Principal Permittee. These activities include administration, program development, public education, and environmental monitoring. The projected-shared cost expenditures for the 2005-06 fiscal year, as approved by the Permittees, were \$5,941,160.

Individual Costs are those incurred by each Permittee arising from its jurisdictional program implementation as documented in the LIPs and comprise capital and operation and maintenance costs. Capital Costs refers to expenditures for land, large equipment, and structures and Operations and Maintenance Costs refer to normal costs of operation including the cost of keeping equipment and facilities in working order. The total individual Permittee costs for the 2005-06 fiscal year were projected to be \$91,868,883.

The fiscal analysis also requires the identification of funding sources. The funding sources used by the Permittees include: General Fund, Utility Tax, Separate Utility, Gas Tax, and Special District Fund, Others (Sanitation Fee, Fleet Maintenance, Community Services District, Water Fund, Sewer & Storm Drain Fee, Grants, and Used Oil Recycling Grants). **Figure 2.2** shows that general funds continue to support over half the cost of program implementation across Orange County.

2.3 **Assessment**

2.3.1 Implementation Agreement

Since the inception of the Program the Implementation Agreement has been amended to provide for the incorporation of new cities and to formally recognize the role of the TAC. The structure of the Agreement has accommodated the expansion of the program and the significant escalation of shared costs with the adoption of the Third Term Permits. More recently, the Agreement has served as a model for cost sharing collaboration related to the Newport Bay TMDL compliance effort (including the Nitrogen Selenium Management Program), Regional Harbor Monitoring Program, and

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Aliso Creek 13255 Directive. Consequently, it is considered to be an effective basis for cooperation of the Program.

2.3.2 Management Framework

USEPA defines a management framework *“as a lasting process for partners working together. It's a support structure making it easier to coordinate efforts--a structure made of agreed upon standard operating procedures, timelines, and forums for communicating with each other”*. On the basis of this definition, the current framework continues to effectively serve the Permittees. The Management Framework has enabled 36 local government entities to develop, implement and sustain coordinated regional and watershed-based approaches to water quality protection and management. The Framework provides a basis for all parties, including staff, management, executive management and elected officials to be informed and involved in the planning processes.

In addition to the established framework, an alternate management framework was conceived during the Third Permit Term by County senior management and the City Managers Association Water Quality Committee in the context of developing a countywide strategic approach to water quality protection based upon three watershed management areas. Conceptually endorsed by the County of Orange Board of Supervisors, this alternate structure will continue to be developed over the course of the Fourth Term Permits.

Headline Indicator - Participation in General Permittee Committee: In 2004-05, thirty four (34) out of thirty five (35) Permittees reported 80% or higher participation in the General Permittee Committee compared to thirty two (32) Permittees reporting 80% or higher participation in 2003-04.

The management framework is reviewed annually to ensure it meets program needs. All the committees/task forces have been effective in bringing forward initiatives to meet the requirements of the Third Term Permits and to address program needs under a consensus building production process.

While these outcomes point to the value and robustness of the current Framework, there has been significant turnover of staff in jurisdictional program manager positions. This has led to a regulatory agency perception that program managers lack the training and expertise necessary to effectively implement the “stormwater mandate.”

ROWD Commitment:

- Prepare a training schedule and define expertise and competencies for jurisdictional program manager positions.
-

SECTION 2.0, PROGRAM MANAGEMENT

2.3.3 Program Documentation

International Organization for Standardization (ISO) 14000 provides criteria for evaluating the efficacy of management system documentation. The DAMP expresses the commitment of the Permittees to NPDES permit compliance and to addressing the adverse impacts of urban runoff on Orange County's creeks, rivers, streams and coastal waters. It establishes objectives, guides the participating organizations toward the development and implementation of BMPs, and commits the Permittees to an iterative process of improvement. It requires the designation of a program manager and assigns responsibilities (through the LIPs) for program implementation. Based upon these considerations, the DAMP meets formal environmental management system expectations for policy documentation. Moreover, the DAMP clearly identifies management procedures and provides for the internal and external communication of both policy and performance. The DAMP is also widely available to interested parties through its posting to www.ocwatersheds.com.

While the comprehensive nature of the current documentation supports the implementation of the Program, it can be perceived as overwhelming in its complexity to both jurisdictional program coordinators who lack a long period of program association and outside constituencies seeking insights into the program. Moreover, the active consideration being given by regulators (e.g. the SWRCB's Blue Ribbon Panel) to possible future inclusion in NPDES permits of quantitative measures, including effluent limitations, underscores regulatory agency and environmental advocate perception of there being undue complexity and challenge with respect to establishing discharger accountability. It is possibly a perception which is being reinforced by overly comprehensive and complex program documentation. The Permittees started to address this issue of accessibility with the publication of the "popular format" *Orange County Stormwater Program Progress in 2002-2003* report and this document's subsequent acclaim points to the need for the more regular use of "popular" format reports. However, to address both the need for the DAMP to be more "accessible" and the Permittees' interest in validating a regulatory framework for stormwater predicated upon an auditable management system, the DAMP must more succinctly demonstrate to all constituencies that policies, objectives, and targets are properly identified and are being met, that regulatory compliance is being achieved, and that the planning processes provide for iterative improvement.

DAMP Modification:

- Revise the DAMP for greater consistency with established Environmental Management System (EMS) principles and improved accessibility to different constituencies and levels or readership.

2.3.4 Fiscal Analyses

SECTION 2.0, PROGRAM MANAGEMENT

The significant year-to-year variability in reported program costs (**Figure 2.3**), which cannot be attributed to changes in program management, point to the clear need for an assessment of the fiscal reporting process.

ROWD Commitment:

- Prepare a fiscal reporting strategy based upon a review of the fiscal analysis reporting section of the PEA, to better define the expenditure and budget line items included in the fiscal report.
-

Figure 2.1: Orange County Municipal NPDES Management Framework

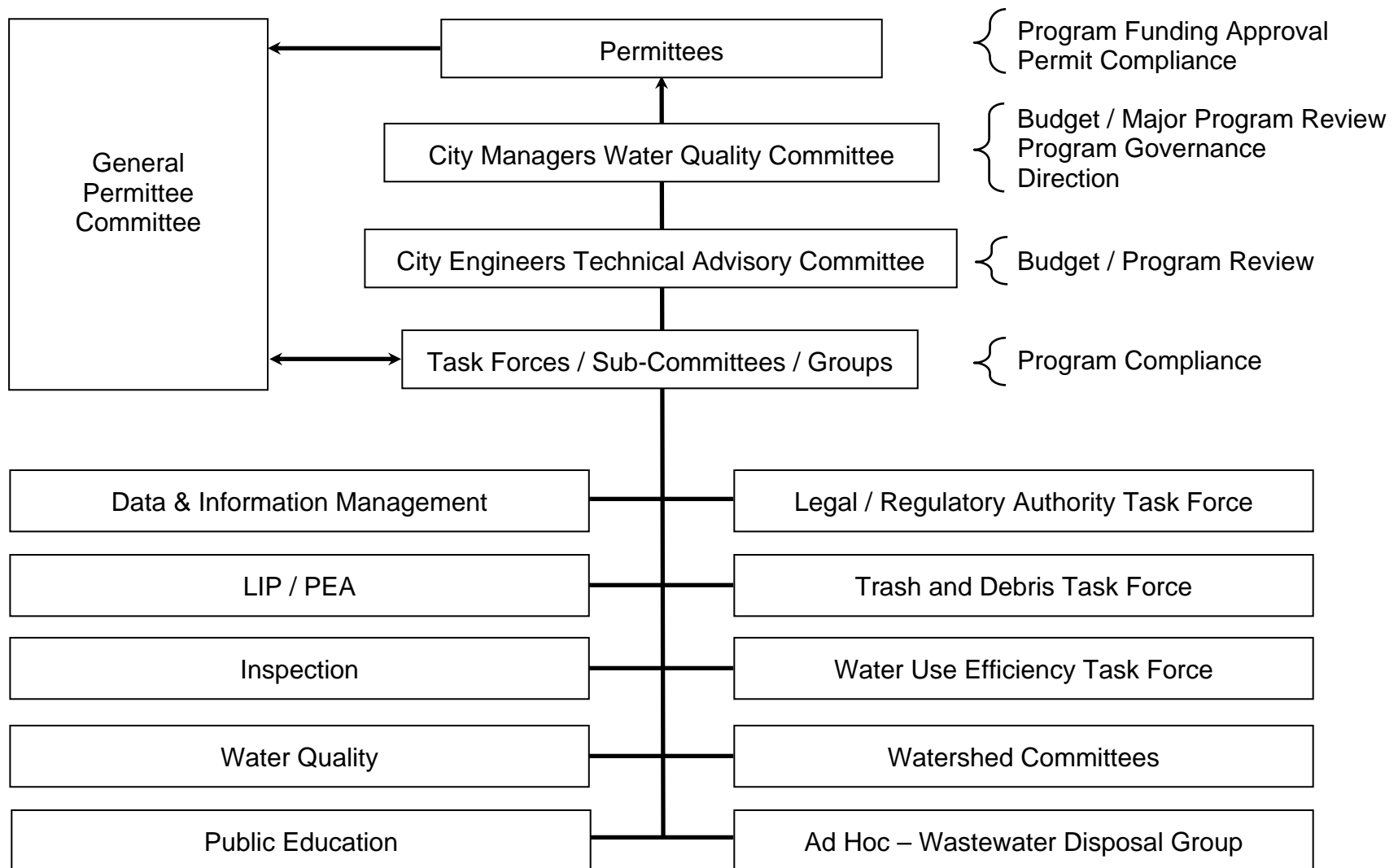


Figure 2.2: 2004-05 Funding Sources

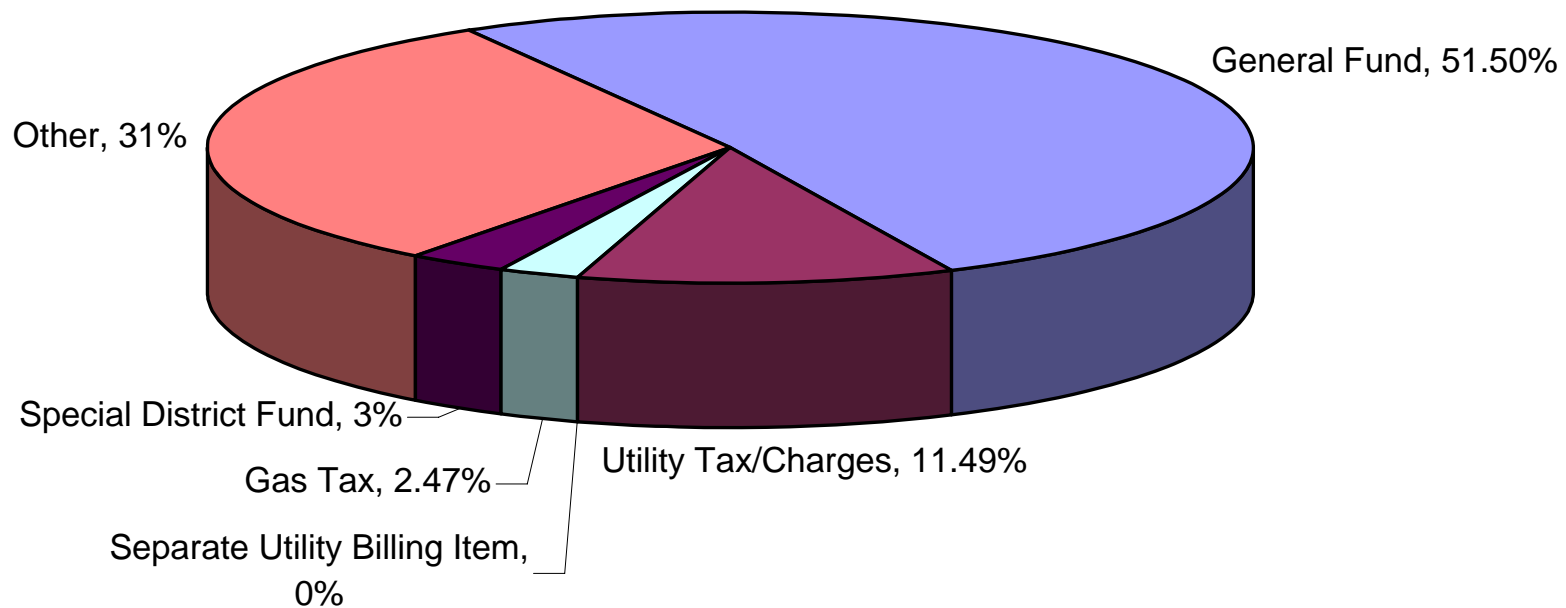
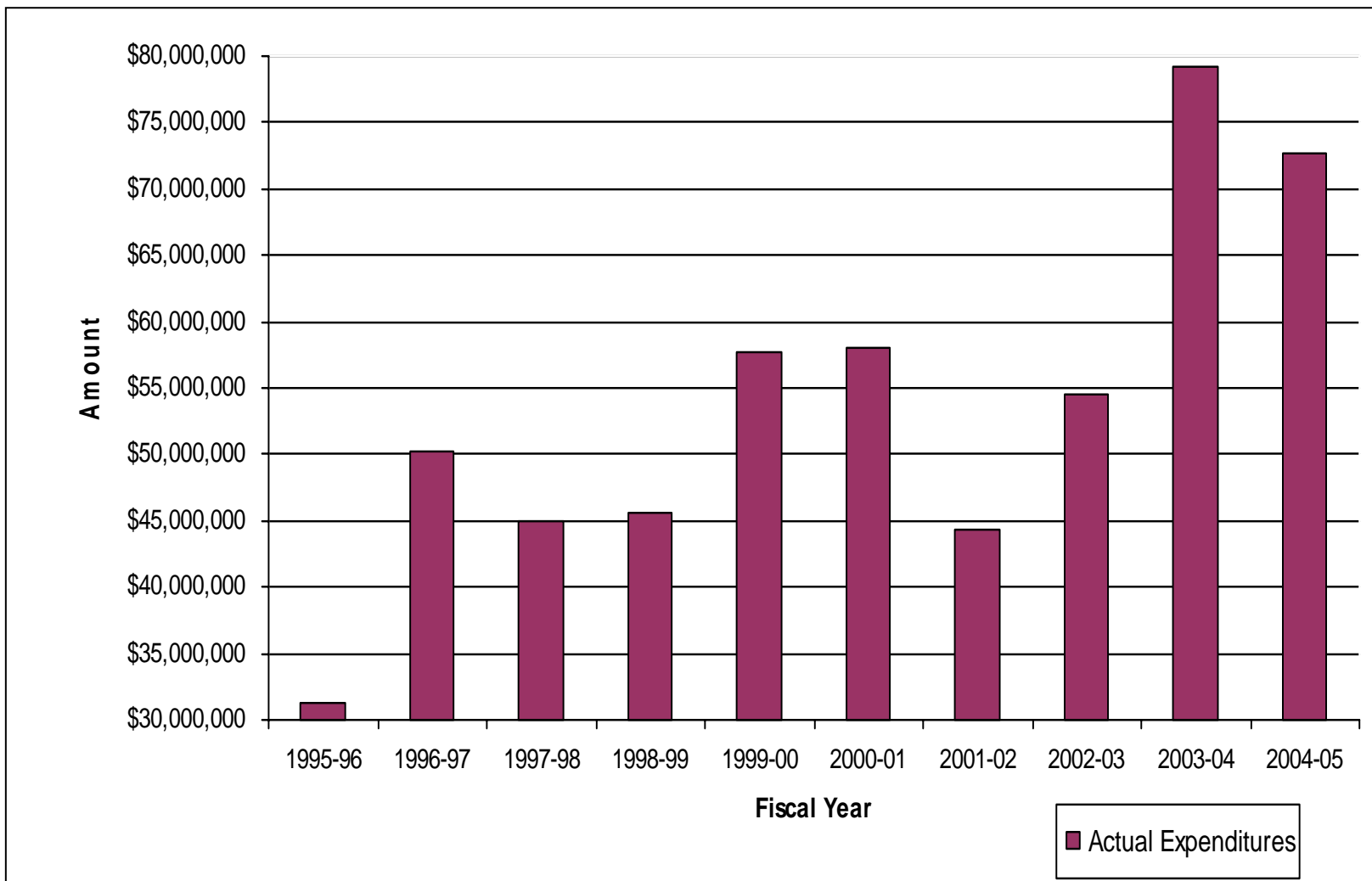


Figure 2.3: Historical Review of Total Individual Permittee Costs



3.0 PLAN DEVELOPMENT

3.1 Introduction

The DAMP sets forth a countywide approach for urban stormwater management by:

- Establishing a baseline set of BMPs that are applicable to all areas and that are proven and cost-effective;
- Monitoring water quality to assess progress and identify urban impacts on receiving water;
- Prioritizing waterbodies for corrective action, with those listed as impaired having a higher priority; and
- Focusing on enhanced BMPs for constituents of concern at a watershed or jurisdictional level, as appropriate.

The purpose of **DAMP Section 3.0** is to describe an iterative planning process, informed by programmatic BMP assessments and environmental monitoring, which support the progressive evolution attainment of water quality standards, as required by the NPDES Permits.

3.2 Accomplishments

3.2.1 Enhancements to DAMP: Iterative Planning Processes

A defining feature of the iterative planning process is the continual analysis, measurement and improvement through the quality loop which is illustrated in a simplified form in **Figure 3.1**:

Assessing: Assessing environmental conditions and programmatic performance, establishing the goals and targets to be achieved, and determining the route to be taken and the measurements to track success;

Planning: Designing activities to achieve the goal, identifying the needed skills and expertise, and designating responsibility for achieving desired outcomes;

Implementing: Striving to bring the process into effect in an efficient and effective manner, and

Monitoring: Evaluating the effectiveness of the *Implementing* stage.

With the adoption of the Third Term Permits, the DAMP which previously had presented policy and programmatic guidance, was revised to incorporate greater individual accountability through jurisdictional Local Implementation Plans (LIPs) (see **DAMP Appendix B**). The LIPs provide a flexible jurisdiction-specific plan within the broader policy and model program framework of the DAMP.

With additional permit mandates to institute watershed-based planning, water quality

planning in the context of the DAMP is now evident as two separate, but nonetheless similar and highly interdependent, processes targeting the control of pollutants in urban runoff. These processes (**Table 3.1; Figure 3.1**) are now recognized in the DAMP as:

- DAMP/LIP – Directed by jurisdictional assessments completed individually by each Permittee and a countywide assessment through a Unified Annual Progress Report.; and
- DAMP/Watershed Action Plan (WAD) (See **DAMP Appendix D**) – Directed by watershed scale assessments in Watershed Annual Reports.

3.2.2 Enhancements to DAMP: Programs and BMPs

Assessment is the part of the planning cycle that involves either initial investigation of the environmental conditions that are being addressed by the management program or, in subsequent iterations of the planning cycle, re-assessment to determine program effectiveness (i.e. if the actions being implemented are contributing to programmatic goals). It encompasses programmatic (including technology evaluations) and environmental enhancements and is itself an evolving area of stormwater management.

Programmatic Enhancements

To assist the Permittees with reporting the status of LIP implementation and the performance of the individual jurisdictional stormwater quality management programs, a Program Effectiveness Assessment (PEA) reporting framework (**DAMP Appendix C**) was developed in 2002-03. The PEA:

- Facilitates the collection and compilation of specific stormwater program implementation data and progress validation indicators;
 - A PEA template was created in 2003 and has been the basis of the 2002-03, 2003-04, and 2004-05 Annual Reports. In 2005, the template was converted into an internet-based reporting system.
- Provides for program effectiveness assessment by the individual Permittees and the Principal Permittee on a jurisdictional, watershed and/or countywide basis;
 - The PEA identifies specific programmatic and environmental performance metrics including specified validation indicators titled, “Headline Indicators.” (See Section 1.2.2)
- Ensures that an evaluation and improvement process is applied on a jurisdictional, watershed and/or countywide level to determine where modifications within the DAMP, LIP or WAP may be necessary; and
- Provides a mechanism for the Permittee to identify and report modifications that have or will be made to their LIP.

Enhancements in BMP Knowledge

A number of BMP evaluations, with countywide application, have been undertaken. These studies include the *BMP Effectiveness and Applicability for Orange County* (see **DAMP Appendix E1**); *Trash and Debris BMP Evaluation* (see **DAMP Appendix E2**); *Erosion Control BMP Effectiveness Study* (see **DAMP Appendix E3**); *Septic System Inventory and Assessment* (see **DAMP Appendix E4**); *Portable Toilet Pollution Prevention Program* (see **DAMP Appendix E5**), *Dry Weather Diversion Study* (see **DAMP Appendix E6**), *BMP Retrofit Opportunity Study* (see **DAMP Appendix E7**), and *Tustin Area Spill Containment Project* (see **DAMP Appendix E8**).

- *BMP Effectiveness and Applicability for Orange County*

This study was commissioned to review existing information on available structural BMPs and to organize and present specific information to facilitate the selection, siting, design, construction and maintenance of the most appropriate and cost-effective BMPs for a particular site in Orange County. The study recommended consideration be given to using extended detention basins, vegetated swales, vegetated buffer strips, bioretention, sand and organic filters, infiltration basins and infiltration trenches. In 2005, the study report was updated to include flow reduction BMPs developed in conjunction with the Nitrogen and Selenium Management Program.

- *Trash and Debris BMP Evaluation*

The objectives of the study were to review characterization information on trash and debris in Orange County and to identify candidate structural BMPs. The study concluded that site characteristics such as hydraulic head or footprint may be the principal determinants of BMP selection. During the reporting period the findings of this study were developed into a BMP selection guide for retrofit applications to modify an existing facility to provide a water quality (trash/debris removal) function. This guide will be finalized in 2006-07 and incorporated into **DAMP Appendix E**.

- *Erosion Control BMP Effectiveness Study*

The study was conducted to evaluate selected erosion methodologies for graded building pads with the goal of providing information on (1) the effect of time and weathering on product condition; (2) the frequency a product must be applied to be effective; (3) the maximum slope on which a product will perform effectively; and (4) how product performance is affected by soil types. The study comprised an evaluation of two types of hydraulic mulch (paper and wood based), two types of polyacrylimide (low and high molecular weights), and wood mulch (without a binding agent). The findings of the evaluation, which will be reported in the **2005-06 Unified Report** and incorporated into **DAMP Appendix E**, will be used to form the basis of a program recommendation on county pre-approved

BMPs.

- *Septic System Inventory and Assessment*

The objectives of this study were to develop an inventory/database of the septic systems in Orange County and to estimate the potential impact of septic systems on the quality of selected receiving waters. The final inventory/database compilation resulted in a list of over 2776 active septic systems which are widely dispersed throughout the County but are found in the highest concentrations in the Santa Ana River watershed. In the course of conducting eighty field surveys, one failed system was noted, representing a failure rate of 1.25% which was consistent with a similar finding in the literature. The study concluded that septic systems do not represent a significant source of constituents of concern (particularly fecal indicator bacteria and nutrients) for Orange County receiving waters.

- *Portable Toilet Pollution Prevention Program*

The objectives of the evaluation were to: (1) determine the nature of existing operational practices and regulatory oversight structure; (2) assess the extent to which the present practices associated with their use and maintenance were adversely impacting surface water quality; and (3) recommend appropriate revisions to current operational practices or regulatory oversight as warranted. The study determined that current standard industry practices for use, maintenance, transport and storage of portable toilets within Orange County are generally found to be sufficiently responsible to prevent impacts to receiving waters.

- *Dry Weather Diversion Study*

The dry weather diversion study was prepared to evaluate the diversions to the sanitary sewer that are in place or proposed within Orange County and to identify decision-making criteria to be used in selecting diversions as a preferred BMP. A recommended procedure for prioritizing implementation of diversion facilities was developed for the area of Orange County served by the Orange County Sanitation District.

- *BMP Retrofit Opportunities Study*

In 1997-98, the feasibility of incorporating BMP retrofits to optimize beneficial use attainment began to be addressed in the context of the long-term water quality planning initiatives being conducted within Orange County, a number of which were in cooperation with the Army Corps of Engineers. To supplement these earlier efforts, during 2003-04, a countywide evaluation was initiated using a GIS-based model to identify opportunities within the existing storm drain infrastructure for configuring/reconfiguring storm drains or channel segments in order to improve water quality and maintain the designated beneficial uses

SECTION 3.0, PLAN DEVELOPMENT

(see **DAMP Appendix E**). This effort was continued in 2005-06 with further use of the GIS-based model.

- *Tustin Area Spill Control (TASC) Demonstration Project*

To address the various regulatory, technical and coordination issues associated with preventing and planning for sanitary sewer overflows (SSOs), the County, as Principal Permittee, and the Orange County Sanitation District (OCSD) initiated a pilot project titled Tustin Area Spill Control (TASC) Demonstration Project. The project's accomplishments to date include:

- Development of SSO response procedures;
- Selection of primary and backup sewage spill response contractors for containment and recovery of sanitary sewer overflows;
- Conducting SSO desktop and hands-on field response training with the contractors; and,
- Development of a Memorandum of Understanding for delineating jurisdictional and financial responsibilities within the TASC project.

Enhancements in Technologies and Methodologies

A number of important initiatives are being supported by the Permittees aimed at the development of assessment techniques and methodologies to support more informed and consistent decision making across Southern California and statewide, including projects being undertaken with the Southern California Stormwater Monitoring Coalition, University of California, Irvine (UCI) for the development of the California Sustainable Watershed/Wetland Information Manager (CalSWIM) - prototype database, and the California Stormwater Quality Association (CASQA) initiative on program effectiveness assessment.

Findings of the extensive water quality monitoring program during the reporting period are discussed in **Section 11.0**. However, concurrent with this data collection effort are a number of important initiatives, being supported by the Permittees, that are aimed at the development of assessment techniques and methodologies to support more informed and consistent decision making across Southern California. Notable amongst these initiatives are the Regional Research Monitoring Program (Stormwater Monitoring Coalition) and the Development of the California Sustainable Watershed/Wetland Information Manager (CalSWIM) - prototype Database.

- *Regional Research Monitoring Program (Stormwater Monitoring Coalition)*

The goal of the Southern California Stormwater Monitoring Coalition (SMC) is to identify region-specific research needs to better understand stormwater mechanisms and impacts, and to collectively sponsor the development of assessment techniques and methodologies that will enable more informed and consistent stormwater management decision-making across the region.

The SMC has initiated several of the 15 research projects identified in the research needs agenda, including: microbial source tracking method comparison,

development of standardized sampling and analysis protocols, implementation of a laboratory intercalibration program, peak flow impact assessment, and the development of a regional integrated freshwater stream bioassessment monitoring program.

- *Development of California Sustainable Watershed/Wetland Information Manager (CalSWIM) – Prototype Database*

In response to a commitment to develop a prototype watershed database for cumulative impact assessment, the County of Orange as Principal Permittee has worked with UCI in developing and implementing a prototype database called the California Sustainable Watershed/Wetland Information Manager (CalSWIM). CalSWIM is a web-based expert system and database focused, initially, on Newport Bay and the Newport Bay watershed and can be viewed at www.calswim.org. The technical objective of CalSWIM is to provide an interactive platform for coastal wetland and watershed managers, planners, and engineers to explore alternative wetland and watershed management strategies.

- *CASQA Program Effectiveness Assessment White Paper*

The preliminary *White Paper* introduced and discussed key concepts and provided a standardized terminology related to the development of a comprehensive framework for assessing the effectiveness of stormwater management programs. It briefly defined and categorized potential outcomes, measures, and methods to be used in conducting assessments, and provided examples of how several programs are already utilizing these tools to assess their effectiveness. It also discussed the current needs of stormwater program managers with respect to program assessment. The issues addressed in this paper will form the basis for more detailed guidance on effectiveness assessment that is being developed by the CASQA Effectiveness Assessment Subcommittee during 2006.

3.3 Assessment

The Permittees recognize that knowledge in the field of stormwater quality is rapidly evolving and that the BMPs within the DAMP/LIP must be revised, deleted or added to in order for the program to stay current. In addition, water quality problems caused by urban stormwater that are identified either through environmental monitoring or regulatory interventions will elevate the need for additional or new BMPs to be implemented.

3.3.1 Iterative Planning Processes

While the ROWD itself serves to identify new programmatic commitments (see **Sections 5.0 through 10.0**), and is thereby evidence of the iterative approach, the DAMP has not, to date, detailed a process for programmatic change in response to improved knowledge of water quality controls and best management practices.

DAMP Modification:

- Revise **DAMP Section 3.0** plan improvement process to detail the plan improvement process.

3.3.2 Programmatic Assessment

The PEA template created in 2003, and used as the basis of the 2002-03, 2003-04, and 2004-05 Annual Reports, has been helpful in establishing a series of metrics for spatial (i.e. jurisdictional comparisons) and temporal (i.e. year-to-year comparisons) assessments of program effectiveness. However, the reporting has highlighted significant inconsistencies in metric interpretation across the jurisdictions of the Orange County Stormwater Program that require further standardization.

ROWD Commitment:

- Prepare metric definitions and guidance to improve efficacy of the assessment process.

3.3.3 BMP Assessment

Over the course of the Third term Permits a number of BMP evaluations have been undertaken. The recommendations arising from these studies are presented as ROWD commitments or DAMP Modifications in the subsequent sections of this ROWD as appropriate.

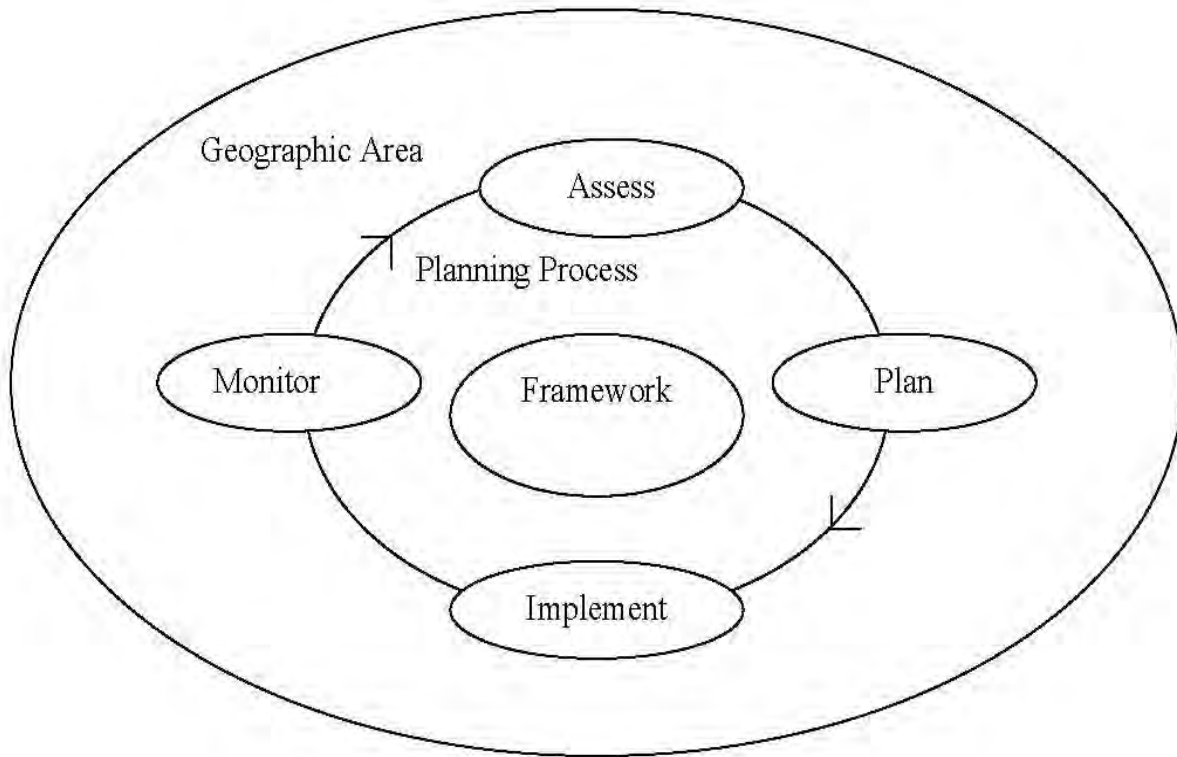
3.4 Summary

The Permittees consider **DAMP Section 3.0** to define the iterative planning processes, informed by programmatic and BMP assessments, that are the basis of the DAMP. Based upon this evaluation of the process, the principal finding is that the language of the DAMP can be revised to better define these processes at separate, but interrelated, jurisdictional, watershed and countywide levels. The Permittees have also identified a need to standardized annual reporting data further in order to enhance effectiveness assessment.

Table 3.1: Comparison of Water Quality Planning Processes

	DAMP/LIP	Watershed Action Plan
<i>Geographic Area Covered by Plan</i>	Defined by political (city/County) boundaries.	Defined by hydrologic boundaries.
<i>Planning Process</i>	Focused on reducing discharges of pollutants in urban runoff and stormwater pollution on a uniform countywide basis. Directed by DAMP/LIP in conformance with NPDES permits requirements.	Focused on improving local receiving water quality where it is adversely impacted by urban runoff and stormwater pollution. Directed by NPDES permits and 303(d) list.
<i>Framework</i>	Directed by Stormwater Program committee structure and Regional Board review. Public consultation principally through CEQA process/Regional Board review.	Directed by municipal and public agency stakeholders. Characterized by public participation.
<i>Assessment</i>	Based on countywide municipal and regional cooperative investigations of stormwater and receiving water quality. Assessments are undertaken annually (LIP) and every 5 year (DAMP).	Based on information from watershed specific investigations. Assessments are undertaken on an annual basis.
<i>Planning</i>	Broad based approach with emphasis on well established pollution prevention and source control measures.	Pollutant specific approach with emphasis on treatment controls and consideration of innovative regional solutions.
<i>Implementation</i>	Individually by Permittees.	Individually and collaboratively by Watershed Permittees and other agencies.
<i>Monitoring</i>	Considers pollutant load reduction.	Considers beneficial use attainment.

Figure 3.1: Water Quality Planning Process



4.0 LEGAL AUTHORITY

4.1 Introduction

The ability of the Permittees to comply with the requirements of the Third Term Permits is contingent upon the establishment, by each Permittee, of adequate legal authority to support control program implementation. **DAMP Section 4.0** discusses the development, starting in 1993, of a Model Water Quality Ordinance that was used by the Permittees as the basis of their local ordinances that were adopted by 1997. It also commits the Permittees to reviewing their ordinances to determine if any modifications are necessary in order to comply with new NPDES Permit requirements.

4.2 Accomplishments

With the adoption of the Third Term Permits in early 2002, the Permittees reviewed and verified the adequacy of their legal authority as the legal basis for the activities required for Third Term Permit compliance, primarily **DAMP Sections 7.0, 8.0, 9.0, and 10.0**. Following this initial review and verification, the responsibility for maintaining the efficacy of this key program element has rested with the Legal and Regulatory Task Force (see **Section 2.3.1**). During the reporting period, this Task Force has focused on a number of key areas including:

- Review and revision of legal authority as necessary regarding the stipulation of mandatory minimum BMPs in the San Diego Region;
- Review of inspection authority and “right of entry” at industrial/commercial facilities;
- Identification and resolution of overlap in legal authority within requirements of the WDR FOG program;
- Examination of the various Total Maximum Daily Load (TMDL) initiatives and their relationship to NPDES permits; and
- Perpetuation of BMP upkeep and maintenance in Water Quality Management Plans (WQMPs) for New Development/Significant Redevelopment.

Arising from the work of the Task Force have been continued findings of legal authority adequacy and the development of a model approach to WQMP recordation.

4.3 Assessment

The program effectiveness assessment outcome level for the **DAMP Section 4.0** is presented in **Table 4.1**. However, beyond confirming compliance with the Permits, the Permittees’ legal authority can also be assessed in the context of the sections of the DAMP that it primarily supports.

4.3.1 Legal Authority to Implement Existing Development and ID/IC Programs

In 2005, an action taken under the Ordinance requiring a property owner to effect the removal of manure from a creek under the authority of the jurisdiction’s water quality

ordinance was formerly challenged under the ordinance's appeal provisions. The jurisdiction prevailed in the third party adjudicated appeal hearing and again at a subsequent trial in an action brought by the Orange County District Attorney. These results, in addition to the numerous successful administrative actions and citations detailed in **Sections 8.0, 9.0 and 10.0** of this report, validate the robustness of the Permittees' legal basis for implementing **DAMP Sections 9.0 and 10.0**.

4.3.2 Legal Authority to Implement New Development Program

The New Development/Significant Redevelopment component of the Program ends with permit close-out and the BMPs implemented in conformance with DAMP Section 7.0 transition to the Existing Development component. As noted in **Section 7.3.1**, the Permittees believe that the BMP approach to stormwater management could be more effectively sustained by ensuring the longevity and enforcement of the approved WQMP against subsequent property owners for ongoing responsibility for BMP maintenance. The ROWD Commitment in **Section 7** to develop guidance on the recordation process and appropriate documentation to enable such enforcement will be fulfilled under the aegis of the Legal and Regulatory Task Force.

4.4 Summary

The Permittees validated the legal basis for implementing the DAMP in early 2002 and over the balance of the period of the Third term Permit continued to review aspects their legal authority under the aegis of the Legal and Regulatory Task Force. This review and the formal legal challenge to this authority in late 2005 and early 2006 have served to affirm the basic robustness of the Permittees' water quality ordinances.

SECTION 4.0, LEGAL AUTHORITY

Table 4.1: Current and Potential Outcome Levels (Legal Authority)

Legal Authority	Effectiveness Assessment Outcome Levels					
	Level 1	Level 2	Level 3	Level 4	Level 5	Level 6
	Implement Program	Increase Awareness	Behavior Change	Load Reduction	Runoff Quality	Receiving Water Quality
Water Quality Ordinance	✓ Adopt and Maintain Adequate Legal Authority					
Training	✓ Track number/type of training sessions	^P Surveys show improved knowledge				
<p><u>Key:</u> ✓ = Currently Achieved Outcome Level ^P = Potentially Achievable Outcome Level</p>						

5.0 MUNICIPAL ACTIVITIES

5.1 Introduction

The Permittees own and operate facilities and build and maintain much of the transportation, drainage and recreational infrastructure of the urban environment. The primary purpose of **DAMP Section 5.0** is to ensure that, through a systematic process of evaluation, BMPs are incorporated into these activities. **DAMP Section 5.0** also requires a commitment to implement Integrated Pest Management (IPM) approaches. In addition, **DAMP Appendix C** requires performance reporting related to a number of Established BMPs that have been recognized, since the inception of the Program, as significant contributors to pollutant load reduction.

5.2 Accomplishments

5.2.1 Model Municipal Activities Program

The Model Municipal Activities Program was developed and implemented in 2002-03 and replaced the environmental performance reporting program of the Second Term Permits. It establishes a framework for conducting a systematic program of evaluation and BMP implementation targeting fixed facilities, field programs and drainage facilities. The Model Municipal Activities Program requires the Permittees to:

- Compile facility and program inventories:

2,302 facilities have been reported as inventoried (2004-05 reporting period) and are subject to the program (**Table 5.2; Figure 5.1**).

- Prioritize facilities and programs based upon water quality threat and receiving water sensitivity:

There are a reported 1,070 high priority, 126 medium priority, and 1,106 low priority municipal facilities (**Table 5.2; Figure 5.1**)

- Establish model maintenance procedures:

Sets of BMP factsheets were produced for Fixed Facilities (13 factsheets), Field Programs (7 fact sheets) and Drainage Facilities (1 fact sheet). The factsheets are available at

http://www.ocwatersheds.com/StormWater/documents_damp_lip.asp

(Section 5 of the County of Orange/Orange County Flood Control District 2005-06 Local Implementation Plan).

- Conduct inspections:

Standard general and activity specific inspection forms have been developed for Fixed Facilities, Field Programs and Drainage Facilities. In addition, by the end

SECTION 5.0, MUNICIPAL ACTIVITIES

of 2006, 2,326 municipal facilities were reported as having been inspected for stormwater issues (**Table 5.3**).

- Implement BMPs:

At the end of the 2004-05 reporting period, 1,968 municipal facilities were determined to have full BMP implementation (**Table 5.3**).

- Undertake training:

Three training modules have been developed, specifically, Municipal Activities program Training, Fixed Facility Model Maintenance Procedure Training and Field Program Model Maintenance Procedure Training.

5.2.2 Model Integrated Pest Management, Pesticide and Fertilizer Guidelines

Landscaping is best managed using an integrated system of tactics that include biological, mechanical, physical, cultural, and chemical control. This system, known as IPM, relies on careful monitoring of the plants to identify when a chemical or other control action should be taken. In June 2001, the Principal Permittee entered into a five-year agreement with the University of California Cooperative Extension (UCCE) to conduct water quality monitoring studies and implement water quality improvement programs in areas where the University has special expertise, particularly related to fertilizer and pesticide applications (Note: On May 10, 2005, the agreement was revised and extended for up to six additional years). In close cooperation with the UCCE, Model IPM, Pesticide and Fertilizer Guidelines were completed in 2002-03. The Guidelines require the Permittees to:

- Conduct IPM self-audits:

With oversight and assistance from UCCE, the Permittees have completed self-audits of the Model IPM, Pesticide and Fertilizer Management Guidelines implementation. Audits have been conducted annually as part of annual progress reporting.

- Implement the Model IPM, Pesticide and Fertilizer Management Guidelines based upon IPM principles:

Fifty-seven percent (57%) of the Permittees are able to report that they operate under a formal written IPM policy.

Thirty-five (35) Permittees reported that approximately 363,146 pounds of nitrogen were applied to 6,862 acres of public land during the 2004-05 reporting period representing a third consecutive year of reduction (the 2005-06 figure represents a 2% decrease from the pounds per acre of nitrogen usage in 2003-04; a decrease of 27% from 2002-03; and a 12% decrease from 2001-02) (**Table 5.4**).

SECTION 5.0, MUNICIPAL ACTIVITIES

During the 2004-05 reporting period, approximately 19,227 pounds of active ingredients (AI) of pesticides were applied by the Permittees representing a 30% reduction in use since the inception of the program (**Table 5.3**).

- Undertake Training:

Training has been provided annually.

5.2.3 Established BMPs

Performance indicators for certain Established BMPs have been tracked since the inception of the Model Municipal Activities Program. These BMPs are street sweeping, solid waste collection, catch basin stenciling, drainage facility maintenance, trash & debris Control (formerly litter control), household hazardous waste collection, and used oil grant participation.

- Street Sweeping:

All Permittees maintain street sweeping programs in residential, commercial and/or industrial areas. In 1993 the Permittees compiled information regarding their existing street sweeping schedules and practices and have subsequently changed elements of their programs such as the types of sweepers purchased, the frequency of sweeping, and the use of parking restrictions in order for the street sweeping program to aid in water quality improvements.

85,516 tons of material was removed from the streets and gutters during the 2004-05 reporting period. This effort appears to represent a 12% increase for weight of material collected over the previous reporting period and a 25% increase over the tons of material reported in 2002-03. This amount represents a 87% increase in the weight of material collected over the 2001-02 total, indicating a marked increase in effort in this area of infrastructure maintenance in the Third Term Permit cycle. (**Table 5.5; Figure 5.2**).

- Solid Waste Collection:

The Permittees have solid waste collection programs for public, residential, commercial and industrial areas.

3,959,590 tons of solid waste was collected during the 2004-05 reporting period. This effort appears to represent a 9.1% increase in the amount of solid waste collected over the previous reporting period, an 8.8% increase over the reported total in 2002-03, and a 7.0% increase over the reported total in 2001-02 (**Table 5.6; Figure 5.3**).

SECTION 5.0, MUNICIPAL ACTIVITIES

- Catchbasin Stenciling:

Over 37,000 stormdrain inlets have been stenciled. Each year 6,000 – 9,000 inlets are re-stenciled.

- Drainage Facility Maintenance:

The Permittees inspect the drainage system within their jurisdictions annually and clean out accumulated debris on an as needed basis. Removal of accumulated debris and sediment is carried out either manually or by mechanical methods using flushing – in emergency situations only – in accordance with established maintenance procedures (Model Maintenance Procedure DF-1). By removing this material from the catch basin inlets and stormdrain system, the Permittees make a significant contribution in preventing the passage of these materials in downstream receiving waters.

5,612 tons of debris was removed from drainage facilities in 2004-05. This amount represents a 43% decrease in the amount of debris collected from drainage facilities when compared to the previous reporting period, a 77% decrease in the amount collected in 2002-03 and a 6.5% decrease in the amount collected in 2001-02 (The 2002-03 reported total suggests inconsistent reporting of this Indicator or other environmental factors such as Santa Ana winds) (**Table 5.7; Figure 5.2; Figure 5.3**).

- Trash & Debris Control:

Trash and debris control is an important element in the diversion of litter and other solid materials from the storm drain system. Although most Permittees historically viewed litter control as a public service program (i.e., preventing visual blight, etc.), rather than as a pollution control problem, it is now considered important as a visual indicator of water quality and an aspect of the recreational use of a waterbody.

Eleven (11) trash and debris booms have been installed in flood control channels and harbors to recover floatable material.

Inner-Coastal and Watershed Cleanup Day, which engages the public directly in the cleanup of trash and debris, has been heavily promoted by the Orange County Stormwater Program. In 2002, 1,722 volunteers joined in and collected 29,503 pounds of trash and 5,350 pounds of recyclables. In 2003, 2,473 volunteers collected 52,474 pounds of trash and 5,447 pounds of recyclables at 37 sites. In 2004, 6,001 volunteers collected 78,390 pounds of trash and 9,563 pounds of recyclables at 38 sites. In 2005 the number of clean-up sites increased to 43.

The Permittees have participated in the preparation of a number of strategic assessments of litter control efforts including *A Review Of Current Trash Pollution and Mitigation Efforts in Orange County: Final Report January 2006* prepared under

SECTION 5.0, MUNICIPAL ACTIVITIES

the auspices of the Trash & Debris Task Force and the Algalita Marine Foundation/California Coastal Commission *Plastic Debris: Rivers To Sea* initiative in which the Principal Permittee was represented on the advisory board.

- Household Hazardous Waste Collection:

Orange County has a household hazardous waste collection program administered by the Integrated Waste Management Department (IWMD). The program comprises four sites (Anaheim, Huntington Beach, San Juan Capistrano, and Irvine).

A total of 6,303,938 pounds of household hazardous waste was collected in the 2004-05 reporting period representing a 9.8% increase from the previous reporting period, a 48.7% increase from the 2002-03 reporting period, and 68.7% increase from the 2001-02 reporting period (**Table 5.8; Figure 5.6**).

- Used Oil Grant Participation:

Most of the Permittees, as well as the County's Health Care Agency, currently implement used oil recycling programs. These programs involve comprehensive public outreach including television and newspaper advertising, displays at community events, and the distribution of used oil containers at no cost to residents.

Twenty seven (27) Permittees reported having a Used Oil Grant participation program for 2004-05, 28 Permittees in 2003-04 and 27 Permittees in 2002-03 (**Table 5.9; Figure 5.7**).

5.3 Assessment

The current and potential program effectiveness assessment outcome levels for the Municipal Activities Program are presented in **Table 5.1a** (Model Municipal Activities Program) and **Table 5.1b** (Model IPM and Fertilizer Guidelines).

5.3.1 Model Municipal Activities Program

The Model Municipal Activities Program superceded the Environmental Performance Reporting (EPR) program of the Second Term Permits. Nonetheless, elements of the EPR program were carried over into the **2003 DAMP**. The **ROWD** is therefore recognized by the Permittees as an opportunity to eliminate the redundant vestiges of the prior inspection and oversight program.

The fixed facility inventory has fluctuated significantly over the reporting period (see **Table 5.2**) pointing to the need for the better definition of key program terms.

SECTION 5.0, MUNICIPAL ACTIVITIES

Indicator – Prioritization of Facilities: For 2004-05, 2,302 industrial facilities were prioritized, 46% of which were ranked as high priority; for 2003-04, 2,418 industrial facilities were prioritized, 49% of which were ranked as high priority; and for 2002-03, 2,380 industrial facilities were prioritized, 46% of which were ranked as high priority (**Table 5.2**).

Level 1: Implement Program

Level 3: Behavior Change

In addition, the number of designated “high priority” facilities has remained at approximately 1,100 annually (**Table 5.2**) despite the initial intention for the program to be risk-based and the significant level of BMP implementation (i.e. risk mitigation) that has occurred over the period of the Third Term Permits. It is also apparent that the application of a “high priority” designation has varied significantly between the Permittees, reflecting both different SAR and SDR Permit requirements and individual Permittee interpretations of the prioritization process.

DAMP Modification:

- Eliminate Environmental Performance Reporting (EPR) program (which is duplicative of Model Municipal Activities Program).
- Define “fixed facilities,” “field programs,” and “drainage facility sites.”

ROWD Commitment:

- Standardize SDR and SAR definitions of “high priority” and develop prioritization process that is better predicated on the threat (diminished by BMP implementation) posed by the facility, and considers the presence of “constituents of concern.”

5.3.2 Model Integrated Pest Management, Pesticide and Fertilizer Guidelines

The majority of fertilizers are applied to turfgrass with a smaller amount utilized on landscape material (trees, shrubs, groundcovers, and vines). Countywide, municipal fertilizer use has declined. However, other indicators of a shift toward more of an IPM-

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oriented approach show little change; e.g. utilization of slow-release fertilizers, timing of fertilizer applications, and use of soil analyses.

Headline Indicator - Reduction in Total Fertilizer Usage (Nitrogen): Thirty-five Permittees (35) reported that approximately 363,146 pounds of nitrogen were applied to 6,862 acres of public land during the 2004-05 reporting period (53 lbs/acre). This figure represents a 2% decrease from the pounds per acre of nitrogen usage in 2003-04; a decrease of 27% from 2002-03; and a 12% decrease from 2001-05.

Level 3: Behavior Change

Headline Indicator - Reduction in Total Fertilizer Application (Phosphorus): Thirty-five Permittees reported that 81,600 pounds of phosphorus were applied to 6,862 acres of public land during the 2004-05 reporting period (12 lbs/acre). This figure represents a 20% decrease from the pounds per acre of phosphorus applied in 2003-04; a decrease of 33% from 2002-03; and an 8% decrease from 2001-05.

Level 3: Behavior Change

There also appears to have been an overall reduction in pesticide use. However, as with fertilizer use, other indicators (e.g. equipment calibration, clean-up of overspray, use of non-chemical pest control methods) show little change. The absence of a trend in these indicators shows that factors other than the adoption of IPM approaches (e.g. budgetary constraints) may be the more significant in explaining the overall reduction in pesticide use. Indeed, toward the end of the current Permit term, only fifty-seven percent (57%) of the Permittees are able to report that they operate under a formal written IPM policy.

Headline Indicator - Reduction in Pesticide Application: During the 2004-05 reporting period, approximately 19,227 pounds of active ingredient of pesticides was applied by Permittees. This represents an approximately 30% decrease in pounds of pesticide applied compared to 25,022 pounds of active ingredient pesticides applied in 2003-04, and 24,750 pounds of active ingredient applied in 2002-03.

Level 3: Behavior Change

ROWD Commitment:

- Develop Model Integrated Pest Management, Pesticide and Fertilizer Guidelines into a Model Program (rather than guidelines) with implementation goals and including model contract language.
 - Redefine IPM (pesticide use) indicators.
-

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5.3.3 Established BMPs

An annual evaluation of the routine preventive maintenance activities is conducted and, where appropriate, improvements or new practices are implemented to further reduce the amount of pollutants discharged into the storm drain system. An important component of this evaluation process is the documentation and collection of data related to these selected activities.

Trash and Debris Controls (formerly Litter Control)

There are currently three aspects to trash and debris control that have been reported over the period of the Third Term Permits, specifically, the deployment of trash and debris booms, public participation in Inner-Coastal and Watershed Cleanup Day, and an enhanced program of catchbasin cleaning.

Currently, eleven (11) trash and debris booms have been installed in flood control channels and harbors to recover floatable material. However, the Permittees recognize that the stormdrain infrastructure provides for retrofit opportunities in other areas. Indeed, a number of recent technical reports prepared by the Permittees and Coastal Commission examining technologies for trash and debris control, as well as extensive independent jurisdictional experience with inlet devices, establish a basis for the development of policy recommendations in this area.

ROWD Commitment:

- Develop recommendations for the selection and installation of drain inlet screens.

Every year the California Coastal Commission and Trails-4-All sponsor the Inner-Coastal and Watershed Cleanup Day to help cleanup the trash and debris that accumulates along the coastline, fouling the beaches and tidal zone. This event has been sponsored and heavily promoted by the Orange County Stormwater Program. In 2002, 1,722 volunteers joined in and collected 29,503 pounds of trash and 5,350 pounds of recyclables. In 2003, 2,473 volunteers collected 52,474 pounds of trash and 5,447 pounds of recyclables. In 2004, 6,001 volunteers collected 78,390 pounds of trash and 9,563 pounds of recyclables. In 2005, the number of clean-up sites increased to 43. The sustained year-to-year increases in public participation and material recovery point to the effectiveness of the Permittees' efforts in promoting this event.

Catchbasins are inspected annually and cleaned as appropriate. In the 2004-05 reporting period 86% of the catchbasin inventory in Orange County was cleaned, the highest level in the first three years of the Third Term Permits.

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Solid Waste Collection

During the last reporting period, 35 Permittees reported the collection of nearly 4.0 million tons of solid waste. This effort compares to the total of 3.62 million tons of solid waste reported by 30 Permittees in 2003-04, 3.64 million tons of solid waste reported by 26 Permittees in 2002-03, and 3.70 million tons of solid waste reported by 33 Permittees in 2001-05. While the Permittees encourage the public, through education and outreach, to properly dispose of their trash, and this encouragement may be contributing to the increased level of collection in the most recent reporting period, there are significant discrepancies in the year-to-year reporting of individual jurisdictions.

Headline Indicator - Solid Waste Collection: 3,959,590 tons of solid waste was collected during the 2004-05 reporting period. This effort appears to represent a 9.1% increase in the amount of solid waste collected over the previous reporting period, an 8.8% increase over the reported total in 2002-03, and a 7.0% increase over the reported total in 2001-05.

In addition to education, the Permittees have considered the extent to which the cradle-to-grave management of solid waste can be improved to increase the effectiveness of collection efforts. This consideration has identified municipal oversight of contract solid waste collection and disposal as another area for possible improvements in service effectiveness.

ROWD Commitment:

- Develop model language for municipal trash collection and haulage contracts that addresses water quality protection issues.

Drainage Facility Maintenance

Drainage facilities are an integral component of the Model Municipal Activities Program and, as high priority facilities, subject to annual inspection. While the reported total length of drainage facilities has increased over successive years, the amount of material recovered has decreased. This reduction may reflect the increasing effectiveness of source controls and the impact of changing management practices such as street sweeping on concrete channels. However, both inconsistent year-to-year reporting and the profound influence of environmental variables (e.g. prevalence of Santa Ana wind conditions and severity of the wet season) may also be explanatory factors.

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Headline Indicator - Drainage Facility Maintenance: 5,612 tons of debris was removed from drainage facilities during the 2004-05 reporting period. This amount represents a 43% decrease in the amount of debris collected from drainage facilities when compared to the previous reporting period, a 77% decrease in the amount collected in 2002-03 and a 6.5% decrease in the amount collected in 2001-02.

Street Sweeping

The year-to-year increases in the amount of material recovered from the urban environment by street sweeping suggest success regarding the Permittees' efforts to continue to improve the effectiveness (e.g. increasing use of drain inlet screens, regenerative air sweepers, parking controls etc.) of this maintenance practice.

Headline Indicator - Street Sweeping: 85,516 tons of material was removed from the streets and gutters during the 2004-05 reporting period. This effort appears to represent a 12% increase for weight of material collected over the previous reporting period and a 25% increase over the tons of material reported in 2002-03. This amount represents an 87% increase in the weight of material collected over the 2001-02 total, indicating increasing effectiveness in this area of infrastructure maintenance in the Third Term Permit cycle.

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Table 5.1a: Current and Potential Outcome Levels (Municipal Activities)

Model Municipal Activities Program	Effectiveness Assessment Outcome Levels					
	Level 1	Level 2	Level 3	Level 4	Level 5	Level 6
	Implement Program	Increase Awareness	Behavior Change	Load Reduction	Runoff Quality	Receiving Water Quality
Inventory	✓ Maintain Inventory					
Prioritization	✓ Assign Priorities		✓ Change in prioritization level			
Inspection	✓ Conduct and track # of inspections		✓ # BMPs implemented	^P Load reduction associated with BMPs		
Training	✓ Track number/type of training sessions	^P Surveys show improved knowledge				
<p><u>Key:</u> ✓ = Currently Achieved Outcome Level ^P = Potentially Achievable Outcome Level</p>						

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Table 5.1b: Current and Potential Outcome Levels (Municipal Activities)

Model IPM and Fertilizer Guidelines	Effectiveness Assessment Outcome Levels					
	Level 1	Level 2	Level 3	Level 4	Level 5	Level 6
	Implement Program	Increase Awareness	Behavior Change	Load Reduction	Runoff Quality	Receiving Water Quality
Model IPM	✓ Formal Policy		✓ Reduction in pesticide use			
Fertilizer Guidelines	^P Formal Policy		✓ Reduction in fertilizer use			
Training	✓ Track number/type of training sessions	^P Surveys show improved knowledge				
<p><u>Key:</u> ✓ = Currently Achieved Outcome Level ^P = Potentially Achievable Outcome Level</p>						

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Table 5.2: Countywide Permittees' Fixed Facility Inventory and Prioritization

Permittee	Low 2002-03	Low 2003-04	Low 2004-05	Medium 2002-03	Medium 2003-04	Medium 2004-05	High 2002-03	High 2003-04	High 2004-05	Total 2002-03	Total 2003-04	Total 2004-05
Aliso Viejo	0	1	0	0	0	0	1	0	1	1	1	1
Anaheim	99	63	0	0	0	0	15	0	62	114	63	62
Brea	27	30	31	0	0		1	1		28	31	31
Buena Park	3	14	14	15	0	0	2	5	5	20	19	19
Costa Mesa	51	51	51	0	0		10	10	10	61	61	61
Cypress	17	14	14	8	8	8	1	1	1	26	23	23
Dana Point	14	13	13	0	0	0	8	9	10	22	22	23
Fountain Valley	28	28	28	0	0		1	1		29	29	28
Fullerton	90	94	94	0	0		1	1	1	91	95	95
Garden Grove	55	55	55	1	1	1	0	0		56	56	56
Huntington Beach	66	78	79	2	7	7	12	8	8	80	93	94
Irvine	39	39	44	12	12	12	1	3	3	52	54	59
La Habra	39	31	31	0	15	15	3	7	7	42	53	53
La Palma	1	1	2	1	1	1	2	2	1	4	4	4
Laguna Beach	46	46	46	48	45	46	73	75	74	167	166	166
Laguna Hills	0	0	0	0	0	0	20	20	20	20	20	20
Laguna Niguel	15	15	18	0	0		19	19	39	34	34	57
Laguna Woods	3	3	3	0	0		1	34	1	4	37	4
Lake Forest	7	0	0	0	0	0	0	8	9	7	8	9
Los Alamitos	14	14	14	NA	0	0	116	127	0	130	141	14
Mission Viejo	40	40	40	2	2	2	25	23	22	67	65	64
Newport Beach	20	21	21	1	1	1	4	4	4	25	26	26
Orange	27	26	29	25	29	29	2	2	2	54	57	60
Placentia	25	35	35	9	0		1	1	1	35	36	36
R S Margarita	3	0	4	0	0		669	669	669	672	669	673
San Clemente	73	20	73	0	19	0	17	51	17	90	90	90
S J Capistrano	18	18	18	0	0	0	38	38	38	56	56	56
Santa Ana	108	112	116	1	1	1	1	1	1	110	114	118
Seal Beach	32	32	39	0	0	0	3	3	5	35	35	44
Stanton	NA	19	19	NA	0	0	NA	1	1	NA	20	20
Tustin	24	22	22	0	0	0	4	4	4	28	26	26
Villa Park	0	1	1	0	0	0	2	1	1	2	2	2
Westminster	28	28	28	0	0	0	1	1	1	29	29	29
Yorba Linda	34	29	29	0	3	3	3	2	2	37	34	34
County of Orange	102	101	95	0	0	0	50	48	50	152	149	145
TOTALS	1,148	1,094	1,106	125	144	126	1,107	1,180	1,070	2,380	2,418	2,302

NA = Not Available

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Table 5.3: BMP Implementation

PERMITTEE	FULLY Implemented 2002-03	FULLY Implemented 2003-04	FULLY Implemented 2004-05	PARTIALLY Implemented 2002-03	PARTIALLY Implemented 2003-04	PARTIALLY Implemented 2004-05	No BMPs Implemented 2002-03	No BMPs Implemented 2003-04	No BMPs Implemented 2004-05
Aliso Viejo	5	11	9	NA	0	0	NA	0	
Anaheim	147	52	65	NA	9	13	NA	0	
Brea	18	NA		0	NA	1	0	NA	
Buena Park	756	16	151	0	2	102	0	0	29
Costa Mesa	7	8	8	3	2	2	0	0	
Cypress	21	0		2	1	1	NA	0	
Dana Point	NA	NA	19	NA	NA	4	NA	NA	
Fountain Valley	79	51	53	2	0		2	0	
Fullerton	84	95	95	NA	0		NA	0	
Garden Grove	6	53	55	0	3	1	0	0	
Huntington Bch.	69	4	79	5	9	19	1	5	3
Irvine	54	54	59	0	0		0	0	
La Habra	0	1	29	4	2	26	NA	0	16
La Palma	1	1	1	3	3	3	0	0	
Laguna Beach	NA	NA	74	NA	NA		NA	NA	
Laguna Hills	16	20	35	2	0		0	0	
Laguna Niguel	NA	6	7	NA	12	29	NA	0	
Laguna Woods	3	6	3	1	7	3	NA	0	
Lake Forest	7	8	9	0	0		0	0	
Los Alamitos	NA	140	141	NA	1		NA	0	
Mission Viejo	23	23	28	26	44	25	18	0	
Newport Beach	8	19	19	0	7	7	0	0	
Orange	39	58	63	0	0		0	0	
Placentia	28	0		7	34	32	NA	0	
R S Margarita	672	669	673	0	0		0	0	
San Clemente	NA	NA		NA	NA		NA	NA	
S J Capistrano	54	56	37	0	0		0	0	
Santa Ana	NA	114	117	NA	0	1	NA	0	
Seal Beach	NA	NA		NA	NA		NA	NA	
Stanton	NA	20	19	NA	0	1	NA	0	
Tustin	NA	12	20	NA	31	23	NA	0	
Villa Park	0	0	0	2	2	0	0	0	1
Westminster	28	29	29	1	0		0	0	
Yorba Linda	2	29	14	0	15		0	0	
County of Orange	9	19	57	7	57	16	0	5	0
TOTALS	2,136	1,574	1,968	65	241	309	21	10	49

NA = Not Available

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Table 5.4: 2004-05 Fertilizers and Amounts Applied By Permittee

Permittee	2002-03					2003-04					2004-05				
	Acres	Total N	Total P	N/acre	P/acre	Acres	Total N	Total P	N/acre	P/acre	Acres	Total N	Total P	N/acre	P/acre
Aliso Viejo	6.0	0.0	0.0			6.0	220.0	30.0	36.7	5.0	6.0	220.0	30.0	36.7	5.0
Anaheim	771.0	19,197.6	3,826.0	3,199.6	637.7	609.0	16,895.6	3,977.9	27.7	6.5	311.0	13,852.0	3,429.4	44.5	11.0
Brea	75.0	1,955.4	692.4	325.9	115.4	84.0	808.7	205.9	9.6	2.5	118.7	1,049.3	247.5	8.8	2.1
Buena Park	162.0	160.0	60.0	26.7	10.0	125.0	4,405.0	855.0	35.2	6.8	55.0	23,505.0	855.0	427.4	15.5
Costa Mesa	200.0	11,340.0	3,780.0	1,890.0	630.0	200.0	23,450.8	5,700.0	117.3	28.5	200.0	12,127.0	1,878.0	60.6	9.4
Cypress	69.0	420.0	140.0	70.0	23.3	69.0	23,450.8	5,700.0	339.9	82.6	9.0	210.0	70.0	23.3	7.8
Dana Point	50.0	4,800.0	720.0	800.0	120.0	50.0	4,800.0	720.0	96.0	14.4	50.0	960.0	360.0	19.2	7.2
Fountain Valley	200.0	1,017.5	405.0	169.6	67.5	200.0	2,441.0	1,183.0	12.2	5.9	200.0	2,441.0	1,183.0	12.2	5.9
Fullerton	50.0	3,397.5	1,672.5	566.3	278.8	120.0	4,911.5	1,408.5	40.9	11.7	NA	3,414.0	1,303.5	NA	NA
Garden Grove	160.0	2,771.8	1,343.4	462.0	223.9	170.0	4,095.0	1,335.0	24.1	7.9	170.0	5,265.0	1,712.5	31.0	10.1
Huntington Beach	596.0	25,178.6	4,932.6	4,196.4	822.1	606.0	25,133.6	4,887.6	41.5	8.1	606.0	25,133.6	4,887.6	41.5	8.1
Irvine	736.5	70,139.5	14,755.5	11,689.9	2,459.2	773.0	74,070.6	24,712.2	95.8	32.0	846.6	61,240.4	14,516.2	72.3	17.1
La Habra	108.0	3,080.0	1,030.0	513.3	171.7	108.0	2,943.5	889.5	27.3	8.2	108.0	2,474.0	942.0	22.9	8.7
La Palma	30.0	1,280.0	480.0	213.3	80.0	15.0	640.0	240.0	42.7	16.0	15.0	640.0	240.0	42.7	16.0
Laguna Beach	42.0	1,350.0	525.0	225.0	87.5	42.0	881.4	330.9	21.0	7.9	50.0	1,000.6	375.6	20.0	7.5
Laguna Hills	125.0	8,170.8	2,181.4	1,361.8	363.6	125.0	8,125.8	2,181.4	65.0	17.5	125.0	8,155.7	2,196.4	65.2	17.6
Laguna Niguel	151.0	33,079.5	11,461.1	5,513.2	1,910.2	151.0	37,929.2	18,528.2	251.2	122.7	151.0	20,737.5	5,763.7	137.3	38.2
Laguna Woods	15.0	642.5	145.5	107.1	24.3	5.0	497.5	142.5	99.5	28.5	5.0	510.0	210.0	102.0	42.0
Lake Forest	187.0	7,680.0	2,880.0	1,280.0	480.0	72.0	8,040.0	3,015.0	111.7	41.9	71.8	13,803.0	4,803.0	192.2	66.9
Los Alamitos						15.0	100.0	20.0	6.7	1.3	14.3	100.0	20.0	7.0	1.4
Mission Viejo	975.0	100,678.1	17,453.1	16,779.7	2,908.9	975.0	76,503.0	9,042.0	78.5	9.3	702.0	78,611.0	7,995.0	112.0	11.4
Newport Beach	300.0	5,967.0	2,837.0	994.5	472.8	170.0	4,095.0	1,335.0	24.1	7.9	300.0	4,800.0	2,760.0	16.0	9.2
Orange	243.4	21,479.0	3,646.0	3,579.8	607.7	190.0	6,233.5	1,560.3	32.8	8.2	243.0	6,506.2	1,478.5	26.8	6.1
Placentia	140.0	2,340.0	580.0	390.0	96.7	40.0	1,510.0	330.0	37.8	8.3	108.0	2,760.0	580.0	25.6	5.4
Rancho Santa Margarita						NA	NA	NA	NA	NA	0.2	8.0	3.0	40.0	15.0
San Clemente	151.0	13,217.5	3,132.5	2,202.9	522.1	305.0	16,492.5	3,990.0	54.1	13.1	180.0	10,200.0	2,800.0	56.7	15.6
San Juan Capistrano	173.0	6,562.0	1,704.4	1,093.7	284.1	176.0	4,771.1	1,079.0	27.1	6.1	176.0	3,606.0	1,072.5	20.5	6.1
Santa Ana	400.0	8,022.5	2,476.5	1,337.1	412.8	400.0	9,766.8	2,985.0	24.4	7.5	400.0	9,754.3	2,985.0	24.4	7.5
Seal Beach	10.0	0.0	0.0	0.0	0.0	55.0	320.0	120.0	5.8	2.2	55.0	320.0	120.0	5.8	2.2
Stanton						NA	NA	NA	0.0	NA	10.0	471.0	228.0	47.1	22.8
Tustin	160.0	5,679.5	1,022.5	946.6	170.4	160.0	3,105.0	612.5	19.4	3.8	184.0	1,065.0	75.0	5.8	0.4
Villa Park						2.0	0.0	0.0	0.0	0.0	10.0	400.0	200.0	40.0	20.0
Westminster	15.0	675.0	375.0	112.5	62.5	15.0	605.0	305.0	40.3	20.3	15.0	605.0	305.0	40.3	20.3
Yorba Linda	722.0	22,524.6	7,604.0	3,754.1	1,267.3	722.0	22,511.5	11,636.0	31.2	16.1	699.0	34,325.3	10,661.8	49.1	15.3
County of Orange	967.6	30,283.3	10,471.4	5,047.2	1,745.2	819.5	17,025.8	6,274.0	20.8	7.7	667.0	12,875.8	5,312.4	19.3	8.0
Totals	7,990.5	413,089.2	102,332.8	68,848.2	17,055.5	7,574.5	406,778.9	115,331.5	1,898.1	566.2	6,861.6	363,145.6	81,599.5	1,896.3	462.6

NA = Not Available

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Table 5.5: Volume of Street Sweeping Material Collected

PERMITTEE	Total Weight of Material Collected (Tons)* FY 2002-03	Total Weight of Material Collected (Tons)* FY 2003-04	Total Weight of Material Collected (Tons)* FY 2004-05
Aliso Viejo	96	120	110
Anaheim	4,500	4,500	4,500
Brea	800	800	1,179
Buena Park	1,830	1,475	1,475
Costa Mesa	1,730	1,810	1,846
Cypress	526	525	525
Dana Point	465	984	160
Fountain Valley	2,104	2,000	2,000
Fullerton	15,925	19,102	12,832
Garden Grove	NA	NA	2,940
Huntington Beach	3,282	3,434	3,516
Irvine	2,500	2,500	2,700
La Habra	7	5	5
La Palma	375	384	1,170
Laguna Beach	684	675	771
Laguna Hills	194	NA	315
Laguna Niguel	449	NA	423
Laguna Woods	3	62	14
Lake Forest	550	1,044	630
Los Alamitos	NA	3,500	
Mission Viejo	1,192	1,503	1,502
Newport Beach	4,044	4,150	28,800
Orange	11,880	12,000	3,000
Placentia	104	572	531
Rancho Santa Margarita	NA	12	92
San Clemente	1,164	1,177	523
San Juan Capistrano	525	605	676
Santa Ana	6,825	6,825	6,825
Seal Beach	2,085	2,084	
Stanton	NA	843	2,529
Tustin	874	904	1,025
Villa Park	89	134	135
Westminster	1,749	1,041	1,175
Yorba Linda	608	690	720
County of Orange/OCFCD	996	834	873
Totals	68,155	76,294	85,516

NA = Not Available

*Tons=3 cubic yards per Michigan Department of Environmental Quality,
Waste and Hazardous Materials Division

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Table 5.6: Solid Waste Collection

PERMITTEE	Total Quantity of Solid Waste Collected 2002-03 (Tons)	Total Quantity of Solid Waste Collected 2003-04 (Tons)	Total Quantity of Solid Waste Collected 2004-05 (Tons)
Aliso Viejo	41,000	43,723	38,063
Anaheim	453,015	460,000	460,000
Brea	406,000	407,543	86,877
Buena Park	NA	80	100,000
Costa Mesa	287,090	279,850	186,753
Cypress	45,197	46,197	52,673
Dana Point	52,480	79,909	32,348
Fountain Valley	63,743	53,702	59,376
Fullerton	177,555	NA	187,385
Garden Grove	NA	NA	197,550
Huntington Beach	274,853	272,836	286,717
Irvine	295,000	292,600	287,500
La Habra	NA	31,043	37,000
La Palma	16,000	NA	18,000
Laguna Beach	48,390	58,550	47,700
Laguna Hills	43,783	39,803	56,031
Laguna Niguel	81,046	79,655	82,059
Laguna Woods	NA	23,000	25,000
Lake Forest	103,000	86,200	89,612
Los Alamitos	NA	NA	NA
Mission Viejo	105,600	108,000	108,252
Newport Beach	NA	39,992	40,000
Orange	234,040	210,836	215,400
Placentia	58,861	NA	63,000
Rancho Santa Margarita	NA	NA	63,356
San Clemente	85,339	85,339	88,956
San Juan Capistrano	68,417	76,166	81,652
Santa Ana	258,408	354,000	474,350
Seal Beach	45,292	45,000	26,136
Stanton	NA	35,004	41,500
Tustin	80,629	80,000	84,024
Villa Park	NA	10,200	10,500
Westminster	94,750	85,372	93,294
Yorba Linda	88,680	88,680	83,233
County of Orange/OCFCD	132,584	153,707	155,293
Total tons of solid waste collected	3,640,752	3,626,987	3,959,590

NA = Not Available

SECTION 5.0, MUNICIPAL ACTIVITIES

Table 5.7: Drainage Facility Maintenance

PERMITTEE	Total Length of Channel/Pipe Cleaned (in Miles)			Number of Catchbasins Within Jurisdiction			Number of Catchbasins Cleaned Within Jurisdiction			Percentage of Catchbasins Cleaned			Total Volume From Facilities (Tons)		
	2002-03	2003-04	2004-05	2002-03	2003-04	2004-05	2002-03	2003-04	2004-05	2002-03	2003-04	2004-05	2002-03	2003-04	2004-05
Aliso Viejo	0.23	0.24	0.24	625	625	625	625	625	625	100%	100%	100%	60.0	111.0	82
Anaheim	37.06	36.00	36	3,500	3,500	3,500	3,500	3,500	3,500	100%	100%	100%	1500.0	1500.0	1500
Brea	NA	NA	2.93	1,158	965	965	1,158	965	965	100%	100%	100%	50.5	50.0	50
Buena Park	0.01	2.25	2.25	20	857	758	20	28	949	100%	3%	125%	1.0	2.4	10.3
Costa Mesa	0.60	0.60	0.6	1,165	1,165	1,165	1,165	1,165	1,165	100%	100%	100%	25.0	25.0	20
Cypress	0.39	0.37	0.37	567	567	569	430	48	194	75%	8%	34%	2.0	0.5	1.5
Dana Point	0.03	0.00	0.29	430	555	526	386	446	459	90%	80%	87%	13.6	508.0	26.04
Fountain Valley	1.50	0.40	0.44	1,965	750	750	1,965	750	750	100%	100%	100%	422.0	217.0	281
Fullerton	7.82	5.90	6.5	1,255	1,322	3,424	3,268	2,216	3,424	50%	100%	100%	1697.0	1629.0	2.1
Garden Grove	0.01	0.01	0.01	907	907	936	907	907	936	100%	100%	100%	108.5	108.5	94
Huntington Beach	8.00	8.40	8.4	1,706	1,706	1,715	1,706	1,706	1,715	100%	100%	100%	934.4	894.9	687
Irvine	0.56	0.60	0.3	3,300	3,300	3,840	1,574	1,584	1,430	100%	48%	37%	14174.8	91.5	74.4
La Habra	NA	2.50	2.5	NA	545	545	NA	542	545	NA	99%	100%	NA	10.0	18
La Palma	5.00	4.70	5.2	201	201	201	201	201	201	100%	100%	100%	15.5	15.7	16
Laguna Beach	0.20	0.20	0.10	633	910	910	633	633	910	75%	70%	100%	227.9	NA	192
Laguna Hills	0.02	0.20	NA	521	515	487	481	304	472	92%	60%	97%	13.6	68.0	5.7
Laguna Niguel	0.73	0.20	0.6	NA	1,209	1,350	1,035	1,197	1,300	80%	99%	96%	1133.0	388.0	124
Laguna Woods	0.02	NA	NA	17	17	17	18	18	17	100%	100%	100%	0.2	NA	0.5
Lake Forest	0.00	0.00	0.03	438	483	1,082	200	331	1,042	47%	76%	96%	15.5	20.8	3.9
Los Alamitos	NA	NA		114	114	114	114	114	114	100%	100%	100%	DNR	15.5	15.5
Mission Viejo	0.02	0.02	3.63	1,800	1,830	1,830	360	651	781	10%	100%	43%	18.2	27.7	4.88
Newport Beach	1.45	3.33	3.33	2,853	3,057	3,087	2,551	2,733	3,087	89%	89%	100%	963.0	834.0	860
Orange	3.33	4.00	1.33	1,625	1,625	1,625	76	147	91	5%	9%	6%	1.9	2.0	12
Placentia	0.10	0.00	0	240	447	447	200	175	175	83%	39%	39%	7.8	0.5	0.5
Rancho Santa Margarita	NA	0.00	41.6	669	669	669	669	669	669	100%	100%	100%	NA	7.0	181.35
San Clemente	10.25	1.50	3.42	1,236	1,236	1,239	1,104	620	1,606	95%	50%	130%	NA	3.0	3
San Juan Capistrano	0.18	0.09	0.26	1,200	1,200	1,200	500	99	150	41%	9%	13%	37.0	28.0	45
Santa Ana	NA	2.10	10.1	1,500	1,270	1,665	129	1,175	1,586	9%	92%	95%	3058.0	3058.0	1042
Seal Beach	0.02	0.02	0.02	195	195	195	195	195	195	100%	100%	100%	4.5	16.8	32
Stanton	DNR	1.30	1.42	DNR	NA	145	DNR	142	145	DNR	99	100%	DNR	19.3	19.3
Tustin	NA	0.20	0.2	942	942	962	1,258	1,034	962	100%	>100%	100%	64.0	114.0	76
Villa Park	1.00	0.90	0.9	150	150	80	150	150	25	100%	100%	31%	NA	NA	70
Westminster	0.83	0.83	0.83	622	622	622	622	622	622	100%	100%	100%	6.0	5.0	5
Yorba Linda	1.06	1.06	0.8	1,550	1,575	1,728	1,500	1,575	1,728	97%	98%	100%	56.3	70.5	21
County of Orange/OCFCD	46.00	29.00	78	2,325	2,353	2,353	2,133	1,485	1,835	91%	63%	78%	52.0	36.0	36
Totals	126	107	213	35,429	37,384	41,326	30,833	28,752	34,370	83% (Ave.)	80% (Ave.)	86% (Ave.)	24,663	9,878	5,612

NA = Not Available
DNR = Did Not Report

SECTION 5.0, MUNICIPAL ACTIVITIES

Table 5.8: 2004-05 Integrated Waste Management Household Hazardous Waste Program Collection Totals

Category	Type Of Waste	Collection Center Waste Volumes Collected (pounds)											
		Anaheim			Huntington Beach			Irvine			San Juan Capistrano		
		2002-03	2003-04	2004-05	2002-03	2003-04	2004-05	2002-03	2003-04	2004-05	2002-03	2003-04	2004-05
1. Flammable & Poison	Flammable Solid/Liquid	202,451	218,456	247,962	236,740	282,013	279,665	99,074	151,510	170,366	70,550	99,450	99,050
	Bulked Flammable Liquids	0	800	0	0	1,600	0	0	800	0	0	0	0
	Oil-Base Paint	346,307	395,469	512,372	327,172	347,123	387,257	213,166	247,271	249,331	162,400	245,700	221,260
	Poison (Excl aerosols)	38,301	50,713	64,974	47,496	53,486	58,972	27,172	39,395	41,169	16,650	16,650	27,720
	Reactive & Explosive	0	200	360	0	318	171	0	160	160	0	0	0
	Subtotal	587,059	665,638	825,668	611,408	684,540	726,065	339,412	439,136	461,026	249,600	361,800	348,030
2. Acid	Inorganic Acid	5,400	4,649	8,443	6,564	7,992	6,014	2,740	4,143	4,266	2,520	2,520	2,520
	Organic Acid	5,191	5,597	5,514	7,560	7,173	7,790	3,908	6,372	7,281	2,310	2,970	2,970
	Subtotal	10,591	10,246	13,957	14,124	15,165	13,804	6,648	10,515	11,547	4,830	5,490	5,490
3. Base	Inorganic Base	1,260	1,889	2,380	3,136	2,296	4,111	796	1,819	2,120	0	1,260	720
	Organic Base	7,555	10,117	4,070	10,168	12,282	13,802	3,810	6,896	7,462	2,640	4,950	2,310
	Subtotal	8,815	12,006	6,450	13,304	14,578	17,913	4,606	8,715	9,582	2,640	6,210	3,030
4. Oxidizer	Neutral Oxidizer	1,055	2,243	1,977	2,076	2,733	2,207	1,276	1,665	3,164	400	1,000	800
	Organic Peroxides	20	0	10	45	0	0	10	0	20	20	0	10
	Oxidizing Acid	0	94	136	1,240	504	1,186	10	29	30	0	0	0
	Oxidizing Base	0	171	115	0	414	1,167	136	421	166	0	0	0
	Subtotal	1,075	2,508	2,238	3,361	3,651	4,560	1,432	2,115	3,380	420	1,000	810
5. PCBs (Containing)	PCB Containing Paint	0	0	0	0	0	0	0	0	0	0	0	0
	Other PCB Waste	0	1,300	1,000	200	200	4,000	100	200	500	0	0	500
	Subtotal	0	1,300	1,000	200	200	4,000	100	200	500	0	0	500
6. Aerosol	Corrosive Aerosols	400	1,232	3,066	3,584	3,145	2,955	236	693	805	200	0	400
	Flammable Aerosols	22,760	28,106	35,258	35,741	39,875	48,539	16,101	24,101	26,364	10,450	11,525	14,250
	Poison Aerosols	1,810	4,033	5,592	7,196	5,903	7,685	2,128	4,338	5,161	800	1,200	100
	Subtotal	24,970	33,371	43,916	46,521	48,923	59,179	18,465	29,132	32,330	11,450	12,725	14,750

SECTION 5.0, MUNICIPAL ACTIVITIES

Table 5.8: 2004-05 Integrated Waste Management Household Hazardous Waste Program Collection Totals (continued)

Category	Type Of Waste	Collection Center Waste Volumes Collected (pounds)											
		Anaheim			Huntington Beach			Irvine			San Juan Capistrano		
		2002-03	2003-04	2004-05	2002-03	2003-04	2004-05	2002-03	2003-04	2004-05	2002-03	2003-04	2004-05
7. Reclaimable	Antifreeze	31,461	35,675	19,453	31,620	25,995	21,098	13,667	16,851	6,525	7,360	3,017	0
	Car Batteries	130,500	135,450	147,595	71,280	98,440	175,280	41,765	72,200	73,465	24,255	39,720	42,605
	Fluorescent Bulbs	3,000	3,800	3,400	4,400	4,600	4,600	1,200	3,200	3,400	600	1,200	1,800
	Latex Paint	268,300	349,243	379,840	315,558	358,846	410,495	159,584	269,382	294,413	135,090	97,470	182,400
	Motor Oil/Oil Products	157,833	169,939	179,892	131,309	123,238	123,193	72,121	88,387	93,325	43,275	49,062	39,975
	Oil Filters	5,000	4,600	5,800	4,600	4,000	4,000	2,200	2,600	2,600	1,000	1,400	1,000
	Mercury (Metallic)	80	120	100	78	100	200	54	80	250	0	40	150
	Subtotal	596,174	698,827	736,080	558,845	615,219	738,866	290,591	452,700	473,978	211,580	191,909	267,930
8. Other	Medical Waste	0	0	0	0	0	0	0	0	0	0	0	-
	Household Batteries	2,370	3,750	6,871	2,556	3,108	6,571	2,700	3,630	8,858	600	3,035	4,631
	Other	316,052	567,729	22,254	178,783	387,154	27,682	80,394	273,493	12,785	36,858	171,835	7,650
	Subtotal	318,422	571,479	29,125	181,339	390,262	34,253	83,094	277,123	21,643	37,458	174,870	12,281
9. Propane	Propane	NR	NR	28,060	NR	NR	36,613	NR	NR	94,039	NR	NR	5164
	CRT	NR	NR	427,976	NR	NR	323,695	NR	NR	273,539	NR	NR	190,971
	Subtotal	0	0	456,036	0	0	360,308	0	0	367,578	0	0	196,135
Collection Center Totals		1,547,106	1,995,375	2,114,470	1,429,102	1,772,538	1,958,948	744,348	1,219,636	1,381,564	517,978	754,004	848,956
Grand Total Collected for FY 2002-03 = 4,238,534													
Grand Total Collected for FY 2003-04 = 5,741,553													
Grand Total Collected for FY 2004-05 = 6,303,938													

NR = Not Reported

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Table 5.9: Used Oil Grant Participation

PERMITTEE	Has or Participates in a Used Oil Grant	Amount Collected As a Result of the Used Oil Grant FY 2002-03		Amount Collected As a Result of the Used Oil Grant FY 2003-04		Amount Collected As a Result of the Used Oil Grant FY 2004-05	
		Motor Oil/Oil Products (Gallons)	Oil Filters (Units)	Motor Oil/Oil Products (Gallons)	Oil Filters (Units)	Motor Oil/Oil Products (Gallons)	Oil Filters (Units)
Aliso Viejo	X			NA	NA	63,647	27,109
Anaheim	No	135	74	0	0	NA	NA
Brea	X	900	165	720	144	31,680	3,867
Buena Park	X	NA	NA	9,495	NA	12,289	220
Costa Mesa	X	7,869	90	8,886	101	473	59
Cypress	X	NA	NA	43,000	0	75,000	NA
Dana Point	X	624	NA	28,930	NA	5,610	NA
Fountain Valley	X	1,834	27	74	15	147	28
Fullerton	X	15,840	35	50,856	132	79,942	NA
Garden Grove	X	31,837	1,154	19,471	NA	3,170	809
Huntington Beach	X	1,499	368	702	203	887	239
Irvine	X	71,784	NA	71,784	NA	59,645	NA
La Habra	X	NA	NA	7,630	NA	NA	NA
La Palma	No						
Laguna Beach	X	41	0	1,014	0	153	NA
Laguna Hills	X	DNR	DNR	NA	NA	44,800	11,000
Laguna Niguel	No	DNR	DNR	NA	NA	NA	NA
Laguna Woods	X	14,400	3,000	84	NA	25	6
Lake Forest	X	9,297	NA	NA	NA	63,614	NA
Los Alamitos	No						
Mission Viejo	X	12,145	147	14,280	NA	14,372	55
Newport Beach	X	NA	NA	19,471	NA		
Orange	X	2,966	NA	418	NA	2,158	554
Placentia	X	707	209	91	18	148	160
R S Margarita	X	NA	NA	NA	NA	33,544	133
San Clemente	X	19,455	2,500	19,455	2,500		
S J Capistrano	X	5,770	667	1,620	1,296	98,000	13,500
Santa Ana	X	5,804	3,815	12,037	3,698	12,583	4,004
Seal Beach	NA	NA	NA	NA	NA	NA	NA
Stanton	No	NA	NA	NA	NA	NA	NA
Tustin	X	NA	NA	NA	NA	NA	NA
Villa Park	No						
Westminster	X	64,100	NA	7,620	3,000	34,442	1,000
Yorba Linda	NA	NA	NA	NA	NA	NA	NA
County of Orange/OCFCD*	X	259,000	1,333	61,330	49,064	653,848	57,817
NA = Not Available		526,007	13,584	378,967	60,171	1,290,177	93,451

* The number of gallons of used oil collected dropped in 2003-04 and then dramatically increased for 2004-05 due to CIWMB regulations in 2003-04 when the CIWMB stated that only the used oil turned in by do-it-yourselfers could be counted. However, for the 2004-05 reporting year, the CIWMB reversed their decision and allowed all used oil to be counted, including oil from HHCs and certified collectors (Jiffy Lube, etc.).

Figure 5.1: Countywide Permittees' Fixed Facility Inventory and Prioritization

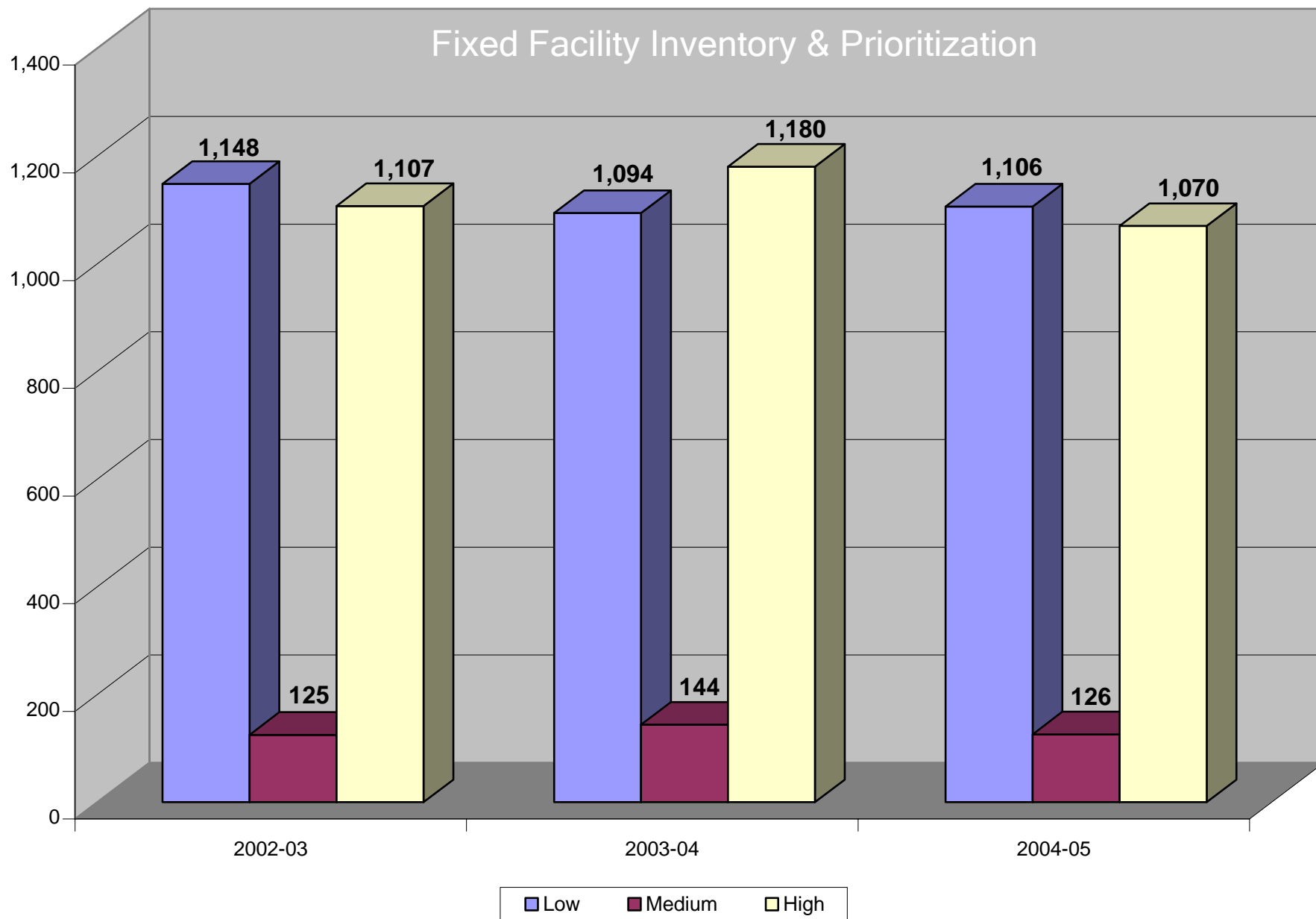


Figure 5.2: Volume of Street Sweeping Material Collected

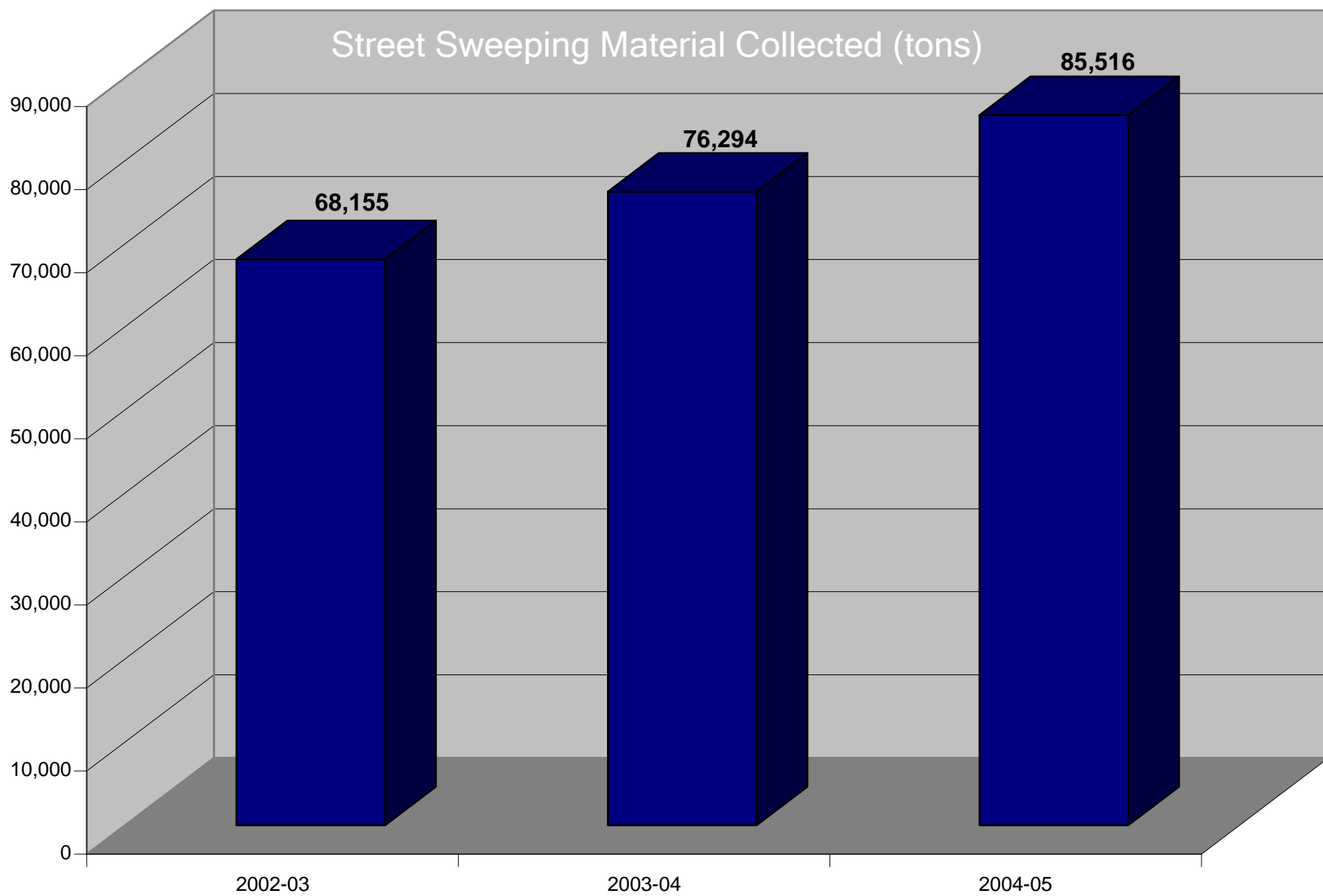


Figure 5.3: Solid Waste Collection (tons)



Figure 5.4: Drainage Facility Maintenance - Miles of Pipe Cleaned

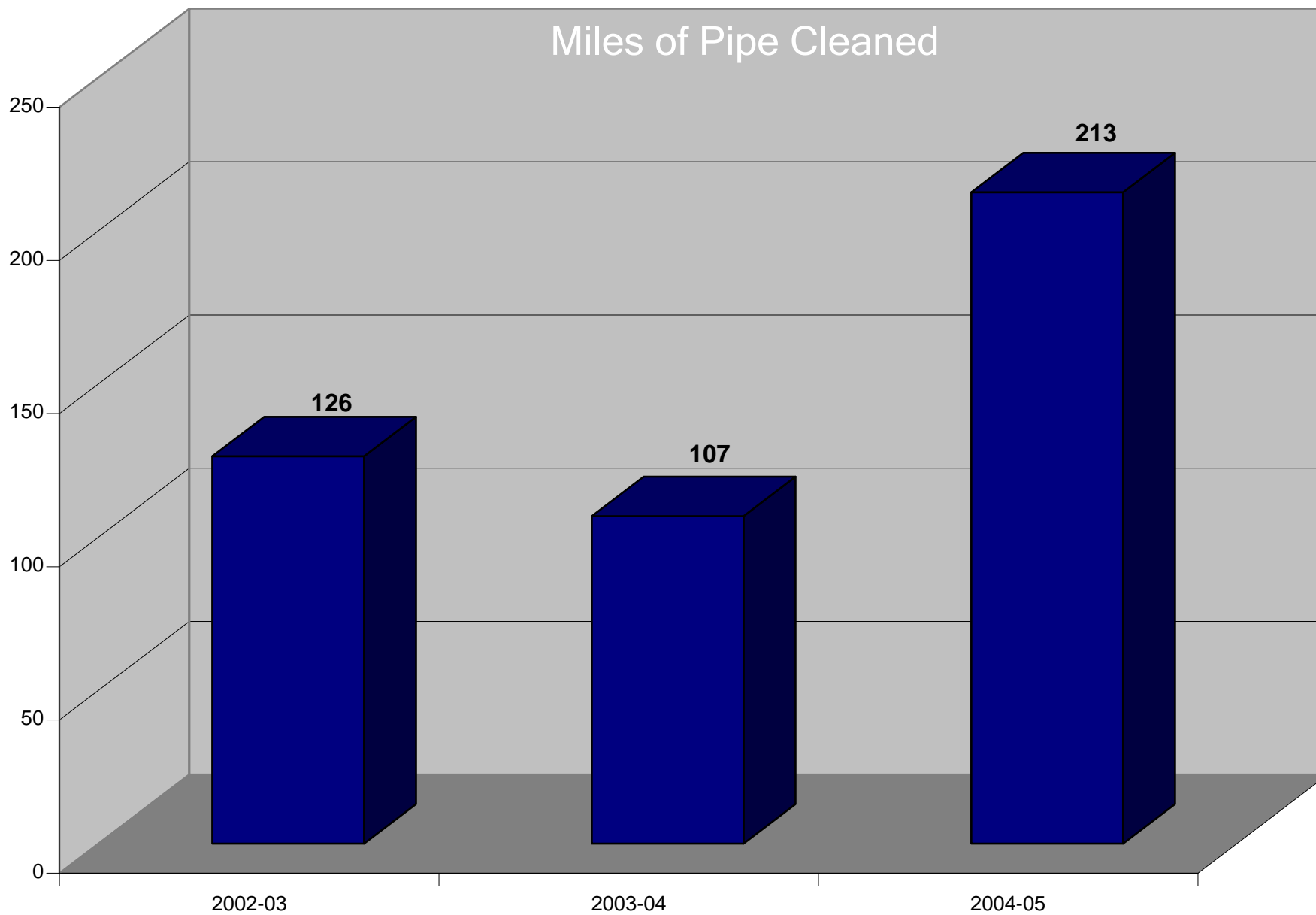
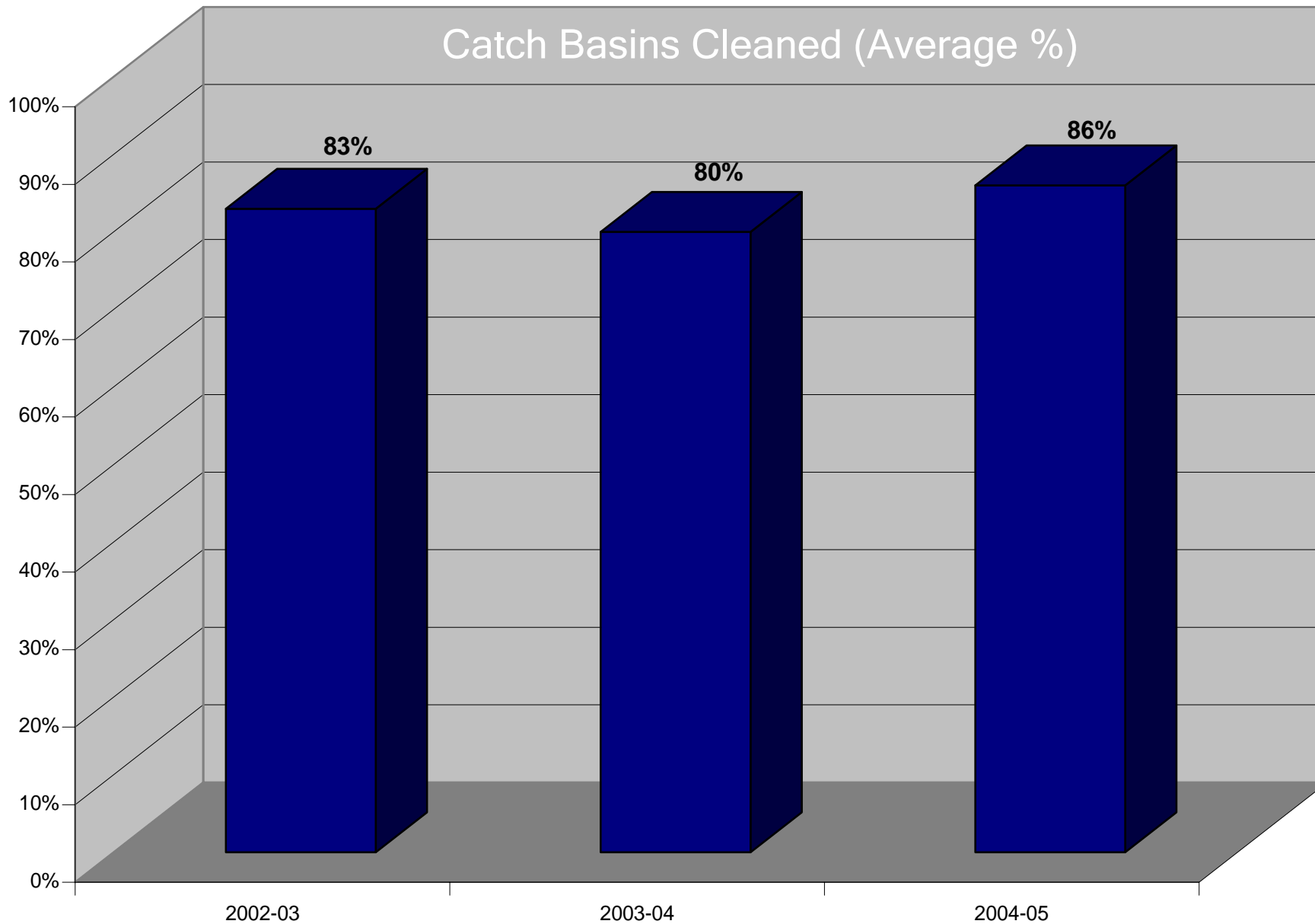


Figure 5.5: Drainage Facility Maintenance - Percentage of Catch Basins Cleaned



SECTION 5.0, MUNICIPAL ACTIVITIES

Figure 5.6: 2004-05 Integrated Waste Management Household Hazardous Waste Program Collection Totals

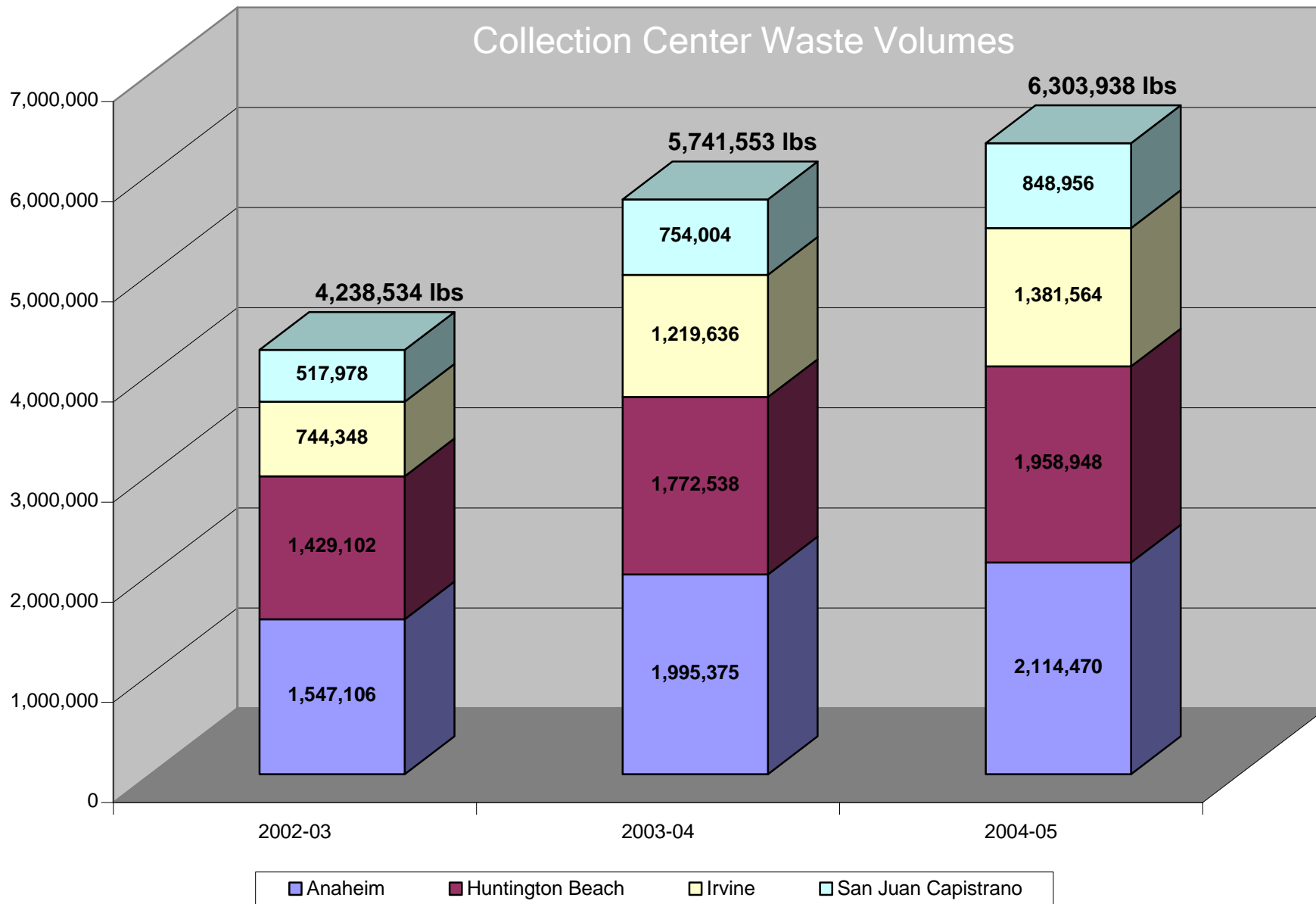
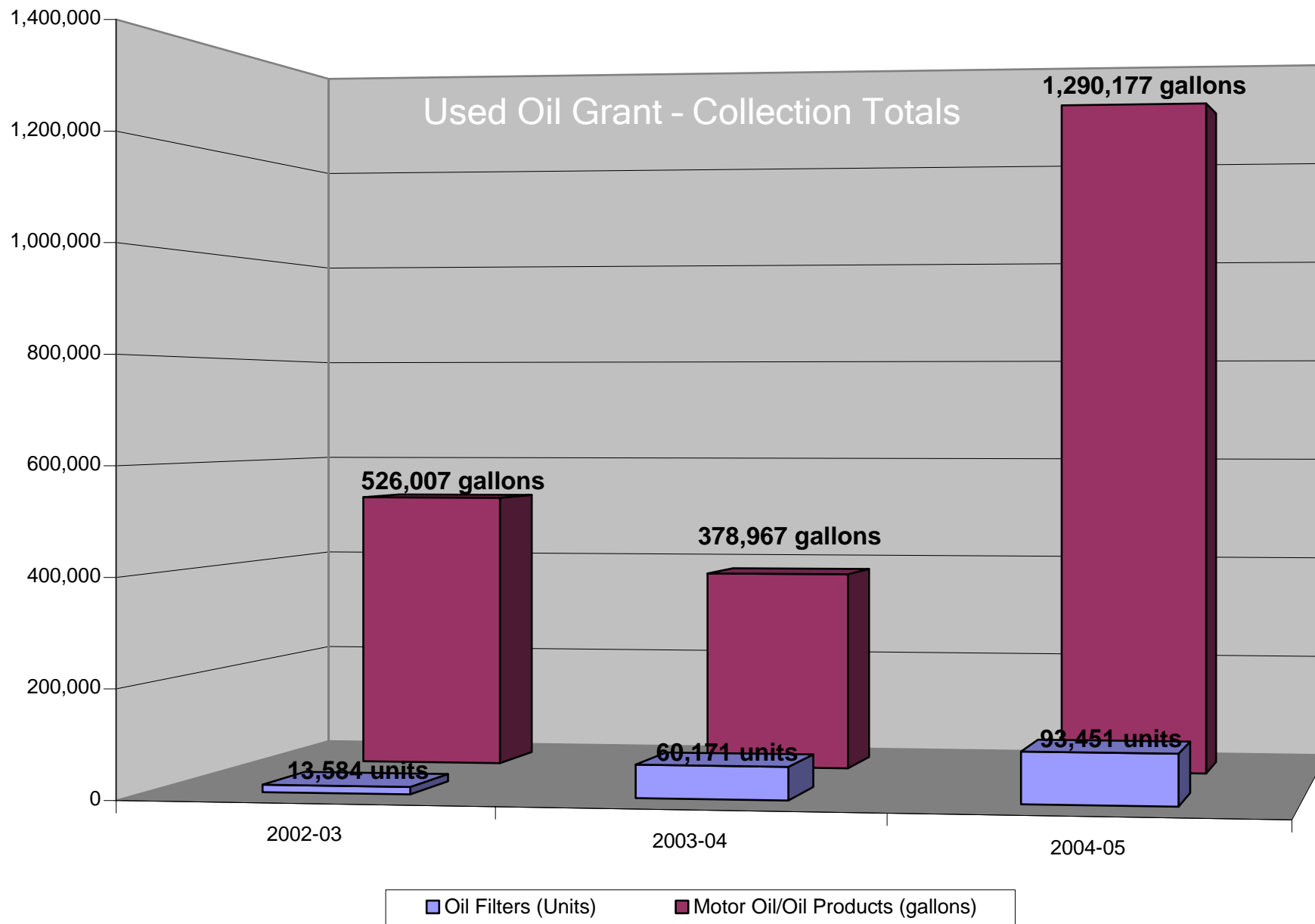


Figure 5.7: Used Oil Grant Participation



6.0 PUBLIC EDUCATION

6.1 Introduction

In 2002, the Permittees created a public and business outreach strategy - "Orange County Stormwater Public Education Program Recommendations." This strategy, which was updated in 2004, established a long-term, cost-effective approach to educate the public and targeted business groups about the effects of stormwater pollution and encourages their participation in the protection of surface waters. Key aspects of the strategy included conducting a survey to define the level of general knowledge held by people in Orange County, utilizing the survey results to develop campaign goals, determining the key messages, defining specific community outreach activities and approaches, preparing a master timeline, and creating a "brand" name for the Orange County Stormwater Program ("Project Pollution Prevention").

6.2 Accomplishments

The primary elements of the Third Term Permits public education program were a series of "Plans" that guided the program implementation, specifically:

- A "Materials Plan" that prioritized the educational materials necessary for revision/development and defined the common look and theme;
- A "Media Plan" that identified advertisement purchases in major publications, on Orange County Transit Authority buses and shelters, in movie theaters, on radio, and on cable television;
- A "Non-media Plan" which included the develop of a tool box for local outreach and building relationships with businesses, trade associations, chambers of commerce, utilities, and organizations that provided key opportunities for outreach;
- A "School Education Plan" to reach K-12 students in Orange County with pollution prevention messages; and
- An outreach plan for the approximate 10,000 food service facilities in Orange County.

Additional elements of the program include:

- An initial and follow-up public opinion/education survey (completed in 2003 and late 2005 respectively);
- Assistance with governmental and regulatory agency relations;
- Translation of all materials into Spanish and the creation of a Spanish webpage;
- Translation of key materials into Vietnamese;
- A "tool box" of materials for Permittee program coordinators to conduct local outreach efforts, based upon a quarterly "Quad Approach" including press releases, newsletter articles, fact sheets and billing inserts; and
- An employee-training program ("Stormwater 101") to educate all municipal employees about general stormwater principals.

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6.2.1 Countywide Public and Business Education Materials Plan

A Materials Plan was developed that prioritizes the outreach materials necessary for revision/development and defined a common look and theme. Pursuant to this plan, the following materials were produced:

- Forty-three brochures; 22 in English, 18 in Spanish and four in Vietnamese.
- Sixteen print advertisements; eight in English, seven in Spanish and one in Vietnamese.
- Ten radio public service announcements; five in English and five in Spanish.
- Four movie/cable PSAs; three in English and one in Spanish.
- Three bus advertisements.
- Six quad outreach kits including a newsletter, press release, billing insert and fact sheet.
- Outreach kit for food service establishments including a BMP poster, four stickers, a PowerPoint presentation, fact sheet and CD-ROM.
- Stormwater 101 training kit including a pre/post training evaluation, fact sheet, PowerPoint presentation and 7-½ minute video.
- A municipal vehicle magnet.
- A door hanger notice for residential pollution problem correction.

6.2.2 Media Outreach Plan

A strategic media relations campaign was developed and implemented that included advertisements in major publications, on Orange County Transit Authority buses and shelters, in movie theaters, on radio, on cable television and online. The Permittees collectively purchased the following media during 2002-06:

Newspaper advertisements generated 46.5 million impressions

- Seven full-color ads in the Sunday *Orange County Register*
- Three full-color ads in the Sunday *Los Angeles Times* (Orange County Edition)
- Twenty-two full-page ads in 17 of the *Register's* community papers
- Fourteen full-page ads in four of the *Register's* community papers
- Eleven ¾-page ads in the *Los Angeles Times'* three Orange County community papers: the *Daily Pilot*, *Huntington Beach Independent* and *Laguna Beach Coastline Pilot*
- Nine full-page ads in the *News-Enterprise*
- Fourteen full-page ads in *OC Metro*
- Eleven full-page ads in *OC Weekly*
- Seventeen full-page ads in *Miniondas* (Spanish language)
- Fifteen full-page ads in *Excelsior* (Spanish language)

Radio advertising generated 27.6 million impressions

- Twenty 60-second spots on KLAC AM 570. The spots generated more than 120,000 impressions.
- One hundred and twenty- 60-second spots ran on JACK FM 93.1 generating 25 million impressions.

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- One hundred and sixty 60-second spots ran on Sonido (Spanish language radio station) generating 2.5 million impressions.

OCTA bus advertising generated 71.5 million impressions

- Fifty-seven bus sides
- Fifty bus backs
- Fifty outdoor bus shelters

Movie theater advertising generated 11 million impressions

- The 30-second public service announcement ran on screen and in lobby kiosks for twenty weeks at 22 Edwards/Regal Cinemas, San Clemente's Krikorian Theater, twelve weeks at the Long Beach Town Center Theater and twelve weeks at AMC theaters.
- The sad fish poster was displayed at all 24 Orange County theaters.

Cable television advertising generated 1.4 million impressions on four cable stations (Adelphia, AT&T/Comcast, Time Warner and Cox Communications)

On-line banner advertising generated 2.35 million impressions

- Banner display on www.931jackfm.com for three months.
- Banner display on www.ocregister.com for two months.

Headline Indicator - Number of Media Impressions: The public education program generated over 160,000,000 media impressions over the period 2002-06.

ROWD Commitment

- Continue to "fine tune" the multi-media approach.
- Re-evaluate audiences & key messages for targeted behaviors.
- Pursue opportunities for regional collaboration.

6.2.3 Non-Media Outreach Plan

A Non-Media Outreach Plan was developed and implemented to complement the paid advertising media campaign. The plan utilized existing resources and partnerships to produce free or low-cost exposure for the program.

Outreach to Permittees

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The plan included the development of a “tool box” of materials to enable the Permittees to conduct local outreach both directly and indirectly through businesses, trade associations, chambers of commerce, utilities, restaurants and other organizations.

Specifically, the “tool box” included:

- Outreach Materials - Artwork was created for use on outdoor locations such as bus shelters, streetlight banners, mouse pads and beach towels.
- The Quad - A series of newsletters, press releases, fact sheets and billing inserts were created that focused on seasonal stormwater themes. Six seasonal quads were created.
 - Spring Into Cleaning – Household Hazardous Waste
 - What’s Summer Without The Beach
 - When It Rains It Pours Pollutants Into Our Storm drains
 - A Pollution Fix for 2006
 - Green Thumb Blue Ocean
 - Keeping Your Car and the Environment Sparkling Clean
- An Events Listing - Lists of upcoming utility, restaurant, city and organization sponsored events were developed where stormwater information could be provided to event participants.
- Employee Training Materials - Stormwater training materials were developed to educate all municipal employees about general stormwater pollution prevention principles.

Outreach to Businesses

The plan’s proposed implementation of programs is based on relationships and partnerships that had been developed with groups who may have been receptive to partnering with the program..

- A list of key Orange County businesses that the Stormwater Program could potentially foster relationships with was developed. The list included top businesses and major Orange County employers. These businesses were contacted and the following is a list of the business partnerships developed:
- Point of Purchase - Partnerships with stores that sell auto supplies, hardware, pet supplies and gardening supplies were developed. The program has fostered relationships with:
 - PetsMart Inc.
 - Home Depot, Inc.,
 - Orchard Supply Hardware (OSH)
 - Wal-Mart,

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- The Pet Pantry
 - Huntington Garden Center
 - Flowerdale
 - De Nault's Hardware
- A list of major Orange County events such as the Orange County Auto Show and Southern California Home & Garden Show was created. Event coordinators were contacted with a letter introducing the program and asking for the opportunity to participate and/or distribute Orange County Stormwater Program materials.

Outreach to Utilities

Major non-city utilities providing water, electricity, cable and refuse services were contacted and provided sample newsletters for use in their publications. Several utilities printed stormwater education materials in their newsletters and billing inserts and posted information on their websites including:

- Rainbow Disposal
- Waste Management
- Southern California Edison
- Sempra Energy/The Gas Company
- Orange County Water District
- Orange County Fire Authority

The four major refuse companies in Orange County agreed to place a 12" x 24" Stormwater magnet on their trucks. More than 500 refuse trucks displayed the magnet during the 2002-06 reporting period.

Outreach to Organizations

A list of key Orange County organizations that the Stormwater Program could foster relationships with was developed. The list included organizations such as chambers of commerce, rotary clubs, and environmental groups.

- Chambers of Commerce - Several chambers provided Stormwater information to their members including the Brea Chamber of Commerce, Fountain Valley Chamber of Commerce, the Black Chamber of Commerce and the South Orange County Chambers of Commerce.
- Welcome Express - Welcome Express provides welcome packets to new homeowners in various communities throughout Orange County. Welcome Express provides the Household Tips brochure within their new homeowner's packet.

Media Relations Campaign

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The media relations campaign centered on fostering relationships with reporters. Local newspapers are considered one of the most credible sources of information for Orange County residents and reach a large audience. Therefore, media relations were an invaluable component of the public education campaign.

The media relations campaign utilized the seasonal stormwater press releases created as part of "the Quad" to contact the media on a quarterly basis. The program also updated its media distribution lists quarterly.

Indicator - Number of Non-Media Impressions: The public education program generated 25 million non-media impressions during 2002-06.

Outreach to Restaurants

A specific outreach plan for the approximate 10,000 food service facilities in Orange County was developed and implemented. The outreach plan included the following efforts:

- The inspection and distribution of educational materials to the approximately 10,000 existing food facilities (the inventory is updated annually) countywide. Over 36,000 inspections for NPDES stormwater related issues were conducted.
- A focused public education outreach component was developed and implemented. This effort included:
 - A mass mailing to all corporate and food service facilities within Orange County. Over 9,000 letters were mailed.
 - Distribution of focused educational brochures, posters, stickers and CD-ROMs were distributed during inspections.
 - Presentation was given to the Food Sanitation Advisory Council.

Indicator - Number of Food Facility Outreach Impressions: The public education program generated over 45,000 food facility outreach impressions during the 2002-06.

ROWD Commitment

- Continue to foster new relationships and partnerships.

6.2.4 School Education Outreach Program

During the 2002-03, reporting period extensive meetings took place with representatives from

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various educational programs and agencies throughout Orange County. A school education outreach plan was developed and implemented that included the following partnerships:

Orange County Department of Education (OCDE)

Inside the Outdoors is an environmental education program administered by the OCDE. There are three types of programs within *Inside the Outdoors* which are the:

- Outdoor Science School - This program includes information on sources of water for southern California, pollution prevention, and watershed information. 14,000 students participated in this program.
- School Program - A traveling scientist visits school sites providing the "Drip Drop" program - a 60-minute presentation about water quality. 3,000 students participated in this program.
- Field Program - Fifth grade students move into the real world of science and social science. During the "Where Do I Flow" program students learn about water pollution and prevention. 12,803 students participated in this program.

Approximately 30,000 students participated in the *Inside the Outdoors* Science Programs.

Municipal Water District of Orange County (MWDOC)/Discovery Science Center (DSC)

The partnership with MWDOC/DSC is focused on the Elementary Water Science Education Program, a water education course for teachers, and a public program for general visitors.

- Elementary Water Science Education Program – This program presents grade-specific science lessons, which incorporate water sources, water conservation, and water/trash pollution themes complementary to the science content standards.

5th Grade Student Assemblies: This element of the program presents lessons to elementary school students in an assembly format. 17,200 fifth grade students and 500 fifth grade teachers participated in this program.

5th Grade Students Attending the DSC Field Trip Program - For 5th grade students attending the DSC, field trip instructors screen the Project Pollution Prevention video entitled "Go With the Flow" and distribute the Project Pollution Prevention water education-based booklet. 25,827 fifth grade students and 2,000 fifth grade teachers participated in this program.

- Water Education Course for Middle and High School Teachers - The Water Education Course provides fifth through twelfth grade teachers Professional Development classes complete with curriculum and a kit of scientific equipment to conduct water-focused and pollution awareness activities in their classrooms. The Water Education Course was provided to 24 teachers reaching approximately 792

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students.

- Public Program for General Visitors to the DSC - A demonstration and learning station for the general public visitors and students on field trips to the DSC was developed to further communicate the importance of water, water conservation, urban pollutants, and stormwater/urban runoff pollution. An estimated 76,000 visitors saw the station annually.

Project WET (Water Education for Teachers)

The Project WET (<http://www.projectwet.org/index.html>) is a water science and education program for teachers that provide classroom ready teaching aids including the Project WET Curriculum and Activity Guide. The guide is a collection of hands-on, innovative, interdisciplinary activities. Project WET developed curriculum specifically for the stormwater program.

Nearly two hundred teachers have participated in Stormwater Program sponsored workshops reaching 7,000 students per year.

California Regional Environmental Educational Community (CREEC) Network

The California Regional Environmental Education Community (CREEC) Network is an educational project whose mission is "to develop a communication network which provides educators with access to "high quality" environmental education resources to enhance the environmental literacy of California Students." It is an educational project supported by the California Department of Education, Environmental Education Program, in collaboration with state, regional and local partners. The CREEC Network provides information on all Orange County environmental school education outreach programs. To further publicize this information, links between the Permittees' website and CREEC were established.

<p>Indicator - Number of School Outreach Impressions: The public education program generated 188,846 school outreach impressions during the 2002-06.</p>

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6.2.5 Other Countywide Initiatives

The Principal Permittee conducted a number of countywide public education initiatives on behalf of the Permittees. These initiatives included:

- Provision of brochures, magnets, bookmarks, manual, and posters to the Permittees, general public, businesses, schools, and other agencies. During 2002-06 over 450,000 educational materials were distributed.
- Management of the countywide 24-hr bilingual water pollution reporting hotline number, (714) 567-6363. During the 2002-06 the hotline received 927 water pollution calls. Water pollution complaints are also received through the County website.
- Advertisement of the 24-hour water pollution hotline number and web address, www.ocwatersheds.com, in all SBC Regional Phone Directories.
- Management of the County website, www.ocwatersheds.com. During 2002-06 the website received over 10,000,000 hits.

Indicator - Number of Other Countywide Initiative Impressions: The public education program generated 10,450,927 other impressions during the 2002-06.

Headline Indicator - Public Education Program Impressions: The public education program created over 195,684,773 impressions during the 2002-06 permit cycle. One of the goals of the public education program is to target 100% of the residents of Orange County. Orange County has a population of approximately 3 million people. Therefore, it can be deduced that every resident of Orange County received thousands of impressions during the reporting period. This achievement also far exceeds a Third Term Permit requirement to deliver a minimum of 10 million impressions per year within the Santa Ana Regional Board Area.

6.3 **Assessment**

In an effort to better understand the public's awareness regarding water quality issues, several surveys have been conducted. The surveys have incorporated a number of questions relating to pesticide, herbicide and fertilizer use, the sewer and storm drain system and the public's overall awareness of the County's public outreach campaign. Surveys conducted since the inception of the Orange County Stormwater Program include:

- 1994 Stormwater Pollution Prevention and Flood Awareness Survey
- 2000 County of Orange Fair Survey

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- 2000 Orange County Sanitation District Fair Survey
- LA Times In Education Survey
- 2001 Public Awareness Survey
- 2003 Public Awareness Survey
- 2005 Public Awareness Survey

6.3.1 Public Awareness Surveys

In May 2003, the Permittees conducted a large sample (1,500 respondents) public awareness survey to measure the current level of knowledge held by residents of Orange County. In November 2005, after 30 months of the public education campaign, a follow-up to the baseline survey was conducted. The purpose of the second survey was to assess the extent to which public opinion and knowledge about urban runoff issues have changed and whether Orange County residents have made any behavioral changes as a result of the public education campaign.

The findings indicate that the public information campaign on stormwater and urban runoff has made initial inroads towards increasing awareness. In the majority of questions, awareness of the program and or its elements increased one to three percentage points.

Effectiveness of Educating on the Environmental Issue

Consistent with findings from 2003, education, traffic congestion, safety and employment continue to rank higher than pollution as top issues of concern with Orange County residents. In the last 30 months, residents concern regarding pollution of the ocean, rivers, creeks and bays increased 1%. When asked specifically about ocean, bay and harbor pollution, concern remained consistent with the baseline data with 85% to 87% concerned. However, the intensity of concern regarding pollution of creeks and rivers increased 6% (from 39% very concerned in 2003 to 45% in 2005).

During the 30-month stormwater outreach campaign, information never focused on the actual quality of Orange County water or the severity of the issues. Most elements of the program focused on particular activities that would “protect our creeks, rivers, bays and ocean.” The result of the survey is consistent with the amount of prominence placed on this subject. If a greater emphasis was placed on this subject in the campaign, the numbers could have been higher.

Effectiveness of Educating on the Storm Drain System

Knowledge about urban runoff and storm drains has increased. In fact, 90% of residents know that water flowing in the street enters a storm drain and goes directly to a waterway. This is up six percentage points from 2003. However, there still is a lack of understanding regarding the storm drain system. When asked if water in the storm drains is tested and filtered, 4% more answered the question correctly in 2005, however, it was still less than half (46%) of the respondents. Similarly, when asked if sewer water and storm drain water

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enter the same system, 3% more answered the question correctly, however, it was still less than half (44%) of the respondents.

During the education campaign, nearly all materials created mentioned that objects in the street flow through storm drains directly to the nearest waterway. However, only the brochures, fact sheets and newsletter articles went into depth regarding the difference between the sewer and storm drain system. The use of this information in all the materials shows in the increased level of awareness. Had the differences between the sewer system and storm drain system been illustrated in every piece, these numbers may have been higher.

Also, men tend to be very knowledgeable regarding the storm drain system while women were less knowledgeable according to the 2005 survey; therefore, materials targeted at women may be considered.

Effectiveness of Educating on Key Pollutants

The survey asked respondents if the following items contributed to polluting urban runoff: oil, toxic waste, Styrofoam cups, gardening products, cigarette butts, paint, dirty water/detergent, cleaning products, trash, pet waste, water from hoses, lawn clippings/dirt/leaves and pool water. In every case, respondents were very likely to say these items contributed to polluted runoff with nine of them increasing beyond the margin of error (oil, Styrofoam cups, cigarette butts, paint, cleaning products, trash, pet waste, lawn clippings/dirt/leaves and pool water).

The increased knowledge held regarding these 13 pollutants shows a strong upward trend and indicates that education materials are reaching the residents. For all but two pollutants (toxic waste and Styrofoam cups) a brochure has been created to educate the public. Also, seven of the pollutants (oil, gardening products, cigarette butts, dirty water/detergent, pet waste, hose water and lawn clippings/dirt/leaves) were covered in the print advertising campaign. The fact that public knowledge has increased regarding all 13 pollutants demonstrates that the education campaign is effective.

Effectiveness of Educating on Key Behaviors

Consistent with the first survey, roughly two thirds say that changing their personal behaviors would make a difference in cleaning up pollution (65%). This represents an increase of 2%. The survey revealed the following: 97% of people were either willing or did dispose of chemicals properly, 89% were willing to or did use fertilizers properly, 92% were either willing to or did keep yard clippings out of the street, 90% were willing to or currently adjust sprinklers to avoid overwatering; 79% were willing to or did pick up after their pet, 90% were willing to or currently use a broom to clean driveways, and 73% were willing to or eliminated washing cars at home.

When comparing seven actions that residents were already participating in, they were 4% more likely to dispose of chemicals properly and 3% more likely to pick up after a pet in 2005. However, less respondents were keeping yard clippings out of the street (-5%),

adjusting sprinklers (-1%), using a broom instead of a hose (-5%), properly using fertilizer (-1%) and eliminating car washing (-9%). Although participation in some of the seven actions decreased, roughly half of Orange County residents report taking part in all seven of the activities – making a significant increase over the 30 months (+37%) of the campaign (**Figure 6.1**).

During the course of the education campaign, the materials focused on what can be done to prevent urban runoff. All seven activities mentioned in the survey were addressed in brochures, newsletter articles, fact sheets, press releases and billing inserts.

The survey results indicate that the education campaign has penetrated the residents of Orange County and caused significant awareness of the activities that can reduce urban runoff. In all cases (except home car washing) at least eight in ten residents were either participating, or willing to participate in, activities that limit runoff. Despite a successful start to the campaign, residents appear to be obstinate when it comes to one behavior – eliminating home car washing.

Effectiveness of the School Outreach Program

A significant portion of parents of children under 19, roughly 25%, report that their children learned about urban runoff issues in school and came home and talked about it. It is safe to assume that the number of students who received the information, but did not share it with their parents is even higher.

Based on the significant number of students who have reported to a parent about having heard urban runoff prevention messages, it appears that the school outreach program has been effective.

Effectiveness of the Media Outreach Program

According to the 2005 survey, the most effective (most recognized by residents) form of advertising are the “No dumping, drains to ocean” stencils (81%) and newspaper articles (65%). Although part of the overall stormwater program, stencils were not an integral element of the education campaign. Their success can be attributed to a couple of factors. First, the stencils are on a large percentage of storm drains throughout the County. Nearly every resident has a stencil in his or her neighborhood. Also, the stencil program has been active in Orange County for many years. While other education programs were introduced in the last 30 months, residents have seen the stencils for more than a decade. The other very effective program has been newspaper articles. Similar to the stencils, articles on water pollution have been available to the public for decades and have had time to resonate.

Other effective aspects of the program (recognized by residents) were the PSAs on radio (39%), PSAs on cable (38%), newspaper advertising (35%), brochures (28%) and community events (20%). All five of these programs were initiated 30 months ago through the outreach campaign and have significantly resonated with residents. While most of these campaign elements were specific to Orange County, a few had the additional assistance from other regional campaigns such as “Don’t Trash California” and the “Used

Oil" program.

Less effective aspects of the program (least recognized by residents) were movie theater advertising (14%), workplace information (14%), bus advertising (13%) door hangers (12%), and Spanish radio PSAs (6%). While Spanish radio was the least recognized program by all respondents to the survey, among Spanish speaking respondents it was substantially higher (18%). All of these specific campaign elements were created and implemented during the 30-month outreach campaign (**Figure 6.2**).

When determining whether an element should be eliminated from the campaign, it is important to evaluate the number of sources people received information from. According to the 2005 survey, 29% of people received stormwater information from one or two sources. If the majority of these people received information from a source that is eliminated, the campaign would be less effective. However, in this circumstance, only 2% of people who received information from one or two sources received information from theater ads or bus backs. In regarding to theater advertising, it is possible that residents confused cable PSAs with theater advertising because both played the same spot. Since cable advertising was highly recognized by residents, the campaign could have been less effective if it were removed. In the case of bus back advertising, the program would still have been effective without this element.

Another aspect of the program that was evaluated was the print advertising. While, 35% of people recalled seeing print advertising, it is important to note what papers residents are reading. While the largest percentage of advertising was in the Orange County Register, the program did advertise in the Los Angeles Times a half dozen times a year. According to the survey, the percentage of people who get most of their information on urban run-off from the Times dropped from 12% to 9% (Orange County Register is 28%). Also, only 5% of people who received information from one or two sources received the information from print advertising. Therefore, advertising in the Times could likely have been less frequent without affecting the effectiveness of the campaign (**Figure 6.3 Effectiveness of Print Advertising**).

According to the 2005 survey, the percentage of voters saying there is enough information has increased (+1% and +5% from a split question). However, residents continue to believe that there is not enough information provided about how to stop urban runoff and ocean pollution in Orange County. So while some of the elements of the campaign could have been eliminated, the survey demonstrated that people need to receive information from a variety of sources. The Internet appears to be an emerging source of information, increasing 6% to 10% (third highest source of information).

6.4 Summary

Since the inception of the Orange County Stormwater Program outreach campaign, information on stormwater and urban runoff has made initial inroads in increasing awareness. This increase is seen in nearly every element of the program and demonstrates a great beginning to a program that was implemented in a short period of time.

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Although all of the elements of the program contributed to the success of the campaign, the program could have considered eliminating bus back advertising. Print ads in the Los Angeles Times could have been reduced and ads in the full-run Orange County Register could have been increased. Another element that could have been added is online marketing. Overall the program demonstrated an effective start to the education campaign.

Figure 6.1: Resident Participation in Pollution Prevention Activities

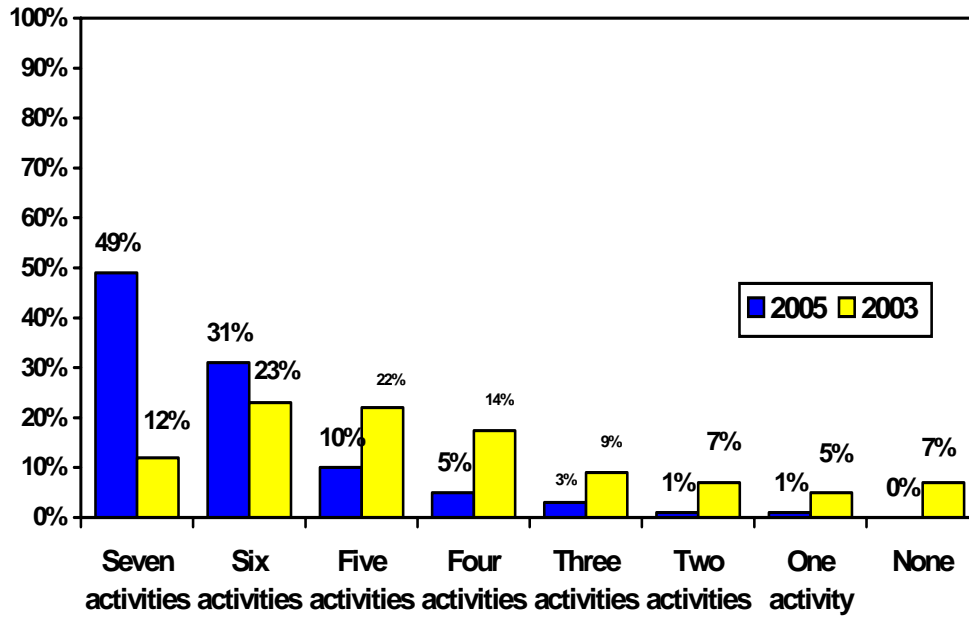


Figure 6.2: Effectiveness of Media Outreach Program

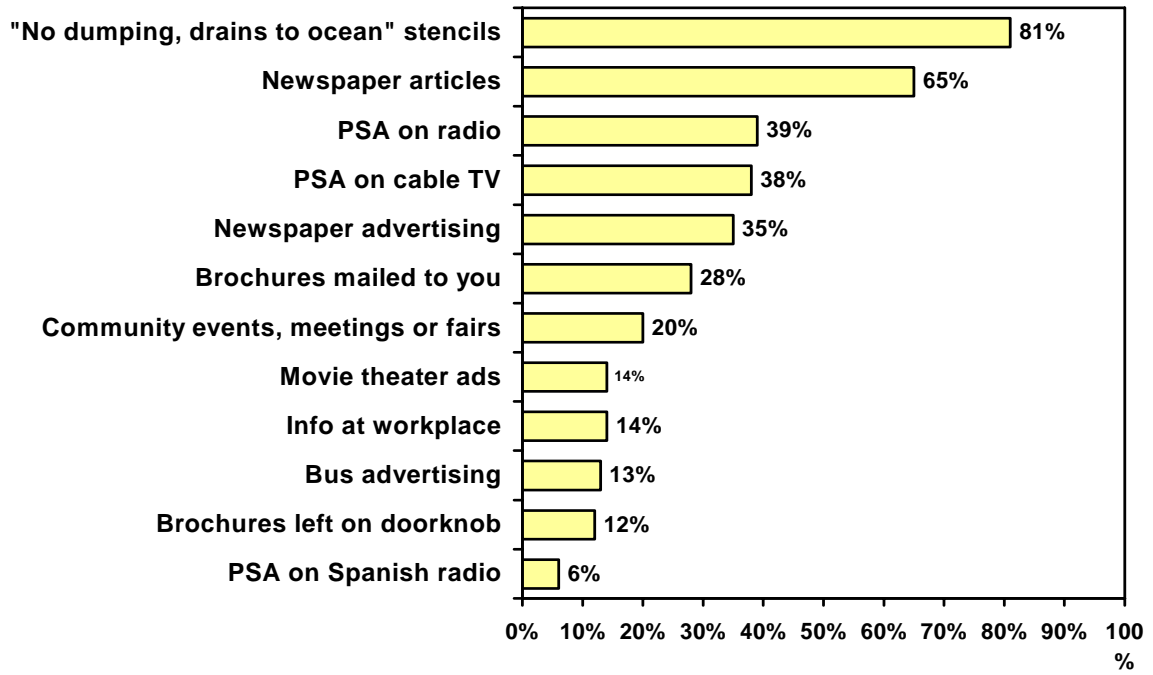
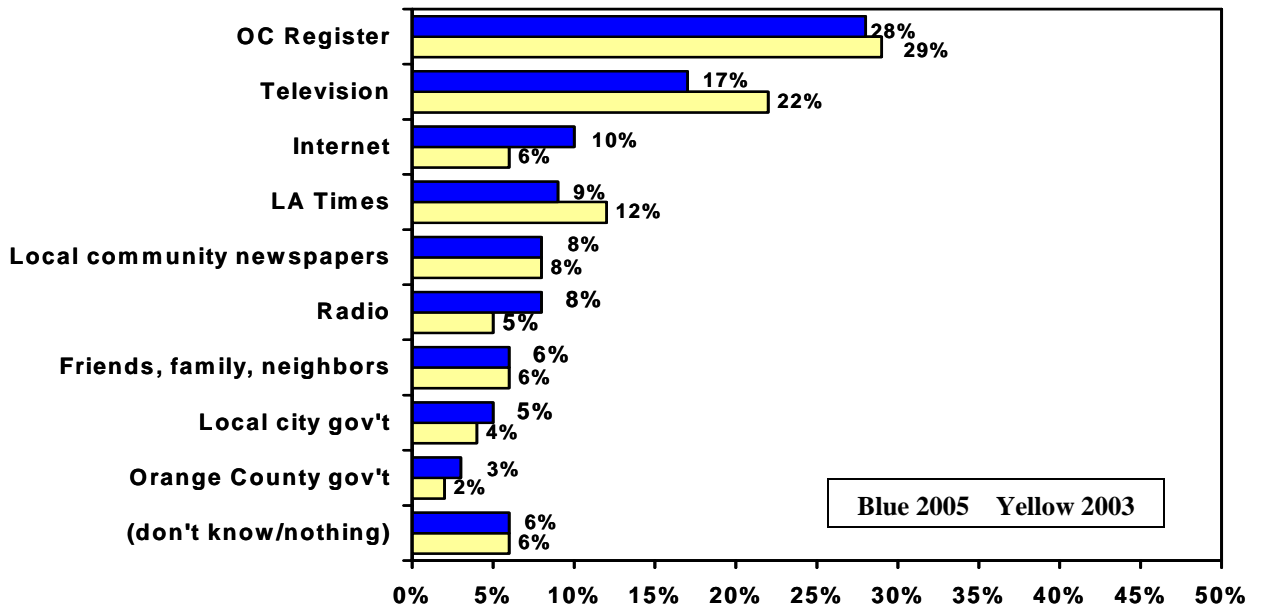


Figure 6.3: Effectiveness of Print Advertising



7.0 NEW DEVELOPMENT/SIGNIFICANT REDEVELOPMENT

7.1 Introduction

One of the most important responsibilities of local government is to provide a decision making and approval processing framework for new development and re-development. This framework ensures that (1) development occurs in an orderly and organized fashion in a manner that reflects the vision and needs of the community, (2) environmental issues associated with development are assessed, and (3) provides a regulatory framework to ensure that standards set by the jurisdiction are implemented.

Since the inception of the Program, it has been recognized that the incorporation of BMPs into a development project in its planning stages offers a unique opportunity to limit increases in pollutant loads. **DAMP Section 7.0** links new development BMP design, construction and operation to the earlier phases of new development project planning, encompassed by the jurisdictional General Plans environmental review and development permit approval processes.

7.2 Accomplishments

7.2.1 New Development/Significant Redevelopment Program

In 1993, the New Development/Construction Task Force, comprised of representatives from the Principal Permittee, Building Industry Association (BIA), Association of General Contractors (AGC) and Civil Engineers & Land Surveyors of California (CELSOC), completed a report - *Best Management Practices For New Development Including Nonresidential Construction Projects (1-5 acres)* - that provided the basis for requiring the incorporation of structural and non-structural BMPs into development. This report was the basis of the New Development component of the DAMP during the First and Second Term Permits.

The requirements of the Third Term permits significantly increased the complexity of the new development provisions of the DAMP. These provisions provide a framework and a process for integrating watershed protection/stormwater quality management principles into the Permittees' General Plans, environmental review processes, and development permit approval processes. The new development provisions also cover initial project planning and project design, construction and completion, including requirements for the selection, design and long-term maintenance of permanent BMPs. Specifically, the new development provisions require the Permittees to:

- Assess the need to revise and update General Plans to include watershed and stormwater quality and quantity management considerations.
- Review CEQA processes for potential stormwater quality impacts and mitigation.
- Review development planning/permit approval process for stormwater protection principles.

- Develop and implement a model Water Quality Management Plan (WQMP) (also referred to as a Standard Urban Stormwater Mitigation Plan – SUSMP) to address impact from new development and significant redevelopment.

For the area of Orange County within the San Diego Regional Water Quality Control Board jurisdiction of Orange County (area south of El Toro Rd.), each municipality was required by the Permit to develop a Local WQMP, based on the model WQMP, to oversee new development and significant redevelopment within their local jurisdiction. These Local WQMPs were finalized for implementation on August 13, 2003.

For the area of Orange County within the Santa Ana Regional Water Quality Control Board jurisdiction of Orange County (area north of El Toro Rd.), the Model WQMP explains the requirements placed upon all new development and significant redevelopment projects. The Model WQMP underwent a lengthy public review process and was approved for implementation by the Executive Officer of the Santa Ana Regional Water Quality Control Board on September 30, 2003.

During the 2004-05 reporting period, 551 Project WQMPs were processed for 3,227 acres of development. Since 1997, a total of 3,193 Project WQMPs have been approved, covering 27,287 acres which represents approximately 6% of the area within Orange County subject to the Third Term Permits.

- Conduct education or training.

Five training modules have been developed and have been given:

1. General Plan Issues;
2. New Development/Significant Program Management;
3. Project Planning and Design: Environmental Review, Planning and Permitting and WQMP Development;
4. Stormwater BMP Effectiveness and Applicability for Orange County, and
5. Stormwater Treatment: How it Works (Or Does It?).

7.2.2 California Sustainable Watershed/Wetland Information Manager (CalSWIM)

CalSWIM (<http://calswim.org/>) is an Orange County Storm Water Program and University of California, Irvine (Departments of Engineering and Informatics) initiative to develop a web-based expert system and prototype database designed to support cost-effective and scientifically justifiable decisions regarding the monitoring, management, and alteration of coastal urban wetlands and their associated watersheds. Initiated in 2004, CalSWIM currently delivers:

- Forecasting and now-casting of nutrient levels, sediment supply, indicator bacteria, and pathogens in the Newport Bay Watershed, and

- Targeted evaluation of management decisions that affect the habitat quality and ecological function of coastal wetlands, and/or that directly bear on pollutants of concern.

7.2.3 Hydromodification

Hydromodification arises from changes in the volume, magnitude and duration of flows that can occur coincident with urbanization and is evident in the landscape as channel incision and bank erosion in the upper and middle portions of a watershed and as aggradation and increased channel meandering in the downstream areas of the watershed. In 2005, the Permittees supported, through the Stormwater Monitoring Coalition (SMC) and California Stormwater Quality Association (CASQA), a workshop that was convened to provide an overview of the key technical and managerial issues associated with hydromodification in S. California (see Stein and Zaleski, 2005¹).

7.3 **Assessment**

The current and potential program effectiveness assessment outcome levels for the New Development / Significant Redevelopment Program are presented in **Table 7.1**.

7.3.1 New Development/Significant Redevelopment Program

CEQA review processes were reviewed for adequacy early in the period of the Third Term Permits. However, in preparing the ROWD, a number of Permittees commented that the overall planning approval process for projects needs to more effectively ensure that water quality protection is considered in the earliest phases of project consideration through further elaboration of the preliminary or conceptual WQMP concept in the DAMP.

ROWD Commitment:

- Prepare guidance documentation and clarify requirements for the preliminary or conceptual Project WQMP.

The Model WQMP identifies BMPs for new development and significant redevelopment projects that are subject to WQMP requirements pursuant to **DAMP Section 7**. Depending upon the project size and characteristics, these BMPs include Site Design BMPs, applicable Source Control BMPs and Project-based Treatment Control BMPs (and/or participation in an approved regional or watershed management program).

¹ Managing Runoff to Protect Natural streams: The Latest Developments on Investigation and Management of Hydromodification in California; Stein and Zaleski, SCCWRP Technical Report 475, December 2000.

The requirement for new developments/significant redevelopment projects to prepare a WQMP has been an established part of the planning approval process (See **Table 7.2**) since the **1993 DAMP** and all Permittees certified they were implementing this part of the Program in 1997. While there is considerable variation in the level of activity between the Permittees, this variability can be attributed to the availability of land for development/redevelopment within a particular jurisdiction. Indeed, the County of Orange and the cities of Irvine and Anaheim, with large swathes of undeveloped land, show the highest numbers of WQMPs processed.

Headline Indicator - Number of WQMPs processed and the area (acreage) to which BMPs have been applied: During the 2004-05 reporting period, 551 WQMPs were processed for 3,227 acres of development compared to 461 WQMPs processed for 1,595 acres of development in 2003-04, and 391 WQMPs processed for 2,836 acres of development in 2002-03 (**Table 7.2; Figure 7.1**).

Level 1: Implement Program

Headline Indicator - Number of BMPs Implemented: A total of 5,061 BMPs were implemented in the 2004-05 reporting period. This total represents a 129% increase in the total number of BMPs implemented in 2003-04 (2,201) and a 112% increase from the total number of BMPs implemented in 2002-03 (2,389) (**Figure 7.2**).

Level 3: Behavior Change

During the Third Term Permit term, the structural source controls used most often were: common area efficient irrigation systems and landscape design, filtration, storm drain stenciling, and trash storage area. The non-structural source controls used most often include: employee training, common area litter control, common area landscape management, street sweeping, education, BMP maintenance, and activity restrictions. The most common treatment control BMPs that have been implemented include catch basin screens, catch basin filters, and stormwater treatment units (hydro-dynamic separators).

In preparing the ROWD, a number of Permittees have commented that (1) the guidance for selecting BMPs needs to be updated and enhanced, particularly with regard to treatment control BMPs, (2) there is a possible inconsistency in provisions regarding site prioritization, and (3) adjacent municipal stormwater programs have more effective provisions regarding the consideration of Site Design BMPs.

DAMP Modification:

- Revise *Model WQMP Table 7.II.6* for latest information on BMPs and clarity.
- Evaluate and revise (as necessary) prioritization provisions for Countywide consistency.

ROWD Commitment:

- Develop recommendations (through cooperative Stormwater Monitoring Coalition project) for incorporation of LID techniques into resource and water quality protection requirements.
- Develop library of BMP performance reports.
- Develop standard design checklist/plans/details for selected Source Control and Treatment Control BMPs.
- Develop recommendations for enhanced Model WQMP language regarding Site Design BMPs.
- Develop and implement BMPs for architectural uses of copper and zinc.

In 2005 the Santa Ana Regional Board formally approved the Irvine Ranch Water District's Natural Treatment System as a regional treatment control BMP for a portion of the Newport Bay Watershed. The project is significant for it being the first expression in the area under the jurisdiction of the Santa Ana RWQCB of a regional approach to stormwater treatment.

ROWD Commitment:

- Evaluate the NTS approval process and develop recommendations for streamlining regulatory agency approval of regional Treatment Control BMPs.

The New Development/Significant Redevelopment component of the Program ends with permit close-out and the BMPs transition to the Existing Development component. The Permittees believe that the BMP approach to stormwater management is most effectively sustained by ensuring the longevity of the WQMP through successive ownerships. Additionally, the Permittees requested additional guidance on recording WQMPs in a manner that would enable them to enforce the approved WQMP against subsequent property owners and ensure ongoing

responsibility for BMP maintenance.

ROWD Commitment:

Prepare guidance and training as needed on the recordation process (timing and appropriate documents to use) and develop recommendations for appropriate methods to employ to enable the Permittees to enforce the approved WQMP against subsequent property owners.

Training: Both the Permittees and RWQCB staff has identified a need for updated and additional training regarding WQMP review and approval.

ROWD Commitment:

- Prepare a training schedule and curriculum including defined expertise and competencies for staff with WQMP review and approval responsibilities.
- Prepare a workshop schedule and curriculum for the private sector on WQMP preparation.

7.3.2 California Sustainable Watershed/Wetland Information Manager (CalSWIM)

This initial development and deployment of CalSWIM has focused on Newport Bay, the regionally important tidal saltwater marsh. However, CalSWIM will in the future be extended with an open and scalable architecture to facilitate its rapid redeployment at other coastal urban wetland sites in southern California and elsewhere.

7.3.3 Hydromodification

While the major development projects in Orange County have now been entitled, the Permittees recognize that hydromodification is an emerging issue of concern as the future regulation and management of runoff from urban areas is increasingly considered with respect to the overarching objective of the CWA i.e. maintenance of the chemical, physical and biological integrity of the nation's waters.

DAMP Modification:

- Revise *Model WQMP Section 7.II -3.2.4 Identify Hydrologic Conditions of Concern* to incorporate additional information from hydromodification study.

7.4 Summary

The Third Term Permits have required the Permittees to develop and implement a significantly revised SUSMP- equivalent program for new development/significant redevelopment. This effort was completed Countywide by the end of 2003 and has resulted in an enhanced a WQMP program that, since 1997, has resulted in a total of 3,193 approved Project WQMPs. While the WQMP program is long-established, the review points to a possible continuing emphasis on pollution prevention BMPs and less progress regarding Site Design BMPs using LID approaches. Consequently, the development of additional training and technical support documentation on these approaches is being proposed as an area for further development. In addition, the Permittees have provisionally identified an opportunity, possibly through a Notice of Transfer of Responsibility, recordation, or other means, to enhance efficacy of the WQMP. This opportunity will be the future subject of a formal recommendation to the Permittees.

Table 7.1: Current and Potential Outcome Levels (New Development/Significant Redevelopment)

Development Program Component	Effectiveness Assessment Outcome Levels					
	Level 1	Level 2	Level 3	Level 4	Level 5	Level 6
	Implement Program	Increase Awareness	Behavior Change	Load Reduction	Runoff Quality	Receiving Water Quality
WQMPs	✓ # of WQMPs approved		^P # BMPs implemented	^P Load reduction associated with BMPs		
Training	✓ Track number/type of training sessions	^P Surveys show improved knowledge				
<p><u>Key:</u> ✓ = Currently Achieved Outcome Level ^P = Potentially Achievable Outcome Level</p>						

SECTION 7.0, NEW DEVELOPMENT/SIGNIFICANT REDEVELOPMENT

Table 7.2: Historical WQMPs and Acreage Covered

Permittee	2002-03		2003-04		2004-05	
	# of WQMPs Approved	Acreage Covered by WQMP	# of WQMPs Approved	Acreage Covered by WQMP	# of WQMPs Approved	Acreage Covered by WQMP
Aliso Viejo	1	23	3	NA	8	60
Anaheim	38	100	16	41	33	67
Brea	2	NA	5	NA	6	58
Buena Park	14	NA	8	NA	3	18
Costa Mesa	27	93	10	3	157	38
Cypress	11	14	22	NA	8	76
Dana Point	NA	NA	6	NA	1	121
Fountain Valley	5	37	2	NA	5	9
Fullerton	18	145	23	65	10	NA
Garden Grove	28	NA	21	NA	18	42
Huntington Beach	19	133	16	104	20	110
Irvine	87	NA	120	NA	100	485
La Habra	7	NA	0	0	2	1
La Palma	0	0	0	0	2	3
Laguna Beach	0	NA	11	NA	12	22
Laguna Hills	2	NA	6	NA	8	9
Laguna Niguel	2	NA	3	NA	1	21
Laguna Woods	NA	NA	4	NA	3	21
Lake Forest	16	40	7	26	4	8
Los Alamitos	0	0	4	NA	NA	NA
Mission Viejo	8	236	10	246	5	10
Newport Beach	NA	NA	18	NA	15	25
Orange	3	11	14	116	10	58
Placentia	0	NA	0	0	2	3
Rancho Santa Margarita	0	0	4	NA	4	4
San Clemente	10	277	22	146	4	329
San Juan Capistrano	8	85	10	NA	9	102
Santa Ana	19	61	23	NA	12	28
Seal Beach	0	0	2	NA	1	NA
Stanton	NA	NA	6	NA	7	3
Tustin	3	1	9	105	4	5
Villa Park	0	0	0	0	0	0
Westminster	8	8	15	17	13	10
Yorba Linda	6	145	14	234	20	187
County of Orange	49	1,426	27	491	44	1,294
TOTALS	391	2,836	461	1,595	551	3,227

NA = Not Available

Figure 7.1: Historical WQMPs and Acreage Covered

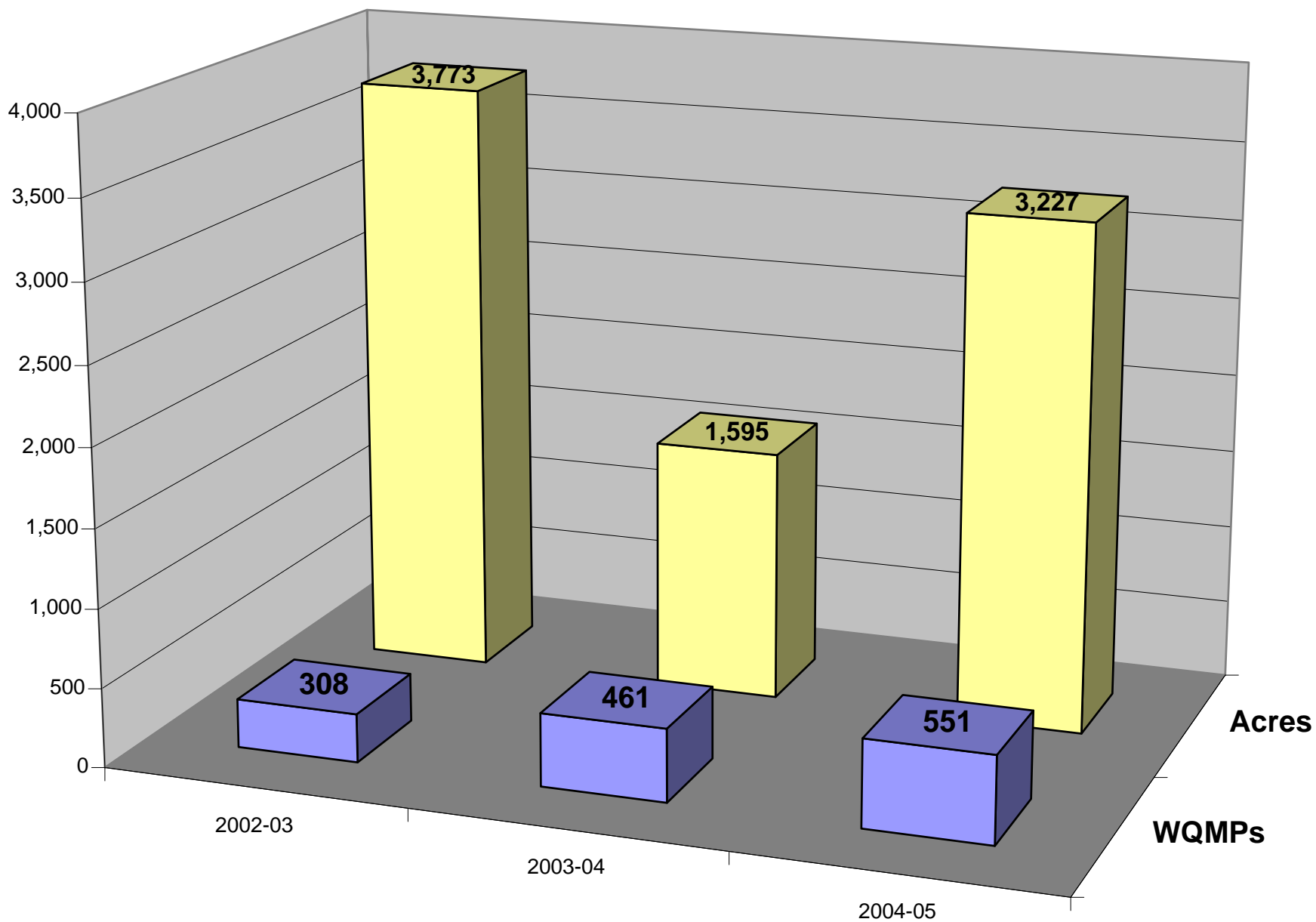
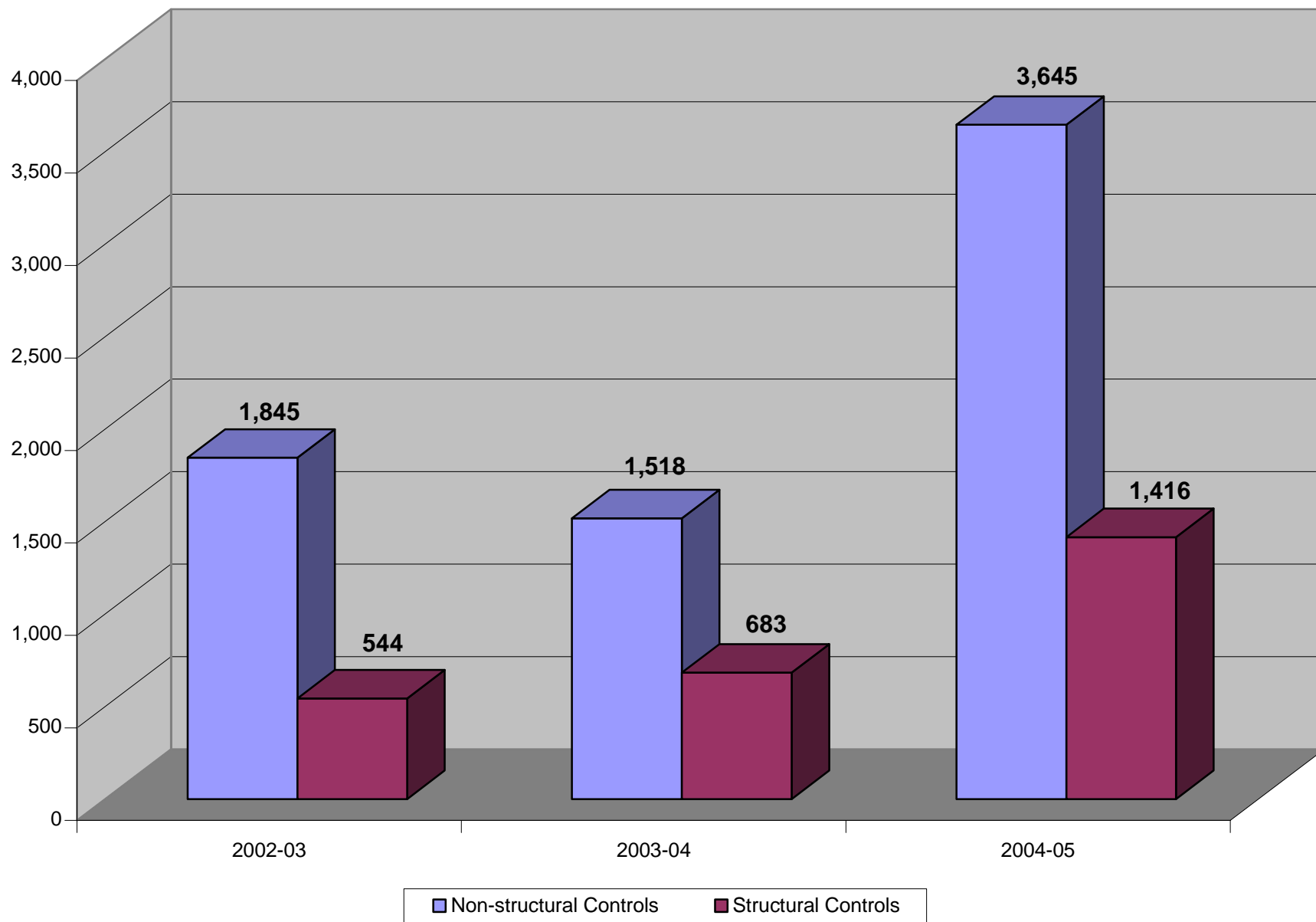


Figure 7.2: Structural and Non-Structural Source Control BMPs Implemented



8.0 CONSTRUCTION

8.1 Introduction

The Permittees regulate construction activities and have responsibility for the construction and reconstruction of municipal facilities and infrastructure. Concern over construction sites as a major source of sediment and other pollutants has meant that construction activity has been a focus of the Permittees' compliance program since the First Term Permits.

8.2 Accomplishments

8.2.1 Model Construction Program

This Model Construction Program was developed and implemented in 2002-03. It requires all construction projects regardless of size to implement an effective combination of erosion and sediment controls and waste and materials management BMPs. It also establishes inspection obligations on the Permittees. Previously, the Permittees' oversight of construction activities was based upon ensuring conformance of public works projects with the *Greenbook Standard Specifications for Public Works Construction*. Specifically, the Model Construction Program requires the Permittees to:

- Inventory construction sites

In May 2002, a construction site inventory spreadsheet was finalized and distributed to the Permittees so that each municipality could develop their inventories by October 15, 2002, as required by Section VIII.1 of the 2002 Santa Ana Permit.

- Prioritize construction sites based upon water quality threat

During 2004-05, thirty-four (34) Permittees reported conducting 15,067 construction site inspections comprising 5,504 high priority site inspections, 1,542 medium priority site inspections and 8,021 low priority site inspections.

- Prepare BMP Guidance

The Permittees produced and distributed the *Construction Runoff Guidance Manual*.

- Conduct Inspections of construction sites

During the Third Term Permits 25,831, 25,549 and 15,067 site inspections were conducted in the 2002-03, 2003-04 and 2004-05 reporting periods respectively.

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- Undertake Enforcement

As a result of the 2004-05 inspections, thirty-three (33) Permittees reported the issuance of 445 Educational Letters, 1,052 Notices of Non-compliance, 74 Administrative Compliance Orders, 81 Cease and Desist Orders, and 47 Misdemeanor/Infractions.

- Conduct Training

To assist responsible municipal and contract/lease staff in understanding the Construction Program, two training modules have been developed:

- 1) Construction Program Management.
- 2) Inspecting Construction Site BMPs.

In the 2004-05 reporting period Construction Inspection training was provided in two sessions to 167 inspectors.

8.3 Assessment

The current and potential Program effectiveness Assessment Outcome Levels for the current program are summarized in **Table 8.1**.

8.3.1 Model Construction Program

Inventories

The year-to-year status of the Permittees' inventories are not tracked at a Countywide level and consequently this aspect of the model program cannot be assessed.

Prioritization

The Permittees prioritize construction sites based upon a consideration of the size and type of construction, time of construction, location, and site topography. While the numbers of sites of each priority are not tracked at a Countywide level, the year-to-year changes in the level of inspection activity (**Table 8.2**) shows inconsistent reporting between the Permittees.

DAMP Modification:

- Provide definitive construction site prioritization and reporting guidance.

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Inspection

The Permittees inspect construction sites to verify that the requirements of the DAMP are being implemented. The inspection frequency is determined by the season (“Wet” or “Dry”) and a site’s prioritization. The need for follow-up inspections also contributes significantly to the overall level of activity within a reporting period.

Headline Indicator - Inspection Activity: In 2004-05 thirty-four (34) Permittees completed 5,504 high priority, 1,542 medium priority, and 8,021 low priority construction site inspections. In 2003-04, 8,445 high priority, 5,731 medium priority, and 11,363 low priority construction site inspections were completed; and in 2002-03, 4,060 high priority, 15,937 medium priority, and 5,834 low priority construction site inspections were completed (**Table 8.2; Figure 8.1**).

Level 1: Implement Program

While the level of inspection activity is significant (15,000 inspections in the last reporting period) there are disparities between the Permittees which indicates inconsistent reporting. A major component of this activity is re-inspection following a finding of non-compliance. The Permittees believe that the re-inspection obligation is not sufficiently sensitive to the severity of the non-compliance, and RWQCB staff is concerned that the mandated level of follow-up activity may be discouraging findings of non-compliance.

DAMP Modification:

- Clarify inspection frequencies, violation definitions and re-inspection requirements.

Enforcement

Inspectors enforce compliance with the Model Construction Program, grading or building permit, sediment and erosion control plan, and the Water Quality Ordinance. Enforcement steps that may be taken by inspectors include but are not limited to verbal warnings, administrative actions under the Water Quality Ordinance (notice of violation, administrative compliance order, etc.) and written actions under Building/Grading Ordinances (corrective action notice, stop work order, etc.).

Headline Indicator – Extent of Compliance: As a result of the 2004-05 inspections, thirty-three (33) Permittees reported 1,514 construction requiring 1,521 re-inspections compared to 1,066 construction sites requiring 1,072 re-inspections in 2003-04; and 408 construction requiring 542 re-inspections in 2002-03 (**Table 8.3; Figure 8.2**).

Level 1: Implement Program

Level 3: Behavior Change

Headline Indicator – Number and Level of Enforcement Actions: As a result of the 2004-05 inspections, thirty-three (33) Permittees reported taking a total of 1,699 enforcement actions. This compares to 3,475 enforcement actions taken in 2003-04, and 1,395 enforcement actions taken in 2002-03 (**Table 8.4; Figure 8.3**).

Level 1: Implement Program

Level 3: Behavior Change

The significant disparities in enforcement activity between the Permittees clearly indicate inconsistent reporting. However, the consistent pattern of a peak of activity in 2003-04 and a subsequent reduction in the 2004-05 reporting period in construction and other stormwater program areas (Existing Development and Illegal Discharges/Illicit Connections) suggests an increased level of compliance within the regulated community.

Training

The Permits require that staff is adequately trained. In response, the Permittees developed two training modules and a guidance manual. However, the training modules need to be updated frequently enough to keep pace with the developments in the field of construction site sediment and erosion control management, and to provide inspectors with a technical understanding of BMPs. In addition, the training of inspectors regarding construction site inspection and oversight has been identified as a particular area of concern for Regional Board staff.

ROWD Commitment:

- Prepare a training schedule including curriculum content and defined expertise and competencies for construction inspectors.

8.4 Summary

The Third Term Permits have required the Permittees to develop and implement a formal inspection program commencing with an initial prioritized inventory of construction sites. Over the first three years of this effort, there has been a clear trend in the level of inspection and enforcement activity that, despite some uncertainties with respect to reporting, suggests increased BMP implementation and compliance with local water quality and grading/building ordinances by the regulated community. Based upon perceived positive outcomes of the Construction elements of the DAMP, the Permittees are proposing minor program modifications based upon the need for the continued training of inspectors and the sensitizing of the prioritization and inspection process toward a more risk-based approach.

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Table 8.1: Current and Potential Outcome Levels (Construction)

Construction Program Component	Effectiveness Assessment Outcome Levels					
	Level 1	Level 2	Level 3	Level 4	Level 5	Level 6
	Implement Program	Increase Awareness	Behavior Change	Load Reduction	Runoff Quality	Receiving Water Quality
Inventory	✓ Maintain inventory					
Prioritization	✓ Assign priorities		^P Change in prioritization level			
Inspection	✓ Conduct and Track number of inspections	^P Number of re-inspections	^P # BMPs implemented	^P Load reduction associated with BMPs		
Enforcement/ Reporting	✓ Conduct enforcement		✓ Extent and correction of problem level of enforcement			
Training	✓ Track number/type of training sessions	^P Surveys show improved knowledge				
<p><u>Key:</u> ✓ = Currently Achieved Outcome Level ^P = Potentially Achievable Outcome Level</p>						

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Table 8.2: Construction Site Inspections Comparison of 2002-03, 2003-04 and 2004-05

PERMITTEES	Number of Sites Inspected								
	HIGH 2002-03	HIGH 2003-04	HIGH 2004-05	MEDIUM 2002-03	MEDIUM 2003-04	MEDIUM 2004-05	LOW 2002-03	LOW 2003-04	LOW 2004-05
Aliso Viejo	2	3	2	51	51	1	53	0	39
Anaheim	3	0	0	51	27	48	138	839	850
Brea	0	4	3	20	10	6	9	8	36
Buena Park	0	0	2	20	9	15	180	19	590
Costa Mesa	30	19	15	0	0	0	2,223	5,974	522
Cypress	1	2	5	0	1	0	7	9	1
Dana Point*	NA	16	24	NA	4	8	NA	1,077	182
Fountain Valley	25	5	6	0	0	0	163	353	87
Fullerton	84	17	1	3	34	0	30	67	10
Garden Grove	0	9	0	0	0	0	56	17	49
Huntington Beach	25	3	59	123	66	165	376	422	320
Irvine	132	67	114	1	41	99	2	63	175
La Habra	0	0	0	12	1	1	560	353	360
La Palma	25	0	6	123	0	0	376	5	0
Laguna Beach	1	1	2	32	47	111	0	0	0
Laguna Hills	210	183	209	0	0	0	0	0	0
Laguna Niguel	1	14	34	7	0	0	304	109	1,398
Laguna Woods	34	7	1	0	0	3	27	4	0
Lake Forest	4	2	1	21	9	13	18	5	1
Los Alamitos	0	0	NA	0	1	NA	0	292	NA
Mission Viejo	1,869	2,570	1,100	2,040	506	495	0	0	0
Newport Beach	4	3	2	54	23	0	162	270	648
Orange	3	7	7	20	40	37	563	193	153
Placentia	0	1	1	3	6	4	8	5	5
Rancho Santa Margarita	0	0	0	0	2	2	24	0	269
San Clemente	NA	34	276	NA	120	163	NA	0	0
San Juan Capistrano	1,304	199	48	12,595	4,674	300	0	0	400
Santa Ana	0	0	0	73	29	41	63	51	68
Seal Beach	NA	2	1	NA	0	0	NA	975	1,612
Stanton	NA	2	4	NA	0	4	NA	0	25
Tustin	5	6	13	1	7	4	49	56	4
Villa Park	0	0	0	0	0	0	127	166	175
Westminster	18	5	5	4	0	0	8	11	22
Yorba Linda	2	7	10	23	23	22	14	20	20
County of Orange/OCFCD	278	5,267	3,553	660	**See explanation below	**See explanation below	294	**See explanation below	**See explanation below
Totals	4,060	8,455	5,504	15,937	5,731	1,542	5,834	11,363	8,021

NA = Not Available

*includes undetermined amount and different categories

** the database system the County uses to track construction inspections does not differentiate between high, medium, and low priority construction sites; therefore, all sites are classified as "high" priority.

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Table 8.3: Inspection Results, Comparison of 2002-03, 2003-04 and 2004-05

PERMITTEES	2002-03		2003-04		2004-05	
	Number of Construction Sites Out of Compliance	Number of Re-Inspections Due to Non-Compliance	Number of Construction Sites Out of Compliance	Number of Re-Inspections Due to Non-Compliance	Number of Construction Sites Out of Compliance	Number of Re-Inspections Due to Non-Compliance
Aliso Viejo	27	27	45	33	21	21
Anaheim	4	4	55	14	33	48
Brea	1	1	0	0	2	3
Buena Park	0	0	5	5	29	15
Costa Mesa	2	3	NA	NA	0	0
Cypress	NA	NA	1	1	2	2
Dana Point	NA	NA	NA	NA	98	105
Fountain Valley	56	56	43	43	4	4
Fullerton	8	12	105	105	8	2
Garden Grove	3	3	4	4	1	1
Huntington Beach	54	130	23	39	150	54
Irvine	3	3	33	40	35	35
La Habra	14	17	18	18	68	81
La Palma	0	0	0	0	1	2
Laguna Beach	NA	NA	NA	NA	68	68
Laguna Hills	2	3	7	8	9	9
Laguna Niguel	14	26	24	24	23	23
Laguna Woods	1	1	0	0	6	6
Lake Forest	2	2	0	0	7	7
Los Alamitos	0	0	0	0	NA	NA
Mission Viejo	57	61	67	69	137	139
Newport Beach	0	0	NA	NA	67	75
Orange	0	0	7	7	8	8
Placentia	5	5	5	5	6	6
Rancho Santa Margarita	0	0	0	0	8	5
San Clemente	NA	NA	161	161	NA	NA
San Juan Capistrano	50	50	56	84	49	72
Santa Ana	13	23	7	7	12	22
Seal Beach	NA	NA	21	21	NA	NA
Stanton	NA	NA	0	0	2	8
Tustin	19	67	0	0	7	40
Villa Park	0	0	0	0	0	0
Westminster	1	2	5	10	5	12
Yorba Linda	7	6	4	4	6	6
County of Orange/OCFCD	65	40	370	370	642	642
Totals	408	542	1,066	1,072	1,514	1,521

NA = Not Available

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Table 8.4: Enforcement Action Taken, Comparison of 2002-03, 2003-04 and 2004-05

PERMITTEES	FY 2002-03					FY 2003-04					FY 2004-05				
	Administrative Remedies				Criminal Remedies Misdr, Infrct	Administrative Remedies				Criminal Remedies Misdr, Infrct	Administrative Remedies				Criminal Remedies Misdr, Infrct
	No. of EL/VW	No. of NON	No. of AC	Number of C&D Orders		No. of EL/VW	No. of NON	No. of AC	Number of C&D Orders		No. of EL/VW	No. of NON	No. of AC	Number of C&D Orders	
Aliso Viejo	0	0	27	6	0	0	0	32	7	0	0	0	51	43	0
Anaheim	0	0	2	0	0	55	0	0	0	0	6	0	0	0	0
Brea	15	1	0	0	0	0	0	0	0	0	0	1	0	0	0
Buena Park	0	0	0	0	0	0	3	1	1	0	0	63	0	6	0
Costa Mesa	3	0	0	0	0	3	0	0	0	0	0	0	0	0	0
Cypress	0	4	0	0	0	1	10	0	0	0	1	4	0	0	0
Dana Point	2	32	0	0	1	7	36	0	3	0	29	61	3	5	0
Fountain Valley	400	4	21	6	0	27	12	15	9	0	168	0	5	2	0
Fullerton	0	5	1	0	0	51	44	0	5	0	NA	NA	NA	NA	NA
Garden Grove	2	1	0	0	0	3	4	0	0	0	0	1	0	0	0
Huntington Beach	0	16	1	1	0	0	23	1	0	0	0	80	0	0	24
Irvine	0	3	0	0	0	33	0	0	0	0	35	35	0	0	0
La Habra	0	14	0	0	0	0	18	0	0	0	52	7	2	6	0
La Palma	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0
Laguna Beach	54	14	37	0	1	23	23	29	0	0	24	31	13	0	0
Laguna Hills	0	3	0	0	0	4	3	0	0	0	1	5	0	0	0
Laguna Niguel	0	26	0	0	0	0	24	0	0	0	0	14	0	0	0
Laguna Woods	2	0	0	0	0	0	0	0	0	0	8	8	0	0	0
Lake Forest	NA	NA	NA	NA	NA	0	0	0	0	0	0	2	0	0	0
Los Alamitos	4	0	0	0	0	0	0	0	0	0	NA	NA	NA	NA	NA
Mission Viejo	NA	NA	NA	NA	NA	238	93	0	0	0	0	21	0	0	0
Newport Beach	6	250	200	0	0	558	618	315	0	0	0	2	0	0	1
Orange	0	0	0	0	0	7	7	0	0	0	0	8	0	0	0
Placentia	0	5	0	1	0	0	0	1	0	0	0	1	0	1	0
Rancho Santa Margarita	0	0	0	0	0	0	0	0	0	0	9	5	0	1	0
San Clemente	1	2	0	1	0	142	71	7	33	0	34	20	0	11	21
San Juan Capistrano	50	50	0	0	0	50	6	0	0	0	8	35	0	6	0
Santa Ana	0	13	0	0	0	0	7	0	0	0	0	3	0	0	0
Seal Beach	NA	NA	NA	NA	NA	41	41	0	0	0	0	19	0	0	0
Stanton	NA	NA	NA	NA	NA	0	0	0	0	0	0	0	0	0	0
Tustin	0	19	0	0	0	0	0	0	0	0	0	0	0	0	1
Villa Park	15	0	0	0	0	12	0	0	0	0	0	0	0	0	0
Westminster	0	1	0	0	0	10	0	0	0	0	0	12	0	0	0
Yorba Linda	0	3	0	4	0	327	4	0	0	0	0	6	0	0	0
County of Orange/OCFCD	0	65	0	0	0	5	372	0	0	0	70	607	0	0	0
Totals	554	531	289	19	2	1,597	1,419	401	58	0	445	1,052	74	81	47

NA = Not Available

EL/VW = Educational Letter/Verbal Warning

AC = Administrative Compliance Order

Misdr./Infrct = Misdemeanor/Infraction

NON = Notice of Non-Compliance

C&D = Cease and Desist

Figure 8.1: Construction Site Inspections Comparison of 2002-03, 2003-04 and 2004-05

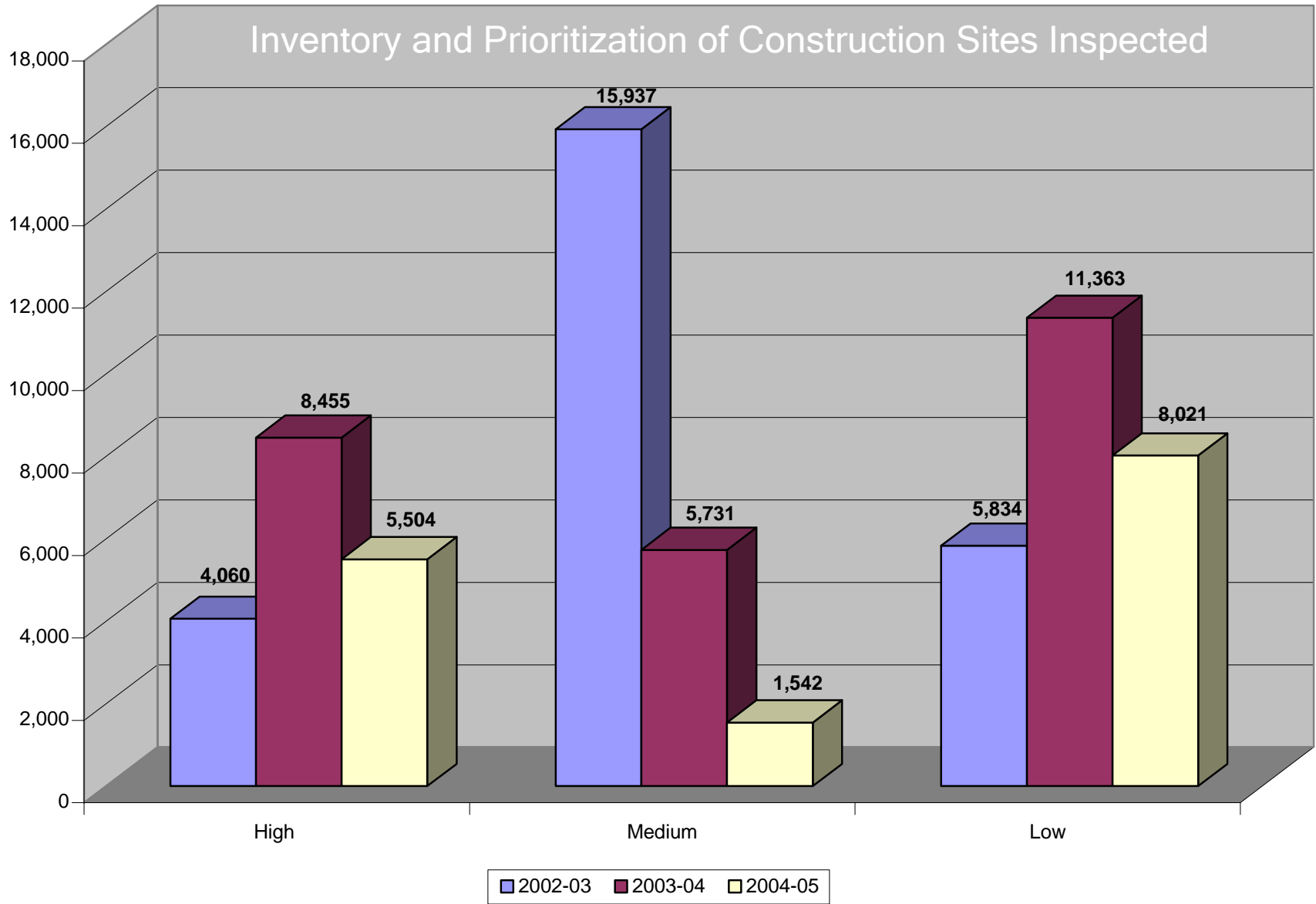


Figure 8.2: Inspection Results, Comparison of 2002-03, 2003-04 and 2004-05

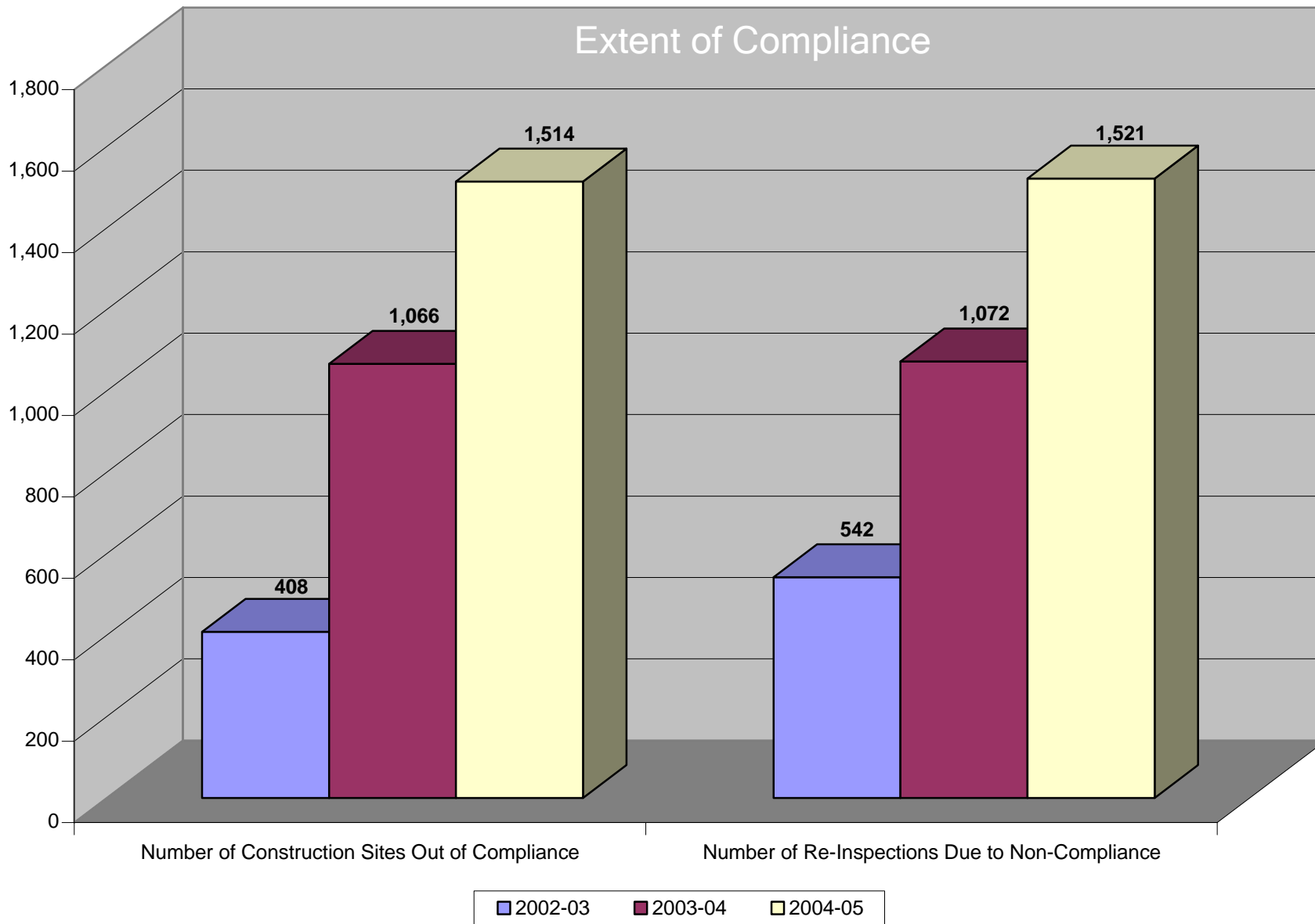
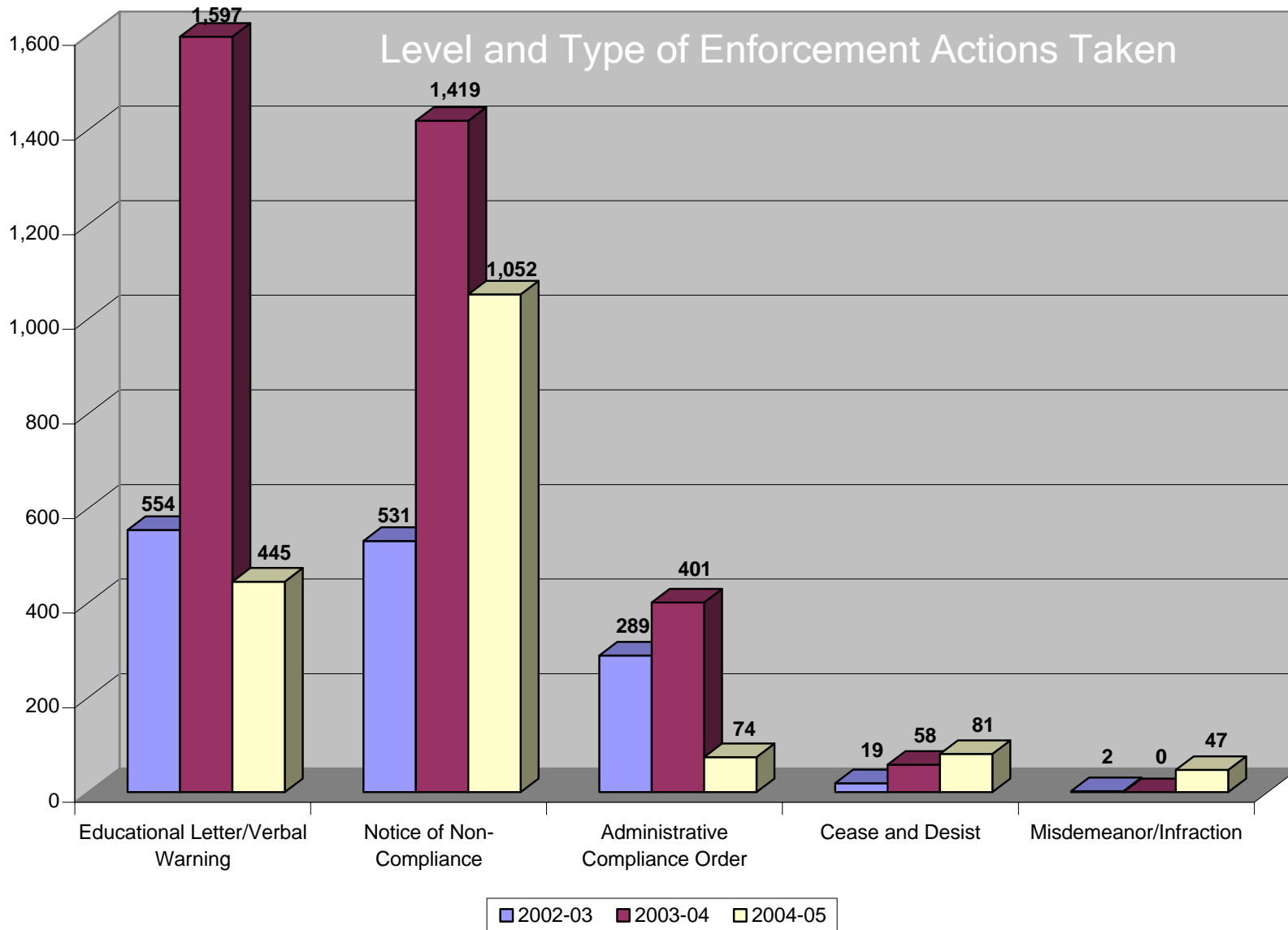


Figure 8.3: Enforcement Action Taken, Comparison of 2002-03, 2003-04 and 2004-05



9.0 EXISTING DEVELOPMENT

9.1 Introduction

Stormwater discharges from commercial and industrial facilities can become contaminated when material management practices allow exposure to stormwater and/or there is commingling of runoff with wastes. The purpose of **DAMP Section 9.0** is to provide a programmatic framework for the regulatory oversight of activities in commercial and industrial areas. Through inspections, outreach and requiring compliance with water quality ordinances, the Permittees are able to pro-actively address the quality of urban and stormwater runoff from industrial and commercial facilities. In addition, **DAMP Section 9.0** also provides a programmatic framework, based upon education and outreach approaches, for addressing activities in residential areas. Both the industrial/commercial and residential elements were added to the Program by the Third Term Permits.

9.2 Accomplishments

9.2.1 Model Industrial/Commercial Program

The Model Industrial/Commercial Program was developed and implemented in 2002-03. It transformed the Permittees oversight of commercial and industrial facilities/activities by establishing a formal inspection program where previously there had been a series of notifications and inspections initiated by complaints. The Model Industrial/Commercial Program requires the Permittees to:

- Identify and inventory facilities/activities with the potential to discharge pollutants:

Initially, 8,546 industrial facilities (**Table 9.1; Figure 9.1**) and 22,789 commercial facilities were identified and inventoried (**Table 9.2; Figure 9.2**).

- Prioritize facilities based upon water quality threat and receiving water sensitivity:

The Permittees prioritized 8,546, 8,604 and 2,821 industrial facilities in 2002-03, 2003-04 and 2004-05 respectively. Concurrently, 22,789, 23,778, and 25,411 commercial facilities were similarly evaluated and prioritized over the same respective periods.

- Establish Model Maintenance Procedures:

Twenty-two (22) model BMP fact sheets have been prepared which include a description of specific minimum source control BMPs for common industrial and commercial activities that may discharge pollutants. Specific BMPs may be adjusted on a jurisdictional basis as necessary. Where applicable, optional controls have been identified that should be considered for implementation at high priority facilities.

Typically each fact sheet contains the following sections:

- Pollution Prevention

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- Suggested Best Management Practices
 - Training
 - References and Resources
- Conduct inspections and monitoring to ensure that commercial and industrial facilities are minimizing their impacts on the environment:

In the 2002-03, 2003-04 and 2004-05 reporting periods the Permittees completed 1,017, 4,029 and 2,706 inspections, respectively.

- Conduct inspections of food facilities:

The Orange County Permittees developed and submitted a food facility inspection program to the Santa Ana Regional Board on July 1, 2002. This program, which also meets the inspection requirements of the San Diego Regional Board, involves inspections and the distribution of educational materials at the approximately 10,000 existing restaurants countywide. The implementation of the Program is an addition to the environmental health inspections conducted by the County of Orange Health Care Agency (HCA). The HCA inspectors identify NPDES issues during these inspections, and they are forwarded to the respective Permittees and addressed by Permittee staff.

For the 2004-05 reporting period, 25,078 food facility inspections were conducted and 1,416 were reported to have NPDES issues (**Table 9.3**).

- Undertake Non-compliance Notification and Enforcement:

Enforcement for the industrial and commercial component of the Existing Development Program is the responsibility of individual Permittees. Each Permittee has several different levels of enforcement to choose from for different types of situations. This includes - from least severe to most severe - issuance of an educational letter, a notice of non-compliance, an administrative compliance order, a cease and desist order, or a misdemeanor/infraction.

The Permittees reported a total of 371 enforcement actions against industrial facilities during the 2004-05 reporting period

- Participate in Training:

To assist municipal staff in implementing the Existing Development Program for industrial and commercial facilities, five training modules were developed:

1. Existing Development Program Management Module (targeting jurisdictional program coordinators and providing guidance regarding management of an inspection program);
2. Field Implementation of Existing Development Program Module (targeting inspectors and providing guidance on conducting inspections);

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3. Existing Development Program Training – Automobile Mechanical Repair, Maintenance, Fueling and Cleaning Businesses Module;
 4. Existing Development Program Training – Landscape Maintenance Businesses Module, and
 5. Existing Development Program Training – Industrial Stormwater Monitoring Module.
- Conduct Education and Outreach:

A number of education and outreach efforts, conducted under the overall public education element of the Program (see **DAMP Section 6.0**), directly supported implementation of the Model Industrial Commercial Program, specifically:

Mailings – During 2003-05 there was one mass mailing of an outreach letter for corporate environmental managers of food service establishments (FSE) and one mass mailing of education materials to all Orange County FSEs.

Outreach Materials –The following materials were developed by the Public Education Committee supportive of **Section 9.0**:

Brochures

- *Mobile Detailing and the Water Quality Act*
- *Water Quality Guidelines for Exterior Restaurant Cleaning Operations*
- *Water Quality Guidelines for Carpet Cleaning Activities*
- *Help Prevent Ocean Pollution: Tips for Hardscape and Landscape Drains*
- *Help Prevent Ocean Pollution: Tips for Home Improvement*

Posters

- Food/Restaurant Industry
- *“Help Prevent Ocean Pollution”* Food Facility BMPs Poster
- Auto Repair Industry
- Good Gas Station Operating Practices

“The Quad” - “The Quad” was developed as a tool to communicate with Cities, Businesses, Utilities and Organizations. Each Quad contains a newsletter, press release, fact sheet and billing insert focusing on a seasonal stormwater theme. Four seasonal quads were created during this reporting period, two of which were distributed in this reporting period. The following were the 2004-05 Quad themes:

- *“Spring Into Cleaning – Disposal of Household Hazardous Waste”*
- *“Summer: Yard Care”*
- *“Fall: Prepare for the Rainy Season”*
- *“Winter: New Years Resolution – Green in the New Year”*

FSE Outreach – The following materials were developed specifically for FSEs.

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- *“Help Prevent Ocean Pollution”: A Guide for Food Service Establishments*
- *“Help Prevent Ocean Pollution” Food Facility BMPs Poster*
- *“Help Prevent Ocean Pollution” Food Facility BMPs Stickers*
- Bilingual CD-Rom illustrating appropriate Food Facility BMPs
- Food Facility BMP PowerPoint Presentation
- Food Facility BMP Fact Sheet

Other: Developed an urban nutrient outreach program targeting independent gardeners operating in the San Diego Creek/Newport Bay Watershed with Proposition 13 funding awarded to the County to investigate the sources of nutrients from the urban environment and test the effectiveness of structural and non-structural BMPs.

9.2.2 Model Residential Program

The Model Residential Program was developed and implemented in 2002-03 to further reduce pollutants potentially released into the environment from residential activities, including efforts to reduce over-watering. The main thrust of the residential program is to advocate pollution prevention practices as the most effective method to protect receiving water quality. The Model Residential Program requires the Permittees under the jurisdiction of the San Diego Regional Board to:

- Develop a source identification procedure and prioritize residential areas based on proximity to Environmentally Sensitive Areas (ESAs) within the Permittee’s jurisdiction.
- Identify Best Management Practices (BMPs) most appropriate for each area, based on residential activities:

See discussion of Outreach Materials (below).

- Conduct public outreach and education:

A number of education and outreach efforts, conducted under the overall public education element of the Program (see **DAMP Section 6.0**), directly supported implementation of the Model Residential Program, specifically:

Outreach Materials -The following materials were developed by the Public Education Committee supportive of **Section 9.0**:

Brochures

- *Help Prevent Ocean Pollution: Tips for Hardscape and Landscape Drains*
- *Help Prevent Ocean Pollution: Tips for Horse Care*
- *Help Prevent Ocean Pollution: Tips for Using Paint*
- *Help Prevent Ocean Pollution: Tips for Home Improvement*

“The Quad” - “The Quad” was developed as a tool to communicate with

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cities, businesses, utilities and organizations such as home owner associations. Each Quad contains a newsletter, press release, fact sheet and billing insert focusing on a seasonal stormwater theme. Four seasonal quads were created during this reporting period, two of which were distributed in this reporting period. The following were the 2004-05 Quad themes:

- “Spring Into Cleaning - Disposal of Household Hazardous Waste”
- “Summer: Yard Care”
- “Fall: Prepare for the Rainy Season”
- “Winter: New Years Resolution - Green in the New Year”

9.2.3 Other Programs

During the reporting period, the Principal Permittee developed an urban nutrient outreach program targeting residential gardeners operating in the San Diego Creek/Newport Bay Watershed. The outreach program was one element of a Proposition 13 funded investigation of nutrient sources in an urban environment and structural and non-structural BMP effectiveness.

9.3 Assessment

The current and potential Program Effectiveness Assessment Outcome Levels that could be assessed within the current program are summarized in **Table 9-4** (Industrial/Commercial) and **Table 9.5** (Residential).

9.3.1 Model Industrial/Commercial Program

Inventories: Completing the inventory of industrial and commercial facilities has been problematic for some jurisdictions since the Standard Industrial Classification (SIC) codes on the business licenses (the primary source of this information for those jurisdictions with a business license program) have been incorrectly provided by businesses.¹ In addition, inventorying commercial facilities is extremely difficult because they are numerous, often transitory, and can only be identified through site visits. Mobile businesses are particularly problematic because they typically do not have a permanent facility location.

The Unified Annual Progress Reports include tables reporting the total number of commercial and industrial facilities and their respective prioritizations, organized by

¹ The Notice of Intent (NOI) form attached to the Draft Industrial General Permit (February 2005) and the SWRCB’s NOI processing system have been modified to accept both Standard Industrial Classification (SIC) codes and North American Industrial Classification System (NAICS) codes. The USEPA has indicated it intends to incorporate the NAICS codes into the storm water regulations but has not yet done so. The Proposed 2006 Multi-Sector General Permits for Stormwater Discharges Associated with Industrial Activity (MSGP) contains a note that “a complete list of SIC Codes (and conversions from the newer North American Industry Classification System [NAICS]) can be obtained from the Internet at www.census.gov/epcd/www/naics.html or in paper form from various locations in the document titled Handbook of Standard Industrial Classifications, Office of Management and Budget, 1987.”

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Permittee. However, since the structure and content of the jurisdictional databases can differ between the Permittees, analysis of data on a regional or countywide basis is challenging. Indeed, there appears to be a persistent disparity between the number of industrial and commercial facilities inventoried and the number of industrial and commercial facilities that were prioritized over the reporting period (see **Tables 9.1** through **9.3** and **Figures 9.1** through **9.2**). This disparity points to the need to augment facility descriptions beyond SIC codes.

DAMP Modification:

- Provide more detailed industrial and commercial facility descriptions to assist in inventory standardization.

Prioritization: Commercial and industrial facilities must be classified as high, medium, or low priority to determine the frequency of inspection. The DAMP details a risk and receiving water sensitivity based point system for classification, the result of which is a total score indicating the facility priority. A change in facility prioritization can be indicative of programmatic success, since a finding that BMPs are being implemented (a behavior change) reduces the risk of pollutants being discharged which can result in a change in prioritization. However, both Permits specify mandatory high-priority commercial and industrial facilities. In addition, the San Diego Region Permittees are required to inventory only high-priority commercial facilities i.e. there are no designation of medium and low priority commercial facilities.

Headline Indicator - Prioritization of Facilities (Industrial Facilities): For 2004-05, 2,821 industrial facilities were prioritized, 27% of which were ranked as high priority; for 2003-04, 8,604 industrial facilities were prioritized, 13% of which were ranked as high priority; and for 2002-03, 8,546 industrial facilities were prioritized, 15% of which were ranked as high priority (**Table 9.1; Figure 9.1**).

- Level 1: Implement Program
- Level 3: Behavior Change

Headline Indicator - Prioritization of Facilities (Commercial Facilities): For 2004-05, 25,411 commercial facilities were prioritized, 20% of which were ranked as high priority; for 2003-04, 23,778 commercial facilities were prioritized, 24% of which were ranked as high priority; and for 2002-03, 22,789 commercial facilities were prioritized, 22% of which were ranked as high priority (**Table 9.2; Figure 9.2**).

- Level 1: Implement Program
- Level 3: Behavior Change

The year-to-year comparisons suggest some inconsistent reporting of this indicator. Part of this inconsistency arises from the interpretation of the extent to which a facility “tributary to” a sensitive receiving water, which is a key determinant in prioritization. From the Annual Progress Reports (See **DAMP Appendix C**), it is evident that “tributary to” is variously being interpreted as more than “next to” but “less than the whole watershed.” Also, although the point system is used by many of the Permittees, some perceive it as time-consuming and too subjective, and, as a result, may rely primarily on professional judgment. In addition, the ability of the prioritization process to meaningfully provide for a risk-based approach is also dampened by the requirements for mandatory high priority sites. Despite these reservations, it is possible that the decreased numbers of high priority sites in the most recent annual reporting period may also reflect increased findings of no stormwater exposures and diminished site risk.

ROWD Commitment:

- Develop a more detailed prioritization process to improve standardized reporting and to support re-direction of inspection resources to significant sources of priority constituents of concern

Inspection: The Permittees generally conduct two types of inspections: compliance inspections and follow-up inspections. Should an inspected site demonstrate non-compliance, inspection frequency must be increased as specified in the Permits until compliance is achieved. Although these inspections are generally viewed as beneficial, there is a regulatory agency perception (highlighted in meetings with Regional Board staff) that the inspections may be missing key items of concern and discouraging findings of non-compliance which add to the inspection burden by requiring additional follow-up activity.

Headline Indicator - Number of BMPs Implemented (Industrial Facilities): For 2004-05, 2,706 industrial facilities were reported to have BMP implementation, 68% of which have full BMP implementation; for 2003-04, 4,029 industrial facilities were reported to have BMP implementation, 59% of which have full BMP implementation; and for 2002-03, 1,026 industrial facilities were reported to have BMP implementation, 53% of which have full BMP implementation (**Table 9.6; Figure 9.3**).

Level 1: Implement Program

Level 3: Behavior Change

Headline Indicator - Number of BMPs Implemented (Commercial Facilities): For 2004-05, 5,566 commercial facilities were reported to have BMP implementation, 59% of which have full BMP implementation; for 2003-04, 8,484 commercial facilities were reported to have BMP implementation, 77% of which have full BMP implementation; and for 2002-03, 1,389 commercial facilities were reported to have BMP implementation, 63% of which have full BMP implementation (**Table 9.7; Figure 9.4**).

Level 1: Implement Program

Level 3: Behavior Change

It is also proving difficult for the inspectors to categorize BMP implementation at commercial and industrial sites along a three-point scale (fully, partially, or not implemented) because such a scale requires overly subjective determinations. Lastly, the requirement for follow-up inspections of all non-compliant sites every month is perceived to be excessive due to the already large number of sites in many cities' inventories.

ROWD Commitment:

- Develop effective alternative to re-inspection such as self-certification.

Headline Indicator – Food Facility Inspections: For the 2004-05 reporting period, 25,078 food facility inspections were conducted and 1,416 were reported to have NPDES issues (**Table 9.3**). For the 2003-04 reporting period, 12,635 food facility inspections were conducted and 1,298 were reported to have NPDES issues in the six month period of program implementation.

Level 1: Implement Program

Level 3: Behavior Change

The 2003-04 comparison suggests that food facility inspections and the associated education and outreach efforts are having a positive impact since the incidence of NPDES issues decreases from 1 in 10 inspections to 1 in 17 inspections .

Enforcement: Permittees are required to use a progressive enforcement approach and initiate enforcement actions where commercial and industrial facilities are found to be out of compliance. In general, specific facilities that are repeat offenders are identified through active database inventories and, in most cases, progressive enforcement is used to bring repeat offenders into compliance.

Headline Indicator – Number and Level of Enforcement Actions (Industrial Facilities): The Permittees reported a total of 371 enforcement actions against industrial facilities during the 2004-05 reporting period, 3,146 during the 2003-04 reporting period, and 533 during the 2002-03 reporting period (**Table 9.8**). The 2004-05 figure represents an 89% decrease from the total reported in 2003-04.

Level 1: Implement Program

Level 3: Behavior Change

Headline Indicator – Number and Level of Enforcement Actions (Commercial Facilities): The Permittees reported a total of 1,192 enforcement actions against commercial facilities during the 2004-05 reporting period, 1,534 during the 2003-04 reporting period, and 490 during the 2002-03 reporting period (**Table 9.9**). The 2004-05 figure represents a 22% decrease from the total reported in 2003-04.

Level 1: Implement Program

Level 3: Behavior Change

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The 2003-04 comparison suggests some inconsistent reporting (e.g. Newport Beach, which compiled enforcement activity data in 2004-05 Unified Report, Section 2.10.0). However, the consistent pattern of reduced enforcement activity in the most recent reporting period across the Construction, Existing Development, and Illegal Discharges/Illicit Connections areas of the Program also suggests an increased level of compliance, also viewed as behavior change, by the regulated community.

Training: The Permits require that staff is adequately trained. In response, the Permittees developed several training modules, which are provided annually throughout the year. The training that has taken place has been deemed helpful. However, the training modules need to be updated frequently enough to keep pace with the developments in the field of stormwater management, maintain staff interest, and to provide inspectors with a technical understanding of a broad array of BMPs that can be shared with facility owner/operators.

ROWD Commitment:

- Prepare defined expertise and competencies for authorized inspector positions and develop a training schedule to meet these requirements

9.3.2 Model Residential Program

The Residential Model Program was developed to fulfill the residential activity and related commitments and requirements of Section F.3.d of the SDR Permit. The Common Interest Areas/Homeowners Associations (CIA/HOA) Activities Program was developed to fulfill the existing CIA/HOA activity commitments and requirements of Section F.6 of the SDR Permit.

Identification and Inventory: The SDR Permittees are required to identify high priority areas and activities as defined in the Permit. CIAs are considered to include high-priority areas and activities.

BMP Implementation: The SDR Permittees are required to identify minimum BMPs for high-priority areas and activities and, as necessary, additional controls. Some Permittees use a baseline BMP implementation approach for Residential areas and CIAs/HOAs unless inspectors notice a specific concern.

Enforcement and Reporting: SDR Permittees are required to enforce their stormwater ordinances for all residential areas and activities as necessary to maintain Permit compliance. The primary issue with residential areas and CIAs/HOAs concerns over irrigation. Enforcement actions taken against CIAs/HOAs include letters or notices, which generally leads to resolution of the issues. Some Permittees have reported some limited success using self certifications as a tool for effective implementation of the program within residential and CIA/HOA areas.

9.4 Summary

The Third Term Permits have required the Permittees to develop and implement a formal inspection program commencing with an initial inventory of potentially 30,000 facilities being subject to municipal oversight for stormwater and urban runoff issues. Over the first three years of this effort, there has been a clear trend in the level of inspection and enforcement activity that, despite some uncertainties with respect to reporting, suggests increased BMP implementation and compliance with local water quality ordinances by the existing industrial and commercial sector in Orange County. Based upon perceived positive outcomes of the Existing Development elements of the DAMP, the Permittees are proposing minor program modifications based upon the need for the continued training of inspectors and the sensitizing of the prioritization and inspection process toward a more effective risk-based approach.

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Table 9.1: Countywide Permittees' Industrial Inventory and Prioritization, Comparison of 2002-03, 2003-04 and 2004-05

PERMITTEE	HIGH 2002-03	HIGH 2003-04	HIGH 2004-05	MEDIUM 2002-03	MEDIUM 2003-04	MEDIUM 2004-05	LOW 2002-03	LOW 2003-04	LOW 2004-05	TOTAL 2002-03	TOTAL 2003-04	TOTAL 2004-05
Aliso Viejo	2	2	2	65	65	42	0	0	0	67	67	44
Anaheim	129	115	93	419	45	0	868	1,126	299	1,416	1,286	392
Brea	11	14	13	32	28	27	167	137	111	210	179	151
Buena Park	24	184	115	52	18	17	0	17	27	76	219	159
Costa Mesa	489	287	13	329	475	2	0	40	128	818	802	143
Cypress	2	4	0	5	2	0	34	38	0	41	44	0
Dana Point	NA	0	0	NA	0	0	NA	0	0	NA	0	0
Fountain Valley	4	44	4	0	0	48	32	0	0	36	44	52
Fullerton	36	38	37	23	23	0	554	344	0	613	405	37
Garden Grove	25	41	30	35	51	11	310	296	25	370	388	66
Huntington Beach	30	25	30	38	69	13	645	529	23	713	623	66
Irvine	236	3	95	98	21	0	841	520	0	1,175	544	95
La Habra	NA	65	65	NA	249	48	NA	228	59	NA	542	172
La Palma	8	5	5	2	3	5	9	11	0	19	19	10
Laguna Beach	0	0	0	28	23		35	14		63	37	0
Laguna Hills	NA	1	0	NA	0	0	NA	0	0	NA	1	0
Laguna Niguel	2	1	0	0	0	0	0	0	0	2	1	0
Laguna Woods	0	0	0	0	0	0	0	0	0	0	0	0
Lake Forest	11	11	12	0	0		0	0		11	11	12
Los Alamitos	6	7	1	71	19	27	24	96	23	101	122	51
Mission Viejo	5	4	4	30	31		56	56		91	91	4
Newport Beach	2	2	2	0	0	0	11	11	11	13	13	13
Orange	69	52	72	422	416	228	256	249	0	747	717	300
Placentia	21	16	12	18	0		6	109	40	45	125	52
R S Margarita	1	1	3	10	10	10	19	19	19	30	30	32
San Clemente	2	3	2	72	72		0	0		74	75	2
S J Capistrano	1	1	1	11	5	5	15	8	4	27	14	10
Santa Ana	102	100	82	1,266	1,031	615	0	574	5	1,368	1,705	702
Seal Beach	2	2	2	0	0	0	0	0	0	2	2	2
Stanton	NA	18	18	NA	17	15	NA	118	0	NA	153	33
Tustin	9	11	13	59	6	7	0	49	55	68	66	75
Villa Park	NA	0	0	NA	0	0	NA	0	0	NA	0	0
Westminster	10	4	4	37	18	18	34	6	6	81	28	28
Yorba Linda	29	4	7	214	206	88	0	13	2	243	223	97
County of Orange	13	16	12	13	12	9	0	0	0	26	28	21
TOTALS	1,281	1,081	749	3,349	2,915	1,235	3,916	4,608	837	8,546	8,604	2,821

NA = Not Available

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Table 9.2: Countywide Permittees' Commercial Inventory and Prioritization, Comparison of 2002-03, 2003-04 and 2004-05

PERMITTEE	HIGH 2002-03	HIGH 2003-04	HIGH 2004-05	MEDIUM 2002-03	MEDIUM 2003-04	MEDIUM 2004-05	LOW 2002-03	LOW 2003-04	LOW 2004-05	TOTAL 2002-03	TOTAL 2003-04	TOTAL 2004-05
Aliso Viejo	153	153	110	0	0		0	0		153	153	110
Anaheim	114	14	13	278	310	310	194	307	307	586	631	630
Brea	0	0	0	138	117	129	0	180	228	138	297	357
Buena Park	0	119	283	5	40	20	0	50	26	5	209	329
Costa Mesa	1,306	1,107	969	587	555	483	4,559	2,548	2,083	6,452	4,210	3,535
Cypress	0	56	2	38	162	19	39	6	203	77	224	224
Dana Point	238	205	228	0	0		0	0		238	205	228
Fountain Valley	0	112	40	0	0	77	314	139	139	314	251	256
Fullerton	7	7	126	23	23	164	639	631	116	669	661	406
Garden Grove	0	7	47	102	90	204	5,797	5,807	5,587	5,899	5,904	5,838
Huntington Beach	403	261	276	7	170	206	233	920	831	643	1,351	1,313
Irvine	0	0		105	103	148	1,040	1,038	1,132	1,145	1,141	1,280
La Habra	NA	378	414	NA	340	306	NA	177	254	NA	895	974
La Palma	0	0		17	18	12	25	30	31	42	48	43
Laguna Beach	336	356		0	2		0	7		336	365	0
Laguna Hills	NA	237	325	NA	0		NA	0		NA	237	325
Laguna Niguel	182	183	177	0	0		0	0		182	183	177
Laguna Woods	28	24	24	3	3	3	65	83	89	96	110	116
Lake Forest	10	124	150	17	68		50	182		77	374	150
Los Alamitos	NA	98		173	32		800	0		973	130	0
Mission Viejo	426	423	484	0	0		0	0		426	423	484
Newport Beach	41	41	41	40	40	40	40	40	42	121	121	123
Orange	269	0		241	311	311	54	700	725	564	1,011	1,036
Placentia	127	375		44	0		310	0	373	481	375	373
R S Margarita	126	146	141	13	0	0	377	0	438	516	146	579
San Clemente	463	688	626	0	0		0	0		463	688	626
S J Capistrano	248	316	216	0	0	277	0	0	1,401	248	316	1,894
Santa Ana	0	0		779	26	26	1	917	923	780	943	949
Seal Beach	NA	0	23	NA	183	2	NA	0	859	NA	183	884
Stanton	NA	31	31	NA	168	168	NA	476	476	NA	675	675
Tustin	1	0	1	103	104	39	0	0	40	104	104	80
Villa Park	0	0	0	0	1	1	0	6	6	0	7	7
Westminster	354	140	213	95	365	443	278	354	428	727	859	1,084
Yorba Linda	20	25	42	171	162	126	0	6	5	191	193	173
County of Orange	97	107	106	46	48	47	0	0	0	143	155	153
TOTALS	4,949	5,733	5,108	3,025	3,441	3,561	14,815	14,604	16,742	22,789	23,778	25,411

NA = Not Available

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Table 9.3: Food Facility Inspections 2003-04 and 2004-05

PERMITTEE	2003-04		2004-05	
	No. of Routine Inspections	No. of NPDES Issues	No. of Routine Inspections	No. of NPDES Issues
Aliso Viejo	116	50	218	37
Anaheim	1721	40	3,285	22
Brea	256	19	506	23
Buena Park	301	91	686	12
Costa Mesa	724	98	1,412	74
Cypress	175	12	421	0
Dana Point	186	9	374	12
Fountain Valley	313	72	545	22
Fullerton	539	46	1,054	123
Garden Grove	738	2	1,412	280
Huntington Beach	691	64	1,420	17
Irvine	718	169	1,388	52
La Habra	273	11	548	40
La Palma	42	18	118	1
Laguna Beach	203	7	382	31
Laguna Hills	149	91	332	72
Laguna Niguel	193	21	406	16
Laguna Woods	24	18	59	13
Lake Forest	307	8	547	27
Los Alamitos	98	12	193	8
Mission Viejo	325	51	591	40
Newport Beach	501	33	1,037	20
Orange	725	25	1,451	61
Placentia	185	8	386	18
Rancho Santa Margarita	95	0	179	23
San Clemente	284	5	529	7
San Juan Capistrano	1261	111	302	17
Santa Ana	141	28	2,436	145
Seal Beach	122	13	217	3
Stanton	168	20	504	1
Tustin	377	12	648	60
Villa Park	18	1	26	1
Westminster	418	123	931	96
Yorba Linda	139	4	328	23
County of Orange	109	6	207	19
Totals	12635	1298	25,078	1,416

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Table 9.4: Current and Potential Outcome Levels (Industrial/Commercial)

Industrial/Commercial Program Component	Effectiveness Assessment Outcome Levels					
	Level 1	Level 2	Level 3	Level 4	Level 5	Level 6
	Implement Program	Increase Awareness	Behavior Change	Load Reduction	Runoff Quality	Receiving Water Quality
Inventory	✓ Maintain inventory					
Prioritization	✓ Assign priorities		✓ Change in prioritization level			
Inspection	✓ Conduct and Track number of inspections		✓ # BMPs implement	^P Load reduction associated with BMPs		
Enforcement/ Reporting	✓ Conduct enforcement		✓ Extent and correction of problem level of enforcement			
Training	✓ Track number/type of training sessions	^P Surveys show improved knowledge				
<p><u>Key:</u> ✓ = Currently Achieved Outcome Level ^P = Potentially Achievable Outcome Level</p>						

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Table 9.5: Current and Potential Outcome Levels (Residential)

Residential & CIA/HOA Program Component	Effectiveness Assessment Outcome Levels					
	Level 1	Level 2	Level 3	Level 4	Level 5	Level 6
	Implement Program	Increase Awareness	Behavior Change	Load Reduction	Runoff Quality	Receiving Water Quality
Identification/Inventory	✓ Maintain inventory					
BMP Implementation	✓ Conduct Inspections	✓ BMP Implementation	✓ Track number of BMPs implemented	^P Load reduction associated with BMPs		
Enforcement/ Reporting	✓ Issue EAs	✓ Track number of EAs issued & response	^P Correction of problem			
<p><u>Key:</u> ✓ = Currently Achieved Outcome Level ^P = Potentially Achievable Outcome Level</p>						

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Table 9.6: Industrial Inventory and BMP Implementation, Comparison of 2002-03, 2003-04 and 2004-05

PERMITTEE	NUMBER OF FACILITIES WITH BMPs:												TOTAL 2002-03	TOTAL 2003-04	TOTAL 2004-05	
	FULLY Implemented	FULLY Implemented	FULLY Implemented	PARTIALLY Implemented	PARTIALLY Implemented	PARTIALLY Implemented	NO BMPs Implemented	NO BMPs Implemented	NO BMPs Implemented	Modify/Upgrade or Implement BMP's 2002-03 ^a						
	2002-03	2003-04	2004-05	2002-03	2003-04	2004-05	2002-03	2003-04	2004-05							
Aliso Viejo	2	49	31	1	15	11	0	0		1	4	64	42			
Anaheim	0	160	312	0	82	80	0	0		0	0	242	392			
Brea	NA	NA	15	NA	NA		NA	NA	10	NA	NA	NA	25			
Buena Park	NA	188	151	NA	33	102	NA	0	29	NA	NA	221	282			
Costa Mesa	142	530	115	0	168	28	0	0		193	335	698	143			
Cypress	NA	0	NA	NA	4	NA	NA	0	NA	NA	0	4	NA			
Dana Point	NA	0	NA	NA	0	NA	NA	0	NA	NA	NA	0	NA			
Fountain Valley	10	36	52	5	8		5	0		5	25	44	52			
Fullerton	36	38	34	NA	23	2	NA	344		NA	36	405	36			
Garden Grove	NA	55	28	NA	43	38	NA	3	1	NA	NA	101	67			
Huntington Bch	3	52	14	4	19	20	17	28	33	4	28	99	67			
Irvine	136	132	37	31	467	58	12	68		26	205	667	95			
La Habra	NA	8	49	NA	57	108	NA	28	15	NA	NA	93	172			
La Palma	0	NA	1	0	NA	6	0	NA	1	0	0	NA	8			
Laguna Beach	NA	21		NA	16		NA	0		NA	NA	37	0			
Laguna Hills	NA	NA	0	NA	NA	0	NA	NA	0	NA	NA	NA	0			
Laguna Niguel	3	0		0	0		0	0		0	3	0	0			
Laguna Woods	NA	0	NA	NA	0	NA	NA	0	NA	NA	0	0	NA			
Lake Forest	0	0	12	11	11		0	0		0	11	11	12			
Los Alamitos	NA	8		NA	0		NA	0		NA	0	8	0			
Mission Viejo	24	0	2	43	4	2	13	0		56	136	4	4			
Newport Beach	4	1	1	0	1	2	0	0		0	4	2	3			
Orange	NA	64	142	NA	2	149	NA	0	9	NA	NA	66	300			
Placentia	16	0	3	14	19	7	12	2	1	14	56	21	11			
R S Margarita	0	0	2	0	0	2	0	0	28	0	0	0	32			
San Clemente	NA	NA	2	NA	NA	0	NA	NA	0	NA	NA	NA	2			
S J Capistrano	1	10	8	2	4	2	0	0	0	1	4	14	10			
Santa Ana	NA	818	639	NA	132	63	NA	0		NA	NA	950	702			
Seal Beach	NA	0	1	NA	2	1	NA	0	0	NA	NA	2	2			
Stanton	NA	28	28	NA	4	58	NA	1	1	NA	NA	33	87			
Tustin	NA	17	17	NA	49		NA	0		NA	NA	66	17			
Villa Park	0	0	0	1	0	0	0	0	0	0	1	0	0			
Westminster	1	24	25	0	3	3	0	1		0	1	28	28			
Yorba Linda	166	130	94	0	0	3	1	0		1	168	130	97			
County of Orange	NA	19	16	NA	0	2	NA	0	0	NA	0	19	18			
TOTALS	544	2,388	1,831	112	1,166	747	60	475	128	301	1,017	4,029	2,706			

NA = Not Available

^a Modifications/Upgrades only applicable to 2002-03 reporting year.

SECTION 9.0, EXISTING DEVELOPMENT

Table 9.7: Commercial Inventory and BMP Implementation, Comparison of 2002-03, 2003-04 and 2004-05

PERMITTEE	Number of Facilities with BMPs:											
	FULLY Implemented 2002-03	FULLY Implemented 2003-04	FULLY Implemented 2004-05	PARTIALLY Implemented 2002-03	PARTIALLY Implemented 2003-04	PARTIALLY Implemented 2004-05	NO BMPs Implemented 2002-03	NO BMPs Implemented 2003-04	NO BMPs Implemented 2004-05	TOTAL 2002-03	TOTAL 2003-04	TOTAL 2004-05
Aliso Viejo	69	35	35	4	64	75	8	4		81	103	110
Anaheim	0	35	46	0	2	27	0	0		0	37	73
Brea	NA	0	0	NA	0	0	NA	0	0	NA	0	0
Buena Park	0	183	98	5	29	60	0	0	43	5	212	201
Costa Mesa	623	3,298	64	0	665	2	0	0		623	3,963	66
Cypress	NA	0		NA	2	2	NA	0		0	2	2
Dana Point	NA	NA	25	NA	NA	145	NA	NA	11	NA	NA	181
Fountain Valley	0	251	225	0	0		0	0		0	251	225
Fullerton	NA	0		NA	0		NA	0		NA	0	0
Garden Grove	NA	66	824	NA	29	455	NA	3	4	NA	98	1,283
Huntington Bch	9	59	26	2	108	21	11	120	34	22	287	81
Irvine	NA	DNR		NA	DNR		NA	DNR		NA	DNR	0
La Habra	NA	28	85	NA	107	111	NA	36	77	NA	171	273
La Palma	0	24	22	0	18	13	0	0		0	42	35
Laguna Beach	NA	NA		NA	NA		NA	NA		NA	NA	0
Laguna Hills	31	150	222	0	0		3	10	5	34	160	227
Laguna Niguel	0	123	27	0	15	18	0	0		0	138	45
Laguna Woods	NA	0		NA	27	28	NA	0		0	27	28
Lake Forest	0	0		77	48	19	0	0		77	48	19
Los Alamitos	NA	86		NA	12		NA	0		0	98	0
Mission Viejo	68	164	268	314	51	29	57	0		439	215	297
Newport Beach	NA	NA	6	NA	NA	6	NA	NA		NA	NA	12
Orange	NA	207	0	NA	0	0	NA	0	0	NA	207	0
Placentia	NA	0	32	9	63	32	NA	0		9	63	64
R S Margarita	0	0	64	0	0	21	0	0	482	0	0	567
San Clemente	NA	139	NA	NA	12	NA	NA	0	NA	NA	151	NA
Santa Ana	NA	818	304	NA	132	109	NA	0		NA	950	413
S J Capistrano	75	139	132	7	12	0	15	0	0	97	151	132
Seal Beach	NA	0	0	NA	122	0	NA	0	0	NA	122	0
Stanton	NA	35	35	NA	10	10	NA	3	10	NA	48	55
Tustin	NA	0	NA	NA	0	NA	NA	0	NA	NA	0	NA
Villa Park	0	0	0	0	0	0	0	0	0	0	0	0
Westminster	0	633	675	0	219	409	0	7		0	859	1,084
Yorba Linda	NA	10	27	NA	27	7	NA	0		NA	37	34
County of Orange	2	41	49	NA	3	10	NA	NA	0	2	44	59
TOTALS	877	6,524	3,291	418	1,777	1,609	94	183	666	1,389	8,484	5,566

NA = Not Available

DNR = Did Not Report

SECTION 9.0, EXISTING DEVELOPMENT

Table 9.8: Permittee Enforcement Actions for Industrial Facilities, Comparison of 2002-03, 2003-04 and 2004-05

PERMITTEE	EL 2002-03	EL 2003-04	EL 2004-05	NON 2002-03	NON 2003-04	NON 2004-05	ACO 2002-03	ACO 2003-04	ACO 2004-05	CDO 2002-03	CDO 2003-04	CDO 2004-05	M/I 2002-03	M/I 2003-04	M/I 2004-05	TOTAL 2002-03	TOTAL 2003-04	TOTAL 2004-05
Aliso Viejo	0	2	3	0	1	17	0	0	8	0	0		0	0		0	3	28
Anaheim	NA	0	0	NA	2	0	NA	1	0	NA	0	0	NA	0	0	NA	3	0
Brea	2	0	13	0	0	1	0	0		0	0		0	0		2	0	14
Buena Park	NA	0	2	NA	39	6	NA	5	13	NA	1	4	NA	0	1	NA	45	26
Costa Mesa	NA	0		NA	0		NA	0		NA	0		NA	0		NA	0	0
Cypress	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	2	0
Dana Point	NA	0	0	NA	0	0	NA	0	0	NA	0	0	NA	0	0	NA	0	0
Fountain Valley	5	393	52	0	8		0	12	1	0	6	1	0	0		5	419	54
Fullerton	36	0	NA	0	0	NA	0	0	NA	0	0	NA	0	0	NA	36	0	NA
Garden Grove	2	5	2	0	0		0	0		0	0		0	0		2	5	2
Huntington Beach	6	0		0	0	5	0	15		0	0		0	0	1	6	15	6
Irvine	NA	939	95	NA	0		NA	0		NA	0		NA	0		NA	939	95
La Habra	NA	0		NA	0	28	NA	0		NA	0		NA	0		NA	0	28
La Palma	0	19	10	0	0		0	0		0	0	1	0	0		0	19	11
Laguna Beach	NA	0		NA	0		NA	0		NA	0		NA	0		NA	0	0
Laguna Hills	NA	NA	0	NA	NA	0	NA	NA	0	NA	NA	0	NA	NA	0	NA	NA	0
Laguna Niguel	0	0		0	0		0	0	0	0	0		0	0		0	0	0
Laguna Woods	0	0	NA	0	0	NA	0	0	NA	0	0	NA	0	0	NA	0	0	NA
Lake Forest	11	0	0	0	0	0	0	0	0	0	0	0	0	0	0	11	0	0
Los Alamitos	NA	0		NA	0		NA	0		NA	0		NA	0		NA	0	0
Mission Viejo^	NA	0		NA	103		NA	0		NA	0		NA	0		NA	103	0
Newport Beach	6	8	2	250	618	0	200	315	0	0	0	0	0	550	0	456	1491	2
Orange	NA	66	0	NA	4	1	NA	0	0	NA	0	0	NA	0	0	NA	70	1
Placentia	7	7	10	0	0		0	0		0	0		0	0		7	7	10
R S Margarita	0	0	2	0	0		0	0		0	0		0	0		0	0	2
San Clemente	NA	7	0	NA	2	0	NA	2	0	NA	0	0	NA	0	0	NA	11	0
S J Capistrano	1	14	10	1	0	2	0	0	0	0	0	0	0	0	0	2	14	12
Santa Ana	NA	0	1	NA	0	2	NA	0		NA	0		NA	0		NA	0	3
Seal Beach	NA	NA	5	NA	NA	0	NA	NA	0	NA	NA	0	NA	NA	0	NA	NA	5
Stanton	DNR	NA		NA	NA		NA	NA		NA	NA		NA	NA		NA	NA	0
Tustin	NA	0	0	NA	0	0	NA	0	0	NA	0	0	NA	0	0	NA	0	0
Villa Park	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Westminster	0	0	9	5	0	4	0	0		0	0		0	0		5	5	13
Yorba Linda	0	0	59	1	0	0	0	0	0	0	0	0	0	0	0	1	0	59
County of Orange	NA	0	0	NA	0	0	NA	0	0	NA	0	0	NA	0	0	NA	0	0
TOTALS	76	1,460	275	257	779	66	200	350	22	0	7	6	0	550	2	533	3,151	371

NA = Not Available EL = Educational Letter ACO = Administrative Compliance Order M/I = Misdemeanor/Infraction
DNR = Did Not Report NON = Notice of Non-Compliance CDO = Cease and Desist Order

^ Enforcement actions against industrial facilities are included with commercial facilities.

SECTION 9.0, EXISTING DEVELOPMENT

Table 9.9: Permittee Enforcement Actions for Commercial Facilities, Comparison of 2002-03, 2003-04, and 2004-05

PERMITTEE	EL 2002-03	EL 2003-04	EL 2004-05	NON 2002-03	NON 2003-04	NON 2004-05	ACO 2002-03	ACO 2003-04	ACO 2004-05	CDO 2002-03	CDO 2003-04	CDO 2004-05	M/I 2002-03	M/I 2003-04	M/I 2004-05	TOTAL 2002-03	TOTAL 2003-04	TOTAL 2004-05
Aliso Viejo	70	3	4	0	0	4	2	13	2	0	0	2	0	0	1	72	16	13
Anaheim	NA	0		NA	0	0	NA	0	0	NA	0	0	NA	0	0	NA	0	0
Brea	NA	4	3	NA	1		NA	0		NA	0		NA	0		NA	5	3
Buena Park	5	0		0	87	16	0	19	33	0	4	16	0	0	4	5	110	69
Costa Mesa	2	10	6	3	3	67	0	10		0	0		0	0		5	23	73
Cypress	2	0		4	2		0	0		0	0		0	0		6	2	0
Dana Point	13	14	57	41	19	3	1	0	1	0	0		1	0	1	56	33	62
Fountain Valley	6	251	256	6	2	4	21	3	7	5	1	2	0	0		38	257	269
Fullerton	NA	0	NA	NA	0	NA	NA	0	NA	NA	0	NA	NA	0	NA	NA	0	NA
Garden Grove	5	37	5	2	8	1	0	0		0	0		0	0		7	45	6
Huntington Beach	16	0		3	10	13	0	80		1	0		0	0	5	20	90	18
Irvine	NA	NA		NA	NA		NA	NA		NA	NA		NA	NA		NA	NA	0
La Habra	NA	0		NA	0	25	NA	0	1	NA	0		NA	0		NA	0	26
La Palma	0	0	15	0	0		0	0		0	0		0	0		0	0	15
Laguna Beach	NA	0		NA	0		NA	0	2	NA	0		NA	0		NA	0	2
Laguna Hills	NA	11	6	NA	9	4	NA	1		NA	0		NA	0		NA	20	10
Laguna Niguel	0	127		1	15	32	0	0		0	0		0	0		1	142	32
Laguna Woods	3	0	15	4	0	18	1	0	10	0	0		0	0		8	0	43
Lake Forest	77	1		1	14	12	0	0		0	0	1	0	0		78	15	13
Los Alamitos	NA	0		NA	0		NA	0		NA	0		NA	0		NA	0	0
Mission Viejo	118	0	2	20	103	16	0	0	17	1	0	0	0	0	2	139	103	37
Newport Beach	NA	NA	2	NA	NA		NA	NA		NA	NA		NA	NA		NA	NA	2
Orange	NA	269	0	NA	13	0	NA	0	0	NA	0	0	NA	0	0	NA	283	0
Placentia	10	30	64	0	0	13	1	0	1	2	0	1	0	0	1	13	30	80
R S Margarita	10	0	32	0	0	7	0	0		0	0		0	0		10	0	39
San Clemente	NA	187	91	NA	82	63	NA	15		NA	2		NA	7	24	NA	293	178
S J Capistrano	25	10	150	7	2	5	0	0	0	0	0	0	0	0	0	32	12	155
Santa Ana	NA	0	1	NA	3	18	NA	0	1	NA	0		NA	0		NA	3	20
Seal Beach	NA	0	0	NA	0	0	NA	0	0	NA	0	0	NA	0	0	NA	0	0
Stanton	DNR	DNR		DNR	DNR		DNR	DNR		DNR	DNR		DNR	DNR		NA	DNR	0
Tustin	NA	0	0	NA	0	0	NA	0	0	NA	0	0	NA	0	0	NA	0	0
Villa Park	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Westminster	0	0	2	0	2	3	0	0		0	0		0	0		0	2	5
Yorba Linda	0	45	19	0	1	0	0	0	0	0	0	0	0	0	0	0	46	19
County of Orange	NA	0	0	NA	4	3	NA	0	0	NA	0	0	NA	0	0	NA	4	3
TOTALS	362	999	730	92	380	327	26	141	75	9	7	22	1	7	38	490	1,534	1,192

NA = Not Available EL = Educational Letter ACO = Administrative Compliance Order M/I = Misdemeanor/Infraction
DNR = Did Not Report NON = Notice of Non-Compliance CDO = Cease and Desist Order

Figure 9.1: Countywide Permittees' Industrial Inventory and Prioritization, Comparison of 2002-03, 2003-04 and 2004-05

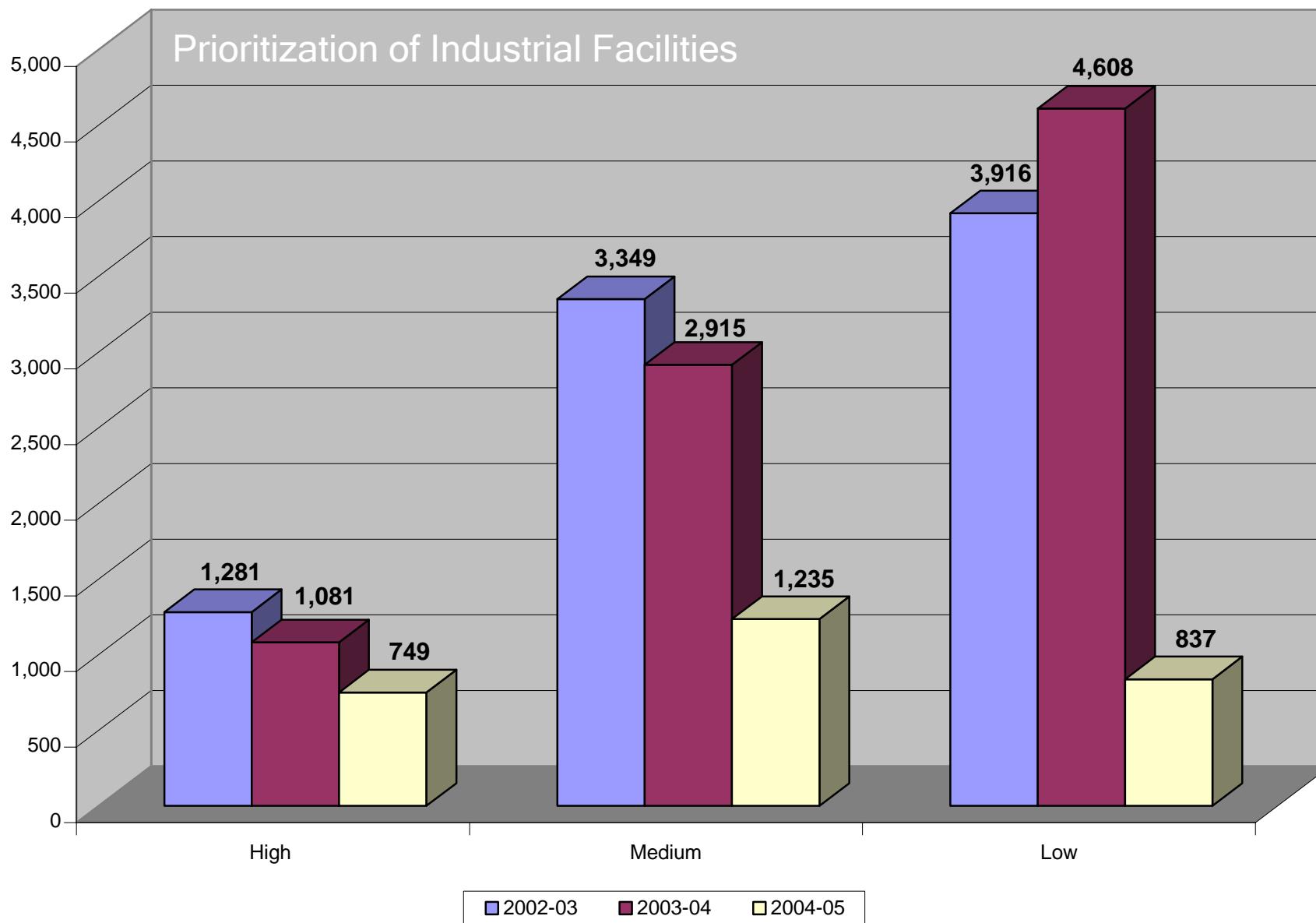


Figure 9.2: Countywide Permittees' Commercial Inventory and Prioritization, Comparison of 2002-03, 2003-04 and 2004-05

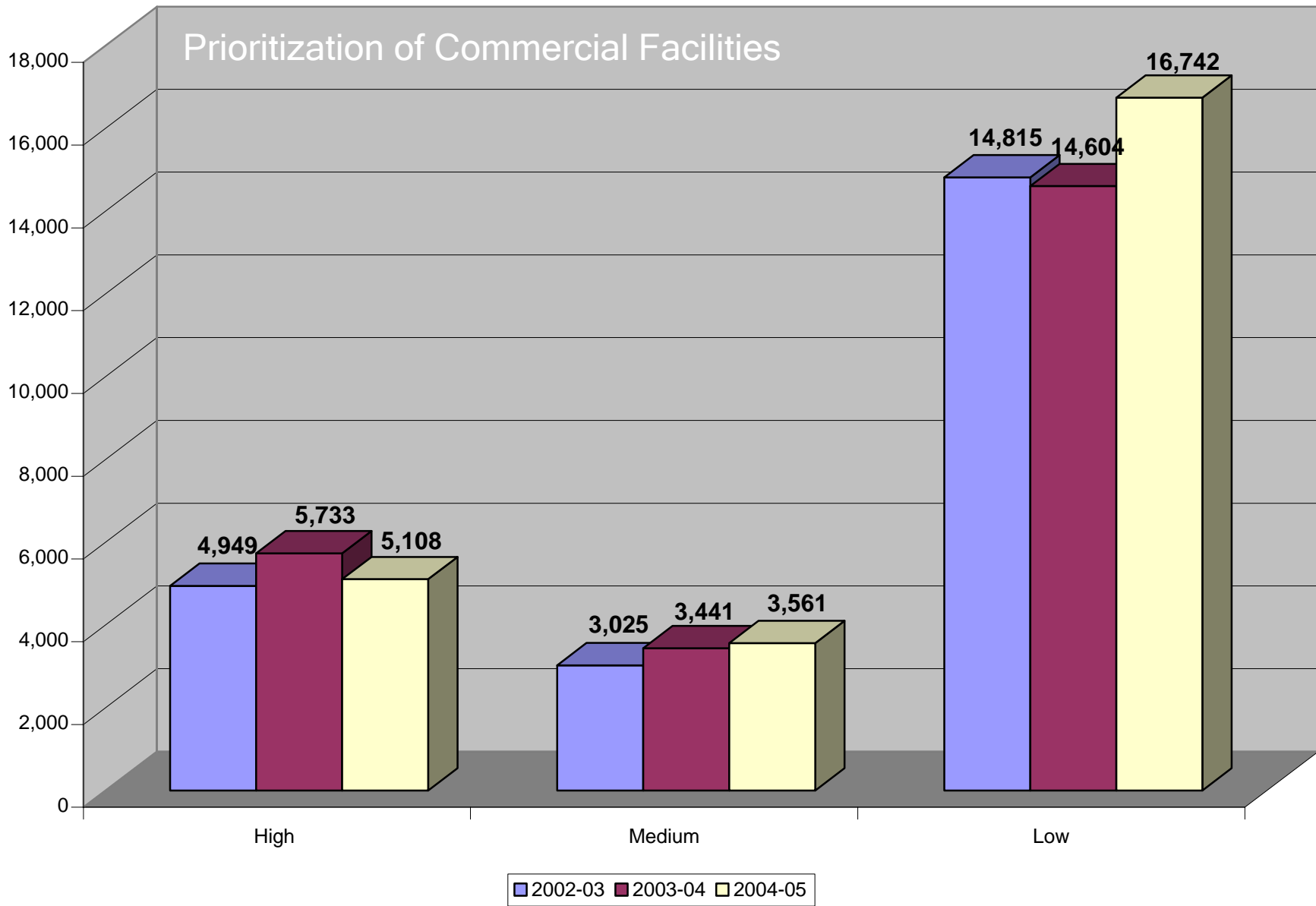


Figure 9.3: Industrial Inventory and BMP Implementation, Comparison of 2002-03, 2003-04 and 2004-05

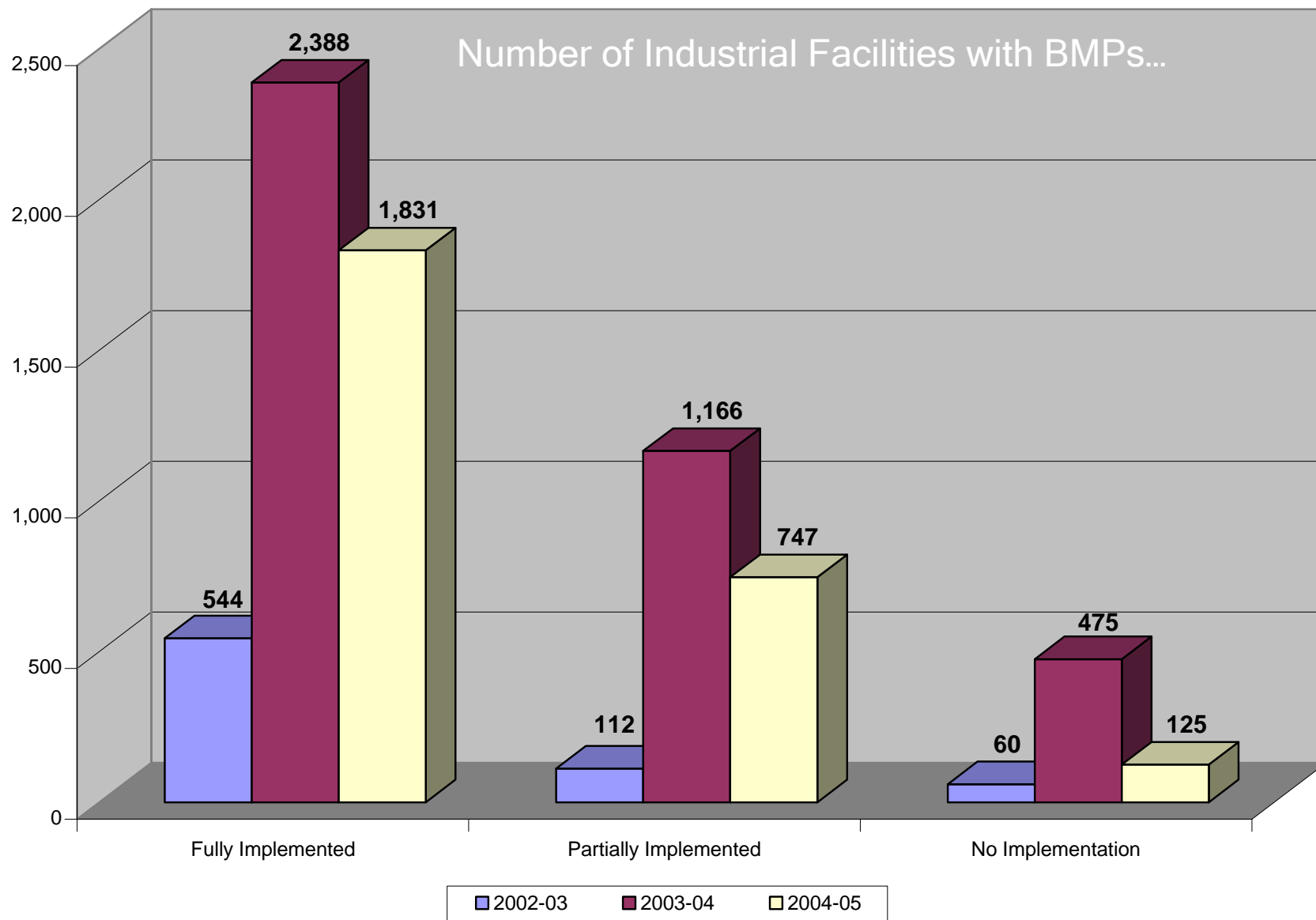
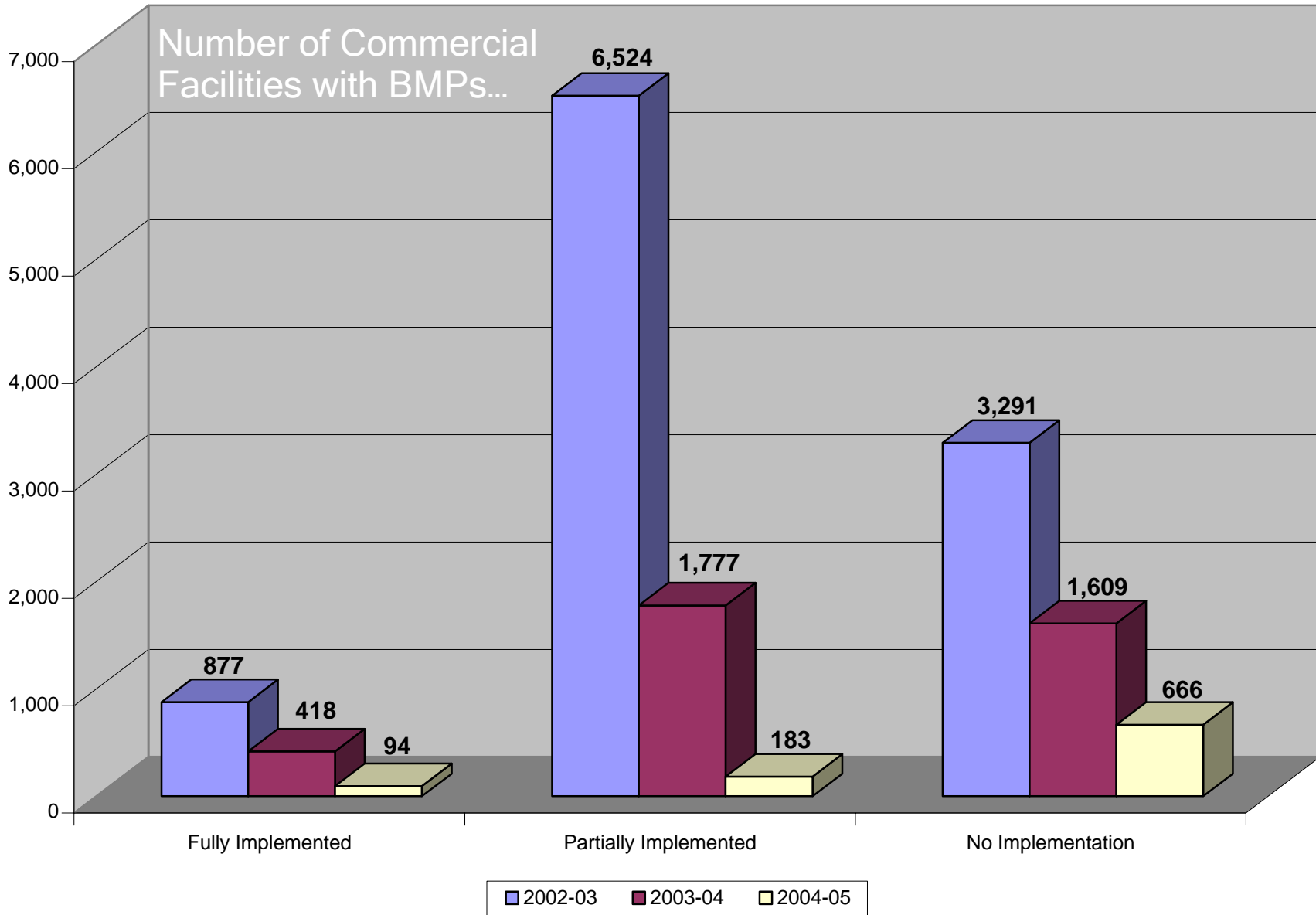


Figure 9.4: Commercial Inventory and BMP Implementation, Comparison of 2002-03, 2003-04 and 2004-05



10.0 ILLEGAL DISCHARGES/ILLICIT CONNECTIONS

10.1 Introduction

Illegal discharges/illicit connections (ID/IC) are potential sources of pollutants within municipal storm drain systems. The purpose of **DAMP Section 10.0** is to ensure that the Permittees have a programmatic framework for detecting and quickly responding to non-stormwater discharges to their storm drain systems. Since **DAMP Section 10.0** directly addresses one of the basic objectives of the NPDES Permits, it is a long-established part of the Program. With the Third Term Permits, the key elements of ID/IC have been significantly enhanced. In addition, a model sewage spill response program has been developed and has begun to be implemented in conjunction with OCSD.

10.2 Accomplishments

10.2.1 Illegal Discharges/Illicit Connections Program

The ID/IC Program provides guidance for Permittees when identifying, responding to and mitigating the effects of non-stormwater discharges and enforcing the ID/IC component of the Program for the protection of the environment. **DAMP Section 10.0** requires the Permittees to:

- Detect illegal discharges and illicit connections

A innovative Dry Weather Reconnaissance Program, based upon statistically derived benchmarks, was developed and implemented in both permit regions specifically to identify illegal discharges and illicit connections during the typically dry summer months of May through September using a suite of water quality analyses conducted in the field at designated random and targeted drains. The 2004-05 reporting period marked the third season of dry weather monitoring in the San Diego Region. With the approval of the Santa Ana Monitoring Program in July of 2005 by the Executive Officer of the Santa Ana Regional Board, dry weather monitoring in the Santa Ana Region commenced in May of 2006.

- Facilitate Public Reporting

Telephone and web-based reporting systems for the general public have been established and are advertised in the Stormwater Program's public education materials, Orange County "White Pages" telephone directories, and Permittee websites. A total of 3,408 complaints were received during the 2004-05 reporting period.

- Investigate

Each Permittee has designated Authorized Inspectors to investigate compliance with, detect violations of, and take actions pursuant to their Water Quality

SECTION 10.0, ILLEGAL DISCHARGES/ILLICIT CONNECTIONS

Ordinance. During the 2004-05 reporting period, the Permittees encountered and sought to mitigate discharges involving hydrocarbons (296 incidents), inorganic materials (264 incidents), metals (6 incidents), nutrients (43 incidents), 73 organic materials (73 incidents), discharge exceptions (133 incidents), pathogens (156 incidents), wastewater (624 incidents), pesticides (2 incidents), sediment (680 incidents), trash and debris (376 incidents), and 716 incidents involving miscellaneous types of materials for a total 3,369 incidents.

- Enforce

Enforcement actions are undertaken according to the adopted Water Quality Ordinances and accompanying Enforcement Consistency Guide. The Permittees reported a total of 3,528 enforcement actions, associated with ID/IC investigations during the 2004-05 reporting period.

- Undertake Training

To assist responsible municipal staff in understanding the Illegal Discharges/Illicit Connections Program, 10 training modules have been developed:

- 1) Program Management Training - Introductory
- 2) Program Management Training - Experienced
- 3) Authorized Inspector Training¹
- 4) Authorized Inspector Training - Introductory
- 5) Authorized Inspector - Field Implementation
- 6) Sewage Spill Response Training
- 7) Sewage Spill Response Training - Introductory
- 8) "Hands-On" Sewage Spill Response Training - Experienced
- 9) Fire Department Activities Training
- 10) Investigative Guidance Manual Training

In addition to the training modules, the Inspection Sub-Committee also provided training on various subjects relevant to the ID/IC program. This sub-committee meets bi-monthly to provide training to municipal inspectors and Authorized Inspectors in issues related to spill response, inspection and enforcement. In addition, this meeting serves as a forum for the coordination and discussion of ongoing difficult or new enforcement, investigation, or enforcement issues and to profile cases or incidents.

10.2.2 Model Sewage Spill Response Procedures

During the Third Permit term, the County and OCS D developed and implemented a coordinated sewage spill prevention and response demonstration project (The "Tustin

¹ This module was modified in the 2004-05 reporting period and divided into two modules, 1) Introductory and 2) Field Implementation.

Area Spill Control (TASC) Demonstration Project”). The TASC includes: 1) Development of sanitary sewer overflow (SSO) response procedures; 2) Selection of primary and backup sewage spill response contractors for containment and recovery of SSOs; and 3) SSO hands-on field response training for Permittee staff and municipal sewerage agency staff.

The TASC model program is currently in use in a limited portion of the County, however; one of the goals for TASC is to gradually phase the implementation of the project throughout the County so that the proactive interagency planning and coordination for sewage spill response can be implemented and/or improved in other watersheds

10.3 Assessment

The current and potential Program Effectiveness Assessment Outcome Levels that could be assessed within the current program are summarized in **Table 10-1**.

10.3.1 Illegal Discharges/Illicit Connections Program

Detection: The San Diego Dry Weather Monitoring Program has been conducted over 3 summers. Over this period there have been 585 site visits to 67 locations comprising 3 visits to the random sites and five visits to the targeted sites each season. Investigations, prompted by findings of elevated contaminant concentrations, were triggered on 18 occasions. These results show that approximately 25% of the 67 monitoring sites have exhibited evidence of contamination in dry weather flow at levels significantly above background levels.

The approval of the Santa Ana Monitoring Program (including the Dry Weather Reconnaissance Program) in July of 2005 by the Executive Officer of the Santa Ana Regional Board meant that the dry weather monitoring in the Santa Ana Region commenced in May of 2006. The 2006-07 Unified Report will present the first opportunity to review the effectiveness of this monitoring effort through comparison of the North and South County efforts.

Reporting: RWQCB staff have acknowledged that the Permittees’ field inspectors are trained to detect illegal discharges as part of their daily activities and, indeed, the majority of illegal discharges are detected by Permittee staff. The RWQCB staff also has noted that most Permittees have hotline numbers to receive water pollution complaints and incident information from the public and use database software to document the reported incidents which assists with the tracking of water pollution complaints by source. These RWQCB staff findings point to the overall robustness of the Permittees’ efforts to facilitate reporting.

Headline Indicator - Number of Complaints: The Permittees reported a total of 3,408 complaints/incidents during the 2004-05 reporting period. This total represents an 11% decrease from 2003-04 (3,837 complaints), and a 110% increase from 2002-03 (1,621 complaints) (**Table 10.2; Figure 10.1**).

Level 1: Implement Program

Level 3: Behavior Change

While the year-to-year comparison suggests some inconsistent reporting of this indicator, the overall pattern of a peak in the 2003-4 period (which is reproduced across other metrics) tends to suggest the positive impact of the Program (i.e. that there has been an overall reduction in the number of incidents and thereby a commensurate decline in the number of complaints). The increasing use of the “hotline” appears to indicate increasing awareness regarding this reporting mechanism.

Enforcement: Enforcement actions are undertaken according to the adopted Water Quality Ordinance and accompanying Enforcement Consistency Guide. In instances of noncompliance, the Permittee may adopt one of four types of remedies, including educational letters, administrative remedies, criminal remedies, or other civil or criminal remedies, as appropriate.

Headline Indicator - Number and Level of Enforcement Actions: The Permittees reported a total of 3,528 enforcement actions during the 2004-05 reporting period (**Table 10.3; Figure 10.2**). This represents an 18.9% decrease from the total reported in 2003-04 (4,351 enforcement actions), and an increase of 63% from the total reported 2002-03 (2,167 enforcement actions).

Level 1: Implement Program

Level 3: Behavior Change

The pattern in the number of enforcement arising from ID/IC investigations follows the pattern observed in other metrics of a peak of activity in the 2003-04 reporting period. An increase in the use of citations over the Third Term permit term is one feature of the changing approach to enforcement representing a shift from the prior educational emphasis.

Training: The Permits require that staff be adequately trained. In response, the Permittees developed a number of training modules (as outlined in 10.2.1) that are offered by the County throughout the year. Although the Permittees stated that the training has been helpful, they noted that the modules need to be updated and that new training topics and more advanced training are desired.

ROWD Commitment:

- Prepare a defined expertise and competencies for Authorized Inspector positions and develop a training program to meet these requirements.

10.3.2 Model Sewage Spill Response Procedures

The 2006-07 Unified Report will present the first opportunity to review the effectiveness of initial implementation of the TASC model program. Based on field experience on actual spills, the intent is to expand the geographical implementation of the program, initially with the area coincident with the boundaries of OCSD.

10.4 Summary

The Permittees' program for responding to complaints regarding ID/IC is a long established element of the Program. The major efforts regarding this element over the period of the Third Term Permits relate to the Dry Weather Reconnaissance Program, the continued facilitation of public reporting of complaints, the designation and training of designated Authorized Inspectors, and the development of TASC.

The incidence of complaints appears to have peaked in the 2003-04 reporting period and subsequently declined, which suggest a positive overall Program impact. Based primarily upon the interest of the Permittees and of RWQCB staff, the sole commitment arising out of the effectiveness assessment is for the development of defined experience and competencies for Authorized Inspector positions and development of a training program to meet these requirements.

SECTION 10.0, ILLEGAL DISCHARGES/ILLICIT CONNECTIONS

Table 10.1: Current Outcome Levels and Suggested Actions or Outcomes to Achieve Potential Outcome Levels

ID/IC Program Component	Effectiveness Assessment Outcome Levels					
	Level 1	Level 2	Level 3	Level 4	Level 5	Level 6
	Implement Program	Increase Awareness	Behavior Change	Load Reduction	Runoff Quality	Receiving Water Quality
Detection of ID/IC	✓ Identify ID/IC	✓ Track number of complaints by source, facility type, or pollutant	✓ Reduced occurrences of ID/IC			
Enforcement	✓ Issue EAs	✓ Track number of Enforcement Actions	✓ Track number and type of Enforcement Actions	^P Discharge is eliminated	^P Change in runoff quality	
Training	✓ Track # and type of training	^P Surveys				
<p><u>Key:</u> ✓ = Currently Achieved Outcome Level ^P = Potentially Achievable Outcome Level</p>						

SECTION 10.0, ILLEGAL DISCHARGES/ILLICIT CONNECTIONS

Table 10.2: Source of Complaints/Incidents, Comparison of 2002-03, 2003-04, and 2004-05

PERMITTEE	City Staff	City Staff	City Staff	Other	Other	Other	Hotline	Hotline	Hotline	Public	Public	Public	Busin-	Busin-	Busin-	Other	Other	Other	TOTAL	TOTAL	TOTAL
	2002-03	2003-04	2004-05	2002-03	2003-04	2004-05	2002-03	2003-04	2004-05	2002-03	2003-04	2004-05	2002-03	2003-04	2004-05	2002-03	2003-04	2004-05	2002-03	2003-04	2004-05
Aliso Viejo	21	38	11	2	3	2	6	4	7	2	12	15	4	3	2	0	0	0	35	60	37
Anaheim	34	117	156	3	45	2	0	95	56	19	0		0	26	13	0	0	0	56	283	227
Brea	NA	3	8	NA	1	20	NA	0	10	NA	0	16	NA	0		NA	0		NA	4	54
Buena Park	5	8	24	1	5	3	0	0	0	4	28	35	0	0	1	0	0	0	10	41	63
Costa Mesa	2	21		0	0	14	10	0		286	27	18	70	14		10	90		378	152	32
Cypress	5	18	14	0	2	3	11	0	7	1	10	7	0	3	4	0	0	0	17	33	35
Dana Point	NA	2	24	NA	13	7	NA	2	6	NA	12	33	NA	0	3	NA	6		NA	35	73
Fountain Valley	29	50	47	5	2	2	16	6	11	8	1	2	0	0		0	0		58	59	62
Fullerton	51	43	1	0	0		0	0		26	30	2	0	0		0	0		77	73	3
Garden Grove	26	15	208	2	5	41	4	10	2	19	84	89	3	6	12	0	0		54	120	352
Huntington Bch	108	387	140	9	11	10	9	0	0	323	51	59	9	1	1	0	0	0	458	450	210
Irvine	32	61	49	4	96	79	0	0	0	33	31	64	0	0	0	0	0		69	188	192
La Habra	0	6	32	0	0	1	0	0		21	19		0	0		0	0		21	25	33
La Palma	27	69	53	1	0	0	1	2	0	4	25	13	0	0	1	0	0	0	33	96	67
Laguna Beach	25	25	23	4	13	13	56	66	55	0	0	0	0	0	0	0	0	0	85	104	91
Laguna Hills	7	11	20	0	1	2	0	1	0	7	0	0	1	0	0	0	0	0	15	13	22
Laguna Niguel	NA	18	14	NA	1	6	NA	2	3	NA	10	2	NA	0	1	NA	0	0	NA	31	26
Laguna Woods	12	13	84	6	1	8	0	0	0	22	65	18	0	3	10	0	0	0	40	82	120
Lake Forest	2	27	35	4	6	16	0	3	3	11	16	44	0	2	7	0	0	0	17	54	105
Los Alamitos	0	0	0	1	12		0	3	0	2	0	0	0	0	0	0	0		3	15	0
Mission Viejo	NA	NA	0	NA	NA	0	NA	NA	0	NA	NA	111	NA	NA	0	NA	NA	0	NA	NA	111
Newport Beach	NA	NA	100	NA	NA	5	NA	NA	30	NA	NA	60	NA	NA	10	NA	NA	95	NA	NA	300
Orange	17	76	35	0	6	3	0	0	257	0	59	0	1	9	0	0	0	0	18	150	295
Placentia	9	58	50	0	1	1	0	1	1	5	13	24	0	0	2	0	0	69	14	73	147
R S Margarita	0	4	11	0	1	18	0	5	4	7	3	12	3	0	1	0	0	0	10	13	46
San Clemente	NA	581	NA	NA	6	NA	NA	0	NA	NA	92	NA	NA	0	NA	NA	0	NA	NA	679	NA
S J Capistrano	12	7	8	1	2	1	4	9	10	17	13	26	0	1	1	0	0		34	32	46
Santa Ana	7	6	37	6	7	7	0	0		7	3	6	0	0	2	0	0		20	16	52
Seal Beach	NA	NA	17	NA	NA		NA	NA		NA	NA	14	NA	NA		NA	NA		NA	NA	31
Stanton	NA	0	0	NA	8	0	NA	0		NA	40		NA	2		NA	0		NA	50	0
Tustin	9	19	37	0	0	0	0	0	0	4	8	9	1	0	0	13	0	0	27	27	46
Villa Park	NA	4	5	NA	0	0	NA	0	0	NA	6	10	NA	0	0	NA	0	0	NA	10	15
Westminster	0	26	18	8	8	3	0	19	7	0	65	21	0	33	3	0	0	0	8	151	52
Yorba Linda	6	23	5	1	1	0	0	0	0	23	26	13	0	1	0	0	0	1	30	51	19
County of Orange	12	494	273	1	40	24	4	15	94	17	85	53	0	25	0	0	8	0	34	667	444
TOTALS	458	2,230	1,539	59	297	291	121	243	563	868	834	776	92	129	74	23	104	165	1,621	3,837	3,408

NA = Not Available

SECTION 10.0, ILLEGAL DISCHARGES/ILLICIT CONNECTIONS

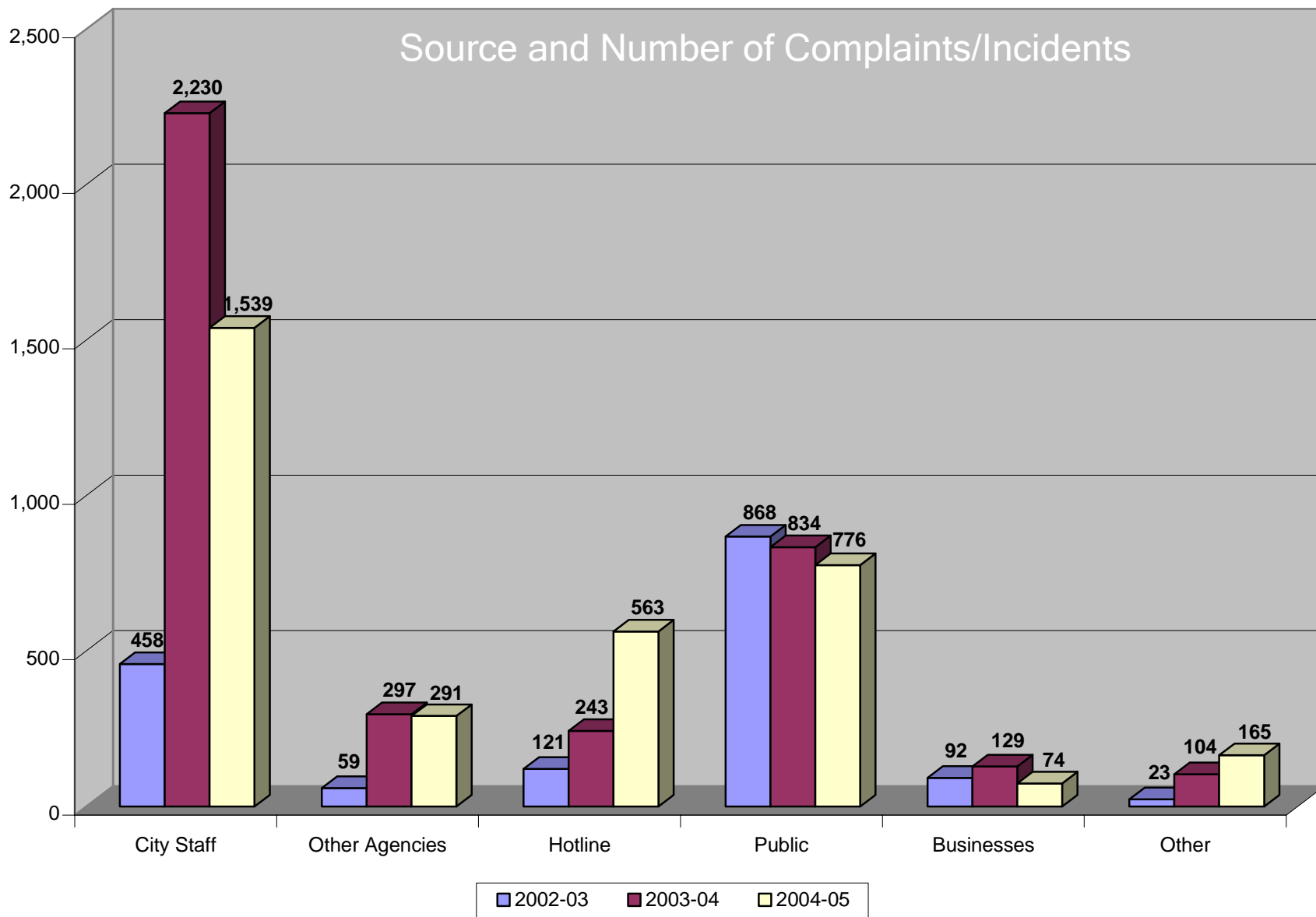
Table 10.3: Permittee Enforcement Actions, Comparison of 2002-03, 2003-04 and 2004-05

Permittee	EL	EL	EL	NON	NON	NON	ACO	ACO	ACO	CDO	CDO	CDO	Mis	Mis	Mis	Inf	Inf	Inf	IOC	IOC	IOC	Other	Other	Other	TOTAL	TOTAL	TOTAL
	02-03	03-04	04-05	02-03	03-04	04-05	02-03	03-04	04-05	02-03	03-04	04-05	02-03	03-04	04-05	02-03	03-04	04-05	02-03	03-04	04-05	02-03	03-04	04-05	02-03	03-04	04-05
Aliso Viejo	0	3	7	27	4	19	0	0	1	0	17	2	0	0	0	0	0	0	4	38	79	3	0	0	34	62	108
Anaheim	0	1	13	20	39	34	11	39	28	1	0	0	2	0	0	0	0	0	0	0	0	1	0	0	35	79	75
Brea	0	11	6	2	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	2	3	13	8
Buena Park	8	5	2	0	10	21	0	16	47	0	0	20	0	0	0	0	0	0	0	0	6	0	0	0	8	31	96
Costa Mesa	22	9	7	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	2	14	2	0	0	0	24	26	9
Cypress	5	10	3	10	21	25	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	7	17	31	35
Dana Point	NA	14	24	NA	19	12	NA	0	9	NA	0	1	NA	0	0	NA	0	0	NA	0	1	NA	0	18	NA	33	65
Fountain Valley	12	391	71	4	8	6	21	12	15	6	6	9	0	0	0	0	0	0	0	0	0	40	0	50	83	417	151
Fullerton	0	0	NA	23	59	NA	5	0	NA	0	0	NA	0	0	NA	0	14	NA	26	0	NA	0	0	NA	54	73	NA
Garden Grove	21	19	75	2	11	39	0	0	0	0	1	0	0	1	0	0	0	0	0	0	1	0	0	0	23	32	115
Huntington Bch	60	61	96	54	47	127	5	5	0	1	0	0	0	0	0	0	0	0	0	0	30	0	0	2	120	113	255
Irvine	32	14	0	0	88	0	24	33	0	0	0	0	0	0	0	0	0	0	0	0	0	14	5	0	70	140	0
La Habra	0	0	0	0	1	15	0	0	1	0	0	3	0	0	0	0	0	0	0	0	0	50	19	32	50	20	51
La Palma	18	41	31	8	24	15	0	2	4	0	0	1	0	2	0	0	0	0	0	0	2	0	0	14	26	69	67
Laguna Beach	0	5	2	71	62		52	83	0	0	0	0	1	0	0	0	57	0	0	37	0	60	0	114	184	244	116
Laguna Hills	8	6	16	5	11	20	1	1	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	16	18	36
Laguna Niguel	NA	8	10	NA	1	4	NA	0	0	NA	0	0	NA	0	0	NA	0	0	NA	0	0	NA	0	0	NA	9	14
Laguna Woods	27	30	15	11	13	18	1	1	0	0	1	0	0	0	0	0	0	0	0	6	2	1	0	0	40	51	35
Lake Forest	90	2	2	3	23	42	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	93	25	45
Los Alamitos	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	0	0
Mission Viejo	134	15	5	58	139	31	0	0	0	1	0	1	0	0	0	0	0	0	0	0	2	0	0	0	193	154	39
Newport Beach	6	8	20	250	618	209	200	315	0	0	0	0	0	0	0	0	0	0	0	0	166	300	550	1100	756	1491	1495
Orange	0	75	0	0	4	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	79	2
Placentia	8	20	7	0	11	19	3	3	0	3	1	0	0	0	1	0	0	0	0	0	0	0	31	41	14	66	68
R S Margarita	10	7	48	0	0	13	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	5	10	8	66
San Clemente	72	430	175	37	160	98	0	10	0	1	9	11	0	0	0	0	0	0	2	0	45	8	10	2	120	619	331
S J Capistrano	24	6	0	9	2	0	0	7	0	1	0	0	0	0	0	0	0	0	0	1	0	0	0	0	34	16	0
Santa Ana	1	4	1	2	9	18	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	14	2	0	19	16	20
Seal Beach	4	35	0	21	41	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	31	3	6	0	28	82	31
Stanton	NA	0	0	NA	0	0	NA	0	0	NA	0	0	NA	0	0	NA	0	0	NA	0	0	NA	0	0	NA	0	0
Tustin	0	169	38	16	27	21	0	5	0	0	0	0	0	0	0	0	0	0	0	0	1	11	0	0	27	201	60
Villa Park	15	0	3	0	0	12	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	10	0	15	10	15
Westminster	13	55	35	1	0	4	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	52	15	55	92
Yorba Linda	1	2	0	21	34	9	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0	22	41	9
County of Orange	5	4	3	20	12	12	2	9	4	0	0	0	0	0	0	0	0	0	0	0	0	3	2	0	30	27	19
TOTALS	600	1,460	715	675	1,502	845	327	544	110	16	36	49	4	3	1	0	71	1	34	96	368	511	639	1,439	2,167	4,351	3,528

NA = Not Available EL = Educational Letter ACO = Administrative Compliance Order Mis = Misdemeanor IOC = Issuance of Citation
 NON = Notice of Non-Compliance CDO = Cease and Desist Order Inf = Infraction

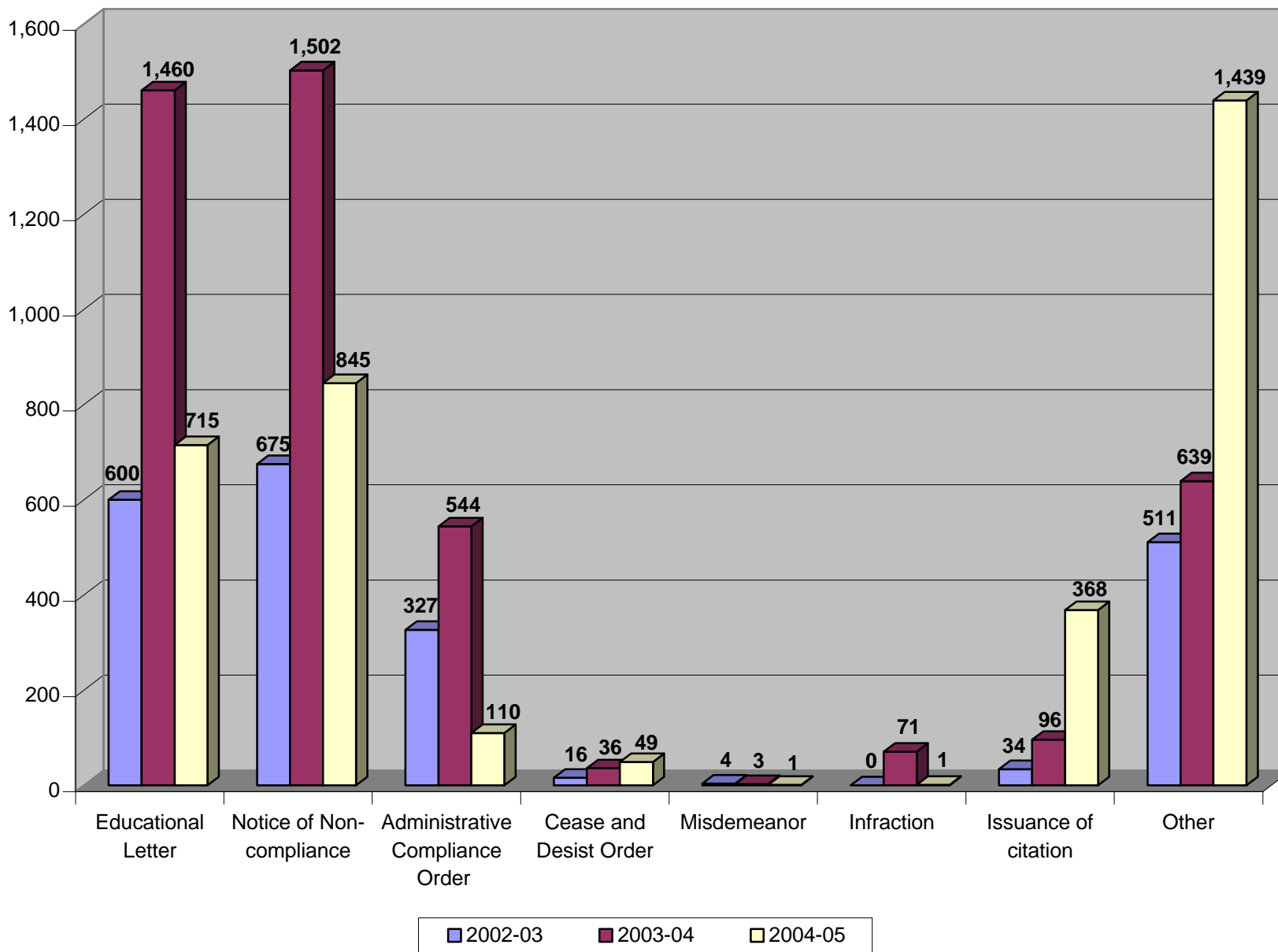
SECTION 10.0, ILLEGAL DISCHARGES/ILLICIT CONNECTIONS

Figure 10.1: Source of Complaints/Incidents, Comparison of 2002-03, 2003-04, and 2004-05



SECTION 10.0, ILLEGAL DISCHARGES/ILLICIT CONNECTIONS

Figure 10.2: Permittee Enforcement Actions, Comparison of 2002-03, 2003-04 and 2004-05



11.0 WATER QUALITY MONITORING SUMMARY AND ANALYSES

11.1 Introduction

The goal of environmental monitoring is to support the management process. In 2002 and 2003, the Program completed development of the *San Diego Region Receiving Waters Monitoring and Reporting Program* and the *San Diego Region Dry-Weather Monitoring Program* for wet and dry weather, respectively.

“monitoring is most useful when it results in more effective management decisions, specifically management decisions that protect or rehabilitate the environment.”
(NAS, 1991¹)

The *San Diego Region Receiving Waters Monitoring and Reporting Program* is comprised of four program elements. They are briefly described below.

- Urban Stream Bioassessment uses a “triad” of indicators (bioassessment, chemistry, toxicity) to describe impacts on stream communities and the relationship of any impacts to runoff, based on comparisons with reference locations on a year-to-year time frame.
- Long-term Mass Loading using measurements of key pollutants to assess loads over a time frame of years to decades to compared with past and present levels.
- Coastal Stormdrain Outfall Monitoring uses a suite of bacterial indicators at high priority drain outfalls to track compliance with regulatory standards and any improvements due to BMP implementation.
- Ambient Coastal Receiving Waters Monitoring uses measurements of runoff plume characteristics and extent, as well as measures of a suite of physical, chemical, and biological indicators to improve understanding of the impacts of runoff plumes on near-shore ecosystems.

The *San Diego Region Dry-Weather Monitoring Program* comprises a single program element. This element is:

- Dry Weather Reconnaissance consists of gathering data from both random and targeted sites, to define region-wide background dry weather conditions to serve as a basis for identifying candidate sites for further focused source identification work.

Compared to prior monitoring efforts (pre NPDES, First and Second Permit Term Programs), the Third Permit Term monitoring program is characterized by a broader range of locations and a wider array of methods for measuring impacts. For example, the receiving waters monitoring program more completely examines storm drains that

¹ Managing Troubled Waters, National Academy of Sciences, 1991

discharge directly to the coast and pose a potential health risk to swimmers and bathers. Also, there is investigation component to assess the effects of stormwater plumes on the nearshore marine environment. Inland, the monitoring program includes bioassessment studies and consistent use of toxicity testing. Combined with the established measurement of chemical parameters, this "triad" approach describes impacts more fully, more accurately identifies their sources, and more effectively identifies follow-up studies and BMPs.

This section will summarize the progress toward implementation of the Receiving Waters and Dry-weather Monitoring Programs during the Third Term Permit, the findings, and the proposal for future monitoring.

11.2 Accomplishments

11.2.1 Implementation of the Receiving Waters Monitoring Program

On August 13, 2002, a Receiving Water Monitoring Program was submitted to and subsequently approved by the San Diego Regional Water Quality Control Board. Relative to the monitoring program for the second term permit (99-04 Plan) the new program included many new monitoring locations and several new methods for evaluating the impacts of urban runoff including urban stream bioassessment and toxicity testing.

The initial phase of implementation involved:

- Procurement of specialized automatic sampling equipment for the collection of composite samples for pesticide analyses and toxicity testing.
- Establishment of price agreements for consultant services to conduct urban stream bioassessments and toxicity testing.
- Establishment of a Memorandum of Understanding (MOU) with the Orange County Health Care Agency's Public Health Laboratory to conduct bacteriological analyses of samples collected from coastal stormdrains and the surfzone receiving waters.

Subsequently the following monitoring was initiated:

- Urban Stream Bioassessment (USB) monitoring - The program includes semi-annual assessment each spring and fall at 12 urban channels and 3 reference sites. The fall 2002 monitoring began in November with assessments of physical habitat, benthic macroinvertebrate (BMI) taxonomy, and water chemistry at each site. Toxicity testing at bioassessment sites began in the spring of 2003.
- Composite sampling for water chemistry and toxicity of stormwater runoff at Mass Emissions sites began in December 2002.
- Sampling of stormdrain discharges for water chemistry and toxicity began at Ambient Coastal Receiving Waters (ACRW) sites in December 2002.
- Weekly sampling of Coastal Stormdrain Outfalls (CSDO) and their respective surfzone receiving waters began in January 2003.

Urban Stream Bioassessment

The urban stream bioassessment component of the water quality monitoring program is intended to assess the condition of biological communities in freshwater creeks and streams. This is accomplished through a triad of indicators monitored at 15 sites (12 urban channels and 3 reference locations) throughout the San Diego region of the County in the spring (usually May) and fall (usually October) of each year. The triad includes measures of the status of the benthic invertebrate community, aquatic chemistry, and aquatic toxicity.

Data on the species composition of the biological community is converted to an Index of Biotic Integrity (IBI) score and a similar score is computed for the physical habitat. A wide range of physical and chemical water quality measurements are made at each site including basic water quality indicators (temperature, specific conductance, pH, and dissolved oxygen concentration) and concentrations of urban pollutants such as pesticides and metals. Values for five dissolved metals are compared for guidance purposes, to acute toxicity criteria (adjusted for water hardness) established in the California Toxics Rule (CTR). The numbers and percentages of CTR exceedances are tabulated. Aqueous toxicity tests using three freshwater test organisms is conducted on samples from each site to provide a measure of the potential toxicity due to different categories of pollutants.

The analysis and evaluation of this triad of data types focuses on describing spatial patterns and temporal trends in community condition and in relating these to the aquatic concentrations of pollutants as well as to various aspects of physical habitat.

Data from all three years of monitoring demonstrates an overall pattern of lower IBIs in urbanized portions of watersheds, although this is not apparently related to aquatic chemistry or toxicity. **Figures 11.1** and **11.2** show the qualitative ratings of the average seasonal scores of the four metrics (CTR exceedances, aquatic toxicity, physical habitat score, and IBI score) used to assess stream health at each monitoring site. The color scheme for the figures is shown in the table below.

Qualitative Rating	Color	Average of All Data Collected between 2002 - 2005			
		Chemistry	Toxicity	PHAB Score	IBI Score*
Poor	Red	76-100% exceed CTR	67-100% effect@	0-50	0-26
Fair	Yellow	41-75% exceed CTR	34-66% effect	51-100	26-40
Good	Blue	15-40% exceed CTR	6-33% effect	101-150	41-55
Very Good	Green	0-14% exceed CTR	0-5% effect	151-200	56-70
Insuff. Data	White				

* The qualitative rating scale for IBI scores was established by the CA DF&G. A score of 0-13 is considered Very Poor.

@ In undiluted samples, effect relative to control sample = mortality in Ceriodaphnia and Hyallella survival tests, or inhibition of growth in Selenastrum growth test.

Figures 11.1 and 11.2 show that there is no readily apparent relationship across the region between the relative conditions of the biological community on the one hand and levels of toxicity and pollutants on the other.

In general, there is a clear biological pattern associated with the gradient of high to low IBI scores. A cluster analysis (**Figure 11.3**) shows that reference sites group together (i.e., have similar biological communities), characterized by species with relatively restricted habitat ranges. In contrast, sites with lower IBI scores have tolerant species with much wider habitat ranges. The presence of more tolerant species at sites with low IBI scores is a common finding in environmental studies in a wide range of marine, estuarine, and freshwater habitats. The cluster analysis also demonstrates a clear and persistent seasonal difference in biological community structure between spring and fall surveys. While there is some variability over time in the IBI and physical habitat scores at each site, the overall patterns described above are relatively persistent.

The spatial overview of the monitoring results (**Figures 11.1 and 11.2**) strongly suggests that there is no consistent relationship between the patterns in the biological stream communities and aquatic chemistry and toxicity. This conclusion is strongly supported by the very low incidence of both CTR exceedances and toxicity. In addition, a comparison of the station groupings in the cluster analysis in **Figure 11.3** to the actual levels of pollutants and of toxicity showed that there was no relationship between the biological pattern and measures of contamination and/or toxicity.

In contrast, there is a much stronger relationship between patterns in the biological community and various aspects of physical habitat. Overall, there is a positive relationship between IBI scores and physical habitat scores (**Figure 11.4**), although there is some noise around this relationship. This stems from the fact that not all the components of the physical habitat score are equally correlated with biological condition (**Figures 11.5a and 11.5b**). For example, low values for Instream Cover and Vegetation Protection are highly associated with poor community condition but intermediate values of these habitat components do not seem to be strongly correlated with community condition. On the other hand, Sediment Deposition is highly correlated with community condition only at high and low extremes, but not for intermediate values. In contrast to both these types of correlation, Channel Alteration is correlated with community condition at all levels of this component.

There is a need to further investigate the nature of the relationship between biological community patterns and physical habitat condition. This analysis should take advantage of the fact that both IBI and physical habitat scores are made up of multiple components that reflect different aspects of biological communities and physical habitat. It is likely that different IBI components, which reflect the status of different types of organisms, respond to different features of the physical habitat. The management benefit of such an analysis would be an improved ability to focus on those habitat features that matter the most to biological condition. This could lead to new stream or riparian zone management policies and procedures.

There are some apparent anomalies to the overall pattern just described, i.e., that biological condition is primarily determined by physical habitat characteristics. These situations may be appropriate for special studies that could identify site-specific contamination problems and/or provide additional insights into the relationship between physical habitat and biological condition. For example, station Christianitos Creek at Christianitos Road (station CC-CR) has IBI scores in the fair range but physical habitat scores more typical of sites with IBI scores in the poor to very poor range. However, CC-CR has high values for Riparian Vegetation Zone, Vegetation Protection, and Channel Alteration. Of these three, Riparian Vegetation Zone and Channel Alteration are very highly correlated with biological pattern in both the spring and the fall (**Figure 11.5**), and the high values for these components might explain this anomaly.

In contrast, reference station San Juan Creek at Cold Spring (REF-CS) has high physical habitat scores but anomalously low IBI scores. There is no readily apparent explanation for this in the physical habitat data, which suggests there may be some sort of pollution problem that was not detected by the monitoring program. Finally station WC-WCT also has high physical habitat scores but low IBI scores. This is a unique station in that it is within a wilderness area surrounded by pockets of residential areas. A special study will be conducted to determine if intermittent discharges of toxicants from the urban areas are impacting instream fauna.

Long-term Mass Loading

The long-term mass loading component of the monitoring program is intended to evaluate changes in pollutant loadings over a number of permit terms. This is accomplished through wet weather monitoring at six locations. Three storms are monitored at each location and for each storm the water chemistry is monitored with a series of 3 to 4 composite samples collectively spanning approximately 96-hours. This time period provides for comparison of the data to 96-hour guidance criteria for chronic aquatic toxicity from the California Toxics Rule (CTR). The concentrations of dissolved heavy metals in the composite samples are also compared to acute toxicity criteria from the CTR for guidance. The concentrations of organophosphate pesticides are compared to literature values of LC_{50s} for toxicity testing organisms.

Monitoring of at least three storms per site is attempted each year. Continuous water level records from streamgages at each site are used to determine stormwater discharge rates. The streamgages on Aliso Creek, Trabuco Creek, and San Juan Creek have produced acceptable records to calculate stormwater loads. The streamgage on Laguna Canyon Wash has experienced many operational problems and new monitoring equipment was installed during the 2005-06 monitoring year to overcome these problems. The Segunda Deshecha Channel was under construction during the first two years of the program during which time the streamgage was decommissioned. The high-flow stage-discharge relationships for this site and for the Prima Deshecha Channel have not been adequately defined to calculate accurate stormwater loads. When adequate channel ratings are established the flowrates and loads can be calculated for all prior years where accurate water level records are available.

Coastal Stormdrain Outfall Monitoring

The coastal stormdrain outfall component of the water quality monitoring program is intended to identify those sections of coastline where nearshore receiving waters most consistently exceed state AB411 standards for bacterial indicators, as well as the stormdrains that appear to be contributing the most to these exceedances. Three bacterial indicators (fecal coliforms, total coliforms, Enterococcus) are monitored weekly at 29 stormdrains along the coastline.

At each sampling event, concentrations of bacterial indicators are measured in the discharge of each stormdrain, as well as in the surfzone 25 yards upcoast and downcoast of the stormdrain. The flow from each drain is also estimated and categorized as high, medium, or low. Analyses of these data included calculation of an exceedance rate for each drain and linear regression of indicator concentrations in each drain's discharge against indicator concentrations in the nearby surfzone. The goal of these analyses was to identify the subset of drains that appeared most closely linked to a high rate of exceedance of the AB411 standards.

Coastal Stormdrain Outfall Monitoring was initiated during the final week of January 2003 and, except during periods of constant stormwater runoff, weekly monitoring at each site since that time. When the discharge from a stormdrain is diverted to the local sewage treatment plant, the stormdrain is not sampled. While diverted, only sampling of the downcoast location in the surfzone is conducted. Monitoring data are available through the Orange County Health Care Agency's website at ocbeachinfo.com.

The three years of monitoring data show that exceedances in the receiving water (i.e., the surfzone) tend to occur at the same subset of stations over time, although the rate of exceedances is higher during the winter than during the summer AB411 season (**Figures 11.6 and 11.7**). The five stations with exceedance rates of approximately 10% or higher are: POCHE, DSB-4, DSB-5, SJC1, and SCM1, which are concentrated along one section of the coast. There has been no observable discharge from DSB-4 during the three years of CSDO dry-weather monitoring. The exceedances of the AB-411 standards were most likely caused by the discharges of the other drains in the area (DSB-5 and SJC1). The highest exceedance rate during the AB411 season is 0.288 at station SCM1 and yearround 0.493 at station DSB5 (**Table 11.1**).

The exceedance rates alone do not necessarily indicate a problematic drain because the elevated bacterial indicator levels could stem from sources other than the nearby drain. Establishing a link between a particular drain and the receiving water exceedances depends on the relationship between indicator levels in the drain's discharge and in the receiving water. For example, the combination of elevated indicators in the receiving water with low levels in a drain's discharge would suggest that the exceedances could be due to longshore transport from another location. Conversely, elevated indicator levels in a drain's discharge combined with persistently low surfzone levels would suggest mixing and dilution by nearshore currents.

Linear regressions were performed for each indicator / drain combination and the results used to rank drains in terms of the strength of their relationship to receiving water conditions. The approximated yearly volume of flow from each drain was then used to qualitatively identify those drains with the highest loading of bacteria to the receiving water. Taken together, these evaluations resulted in the identification of five drains with a combination of high loadings of bacterial indicators and a statistically significant relationship between indicator levels in the drain and the surfzone:

- Aliso Creek (ACM-1)
- Salt Creek (SCM-1)
- Doheny Beach - North Creek Mouth (DSB-5)
- San Juan Creek (SJC1)
- Poche Beach (POCHE).

Table 11.2 summarizes conditions at these drains. Note that this list of drains is similar to, but not identical to, the list of drains with the highest exceedance rates.

These five stormdrains present opportunities for further upstream source identification studies to determine whether persistent receiving water contamination is due to sources near their mouths, to sources higher up in their respective drainage areas, and/or to longshore ocean currents transporting contamination from other nearby drains or creek mouths.

The following projects have been initiated in response to analysis of data from shoreline microbiology monitoring conducted for the Third Term Permit, the South Orange County Water Association (SOCWA) NPDES permit, and the Orange County Health Care Agency beach water quality program.

- The County has funded a \$200,000 microbial source tracking study in the Prima Deshecha Channel watershed. The report will be submitted by the consultant, Weston Solutions, Inc. to the County at the end of August 2006.
- The City of Dana Point has funded the construction, operation and maintenance of the ozone disinfection system for the dry-weather discharges from the Salt Creek Channel. Recent data from the surfzone has shown that the bacterial indicator concentrations are now consistently meeting the AB-411 standards.
- The City of Dana Point has procured grant funding and will provide matching funds for an epidemiological study by SCCWRP on the health effects of ocean water contact near the mouths of the Doheny Beach drains and San Juan Creek.

Ambient Coastal Receiving Water Monitoring

The ambient coastal receiving water component of the water quality monitoring program is intended to assess the impact of urban runoff to ecologically sensitive coastal areas by analyzing the water chemistry, aqueous toxicity, and magnitude of plumes of stormwater discharges to these areas. With this information the Permittees would then

prioritize these sites for further study in terms of their relative degree of potential threat to water quality and ecological resources. Monitoring at these 17 sites focuses primarily on aquatic chemistry and aquatic toxicity during both dry and wet (storm) weather conditions. Aerial photographs of stormwater plumes provide a basis for estimating the relative magnitudes of the impact zones.

Values for five metals are compared to acute toxicity criteria established in the California Toxics Rule (CTR) for guidance and the numbers and percentages of CTR exceedances tabulated. Toxicity tests with marine test organisms provide a measure of the potential toxicity due to different categories of pollutants. Because of the relatively high incidence of toxicity at some stations, the observed level of toxicity (in toxic units) was compared to the predicted toxicity expected from the observed aquatic chemistry results. Predicted toxicity was estimated by first calculating the average LC₅₀ for key chemicals from literature values. This average value was then used to calculate the amount of toxicity (in toxic units) to expect from the concentrations of these chemicals in aquatic chemistry samples. Summing the estimated toxicity from all chemicals resulted in an estimate of the toxicity that theoretically should be present.

For the coastal areas Ambient Coastal Receiving Waters monitoring was designed as an adaptive program whereby the initial monitoring would consist of sampling the discharges from selected coastal stormdrains for water chemistry and toxicity. The data from these samplings would be supplemented by aerial photographs of stormwater plumes in order to determine the drain which showed the greatest impact on its receiving waters. The receiving water for this drain would be selected for an offshore assessment of water quality and toxicity during the fifth year of the program. Water quality and toxicity monitoring of the stormdrains was initiated during a stormwater runoff event in December 2002 and has continued for three years. Aerial photography of stormwater plumes was carried out once in 2004 and once in 2005. Because of limited visibility due to cloud cover the plume photography for the first storm was conducted nearly two days after rainfall had ceased. For the second storm, the altitude of the flight was decreased to a level below the cloud cover which enabled photography at a time closer to the end of the storm.

Table 11.3 summarizes the frequency and pattern of exceedances of the acute saltwater CTR criteria at the ambient coastal receiving water stations during the period from 2002 – 2005. It should be noted that this analysis involved comparison of the freshwater discharges from these stormdrains to saltwater criteria. For each site, the potential impact to the receiving water assumes no dilution of the stormdrain discharge.

The data from this analysis show that exceedances are predominantly due to copper, with a lesser number due to nickel and zinc. The frequency of exceedance of the acute saltwater CTR criterion for copper remained fairly consistent during dry-weather sampling. The percentage of exceedances of the CTR criteria for stormwater samples in the third year appeared to drop dramatically from the prior two years. This observation may be the result of the higher than normal annual rainfall during year, as shown below:

Permit year	Total Samples	Exceeded Cu Criterion #(%)			
		Stormwater Samples	Dry Weather	Stormwater	Rainfall (inches)
1	32	6	14(54%)	4(67%)	14.57
2	39	5	14(41%)	4(80%)	8.41
3	59	39	10(50%)	15(38%)	28.44

Table 11.3 shows that the Doheny Beach stations most frequently exceed CTR values for multiple metals.

The toxicity results from these stations present another perspective on water quality conditions. **Table 11.4** summarizes the average degree of toxicity, averaged over all toxicity tests, at each station over the 2002-05 period. **Figures 11.8** and **11.9** visually present the regional pattern of toxicity, showing that toxicity is primarily concentrated at a subset of the stations, as are the CTR exceedances. The Doheny Beach stations (DSB -1, DSB-3, DSB-4, DSB-5) have consistently high average toxicities; these are generally the same stations with the highest frequencies of CTR exceedances. In addition, several other stations, distributed across a number of watersheds, had high average levels of toxicity. In general, the same stations exhibited elevated toxicity in both dry and wet weather.

There is a general correspondence between the overall patterns of CTR exceedances and toxicity, as exhibited by the Doheny Beach stations. However, other stations with elevated toxicity (e.g., LB-3) do not have higher than average numbers of CTR exceedances. Based on their combined patterns of CTR exceedances and toxicity, the following stations would be the highest priority for special studies to investigate the sources of contamination and/or toxicity:

- Doheny Beach (DSB-1, DSB-3, DSB-4, DSB-5)
- LB-4
- Salt Creek (SCM-1).

Stations DSB-5 and SCM-1 were also two of the five coastal stormdrain stations with persistent exceedances of AB411 standards for indicator bacteria. The differential sensitivity of toxicity test organisms can help provide a starting point for such source identification studies. Urchins and abalone are more sensitive to dissolved metals, while mysids are most sensitive to ammonia and organic compounds, particularly pesticides. Further guidance can be obtained from a comparison of the observed toxicity to that predicted from laboratory studies, as illustrated in **Figure 11.10**. An examination of this comparison for all the toxicity tests from this program component shows that predicted toxicity from zinc is often higher than the observed toxicity, strongly suggesting that zinc may not be as bio-available as other pollutants.

Much of the toxicity in the sea urchin fertilization test can be explained by elevated levels of dissolved metals, particularly copper. The predicted toxicity (from comparison of water chemistry to literature values of LC₅₀s) was higher than the observed toxicity.

This was due primarily to high concentrations of dissolved zinc, suggesting that zinc may be bound to organic ligands and is not completely bio-available.

The observed toxicity in the mysid survival tests is harder to explain because ammonia is very low and organophosphate pesticides were almost never found in the water samples (mysids are especially sensitive to Chlorpyrifos). The predicted toxicity was typically equal to or less than observed, which suggests that there are unknown toxicants affecting the system. Phase I TIEs have been conducted on a limited basis and have thus far proven inconclusive. For most of these TIEs the initial toxicity was only observed in the undiluted sample of the multiple dilution test. The baseline test of the TIE produced no response. The toxicity testing laboratory has hypothesized that the toxicant that caused the initial toxicity was most likely a volatile compound that dissipated over time.

Dana Point Harbor

The Ambient Coastal Receiving Water (ACRW) monitoring program also includes Dana Point Harbor. The monitoring of Dana Point Harbor was initiated in June of 2003 and consists of sampling for water chemistry and aqueous toxicity. Semiannual dry-weather analyses of sediment chemistry, sediment toxicity, and benthic infaunal analyses were added during the 2003-04 monitoring year.

As an enclosed embayment with several stormdrain inputs, Dana Point Harbor is a focus of particular attention within the region. **Figure 11.11** shows that average BRI (Benthic Response Index) scores for station DAPTDC (Dana Cove) were within the reference range, while BRI scores for all other stations fell within Response Level 2, indicating a change in species composition of between 25% and 50% compared to reference. DAPTDC also had relatively low levels of pollutants in the sediments and the lowest level of sediment toxicity (**Figure 11.12**). The bottom at this site consists mostly of rock and large gravel, with very little of the fine sediment which is typically associated with associated with elevated levels of particle-bound pollutants.

The overview presented in **Figure 11.12** shows that, with the exception of station DAPTDC, sediment monitoring data for Dana Point Harbor show a moderate level of impact to the benthic community and a moderate to substantial level of toxicity. The sediment chemistry picture is less clear because data are only available from two samplings (Spring and Fall 2005).

Impacts to the benthic community can stem from both toxicity due to chemical contamination and from physical disturbance. **Figure 11.13** shows that the relationship between BRI score and toxicity, while statistically significant, is not strong. Much of the relationship is driven by the handful of samples with the lowest BRI scores, which are all from station DAPTDC, which is somewhat anomalous. Since the sampling location for DAPTDC does not have a typical muddy bottom its benthic infaunal community is depauperate. Without this station, the regression would not be statistically significant. This finding is similar to results being generated as part of the technical work for the

State Water Resources Control Board's Sediment Quality Objectives project. Using data from embayments throughout California, this project has found that relationships among sediment chemistry, sediment toxicity, and benthic community changes are highly variable. Significant relationships can typically only be documented with large numbers of samples.

The cumulative frequency distribution of sediment toxicity from embayments in the Southern California Bight (**Figure 11.14**), based on data from the Bight '03 regional survey, provides a larger regional context to the toxicity results from Dana Point Harbor. The median mortality in sediment toxicity tests in the Bight '03 data is about 20%, which is lower than the average toxicity of all tests from Dana Point Harbor. **Figure 11.13** shows that the bulk of toxicity results fall between about 20% and 45% mortality relative to test controls.

Region-Wide CTR Exceedance Patterns

The CTR is a convenient benchmark for assessing region-wide patterns. For the purposes of this analysis it is not being used for compliance purposes but merely for guidance as to where the levels of constituents of concern may be persistently elevated.

Aquatic chemistry samples from several components of the water quality monitoring program (urban stream bioassessment, long-term mass loading, ambient coastal receiving water monitoring) were evaluated with respect to criteria for dissolved metals established in the CTR. While such CTR criteria are available for only a portion of the constituents measured in the program's samples, the combination of CTR exceedances from all available program components provides an overview of contamination patterns across the region. In addition to tabulating the number of exceedances at each station, the overall percentage of exceedances at each station (out of all samples collected at each station) was used to place stations into one of four categories representing relative frequency of exceedances.

Table 11.5 summarizes exceedances of acute CTR criteria for dissolved metals at all water quality monitoring stations in the San Diego region with more than one sampling event. For purposes of this assessment, all program components (bioassessment, mass loading, ambient coastal) were combined into one dataset, in order to better represent the spatial pattern of exceedances across the region.

Exceedances overall are predominantly due to copper, with a much smaller percentage due to nickel and zinc. Exceedances of the CTR for cadmium, lead, and silver were extremely rare and thus not included in **Table 11.5**. Most exceedances occur at a subset of the stations along the coast. There is year-to-year variability within this larger pattern, although this appears to be somewhat related to the amount of annual rainfall. **Figures 11.15** and **11.16** visually summarize these regional patterns, using the data presented in **Table 11.5**.

Within these larger patterns, the CTR exceedance data help identify locations where targeted special studies to identify upstream sources should be implemented. These are stations with more than a handful of samples where both the exceedance rate and/or the number of pollutants showing exceedances are among the highest:

- ACJ01
- SCM-1
- PDCM01
- SDCM02
- SJNL01
- DSB-5

Stations DSB-5 and SCM-1 were also two of the five coastal stormdrain stations with persistent exceedances of AB411 standards for indicator bacteria. It should be noted that stations ACJ01 and SJNL01 are a significant distance upstream of their respective coastal receiving waters and that their respective Ambient Coastal Receiving Waters monitoring locations ACM1 and SJC1 show much less of an impact with respect to the acute saltwater criteria from the CTR. These findings suggest that sampling of a mass emissions site and its corresponding ACRW discharge point be monitored concurrently during storms to more accurately evaluate the potential impacts of urban runoff.

Region-wide Toxicity Patterns

Aquatic toxicity test results from several components of the water quality monitoring program (urban stream bioassessment, long-term mass loading, ambient coastal receiving water monitoring) were combined to present a picture of how toxicity is distributed throughout the region. The average mortality rate of test organisms at each station was used to place each station into one of four categories representing relative intensity of toxicity. **Figures 11.17** and **11.18** show the distribution of relative toxicity across the region. In both dry and wet weather, toxicity is concentrated along the coast, although toxicity is detected somewhat further inland during wet weather.

11.2.2 Implementation of the Dry-weather Monitoring Program

The proposal for the Dry-weather Monitoring Program to detect illegal discharges and illicit connections (ID/ICs) to the stormdrain system was submitted to and subsequently approved by the Regional Board in February 2003. Monitoring was initiated in May 2003 and has continued each dry-weather season (May 1 - September 30).

The program includes monitoring 3 times annually at approximately 30 randomly selected stormdrains (random sites) to determine regional mean concentrations of constituents of concern. Each Permittee selected several stormdrains (targeted sites) within their respective jurisdiction, which were suspected to contain ID/ICs. These targeted sites were sampled monthly (5 times annually) for the same constituents. Triggers for source investigations were established using two statistical methods:

- If on consecutive sampling dates, the value of a monitored constituent exceeds the upper bound (lower bound for dissolved oxygen) of the tolerance interval around the estimated 90th percentile of random site data for that constituent, or
- The value of a monitored constituent exceeds the control limits for that constituent at that site. The control limits are set at 3.9 standard deviations above (below for dissolved oxygen) the mean for that site.

The Permittees are provided an updated spreadsheet of the monitoring data on a monthly basis throughout the dry-weather season. The tolerance intervals are updated periodically as more data are compiled. Extreme values of physical properties or chemical constituents measured in the field triggers immediate notification of the authorized inspector(s) of the city or cities which have jurisdiction within the watershed of the offending stormdrain. In many instances (e.g. high surfactant or TSS discharges) the responsible party has been identified quickly by the authorized inspector.

11.2.3 Establishment of a New Water Quality Database

In 2004, a new computer program was developed for managing NPDES monitoring data. The intent of this program which has been called Labtrack, is to provide a single repository for all current NPDES data, to reduce the number of systematic errors in monitoring and laboratory analyses, and to increase the efficiency in processing invoices for the payment of analytical services. Some of the features of Labtrack include the ability to:

- Produce customized periodic data summaries
- Print labels for sampling containers
- Print and maintain chain-of-custody documentation
- Check laboratory results against quality assurance criteria
- Check invoice pricing against price agreements
- Integrate discharge rate information from Hydstra (hydrologic database) to calculate load information for Performance Evaluation Assessment (PEA) and TMDL reports

11.2.4 Participation in Regional Monitoring Programs

Since 1997, the Permittees have been an active participant in the Regional Monitoring Program for the Southern California Bight. A Permittee representative has served on the steering committees for the 1998 Regional Assessment (Bight 98) and the 2003 Assessment (Bight 03). A representative has also served on several of the monitoring subcommittees on Bight 03.

The Permittees have also provided representation to the southern California Stormwater Monitoring Coalition. A Permittee representative was instrumental in the development of the Model Stormwater Monitoring Program guidance document which has incorporated many of the same methods used in this program. A Permittee representative is currently on the working group with SCCWRP and the California

Department of Fish and Game to improve the California Stream Bioassessment Procedure.

The Permittees are also participating in the Regional Harbor Monitoring Program (RHMP), which was designed and implemented in response to a 13267 letter from the San Diego Regional Water Quality Control Board. The RHMP is intended to help answer fundamental questions about the status of and trends in beneficial uses in the coastal harbors along this region of the coast. Dana Point Harbor, in southern Orange County, is included in the RHMP.

The RHMP uses a stratified random design modeled on the Bight Program approach and intended to ensure that the RHMP data are compatible with data from the periodic Bight Program. While the Bight Program uses a single stratum for harbors, the RHMP has identified multiple strata within harbors in order to provide for more detailed assessments of conditions. These strata are based on both structural (e.g., depth) and use (e.g., industrial, marina) features of harbors. Within each stratum, a broad range of indicators are sampled, including water quality, sediment quality and characteristics, toxicity, and fish tissue contamination. The RHMP is being implemented in two phases. The first phase focuses on using a more limited sampling protocol to validate design assumptions and gather the information needed for full implementation in the second, permanent, phase. The first phase will include 3 years of data collection and evaluation to validate design assumptions and sampling protocols. The first year of data collection was completed in 2005.

The knowledge gained from participation in these regional programs has enabled the Permittees to improve the monitoring program in many ways. The newly established price agreements for analytical services for the stormwater program required that the vendor had participated in the rigorous laboratory inter-calibration exercises for the Bight Regional Monitoring Program. These exercises, coordinated by SCCWRP, ensured that the accuracy and precision by each of the participating laboratories were maintained at a high standard.

11.2.5 Involvement in Research Level Investigations

The Permittees also contributed monitoring equipment and funding to UCI to conduct bacteriological investigations in the Santa Ana River and Huntington Beach surfzone. As a result of the study findings, the dry-weather discharges of several channels which drain to that area have been diverted to the Orange County Sanitation District. Since the diversions have been implemented there has been an improvement in scores for the surfzone in that area on Heal the Bay's Beach Water Quality Report Card.

On behalf of the Aliso Creek Watershed Permittees, the County worked with UC Irvine researchers Dr. Sunny Jiang and Dr. Betty Olson to investigate sources of bacteria in the J03P02 sub-watershed of Sulphur Creek. The UCI researchers used three Microbial Source Tracking (MST) methods to identify the sources of bacteria from samples collected in the sub-watershed from May through August 2002. These MST methods included: (1) analysis for human enteric viruses, (2) analysis for genetic biomarkers

indicative of human, cow, pig/cat, rabbit, and bird sources, and (3) Antibiotic Resistance Analysis (ARA). The analysis of samples for biomarkers of human and animal sources showed no samples with biomarkers of human origin, and showed that all or almost all samples had biomarkers of bird, rabbit, and cow origin. Findings from the human virus and ARA studies suggest that sewage was an unlikely source of fecal coliform in the drainage system, and that bacteria from wild animal feces were the dominant source of *Enterococci* in the watershed. Further details can be found in the eighth quarterly progress report for the Aliso Creek Directive, dated April 30, 2003, and ninth quarterly progress report, dated July 31, 2003.

11.3 Assessment

The monitoring results described in the preceding section have led to conclusions about patterns of impact and the potential sources of these impacts. These conclusions, summarized below, provide the basis for the summary recommendations in **Section 11.4**.

The current Urban Bioassessment monitoring program in South Orange County utilizes the triad approach from the SMC's model stormwater monitoring program. The results from the first three years of monitoring have shown that there is a clear pattern of lower IBIs in the more urbanized portions of watersheds, and this pattern appears to primarily reflect habitat degradation rather than aquatic toxicity due to chemical contamination. This is a typical result of bioassessment monitoring programs elsewhere in the country. These findings suggest further investigation of the relationship between the physical habitat and biological communities.

The current method of triad monitoring consists of a synoptic evaluation of the chemistry, toxicity, and bioassessment (physical habitat assessment and IBI score). IBI score may not be reflective of the water chemistry or toxicity testing results if the water quality is not consistent. If intermittent discharges of toxicants affect the study area they may not be measured during the synoptic sampling. If low IBI scores cannot be attributed to physical habitat degradation a more comprehensive water quality study should be conducted.

The Mass Emission monitoring program evaluates long-term trends in pollutant loading. Although the current mass emissions monitoring program has not yet generated enough data over time to fully accomplish this goal, it has identified two channels (Prima and Segunda Deshecha) with stormwater discharges that have shown persistent toxicity to marine test organisms.

The Coastal Stormdrain Outfall monitoring program provides a weekly indicator of the impacts to the coastal zone from bacteria in urban runoff. The program has enabled the Permittees to identify surfzone areas near the outlets of stormdrains that have shown the highest frequency of exceeding AB411 single-sample ocean water sports contact standards.

The first four years of the Ambient Coastal Receiving Waters program involved monitoring the chemistry and aquatic toxicity of dry weather and stormwater discharges to ecologically sensitive areas along the southern Orange County coastline. During two storms aerial photographs were taken of the stormwater plumes to estimate the spatial extent of the impact of urban runoff. While the impacts of urban runoff to the coastline were monitored indirectly, it did enable the Permittees to identify the stormdrains that had the highest concentrations of urban pollutants and showed the greatest potential for toxic effects to nearshore areas. In Dana Point Harbor the impacts to the receiving waters were monitored directly. Monitoring was conducted in the harbor near the outlets of the stormdrains with measurements of water chemistry and aqueous toxicity, sediment chemistry, sediment toxicity, and benthic infaunal analyses.

11.4 Summary

The data analysis results form the basis for the following recommendations for further investigations and modifications to the monitoring design itself. The proposed further studies are focused on improving our understanding of the sources and causes of the observed impacts. The suggested modifications to the program are intended to improve the cost effectiveness of the program by focusing on those areas where impacts are most persistent or where substantial knowledge gaps remain.

11.4.1 Receiving Water Monitoring Program

Urban Stream Bioassessment

The past three years of bioassessment data suggest that physical habitat rather than water chemistry has a greater influence on IBI scores. The Permittees will conduct statistical analyses of the relationship between the components of the IBI and physical habitat (PHAB) scores to provide more detailed insight into the specific aspects of physical habitat most important to maintaining biological communities. If the specific aspect(s) of physical habitat causing the impairment can be identified, the Permittees will investigate BMPs and/or management measures to improve the physical habitat and reduce the impairment. The Permittees will also continue to participate in the SMC's working group to improve the current DF&G California Stream Bioassessment Procedure.

There are two sites (REF-CS and WC-WCT) that exhibited higher than system-wide average physical habitat scores but low IBI scores. These sites will be the focus of targeted special studies which would include:

- Reconnaissance of the immediate upstream watershed to locate all natural and manmade inputs to the channel. The discharges from these inputs will be field screened (using Dry-weather Reconnaissance tools) to identify candidates for more comprehensive monitoring.
- Sampling for intermittent discharges of low concentrations of toxicants (e.g. pesticides and dissolved metals) which may be affecting the intolerant species at the bioassessment locations. Using automatic sampling equipment, 24-hour composite samples will be collected at the bioassessment site, one day each week for the four weeks prior to bioassessment monitoring. the composite samples will be analyzed for nutrients, trace metals, pesticides (organophosphates, carbamates, pyrethroids), and water toxicity (Ceriodaphnia and Hyallella survival in undiluted samples).

Mass Emissions Monitoring

Two of the sites (PDCM01 and SDCM02) showed persistent toxicity in the mysid survival/growth tests. The OP pesticide data could not account for this toxicity. During the upcoming storm season the suite of pesticide analyses will be expanded to include carbamates and pyrethroids.

More high-flow instantaneous discharge measurements will be made at the streamgaging locations operated by the Permittees in order to improve the accuracy of the channel stage-discharge relationships (ratings). Equipment utilizing state-of-the-art acoustic Doppler current profiling technology has been recently purchased to enable rapid measurements of discharge rates.

Coastal Stormdrain Outfall Monitoring

Three years of monitoring data show that there is a small subset of coastal drains that display persistent exceedances of AB411 standards and for which there is a statistically significant relationship between bacterial indicator levels in the drain discharge and the surfzone.

The consistency of this overall pattern supports a recommendation to consider reducing monitoring effort at those stormdrains that rarely if ever have exceedances and reprogramming that effort toward more intensive investigations of the problematic drains. The actual amount of any such reduction would be determined only after an evaluation of the statistical consequences of a reduction in monitoring frequency and in consultation with the Permittees and Regional Board staff.

Ambient Coastal Receiving Water Monitoring

The ACRW monitoring results highlight the following questions and/or issues that will be addressed either through targeted special studies or modifications of the scope of on-going monitoring.

Source Identification and Determining Causes of Toxicity

Examination of the water chemistry results provided insight into the causes of toxicity in the sea urchin fertilization tests. The toxicity in the mysid /survival growth tests however could not be explained either with water chemistry or phase I TIEs. To aid in identifying the unknown causes of toxicity in the mysid tests, the water chemistry analyses of the stormdrain discharges will be expanded to include carbamate and pyrethroid pesticides. If found, the concentrations of these pesticides will be compared to their respective literature values for the LC₅₀ in the mysid survival test. If a carbamate and/or pyrethroid pesticide is consistently found and their LC₅₀s for the mysid survival test have not been determined, the program would propose that the SMC conduct toxicity tests to determine those LC₅₀s.

There is a subset of six stations that provide targets for special studies to identify upstream sources of contamination and toxicity, based on the number of pollutants showing exceedances to CTR criteria, the high percentage of the time these exceedances occurred, and the level of toxicity observed. These sites include the Doheny Beach stormdrains (DSB-1, DSB-3, DSB-4, and DSB-5), a 48-inch stormdrain south of Main Beach in Laguna Beach (LB-4), and Salt Creek Mouth (SCM1).

A start on these efforts was made during the 2005-06 monitoring year, when the discharge from the DSB-5 stormdrain (North Beach Creek) was monitored extensively during a storm in March 2006. An automatic sampler was used to collect samples representative of the first flush and a 24-hour period after the first flush. In addition to the usual stormwater analyses for nutrients, metals, OP pesticides, and aquatic toxicity the Permittees also analyzed these samples for dissolved organic carbon, pyrethroid pesticides, organochlorine pesticides, PCBs, polynuclear aromatic hydrocarbons, and oil and grease. The results of this monitoring will be presented in the 2005-06 PEA report and will be used as guidance for special investigations of the drains described in the preceding paragraph.

Measuring Direct Impacts to the ACRWs

The toxicity testing results and the aerial photographs of stormwater plumes were used to select two coastal receiving waters (off of North Beach Creek and Salt Creek) for nearshore monitoring during a significant stormwater runoff event in the upcoming year.

The discharge from North Beach Creek in Doheny has shown significant amounts of metals and toxicity during both dry weather and stormwater runoff conditions. The

spatial extent of the stormwater plume from this drain appears to be limited to the jetty immediately west of the mouth of the creek.

The discharge from Salt Creek has also shown significant amounts of toxicity in the mysid survival/growth tests. Although the watershed area and consequently the stormwater discharge volume are much smaller than those of San Juan or Aliso Creeks, the impact of Salt Creek on the nearshore habitat may be greater.

Because the Permittees do not currently possess an ocean-worthy vessel for offshore monitoring during storm conditions, a price agreement with a consultant will be established to perform the monitoring off the mouth of Salt Creek. The monitoring will be consistent with those used in the assessment of stormwater plumes conducted as part of the Bight '03 Regional Monitoring Program. Monitoring of the physical characteristics of the plume and sample collection will be conducted by the consultant. Sample analyses will be performed by the Permittees' analytical services and toxicity testing providers. The localized monitoring of the impacts from North Beach Creek near the Dana Point Harbor jetty will be conducted by Permittee staff.

Dana Point Harbor

The monitoring data indicate that at least one area is significantly impacted by urban runoff. To determine the type of contaminant causing the high toxicity in the benthic sediment near the outlet of East Basin stormdrain (DAPTEB), a sediment TIE will be conducted. In addition to the routine analyses for sediment chemistry these samples will also be analyzed for polynuclear aromatic hydrocarbons, mercury, and tributyl tin. If the cause of the toxicity is identified, a source identification study will be initiated in the watershed of the Golden Lantern stormdrain.

11.4.2 Database Improvements

A module will be created for the Labtrack database which will enable the Permittees to produce data files consistent with the SMC's Standardized Data Transfer Format (SDTF). The SDTF is a Microsoft Access based format that will allow data transfer between Southern California Stormwater agencies.

Table 11.1: Proportion of All Samples Exceeding AB411 Standards Near Coastal Stormdrains

Entire Year			AB411 Season		
Rank	Station	Avg Hits ¹	Rank	Station	Avg Hits
1	BLULGN	0.000	1	RIVERA	0.000
1	HEISLR	0.000	1	SCCS17	0.000
1	LADERA	0.000	1	SCCS52	0.000
1	PEARL	0.000	1	TRFCYN	0.000
1	TRFCYN	0.000	1	VICTRA	0.000
2	BLUBRD	0.003	1	WEST	0.000
3	DUMOND	0.004	1	BLUBRD	0.000
3	SCCS52	0.004	1	BLULGN	0.000
4	WEST	0.007	1	DUMOND	0.000
5	MARIPO	0.008	1	HEISLR	0.000
5	SCCS17	0.008	1	LADERA	0.000
6	LINDAL	0.016	1	LINDAL	0.000
6	RIVERA	0.016	1	MAINBC	0.000
7	CSBBR1	0.020	1	MARIPO	0.000
8	EMRLD	0.021	1	PEARL	0.000
9	ELMORO	0.022	2	PICO	0.015
10	PIER	0.023	2	ACM1	0.015
11	CLEO	0.041	2	CLEO	0.015
12	PICO	0.042	2	ELMORO	0.015
13	MAINBC	0.043	2	EMRLD	0.015
14	CSBMP1	0.050	3	PIER	0.023
15	DSB1	0.057	3	CSBBR1	0.023
15	VICTRA	0.057	4	CSBMP1	0.061
16	ACM1	0.062	5	DSB1	0.068
17	POCHE	0.081	6	POCHE	0.121
18	DSB4	0.133	7	DSB4	0.136
19	SCM1	0.238	8	DSB5	0.188
20	SJC1	0.455	9	SJC1	0.242
21	DSB5	0.493	10	SCM1	0.288

¹ At each site, one (upcoast) or two samples (upcoast and downcoast) are collected from the surfzone. For each sample three tests for pathogen indicator bacteria (total coliform, fecal coliform, and Enterococcus) are conducted. Hits represent the ratio of the number of exceedances of the AB-411 standards to the total number of tests conducted.

SECTION 11.0, WATER QUALITY MONITORING SUMMARY AND ANALYSES

Table 11.2: Conditions at Drains of Highest Concern.

Drain	Exceedances (proportion)		Regression (p value)		Mouth	Flow ¹	Watershed (lower reach)
	Year	AB411	Year	AB411			
Aliso Creek ACM1	.06	.07	.0001 All	.04 ENT .49 FC .17 TC	Occasionally barricaded by berm	Flows ~90% of time 2 nd highest flow	Partly rural, wilderness park
Salt Creek SCM1	.24	.29	.001 ENT .16 FC .40 TC	.04 ENT .26 FC .03 TC	Large stagnant scour pond always present on beach, with many birds Flows from pond to surfzone	Flows ~90% of time 3 rd highest flow	Underground last 3 – 400 yds Aboveground through golf course and residential area
Doheny Beach – North Beach Creek Mouth DSB5	.49	.19	.0001 ENT .002 FC .0001 TC	.0001 ENT .01 FC .0002 TC	Long stagnant section at bottom end Stagnant portion of harbor at drain discharge	Low gradient 5 th highest flow, much lower than other 4 drains Substantial flow only during storms Diverted during summer	Drains parking lot and state park with wildlife near mouth
San Juan Creek SJC1	.45	.24	.29 ENT 1 FC 1 TC	1 All	Occasionally barricaded by berm in summer Stagnant lagoon that drains to surfzone under sand	Flows most of year Highest flow	Residential area Bird refuge at bottom with 1 – 2000 birds
Poche Beach POCHE	.08	.12	.0001 ENT .0006 FC .001 FC	.005 ENT .02 FC .01 TC	Large stagnant scour pond that regularly flows to surfzone	Flows ~80% of time 4 th highest flow	Entirely residential

¹ Flow ranks are relative and refer only to this group of five drains.

SECTION 11.0, WATER QUALITY MONITORING SUMMARY AND ANALYSES

Table 11.3: Summary of Exceedances of Acute Saltwater CTR Criteria at Ambient Coastal Receiving Water Stations, 2002-2005

Station	Acute CTR Criterion		Cd		Cr		Cu		Pb		Ni		Zn	
	42 µg/L		100 µg/L		4.8 µg/L		210 µg/L		74 µg/L		90 µg/L			
	# Samples		Exceeded CTR Criterion											
	Storm	Dry	Storm	Dry	Storm	Dry	Storm	Dry	Storm	Dry	Storm	Dry	Storm	Dry
AB-1		1						1						
ACM-1	3	9						1						
DAPTDC	3	5					1	2						
DAPTEB	3	5					1	4						
DAPTLB	3	3						1						
DAPTLR	3	4						1						
DAPTWB	3	5					1	5						
DSB-1	4	1					3				2	1	1	
DSB-3	2	1					2	1			1		1	
DSB-4		1						1						
DSB-5	3	4	2	2			1	3			2	3	2	3
LB-1	1	2					1	1						1
LB-2	2	3					2	4					1	
LB-3	3	5					2	1						
LB-4	3	5					2	5						1
NI-1	1	2					1	2			1	1		
SCM-1	5	10					3	7						
SJC-1	6	8												
Totals	48	74	2	2			20	40			6	5	5	5

SECTION 11.0, WATER QUALITY MONITORING SUMMARY AND ANALYSES

Table 11.4: Overall Average Level of Toxicity at Ambient Coastal Receiving Water Stations, 2002 - 2005

Station	Watershed	Weather	# Samples	Average Effect ¹
ACM-1	Aliso Creek	Dry	8	31.25
ACM-1	Aliso Creek	Storm	3	66.67
DAPTDC	Dana Point Coastal Streams	Dry	3	16.67
DAPTEB	Dana Point Coastal Streams	Dry	6	16.67
DAPTLB	Dana Point Coastal Streams	Dry	2	0.00
DAPTLR	Dana Point Coastal Streams	Dry	3	16.67
DAPTWB	Dana Point Coastal Streams	Dry	6	8.33
DAPTDC	Dana Point Coastal Streams	Storm	2	0.00
DAPTEB	Dana Point Coastal Streams	Storm	2	0.00
DAPTLB	Dana Point Coastal Streams	Storm	4	25.00
DAPTLR	Dana Point Coastal Streams	Storm	2	0.00
DAPTWB	Dana Point Coastal Streams	Storm	2	0.00
DSB-1	San Juan Creek	Dry	3	83.33
DSB-3	San Juan Creek	Dry	2	75.00
DSB-4	San Juan Creek	Dry	1	50.00
DSB-5	San Juan Creek	Dry	5	90.00
DSB-1	San Juan Creek	Storm	2	75.00
DSB-3	San Juan Creek	Storm	1	100.00
DSB-5	San Juan Creek	Storm	1	100.00
LB-2	Laguna Coastal Streams	Dry	3	50.00
LB-3	Laguna Coastal Streams	Dry	4	25.00
LB-4	Laguna Coastal Streams	Dry	3	66.67
LB-2	Laguna Coastal Streams	Storm	3	50.00
LB-3	Laguna Coastal Streams	Storm	4	62.50
LB-4	Laguna Coastal Streams	Storm	1	0.00
NI-1	Dana Point Coastal Streams	Dry	2	75.00
SCM-1	Dana Point Coastal Streams	Dry	8	43.75
SCM-1	Dana Point Coastal Streams	Storm	5	80.00
SJC-1	San Juan Creek	Dry	6	30.95
SJC-1	San Juan Creek	Storm	4	50.00

¹ Average effect is calculated as the percentage of samples in which the effect in the undiluted sample of a multiple dilution test exceeded 25%. Effect = percent mortality in the mysid survival/growth test and percentage of failed fertilization in the sea urchin test. All toxicity testing results are relative to results from control samples conducted concurrently with the environmental samples.

SECTION 11.0, WATER QUALITY MONITORING SUMMARY AND ANALYSES

Table 11.5: Summary of Exceedances of Acute CTR Criteria Across the Region

Weather	CTR Type	Station	Watershed	# Samples	% Samples Exceeding CTR Criteria		
					Cu	Ni	Zn
Dry	FW*	ACJ01	Aliso Creek	3	0	0	0
Dry	FW	ACM1	Aliso Creek	7	0	0	0
Dry	FW	AC-PPD	Aliso Creek	4	0	0	0
Dry	FW	EC-MD	Aliso Creek	2	0	0	0
Dry	SW	ACM1	Aliso Creek	7	14	0	0
Storm	FW	ACJ01	Aliso Creek	55	0	0	0
Storm	FW	ACM1	Aliso Creek	3	0	0	0
Storm	SW	ACJ01	Aliso Creek	55	75	0	0
Storm	SW	ACM1	Aliso Creek	3	0	0	0
Dry	FW	SCM1	Dana Point Coastal Streams	7	14	0	0
Dry	FW	SC-MB	Dana Point Coastal Streams	3	0	0	0
Dry	SW	DAPTDC	Dana Point Coastal Streams	3	67	0	0
Dry	SW	DAPTEB	Dana Point Coastal Streams	3	100	0	0
Dry	SW	DAPTLB	Dana Point Coastal Streams	2	100	0	0
Dry	SW	DAPTLR	Dana Point Coastal Streams	3	33	0	0
Dry	SW	DAPTWB	Dana Point Coastal Streams	3	100	0	0
Dry	SW	SCM1	Dana Point Coastal Streams	7	57	0	14
Storm	FW	SCM1	Dana Point Coastal Streams	5	0	0	0
Storm	SW	SCM1	Dana Point Coastal Streams	5	80	0	0
Dry	FW	LC-133	Laguna Coastal Streams	3	0	0	0
Dry	SW	LB-2	Laguna Coastal Streams	3	67	0	0
Dry	SW	LB-3	Laguna Coastal Streams	4	0	0	0
Dry	SW	LB-4	Laguna Coastal Streams	3	100	0	0
Storm	FW	LCWI02	Laguna Coastal Streams	35	3	0	3
Storm	SW	LB-1	Laguna Coastal Streams	2	100	0	50
Storm	SW	LB-2	Laguna Coastal Streams	3	100	0	33
Storm	SW	LB-3	Laguna Coastal Streams	5	60	0	0
Storm	SW	LB-4	Laguna Coastal Streams	2	100	0	50
Storm	SW	LCWI02	Laguna Coastal Streams	35	71	0	9

SECTION 11.0, WATER QUALITY MONITORING SUMMARY AND ANALYSES

Weather	CTR Type	Station	Watershed	# Samples	% Samples Exceeding CTR Criteria		
					Cu	Ni	Zn
Dry	FW	PDCM01	San Clemente Coastal Streams	2	0	0	0
Dry	FW	SDCM02	San Clemente Coastal Streams	4	0	0	0
Dry	SW	PDCM01	San Clemente Coastal Streams	2	100	100	0
Dry	SW	SDCM02	San Clemente Coastal Streams	4	50	0	0
Storm	FW	PDCM01	San Clemente Coastal Streams	48	0	0	0
Storm	FW	SDCM02	San Clemente Coastal Streams	36	3	0	0
Storm	SW	PDCM01	San Clemente Coastal Streams	48	96	63	15
Storm	SW	SDCM02	San Clemente Coastal Streams	36	89	22	8
Dry	FW	REF-BC	San Juan Creek	2	0	0	0
Dry	FW	REF-CS	San Juan Creek	3	0	0	0
Dry	FW	REF-TCAS	San Juan Creek	2	0	0	0
Dry	FW	SJC1	San Juan Creek	7	0	0	0
Dry	FW	SJC-74	San Juan Creek	2	0	0	0
Dry	FW	SJC-CC	San Juan Creek	3	0	0	0
Dry	FW	TC-AP	San Juan Creek	2	0	0	0
Dry	FW	TC-DO	San Juan Creek	2	0	0	0
Dry	SW	DSB5	San Juan Creek	3	67	33	33
Dry	SW	SJC1	San Juan Creek	5	0	0	20
Storm	FW	SJC1	San Juan Creek	5	0	0	0
Storm	FW	SJNL01	San Juan Creek	47	0	0	0
Storm	FW	TC-DO	San Juan Creek	35	0	0	0
Storm	SW	DSB1	San Juan Creek	3	100	33	0
Storm	SW	SJC1	San Juan Creek	5	20	0	0
Storm	SW	SJNL01	San Juan Creek	47	53	0	0
Dry	FW	CC-CR	San Mateo Creek	2	0	0	0

*Freshwater CTR criteria are a function of the water hardness

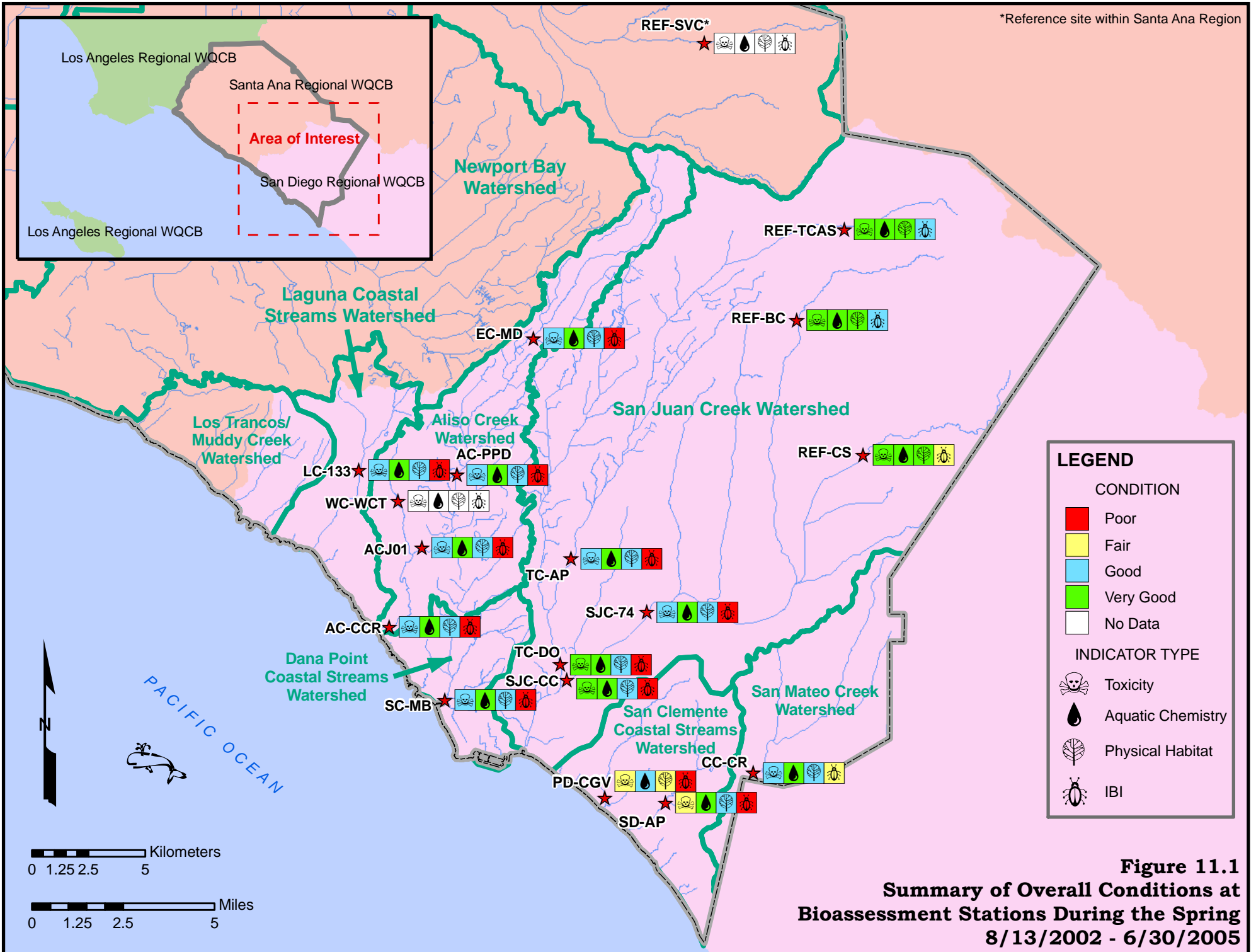


Figure 11.1
Summary of Overall Conditions at
Bioassessment Stations During the Spring
8/13/2002 - 6/30/2005

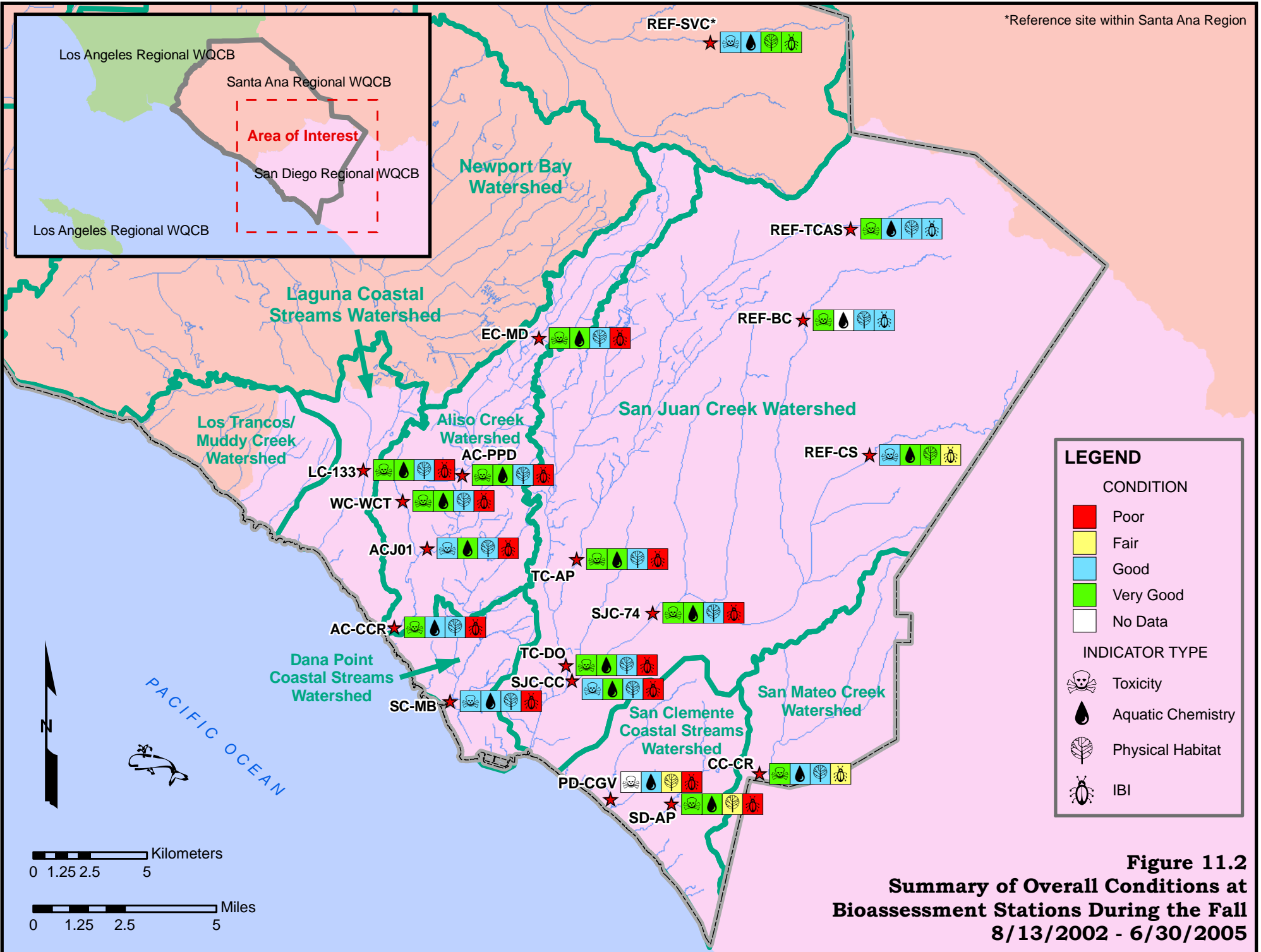


Figure 11.3: Two-way Coincidence Table of Stations and Species for all Bioassessment Surveys. Reference Stations are Positioned at the Left and More Impacted Stations to the Right

Bioassessment - 2002-2005 - All Data

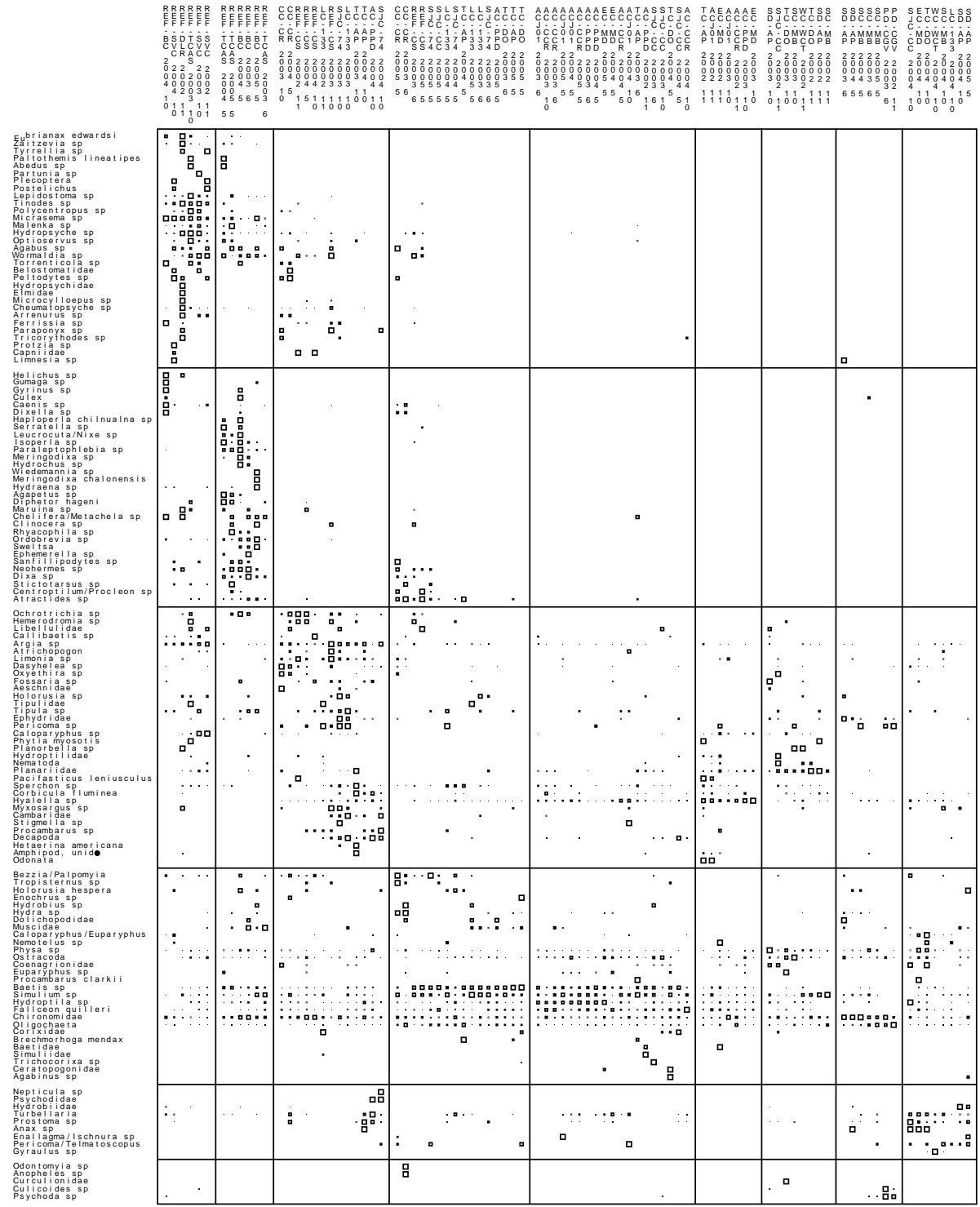


Figure 11.4: Overall Relationship Between IBI Scores and Physical Habitat Scores for all Bioassessment Surveys.

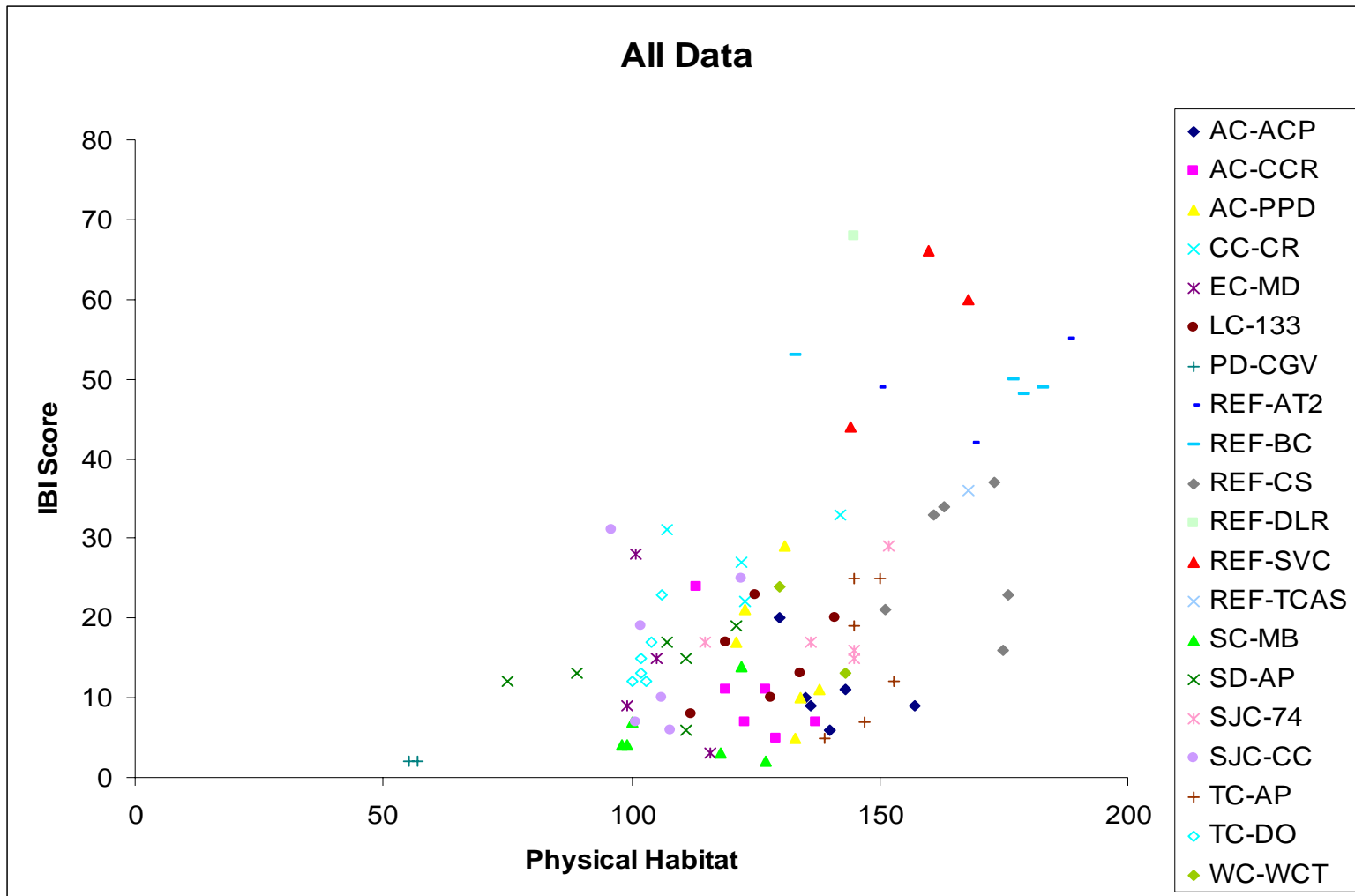
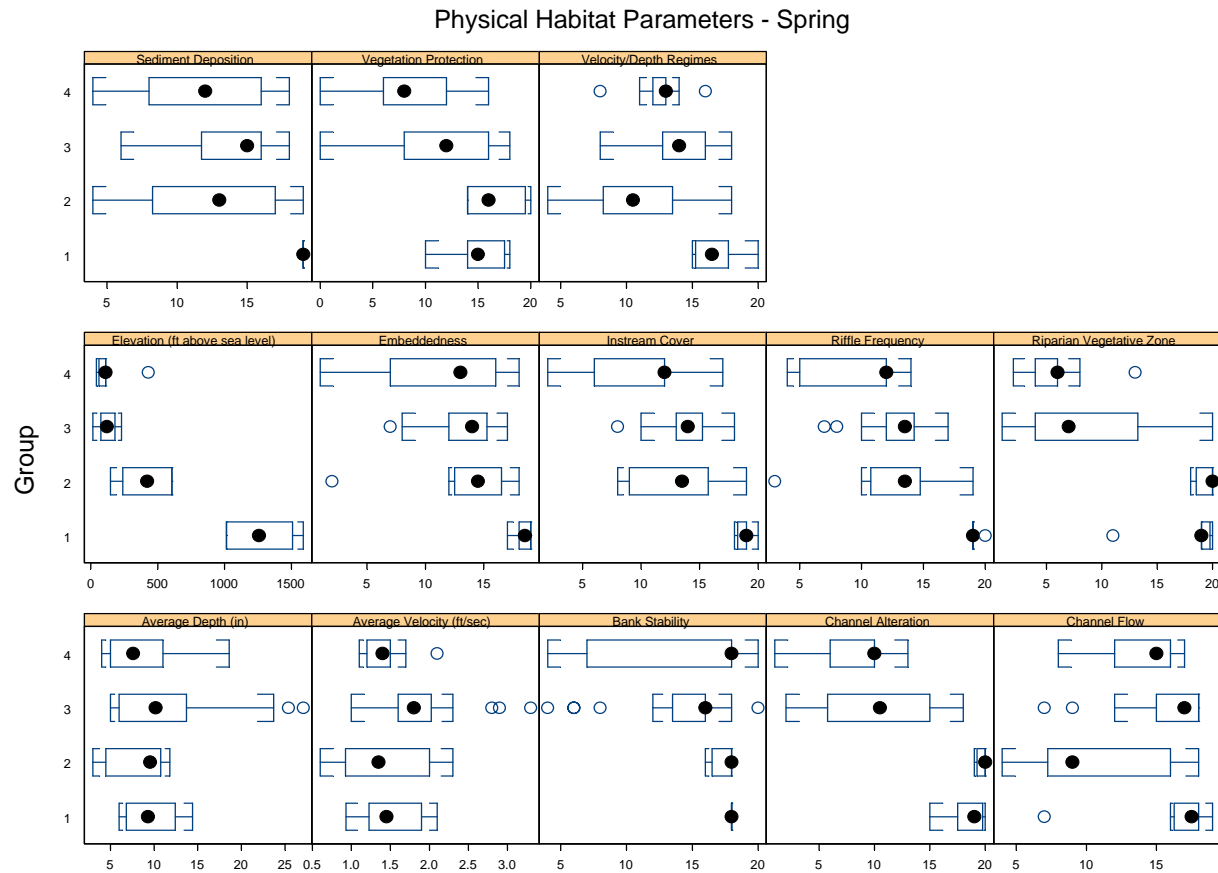
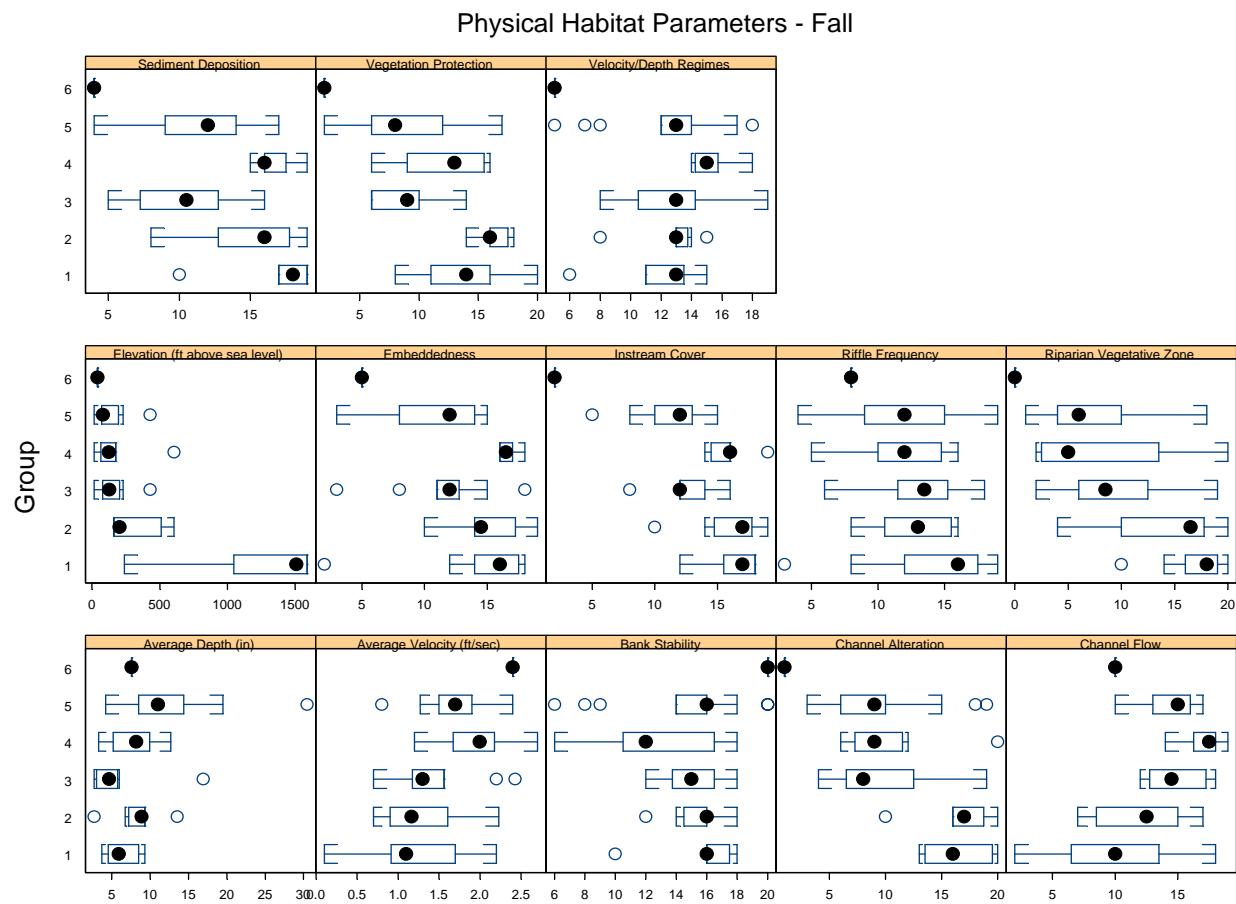


Figure 11.5a: Box and Whisker Plots of Related Physical Habitat Parameters for Spring Bioassessment Surveys. “Group” Refers to Station Groups in the Cluster Analysis, with Group 1 the Reference Sites and Groups 2 – 4 the Increasingly More Impacted Sites¹

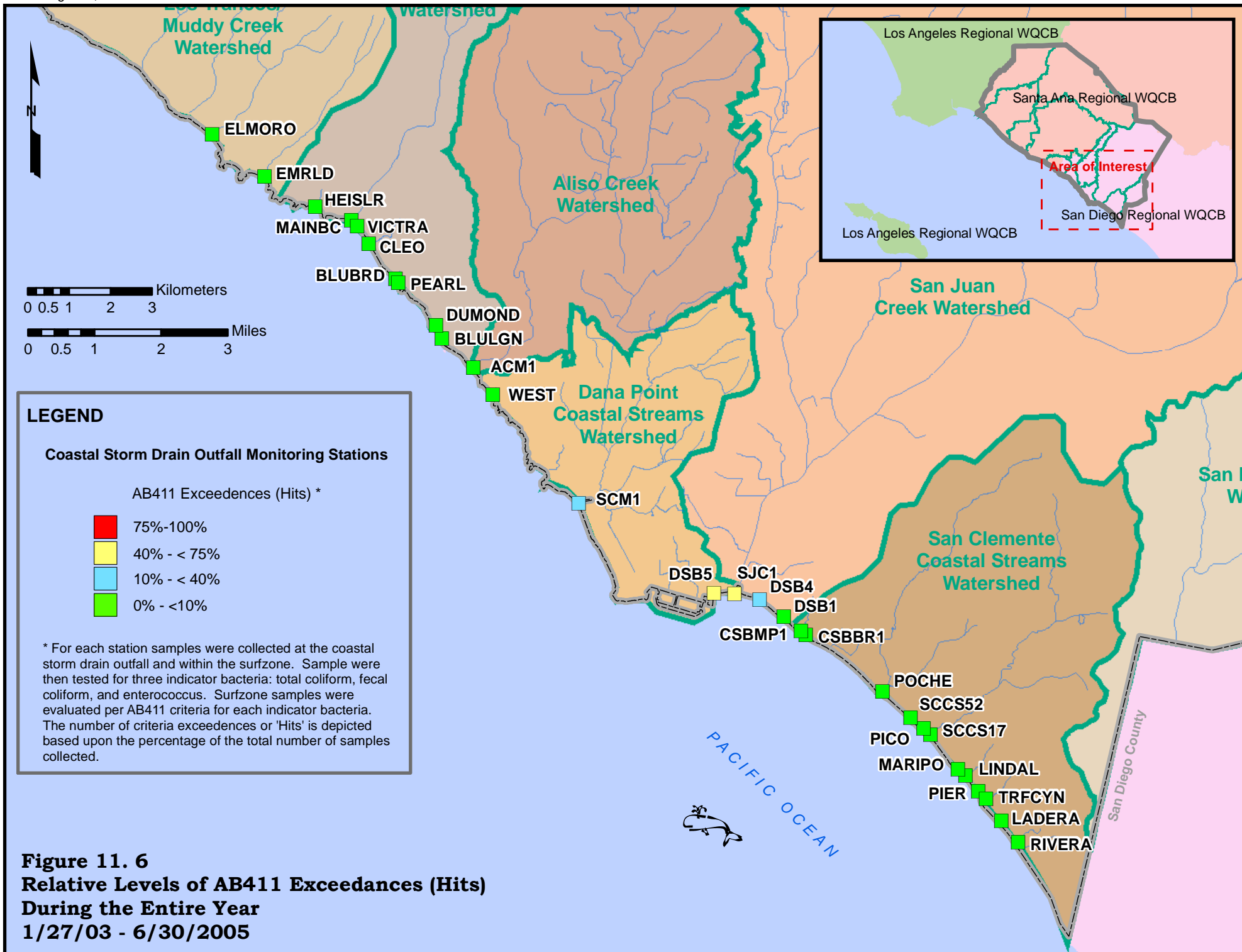


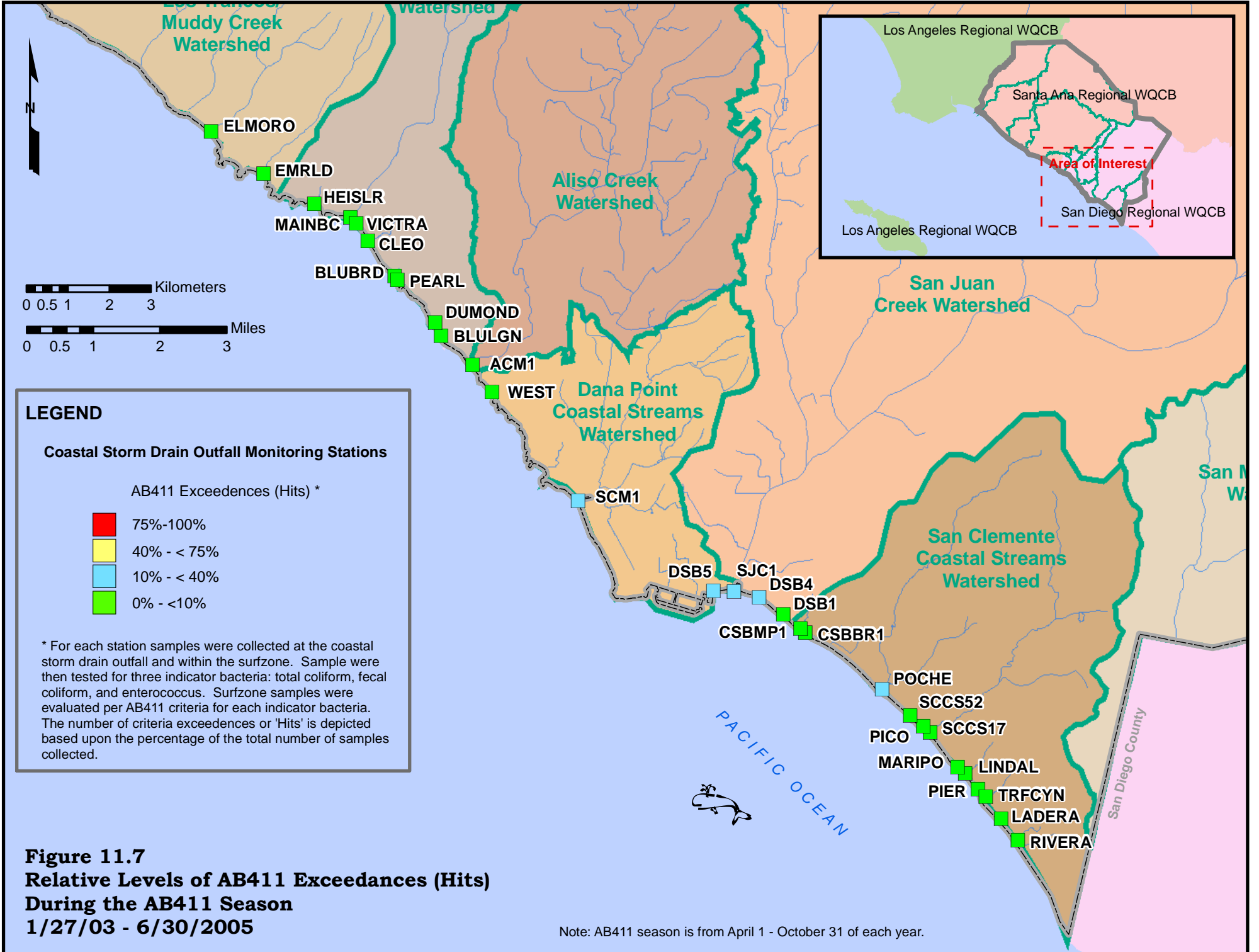
¹ The four site groups were defined in a separate cluster analysis of all spring samples, not shown here.

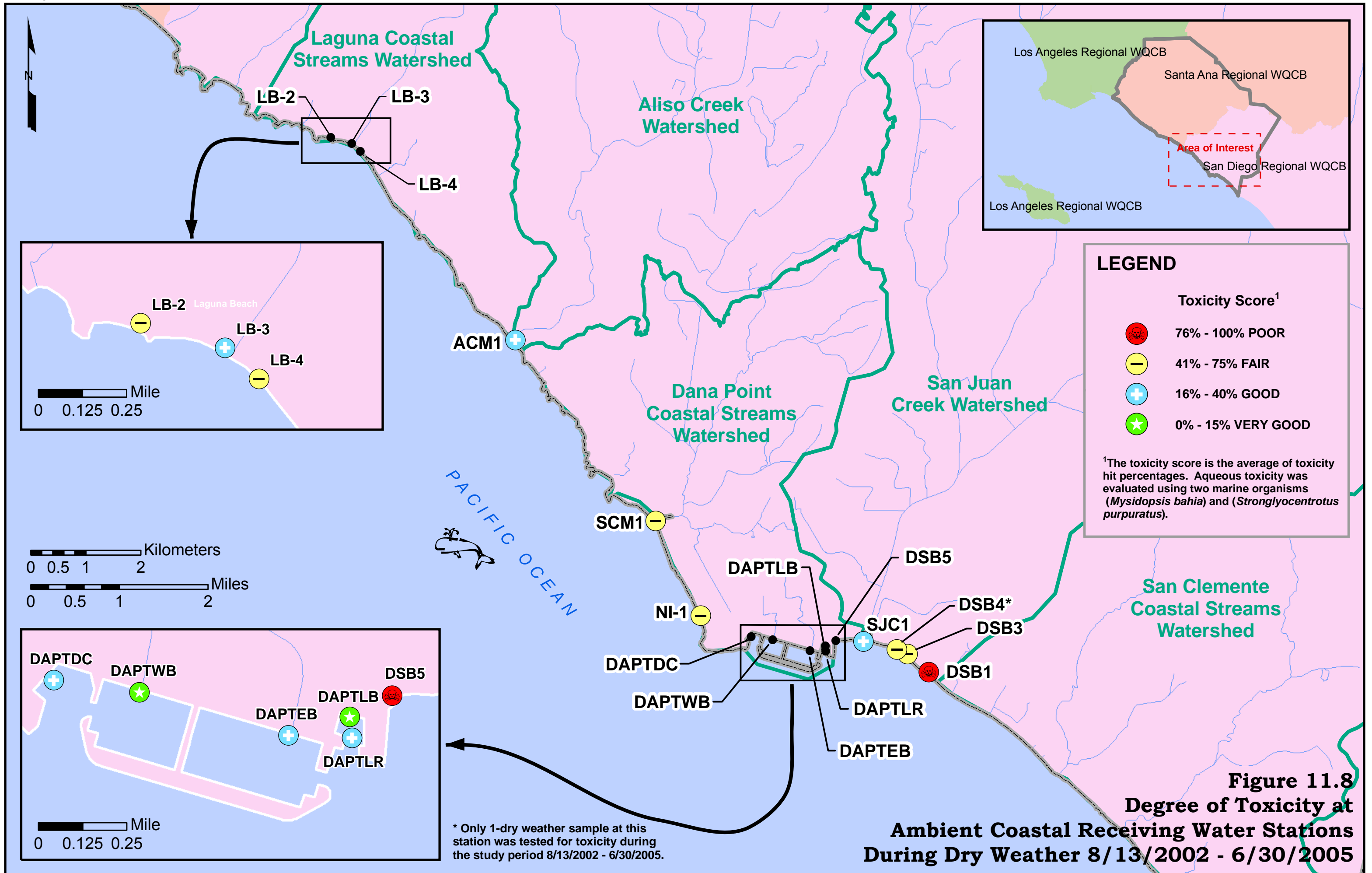
Figure 11.5b: Box and Whisker Plots of Related Physical Habitat Parameters for Fall Bioassessment Surveys. “Group” Refers to Station Groups in the Cluster Analysis, with Group 1 the Reference Sites and Groups 2 – 6 the Increasingly More Impacted Sites¹

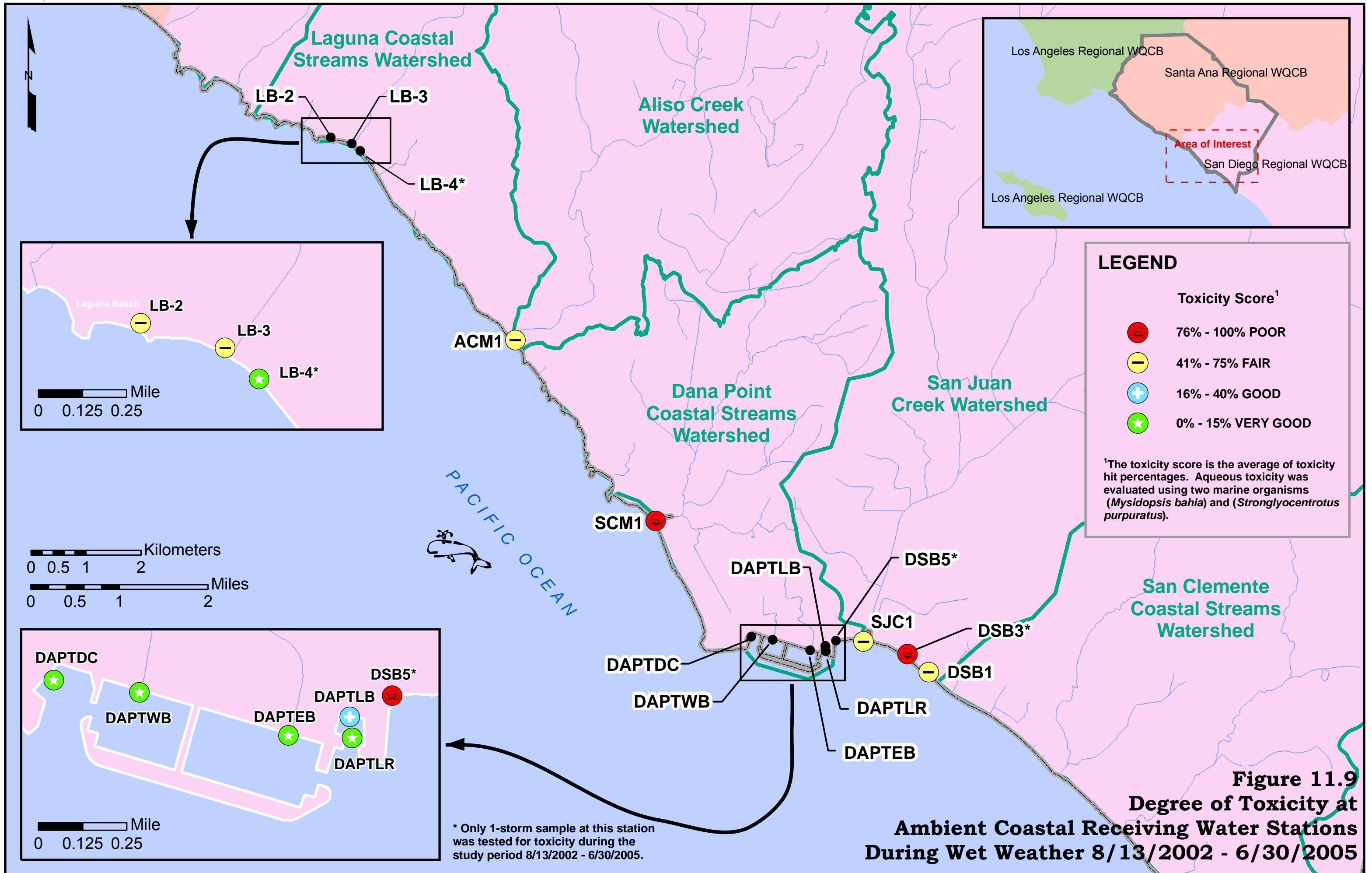


¹ The six site groups were defined in a separate cluster analysis of all fall samples, not shown here.



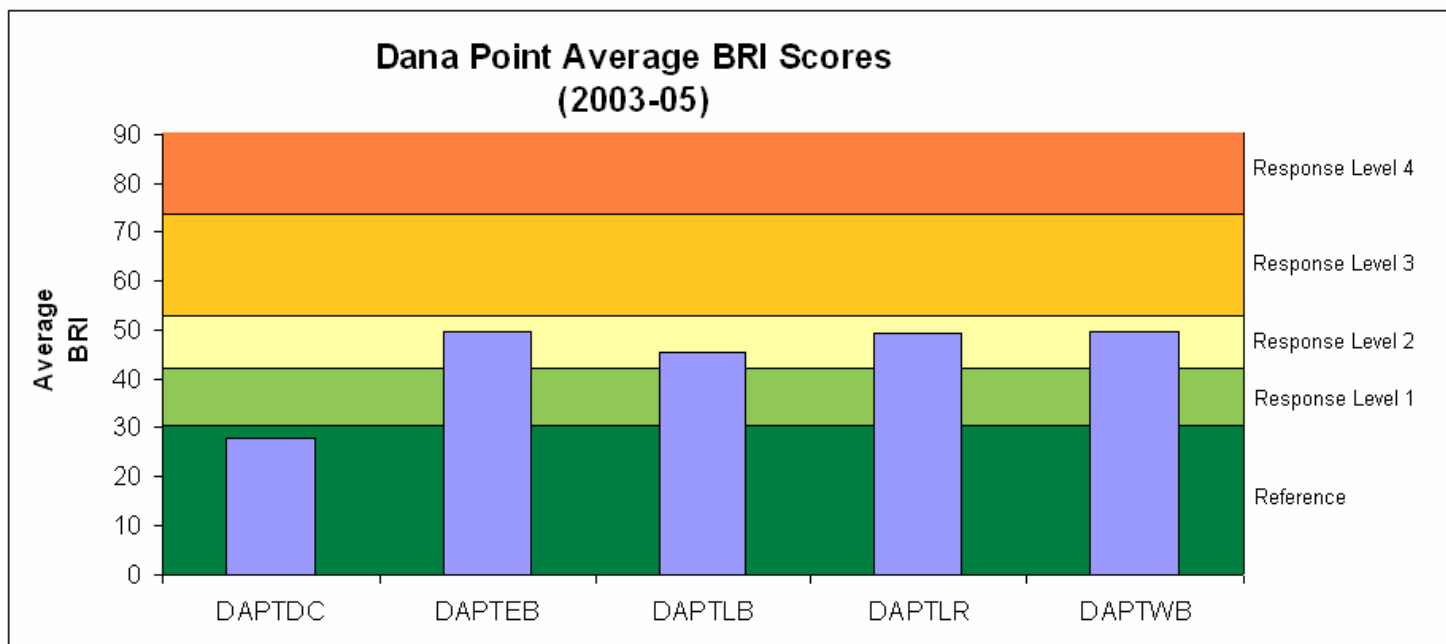




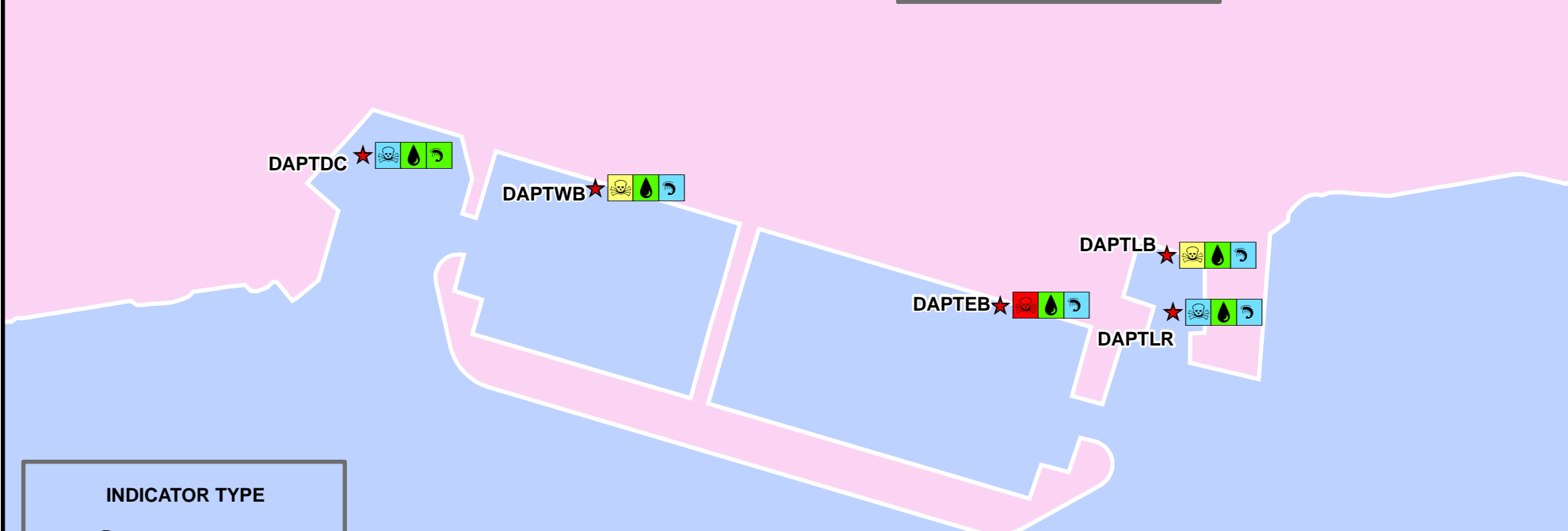
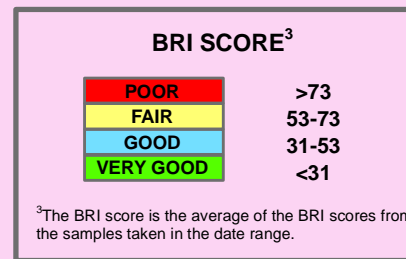
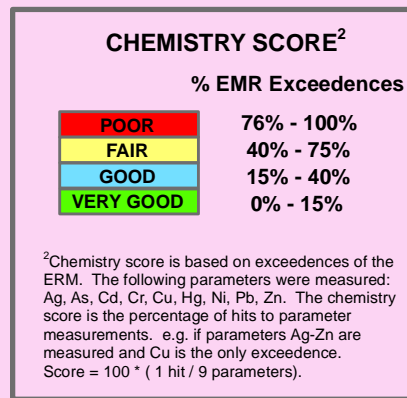
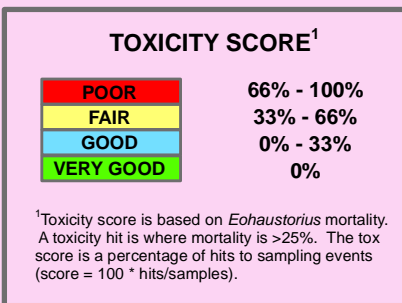


* Only 1-storm sample at this station was tested for toxicity during the study period 8/13/2002 - 6/30/2005.

Figure 11.11: Average BRI Scores in Dana Point Harbor Over All Sampling Periods



BRI Threshold	Level	Definition
<31	Reference	
31-42	Response Level 1	>5% of reference species lost
42-53	Response Level 2	>25% of reference species lost
53-73	Response Level 3	>50% of reference species lost
>73	Response Level 4	>80% of reference species lost



INDICATOR TYPE

- Toxicity
- Sediment Chemistry
- BRI

SAMPLE DATE RANGES

Fall 2003 - Spring 2005 Toxicity
6/1/2005 - 12/31/2005 Chemistry
Fall 2003 - Spring 2005 BRI

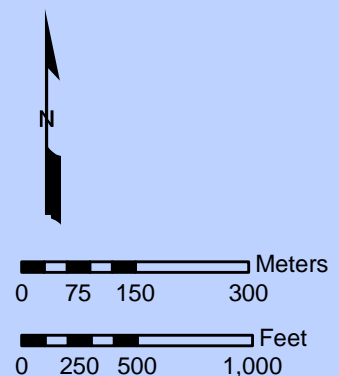


Figure 11.12
Summary of Conditions in the Sediment
at Dana Point Harbor

Figure 11.13: Linear Regression of BRI Score against Toxicity to Eohaustorius

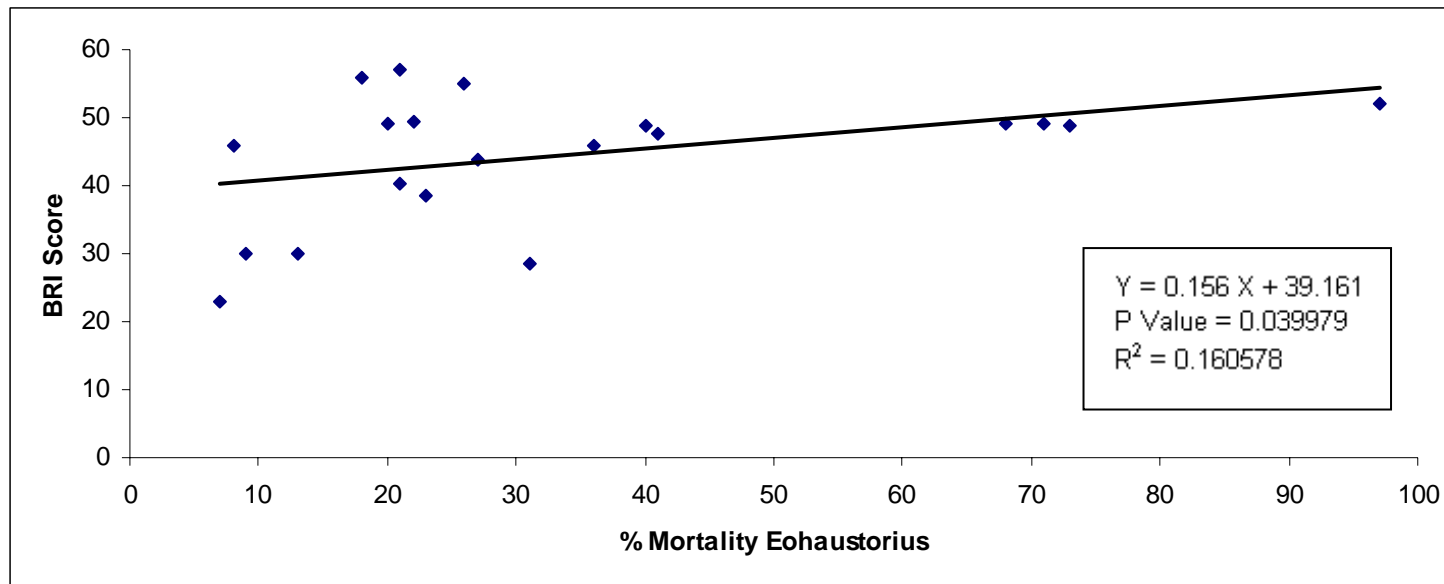
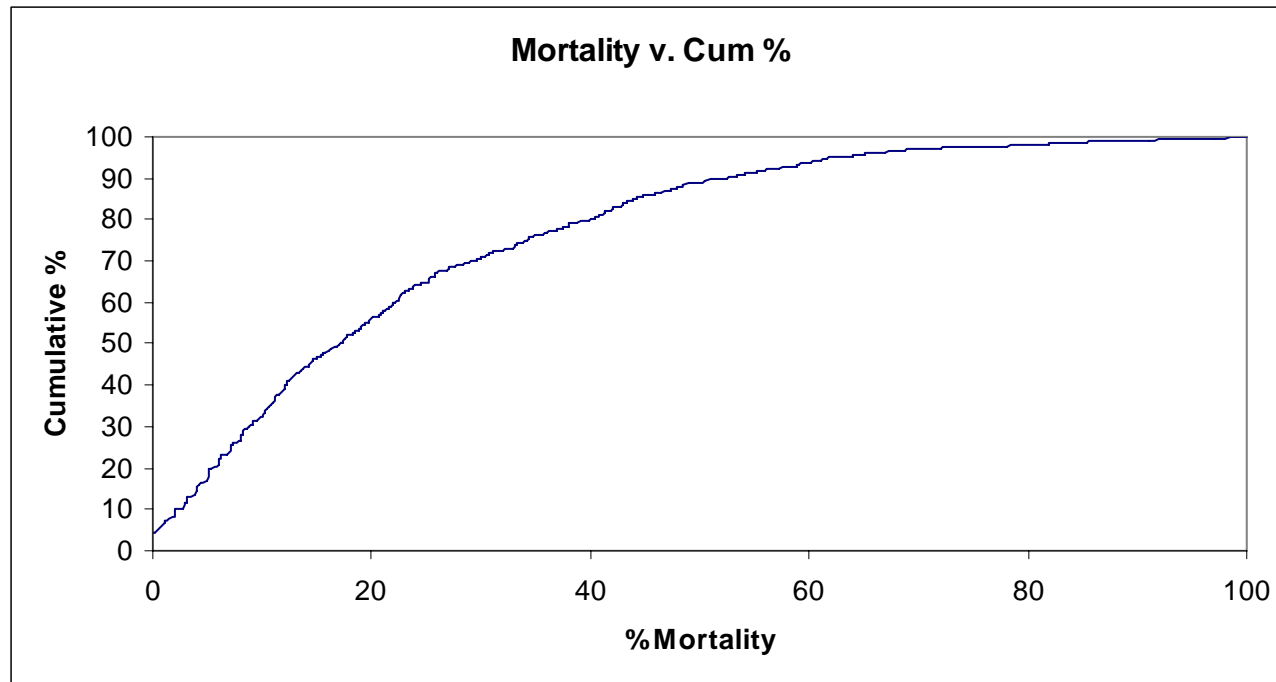
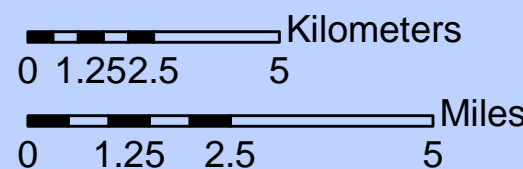
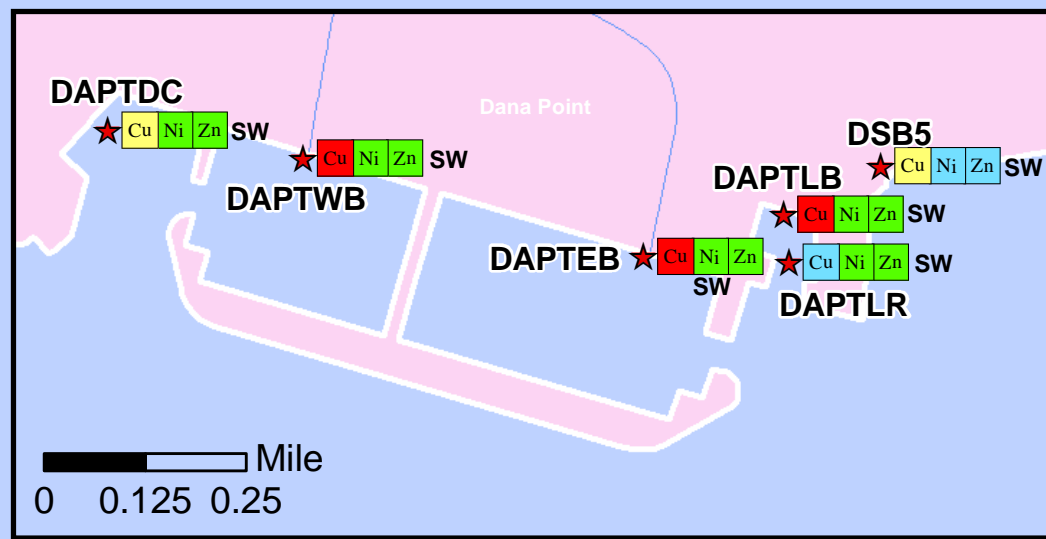
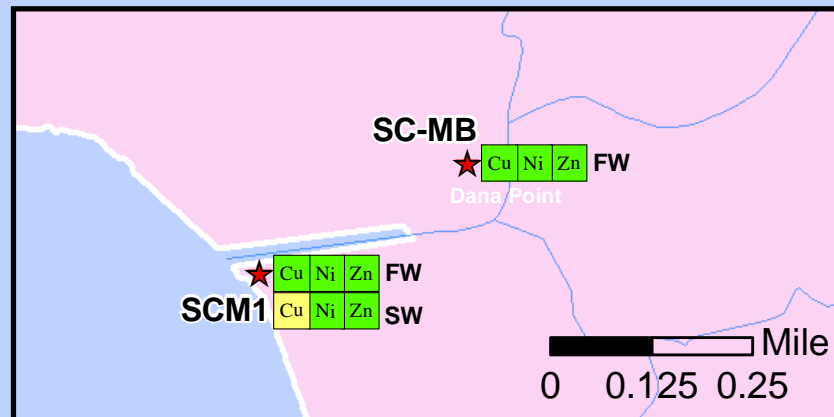
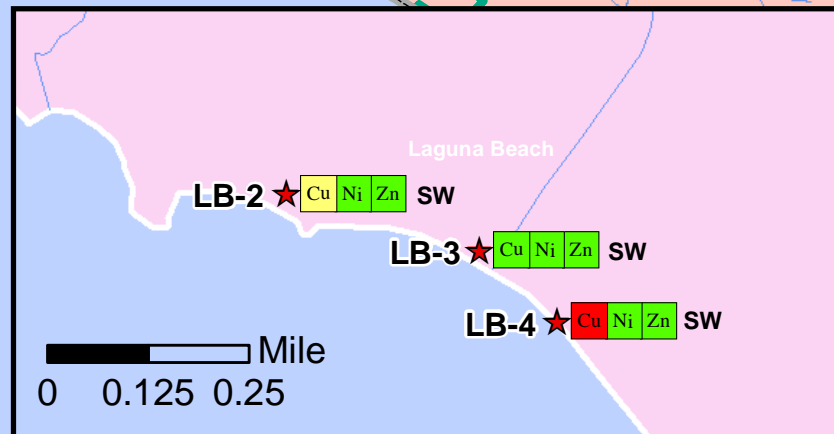
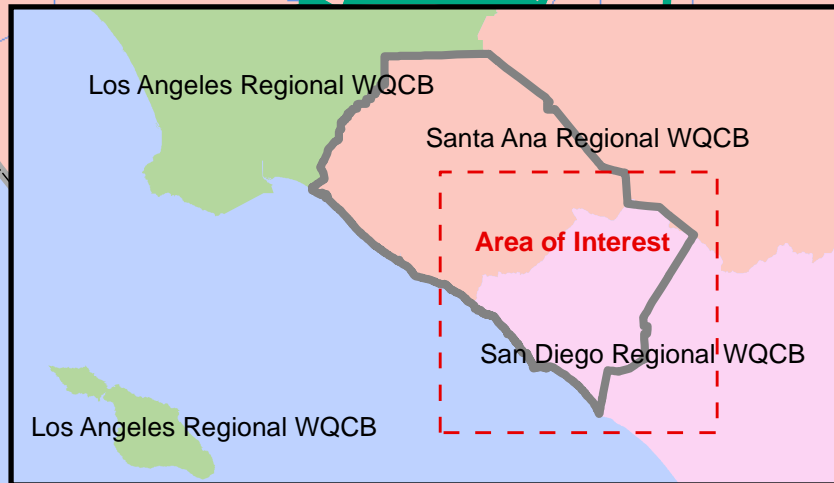
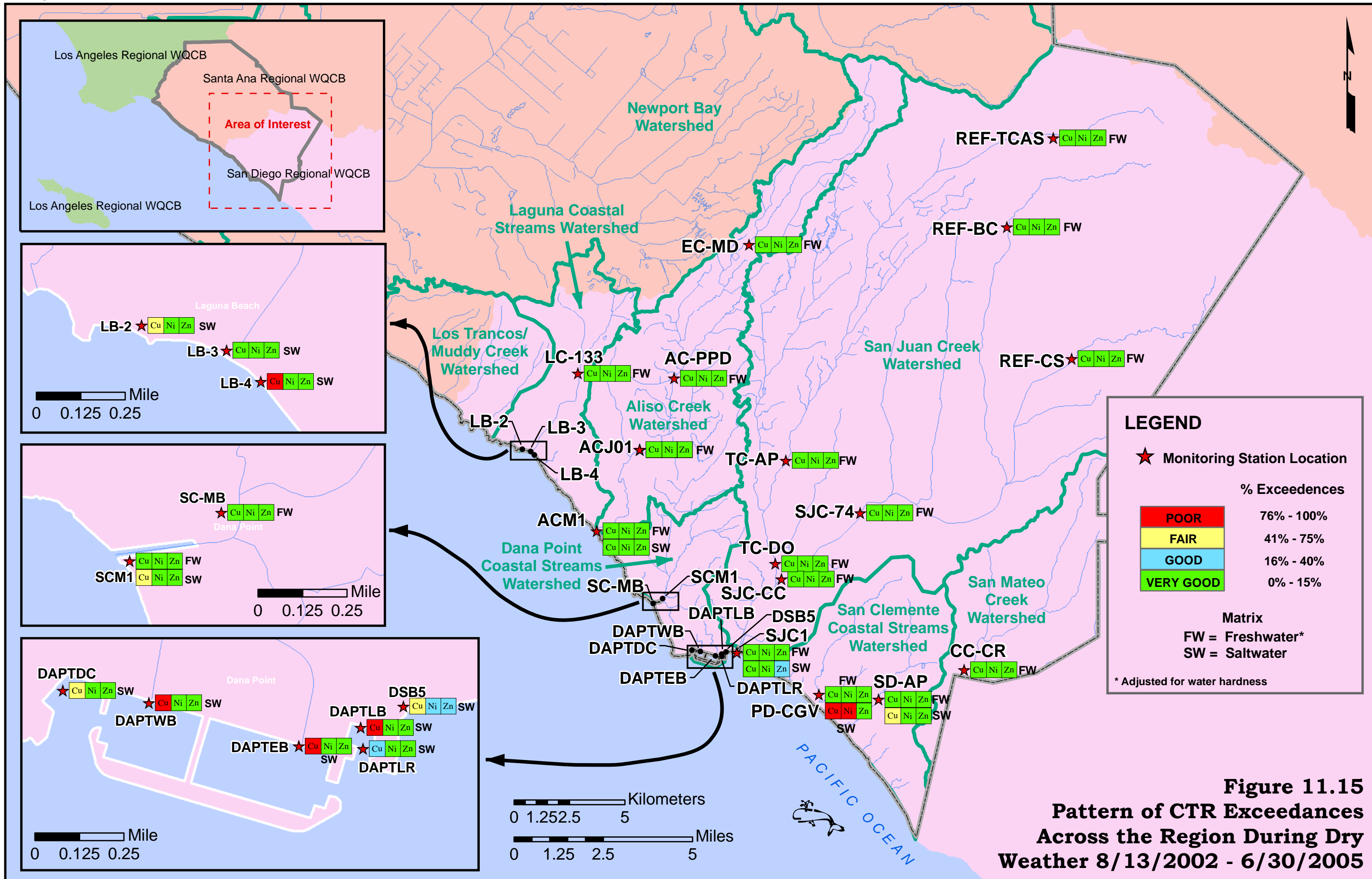
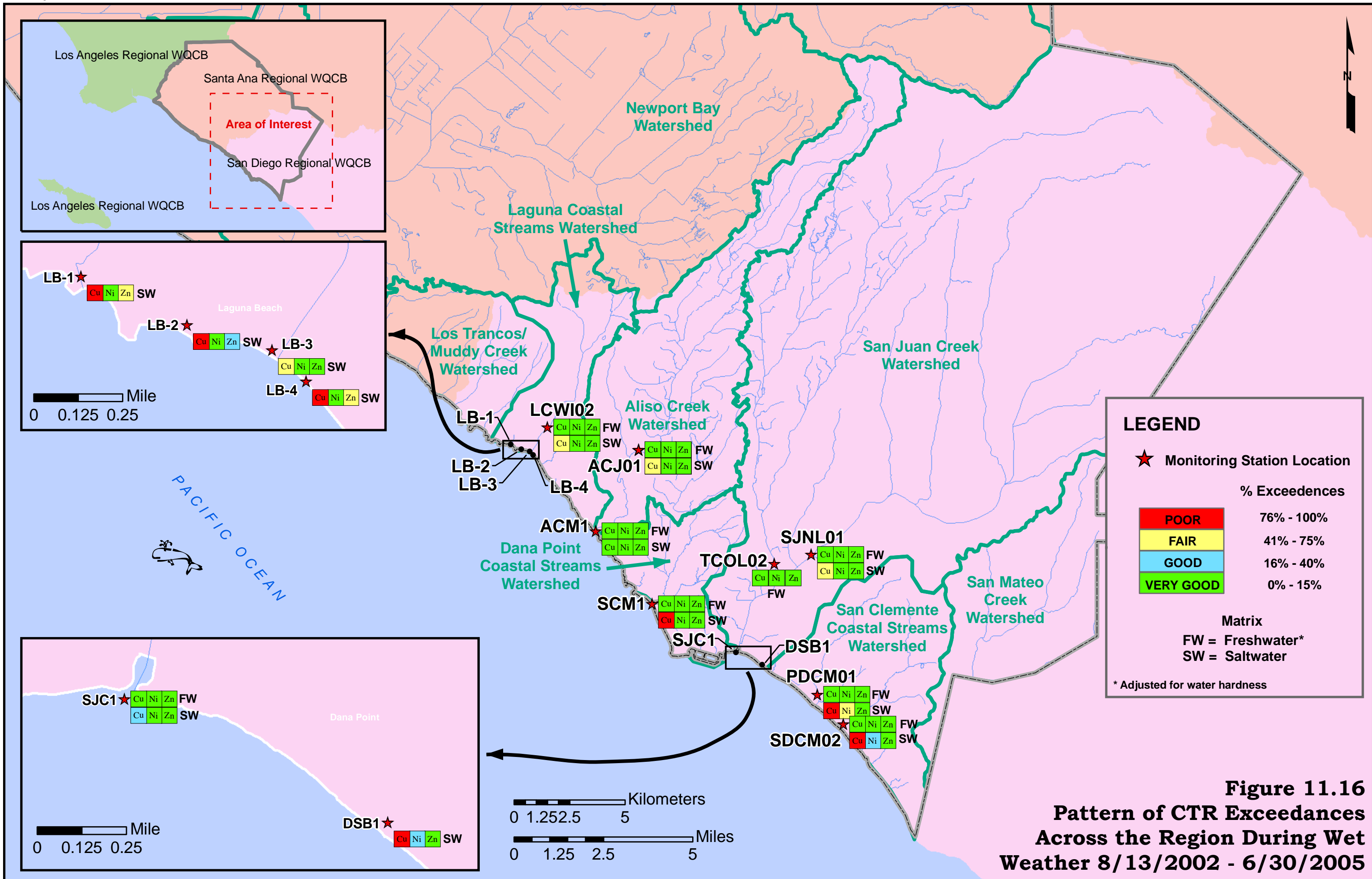
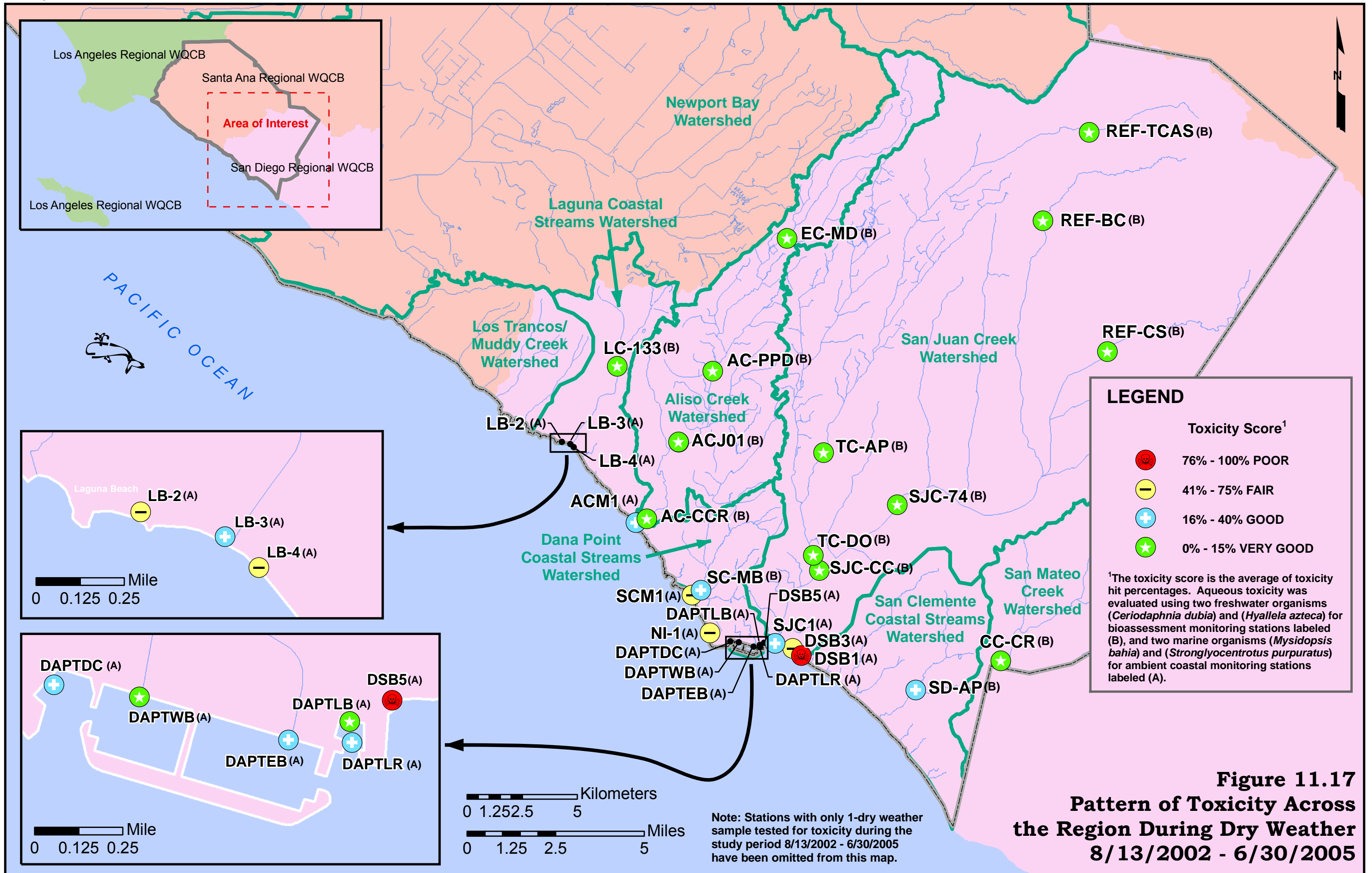


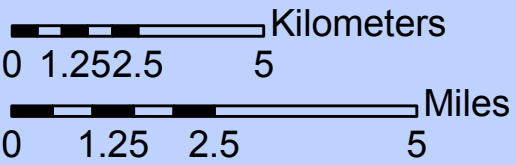
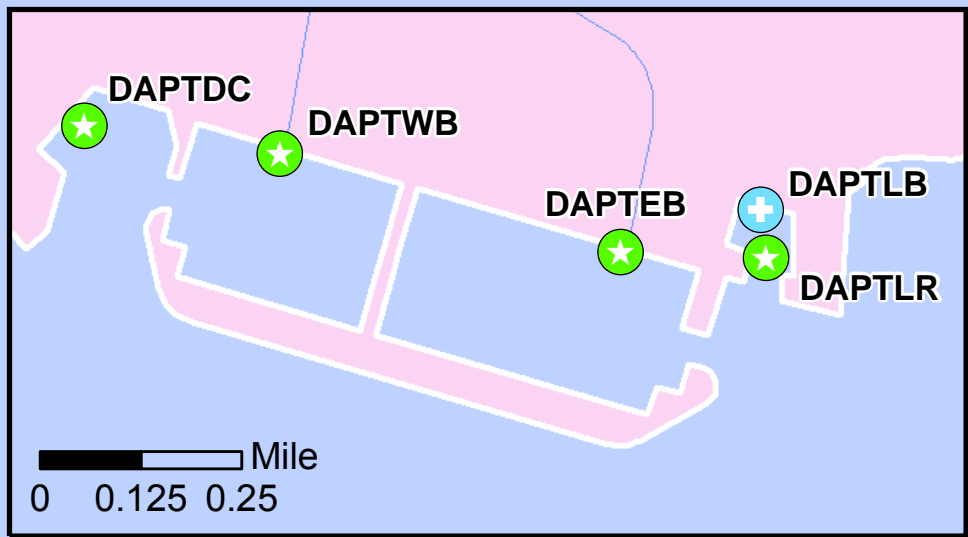
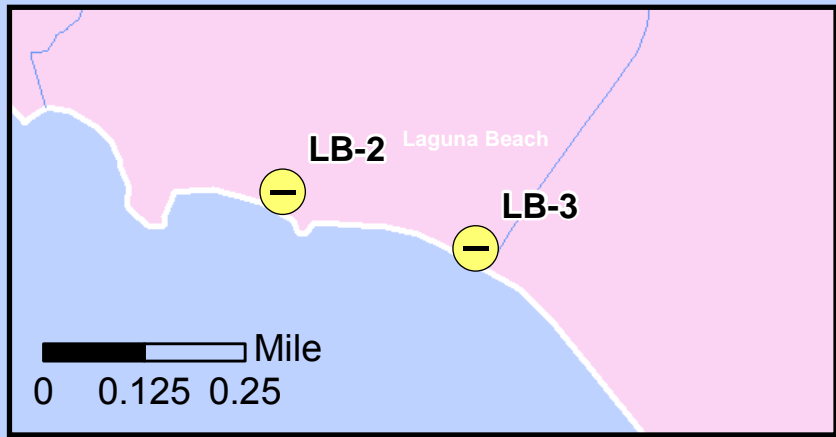
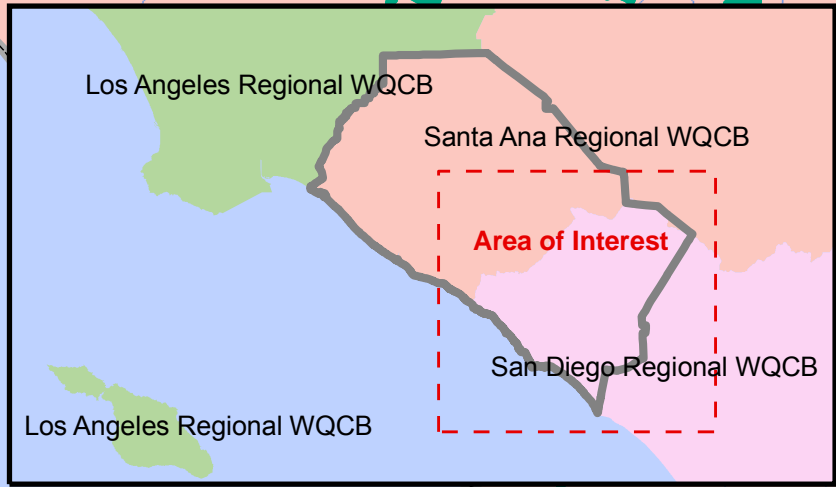
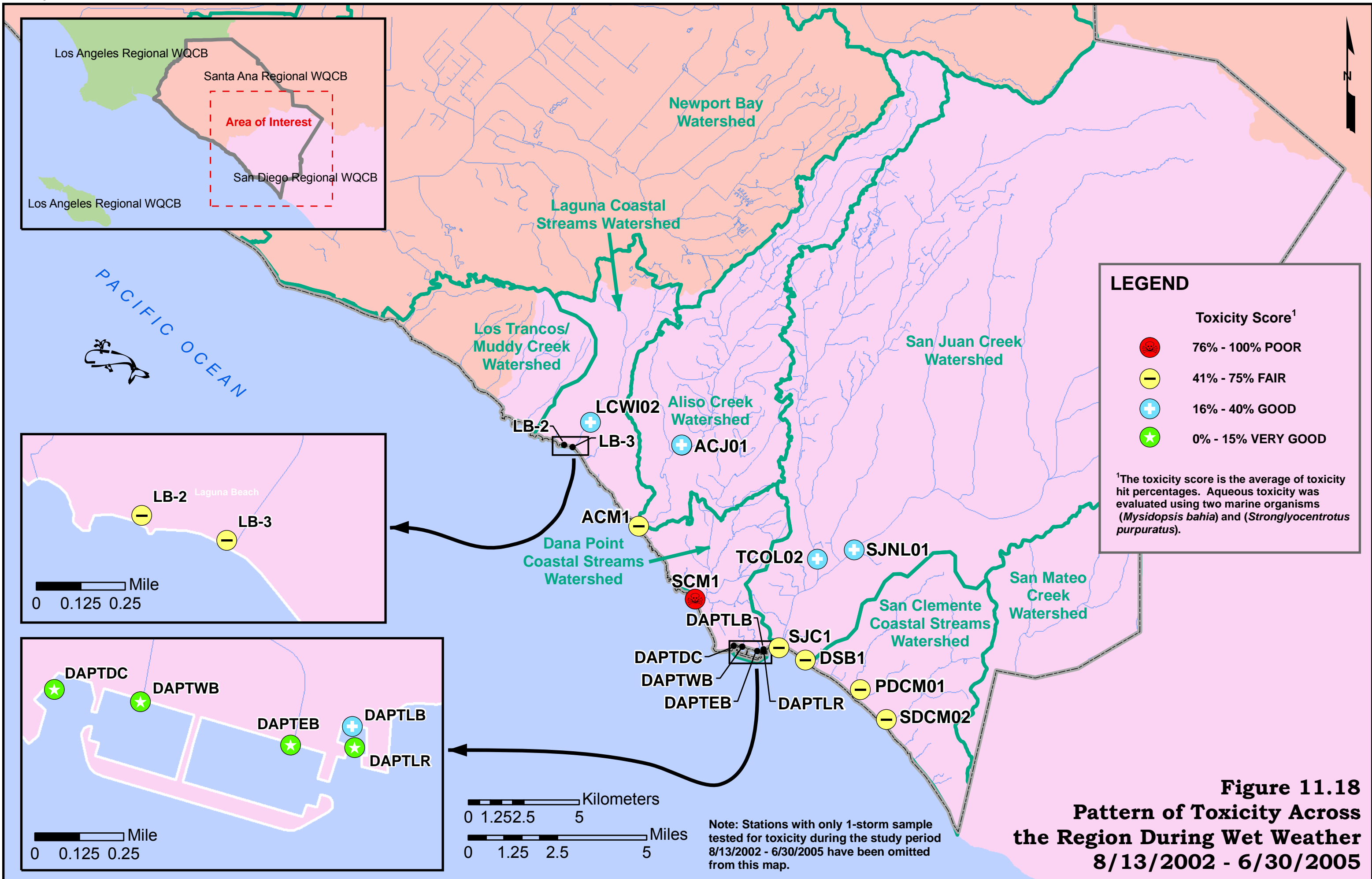
Figure 11.14: Cumulative Frequency Distribution Curve of Sediment Toxicity From the Bight '03 Survey of Conditions in Embayments Throughout Southern California











12.0 WATERSHED ACTION PLANS

12.1 Introduction

The Third Term Permits have, with varying degrees of specificity, required the Permittees to develop and implement a watershed-based approach to urban stormwater management to complement the established jurisdictional-based approaches. In the area of the County under the jurisdiction of the San Diego Regional Board, Watershed Urban Runoff Management Plans (WURMPs) termed DAMP/Watershed Action Plans¹ (WAPs), have been prepared for each of the six principal watersheds. In the Santa Ana Regional Board area of the County, which has a long history of watershed planning focused on the Newport Bay Watershed, the Permittees were required to update Appendix N of the DAMP to reflect the implementation measures and schedules related to the fecal coliform TMDL.

Watershed management is the term used for the approach to water quality planning that places an emphasis on the watershed (the area draining into a river system, ocean or other body of water through a single outlet) as the planning area and looks to solutions to problems that cut across programs and jurisdictions. In Orange County, these efforts focus additional effort on the highest priority water quality constituents of concern in each watershed.

The approach taken to develop the DAMP/WAPs establishes the jurisdictional DAMP/LIPs and the DAMP/WAPs as the principal policy and program documents for two separate, but nonetheless similar and highly interdependent, water quality planning processes targeting the control of pollutants in urban runoff (see **Section 3.0, 2007 DAMP**). In a number of watersheds these efforts are supportive of a third planning process that is focused on achieving broader objectives such as watershed habitat restoration and connectivity rather than specific water quality outcomes.

Six distinct watersheds (See **Figure 12.1**) were recognized in the Third Term Permits within the San Diego Regional Board area which are identified below:

Region 9	Watershed Planning Area	Major Watercourses
San Diego	Laguna Coastal Streams	Laguna Canyon Creek
	Aliso Creek	Aliso Creek
	Dana Point Coastal Streams	Salt Creek
	San Juan Creek	San Juan Creek, Oso Creek, Trabuco Creek, Bell canyon, Verdugo Canyon
	San Clemente Coastal Streams	Prima Deshecha, Segunda Deshecha
	San Mateo Creek	San Mateo Creek

¹ Previously termed DAMP/Watershed Chapters

12.2 Accomplishments

Through the current Permit term, the six south Orange County watersheds have been the focus of watershed-based water quality planning and a number of environmental restoration planning initiatives.

12.2.1 Watershed-Based Water Quality Planning Efforts

In August 2003, DAMP/WAPs, including new GIS-based watershed delineations (and sub-watershed delineations in the Aliso Creek Watershed), were completed for each of the six watersheds. The documents present a watershed-based planning process for each watershed to focus activities on priority water quality constituents of concern. Concurrently, DAMP/WAP committees were established which have met at least bi-annually (excepting the San Mateo DAMP/WAP).

DAMP/WAP Objectives:

- To meet the requirements for a Watershed Urban Runoff Management Plan (WURMP) contained in the municipal National Pollution Discharge Elimination System (NPDES) stormwater permit (Order R9-2002-0001, Section J).
- To identify the most significant water quality issues and constituents of concern on a watershed scale and relate these to urban sources.
- To focus the pollution prevention and source control programs implemented at an individual jurisdiction level on the identified constituents of concern and to identify any jurisdiction-specific treatment control opportunities.
- To identify the water quality issues that are most appropriately addressed through a multi-jurisdictional watershed-scale approach.
- To incorporate information obtained from prior planning studies.
- To develop an integrated plan of action that results in meaningful water quality improvement at a watershed scale that balances economic, social, and environmental constraints.
- To identify indicators to track progress.

At the time of their preparation it was assumed that the DAMP/WAPs would ultimately evolve into TMDL implementation plans. Indeed, the anticipated development of the Beaches and Creeks Pathogen Indicator Bacteria TMDL established pathogen indicator bacteria as the priority constituent of concern in each watershed

The DAMP/LIP and DAMP/WAP planning processes essentially result in *Baseline BMPs* and *Enhanced BMPs*, respectively. *Baseline BMPs* are based upon the model programs identified in the DAMP and are implemented on a countywide basis to contribute to the control of all pollutants. *Enhanced BMPs* generally target watershed priority constituents of concern (currently pathogen indicator bacteria). The DAMP/WAP planning process also incorporates actions to comply with California Water Code (CWC) directives and

SECTION 12, WATERSHED ACTION PLANS

abatement orders. Progress on DAMP/WAP implementation has been reported in the FY2003-04 and FY2004-05 Annual Progress Reports.

The subsequent sections identify the Enhanced BMPs, compiled by watershed, that have been implemented by the Permittees. The information in parentheses uniquely identifies each Enhanced BMP with respect to the Action Plans included in the FY2004-05 WAP Annual Progress Reports, specifically:

XX-Y#z

Where XX - Jurisdictional identifier e.g. LB = Laguna Beach
Y - Long term (L) or Short term (S) Strategy
- Objective
z - Management action

These reports should be referred to for more detailed information regarding the Enhanced BMP and its implementation schedule.

- **Laguna Coastal Streams:**

Examples of Enhanced BMP implementation efforts in the watershed targeting pathogen indicator bacteria include:

- Construction of diversion systems with hydrodynamic separator units to control runoff pollution (LB-L3b), and
- Provision of public education materials that address pet and horse care (AV-S3a, LB-S3a, LW-S3f, LW-S3d).

- **Aliso Creek:**

Monitoring Program

On March 2, 2001, the San Diego Regional Board issued a directive pursuant to California Water Code Section 13225 ("Directive") to the Principal Permittee and the cities within the Aliso Creek Watershed ("Watershed Permittees") for an investigation of urban runoff in the watershed. The Directive found that the Watershed Permittees may be discharging waste with high bacteria levels from municipal storm drain outfalls into Aliso Creek and its tributaries. To meet requirements of the Directive, the Watershed Permittees implemented a watershed-wide regional bacteriological monitoring program in April of 2001.

Monitoring data was collected weekly at 37 locations throughout the watershed. The monitoring of each site included collection of bacteriological samples from the storm drain discharge and within the receiving water body and estimates of flowrates. Data was analyzed for trends and patterns in bacteria levels and reported quarterly through November 2005.

A revised regional monitoring program that more efficiently allocates efforts to source identification and reduction was approved in [GET] and began implementation in June 2006. The revised program focuses monitoring efforts on “status sites” and “trends sites” in the lower watershed and on a “BMP evaluation sites” at high-priority drains throughout the watershed.

The monitoring of status and trend sites addresses two questions:

1. Are conditions in receiving waters protective of beneficial uses? (status)
 2. Are conditions in receiving waters getting better or worse over time? (trends)
- Status and trends monitoring takes place at five core stations in the lower portion of the watershed, which past studies indicate is the area of highest recreation use and related concern about potential human health impacts. Despite some variability among them, the stations as a group provide a picture of conditions in the lower portion of the Creek. These five stations will be monitored during August and September, at a frequency of 10 samples per month. This period represents the most conservative sampling period because it captures the annual peak of bacteria levels in the watershed and the time of year that body contact recreation is most likely.

The BMP evaluation monitoring focuses on answering three questions:

1. Have bacteria loads from the high-priority drains decreased?
2. Are BMPs having their intended effects on concentrations in and/or loads from the drains?
3. Have impacts from high-priority drains on the receiving waters decreased?

Data from the BMP evaluation sites will also be compared to the results of the status and trends monitoring in the lower sections of Aliso Creek. This will help to assess whether a reduction in loads at the high-priority drains is associated with improving conditions in the lower Creek. Data and results of the revised monitoring program will be submitted on an annual basis on November 15th of each year.

In the spring of 2003, on behalf of the Watershed Permittees, the Principal Permittee worked with UC Irvine researchers Dr. Sunny Jiang and Dr. Betty Olson to investigate sources of bacteria in the J03P02 sub-watershed. The UCI researchers used three Microbial Source Tracking (MST) methods to identify the sources of bacteria from samples collected in the sub-watershed from May through August 2002. These MST methods included: (1) analysis for human enteric viruses, (2) analysis for genetic biomarkers indicative of human, cow, pig/cat, rabbit, and bird sources, and (3) Antibiotic Resistance Analysis (ARA). The analysis of samples for biomarkers of human and animal sources showed no samples with biomarkers of human origin, and showed that all or almost all samples had biomarkers of bird, rabbit, and cow origin. Findings from the human virus and ARA studies suggest that sewage was an unlikely source of fecal coliform in the drainage system, and that bacteria from wild animal feces were the dominant source of *Enterococci* in the

watershed.

In addition to field research and monitoring activities, the Principal Permittee, Watershed Permittees and Regional Board staff meet on a quarterly basis to discuss the data reports, investigation and bacteria pollution prevention and control activities undertaken by the Permittees, and advances in bacteria monitoring and control techniques.

The revised program also contains important adaptive components that will ensure the monitoring program maintains its focus on key management questions, responds appropriately to monitoring findings, initiates new activities only when they are supported by the monitoring data, and reduces monitoring effort when it no longer provides useful information. Data and results of the revised monitoring program will be submitted on an annual basis on November 15th of each year.

Enhanced BMPs

Examples of Enhanced BMP implementation efforts in the watershed targeting pathogen indicator bacteria include:

- Provision of pet waste disposal bags in parks and on trails (LN-L3f);
- Installation of municipal facility drain inlet debris screens (OC-L3a);
- Installation of drain inlet debris screens (LH-L3b, LN-L3b, MV-L4b);
- Installation of drain inlet filters (LF-L3a, MV-L3a);
- Installation of bactericidal in-line storm drain filters (MV-L3c);
- Installation of a hydro-dynamic separator along El Toro Road (LF-L3a);
- Installation of a stormwater treatment vault (MV-L4b);
- Operation of a UV disinfection water treatment system on drain JO1P28 (OC-L3b);
- Installation of Munger storm drain sand filter (LF-L3c);
- Wood Canyon Emergent Wetland Project with detention basins (AV-L3g);
- Landscape irrigation control (LN-L3e);
- Operation of a constructed wetland treatment system (Wet CAT) in drain JO3PO2 (LN-L2c). The Wet CAT system consists of three constructed multipurpose wetlands designed to capture and treat low-flow urban runoff from a suburban residential neighborhood. The wetlands were constructed in 2001-03 in response to the Clean-up and Abatement Order issued to the City of Laguna Niguel and the County of Orange in December 1999;
- Implementation of a trash enclosure retrofit program (MV-L3e);
- Implementation of bio-retention devices (MV-L3f), and
- Hosting Fats, Oils and Greases (FOG) seminars (LF-L3f).

- **San Juan Creek:**

Examples of Enhanced BMP implementation efforts in the watershed targeting pathogen indicator bacteria include:

- Provision of pet waste disposal bags in parks and on trails (DP-L3d, LH-L3d, LNL3e, RSM-L3c, SJC-L3g);
- Installation of drain inlet debris screens (DP-L3c, MV-L4b, SJC-L3a, SJC-L4c);
- Installation of drain inlet filters (DP-L3c, DP-L3f, DP-S2a, MV-L3a, SJC-L3a);
- Installation of bactericidal in-line storm drain filters (LH-L3e, LN-L3b);
- Installation of a hydro-dynamic separator for locations along coastline (SC-L3c);
- Installation of a stormwater treatment vault at drain JO1P03(MV-L4b);
- Operate and maintain dry weather nuisance water diversions (DP-L3g);
- Employ debris nets at natural drainages to ocean (SC-L3c);
- Plastic bag recycling (SC-S4c, SJC-S4b);
- Provision of public education materials that address pet and horse care (DP-S3b, DP-S3c, LH-S3a, SC-S3a, SJC-S3a, OC-S3a, OC-S3b);
- Landscape irrigation control (DP-L3a, LH-L3c, LN-L3c, LN-S2c, RSM-L3a, SCL2d, SJC-L2c, OC-L2a);
- Employ structural treatment units at North Beach (SC-L3c);
- Sewage spill prevention and retrofit of food service facilities (SJC-L3d);
- Identify potential drainage system retrofit opportunities (SJC-L3f);
- Hosting tours for the public of BMP infrastructure (LN-S3b, MV-S3b);
- Outreach to HOA's on BMPs (MV-S2e, RSM-S2d);
- Implementation of a trash enclosure retrofit program (MV-L3d, SJC-L3b);
- Installation of catch basin filters in new developments (MV-L3a);
- Focus on trash enclosure area maintenance (MV-L3d, SC-L3c, SC-L4a, SJC-L3e);
- Hosting Fats, Oils and Greases (FOG) seminars (DP-L3e, SJC-S3e);
- Video inspection of sanitary sewers (DP-L3h), and
- Field investigation and bacteria source identification (LN-L2c, SC-L2b, SC-L2e, SC-L3d, OC-L3a).

- **Dana Point Coastal Streams:**

Monitoring Program

The Permittees participate in the Regional Harbor Monitoring Program (RHMP), which was designed and implemented in response to a 13267 letter from the San Diego Regional Water Quality Control Board. The RHMP is intended to help answer fundamental questions about the status of and trends in beneficial uses in the coastal harbors along this region of the coast. Dana Point Harbor is included in the RHMP.

Enhanced BMPs

Examples of Enhanced BMP implementation efforts in the watershed targeting pathogen indicator bacteria include:

- Provision of pet waste disposal bags in parks and on trails (DP-L3d, LN-L3e);
- Installation of drain inlet debris screens (DP-L3c);
- Installation of drain inlet filters (DP-L3c, DP-L3f, DP-S2a, OC-L2b);
- Installation of bactericidal in-line storm drain filters (LN-L3b);
- Installation of vinyl coated chain link fence under Baby Beach Pier (OC-2Le);
- Installation of sanitary sewer diversion at Baby Beach (OC-L2d);
- Operate and maintain dry weather nuisance water diversions (DP-L3g);
- Organization of beach/creek clean-up events (DP-S3a, DP-S3d, LB-S2b, LN-S2b, OC-S2a);
- Landscape irrigation control (DP-L3a, LN-L3a, LN-L3c, OC-L2a);
- Restoration of circulation at Dana Point Harbor (DP-L4c);
- Parking area infiltrative swale with a suspended solids separator (OC-L2c);
- Catch basin retrofit program (LN-L3b);
- Provision of public education materials that address pet and horse care (DP-S3b, DP-S3c, DP-S3e, LB-S3a, LN-S3a, OC-S3a, OC-S3b);
- Hosting tours for the public of BMP infrastructure (LN-S3b);
- Hosting Fats, Oils and Greases (FOG) seminars (DP-L3e);
- Video inspection of sanitary sewers (DP-L3h), and
- Field investigation and bacteria source identification (DP-L2a, DP-L6b, DP-L7a, LB-L2a, LN-L2a, LN-L2c).

- **San Clemente Coastal Streams:**

Examples of Enhanced BMP implementation efforts in the watershed targeting pathogen indicator bacteria include:

- Plastic bag recycling program (SC-S4c, SJC-S4b);
- Provision of pet waste disposal bags in parks and on trails (DP-L3d, SJC-L3c);
- Installation of drain inlet debris screens (DP-L3c, OC-L2c, SJC-L4c);
- Installation of drain inlet filters (DP-L3c, DP-L3f, DP-S2a, OC-L2c);
- Installation of debris nets at natural drainages to ocean (SC-L3c)

- Installation of a phase II storm drain Capistrano Beach Nuisance water diversion & hydrodynamic separator. (DP-L3b);
 - Installation of a hydro-dynamic separator for locations along coastline (SC-L3c);
 - Operation of a UV disinfection water treatment system at drain MO1 (OC-L2a); a
 - Operation and maintenance of dry weather nuisance water diversions (DP-L3g)
 - Provision of public education materials that address pet and horse care (DP-S3b, DP-S3c, OC-L2b, OC-S3a, SC-S3a, SJC-S3a);
 - Implementation of a trash enclosure retrofit program (SC-L3c, SC-L4a, SJC-L3b);
 - Video inspection of sanitary sewers (DP-L3h);
 - Focus on trash enclosure area maintenance (SC-L3c, SC-L4a, SJC-L3e);
 - Hosting Fats, Oils and Greases (FOG) seminars (DP-L3e, SJC-S3d), and
 - Field investigation and bacteria source identification (SC-L2b, SC-L3d, SC-L2e).
- **San Mateo Creek:**

The portion of the San Mateo Creek watershed within Orange County is currently not urbanized. With the development of the Rancho Mission Viejo project, water quality protection will be addressed in the planning approval process for the project. Watershed-based water quality planning will occur in collaboration with San Diego County at such time that conditions warrant a watershed-based approach.

12.2.2 Environmental Restoration Projects and Planning Efforts

The term “Restoration” is applied to projects and planning efforts that contribute to the re-establishment of a more natural watershed hydrologic regime and which are focused on achieving broader objectives such as watershed habitat restoration and connectivity rather than specific water quality outcomes.

- **Laguna Coastal Streams**

Examples of restoration projects in the watershed include:

- Restoration projects along the full length of Laguna Creek (LB-L3b).

- **Aliso Creek**

Examples of restoration projects in the watershed include:

- Urban stream channel restoration (LN-L3c, LN-L5a), and
- Urban landscape renewal initiative (LH-L3a, LH-S2c, LN-L3a, LN-S2c).

Watershed Management Plan and Feasibility Study

The Army Corps of Engineers has completed a comprehensive study of the creek and its watershed in order to develop a management plan that will accomplish stream stability, habitat restoration, flood and embankment protection, and

improved water quality. A concurrent study was initiated for San Juan Creek. \$45 million in Section 219 funds is being sought to support the Aliso Creek Water Quality SUPER project.

- **San Juan Creek**

Examples of restoration projects in the watershed include:

- Urban landscape renewal initiative (DP-L3a, LH-L3a, LH-S2c, LN-L3a, SJC-L2c, SJC-L4b, OC-L2a);
- Urban stream channel restoration at the San Clemente Municipal Golf Course (SC-L3c), and
- Arundo eradication (SJC-S1b).

Watershed Management Plan and Feasibility Study

The County of Orange has entered into a \$3.2 million Federal Cost Share Agreement with the Corps for the San Juan Creek Watershed Spin-Off Feasibility Study. The Permittees and water/wastewater agencies have developed a locally preferred plan (LPP) for the lower watershed which they plan to represent to the Corps. The LPP includes removal of the existing concrete slope panels and would result in the addition of a sand creek invert under the concrete sloped panels.

- **Dana Point Coastal Streams**

Examples of restoration projects in the watershed include:

- Urban landscape renewal initiative (DP-L3a, LN-L3a, LN-L3c, OC-L2a);

- **San Clemente Coastal Streams**

Examples of restoration projects in the watershed include:

- Urban landscape renewal initiative (DP-L3a, OC-L2a, SJC-L2c, SJC-L4b);
- Urban stream channel restoration at the San Clemente Municipal Golf Course (SC-L3c);
- Landscape irrigation control (DP-L3a, OC-L2a, SC-L2d, SJC-L2c);
- Employ structural treatment units at Poche Beach (SC-L3c);
- Identify potential drainage system retrofit opportunities (SJC-L3b); and
- Arundo eradication (SJC-S1b).

- **San Mateo**

See discussion in 12.2.1 – San Mateo Creek.

12.2.3 Other Planning Efforts

- **Integrated Regional Water Management Plan (IRWMP)**

In August, 2005, the County facilitated forming the South Orange County Integrated Regional Water Management Group (Group). This Group is comprised of South Orange County cities, the County, and water/wastewater agencies. The Group prepared an IRWMP, which was adopted in May, 2006. The IRWMP integrates projects and management plans of the various agencies to foster coordination, collaboration and communication among those organizations in order to provide a reliable water supply, protect and improve water quality, and achieve other multiple objectives in an efficient manner.

12.3 Assessment

Three separate, but nonetheless highly interrelated, planning processes have continued to develop through the period of the Third Term Permits. These processes are (1) DAMP/LIP focused on Countywide implementation of Baseline BMPs, (2) DAMP/Watershed Action Plan focused on Enhanced BMPs targeting specific constituents of concern, and (3) a number of processes and initiatives that are focused on achieving broader objectives such as watershed habitat restoration and connectivity rather than specific water quality outcomes.

The first two processes align with the CWA's interim goal, which is to attain water quality sufficient to provide for the protection and propagation of fish, shellfish, and wildlife and for recreation in and on the water. The third process aligns with the overarching objective of the CWA which is to restore and maintain the chemical, physical and biological integrity of the nation's waters. While the interim goal is subordinate to the broader objective, it nonetheless continues to be the primary focus of the Permittees efforts since it is the basis of the long-established NPDES permitting framework to which the Permittees, as a consequence of Section 402(p) of the CWA, are subject.

12.3.1 Watershed-Based Water Quality Planning Efforts

In south Orange County the specific WURMP requirements of the Third Term Permits have preceded TMDL development and implementation and led to the creation of six DAMP/WAPs. The most DAMP/WAP progress reports show significant progress with respect to each of the short-term and long term objectives and the DAMP/WAPs are deemed to usefully provide:

- A holistic account of all water quality protection and management activities in the

watershed;

- A basis for developing establishing and communicating common goals for the watershed with an action plan to achieve them, and
- A framework for monitoring and assessing the progress of projects individually and cumulatively at the watershed scale.

At the time of their preparation it was assumed that the DAMP/WAPs would ultimately evolve into TMDL implementation plans. Indeed, the anticipated development of the Beaches and Creeks Pathogen Indicator Bacteria TMDL established pathogen indicator bacteria as the priority constituent of concern in each of the six south Orange County watersheds for which DAMP/WAPs were prepared. One consequence of this common focus was the convening of WAP committees to address the same constituent of concern. While this situation suggests a need for a regional consolidation of committees within the Orange County portion of San Juan Hydrologic Unit, it is recognized that the TMDL's separate load allocations will likely require coordinated action and cost sharing on a hydrologic area or hydrologic sub-area basis. In addition, it is expected that additional TMDLs will be developed over the next permit term for more localized water and sediment quality impairments which will also require watershed management-based planning approaches at the hydrologic sub-area level. While the Permittees strive to minimize the administrative burden of the various planning processes, realignment of the current watershed planning areas wholly within Orange County and the San Juan Hydrologic Unit is considered premature prior to TMDL promulgation.

The exception in the foregoing assessment is the San Mateo DAMP/WAP. The San Juan Hydrologic Area encompasses south Orange County and an area of San Diego County comprising a portion of the San Mateo Canyon Hydrologic Area and the San Onofre Hydrologic Areas. While a DAMP/WAP was prepared for the portion of San Mateo Canyon within Orange County, it is an area of Orange County that is yet to undergo urbanization. It is anticipated that no further action will be taken by the Permittees relating to the San Mateo DAMP/WAP pending until such time as there is a need to address urbanization impacts on a watershed scale and in collaboration with San Diego County.

ROWD Commitment

- Complete development of the **DAMP/Watershed Action Plans** into bacteria TMDL implementation plans (excepting the San Mateo DAMP/WAP).

12.3.2 Environmental Restoration Planning Efforts

The Permittees' environmental restoration efforts focused on ecological outcomes are generally broad stakeholder initiatives rather than permit compliance driven planning

processes. Further, the major restoration planning efforts are predominantly grant funded cooperative projects. Consequently, federal funding of ACOE watershed management and restoration initiatives and the future success of the IRWMP and other grant funding initiatives will continue to be a major determinant of progress with respect to these planning efforts.

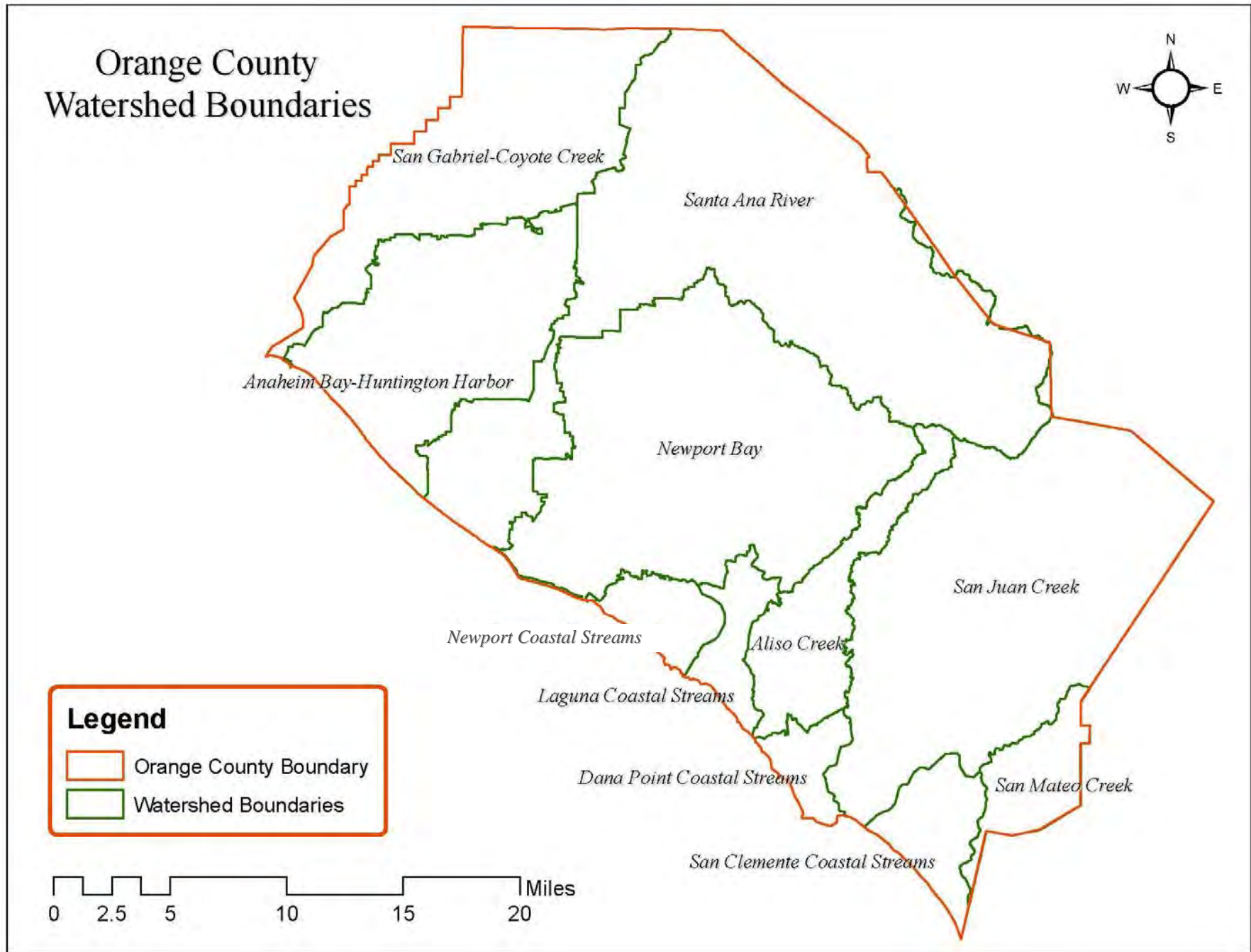
12.3 Summary

The most DAMP/WAP progress reports show significant progress with respect to each of the WURMP short-term and long term objectives established in the Third Term Permits. Based upon this progress the DAMP/WAPs are deemed to usefully provide:

- A holistic account of all water quality protection and management activities in the watershed;
- A basis for developing establishing and communicating common goals for the watershed with an action plan to achieve them, and
- A framework for monitoring and assessing the progress of projects individually and cumulatively at the watershed scale.

With the increased emphasis on TMDL implementation in the Fourth Term Permits, the Permittees will focus on the five watershed areas of San Juan Hydrologic Area within Orange County and continue to develop the DAMP/WAPs into TMDL implementation plans. This development, while likely maintaining the San Juan Creek and Aliso Creek DAMP/WAPs, may lead to a consolidation of effort related to the coastal streams watersheds. In addition, the San Mateo Creek Watershed which is largely outside Orange County, and not currently subject to urbanization (in the Orange County portion), will not be further developed pending the need for inter-county collaboration on a watershed basis in the future.

Figure 12.1



13.0 SUMMARY

13.1 Introduction

From the various sources of information that were used to evaluate program effectiveness, three themes have emerged that frame the Permittees approach to developing the proposed 2007 DAMP. These themes are:

Demonstrating the iterative management approach: Adapting the management program to more effectively address urban sources of pollutants that are causing or contributing to exceedances of water quality standards;

Enhancing Implementation: Improving program implementation through incorporation of auditable environmental management system concepts; and,

Establishing watershed-based water quality planning: On a Countywide basis, creating two separate, but nonetheless highly inter-related, water quality planning processes to address urban sources of pollutants.

Each of these themes is the basis for two types of programmatic recommendations, specifically (1) ROWD Commitments (new programmatic commitments to be developed and implemented over the period of the Fourth Term Permits) and (2) DAMP Modifications (improvements to existing program commitments incorporated into the proposed 2007 DAMP).

13.2 Demonstrating Iterative Management

ROWD Commitments:

- Develop Model Integrated Pest Management, Pesticide and Fertilizer Guidelines into a Model Program (rather than guidelines) with implementation goals and including model contract language (see **Section 5.3.2**).
- Develop recommendations for the selection and installation of drain inlet screens (see **Section 5.3.3**).
- Develop model language for municipal trash collection and haulage contracts that address water quality protection issues (see **Section 5.3.3**).
- Develop and implement BMPs for architectural uses of copper and zinc (see **Section 7.3.1**).

13.3 Enhancing Implementation

ROWD Commitments:

- Prepare a training schedule and define expertise and competencies for
-

SECTION 13.0, SUMMARY

- jurisdictional program manager positions (see **Section 2.3.2**).
- Prepare a fiscal reporting strategy based upon an audit of the fiscal analysis reporting section of the PEA, to better define the expenditure and budget line items included in the fiscal report (see **Section 2.3.4**).
 - Prepare metric definitions and guidance to improve efficacy of the assessment process.
 - Standardize SDR and SAR definitions of “High” priority and develop prioritization process that is better predicated on the threat (diminished by BMP implementation) posed by the facility, and consider the presence of “constituents of concern” (see **Section 5.3.1**).
 - Redefine IPM (pesticide use) indicators (see **Section 5.3.1**).
 - Prepare guidance documentation and clarify requirements or conceptual Project WQMP (see **Section 7.3.1**).
 - Prepare guidance and training as needed on the recordation process (timing and appropriate documents to use) and develop recommendations for appropriate methods to employ to enable the Permittees to enforce the approved WQMP against subsequent property owners (see **Section 7.3.1**).
 - Develop library of BMP performance reports (see **Section 7.3.1**).
 - Develop standard design checklist/plans/details for source and treatment control BMPs (see **Section 7.3.1**).
 - Develop recommendations/guidance for enhanced Model WQMP language regarding Site Design BMPs (see **Section 7.3.1**).
 -
 - Evaluate the NTS approval process and develop recommendations for streamlining regulatory agency approval of regional treatment control BMPs (see **Section 7.3.1**).
 - Prepare a training schedule including defined expertise and competencies for staff with WQMP review and approval responsibilities (see **Section 7.3.1**).
 - Prepare a training schedule including defined expertise and competencies for construction inspectors (see **Section 8.3.1**).
 - Develop a more detailed prioritization process to improve standardized reporting and to support re-direction of inspection resources to significant sources of priority constituents of concern (see **Section 9.3.1**).
-

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- Develop effective alternative to re-inspection such as self-certification (see **Section 9.3.1**).
- Prepare defined expertise and competencies for authorized inspector positions and develop a training schedule to meet these requirements (see **Section 9.3.1**).

DAMP Modifications:

- Revised the DAMP for greater consistency with established Environmental Management System (EMS) principles and improved accessibility to different constituencies and levels or readership (see **Section 2.3.3**).
- Revised **DAMP Section 3.0 plan improvement process** to detail iterative process for DAMP improvement (see **Section 3.3.1**).
- Defined “fixed facilities,” “field programs,” and “drainage facility sites” (see **Section 5.3.1**).
- Eliminated Environmental Performance Reporting (EPR) program (which is duplicative of Model Municipal Activities Program) (see **Section 5.3.1**).
- Revised Model WQMP Table 7.II.6 for latest information on BMPs and clarity (see **Section 7.3.1**).
- Evaluated and revised (as necessary) prioritization provisions for Countywide consistency (see **Section 7.3.1**).
- Provided definitive construction site prioritization guidance (see **Section 8.3.1**).
- Clarified inspection frequencies; violation definitions and re-inspection (see **Section 9.3.1**).
- Provided definitive industrial and commercial facility descriptions (see **Section 9.3.1**).

13.4 Establishing Watershed-Based Water Quality Planning

ROWD Commitment:

- Complete DAMP/Watershed Action Plans for all 11 Orange County watersheds (see **Section 12.3.2**).
-

1.0 INTRODUCTION

The cities of Anaheim, Brea, Buena Park, Costa Mesa, Cypress, Fountain Valley, Fullerton, Garden Grove, Huntington Beach, Irvine, La Habra, La Palma, Laguna Hills, Laguna Woods, Lake Forest, Los Alamitos, Newport Beach, Orange, Placentia, Santa Ana, Seal Beach, Stanton, Tustin, Villa Park, Westminster, and Yorba Linda (collectively the Santa Ana Region Permittees) and the cities of Aliso Viejo, Dana Point, Laguna Beach, Laguna Hills, Laguna Niguel, Laguna Woods, Lake Forest, Mission Viejo, Rancho Santa Margarita, San Clemente, and San Juan Capistrano (collectively the San Diego Region Permittees) operate municipal storm drain systems and discharge stormwater and urban runoff pursuant to National Pollutant Discharge Elimination System (NPDES) Permits.

These Permits require that the Permittees work together to:

- Effectively prohibit non-stormwater discharges to the stormdrain system, and
- Implement controls to reduce the discharge of pollutants in stormwater to the Maximum Extent Practicable (MEP).

The Permits were first adopted in 1990 and subsequently renewed in 1996 (Second Term) and 2002 (Third Term) (See **Table 1.1**). This **Report of Waste Discharge** has been prepared in anticipation of the expiration of the Third Term Permits in early 2007 and comprises:

- An evaluation of NPDES permit compliance over the period of the Third Term Permits;
- A proposed management program, the **2007 Drainage Area Management Plan (2007 DAMP)** (see **Appendix A**) for the Fourth Term Permits;
- A comparison of land use in Orange County in 2002 and 2005 (see **Appendix B**), and,
- A compendium of maps showing changes to the storm drain system infrastructure over the period of the Third Term Permits (see **Appendix C**).

1.1 Background

1.1.1 Drainage Area Management Plan

The **Drainage Area Management Plan (DAMP)** is the principal policy and program guidance document for the *Orange County Stormwater Program*, a cooperative municipal regulatory compliance initiative focused on the management and protection of Orange County's streams, rivers, creeks and coastal waters. The main objective of the DAMP is to fulfill the commitment of the Permittees to develop and implement a program that satisfies NPDES permit requirements.

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The DAMP describes the agreements, structures and programs that:

- Provide the framework for the program management activities and plan development (**DAMP Section 2.0** and **Section 3.0**);
- Provide the legal authority for prohibiting unpermitted discharges into the storm drain system and for requiring BMPs in new development and significant redevelopment (**DAMP Section 4.0**);
- Improve existing municipal pollution prevention and removal best management practices (BMPs) to further reduce the amount of pollutants entering the storm drain system. (**DAMP Section 5.0**);
- Educate the public about the issues of urban stormwater and non-stormwater pollution and obtain their support in implementing pollution prevention BMPs (**DAMP Section 6.0**);
- Ensure that all new development and significant redevelopment incorporates appropriate Site Design, Source Control and Treatment Control BMPs to address specific water quality issues. (**DAMP Section 7.0**);
- Ensure that construction sites implement control practices that address control of construction related pollutants discharges including an effective combination of erosion and sediment controls and on-site hazardous materials and waste management (**DAMP Section 8.0**);
- Ensure that existing development addresses discharges from industrial facilities, selected commercial businesses, residential development and common interest areas/homeowner associations (note: the San Diego permit explicitly outlines a residential component, but the Santa Ana permit is more general about residential requirements). (**DAMP Section 9.0**);
- Detect and eliminate illegal discharges/illicit connections to the municipal storm drain system (**DAMP Section 10.0**);
- Identify urban impacts on receiving waters; produce environmental quality information to direct management activities, including prioritization of pollutants to support the development of specific controls to address these problems; and determine pollutant load reductions and changes in the quality of receiving waters (**DAMP Section 11.0**); and
- Assess watershed constituents of concern and manage urban runoff on a watershed basis (**DAMP Section 12.0**).

1.1.2 Runoff from Urban Areas

The Program is concerned with the imprint of urban development on the landscape.

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Urbanization creates rooftops, driveways, roads and parking lots (Schueler and Holland, 2000,¹ use the term *Imperviousness* as the unifying theme for understanding the adverse hydrologic impacts of urbanization), which (1) increase the timing and volume of rainfall runoff (compared to pre-development conditions) and (2) provide a source of pollutants that are flushed or leached by rainfall runoff into aquatic systems. The environmental consequences of these impacts are loss or impairment of aquatic beneficial uses due to:

- Water quality degradation resulting from increased loadings of sediment nutrients, metals hydrocarbons, pesticides and bacteria;
- Stream channel instability and habitat loss resulting from increased severity and frequency of floods;
- Increased water temperatures resulting from solar energy absorption by urban surfaces and elimination of riparian shading; and
- Loss of groundwater recharge.

1.1.3 Regulatory History

The Orange County Stormwater Program was initiated in 1990 as a cooperative local government response to a 1987 amendment to the federal Clean Water Act (CWA). This amendment extended the provisions of CWA Section 402 (National Pollutant Discharge Eliminations System permitting) to municipal storm drain system operators thereby making local governments (and some industrial activities) responsible for the quality of their stormwater discharges. Permit application requirements were promulgated by US Environmental Protection Agency (EPA) in 1990 (40 CFR 122) and form the basis of the current program.

Orange County's first NPDES Permits were issued in 1990 with renewals in 1996 and 2002. There are separate NPDES Permits administered by the Santa Ana and San Diego Regional Water Quality Control Boards (RWQCBs). The Permits prescribe that surface water quality protection be addressed in local governments' oversight of construction and development, its regulation of industry and commerce, and in its construction, operation and maintenance of the public urban infrastructure.

Program managers maintain the compliance of their jurisdiction with the applicable permit (or permits) through implementation of a BMP-based environmental management system (i.e. the DAMP) that is subject to both annual self auditing and reporting and external regulatory compliance audits which, in the Santa Ana Regional Board are, is an enforceable part of the Third Term Permit.

¹ Thomas R. Schuler and Heather K. Holland. *The Practice of Watershed Protection: Techniques for protecting our nation's streams, lakes, rivers and estuaries* (Maryland: Center for Watershed Protection, 2000).

1.2 Approach to Preparing Report of Waste Discharge

1.2.1 Themes

The immediate objective of the ROWD is to fulfill the commitment of the Permittees to undertake a program assessment and propose revisions to the management program in response to the information learned. While compliance with the Third Term Permits is maintained by implementation of prescribed management actions, program assessment must be undertaken with regard to the Permits' receiving water limitations provisions which require adaptation of the Orange County Stormwater Program where urban sources are causing or contributing to exceedances of applicable water quality standards. The first of the major themes that has framed preparation of the ROWD is a focusing of management efforts on identified water quality constituents of concern identified by the environmental monitoring programs.

The Third Term Permits transformed the Orange County Stormwater Program developed under the First and Second Permit Terms. The major escalation in compliance obligations prescribed new requirements for local governments' oversight of construction and development, regulation of industry and commerce, and its construction, operation and maintenance of the public urban infrastructure. These new compliance obligations required a major realignment of the program implemented over two years with the consequence that program performance metrics are generally available for three years. Program effectiveness assessments over the limited period of full implementation have indicated positive programmatic impacts, as detailed in subsequent sections of this report. However, annual assessments have also indicated significant variability in performance reporting between jurisdictions. In addition, regulatory agency reviews have identified differences in regulatory agency and Permittee expectations in key areas of the Program, particularly with respect to regulation and oversight. The second major theme of the ROWD is therefore a focus on enhancing existing program implementation rather than the proposed development of major new program initiatives.

The third major theme is a focus on the watershed approach and specific water quality constituents of concern. The Third Term Permits required the Permittees under the jurisdiction of the San Diego RWQCB to develop Watershed Urban Runoff Management Plans (WURMPs) to address priority water quality constituents of concern, and similar plans are being developed for watersheds in the Santa Ana Region. The WURMPs, termed DAMP Watershed Action Plans, while continuing to evolve, provide a basis for both cooperative targeted actions that complement the countywide approach and optimizing management actions on a regional, sub-regional or jurisdictional basis.

Major Themes of the ROWD

- Demonstrating the Iterative Management Approach: Implementing policy shifts based upon the findings of the environmental monitoring programs.

- Enhancing Implementation: Focusing on program implementation through incorporation of environmental management system concepts.
- Emphasizing the Watershed Approach: Establishing and enhancing watershed-based water quality planning on a countywide basis.

1.2.2 Assessment

The DAMP incorporates three separate but nonetheless related water quality planning processes which are identified as “countywide,” “jurisdictional,” and “watershed-based” water quality management. Each process is iterative and incorporates annual phases of assessment focused on determining whether programmatic outcomes are being achieved (See **DAMP Appendix C - Program Effectiveness Assessment**). These annual assessments have previously been reported (see Unified and jurisdictional Annual Progress Reports).

DAMP Appendix C also recognizes the additional phase of assessment required in the ROWD every five years. While the longer term perspective of the ROWD allows a focus on environmental outcomes, both the annual and ROWD assessments necessarily consider the same performance metrics, both programmatic and environmental. In addition to considering these metrics, preparation of effectiveness assessments in the ROWD were additionally informed by:

- A longer term (rather than annual) review of the findings of the countywide water quality monitoring programs;
- Review of audit reports and other regulatory correspondence regarding the Program and meetings with RWQCB staff;
- A series of facilitated consultation meetings with jurisdictional program coordinators, including in-depth interviews on key program areas; and
- Input from the public at workshops.

The assessment has produced two types of programmatic recommendations:

1. ROWD Commitments, and
2. DAMP Modifications.

ROWD commitments represent shifts in programs that will be implemented upon completion of a development process with the Permittees, and are identified at the end of each program section of the ROWD. DAMP Modifications are characterized as programmatic modifications for improving program implementation and have been incorporated into the proposed 2007 DAMP.

Program Effectiveness

An activity, program element, or overall program is effective if it is producing a desired outcome. **Figure 1.1** shows that outcomes can be construed in terms of six levels and illustrates the progression of each successive level toward the ultimate goal of environmental improvement. In general, Levels 1 to 3 can be considered *Implementation Outcomes*, Levels 5 and 6 *Water Quality Outcomes* and Level 4 a combination of the two. Each level has value in informing the management process. However, it bears emphasis that not all are necessary or possible in every instance (CASQA, 2005).²

Assessment measures may be variously categorized. In this ROWD, two categories are recognized, related to (1) the shorter term confirmation of BMP implementation (Implementation or Process Measures, also termed Programmatic Indicators), corresponding to Levels 1-3 in **Figure 1.1**, and (2) the longer term verification of environmental improvement (Validation or Results Measures, typically actual indicators of environmental change). In essence, the categorization of measures reflects two basic assessment questions:

- Are program elements being implemented correctly?
- Are environmental improvements being realized?

Headline Indicators are intended to be a sub-set of measures that reflect in simple terms how a stormwater program is progressing towards its goals and are easily understandable. The Orange County Stormwater Program Headline Indicators that have been reported over the Third Term Permits are presented in **Table 1.2**.

Effectiveness assessment requires the establishment of a set of baseline conditions. Thereafter effectiveness can be determined by comparisons of successive years of indicator information against the baseline data. Where the period of evaluation is characterized by the implementation of new program requirements, determinations of program effectiveness will be limited to confirmation of program implementation. Indeed, it must be recognized that evidence of positive environmental outcomes can be elusive because:

- Water quality changes in response to program implementation are likely to be very slow; and
- Establishing a link between receiving water condition and program activities is difficult at the watershed scale when programs are being implemented incrementally.

While program effectiveness assessment is a key step in the iterative process of program

² California Stormwater Quality Association (CASQA). 2005. "An Introduction to Stormwater Program Effectiveness Assessment." Available at: http://www.scvurppp-w2k.com/pdfs/0405/CASQA%20White%20Paper_An%20Introduction%20to%20Stormwater%20Program%20Effectiveness%20Assessment4.pdf.

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implementation, it should be realized that effectiveness assessment tools are still evolving. Assessing program effectiveness is recognized as a challenge for program managers across California, and the Orange County Stormwater Program is supporting the effort of the California Stormwater Quality Association (CASQA) to develop guidance in this area at a statewide level.

Environmental Assessment

A summary of the major findings of the water quality monitoring program is presented in **Section 11**. This summary has identified a number of water quality constituents of concern, specifically, metals (copper and zinc) and pesticides, based upon frequent exceedances of water quality standards and the occurrence of toxicity, respectively. In addition, Total Maximum Daily Loads (TMDL) and 13225 and 13267 Directives (see **Section 12**) for pathogen indicator bacteria and regulatory interventions regarding trash and debris require that these constituents also be considered water quality constituents of concern that will be the focus of targeted management efforts over the period of the Fourth Term Permits.

Regulatory Assessment

Over the period of the Third Term Permits, most of the municipal entities have been the subject of compliance audits which have served to highlight the successes (national recognition by USEPA) and shortcomings (three instances of administrative civil liabilities) of the Program. Since the primary objective of the DAMP is to fulfill the commitment of the Permittees to develop and implement a program that satisfies NPDES permit requirements, regulatory agency findings regarding permit compliance and the performance of the Orange County Stormwater Program must be considered in effectiveness assessments. Indeed, many of the commitments made in the subsequent sections follow from regulatory findings. In addition, current Total Maximum Daily Load (TMDL) development in the South County area and a regulatory intervention regarding trash and debris in the north County area, elevate fecal indicator bacteria and trash and debris to the status of Orange County Stormwater Program water quality constituents of concern.

Permittee Assessment

The Permittees have undertaken a comprehensive review of the current programs, identifying areas that are ineffective and require modification, and ones requiring additional emphasis. This assessment, coupled with the environmental and regulatory assessments, are the foundational underpinnings for this ROWD.

Table 1.1: Permit History

Permit Term	Santa Ana Regional Board			San Diego Regional Board		
	Order No.	NPDES No.	Date Adopted	Order No.	NPDES No.	Date Adopted
First (1990-1996)	90-71	CA 8000180	July 1990	90-38	CA 0108740	July 1990
Second (1996-2002)	96-31	CAS618030	March 1996	96-03	CAS0108740	August 1996
Third (2002-2007)	R8-2002-0010	CAS618030	January 2002	R9-2002-0001	CAS0108740	February 2002

Table 1.2: Headline Measures

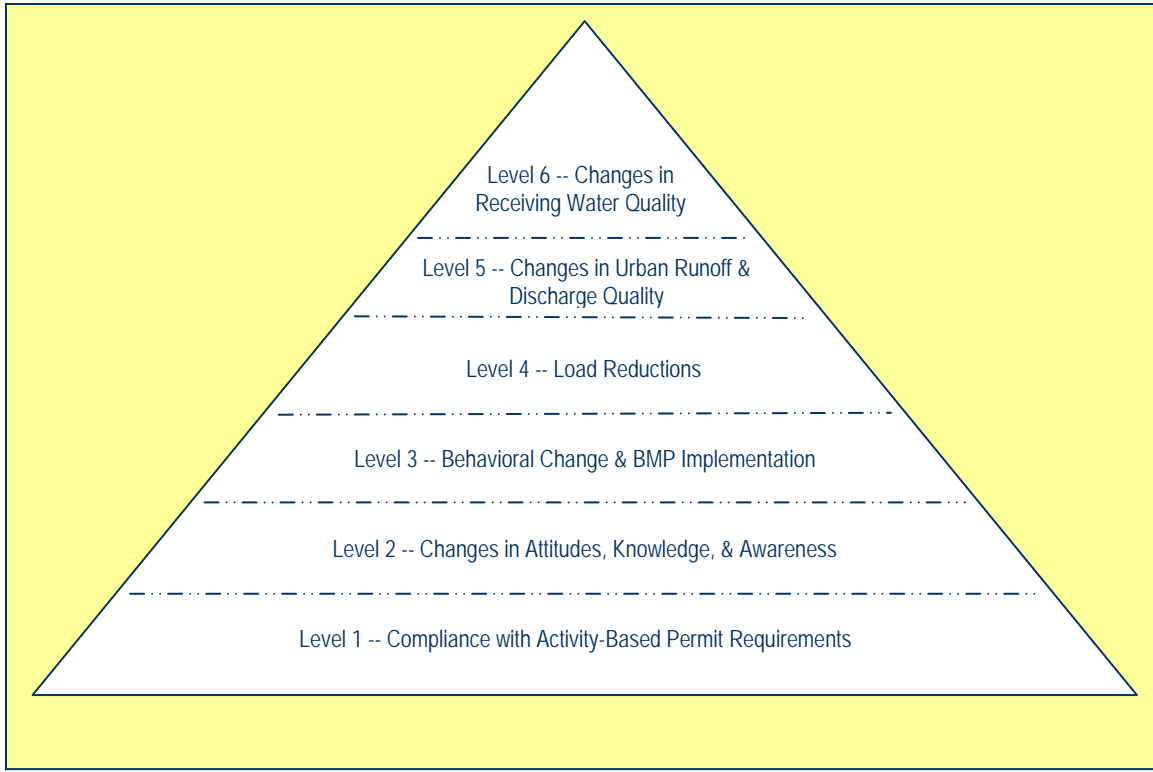
Program Element	Headline Measure	Process Measure	Result Measure	
			Indirect	Direct
2.0 Program Management	Participation in General Permittee Committee	X		
5.0 Municipal Activities	Solid Waste Collected		X	
	Drainage Facility Maintenance - Solid Waste Collected		X	
	Catchbasin Stenciling	X		
	Street Sweeping - Solid Waste Collected		X	
	Household Hazardous Waste Collected		X	
	Used Oil Collected		X	
	# of Facilities Inspected	X		
	Prioritization (High, Medium, Low) of Facilities		X	
	Reduction in Total Pesticide Application		X	
	Reduction in Total Fertilizer (Nitrogen) Application		X	
	Reduction in Total Fertilizer (Phosphorus) Application		X	
6.0 Public Education	# of Impressions	X		
	Changes in Public Awareness and Behavior		X	

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Table 1.2: Headline Measures

Program Element	Headline Measure	Process Measure	Result Measure	
			Indirect	Direct
7.0 New Development	# of WQMPs processed	X		
	Area (Acreage) to which BMPs have been Applied		X	
	# of BMPs Implemented		X	
8.0 Construction	# of Sites Inspected	X		
	Extent of Compliance		X	
	# and Level of Enforcement Actions	X		
9.0 Existing Development	# of BMPs Implemented		X	
	Prioritization of Facilities		X	
	# and Level of Enforcement Actions	X		
10.0 ID/IC	# of Complaints		X	
	# and Level of Enforcement Actions	X		
11.0 Water Quality	Monitoring			X

Figure 1.1: General Classification of Outcome Types



2.0 PROGRAM MANAGEMENT

2.1 Introduction

The key elements of program management comprise the Principal Permittee and Permittee relationship, the Implementation Agreement, the structure and hierarchy of committees (termed Management Framework), and policy and program documentation (i.e. the DAMP). At the inception of the Orange County Stormwater Program, the Permittees in both Regional Board areas agreed that the County of Orange would be the Principal Permittee and the cities and the Orange County Flood Control District would be Co-Permittees on the permit (all parties are now collectively referred to as Permittees). Principal Permittee and Permittee responsibilities are specified in the Permits and reiterated in the NPDES Stormwater Permit Implementation Agreement (referred to as Implementation Agreement) which also provides a funding mechanism for the shared costs (administration, program development, public education, and environmental monitoring) of the Orange County Stormwater Program. To further support the development and implementation of a coordinated countywide program, a management framework was created during the First Permit Term. With the Third Term Permits this framework has evolved into a four tier structure (Permittees, City Managers' Water Quality Committee, Technical Advisory Committee (TAC) and Program Committees/Task Forces). Concurrently, the DAMP was substantially revised to address the significant escalation in compliance requirements prescribed in the Third Term Permits.

2.2 Accomplishments

2.2.1 Implementation Agreement

The Implementation Agreement, originally entered into in December of 1990, was amended in October of 1993 to include two additional Permittees (Laguna Hills and Lake Forest) and formally establish the TAC.

- Implementation Agreement: On June 25, 2002, the Implementation Agreement was amended again and fully restated to include three additional Permittees (Aliso Viejo, Laguna Woods and Rancho Santa Margarita).

2.2.2 Management Framework

The Permittees established (in early 2002) and maintained a tiered management framework consisting of committees, task forces, sub-committees and ad hoc work groups to direct the development and implementation of the Orange County Stormwater Program (**Figure 2.1**). A greater level of participation in all aspects of the program has been evident by high Permittee participation in the management framework. This framework is composed of:

- City Manager's Water Quality Committee
-

SECTION 2.0, PROGRAM MANAGEMENT

The City Manager's Water Quality Committee meets as needed to provide budget and overall program review and governance direction.

- City Engineer's Technical Advisory Committee (TAC)

The TAC serves in a program advisory role and provides policy direction on program budget and program development and implementation. It is comprised of one Public Works Director/City Engineer, or selected representative, from each of the County Supervisor Districts and a representative from the County of Orange. It meets 4-6 times annually.

- General Permittee Committee

The General Permittee Committee is the principal forum for disseminating information for program coordinators. The Committee meets monthly (except November).

In 2004-05, thirty four (34) out of thirty five (35) Permittees reported 80% or higher participation in the General Permittee Committee.

- Task Forces/ Sub-Committees

The *Task Forces/ Sub-Committees* provide for the continued development of the program in a specified area of program responsibility and oversight. The Task Forces/ Sub-Committees which were active in 2004-05, are:

- Trash and Debris Task Force
 - Purpose: To foster and sustain partnership approaches to dealing with trash and debris in stormwater and urban runoff (quarterly meeting schedule). Recent products include a strategic assessment of Orange County's trash and debris control efforts.
 - Legal/Regulatory Authority Task Force
 - Purpose: To review the legal authorities that the Permittees have in complying with the permit requirements and recommend changes as needed and to track stormwater related litigation that may affect the Orange County Stormwater Program (quarterly meeting schedule).
 - Water Use Efficiency Task force
 - Purpose: To study and support a comprehensive effort to curb urban runoff through efficient water usage in Orange County (quarterly meeting schedule).
-

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- Data and Information Management Sub-Committee
 - Purpose: To oversee the development and implementation of information technology solutions to program data management and reporting requirements (monthly meeting schedule). Recent products include an internet-based system for preparation of the annual reports/Program Effectiveness Assessments (PEAs).
 - LIP/PEA Sub-Committee
 - Purpose: To provide oversight and technical direction to the management of core DAMP/Local Implementation Plan (LIP) programs (bi-monthly meeting schedule).
 - Public Education Sub-Committee
 - Purpose: To provide regional consistency and oversight for the stormwater public education program efforts (monthly meeting schedule). The sub-committee directs development and dissemination of all education and outreach materials.
 - Inspection Sub-Committee
 - Purpose: To provide a forum for the coordination, investigation, enforcement and training aspects of the existing development inspection program and Illegal Discharges/Illicit Connections (ID/IC) programs (bi-monthly meeting schedule). Recent products include the Investigative Guidance Manual and self-audit checklist.
 - Water Quality Sub-Committee
 - Purpose: To provide oversight and technical input for the revision of the water quality monitoring programs, ongoing water quality data evaluation, and special water quality investigations and BMP effectiveness studies (quarterly meeting schedule).
 - Ad-Hoc Group – Wastewater Disposal
 - Purpose: To develop a list of BMPs for the disposal of washwater/wastewater generated by mobile businesses. The Group was convened specifically to address wastewater disposal issues and worked cooperatively with the sewerage agencies to produce best management practice guidance (BMP Fact Sheet IC24). This ad-hoc group has now sunsetted.
-

SECTION 2.0, PROGRAM MANAGEMENT

- Watershed Committees
 - Seven Watershed Committees (Newport Bay, Laguna Coastal streams, Aliso Creek, Dana Point Coastal Streams, San Juan Creek, San Clemente Coastal Streams, and San Mateo Creek) were established and have met regularly since their inception.
 - Other Watershed Committees/Work Groups

The Permittees have also participated in the Newport Bay Executive and Management Committees (the latter held jointly for a period with the Army Corp of Engineers (ACOE) Study Management Team), the Huntington Harbour Water Quality Task Force, the Dana Point Harbor Water Quality Task Force, the Coastal Coalition, and the Aliso Creek Tier I and Tier II stakeholder meetings. These watershed groups focus their activities and discussions on broader watershed issues of concern, such as habitat restoration and flood control in addition to water quality issues resulting from Total Maximum Daily Loads (TMDLs) and special directives.

- Other Representation/Participation

The Principal Permittee actively represents the Permittees on various advisory stormwater fora, including, California Stormwater Quality Association (CASQA), Southern California Coastal Water Research Project (SCCWRP) (the County, representing the Orange County Stormwater Program, joined SCCWRP in 2005-06), Plastic Debris - Rivers to Sea Project, Nitrogen and Selenium Management Program, and Waste Discharge Requirements (WDR) for Fats, Oils and Grease (FOG) Program.

2.2.3 Program Documentation

The completion of the 2003 DAMP marked the culmination of a major program documentation overhaul and revision that was initiated by the preparation of the Report of Waste Discharge submitted on September 1, 2000. In addition to the revised policy commitments and model programs, the DAMP was expanded through the addition of appendices to include 34 individual jurisdictional LIPs (the Permittees formally identified which departments have responsibility for implementation of each program element), an extensive compendium of training materials, regional and jurisdictional program effectiveness assessment and reporting, and six watershed management plans.

2.2.4 Watershed Mapping

To support the development of the DAMP/Watershed Chapters, GIS-based mapping was undertaken for the S. County area initially to define watershed boundaries. It will be completed for the entire County area by the end of 2006 and will, for the first time, establish definitive watershed and sub-watershed boundaries for Orange County.

SECTION 2.0, PROGRAM MANAGEMENT

Orange County Watersheds (See **Figure 12.1**)

Orange County – Santa Ana Region	South Orange – San Diego Region
San Gabriel / Coyote Creek Watershed (within Orange County)	Laguna Coastal Streams Watershed
Anaheim Bay/Huntington Harbour Watershed	Aliso Creek Watershed
Santa Ana River Watershed (within Orange County)	Dana Point Coastal Streams Watershed
Newport Bay Watershed	San Juan Creek Watershed
Newport Coastal Streams Watershed	San Clemente Coastal Streams Watershed
	San Mateo Creek Watershed (within Orange County)

2.2.5 Fiscal Analyses

Annual fiscal analyses have been conducted since the inception of the Program. Each analysis identifies *shared costs* and *individual costs*. Shared costs are those that fund activities performed by the Principal Permittee. These activities include administration, program development, public education, and environmental monitoring. The projected-shared cost expenditures for the 2005-06 fiscal year, as approved by the Permittees, were \$5,941,160.

Individual Costs are those incurred by each Permittee arising from its jurisdictional program implementation as documented in the LIPs and comprise capital and operation and maintenance costs. Capital Costs refers to expenditures for land, large equipment, and structures and Operations and Maintenance Costs refer to normal costs of operation including the cost of keeping equipment and facilities in working order. The total individual Permittee costs for the 2005-06 fiscal year were projected to be \$91,868,883.

The fiscal analysis also requires the identification of funding sources. The funding sources used by the Permittees include: General Fund, Utility Tax, Separate Utility, Gas Tax, and Special District Fund, Others (Sanitation Fee, Fleet Maintenance, Community Services District, Water Fund, Sewer & Storm Drain Fee, Grants, and Used Oil Recycling Grants). **Figure 2.2** shows that general funds continue to support over half the cost of program implementation across Orange County.

2.3 **Assessment**

2.3.1 Implementation Agreement

Since the inception of the Program the Implementation Agreement has been amended to provide for the incorporation of new cities and to formally recognize the role of the TAC. The structure of the Agreement has accommodated the expansion of the program and the significant escalation of shared costs with the adoption of the Third Term Permits. More recently, the Agreement has served as a model for cost sharing collaboration related to the Newport Bay TMDL compliance effort (including the Nitrogen Selenium Management Program), Regional Harbor Monitoring Program, and

SECTION 2.0, PROGRAM MANAGEMENT

Aliso Creek 13255 Directive. Consequently, it is considered to be an effective basis for cooperation of the Program.

2.3.2 Management Framework

USEPA defines a management framework *“as a lasting process for partners working together. It's a support structure making it easier to coordinate efforts--a structure made of agreed upon standard operating procedures, timelines, and forums for communicating with each other”*. On the basis of this definition, the current framework continues to effectively serve the Permittees. The Management Framework has enabled 36 local government entities to develop, implement and sustain coordinated regional and watershed-based approaches to water quality protection and management. The Framework provides a basis for all parties, including staff, management, executive management and elected officials to be informed and involved in the planning processes.

In addition to the established framework, an alternate management framework was conceived during the Third Permit Term by County senior management and the City Managers Association Water Quality Committee in the context of developing a countywide strategic approach to water quality protection based upon three watershed management areas. Conceptually endorsed by the County of Orange Board of Supervisors, this alternate structure will continue to be developed over the course of the Fourth Term Permits.

Headline Indicator - Participation in General Permittee Committee: In 2004-05, thirty four (34) out of thirty five (35) Permittees reported 80% or higher participation in the General Permittee Committee compared to thirty two (32) Permittees reporting 80% or higher participation in 2003-04.

The management framework is reviewed annually to ensure it meets program needs. All the committees/task forces have been effective in bringing forward initiatives to meet the requirements of the Third Term Permits and to address program needs under a consensus building production process.

While these outcomes point to the value and robustness of the current Framework, there has been significant turnover of staff in jurisdictional program manager positions. This has led to a regulatory agency perception that program managers lack the training and expertise necessary to effectively implement the “stormwater mandate.”

ROWD Commitment:

- Prepare a training schedule and define expertise and competencies for jurisdictional program manager positions.
-

SECTION 2.0, PROGRAM MANAGEMENT

2.3.3 Program Documentation

International Organization for Standardization (ISO) 14000 provides criteria for evaluating the efficacy of management system documentation. The DAMP expresses the commitment of the Permittees to NPDES permit compliance and to addressing the adverse impacts of urban runoff on Orange County's creeks, rivers, streams and coastal waters. It establishes objectives, guides the participating organizations toward the development and implementation of BMPs, and commits the Permittees to an iterative process of improvement. It requires the designation of a program manager and assigns responsibilities (through the LIPs) for program implementation. Based upon these considerations, the DAMP meets formal environmental management system expectations for policy documentation. Moreover, the DAMP clearly identifies management procedures and provides for the internal and external communication of both policy and performance. The DAMP is also widely available to interested parties through its posting to www.ocwatersheds.com.

While the comprehensive nature of the current documentation supports the implementation of the Program, it can be perceived as overwhelming in its complexity to both jurisdictional program coordinators who lack a long period of program association and outside constituencies seeking insights into the program. Moreover, the active consideration being given by regulators (e.g. the SWRCB's Blue Ribbon Panel) to possible future inclusion in NPDES permits of quantitative measures, including effluent limitations, underscores regulatory agency and environmental advocate perception of there being undue complexity and challenge with respect to establishing discharger accountability. It is possibly a perception which is being reinforced by overly comprehensive and complex program documentation. The Permittees started to address this issue of accessibility with the publication of the "popular format" *Orange County Stormwater Program Progress in 2002-2003* report and this document's subsequent acclaim points to the need for the more regular use of "popular" format reports. However, to address both the need for the DAMP to be more "accessible" and the Permittees' interest in validating a regulatory framework for stormwater predicated upon an auditable management system, the DAMP must more succinctly demonstrate to all constituencies that policies, objectives, and targets are properly identified and are being met, that regulatory compliance is being achieved, and that the planning processes provide for iterative improvement.

DAMP Modification:

- Revise the DAMP for greater consistency with established Environmental Management System (EMS) principles and improved accessibility to different constituencies and levels or readership.

2.3.4 Fiscal Analyses

SECTION 2.0, PROGRAM MANAGEMENT

The significant year-to-year variability in reported program costs (**Figure 2.3**), which cannot be attributed to changes in program management, point to the clear need for an assessment of the fiscal reporting process.

ROWD Commitment:

- Prepare a fiscal reporting strategy based upon a review of the fiscal analysis reporting section of the PEA, to better define the expenditure and budget line items included in the fiscal report.

Figure 2.1: Orange County Municipal NPDES Management Framework

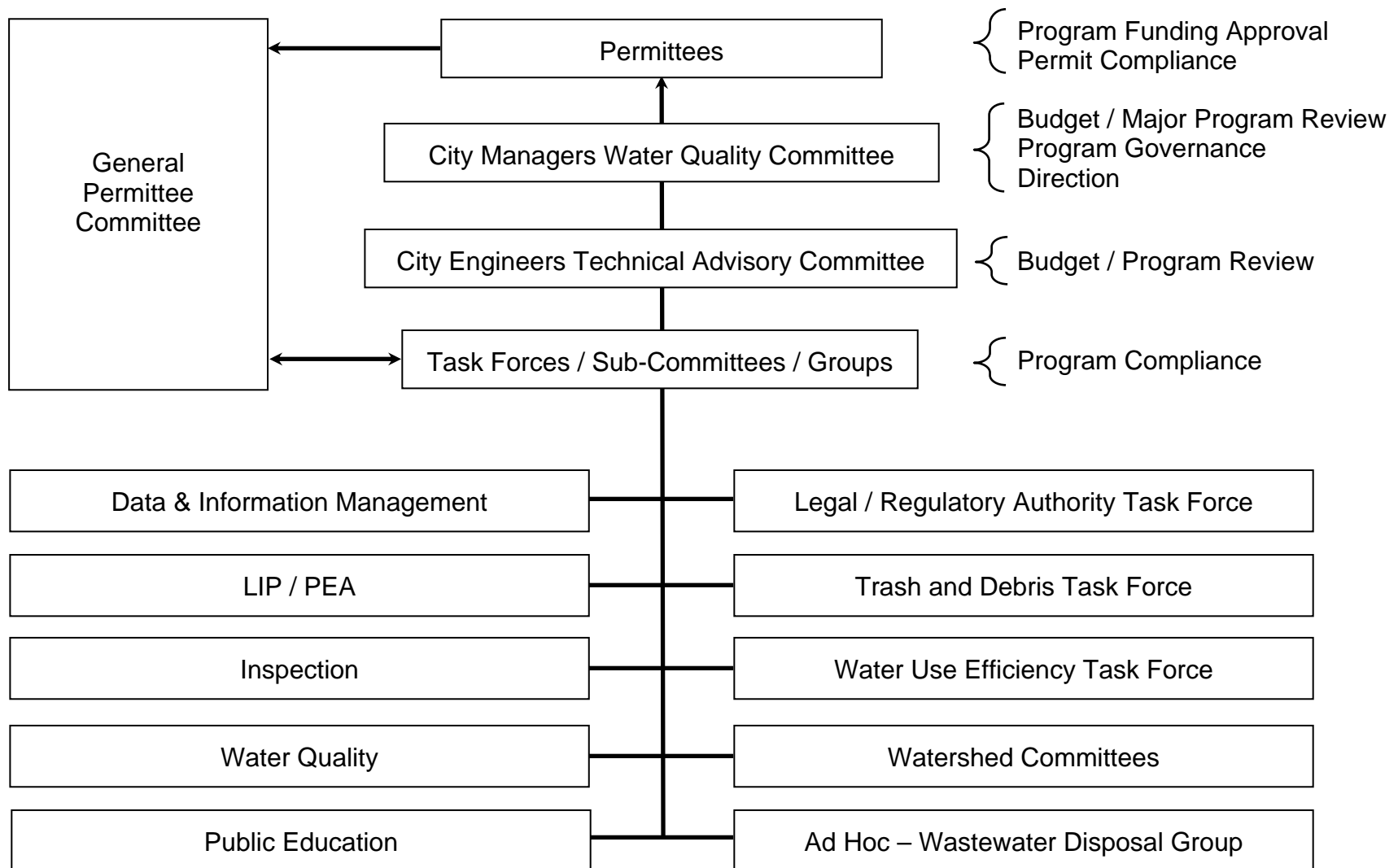


Figure 2.2: 2004-05 Funding Sources

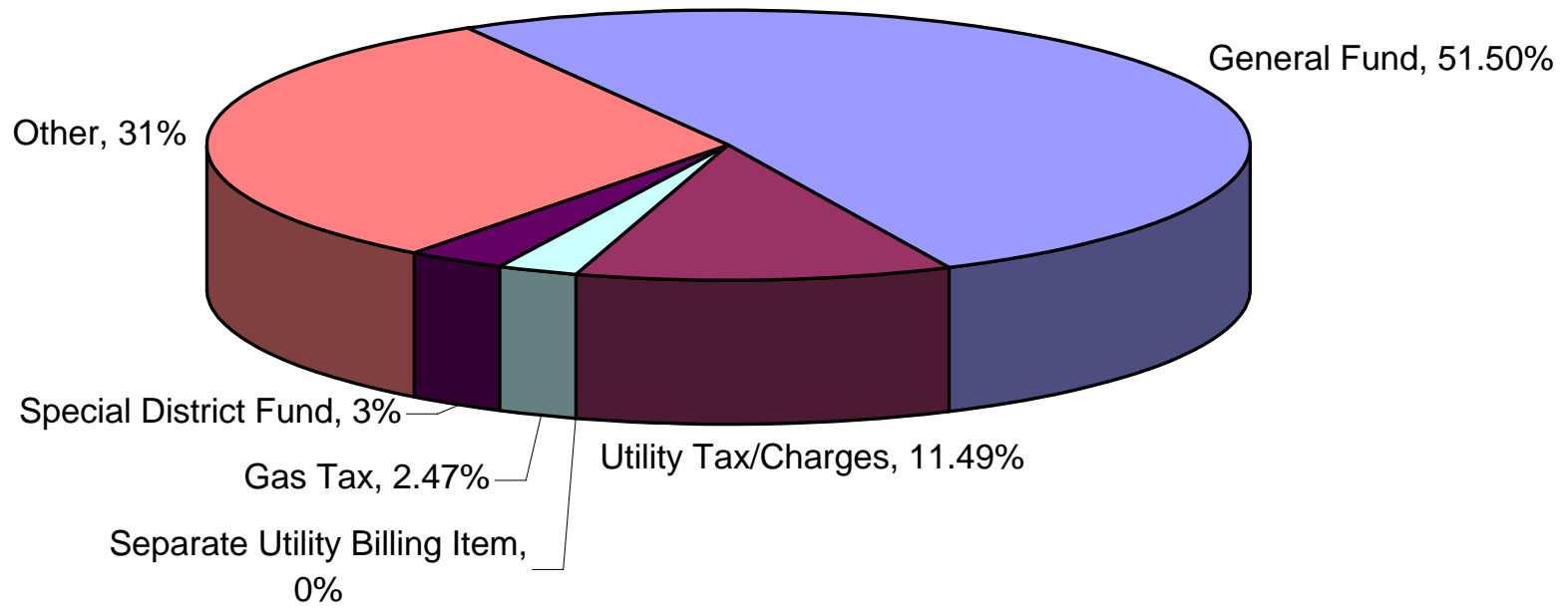
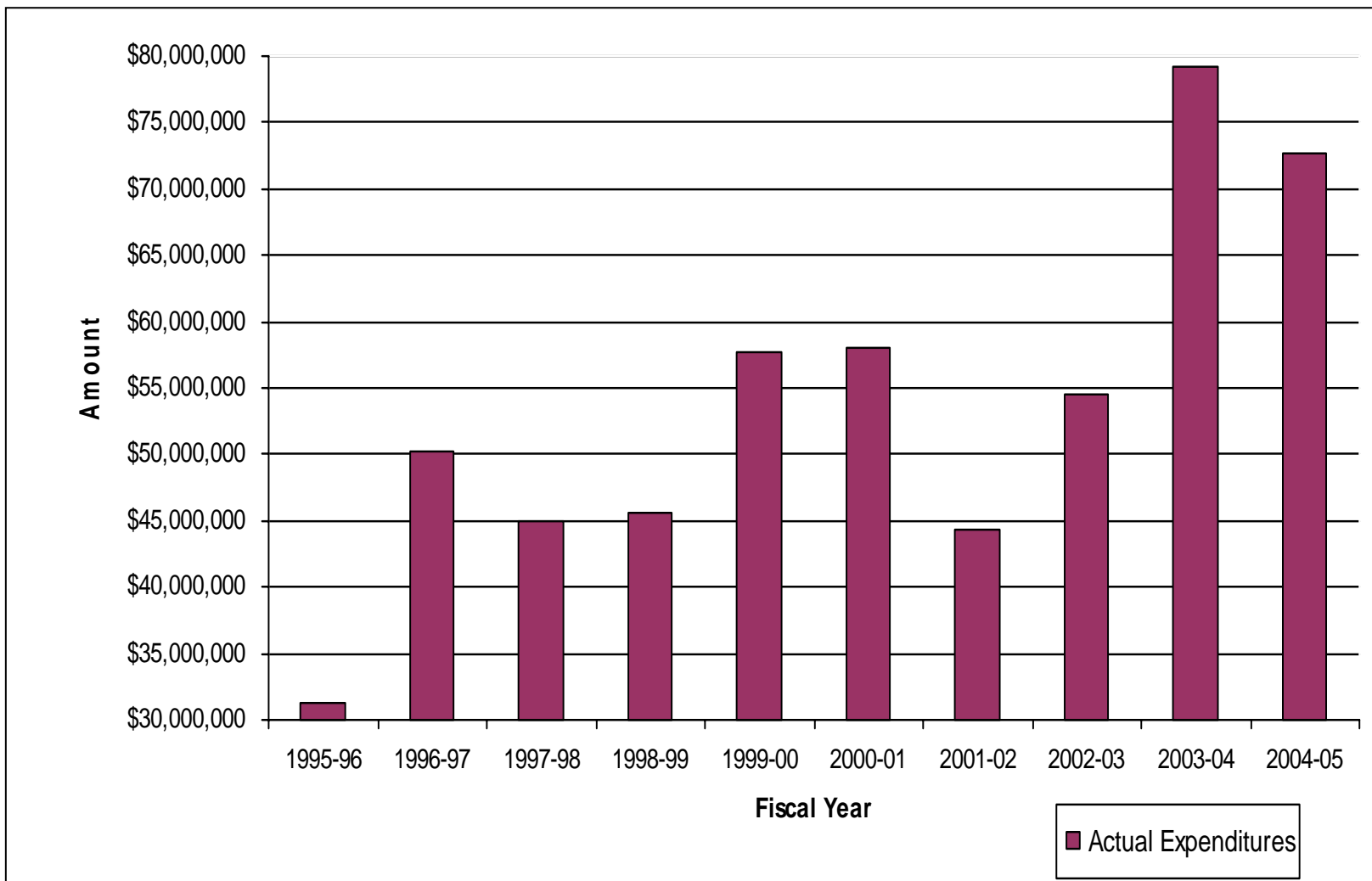


Figure 2.3: Historical Review of Total Individual Permittee Costs



3.0 PLAN DEVELOPMENT

3.1 Introduction

The DAMP sets forth a countywide approach for urban stormwater management by:

- Establishing a baseline set of BMPs that are applicable to all areas and that are proven and cost-effective;
- Monitoring water quality to assess progress and identify urban impacts on receiving water;
- Prioritizing waterbodies for corrective action, with those listed as impaired having a higher priority; and
- Focusing on enhanced BMPs for constituents of concern at a watershed or jurisdictional level, as appropriate.

The purpose of **DAMP Section 3.0** is to describe an iterative planning process, informed by programmatic BMP assessments and environmental monitoring, which support the progressive evolution attainment of water quality standards, as required by the NPDES Permits.

3.2 Accomplishments

3.2.1 Enhancements to DAMP: Iterative Planning Processes

A defining feature of the iterative planning process is the continual analysis, measurement and improvement through the quality loop which is illustrated in a simplified form in **Figure 3.1**:

Assessing: Assessing environmental conditions and programmatic performance, establishing the goals and targets to be achieved, and determining the route to be taken and the measurements to track success;

Planning: Designing activities to achieve the goal, identifying the needed skills and expertise, and designating responsibility for achieving desired outcomes;

Implementing: Striving to bring the process into effect in an efficient and effective manner, and

Monitoring: Evaluating the effectiveness of the *Implementing* stage.

With the adoption of the Third Term Permits, the DAMP which previously had presented policy and programmatic guidance, was revised to incorporate greater individual accountability through jurisdictional Local Implementation Plans (LIPs) (see **DAMP Appendix B**). The LIPs provide a flexible jurisdiction-specific plan within the broader policy and model program framework of the DAMP.

With additional permit mandates to institute watershed-based planning, water quality

planning in the context of the DAMP is now evident as two separate, but nonetheless similar and highly interdependent, processes targeting the control of pollutants in urban runoff. These processes (**Table 3.1; Figure 3.1**) are now recognized in the DAMP as:

- DAMP/LIP – Directed by jurisdictional assessments completed individually by each Permittee and a countywide assessment through a Unified Annual Progress Report.; and
- DAMP/Watershed Action Plan (WAD) (See **DAMP Appendix D**) – Directed by watershed scale assessments in Watershed Annual Reports.

3.2.2 Enhancements to DAMP: Programs and BMPs

Assessment is the part of the planning cycle that involves either initial investigation of the environmental conditions that are being addressed by the management program or, in subsequent iterations of the planning cycle, re-assessment to determine program effectiveness (i.e. if the actions being implemented are contributing to programmatic goals). It encompasses programmatic (including technology evaluations) and environmental enhancements and is itself an evolving area of stormwater management.

Programmatic Enhancements

To assist the Permittees with reporting the status of LIP implementation and the performance of the individual jurisdictional stormwater quality management programs, a Program Effectiveness Assessment (PEA) reporting framework (**DAMP Appendix C**) was developed in 2002-03. The PEA:

- Facilitates the collection and compilation of specific stormwater program implementation data and progress validation indicators;
 - A PEA template was created in 2003 and has been the basis of the 2002-03, 2003-04, and 2004-05 Annual Reports. In 2005, the template was converted into an internet-based reporting system.
- Provides for program effectiveness assessment by the individual Permittees and the Principal Permittee on a jurisdictional, watershed and/or countywide basis;
 - The PEA identifies specific programmatic and environmental performance metrics including specified validation indicators titled, “Headline Indicators.” (See Section 1.2.2)
- Ensures that an evaluation and improvement process is applied on a jurisdictional, watershed and/or countywide level to determine where modifications within the DAMP, LIP or WAP may be necessary; and
- Provides a mechanism for the Permittee to identify and report modifications that have or will be made to their LIP.

Enhancements in BMP Knowledge

A number of BMP evaluations, with countywide application, have been undertaken. These studies include the *BMP Effectiveness and Applicability for Orange County* (see **DAMP Appendix E1**); *Trash and Debris BMP Evaluation* (see **DAMP Appendix E2**); *Erosion Control BMP Effectiveness Study* (see **DAMP Appendix E3**); *Septic System Inventory and Assessment* (see **DAMP Appendix E4**); *Portable Toilet Pollution Prevention Program* (see **DAMP Appendix E5**), *Dry Weather Diversion Study* (see **DAMP Appendix E6**), *BMP Retrofit Opportunity Study* (see **DAMP Appendix E7**), and *Tustin Area Spill Containment Project* (see **DAMP Appendix E8**).

- *BMP Effectiveness and Applicability for Orange County*

This study was commissioned to review existing information on available structural BMPs and to organize and present specific information to facilitate the selection, siting, design, construction and maintenance of the most appropriate and cost-effective BMPs for a particular site in Orange County. The study recommended consideration be given to using extended detention basins, vegetated swales, vegetated buffer strips, bioretention, sand and organic filters, infiltration basins and infiltration trenches. In 2005, the study report was updated to include flow reduction BMPs developed in conjunction with the Nitrogen and Selenium Management Program.

- *Trash and Debris BMP Evaluation*

The objectives of the study were to review characterization information on trash and debris in Orange County and to identify candidate structural BMPs. The study concluded that site characteristics such as hydraulic head or footprint may be the principal determinants of BMP selection. During the reporting period the findings of this study were developed into a BMP selection guide for retrofit applications to modify an existing facility to provide a water quality (trash/debris removal) function. This guide will be finalized in 2006-07 and incorporated into **DAMP Appendix E**.

- *Erosion Control BMP Effectiveness Study*

The study was conducted to evaluate selected erosion methodologies for graded building pads with the goal of providing information on (1) the effect of time and weathering on product condition; (2) the frequency a product must be applied to be effective; (3) the maximum slope on which a product will perform effectively; and (4) how product performance is affected by soil types. The study comprised an evaluation of two types of hydraulic mulch (paper and wood based), two types of polyacrylimide (low and high molecular weights), and wood mulch (without a binding agent). The findings of the evaluation, which will be reported in the **2005-06 Unified Report** and incorporated into **DAMP Appendix E**, will be used to form the basis of a program recommendation on county pre-approved

BMPs.

- *Septic System Inventory and Assessment*

The objectives of this study were to develop an inventory/database of the septic systems in Orange County and to estimate the potential impact of septic systems on the quality of selected receiving waters. The final inventory/database compilation resulted in a list of over 2776 active septic systems which are widely dispersed throughout the County but are found in the highest concentrations in the Santa Ana River watershed. In the course of conducting eighty field surveys, one failed system was noted, representing a failure rate of 1.25% which was consistent with a similar finding in the literature. The study concluded that septic systems do not represent a significant source of constituents of concern (particularly fecal indicator bacteria and nutrients) for Orange County receiving waters.

- *Portable Toilet Pollution Prevention Program*

The objectives of the evaluation were to: (1) determine the nature of existing operational practices and regulatory oversight structure; (2) assess the extent to which the present practices associated with their use and maintenance were adversely impacting surface water quality; and (3) recommend appropriate revisions to current operational practices or regulatory oversight as warranted. The study determined that current standard industry practices for use, maintenance, transport and storage of portable toilets within Orange County are generally found to be sufficiently responsible to prevent impacts to receiving waters.

- *Dry Weather Diversion Study*

The dry weather diversion study was prepared to evaluate the diversions to the sanitary sewer that are in place or proposed within Orange County and to identify decision-making criteria to be used in selecting diversions as a preferred BMP. A recommended procedure for prioritizing implementation of diversion facilities was developed for the area of Orange County served by the Orange County Sanitation District.

- *BMP Retrofit Opportunities Study*

In 1997-98, the feasibility of incorporating BMP retrofits to optimize beneficial use attainment began to be addressed in the context of the long-term water quality planning initiatives being conducted within Orange County, a number of which were in cooperation with the Army Corps of Engineers. To supplement these earlier efforts, during 2003-04, a countywide evaluation was initiated using a GIS-based model to identify opportunities within the existing storm drain infrastructure for configuring/reconfiguring storm drains or channel segments in order to improve water quality and maintain the designated beneficial uses

SECTION 3.0, PLAN DEVELOPMENT

(see **DAMP Appendix E**). This effort was continued in 2005-06 with further use of the GIS-based model.

- *Tustin Area Spill Control (TASC) Demonstration Project*

To address the various regulatory, technical and coordination issues associated with preventing and planning for sanitary sewer overflows (SSOs), the County, as Principal Permittee, and the Orange County Sanitation District (OCSD) initiated a pilot project titled Tustin Area Spill Control (TASC) Demonstration Project. The project's accomplishments to date include:

- Development of SSO response procedures;
- Selection of primary and backup sewage spill response contractors for containment and recovery of sanitary sewer overflows;
- Conducting SSO desktop and hands-on field response training with the contractors; and,
- Development of a Memorandum of Understanding for delineating jurisdictional and financial responsibilities within the TASC project.

Enhancements in Technologies and Methodologies

A number of important initiatives are being supported by the Permittees aimed at the development of assessment techniques and methodologies to support more informed and consistent decision making across Southern California and statewide, including projects being undertaken with the Southern California Stormwater Monitoring Coalition, University of California, Irvine (UCI) for the development of the California Sustainable Watershed/Wetland Information Manager (CalSWIM) - prototype database, and the California Stormwater Quality Association (CASQA) initiative on program effectiveness assessment.

Findings of the extensive water quality monitoring program during the reporting period are discussed in **Section 11.0**. However, concurrent with this data collection effort are a number of important initiatives, being supported by the Permittees, that are aimed at the development of assessment techniques and methodologies to support more informed and consistent decision making across Southern California. Notable amongst these initiatives are the Regional Research Monitoring Program (Stormwater Monitoring Coalition) and the Development of the California Sustainable Watershed/Wetland Information Manager (CalSWIM) - prototype Database.

- *Regional Research Monitoring Program (Stormwater Monitoring Coalition)*

The goal of the Southern California Stormwater Monitoring Coalition (SMC) is to identify region-specific research needs to better understand stormwater mechanisms and impacts, and to collectively sponsor the development of assessment techniques and methodologies that will enable more informed and consistent stormwater management decision-making across the region.

The SMC has initiated several of the 15 research projects identified in the research needs agenda, including: microbial source tracking method comparison,

development of standardized sampling and analysis protocols, implementation of a laboratory intercalibration program, peak flow impact assessment, and the development of a regional integrated freshwater stream bioassessment monitoring program.

- *Development of California Sustainable Watershed/Wetland Information Manager (CalSWIM) – Prototype Database*

In response to a commitment to develop a prototype watershed database for cumulative impact assessment, the County of Orange as Principal Permittee has worked with UCI in developing and implementing a prototype database called the California Sustainable Watershed/Wetland Information Manager (CalSWIM). CalSWIM is a web-based expert system and database focused, initially, on Newport Bay and the Newport Bay watershed and can be viewed at www.calswim.org. The technical objective of CalSWIM is to provide an interactive platform for coastal wetland and watershed managers, planners, and engineers to explore alternative wetland and watershed management strategies.

- *CASQA Program Effectiveness Assessment White Paper*

The preliminary *White Paper* introduced and discussed key concepts and provided a standardized terminology related to the development of a comprehensive framework for assessing the effectiveness of stormwater management programs. It briefly defined and categorized potential outcomes, measures, and methods to be used in conducting assessments, and provided examples of how several programs are already utilizing these tools to assess their effectiveness. It also discussed the current needs of stormwater program managers with respect to program assessment. The issues addressed in this paper will form the basis for more detailed guidance on effectiveness assessment that is being developed by the CASQA Effectiveness Assessment Subcommittee during 2006.

3.3 Assessment

The Permittees recognize that knowledge in the field of stormwater quality is rapidly evolving and that the BMPs within the DAMP/LIP must be revised, deleted or added to in order for the program to stay current. In addition, water quality problems caused by urban stormwater that are identified either through environmental monitoring or regulatory interventions will elevate the need for additional or new BMPs to be implemented.

3.3.1 Iterative Planning Processes

While the ROWD itself serves to identify new programmatic commitments (see **Sections 5.0 through 10.0**), and is thereby evidence of the iterative approach, the DAMP has not, to date, detailed a process for programmatic change in response to improved knowledge of water quality controls and best management practices.

DAMP Modification:

- Revise **DAMP Section 3.0** plan improvement process to detail the plan improvement process.

3.3.2 Programmatic Assessment

The PEA template created in 2003, and used as the basis of the 2002-03, 2003-04, and 2004-05 Annual Reports, has been helpful in establishing a series of metrics for spatial (i.e. jurisdictional comparisons) and temporal (i.e. year-to-year comparisons) assessments of program effectiveness. However, the reporting has highlighted significant inconsistencies in metric interpretation across the jurisdictions of the Orange County Stormwater Program that require further standardization.

ROWD Commitment:

- Prepare metric definitions and guidance to improve efficacy of the assessment process.

3.3.3 BMP Assessment

Over the course of the Third term Permits a number of BMP evaluations have been undertaken. The recommendations arising from these studies are presented as ROWD commitments or DAMP Modifications in the subsequent sections of this ROWD as appropriate.

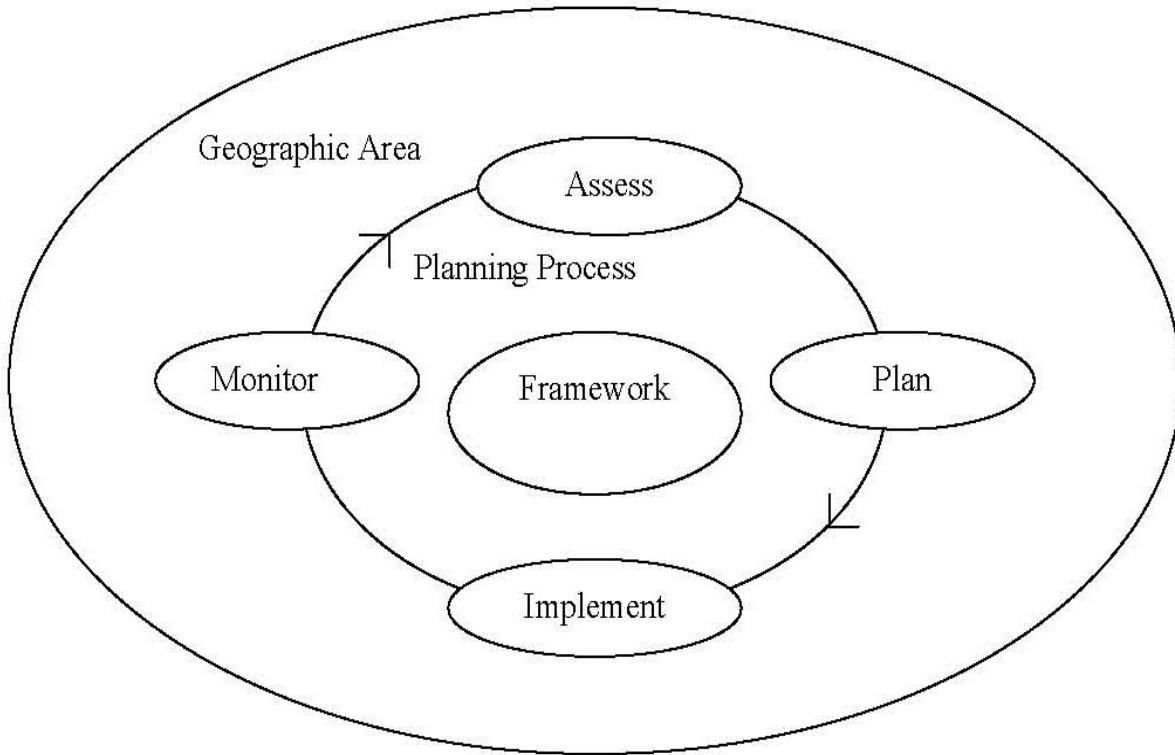
3.4 Summary

The Permittees consider **DAMP Section 3.0** to define the iterative planning processes, informed by programmatic and BMP assessments, that are the basis of the DAMP. Based upon this evaluation of the process, the principal finding is that the language of the DAMP can be revised to better define these processes at separate, but interrelated, jurisdictional, watershed and countywide levels. The Permittees have also identified a need to standardized annual reporting data further in order to enhance effectiveness assessment.

Table 3.1: Comparison of Water Quality Planning Processes

	DAMP/LIP	Watershed Action Plan
<i>Geographic Area Covered by Plan</i>	Defined by political (city/County) boundaries.	Defined by hydrologic boundaries.
<i>Planning Process</i>	Focused on reducing discharges of pollutants in urban runoff and stormwater pollution on a uniform countywide basis. Directed by DAMP/LIP in conformance with NPDES permits requirements.	Focused on improving local receiving water quality where it is adversely impacted by urban runoff and stormwater pollution. Directed by NPDES permits and 303(d) list.
<i>Framework</i>	Directed by Stormwater Program committee structure and Regional Board review. Public consultation principally through CEQA process/Regional Board review.	Directed by municipal and public agency stakeholders. Characterized by public participation.
<i>Assessment</i>	Based on countywide municipal and regional cooperative investigations of stormwater and receiving water quality. Assessments are undertaken annually (LIP) and every 5 year (DAMP).	Based on information from watershed specific investigations. Assessments are undertaken on an annual basis.
<i>Planning</i>	Broad based approach with emphasis on well established pollution prevention and source control measures.	Pollutant specific approach with emphasis on treatment controls and consideration of innovative regional solutions.
<i>Implementation</i>	Individually by Permittees.	Individually and collaboratively by Watershed Permittees and other agencies.
<i>Monitoring</i>	Considers pollutant load reduction.	Considers beneficial use attainment.

Figure 3.1: Water Quality Planning Process



4.0 LEGAL AUTHORITY

4.1 Introduction

The ability of the Permittees to comply with the requirements of the Third Term Permits is contingent upon the establishment, by each Permittee, of adequate legal authority to support control program implementation. **DAMP Section 4.0** discusses the development, starting in 1993, of a Model Water Quality Ordinance that was used by the Permittees as the basis of their local ordinances that were adopted by 1997. It also commits the Permittees to reviewing their ordinances to determine if any modifications are necessary in order to comply with new NPDES Permit requirements.

4.2 Accomplishments

With the adoption of the Third Term Permits in early 2002, the Permittees reviewed and verified the adequacy of their legal authority as the legal basis for the activities required for Third Term Permit compliance, primarily **DAMP Sections 7.0, 8.0, 9.0, and 10.0**. Following this initial review and verification, the responsibility for maintaining the efficacy of this key program element has rested with the Legal and Regulatory Task Force (see **Section 2.3.1**). During the reporting period, this Task Force has focused on a number of key areas including:

- Review and revision of legal authority as necessary regarding the stipulation of mandatory minimum BMPs in the San Diego Region;
- Review of inspection authority and “right of entry” at industrial/commercial facilities;
- Identification and resolution of overlap in legal authority within requirements of the WDR FOG program;
- Examination of the various Total Maximum Daily Load (TMDL) initiatives and their relationship to NPDES permits; and
- Perpetuation of BMP upkeep and maintenance in Water Quality Management Plans (WQMPs) for New Development/Significant Redevelopment.

Arising from the work of the Task Force have been continued findings of legal authority adequacy and the development of a model approach to WQMP recordation.

4.3 Assessment

The program effectiveness assessment outcome level for the **DAMP Section 4.0** is presented in **Table 4.1**. However, beyond confirming compliance with the Permits, the Permittees’ legal authority can also be assessed in the context of the sections of the DAMP that it primarily supports.

4.3.1 Legal Authority to Implement Existing Development and ID/IC Programs

In 2005, an action taken under the Ordinance requiring a property owner to effect the removal of manure from a creek under the authority of the jurisdiction’s water quality

ordinance was formerly challenged under the ordinance's appeal provisions. The jurisdiction prevailed in the third party adjudicated appeal hearing and again at a subsequent trial in an action brought by the Orange County District Attorney. These results, in addition to the numerous successful administrative actions and citations detailed in **Sections 8.0, 9.0 and 10.0** of this report, validate the robustness of the Permittees' legal basis for implementing **DAMP Sections 9.0 and 10.0**.

4.3.2 Legal Authority to Implement New Development Program

The New Development/Significant Redevelopment component of the Program ends with permit close-out and the BMPs implemented in conformance with DAMP Section 7.0 transition to the Existing Development component. As noted in **Section 7.3.1**, the Permittees believe that the BMP approach to stormwater management could be more effectively sustained by ensuring the longevity and enforcement of the approved WQMP against subsequent property owners for ongoing responsibility for BMP maintenance. The ROWD Commitment in **Section 7** to develop guidance on the recordation process and appropriate documentation to enable such enforcement will be fulfilled under the aegis of the Legal and Regulatory Task Force.

4.4 Summary

The Permittees validated the legal basis for implementing the DAMP in early 2002 and over the balance of the period of the Third term Permit continued to review aspects their legal authority under the aegis of the Legal and Regulatory Task Force. This review and the formal legal challenge to this authority in late 2005 and early 2006 have served to affirm the basic robustness of the Permittees' water quality ordinances.

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Table 4.1: Current and Potential Outcome Levels (Legal Authority)

Legal Authority	Effectiveness Assessment Outcome Levels					
	Level 1	Level 2	Level 3	Level 4	Level 5	Level 6
	Implement Program	Increase Awareness	Behavior Change	Load Reduction	Runoff Quality	Receiving Water Quality
Water Quality Ordinance	✓ Adopt and Maintain Adequate Legal Authority					
Training	✓ Track number/type of training sessions	^P Surveys show improved knowledge				
<p><u>Key:</u> ✓ = Currently Achieved Outcome Level ^P = Potentially Achievable Outcome Level</p>						

5.0 MUNICIPAL ACTIVITIES

5.1 Introduction

The Permittees own and operate facilities and build and maintain much of the transportation, drainage and recreational infrastructure of the urban environment. The primary purpose of **DAMP Section 5.0** is to ensure that, through a systematic process of evaluation, BMPs are incorporated into these activities. **DAMP Section 5.0** also requires a commitment to implement Integrated Pest Management (IPM) approaches. In addition, **DAMP Appendix C** requires performance reporting related to a number of Established BMPs that have been recognized, since the inception of the Program, as significant contributors to pollutant load reduction.

5.2 Accomplishments

5.2.1 Model Municipal Activities Program

The Model Municipal Activities Program was developed and implemented in 2002-03 and replaced the environmental performance reporting program of the Second Term Permits. It establishes a framework for conducting a systematic program of evaluation and BMP implementation targeting fixed facilities, field programs and drainage facilities. The Model Municipal Activities Program requires the Permittees to:

- Compile facility and program inventories:

2,302 facilities have been reported as inventoried (2004-05 reporting period) and are subject to the program (**Table 5.2; Figure 5.1**).

- Prioritize facilities and programs based upon water quality threat and receiving water sensitivity:

There are a reported 1,070 high priority, 126 medium priority, and 1,106 low priority municipal facilities (**Table 5.2; Figure 5.1**)

- Establish model maintenance procedures:

Sets of BMP factsheets were produced for Fixed Facilities (13 factsheets), Field Programs (7 fact sheets) and Drainage Facilities (1 fact sheet). The factsheets are available at

http://www.ocwatersheds.com/StormWater/documents_damp_lip.asp

(Section 5 of the County of Orange/Orange County Flood Control District 2005-06 Local Implementation Plan).

- Conduct inspections:

Standard general and activity specific inspection forms have been developed for Fixed Facilities, Field Programs and Drainage Facilities. In addition, by the end

SECTION 5.0, MUNICIPAL ACTIVITIES

of 2006, 2,326 municipal facilities were reported as having been inspected for stormwater issues (**Table 5.3**).

- Implement BMPs:

At the end of the 2004-05 reporting period, 1,968 municipal facilities were determined to have full BMP implementation (**Table 5.3**).

- Undertake training:

Three training modules have been developed, specifically, Municipal Activities program Training, Fixed Facility Model Maintenance Procedure Training and Field Program Model Maintenance Procedure Training.

5.2.2 Model Integrated Pest Management, Pesticide and Fertilizer Guidelines

Landscaping is best managed using an integrated system of tactics that include biological, mechanical, physical, cultural, and chemical control. This system, known as IPM, relies on careful monitoring of the plants to identify when a chemical or other control action should be taken. In June 2001, the Principal Permittee entered into a five-year agreement with the University of California Cooperative Extension (UCCE) to conduct water quality monitoring studies and implement water quality improvement programs in areas where the University has special expertise, particularly related to fertilizer and pesticide applications (Note: On May 10, 2005, the agreement was revised and extended for up to six additional years). In close cooperation with the UCCE, Model IPM, Pesticide and Fertilizer Guidelines were completed in 2002-03. The Guidelines require the Permittees to:

- Conduct IPM self-audits:

With oversight and assistance from UCCE, the Permittees have completed self-audits of the Model IPM, Pesticide and Fertilizer Management Guidelines implementation. Audits have been conducted annually as part of annual progress reporting.

- Implement the Model IPM, Pesticide and Fertilizer Management Guidelines based upon IPM principles:

Fifty-seven percent (57%) of the Permittees are able to report that they operate under a formal written IPM policy.

Thirty-five (35) Permittees reported that approximately 363,146 pounds of nitrogen were applied to 6,862 acres of public land during the 2004-05 reporting period representing a third consecutive year of reduction (the 2005-06 figure represents a 2% decrease from the pounds per acre of nitrogen usage in 2003-04; a decrease of 27% from 2002-03; and a 12% decrease from 2001-02) (**Table 5.4**).

SECTION 5.0, MUNICIPAL ACTIVITIES

During the 2004-05 reporting period, approximately 19,227 pounds of active ingredients (AI) of pesticides were applied by the Permittees representing a 30% reduction in use since the inception of the program (**Table 5.3**).

- Undertake Training:

Training has been provided annually.

5.2.3 Established BMPs

Performance indicators for certain Established BMPs have been tracked since the inception of the Model Municipal Activities Program. These BMPs are street sweeping, solid waste collection, catch basin stenciling, drainage facility maintenance, trash & debris Control (formerly litter control), household hazardous waste collection, and used oil grant participation.

- Street Sweeping:

All Permittees maintain street sweeping programs in residential, commercial and/or industrial areas. In 1993 the Permittees compiled information regarding their existing street sweeping schedules and practices and have subsequently changed elements of their programs such as the types of sweepers purchased, the frequency of sweeping, and the use of parking restrictions in order for the street sweeping program to aid in water quality improvements.

85,516 tons of material was removed from the streets and gutters during the 2004-05 reporting period. This effort appears to represent a 12% increase for weight of material collected over the previous reporting period and a 25% increase over the tons of material reported in 2002-03. This amount represents a 87% increase in the weight of material collected over the 2001-02 total, indicating a marked increase in effort in this area of infrastructure maintenance in the Third Term Permit cycle. (**Table 5.5; Figure 5.2**).

- Solid Waste Collection:

The Permittees have solid waste collection programs for public, residential, commercial and industrial areas.

3,959,590 tons of solid waste was collected during the 2004-05 reporting period. This effort appears to represent a 9.1% increase in the amount of solid waste collected over the previous reporting period, an 8.8% increase over the reported total in 2002-03, and a 7.0% increase over the reported total in 2001-02 (**Table 5.6; Figure 5.3**).

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- Catchbasin Stenciling:

Over 37,000 stormdrain inlets have been stenciled. Each year 6,000 – 9,000 inlets are re-stenciled.

- Drainage Facility Maintenance:

The Permittees inspect the drainage system within their jurisdictions annually and clean out accumulated debris on an as needed basis. Removal of accumulated debris and sediment is carried out either manually or by mechanical methods using flushing – in emergency situations only – in accordance with established maintenance procedures (Model Maintenance Procedure DF-1). By removing this material from the catch basin inlets and stormdrain system, the Permittees make a significant contribution in preventing the passage of these materials in downstream receiving waters.

5,612 tons of debris was removed from drainage facilities in 2004-05. This amount represents a 43% decrease in the amount of debris collected from drainage facilities when compared to the previous reporting period, a 77% decrease in the amount collected in 2002-03 and a 6.5% decrease in the amount collected in 2001-02 (The 2002-03 reported total suggests inconsistent reporting of this Indicator or other environmental factors such as Santa Ana winds) (**Table 5.7; Figure 5.2; Figure 5.3**).

- Trash & Debris Control:

Trash and debris control is an important element in the diversion of litter and other solid materials from the storm drain system. Although most Permittees historically viewed litter control as a public service program (i.e., preventing visual blight, etc.), rather than as a pollution control problem, it is now considered important as a visual indicator of water quality and an aspect of the recreational use of a waterbody.

Eleven (11) trash and debris booms have been installed in flood control channels and harbors to recover floatable material.

Inner-Coastal and Watershed Cleanup Day, which engages the public directly in the cleanup of trash and debris, has been heavily promoted by the Orange County Stormwater Program. In 2002, 1,722 volunteers joined in and collected 29,503 pounds of trash and 5,350 pounds of recyclables. In 2003, 2,473 volunteers collected 52,474 pounds of trash and 5,447 pounds of recyclables at 37 sites. In 2004, 6,001 volunteers collected 78,390 pounds of trash and 9,563 pounds of recyclables at 38 sites. In 2005 the number of clean-up sites increased to 43.

The Permittees have participated in the preparation of a number of strategic assessments of litter control efforts including *A Review Of Current Trash Pollution and Mitigation Efforts in Orange County: Final Report January 2006* prepared under

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the auspices of the Trash & Debris Task Force and the Algalita Marine Foundation/California Coastal Commission *Plastic Debris: Rivers To Sea* initiative in which the Principal Permittee was represented on the advisory board.

- Household Hazardous Waste Collection:

Orange County has a household hazardous waste collection program administered by the Integrated Waste Management Department (IWMD). The program comprises four sites (Anaheim, Huntington Beach, San Juan Capistrano, and Irvine).

A total of 6,303,938 pounds of household hazardous waste was collected in the 2004-05 reporting period representing a 9.8% increase from the previous reporting period, a 48.7% increase from the 2002-03 reporting period, and 68.7% increase from the 2001-02 reporting period (**Table 5.8; Figure 5.6**).

- Used Oil Grant Participation:

Most of the Permittees, as well as the County's Health Care Agency, currently implement used oil recycling programs. These programs involve comprehensive public outreach including television and newspaper advertising, displays at community events, and the distribution of used oil containers at no cost to residents.

Twenty seven (27) Permittees reported having a Used Oil Grant participation program for 2004-05, 28 Permittees in 2003-04 and 27 Permittees in 2002-03 (**Table 5.9; Figure 5.7**).

5.3 Assessment

The current and potential program effectiveness assessment outcome levels for the Municipal Activities Program are presented in **Table 5.1a** (Model Municipal Activities Program) and **Table 5.1b** (Model IPM and Fertilizer Guidelines).

5.3.1 Model Municipal Activities Program

The Model Municipal Activities Program superceded the Environmental Performance Reporting (EPR) program of the Second Term Permits. Nonetheless, elements of the EPR program were carried over into the **2003 DAMP**. The **ROWD** is therefore recognized by the Permittees as an opportunity to eliminate the redundant vestiges of the prior inspection and oversight program.

The fixed facility inventory has fluctuated significantly over the reporting period (see **Table 5.2**) pointing to the need for the better definition of key program terms.

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Indicator – Prioritization of Facilities: For 2004-05, 2,302 industrial facilities were prioritized, 46% of which were ranked as high priority; for 2003-04, 2,418 industrial facilities were prioritized, 49% of which were ranked as high priority; and for 2002-03, 2,380 industrial facilities were prioritized, 46% of which were ranked as high priority (**Table 5.2**).

Level 1: Implement Program

Level 3: Behavior Change

In addition, the number of designated “high priority” facilities has remained at approximately 1,100 annually (**Table 5.2**) despite the initial intention for the program to be risk-based and the significant level of BMP implementation (i.e. risk mitigation) that has occurred over the period of the Third Term Permits. It is also apparent that the application of a “high priority” designation has varied significantly between the Permittees, reflecting both different SAR and SDR Permit requirements and individual Permittee interpretations of the prioritization process.

DAMP Modification:

- Eliminate Environmental Performance Reporting (EPR) program (which is duplicative of Model Municipal Activities Program).
- Define “fixed facilities,” “field programs,” and “drainage facility sites.”

ROWD Commitment:

- Standardize SDR and SAR definitions of “high priority” and develop prioritization process that is better predicated on the threat (diminished by BMP implementation) posed by the facility, and considers the presence of “constituents of concern.”

5.3.2 Model Integrated Pest Management, Pesticide and Fertilizer Guidelines

The majority of fertilizers are applied to turfgrass with a smaller amount utilized on landscape material (trees, shrubs, groundcovers, and vines). Countywide, municipal fertilizer use has declined. However, other indicators of a shift toward more of an IPM-

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oriented approach show little change; e.g. utilization of slow-release fertilizers, timing of fertilizer applications, and use of soil analyses.

Headline Indicator - Reduction in Total Fertilizer Usage (Nitrogen): Thirty-five Permittees (35) reported that approximately 363,146 pounds of nitrogen were applied to 6,862 acres of public land during the 2004-05 reporting period (53 lbs/acre). This figure represents a 2% decrease from the pounds per acre of nitrogen usage in 2003-04; a decrease of 27% from 2002-03; and a 12% decrease from 2001-05.

Level 3: Behavior Change

Headline Indicator - Reduction in Total Fertilizer Application (Phosphorus): Thirty-five Permittees reported that 81,600 pounds of phosphorus were applied to 6,862 acres of public land during the 2004-05 reporting period (12 lbs/acre). This figure represents a 20% decrease from the pounds per acre of phosphorus applied in 2003-04; a decrease of 33% from 2002-03; and an 8% decrease from 2001-05.

Level 3: Behavior Change

There also appears to have been an overall reduction in pesticide use. However, as with fertilizer use, other indicators (e.g. equipment calibration, clean-up of overspray, use of non-chemical pest control methods) show little change. The absence of a trend in these indicators shows that factors other than the adoption of IPM approaches (e.g. budgetary constraints) may be the more significant in explaining the overall reduction in pesticide use. Indeed, toward the end of the current Permit term, only fifty-seven percent (57%) of the Permittees are able to report that they operate under a formal written IPM policy.

Headline Indicator - Reduction in Pesticide Application: During the 2004-05 reporting period, approximately 19,227 pounds of active ingredient of pesticides was applied by Permittees. This represents an approximately 30% decrease in pounds of pesticide applied compared to 25,022 pounds of active ingredient pesticides applied in 2003-04, and 24,750 pounds of active ingredient applied in 2002-03.

Level 3: Behavior Change

ROWD Commitment:

- Develop Model Integrated Pest Management, Pesticide and Fertilizer Guidelines into a Model Program (rather than guidelines) with implementation goals and including model contract language.
 - Redefine IPM (pesticide use) indicators.
-

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5.3.3 Established BMPs

An annual evaluation of the routine preventive maintenance activities is conducted and, where appropriate, improvements or new practices are implemented to further reduce the amount of pollutants discharged into the storm drain system. An important component of this evaluation process is the documentation and collection of data related to these selected activities.

Trash and Debris Controls (formerly Litter Control)

There are currently three aspects to trash and debris control that have been reported over the period of the Third Term Permits, specifically, the deployment of trash and debris booms, public participation in Inner-Coastal and Watershed Cleanup Day, and an enhanced program of catchbasin cleaning.

Currently, eleven (11) trash and debris booms have been installed in flood control channels and harbors to recover floatable material. However, the Permittees recognize that the stormdrain infrastructure provides for retrofit opportunities in other areas. Indeed, a number of recent technical reports prepared by the Permittees and Coastal Commission examining technologies for trash and debris control, as well as extensive independent jurisdictional experience with inlet devices, establish a basis for the development of policy recommendations in this area.

ROWD Commitment:

- Develop recommendations for the selection and installation of drain inlet screens.

Every year the California Coastal Commission and Trails-4-All sponsor the Inner-Coastal and Watershed Cleanup Day to help cleanup the trash and debris that accumulates along the coastline, fouling the beaches and tidal zone. This event has been sponsored and heavily promoted by the Orange County Stormwater Program. In 2002, 1,722 volunteers joined in and collected 29,503 pounds of trash and 5,350 pounds of recyclables. In 2003, 2,473 volunteers collected 52,474 pounds of trash and 5,447 pounds of recyclables. In 2004, 6,001 volunteers collected 78,390 pounds of trash and 9,563 pounds of recyclables. In 2005, the number of clean-up sites increased to 43. The sustained year-to-year increases in public participation and material recovery point to the effectiveness of the Permittees' efforts in promoting this event.

Catchbasins are inspected annually and cleaned as appropriate. In the 2004-05 reporting period 86% of the catchbasin inventory in Orange County was cleaned, the highest level in the first three years of the Third Term Permits.

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Solid Waste Collection

During the last reporting period, 35 Permittees reported the collection of nearly 4.0 million tons of solid waste. This effort compares to the total of 3.62 million tons of solid waste reported by 30 Permittees in 2003-04, 3.64 million tons of solid waste reported by 26 Permittees in 2002-03, and 3.70 million tons of solid waste reported by 33 Permittees in 2001-05. While the Permittees encourage the public, through education and outreach, to properly dispose of their trash, and this encouragement may be contributing to the increased level of collection in the most recent reporting period, there are significant discrepancies in the year-to-year reporting of individual jurisdictions.

Headline Indicator - Solid Waste Collection: 3,959,590 tons of solid waste was collected during the 2004-05 reporting period. This effort appears to represent a 9.1% increase in the amount of solid waste collected over the previous reporting period, an 8.8% increase over the reported total in 2002-03, and a 7.0% increase over the reported total in 2001-05.

In addition to education, the Permittees have considered the extent to which the cradle-to-grave management of solid waste can be improved to increase the effectiveness of collection efforts. This consideration has identified municipal oversight of contract solid waste collection and disposal as another area for possible improvements in service effectiveness.

ROWD Commitment:

- Develop model language for municipal trash collection and haulage contracts that addresses water quality protection issues.

Drainage Facility Maintenance

Drainage facilities are an integral component of the Model Municipal Activities Program and, as high priority facilities, subject to annual inspection. While the reported total length of drainage facilities has increased over successive years, the amount of material recovered has decreased. This reduction may reflect the increasing effectiveness of source controls and the impact of changing management practices such as street sweeping on concrete channels. However, both inconsistent year-to-year reporting and the profound influence of environmental variables (e.g. prevalence of Santa Ana wind conditions and severity of the wet season) may also be explanatory factors.

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Headline Indicator - Drainage Facility Maintenance: 5,612 tons of debris was removed from drainage facilities during the 2004-05 reporting period. This amount represents a 43% decrease in the amount of debris collected from drainage facilities when compared to the previous reporting period, a 77% decrease in the amount collected in 2002-03 and a 6.5% decrease in the amount collected in 2001-02.

Street Sweeping

The year-to-year increases in the amount of material recovered from the urban environment by street sweeping suggest success regarding the Permittees' efforts to continue to improve the effectiveness (e.g. increasing use of drain inlet screens, regenerative air sweepers, parking controls etc.) of this maintenance practice.

Headline Indicator - Street Sweeping: 85,516 tons of material was removed from the streets and gutters during the 2004-05 reporting period. This effort appears to represent a 12% increase for weight of material collected over the previous reporting period and a 25% increase over the tons of material reported in 2002-03. This amount represents an 87% increase in the weight of material collected over the 2001-02 total, indicating increasing effectiveness in this area of infrastructure maintenance in the Third Term Permit cycle.

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Table 5.1a: Current and Potential Outcome Levels (Municipal Activities)

Model Municipal Activities Program	Effectiveness Assessment Outcome Levels					
	Level 1	Level 2	Level 3	Level 4	Level 5	Level 6
	Implement Program	Increase Awareness	Behavior Change	Load Reduction	Runoff Quality	Receiving Water Quality
Inventory	✓ Maintain Inventory					
Prioritization	✓ Assign Priorities		✓ Change in prioritization level			
Inspection	✓ Conduct and track # of inspections		✓ # BMPs implemented	^P Load reduction associated with BMPs		
Training	✓ Track number/type of training sessions	^P Surveys show improved knowledge				
<p><u>Key:</u> ✓ = Currently Achieved Outcome Level ^P = Potentially Achievable Outcome Level</p>						

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Table 5.1b: Current and Potential Outcome Levels (Municipal Activities)

Model IPM and Fertilizer Guidelines	Effectiveness Assessment Outcome Levels					
	Level 1	Level 2	Level 3	Level 4	Level 5	Level 6
	Implement Program	Increase Awareness	Behavior Change	Load Reduction	Runoff Quality	Receiving Water Quality
Model IPM	✓ Formal Policy		✓ Reduction in pesticide use			
Fertilizer Guidelines	^P Formal Policy		✓ Reduction in fertilizer use			
Training	✓ Track number/type of training sessions	^P Surveys show improved knowledge				
<p><u>Key:</u> ✓ = Currently Achieved Outcome Level ^P = Potentially Achievable Outcome Level</p>						

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Table 5.2: Countywide Permittees' Fixed Facility Inventory and Prioritization

Permittee	Low 2002-03	Low 2003-04	Low 2004-05	Medium 2002-03	Medium 2003-04	Medium 2004-05	High 2002-03	High 2003-04	High 2004-05	Total 2002-03	Total 2003-04	Total 2004-05
Aliso Viejo	0	1	0	0	0	0	1	0	1	1	1	1
Anaheim	99	63	0	0	0	0	15	0	62	114	63	62
Brea	27	30	31	0	0		1	1		28	31	31
Buena Park	3	14	14	15	0	0	2	5	5	20	19	19
Costa Mesa	51	51	51	0	0		10	10	10	61	61	61
Cypress	17	14	14	8	8	8	1	1	1	26	23	23
Dana Point	14	13	13	0	0	0	8	9	10	22	22	23
Fountain Valley	28	28	28	0	0		1	1		29	29	28
Fullerton	90	94	94	0	0		1	1	1	91	95	95
Garden Grove	55	55	55	1	1	1	0	0		56	56	56
Huntington Beach	66	78	79	2	7	7	12	8	8	80	93	94
Irvine	39	39	44	12	12	12	1	3	3	52	54	59
La Habra	39	31	31	0	15	15	3	7	7	42	53	53
La Palma	1	1	2	1	1	1	2	2	1	4	4	4
Laguna Beach	46	46	46	48	45	46	73	75	74	167	166	166
Laguna Hills	0	0	0	0	0	0	20	20	20	20	20	20
Laguna Niguel	15	15	18	0	0		19	19	39	34	34	57
Laguna Woods	3	3	3	0	0		1	34	1	4	37	4
Lake Forest	7	0	0	0	0	0	0	8	9	7	8	9
Los Alamitos	14	14	14	NA	0	0	116	127	0	130	141	14
Mission Viejo	40	40	40	2	2	2	25	23	22	67	65	64
Newport Beach	20	21	21	1	1	1	4	4	4	25	26	26
Orange	27	26	29	25	29	29	2	2	2	54	57	60
Placentia	25	35	35	9	0		1	1	1	35	36	36
R S Margarita	3	0	4	0	0		669	669	669	672	669	673
San Clemente	73	20	73	0	19	0	17	51	17	90	90	90
S J Capistrano	18	18	18	0	0	0	38	38	38	56	56	56
Santa Ana	108	112	116	1	1	1	1	1	1	110	114	118
Seal Beach	32	32	39	0	0	0	3	3	5	35	35	44
Stanton	NA	19	19	NA	0	0	NA	1	1	NA	20	20
Tustin	24	22	22	0	0	0	4	4	4	28	26	26
Villa Park	0	1	1	0	0	0	2	1	1	2	2	2
Westminster	28	28	28	0	0	0	1	1	1	29	29	29
Yorba Linda	34	29	29	0	3	3	3	2	2	37	34	34
County of Orange	102	101	95	0	0	0	50	48	50	152	149	145
TOTALS	1,148	1,094	1,106	125	144	126	1,107	1,180	1,070	2,380	2,418	2,302

NA = Not Available

SECTION 5.0, MUNICIPAL ACTIVITIES

Table 5.3: BMP Implementation

PERMITTEE	FULLY Implemented 2002-03	FULLY Implemented 2003-04	FULLY Implemented 2004-05	PARTIALLY Implemented 2002-03	PARTIALLY Implemented 2003-04	PARTIALLY Implemented 2004-05	No BMPs Implemented 2002-03	No BMPs Implemented 2003-04	No BMPs Implemented 2004-05
Aliso Viejo	5	11	9	NA	0	0	NA	0	
Anaheim	147	52	65	NA	9	13	NA	0	
Brea	18	NA		0	NA	1	0	NA	
Buena Park	756	16	151	0	2	102	0	0	29
Costa Mesa	7	8	8	3	2	2	0	0	
Cypress	21	0		2	1	1	NA	0	
Dana Point	NA	NA	19	NA	NA	4	NA	NA	
Fountain Valley	79	51	53	2	0		2	0	
Fullerton	84	95	95	NA	0		NA	0	
Garden Grove	6	53	55	0	3	1	0	0	
Huntington Bch.	69	4	79	5	9	19	1	5	3
Irvine	54	54	59	0	0		0	0	
La Habra	0	1	29	4	2	26	NA	0	16
La Palma	1	1	1	3	3	3	0	0	
Laguna Beach	NA	NA	74	NA	NA		NA	NA	
Laguna Hills	16	20	35	2	0		0	0	
Laguna Niguel	NA	6	7	NA	12	29	NA	0	
Laguna Woods	3	6	3	1	7	3	NA	0	
Lake Forest	7	8	9	0	0		0	0	
Los Alamitos	NA	140	141	NA	1		NA	0	
Mission Viejo	23	23	28	26	44	25	18	0	
Newport Beach	8	19	19	0	7	7	0	0	
Orange	39	58	63	0	0		0	0	
Placentia	28	0		7	34	32	NA	0	
R S Margarita	672	669	673	0	0		0	0	
San Clemente	NA	NA		NA	NA		NA	NA	
S J Capistrano	54	56	37	0	0		0	0	
Santa Ana	NA	114	117	NA	0	1	NA	0	
Seal Beach	NA	NA		NA	NA		NA	NA	
Stanton	NA	20	19	NA	0	1	NA	0	
Tustin	NA	12	20	NA	31	23	NA	0	
Villa Park	0	0	0	2	2	0	0	0	1
Westminster	28	29	29	1	0		0	0	
Yorba Linda	2	29	14	0	15		0	0	
County of Orange	9	19	57	7	57	16	0	5	0
TOTALS	2,136	1,574	1,968	65	241	309	21	10	49

NA = Not Available

SECTION 5.0, MUNICIPAL ACTIVITIES

Table 5.4: 2004-05 Fertilizers and Amounts Applied By Permittee

Permittee	2002-03					2003-04					2004-05				
	Acres	Total N	Total P	N/acre	P/acre	Acres	Total N	Total P	N/acre	P/acre	Acres	Total N	Total P	N/acre	P/acre
Aliso Viejo	6.0	0.0	0.0			6.0	220.0	30.0	36.7	5.0	6.0	220.0	30.0	36.7	5.0
Anaheim	771.0	19,197.6	3,826.0	3,199.6	637.7	609.0	16,895.6	3,977.9	27.7	6.5	311.0	13,852.0	3,429.4	44.5	11.0
Brea	75.0	1,955.4	692.4	325.9	115.4	84.0	808.7	205.9	9.6	2.5	118.7	1,049.3	247.5	8.8	2.1
Buena Park	162.0	160.0	60.0	26.7	10.0	125.0	4,405.0	855.0	35.2	6.8	55.0	23,505.0	855.0	427.4	15.5
Costa Mesa	200.0	11,340.0	3,780.0	1,890.0	630.0	200.0	23,450.8	5,700.0	117.3	28.5	200.0	12,127.0	1,878.0	60.6	9.4
Cypress	69.0	420.0	140.0	70.0	23.3	69.0	23,450.8	5,700.0	339.9	82.6	9.0	210.0	70.0	23.3	7.8
Dana Point	50.0	4,800.0	720.0	800.0	120.0	50.0	4,800.0	720.0	96.0	14.4	50.0	960.0	360.0	19.2	7.2
Fountain Valley	200.0	1,017.5	405.0	169.6	67.5	200.0	2,441.0	1,183.0	12.2	5.9	200.0	2,441.0	1,183.0	12.2	5.9
Fullerton	50.0	3,397.5	1,672.5	566.3	278.8	120.0	4,911.5	1,408.5	40.9	11.7	NA	3,414.0	1,303.5	NA	NA
Garden Grove	160.0	2,771.8	1,343.4	462.0	223.9	170.0	4,095.0	1,335.0	24.1	7.9	170.0	5,265.0	1,712.5	31.0	10.1
Huntington Beach	596.0	25,178.6	4,932.6	4,196.4	822.1	606.0	25,133.6	4,887.6	41.5	8.1	606.0	25,133.6	4,887.6	41.5	8.1
Irvine	736.5	70,139.5	14,755.5	11,689.9	2,459.2	773.0	74,070.6	24,712.2	95.8	32.0	846.6	61,240.4	14,516.2	72.3	17.1
La Habra	108.0	3,080.0	1,030.0	513.3	171.7	108.0	2,943.5	889.5	27.3	8.2	108.0	2,474.0	942.0	22.9	8.7
La Palma	30.0	1,280.0	480.0	213.3	80.0	15.0	640.0	240.0	42.7	16.0	15.0	640.0	240.0	42.7	16.0
Laguna Beach	42.0	1,350.0	525.0	225.0	87.5	42.0	881.4	330.9	21.0	7.9	50.0	1,000.6	375.6	20.0	7.5
Laguna Hills	125.0	8,170.8	2,181.4	1,361.8	363.6	125.0	8,125.8	2,181.4	65.0	17.5	125.0	8,155.7	2,196.4	65.2	17.6
Laguna Niguel	151.0	33,079.5	11,461.1	5,513.2	1,910.2	151.0	37,929.2	18,528.2	251.2	122.7	151.0	20,737.5	5,763.7	137.3	38.2
Laguna Woods	15.0	642.5	145.5	107.1	24.3	5.0	497.5	142.5	99.5	28.5	5.0	510.0	210.0	102.0	42.0
Lake Forest	187.0	7,680.0	2,880.0	1,280.0	480.0	72.0	8,040.0	3,015.0	111.7	41.9	71.8	13,803.0	4,803.0	192.2	66.9
Los Alamitos						15.0	100.0	20.0	6.7	1.3	14.3	100.0	20.0	7.0	1.4
Mission Viejo	975.0	100,678.1	17,453.1	16,779.7	2,908.9	975.0	76,503.0	9,042.0	78.5	9.3	702.0	78,611.0	7,995.0	112.0	11.4
Newport Beach	300.0	5,967.0	2,837.0	994.5	472.8	170.0	4,095.0	1,335.0	24.1	7.9	300.0	4,800.0	2,760.0	16.0	9.2
Orange	243.4	21,479.0	3,646.0	3,579.8	607.7	190.0	6,233.5	1,560.3	32.8	8.2	243.0	6,506.2	1,478.5	26.8	6.1
Placentia	140.0	2,340.0	580.0	390.0	96.7	40.0	1,510.0	330.0	37.8	8.3	108.0	2,760.0	580.0	25.6	5.4
Rancho Santa Margarita						NA	NA	NA	NA	NA	0.2	8.0	3.0	40.0	15.0
San Clemente	151.0	13,217.5	3,132.5	2,202.9	522.1	305.0	16,492.5	3,990.0	54.1	13.1	180.0	10,200.0	2,800.0	56.7	15.6
San Juan Capistrano	173.0	6,562.0	1,704.4	1,093.7	284.1	176.0	4,771.1	1,079.0	27.1	6.1	176.0	3,606.0	1,072.5	20.5	6.1
Santa Ana	400.0	8,022.5	2,476.5	1,337.1	412.8	400.0	9,766.8	2,985.0	24.4	7.5	400.0	9,754.3	2,985.0	24.4	7.5
Seal Beach	10.0	0.0	0.0	0.0	0.0	55.0	320.0	120.0	5.8	2.2	55.0	320.0	120.0	5.8	2.2
Stanton						NA	NA	NA	0.0	NA	10.0	471.0	228.0	47.1	22.8
Tustin	160.0	5,679.5	1,022.5	946.6	170.4	160.0	3,105.0	612.5	19.4	3.8	184.0	1,065.0	75.0	5.8	0.4
Villa Park						2.0	0.0	0.0	0.0	0.0	10.0	400.0	200.0	40.0	20.0
Westminster	15.0	675.0	375.0	112.5	62.5	15.0	605.0	305.0	40.3	20.3	15.0	605.0	305.0	40.3	20.3
Yorba Linda	722.0	22,524.6	7,604.0	3,754.1	1,267.3	722.0	22,511.5	11,636.0	31.2	16.1	699.0	34,325.3	10,661.8	49.1	15.3
County of Orange	967.6	30,283.3	10,471.4	5,047.2	1,745.2	819.5	17,025.8	6,274.0	20.8	7.7	667.0	12,875.8	5,312.4	19.3	8.0
Totals	7,990.5	413,089.2	102,332.8	68,848.2	17,055.5	7,574.5	406,778.9	115,331.5	1,898.1	566.2	6,861.6	363,145.6	81,599.5	1,896.3	462.6

NA = Not Available

SECTION 5.0, MUNICIPAL ACTIVITIES

Table 5.5: Volume of Street Sweeping Material Collected

PERMITTEE	Total Weight of Material Collected (Tons)* FY 2002-03	Total Weight of Material Collected (Tons)* FY 2003-04	Total Weight of Material Collected (Tons)* FY 2004-05
Aliso Viejo	96	120	110
Anaheim	4,500	4,500	4,500
Brea	800	800	1,179
Buena Park	1,830	1,475	1,475
Costa Mesa	1,730	1,810	1,846
Cypress	526	525	525
Dana Point	465	984	160
Fountain Valley	2,104	2,000	2,000
Fullerton	15,925	19,102	12,832
Garden Grove	NA	NA	2,940
Huntington Beach	3,282	3,434	3,516
Irvine	2,500	2,500	2,700
La Habra	7	5	5
La Palma	375	384	1,170
Laguna Beach	684	675	771
Laguna Hills	194	NA	315
Laguna Niguel	449	NA	423
Laguna Woods	3	62	14
Lake Forest	550	1,044	630
Los Alamitos	NA	3,500	
Mission Viejo	1,192	1,503	1,502
Newport Beach	4,044	4,150	28,800
Orange	11,880	12,000	3,000
Placentia	104	572	531
Rancho Santa Margarita	NA	12	92
San Clemente	1,164	1,177	523
San Juan Capistrano	525	605	676
Santa Ana	6,825	6,825	6,825
Seal Beach	2,085	2,084	
Stanton	NA	843	2,529
Tustin	874	904	1,025
Villa Park	89	134	135
Westminster	1,749	1,041	1,175
Yorba Linda	608	690	720
County of Orange/OCFCD	996	834	873
Totals	68,155	76,294	85,516

NA = Not Available

*Tons=3 cubic yards per Michigan Department of Environmental Quality,
Waste and Hazardous Materials Division

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Table 5.6: Solid Waste Collection

PERMITTEE	Total Quantity of Solid Waste Collected 2002-03 (Tons)	Total Quantity of Solid Waste Collected 2003-04 (Tons)	Total Quantity of Solid Waste Collected 2004-05 (Tons)
Aliso Viejo	41,000	43,723	38,063
Anaheim	453,015	460,000	460,000
Brea	406,000	407,543	86,877
Buena Park	NA	80	100,000
Costa Mesa	287,090	279,850	186,753
Cypress	45,197	46,197	52,673
Dana Point	52,480	79,909	32,348
Fountain Valley	63,743	53,702	59,376
Fullerton	177,555	NA	187,385
Garden Grove	NA	NA	197,550
Huntington Beach	274,853	272,836	286,717
Irvine	295,000	292,600	287,500
La Habra	NA	31,043	37,000
La Palma	16,000	NA	18,000
Laguna Beach	48,390	58,550	47,700
Laguna Hills	43,783	39,803	56,031
Laguna Niguel	81,046	79,655	82,059
Laguna Woods	NA	23,000	25,000
Lake Forest	103,000	86,200	89,612
Los Alamitos	NA	NA	NA
Mission Viejo	105,600	108,000	108,252
Newport Beach	NA	39,992	40,000
Orange	234,040	210,836	215,400
Placentia	58,861	NA	63,000
Rancho Santa Margarita	NA	NA	63,356
San Clemente	85,339	85,339	88,956
San Juan Capistrano	68,417	76,166	81,652
Santa Ana	258,408	354,000	474,350
Seal Beach	45,292	45,000	26,136
Stanton	NA	35,004	41,500
Tustin	80,629	80,000	84,024
Villa Park	NA	10,200	10,500
Westminster	94,750	85,372	93,294
Yorba Linda	88,680	88,680	83,233
County of Orange/OCFCD	132,584	153,707	155,293
Total tons of solid waste collected	3,640,752	3,626,987	3,959,590

NA = Not Available

SECTION 5.0, MUNICIPAL ACTIVITIES

Table 5.7: Drainage Facility Maintenance

PERMITTEE	Total Length of Channel/Pipe Cleaned (in Miles)			Number of Catchbasins Within Jurisdiction			Number of Catchbasins Cleaned Within Jurisdiction			Percentage of Catchbasins Cleaned			Total Volume From Facilities (Tons)		
	2002-03	2003-04	2004-05	2002-03	2003-04	2004-05	2002-03	2003-04	2004-05	2002-03	2003-04	2004-05	2002-03	2003-04	2004-05
Aliso Viejo	0.23	0.24	0.24	625	625	625	625	625	625	100%	100%	100%	60.0	111.0	82
Anaheim	37.06	36.00	36	3,500	3,500	3,500	3,500	3,500	3,500	100%	100%	100%	1500.0	1500.0	1500
Brea	NA	NA	2.93	1,158	965	965	1,158	965	965	100%	100%	100%	50.5	50.0	50
Buena Park	0.01	2.25	2.25	20	857	758	20	28	949	100%	3%	125%	1.0	2.4	10.3
Costa Mesa	0.60	0.60	0.6	1,165	1,165	1,165	1,165	1,165	1,165	100%	100%	100%	25.0	25.0	20
Cypress	0.39	0.37	0.37	567	567	569	430	48	194	75%	8%	34%	2.0	0.5	1.5
Dana Point	0.03	0.00	0.29	430	555	526	386	446	459	90%	80%	87%	13.6	508.0	26.04
Fountain Valley	1.50	0.40	0.44	1,965	750	750	1,965	750	750	100%	100%	100%	422.0	217.0	281
Fullerton	7.82	5.90	6.5	1,255	1,322	3,424	3,268	2,216	3,424	50%	100%	100%	1697.0	1629.0	2.1
Garden Grove	0.01	0.01	0.01	907	907	936	907	907	936	100%	100%	100%	108.5	108.5	94
Huntington Beach	8.00	8.40	8.4	1,706	1,706	1,715	1,706	1,706	1,715	100%	100%	100%	934.4	894.9	687
Irvine	0.56	0.60	0.3	3,300	3,300	3,840	1,574	1,584	1,430	100%	48%	37%	14174.8	91.5	74.4
La Habra	NA	2.50	2.5	NA	545	545	NA	542	545	NA	99%	100%	NA	10.0	18
La Palma	5.00	4.70	5.2	201	201	201	201	201	201	100%	100%	100%	15.5	15.7	16
Laguna Beach	0.20	0.20	0.10	633	910	910	633	633	910	75%	70%	100%	227.9	NA	192
Laguna Hills	0.02	0.20	NA	521	515	487	481	304	472	92%	60%	97%	13.6	68.0	5.7
Laguna Niguel	0.73	0.20	0.6	NA	1,209	1,350	1,035	1,197	1,300	80%	99%	96%	1133.0	388.0	124
Laguna Woods	0.02	NA	NA	17	17	17	18	18	17	100%	100%	100%	0.2	NA	0.5
Lake Forest	0.00	0.00	0.03	438	483	1,082	200	331	1,042	47%	76%	96%	15.5	20.8	3.9
Los Alamitos	NA	NA		114	114	114	114	114	114	100%	100%	100%	DNR	15.5	15.5
Mission Viejo	0.02	0.02	3.63	1,800	1,830	1,830	360	651	781	10%	100%	43%	18.2	27.7	4.88
Newport Beach	1.45	3.33	3.33	2,853	3,057	3,087	2,551	2,733	3,087	89%	89%	100%	963.0	834.0	860
Orange	3.33	4.00	1.33	1,625	1,625	1,625	76	147	91	5%	9%	6%	1.9	2.0	12
Placentia	0.10	0.00	0	240	447	447	200	175	175	83%	39%	39%	7.8	0.5	0.5
Rancho Santa Margarita	NA	0.00	41.6	669	669	669	669	669	669	100%	100%	100%	NA	7.0	181.35
San Clemente	10.25	1.50	3.42	1,236	1,236	1,239	1,104	620	1,606	95%	50%	130%	NA	3.0	3
San Juan Capistrano	0.18	0.09	0.26	1,200	1,200	1,200	500	99	150	41%	9%	13%	37.0	28.0	45
Santa Ana	NA	2.10	10.1	1,500	1,270	1,665	129	1,175	1,586	9%	92%	95%	3058.0	3058.0	1042
Seal Beach	0.02	0.02	0.02	195	195	195	195	195	195	100%	100%	100%	4.5	16.8	32
Stanton	DNR	1.30	1.42	DNR	NA	145	DNR	142	145	DNR	99	100%	DNR	19.3	19.3
Tustin	NA	0.20	0.2	942	942	962	1,258	1,034	962	100%	>100%	100%	64.0	114.0	76
Villa Park	1.00	0.90	0.9	150	150	80	150	150	25	100%	100%	31%	NA	NA	70
Westminster	0.83	0.83	0.83	622	622	622	622	622	622	100%	100%	100%	6.0	5.0	5
Yorba Linda	1.06	1.06	0.8	1,550	1,575	1,728	1,500	1,575	1,728	97%	98%	100%	56.3	70.5	21
County of Orange/OCFCD	46.00	29.00	78	2,325	2,353	2,353	2,133	1,485	1,835	91%	63%	78%	52.0	36.0	36
Totals	126	107	213	35,429	37,384	41,326	30,833	28,752	34,370	83% (Ave.)	80% (Ave.)	86% (Ave.)	24,663	9,878	5,612

NA = Not Available
DNR = Did Not Report

SECTION 5.0, MUNICIPAL ACTIVITIES

Table 5.8: 2004-05 Integrated Waste Management Household Hazardous Waste Program Collection Totals

Category	Type Of Waste	Collection Center Waste Volumes Collected (pounds)											
		Anaheim			Huntington Beach			Irvine			San Juan Capistrano		
		2002-03	2003-04	2004-05	2002-03	2003-04	2004-05	2002-03	2003-04	2004-05	2002-03	2003-04	2004-05
1. Flammable & Poison	Flammable Solid/Liquid	202,451	218,456	247,962	236,740	282,013	279,665	99,074	151,510	170,366	70,550	99,450	99,050
	Bulked Flammable Liquids	0	800	0	0	1,600	0	0	800	0	0	0	0
	Oil-Base Paint	346,307	395,469	512,372	327,172	347,123	387,257	213,166	247,271	249,331	162,400	245,700	221,260
	Poison (Excl aerosols)	38,301	50,713	64,974	47,496	53,486	58,972	27,172	39,395	41,169	16,650	16,650	27,720
	Reactive & Explosive	0	200	360	0	318	171	0	160	160	0	0	0
	Subtotal	587,059	665,638	825,668	611,408	684,540	726,065	339,412	439,136	461,026	249,600	361,800	348,030
2. Acid	Inorganic Acid	5,400	4,649	8,443	6,564	7,992	6,014	2,740	4,143	4,266	2,520	2,520	2,520
	Organic Acid	5,191	5,597	5,514	7,560	7,173	7,790	3,908	6,372	7,281	2,310	2,970	2,970
	Subtotal	10,591	10,246	13,957	14,124	15,165	13,804	6,648	10,515	11,547	4,830	5,490	5,490
3. Base	Inorganic Base	1,260	1,889	2,380	3,136	2,296	4,111	796	1,819	2,120	0	1,260	720
	Organic Base	7,555	10,117	4,070	10,168	12,282	13,802	3,810	6,896	7,462	2,640	4,950	2,310
	Subtotal	8,815	12,006	6,450	13,304	14,578	17,913	4,606	8,715	9,582	2,640	6,210	3,030
4. Oxidizer	Neutral Oxidizer	1,055	2,243	1,977	2,076	2,733	2,207	1,276	1,665	3,164	400	1,000	800
	Organic Peroxides	20	0	10	45	0	0	10	0	20	20	0	10
	Oxidizing Acid	0	94	136	1,240	504	1,186	10	29	30	0	0	0
	Oxidizing Base	0	171	115	0	414	1,167	136	421	166	0	0	0
	Subtotal	1,075	2,508	2,238	3,361	3,651	4,560	1,432	2,115	3,380	420	1,000	810
5. PCBs (Containing)	PCB Containing Paint	0	0	0	0	0	0	0	0	0	0	0	0
	Other PCB Waste	0	1,300	1,000	200	200	4,000	100	200	500	0	0	500
	Subtotal	0	1,300	1,000	200	200	4,000	100	200	500	0	0	500
6. Aerosol	Corrosive Aerosols	400	1,232	3,066	3,584	3,145	2,955	236	693	805	200	0	400
	Flammable Aerosols	22,760	28,106	35,258	35,741	39,875	48,539	16,101	24,101	26,364	10,450	11,525	14,250
	Poison Aerosols	1,810	4,033	5,592	7,196	5,903	7,685	2,128	4,338	5,161	800	1,200	100
	Subtotal	24,970	33,371	43,916	46,521	48,923	59,179	18,465	29,132	32,330	11,450	12,725	14,750

SECTION 5.0, MUNICIPAL ACTIVITIES

Table 5.8: 2004-05 Integrated Waste Management Household Hazardous Waste Program Collection Totals (continued)

Category	Type Of Waste	Collection Center Waste Volumes Collected (pounds)											
		Anaheim			Huntington Beach			Irvine			San Juan Capistrano		
		2002-03	2003-04	2004-05	2002-03	2003-04	2004-05	2002-03	2003-04	2004-05	2002-03	2003-04	2004-05
7. Reclaimable	Antifreeze	31,461	35,675	19,453	31,620	25,995	21,098	13,667	16,851	6,525	7,360	3,017	0
	Car Batteries	130,500	135,450	147,595	71,280	98,440	175,280	41,765	72,200	73,465	24,255	39,720	42605
	Fluorescent Bulbs	3,000	3,800	3,400	4,400	4,600	4,600	1,200	3,200	3,400	600	1,200	1800
	Latex Paint	268,300	349,243	379,840	315,558	358,846	410,495	159,584	269,382	294,413	135,090	97,470	182400
	Motor Oil/Oil Products	157,833	169,939	179,892	131,309	123,238	123,193	72,121	88,387	93,325	43,275	49,062	39975
	Oil Filters	5,000	4,600	5,800	4,600	4,000	4,000	2,200	2,600	2,600	1,000	1,400	1000
	Mercury (Metallic)	80	120	100	78	100	200	54	80	250	0	40	150
	Subtotal	596,174	698,827	736,080	558,845	615,219	738,866	290,591	452,700	473,978	211,580	191,909	267,930
8. Other	Medical Waste	0	0	0	0	0	0	0	0	0	0	0	-
	Household Batteries	2,370	3,750	6,871	2,556	3,108	6,571	2,700	3,630	8,858	600	3,035	4,631
	Other	316,052	567,729	22,254	178,783	387,154	27,682	80,394	273,493	12,785	36,858	171,835	7,650
	Subtotal	318,422	571,479	29,125	181,339	390,262	34,253	83,094	277,123	21,643	37,458	174,870	12,281
9. Propane	Propane	NR	NR	28,060	NR	NR	36,613	NR	NR	94,039	NR	NR	5164
	CRT	NR	NR	427,976	NR	NR	323,695	NR	NR	273,539	NR	NR	190971
	Subtotal	0	0	456,036	0	0	360,308	0	0	367,578	0	0	196,135
Collection Center Totals		1,547,106	1,995,375	2,114,470	1,429,102	1,772,538	1,958,948	744,348	1,219,636	1,381,564	517,978	754,004	848,956
Grand Total Collected for FY 2002-03 = 4,238,534													
Grand Total Collected for FY 2003-04 = 5,741,553													
Grand Total Collected for FY 2004-05 = 6,303,938													

NR = Not Reported

SECTION 5.0, MUNICIPAL ACTIVITIES

Table 5.9: Used Oil Grant Participation

PERMITTEE	Has or Participates in a Used Oil Grant	Amount Collected As a Result of the Used Oil Grant FY 2002-03		Amount Collected As a Result of the Used Oil Grant FY 2003-04		Amount Collected As a Result of the Used Oil Grant FY 2004-05	
		Motor Oil/Oil Products (Gallons)	Oil Filters (Units)	Motor Oil/Oil Products (Gallons)	Oil Filters (Units)	Motor Oil/Oil Products (Gallons)	Oil Filters (Units)
Aliso Viejo	X			NA	NA	63,647	27,109
Anaheim	No	135	74	0	0	NA	NA
Brea	X	900	165	720	144	31,680	3,867
Buena Park	X	NA	NA	9,495	NA	12,289	220
Costa Mesa	X	7,869	90	8,886	101	473	59
Cypress	X	NA	NA	43,000	0	75,000	NA
Dana Point	X	624	NA	28,930	NA	5,610	NA
Fountain Valley	X	1,834	27	74	15	147	28
Fullerton	X	15,840	35	50,856	132	79,942	NA
Garden Grove	X	31,837	1,154	19,471	NA	3,170	809
Huntington Beach	X	1,499	368	702	203	887	239
Irvine	X	71,784	NA	71,784	NA	59,645	NA
La Habra	X	NA	NA	7,630	NA	NA	NA
La Palma	No						
Laguna Beach	X	41	0	1,014	0	153	NA
Laguna Hills	X	DNR	DNR	NA	NA	44,800	11,000
Laguna Niguel	No	DNR	DNR	NA	NA	NA	NA
Laguna Woods	X	14,400	3,000	84	NA	25	6
Lake Forest	X	9,297	NA	NA	NA	63,614	NA
Los Alamitos	No						
Mission Viejo	X	12,145	147	14,280	NA	14,372	55
Newport Beach	X	NA	NA	19,471	NA		
Orange	X	2,966	NA	418	NA	2,158	554
Placentia	X	707	209	91	18	148	160
R S Margarita	X	NA	NA	NA	NA	33,544	133
San Clemente	X	19,455	2,500	19,455	2,500		
S J Capistrano	X	5,770	667	1,620	1,296	98,000	13,500
Santa Ana	X	5,804	3,815	12,037	3,698	12,583	4,004
Seal Beach	NA	NA	NA	NA	NA	NA	NA
Stanton	No	NA	NA	NA	NA	NA	NA
Tustin	X	NA	NA	NA	NA	NA	NA
Villa Park	No						
Westminster	X	64,100	NA	7,620	3,000	34,442	1,000
Yorba Linda	NA	NA	NA	NA	NA	NA	NA
County of Orange/OCFCD*	X	259,000	1,333	61,330	49,064	653,848	57,817
NA = Not Available		526,007	13,584	378,967	60,171	1,290,177	93,451

* The number of gallons of used oil collected dropped in 2003-04 and then dramatically increased for 2004-05 due to CIWMB regulations in 2003-04 when the CIWMB stated that only the used oil turned in by do-it-yourselfers could be counted. However, for the 2004-05 reporting year, the CIWMB reversed their decision and allowed all used oil to be counted, including oil from HHCs and certified collectors (Jiffy Lube, etc.).

Figure 5.1: Countywide Permittees' Fixed Facility Inventory and Prioritization

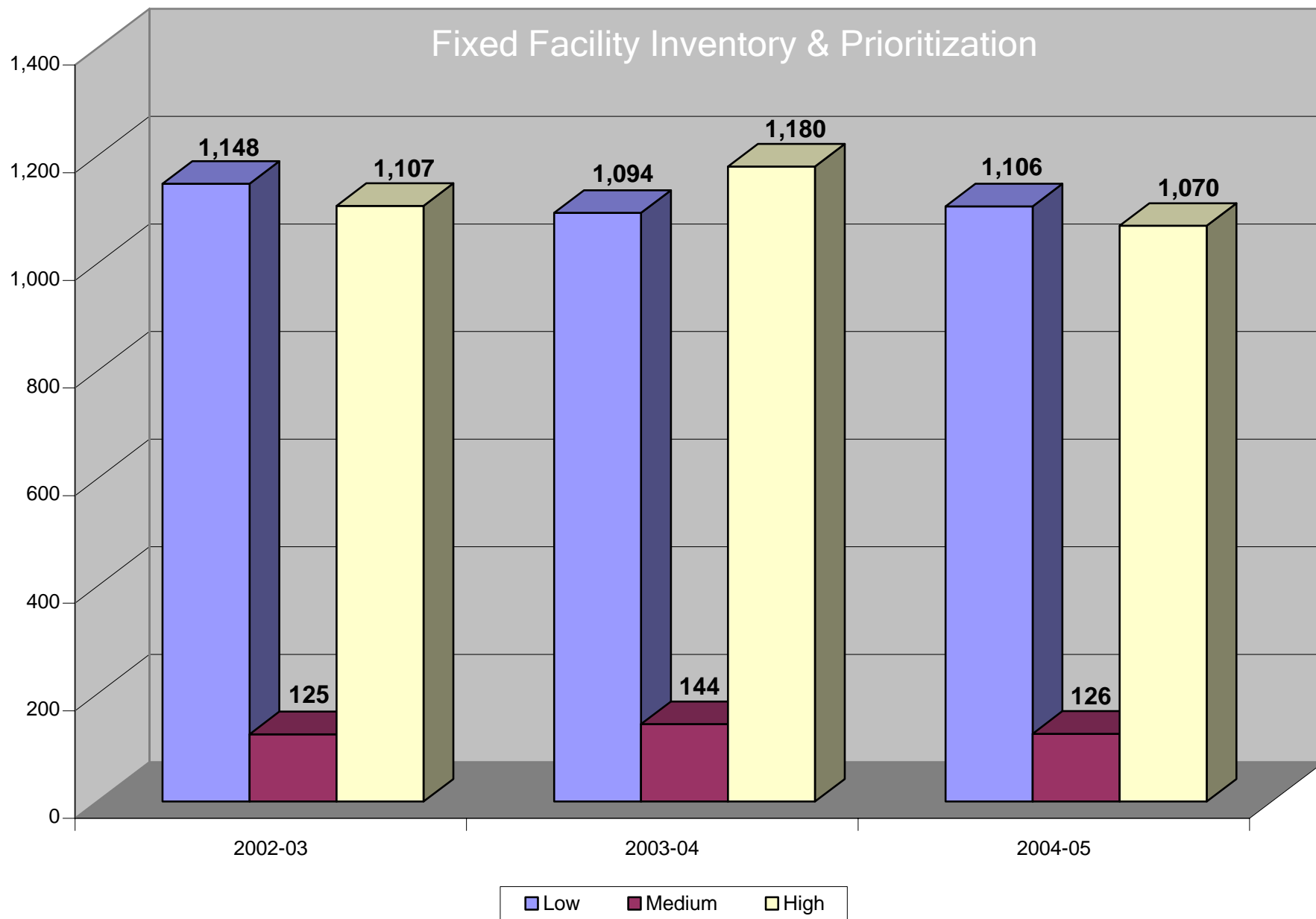


Figure 5.2: Volume of Street Sweeping Material Collected

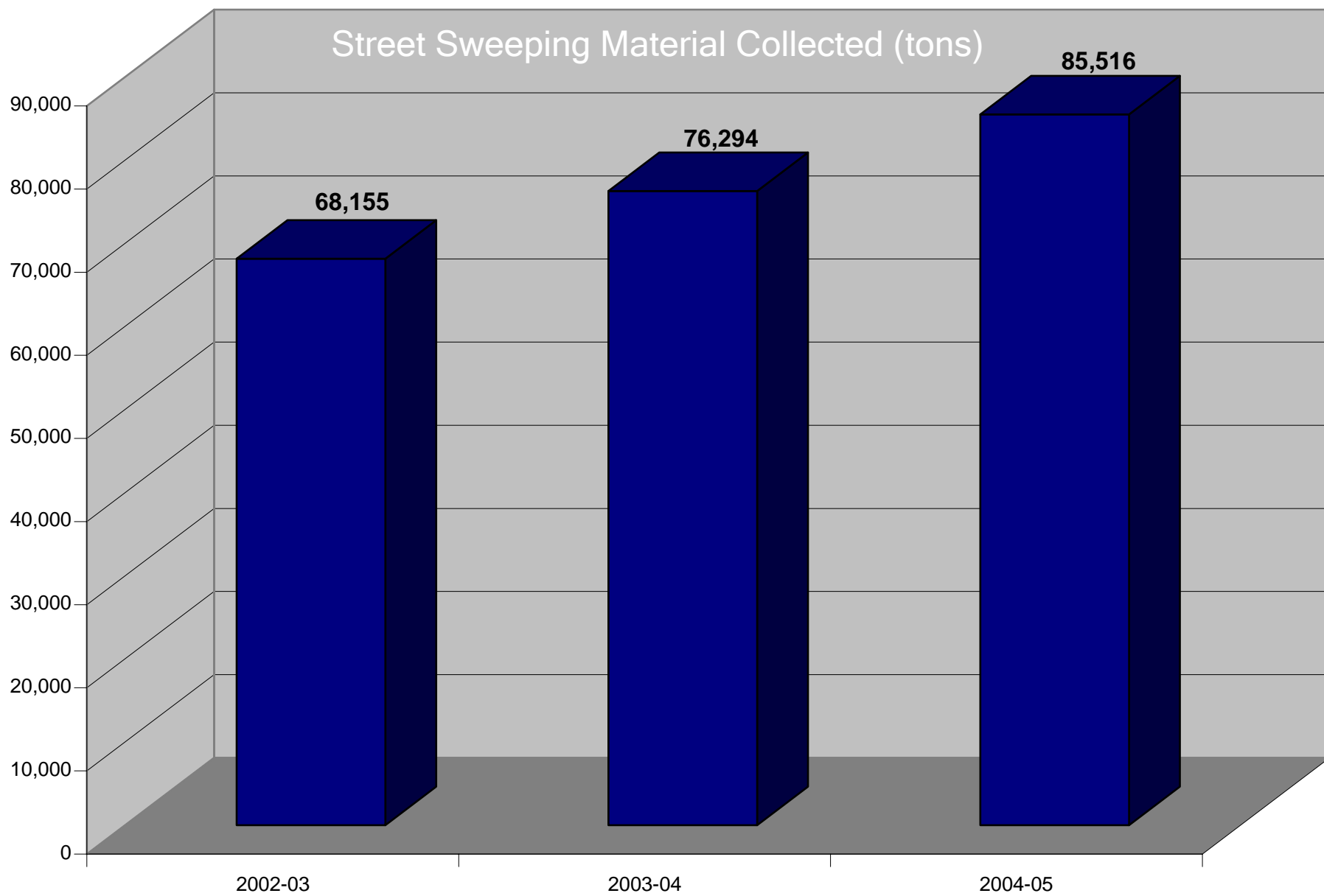


Figure 5.3: Solid Waste Collection (tons)

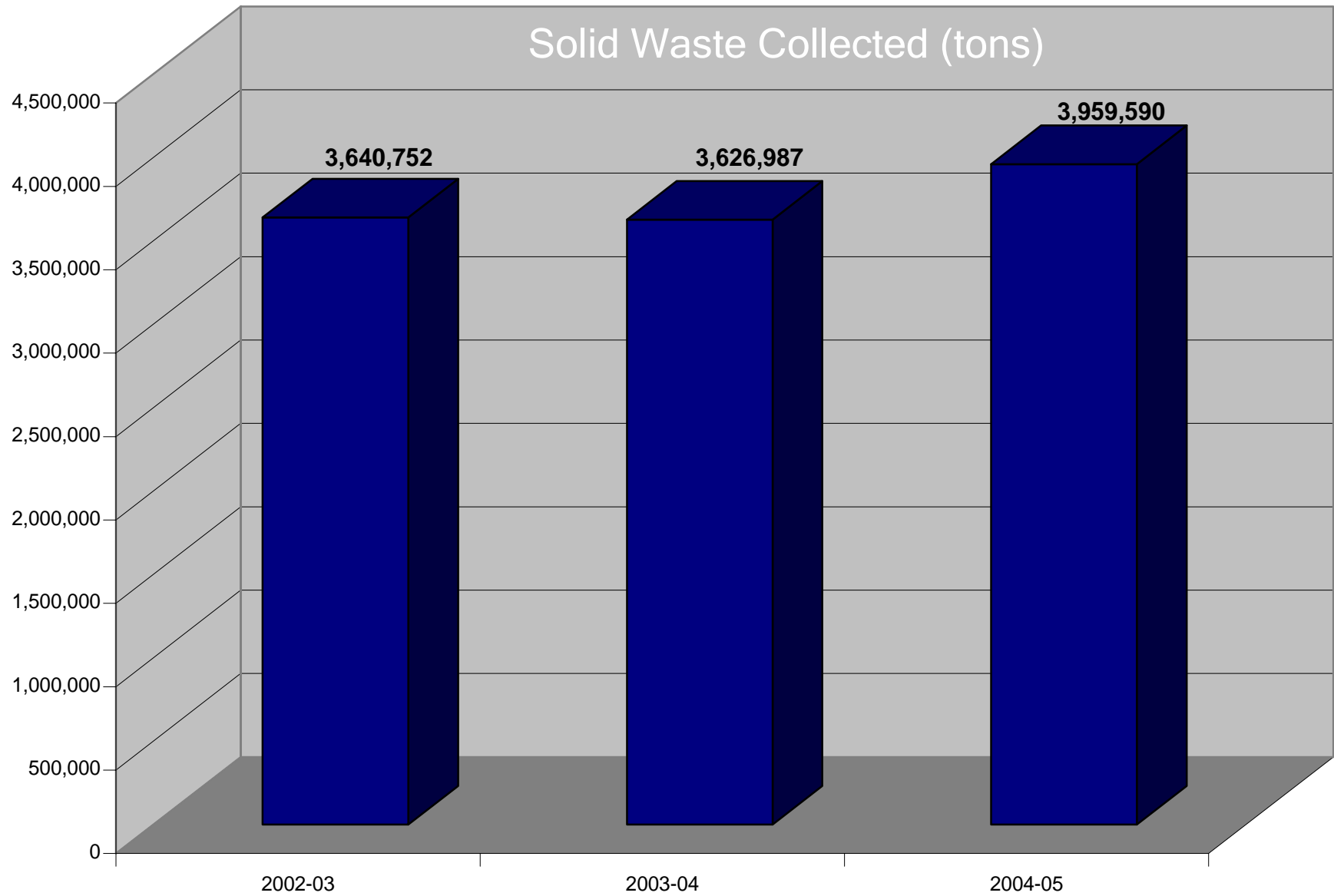


Figure 5.4: Drainage Facility Maintenance - Miles of Pipe Cleaned

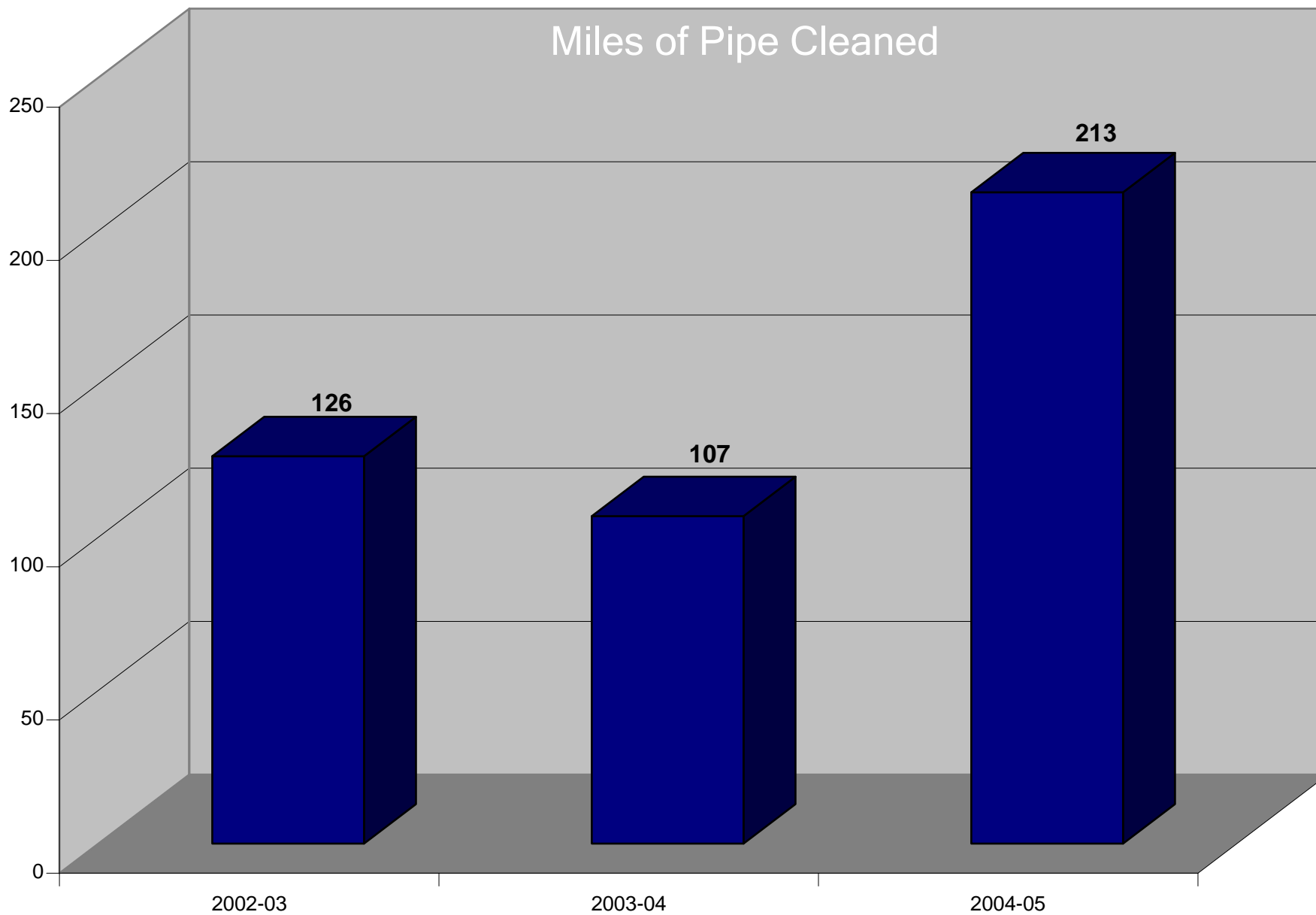


Figure 5.5: Drainage Facility Maintenance - Percentage of Catch Basins Cleaned

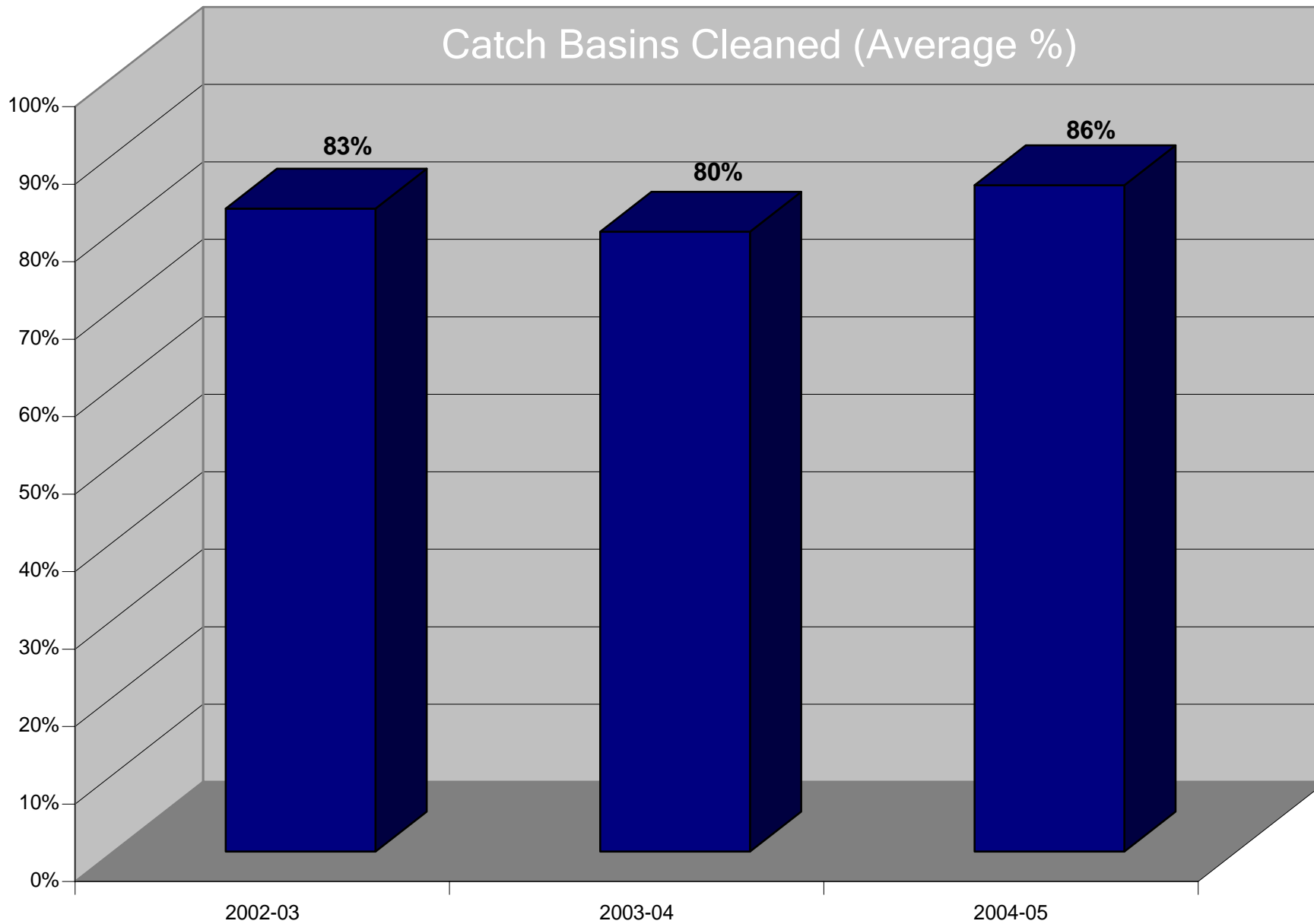


Figure 5.6: 2004-05 Integrated Waste Management Household Hazardous Waste Program Collection Totals

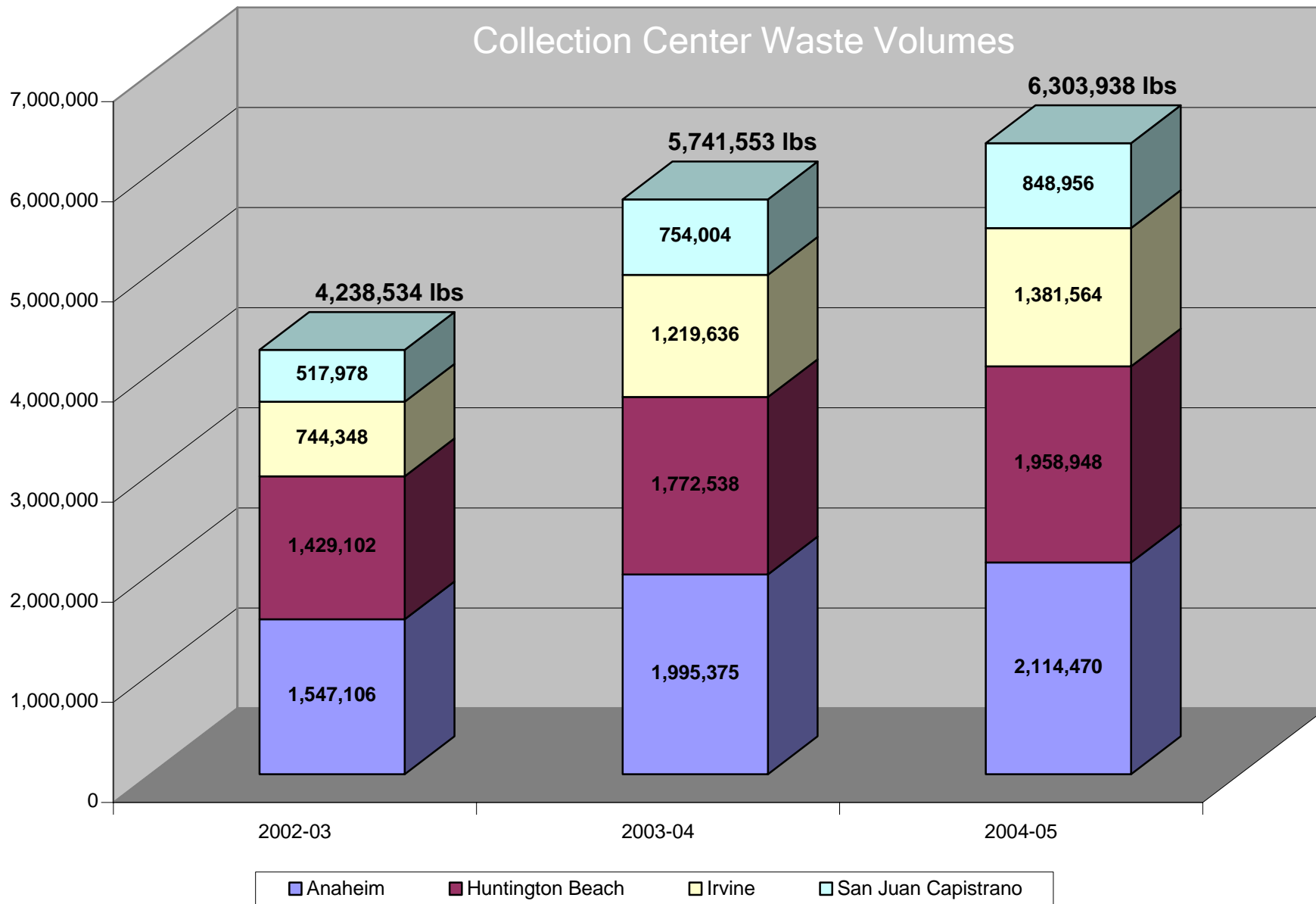
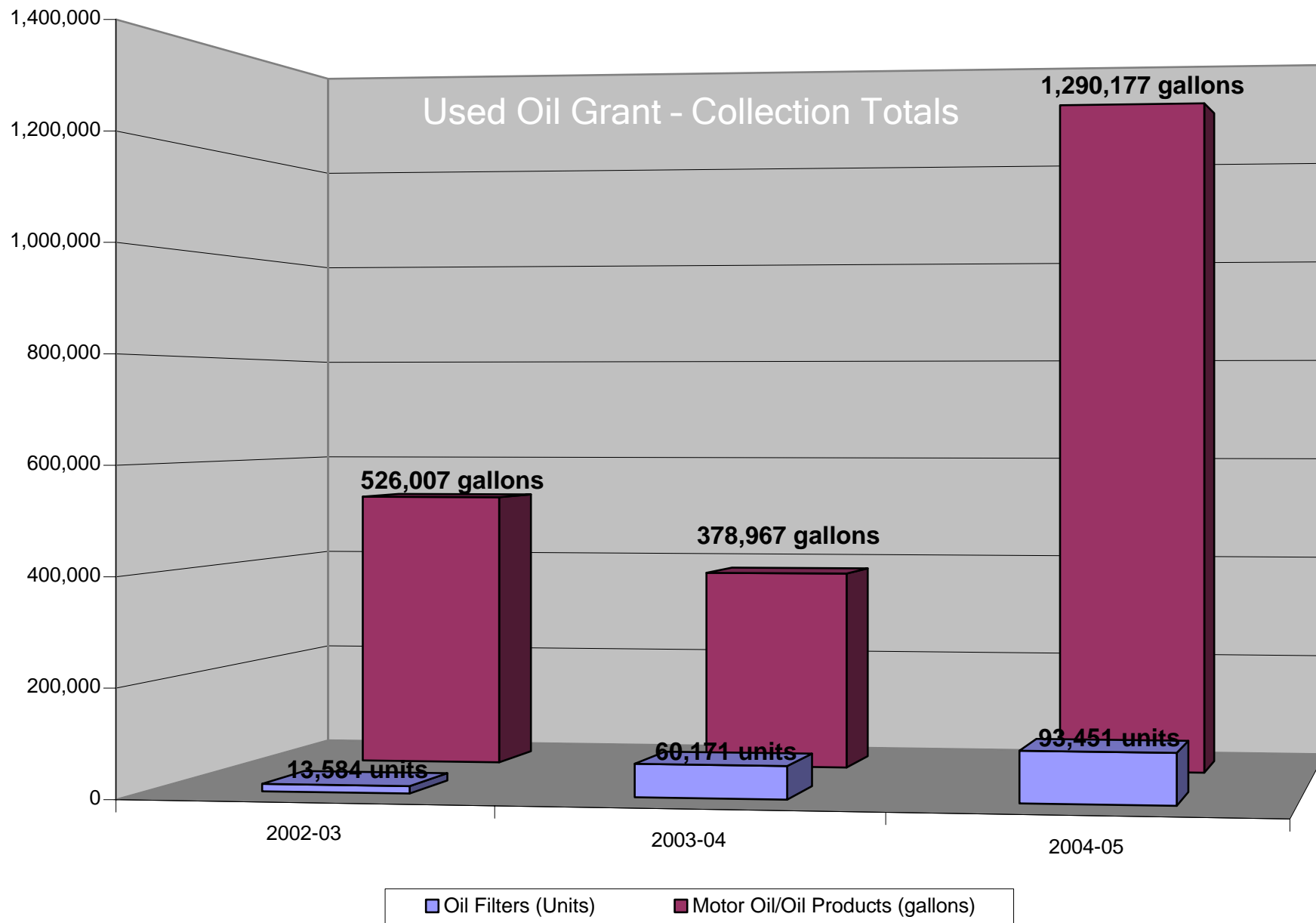


Figure 5.7: Used Oil Grant Participation



6.0 PUBLIC EDUCATION

6.1 Introduction

In 2002, the Permittees created a public and business outreach strategy - "Orange County Stormwater Public Education Program Recommendations." This strategy, which was updated in 2004, established a long-term, cost-effective approach to educate the public and targeted business groups about the effects of stormwater pollution and encourages their participation in the protection of surface waters. Key aspects of the strategy included conducting a survey to define the level of general knowledge held by people in Orange County, utilizing the survey results to develop campaign goals, determining the key messages, defining specific community outreach activities and approaches, preparing a master timeline, and creating a "brand" name for the Orange County Stormwater Program ("Project Pollution Prevention").

6.2 Accomplishments

The primary elements of the Third Term Permits public education program were a series of "Plans" that guided the program implementation, specifically:

- A "Materials Plan" that prioritized the educational materials necessary for revision/development and defined the common look and theme;
- A "Media Plan" that identified advertisement purchases in major publications, on Orange County Transit Authority buses and shelters, in movie theaters, on radio, and on cable television;
- A "Non-media Plan" which included the develop of a tool box for local outreach and building relationships with businesses, trade associations, chambers of commerce, utilities, and organizations that provided key opportunities for outreach;
- A "School Education Plan" to reach K-12 students in Orange County with pollution prevention messages; and
- An outreach plan for the approximate 10,000 food service facilities in Orange County.

Additional elements of the program include:

- An initial and follow-up public opinion/education survey (completed in 2003 and late 2005 respectively);
- Assistance with governmental and regulatory agency relations;
- Translation of all materials into Spanish and the creation of a Spanish webpage;
- Translation of key materials into Vietnamese;
- A "tool box" of materials for Permittee program coordinators to conduct local outreach efforts, based upon a quarterly "Quad Approach" including press releases, newsletter articles, fact sheets and billing inserts; and
- An employee-training program ("Stormwater 101") to educate all municipal employees about general stormwater principals.

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6.2.1 Countywide Public and Business Education Materials Plan

A Materials Plan was developed that prioritizes the outreach materials necessary for revision/development and defined a common look and theme. Pursuant to this plan, the following materials were produced:

- Forty-three brochures; 22 in English, 18 in Spanish and four in Vietnamese.
- Sixteen print advertisements; eight in English, seven in Spanish and one in Vietnamese.
- Ten radio public service announcements; five in English and five in Spanish.
- Four movie/cable PSAs; three in English and one in Spanish.
- Three bus advertisements.
- Six quad outreach kits including a newsletter, press release, billing insert and fact sheet.
- Outreach kit for food service establishments including a BMP poster, four stickers, a PowerPoint presentation, fact sheet and CD-ROM.
- Stormwater 101 training kit including a pre/post training evaluation, fact sheet, PowerPoint presentation and 7-½ minute video.
- A municipal vehicle magnet.
- A door hanger notice for residential pollution problem correction.

6.2.2 Media Outreach Plan

A strategic media relations campaign was developed and implemented that included advertisements in major publications, on Orange County Transit Authority buses and shelters, in movie theaters, on radio, on cable television and online. The Permittees collectively purchased the following media during 2002-06:

Newspaper advertisements generated 46.5 million impressions

- Seven full-color ads in the Sunday *Orange County Register*
- Three full-color ads in the Sunday *Los Angeles Times* (Orange County Edition)
- Twenty-two full-page ads in 17 of the *Register's* community papers
- Fourteen full-page ads in four of the *Register's* community papers
- Eleven ¾-page ads in the *Los Angeles Times'* three Orange County community papers: the *Daily Pilot*, *Huntington Beach Independent* and *Laguna Beach Coastline Pilot*
- Nine full-page ads in the *News-Enterprise*
- Fourteen full-page ads in *OC Metro*
- Eleven full-page ads in *OC Weekly*
- Seventeen full-page ads in *Miniondas* (Spanish language)
- Fifteen full-page ads in *Excelsior* (Spanish language)

Radio advertising generated 27.6 million impressions

- Twenty 60-second spots on KLAC AM 570. The spots generated more than 120,000 impressions.
- One hundred and twenty- 60-second spots ran on JACK FM 93.1 generating 25 million impressions.

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- One hundred and sixty 60-second spots ran on Sonido (Spanish language radio station) generating 2.5 million impressions.

OCTA bus advertising generated 71.5 million impressions

- Fifty-seven bus sides
- Fifty bus backs
- Fifty outdoor bus shelters

Movie theater advertising generated 11 million impressions

- The 30-second public service announcement ran on screen and in lobby kiosks for twenty weeks at 22 Edwards/Regal Cinemas, San Clemente's Krikorian Theater, twelve weeks at the Long Beach Town Center Theater and twelve weeks at AMC theaters.
- The sad fish poster was displayed at all 24 Orange County theaters.

Cable television advertising generated 1.4 million impressions on four cable stations (Adelphia, AT&T/Comcast, Time Warner and Cox Communications)

On-line banner advertising generated 2.35 million impressions

- Banner display on www.931jackfm.com for three months.
- Banner display on www.ocregister.com for two months.

Headline Indicator - Number of Media Impressions: The public education program generated over 160,000,000 media impressions over the period 2002-06.

ROWD Commitment

- Continue to "fine tune" the multi-media approach.
- Re-evaluate audiences & key messages for targeted behaviors.
- Pursue opportunities for regional collaboration.

6.2.3 Non-Media Outreach Plan

A Non-Media Outreach Plan was developed and implemented to complement the paid advertising media campaign. The plan utilized existing resources and partnerships to produce free or low-cost exposure for the program.

Outreach to Permittees

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The plan included the development of a “tool box” of materials to enable the Permittees to conduct local outreach both directly and indirectly through businesses, trade associations, chambers of commerce, utilities, restaurants and other organizations.

Specifically, the “tool box” included:

- Outreach Materials - Artwork was created for use on outdoor locations such as bus shelters, streetlight banners, mouse pads and beach towels.
- The Quad - A series of newsletters, press releases, fact sheets and billing inserts were created that focused on seasonal stormwater themes. Six seasonal quads were created.
 - Spring Into Cleaning – Household Hazardous Waste
 - What’s Summer Without The Beach
 - When It Rains It Pours Pollutants Into Our Storm drains
 - A Pollution Fix for 2006
 - Green Thumb Blue Ocean
 - Keeping Your Car and the Environment Sparkling Clean
- An Events Listing - Lists of upcoming utility, restaurant, city and organization sponsored events were developed where stormwater information could be provided to event participants.
- Employee Training Materials - Stormwater training materials were developed to educate all municipal employees about general stormwater pollution prevention principles.

Outreach to Businesses

The plan’s proposed implementation of programs is based on relationships and partnerships that had been developed with groups who may have been receptive to partnering with the program..

- A list of key Orange County businesses that the Stormwater Program could potentially foster relationships with was developed. The list included top businesses and major Orange County employers. These businesses were contacted and the following is a list of the business partnerships developed:
- Point of Purchase - Partnerships with stores that sell auto supplies, hardware, pet supplies and gardening supplies were developed. The program has fostered relationships with:
 - PetsMart Inc.
 - Home Depot, Inc.,
 - Orchard Supply Hardware (OSH)
 - Wal-Mart,

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- The Pet Pantry
 - Huntington Garden Center
 - Flowerdale
 - De Nault's Hardware
- A list of major Orange County events such as the Orange County Auto Show and Southern California Home & Garden Show was created. Event coordinators were contacted with a letter introducing the program and asking for the opportunity to participate and/or distribute Orange County Stormwater Program materials.

Outreach to Utilities

Major non-city utilities providing water, electricity, cable and refuse services were contacted and provided sample newsletters for use in their publications. Several utilities printed stormwater education materials in their newsletters and billing inserts and posted information on their websites including:

- Rainbow Disposal
- Waste Management
- Southern California Edison
- Sempra Energy/The Gas Company
- Orange County Water District
- Orange County Fire Authority

The four major refuse companies in Orange County agreed to place a 12" x 24" Stormwater magnet on their trucks. More than 500 refuse trucks displayed the magnet during the 2002-06 reporting period.

Outreach to Organizations

A list of key Orange County organizations that the Stormwater Program could foster relationships with was developed. The list included organizations such as chambers of commerce, rotary clubs, and environmental groups.

- Chambers of Commerce - Several chambers provided Stormwater information to their members including the Brea Chamber of Commerce, Fountain Valley Chamber of Commerce, the Black Chamber of Commerce and the South Orange County Chambers of Commerce.
- Welcome Express - Welcome Express provides welcome packets to new homeowners in various communities throughout Orange County. Welcome Express provides the Household Tips brochure within their new homeowner's packet.

Media Relations Campaign

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The media relations campaign centered on fostering relationships with reporters. Local newspapers are considered one of the most credible sources of information for Orange County residents and reach a large audience. Therefore, media relations were an invaluable component of the public education campaign.

The media relations campaign utilized the seasonal stormwater press releases created as part of "the Quad" to contact the media on a quarterly basis. The program also updated its media distribution lists quarterly.

Indicator - Number of Non-Media Impressions: The public education program generated 25 million non-media impressions during 2002-06.

Outreach to Restaurants

A specific outreach plan for the approximate 10,000 food service facilities in Orange County was developed and implemented. The outreach plan included the following efforts:

- The inspection and distribution of educational materials to the approximately 10,000 existing food facilities (the inventory is updated annually) countywide. Over 36,000 inspections for NPDES stormwater related issues were conducted.
- A focused public education outreach component was developed and implemented. This effort included:
 - A mass mailing to all corporate and food service facilities within Orange County. Over 9,000 letters were mailed.
 - Distribution of focused educational brochures, posters, stickers and CD-ROMs were distributed during inspections.
 - Presentation was given to the Food Sanitation Advisory Council.

Indicator - Number of Food Facility Outreach Impressions: The public education program generated over 45,000 food facility outreach impressions during the 2002-06.

ROWD Commitment

- Continue to foster new relationships and partnerships.

6.2.4 School Education Outreach Program

During the 2002-03, reporting period extensive meetings took place with representatives from

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various educational programs and agencies throughout Orange County. A school education outreach plan was developed and implemented that included the following partnerships:

Orange County Department of Education (OCDE)

Inside the Outdoors is an environmental education program administered by the OCDE. There are three types of programs within *Inside the Outdoors* which are the:

- Outdoor Science School - This program includes information on sources of water for southern California, pollution prevention, and watershed information. 14,000 students participated in this program.
- School Program - A traveling scientist visits school sites providing the "Drip Drop" program - a 60-minute presentation about water quality. 3,000 students participated in this program.
- Field Program - Fifth grade students move into the real world of science and social science. During the "Where Do I Flow" program students learn about water pollution and prevention. 12,803 students participated in this program.

Approximately 30,000 students participated in the *Inside the Outdoors* Science Programs.

Municipal Water District of Orange County (MWDOC)/Discovery Science Center (DSC)

The partnership with MWDOC/DSC is focused on the Elementary Water Science Education Program, a water education course for teachers, and a public program for general visitors.

- Elementary Water Science Education Program – This program presents grade-specific science lessons, which incorporate water sources, water conservation, and water/trash pollution themes complementary to the science content standards.

5th Grade Student Assemblies: This element of the program presents lessons to elementary school students in an assembly format. 17,200 fifth grade students and 500 fifth grade teachers participated in this program.

5th Grade Students Attending the DSC Field Trip Program - For 5th grade students attending the DSC, field trip instructors screen the Project Pollution Prevention video entitled "Go With the Flow" and distribute the Project Pollution Prevention water education-based booklet. 25,827 fifth grade students and 2,000 fifth grade teachers participated in this program.

- Water Education Course for Middle and High School Teachers - The Water Education Course provides fifth through twelfth grade teachers Professional Development classes complete with curriculum and a kit of scientific equipment to conduct water-focused and pollution awareness activities in their classrooms. The Water Education Course was provided to 24 teachers reaching approximately 792

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students.

- Public Program for General Visitors to the DSC - A demonstration and learning station for the general public visitors and students on field trips to the DSC was developed to further communicate the importance of water, water conservation, urban pollutants, and stormwater/urban runoff pollution. An estimated 76,000 visitors saw the station annually.

Project WET (Water Education for Teachers)

The Project WET (<http://www.projectwet.org/index.html>) is a water science and education program for teachers that provide classroom ready teaching aids including the Project WET Curriculum and Activity Guide. The guide is a collection of hands-on, innovative, interdisciplinary activities. Project WET developed curriculum specifically for the stormwater program.

Nearly two hundred teachers have participated in Stormwater Program sponsored workshops reaching 7,000 students per year.

California Regional Environmental Educational Community (CREEC) Network

The California Regional Environmental Education Community (CREEC) Network is an educational project whose mission is "to develop a communication network which provides educators with access to "high quality" environmental education resources to enhance the environmental literacy of California Students." It is an educational project supported by the California Department of Education, Environmental Education Program, in collaboration with state, regional and local partners. The CREEC Network provides information on all Orange County environmental school education outreach programs. To further publicize this information, links between the Permittees' website and CREEC were established.

<p>Indicator - Number of School Outreach Impressions: The public education program generated 188,846 school outreach impressions during the 2002-06.</p>

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6.2.5 Other Countywide Initiatives

The Principal Permittee conducted a number of countywide public education initiatives on behalf of the Permittees. These initiatives included:

- Provision of brochures, magnets, bookmarks, manual, and posters to the Permittees, general public, businesses, schools, and other agencies. During 2002-06 over 450,000 educational materials were distributed.
- Management of the countywide 24-hr bilingual water pollution reporting hotline number, (714) 567-6363. During the 2002-06 the hotline received 927 water pollution calls. Water pollution complaints are also received through the County website.
- Advertisement of the 24-hour water pollution hotline number and web address, www.ocwatersheds.com, in all SBC Regional Phone Directories.
- Management of the County website, www.ocwatersheds.com. During 2002-06 the website received over 10,000,000 hits.

Indicator - Number of Other Countywide Initiative Impressions: The public education program generated 10,450,927 other impressions during the 2002-06.

Headline Indicator - Public Education Program Impressions: The public education program created over 195,684,773 impressions during the 2002-06 permit cycle. One of the goals of the public education program is to target 100% of the residents of Orange County. Orange County has a population of approximately 3 million people. Therefore, it can be deduced that every resident of Orange County received thousands of impressions during the reporting period. This achievement also far exceeds a Third Term Permit requirement to deliver a minimum of 10 million impressions per year within the Santa Ana Regional Board Area.

6.3 **Assessment**

In an effort to better understand the public's awareness regarding water quality issues, several surveys have been conducted. The surveys have incorporated a number of questions relating to pesticide, herbicide and fertilizer use, the sewer and storm drain system and the public's overall awareness of the County's public outreach campaign. Surveys conducted since the inception of the Orange County Stormwater Program include:

- 1994 Stormwater Pollution Prevention and Flood Awareness Survey
- 2000 County of Orange Fair Survey

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- 2000 Orange County Sanitation District Fair Survey
- LA Times In Education Survey
- 2001 Public Awareness Survey
- 2003 Public Awareness Survey
- 2005 Public Awareness Survey

6.3.1 Public Awareness Surveys

In May 2003, the Permittees conducted a large sample (1,500 respondents) public awareness survey to measure the current level of knowledge held by residents of Orange County. In November 2005, after 30 months of the public education campaign, a follow-up to the baseline survey was conducted. The purpose of the second survey was to assess the extent to which public opinion and knowledge about urban runoff issues have changed and whether Orange County residents have made any behavioral changes as a result of the public education campaign.

The findings indicate that the public information campaign on stormwater and urban runoff has made initial inroads towards increasing awareness. In the majority of questions, awareness of the program and or its elements increased one to three percentage points.

Effectiveness of Educating on the Environmental Issue

Consistent with findings from 2003, education, traffic congestion, safety and employment continue to rank higher than pollution as top issues of concern with Orange County residents. In the last 30 months, residents concern regarding pollution of the ocean, rivers, creeks and bays increased 1%. When asked specifically about ocean, bay and harbor pollution, concern remained consistent with the baseline data with 85% to 87% concerned. However, the intensity of concern regarding pollution of creeks and rivers increased 6% (from 39% very concerned in 2003 to 45% in 2005).

During the 30-month stormwater outreach campaign, information never focused on the actual quality of Orange County water or the severity of the issues. Most elements of the program focused on particular activities that would “protect our creeks, rivers, bays and ocean.” The result of the survey is consistent with the amount of prominence placed on this subject. If a greater emphasis was placed on this subject in the campaign, the numbers could have been higher.

Effectiveness of Educating on the Storm Drain System

Knowledge about urban runoff and storm drains has increased. In fact, 90% of residents know that water flowing in the street enters a storm drain and goes directly to a waterway. This is up six percentage points from 2003. However, there still is a lack of understanding regarding the storm drain system. When asked if water in the storm drains is tested and filtered, 4% more answered the question correctly in 2005, however, it was still less than half (46%) of the respondents. Similarly, when asked if sewer water and storm drain water

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enter the same system, 3% more answered the question correctly, however, it was still less than half (44%) of the respondents.

During the education campaign, nearly all materials created mentioned that objects in the street flow through storm drains directly to the nearest waterway. However, only the brochures, fact sheets and newsletter articles went into depth regarding the difference between the sewer and storm drain system. The use of this information in all the materials shows in the increased level of awareness. Had the differences between the sewer system and storm drain system been illustrated in every piece, these numbers may have been higher.

Also, men tend to be very knowledgeable regarding the storm drain system while women were less knowledgeable according to the 2005 survey; therefore, materials targeted at women may be considered.

Effectiveness of Educating on Key Pollutants

The survey asked respondents if the following items contributed to polluting urban runoff: oil, toxic waste, Styrofoam cups, gardening products, cigarette butts, paint, dirty water/detergent, cleaning products, trash, pet waste, water from hoses, lawn clippings/dirt/leaves and pool water. In every case, respondents were very likely to say these items contributed to polluted runoff with nine of them increasing beyond the margin of error (oil, Styrofoam cups, cigarette butts, paint, cleaning products, trash, pet waste, lawn clippings/dirt/leaves and pool water).

The increased knowledge held regarding these 13 pollutants shows a strong upward trend and indicates that education materials are reaching the residents. For all but two pollutants (toxic waste and Styrofoam cups) a brochure has been created to educate the public. Also, seven of the pollutants (oil, gardening products, cigarette butts, dirty water/detergent, pet waste, hose water and lawn clippings/dirt/leaves) were covered in the print advertising campaign. The fact that public knowledge has increased regarding all 13 pollutants demonstrates that the education campaign is effective.

Effectiveness of Educating on Key Behaviors

Consistent with the first survey, roughly two thirds say that changing their personal behaviors would make a difference in cleaning up pollution (65%). This represents an increase of 2%. The survey revealed the following: 97% of people were either willing or did dispose of chemicals properly, 89% were willing to or did use fertilizers properly, 92% were either willing to or did keep yard clippings out of the street, 90% were willing to or currently adjust sprinklers to avoid overwatering; 79% were willing to or did pick up after their pet, 90% were willing to or currently use a broom to clean driveways, and 73% were willing to or eliminated washing cars at home.

When comparing seven actions that residents were already participating in, they were 4% more likely to dispose of chemicals properly and 3% more likely to pick up after a pet in 2005. However, less respondents were keeping yard clippings out of the street (-5%),

adjusting sprinklers (-1%), using a broom instead of a hose (-5%), properly using fertilizer (-1%) and eliminating car washing (-9%). Although participation in some of the seven actions decreased, roughly half of Orange County residents report taking part in all seven of the activities – making a significant increase over the 30 months (+37%) of the campaign (**Figure 6.1**).

During the course of the education campaign, the materials focused on what can be done to prevent urban runoff. All seven activities mentioned in the survey were addressed in brochures, newsletter articles, fact sheets, press releases and billing inserts.

The survey results indicate that the education campaign has penetrated the residents of Orange County and caused significant awareness of the activities that can reduce urban runoff. In all cases (except home car washing) at least eight in ten residents were either participating, or willing to participate in, activities that limit runoff. Despite a successful start to the campaign, residents appear to be obstinate when it comes to one behavior – eliminating home car washing.

Effectiveness of the School Outreach Program

A significant portion of parents of children under 19, roughly 25%, report that their children learned about urban runoff issues in school and came home and talked about it. It is safe to assume that the number of students who received the information, but did not share it with their parents is even higher.

Based on the significant number of students who have reported to a parent about having heard urban runoff prevention messages, it appears that the school outreach program has been effective.

Effectiveness of the Media Outreach Program

According to the 2005 survey, the most effective (most recognized by residents) form of advertising are the “No dumping, drains to ocean” stencils (81%) and newspaper articles (65%). Although part of the overall stormwater program, stencils were not an integral element of the education campaign. Their success can be attributed to a couple of factors. First, the stencils are on a large percentage of storm drains throughout the County. Nearly every resident has a stencil in his or her neighborhood. Also, the stencil program has been active in Orange County for many years. While other education programs were introduced in the last 30 months, residents have seen the stencils for more than a decade. The other very effective program has been newspaper articles. Similar to the stencils, articles on water pollution have been available to the public for decades and have had time to resonate.

Other effective aspects of the program (recognized by residents) were the PSAs on radio (39%), PSAs on cable (38%), newspaper advertising (35%), brochures (28%) and community events (20%). All five of these programs were initiated 30 months ago through the outreach campaign and have significantly resonated with residents. While most of these campaign elements were specific to Orange County, a few had the additional assistance from other regional campaigns such as “Don’t Trash California” and the “Used

Oil" program.

Less effective aspects of the program (least recognized by residents) were movie theater advertising (14%), workplace information (14%), bus advertising (13%) door hangers (12%), and Spanish radio PSAs (6%). While Spanish radio was the least recognized program by all respondents to the survey, among Spanish speaking respondents it was substantially higher (18%). All of these specific campaign elements were created and implemented during the 30-month outreach campaign (**Figure 6.2**).

When determining whether an element should be eliminated from the campaign, it is important to evaluate the number of sources people received information from. According to the 2005 survey, 29% of people received stormwater information from one or two sources. If the majority of these people received information from a source that is eliminated, the campaign would be less effective. However, in this circumstance, only 2% of people who received information from one or two sources received information from theater ads or bus backs. In regarding to theater advertising, it is possible that residents confused cable PSAs with theater advertising because both played the same spot. Since cable advertising was highly recognized by residents, the campaign could have been less effective if it were removed. In the case of bus back advertising, the program would still have been effective without this element.

Another aspect of the program that was evaluated was the print advertising. While, 35% of people recalled seeing print advertising, it is important to note what papers residents are reading. While the largest percentage of advertising was in the Orange County Register, the program did advertise in the Los Angeles Times a half dozen times a year. According to the survey, the percentage of people who get most of their information on urban run-off from the Times dropped from 12% to 9% (Orange County Register is 28%). Also, only 5% of people who received information from one or two sources received the information from print advertising. Therefore, advertising in the Times could likely have been less frequent without affecting the effectiveness of the campaign (**Figure 6.3 Effectiveness of Print Advertising**).

According to the 2005 survey, the percentage of voters saying there is enough information has increased (+1% and +5% from a split question). However, residents continue to believe that there is not enough information provided about how to stop urban runoff and ocean pollution in Orange County. So while some of the elements of the campaign could have been eliminated, the survey demonstrated that people need to receive information from a variety of sources. The Internet appears to be an emerging source of information, increasing 6% to 10% (third highest source of information).

6.4 Summary

Since the inception of the Orange County Stormwater Program outreach campaign, information on stormwater and urban runoff has made initial inroads in increasing awareness. This increase is seen in nearly every element of the program and demonstrates a great beginning to a program that was implemented in a short period of time.

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Although all of the elements of the program contributed to the success of the campaign, the program could have considered eliminating bus back advertising. Print ads in the Los Angeles Times could have been reduced and ads in the full-run Orange County Register could have been increased. Another element that could have been added is online marketing. Overall the program demonstrated an effective start to the education campaign.

Figure 6.1: Resident Participation in Pollution Prevention Activities

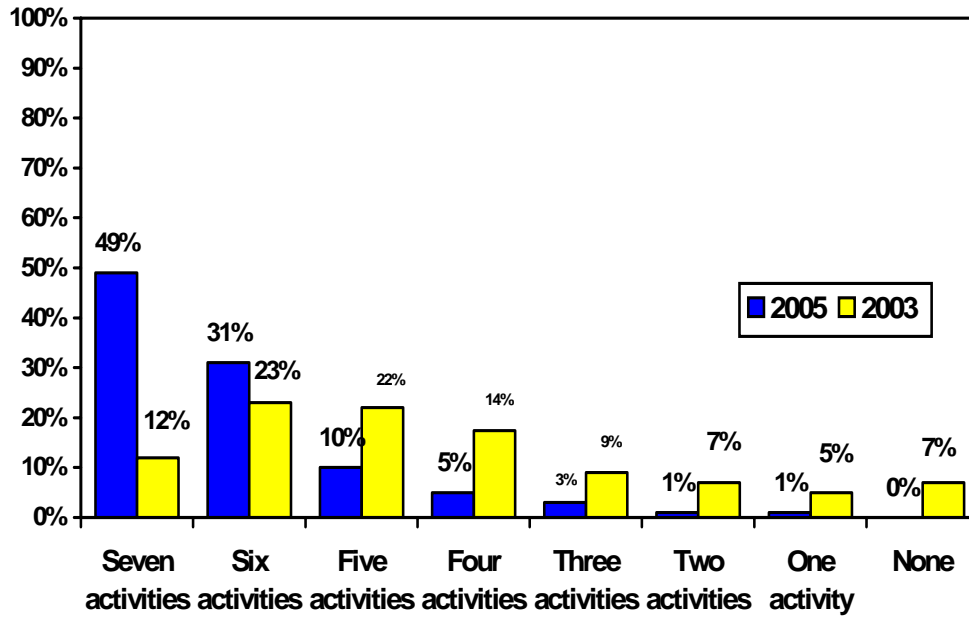


Figure 6.2: Effectiveness of Media Outreach Program

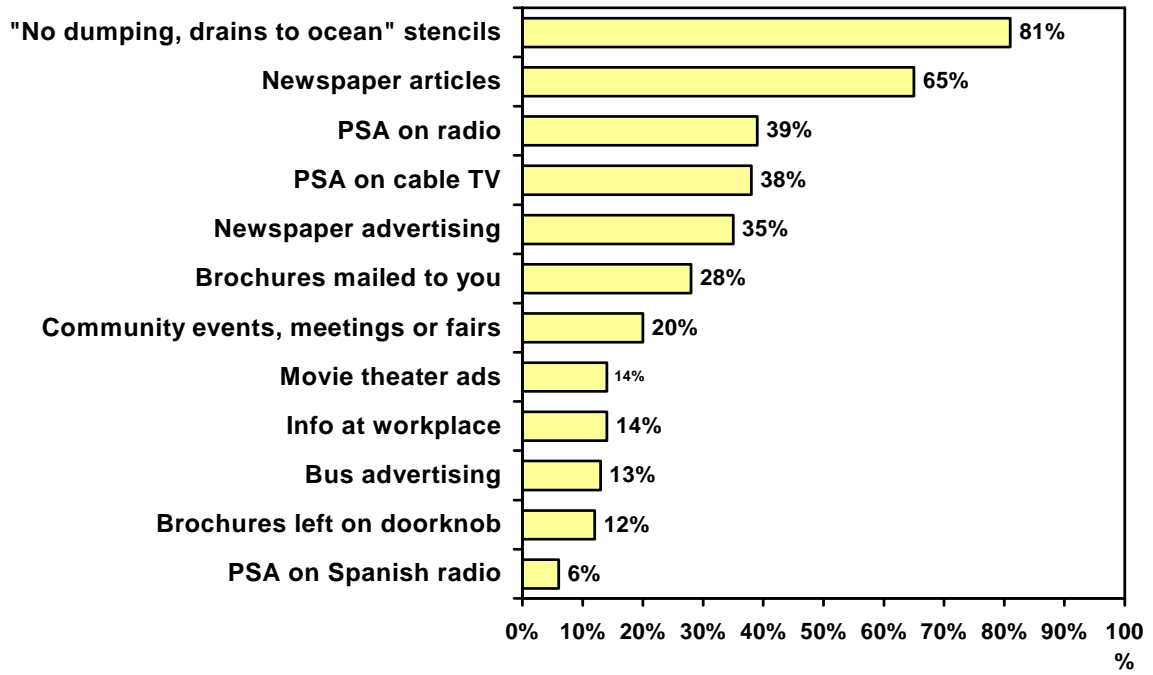
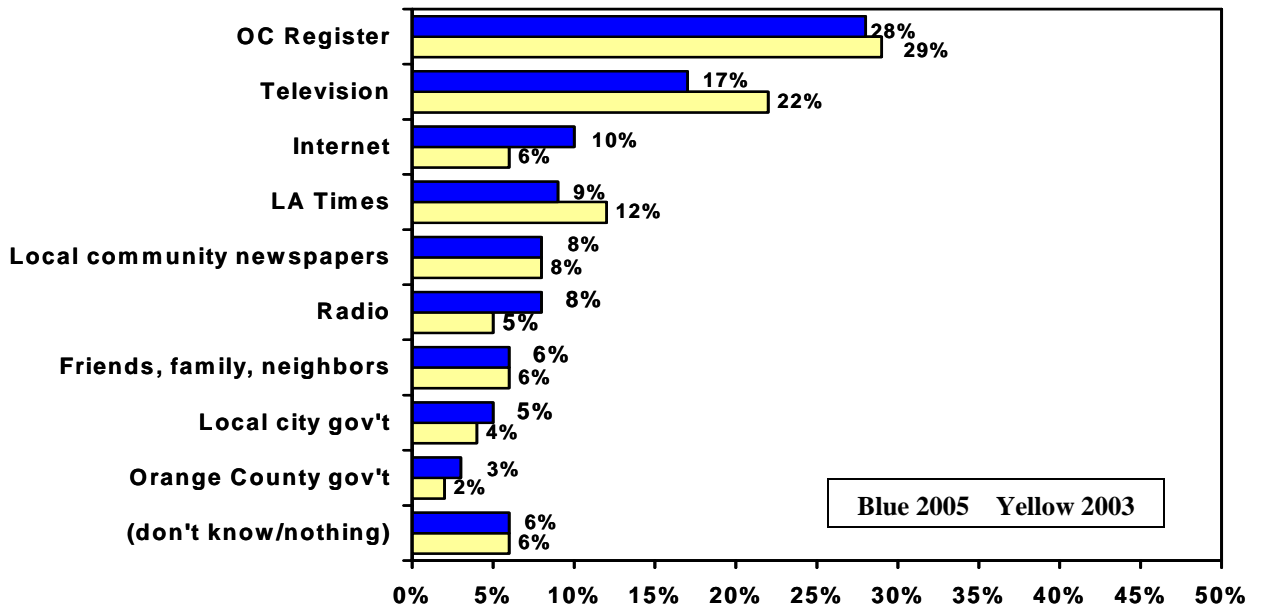


Figure 6.3: Effectiveness of Print Advertising



7.0 NEW DEVELOPMENT/SIGNIFICANT REDEVELOPMENT

7.1 Introduction

One of the most important responsibilities of local government is to provide a decision making and approval processing framework for new development and re-development. This framework ensures that (1) development occurs in an orderly and organized fashion in a manner that reflects the vision and needs of the community, (2) environmental issues associated with development are assessed, and (3) provides a regulatory framework to ensure that standards set by the jurisdiction are implemented.

Since the inception of the Program, it has been recognized that the incorporation of BMPs into a development project in its planning stages offers a unique opportunity to limit increases in pollutant loads. **DAMP Section 7.0** links new development BMP design, construction and operation to the earlier phases of new development project planning, encompassed by the jurisdictional General Plans environmental review and development permit approval processes.

7.2 Accomplishments

7.2.1 New Development/Significant Redevelopment Program

In 1993, the New Development/Construction Task Force, comprised of representatives from the Principal Permittee, Building Industry Association (BIA), Association of General Contractors (AGC) and Civil Engineers & Land Surveyors of California (CELSOC), completed a report - *Best Management Practices For New Development Including Nonresidential Construction Projects (1-5 acres)* - that provided the basis for requiring the incorporation of structural and non-structural BMPs into development. This report was the basis of the New Development component of the DAMP during the First and Second Term Permits.

The requirements of the Third Term permits significantly increased the complexity of the new development provisions of the DAMP. These provisions provide a framework and a process for integrating watershed protection/stormwater quality management principles into the Permittees' General Plans, environmental review processes, and development permit approval processes. The new development provisions also cover initial project planning and project design, construction and completion, including requirements for the selection, design and long-term maintenance of permanent BMPs. Specifically, the new development provisions require the Permittees to:

- Assess the need to revise and update General Plans to include watershed and stormwater quality and quantity management considerations.
- Review CEQA processes for potential stormwater quality impacts and mitigation.
- Review development planning/permit approval process for stormwater protection principles.

- Develop and implement a model Water Quality Management Plan (WQMP) (also referred to as a Standard Urban Stormwater Mitigation Plan – SUSMP) to address impact from new development and significant redevelopment.

For the area of Orange County within the San Diego Regional Water Quality Control Board jurisdiction of Orange County (area south of El Toro Rd.), each municipality was required by the Permit to develop a Local WQMP, based on the model WQMP, to oversee new development and significant redevelopment within their local jurisdiction. These Local WQMPs were finalized for implementation on August 13, 2003.

For the area of Orange County within the Santa Ana Regional Water Quality Control Board jurisdiction of Orange County (area north of El Toro Rd.), the Model WQMP explains the requirements placed upon all new development and significant redevelopment projects. The Model WQMP underwent a lengthy public review process and was approved for implementation by the Executive Officer of the Santa Ana Regional Water Quality Control Board on September 30, 2003.

During the 2004-05 reporting period, 551 Project WQMPs were processed for 3,227 acres of development. Since 1997, a total of 3,193 Project WQMPs have been approved, covering 27,287 acres which represents approximately 6% of the area within Orange County subject to the Third Term Permits.

- Conduct education or training.

Five training modules have been developed and have been given:

1. General Plan Issues;
2. New Development/Significant Program Management;
3. Project Planning and Design: Environmental Review, Planning and Permitting and WQMP Development;
4. Stormwater BMP Effectiveness and Applicability for Orange County, and
5. Stormwater Treatment: How it Works (Or Does It?).

7.2.2 California Sustainable Watershed/Wetland Information Manager (CalSWIM)

CalSWIM (<http://calswim.org/>) is an Orange County Storm Water Program and University of California, Irvine (Departments of Engineering and Informatics) initiative to develop a web-based expert system and prototype database designed to support cost-effective and scientifically justifiable decisions regarding the monitoring, management, and alteration of coastal urban wetlands and their associated watersheds. Initiated in 2004, CalSWIM currently delivers:

- Forecasting and now-casting of nutrient levels, sediment supply, indicator bacteria, and pathogens in the Newport Bay Watershed, and

- Targeted evaluation of management decisions that affect the habitat quality and ecological function of coastal wetlands, and/or that directly bear on pollutants of concern.

7.2.3 Hydromodification

Hydromodification arises from changes in the volume, magnitude and duration of flows that can occur coincident with urbanization and is evident in the landscape as channel incision and bank erosion in the upper and middle portions of a watershed and as aggradation and increased channel meandering in the downstream areas of the watershed. In 2005, the Permittees supported, through the Stormwater Monitoring Coalition (SMC) and California Stormwater Quality Association (CASQA), a workshop that was convened to provide an overview of the key technical and managerial issues associated with hydromodification in S. California (see Stein and Zaleski, 2005¹).

7.3 **Assessment**

The current and potential program effectiveness assessment outcome levels for the New Development / Significant Redevelopment Program are presented in **Table 7.1**.

7.3.1 New Development/Significant Redevelopment Program

CEQA review processes were reviewed for adequacy early in the period of the Third Term Permits. However, in preparing the ROWD, a number of Permittees commented that the overall planning approval process for projects needs to more effectively ensure that water quality protection is considered in the earliest phases of project consideration through further elaboration of the preliminary or conceptual WQMP concept in the DAMP.

ROWD Commitment:

- Prepare guidance documentation and clarify requirements for the preliminary or conceptual Project WQMP.

The Model WQMP identifies BMPs for new development and significant redevelopment projects that are subject to WQMP requirements pursuant to **DAMP Section 7**. Depending upon the project size and characteristics, these BMPs include Site Design BMPs, applicable Source Control BMPs and Project-based Treatment Control BMPs (and/or participation in an approved regional or watershed management program).

¹ Managing Runoff to Protect Natural streams: The Latest Developments on Investigation and Management of Hydromodification in California; Stein and Zaleski, SCCWRP Technical Report 475, December 2000.

The requirement for new developments/significant redevelopment projects to prepare a WQMP has been an established part of the planning approval process (See **Table 7.2**) since the **1993 DAMP** and all Permittees certified they were implementing this part of the Program in 1997. While there is considerable variation in the level of activity between the Permittees, this variability can be attributed to the availability of land for development/redevelopment within a particular jurisdiction. Indeed, the County of Orange and the cities of Irvine and Anaheim, with large swathes of undeveloped land, show the highest numbers of WQMPs processed.

Headline Indicator - Number of WQMPs processed and the area (acreage) to which BMPs have been applied: During the 2004-05 reporting period, 551 WQMPs were processed for 3,227 acres of development compared to 461 WQMPs processed for 1,595 acres of development in 2003-04, and 391 WQMPs processed for 2,836 acres of development in 2002-03 (**Table 7.2; Figure 7.1**).

Level 1: Implement Program

Headline Indicator - Number of BMPs Implemented: A total of 5,061 BMPs were implemented in the 2004-05 reporting period. This total represents a 129% increase in the total number of BMPs implemented in 2003-04 (2,201) and a 112% increase from the total number of BMPs implemented in 2002-03 (2,389) (**Figure 7.2**).

Level 3: Behavior Change

During the Third Term Permit term, the structural source controls used most often were: common area efficient irrigation systems and landscape design, filtration, storm drain stenciling, and trash storage area. The non-structural source controls used most often include: employee training, common area litter control, common area landscape management, street sweeping, education, BMP maintenance, and activity restrictions. The most common treatment control BMPs that have been implemented include catch basin screens, catch basin filters, and stormwater treatment units (hydro-dynamic separators).

In preparing the ROWD, a number of Permittees have commented that (1) the guidance for selecting BMPs needs to be updated and enhanced, particularly with regard to treatment control BMPs, (2) there is a possible inconsistency in provisions regarding site prioritization, and (3) adjacent municipal stormwater programs have more effective provisions regarding the consideration of Site Design BMPs.

DAMP Modification:

- Revise *Model WQMP Table 7.II.6* for latest information on BMPs and clarity.
- Evaluate and revise (as necessary) prioritization provisions for Countywide consistency.

ROWD Commitment:

- Develop recommendations (through cooperative Stormwater Monitoring Coalition project) for incorporation of LID techniques into resource and water quality protection requirements.
- Develop library of BMP performance reports.
- Develop standard design checklist/plans/details for selected Source Control and Treatment Control BMPs.
- Develop recommendations for enhanced Model WQMP language regarding Site Design BMPs.
- Develop and implement BMPs for architectural uses of copper and zinc.

In 2005 the Santa Ana Regional Board formally approved the Irvine Ranch Water District's Natural Treatment System as a regional treatment control BMP for a portion of the Newport Bay Watershed. The project is significant for it being the first expression in the area under the jurisdiction of the Santa Ana RWQCB of a regional approach to stormwater treatment.

ROWD Commitment:

- Evaluate the NTS approval process and develop recommendations for streamlining regulatory agency approval of regional Treatment Control BMPs.

The New Development/Significant Redevelopment component of the Program ends with permit close-out and the BMPs transition to the Existing Development component. The Permittees believe that the BMP approach to stormwater management is most effectively sustained by ensuring the longevity of the WQMP through successive ownerships. Additionally, the Permittees requested additional guidance on recording WQMPs in a manner that would enable them to enforce the approved WQMP against subsequent property owners and ensure ongoing

responsibility for BMP maintenance.

ROWD Commitment:

Prepare guidance and training as needed on the recordation process (timing and appropriate documents to use) and develop recommendations for appropriate methods to employ to enable the Permittees to enforce the approved WQMP against subsequent property owners.

Training: Both the Permittees and RWQCB staff has identified a need for updated and additional training regarding WQMP review and approval.

ROWD Commitment:

- Prepare a training schedule and curriculum including defined expertise and competencies for staff with WQMP review and approval responsibilities.
- Prepare a workshop schedule and curriculum for the private sector on WQMP preparation.

7.3.2 California Sustainable Watershed/Wetland Information Manager (CalSWIM)

This initial development and deployment of CalSWIM has focused on Newport Bay, the regionally important tidal saltwater marsh. However, CalSWIM will in the future be extended with an open and scalable architecture to facilitate its rapid redeployment at other coastal urban wetland sites in southern California and elsewhere.

7.3.3 Hydromodification

While the major development projects in Orange County have now been entitled, the Permittees recognize that hydromodification is an emerging issue of concern as the future regulation and management of runoff from urban areas is increasingly considered with respect to the overarching objective of the CWA i.e. maintenance of the chemical, physical and biological integrity of the nation's waters.

DAMP Modification:

- Revise *Model WQMP Section 7.II -3.2.4 Identify Hydrologic Conditions of Concern* to incorporate additional information from hydromodification study.

7.4 Summary

The Third Term Permits have required the Permittees to develop and implement a significantly revised SUSMP- equivalent program for new development/significant redevelopment. This effort was completed Countywide by the end of 2003 and has resulted in an enhanced a WQMP program that, since 1997, has resulted in a total of 3,193 approved Project WQMPs. While the WQMP program is long-established, the review points to a possible continuing emphasis on pollution prevention BMPs and less progress regarding Site Design BMPs using LID approaches. Consequently, the development of additional training and technical support documentation on these approaches is being proposed as an area for further development. In addition, the Permittees have provisionally identified an opportunity, possibly through a Notice of Transfer of Responsibility, recordation, or other means, to enhance efficacy of the WQMP. This opportunity will be the future subject of a formal recommendation to the Permittees.

Table 7.1: Current and Potential Outcome Levels (New Development/Significant Redevelopment)

Development Program Component	Effectiveness Assessment Outcome Levels					
	Level 1	Level 2	Level 3	Level 4	Level 5	Level 6
	Implement Program	Increase Awareness	Behavior Change	Load Reduction	Runoff Quality	Receiving Water Quality
WQMPs	✓ # of WQMPs approved		^P # BMPs implemented	^P Load reduction associated with BMPs		
Training	✓ Track number/type of training sessions	^P Surveys show improved knowledge				
<p><u>Key:</u> ✓ = Currently Achieved Outcome Level ^P = Potentially Achievable Outcome Level</p>						

SECTION 7.0, NEW DEVELOPMENT/SIGNIFICANT REDEVELOPMENT

Table 7.2: Historical WQMPs and Acreage Covered

Permittee	2002-03		2003-04		2004-05	
	# of WQMPs Approved	Acreage Covered by WQMP	# of WQMPs Approved	Acreage Covered by WQMP	# of WQMPs Approved	Acreage Covered by WQMP
Aliso Viejo	1	23	3	NA	8	60
Anaheim	38	100	16	41	33	67
Brea	2	NA	5	NA	6	58
Buena Park	14	NA	8	NA	3	18
Costa Mesa	27	93	10	3	157	38
Cypress	11	14	22	NA	8	76
Dana Point	NA	NA	6	NA	1	121
Fountain Valley	5	37	2	NA	5	9
Fullerton	18	145	23	65	10	NA
Garden Grove	28	NA	21	NA	18	42
Huntington Beach	19	133	16	104	20	110
Irvine	87	NA	120	NA	100	485
La Habra	7	NA	0	0	2	1
La Palma	0	0	0	0	2	3
Laguna Beach	0	NA	11	NA	12	22
Laguna Hills	2	NA	6	NA	8	9
Laguna Niguel	2	NA	3	NA	1	21
Laguna Woods	NA	NA	4	NA	3	21
Lake Forest	16	40	7	26	4	8
Los Alamitos	0	0	4	NA	NA	NA
Mission Viejo	8	236	10	246	5	10
Newport Beach	NA	NA	18	NA	15	25
Orange	3	11	14	116	10	58
Placentia	0	NA	0	0	2	3
Rancho Santa Margarita	0	0	4	NA	4	4
San Clemente	10	277	22	146	4	329
San Juan Capistrano	8	85	10	NA	9	102
Santa Ana	19	61	23	NA	12	28
Seal Beach	0	0	2	NA	1	NA
Stanton	NA	NA	6	NA	7	3
Tustin	3	1	9	105	4	5
Villa Park	0	0	0	0	0	0
Westminster	8	8	15	17	13	10
Yorba Linda	6	145	14	234	20	187
County of Orange	49	1,426	27	491	44	1,294
TOTALS	391	2,836	461	1,595	551	3,227

NA = Not Available

Figure 7.1: Historical WQMPs and Acreage Covered

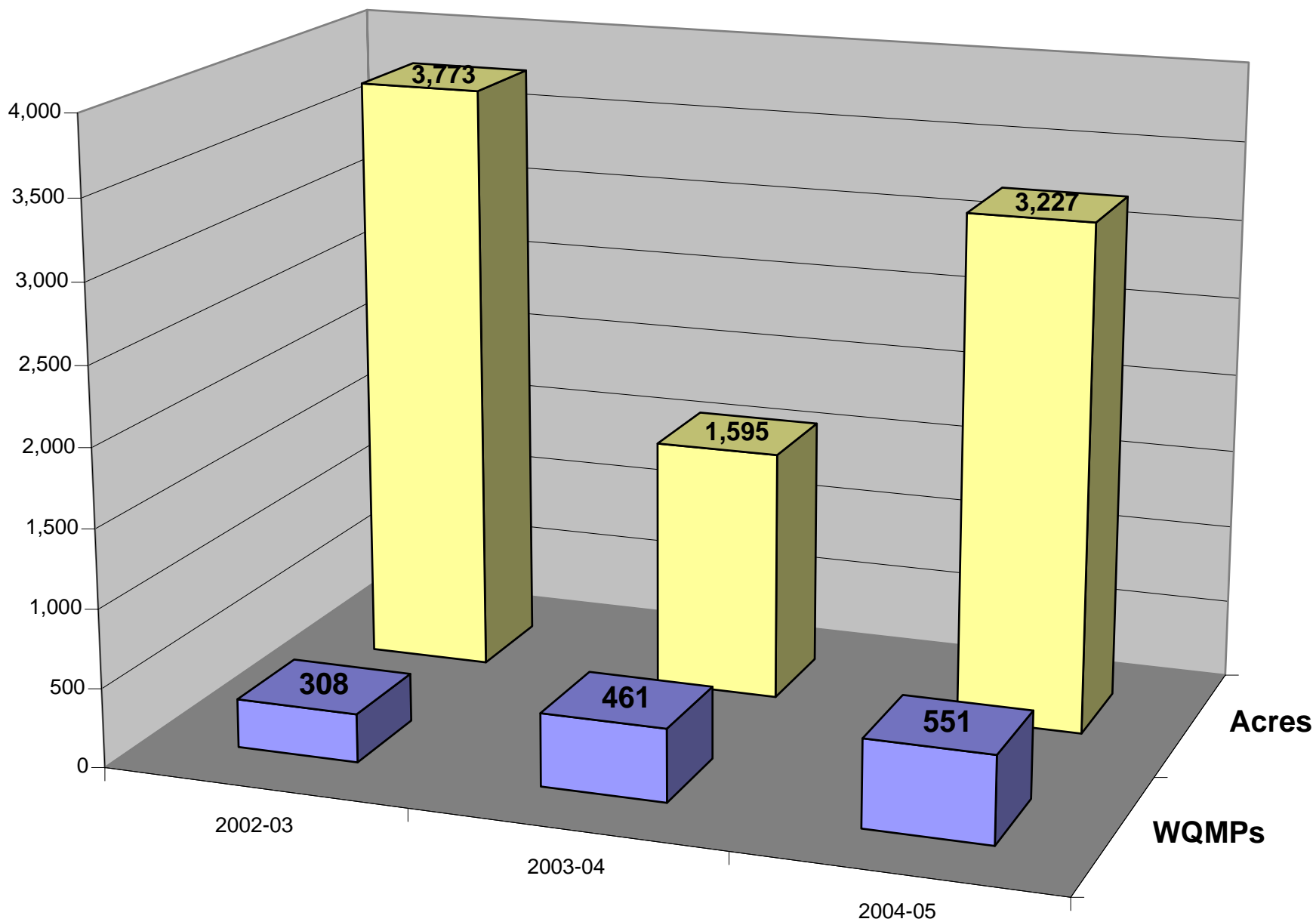
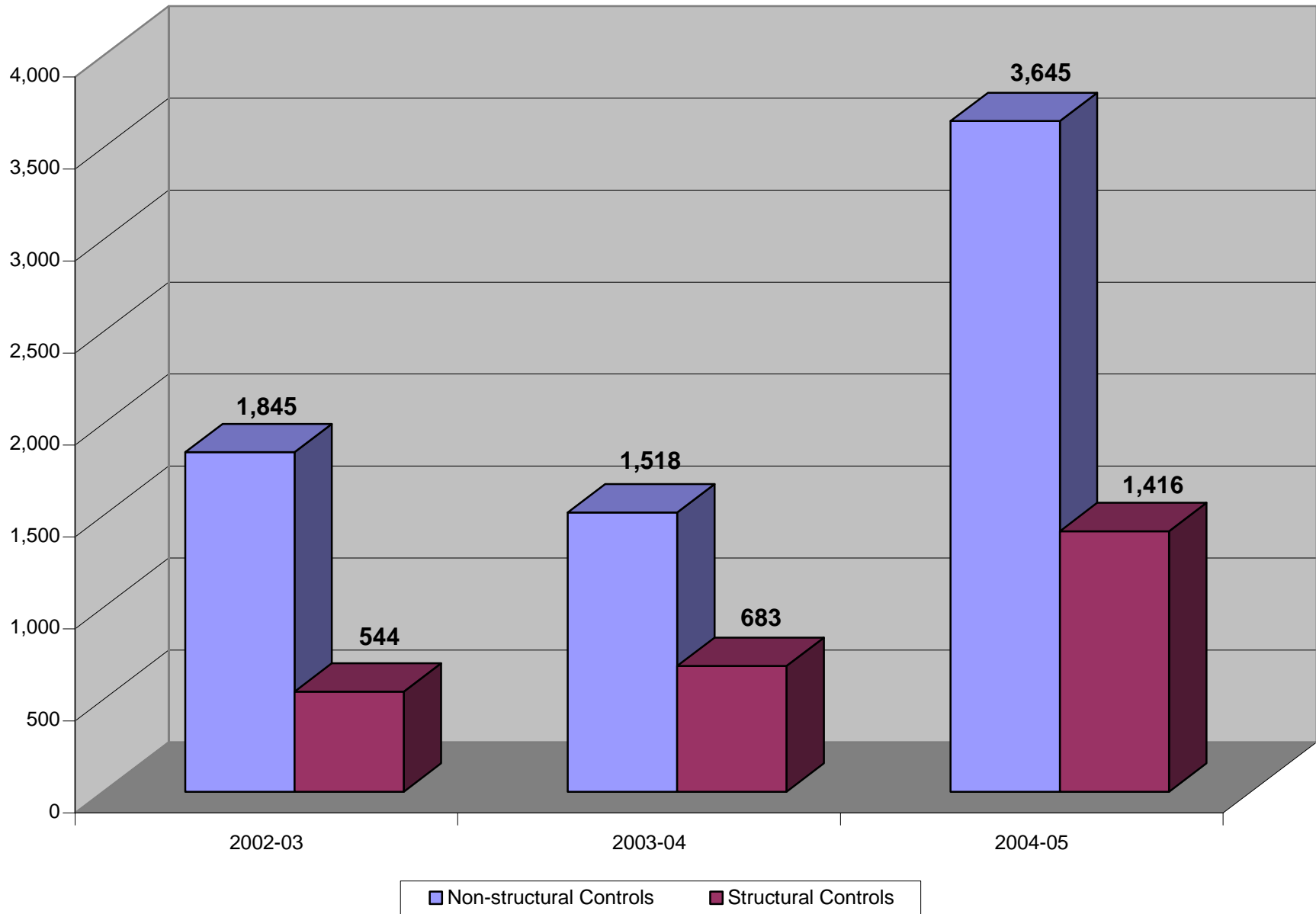


Figure 7.2: Structural and Non-Structural Source Control BMPs Implemented



8.0 CONSTRUCTION

8.1 Introduction

The Permittees regulate construction activities and have responsibility for the construction and reconstruction of municipal facilities and infrastructure. Concern over construction sites as a major source of sediment and other pollutants has meant that construction activity has been a focus of the Permittees' compliance program since the First Term Permits.

8.2 Accomplishments

8.2.1 Model Construction Program

This Model Construction Program was developed and implemented in 2002-03. It requires all construction projects regardless of size to implement an effective combination of erosion and sediment controls and waste and materials management BMPs. It also establishes inspection obligations on the Permittees. Previously, the Permittees' oversight of construction activities was based upon ensuring conformance of public works projects with the *Greenbook Standard Specifications for Public Works Construction*. Specifically, the Model Construction Program requires the Permittees to:

- Inventory construction sites

In May 2002, a construction site inventory spreadsheet was finalized and distributed to the Permittees so that each municipality could develop their inventories by October 15, 2002, as required by Section VIII.1 of the 2002 Santa Ana Permit.

- Prioritize construction sites based upon water quality threat

During 2004-05, thirty-four (34) Permittees reported conducting 15,067 construction site inspections comprising 5,504 high priority site inspections, 1,542 medium priority site inspections and 8,021 low priority site inspections.

- Prepare BMP Guidance

The Permittees produced and distributed the *Construction Runoff Guidance Manual*.

- Conduct Inspections of construction sites

During the Third Term Permits 25,831, 25,549 and 15,067 site inspections were conducted in the 2002-03, 2003-04 and 2004-05 reporting periods respectively.

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- Undertake Enforcement

As a result of the 2004-05 inspections, thirty-three (33) Permittees reported the issuance of 445 Educational Letters, 1,052 Notices of Non-compliance, 74 Administrative Compliance Orders, 81 Cease and Desist Orders, and 47 Misdemeanor/Infractions.

- Conduct Training

To assist responsible municipal and contract/lease staff in understanding the Construction Program, two training modules have been developed:

- 1) Construction Program Management.
- 2) Inspecting Construction Site BMPs.

In the 2004-05 reporting period Construction Inspection training was provided in two sessions to 167 inspectors.

8.3 Assessment

The current and potential Program effectiveness Assessment Outcome Levels for the current program are summarized in **Table 8.1**.

8.3.1 Model Construction Program

Inventories

The year-to-year status of the Permittees' inventories are not tracked at a Countywide level and consequently this aspect of the model program cannot be assessed.

Prioritization

The Permittees prioritize construction sites based upon a consideration of the size and type of construction, time of construction, location, and site topography. While the numbers of sites of each priority are not tracked at a Countywide level, the year-to-year changes in the level of inspection activity (**Table 8.2**) shows inconsistent reporting between the Permittees.

DAMP Modification:

- Provide definitive construction site prioritization and reporting guidance.

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Inspection

The Permittees inspect construction sites to verify that the requirements of the DAMP are being implemented. The inspection frequency is determined by the season (“Wet” or “Dry”) and a site’s prioritization. The need for follow-up inspections also contributes significantly to the overall level of activity within a reporting period.

Headline Indicator - Inspection Activity: In 2004-05 thirty-four (34) Permittees completed 5,504 high priority, 1,542 medium priority, and 8,021 low priority construction site inspections. In 2003-04, 8,445 high priority, 5,731 medium priority, and 11,363 low priority construction site inspections were completed; and in 2002-03, 4,060 high priority, 15,937 medium priority, and 5,834 low priority construction site inspections were completed (**Table 8.2; Figure 8.1**).

Level 1: Implement Program

While the level of inspection activity is significant (15,000 inspections in the last reporting period) there are disparities between the Permittees which indicates inconsistent reporting. A major component of this activity is re-inspection following a finding of non-compliance. The Permittees believe that the re-inspection obligation is not sufficiently sensitive to the severity of the non-compliance, and RWQCB staff is concerned that the mandated level of follow-up activity may be discouraging findings of non-compliance.

DAMP Modification:

- Clarify inspection frequencies, violation definitions and re-inspection requirements.

Enforcement

Inspectors enforce compliance with the Model Construction Program, grading or building permit, sediment and erosion control plan, and the Water Quality Ordinance. Enforcement steps that may be taken by inspectors include but are not limited to verbal warnings, administrative actions under the Water Quality Ordinance (notice of violation, administrative compliance order, etc.) and written actions under Building/Grading Ordinances (corrective action notice, stop work order, etc.).

Headline Indicator – Extent of Compliance: As a result of the 2004-05 inspections, thirty-three (33) Permittees reported 1,514 construction requiring 1,521 re-inspections compared to 1,066 construction sites requiring 1,072 re-inspections in 2003-04; and 408 construction requiring 542 re-inspections in 2002-03 (**Table 8.3; Figure 8.2**).

Level 1: Implement Program

Level 3: Behavior Change

Headline Indicator – Number and Level of Enforcement Actions: As a result of the 2004-05 inspections, thirty-three (33) Permittees reported taking a total of 1,699 enforcement actions. This compares to 3,475 enforcement actions taken in 2003-04, and 1,395 enforcement actions taken in 2002-03 (**Table 8.4; Figure 8.3**).

Level 1: Implement Program

Level 3: Behavior Change

The significant disparities in enforcement activity between the Permittees clearly indicate inconsistent reporting. However, the consistent pattern of a peak of activity in 2003-04 and a subsequent reduction in the 2004-05 reporting period in construction and other stormwater program areas (Existing Development and Illegal Discharges/Illicit Connections) suggests an increased level of compliance within the regulated community.

Training

The Permits require that staff is adequately trained. In response, the Permittees developed two training modules and a guidance manual. However, the training modules need to be updated frequently enough to keep pace with the developments in the field of construction site sediment and erosion control management, and to provide inspectors with a technical understanding of BMPs. In addition, the training of inspectors regarding construction site inspection and oversight has been identified as a particular area of concern for Regional Board staff.

ROWD Commitment:

- Prepare a training schedule including curriculum content and defined expertise and competencies for construction inspectors.

8.4 Summary

The Third Term Permits have required the Permittees to develop and implement a formal inspection program commencing with an initial prioritized inventory of construction sites. Over the first three years of this effort, there has been a clear trend in the level of inspection and enforcement activity that, despite some uncertainties with respect to reporting, suggests increased BMP implementation and compliance with local water quality and grading/building ordinances by the regulated community. Based upon perceived positive outcomes of the Construction elements of the DAMP, the Permittees are proposing minor program modifications based upon the need for the continued training of inspectors and the sensitizing of the prioritization and inspection process toward a more risk-based approach.

Table 8.1: Current and Potential Outcome Levels (Construction)

Construction Program Component	Effectiveness Assessment Outcome Levels					
	Level 1	Level 2	Level 3	Level 4	Level 5	Level 6
	Implement Program	Increase Awareness	Behavior Change	Load Reduction	Runoff Quality	Receiving Water Quality
Inventory	✓ Maintain inventory					
Prioritization	✓ Assign priorities		^P Change in prioritization level			
Inspection	✓ Conduct and Track number of inspections	^P Number of re-inspections	^P # BMPs implemented	^P Load reduction associated with BMPs		
Enforcement/ Reporting	✓ Conduct enforcement		✓ Extent and correction of problem level of enforcement			
Training	✓ Track number/type of training sessions	^P Surveys show improved knowledge				
<p><u>Key:</u> ✓ = Currently Achieved Outcome Level ^P = Potentially Achievable Outcome Level</p>						

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Table 8.2: Construction Site Inspections Comparison of 2002-03, 2003-04 and 2004-05

PERMITTEES	Number of Sites Inspected								
	HIGH 2002-03	HIGH 2003-04	HIGH 2004-05	MEDIUM 2002-03	MEDIUM 2003-04	MEDIUM 2004-05	LOW 2002-03	LOW 2003-04	LOW 2004-05
Aliso Viejo	2	3	2	51	51	1	53	0	39
Anaheim	3	0	0	51	27	48	138	839	850
Brea	0	4	3	20	10	6	9	8	36
Buena Park	0	0	2	20	9	15	180	19	590
Costa Mesa	30	19	15	0	0	0	2,223	5,974	522
Cypress	1	2	5	0	1	0	7	9	1
Dana Point*	NA	16	24	NA	4	8	NA	1,077	182
Fountain Valley	25	5	6	0	0	0	163	353	87
Fullerton	84	17	1	3	34	0	30	67	10
Garden Grove	0	9	0	0	0	0	56	17	49
Huntington Beach	25	3	59	123	66	165	376	422	320
Irvine	132	67	114	1	41	99	2	63	175
La Habra	0	0	0	12	1	1	560	353	360
La Palma	25	0	6	123	0	0	376	5	0
Laguna Beach	1	1	2	32	47	111	0	0	0
Laguna Hills	210	183	209	0	0	0	0	0	0
Laguna Niguel	1	14	34	7	0	0	304	109	1,398
Laguna Woods	34	7	1	0	0	3	27	4	0
Lake Forest	4	2	1	21	9	13	18	5	1
Los Alamitos	0	0	NA	0	1	NA	0	292	NA
Mission Viejo	1,869	2,570	1,100	2,040	506	495	0	0	0
Newport Beach	4	3	2	54	23	0	162	270	648
Orange	3	7	7	20	40	37	563	193	153
Placentia	0	1	1	3	6	4	8	5	5
Rancho Santa Margarita	0	0	0	0	2	2	24	0	269
San Clemente	NA	34	276	NA	120	163	NA	0	0
San Juan Capistrano	1,304	199	48	12,595	4,674	300	0	0	400
Santa Ana	0	0	0	73	29	41	63	51	68
Seal Beach	NA	2	1	NA	0	0	NA	975	1,612
Stanton	NA	2	4	NA	0	4	NA	0	25
Tustin	5	6	13	1	7	4	49	56	4
Villa Park	0	0	0	0	0	0	127	166	175
Westminster	18	5	5	4	0	0	8	11	22
Yorba Linda	2	7	10	23	23	22	14	20	20
County of Orange/OCFCD	278	5,267	3,553	660	**See explanation below	**See explanation below	294	**See explanation below	**See explanation below
Totals	4,060	8,455	5,504	15,937	5,731	1,542	5,834	11,363	8,021

NA = Not Available

*includes undetermined amount and different categories

** the database system the County uses to track construction inspections does not differentiate between high, medium, and low priority construction sites; therefore, all sites are classified as "high" priority.

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Table 8.3: Inspection Results, Comparison of 2002-03, 2003-04 and 2004-05

PERMITTEES	2002-03		2003-04		2004-05	
	Number of Construction Sites Out of Compliance	Number of Re-Inspections Due to Non-Compliance	Number of Construction Sites Out of Compliance	Number of Re-Inspections Due to Non-Compliance	Number of Construction Sites Out of Compliance	Number of Re-Inspections Due to Non-Compliance
Aliso Viejo	27	27	45	33	21	21
Anaheim	4	4	55	14	33	48
Brea	1	1	0	0	2	3
Buena Park	0	0	5	5	29	15
Costa Mesa	2	3	NA	NA	0	0
Cypress	NA	NA	1	1	2	2
Dana Point	NA	NA	NA	NA	98	105
Fountain Valley	56	56	43	43	4	4
Fullerton	8	12	105	105	8	2
Garden Grove	3	3	4	4	1	1
Huntington Beach	54	130	23	39	150	54
Irvine	3	3	33	40	35	35
La Habra	14	17	18	18	68	81
La Palma	0	0	0	0	1	2
Laguna Beach	NA	NA	NA	NA	68	68
Laguna Hills	2	3	7	8	9	9
Laguna Niguel	14	26	24	24	23	23
Laguna Woods	1	1	0	0	6	6
Lake Forest	2	2	0	0	7	7
Los Alamitos	0	0	0	0	NA	NA
Mission Viejo	57	61	67	69	137	139
Newport Beach	0	0	NA	NA	67	75
Orange	0	0	7	7	8	8
Placentia	5	5	5	5	6	6
Rancho Santa Margarita	0	0	0	0	8	5
San Clemente	NA	NA	161	161	NA	NA
San Juan Capistrano	50	50	56	84	49	72
Santa Ana	13	23	7	7	12	22
Seal Beach	NA	NA	21	21	NA	NA
Stanton	NA	NA	0	0	2	8
Tustin	19	67	0	0	7	40
Villa Park	0	0	0	0	0	0
Westminster	1	2	5	10	5	12
Yorba Linda	7	6	4	4	6	6
County of Orange/OCFCD	65	40	370	370	642	642
Totals	408	542	1,066	1,072	1,514	1,521

NA = Not Available

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Table 8.4: Enforcement Action Taken, Comparison of 2002-03, 2003-04 and 2004-05

PERMITTEES	FY 2002-03					FY 2003-04					FY 2004-05				
	Administrative Remedies				Criminal Remedies	Administrative Remedies				Criminal Remedies	Administrative Remedies				Criminal Remedies
	No. of EL/VW	No. of NON	No. of AC	Number of C&D Orders	Misdr, Infrct	No. of EL/VW	No. of NON	No. of AC	Number of C&D Orders	Misdr, Infrct	No. of EL/VW	No. of NON	No. of AC	Number of C&D Orders	Misdr, Infrct
Aliso Viejo	0	0	27	6	0	0	0	32	7	0	0	0	51	43	0
Anaheim	0	0	2	0	0	55	0	0	0	0	6	0	0	0	0
Brea	15	1	0	0	0	0	0	0	0	0	0	1	0	0	0
Buena Park	0	0	0	0	0	0	3	1	1	0	0	63	0	6	0
Costa Mesa	3	0	0	0	0	3	0	0	0	0	0	0	0	0	0
Cypress	0	4	0	0	0	1	10	0	0	0	1	4	0	0	0
Dana Point	2	32	0	0	1	7	36	0	3	0	29	61	3	5	0
Fountain Valley	400	4	21	6	0	27	12	15	9	0	168	0	5	2	0
Fullerton	0	5	1	0	0	51	44	0	5	0	NA	NA	NA	NA	NA
Garden Grove	2	1	0	0	0	3	4	0	0	0	0	1	0	0	0
Huntington Beach	0	16	1	1	0	0	23	1	0	0	0	80	0	0	24
Irvine	0	3	0	0	0	33	0	0	0	0	35	35	0	0	0
La Habra	0	14	0	0	0	0	18	0	0	0	52	7	2	6	0
La Palma	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0
Laguna Beach	54	14	37	0	1	23	23	29	0	0	24	31	13	0	0
Laguna Hills	0	3	0	0	0	4	3	0	0	0	1	5	0	0	0
Laguna Niguel	0	26	0	0	0	0	24	0	0	0	0	14	0	0	0
Laguna Woods	2	0	0	0	0	0	0	0	0	0	8	8	0	0	0
Lake Forest	NA	NA	NA	NA	NA	0	0	0	0	0	0	2	0	0	0
Los Alamitos	4	0	0	0	0	0	0	0	0	0	NA	NA	NA	NA	NA
Mission Viejo	NA	NA	NA	NA	NA	238	93	0	0	0	0	21	0	0	0
Newport Beach	6	250	200	0	0	558	618	315	0	0	0	2	0	0	1
Orange	0	0	0	0	0	7	7	0	0	0	0	8	0	0	0
Placentia	0	5	0	1	0	0	0	1	0	0	0	1	0	1	0
Rancho Santa Margarita	0	0	0	0	0	0	0	0	0	0	9	5	0	1	0
San Clemente	1	2	0	1	0	142	71	7	33	0	34	20	0	11	21
San Juan Capistrano	50	50	0	0	0	50	6	0	0	0	8	35	0	6	0
Santa Ana	0	13	0	0	0	0	7	0	0	0	0	3	0	0	0
Seal Beach	NA	NA	NA	NA	NA	41	41	0	0	0	0	19	0	0	0
Stanton	NA	NA	NA	NA	NA	0	0	0	0	0	0	0	0	0	0
Tustin	0	19	0	0	0	0	0	0	0	0	0	0	0	0	1
Villa Park	15	0	0	0	0	12	0	0	0	0	0	0	0	0	0
Westminster	0	1	0	0	0	10	0	0	0	0	0	12	0	0	0
Yorba Linda	0	3	0	4	0	327	4	0	0	0	0	6	0	0	0
County of Orange/OCFCD	0	65	0	0	0	5	372	0	0	0	70	607	0	0	0
Totals	554	531	289	19	2	1,597	1,419	401	58	0	445	1,052	74	81	47

NA = Not Available

EL/VW = Educational Letter/Verbal Warning

AC = Administrative Compliance Order

Misdr./Infrct = Misdemeanor/Infraction

NON = Notice of Non-Compliance

C&D = Cease and Desist

Figure 8.1: Construction Site Inspections Comparison of 2002-03, 2003-04 and 2004-05

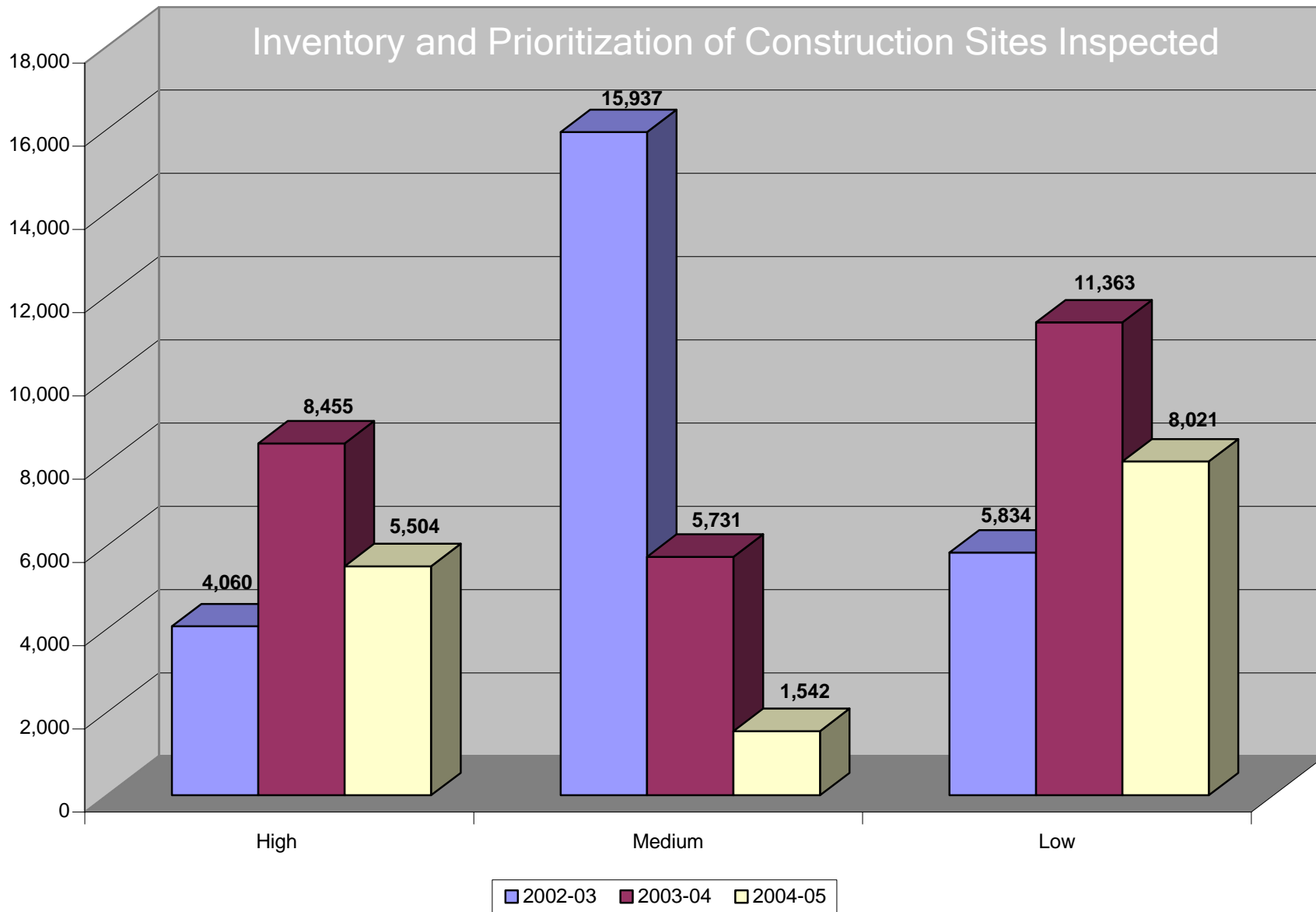


Figure 8.2: Inspection Results, Comparison of 2002-03, 2003-04 and 2004-05

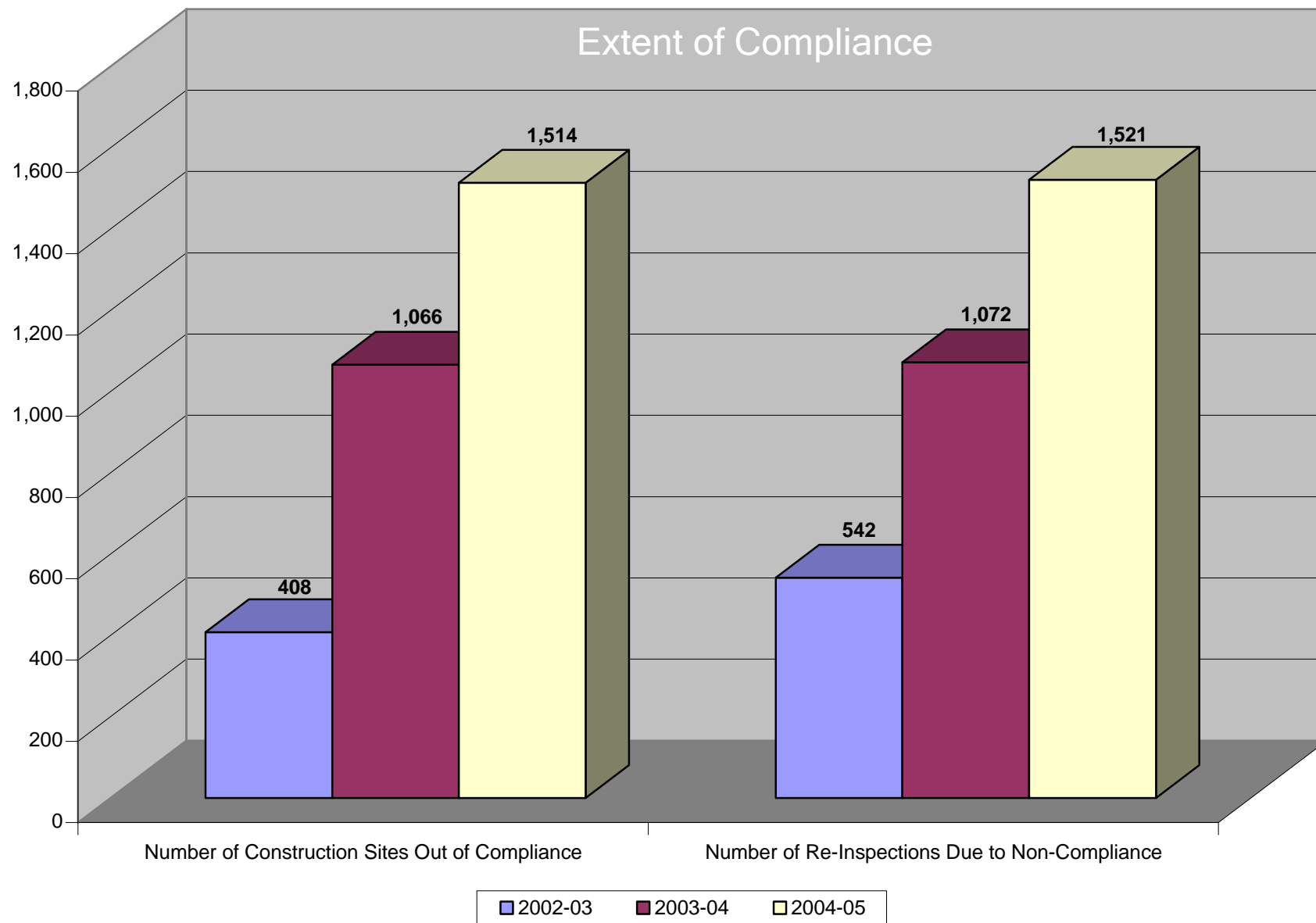
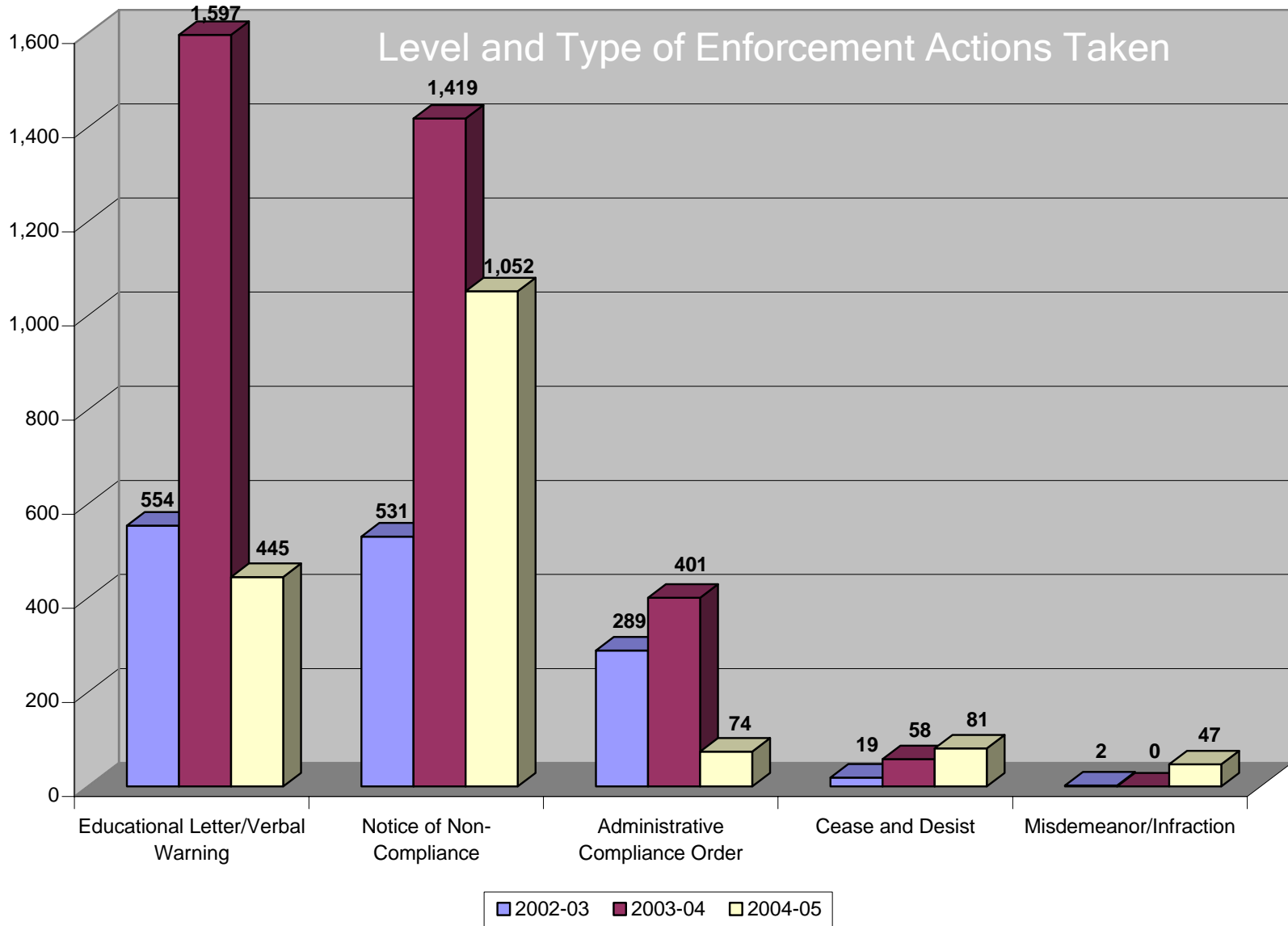


Figure 8.3: Enforcement Action Taken, Comparison of 2002-03, 2003-04 and 2004-05



9.0 EXISTING DEVELOPMENT

9.1 Introduction

Stormwater discharges from commercial and industrial facilities can become contaminated when material management practices allow exposure to stormwater and/or there is commingling of runoff with wastes. The purpose of **DAMP Section 9.0** is to provide a programmatic framework for the regulatory oversight of activities in commercial and industrial areas. Through inspections, outreach and requiring compliance with water quality ordinances, the Permittees are able to pro-actively address the quality of urban and stormwater runoff from industrial and commercial facilities. In addition, **DAMP Section 9.0** also provides a programmatic framework, based upon education and outreach approaches, for addressing activities in residential areas. Both the industrial/commercial and residential elements were added to the Program by the Third Term Permits.

9.2 Accomplishments

9.2.1 Model Industrial/Commercial Program

The Model Industrial/Commercial Program was developed and implemented in 2002-03. It transformed the Permittees oversight of commercial and industrial facilities/activities by establishing a formal inspection program where previously there had been a series of notifications and inspections initiated by complaints. The Model Industrial/Commercial Program requires the Permittees to:

- Identify and inventory facilities/activities with the potential to discharge pollutants:

Initially, 8,546 industrial facilities (**Table 9.1; Figure 9.1**) and 22,789 commercial facilities were identified and inventoried (**Table 9.2; Figure 9.2**).

- Prioritize facilities based upon water quality threat and receiving water sensitivity:

The Permittees prioritized 8,546, 8,604 and 2,821 industrial facilities in 2002-03, 2003-04 and 2004-05 respectively. Concurrently, 22,789, 23,778, and 25,411 commercial facilities were similarly evaluated and prioritized over the same respective periods.

- Establish Model Maintenance Procedures:

Twenty-two (22) model BMP fact sheets have been prepared which include a description of specific minimum source control BMPs for common industrial and commercial activities that may discharge pollutants. Specific BMPs may be adjusted on a jurisdictional basis as necessary. Where applicable, optional controls have been identified that should be considered for implementation at high priority facilities.

Typically each fact sheet contains the following sections:

- Pollution Prevention

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- Suggested Best Management Practices
 - Training
 - References and Resources
- Conduct inspections and monitoring to ensure that commercial and industrial facilities are minimizing their impacts on the environment:

In the 2002-03, 2003-04 and 2004-05 reporting periods the Permittees completed 1,017, 4,029 and 2,706 inspections, respectively.

- Conduct inspections of food facilities:

The Orange County Permittees developed and submitted a food facility inspection program to the Santa Ana Regional Board on July 1, 2002. This program, which also meets the inspection requirements of the San Diego Regional Board, involves inspections and the distribution of educational materials at the approximately 10,000 existing restaurants countywide. The implementation of the Program is an addition to the environmental health inspections conducted by the County of Orange Health Care Agency (HCA). The HCA inspectors identify NPDES issues during these inspections, and they are forwarded to the respective Permittees and addressed by Permittee staff.

For the 2004-05 reporting period, 25,078 food facility inspections were conducted and 1,416 were reported to have NPDES issues (**Table 9.3**).

- Undertake Non-compliance Notification and Enforcement:

Enforcement for the industrial and commercial component of the Existing Development Program is the responsibility of individual Permittees. Each Permittee has several different levels of enforcement to choose from for different types of situations. This includes - from least severe to most severe - issuance of an educational letter, a notice of non-compliance, an administrative compliance order, a cease and desist order, or a misdemeanor/infracton.

The Permittees reported a total of 371 enforcement actions against industrial facilities during the 2004-05 reporting period

- Participate in Training:

To assist municipal staff in implementing the Existing Development Program for industrial and commercial facilities, five training modules were developed:

1. Existing Development Program Management Module (targeting jurisdictional program coordinators and providing guidance regarding management of an inspection program;
2. Field Implementation of Existing Development Program Module (targeting inspectors and providing guidance on conducting inspections);

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3. Existing Development Program Training – Automobile Mechanical Repair, Maintenance, Fueling and Cleaning Businesses Module;
 4. Existing Development Program Training – Landscape Maintenance Businesses Module, and
 5. Existing Development Program Training – Industrial Stormwater Monitoring Module.
- Conduct Education and Outreach:

A number of education and outreach efforts, conducted under the overall public education element of the Program (see **DAMP Section 6.0**), directly supported implementation of the Model Industrial Commercial Program, specifically:

Mailings – During 2003-05 there was one mass mailing of an outreach letter for corporate environmental managers of food service establishments (FSE) and one mass mailing of education materials to all Orange County FSEs.

Outreach Materials –The following materials were developed by the Public Education Committee supportive of **Section 9.0**:

Brochures

- *Mobile Detailing and the Water Quality Act*
- *Water Quality Guidelines for Exterior Restaurant Cleaning Operations*
- *Water Quality Guidelines for Carpet Cleaning Activities*
- *Help Prevent Ocean Pollution: Tips for Hardscape and Landscape Drains*
- *Help Prevent Ocean Pollution: Tips for Home Improvement*

Posters

- Food/Restaurant Industry
- *“Help Prevent Ocean Pollution”* Food Facility BMPs Poster
- Auto Repair Industry
- Good Gas Station Operating Practices

“The Quad” - “The Quad” was developed as a tool to communicate with Cities, Businesses, Utilities and Organizations. Each Quad contains a newsletter, press release, fact sheet and billing insert focusing on a seasonal stormwater theme. Four seasonal quads were created during this reporting period, two of which were distributed in this reporting period. The following were the 2004-05 Quad themes:

- *“Spring Into Cleaning – Disposal of Household Hazardous Waste”*
- *“Summer: Yard Care”*
- *“Fall: Prepare for the Rainy Season”*
- *“Winter: New Years Resolution – Green in the New Year”*

FSE Outreach – The following materials were developed specifically for FSEs.

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- *“Help Prevent Ocean Pollution”: A Guide for Food Service Establishments*
- *“Help Prevent Ocean Pollution” Food Facility BMPs Poster*
- *“Help Prevent Ocean Pollution” Food Facility BMPs Stickers*
- Bilingual CD-Rom illustrating appropriate Food Facility BMPs
- Food Facility BMP PowerPoint Presentation
- Food Facility BMP Fact Sheet

Other: Developed an urban nutrient outreach program targeting independent gardeners operating in the San Diego Creek/Newport Bay Watershed with Proposition 13 funding awarded to the County to investigate the sources of nutrients from the urban environment and test the effectiveness of structural and non-structural BMPs.

9.2.2 Model Residential Program

The Model Residential Program was developed and implemented in 2002-03 to further reduce pollutants potentially released into the environment from residential activities, including efforts to reduce over-watering. The main thrust of the residential program is to advocate pollution prevention practices as the most effective method to protect receiving water quality. The Model Residential Program requires the Permittees under the jurisdiction of the San Diego Regional Board to:

- Develop a source identification procedure and prioritize residential areas based on proximity to Environmentally Sensitive Areas (ESAs) within the Permittee’s jurisdiction.
- Identify Best Management Practices (BMPs) most appropriate for each area, based on residential activities:

See discussion of Outreach Materials (below).

- Conduct public outreach and education:

A number of education and outreach efforts, conducted under the overall public education element of the Program (see **DAMP Section 6.0**), directly supported implementation of the Model Residential Program, specifically:

Outreach Materials -The following materials were developed by the Public Education Committee supportive of **Section 9.0**:

Brochures

- *Help Prevent Ocean Pollution: Tips for Hardscape and Landscape Drains*
- *Help Prevent Ocean Pollution: Tips for Horse Care*
- *Help Prevent Ocean Pollution: Tips for Using Paint*
- *Help Prevent Ocean Pollution: Tips for Home Improvement*

“The Quad” - “The Quad” was developed as a tool to communicate with

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cities, businesses, utilities and organizations such as home owner associations. Each Quad contains a newsletter, press release, fact sheet and billing insert focusing on a seasonal stormwater theme. Four seasonal quads were created during this reporting period, two of which were distributed in this reporting period. The following were the 2004-05 Quad themes:

- “Spring Into Cleaning - Disposal of Household Hazardous Waste”
- “Summer: Yard Care”
- “Fall: Prepare for the Rainy Season”
- “Winter: New Years Resolution - Green in the New Year”

9.2.3 Other Programs

During the reporting period, the Principal Permittee developed an urban nutrient outreach program targeting residential gardeners operating in the San Diego Creek/Newport Bay Watershed. The outreach program was one element of a Proposition 13 funded investigation of nutrient sources in an urban environment and structural and non-structural BMP effectiveness.

9.3 Assessment

The current and potential Program Effectiveness Assessment Outcome Levels that could be assessed within the current program are summarized in **Table 9-4** (Industrial/Commercial) and **Table 9.5** (Residential).

9.3.1 Model Industrial/Commercial Program

Inventories: Completing the inventory of industrial and commercial facilities has been problematic for some jurisdictions since the Standard Industrial Classification (SIC) codes on the business licenses (the primary source of this information for those jurisdictions with a business license program) have been incorrectly provided by businesses.¹ In addition, inventorying commercial facilities is extremely difficult because they are numerous, often transitory, and can only be identified through site visits. Mobile businesses are particularly problematic because they typically do not have a permanent facility location.

The Unified Annual Progress Reports include tables reporting the total number of commercial and industrial facilities and their respective prioritizations, organized by

¹ The Notice of Intent (NOI) form attached to the Draft Industrial General Permit (February 2005) and the SWRCB’s NOI processing system have been modified to accept both Standard Industrial Classification (SIC) codes and North American Industrial Classification System (NAICS) codes. The USEPA has indicated it intends to incorporate the NAICS codes into the storm water regulations but has not yet done so. The Proposed 2006 Multi-Sector General Permits for Stormwater Discharges Associated with Industrial Activity (MSGP) contains a note that “a complete list of SIC Codes (and conversions from the newer North American Industry Classification System [NAICS]) can be obtained from the Internet at www.census.gov/epcd/www/naics.html or in paper form from various locations in the document titled Handbook of Standard Industrial Classifications, Office of Management and Budget, 1987.”

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Permittee. However, since the structure and content of the jurisdictional databases can differ between the Permittees, analysis of data on a regional or countywide basis is challenging. Indeed, there appears to be a persistent disparity between the number of industrial and commercial facilities inventoried and the number of industrial and commercial facilities that were prioritized over the reporting period (see **Tables 9.1** through **9.3** and **Figures 9.1** through **9.2**). This disparity points to the need to augment facility descriptions beyond SIC codes.

DAMP Modification:

- Provide more detailed industrial and commercial facility descriptions to assist in inventory standardization.

Prioritization: Commercial and industrial facilities must be classified as high, medium, or low priority to determine the frequency of inspection. The DAMP details a risk and receiving water sensitivity based point system for classification, the result of which is a total score indicating the facility priority. A change in facility prioritization can be indicative of programmatic success, since a finding that BMPs are being implemented (a behavior change) reduces the risk of pollutants being discharged which can result in a change in prioritization. However, both Permits specify mandatory high-priority commercial and industrial facilities. In addition, the San Diego Region Permittees are required to inventory only high-priority commercial facilities i.e. there are no designation of medium and low priority commercial facilities.

Headline Indicator - Prioritization of Facilities (Industrial Facilities): For 2004-05, 2,821 industrial facilities were prioritized, 27% of which were ranked as high priority; for 2003-04, 8,604 industrial facilities were prioritized, 13% of which were ranked as high priority; and for 2002-03, 8,546 industrial facilities were prioritized, 15% of which were ranked as high priority (**Table 9.1; Figure 9.1**).

- Level 1: Implement Program
- Level 3: Behavior Change

Headline Indicator - Prioritization of Facilities (Commercial Facilities): For 2004-05, 25,411 commercial facilities were prioritized, 20% of which were ranked as high priority; for 2003-04, 23,778 commercial facilities were prioritized, 24% of which were ranked as high priority; and for 2002-03, 22,789 commercial facilities were prioritized, 22% of which were ranked as high priority (**Table 9.2; Figure 9.2**).

- Level 1: Implement Program
- Level 3: Behavior Change

The year-to-year comparisons suggest some inconsistent reporting of this indicator. Part of this inconsistency arises from the interpretation of the extent to which a facility “tributary to” a sensitive receiving water, which is a key determinant in prioritization. From the Annual Progress Reports (See **DAMP Appendix C**), it is evident that “tributary to” is variously being interpreted as more than “next to” but “less than the whole watershed.” Also, although the point system is used by many of the Permittees, some perceive it as time-consuming and too subjective, and, as a result, may rely primarily on professional judgment. In addition, the ability of the prioritization process to meaningfully provide for a risk-based approach is also dampened by the requirements for mandatory high priority sites. Despite these reservations, it is possible that the decreased numbers of high priority sites in the most recent annual reporting period may also reflect increased findings of no stormwater exposures and diminished site risk.

ROWD Commitment:

- Develop a more detailed prioritization process to improve standardized reporting and to support re-direction of inspection resources to significant sources of priority constituents of concern

Inspection: The Permittees generally conduct two types of inspections: compliance inspections and follow-up inspections. Should an inspected site demonstrate non-compliance, inspection frequency must be increased as specified in the Permits until compliance is achieved. Although these inspections are generally viewed as beneficial, there is a regulatory agency perception (highlighted in meetings with Regional Board staff) that the inspections may be missing key items of concern and discouraging findings of non-compliance which add to the inspection burden by requiring additional follow-up activity.

Headline Indicator - Number of BMPs Implemented (Industrial Facilities): For 2004-05, 2,706 industrial facilities were reported to have BMP implementation, 68% of which have full BMP implementation; for 2003-04, 4,029 industrial facilities were reported to have BMP implementation, 59% of which have full BMP implementation; and for 2002-03, 1,026 industrial facilities were reported to have BMP implementation, 53% of which have full BMP implementation (**Table 9.6; Figure 9.3**).

Level 1: Implement Program

Level 3: Behavior Change

Headline Indicator - Number of BMPs Implemented (Commercial Facilities): For 2004-05, 5,566 commercial facilities were reported to have BMP implementation, 59% of which have full BMP implementation; for 2003-04, 8,484 commercial facilities were reported to have BMP implementation, 77% of which have full BMP implementation; and for 2002-03, 1,389 commercial facilities were reported to have BMP implementation, 63% of which have full BMP implementation (**Table 9.7; Figure 9.4**).

Level 1: Implement Program

Level 3: Behavior Change

It is also proving difficult for the inspectors to categorize BMP implementation at commercial and industrial sites along a three-point scale (fully, partially, or not implemented) because such a scale requires overly subjective determinations. Lastly, the requirement for follow-up inspections of all non-compliant sites every month is perceived to be excessive due to the already large number of sites in many cities' inventories.

ROWD Commitment:

- Develop effective alternative to re-inspection such as self-certification.

Headline Indicator – Food Facility Inspections: For the 2004-05 reporting period, 25,078 food facility inspections were conducted and 1,416 were reported to have NPDES issues (**Table 9.3**). For the 2003-04 reporting period, 12,635 food facility inspections were conducted and 1,298 were reported to have NPDES issues in the six month period of program implementation.

Level 1: Implement Program

Level 3: Behavior Change

The 2003-04 comparison suggests that food facility inspections and the associated education and outreach efforts are having a positive impact since the incidence of NPDES issues decreases from 1 in 10 inspections to 1 in 17 inspections .

Enforcement: Permittees are required to use a progressive enforcement approach and initiate enforcement actions where commercial and industrial facilities are found to be out of compliance. In general, specific facilities that are repeat offenders are identified through active database inventories and, in most cases, progressive enforcement is used to bring repeat offenders into compliance.

Headline Indicator – Number and Level of Enforcement Actions (Industrial Facilities): The Permittees reported a total of 371 enforcement actions against industrial facilities during the 2004-05 reporting period, 3,146 during the 2003-04 reporting period, and 533 during the 2002-03 reporting period (**Table 9.8**). The 2004-05 figure represents an 89% decrease from the total reported in 2003-04.

Level 1: Implement Program

Level 3: Behavior Change

Headline Indicator – Number and Level of Enforcement Actions (Commercial Facilities): The Permittees reported a total of 1,192 enforcement actions against commercial facilities during the 2004-05 reporting period, 1,534 during the 2003-04 reporting period, and 490 during the 2002-03 reporting period (**Table 9.9**). The 2004-05 figure represents a 22% decrease from the total reported in 2003-04.

Level 1: Implement Program

Level 3: Behavior Change

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The 2003-04 comparison suggests some inconsistent reporting (e.g. Newport Beach, which compiled enforcement activity data in 2004-05 Unified Report, Section 2.10.0). However, the consistent pattern of reduced enforcement activity in the most recent reporting period across the Construction, Existing Development, and Illegal Discharges/Illicit Connections areas of the Program also suggests an increased level of compliance, also viewed as behavior change, by the regulated community.

Training: The Permits require that staff is adequately trained. In response, the Permittees developed several training modules, which are provided annually throughout the year. The training that has taken place has been deemed helpful. However, the training modules need to be updated frequently enough to keep pace with the developments in the field of stormwater management, maintain staff interest, and to provide inspectors with a technical understanding of a broad array of BMPs that can be shared with facility owner/operators.

ROWD Commitment:

- Prepare defined expertise and competencies for authorized inspector positions and develop a training schedule to meet these requirements

9.3.2 Model Residential Program

The Residential Model Program was developed to fulfill the residential activity and related commitments and requirements of Section F.3.d of the SDR Permit. The Common Interest Areas/Homeowners Associations (CIA/HOA) Activities Program was developed to fulfill the existing CIA/HOA activity commitments and requirements of Section F.6 of the SDR Permit.

Identification and Inventory: The SDR Permittees are required to identify high priority areas and activities as defined in the Permit. CIAs are considered to include high-priority areas and activities.

BMP Implementation: The SDR Permittees are required to identify minimum BMPs for high-priority areas and activities and, as necessary, additional controls. Some Permittees use a baseline BMP implementation approach for Residential areas and CIAs/HOAs unless inspectors notice a specific concern.

Enforcement and Reporting: SDR Permittees are required to enforce their stormwater ordinances for all residential areas and activities as necessary to maintain Permit compliance. The primary issue with residential areas and CIAs/HOAs concerns over irrigation. Enforcement actions taken against CIAs/HOAs include letters or notices, which generally leads to resolution of the issues. Some Permittees have reported some limited success using self certifications as a tool for effective implementation of the program within residential and CIA/HOA areas.

9.4 Summary

The Third Term Permits have required the Permittees to develop and implement a formal inspection program commencing with an initial inventory of potentially 30,000 facilities being subject to municipal oversight for stormwater and urban runoff issues. Over the first three years of this effort, there has been a clear trend in the level of inspection and enforcement activity that, despite some uncertainties with respect to reporting, suggests increased BMP implementation and compliance with local water quality ordinances by the existing industrial and commercial sector in Orange County. Based upon perceived positive outcomes of the Existing Development elements of the DAMP, the Permittees are proposing minor program modifications based upon the need for the continued training of inspectors and the sensitizing of the prioritization and inspection process toward a more effective risk-based approach.

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Table 9.1: Countywide Permittees' Industrial Inventory and Prioritization, Comparison of 2002-03, 2003-04 and 2004-05

PERMITTEE	HIGH 2002-03	HIGH 2003-04	HIGH 2004-05	MEDIUM 2002-03	MEDIUM 2003-04	MEDIUM 2004-05	LOW 2002-03	LOW 2003-04	LOW 2004-05	TOTAL 2002-03	TOTAL 2003-04	TOTAL 2004-05
Aliso Viejo	2	2	2	65	65	42	0	0	0	67	67	44
Anaheim	129	115	93	419	45	0	868	1,126	299	1,416	1,286	392
Brea	11	14	13	32	28	27	167	137	111	210	179	151
Buena Park	24	184	115	52	18	17	0	17	27	76	219	159
Costa Mesa	489	287	13	329	475	2	0	40	128	818	802	143
Cypress	2	4	0	5	2	0	34	38	0	41	44	0
Dana Point	NA	0	0	NA	0	0	NA	0	0	NA	0	0
Fountain Valley	4	44	4	0	0	48	32	0	0	36	44	52
Fullerton	36	38	37	23	23	0	554	344	0	613	405	37
Garden Grove	25	41	30	35	51	11	310	296	25	370	388	66
Huntington Beach	30	25	30	38	69	13	645	529	23	713	623	66
Irvine	236	3	95	98	21	0	841	520	0	1,175	544	95
La Habra	NA	65	65	NA	249	48	NA	228	59	NA	542	172
La Palma	8	5	5	2	3	5	9	11	0	19	19	10
Laguna Beach	0	0	0	28	23		35	14		63	37	0
Laguna Hills	NA	1	0	NA	0	0	NA	0	0	NA	1	0
Laguna Niguel	2	1	0	0	0	0	0	0	0	2	1	0
Laguna Woods	0	0	0	0	0	0	0	0	0	0	0	0
Lake Forest	11	11	12	0	0		0	0		11	11	12
Los Alamitos	6	7	1	71	19	27	24	96	23	101	122	51
Mission Viejo	5	4	4	30	31		56	56		91	91	4
Newport Beach	2	2	2	0	0	0	11	11	11	13	13	13
Orange	69	52	72	422	416	228	256	249	0	747	717	300
Placentia	21	16	12	18	0		6	109	40	45	125	52
R S Margarita	1	1	3	10	10	10	19	19	19	30	30	32
San Clemente	2	3	2	72	72		0	0		74	75	2
S J Capistrano	1	1	1	11	5	5	15	8	4	27	14	10
Santa Ana	102	100	82	1,266	1,031	615	0	574	5	1,368	1,705	702
Seal Beach	2	2	2	0	0	0	0	0	0	2	2	2
Stanton	NA	18	18	NA	17	15	NA	118	0	NA	153	33
Tustin	9	11	13	59	6	7	0	49	55	68	66	75
Villa Park	NA	0	0	NA	0	0	NA	0	0	NA	0	0
Westminster	10	4	4	37	18	18	34	6	6	81	28	28
Yorba Linda	29	4	7	214	206	88	0	13	2	243	223	97
County of Orange	13	16	12	13	12	9	0	0	0	26	28	21
TOTALS	1,281	1,081	749	3,349	2,915	1,235	3,916	4,608	837	8,546	8,604	2,821

NA = Not Available

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Table 9.2: Countywide Permittees' Commercial Inventory and Prioritization, Comparison of 2002-03, 2003-04 and 2004-05

PERMITTEE	HIGH 2002-03	HIGH 2003-04	HIGH 2004-05	MEDIUM 2002-03	MEDIUM 2003-04	MEDIUM 2004-05	LOW 2002-03	LOW 2003-04	LOW 2004-05	TOTAL 2002-03	TOTAL 2003-04	TOTAL 2004-05
Aliso Viejo	153	153	110	0	0		0	0		153	153	110
Anaheim	114	14	13	278	310	310	194	307	307	586	631	630
Brea	0	0	0	138	117	129	0	180	228	138	297	357
Buena Park	0	119	283	5	40	20	0	50	26	5	209	329
Costa Mesa	1,306	1,107	969	587	555	483	4,559	2,548	2,083	6,452	4,210	3,535
Cypress	0	56	2	38	162	19	39	6	203	77	224	224
Dana Point	238	205	228	0	0		0	0		238	205	228
Fountain Valley	0	112	40	0	0	77	314	139	139	314	251	256
Fullerton	7	7	126	23	23	164	639	631	116	669	661	406
Garden Grove	0	7	47	102	90	204	5,797	5,807	5,587	5,899	5,904	5,838
Huntington Beach	403	261	276	7	170	206	233	920	831	643	1,351	1,313
Irvine	0	0		105	103	148	1,040	1,038	1,132	1,145	1,141	1,280
La Habra	NA	378	414	NA	340	306	NA	177	254	NA	895	974
La Palma	0	0		17	18	12	25	30	31	42	48	43
Laguna Beach	336	356		0	2		0	7		336	365	0
Laguna Hills	NA	237	325	NA	0		NA	0		NA	237	325
Laguna Niguel	182	183	177	0	0		0	0		182	183	177
Laguna Woods	28	24	24	3	3	3	65	83	89	96	110	116
Lake Forest	10	124	150	17	68		50	182		77	374	150
Los Alamitos	NA	98		173	32		800	0		973	130	0
Mission Viejo	426	423	484	0	0		0	0		426	423	484
Newport Beach	41	41	41	40	40	40	40	40	42	121	121	123
Orange	269	0		241	311	311	54	700	725	564	1,011	1,036
Placentia	127	375		44	0		310	0	373	481	375	373
R S Margarita	126	146	141	13	0	0	377	0	438	516	146	579
San Clemente	463	688	626	0	0		0	0		463	688	626
S J Capistrano	248	316	216	0	0	277	0	0	1,401	248	316	1,894
Santa Ana	0	0		779	26	26	1	917	923	780	943	949
Seal Beach	NA	0	23	NA	183	2	NA	0	859	NA	183	884
Stanton	NA	31	31	NA	168	168	NA	476	476	NA	675	675
Tustin	1	0	1	103	104	39	0	0	40	104	104	80
Villa Park	0	0	0	0	1	1	0	6	6	0	7	7
Westminster	354	140	213	95	365	443	278	354	428	727	859	1,084
Yorba Linda	20	25	42	171	162	126	0	6	5	191	193	173
County of Orange	97	107	106	46	48	47	0	0	0	143	155	153
TOTALS	4,949	5,733	5,108	3,025	3,441	3,561	14,815	14,604	16,742	22,789	23,778	25,411

NA = Not Available

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Table 9.3: Food Facility Inspections 2003-04 and 2004-05

PERMITTEE	2003-04		2004-05	
	No. of Routine Inspections	No. of NPDES Issues	No. of Routine Inspections	No. of NPDES Issues
Aliso Viejo	116	50	218	37
Anaheim	1721	40	3,285	22
Brea	256	19	506	23
Buena Park	301	91	686	12
Costa Mesa	724	98	1,412	74
Cypress	175	12	421	0
Dana Point	186	9	374	12
Fountain Valley	313	72	545	22
Fullerton	539	46	1,054	123
Garden Grove	738	2	1,412	280
Huntington Beach	691	64	1,420	17
Irvine	718	169	1,388	52
La Habra	273	11	548	40
La Palma	42	18	118	1
Laguna Beach	203	7	382	31
Laguna Hills	149	91	332	72
Laguna Niguel	193	21	406	16
Laguna Woods	24	18	59	13
Lake Forest	307	8	547	27
Los Alamitos	98	12	193	8
Mission Viejo	325	51	591	40
Newport Beach	501	33	1,037	20
Orange	725	25	1,451	61
Placentia	185	8	386	18
Rancho Santa Margarita	95	0	179	23
San Clemente	284	5	529	7
San Juan Capistrano	1261	111	302	17
Santa Ana	141	28	2,436	145
Seal Beach	122	13	217	3
Stanton	168	20	504	1
Tustin	377	12	648	60
Villa Park	18	1	26	1
Westminster	418	123	931	96
Yorba Linda	139	4	328	23
County of Orange	109	6	207	19
Totals	12635	1298	25,078	1,416

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Table 9.4: Current and Potential Outcome Levels (Industrial/Commercial)

Industrial/Commercial Program Component	Effectiveness Assessment Outcome Levels					
	Level 1	Level 2	Level 3	Level 4	Level 5	Level 6
	Implement Program	Increase Awareness	Behavior Change	Load Reduction	Runoff Quality	Receiving Water Quality
Inventory	✓ Maintain inventory					
Prioritization	✓ Assign priorities		✓ Change in prioritization level			
Inspection	✓ Conduct and Track number of inspections		✓ # BMPs implement	^P Load reduction associated with BMPs		
Enforcement/ Reporting	✓ Conduct enforcement		✓ Extent and correction of problem level of enforcement			
Training	✓ Track number/type of training sessions	^P Surveys show improved knowledge				
<p><u>Key:</u> ✓ = Currently Achieved Outcome Level ^P = Potentially Achievable Outcome Level</p>						

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Table 9.5: Current and Potential Outcome Levels (Residential)

Residential & CIA/HOA Program Component	Effectiveness Assessment Outcome Levels					
	Level 1	Level 2	Level 3	Level 4	Level 5	Level 6
	Implement Program	Increase Awareness	Behavior Change	Load Reduction	Runoff Quality	Receiving Water Quality
Identification/Inventory	✓ Maintain inventory					
BMP Implementation	✓ Conduct Inspections	✓ BMP Implementation	✓ Track number of BMPs implemented	^P Load reduction associated with BMPs		
Enforcement/ Reporting	✓ Issue EAs	✓ Track number of EAs issued & response	^P Correction of problem			
<p><u>Key:</u> ✓ = Currently Achieved Outcome Level ^P = Potentially Achievable Outcome Level</p>						

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Table 9.6: Industrial Inventory and BMP Implementation, Comparison of 2002-03, 2003-04 and 2004-05

PERMITTEE	NUMBER OF FACILITIES WITH BMPs:												TOTAL 2002-03	TOTAL 2003-04	TOTAL 2004-05	
	FULLY Implemented	FULLY Implemented	FULLY Implemented	PARTIALLY Implemented	PARTIALLY Implemented	PARTIALLY Implemented	NO BMPs Implemented	NO BMPs Implemented	NO BMPs Implemented	Modify/Upgrade or Implement BMP's 2002-03 ^a	TOTAL 2002-03	TOTAL 2003-04				TOTAL 2004-05
	2002-03	2003-04	2004-05	2002-03	2003-04	2004-05	2002-03	2003-04	2004-05							
Aliso Viejo	2	49	31	1	15	11	0	0		1	4	64	42			
Anaheim	0	160	312	0	82	80	0	0		0	0	242	392			
Brea	NA	NA	15	NA	NA		NA	NA	10	NA	NA	NA	25			
Buena Park	NA	188	151	NA	33	102	NA	0	29	NA	NA	221	282			
Costa Mesa	142	530	115	0	168	28	0	0		193	335	698	143			
Cypress	NA	0	NA	NA	4	NA	NA	0	NA	NA	0	4	NA			
Dana Point	NA	0	NA	NA	0	NA	NA	0	NA	NA	NA	0	NA			
Fountain Valley	10	36	52	5	8		5	0		5	25	44	52			
Fullerton	36	38	34	NA	23	2	NA	344		NA	36	405	36			
Garden Grove	NA	55	28	NA	43	38	NA	3	1	NA	NA	101	67			
Huntington Bch	3	52	14	4	19	20	17	28	33	4	28	99	67			
Irvine	136	132	37	31	467	58	12	68		26	205	667	95			
La Habra	NA	8	49	NA	57	108	NA	28	15	NA	NA	93	172			
La Palma	0	NA	1	0	NA	6	0	NA	1	0	0	NA	8			
Laguna Beach	NA	21		NA	16		NA	0		NA	NA	37	0			
Laguna Hills	NA	NA	0	NA	NA	0	NA	NA	0	NA	NA	NA	0			
Laguna Niguel	3	0		0	0		0	0		0	3	0	0			
Laguna Woods	NA	0	NA	NA	0	NA	NA	0	NA	NA	0	0	NA			
Lake Forest	0	0	12	11	11		0	0		0	11	11	12			
Los Alamitos	NA	8		NA	0		NA	0		NA	0	8	0			
Mission Viejo	24	0	2	43	4	2	13	0		56	136	4	4			
Newport Beach	4	1	1	0	1	2	0	0		0	4	2	3			
Orange	NA	64	142	NA	2	149	NA	0	9	NA	NA	66	300			
Placentia	16	0	3	14	19	7	12	2	1	14	56	21	11			
R S Margarita	0	0	2	0	0	2	0	0	28	0	0	0	32			
San Clemente	NA	NA	2	NA	NA	0	NA	NA	0	NA	NA	NA	2			
S J Capistrano	1	10	8	2	4	2	0	0	0	1	4	14	10			
Santa Ana	NA	818	639	NA	132	63	NA	0		NA	NA	950	702			
Seal Beach	NA	0	1	NA	2	1	NA	0	0	NA	NA	2	2			
Stanton	NA	28	28	NA	4	58	NA	1	1	NA	NA	33	87			
Tustin	NA	17	17	NA	49		NA	0		NA	NA	66	17			
Villa Park	0	0	0	1	0	0	0	0	0	0	1	0	0			
Westminster	1	24	25	0	3	3	0	1		0	1	28	28			
Yorba Linda	166	130	94	0	0	3	1	0		1	168	130	97			
County of Orange	NA	19	16	NA	0	2	NA	0	0	NA	0	19	18			
TOTALS	544	2,388	1,831	112	1,166	747	60	475	128	301	1,017	4,029	2,706			

NA = Not Available

^a Modifications/Upgrades only applicable to 2002-03 reporting year.

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Table 9.7: Commercial Inventory and BMP Implementation, Comparison of 2002-03, 2003-04 and 2004-05

PERMITTEE	Number of Facilities with BMPs:											
	FULLY Implemented 2002-03	FULLY Implemented 2003-04	FULLY Implemented 2004-05	PARTIALLY Implemented 2002-03	PARTIALLY Implemented 2003-04	PARTIALLY Implemented 2004-05	NO BMPs Implemented 2002-03	NO BMPs Implemented 2003-04	NO BMPs Implemented 2004-05	TOTAL 2002-03	TOTAL 2003-04	TOTAL 2004-05
Aliso Viejo	69	35	35	4	64	75	8	4		81	103	110
Anaheim	0	35	46	0	2	27	0	0		0	37	73
Brea	NA	0	0	NA	0	0	NA	0	0	NA	0	0
Buena Park	0	183	98	5	29	60	0	0	43	5	212	201
Costa Mesa	623	3,298	64	0	665	2	0	0		623	3,963	66
Cypress	NA	0		NA	2	2	NA	0		0	2	2
Dana Point	NA	NA	25	NA	NA	145	NA	NA	11	NA	NA	181
Fountain Valley	0	251	225	0	0		0	0		0	251	225
Fullerton	NA	0		NA	0		NA	0		NA	0	0
Garden Grove	NA	66	824	NA	29	455	NA	3	4	NA	98	1,283
Huntington Bch	9	59	26	2	108	21	11	120	34	22	287	81
Irvine	NA	DNR		NA	DNR		NA	DNR		NA	DNR	0
La Habra	NA	28	85	NA	107	111	NA	36	77	NA	171	273
La Palma	0	24	22	0	18	13	0	0		0	42	35
Laguna Beach	NA	NA		NA	NA		NA	NA		NA	NA	0
Laguna Hills	31	150	222	0	0		3	10	5	34	160	227
Laguna Niguel	0	123	27	0	15	18	0	0		0	138	45
Laguna Woods	NA	0		NA	27	28	NA	0		0	27	28
Lake Forest	0	0		77	48	19	0	0		77	48	19
Los Alamitos	NA	86		NA	12		NA	0		0	98	0
Mission Viejo	68	164	268	314	51	29	57	0		439	215	297
Newport Beach	NA	NA	6	NA	NA	6	NA	NA		NA	NA	12
Orange	NA	207	0	NA	0	0	NA	0	0	NA	207	0
Placentia	NA	0	32	9	63	32	NA	0		9	63	64
R S Margarita	0	0	64	0	0	21	0	0	482	0	0	567
San Clemente	NA	139	NA	NA	12	NA	NA	0	NA	NA	151	NA
Santa Ana	NA	818	304	NA	132	109	NA	0		NA	950	413
S J Capistrano	75	139	132	7	12	0	15	0	0	97	151	132
Seal Beach	NA	0	0	NA	122	0	NA	0	0	NA	122	0
Stanton	NA	35	35	NA	10	10	NA	3	10	NA	48	55
Tustin	NA	0	NA	NA	0	NA	NA	0	NA	NA	0	NA
Villa Park	0	0	0	0	0	0	0	0	0	0	0	0
Westminster	0	633	675	0	219	409	0	7		0	859	1,084
Yorba Linda	NA	10	27	NA	27	7	NA	0		NA	37	34
County of Orange	2	41	49	NA	3	10	NA	NA	0	2	44	59
TOTALS	877	6,524	3,291	418	1,777	1,609	94	183	666	1,389	8,484	5,566

NA = Not Available

DNR = Did Not Report

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Table 9.8: Permittee Enforcement Actions for Industrial Facilities, Comparison of 2002-03, 2003-04 and 2004-05

PERMITTEE	EL 2002-03	EL 2003-04	EL 2004-05	NON 2002-03	NON 2003-04	NON 2004-05	ACO 2002-03	ACO 2003-04	ACO 2004-05	CDO 2002-03	CDO 2003-04	CDO 2004-05	M/I 2002-03	M/I 2003-04	M/I 2004-05	TOTAL 2002-03	TOTAL 2003-04	TOTAL 2004-05
Aliso Viejo	0	2	3	0	1	17	0	0	8	0	0		0	0		0	3	28
Anaheim	NA	0	0	NA	2	0	NA	1	0	NA	0	0	NA	0	0	NA	3	0
Brea	2	0	13	0	0	1	0	0		0	0		0	0		2	0	14
Buena Park	NA	0	2	NA	39	6	NA	5	13	NA	1	4	NA	0	1	NA	45	26
Costa Mesa	NA	0		NA	0		NA	0		NA	0		NA	0		NA	0	0
Cypress	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	2	0
Dana Point	NA	0	0	NA	0	0	NA	0	0	NA	0	0	NA	0	0	NA	0	0
Fountain Valley	5	393	52	0	8		0	12	1	0	6	1	0	0		5	419	54
Fullerton	36	0	NA	0	0	NA	0	0	NA	0	0	NA	0	0	NA	36	0	NA
Garden Grove	2	5	2	0	0		0	0		0	0		0	0		2	5	2
Huntington Beach	6	0		0	0	5	0	15		0	0		0	0	1	6	15	6
Irvine	NA	939	95	NA	0		NA	0		NA	0		NA	0		NA	939	95
La Habra	NA	0		NA	0	28	NA	0		NA	0		NA	0		NA	0	28
La Palma	0	19	10	0	0		0	0		0	0	1	0	0		0	19	11
Laguna Beach	NA	0		NA	0		NA	0		NA	0		NA	0		NA	0	0
Laguna Hills	NA	NA	0	NA	NA	0	NA	NA	0	NA	NA	0	NA	NA	0	NA	NA	0
Laguna Niguel	0	0		0	0		0	0	0	0	0		0	0		0	0	0
Laguna Woods	0	0	NA	0	0	NA	0	0	NA	0	0	NA	0	0	NA	0	0	NA
Lake Forest	11	0	0	0	0	0	0	0	0	0	0	0	0	0	0	11	0	0
Los Alamitos	NA	0		NA	0		NA	0		NA	0		NA	0		NA	0	0
Mission Viejo^	NA	0		NA	103		NA	0		NA	0		NA	0		NA	103	0
Newport Beach	6	8	2	250	618	0	200	315	0	0	0	0	0	550	0	456	1491	2
Orange	NA	66	0	NA	4	1	NA	0	0	NA	0	0	NA	0	0	NA	70	1
Placentia	7	7	10	0	0		0	0		0	0		0	0		7	7	10
R S Margarita	0	0	2	0	0		0	0		0	0		0	0		0	0	2
San Clemente	NA	7	0	NA	2	0	NA	2	0	NA	0	0	NA	0	0	NA	11	0
S J Capistrano	1	14	10	1	0	2	0	0	0	0	0	0	0	0	0	2	14	12
Santa Ana	NA	0	1	NA	0	2	NA	0		NA	0		NA	0		NA	0	3
Seal Beach	NA	NA	5	NA	NA	0	NA	NA	0	NA	NA	0	NA	NA	0	NA	NA	5
Stanton	DNR	NA		NA	NA		NA	NA		NA	NA		NA	NA		NA	NA	0
Tustin	NA	0	0	NA	0	0	NA	0	0	NA	0	0	NA	0	0	NA	0	0
Villa Park	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Westminster	0	0	9	5	0	4	0	0		0	0		0	0		5	5	13
Yorba Linda	0	0	59	1	0	0	0	0	0	0	0	0	0	0	0	1	0	59
County of Orange	NA	0	0	NA	0	0	NA	0	0	NA	0	0	NA	0	0	NA	0	0
TOTALS	76	1,460	275	257	779	66	200	350	22	0	7	6	0	550	2	533	3,151	371

NA = Not Available EL = Educational Letter ACO = Administrative Compliance Order M/I = Misdemeanor/Infraction
DNR = Did Not Report NON = Notice of Non-Compliance CDO = Cease and Desist Order

^ Enforcement actions against industrial facilities are included with commercial facilities.

SECTION 9.0, EXISTING DEVELOPMENT

Table 9.9: Permittee Enforcement Actions for Commercial Facilities, Comparison of 2002-03, 2003-04, and 2004-05

PERMITTEE	EL 2002-03	EL 2003-04	EL 2004-05	NON 2002-03	NON 2003-04	NON 2004-05	ACO 2002-03	ACO 2003-04	ACO 2004-05	CDO 2002-03	CDO 2003-04	CDO 2004-05	M/I 2002-03	M/I 2003-04	M/I 2004-05	TOTAL 2002-03	TOTAL 2003-04	TOTAL 2004-05
Aliso Viejo	70	3	4	0	0	4	2	13	2	0	0	2	0	0	1	72	16	13
Anaheim	NA	0		NA	0	0	NA	0	0	NA	0	0	NA	0	0	NA	0	0
Brea	NA	4	3	NA	1		NA	0		NA	0		NA	0		NA	5	3
Buena Park	5	0		0	87	16	0	19	33	0	4	16	0	0	4	5	110	69
Costa Mesa	2	10	6	3	3	67	0	10		0	0		0	0		5	23	73
Cypress	2	0		4	2		0	0		0	0		0	0		6	2	0
Dana Point	13	14	57	41	19	3	1	0	1	0	0		1	0	1	56	33	62
Fountain Valley	6	251	256	6	2	4	21	3	7	5	1	2	0	0		38	257	269
Fullerton	NA	0	NA	NA	0	NA	NA	0	NA	NA	0	NA	NA	0	NA	NA	0	NA
Garden Grove	5	37	5	2	8	1	0	0		0	0		0	0		7	45	6
Huntington Beach	16	0		3	10	13	0	80		1	0		0	0	5	20	90	18
Irvine	NA	NA		NA	NA		NA	NA		NA	NA		NA	NA		NA	NA	0
La Habra	NA	0		NA	0	25	NA	0	1	NA	0		NA	0		NA	0	26
La Palma	0	0	15	0	0		0	0		0	0		0	0		0	0	15
Laguna Beach	NA	0		NA	0		NA	0	2	NA	0		NA	0		NA	0	2
Laguna Hills	NA	11	6	NA	9	4	NA	1		NA	0		NA	0		NA	20	10
Laguna Niguel	0	127		1	15	32	0	0		0	0		0	0		1	142	32
Laguna Woods	3	0	15	4	0	18	1	0	10	0	0		0	0		8	0	43
Lake Forest	77	1		1	14	12	0	0		0	0	1	0	0		78	15	13
Los Alamitos	NA	0		NA	0		NA	0		NA	0		NA	0		NA	0	0
Mission Viejo	118	0	2	20	103	16	0	0	17	1	0	0	0	0	2	139	103	37
Newport Beach	NA	NA	2	NA	NA		NA	NA		NA	NA		NA	NA		NA	NA	2
Orange	NA	269	0	NA	13	0	NA	0	0	NA	0	0	NA	0	0	NA	283	0
Placentia	10	30	64	0	0	13	1	0	1	2	0	1	0	0	1	13	30	80
R S Margarita	10	0	32	0	0	7	0	0		0	0		0	0		10	0	39
San Clemente	NA	187	91	NA	82	63	NA	15		NA	2		NA	7	24	NA	293	178
S J Capistrano	25	10	150	7	2	5	0	0	0	0	0	0	0	0	0	32	12	155
Santa Ana	NA	0	1	NA	3	18	NA	0	1	NA	0		NA	0		NA	3	20
Seal Beach	NA	0	0	NA	0	0	NA	0	0	NA	0	0	NA	0	0	NA	0	0
Stanton	DNR	DNR		DNR	DNR		DNR	DNR		DNR	DNR		DNR	DNR		NA	DNR	0
Tustin	NA	0	0	NA	0	0	NA	0	0	NA	0	0	NA	0	0	NA	0	0
Villa Park	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Westminster	0	0	2	0	2	3	0	0		0	0		0	0		0	2	5
Yorba Linda	0	45	19	0	1	0	0	0	0	0	0	0	0	0	0	0	46	19
County of Orange	NA	0	0	NA	4	3	NA	0	0	NA	0	0	NA	0	0	NA	4	3
TOTALS	362	999	730	92	380	327	26	141	75	9	7	22	1	7	38	490	1,534	1,192

NA = Not Available EL = Educational Letter ACO = Administrative Compliance Order M/I = Misdemeanor/Infraction
DNR = Did Not Report NON = Notice of Non-Compliance CDO = Cease and Desist Order

Figure 9.1: Countywide Permittees' Industrial Inventory and Prioritization, Comparison of 2002-03, 2003-04 and 2004-05

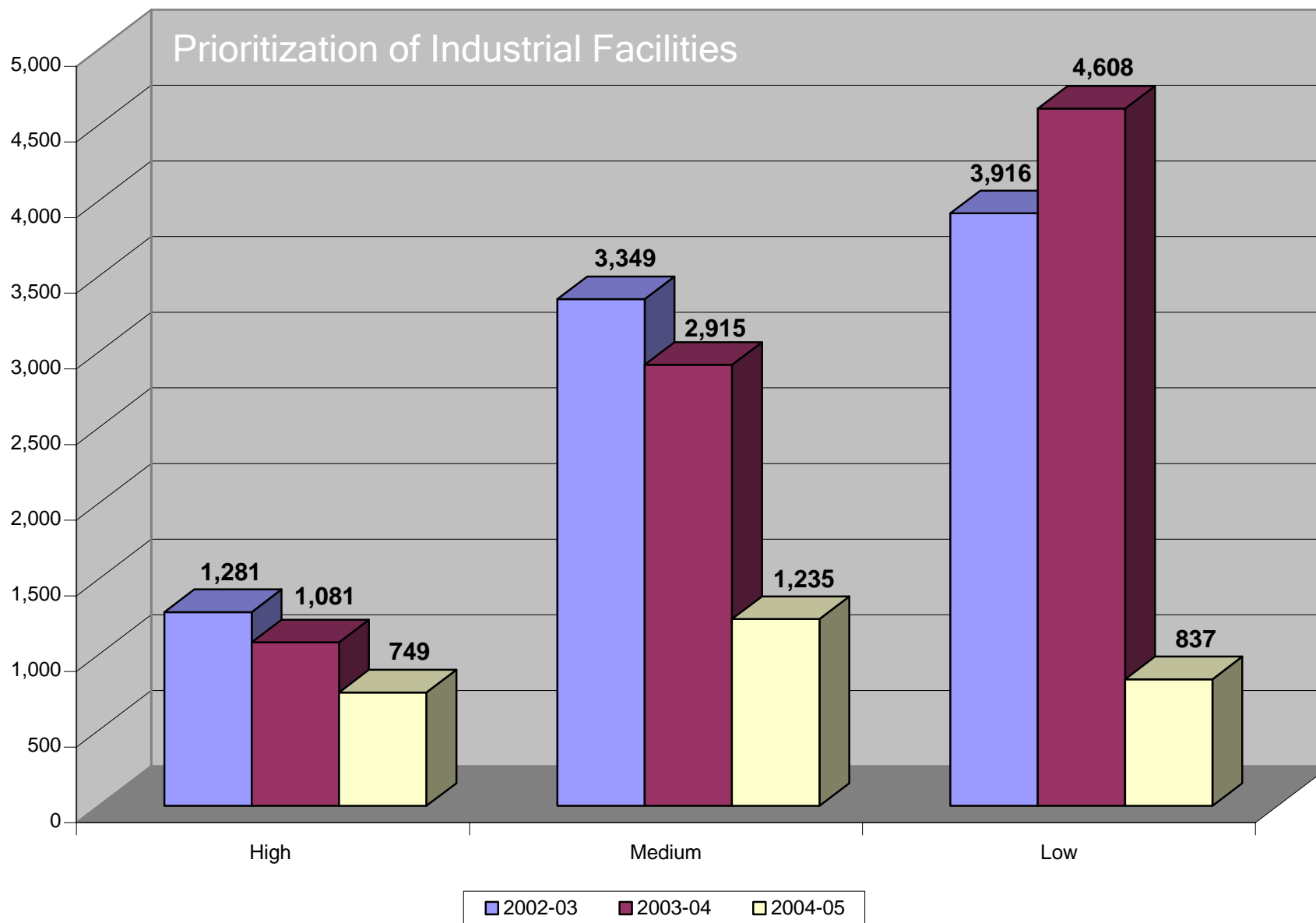


Figure 9.2: Countywide Permittees' Commercial Inventory and Prioritization, Comparison of 2002-03, 2003-04 and 2004-05

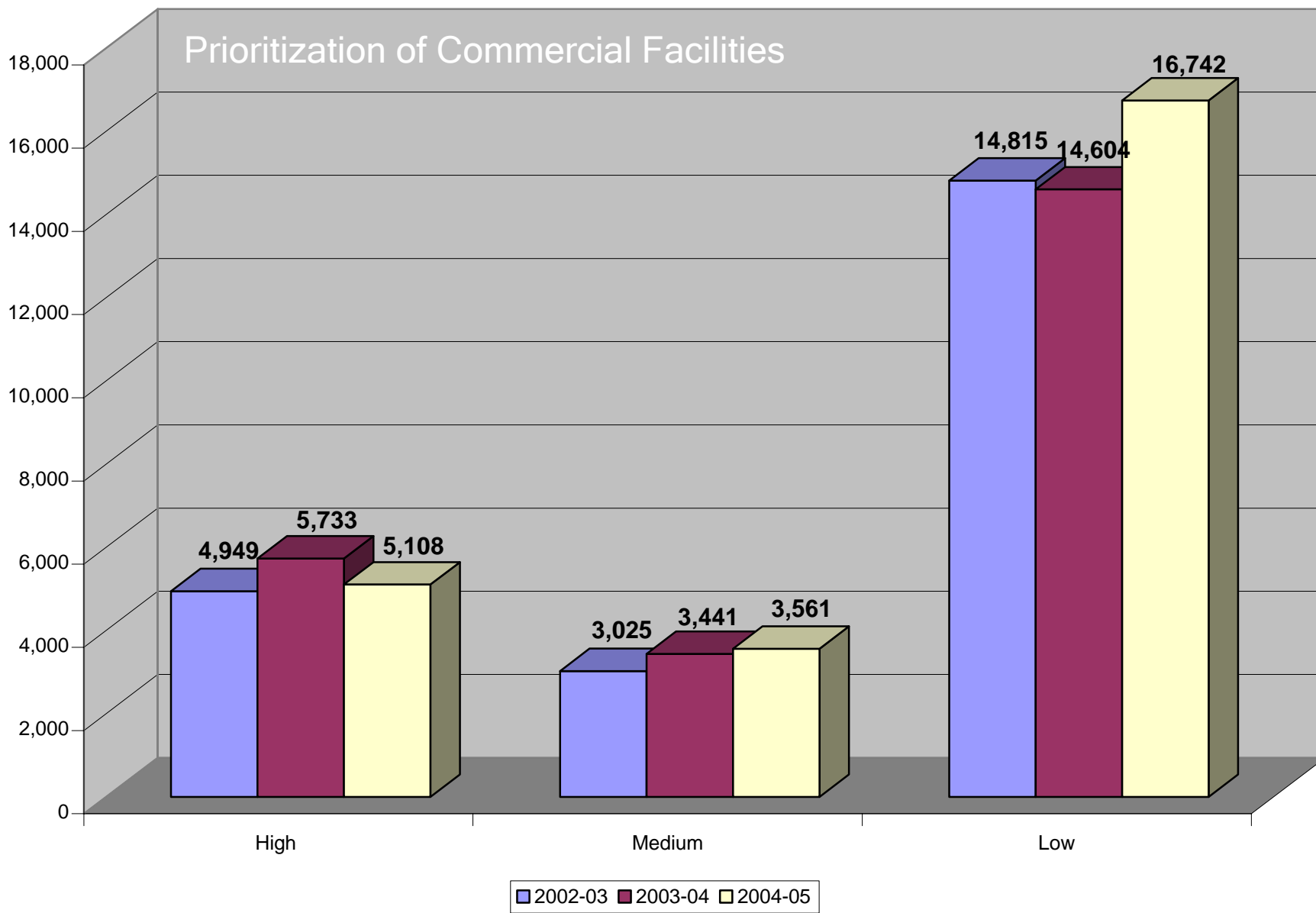


Figure 9.3: Industrial Inventory and BMP Implementation, Comparison of 2002-03, 2003-04 and 2004-05

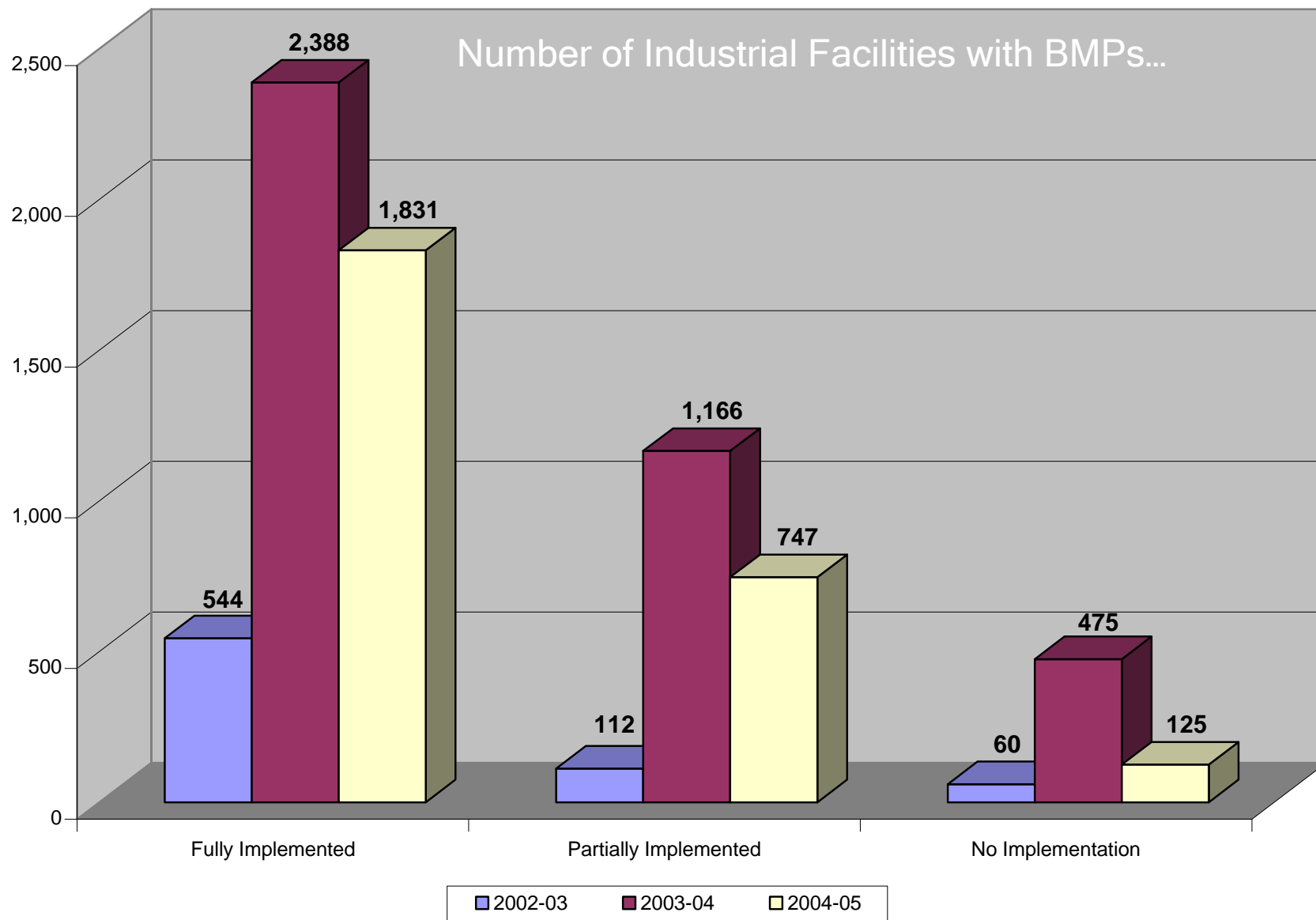
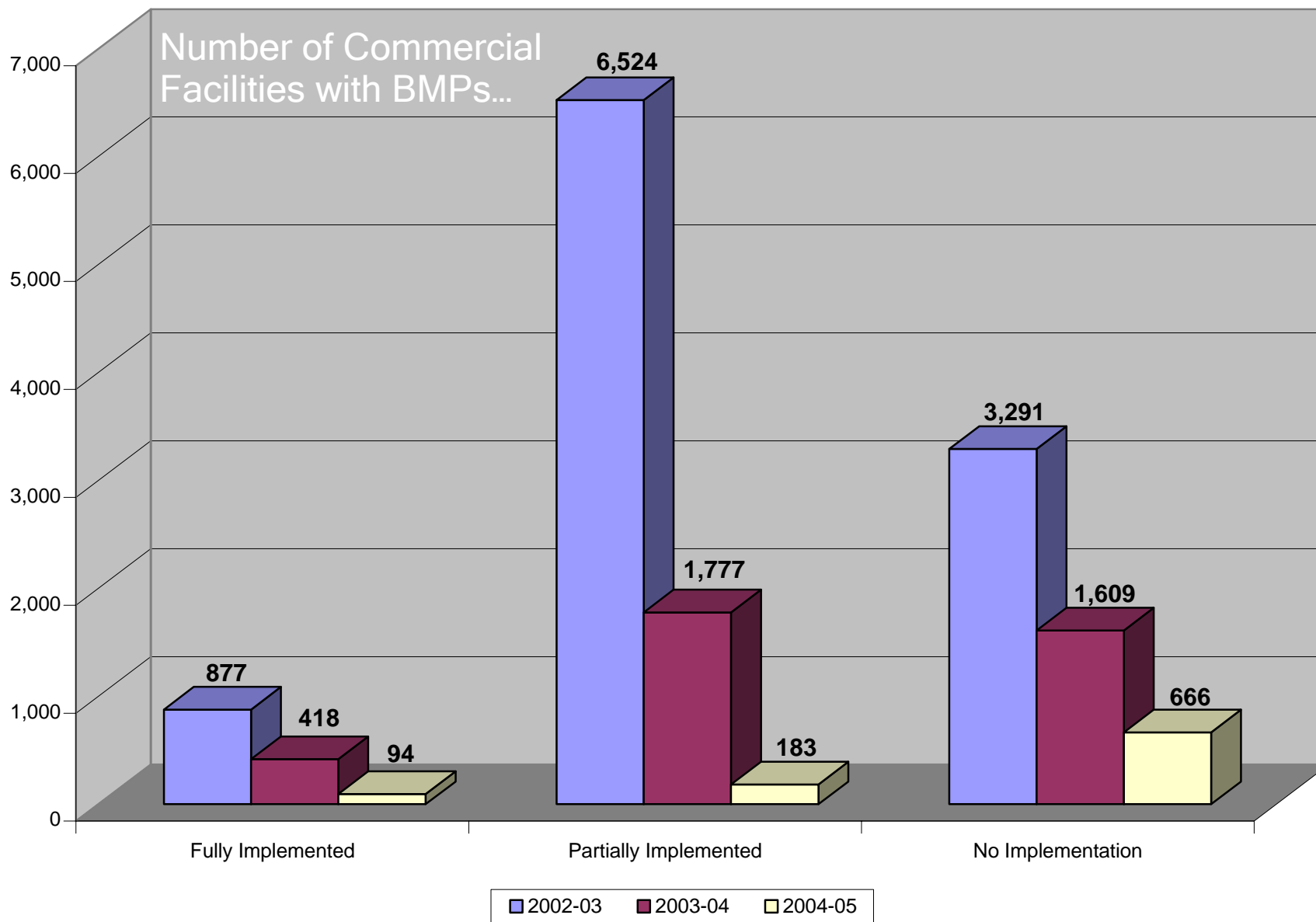


Figure 9.4: Commercial Inventory and BMP Implementation, Comparison of 2002-03, 2003-04 and 2004-05



10.0 ILLEGAL DISCHARGES/ILLICIT CONNECTIONS

10.1 Introduction

Illegal discharges/illicit connections (ID/IC) are potential sources of pollutants within municipal storm drain systems. The purpose of **DAMP Section 10.0** is to ensure that the Permittees have a programmatic framework for detecting and quickly responding to non-stormwater discharges to their storm drain systems. Since **DAMP Section 10.0** directly addresses one of the basic objectives of the NPDES Permits, it is a long-established part of the Program. With the Third Term Permits, the key elements of ID/IC have been significantly enhanced. In addition, a model sewage spill response program has been developed and has begun to be implemented in conjunction with OCSD.

10.2 Accomplishments

10.2.1 Illegal Discharges/Illicit Connections Program

The ID/IC Program provides guidance for Permittees when identifying, responding to and mitigating the effects of non-stormwater discharges and enforcing the ID/IC component of the Program for the protection of the environment. **DAMP Section 10.0** requires the Permittees to:

- Detect illegal discharges and illicit connections

A innovative Dry Weather Reconnaissance Program, based upon statistically derived benchmarks, was developed and implemented in both permit regions specifically to identify illegal discharges and illicit connections during the typically dry summer months of May through September using a suite of water quality analyses conducted in the field at designated random and targeted drains. The 2004-05 reporting period marked the third season of dry weather monitoring in the San Diego Region. With the approval of the Santa Ana Monitoring Program in July of 2005 by the Executive Officer of the Santa Ana Regional Board, dry weather monitoring in the Santa Ana Region commenced in May of 2006.

- Facilitate Public Reporting

Telephone and web-based reporting systems for the general public have been established and are advertised in the Stormwater Program's public education materials, Orange County "White Pages" telephone directories, and Permittee websites. A total of 3,408 complaints were received during the 2004-05 reporting period.

- Investigate

Each Permittee has designated Authorized Inspectors to investigate compliance with, detect violations of, and take actions pursuant to their Water Quality

SECTION 10.0, ILLEGAL DISCHARGES/ILLICIT CONNECTIONS

Ordinance. During the 2004-05 reporting period, the Permittees encountered and sought to mitigate discharges involving hydrocarbons (296 incidents), inorganic materials (264 incidents), metals (6 incidents), nutrients (43 incidents), 73 organic materials (73 incidents), discharge exceptions (133 incidents), pathogens (156 incidents), wastewater (624 incidents), pesticides (2 incidents), sediment (680 incidents), trash and debris (376 incidents), and 716 incidents involving miscellaneous types of materials for a total 3,369 incidents.

- Enforce

Enforcement actions are undertaken according to the adopted Water Quality Ordinances and accompanying Enforcement Consistency Guide. The Permittees reported a total of 3,528 enforcement actions, associated with ID/IC investigations during the 2004-05 reporting period.

- Undertake Training

To assist responsible municipal staff in understanding the Illegal Discharges/Illicit Connections Program, 10 training modules have been developed:

- 1) Program Management Training - Introductory
- 2) Program Management Training - Experienced
- 3) Authorized Inspector Training¹
- 4) Authorized Inspector Training - Introductory
- 5) Authorized Inspector - Field Implementation
- 6) Sewage Spill Response Training
- 7) Sewage Spill Response Training - Introductory
- 8) "Hands-On" Sewage Spill Response Training - Experienced
- 9) Fire Department Activities Training
- 10) Investigative Guidance Manual Training

In addition to the training modules, the Inspection Sub-Committee also provided training on various subjects relevant to the ID/IC program. This sub-committee meets bi-monthly to provide training to municipal inspectors and Authorized Inspectors in issues related to spill response, inspection and enforcement. In addition, this meeting serves as a forum for the coordination and discussion of ongoing difficult or new enforcement, investigation, or enforcement issues and to profile cases or incidents.

10.2.2 Model Sewage Spill Response Procedures

During the Third Permit term, the County and OCS D developed and implemented a coordinated sewage spill prevention and response demonstration project (The "Tustin

¹ This module was modified in the 2004-05 reporting period and divided into two modules, 1) Introductory and 2) Field Implementation.

Area Spill Control (TASC) Demonstration Project”). The TASC includes: 1) Development of sanitary sewer overflow (SSO) response procedures; 2) Selection of primary and backup sewage spill response contractors for containment and recovery of SSOs; and 3) SSO hands-on field response training for Permittee staff and municipal sewerage agency staff.

The TASC model program is currently in use in a limited portion of the County, however; one of the goals for TASC is to gradually phase the implementation of the project throughout the County so that the proactive interagency planning and coordination for sewage spill response can be implemented and/or improved in other watersheds

10.3 Assessment

The current and potential Program Effectiveness Assessment Outcome Levels that could be assessed within the current program are summarized in **Table 10-1**.

10.3.1 Illegal Discharges/Illicit Connections Program

Detection: The San Diego Dry Weather Monitoring Program has been conducted over 3 summers. Over this period there have been 585 site visits to 67 locations comprising 3 visits to the random sites and five visits to the targeted sites each season. Investigations, prompted by findings of elevated contaminant concentrations, were triggered on 18 occasions. These results show that approximately 25% of the 67 monitoring sites have exhibited evidence of contamination in dry weather flow at levels significantly above background levels.

The approval of the Santa Ana Monitoring Program (including the Dry Weather Reconnaissance Program) in July of 2005 by the Executive Officer of the Santa Ana Regional Board meant that the dry weather monitoring in the Santa Ana Region commenced in May of 2006. The 2006-07 Unified Report will present the first opportunity to review the effectiveness of this monitoring effort through comparison of the North and South County efforts.

Reporting: RWQCB staff have acknowledged that the Permittees’ field inspectors are trained to detect illegal discharges as part of their daily activities and, indeed, the majority of illegal discharges are detected by Permittee staff. The RWQCB staff also has noted that most Permittees have hotline numbers to receive water pollution complaints and incident information from the public and use database software to document the reported incidents which assists with the tracking of water pollution complaints by source. These RWQCB staff findings point to the overall robustness of the Permittees’ efforts to facilitate reporting.

Headline Indicator - Number of Complaints: The Permittees reported a total of 3,408 complaints/incidents during the 2004-05 reporting period. This total represents an 11% decrease from 2003-04 (3,837 complaints), and a 110% increase from 2002-03 (1,621 complaints) (**Table 10.2; Figure 10.1**).

Level 1: Implement Program

Level 3: Behavior Change

While the year-to-year comparison suggests some inconsistent reporting of this indicator, the overall pattern of a peak in the 2003-4 period (which is reproduced across other metrics) tends to suggest the positive impact of the Program (i.e. that there has been an overall reduction in the number of incidents and thereby a commensurate decline in the number of complaints). The increasing use of the “hotline” appears to indicate increasing awareness regarding this reporting mechanism.

Enforcement: Enforcement actions are undertaken according to the adopted Water Quality Ordinance and accompanying Enforcement Consistency Guide. In instances of noncompliance, the Permittee may adopt one of four types of remedies, including educational letters, administrative remedies, criminal remedies, or other civil or criminal remedies, as appropriate.

Headline Indicator - Number and Level of Enforcement Actions: The Permittees reported a total of 3,528 enforcement actions during the 2004-05 reporting period (**Table 10.3; Figure 10.2**). This represents an 18.9% decrease from the total reported in 2003-04 (4,351 enforcement actions), and an increase of 63% from the total reported 2002-03 (2,167 enforcement actions).

Level 1: Implement Program

Level 3: Behavior Change

The pattern in the number of enforcement arising from ID/IC investigations follows the pattern observed in other metrics of a peak of activity in the 2003-04 reporting period. An increase in the use of citations over the Third Term permit term is one feature of the changing approach to enforcement representing a shift from the prior educational emphasis.

Training: The Permits require that staff be adequately trained. In response, the Permittees developed a number of training modules (as outlined in 10.2.1) that are offered by the County throughout the year. Although the Permittees stated that the training has been helpful, they noted that the modules need to be updated and that new training topics and more advanced training are desired.

ROWD Commitment:

- Prepare a defined expertise and competencies for Authorized Inspector positions and develop a training program to meet these requirements.

10.3.2 Model Sewage Spill Response Procedures

The 2006-07 Unified Report will present the first opportunity to review the effectiveness of initial implementation of the TASC model program. Based on field experience on actual spills, the intent is to expand the geographical implementation of the program, initially with the area coincident with the boundaries of OCSD.

10.4 Summary

The Permittees' program for responding to complaints regarding ID/IC is a long established element of the Program. The major efforts regarding this element over the period of the Third Term Permits relate to the Dry Weather Reconnaissance Program, the continued facilitation of public reporting of complaints, the designation and training of designated Authorized Inspectors, and the development of TASC.

The incidence of complaints appears to have peaked in the 2003-04 reporting period and subsequently declined, which suggest a positive overall Program impact. Based primarily upon the interest of the Permittees and of RWQCB staff, the sole commitment arising out of the effectiveness assessment is for the development of defined experience and competencies for Authorized Inspector positions and development of a training program to meet these requirements.

SECTION 10.0, ILLEGAL DISCHARGES/ILLICIT CONNECTIONS

Table 10.1: Current Outcome Levels and Suggested Actions or Outcomes to Achieve Potential Outcome Levels

ID/IC Program Component	Effectiveness Assessment Outcome Levels					
	Level 1	Level 2	Level 3	Level 4	Level 5	Level 6
	Implement Program	Increase Awareness	Behavior Change	Load Reduction	Runoff Quality	Receiving Water Quality
Detection of ID/IC	✓ Identify ID/IC	✓ Track number of complaints by source, facility type, or pollutant	✓ Reduced occurrences of ID/IC			
Enforcement	✓ Issue EAs	✓ Track number of Enforcement Actions	✓ Track number and type of Enforcement Actions	^P Discharge is eliminated	^P Change in runoff quality	
Training	✓ Track # and type of training	^P Surveys				
<p><u>Key:</u> ✓ = Currently Achieved Outcome Level ^P = Potentially Achievable Outcome Level</p>						

SECTION 10.0, ILLEGAL DISCHARGES/ILLICIT CONNECTIONS

Table 10.2: Source of Complaints/Incidents, Comparison of 2002-03, 2003-04, and 2004-05

PERMITTEE	City Staff	City Staff	City Staff	Other	Other	Other	Hotline	Hotline	Hotline	Public	Public	Public	Busin-	Busin-	Busin-	Other	Other	Other	TOTAL	TOTAL	TOTAL
	2002-03	2003-04	2004-05	2002-03	2003-04	2004-05	2002-03	2003-04	2004-05	2002-03	2003-04	2004-05	2002-03	2003-04	2004-05	2002-03	2003-04	2004-05	2002-03	2003-04	2004-05
Aliso Viejo	21	38	11	2	3	2	6	4	7	2	12	15	4	3	2	0	0	0	35	60	37
Anaheim	34	117	156	3	45	2	0	95	56	19	0		0	26	13	0	0	0	56	283	227
Brea	NA	3	8	NA	1	20	NA	0	10	NA	0	16	NA	0		NA	0		NA	4	54
Buena Park	5	8	24	1	5	3	0	0	0	4	28	35	0	0	1	0	0	0	10	41	63
Costa Mesa	2	21		0	0	14	10	0		286	27	18	70	14		10	90		378	152	32
Cypress	5	18	14	0	2	3	11	0	7	1	10	7	0	3	4	0	0	0	17	33	35
Dana Point	NA	2	24	NA	13	7	NA	2	6	NA	12	33	NA	0	3	NA	6		NA	35	73
Fountain Valley	29	50	47	5	2	2	16	6	11	8	1	2	0	0		0	0		58	59	62
Fullerton	51	43	1	0	0		0	0		26	30	2	0	0		0	0		77	73	3
Garden Grove	26	15	208	2	5	41	4	10	2	19	84	89	3	6	12	0	0		54	120	352
Huntington Bch	108	387	140	9	11	10	9	0	0	323	51	59	9	1	1	0	0	0	458	450	210
Irvine	32	61	49	4	96	79	0	0	0	33	31	64	0	0	0	0	0		69	188	192
La Habra	0	6	32	0	0	1	0	0		21	19		0	0		0	0		21	25	33
La Palma	27	69	53	1	0	0	1	2	0	4	25	13	0	0	1	0	0	0	33	96	67
Laguna Beach	25	25	23	4	13	13	56	66	55	0	0	0	0	0	0	0	0	0	85	104	91
Laguna Hills	7	11	20	0	1	2	0	1	0	7	0	0	1	0	0	0	0	0	15	13	22
Laguna Niguel	NA	18	14	NA	1	6	NA	2	3	NA	10	2	NA	0	1	NA	0	0	NA	31	26
Laguna Woods	12	13	84	6	1	8	0	0	0	22	65	18	0	3	10	0	0	0	40	82	120
Lake Forest	2	27	35	4	6	16	0	3	3	11	16	44	0	2	7	0	0	0	17	54	105
Los Alamitos	0	0	0	1	12		0	3	0	2	0	0	0	0	0	0	0		3	15	0
Mission Viejo	NA	NA	0	NA	NA	0	NA	NA	0	NA	NA	111	NA	NA	0	NA	NA	0	NA	NA	111
Newport Beach	NA	NA	100	NA	NA	5	NA	NA	30	NA	NA	60	NA	NA	10	NA	NA	95	NA	NA	300
Orange	17	76	35	0	6	3	0	0	257	0	59	0	1	9	0	0	0	0	18	150	295
Placentia	9	58	50	0	1	1	0	1	1	5	13	24	0	0	2	0	0	69	14	73	147
R S Margarita	0	4	11	0	1	18	0	5	4	7	3	12	3	0	1	0	0	0	10	13	46
San Clemente	NA	581	NA	NA	6	NA	NA	0	NA	NA	92	NA	NA	0	NA	NA	0	NA	NA	679	NA
S J Capistrano	12	7	8	1	2	1	4	9	10	17	13	26	0	1	1	0	0		34	32	46
Santa Ana	7	6	37	6	7	7	0	0		7	3	6	0	0	2	0	0		20	16	52
Seal Beach	NA	NA	17	NA	NA		NA	NA		NA	NA	14	NA	NA		NA	NA		NA	NA	31
Stanton	NA	0	0	NA	8	0	NA	0		NA	40		NA	2		NA	0		NA	50	0
Tustin	9	19	37	0	0	0	0	0	0	4	8	9	1	0	0	13	0	0	27	27	46
Villa Park	NA	4	5	NA	0	0	NA	0	0	NA	6	10	NA	0	0	NA	0	0	NA	10	15
Westminster	0	26	18	8	8	3	0	19	7	0	65	21	0	33	3	0	0	0	8	151	52
Yorba Linda	6	23	5	1	1	0	0	0	0	23	26	13	0	1	0	0	0	1	30	51	19
County of Orange	12	494	273	1	40	24	4	15	94	17	85	53	0	25	0	0	8	0	34	667	444
TOTALS	458	2,230	1,539	59	297	291	121	243	563	868	834	776	92	129	74	23	104	165	1,621	3,837	3,408

NA = Not Available

SECTION 10.0, ILLEGAL DISCHARGES/ILLICIT CONNECTIONS

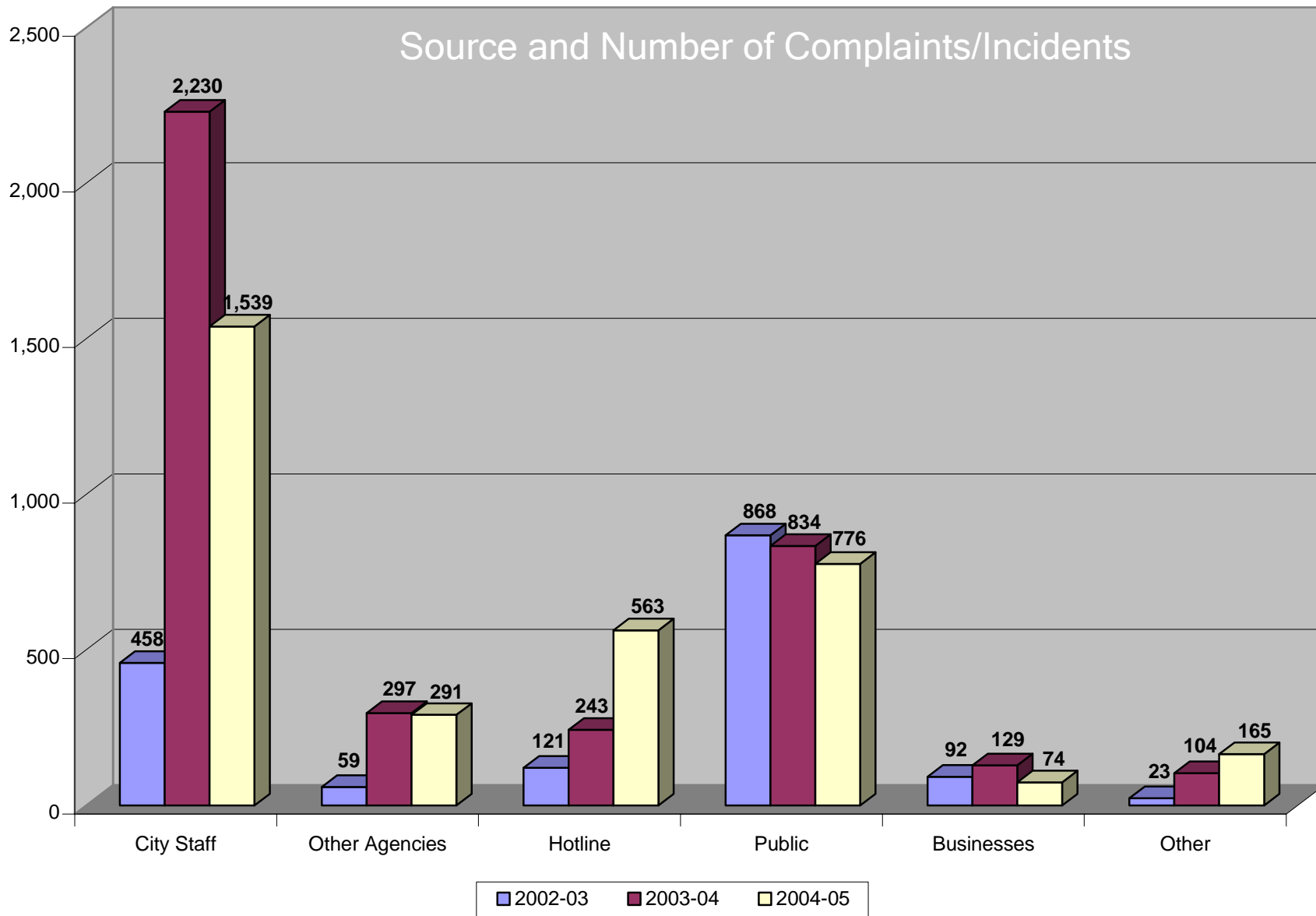
Table 10.3: Permittee Enforcement Actions, Comparison of 2002-03, 2003-04 and 2004-05

Permittee	EL	EL	EL	NON	NON	NON	ACO	ACO	ACO	CDO	CDO	CDO	Mis	Mis	Mis	Inf	Inf	Inf	IOC	IOC	IOC	Other	Other	Other	TOTAL	TOTAL	TOTAL
	02-03	03-04	04-05	02-03	03-04	04-05	02-03	03-04	04-05	02-03	03-04	04-05	02-03	03-04	04-05	02-03	03-04	04-05	02-03	03-04	04-05	02-03	03-04	04-05	02-03	03-04	04-05
Aliso Viejo	0	3	7	27	4	19	0	0	1	0	17	2	0	0	0	0	0	0	4	38	79	3	0	0	34	62	108
Anaheim	0	1	13	20	39	34	11	39	28	1	0	0	2	0	0	0	0	0	0	0	0	1	0	0	35	79	75
Brea	0	11	6	2	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	2	3	13	8
Buena Park	8	5	2	0	10	21	0	16	47	0	0	20	0	0	0	0	0	0	0	0	6	0	0	0	8	31	96
Costa Mesa	22	9	7	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	2	14	2	0	0	0	24	26	9
Cypress	5	10	3	10	21	25	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	7	17	31	35
Dana Point	NA	14	24	NA	19	12	NA	0	9	NA	0	1	NA	0	0	NA	0	0	NA	0	1	NA	0	18	NA	33	65
Fountain Valley	12	391	71	4	8	6	21	12	15	6	6	9	0	0	0	0	0	0	0	0	0	40	0	50	83	417	151
Fullerton	0	0	NA	23	59	NA	5	0	NA	0	0	NA	0	0	NA	0	14	NA	26	0	NA	0	0	NA	54	73	NA
Garden Grove	21	19	75	2	11	39	0	0	0	0	1	0	0	1	0	0	0	0	0	0	1	0	0	0	23	32	115
Huntington Bch	60	61	96	54	47	127	5	5	0	1	0	0	0	0	0	0	0	0	0	0	30	0	0	2	120	113	255
Irvine	32	14	0	0	88	0	24	33	0	0	0	0	0	0	0	0	0	0	0	0	0	14	5	0	70	140	0
La Habra	0	0	0	0	1	15	0	0	1	0	0	3	0	0	0	0	0	0	0	0	0	50	19	32	50	20	51
La Palma	18	41	31	8	24	15	0	2	4	0	0	1	0	2	0	0	0	0	0	0	2	0	0	14	26	69	67
Laguna Beach	0	5	2	71	62		52	83	0	0	0	0	1	0	0	0	57	0	0	37	0	60	0	114	184	244	116
Laguna Hills	8	6	16	5	11	20	1	1	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	16	18	36
Laguna Niguel	NA	8	10	NA	1	4	NA	0	0	NA	0	0	NA	0	0	NA	0	0	NA	0	0	NA	0	0	NA	9	14
Laguna Woods	27	30	15	11	13	18	1	1	0	0	1	0	0	0	0	0	0	0	0	6	2	1	0	0	40	51	35
Lake Forest	90	2	2	3	23	42	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	93	25	45
Los Alamitos	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	0	0
Mission Viejo	134	15	5	58	139	31	0	0	0	1	0	1	0	0	0	0	0	0	0	0	2	0	0	0	193	154	39
Newport Beach	6	8	20	250	618	209	200	315	0	0	0	0	0	0	0	0	0	0	0	0	166	300	550	1100	756	1491	1495
Orange	0	75	0	0	4	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	79	2
Placentia	8	20	7	0	11	19	3	3	0	3	1	0	0	0	1	0	0	0	0	0	0	0	31	41	14	66	68
R S Margarita	10	7	48	0	0	13	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	5	10	8	66
San Clemente	72	430	175	37	160	98	0	10	0	1	9	11	0	0	0	0	0	0	2	0	45	8	10	2	120	619	331
S J Capistrano	24	6	0	9	2	0	0	7	0	1	0	0	0	0	0	0	0	0	0	1	0	0	0	0	34	16	0
Santa Ana	1	4	1	2	9	18	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	14	2	0	19	16	20
Seal Beach	4	35	0	21	41	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	31	3	6	0	28	82	31
Stanton	NA	0	0	NA	0	0	NA	0	0	NA	0	0	NA	0	0	NA	0	0	NA	0	0	NA	0	0	NA	0	0
Tustin	0	169	38	16	27	21	0	5	0	0	0	0	0	0	0	0	0	0	0	0	1	11	0	0	27	201	60
Villa Park	15	0	3	0	0	12	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	10	0	15	10	15
Westminster	13	55	35	1	0	4	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	52	15	55	92
Yorba Linda	1	2	0	21	34	9	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0	22	41	9
County of Orange	5	4	3	20	12	12	2	9	4	0	0	0	0	0	0	0	0	0	0	0	0	3	2	0	30	27	19
TOTALS	600	1,460	715	675	1,502	845	327	544	110	16	36	49	4	3	1	0	71	1	34	96	368	511	639	1,439	2,167	4,351	3,528

NA = Not Available EL = Educational Letter ACO = Administrative Compliance Order Mis = Misdemeanor IOC = Issuance of Citation
 NON = Notice of Non-Compliance CDO = Cease and Desist Order Inf = Infraction

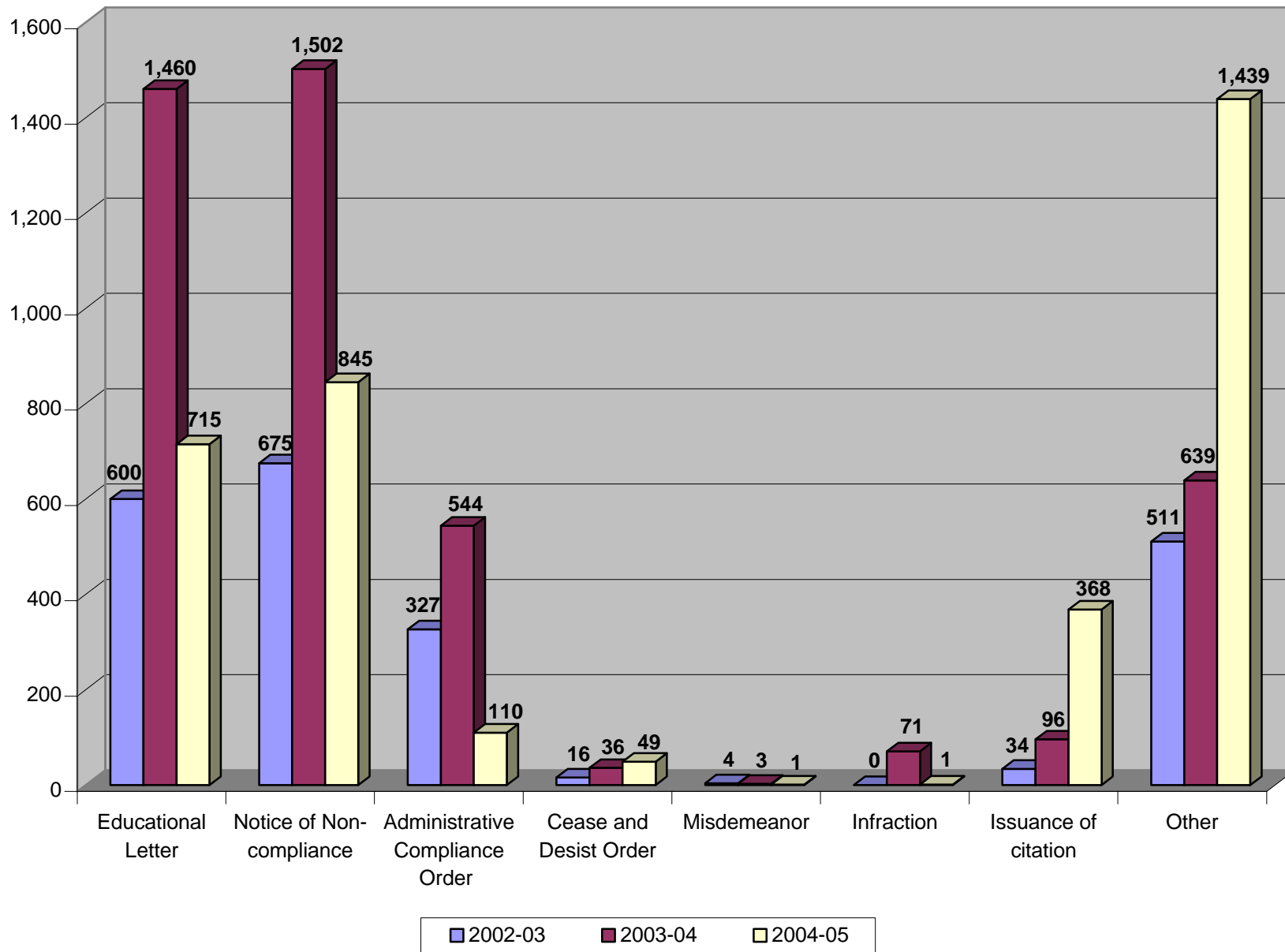
SECTION 10.0, ILLEGAL DISCHARGES/ILLICIT CONNECTIONS

Figure 10.1: Source of Complaints/Incidents, Comparison of 2002-03, 2003-04, and 2004-05



SECTION 10.0, ILLEGAL DISCHARGES/ILLICIT CONNECTIONS

Figure 10.2: Permittee Enforcement Actions, Comparison of 2002-03, 2003-04 and 2004-05



11.0 WATER QUALITY MONITORING SUMMARY AND ANALYSES

11.1 Introduction

The goal of environmental monitoring is to support the management process. In 2002 and 2003, the Program completed development of the *San Diego Region Receiving Waters Monitoring and Reporting Program* and the *San Diego Region Dry-Weather Monitoring Program* for wet and dry weather, respectively.

“monitoring is most useful when it results in more effective management decisions, specifically management decisions that protect or rehabilitate the environment.”
(NAS, 1991¹)

The *San Diego Region Receiving Waters Monitoring and Reporting Program* is comprised of four program elements. They are briefly described below.

- Urban Stream Bioassessment uses a “triad” of indicators (bioassessment, chemistry, toxicity) to describe impacts on stream communities and the relationship of any impacts to runoff, based on comparisons with reference locations on a year-to-year time frame.
- Long-term Mass Loading using measurements of key pollutants to assess loads over a time frame of years to decades to compared with past and present levels.
- Coastal Stormdrain Outfall Monitoring uses a suite of bacterial indicators at high priority drain outfalls to track compliance with regulatory standards and any improvements due to BMP implementation.
- Ambient Coastal Receiving Waters Monitoring uses measurements of runoff plume characteristics and extent, as well as measures of a suite of physical, chemical, and biological indicators to improve understanding of the impacts of runoff plumes on near-shore ecosystems.

The *San Diego Region Dry-Weather Monitoring Program* comprises a single program element. This element is:

- Dry Weather Reconnaissance consists of gathering data from both random and targeted sites, to define region-wide background dry weather conditions to serve as a basis for identifying candidate sites for further focused source identification work.

Compared to prior monitoring efforts (pre NPDES, First and Second Permit Term Programs), the Third Permit Term monitoring program is characterized by a broader range of locations and a wider array of methods for measuring impacts. For example, the receiving waters monitoring program more completely examines storm drains that

¹ Managing Troubled Waters, National Academy of Sciences, 1991

discharge directly to the coast and pose a potential health risk to swimmers and bathers. Also, there is investigation component to assess the effects of stormwater plumes on the nearshore marine environment. Inland, the monitoring program includes bioassessment studies and consistent use of toxicity testing. Combined with the established measurement of chemical parameters, this "triad" approach describes impacts more fully, more accurately identifies their sources, and more effectively identifies follow-up studies and BMPs.

This section will summarize the progress toward implementation of the Receiving Waters and Dry-weather Monitoring Programs during the Third Term Permit, the findings, and the proposal for future monitoring.

11.2 Accomplishments

11.2.1 Implementation of the Receiving Waters Monitoring Program

On August 13, 2002, a Receiving Water Monitoring Program was submitted to and subsequently approved by the San Diego Regional Water Quality Control Board. Relative to the monitoring program for the second term permit (99-04 Plan) the new program included many new monitoring locations and several new methods for evaluating the impacts of urban runoff including urban stream bioassessment and toxicity testing.

The initial phase of implementation involved:

- Procurement of specialized automatic sampling equipment for the collection of composite samples for pesticide analyses and toxicity testing.
- Establishment of price agreements for consultant services to conduct urban stream bioassessments and toxicity testing.
- Establishment of a Memorandum of Understanding (MOU) with the Orange County Health Care Agency's Public Health Laboratory to conduct bacteriological analyses of samples collected from coastal stormdrains and the surfzone receiving waters.

Subsequently the following monitoring was initiated:

- Urban Stream Bioassessment (USB) monitoring - The program includes semi-annual assessment each spring and fall at 12 urban channels and 3 reference sites. The fall 2002 monitoring began in November with assessments of physical habitat, benthic macroinvertebrate (BMI) taxonomy, and water chemistry at each site. Toxicity testing at bioassessment sites began in the spring of 2003.
- Composite sampling for water chemistry and toxicity of stormwater runoff at Mass Emissions sites began in December 2002.
- Sampling of stormdrain discharges for water chemistry and toxicity began at Ambient Coastal Receiving Waters (ACRW) sites in December 2002.
- Weekly sampling of Coastal Stormdrain Outfalls (CSDO) and their respective surfzone receiving waters began in January 2003.

Urban Stream Bioassessment

The urban stream bioassessment component of the water quality monitoring program is intended to assess the condition of biological communities in freshwater creeks and streams. This is accomplished through a triad of indicators monitored at 15 sites (12 urban channels and 3 reference locations) throughout the San Diego region of the County in the spring (usually May) and fall (usually October) of each year. The triad includes measures of the status of the benthic invertebrate community, aquatic chemistry, and aquatic toxicity.

Data on the species composition of the biological community is converted to an Index of Biotic Integrity (IBI) score and a similar score is computed for the physical habitat. A wide range of physical and chemical water quality measurements are made at each site including basic water quality indicators (temperature, specific conductance, pH, and dissolved oxygen concentration) and concentrations of urban pollutants such as pesticides and metals. Values for five dissolved metals are compared for guidance purposes, to acute toxicity criteria (adjusted for water hardness) established in the California Toxics Rule (CTR). The numbers and percentages of CTR exceedances are tabulated. Aqueous toxicity tests using three freshwater test organisms is conducted on samples from each site to provide a measure of the potential toxicity due to different categories of pollutants.

The analysis and evaluation of this triad of data types focuses on describing spatial patterns and temporal trends in community condition and in relating these to the aquatic concentrations of pollutants as well as to various aspects of physical habitat.

Data from all three years of monitoring demonstrates an overall pattern of lower IBIs in urbanized portions of watersheds, although this is not apparently related to aquatic chemistry or toxicity. **Figures 11.1** and **11.2** show the qualitative ratings of the average seasonal scores of the four metrics (CTR exceedances, aquatic toxicity, physical habitat score, and IBI score) used to assess stream health at each monitoring site. The color scheme for the figures is shown in the table below.

Qualitative Rating	Color	Average of All Data Collected between 2002 - 2005			
		Chemistry	Toxicity	PHAB Score	IBI Score*
Poor	Red	76-100% exceed CTR	67-100% effect@	0-50	0-26
Fair	Yellow	41-75% exceed CTR	34-66% effect	51-100	26-40
Good	Blue	15-40% exceed CTR	6-33% effect	101-150	41-55
Very Good	Green	0-14% exceed CTR	0-5% effect	151-200	56-70
Insuff. Data	White				

* The qualitative rating scale for IBI scores was established by the CA DF&G. A score of 0-13 is considered Very Poor.

@ In undiluted samples, effect relative to control sample = mortality in Ceriodaphnia and Hyallemella survival tests, or inhibition of growth in Selenastrum growth test.

Figures 11.1 and 11.2 show that there is no readily apparent relationship across the region between the relative conditions of the biological community on the one hand and levels of toxicity and pollutants on the other.

In general, there is a clear biological pattern associated with the gradient of high to low IBI scores. A cluster analysis (**Figure 11.3**) shows that reference sites group together (i.e., have similar biological communities), characterized by species with relatively restricted habitat ranges. In contrast, sites with lower IBI scores have tolerant species with much wider habitat ranges. The presence of more tolerant species at sites with low IBI scores is a common finding in environmental studies in a wide range of marine, estuarine, and freshwater habitats. The cluster analysis also demonstrates a clear and persistent seasonal difference in biological community structure between spring and fall surveys. While there is some variability over time in the IBI and physical habitat scores at each site, the overall patterns described above are relatively persistent.

The spatial overview of the monitoring results (**Figures 11.1 and 11.2**) strongly suggests that there is no consistent relationship between the patterns in the biological stream communities and aquatic chemistry and toxicity. This conclusion is strongly supported by the very low incidence of both CTR exceedances and toxicity. In addition, a comparison of the station groupings in the cluster analysis in **Figure 11.3** to the actual levels of pollutants and of toxicity showed that there was no relationship between the biological pattern and measures of contamination and/or toxicity.

In contrast, there is a much stronger relationship between patterns in the biological community and various aspects of physical habitat. Overall, there is a positive relationship between IBI scores and physical habitat scores (**Figure 11.4**), although there is some noise around this relationship. This stems from the fact that not all the components of the physical habitat score are equally correlated with biological condition (**Figures 11.5a and 11.5b**). For example, low values for Instream Cover and Vegetation Protection are highly associated with poor community condition but intermediate values of these habitat components do not seem to be strongly correlated with community condition. On the other hand, Sediment Deposition is highly correlated with community condition only at high and low extremes, but not for intermediate values. In contrast to both these types of correlation, Channel Alteration is correlated with community condition at all levels of this component.

There is a need to further investigate the nature of the relationship between biological community patterns and physical habitat condition. This analysis should take advantage of the fact that both IBI and physical habitat scores are made up of multiple components that reflect different aspects of biological communities and physical habitat. It is likely that different IBI components, which reflect the status of different types of organisms, respond to different features of the physical habitat. The management benefit of such an analysis would be an improved ability to focus on those habitat features that matter the most to biological condition. This could lead to new stream or riparian zone management policies and procedures.

There are some apparent anomalies to the overall pattern just described, i.e., that biological condition is primarily determined by physical habitat characteristics. These situations may be appropriate for special studies that could identify site-specific contamination problems and/or provide additional insights into the relationship between physical habitat and biological condition. For example, station Christianitos Creek at Christianitos Road (station CC-CR) has IBI scores in the fair range but physical habitat scores more typical of sites with IBI scores in the poor to very poor range. However, CC-CR has high values for Riparian Vegetation Zone, Vegetation Protection, and Channel Alteration. Of these three, Riparian Vegetation Zone and Channel Alteration are very highly correlated with biological pattern in both the spring and the fall (**Figure 11.5**), and the high values for these components might explain this anomaly.

In contrast, reference station San Juan Creek at Cold Spring (REF-CS) has high physical habitat scores but anomalously low IBI scores. There is no readily apparent explanation for this in the physical habitat data, which suggests there may be some sort of pollution problem that was not detected by the monitoring program. Finally station WC-WCT also has high physical habitat scores but low IBI scores. This is a unique station in that it is within a wilderness area surrounded by pockets of residential areas. A special study will be conducted to determine if intermittent discharges of toxicants from the urban areas are impacting instream fauna.

Long-term Mass Loading

The long-term mass loading component of the monitoring program is intended to evaluate changes in pollutant loadings over a number of permit terms. This is accomplished through wet weather monitoring at six locations. Three storms are monitored at each location and for each storm the water chemistry is monitored with a series of 3 to 4 composite samples collectively spanning approximately 96-hours. This time period provides for comparison of the data to 96-hour guidance criteria for chronic aquatic toxicity from the California Toxics Rule (CTR). The concentrations of dissolved heavy metals in the composite samples are also compared to acute toxicity criteria from the CTR for guidance. The concentrations of organophosphate pesticides are compared to literature values of LC₅₀s for toxicity testing organisms.

Monitoring of at least three storms per site is attempted each year. Continuous water level records from streamgages at each site are used to determine stormwater discharge rates. The streamgages on Aliso Creek, Trabuco Creek, and San Juan Creek have produced acceptable records to calculate stormwater loads. The streamgage on Laguna Canyon Wash has experienced many operational problems and new monitoring equipment was installed during the 2005-06 monitoring year to overcome these problems. The Segunda Deshecha Channel was under construction during the first two years of the program during which time the streamgage was decommissioned. The high-flow stage-discharge relationships for this site and for the Prima Deshecha Channel have not been adequately defined to calculate accurate stormwater loads. When adequate channel ratings are established the flowrates and loads can be calculated for all prior years where accurate water level records are available.

Coastal Stormdrain Outfall Monitoring

The coastal stormdrain outfall component of the water quality monitoring program is intended to identify those sections of coastline where nearshore receiving waters most consistently exceed state AB411 standards for bacterial indicators, as well as the stormdrains that appear to be contributing the most to these exceedances. Three bacterial indicators (fecal coliforms, total coliforms, Enterococcus) are monitored weekly at 29 stormdrains along the coastline.

At each sampling event, concentrations of bacterial indicators are measured in the discharge of each stormdrain, as well as in the surfzone 25 yards upcoast and downcoast of the stormdrain. The flow from each drain is also estimated and categorized as high, medium, or low. Analyses of these data included calculation of an exceedance rate for each drain and linear regression of indicator concentrations in each drain's discharge against indicator concentrations in the nearby surfzone. The goal of these analyses was to identify the subset of drains that appeared most closely linked to a high rate of exceedance of the AB411 standards.

Coastal Stormdrain Outfall Monitoring was initiated during the final week of January 2003 and, except during periods of constant stormwater runoff, weekly monitoring at each site since that time. When the discharge from a stormdrain is diverted to the local sewage treatment plant, the stormdrain is not sampled. While diverted, only sampling of the downcoast location in the surfzone is conducted. Monitoring data are available through the Orange County Health Care Agency's website at ocbeachinfo.com.

The three years of monitoring data show that exceedances in the receiving water (i.e., the surfzone) tend to occur at the same subset of stations over time, although the rate of exceedances is higher during the winter than during the summer AB411 season (**Figures 11.6 and 11.7**). The five stations with exceedance rates of approximately 10% or higher are: POCHE, DSB-4, DSB-5, SJC1, and SCM1, which are concentrated along one section of the coast. There has been no observable discharge from DSB-4 during the three years of CSDO dry-weather monitoring. The exceedances of the AB-411 standards were most likely caused by the discharges of the other drains in the area (DSB-5 and SJC1). The highest exceedance rate during the AB411 season is 0.288 at station SCM1 and yearround 0.493 at station DSB5 (**Table 11.1**).

The exceedance rates alone do not necessarily indicate a problematic drain because the elevated bacterial indicator levels could stem from sources other than the nearby drain. Establishing a link between a particular drain and the receiving water exceedances depends on the relationship between indicator levels in the drain's discharge and in the receiving water. For example, the combination of elevated indicators in the receiving water with low levels in a drain's discharge would suggest that the exceedances could be due to longshore transport from another location. Conversely, elevated indicator levels in a drain's discharge combined with persistently low surfzone levels would suggest mixing and dilution by nearshore currents.

Linear regressions were performed for each indicator / drain combination and the results used to rank drains in terms of the strength of their relationship to receiving water conditions. The approximated yearly volume of flow from each drain was then used to qualitatively identify those drains with the highest loading of bacteria to the receiving water. Taken together, these evaluations resulted in the identification of five drains with a combination of high loadings of bacterial indicators and a statistically significant relationship between indicator levels in the drain and the surfzone:

- Aliso Creek (ACM-1)
- Salt Creek (SCM-1)
- Doheny Beach - North Creek Mouth (DSB-5)
- San Juan Creek (SJC1)
- Poche Beach (POCHE).

Table 11.2 summarizes conditions at these drains. Note that this list of drains is similar to, but not identical to, the list of drains with the highest exceedance rates.

These five stormdrains present opportunities for further upstream source identification studies to determine whether persistent receiving water contamination is due to sources near their mouths, to sources higher up in their respective drainage areas, and/or to longshore ocean currents transporting contamination from other nearby drains or creek mouths.

The following projects have been initiated in response to analysis of data from shoreline microbiology monitoring conducted for the Third Term Permit, the South Orange County Water Association (SOCWA) NPDES permit, and the Orange County Health Care Agency beach water quality program.

- The County has funded a \$200,000 microbial source tracking study in the Prima Deshecha Channel watershed. The report will be submitted by the consultant, Weston Solutions, Inc. to the County at the end of August 2006.
- The City of Dana Point has funded the construction, operation and maintenance of the ozone disinfection system for the dry-weather discharges from the Salt Creek Channel. Recent data from the surfzone has shown that the bacterial indicator concentrations are now consistently meeting the AB-411 standards.
- The City of Dana Point has procured grant funding and will provide matching funds for an epidemiological study by SCCWRP on the health effects of ocean water contact near the mouths of the Doheny Beach drains and San Juan Creek.

Ambient Coastal Receiving Water Monitoring

The ambient coastal receiving water component of the water quality monitoring program is intended to assess the impact of urban runoff to ecologically sensitive coastal areas by analyzing the water chemistry, aqueous toxicity, and magnitude of plumes of stormwater discharges to these areas. With this information the Permittees would then

prioritize these sites for further study in terms of their relative degree of potential threat to water quality and ecological resources. Monitoring at these 17 sites focuses primarily on aquatic chemistry and aquatic toxicity during both dry and wet (storm) weather conditions. Aerial photographs of stormwater plumes provide a basis for estimating the relative magnitudes of the impact zones.

Values for five metals are compared to acute toxicity criteria established in the California Toxics Rule (CTR) for guidance and the numbers and percentages of CTR exceedances tabulated. Toxicity tests with marine test organisms provide a measure of the potential toxicity due to different categories of pollutants. Because of the relatively high incidence of toxicity at some stations, the observed level of toxicity (in toxic units) was compared to the predicted toxicity expected from the observed aquatic chemistry results. Predicted toxicity was estimated by first calculating the average LC₅₀ for key chemicals from literature values. This average value was then used to calculate the amount of toxicity (in toxic units) to expect from the concentrations of these chemicals in aquatic chemistry samples. Summing the estimated toxicity from all chemicals resulted in an estimate of the toxicity that theoretically should be present.

For the coastal areas Ambient Coastal Receiving Waters monitoring was designed as an adaptive program whereby the initial monitoring would consist of sampling the discharges from selected coastal stormdrains for water chemistry and toxicity. The data from these samplings would be supplemented by aerial photographs of stormwater plumes in order to determine the drain which showed the greatest impact on its receiving waters. The receiving water for this drain would be selected for an offshore assessment of water quality and toxicity during the fifth year of the program. Water quality and toxicity monitoring of the stormdrains was initiated during a stormwater runoff event in December 2002 and has continued for three years. Aerial photography of stormwater plumes was carried out once in 2004 and once in 2005. Because of limited visibility due to cloud cover the plume photography for the first storm was conducted nearly two days after rainfall had ceased. For the second storm, the altitude of the flight was decreased to a level below the cloud cover which enabled photography at a time closer to the end of the storm.

Table 11.3 summarizes the frequency and pattern of exceedances of the acute saltwater CTR criteria at the ambient coastal receiving water stations during the period from 2002 – 2005. It should be noted that this analysis involved comparison of the freshwater discharges from these stormdrains to saltwater criteria. For each site, the potential impact to the receiving water assumes no dilution of the stormdrain discharge.

The data from this analysis show that exceedances are predominantly due to copper, with a lesser number due to nickel and zinc. The frequency of exceedance of the acute saltwater CTR criterion for copper remained fairly consistent during dry-weather sampling. The percentage of exceedances of the CTR criteria for stormwater samples in the third year appeared to drop dramatically from the prior two years. This observation may be the result of the higher than normal annual rainfall during year, as shown below:

Permit year	Total Samples	Exceeded Cu Criterion #(%)			
		Stormwater Samples	Dry Weather	Stormwater	Rainfall (inches)
1	32	6	14(54%)	4(67%)	14.57
2	39	5	14(41%)	4(80%)	8.41
3	59	39	10(50%)	15(38%)	28.44

Table 11.3 shows that the Doheny Beach stations most frequently exceed CTR values for multiple metals.

The toxicity results from these stations present another perspective on water quality conditions. **Table 11.4** summarizes the average degree of toxicity, averaged over all toxicity tests, at each station over the 2002-05 period. **Figures 11.8** and **11.9** visually present the regional pattern of toxicity, showing that toxicity is primarily concentrated at a subset of the stations, as are the CTR exceedances. The Doheny Beach stations (DSB -1, DSB-3, DSB-4, DSB-5) have consistently high average toxicities; these are generally the same stations with the highest frequencies of CTR exceedances. In addition, several other stations, distributed across a number of watersheds, had high average levels of toxicity. In general, the same stations exhibited elevated toxicity in both dry and wet weather.

There is a general correspondence between the overall patterns of CTR exceedances and toxicity, as exhibited by the Doheny Beach stations. However, other stations with elevated toxicity (e.g., LB-3) do not have higher than average numbers of CTR exceedances. Based on their combined patterns of CTR exceedances and toxicity, the following stations would be the highest priority for special studies to investigate the sources of contamination and/or toxicity:

- Doheny Beach (DSB-1, DSB-3, DSB-4, DSB-5)
- LB-4
- Salt Creek (SCM-1).

Stations DSB-5 and SCM-1 were also two of the five coastal stormdrain stations with persistent exceedances of AB411 standards for indicator bacteria. The differential sensitivity of toxicity test organisms can help provide a starting point for such source identification studies. Urchins and abalone are more sensitive to dissolved metals, while mysids are most sensitive to ammonia and organic compounds, particularly pesticides. Further guidance can be obtained from a comparison of the observed toxicity to that predicted from laboratory studies, as illustrated in **Figure 11.10**. An examination of this comparison for all the toxicity tests from this program component shows that predicted toxicity from zinc is often higher than the observed toxicity, strongly suggesting that zinc may not be as bio-available as other pollutants.

Much of the toxicity in the sea urchin fertilization test can be explained by elevated levels of dissolved metals, particularly copper. The predicted toxicity (from comparison of water chemistry to literature values of LC_{50s}) was higher than the observed toxicity.

This was due primarily to high concentrations of dissolved zinc, suggesting that zinc may be bound to organic ligands and is not completely bio-available.

The observed toxicity in the mysid survival tests is harder to explain because ammonia is very low and organophosphate pesticides were almost never found in the water samples (mysids are especially sensitive to Chlorpyrifos). The predicted toxicity was typically equal to or less than observed, which suggests that there are unknown toxicants affecting the system. Phase I TIEs have been conducted on a limited basis and have thus far proven inconclusive. For most of these TIEs the initial toxicity was only observed in the undiluted sample of the multiple dilution test. The baseline test of the TIE produced no response. The toxicity testing laboratory has hypothesized that the toxicant that caused the initial toxicity was most likely a volatile compound that dissipated over time.

Dana Point Harbor

The Ambient Coastal Receiving Water (ACRW) monitoring program also includes Dana Point Harbor. The monitoring of Dana Point Harbor was initiated in June of 2003 and consists of sampling for water chemistry and aqueous toxicity. Semiannual dry-weather analyses of sediment chemistry, sediment toxicity, and benthic infaunal analyses were added during the 2003-04 monitoring year.

As an enclosed embayment with several stormdrain inputs, Dana Point Harbor is a focus of particular attention within the region. **Figure 11.11** shows that average BRI (Benthic Response Index) scores for station DAPTDC (Dana Cove) were within the reference range, while BRI scores for all other stations fell within Response Level 2, indicating a change in species composition of between 25% and 50% compared to reference. DAPTDC also had relatively low levels of pollutants in the sediments and the lowest level of sediment toxicity (**Figure 11.12**). The bottom at this site consists mostly of rock and large gravel, with very little of the fine sediment which is typically associated with associated with elevated levels of particle-bound pollutants.

The overview presented in **Figure 11.12** shows that, with the exception of station DAPTDC, sediment monitoring data for Dana Point Harbor show a moderate level of impact to the benthic community and a moderate to substantial level of toxicity. The sediment chemistry picture is less clear because data are only available from two samplings (Spring and Fall 2005).

Impacts to the benthic community can stem from both toxicity due to chemical contamination and from physical disturbance. **Figure 11.13** shows that the relationship between BRI score and toxicity, while statistically significant, is not strong. Much of the relationship is driven by the handful of samples with the lowest BRI scores, which are all from station DAPTDC, which is somewhat anomalous. Since the sampling location for DAPTDC does not have a typical muddy bottom its benthic infaunal community is depauperate. Without this station, the regression would not be statistically significant. This finding is similar to results being generated as part of the technical work for the

State Water Resources Control Board's Sediment Quality Objectives project. Using data from embayments throughout California, this project has found that relationships among sediment chemistry, sediment toxicity, and benthic community changes are highly variable. Significant relationships can typically only be documented with large numbers of samples.

The cumulative frequency distribution of sediment toxicity from embayments in the Southern California Bight (**Figure 11.14**), based on data from the Bight '03 regional survey, provides a larger regional context to the toxicity results from Dana Point Harbor. The median mortality in sediment toxicity tests in the Bight '03 data is about 20%, which is lower than the average toxicity of all tests from Dana Point Harbor. **Figure 11.13** shows that the bulk of toxicity results fall between about 20% and 45% mortality relative to test controls.

Region-Wide CTR Exceedance Patterns

The CTR is a convenient benchmark for assessing region-wide patterns. For the purposes of this analysis it is not being used for compliance purposes but merely for guidance as to where the levels of constituents of concern may be persistently elevated.

Aquatic chemistry samples from several components of the water quality monitoring program (urban stream bioassessment, long-term mass loading, ambient coastal receiving water monitoring) were evaluated with respect to criteria for dissolved metals established in the CTR. While such CTR criteria are available for only a portion of the constituents measured in the program's samples, the combination of CTR exceedances from all available program components provides an overview of contamination patterns across the region. In addition to tabulating the number of exceedances at each station, the overall percentage of exceedances at each station (out of all samples collected at each station) was used to place stations into one of four categories representing relative frequency of exceedances.

Table 11.5 summarizes exceedances of acute CTR criteria for dissolved metals at all water quality monitoring stations in the San Diego region with more than one sampling event. For purposes of this assessment, all program components (bioassessment, mass loading, ambient coastal) were combined into one dataset, in order to better represent the spatial pattern of exceedances across the region.

Exceedances overall are predominantly due to copper, with a much smaller percentage due to nickel and zinc. Exceedances of the CTR for cadmium, lead, and silver were extremely rare and thus not included in **Table 11.5**. Most exceedances occur at a subset of the stations along the coast. There is year-to-year variability within this larger pattern, although this appears to be somewhat related to the amount of annual rainfall. **Figures 11.15** and **11.16** visually summarize these regional patterns, using the data presented in **Table 11.5**.

Within these larger patterns, the CTR exceedance data help identify locations where targeted special studies to identify upstream sources should be implemented. These are stations with more than a handful of samples where both the exceedance rate and/or the number of pollutants showing exceedances are among the highest:

- ACJ01
- SCM-1
- PDCM01
- SDCM02
- SJNL01
- DSB-5

Stations DSB-5 and SCM-1 were also two of the five coastal stormdrain stations with persistent exceedances of AB411 standards for indicator bacteria. It should be noted that stations ACJ01 and SJNL01 are a significant distance upstream of their respective coastal receiving waters and that their respective Ambient Coastal Receiving Waters monitoring locations ACM1 and SJC1 show much less of an impact with respect to the acute saltwater criteria from the CTR. These findings suggest that sampling of a mass emissions site and its corresponding ACRW discharge point be monitored concurrently during storms to more accurately evaluate the potential impacts of urban runoff.

Region-wide Toxicity Patterns

Aquatic toxicity test results from several components of the water quality monitoring program (urban stream bioassessment, long-term mass loading, ambient coastal receiving water monitoring) were combined to present a picture of how toxicity is distributed throughout the region. The average mortality rate of test organisms at each station was used to place each station into one of four categories representing relative intensity of toxicity. **Figures 11.17** and **11.18** show the distribution of relative toxicity across the region. In both dry and wet weather, toxicity is concentrated along the coast, although toxicity is detected somewhat further inland during wet weather.

11.2.2 Implementation of the Dry-weather Monitoring Program

The proposal for the Dry-weather Monitoring Program to detect illegal discharges and illicit connections (ID/ICs) to the stormdrain system was submitted to and subsequently approved by the Regional Board in February 2003. Monitoring was initiated in May 2003 and has continued each dry-weather season (May 1 - September 30).

The program includes monitoring 3 times annually at approximately 30 randomly selected stormdrains (random sites) to determine regional mean concentrations of constituents of concern. Each Permittee selected several stormdrains (targeted sites) within their respective jurisdiction, which were suspected to contain ID/ICs. These targeted sites were sampled monthly (5 times annually) for the same constituents. Triggers for source investigations were established using two statistical methods:

- If on consecutive sampling dates, the value of a monitored constituent exceeds the upper bound (lower bound for dissolved oxygen) of the tolerance interval around the estimated 90th percentile of random site data for that constituent, or
- The value of a monitored constituent exceeds the control limits for that constituent at that site. The control limits are set at 3.9 standard deviations above (below for dissolved oxygen) the mean for that site.

The Permittees are provided an updated spreadsheet of the monitoring data on a monthly basis throughout the dry-weather season. The tolerance intervals are updated periodically as more data are compiled. Extreme values of physical properties or chemical constituents measured in the field triggers immediate notification of the authorized inspector(s) of the city or cities which have jurisdiction within the watershed of the offending stormdrain. In many instances (e.g. high surfactant or TSS discharges) the responsible party has been identified quickly by the authorized inspector.

11.2.3 Establishment of a New Water Quality Database

In 2004, a new computer program was developed for managing NPDES monitoring data. The intent of this program which has been called Labtrack, is to provide a single repository for all current NPDES data, to reduce the number of systematic errors in monitoring and laboratory analyses, and to increase the efficiency in processing invoices for the payment of analytical services. Some of the features of Labtrack include the ability to:

- Produce customized periodic data summaries
- Print labels for sampling containers
- Print and maintain chain-of-custody documentation
- Check laboratory results against quality assurance criteria
- Check invoice pricing against price agreements
- Integrate discharge rate information from Hydstra (hydrologic database) to calculate load information for Performance Evaluation Assessment (PEA) and TMDL reports

11.2.4 Participation in Regional Monitoring Programs

Since 1997, the Permittees have been an active participant in the Regional Monitoring Program for the Southern California Bight. A Permittee representative has served on the steering committees for the 1998 Regional Assessment (Bight 98) and the 2003 Assessment (Bight 03). A representative has also served on several of the monitoring subcommittees on Bight 03.

The Permittees have also provided representation to the southern California Stormwater Monitoring Coalition. A Permittee representative was instrumental in the development of the Model Stormwater Monitoring Program guidance document which has incorporated many of the same methods used in this program. A Permittee representative is currently on the working group with SCCWRP and the California

Department of Fish and Game to improve the California Stream Bioassessment Procedure.

The Permittees are also participating in the Regional Harbor Monitoring Program (RHMP), which was designed and implemented in response to a 13267 letter from the San Diego Regional Water Quality Control Board. The RHMP is intended to help answer fundamental questions about the status of and trends in beneficial uses in the coastal harbors along this region of the coast. Dana Point Harbor, in southern Orange County, is included in the RHMP.

The RHMP uses a stratified random design modeled on the Bight Program approach and intended to ensure that the RHMP data are compatible with data from the periodic Bight Program. While the Bight Program uses a single stratum for harbors, the RHMP has identified multiple strata within harbors in order to provide for more detailed assessments of conditions. These strata are based on both structural (e.g., depth) and use (e.g., industrial, marina) features of harbors. Within each stratum, a broad range of indicators are sampled, including water quality, sediment quality and characteristics, toxicity, and fish tissue contamination. The RHMP is being implemented in two phases. The first phase focuses on using a more limited sampling protocol to validate design assumptions and gather the information needed for full implementation in the second, permanent, phase. The first phase will include 3 years of data collection and evaluation to validate design assumptions and sampling protocols. The first year of data collection was completed in 2005.

The knowledge gained from participation in these regional programs has enabled the Permittees to improve the monitoring program in many ways. The newly established price agreements for analytical services for the stormwater program required that the vendor had participated in the rigorous laboratory inter-calibration exercises for the Bight Regional Monitoring Program. These exercises, coordinated by SCCWRP, ensured that the accuracy and precision by each of the participating laboratories were maintained at a high standard.

11.2.5 Involvement in Research Level Investigations

The Permittees also contributed monitoring equipment and funding to UCI to conduct bacteriological investigations in the Santa Ana River and Huntington Beach surfzone. As a result of the study findings, the dry-weather discharges of several channels which drain to that area have been diverted to the Orange County Sanitation District. Since the diversions have been implemented there has been an improvement in scores for the surfzone in that area on Heal the Bay's Beach Water Quality Report Card.

On behalf of the Aliso Creek Watershed Permittees, the County worked with UC Irvine researchers Dr. Sunny Jiang and Dr. Betty Olson to investigate sources of bacteria in the J03P02 sub-watershed of Sulphur Creek. The UCI researchers used three Microbial Source Tracking (MST) methods to identify the sources of bacteria from samples collected in the sub-watershed from May through August 2002. These MST methods included: (1) analysis for human enteric viruses, (2) analysis for genetic biomarkers

indicative of human, cow, pig/cat, rabbit, and bird sources, and (3) Antibiotic Resistance Analysis (ARA). The analysis of samples for biomarkers of human and animal sources showed no samples with biomarkers of human origin, and showed that all or almost all samples had biomarkers of bird, rabbit, and cow origin. Findings from the human virus and ARA studies suggest that sewage was an unlikely source of fecal coliform in the drainage system, and that bacteria from wild animal feces were the dominant source of *Enterococci* in the watershed. Further details can be found in the eighth quarterly progress report for the Aliso Creek Directive, dated April 30, 2003, and ninth quarterly progress report, dated July 31, 2003.

11.3 Assessment

The monitoring results described in the preceding section have led to conclusions about patterns of impact and the potential sources of these impacts. These conclusions, summarized below, provide the basis for the summary recommendations in **Section 11.4**.

The current Urban Bioassessment monitoring program in South Orange County utilizes the triad approach from the SMC's model stormwater monitoring program. The results from the first three years of monitoring have shown that there is a clear pattern of lower IBIs in the more urbanized portions of watersheds, and this pattern appears to primarily reflect habitat degradation rather than aquatic toxicity due to chemical contamination. This is a typical result of bioassessment monitoring programs elsewhere in the country. These findings suggest further investigation of the relationship between the physical habitat and biological communities.

The current method of triad monitoring consists of a synoptic evaluation of the chemistry, toxicity, and bioassessment (physical habitat assessment and IBI score). IBI score may not be reflective of the water chemistry or toxicity testing results if the water quality is not consistent. If intermittent discharges of toxicants affect the study area they may not be measured during the synoptic sampling. If low IBI scores cannot be attributed to physical habitat degradation a more comprehensive water quality study should be conducted.

The Mass Emission monitoring program evaluates long-term trends in pollutant loading. Although the current mass emissions monitoring program has not yet generated enough data over time to fully accomplish this goal, it has identified two channels (Prima and Segunda Deshecha) with stormwater discharges that have shown persistent toxicity to marine test organisms.

The Coastal Stormdrain Outfall monitoring program provides a weekly indicator of the impacts to the coastal zone from bacteria in urban runoff. The program has enabled the Permittees to identify surfzone areas near the outlets of stormdrains that have shown the highest frequency of exceeding AB411 single-sample ocean water sports contact standards.

The first four years of the Ambient Coastal Receiving Waters program involved monitoring the chemistry and aquatic toxicity of dry weather and stormwater discharges to ecologically sensitive areas along the southern Orange County coastline. During two storms aerial photographs were taken of the stormwater plumes to estimate the spatial extent of the impact of urban runoff. While the impacts of urban runoff to the coastline were monitored indirectly, it did enable the Permittees to identify the stormdrains that had the highest concentrations of urban pollutants and showed the greatest potential for toxic effects to nearshore areas. In Dana Point Harbor the impacts to the receiving waters were monitored directly. Monitoring was conducted in the harbor near the outlets of the stormdrains with measurements of water chemistry and aqueous toxicity, sediment chemistry, sediment toxicity, and benthic infaunal analyses.

11.4 Summary

The data analysis results form the basis for the following recommendations for further investigations and modifications to the monitoring design itself. The proposed further studies are focused on improving our understanding of the sources and causes of the observed impacts. The suggested modifications to the program are intended to improve the cost effectiveness of the program by focusing on those areas where impacts are most persistent or where substantial knowledge gaps remain.

11.4.1 Receiving Water Monitoring Program

Urban Stream Bioassessment

The past three years of bioassessment data suggest that physical habitat rather than water chemistry has a greater influence on IBI scores. The Permittees will conduct statistical analyses of the relationship between the components of the IBI and physical habitat (PHAB) scores to provide more detailed insight into the specific aspects of physical habitat most important to maintaining biological communities. If the specific aspect(s) of physical habitat causing the impairment can be identified, the Permittees will investigate BMPs and/or management measures to improve the physical habitat and reduce the impairment. The Permittees will also continue to participate in the SMC's working group to improve the current DF&G California Stream Bioassessment Procedure.

There are two sites (REF-CS and WC-WCT) that exhibited higher than system-wide average physical habitat scores but low IBI scores. These sites will be the focus of targeted special studies which would include:

- Reconnaissance of the immediate upstream watershed to locate all natural and manmade inputs to the channel. The discharges from these inputs will be field screened (using Dry-weather Reconnaissance tools) to identify candidates for more comprehensive monitoring.
- Sampling for intermittent discharges of low concentrations of toxicants (e.g. pesticides and dissolved metals) which may be affecting the intolerant species at the bioassessment locations. Using automatic sampling equipment, 24-hour composite samples will be collected at the bioassessment site, one day each week for the four weeks prior to bioassessment monitoring. The composite samples will be analyzed for nutrients, trace metals, pesticides (organophosphates, carbamates, pyrethroids), and water toxicity (Ceriodaphnia and Hyallella survival in undiluted samples).

Mass Emissions Monitoring

Two of the sites (PDCM01 and SDCM02) showed persistent toxicity in the mysid survival/growth tests. The OP pesticide data could not account for this toxicity. During the upcoming storm season the suite of pesticide analyses will be expanded to include carbamates and pyrethroids.

More high-flow instantaneous discharge measurements will be made at the streamgaging locations operated by the Permittees in order to improve the accuracy of the channel stage-discharge relationships (ratings). Equipment utilizing state-of-the-art acoustic Doppler current profiling technology has been recently purchased to enable rapid measurements of discharge rates.

Coastal Stormdrain Outfall Monitoring

Three years of monitoring data show that there is a small subset of coastal drains that display persistent exceedances of AB411 standards and for which there is a statistically significant relationship between bacterial indicator levels in the drain discharge and the surfzone.

The consistency of this overall pattern supports a recommendation to consider reducing monitoring effort at those stormdrains that rarely if ever have exceedances and reprogramming that effort toward more intensive investigations of the problematic drains. The actual amount of any such reduction would be determined only after an evaluation of the statistical consequences of a reduction in monitoring frequency and in consultation with the Permittees and Regional Board staff.

Ambient Coastal Receiving Water Monitoring

The ACRW monitoring results highlight the following questions and/or issues that will be addressed either through targeted special studies or modifications of the scope of on-going monitoring.

Source Identification and Determining Causes of Toxicity

Examination of the water chemistry results provided insight into the causes of toxicity in the sea urchin fertilization tests. The toxicity in the mysid /survival growth tests however could not be explained either with water chemistry or phase I TIEs. To aid in identifying the unknown causes of toxicity in the mysid tests, the water chemistry analyses of the stormdrain discharges will be expanded to include carbamate and pyrethroid pesticides. If found, the concentrations of these pesticides will be compared to their respective literature values for the LC₅₀ in the mysid survival test. If a carbamate and/or pyrethroid pesticide is consistently found and their LC₅₀s for the mysid survival test have not been determined, the program would propose that the SMC conduct toxicity tests to determine those LC₅₀s.

There is a subset of six stations that provide targets for special studies to identify upstream sources of contamination and toxicity, based on the number of pollutants showing exceedances to CTR criteria, the high percentage of the time these exceedances occurred, and the level of toxicity observed. These sites include the Doheny Beach stormdrains (DSB-1, DSB-3, DSB-4, and DSB-5), a 48-inch stormdrain south of Main Beach in Laguna Beach (LB-4), and Salt Creek Mouth (SCM1).

A start on these efforts was made during the 2005-06 monitoring year, when the discharge from the DSB-5 stormdrain (North Beach Creek) was monitored extensively during a storm in March 2006. An automatic sampler was used to collect samples representative of the first flush and a 24-hour period after the first flush. In addition to the usual stormwater analyses for nutrients, metals, OP pesticides, and aquatic toxicity the Permittees also analyzed these samples for dissolved organic carbon, pyrethroid pesticides, organochlorine pesticides, PCBs, polynuclear aromatic hydrocarbons, and oil and grease. The results of this monitoring will be presented in the 2005-06 PEA report and will be used as guidance for special investigations of the drains described in the preceding paragraph.

Measuring Direct Impacts to the ACRWs

The toxicity testing results and the aerial photographs of stormwater plumes were used to select two coastal receiving waters (off of North Beach Creek and Salt Creek) for nearshore monitoring during a significant stormwater runoff event in the upcoming year.

The discharge from North Beach Creek in Doheny has shown significant amounts of metals and toxicity during both dry weather and stormwater runoff conditions. The

spatial extent of the stormwater plume from this drain appears to be limited to the jetty immediately west of the mouth of the creek.

The discharge from Salt Creek has also shown significant amounts of toxicity in the mysid survival/growth tests. Although the watershed area and consequently the stormwater discharge volume are much smaller than those of San Juan or Aliso Creeks, the impact of Salt Creek on the nearshore habitat may be greater.

Because the Permittees do not currently possess an ocean-worthy vessel for offshore monitoring during storm conditions, a price agreement with a consultant will be established to perform the monitoring off the mouth of Salt Creek. The monitoring will be consistent with those used in the assessment of stormwater plumes conducted as part of the Bight '03 Regional Monitoring Program. Monitoring of the physical characteristics of the plume and sample collection will be conducted by the consultant. Sample analyses will be performed by the Permittees' analytical services and toxicity testing providers. The localized monitoring of the impacts from North Beach Creek near the Dana Point Harbor jetty will be conducted by Permittee staff.

Dana Point Harbor

The monitoring data indicate that at least one area is significantly impacted by urban runoff. To determine the type of contaminant causing the high toxicity in the benthic sediment near the outlet of East Basin stormdrain (DAPTEB), a sediment TIE will be conducted. In addition to the routine analyses for sediment chemistry these samples will also be analyzed for polynuclear aromatic hydrocarbons, mercury, and tributyl tin. If the cause of the toxicity is identified, a source identification study will be initiated in the watershed of the Golden Lantern stormdrain.

11.4.2 Database Improvements

A module will be created for the Labtrack database which will enable the Permittees to produce data files consistent with the SMC's Standardized Data Transfer Format (SDTF). The SDTF is a Microsoft Access based format that will allow data transfer between Southern California Stormwater agencies.

Table 11.1: Proportion of All Samples Exceeding AB411 Standards Near Coastal Stormdrains

Entire Year			AB411 Season		
Rank	Station	Avg Hits ¹	Rank	Station	Avg Hits
1	BLULGN	0.000	1	RIVERA	0.000
1	HEISLR	0.000	1	SCCS17	0.000
1	LADERA	0.000	1	SCCS52	0.000
1	PEARL	0.000	1	TRFCYN	0.000
1	TRFCYN	0.000	1	VICTRA	0.000
2	BLUBRD	0.003	1	WEST	0.000
3	DUMOND	0.004	1	BLUBRD	0.000
3	SCCS52	0.004	1	BLULGN	0.000
4	WEST	0.007	1	DUMOND	0.000
5	MARIPO	0.008	1	HEISLR	0.000
5	SCCS17	0.008	1	LADERA	0.000
6	LINDAL	0.016	1	LINDAL	0.000
6	RIVERA	0.016	1	MAINBC	0.000
7	CSBBR1	0.020	1	MARIPO	0.000
8	EMRLD	0.021	1	PEARL	0.000
9	ELMORO	0.022	2	PICO	0.015
10	PIER	0.023	2	ACM1	0.015
11	CLEO	0.041	2	CLEO	0.015
12	PICO	0.042	2	ELMORO	0.015
13	MAINBC	0.043	2	EMRLD	0.015
14	CSBMP1	0.050	3	PIER	0.023
15	DSB1	0.057	3	CSBBR1	0.023
15	VICTRA	0.057	4	CSBMP1	0.061
16	ACM1	0.062	5	DSB1	0.068
17	POCHE	0.081	6	POCHE	0.121
18	DSB4	0.133	7	DSB4	0.136
19	SCM1	0.238	8	DSB5	0.188
20	SJC1	0.455	9	SJC1	0.242
21	DSB5	0.493	10	SCM1	0.288

¹ At each site, one (upcoast) or two samples (upcoast and downcoast) are collected from the surfzone. For each sample three tests for pathogen indicator bacteria (total coliform, fecal coliform, and Enterococcus) are conducted. Hits represent the ratio of the number of exceedances of the AB-411 standards to the total number of tests conducted.

SECTION 11.0, WATER QUALITY MONITORING SUMMARY AND ANALYSES

Table 11.2: Conditions at Drains of Highest Concern.

Drain	Exceedances (proportion)		Regression (p value)		Mouth	Flow ¹	Watershed (lower reach)
	Year	AB411	Year	AB411			
Aliso Creek ACM1	.06	.07	.0001 All	.04 ENT .49 FC .17 TC	Occasionally barricaded by berm	Flows ~90% of time 2 nd highest flow	Partly rural, wilderness park
Salt Creek SCM1	.24	.29	.001 ENT .16 FC .40 TC	.04 ENT .26 FC .03 TC	Large stagnant scour pond always present on beach, with many birds Flows from pond to surfzone	Flows ~90% of time 3 rd highest flow	Underground last 3 – 400 yds Aboveground through golf course and residential area
Doheny Beach – North Beach Creek Mouth DSB5	.49	.19	.0001 ENT .002 FC .0001 TC	.0001 ENT .01 FC .0002 TC	Long stagnant section at bottom end Stagnant portion of harbor at drain discharge	Low gradient 5 th highest flow, much lower than other 4 drains Substantial flow only during storms Diverted during summer	Drains parking lot and state park with wildlife near mouth
San Juan Creek SJC1	.45	.24	.29 ENT 1 FC 1 TC	1 All	Occasionally barricaded by berm in summer Stagnant lagoon that drains to surfzone under sand	Flows most of year Highest flow	Residential area Bird refuge at bottom with 1 – 2000 birds
Poche Beach POCHE	.08	.12	.0001 ENT .0006 FC .001 FC	.005 ENT .02 FC .01 TC	Large stagnant scour pond that regularly flows to surfzone	Flows ~80% of time 4 th highest flow	Entirely residential

¹ Flow ranks are relative and refer only to this group of five drains.

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Table 11.3: Summary of Exceedances of Acute Saltwater CTR Criteria at Ambient Coastal Receiving Water Stations, 2002-2005

Station	Acute CTR Criterion		Cd		Cr		Cu		Pb		Ni		Zn	
	42 µg/L		100 µg/L		4.8 µg/L		210 µg/L		74 µg/L		90 µg/L			
	# Samples		Exceeded CTR Criterion											
	Storm	Dry	Storm	Dry	Storm	Dry	Storm	Dry	Storm	Dry	Storm	Dry	Storm	Dry
AB-1		1						1						
ACM-1	3	9						1						
DAPTDC	3	5					1	2						
DAPTEB	3	5					1	4						
DAPTLB	3	3						1						
DAPTLR	3	4						1						
DAPTWB	3	5					1	5						
DSB-1	4	1					3				2	1	1	
DSB-3	2	1					2	1			1		1	
DSB-4		1						1						
DSB-5	3	4	2	2			1	3			2	3	2	3
LB-1	1	2					1	1						1
LB-2	2	3					2	4					1	
LB-3	3	5					2	1						
LB-4	3	5					2	5						1
NI-1	1	2					1	2			1	1		
SCM-1	5	10					3	7						
SJC-1	6	8												
Totals	48	74	2	2			20	40			6	5	5	5

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Table 11.4: Overall Average Level of Toxicity at Ambient Coastal Receiving Water Stations, 2002 - 2005

Station	Watershed	Weather	# Samples	Average Effect ¹
ACM-1	Aliso Creek	Dry	8	31.25
ACM-1	Aliso Creek	Storm	3	66.67
DAPTDC	Dana Point Coastal Streams	Dry	3	16.67
DAPTEB	Dana Point Coastal Streams	Dry	6	16.67
DAPTLB	Dana Point Coastal Streams	Dry	2	0.00
DAPTLR	Dana Point Coastal Streams	Dry	3	16.67
DAPTWB	Dana Point Coastal Streams	Dry	6	8.33
DAPTDC	Dana Point Coastal Streams	Storm	2	0.00
DAPTEB	Dana Point Coastal Streams	Storm	2	0.00
DAPTLB	Dana Point Coastal Streams	Storm	4	25.00
DAPTLR	Dana Point Coastal Streams	Storm	2	0.00
DAPTWB	Dana Point Coastal Streams	Storm	2	0.00
DSB-1	San Juan Creek	Dry	3	83.33
DSB-3	San Juan Creek	Dry	2	75.00
DSB-4	San Juan Creek	Dry	1	50.00
DSB-5	San Juan Creek	Dry	5	90.00
DSB-1	San Juan Creek	Storm	2	75.00
DSB-3	San Juan Creek	Storm	1	100.00
DSB-5	San Juan Creek	Storm	1	100.00
LB-2	Laguna Coastal Streams	Dry	3	50.00
LB-3	Laguna Coastal Streams	Dry	4	25.00
LB-4	Laguna Coastal Streams	Dry	3	66.67
LB-2	Laguna Coastal Streams	Storm	3	50.00
LB-3	Laguna Coastal Streams	Storm	4	62.50
LB-4	Laguna Coastal Streams	Storm	1	0.00
NI-1	Dana Point Coastal Streams	Dry	2	75.00
SCM-1	Dana Point Coastal Streams	Dry	8	43.75
SCM-1	Dana Point Coastal Streams	Storm	5	80.00
SJC-1	San Juan Creek	Dry	6	30.95
SJC-1	San Juan Creek	Storm	4	50.00

¹ Average effect is calculated as the percentage of samples in which the effect in the undiluted sample of a multiple dilution test exceeded 25%. Effect = percent mortality in the mysid survival/growth test and percentage of failed fertilization in the sea urchin test. All toxicity testing results are relative to results from control samples conducted concurrently with the environmental samples.

SECTION 11.0, WATER QUALITY MONITORING SUMMARY AND ANALYSES

Table 11.5: Summary of Exceedances of Acute CTR Criteria Across the Region

Weather	CTR Type	Station	Watershed	# Samples	% Samples Exceeding CTR Criteria		
					Cu	Ni	Zn
Dry	FW*	ACJ01	Aliso Creek	3	0	0	0
Dry	FW	ACM1	Aliso Creek	7	0	0	0
Dry	FW	AC-PPD	Aliso Creek	4	0	0	0
Dry	FW	EC-MD	Aliso Creek	2	0	0	0
Dry	SW	ACM1	Aliso Creek	7	14	0	0
Storm	FW	ACJ01	Aliso Creek	55	0	0	0
Storm	FW	ACM1	Aliso Creek	3	0	0	0
Storm	SW	ACJ01	Aliso Creek	55	75	0	0
Storm	SW	ACM1	Aliso Creek	3	0	0	0
Dry	FW	SCM1	Dana Point Coastal Streams	7	14	0	0
Dry	FW	SC-MB	Dana Point Coastal Streams	3	0	0	0
Dry	SW	DAPTDC	Dana Point Coastal Streams	3	67	0	0
Dry	SW	DAPTEB	Dana Point Coastal Streams	3	100	0	0
Dry	SW	DAPTLB	Dana Point Coastal Streams	2	100	0	0
Dry	SW	DAPTLR	Dana Point Coastal Streams	3	33	0	0
Dry	SW	DAPTWB	Dana Point Coastal Streams	3	100	0	0
Dry	SW	SCM1	Dana Point Coastal Streams	7	57	0	14
Storm	FW	SCM1	Dana Point Coastal Streams	5	0	0	0
Storm	SW	SCM1	Dana Point Coastal Streams	5	80	0	0
Dry	FW	LC-133	Laguna Coastal Streams	3	0	0	0
Dry	SW	LB-2	Laguna Coastal Streams	3	67	0	0
Dry	SW	LB-3	Laguna Coastal Streams	4	0	0	0
Dry	SW	LB-4	Laguna Coastal Streams	3	100	0	0
Storm	FW	LCWI02	Laguna Coastal Streams	35	3	0	3
Storm	SW	LB-1	Laguna Coastal Streams	2	100	0	50
Storm	SW	LB-2	Laguna Coastal Streams	3	100	0	33
Storm	SW	LB-3	Laguna Coastal Streams	5	60	0	0
Storm	SW	LB-4	Laguna Coastal Streams	2	100	0	50
Storm	SW	LCWI02	Laguna Coastal Streams	35	71	0	9

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Weather	CTR Type	Station	Watershed	# Samples	% Samples Exceeding CTR Criteria		
					Cu	Ni	Zn
Dry	FW	PDCM01	San Clemente Coastal Streams	2	0	0	0
Dry	FW	SDCM02	San Clemente Coastal Streams	4	0	0	0
Dry	SW	PDCM01	San Clemente Coastal Streams	2	100	100	0
Dry	SW	SDCM02	San Clemente Coastal Streams	4	50	0	0
Storm	FW	PDCM01	San Clemente Coastal Streams	48	0	0	0
Storm	FW	SDCM02	San Clemente Coastal Streams	36	3	0	0
Storm	SW	PDCM01	San Clemente Coastal Streams	48	96	63	15
Storm	SW	SDCM02	San Clemente Coastal Streams	36	89	22	8
Dry	FW	REF-BC	San Juan Creek	2	0	0	0
Dry	FW	REF-CS	San Juan Creek	3	0	0	0
Dry	FW	REF-TCAS	San Juan Creek	2	0	0	0
Dry	FW	SJC1	San Juan Creek	7	0	0	0
Dry	FW	SJC-74	San Juan Creek	2	0	0	0
Dry	FW	SJC-CC	San Juan Creek	3	0	0	0
Dry	FW	TC-AP	San Juan Creek	2	0	0	0
Dry	FW	TC-DO	San Juan Creek	2	0	0	0
Dry	SW	DSB5	San Juan Creek	3	67	33	33
Dry	SW	SJC1	San Juan Creek	5	0	0	20
Storm	FW	SJC1	San Juan Creek	5	0	0	0
Storm	FW	SJNL01	San Juan Creek	47	0	0	0
Storm	FW	TC-DO	San Juan Creek	35	0	0	0
Storm	SW	DSB1	San Juan Creek	3	100	33	0
Storm	SW	SJC1	San Juan Creek	5	20	0	0
Storm	SW	SJNL01	San Juan Creek	47	53	0	0
Dry	FW	CC-CR	San Mateo Creek	2	0	0	0

*Freshwater CTR criteria are a function of the water hardness

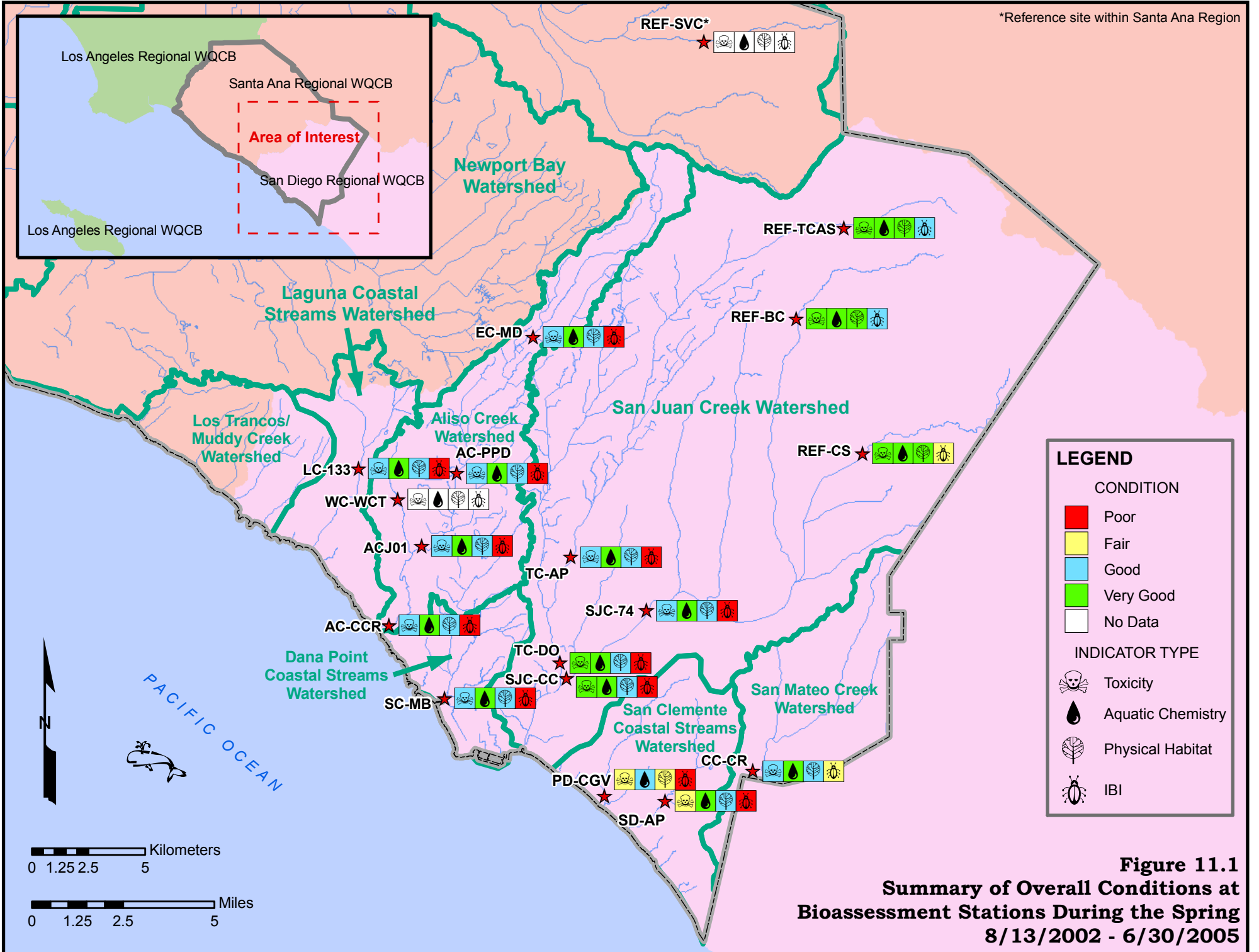


Figure 11.1
Summary of Overall Conditions at
Bioassessment Stations During the Spring
8/13/2002 - 6/30/2005

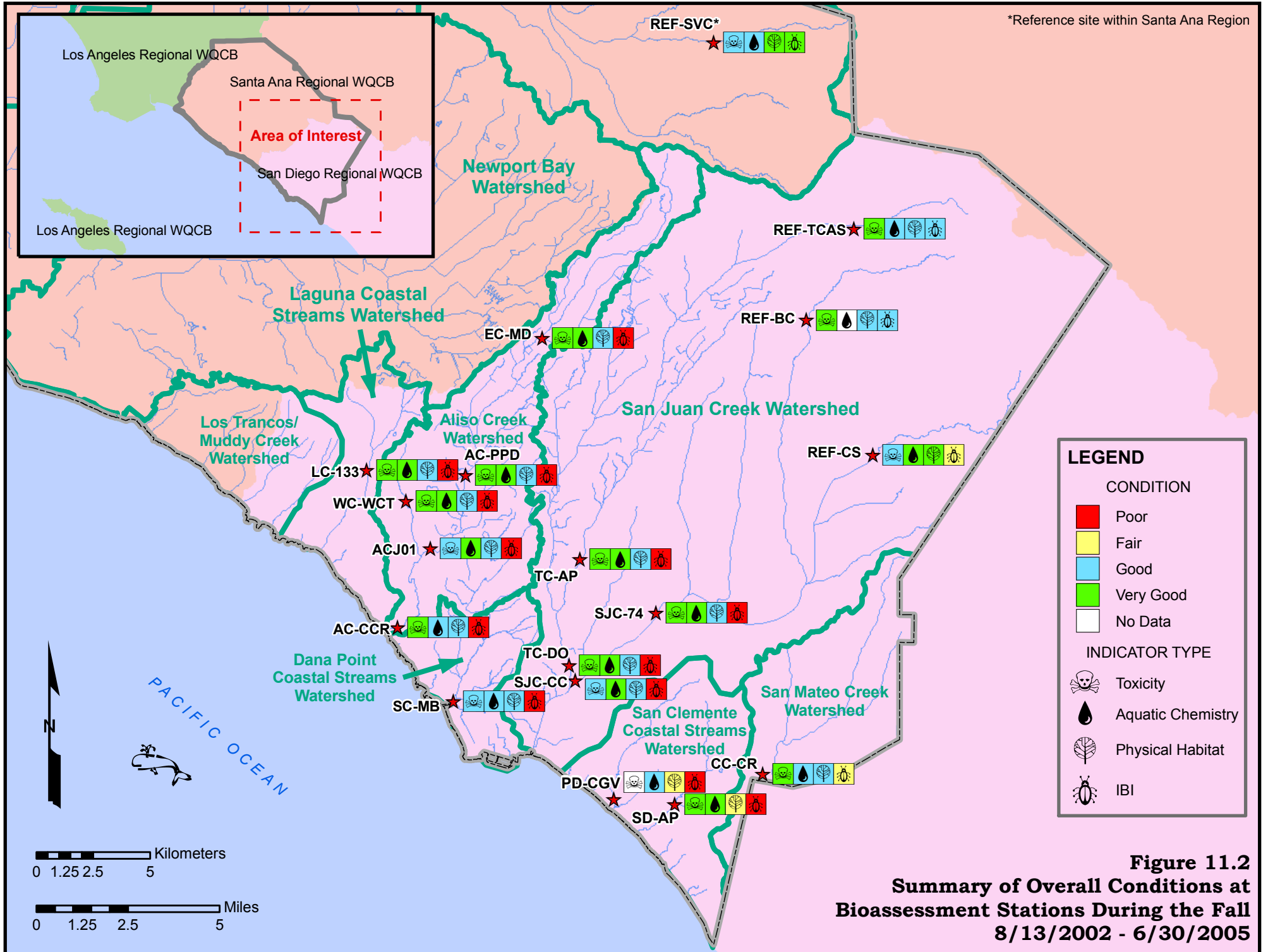


Figure 11.3: Two-way Coincidence Table of Stations and Species for all Bioassessment Surveys. Reference Stations are Positioned at the Left and More Impacted Stations to the Right

Bioassessment - 2002-2005 - All Data

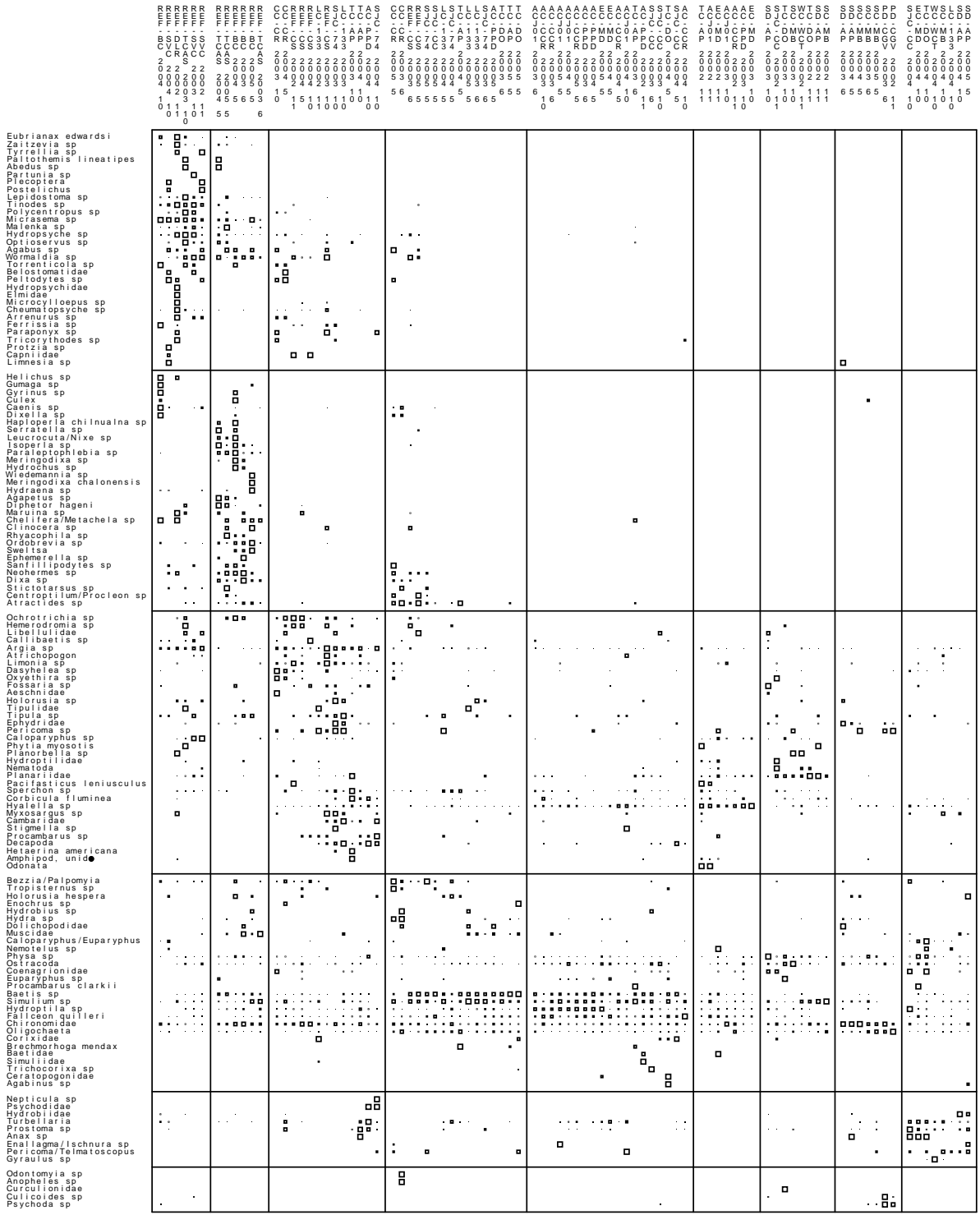


Figure 11.4: Overall Relationship Between IBI Scores and Physical Habitat Scores for all Bioassessment Surveys.

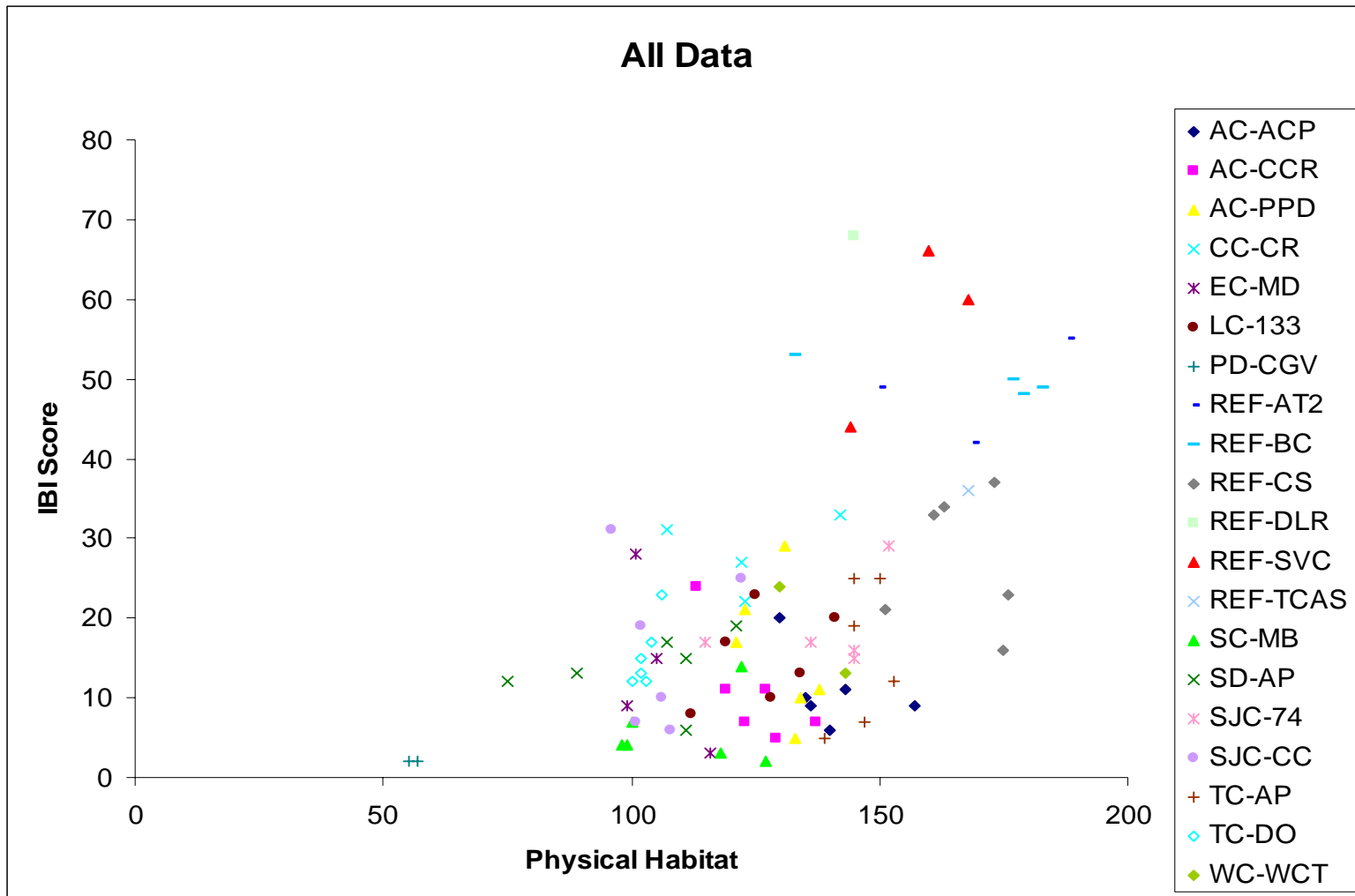
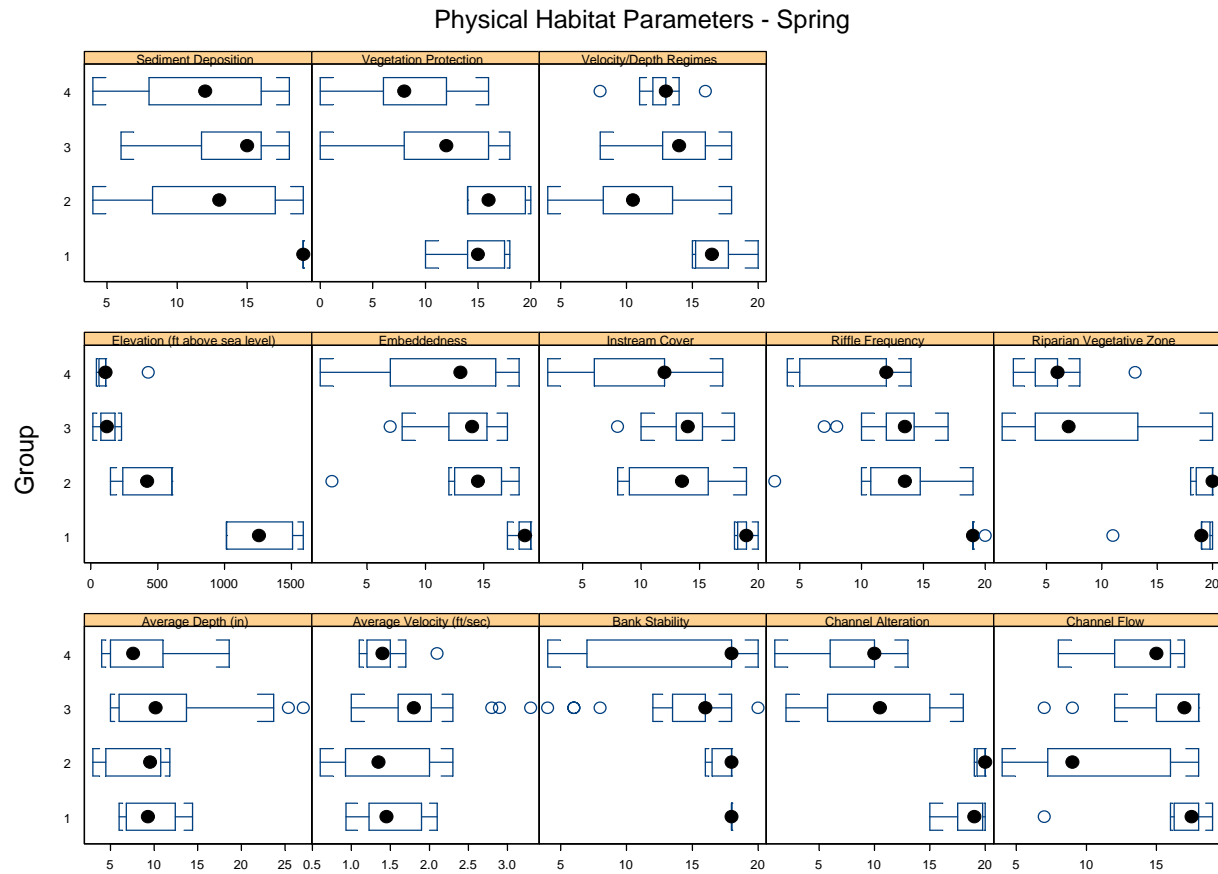
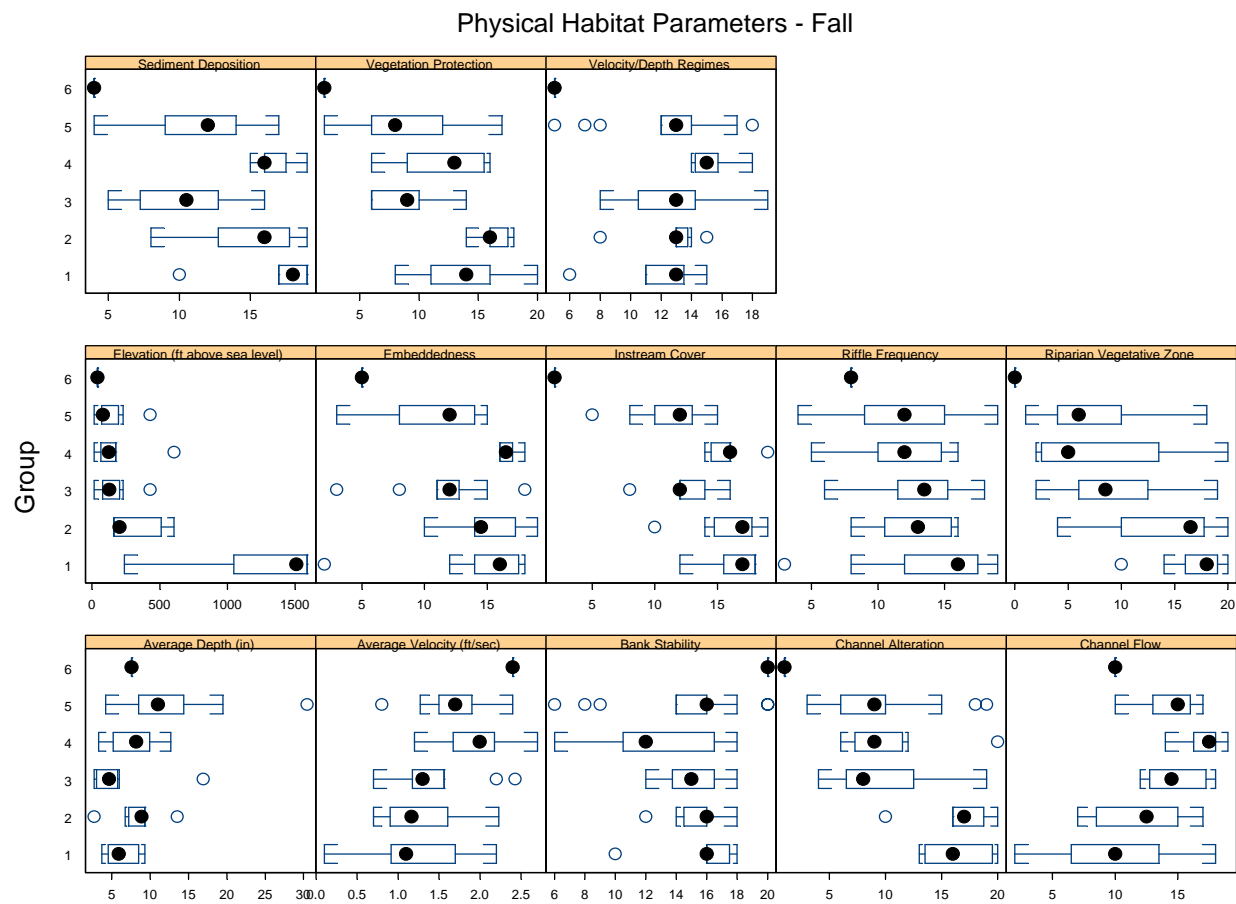


Figure 11.5a: Box and Whisker Plots of Related Physical Habitat Parameters for Spring Bioassessment Surveys. “Group” Refers to Station Groups in the Cluster Analysis, with Group 1 the Reference Sites and Groups 2 – 4 the Increasingly More Impacted Sites¹

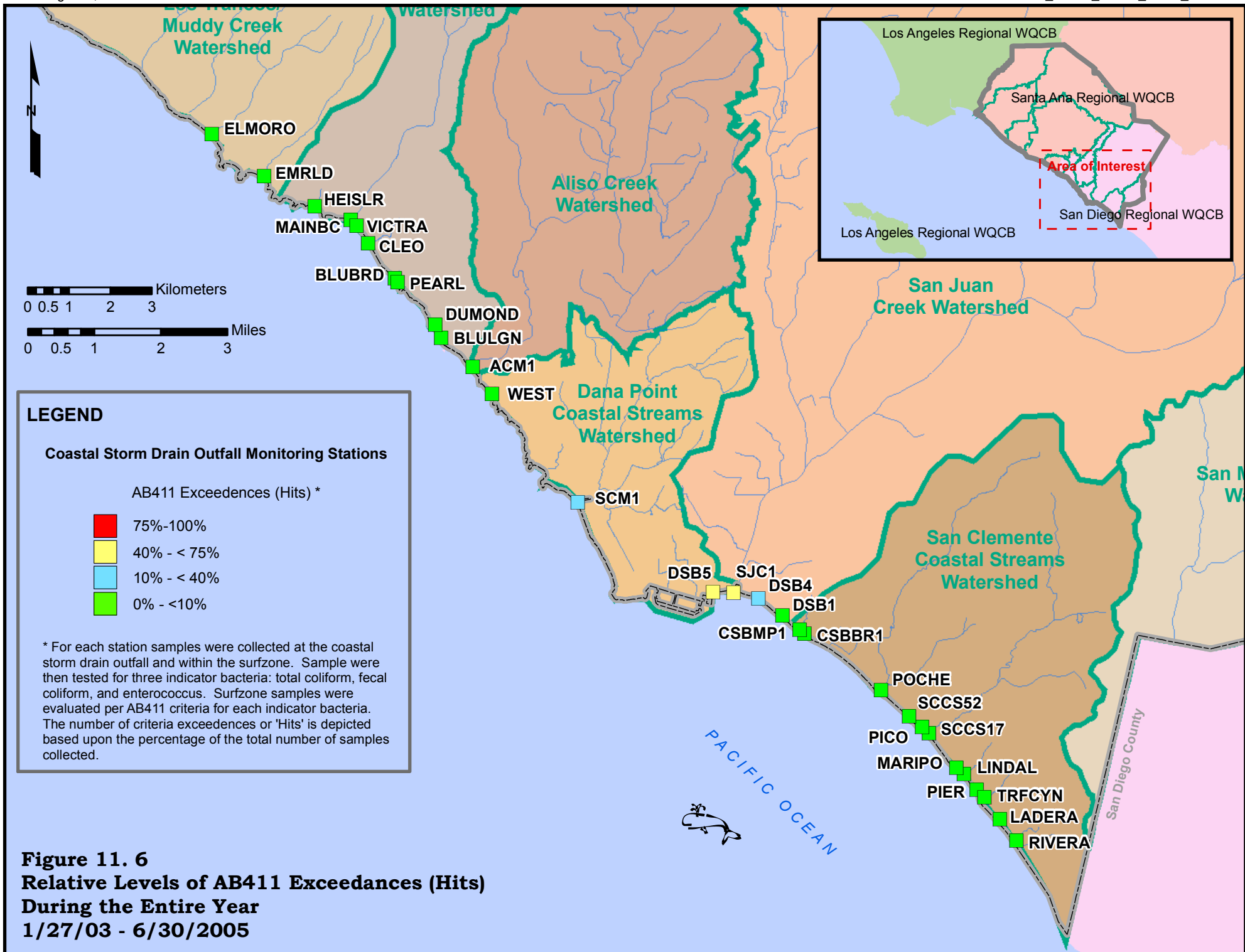


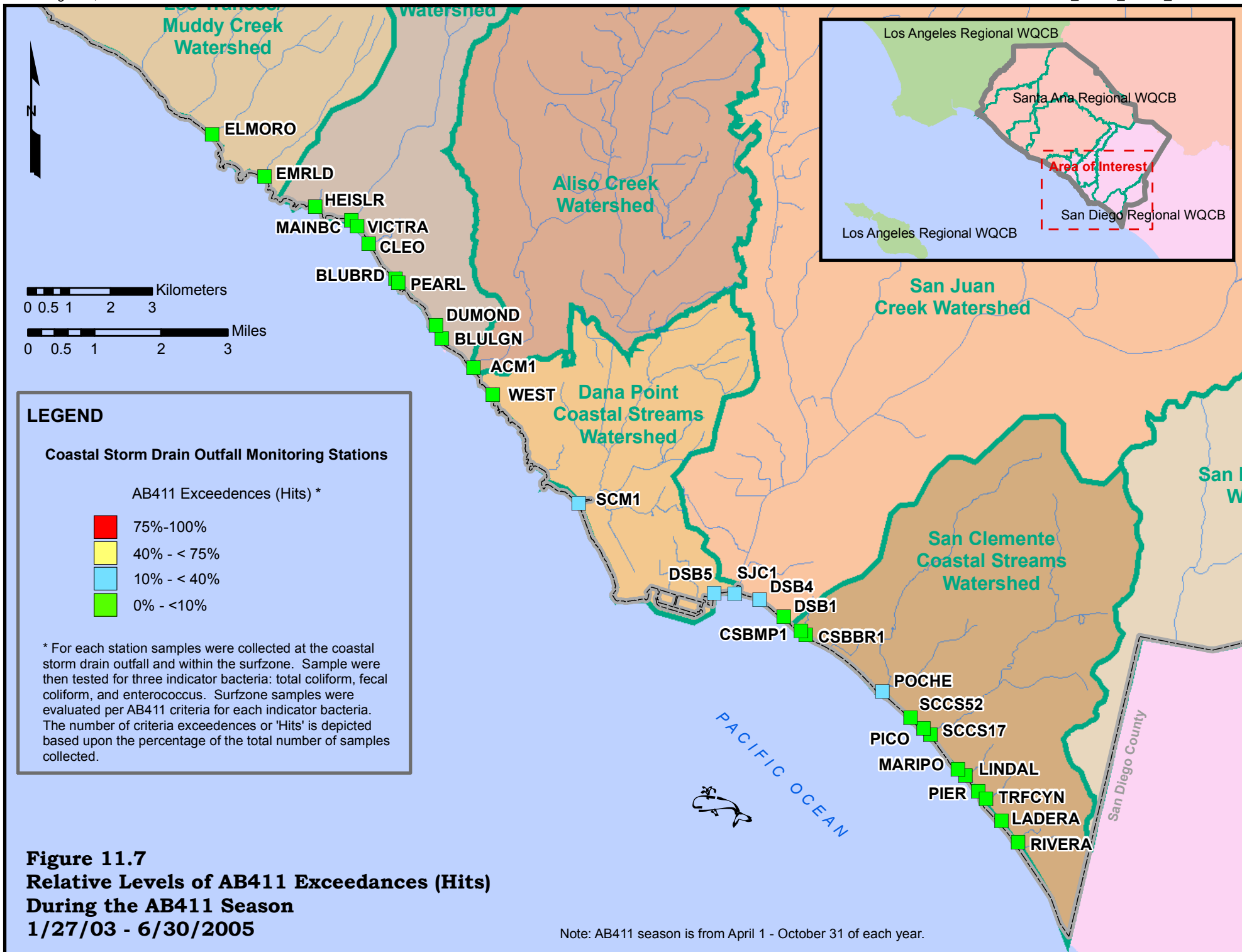
¹ The four site groups were defined in a separate cluster analysis of all spring samples, not shown here.

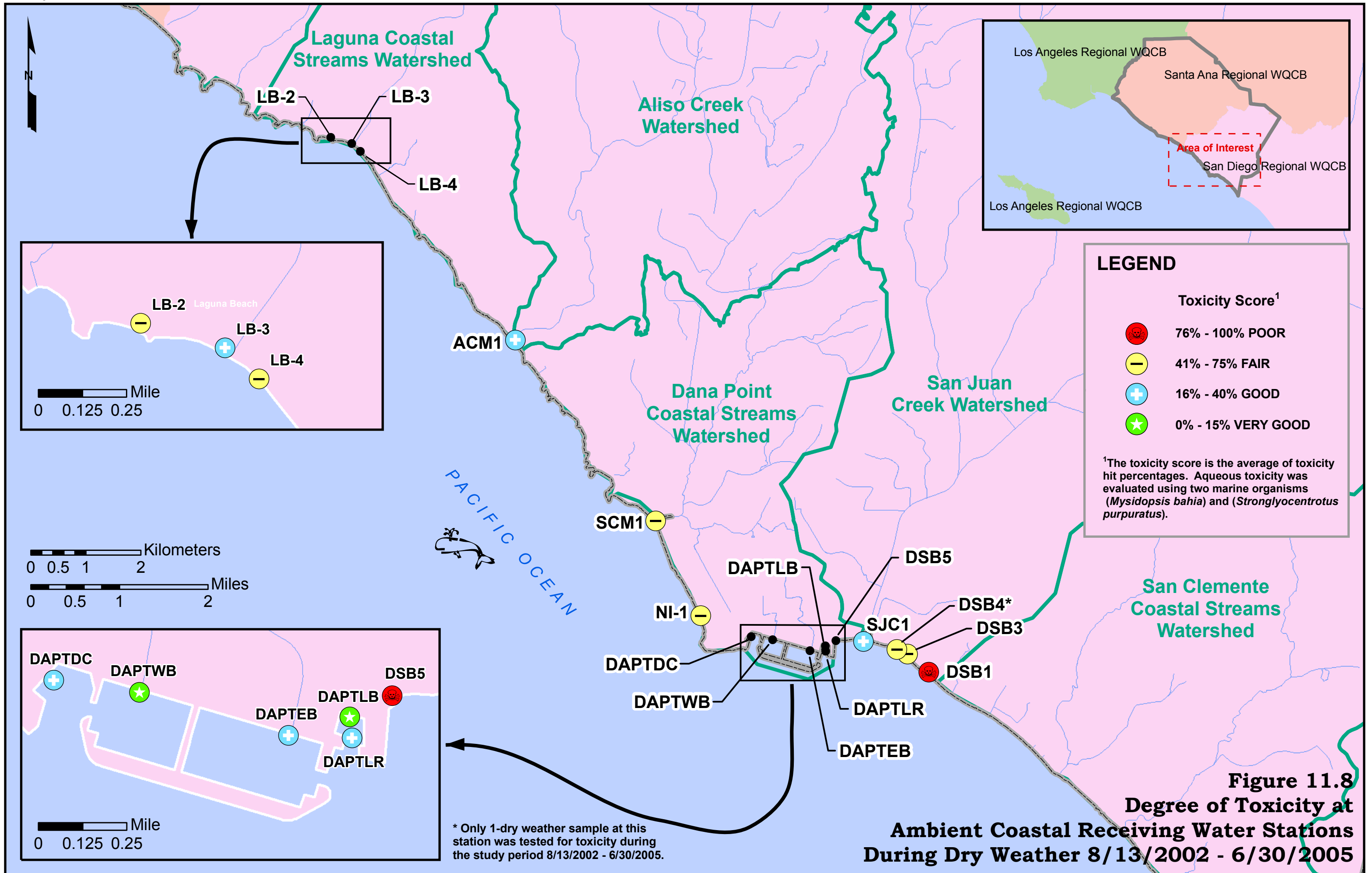
Figure 11.5b: Box and Whisker Plots of Related Physical Habitat Parameters for Fall Bioassessment Surveys. "Group" Refers to Station Groups in the Cluster Analysis, with Group 1 the Reference Sites and Groups 2 - 6 the Increasingly More Impacted Sites¹



¹ The six site groups were defined in a separate cluster analysis of all fall samples, not shown here.







* Only 1-dry weather sample at this station was tested for toxicity during the study period 8/13/2002 - 6/30/2005.

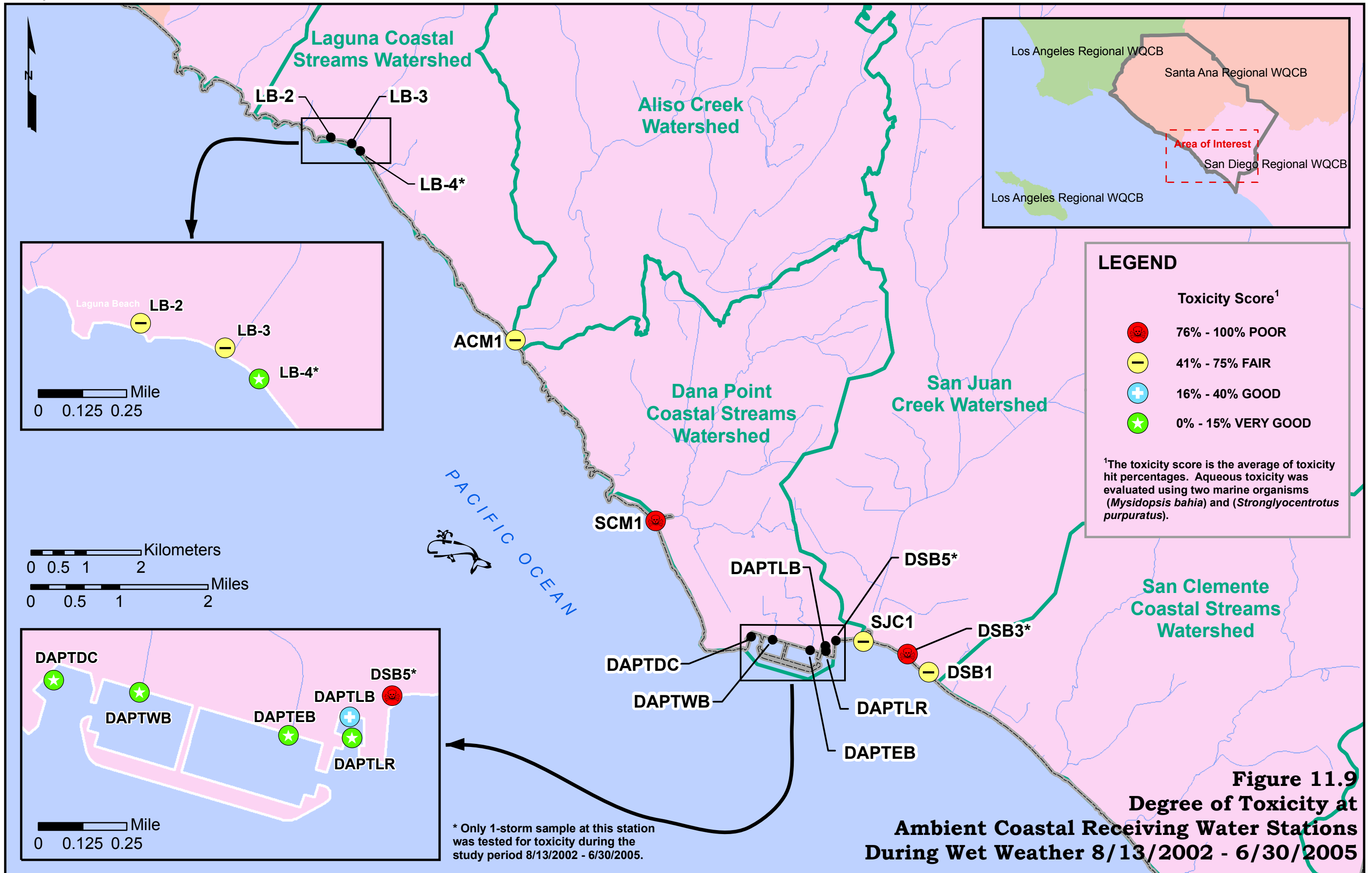
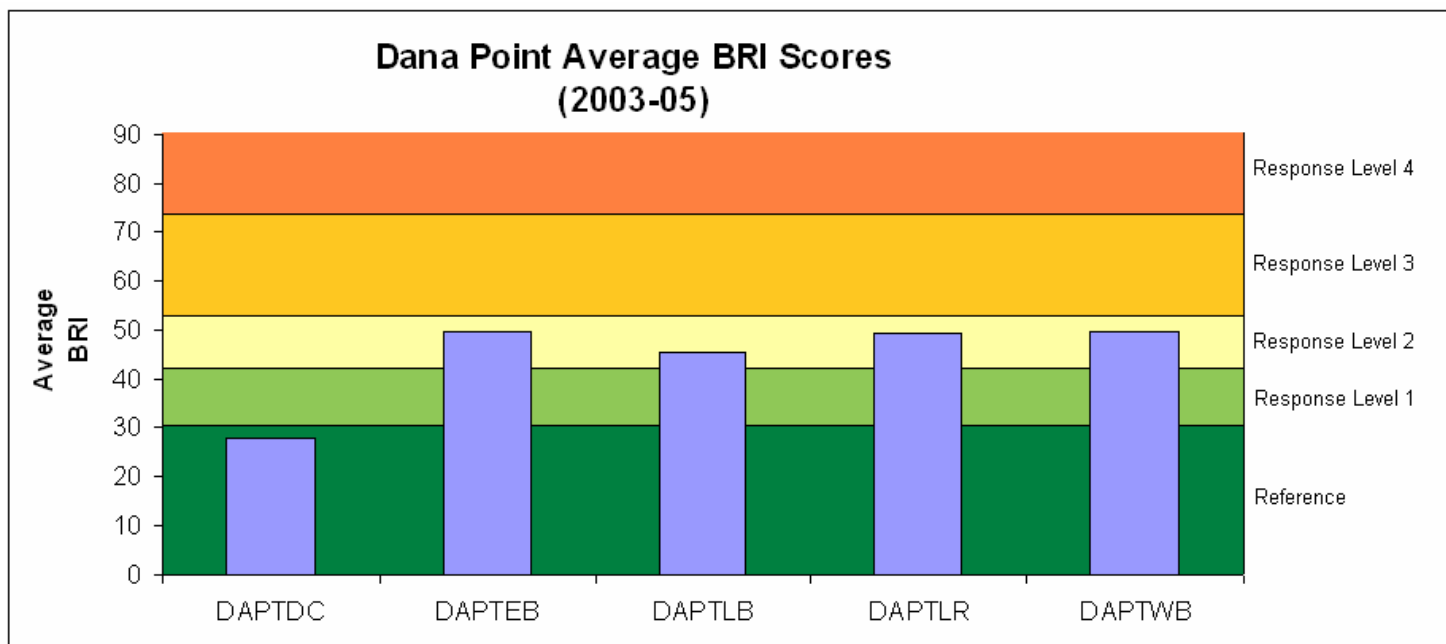


Figure 11.11: Average BRI Scores in Dana Point Harbor Over All Sampling Periods



BRI Threshold	Level	Definition
<31	Reference	
31-42	Response Level 1	>5% of reference species lost
42-53	Response Level 2	>25% of reference species lost
53-73	Response Level 3	>50% of reference species lost
>73	Response Level 4	>80% of reference species lost

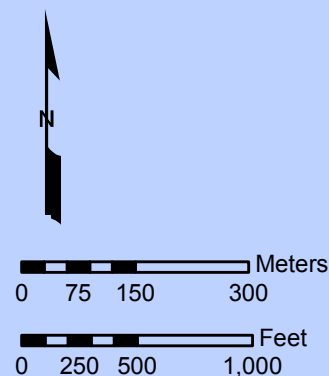
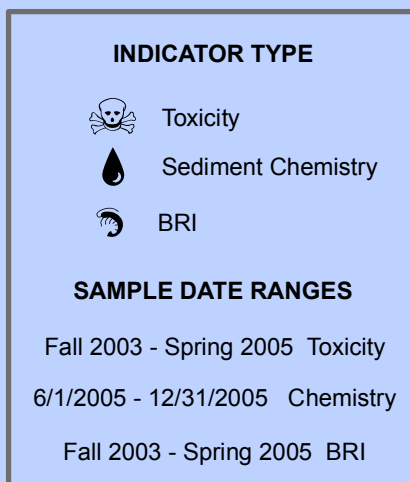
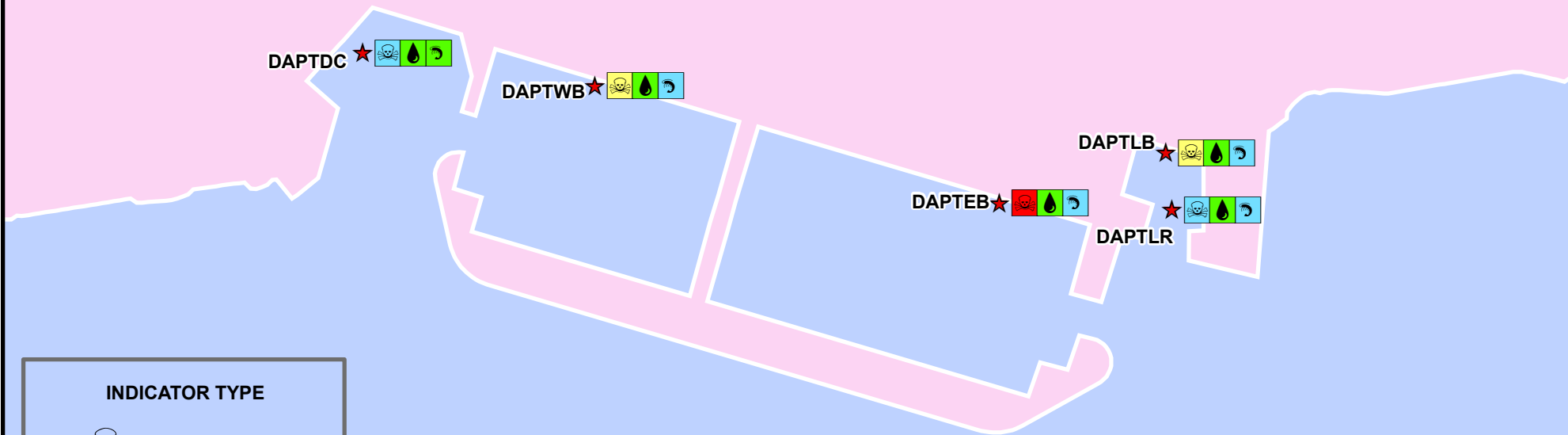
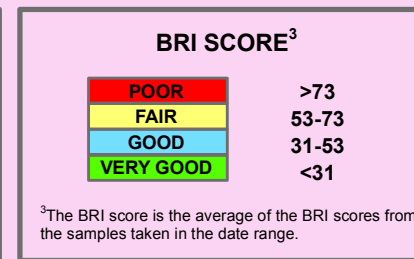
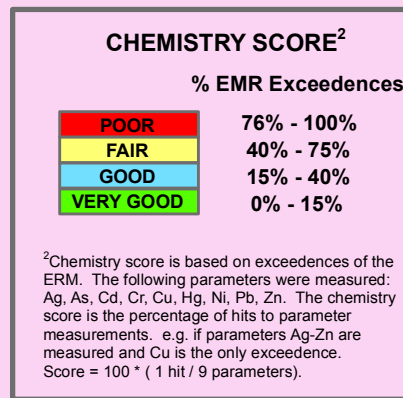
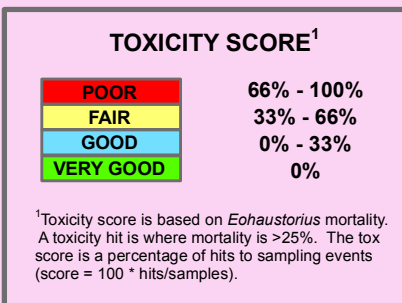


Figure 11.12
Summary of Conditions in the Sediment
at Dana Point Harbor

Figure 11.13: Linear Regression of BRI Score against Toxicity to Eohaustorius

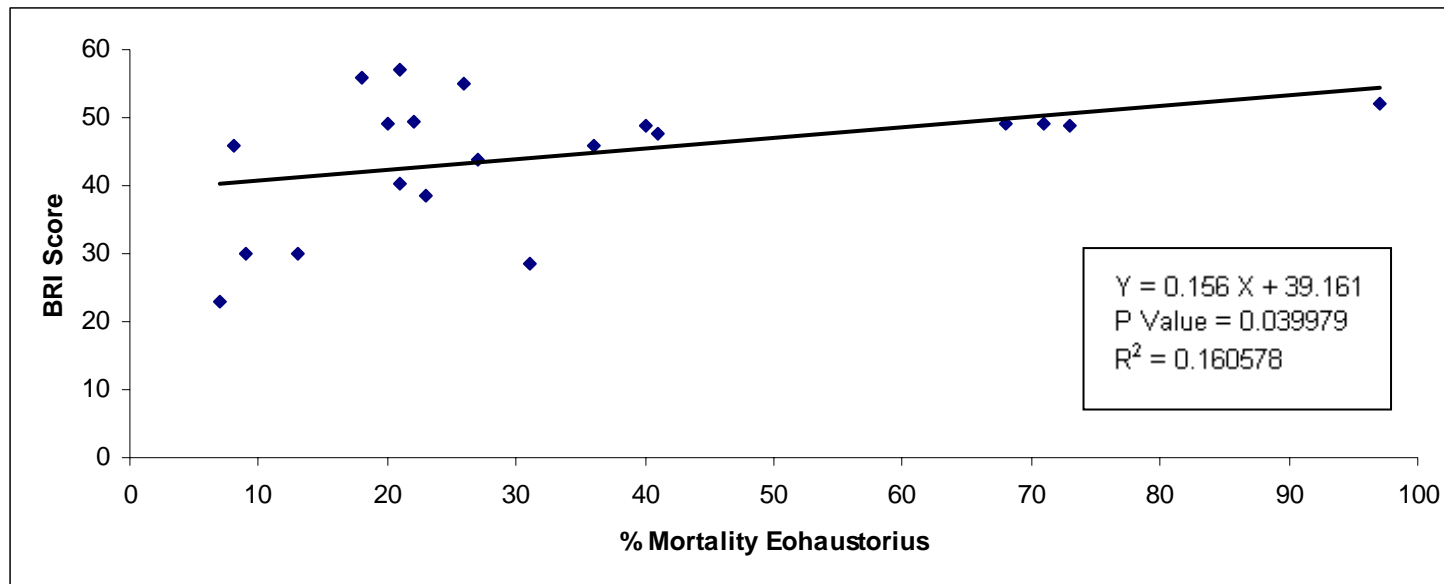
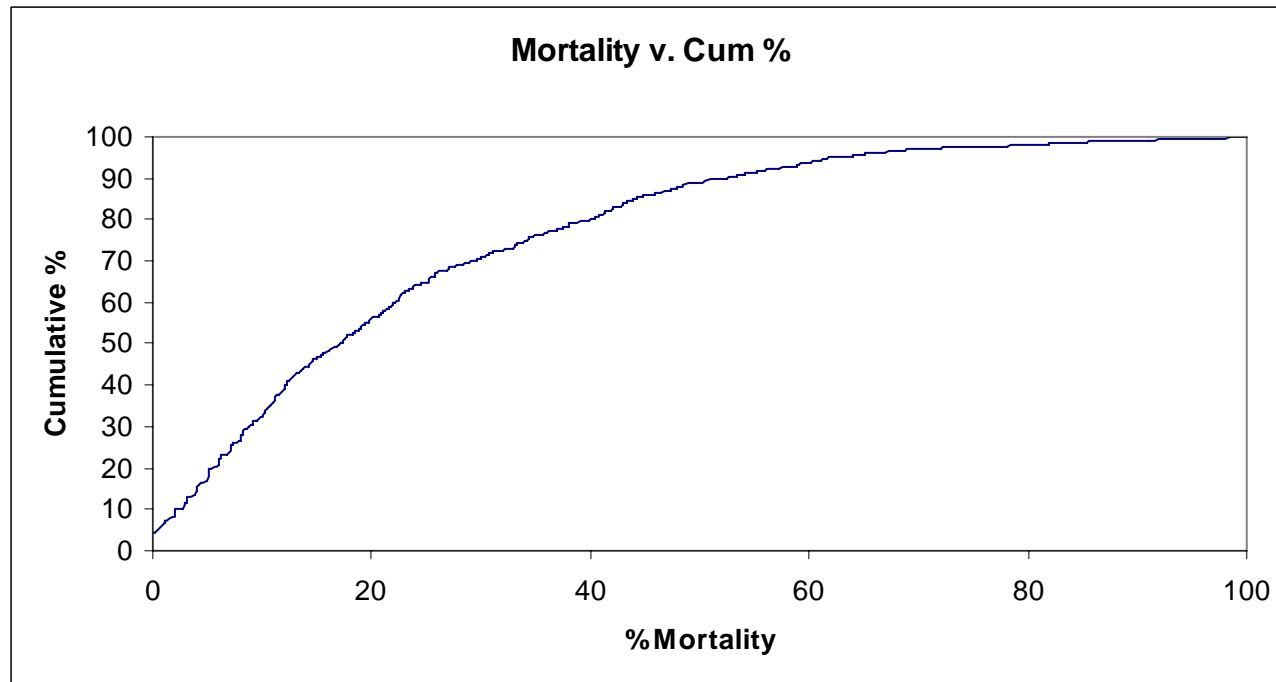
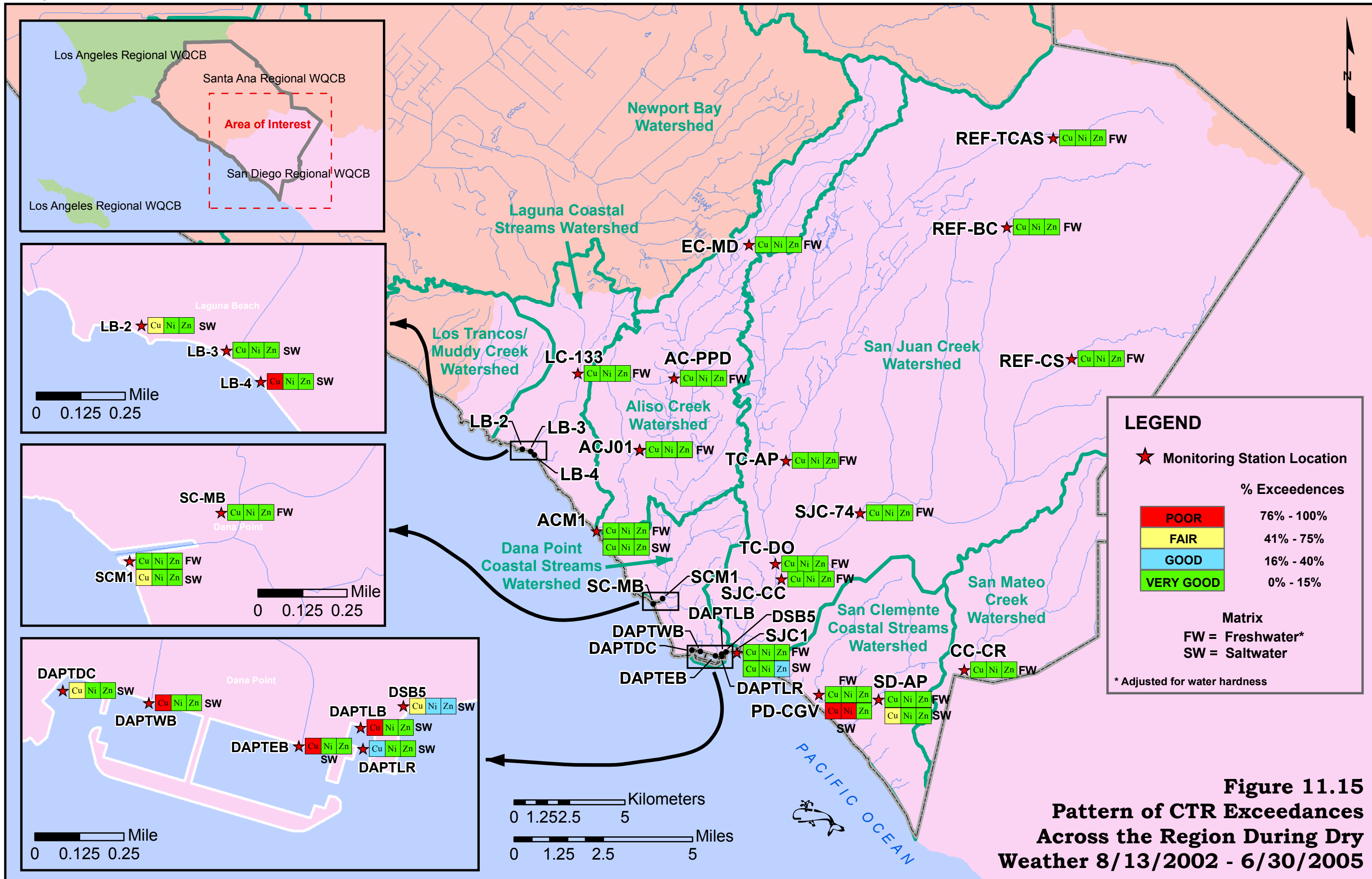
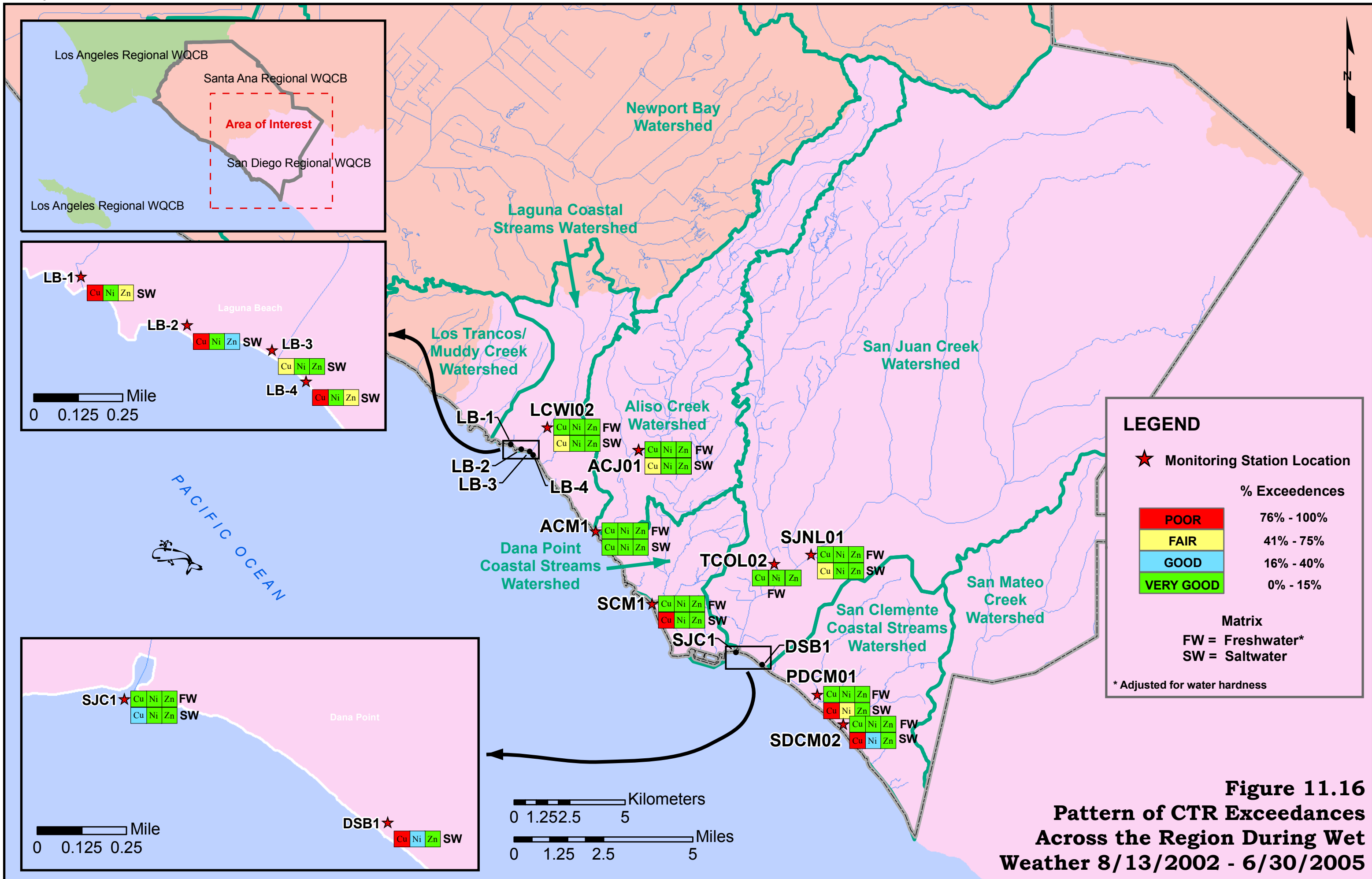


Figure 11.14: Cumulative Frequency Distribution Curve of Sediment Toxicity From the Bight '03 Survey of Conditions in Embayments Throughout Southern California







LEGEND

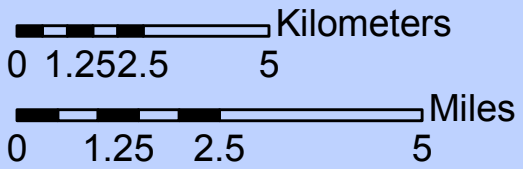
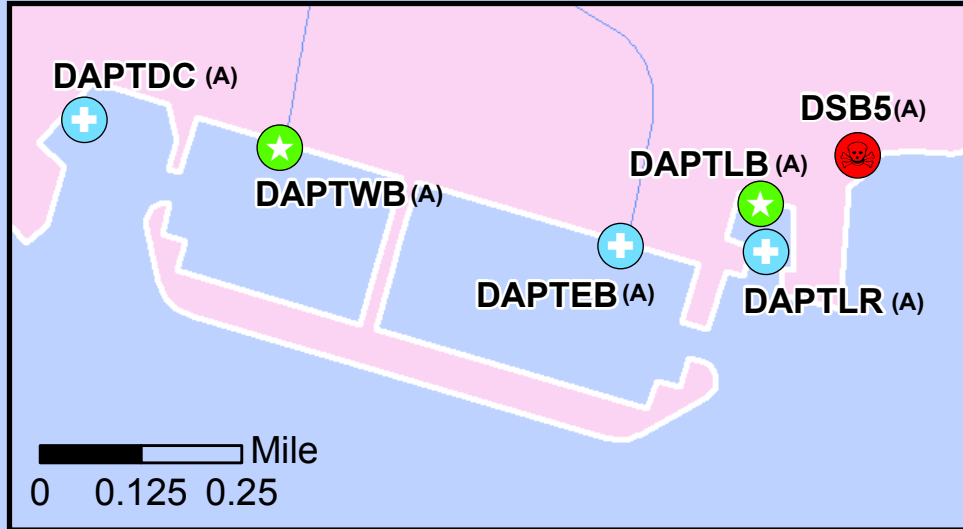
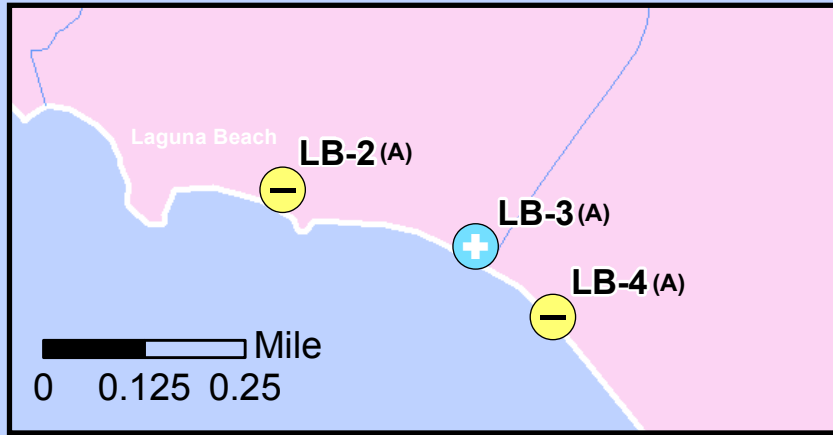
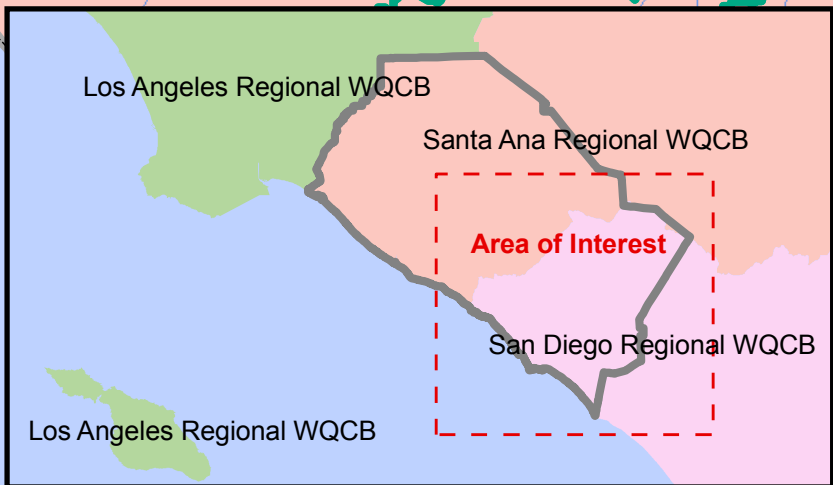
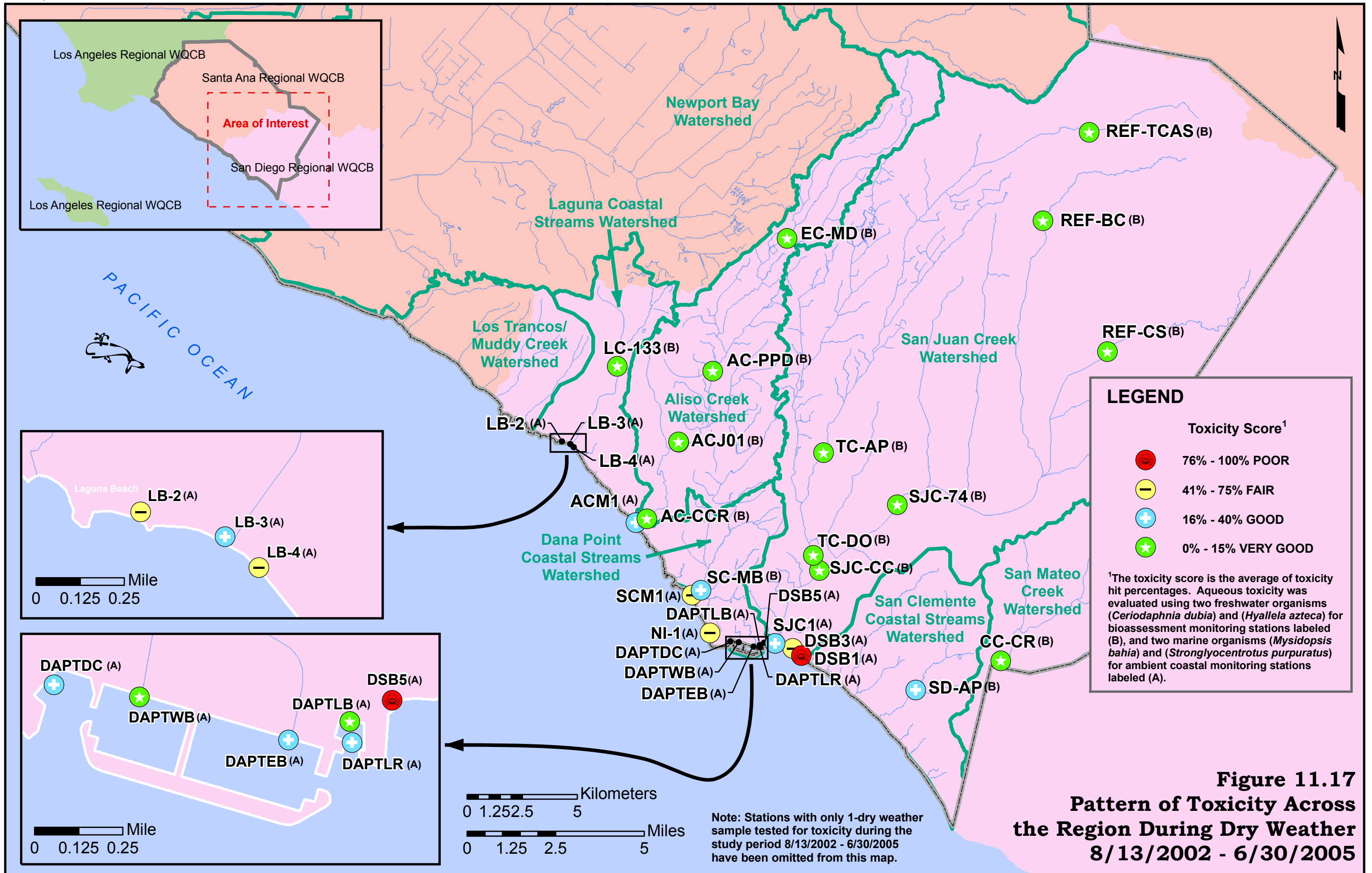
★ Monitoring Station Location

% Exceedences	
POOR	76% - 100%
FAIR	41% - 75%
GOOD	16% - 40%
VERY GOOD	0% - 15%

Matrix
 FW = Freshwater*
 SW = Saltwater

* Adjusted for water hardness

Figure 11.16
Pattern of CTR Exceedences
Across the Region During Wet
Weather 8/13/2002 - 6/30/2005



Note: Stations with only 1-dry weather sample tested for toxicity during the study period 8/13/2002 - 6/30/2005 have been omitted from this map.

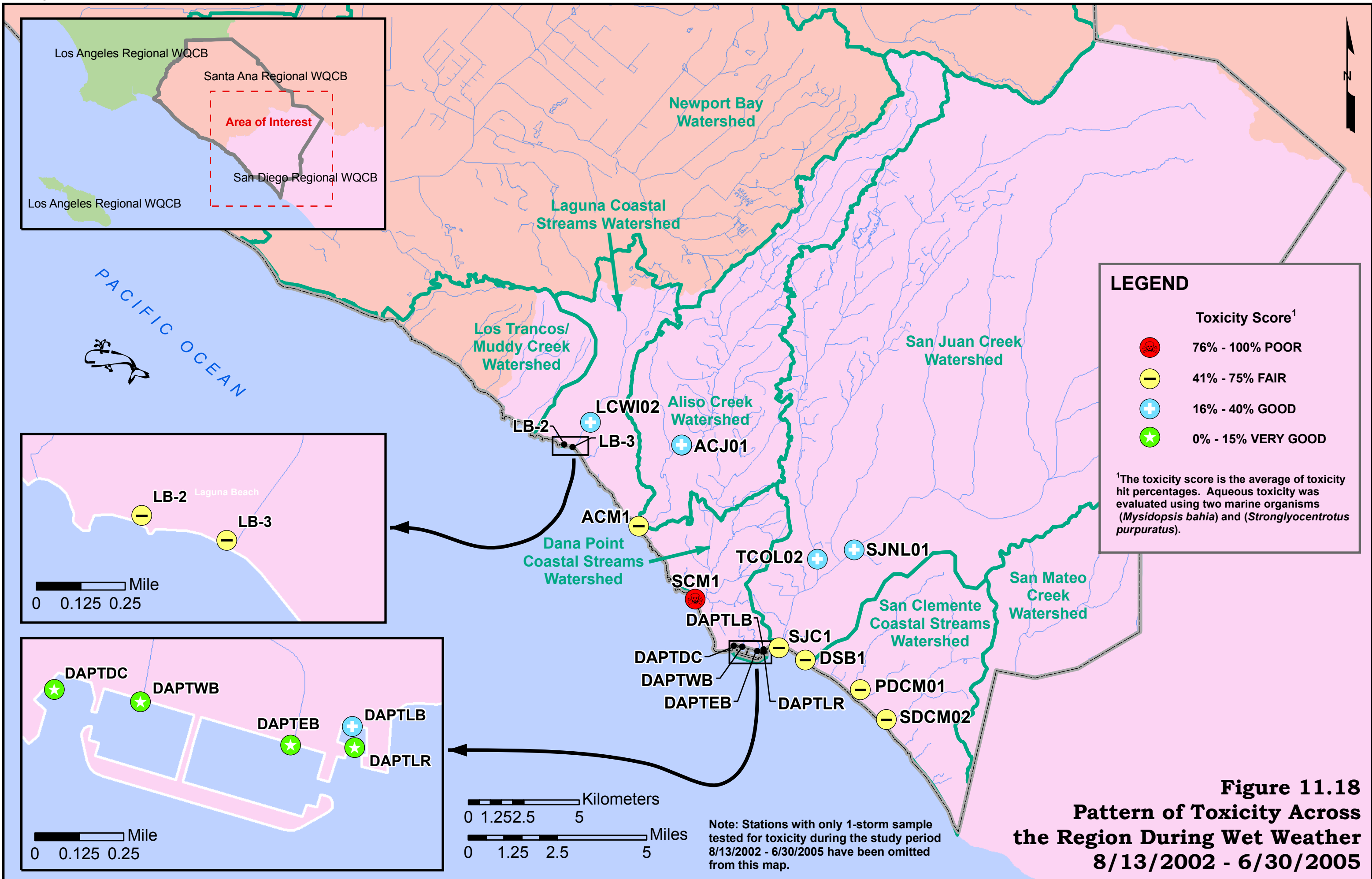
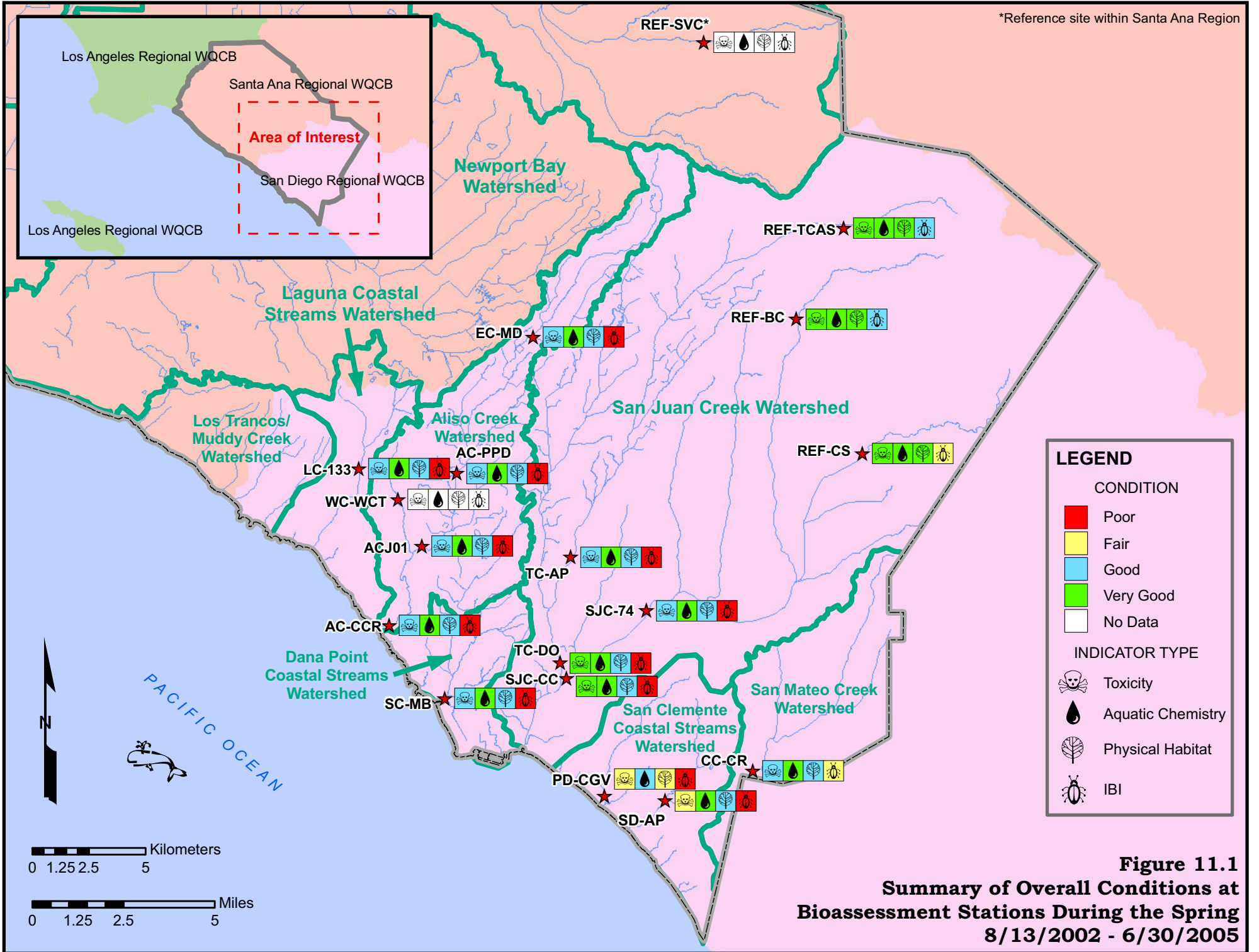


Figure 11.18
Pattern of Toxicity Across
the Region During Wet Weather
8/13/2002 - 6/30/2005

Note: Stations with only 1-storm sample tested for toxicity during the study period 8/13/2002 - 6/30/2005 have been omitted from this map.



*Reference site within Santa Ana Region

Los Angeles Regional WQCB

Santa Ana Regional WQCB

Area of Interest

San Diego Regional WQCB

Los Angeles Regional WQCB

Newport Bay Watershed

REF-SVC*



REF-TCAS*



REF-BC*



Laguna Coastal Streams Watershed

EC-MD*



San Juan Creek Watershed

REF-CS*



Los Trancos/Muddy Creek Watershed

LC-133*



Aliso Creek Watershed

WC-WCT*



ACJ01*



TC-AP*



AC-CCR*



SJC-74*



Dana Point Coastal Streams Watershed

TC-DO*



SJC-CC*



San Mateo Creek Watershed

SC-MB*



PD-CGV*



SD-AP*



San Clemente Coastal Streams Watershed

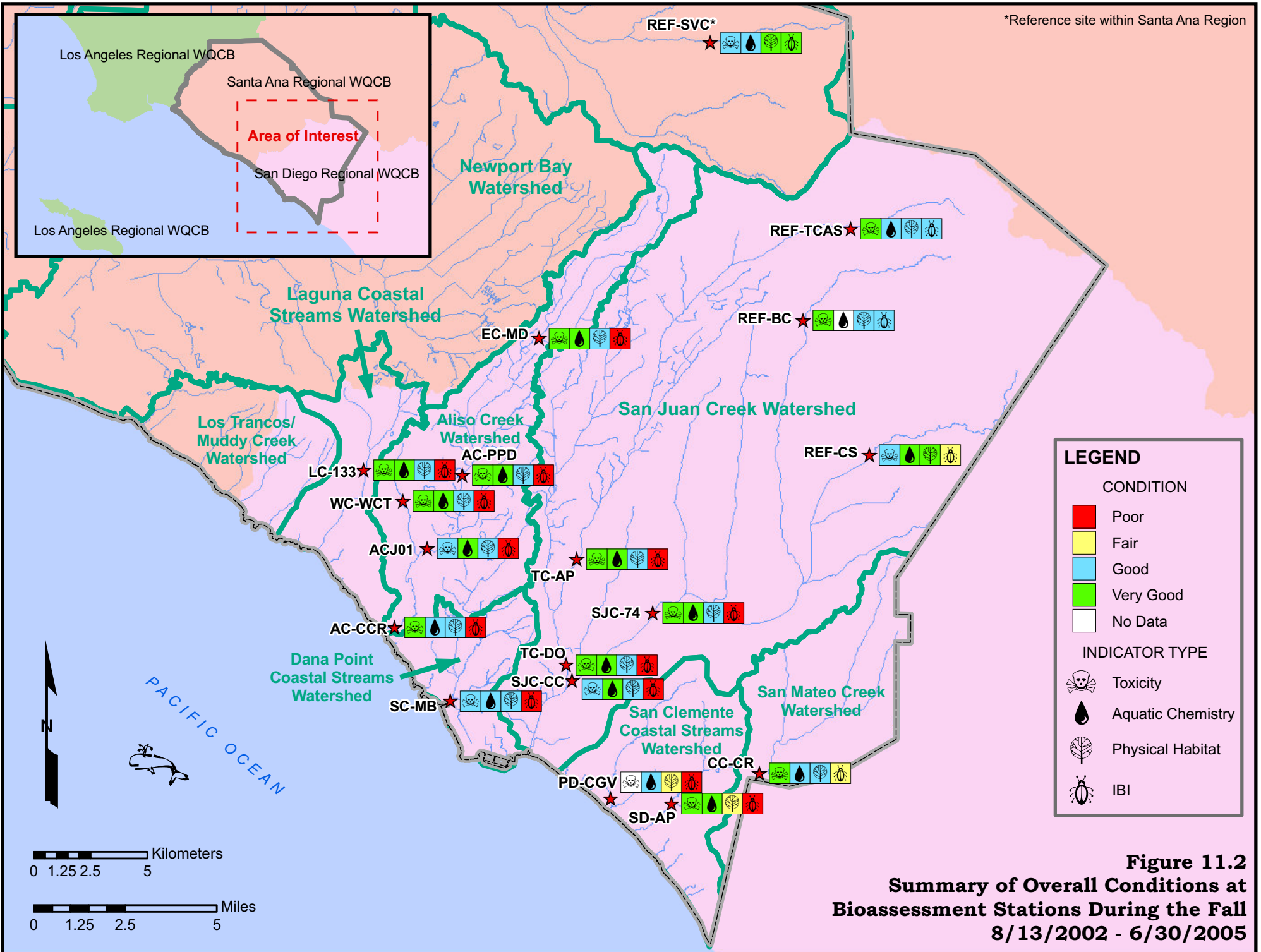
CC-CR*

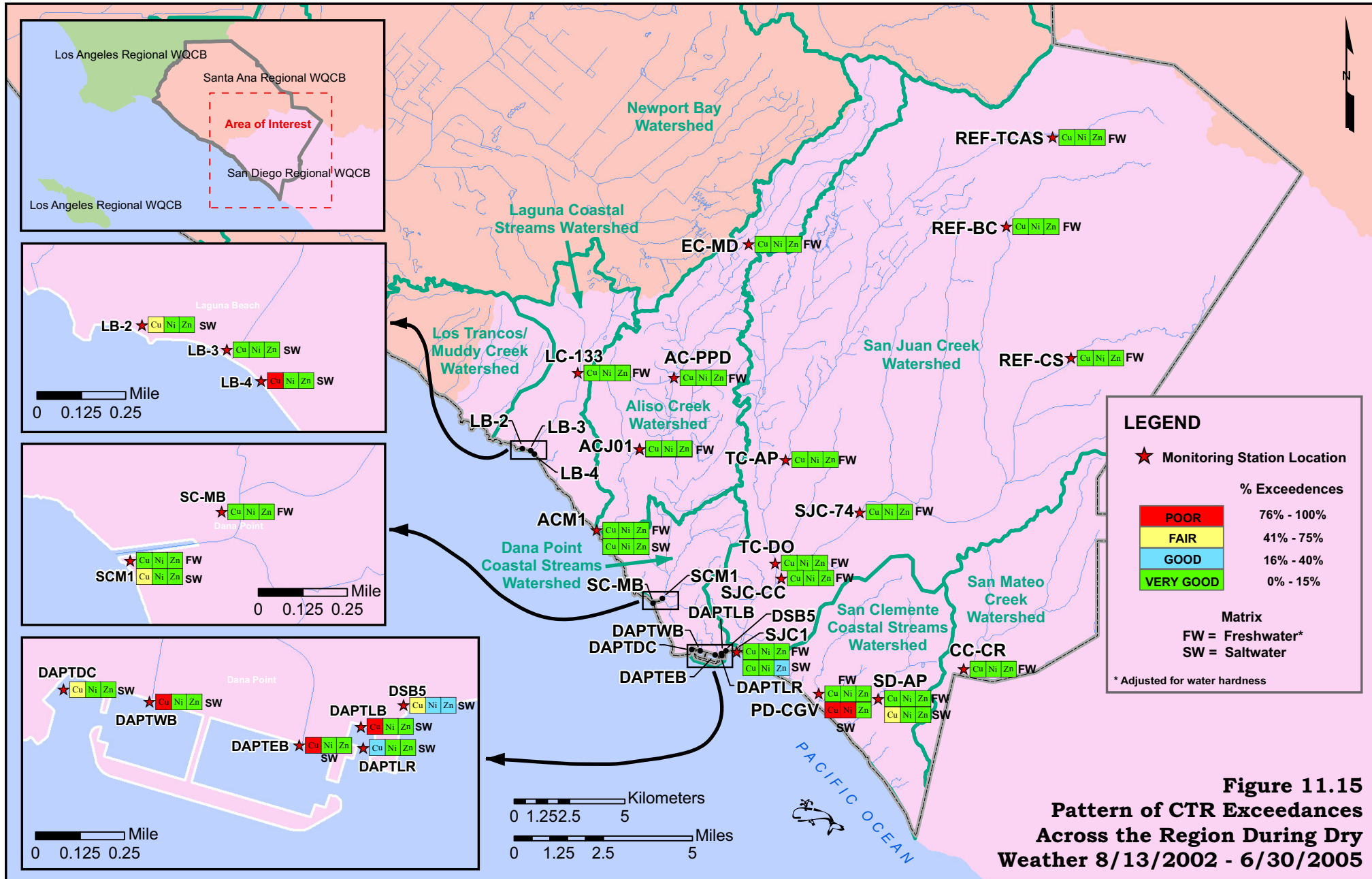


PACIFIC OCEAN

Kilometers
0 1.25 2.5 5

Miles
0 1.25 2.5 5





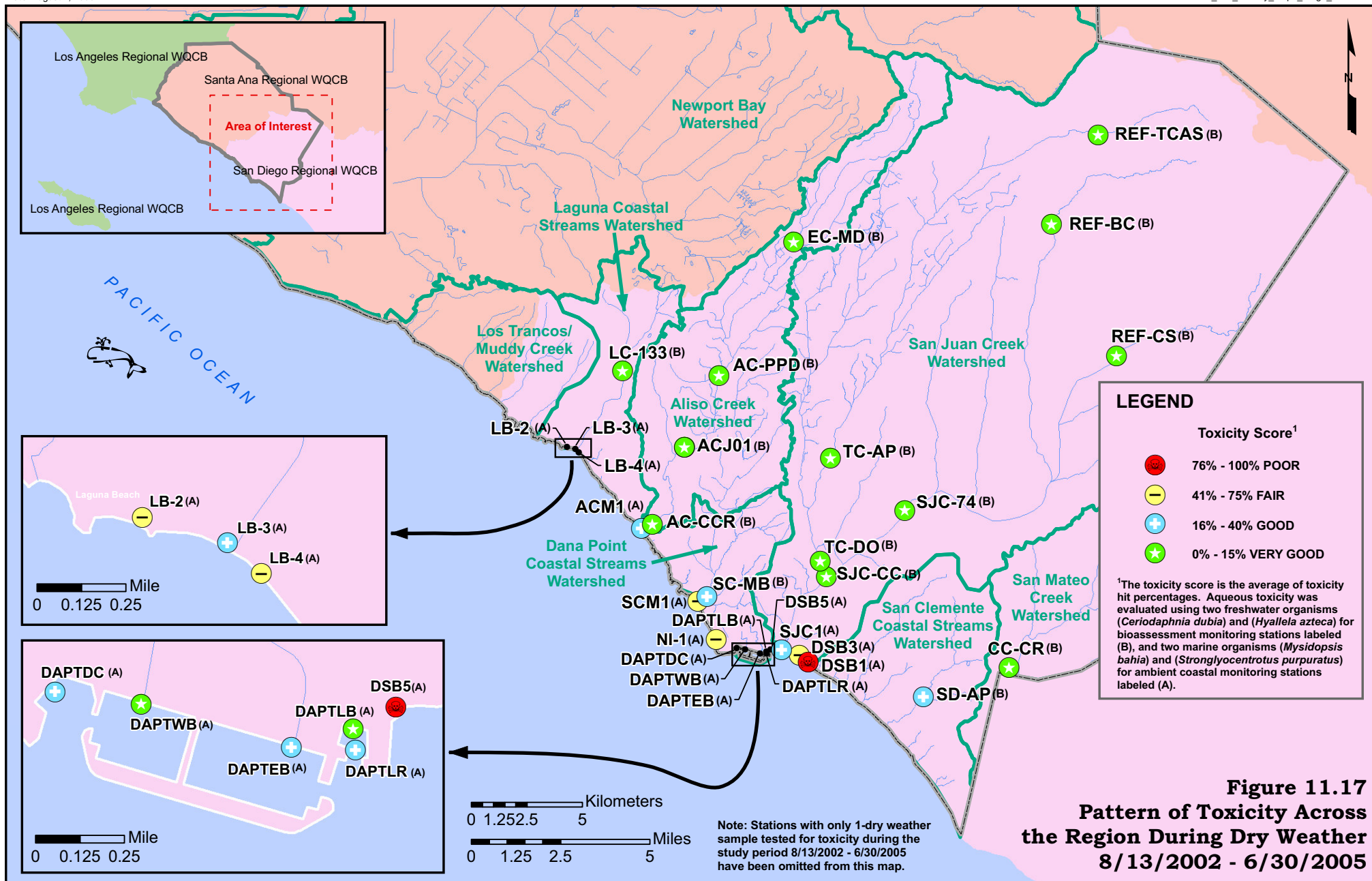
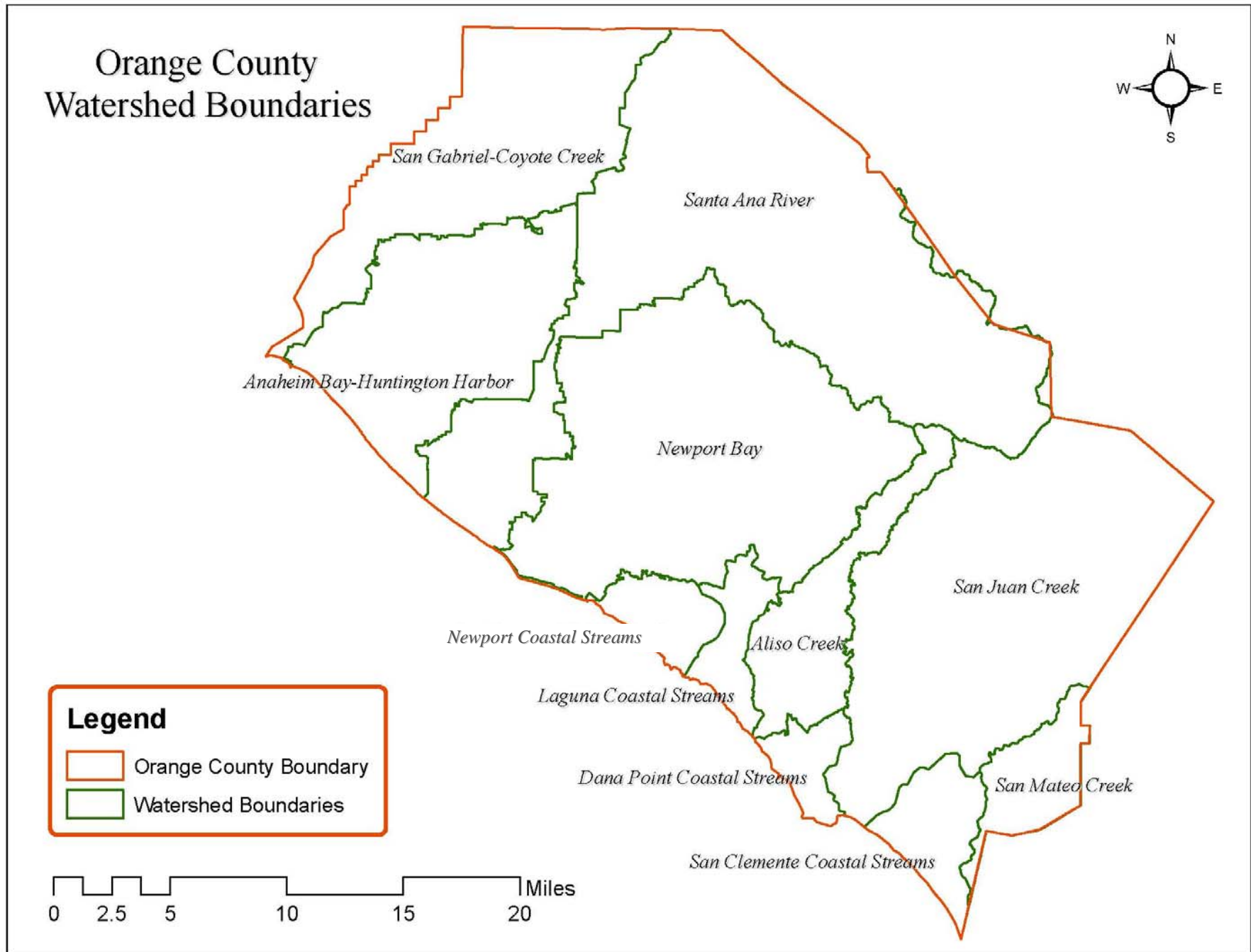


Figure 12.1



12.0 WATERSHED ACTION PLANS

12.1 Introduction

The Third Term Permits have, with varying degrees of specificity, required the Permittees to develop and implement a watershed-based approach to urban stormwater management to complement the established jurisdictional-based approaches. In the area of the County under the jurisdiction of the San Diego Regional Board, Watershed Urban Runoff Management Plans (WURMPs) termed DAMP/Watershed Action Plans¹ (WAPs), have been prepared for each of the six principal watersheds. In the Santa Ana Regional Board area of the County, which has a long history of watershed planning focused on the Newport Bay Watershed, the Permittees were required to update Appendix N of the DAMP to reflect the implementation measures and schedules related to the fecal coliform TMDL.

Watershed management is the term used for the approach to water quality planning that places an emphasis on the watershed (the area draining into a river system, ocean or other body of water through a single outlet) as the planning area and looks to solutions to problems that cut across programs and jurisdictions. In Orange County, these efforts focus additional effort on the highest priority water quality constituents of concern in each watershed.

The approach taken to develop the DAMP/WAPs establishes the jurisdictional DAMP/LIPs and the DAMP/WAPs as the principal policy and program documents for two separate, but nonetheless similar and highly interdependent, water quality planning processes targeting the control of pollutants in urban runoff (see **Section 3.0, 2007 DAMP**). In a number of watersheds these efforts are supportive of a third planning process that is focused on achieving broader objectives such as watershed habitat restoration and connectivity rather than specific water quality outcomes.

Six distinct watersheds (See **Figure 12.1**) were recognized in the Third Term Permits within the San Diego Regional Board area which are identified below:

Region 9	Watershed Planning Area	Major Watercourses
San Diego	Laguna Coastal Streams	Laguna Canyon Creek
	Aliso Creek	Aliso Creek
	Dana Point Coastal Streams	Salt Creek
	San Juan Creek	San Juan Creek, Oso Creek, Trabuco Creek, Bell canyon, Verdugo Canyon
	San Clemente Coastal Streams	Prima Deshecha, Segunda Deshecha
	San Mateo Creek	San Mateo Creek

¹ Previously termed DAMP/Watershed Chapters

12.2 Accomplishments

Through the current Permit term, the six south Orange County watersheds have been the focus of watershed-based water quality planning and a number of environmental restoration planning initiatives.

12.2.1 Watershed-Based Water Quality Planning Efforts

In August 2003, DAMP/WAPs, including new GIS-based watershed delineations (and sub-watershed delineations in the Aliso Creek Watershed), were completed for each of the six watersheds. The documents present a watershed-based planning process for each watershed to focus activities on priority water quality constituents of concern. Concurrently, DAMP/WAP committees were established which have met at least bi-annually (excepting the San Mateo DAMP/WAP).

DAMP/WAP Objectives:

- To meet the requirements for a Watershed Urban Runoff Management Plan (WURMP) contained in the municipal National Pollution Discharge Elimination System (NPDES) stormwater permit (Order R9-2002-0001, Section J).
- To identify the most significant water quality issues and constituents of concern on a watershed scale and relate these to urban sources.
- To focus the pollution prevention and source control programs implemented at an individual jurisdiction level on the identified constituents of concern and to identify any jurisdiction-specific treatment control opportunities.
- To identify the water quality issues that are most appropriately addressed through a multi-jurisdictional watershed-scale approach.
- To incorporate information obtained from prior planning studies.
- To develop an integrated plan of action that results in meaningful water quality improvement at a watershed scale that balances economic, social, and environmental constraints.
- To identify indicators to track progress.

At the time of their preparation it was assumed that the DAMP/WAPs would ultimately evolve into TMDL implementation plans. Indeed, the anticipated development of the Beaches and Creeks Pathogen Indicator Bacteria TMDL established pathogen indicator bacteria as the priority constituent of concern in each watershed

The DAMP/LIP and DAMP/WAP planning processes essentially result in *Baseline BMPs* and *Enhanced BMPs*, respectively. *Baseline BMPs* are based upon the model programs identified in the DAMP and are implemented on a countywide basis to contribute to the control of all pollutants. *Enhanced BMPs* generally target watershed priority constituents of concern (currently pathogen indicator bacteria). The DAMP/WAP planning process also incorporates actions to comply with California Water Code (CWC) directives and

SECTION 12, WATERSHED ACTION PLANS

abatement orders. Progress on DAMP/WAP implementation has been reported in the FY2003-04 and FY2004-05 Annual Progress Reports.

The subsequent sections identify the Enhanced BMPs, compiled by watershed, that have been implemented by the Permittees. The information in parentheses uniquely identifies each Enhanced BMP with respect to the Action Plans included in the FY2004-05 WAP Annual Progress Reports, specifically:

XX-Y#z

Where XX - Jurisdictional identifier e.g. LB = Laguna Beach
Y - Long term (L) or Short term (S) Strategy
- Objective
z - Management action

These reports should be referred to for more detailed information regarding the Enhanced BMP and its implementation schedule.

- **Laguna Coastal Streams:**

Examples of Enhanced BMP implementation efforts in the watershed targeting pathogen indicator bacteria include:

- Construction of diversion systems with hydrodynamic separator units to control runoff pollution (LB-L3b), and
- Provision of public education materials that address pet and horse care (AV-S3a, LB-S3a, LW-S3f, LW-S3d).

- **Aliso Creek:**

Monitoring Program

On March 2, 2001, the San Diego Regional Board issued a directive pursuant to California Water Code Section 13225 ("Directive") to the Principal Permittee and the cities within the Aliso Creek Watershed ("Watershed Permittees") for an investigation of urban runoff in the watershed. The Directive found that the Watershed Permittees may be discharging waste with high bacteria levels from municipal storm drain outfalls into Aliso Creek and its tributaries. To meet requirements of the Directive, the Watershed Permittees implemented a watershed-wide regional bacteriological monitoring program in April of 2001.

Monitoring data was collected weekly at 37 locations throughout the watershed. The monitoring of each site included collection of bacteriological samples from the storm drain discharge and within the receiving water body and estimates of flowrates. Data was analyzed for trends and patterns in bacteria levels and reported quarterly through November 2005.

A revised regional monitoring program that more efficiently allocates efforts to source identification and reduction was approved in [GET] and began implementation in June 2006. The revised program focuses monitoring efforts on “status sites” and “trends sites” in the lower watershed and on a “BMP evaluation sites” at high-priority drains throughout the watershed.

The monitoring of status and trend sites addresses two questions:

1. Are conditions in receiving waters protective of beneficial uses? (status)
 2. Are conditions in receiving waters getting better or worse over time? (trends)
- Status and trends monitoring takes place at five core stations in the lower portion of the watershed, which past studies indicate is the area of highest recreation use and related concern about potential human health impacts. Despite some variability among them, the stations as a group provide a picture of conditions in the lower portion of the Creek. These five stations will be monitored during August and September, at a frequency of 10 samples per month. This period represents the most conservative sampling period because it captures the annual peak of bacteria levels in the watershed and the time of year that body contact recreation is most likely.

The BMP evaluation monitoring focuses on answering three questions:

1. Have bacteria loads from the high-priority drains decreased?
2. Are BMPs having their intended effects on concentrations in and/or loads from the drains?
3. Have impacts from high-priority drains on the receiving waters decreased?

Data from the BMP evaluation sites will also be compared to the results of the status and trends monitoring in the lower sections of Aliso Creek. This will help to assess whether a reduction in loads at the high-priority drains is associated with improving conditions in the lower Creek. Data and results of the revised monitoring program will be submitted on an annual basis on November 15th of each year.

In the spring of 2003, on behalf of the Watershed Permittees, the Principal Permittee worked with UC Irvine researchers Dr. Sunny Jiang and Dr. Betty Olson to investigate sources of bacteria in the J03P02 sub-watershed. The UCI researchers used three Microbial Source Tracking (MST) methods to identify the sources of bacteria from samples collected in the sub-watershed from May through August 2002. These MST methods included: (1) analysis for human enteric viruses, (2) analysis for genetic biomarkers indicative of human, cow, pig/cat, rabbit, and bird sources, and (3) Antibiotic Resistance Analysis (ARA). The analysis of samples for biomarkers of human and animal sources showed no samples with biomarkers of human origin, and showed that all or almost all samples had biomarkers of bird, rabbit, and cow origin. Findings from the human virus and ARA studies suggest that sewage was an unlikely source of fecal coliform in the drainage system, and that bacteria from wild animal feces were the dominant source of *Enterococci* in the

watershed.

In addition to field research and monitoring activities, the Principal Permittee, Watershed Permittees and Regional Board staff meet on a quarterly basis to discuss the data reports, investigation and bacteria pollution prevention and control activities undertaken by the Permittees, and advances in bacteria monitoring and control techniques.

The revised program also contains important adaptive components that will ensure the monitoring program maintains its focus on key management questions, responds appropriately to monitoring findings, initiates new activities only when they are supported by the monitoring data, and reduces monitoring effort when it no longer provides useful information. Data and results of the revised monitoring program will be submitted on an annual basis on November 15th of each year.

Enhanced BMPs

Examples of Enhanced BMP implementation efforts in the watershed targeting pathogen indicator bacteria include:

- Provision of pet waste disposal bags in parks and on trails (LN-L3f);
- Installation of municipal facility drain inlet debris screens (OC-L3a);
- Installation of drain inlet debris screens (LH-L3b, LN-L3b, MV-L4b);
- Installation of drain inlet filters (LF-L3a, MV-L3a);
- Installation of bactericidal in-line storm drain filters (MV-L3c);
- Installation of a hydro-dynamic separator along El Toro Road (LF-L3a);
- Installation of a stormwater treatment vault (MV-L4b);
- Operation of a UV disinfection water treatment system on drain JO1P28 (OC-L3b);
- Installation of Munger storm drain sand filter (LF-L3c);
- Wood Canyon Emergent Wetland Project with detention basins (AV-L3g);
- Landscape irrigation control (LN-L3e);
- Operation of a constructed wetland treatment system (Wet CAT) in drain JO3PO2 (LN-L2c). The Wet CAT system consists of three constructed multipurpose wetlands designed to capture and treat low-flow urban runoff from a suburban residential neighborhood. The wetlands were constructed in 2001-03 in response to the Clean-up and Abatement Order issued to the City of Laguna Niguel and the County of Orange in December 1999;
- Implementation of a trash enclosure retrofit program (MV-L3e);
- Implementation of bio-retention devices (MV-L3f), and
- Hosting Fats, Oils and Greases (FOG) seminars (LF-L3f).

- **San Juan Creek:**

Examples of Enhanced BMP implementation efforts in the watershed targeting pathogen indicator bacteria include:

- Provision of pet waste disposal bags in parks and on trails (DP-L3d, LH-L3d, LNL3e, RSM-L3c, SJC-L3g);
- Installation of drain inlet debris screens (DP-L3c, MV-L4b, SJC-L3a, SJC-L4c);
- Installation of drain inlet filters (DP-L3c, DP-L3f, DP-S2a, MV-L3a, SJC-L3a);
- Installation of bactericidal in-line storm drain filters (LH-L3e, LN-L3b);
- Installation of a hydro-dynamic separator for locations along coastline (SC-L3c);
- Installation of a stormwater treatment vault at drain JO1P03(MV-L4b);
- Operate and maintain dry weather nuisance water diversions (DP-L3g);
- Employ debris nets at natural drainages to ocean (SC-L3c);
- Plastic bag recycling (SC-S4c, SJC-S4b);
- Provision of public education materials that address pet and horse care (DP-S3b, DP-S3c, LH-S3a, SC-S3a, SJC-S3a, OC-S3a, OC-S3b);
- Landscape irrigation control (DP-L3a, LH-L3c, LN-L3c, LN-S2c, RSM-L3a, SCL2d, SJC-L2c, OC-L2a);
- Employ structural treatment units at North Beach (SC-L3c);
- Sewage spill prevention and retrofit of food service facilities (SJC-L3d);
- Identify potential drainage system retrofit opportunities (SJC-L3f);
- Hosting tours for the public of BMP infrastructure (LN-S3b, MV-S3b);
- Outreach to HOA's on BMPs (MV-S2e, RSM-S2d);
- Implementation of a trash enclosure retrofit program (MV-L3d, SJC-L3b);
- Installation of catch basin filters in new developments (MV-L3a);
- Focus on trash enclosure area maintenance (MV-L3d, SC-L3c, SC-L4a, SJC-L3e);
- Hosting Fats, Oils and Greases (FOG) seminars (DP-L3e, SJC-S3e);
- Video inspection of sanitary sewers (DP-L3h), and
- Field investigation and bacteria source identification (LN-L2c, SC-L2b, SC-L2e, SC-L3d, OC-L3a).

- **Dana Point Coastal Streams:**

Monitoring Program

The Permittees participate in the Regional Harbor Monitoring Program (RHMP), which was designed and implemented in response to a 13267 letter from the San Diego Regional Water Quality Control Board. The RHMP is intended to help answer fundamental questions about the status of and trends in beneficial uses in the coastal harbors along this region of the coast. Dana Point Harbor is included in the RHMP.

Enhanced BMPs

Examples of Enhanced BMP implementation efforts in the watershed targeting pathogen indicator bacteria include:

- Provision of pet waste disposal bags in parks and on trails (DP-L3d, LN-L3e);
- Installation of drain inlet debris screens (DP-L3c);
- Installation of drain inlet filters (DP-L3c, DP-L3f, DP-S2a, OC-L2b);
- Installation of bactericidal in-line storm drain filters (LN-L3b);
- Installation of vinyl coated chain link fence under Baby Beach Pier (OC-2Le);
- Installation of sanitary sewer diversion at Baby Beach (OC-L2d);
- Operate and maintain dry weather nuisance water diversions (DP-L3g);
- Organization of beach/creek clean-up events (DP-S3a, DP-S3d, LB-S2b, LN-S2b, OC-S2a);
- Landscape irrigation control (DP-L3a, LN-L3a, LN-L3c, OC-L2a);
- Restoration of circulation at Dana Point Harbor (DP-L4c);
- Parking area infiltrative swale with a suspended solids separator (OC-L2c);
- Catch basin retrofit program (LN-L3b);
- Provision of public education materials that address pet and horse care (DP-S3b, DP-S3c, DP-S3e, LB-S3a, LN-S3a, OC-S3a, OC-S3b);
- Hosting tours for the public of BMP infrastructure (LN-S3b);
- Hosting Fats, Oils and Greases (FOG) seminars (DP-L3e);
- Video inspection of sanitary sewers (DP-L3h), and
- Field investigation and bacteria source identification (DP-L2a, DP-L6b, DP-L7a, LB-L2a, LN-L2a, LN-L2c).

- **San Clemente Coastal Streams:**

Examples of Enhanced BMP implementation efforts in the watershed targeting pathogen indicator bacteria include:

- Plastic bag recycling program (SC-S4c, SJC-S4b);
- Provision of pet waste disposal bags in parks and on trails (DP-L3d, SJC-L3c);
- Installation of drain inlet debris screens (DP-L3c, OC-L2c, SJC-L4c);
- Installation of drain inlet filters (DP-L3c, DP-L3f, DP-S2a, OC-L2c);
- Installation of debris nets at natural drainages to ocean (SC-L3c)

- Installation of a phase II storm drain Capistrano Beach Nuisance water diversion & hydrodynamic separator. (DP-L3b);
 - Installation of a hydro-dynamic separator for locations along coastline (SC-L3c);
 - Operation of a UV disinfection water treatment system at drain MO1 (OC-L2a); a
 - Operation and maintenance of dry weather nuisance water diversions (DP-L3g)
 - Provision of public education materials that address pet and horse care (DP-S3b, DP-S3c, OC-L2b, OC-S3a, SC-S3a, SJC-S3a);
 - Implementation of a trash enclosure retrofit program (SC-L3c, SC-L4a, SJC-L3b);
 - Video inspection of sanitary sewers (DP-L3h);
 - Focus on trash enclosure area maintenance (SC-L3c, SC-L4a, SJC-L3e);
 - Hosting Fats, Oils and Greases (FOG) seminars (DP-L3e, SJC-S3d), and
 - Field investigation and bacteria source identification (SC-L2b, SC-L3d, SC-L2e).
- **San Mateo Creek:**

The portion of the San Mateo Creek watershed within Orange County is currently not urbanized. With the development of the Rancho Mission Viejo project, water quality protection will be addressed in the planning approval process for the project. Watershed-based water quality planning will occur in collaboration with San Diego County at such time that conditions warrant a watershed-based approach.

12.2.2 Environmental Restoration Projects and Planning Efforts

The term “Restoration” is applied to projects and planning efforts that contribute to the re-establishment of a more natural watershed hydrologic regime and which are focused on achieving broader objectives such as watershed habitat restoration and connectivity rather than specific water quality outcomes.

- **Laguna Coastal Streams**

Examples of restoration projects in the watershed include:

- Restoration projects along the full length of Laguna Creek (LB-L3b).

- **Aliso Creek**

Examples of restoration projects in the watershed include:

- Urban stream channel restoration (LN-L3c, LN-L5a), and
- Urban landscape renewal initiative (LH-L3a, LH-S2c, LN-L3a, LN-S2c).

Watershed Management Plan and Feasibility Study

The Army Corps of Engineers has completed a comprehensive study of the creek and its watershed in order to develop a management plan that will accomplish stream stability, habitat restoration, flood and embankment protection, and

improved water quality. A concurrent study was initiated for San Juan Creek. \$45 million in Section 219 funds is being sought to support the Aliso Creek Water Quality SUPER project.

- **San Juan Creek**

Examples of restoration projects in the watershed include:

- Urban landscape renewal initiative (DP-L3a, LH-L3a, LH-S2c, LN-L3a, SJC-L2c, SJC-L4b, OC-L2a);
- Urban stream channel restoration at the San Clemente Municipal Golf Course (SC-L3c), and
- Arundo eradication (SJC-S1b).

Watershed Management Plan and Feasibility Study

The County of Orange has entered into a \$3.2 million Federal Cost Share Agreement with the Corps for the San Juan Creek Watershed Spin-Off Feasibility Study. The Permittees and water/wastewater agencies have developed a locally preferred plan (LPP) for the lower watershed which they plan to represent to the Corps. The LPP includes removal of the existing concrete slope panels and would result in the addition of a sand creek invert under the concrete sloped panels.

- **Dana Point Coastal Streams**

Examples of restoration projects in the watershed include:

- Urban landscape renewal initiative (DP-L3a, LN-L3a, LN-L3c, OC-L2a);

- **San Clemente Coastal Streams**

Examples of restoration projects in the watershed include:

- Urban landscape renewal initiative (DP-L3a, OC-L2a, SJC-L2c, SJC-L4b);
- Urban stream channel restoration at the San Clemente Municipal Golf Course (SC-L3c);
- Landscape irrigation control (DP-L3a, OC-L2a, SC-L2d, SJC-L2c);
- Employ structural treatment units at Poche Beach (SC-L3c);
- Identify potential drainage system retrofit opportunities (SJC-L3b); and
- Arundo eradication (SJC-S1b).

- **San Mateo**

See discussion in 12.2.1 – San Mateo Creek.

12.2.3 Other Planning Efforts

- **Integrated Regional Water Management Plan (IRWMP)**

In August, 2005, the County facilitated forming the South Orange County Integrated Regional Water Management Group (Group). This Group is comprised of South Orange County cities, the County, and water/wastewater agencies. The Group prepared an IRWMP, which was adopted in May, 2006. The IRWMP integrates projects and management plans of the various agencies to foster coordination, collaboration and communication among those organizations in order to provide a reliable water supply, protect and improve water quality, and achieve other multiple objectives in an efficient manner.

12.3 Assessment

Three separate, but nonetheless highly interrelated, planning processes have continued to develop through the period of the Third Term Permits. These processes are (1) DAMP/LIP focused on Countywide implementation of Baseline BMPs, (2) DAMP/Watershed Action Plan focused on Enhanced BMPs targeting specific constituents of concern, and (3) a number of processes and initiatives that are focused on achieving broader objectives such as watershed habitat restoration and connectivity rather than specific water quality outcomes.

The first two processes align with the CWA's interim goal, which is to attain water quality sufficient to provide for the protection and propagation of fish, shellfish, and wildlife and for recreation in and on the water. The third process aligns with the overarching objective of the CWA which is to restore and maintain the chemical, physical and biological integrity of the nation's waters. While the interim goal is subordinate to the broader objective, it nonetheless continues to be the primary focus of the Permittees efforts since it is the basis of the long-established NPDES permitting framework to which the Permittees, as a consequence of Section 402(p) of the CWA, are subject.

12.3.1 Watershed-Based Water Quality Planning Efforts

In south Orange County the specific WURMP requirements of the Third Term Permits have preceded TMDL development and implementation and led to the creation of six DAMP/WAPs. The most DAMP/WAP progress reports show significant progress with respect to each of the short-term and long term objectives and the DAMP/WAPs are deemed to usefully provide:

- A holistic account of all water quality protection and management activities in the

watershed;

- A basis for developing establishing and communicating common goals for the watershed with an action plan to achieve them, and
- A framework for monitoring and assessing the progress of projects individually and cumulatively at the watershed scale.

At the time of their preparation it was assumed that the DAMP/WAPs would ultimately evolve into TMDL implementation plans. Indeed, the anticipated development of the Beaches and Creeks Pathogen Indicator Bacteria TMDL established pathogen indicator bacteria as the priority constituent of concern in each of the six south Orange County watersheds for which DAMP/WAPs were prepared. One consequence of this common focus was the convening of WAP committees to address the same constituent of concern. While this situation suggests a need for a regional consolidation of committees within the Orange County portion of San Juan Hydrologic Unit, it is recognized that the TMDL's separate load allocations will likely require coordinated action and cost sharing on a hydrologic area or hydrologic sub-area basis. In addition, it is expected that additional TMDLs will be developed over the next permit term for more localized water and sediment quality impairments which will also require watershed management-based planning approaches at the hydrologic sub-area level. While the Permittees strive to minimize the administrative burden of the various planning processes, realignment of the current watershed planning areas wholly within Orange County and the San Juan Hydrologic Unit is considered premature prior to TMDL promulgation.

The exception in the foregoing assessment is the San Mateo DAMP/WAP. The San Juan Hydrologic Area encompasses south Orange County and an area of San Diego County comprising a portion of the San Mateo Canyon Hydrologic Area and the San Onofre Hydrologic Areas. While a DAMP/WAP was prepared for the portion of San Mateo Canyon within Orange County, it is an area of Orange County that is yet to undergo urbanization. It is anticipated that no further action will be taken by the Permittees relating to the San Mateo DAMP/WAP pending until such time as there is a need to address urbanization impacts on a watershed scale and in collaboration with San Diego County.

ROWD Commitment

- Complete development of the **DAMP/Watershed Action Plans** into bacteria TMDL implementation plans (excepting the San Mateo DAMP/WAP).

12.3.2 Environmental Restoration Planning Efforts

The Permittees' environmental restoration efforts focused on ecological outcomes are generally broad stakeholder initiatives rather than permit compliance driven planning

processes. Further, the major restoration planning efforts are predominantly grant funded cooperative projects. Consequently, federal funding of ACOE watershed management and restoration initiatives and the future success of the IRWMP and other grant funding initiatives will continue to be a major determinant of progress with respect to these planning efforts.

12.3 Summary

The most DAMP/WAP progress reports show significant progress with respect to each of the WURMP short-term and long term objectives established in the Third Term Permits. Based upon this progress the DAMP/WAPs are deemed to usefully provide:

- A holistic account of all water quality protection and management activities in the watershed;
- A basis for developing establishing and communicating common goals for the watershed with an action plan to achieve them, and
- A framework for monitoring and assessing the progress of projects individually and cumulatively at the watershed scale.

With the increased emphasis on TMDL implementation in the Fourth Term Permits, the Permittees will focus on the five watershed areas of San Juan Hydrologic Area within Orange County and continue to develop the DAMP/WAPs into TMDL implementation plans. This development, while likely maintaining the San Juan Creek and Aliso Creek DAMP/WAPs, may lead to a consolidation of effort related to the coastal streams watersheds. In addition, the San Mateo Creek Watershed which is largely outside Orange County, and not currently subject to urbanization (in the Orange County portion), will not be further developed pending the need for inter-county collaboration on a watershed basis in the future.

SECTION 13.0, SUMMARY

13.0 SUMMARY

13.1 Introduction

From the various sources of information that were used to evaluate program effectiveness, three themes have emerged that frame the Permittees approach to developing the proposed 2007 DAMP. These themes are:

Demonstrating the iterative management approach: Adapting the management program to more effectively address urban sources of pollutants that are causing or contributing to exceedances of water quality standards;

Enhancing Implementation: Improving program implementation through incorporation of auditable environmental management system concepts; and,

Establishing watershed-based water quality planning: On a Countywide basis, creating two separate, but nonetheless highly inter-related, water quality planning processes to address urban sources of pollutants.

Each of these themes is the basis for two types of programmatic recommendations, specifically (1) ROWD Commitments (new programmatic commitments to be developed and implemented over the period of the Fourth Term Permits) and (2) DAMP Modifications (improvements to existing program commitments incorporated into the proposed 2007 DAMP).

13.2 Demonstrating Iterative Management

ROWD Commitments:

- Develop Model Integrated Pest Management, Pesticide and Fertilizer Guidelines into a Model Program (rather than guidelines) with implementation goals and including model contract language (see **Section 5.3.2**).
- Develop recommendations for the selection and installation of drain inlet screens (see **Section 5.3.3**).
- Develop model language for municipal trash collection and haulage contracts that address water quality protection issues (see **Section 5.3.3**).
- Develop and implement BMPs for architectural uses of copper and zinc (see **Section 7.3.1**).

13.3 Enhancing Implementation

ROWD Commitments:

- Prepare a training schedule and define expertise and competencies for
-

SECTION 13.0, SUMMARY

- jurisdictional program manager positions (see **Section 2.3.2**).
- Prepare a fiscal reporting strategy based upon an audit of the fiscal analysis reporting section of the PEA, to better define the expenditure and budget line items included in the fiscal report (see **Section 2.3.4**).
 - Prepare metric definitions and guidance to improve efficacy of the assessment process.
 - Standardize SDR and SAR definitions of “High” priority and develop prioritization process that is better predicated on the threat (diminished by BMP implementation) posed by the facility, and consider the presence of “constituents of concern” (see **Section 5.3.1**).
 - Redefine IPM (pesticide use) indicators (see **Section 5.3.1**).
 - Prepare guidance documentation and clarify requirements or conceptual Project WQMP (see **Section 7.3.1**).
 - Prepare guidance and training as needed on the recordation process (timing and appropriate documents to use) and develop recommendations for appropriate methods to employ to enable the Permittees to enforce the approved WQMP against subsequent property owners (see **Section 7.3.1**).
 - Develop library of BMP performance reports (see **Section 7.3.1**).
 - Develop standard design checklist/plans/details for source and treatment control BMPs (see **Section 7.3.1**).
 - Develop recommendations/guidance for enhanced Model WQMP language regarding Site Design BMPs (see **Section 7.3.1**).
 -
 - Evaluate the NTS approval process and develop recommendations for streamlining regulatory agency approval of regional treatment control BMPs (see **Section 7.3.1**).
 - Prepare a training schedule including defined expertise and competencies for staff with WQMP review and approval responsibilities (see **Section 7.3.1**).
 - Prepare a training schedule including defined expertise and competencies for construction inspectors (see **Section 8.3.1**).
 - Develop a more detailed prioritization process to improve standardized reporting and to support re-direction of inspection resources to significant sources of priority constituents of concern (see **Section 9.3.1**).
-

SECTION 13.0, SUMMARY

- Develop effective alternative to re-inspection such as self-certification (see **Section 9.3.1**).
- Prepare defined expertise and competencies for authorized inspector positions and develop a training schedule to meet these requirements (see **Section 9.3.1**).

DAMP Modifications:

- Revised the DAMP for greater consistency with established Environmental Management System (EMS) principles and improved accessibility to different constituencies and levels or readership (see **Section 2.3.3**).
- Revised **DAMP Section 3.0 plan improvement process** to detail iterative process for DAMP improvement (see **Section 3.3.1**).
- Defined “fixed facilities,” “field programs,” and “drainage facility sites” (see **Section 5.3.1**).
- Eliminated Environmental Performance Reporting (EPR) program (which is duplicative of Model Municipal Activities Program) (see **Section 5.3.1**).
- Revised Model WQMP Table 7.II.6 for latest information on BMPs and clarity (see **Section 7.3.1**).
- Evaluated and revised (as necessary) prioritization provisions for Countywide consistency (see **Section 7.3.1**).
- Provided definitive construction site prioritization guidance (see **Section 8.3.1**).
- Clarified inspection frequencies; violation definitions and re-inspection (see **Section 9.3.1**).
- Provided definitive industrial and commercial facility descriptions (see **Section 9.3.1**).

13.4 Establishing Watershed-Based Water Quality Planning

ROWD Commitment:

- Complete DAMP/Watershed Action Plans for all 11 Orange County watersheds (see **Section 12.3.2**).
-

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ATTACHMENTS

Attachment 1 Water Quality Monitoring Data (Tables & Figures)

EXHIBITS

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Exhibit 2 Strategy Tables

EXECUTIVE SUMMARY

This model "Watershed Action Plan (WAP)," Appendix A of the Report of Waste Discharge (ROWD), was prepared to meet Section J and L of the municipal NPDES Stormwater Permit - Order R9-2002-0001 and was revised in 2005 to integrate the separate responses of the Watershed Permittees to Clean-Up and Abatement Order 99-211 (issued December 28, 1999) and California Water Code Section 13225 Directive (issued March 2, 2001). This WAP is also discussed in Section 12.0 of the DAMP, and in commitments to watershed planning in Section 3.0 of the DAMP.

Within Orange County there are both jurisdictional and watershed-based efforts to improve water quality. The jurisdictional efforts are captured as part of the DAMP/LIP. The DAMP/WAP was created to capture the efforts that are undertaken to address priority constituents of concern in a specific watershed.

The purpose of this document is to present a planning framework for the Aliso Creek Watershed to:

- Identify the most significant water quality issues related to urban runoff sources that can be addressed at a multi-jurisdictional watershed-scale,
- Focus jurisdictional pollution prevention and source control programs on local constituents, of concern, to identify treatment control opportunities,
- Incorporate prior data from planning studies,
- Identify indicators to track progress, and
- Present an integrated plan of action for urban sources that results in meaningful water quality improvement in the Aliso Creek Watershed.
- Describe the numerous existing programs related to water quality and the activities conducted by the Watershed Permittees at the watershed scale.

The WAP comprises the following sections:

Section 1.0 describes the environmental setting of the watershed, discusses program coordination between the Watershed Permittees, and outlines the approach taken in plan development.

Section 2.0 provides an assessment of current water quality conditions and identifies issues and data gaps and constituents of concern. The constituent of concern identified for this watershed is pathogen indicator bacteria.

Section 3.0 provides information on the Directives issued for impaired segments of this watershed, and the development of existing total maximum daily load (TMDLs) and the schedule for future TMDLs.

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Section 4.0 discusses pollution sources and provides an inventory of enhanced best management practices (BMPs) and restoration projects that have been implemented in the watershed.

Section 5.0 focuses on the recommendations for actions to be taken to address the water quality issues of the watershed and discusses the annual means of assessment of the program effectiveness.

1.0 INTRODUCTION

The designation of “Aliso Creek Watershed” refers to the hydrologic watershed that is defined by drainage and only minimally by jurisdictional boundaries. The Aliso Creek Watershed encompasses portions of the cities of Aliso Viejo, Laguna Beach, Laguna Hills, Laguna Niguel, Laguna Woods, Lake Forest, and Mission Viejo, and unincorporated areas within the County of Orange. More than a decade ago, the Watershed Permittees (the County of Orange, the cities of Aliso Viejo, Laguna Beach, Laguna Hills, Laguna Niguel, Laguna Woods, Lake Forest, and Mission Viejo, and the Orange County Flood Control District) recognized that Aliso Creek and the beach at the creek mouth were suffering from a variety of water quality problems and began an unprecedented program of collaboration to address these problems. It was realized early on that the management of water quality was more appropriately dealt with within the hydrologic boundaries of the watershed, rather than solely on the jurisdictional basis of political boundaries.

This Aliso Creek Watershed Action Plan (WAP) of the Drainage Area Management Plan (DAMP) has been developed to attain the following multiple objectives:

- To meet the requirements for a Watershed Urban Runoff Management Plan (WURMP) contained in the municipal National Pollutant Discharge Elimination System (NPDES) stormwater permit;
- To identify the most significant water quality issues and constituents of concern on a watershed scale and relate these to urban sources;
- To focus the pollution prevention and source controls implemented at a individual jurisdiction level on the identified constituents of concern and to identify any jurisdiction-specific treatment control opportunities;
- To identify the water quality issues that are most appropriately addressed through a multi-jurisdictional watershed-scale approach;
- To incorporate information obtained from prior planning studies;
- To present an integrated plan of action that results in meaningful water quality improvement in the Aliso Creek Watershed group at a watershed-scale that balances economic, social, and environmental constraints; and
- To identify indicators to track progress.

To achieve these objectives, the Aliso Creek Watershed Permittees will be building on the considerable work and studies that have been completed collaboratively over a multi-year period. These initiatives include:

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- Since 1990, the Watershed Permittees have developed and implemented common water quality programs within their own jurisdictions in response to the requirements of the municipal NPDES stormwater permit.
- In February 2003, an updated version of the 2003 DAMP was provided to the San Diego Regional Water Quality Control Board (Regional Board), including Local Implementation Plans (**LIPs - 2003 DAMP Appendix A**). The LIPs are detailed plans that focus on specific areas required by the NPDES permits, including the legal authority to regulate pollutant discharges; public education; enhanced standards for new development/significant re-development; implementation of BMPs at municipal facilities, construction sites, and commercial and industrial facilities; and, water quality monitoring. The BMPs can, in most cases, be focused on targeted constituents of concern to be identified through the monitoring program.
- On December 28, 1999 the San Diego Regional Board issued a Clean-up and Abatement Order (CAO 99-211) to the County, Orange County Flood Control District, and the City of Laguna Niguel to address occurring bacteria indicators in the storm drain designated J03P02. The CAO recipients have implemented an extensive program of monitoring and BMPs in this sub-watershed and reported progress in twenty-one quarterly progress reports. The CAO was rescinded by the Regional Board on May 11, 2005.
- On March 2, 2001, the Regional Board issued a Water Code Section 13225 Directive (Directive) to the Watershed Permittees in response to the elevated levels of bacterial indicators detected in many areas of the Aliso Creek Watershed that were attributed to urban sources. The Directive required the Watershed Permittees to conduct extensive additional monitoring and to detect and eliminate the sources of the bacterial indicators. In response to the Directive, the Watershed Permittees collaborated to address this highly specific water quality problem. This collaboration included developing and implementing one of the most extensive bacterial monitoring programs attempted at a watershed-scale, and specific plans of action by each of the Watershed Permittees for addressing problem storm drains on a prioritized basis. The plans of action focus on many of the pollution prevention and source control approaches described in the LIPs, and include a number of collaborative actions between the Watershed Permittees, such as public education and treatment control BMP retrofits.
- Since 1997, a multi-jurisdictional effort has been taking place to develop solutions to the watershed-scale problems in Aliso Creek. The Corps of Engineers' watershed management study process and a Clean Water Act Section 205(j) water quality planning grant were two of the key components of this effort. The result of this effort has been the development of a Watershed Management Plan that identified problems, opportunities, and ultimately identified a series of water quality improvement recommendations. Many of these recommendations are being pursued, with the County or, in some cases, individual Watershed Permittees as lead agency.

The Aliso Creek Watershed Chapter borrows much of its organization, structure, and terminology from the 2003 DAMP of which it is an appendix, and also from the reports developed in response to the Directive:

Section 1.0 describes the watershed and environmental setting, the program management coordination between the Watershed Permittees and other stakeholders, and the approach taken to develop the plan.

Section 2.0 assesses the water quality information available and identifies the water quality issues and the constituents of concern.

Section 3.0 provides details on the existing Directives in the watershed and provides information on the schedule for future TMDLs.

Section 4.0 discusses the urban sources of pollution, the available treatments for pollution control, and an inventory of Enhanced BMPs and stream system restoration projects that have been implemented in the watershed that address specific pollutants of concern.

Section 5.0 focuses on the actions to be taken to address the water quality issues of the watershed and discusses the annual means of assessment of the program effectiveness.

The Aliso Creek WAP is intended as a living document, one capable of being modified as new information becomes available and problems are addressed. It identifies the current state of knowledge on the issues facing the Aliso Creek Watershed and also sets the stage for future activities intended to address water quality issues in various reaches of the Creek and its tributaries. Figures enclosed represent available information in the GIS mapping format and some additional inventory information as supplied by the Watershed Permittees. The plan of action contained in this WAP will be reviewed for effectiveness and applicability annually through the annual progress reporting process required by the municipal NPDES stormwater permit.

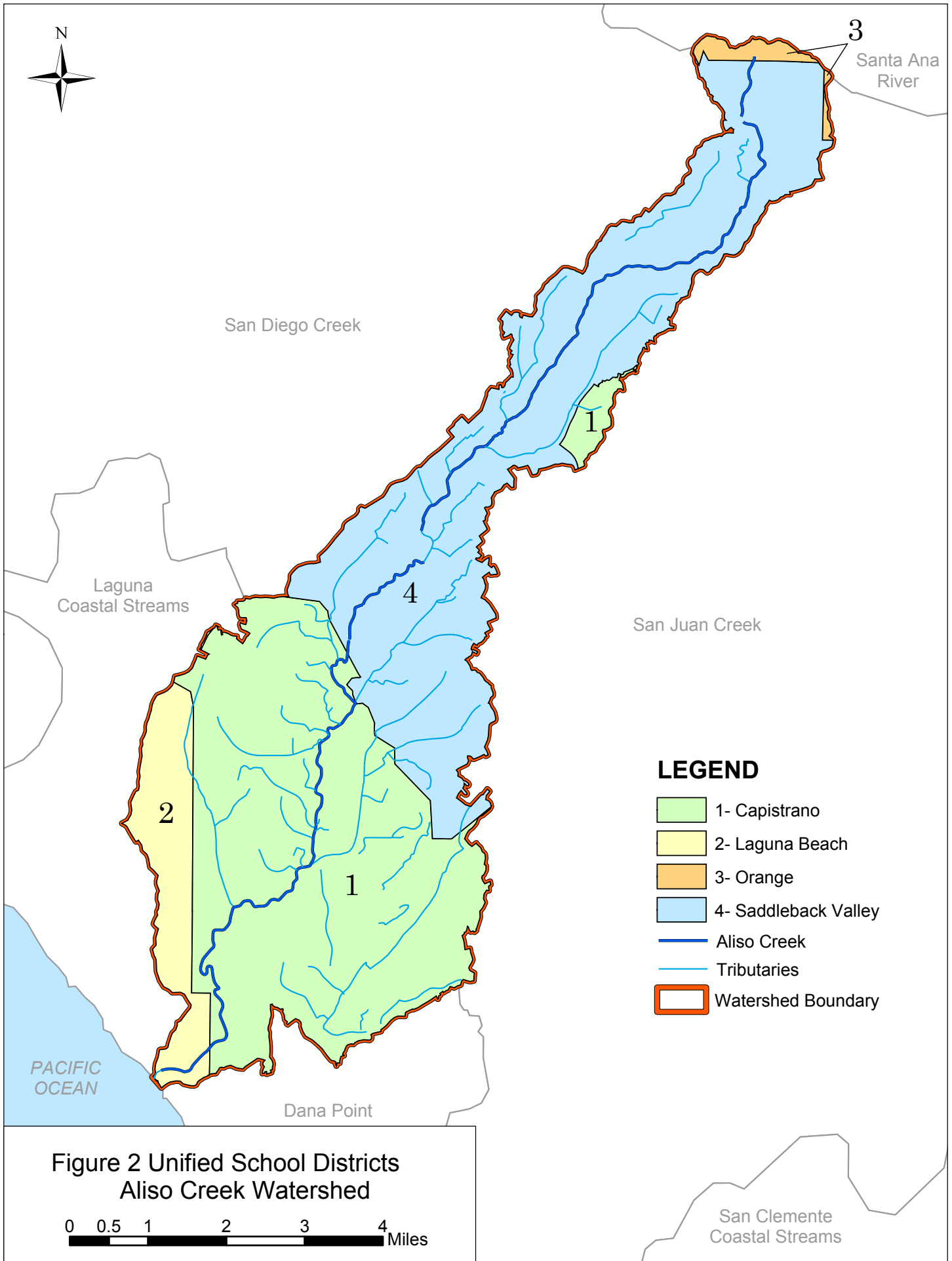
1.1 Watershed Setting

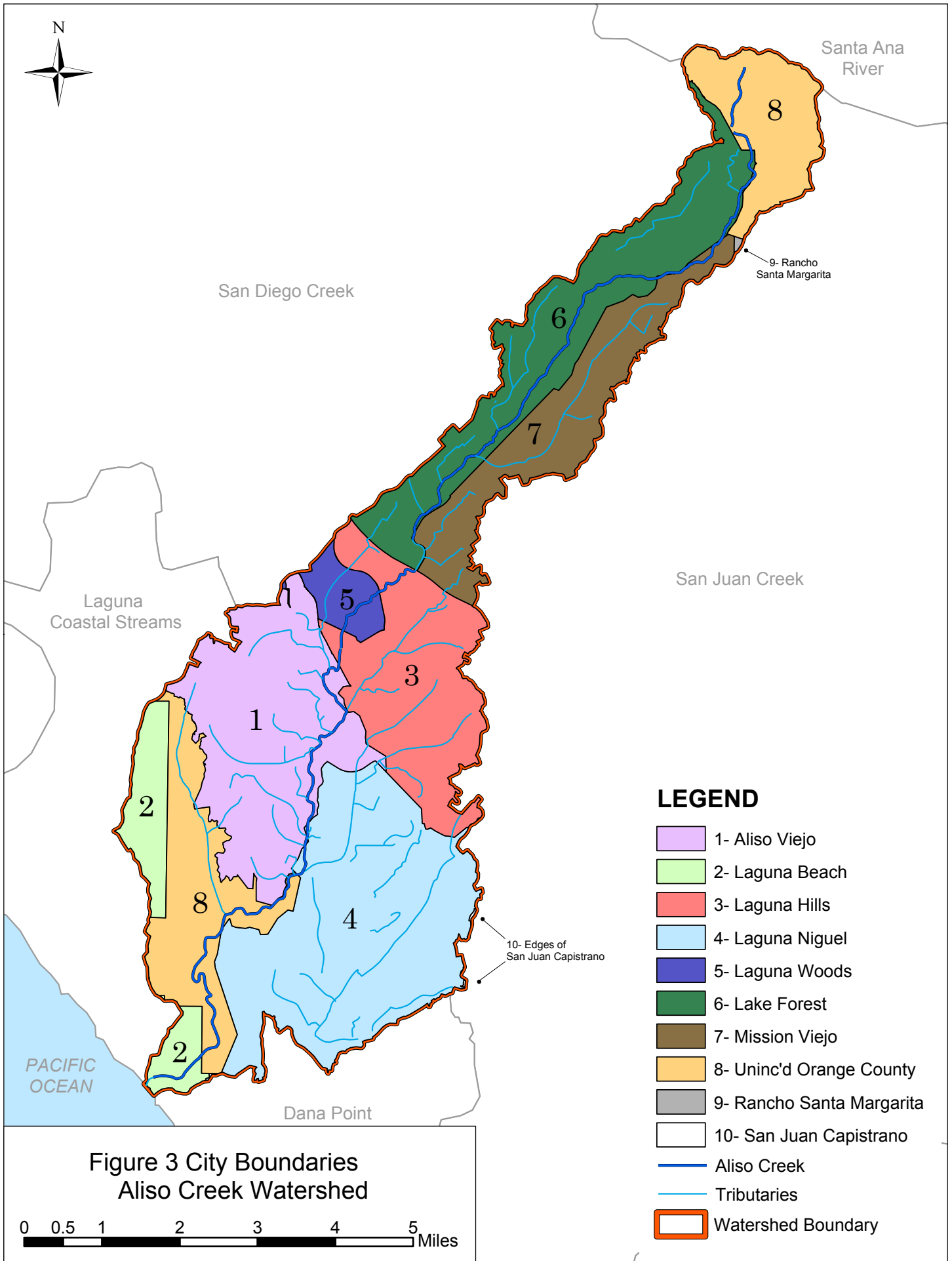
The Aliso Creek Watershed is located in southern Orange County, approximately 50 miles south of Los Angeles and 65 miles north of San Diego (**Figure 1**). Aliso Creek drains a long, narrow coastal canyon with headwaters in the Cleveland National Forest. The creek ultimately discharges into the Pacific Ocean at Aliso Beach. The approximately 36-square-mile watershed includes portions of the cities of Aliso Viejo, Laguna Beach, Laguna Hills, Laguna Niguel, Laguna Woods, Lake Forest, and Mission Viejo. **Figures 2** through **4** depict the breakdown of the watershed by Unified School District boundaries, city boundaries, water provider, and parks and open space, respectively.

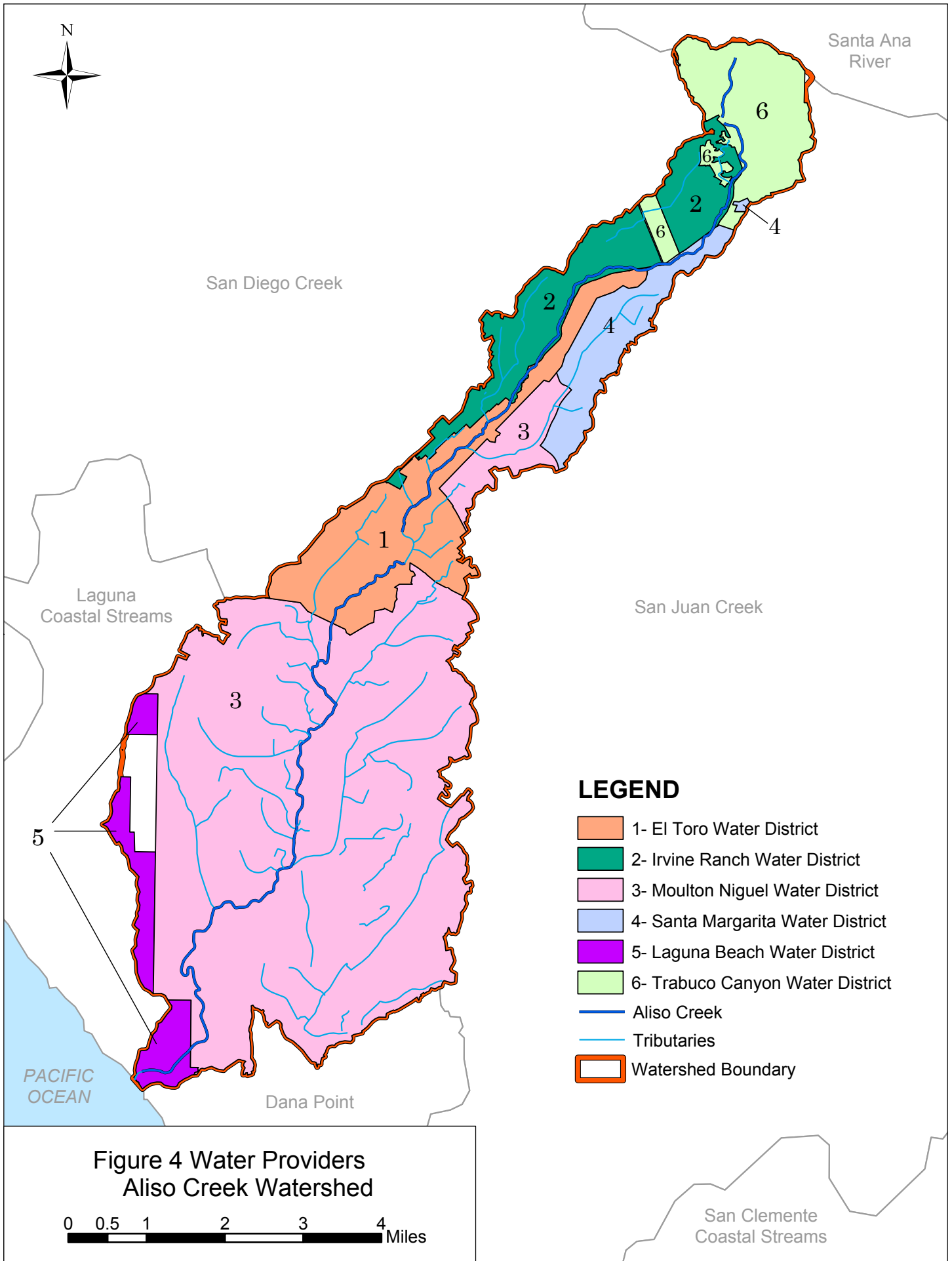
Major transportation arteries through the watershed include the San Joaquin Hills Transportation Corridor and Interstate 5. **Figure 5** shows the major transportation routes within the watershed.

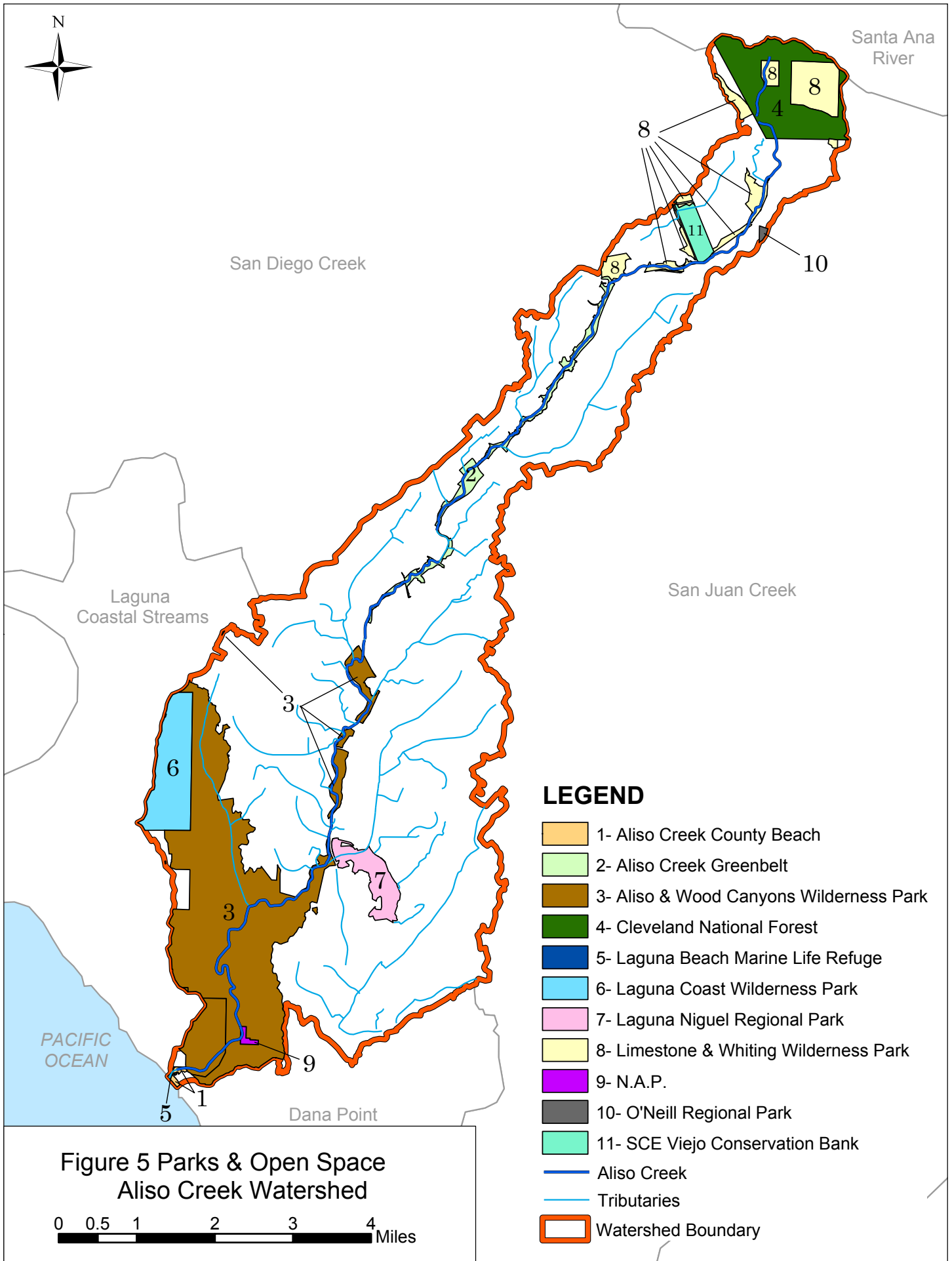
The Aliso Creek Watershed is largely developed, with the exception of the Cleveland National Forest in the upper watershed and the Aliso Wood Canyon Regional Park in the lower watershed. **Figure 6** shows the existing land use in the Aliso Creek Watershed and **Figure 7** shows the future planned land use.











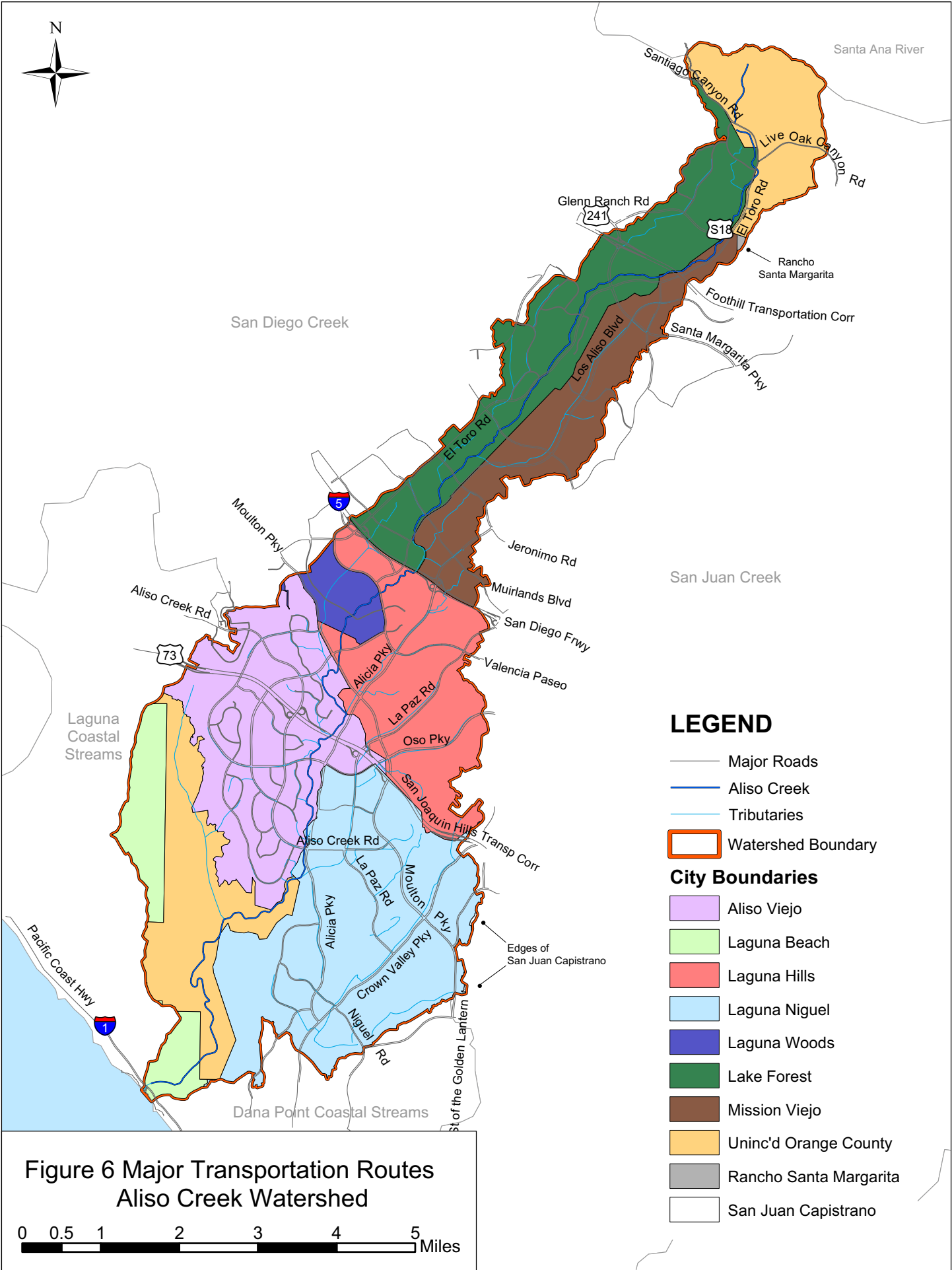


Figure 6 Major Transportation Routes
Aliso Creek Watershed

0 0.5 1 2 3 4 5 Miles

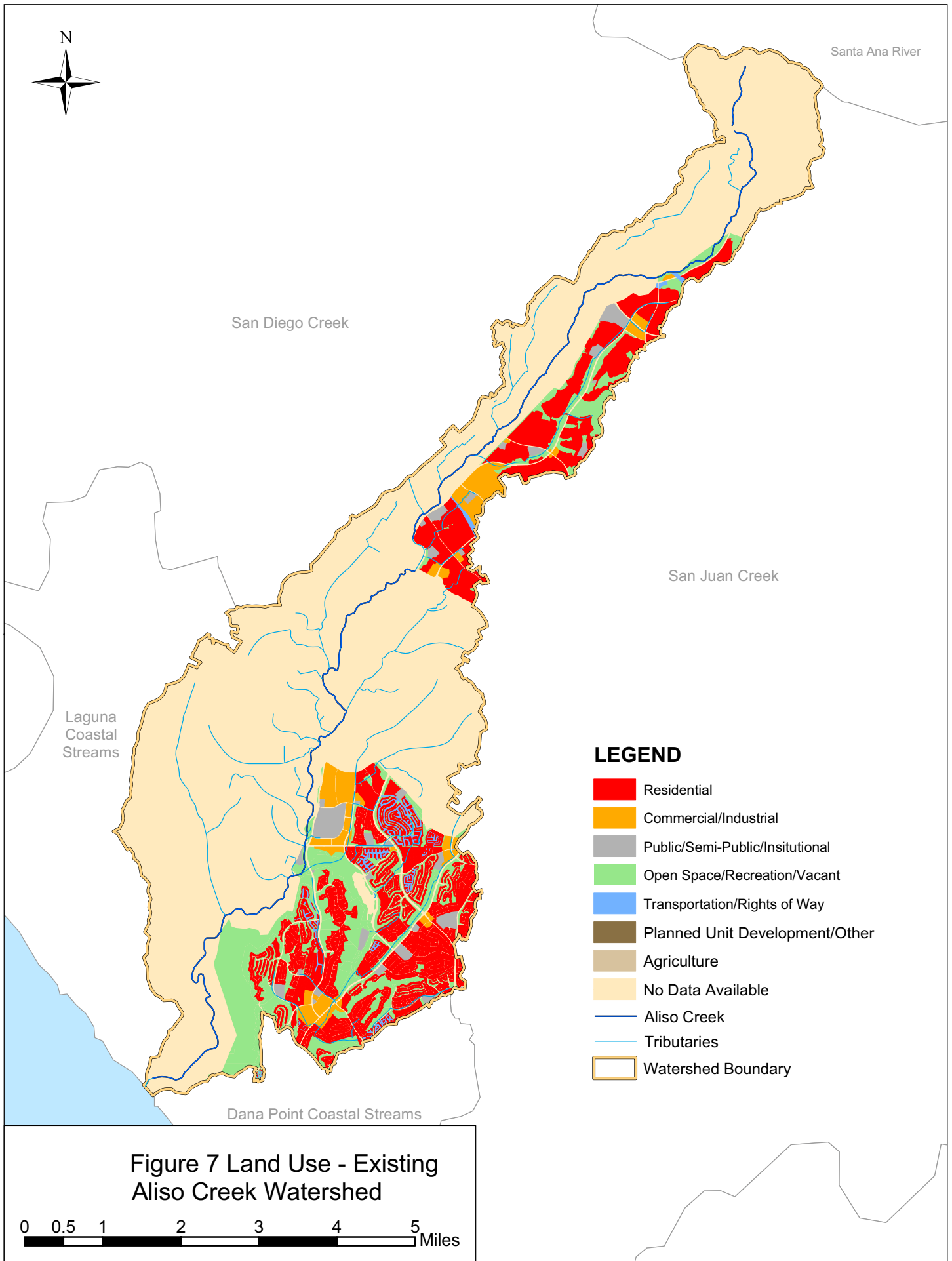




Figure 8 Land Use - Future

1.2 Beneficial Uses

The Aliso Creek Watershed is within the jurisdiction of the San Diego Regional Board. The Regional Board has placed Aliso Creek under the Laguna subunit of the San Juan Hydrologic Basin (designated Hydrologic Sub Area 1.13). The Water Quality Control Plan (Basin Plan) also lists the English Canyon, Sulphur Creek, and Wood Canyon tributaries to Aliso Creek as receiving waters. The following existing beneficial uses are designated in the Basin Plan for Aliso Creek, Sulphur Creek, Wood Canyon, and English Canyon:

- AGR - agricultural supply
- REC1 - contact water recreation
- REC2 - non-contact water recreation
- WARM - warm freshwater habitat
- WILD - wildlife habitat

The following designations apply to the mouth of Aliso Creek:

- REC1 - contact water recreation
- REC2 - non-contact water recreation
- WILD - wildlife habitat
- RARE - rare, threatened, or endangered species
- MAR - marine habitat

Table 1 shows the beneficial uses associated with each waterbody.

Table 1: Designated Beneficial Uses - Aliso Creek

Inland Surface Water	AGR	REC-1	REC-2	WARM	WILD
Aliso Creek	●	○	●	●	●
English Canyon	●	○	●	●	●
Sulphur Creek	●	○	●	●	●
Wood Canyon	●	○	●	●	●
Aliso Creek Mouth	●	○	●	●	●

Existing - ● Potential - ○

Source: <http://www.waterboards.ca.gov/sandiego/programs/basinplan.html>

The following is a description of the relevant beneficial use designations:

Agricultural Supply (AGR) – Supports uses for farming, horticulture or ranching. Uses may include irrigation, stock watering, and support of vegetation for range grazing.

Contact Water Recreation (REC1) – Includes uses of water for recreational activities involving body contact with water, where ingestion of water is reasonably possible. These uses include, but are not limited to, swimming, wading, water-skiing, skin and scuba diving, white water activities, fishing, or use of natural hot springs.

Non-Contact Water Recreation (REC2) – Includes uses of water for recreational activities involving proximity to water, but not normally involving body contact with water where ingestion of water would be reasonably possible. These uses include, but are not limited to, picnicking, sunbathing, hiking, beach combing, camping, boating, tidepool and marine life study, hunting, sightseeing, or aesthetic enjoyment in conjunction with the above activities.

Warm Freshwater Habitat (WARM) – Supports warm water ecosystems that may preserve and enhance aquatic habitats, vegetation, fish, and wildlife, including invertebrates.

Wildlife Habitat (WILD) – Includes uses of water that support terrestrial ecosystems, including, but not limited to, preservation and enhancement of terrestrial habitats, vegetation, wildlife (mammals, birds, reptiles, amphibians, invertebrates), or wildlife water and food sources.

1.3 Constituents of Concern

As discussed in the Introduction, the focus of the WAP is to address the priority constituents of concern within the watershed. At the time of its preparation, it was assumed that the DAMP/WAP would ultimately evolve into a TMDL implementation plan and the anticipated development of the Beaches and Creeks Pathogen Indicator Bacteria TMDL established pathogen indicator bacteria as the priority constituent of concern in the watershed.

1.4 Watershed Program Management

Watershed management is the term used for the approach to water quality planning that places an emphasis on the watershed (the area draining into a river system, ocean or other body of water through a single outlet) as the planning area and looks to solutions to problems that cut across programs and jurisdictions. In Orange County, these efforts focus additional effort on the highest priority water quality constituents of concern in each watershed.

The approach taken to develop the DAMP/WAP establishes the jurisdictional DAMP/LIPs and the DAMP/WAPs as the principal policy and program documents for two separate, but nonetheless similar and highly interdependent, water quality planning processes targeting the control of pollutants in urban runoff (see **Section 3.0, 2007 DAMP**). In a number of watersheds these efforts are supportive of a third planning process that is focused on achieving broader objectives such as watershed habitat restoration and connectivity rather than specific water quality outcomes.

The Watershed Permittees coordinate the program management of the Aliso Creek Watershed through the program agreements and coordination meetings, which are described below.

1.4.1 NPDES Countywide Coordination

The Orange County Stormwater Program is underpinned by an Implementation Agreement between the County of Orange, the Orange County Flood Control District, and the 34 cities of Orange County. The Agreement provides a funding formula and budgeting process for shared countywide costs and monitoring costs by Regional Board area.

The Orange County Stormwater Program also has an extensive committee structure that is described in the DAMP (**2003 DAMP Section 2**) and in the LIPs of the Watershed Permittees (**2003 DAMP Appendix A-2**). Each of the Watershed Permittees participates in the General Permittee meeting and, selectively, in the other oversight and technical committees.

1.4.2 NPDES Watershed Coordination

The Watershed Permittees also meet separately from the countywide program on a regular basis, typically quarterly, to coordinate activities in response to the Directive. As the intent of the Directive becomes integrated into both the LIP and the Aliso Creek WAP, these meetings are anticipated to continue in order to maintain coordination. The Watershed Permittees have developed a cost-sharing agreement for watershed monitoring costs to deal with those expenditures not covered by the countywide program.

1.4.3 Corps of Engineers Watershed Management Study

The County of Orange entered into an agreement with the Corps of Engineers in 1998 to conduct a Watershed Management Study focused on the broader goal of restoring watershed ecosystem integrity. Subsequently, the County entered into individual agreements with each of the Watershed Permittees as well as other agency stakeholders (such as water/sewer districts) to cost-share the multi-year study.

The Watershed Permittees, agency stakeholders, and others held meetings for more than five years in an effort to better define problems, opportunities, and roles and responsibilities within the study process and following its completion. During that time, a broad range of problems were identified, one of which is water quality. While the focus of the Corps of Engineers is on broader restoration issues, the focus of many of the members attending the meetings was on water quality improvement. The Watershed Permittees, in particular, participated from the outset in actively guiding the studies, evaluating the results, and providing direction to future efforts including securing grant funding under the Clean Water Act Section 205(j) for additional water quality studies. Participation in this group was voluntary, with numerous individuals donating their time and efforts toward the goal of improving water quality.

An important component of the study management process was participation from the public, many of whom regularly attended meetings in an effort to provide input into the direction of study and addressing of problems. While the meetings were announced in a variety of media,

continued public participation was also ensured through maintenance of an e-mail list/address list through which many of the participants were contacted on a systematic basis.

The meetings included presentations on a wide variety of issues related to improvement of the entire watershed ecosystem. Subjects included the effects of development on various watershed attributes, ecosystem damage and restoration, water quality assessment and improvement, flood damage reduction, coastal issues, alternative development and selection, the development of the Watershed Management Plan, prioritization and inclusion of alternatives in the Plan, and the progress of the Corps of Engineers study process. Feedback from the participants actively guided the direction of future study efforts and provided valuable input into the issues related to each and every potential outcome. In addition, the presenters were often educated by the public on issues that may not have been anticipated by the technical team.

1.5 Governance

1.5.1 Watershed Chapter Committee

The Tier I/Cost Share Partners Stakeholder Group operates as the WAP Committee. This group includes representatives of the seven cities located within the watershed, representatives from the County of Orange, as well as representatives of interested agencies in the watershed. This group met four times in 2004-05.

1.5.2 Stakeholder Group

The Tier II/Public Stakeholders group provides for wider public participation and is comprised of representatives from the County, cities in the watershed, water districts, wastewater authorities, major landowners, and representatives of several environmental NGOs. The Tier II Group met four times in 2004-05.

1.6 Watershed Action Plan Development

Based upon the annual watershed assessment (discussed in Section 5.0), the Watershed Permittees and other participating jurisdictions will work together to address the priority water quality issues identified through the watershed planning processes. It is anticipated that water quality issues that are determined to be specific to a jurisdiction would be referred to that jurisdiction and thereafter be addressed as a jurisdictional program initiative through the LIP. Alternatively, the issue may originate from multiple jurisdictions within the watershed. In this instance, the problem would be addressed as a watershed cooperative effort.

Updates to this program will be the subject of annual reporting each November, which will include a water quality assessment and revisions to the listed water quality improvement initiatives.

2.0 WATER QUALITY ASSESSMENT

Urban discharges include surface runoff from residential, commercial, and industrial areas. Pollution sources that are not considered as part of the urban watershed planning responsibilities are atmospheric deposition and agricultural runoff.

The NPDES permit includes the requirement to monitor and assess the water quality associated with urban runoff. Within the Aliso Creek Watershed there have been several major initiatives to monitor and assess the water quality:

- The NPDES Monitoring Program began in 1990 and is anticipated to continue into the foreseeable future.
- The Clean Water Act Section 205(j) Water Quality Planning study began in 1998 and continued through October 2000.
- The bacteria monitoring program in response to the Directive began in April 2001 and is ongoing at present. It is the intention of the Watershed Permittees to integrate a revised Directive monitoring process within the program framework of the NPDES Monitoring Program.

Additionally, historical water quality-related data has been collected under various efforts and by other agencies and districts.

2.1 Water Quality Status

Under section 303(d) of the 1972 Clean Water Act, states, territories, and authorized tribes are required to develop a list of water quality limited segments—waters that do not meet water quality standards, even after point sources of pollution have installed the minimum required levels of pollution control technology. The law requires that state or local jurisdictions establish priority rankings for water quality impairment on the list and develop action plans, referred to as TMDLs, to improve water quality.

The SWRCB and the Regional Board staff have evaluated each addition, deletion, and change to section 303(d) based on all the data and information available for each water body and pollutant. These recommendations are based upon “all existing and readily available data and information” (40 CFR 130.7(b)(5)). In developing the recommendations, the SWRCB staff used the recommendations and analysis of the Regional Board as the basis of its analysis.

A new listing policy was used to develop the 2006 draft 303(d) list. Based on that policy, some data, for purposes of developing the section 303(d) list, are sufficient by themselves to demonstrate non-attainment of standards. Examples of these listing factors are (1) numeric data exceeding numeric water quality objectives, maximum contaminant levels, or California/National Toxics Rule water quality criteria and (2) use of numeric evaluation values focused on protection of consumption of aquatic species. Other data types require that multiple lines of evidence be used for listing and de-listing. The listing factors that require multiple lines of evidence are (1) toxicity, (2) health advisories, (3) nuisance, (4) beach postings, (5) adverse biological response, and (6) degradation of aquatic life populations or communities. Each of

these lines of evidence generally need evidence of the presence of the pollutant(s) that cause or contribute to the adverse condition.

The 2002 303(d) list of impaired waters – approved by the State Water Resources Control Board – that could potentially be affected by activities occurring within the Aliso Creek Watershed is presented in **Table 2**. It should be noted that this list is updated every 3 years and will be replaced within this Watershed Action Plan.

Nineteen miles of Aliso Creek are listed as impaired for bacteria indicators, phosphorus, and toxicity on the 2002 303(d) list. In addition, an area of about 0.29 acre of the Aliso Creek mouth is listed as impaired for bacteria indicators as is the Pacific Ocean shoreline at the mouth of Aliso Creek. The listings were based on the following information:

Bacteria indicators - Cumulative analyses of sampling data collected from 1998 to 1999 along the entire reach of Aliso Creek and in several tributaries indicated elevated enterococci concentrations. Subsequently, most of the hydrologic sub-area (HSA 1.13) was determined to be impaired for enterococci, including the tributaries of Aliso Hills Channel, English Canyon Creek, Dairy Fork Creek, Sulphur Creek, and Wood Canyon Creek. The sampling data also indicated concentrations of fecal coliform that exceeded the Basin Plan objective. These findings resulted in inclusion of the entire reach of Aliso Creek being listed as impaired due to fecal coliform.

Phosphorus - Sampling data collected between 1997 and 2000 near the mouth of Aliso Creek (ACJ01) and further upstream at Country Club Road and at Pacific Park Drive/Oso Parkway showed phosphorus concentrations that exceeded the Basin Plan objective; this finding resulted in listing of Aliso Creek as impaired for phosphate in the lower four miles.

Toxicity - Five stations, from the headwaters to the mouth of Aliso Creek, were sampled in 1998 and 1999, and all showed toxicity for one or both of the storm event samplings, thereby placing the entire reach on the list as impaired due to toxicity.

Table 2: 2002 303(d) List and TMDL Priority Schedule - Aliso Creek Watershed

Type	Name	Hydro Unit	Pollutant/Stressor	Source	Priority	Estimated Size Affected
R	Aliso Creek	1.13	Bacteria Indicators	Urban Runoff/Storm Sewers Unknown point source Nonpoint/Point Source	Medium	19 Miles
			Phosphorus Impairment located at lower 4 miles	Urban Runoff/Storm Sewers Unknown point source Nonpoint/Point Source	Low	19 Miles
			Toxicity	Urban Runoff/Storm Sewers Unknown point source Nonpoint/Point Source	Low	19 Miles
E	Aliso Creek (mouth)	1.13	Bacteria Indicators	Nonpoint/Point Source	Medium	0.29 Acres
C	Pacific Ocean Shoreline, Aliso HSA	1.13	Bacteria Indicators Impairment located at Aliso Beach	Nonpoint/Point Source	Medium	0.65 Miles

(Note: R - Rivers; E - Estuary; C - Coastal Shoreline/Beaches)

2.2 Summary of Monitoring Activities

The major monitoring programs in the Aliso Creek watershed are described below.

2.2.1 NPDES Monitoring and Assessment Program

NPDES permits are issued for a five-year term and are issued on an area-wide basis. The first municipal NPDES Stormwater Permit was for the period 1990-1996; the Second Term Permit covered 1996-2002; and the Third Term Permit covers 2002-2007. Each of the permits has required the development and implementation of a monitoring program to support an effective County-wide urban stormwater management program.

First Term Permit

The monitoring program for the First Term consisted of four elements. These elements were Field Screening, Channel Monitoring, Harbor/Bay Monitoring, and Sediment Sampling.

- Field screening was performed to detect the presence of illegal discharges or illicit connections. Physical and chemical analyses were conducted in the field. The annual evaluation of each station included two dry-weather samplings and one storm sampling. Field screening monitoring stations within the Aliso Creek Watershed were:
 - 1) Aliso Creek Channel at Aliso Creek Road
 - 2) Aliso Creek Channel at Pacific Coast Highway
 - 3) Sulphur Creek Channel at Laguna Niguel Regional Park
 - 4) Narco Channel at Laguna Niguel Regional Park
 - 5) English Canyon Channel at Los Alisos Boulevard
- Channel monitoring focused on specific watercourses with beneficial uses identified in the Basin Plan. Stations were monitored monthly and/or during storms. Samples were collected using automatic samplers. Samples were analyzed for pH, electrical conductivity, turbidity, nutrients, total suspended solids, volatile suspended solids, and total recoverable metals. Aliso Creek in Aliso/Wood Canyon was the station located in the Aliso Creek Watershed.
- Harbor/Bay sites were monitored semiannually and during storms. The monitoring included sampling for nutrients in the water column and trace metals and organics in the sediment. No Harbor/Bay Monitoring was directly associated with the Aliso Creek Watershed.
- Sediment sampling was conducted semiannually from designated channels and several bays and harbors. Samples were evaluated for metals, pesticides, herbicides, PCBs, and PAHs.

Second Term Permit

The First Term Permit monitoring program was continued into the second permit term. However, in 1999 the 99-04 Monitoring Plan was developed and implemented. This plan revised the geographic focus of the monitoring effort by designating “warm spots” (where constituents are substantially above system-wide averages) and “Critical Aquatic Resources” or CARs.

The monitoring objective for the Warm Spot segment of the program was to detect changes in the levels of the identified constituents over the long term. The CARs were prioritized and additional monitoring stations selected to gather data at those sites. A total of seven monitoring stations were established. In the Aliso Creek Watershed, the established station was located at Aliso Creek in Laguna/Wood Canyon Wilderness Park.

Third Term Permit

This current permit period is the most comprehensive monitoring effort to date. It extends the monitoring program to a broader range of locations and to a wider array of methods for measuring impacts. Investigation of the effects of stormwater plumes on the nearshore marine environment has been added to the program. Inland, the monitoring program includes bioassessment of creeks, along with more consistent use of toxicity testing. The bioassessment, toxicity testing, and measurement of chemical parameters are referred to as the “triad” approach. The Wet Weather Monitoring Program and the Dry Weather Monitoring Program supercede the 99-04 Monitoring Plan.

The four elements of the Wet Weather Monitoring Program are:

Urban Stream Bioassessment Monitoring – includes 12 sites plus three reference sites. Five sites are located in the Aliso Creek watershed, one is located in Wood Canyon, one is located on English Creek, and three are located on Aliso Creek.

Long-Term Mass Loading Monitoring – includes measurements of key pollutants at 6 sites. Monitoring sites include the sites designated in the 99-04 monitoring program plus additional sites. A total of 6 stations were selected across Orange County. Aliso Creek in Aliso/Wood Canyon is the only station in the Aliso Creek Watershed for this program element.

Coastal Storm Drains Monitoring – based on a suite of bacterial indicators. There are 36 sites, including the mouth of Aliso Creek.

Ambient Coastal Receiving Waters Monitoring – uses a measure of runoff plume characteristics. Stations include the mouth of Aliso Creek and three sites in nearby Dana Point Harbor. Testing will be done semi-annually and during two storms per year.

The Dry Weather Monitoring Program is focused on detection of illicit discharges and illegal storm drain connections. **Figure 9** shows the subwatersheds and the monitoring locations within the Aliso Creek Watershed.

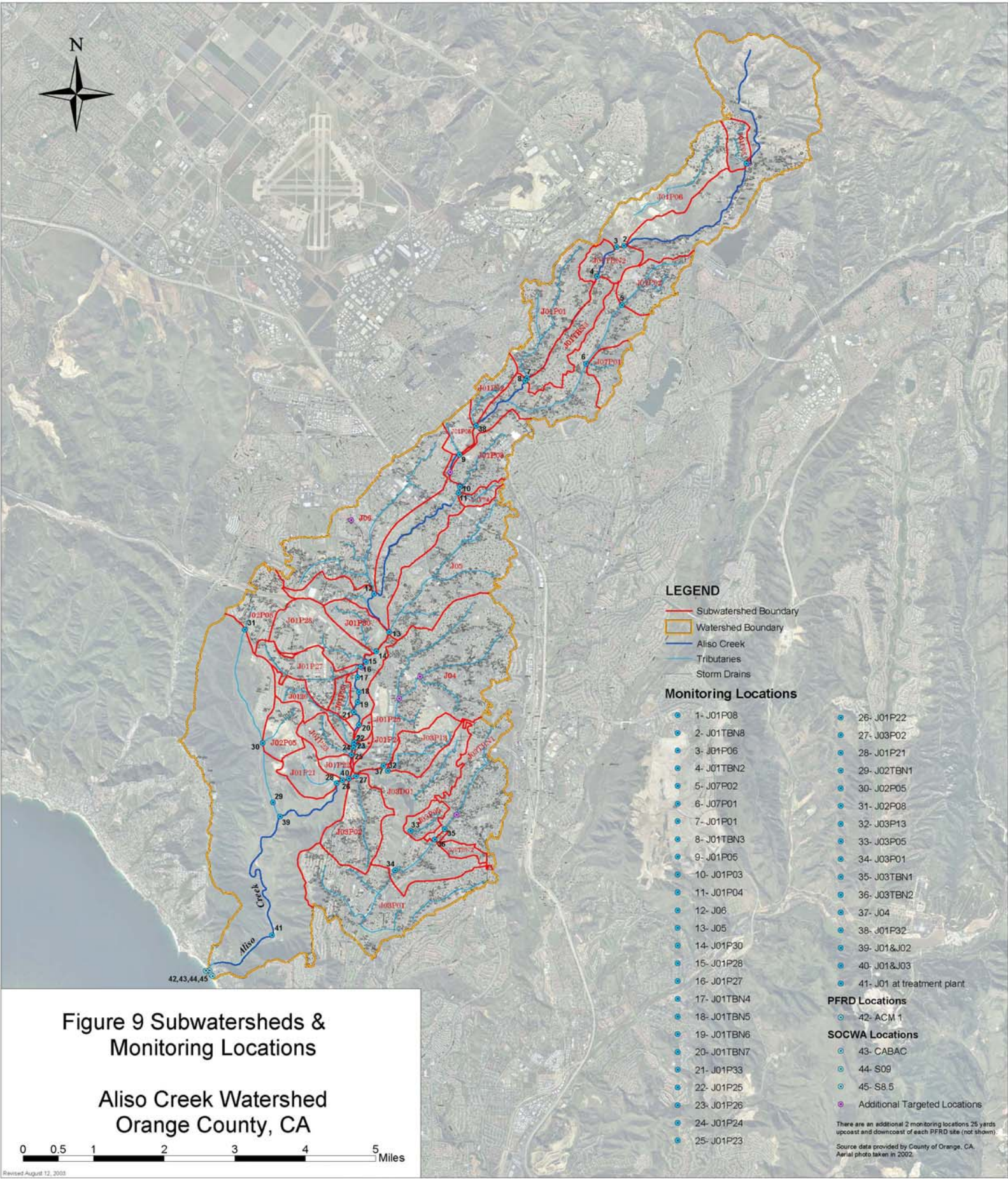


Figure 9 Subwatersheds & Monitoring Locations

Aliso Creek Watershed
Orange County, CA

0 0.5 1 2 3 4 5 Miles

LEGEND

- Subwatershed Boundary
- Watershed Boundary
- Aliso Creek
- Tributaries
- Storm Drains

Monitoring Locations

- 1- J01P08
- 2- J01TBN8
- 3- J01P06
- 4- J01TBN2
- 5- J07P02
- 6- J07P01
- 7- J01P01
- 8- J01TBN3
- 9- J01P05
- 10- J01P03
- 11- J01P04
- 12- J06
- 13- J05
- 14- J01P30
- 15- J01P28
- 16- J01P27
- 17- J01TBN4
- 18- J01TBN5
- 19- J01TBN6
- 20- J01TBN7
- 21- J01P33
- 22- J01P25
- 23- J01P26
- 24- J01P24
- 25- J01P23
- 26- J01P22
- 27- J03P02
- 28- J01P21
- 29- J02TBN1
- 30- J02P05
- 31- J02P08
- 32- J03P13
- 33- J03P05
- 34- J03P01
- 35- J03TBN1
- 36- J03TBN2
- 37- J04
- 38- J01P32
- 39- J01&J02
- 40- J01&J03
- 41- J01 at treatment plant

PFRD Locations

- 42- ACM 1

SOCWA Locations

- 43- CABAC
- 44- S09
- 45- S8.5

Additional Targeted Locations

There are an additional 2 monitoring locations 25 yards upcoast and downcoast of each PFRD site (not shown).
Source data provided by County of Orange, CA.
Aerial photo taken in 2002.

Pipes currently monitored as dry weather monitoring locations within the Aliso Creek Watershed include:

- 1) J01P26
- 2) J01P27
- 3) J01P28
- 4) J01P33
- 5) J02P05
- 6) J01P01
- 7) J01P02
- 8) J01P05
- 9) J01P08
- 10) J04P04
- 11) J03P01
- 12) J04@J03
- 13) J01@Laguna Beach
- 14) J01@ASVM
- 15) J01P03
- 16) J01P04
- 17) J07P02

This list will be modified over time.

2.2.2 Bacteria Monitoring Program: CAO 99-211

On December 28, 1999 the Regional Board issued a Cleanup and Abatement Order (CAO 99-211) due to preliminary 205(j) Study findings of elevated fecal coliform levels at a particular storm drain (J03P02). CAO 99-211 required Orange County, the Orange County Flood Control District, and the City of Laguna Niguel to develop a workplan with a time schedule to cleanup the waste discharge from the J03P02 storm drain outfall into the Sulphur Creek tributary of Aliso Creek; abate the effects of the discharged waste; implement a weekly monitoring program; and, to submit quarterly progress reports. This order was rescinded by the Regional Board on May 11, 2005.

2.2.3 Bacteria Monitoring Program: Directive

On March 2, 2001, the San Diego Regional Board issued a directive pursuant to California Water Code Section 13225 ("Directive") to the Principal Permittee and the cities within the Aliso Creek Watershed ("Watershed Permittees") for an investigation of urban runoff in the watershed. The

Directive found that the Watershed Permittees may be discharging waste with high bacteria levels from municipal storm drain outfalls into Aliso Creek and its tributaries. To meet requirements of the Directive, the Watershed Permittees implemented a watershed-wide regional bacteriological monitoring program in April of 2001.

A revised regional monitoring program that more efficiently allocates efforts to source identification and reduction was approved in October 2005 and began implementation in June 2006. The revised program focuses monitoring efforts on “status sites” and “trends sites” in the lower watershed and on a “BMP evaluation sites” at high-priority drains throughout the watershed.

The monitoring of status and trend sites addresses two questions:

1. Are conditions in receiving waters protective of beneficial uses? (status)
2. Are conditions in receiving waters getting better or worse over time? (trends)

Status and trends monitoring takes place at five core stations in the lower portion of the watershed, which past studies indicate is the area of highest recreation use and related concern about potential human health impacts. Despite some variability among them, the stations as a group provide a picture of conditions in the lower portion of the Creek. These five stations will be monitored during August and September, at a frequency of 10 samples per month. This period represents the most conservative sampling period because it captures the annual peak of bacteria levels in the watershed and the time of year that body contact recreation is most likely.

The BMP evaluation monitoring focuses on answering three questions:

1. Have bacteria loads from the high-priority drains decreased?
2. Are BMPs having their intended effects on concentrations in and/or loads from the drains?
3. Have impacts from high-priority drains on the receiving waters decreased?

Data from the BMP evaluation sites will also be compared to the results of the status and trends monitoring in the lower sections of Aliso Creek. This will help to assess whether a reduction in loads at the high-priority drains is associated with improving conditions in the lower Creek.

The revised program also contains important adaptive components that will ensure the monitoring program maintains its focus on key management questions, responds appropriately to monitoring findings, initiates new activities only when they are supported by the monitoring data, and reduces monitoring effort when it no longer provides useful information. Data and results of the revised monitoring program will be submitted on an annual basis on November 15th of each year.

2.2.4 205(j) Water Quality Study

The Aliso Creek 205(j) study was an effort led by the County of Orange to collect information throughout the Aliso Creek Watershed on a wide range of water quality parameters. The initial water quality investigation included chemical, physical, bacteriological, and toxicity sampling.

Results of the initial water quality investigation indicated that elevated bacteria and aquatic toxicity were the most critical water quality issues in the watershed. Elevated bacteria were viewed by a Watershed Technical Advisory Committee as requiring immediate attention. Further focused studies were undertaken to collect bacteriological data to determine those subwatersheds that should undergo more focused source identification efforts based on potential sources of the elevated bacteria levels. Efforts undertaken in this study also included an aquatic life assessment, water temperature profiling, and recreational use analysis. As a result of the water quality findings, several recommendations were made in the Corps study and Watershed Management Plan and have and are being pursued by the Watershed Permittees within the watershed (see later sections of this document).

2.2.5 Pre-NPDES Monitoring Program

Prior to the start of the NPDES Monitoring Program in 1991, a monitoring station was operated along Aliso Creek, a quarter mile upstream of the Pacific Coast Highway. The monitored constituents included nutrients, total lead, copper, zinc, cadmium, and chromium. Monitoring was also performed for dissolved oxygen, which was a concern because of the sand blocking that develops at the mouth of the creeks due to currents and tidal action. When dissolved oxygen concentrations dropped below a critical level, the sand berm was breached to allow circulation.

2.2.6 Orange County Health Care Agency

Over the past 40 years, the Health Care Agency (also known as Environmental Health) and local sanitation agencies (Orange County Sanitation District and South Orange County Wastewater Authority) have been testing the coastal waters in Orange County for bacteria that indicate possible presence of human disease-causing organisms. Samples are collected weekly at approximately 150 ocean, bay, and drainage locations throughout coastal Orange County. Within the Aliso Creek Watershed, there are sample locations at the mouth of Aliso Creek and on Aliso Beach (**Figure 9**).

2.2.7 Stream Gage Information

While the collection of data at the stream gages is not precisely a water quality monitoring program, it does provide valuable information in the overall knowledge of the flow history in the watershed and is therefore discussed throughout this section.

Data consisting of periodic discharge measurements (instantaneous discharge in cubic feet per second) has been measured at one site on Aliso Creek from 1932 to the present. This information indicated peak discharges for each water year and the average daily baseflow over the period of record. Historically (pre-urbanization), Aliso Creek was an ephemeral creek. However, the Aliso Creek Watershed has yielded a steady increase in baseflow over the period of record. This is believed to be due to irrigation throughout the watershed increasing the water available to infiltrate into subsurface and emerge as baseflow in the creek. This baseflow currently supports vegetation and wildlife in a discontinuous riparian corridor from the headwaters to the ocean.

A second stream gage was installed in 2001 at the bridge to the treatment plant in Aliso/Wood Canyon Regional Park to allow further flow assessments in response to the 13225 Directive.

2.3 Water Quality Monitoring Data Assessment

2.3.1 Findings of the NPDES Monitoring Program

While the priority constituent of concern in the Aliso Creek Watershed is pathogen indicator bacteria, the water quality issue of greatest public concern (see **FY2002-03 Unified Report**) is pollution of beaches. Consequently, this discussion primarily considers, based upon the findings from analyses of the Wet Weather Monitoring Program - Coastal Storm Drain Outfall data, the impact of the Creek on coastal waters. These analyses, which were undertaken to identify on a regional basis the most potentially problematic outfalls, comprised:

1. Comparing indicator levels at each drain to the State's Ocean Water-Contact Sports Standards (also referred to as "AB411" standards);
2. Ranking drains based upon the proportion of total possible exceedances of the AB411 standards;
3. Plotting indicator levels in the receiving water vs. those in the drain; and
4. Ranking drains in terms of the slope of the linear regression of receiving indicator levels vs. those in the drain.

More detailed discussion of these analyses and the analyses of data from the other monitoring program elements (Bioassessment, Mass Emissions, etc.) are presented in the **2004-2005 Unified Report Section C-11**. A summary of findings is depicted in tables and figures attached to this WAP (**Attachment 1, Water Quality Monitoring Data**).

Attachment 1a shows the proportion of all samples exceeding AB411 standards in the receiving water upstream and downstream of coastal drains for the entire year and for the AB411 season. The exceedances were predominantly for Enterococcus and Monitoring Site ACM1 did not rank in the top 5 (10% or higher rate of exceedance) in either comparison.

Exceedances of AB411 standards in the receiving waters were usually associated with elevated concentrations of indicator organisms in the outfall itself. **Attachment 1b** provides a graphic illustration of this relationship. Linear regression provides additional insight by quantifying the strength of the outfall/receiving water relationship (measured by the statistical significance - 'p' value - of the regression slope). **Attachment 1b** shows that site ACM1 ranks highest in terms of its influence on receiving water quality.

Based upon these analyses, a number of overall patterns in the overall bacteria output of the watershed are evident:

- The proportion of exceedances is generally lower in the AB411 season than in the entire year, implying that exceedance rates are highest in the rainy season; and
- Regressions are generally less strongly significant in the AB411 season than in the entire year, implying that the relationship between drains and nearby receiving waters is tighter (i.e. a more influential determinant) in the rainy season.

2.3.2 Results of Bacteria Monitoring Program: CAO 99-211

Quarterly progress reports were submitted to the Regional Board from May 2000 to April 2005 by the County, Orange County Flood Control District and the City of Laguna Niguel describing the results of the weekly sampling program and efforts to identify causes of elevated bacterial water quality in the storm drain identified as J03P02 in the Kite Hill area.

Extensive investigations over the term of the CAO identified no broken or leaking sanitary sewer lines in the vicinity of J03P02 and no human pathogens in the discharge. Instead, source investigations conducted pursuant to the CAO identified the predominant source of fecal bacteria as avian, with additional inputs from rabbits, dogs, and manure used as fertilizer. Source investigations conducted in 2000 indicate the following sources probably contribute to the levels of bacteria in the J03P02 system: organic soil amendments, turfgrass areas, wildlife, domestic pets, accumulated organic debris in the surface and subsurface storm drain system, and street sweeping debris. Regrowth of bacteria within the storm drain system was also identified as a potential contributor to the problem.

To address the elevated bacterial levels, the City of Laguna Niguel constructed the Wetland Capture and Treatment Network (WetCAT), a system of three constructed wetlands and an inlet/piping system that captures and treats virtually all low-flow and first-flush runoff from the entire J03P02 watershed. This system has been effective at reducing bacterial levels.

2.3.3 Results of the Aliso Creek Water Code 13225 Directive Monitoring Program

Over the FY2004-05 reporting period, bacteriological concentration levels followed the expected seasonal pattern of increasing during the dry weather seasons (spring and summer) and decreasing during the wet weather seasons (fall and winter). Bacteria levels in the winter (16th quarter), Spring (17th quarter) and Summer (18th quarter) seasons indicated a decrease from levels from the same season of the previous year. This decrease is expected as the Watershed Permittees continue activities to abate bacteria or eliminate sources. **Attachment 1c** summarizes, by quarter, the geomean concentrations of fecal coliform in the stormdrains measured in the Directive Monitoring Program.

The quarterly geomean concentrations of fecal coliform are plotted for each site in **Attachment 1d**. The graphs are positioned according to the relative position of the stormdrain in the watershed (i.e. J01P08 is the furthest upstream sampled drain). From these graphs it appears that the stormdrains can be placed in one or more categories. These categories include:

- Stormdrains which show little impact on receiving water (e.g. J01TBN3, J01P05, J01P04, J05, J01TBN4, J01P33, J01P30 [last 2 years], J01P26, J01P25, J01P24, J01P22, J01P21, J03P05, J03P13, and J03P02 [except summers of 2003 and 2004]).
- Stormdrains which appear to have a significant impact on their respective receiving waters (e.g. J01P08, J01P01, J01P03, J01P28, J03TBN2, J03P01, J04, J02TBN1, and J02P05).
- Stormdrains in which the fecal coliform concentration in the discharge is consistently lower than their respective receiving water concentration (J01P24, J01P21).

It should be noted that the assignments of the stormdrains to the categories above were based solely on visual observations of the data patterns in the graphs. The impact of a drain on its respective receiving water is a function of many factors including:

- Concentration of bacteria in the stormdrain discharge
- Concentration of bacteria in the receiving water upstream of the discharge
- Discharge rate of the stormdrain
- Volume of the receiving water relative to the discharge rate of the stormdrain (assimilative capacity)

For example, J01P08 and J01P28 show very high concentrations of fecal coliform in their respective discharges. The estimated discharge rate of J01P28 is approximately twice that of J01P08. The graphs of the fecal coliform quarterly geomean appear to show that the impact of J01P08 on the Creek is much greater than the impact of J01P28. The difference in the magnitudes of impact can be explained by second and fourth factors. The concentration of fecal coliform in the Creek is much lower upstream of J01P08 than upstream of J01P28. J01P08 is near the top of the watershed and J01P28 is in the lower third of the watershed. The volume of water in the Creek upstream of J01P08 is much lower than that upstream of J01P28. Hence the assimilative capacity of the Creek is much lower at J01P08 than at J01P28.

Within the watershed, the monitoring is starting to provide a basis for stormdrain prioritization, specifically, that there are clearly:

- Stormdrains which show little impact on receiving water;
- Stormdrains which appear to have a significant impact on their respective receiving waters; and
- Stormdrains in which the fecal coliform concentration in the discharge is consistently lower than their respective receiving water concentration.

2.3.4 Conclusions of the 205(j) Water Quality Study

The water quality analysis of data collected and analyzed as part of the 205(j) study led to the following conclusions:

- Nutrient concentrations in Aliso Creek are low to moderate compared with similar regions in Orange County. Basin Plan objectives were generally met for N:P ratios and for ammonia.
- Orthophosphates were not analyzed during this study, but total phosphate levels indicate that orthophosphate may exceed Basin Plan objectives.
- The samples collected had low to moderate turbidity levels that generally met the Basin Plan objectives.
- Total recoverable metals were sampled and were shown to be below the California Toxics Rule. The presence of high water hardness suppresses the potential toxic effects of trace metals by limiting the effective bio-availability of the metals.

- The percentage of sodium is within the guideline of 60 percent specified in the Basin Plan for inland surface waters.
- Elevated levels of total dissolved solids, sulfate, iron, and manganese were noted throughout the watershed and may be partly attributable to high saltwater concentrations in the groundwater and/or related to soil types/geologic formations.
- Analysis of dissolved oxygen, pH, and electrical conductivity showed that these parameters generally stayed within the objectives outlined in the Basin Plan.
- Aquatic toxicity was noted in the watershed. Possible sources include trace metals, polynuclear aromatic hydrocarbons, pesticides, herbicides, PCBs, and ammonia. Based on other studies performed in Orange County, it is suspected that organophosphate pesticides may be a significant component of aquatic toxicity in the Aliso Creek storm samples.
- Bacteriological studies show that elevated bacteria occur throughout this watershed. Samples in the watershed showed fecal coliform and *E. coli* levels exceeding 4,000 MPN/100 ml. Important management activities to decrease bacteria include (a) reduction of excess irrigation runoff, (b) additional research-level source investigations, and (c) creek restoration initiatives. This study leads to the conclusion that more investigation efforts are needed to understand the impacts of bacteria to human health within the watershed, as well as the sources of bacteria within the basin.

3.0 TMDLS IN THE WATERSHED

3.1 Directives

On March 2, 2001, the San Diego Regional Board issued a directive pursuant to California Water Code Section 13225 ("Directive") to the Principal Permittee and the cities within the Aliso Creek Watershed ("Watershed Permittees") for an investigation of urban runoff in the watershed. The Directive found that the Watershed Permittees may be discharging waste with high bacteria levels from municipal storm drain outfalls into Aliso Creek and its tributaries. To meet requirements of the Directive, the Watershed Permittees implemented a watershed-wide regional bacteriological monitoring program in April of 2001.

3.2 TMDLs

Section 303(d) of the Clean Water Act requires that each state identify waters that are not meeting the water quality standards for their applicable beneficial uses. This process involves requesting and compiling readily available data and comparing these data to the appropriate water quality objectives (WQOs). The waterbody-pollutant combinations exceeding WQOs at predefined frequencies, which are specified in the Water Quality Control Policy for Developing California's Clean Water Act Section 303(d) List, are placed on the 303(d) list of impaired waters. Section 303(d) also requires states to establish a priority ranking for waterbody-pollutant combinations on the 303(d) list and to subsequently establish TMDLs for each. The goal of the TMDL process is to attain water quality standards and protect the beneficial uses of water bodies. It is defined as "the sum of the individual waste load allocations for point sources and load allocations for nonpoint sources and natural background" (40 CFR 130.2) and requires that the capacity of the water body to assimilate pollutant loadings (the loading capacity) is not exceeded.

The TMDL process begins with the development of a technical analysis which includes the following seven components: (1) a Problem Statement describing which WQOs are not being attained and which beneficial uses are impaired; (2) identification of Numeric Targets which will result in attainment of the WQOs and protection of beneficial uses; (3) a Source Analysis to identify all of the point and nonpoint sources of the impairing pollutant in the watershed and to estimate the current pollutant loading for each source; (4) a Linkage Analysis to calculate the Loading Capacity of the waterbodies for the pollutant; i.e., the maximum amount of the pollutant that may be discharged to the waterbodies without causing exceedances of WQOs and impairment of beneficial uses; (5) a Margin of Safety to account for uncertainties in the analyses; (6) the division and Allocation of the TMDL among each of the contributing sources in the watersheds, wasteload allocations (WLAs) for point sources and load allocations (LAs) for nonpoint and background sources; and (7) a description of how Seasonal Variation and Critical Conditions are accounted for in the TMDL determination. The write-up of the above components is generally referred to as the technical TMDL analysis.

In addition to a technical TMDL analysis, the state is required to incorporate the TMDLs and their appropriate implementation measures into the State Water Quality Management Plan (40 CFR 130.6(c)(1), 130.7), such as the San Diego Regional Water Quality Control Plan (Basin Plan). After a TMDL is adopted as an amendment to the Basin Plan (amendments are initially

developed by the Regional Board staff, then approved by the Regional Board, State Water Resources Control Board, and State Office of Administrative Law), it is submitted to EPA and reviewed. Approval from EPA is the last step in the TMDL process.

3.2.1 TMDLs for Indicator Bacteria

TMDLs for pathogen indicator bacteria have been developed to address 17 of the 38 bacteria-impaired waterbodies in the San Diego Region identified on the 2002 Clean Water Act Section 303(d) List of Water Quality Limited Segments. This regulatory initiative is referred to as the Project I - Beaches and Creeks in the San Diego region. The impaired beaches and creeks are located within or hydraulically downstream of five watersheds in Orange County (including Aliso Creek) and seven watersheds in San Diego County. The TMDL documentation (draft Technical Report, December 9, 2005) notes that because bacteria loading within urbanized areas generally originates from urban runoff discharged from municipal storm drains, the primary mechanism for TMDL attainment will be increased regulation of the Watershed Permittees. It is anticipated that TMDL provisions will be incorporated into the Fourth Term Permits in 2007.

4.0 BMP INVENTORY

In developing a plan to address water quality within the Aliso Creek Watershed, it is important to (1) understand the sources of pollution within the watershed and (2) know the Enhanced BMPs and creek system restoration projects that have been implemented (or proposed to be implemented) within the watershed to deal with the watershed constituents of concern. This section provides the available information for these areas.

4.1 Watershed Pollution Sources

Pollution sources in the Aliso Creek watershed include urban runoff, open space runoff, groundwater, permitted discharges, atmospheric deposition, agriculture, and wildlife. Because the mandate of the Orange County Stormwater Program is to address urban runoff, this WAP and planning effort will focus mainly on the urban sources although it is inherently recognized that in many cases, such as sediment control, the Watershed Permittees have taken on a broader role as responsible stakeholders even though the urban contribution is limited.

The urban sources in the watershed include runoff generated during storm events and non-storm related runoff from municipal facilities, residential, commercial, and industrial areas and parks.

4.2 Enhanced BMPs

The DAMP/LIP and DAMP/WAP planning processes essentially result in *Baseline BMPs* and *Enhanced BMPs*, respectively. *Baseline BMPs* are based upon the model programs identified in the DAMP and are implemented on a countywide basis to contribute to the control of all pollutants. *Enhanced BMPs* generally target watershed priority constituents of concern (currently pathogen indicator bacteria). The DAMP/WAP planning process also incorporates actions to comply with California Water Code (CWC) directives and abatement orders. Progress on DAMP/WAP implementation has been reported in the FY2003-04 and FY2004-05 Annual Progress Reports.

Examples of Enhanced BMP implementation efforts in the watershed targeting pathogen indicator bacteria include:

- Provision of pet waste disposal bags in parks and on trails (LN-L3f);
- Installation of municipal facility drain inlet debris screens (OC-L3a);
- Installation of drain inlet debris screens (LH-L3b, LN-L3b, MV-L4b);
- Installation of drain inlet filters (LF-L3a, MV-L3a);
- Installation of bactericidal in-line storm drain filters (MV-L3c);
- Installation of a hydro-dynamic separator (LF-L3a);
- Installation of a stormwater treatment vault (MV-L4b);
- Operation of a UV disinfection water treatment system on drain JO1P28 (OC-L3b);
- Installation of stormdrain sand filter (LF-L3c);
- Creation of wetland habitat within detention basins (AV-L3g);
- Landscape irrigation control (LN-L3e);

- Operation of a constructed wetland treatment system (Wet CAT) in drain JO3PO2 (LN-L2c). The Wet CAT system consists of three constructed multipurpose wetlands designed to capture and treat low-flow urban runoff from a suburban residential neighborhood. The wetlands were constructed in 2001-03 in response to the Clean-up and Abatement Order issued to the City of Laguna Niguel and the County of Orange in December 1999;
- Implementation of a trash enclosure retrofit program (MV-L3e);
- Implementation of bio-retention devices (MV-L3f), and
- Hosting Fats, Oils and Greases (FOG) seminars (LF-L3f).

4.3 Restoration Projects

The term “Restoration” is applied to projects and planning efforts that contribute to the re-establishment of a more natural watershed hydrologic regime and which are focused on achieving broader objectives such as watershed habitat restoration and connectivity rather than specific water quality outcomes (Table 3).

The US Army Corps of Engineers watershed planning studies, which incorporated many of the water quality recommendations of the 205(j) water quality study, form the basis of much of the multi-jurisdictional project implementation efforts in the watershed. While the ecosystem restoration plans are not directed primarily at water quality improvement, but at larger-scale ecosystem improvement, they would be expected to have a positive impact on water temperature, turbidity, and oxygen content and potentially on bacteria reduction through the creation of vegetative buffering from urban landscaping.

4.3.1 U.S. Army Corps of Engineers Watershed Planning Studies

The Army Corps of Engineers has completed a comprehensive study of the creek and its watershed in order to develop a management plan that will accomplish stream stability, habitat restoration, flood and embankment protection, and improved water quality. \$45m in Section 219 funds is being sought to support the Aliso Creek Water Quality SUPER project.

Table 3: Components of the Aliso Creek Watershed Management Plan

Measure	Component		Description
Ecosystem Restoration Alternatives			
Aliso Creek Mainstem Ecosystem Restoration	1A	Lower Aliso Creek Stabilization Plan	Construct riffle structures; regrade side slopes riparian; vegetation
	1B	Middle Aliso Creek Stabilization Plan	Construct riffle structures; floodplain modifications; riparian vegetation
	1C	Floodplain and Riparian Habitat	Floodplain and riparian habitat upstream of ACWHEP

MODEL ALISO CREEK WATERSHED ACTION PLAN

Measure	Component		Description
	1D	Off-channel Aquatic Habitat and Riparian Restoration	Off-channel fish spawning and riparian habitat in abandoned horseshoe bend below Wood Canyon confluence
Sulphur Creek Ecosystem Restoration	2A	Sulphur Creek along Crown Valley Parkway from treatment plant to community center access road	Modify flow control structure and small basins at upstream and downstream end to restore natural hydrologic regime; re-establish riparian vegetation
	2B	Sulphur Creek upstream of La Paz Road long Crown Valley Parkway between La Plata Drive and Moulton Parkway	Remove concrete V-ditch and non-native species; restore riparian habitat
Wood Canyon Ecosystem Restoration	3A	Restoration of upstream-most detention basin	Modify basin to retain water longer; reduce downstream erosion and revegetation
	3B	Tributary from northeast side canyon (current gabion structure)	Remove gabion structure, bioengineer slope with grading and revegetation
	3C	Localized stream restoration	Replacement of washed-out road crossings; removal of pipe in stream; placement of invert stabilizers, placement of water diversion bars
English Canyon Ecosystem Restoration	-	Restoration of English Canyon immediately upstream of Aliso confluence	Remove exotic vegetation; remove riprap and regrade streambanks; restore native riparian; excavate and create emergent marsh just stream of confluence
Pacific Park Basin Ecosystem Restoration	-	Wetland/Riparian habitat restoration	Removal of exotic vegetation; limited excavation and regrading of basin; covering riprap with soil and vegetation; restore native riparian vegetation
Water Quality Improvement Projects			
BMPs	-	Best Management Practices	Review and development of BMPs for Orange County and associated cities
Water Quality Wetlands	7A	Dairy Fork	Wetlands to reduce nutrients and bacteria in low-flows
	7B	English Canyon	Wetlands to reduce nutrients and bacteria in low-flows

MODEL ALISO CREEK WATERSHED ACTION PLAN

Measure	Component	Description	
Streambank Erosion Control			
SOCWA Treatment Plant Bridge	SCTP Invert Stabilization	Stream stabilization at the SOCWA Treatment Plant Bridge	
English Canyon Erosion Control Sites	9A	Limited bank protection	Limited bank protection between Los Alisos Boulevard and Trabuco Road
	9B	Spot fixes	Repair scour holes below Via Noveno, Vista del Lago, and Entidad; protect short section of streambank
Floodproofing Plans			
Floodproofing	-	Floodproofing/Relocation of Aliso Creek Inn	Floodproofing, relocation, and removal alternatives for the Aliso Creek Inn
Comprehensive Plans			
Watershed Education	-	Watershed Education Plan Nonpoint Source Public Awareness	Education plan for K-12 to teach watershed stewardship; public education on residential and/or commercial practices that affect the watershed
Water Quality Monitoring Plan	-	Water Quality Monitoring Plan	Monitor effectiveness of education program and BMPs
Watershed-Wide Exotic Species Eradication	-	Watershed-wide removal of exotic species	Removal of Arundo donax and several other non-native species

The Aliso Creek Watershed Management Study is currently under evaluation for possible Corps funding for feasibility studies for the Mainstem Restoration. The Aliso Creek Mainstem Ecosystem Restoration, which is the most expensive of all the recommended actions, is currently in the phase of preparation of a Project Management Plan.

A number of projects recommended in the Watershed Management Study have been pursued by the Watershed Permittees as presented in **Table 4** and discussed below. Several elements of the Sulphur Creek and Wood Canyon Ecosystem Restoration efforts have been implemented or are undergoing final design.

Table 4: Restoration/Retrofitting Projects in the Aliso Creek Watershed

Project	City/Sub-Watershed	Status	Performance Measures
La Paz Park on-site wetlands	Laguna Niguel	Constructed 01-02	Habitat

Project	City/Sub-Watershed	Status	Performance Measures
Sulphur Creek Park enhancement	Laguna Niguel	Constructed 02	Habitat
Sulphur Creation @ Crown Valley Pk	Laguna Niguel	Constructed 02	Habitat
J03P01 restoration @ Crown Valley Pk	Laguna Niguel/J03P01	Constructed 02	Habitat
East Wetland @ J03P02	Laguna Niguel/J03P02	Constructed 02	Habitat, Water Quality
Munger Storm Drain Filter	J01P01	Under Construction	Bacteria
Laguna Hills Wetlands	Laguna Hills/J01P04	Construction Complete	Bacteria
Aliso Viejo Wetlands	Aliso Viejo/J02P08	Conceptual	Bacteria
ACHWEP	County of Orange/J01	Constructed	Habitat

Sulphur Creek Rehabilitation within the Laguna Niguel Regional Park

The County of Orange completed a creek rehabilitation project along 3,000 feet of Sulphur Creek within the Laguna Niguel Regional Park. The project included (1) the removal of a low-flow concrete liner that carried water from Sulphur Creek reservoir downstream through the Regional Park and replacement with a more natural channel constructed of gravel, buried riprap, and boulders; (2) regrading of the site; and (3) revegetation of the corridor with native riparian species. The project was completed in 1998 and has satisfied the performance criteria for the project established during the planning and design phase.

Middle Sulphur Creek within the City of Laguna Niguel

The City of Laguna Niguel is conducting restoration projects anticipated to have a positive effect on water quality in Sulphur Creek, Aliso Creek's largest single tributary, identified for improvement in previous studies. A joint effort with the Corps of Engineers, using funds available under Section 206 of the Continuing Authorities Program (CAP), began in 2001, with an expected completion date of November 2005. Performance criteria include habitat expansion and quality improvement. The restored stream should be more effective at bacteria removal and may reduce phosphorus and toxicity loads. As the first Section 206 project completed by USACE in Southern California, it will be a demonstration project of interagency cooperation for restoration of beneficial use.

Upper Sulphur Creek within the City of Laguna Niguel

The Upper Sulphur Creek ecosystem restoration was awarded State of California funding through Proposition 13, and implementation began in 2004. The project includes a stream restoration component along 7,200 linear feet of Upper Sulphur Creek. The restored stream, which includes replacement of concrete v-ditch with natural soft-bottom vegetated channel,

should be more effective at bacteria removal and low flow attenuation and may reduce phosphorus and toxicity loads. The project demonstrates strategies for multi-agency funding and Homeowners Association cooperation, potentially applicable to other Aliso watershed sites. Performance criteria include habitat expansion and quality and water quality parameters.

Wood Canyon

Restoration efforts in Wood Canyon would also be funded under Section 206 of the Corps of Engineers' CAP. This restoration is undergoing final design, but has no funding available at this time. Performance criteria include habitat quality and water quality parameters.

Narco Channel Aquatic Ecosystem Restoration

The City of Laguna Niguel is implementing a stream restoration project along 400' feet of the Narco Channel tributary to Sulphur Creek. The restored stream, which includes replacement of a dirt trapezoid with more natural soft-bottom vegetated channel, should be more effective at bacteria removal. The project demonstrates strategies for outfall restoration and interagency cooperation, potentially applicable to other Aliso watershed sites. Performance measures include habitat and water quality.

English Canyon within the City of Mission Viejo

A preliminary restoration plan has been developed by the Army Corps of Engineers to restore and enhance the degraded riparian and aquatic habitat along 3.11 km of English Creek, to reestablish conditions characteristic of natural riparian watersheds and stream channels. Performance criteria include enhancement of biological community structure, diversity and quality; reestablishment of stream flow and beneficial hydrology to a portion of the creek; and provision of riparian and costal sage scrub habitat for listed, threatened and endangered species.

4.4 Estimating Load Reductions of Existing BMPs

Understanding the load reduction of implemented BMPs is important in assessing whether or not those BMPs are improving the quality of the receiving waters. Guidelines available through the DAMP (**DAMP Appendix E-1**, BMP Effectiveness and Applicability for Orange County) as well as California Stormwater Quality Association (CASQA) (CASQA BMP Handbook) associate wide ranges of estimates for the reduction in pollutants with various types of BMPs. Because the pollutant reductions are highly variable, actual monitoring data is often collected to assess the load reduction of the existing BMPs (see discussion of BMP evaluations in **Section 4.5**).

4.5 Recommendations for BMPs in the Watershed

New candidate BMPs can be prevention or removal oriented and can be considered either for updating baseline BMPs or for incorporation as Enhanced BMPs. New BMPs are generally identified from one or more of the following:

- A review of technical literature (such as the ASCE/EPA database);
- A review of existing control programs;
- Demonstration or research projects;
- Input from consulting firms and municipalities already involved in new BMP implementation; or
- Other sources.

Consistent with DAMP Section 3.0, the process for BMP selection and implementation at the watershed scale involves consideration of a candidate BMP with respect to:

- The Watershed Permittees' needs, goals, and objectives
- Consistency with federal and state programs
- Economies from streamlined analysis and implementation procedures
- Opportunities for flexibility in the development of management alternatives
- Decision-making based on environmental and local considerations
- Effective Capital Improvement Program planning and budgeting

The Watershed Permittees, together with the Permittees County-wide, have coordinated with one another to complete a BMP effectiveness study. In addition, there are several other studies underway or completed that are testing the efficacy and cost-effectiveness of various water quality improvement measures. It is anticipated that these studies will result in proposed modifications to the list of recommended BMPs and other measures contained in the 2003 DAMP and later incorporated into the Watershed Permittees LIPs.

Studies directed at all jurisdictions within the watershed that are currently underway or have been completed include the following:

- BMP Effectiveness Study/Orange County
- Trash and Debris BMP Evaluation
- Erosion Control BMP Effectiveness Evaluation
- Septic System Assessment on Stormwater Quality Evaluation
- Portable Toilet Oversight Program Evaluation
- Fats, Oils, and Grease (FOG) Program for Restaurants Evaluation
- Bacterial "Warm Spot" Elimination for City Storm Drains Evaluation

In addition to these countywide studies, a number of the Watershed Permittees are undertaking direct investigation of BMP effectiveness within their own jurisdictions at the sub-watershed level (**Table 5**). BMP effectiveness evaluations are generally directed toward High-Priority

sub-watersheds as determined by each Permittee based on the results of the monitoring under the Aliso Creek 13225 Directive.

Table 5: Watershed BMP Short-Term Effectiveness Studies

Measure	Site	Performance Measures
<i>City of Laguna Hills</i>		
Catch Basin Inserts	Sub-watersheds J04P02, J04P03, J04P04	Trash, Organics, TSS
Laguna Hills Wetlands	Sub-watershed J01P04 Alicia & Moulton	Bacteria, Nutrients, TSS
<i>City of Laguna Niguel</i>		
Catch Basin Grate Screens	Sub-watershed J04/J03P01*	Trash, Nutrients
Catch Basin Insert Retrofits	Sub-watershed J04/J03P01*	Trash, Nutrients, Bacteria
Street Sweeping Frequency	Sub-watershed J04/J03P05*	Trash, Nutrients
Treatment Wetlands	Sub-watershed J03P02	Bacteria, Nutrients, TSS
Stream Restoration	J03TBN1*	Bacteria, Nutrients, TSS, Flow
Stream Restoration	Sub-watershed area in upper J03*	Habitat, Bacteria, Nutrients
Irrigation Control	Sub-watershed J03P05*	Nutrients, Flow Rate Reduction

* Indicates projects in High-Priority Sub-watersheds as determined by individual Watershed Permittees during two-Year Aliso Creek 13225 Directive monitoring program.

5.0 PLAN IMPLEMENTATION AND ASSESSMENT

5.1 Plan Implementation

Plan Implementation Strategy Tables have been developed for the Aliso Creek Watershed that identifies the specific actions that are being undertaken to improve urban water quality within the watershed. These strategy tables are specific to the constituent of concern for the watershed and include information on past progress as well as the scheduled tasks to support this action. On an annual basis these tables will be updated to identify the progress made in that year as well as the schedule for the subsequent year. The Aliso Creek Watershed Strategy Tables are included as **Exhibit 2** to this WAP.

5.2 Plan Assessment

Effectiveness Assessment is the process that managers use to evaluate whether their programs are resulting in desired outcomes, and whether these outcomes are being achieved efficiently and cost-effectively (CASQA, 2003). A principle objective of the Watershed Action Plan is to present an integrated plan of action that will result in meaningful water quality improvements in the Newport Bay Watershed while balancing economic, social and environmental constraints. This plan of action is laid out in the strategy tables which are referenced in Section 5.1 and included herein as **Exhibit 2**. The program effectiveness assessment strategy requires the identification and thereafter annual consideration of measures that indicate whether progress is being made toward attainment of this objective and the other program objectives discussed in **Section 1.0**.

Assessment measures that are pertinent to the WAP are related to the confirmation of progress on the actions identified in the strategy table. The assessment of progress is integrated in the strategy tables through the annual update to the tables that require documentation on the progress that has been made on that specific action. Reasonable progress on these action items indicates that the Watershed Action Plan is effective.

6.0 REFERENCES

CASQA (California Stormwater Quality Association). January 2003. California Stormwater BMP Handbook.

National Research Co. 2003. Managing Troubled Waters. National Academy Press.

Table 6: Abbreviations/Definitions (Nomenclature)

Abbreviation	Definition
BMP	Best Management Practice
CASQA	California Stormwater Quality Association
CAP	Continuing Authorities Program
CARs	Critical Aquatic Resources
CIAs	Common Interest Areas
CTR	California Toxics Rule
DAMP	Drainage Area Management Plan
FOG	Fats, Oils, Grease
ID/IC	Illegal Discharge/Illicit Connection
LIP	Local Implementation Plan
NPDES	National Pollutant Discharge Elimination System
OCHCA	Orange County Health Care Agency
OCSD	Orange County Sanitation District
RDMD	Resources & Development management Department
ROWD	Report of Waste Discharge
RWQCB	Regional Water Quality Control Board
SWRCB	State Water Resources Control Board
TMDL	Total Maximum Daily Load
USACE, ACOE	United States Army Corps of Engineers
USEPA / EPA	United States Environmental Protection Agency
WAP	Watershed Action Plan
WLA / LA	Waste Load Allocation / Load Allocation
WMP	Watershed Management Plan
WQO	Water Quality Objective
WURMP	Watershed Urban Runoff Management Plan

EXHIBIT 1

ALISO CREEK 13225 DIRECTIVE REVISED MONITORING PROGRAM DESIGN

ALISO CREEK 13225 DIRECTIVE

**REVISED MONITORING PROGRAM DESIGN -
INTEGRATION WITH NPDES PROGRAM**

**Submitted to:
San Diego Regional Water Quality Control Board**

December 2004

Prepared By:

**County of Orange
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1.0 INTRODUCTION AND OVERVIEW

This document describes a revised monitoring program for bacteria in the Aliso Creek watershed that integrates monitoring previously required under the California Water Code Section 13225 Directive (from the San Diego Regional Water Quality Control Board dated March 2, 2001) into the ongoing NPDES permit monitoring program conducted by the County of Orange (County), the Orange County Flood Control District, and the cities of Aliso Viejo, Laguna Beach, Laguna Hills, Laguna Niguel, Laguna Woods, Lake Forest, and Mission Viejo (Permittees). The revised and refocused monitoring program will thus represent a special focus within the larger National Pollutant Discharge Elimination System (NPDES) water quality monitoring program being conducted throughout the southern portion of the County. This in turn will achieve efficiencies of scale by integrating the Aliso Creek watershed monitoring efforts into the current NPDES monitoring activities in this watershed.

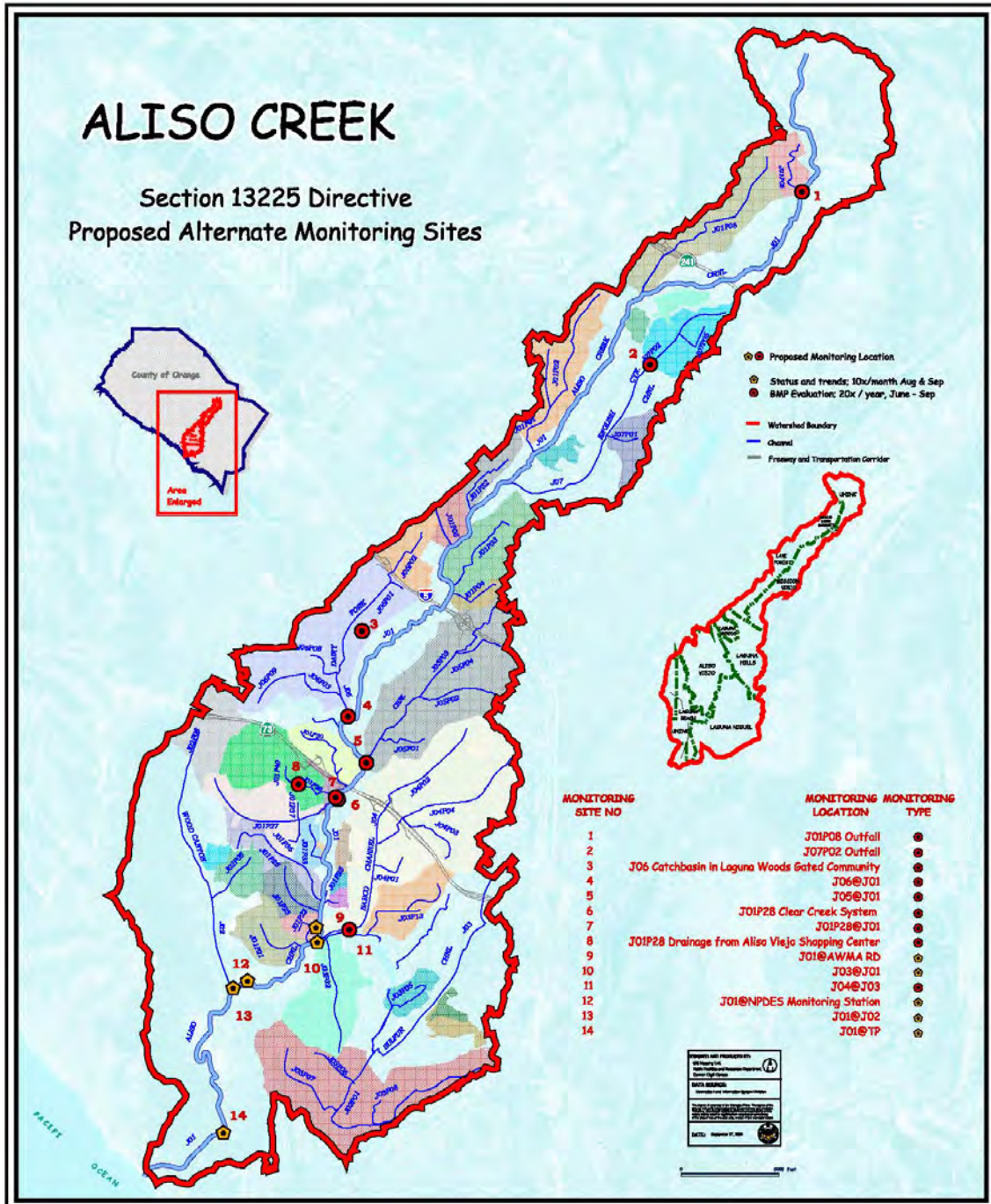
The proposed revisions, based on several years of monitoring data, build on improved knowledge about overall patterns of bacteria in the watershed as well as more localized responses to specific Best Management Practices (BMPs). The proposed program (**Figure 1**) focuses monitoring efforts on a group of status and trends sites near the bottom of the watershed and a second set of BMP evaluation sites at high-priority drains throughout the watershed. Monitoring will occur at a higher frequency than at present, but only during the two-month period in late summer when bacteria levels are highest. Analyses of the available monitoring data show that this design will sufficiently track compliance with REC1 standards in the area of highest recreational use in the lower watershed and document the effectiveness of BMPs implemented at the high-priority drains.

The revised program presented below contains important adaptive components that will ensure the monitoring program maintains its focus on key management questions, responds appropriately to monitoring findings, initiates new activities only when they are supported by the monitoring data, and reduces monitoring effort when it no longer provides useful information.

The prioritization process that resulted in selection of the high-priority drains in the Aliso Creek watershed is consistent with the basic intent of the prioritization process being used in both the San Diego and Santa Ana Regions to select dry weather reconnaissance sites for follow-up source identification efforts. In addition, the use of specific triggers that would lead to changes in the monitoring design and/or additional studies is a fundamental feature of the current NPDES monitoring programs in both Regional Board areas of Orange County.

Figure 1. Location of the revised monitoring locations

Includes five status and trends sites and nine BMP evaluation sites.



2.0 FUTURE MONITORING OBJECTIVES

The revised program design will focus on bacterial contamination and will:

- Document trends in water quality at high-priority locations
- Evaluate BMPs implemented to improve water quality
- Support source identification efforts.

These program objectives provide the underpinning for the specific monitoring questions presented in the following sections.

Monitoring at the revised sites and times will continue to rely on the indicators currently used, specifically:

- Total and fecal coliforms (all sampled sites and times)
- Enterococcus (all sampled sites and times)
- Total chlorine (drains only, once / month)
- pH (drains only, once / month)
- Temperature (drain and downstream station, all sampled times)
- Estimated flow (drains, all times).

In addition, the sampling design will retain the structure of monitoring:

- The pipe discharge at each site
- Ambient bacteria concentrations 25 feet upstream of the discharge point
- Ambient bacteria 25 feet downstream of the discharge point.

This will maintain consistency with past data in the watershed and agrees with the recommendations developed by the Stormwater Monitoring Coalition's (SMC) model stormwater monitoring program project. Monitoring the suite of three bacterial indicators along with flow also conforms to the recommendations of the SMC model stormwater monitoring reports, available on the Southern California Coastal Waters Research Project (SCCWRP) website.

3.0 PROPOSED REVISIONS

The following subsections describe proposed revisions to status and trends monitoring, BMP evaluation monitoring, and source identification efforts. **Figure 1** summarizes all station locations and sampling frequencies for both status and trends and BMP evaluation portions of the program (see **Appendix A** for additional detail).

3.1 Status and Trends Monitoring

Status and trends monitoring focuses on answering two questions:

1. Are conditions in receiving waters protective of beneficial uses? (status)
2. Are conditions in receiving waters getting better or worse over time? (trends)

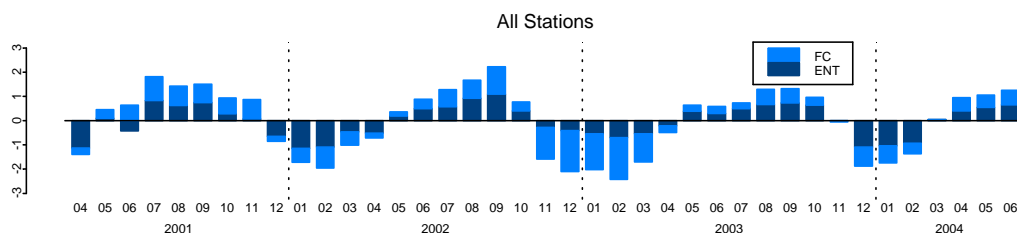
Status and trends monitoring will take place at five core stations in the lower portion of the watershed (**Figure 1**), which past studies indicate is the area of highest recreation use and related concern about potential human health impacts (see **Appendix A.1** for further background and justification). Despite some variability among them, the stations as a group provide a picture of conditions in the lower portion of the Creek.

These five stations will be monitored during August and September, at a frequency of 10 samples per month. This period represents the most conservative sampling period because it:

- Captures the annual peak of bacteria levels in the watershed (**Figure 2**)
- Is the time of year that body contact recreation is most likely.

Figure 2. Overall seasonal pattern of bacteria levels in the Aliso Creek watershed, summarized over all stations.

Data represent monthly means of levels in discharges from all drains over the 2001 – 2004 period. The darker portion of each vertical bar indicates *Enterococcus* and the lighter blue portion fecal coliform.



The monitoring frequency was selected with the goal of detecting an 80% drop in fecal coliform levels over a ten-year period. This sampling frequency is based on analyses of the ability to detect change for various levels of sampling effort (**Appendix B.1**). These analyses show this sampling frequency has the ability to both assess compliance with the REC1 objective in the most critical period of the year as well as to track trends over time.

Once the REC1 objective has been met in the lower sections of the Creek, then further monitoring effort could be focused on a second tier of sites along the higher sections of the Creek with a lower level of human health risk. Alternatively, if additional monitoring data show that conditions in the lower Creek can be adequately described by a smaller number of stations, then some of this monitoring effort could be reallocated to

a second-tier site elsewhere in the watershed. (See **Section 5.0** and **Appendix C** for additional detail on the decision framework.)

Finally, while this program does not explicitly attempt to connect with the developing bacteria TMDL for the San Diego Region, one of the long-term status and trends sites does correspond with the “critical point” at the bottom of the watershed defined in the proposed TMDL.

3.2 BMP Evaluation

BMP evaluation monitoring focuses on answering three questions:

1. Have bacteria loads from the high-priority drains decreased?
2. Are BMPs having their intended effects on concentrations in and/or loads from the drains?
3. Have impacts from high-priority drains on the receiving waters decreased?

3.2.1 Sampling frequency

BMP evaluation monitoring will take place at nine sites in the six high-priority drainage areas in the watershed (**Figure 1**). These are the areas where the most concentrated efforts to implement BMPs have occurred and which are therefore the highest priority for evaluation monitoring. Additional background on site selection can be found in **Appendix A.2**.

The BMP evaluation sites will be monitored during the June – September period, with a total of 20 samples collected at each site each year during this period. Analyses of historical data (see **Appendix B.2**) suggest that, with minor exceptions, this would be adequate to detect an average 50% reduction in loads and an average 30% reduction in impact on downstream receiving water at each site over a ten-year period.

3.2.2 BMP effectiveness

Analyses of historical data from the watershed (see **Appendix B.3** for more detail) also show that, with the data available now, changes in water quality at some drains are detectable, although the association with BMP implementation is not always clear.

Figure 3, for example, shows the two drains with the largest observed decrease in loads (based on dry season values).

- In the J01P25 drainage, the City of Laguna Niguel has been implementing its Local Implementation Plan (LIP) (also sometimes referred to in this document as the JURMP Action Plan) and has also installed a CDS unit to remove trash and sediment.
- In the J01P28 drainage, the City of Aliso Viejo has been implementing its LIP, fixed a significant pipe leak in early 2002, and then in mid-2002 began a greater intensity of inspection, education, and BMP implementation. A Clear Creek treatment system was installed at the J01P28 outfall and began operation in mid-2003.

Conversely, **Figure 4** shows two drains with increased loads, neither of which was targeted for more intense effort above the LIP.

- In the J01P06 drainage a manufacturing plant and a new nursery may have increased runoff. **Figure 4** shows that, since mid-2003, flow (CFS) in J01P06 has been consistently above the system-wide mean.
- In the J06 drainage, there is no readily available explanation for the pattern seen.

Figure 5 summarizes the cumulative monitoring data to show there is not always a consistent relationship between the degree of visible improvement in discharge loads and the relative intensity of BMP implementation in each drain's drainage area.

The monitored drains in the watershed fall into three categories in terms of trends in discharge loads (**Figure 5**; see **Appendix B.3** for more detail):

1. Those with visible improvement in loading(11 drains)
2. Those with no apparent loading trends (18 drains)
3. Those that are visibly worse in loading(7 drains).

The lack of a consistent relationship between the intensity of BMP implementation in a drainage area and the size or direction of trends in loads from the discharge suggests that additional monitoring will be required to:

- Validate trends in category #1 drains and determine their relationship to BMPs
- Resolve trends in category #2 drains
- Determine if improvements appear in category #3 drains with more intensive BMP implementation.

Data from the BMP evaluation sites will also be compared to the results of the status and trends monitoring in the lower sections of Aliso Creek. This will help to assess whether a reduction in loads at the high-priority drains is associated with improving conditions in the lower Creek. **Table 1** presents a framework for conducting this comparison. As questions about BMP effectiveness at the high-priority drains are resolved over time, monitoring effort would be shifted to the next level of priority drains. See **Section 5.0** and **Appendix C** for additional detail on the decision framework.

Figure 3. Two drains showing largest decrease in discharge loads. All parameters calculated as deviations (either plus or minus) from long-term system mean. The dark portion of each vertical bar indicates Enterococcus and the blue portion fecal coliform. "Load" is bacterial load in the pipe discharge; "CFS" the measure of flow (cubic feet/second) in the discharge; "CONC" the concentration in the discharge.

Basic JURMP Action Plan; CDS unit

Basic JURMP Action Plan; fixed pipe leak early 2002; began major focus on inspection, education, and BMP implementation mid-2002; Clear Creek treatment system operational mid-2003

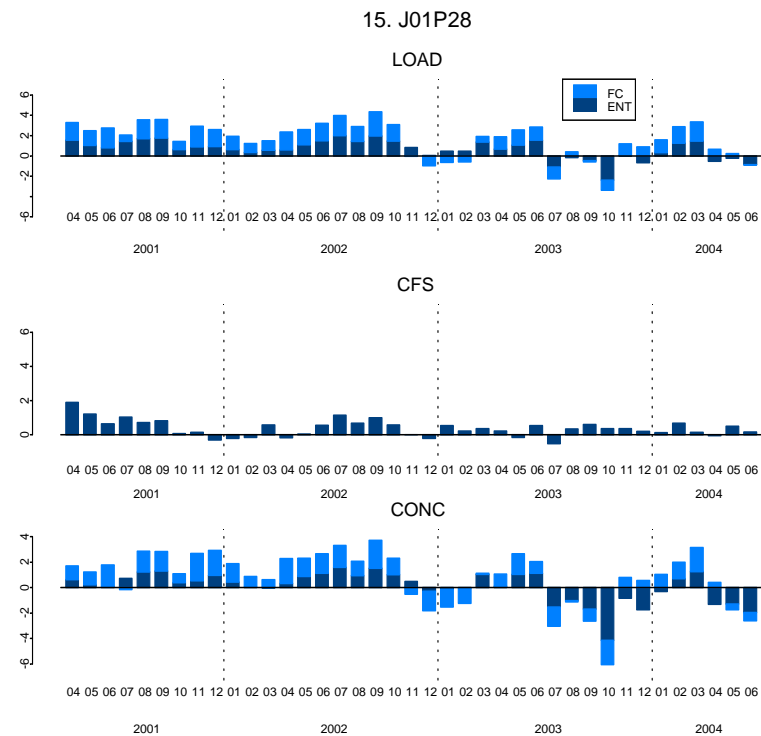
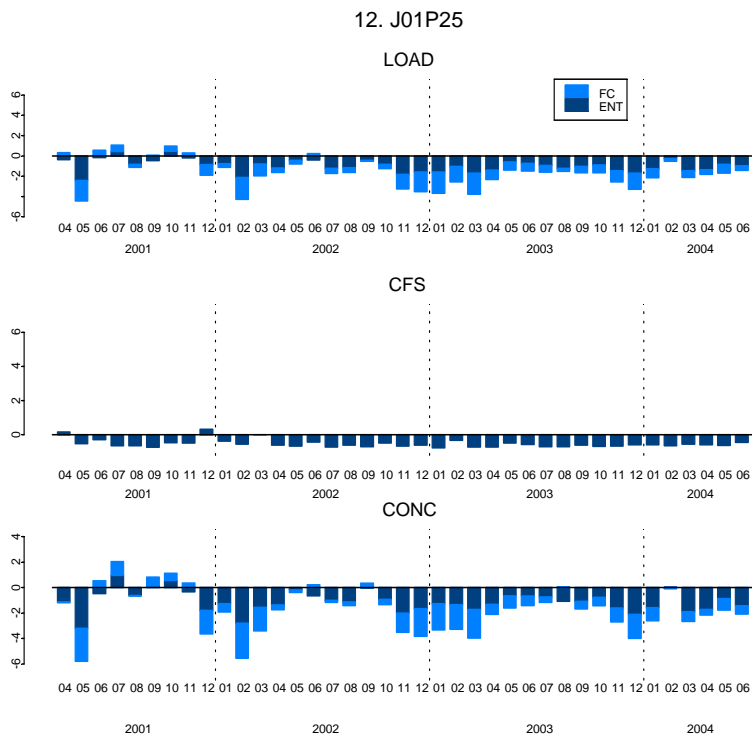
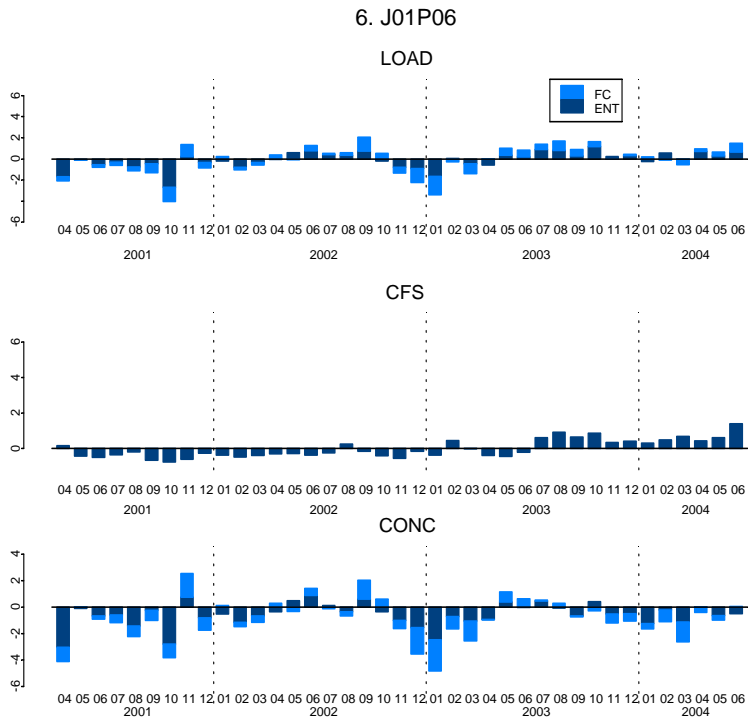


Figure 4. The two drains showing the largest increase in discharge loads. All parameters as in Figure 3.

Basic JURMP Action Plan



Basic JURMP Action Plan

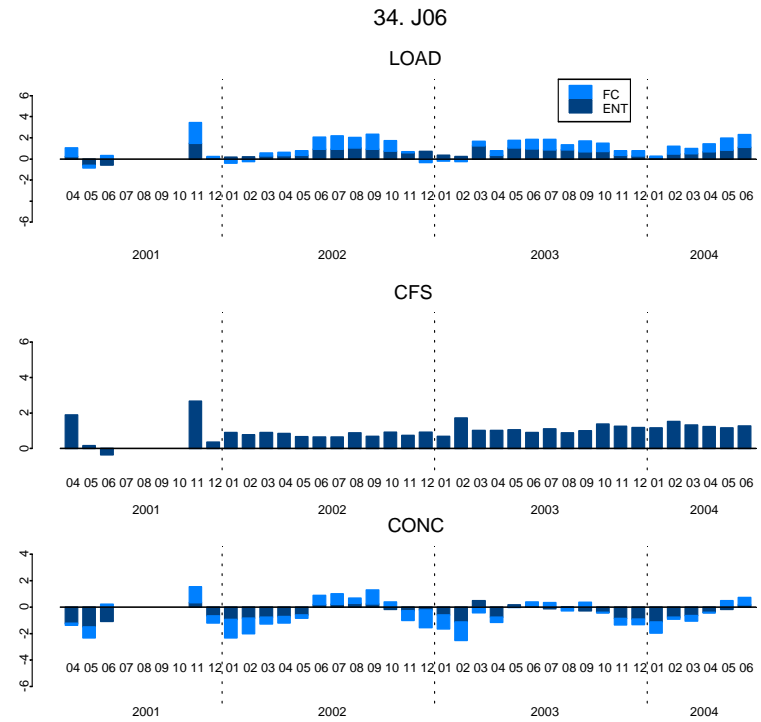


Figure 5. Map legend indicates four categories of BMP implementation and three categories of trend in loads. See Table B-2 for more detail on BMP efforts. Unshaded drainage areas did not contain discharge pipes meeting program criteria and were not monitored.

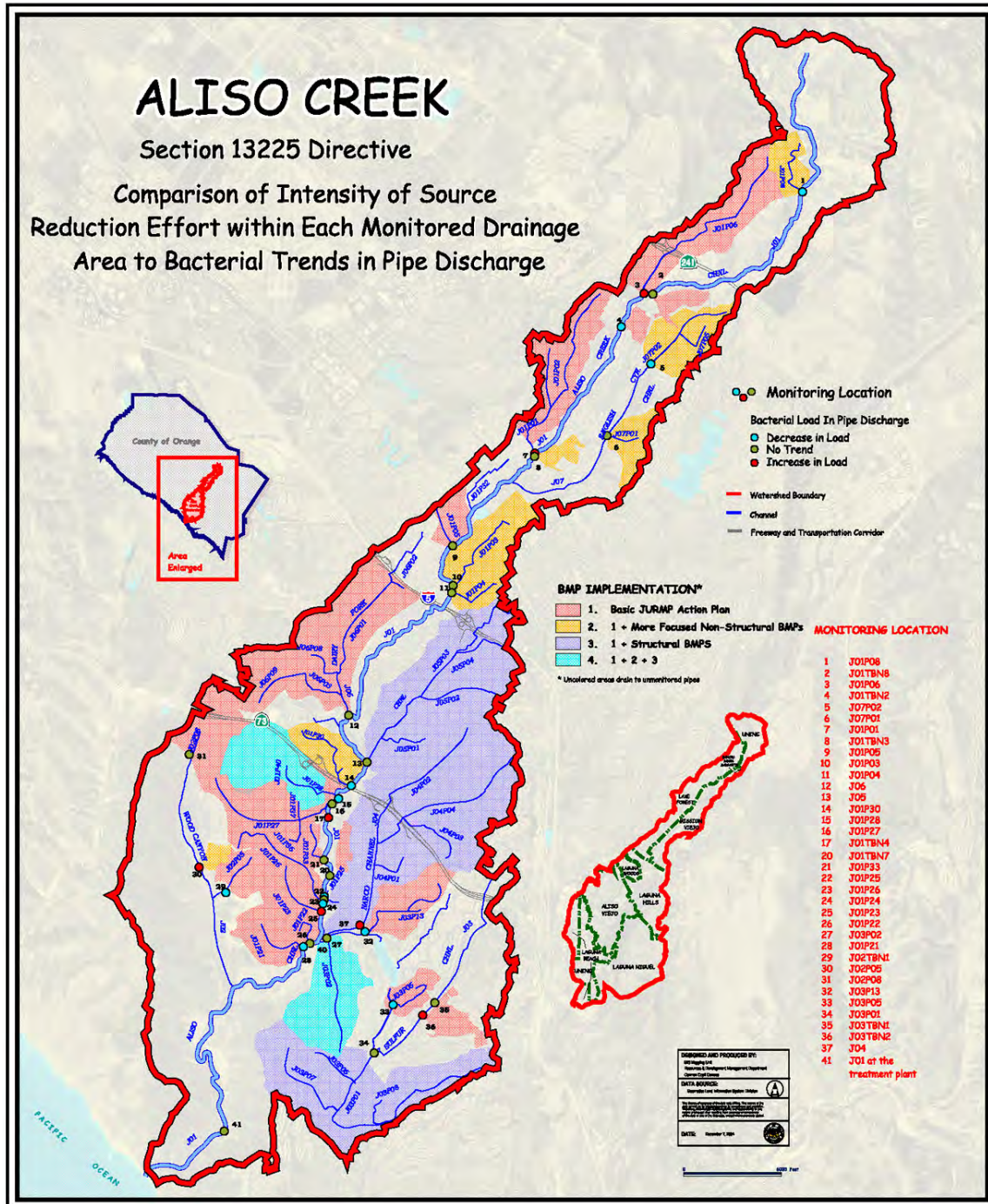


Table 1. Potential monitoring outcomes and their implications

“Conceptual model” refers to the set of mechanistic assumptions about how BMPs will affect bacterial levels and loads.

Trend at S&T stations	BMPs work and are widely implemented	BMPs work but are not widely implemented	BMPs don't work
Trend downward	are seeing the effects of BMPs	Are seeing the effects of BMPs; confirm with loads modeling other factors are involved; develop new conceptual model	other factors are involved; develop new conceptual model
No trend (variable)	other sources likely; develop new conceptual model	BMPs not widely enough implemented to reduce the problem	problem remains as originally envisioned
Trend upward	other sources likely; develop new conceptual model	other sources likely; develop new conceptual model	other sources likely; develop new conceptual model

3.3 Source Identification

The revised bacteria monitoring program will also support ongoing source reduction efforts in the watershed. One aspect of such efforts is the Permittees' NPDES dry weather reconnaissance monitoring program, which has several random and targeted sites in the Aliso Creek watershed (**Table 2**). As the targeted sites are resolved and replaced with new sites over the course of the Third-Term Permit, this rotating set of sites will provide coverage of the MS4 system and trigger upstream source identification efforts at those sites with pollutant levels that are substantially above the regional background.

Table 2. Random and Targeted Dry Weather Sites in the Aliso Creek Watershed

City	Random sites	Targeted sites
Aliso Viejo	J01P27 J01P28	J01P26 J01P33 J02P05
Laguna Beach	None	No high-priority sites in the Aliso Creek watershed
Laguna Hills		J04P04
Laguna Niguel	J03P01	J03TBN J04@J03
Laguna Woods	Moulton & Calle Cortez J01@Alisos Blvd.	J06P01 inside Leisure World gate
Lake Forest	J01P01 J01P05	J01P08
Mission Viejo	J07P02	J01P03

Additional targeted source identification studies may be called for in response to findings that bacteria levels in the high-priority drains and/or in the Creek itself are either increasing or not decreasing as expected (see **Section 5.0**). Such adaptive source identification efforts will have clearly defined terminology, methods, and endpoints, in line with the SMC's recommendations in its model stormwater monitoring program description.

4.0 SPECIAL STUDIES

There are a number of special studies that could be carried out to:

- Reassess monitoring results
- Evaluate BMP effectiveness
- Investigate bacterial dieoff / proliferation processes in the drains themselves
- Evaluate and then apply improved microbial source tracking (MST) methods to better identify sources of pollution.

The structure and timing of these and other potential special studies will largely be based on monitoring results, as well as on the progress and results of outside studies.

Monitoring results will be reassessed when they do not correspond to past patterns and/or to expectations of how bacteria levels should change in response to BMPs.

Targeted studies of BMP effectiveness in the Aliso Creek watershed should be conducted when monitoring data are not sufficient to confirm their effectiveness and/or when it is determined that available data from studies carried out elsewhere are not applicable to the Aliso Creek watershed.

Bacterial dieoff/proliferation processes should be investigated when SCCWRP and the SMC, both of which include Regional Board representatives, agree that there is enough evidence to warrant a scientific study. Any such study should be undertaken in progressive stages (e.g., literature review, pilot study, field assessment).

Microbial source tracking methods should be field tested in the Aliso Creek watershed only when SCCWRP and the SMC agree that the available methods have been developed to the point they are likely to provide definitive and quantitative information about sources of bacterial contamination in the watershed.

5.0 DECISION POINTS

The revised program includes a decision framework that will guide the interpretation of monitoring information and its application to decision making (**Figure 6**). Such clearly defined decision points will ensure that:

- Monitoring results are used in management decisions in a timely way
- The monitoring design is adjusted as needed to incorporate improved scientific knowledge and to remain responsive to management concerns
- Monitoring does not continue past the point at which it provides relevant and useful information.

Bacteria monitoring in the Aliso Creek watershed occurs in a wider context that also includes BMP implementation, active source identification efforts, and the development of improved microbial source tracking methods. Thus, there are a number of triggers that could suggest changes to the monitoring plan, adjustments to BMP design and implementation, and/or revisions to management policies about bacteria levels in Aliso Creek.

Figure 6 outlines an overall decision framework that combines monitoring of both status and trends and BMP effectiveness with the results of source identification efforts to provide specific guidance for the interpretation and application of monitoring results. The triggers and endpoints for each of the actions in the decision framework are designed to be as explicit as possible. If improvements to knowledge stemming from monitoring results and/or research alter the specifics any trigger or endpoint, then the trigger or endpoint will be redefined.

5.1 Objective for the Lower Creek

This framework reflects the management priority placed on human health issues in the Creek, that is, the risk of illness due to body contact recreation “where the ingestion of water is reasonably possible.” In accord with the approach adopted by the Beach Water Quality Work Group and the SMC’s model stormwater monitoring project, the revised Aliso Creek bacteria monitoring program focuses monitoring for human health initially in the lower sections of Aliso Creek where surveys of recreational activity have shown higher-risk use to be concentrated. Thus, the immediate objective, or endpoint, identified for this status and trends monitoring at the five stations in the lower Creek is the Basin Plan REC1 objective. Once the REC1 objective has been met in the lower Creek, the status and trends monitoring in the lower Creek can be reevaluated and converted to a core, long-term health monitoring program. In addition, once the REC1 objective is met in the lower Creek, the upstream BMP evaluation monitoring effort at the six high-priority drains can be reallocated to a second tier of sites along the Creek with a lower level of human health risk.

5.2 Objective for the High-Priority Drains

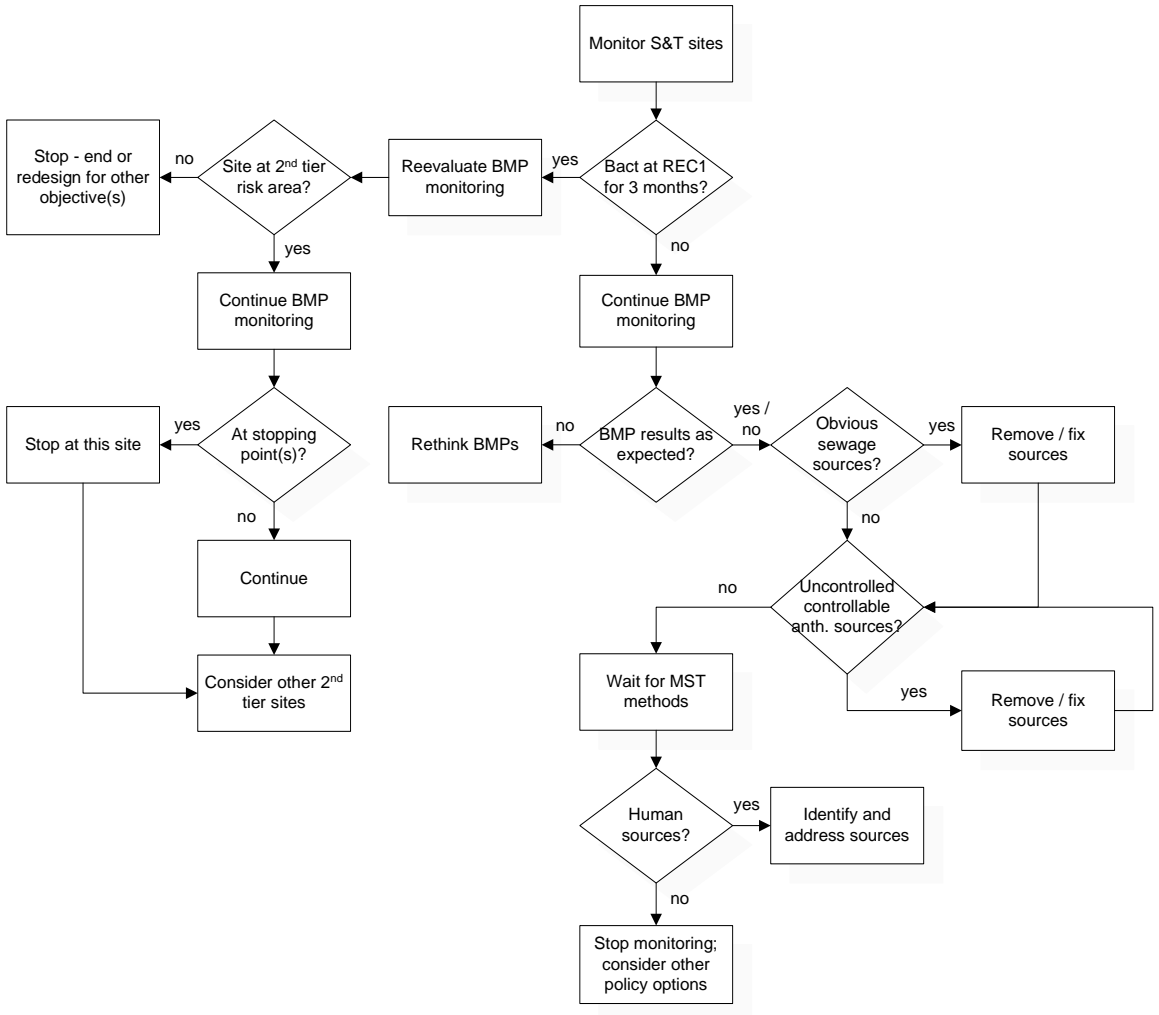
Efforts to improve water quality in order to meet the REC1 objective in the lower sections of Aliso Creek are concentrated on the specific upstream discharges to the Creek, where a range of source identification, enforcement, and pollution prevention activities are planned and/or underway. Monitoring of the effectiveness of these BMP efforts is currently concentrated on stations associated with the six high-priority drains throughout the Aliso Creek watershed. The immediate objective for this monitoring is to assess whether these activities have contributed to an improvement of conditions in the lower sections of the Creek. A parallel objective is to provide site-specific feedback about whether these efforts are working as expected. Explicit endpoints for this BMP evaluation monitoring are associated with the completion of a series of source identification efforts:

- Identify obvious sources of human sewage
- Identify uncontrolled controllable anthropogenic sources
- Apply microbial source tracking methods when available
- Address additional controllable anthropogenic sources identified by microbial source tracking.

These source identification efforts will follow explicit protocols being reviewed and organized by the SMC’s model stormwater monitoring program. Once remaining sources have been determined to be uncontrollable and/or non-urban in nature, then the monitoring described here will have provided as much useful information as it can. At that point, if conditions in high-risk areas of the Creek have still not met the REC1 objective, then whether to implement structural BMPs and other treatment options would be a policy decision based on a number of factors, including the nature of the sources, the amount of recreation actually occurring in different portions of the creek, BMP effectiveness, and the cost and feasibility of implementation.

Figure 6. Decision Framework for Aliso Creek Watershed Bacteria Monitoring

(S&T refers to Status and Trends.)



6.0 SUMMARY

The revised bacteria monitoring program for the Aliso Creek watershed focuses on three core objectives:

- Documenting trends in water quality
- Evaluating BMPs implemented to improve water quality
- Supporting source identification efforts.

The new program takes advantage of knowledge gained during the past three years of monitoring to reduce the number of sampling locations, identify a core set of status and trends monitoring stations that will provide information on the condition of the Creek as a whole, and make changes to sampling frequency. In addition, the revised program targets monitoring at those locations in individual drainage areas where changes due to management efforts are most likely to occur. Finally, the dry weather reconnaissance component of the Permittees' NPDES monitoring program provides targeted support for source identification efforts across the watershed.

These monitoring and source identification efforts have also been placed in the overall context of a decision framework that identifies alternative actions and decisions in response to a range of monitoring findings. This decision framework reflects the adaptive nature of the monitoring program and its intent to respond appropriately to new information as it becomes available.

In addition to these monitoring efforts, certain special studies may provide opportunities to substantially improve the efficiency of monitoring, the utility of BMPS, and/or the ability to identify sources of pollution. As these studies are conducted, their results will be used to further refine the monitoring program and the cities' source identification and source reduction efforts.

APPENDIX A: JUSTIFICATION FOR MONITORING LOCATIONS

Table A-1 summarizes all station locations and monitoring frequencies for the revised program (note that there are a few minor exceptions to the general pattern of discharge, up-, and downstream sampling).

A.1 Status and Trends Station Locations

The proposed revisions to the locations of status and trends monitoring stations are intended to focus effort on the areas of highest recreational use and attendant concern about potential human health impacts. This approach is in accord with that recently adopted by the Beach Water Quality Work Group (made up of representatives from county health departments, the State Water Resources Control Board, SCCWRP, and Heal the Bay), as well as by the SMC's model stormwater monitoring program project. Past surveys of recreational use in the Aliso Creek watershed (summarized in the program's 3rd quarterly report; Figure 2.20: Recreational Sites and Activities, Table 2.7: Activities Within Recreation Facilities in Aliso Creek Watershed) show that the majority of recreational use "where the ingestion of water is reasonably possible" (Basin Plan definition of REC1 beneficial use) occurs in the lower part of the Creek. (This is the most current information available that is not purely anecdotal.) This is an important criterion because ingestion has been demonstrated as the principle route by which contaminated waters cause illness.

Thus, the status and trends monitoring stations listed in **Table A-1** include five core monitoring stations along the lower sections of Aliso Creek. The available data show that the stations in the lower creek are dissimilar, with a progression of increasing indicator values in the downstream direction. The behavior of individual stations is so variable that it would be risky to extrapolate from one station to the entire lower Creek. Thus, the stations, as a group, provide a picture of conditions in the lower portion of the Creek. More detailed site location information is presented in **Table A-1**.

A.2 BMP Evaluation Station Locations

BMP evaluations will be based on data from stations associated with the six high-priority drains listed in **Table A-1**. A review of the structure of the drainage system in each city, along with the geographic distribution of their source reduction and/or pollution prevention efforts, led to the identification of two additional monitoring sites in Aliso Viejo (drainage to J01P28) and one in Laguna Woods (drainage to J06). These sites are intended to improve the monitoring program's ability to distinguish the effectiveness of source reduction efforts within those cities. In the remaining cities, source reduction efforts are distributed throughout the subwatershed and/or are concentrated in the lower portion of the subwatershed. In these cases, the monitoring site at the discharge point to Aliso Creek is adequate for assessing the overall results of BMPs in the subwatershed.

The BMP evaluation sites are intended to fulfill two purposes. The first is to document the relative effectiveness of source reduction efforts in the high-priority subwatersheds.

Given that similar source reduction efforts are being implemented throughout the Aliso Creek watershed, the second purpose is to produce information to help guide decision making about source reduction efforts at other locations. As questions about BMP effectiveness at the high-priority drains are resolved over time, monitoring effort would be shifted to the next level of priority drains.

In addition to existing source reduction efforts throughout each drainage area, additional structural BMPs are being implemented and/or planned, including the Munger Creek Filtration Basin on J01P01, a treatment wetland in the J01P04 drainage, a Clear Creek treatment system at the J01P28 outfall, and treatment wetlands in the J03P02 drainage. As these projects are implemented, additional monitoring sites to assess each project's effectiveness may be required, as are currently in place for the Clear Creek system.

Table A-1. Sampling sites in the revised monitoring program. Map ID refers to station numbers on Figure 1.

Type of site & Map ID	Drainage	City	Site location	Sampling location(s)	Frequency	Comments
Status and trends #9	Creek	Laguna Niguel	Creek at AWMA Rd. bridge	1 station in Creek	10 / mon Aug & Sep	Core trend monitoring station on the Creek
Status and trends #10	Creek	County	Sulphur Creek (J03) at Aliso Creek (J01)	Sulphur Creek 25' up / down	10 / mon Aug & Sep	Core trend monitoring station on the Creek
Status and trends #12	Creek	County	Aliso Creek (J01) in Aliso Wood Canyon Park	At NPDES mass emission station	10 / mon Aug & Sep	Core trend monitoring station on the Creek
Status and trends #13	Creek	County	Wood Canyon Channel (J02) at Aliso Creek (J01)	25' up / down	10 / mon Aug & Sep	Core trend monitoring station on the Creek Wood Canyon Channel discharge not readily accessible
Status and trends #14	Creek	County	Aliso Creek (J01) at SOCWA treatment plant	1 station in Creek	10 / mon Aug & Sep	Core trend monitoring station on the Creek
BMP evaluation #1	J01P08	Lake Forest	J01P08 outfall at Aliso Creek (J01)	Drain 25' up / down	20 total Jun – Sep	Drains a residential area. Outreach is distributed in the drainage area and includes informational letters and other public education. Advanced irrigation controls planned for 2005.
BMP evaluation #2	J07P02	Mission Viejo	J07P02 outfall at Aliso Creek (J01)	Drain 25' down	20 total Jun – Sep	No upstream location Evaluate effectiveness of follow-up intensive reconnaissance investigations. Evaluate effectiveness of performing inspections and follow-up enforcement of all high-priority commercial and industrial facilities.

Table A-1. (continued)

Type of site & Map ID	Drainage	City	Site location	Sampling location(s)	Frequency	Comments
BMP evaluation #3	J06	Laguna Woods	J06input Inside gated community	To be determined	20 total Jun – Sep	Monitor effectiveness of source reduction efforts inside community.
BMP evaluation #4	J06	Laguna Woods	J06 at Aliso Creek (J01)	Drain 25' up / down	20 total Jun – Sep	Conducting increased inspections and education, especially at construction sites.
BMP evaluation #5	J05	Laguna Hills	J05 outfall at Aliso Creek (J01)	Drain 25' up / down	20 total Jun – Sep	Drains a residential area and a 10 acre wetland near the bottom of the drainage area. Wetland is intended to improve water quality.
BMP evaluation #7	J01P28	Aliso Viejo	J01P28 at Aliso Creek (J01)	Drain 25' up / down	20 total Jun – Sep	High-priority drain
BMP evaluation #6	J01P28	Aliso Viejo	Clear Creek system	Basin, discharge	20 total Jun – Sep	Clear Creek system treating water in drain just before discharge to Creek
BMP evaluation #8	J01P28	Aliso Viejo	Shopping center at Aliso Creek Rd. and Enterprise	Discharge from shopping center	20 total Jun – Sep	Inspection, education, and enforcement efforts concentrated at shopping center in upper portion of drainage
BMP evaluation #11	J04	Laguna Niguel	J04 at J03, at Aliso Creek Rd.	Drain	20 total Jun – Sep	Drains equestrian/agricultural area in upper part of drainage (Laguna Hills) that has been fitted with catch basin filters to remove bacteria. Outreach to residents with horses and farm animals. Catch basin retrofits in commercial areas in lower part of drainage (Laguna Niguel).

APPENDIX B: ANALYSIS OF HISTORICAL DATA

The past three years of monitoring data in the Aliso Creek watershed were analyzed to:

- Select an appropriate sampling period within the year
- Select a sampling frequency adequate to detect expected trends
- Confirm that effects of BMPs are observable in the watershed.

B.1 Status and Trends Sampling Period and Frequency

The current sampling frequency is weekly throughout the year, which has resulted in greater understanding of patterns of variability in the Creek. The past monitoring data has been examined to determine whether this frequency should be adjusted. Such adjustments are intended to better optimize the monitoring program's ability to determine if indicator levels in receiving waters are meeting appropriate water quality objectives (Question 1 (Section 3.1): Are conditions in receiving waters protective of beneficial uses?), as well as to quantify the amount of change in indicator values over time (Question 2 (Section 3.1): Are conditions in receiving waters getting better or worse over time?). The proposed new sampling frequency is:

10 samples per month, collected in August and September at each of the five core status and trends monitoring stations.

This would provide the ability to assess compliance with the REC1 objective in the most critical period of the year, as well as to track trends over time, with the goal of detecting an 80% reduction in fecal coliform levels over a ten-year period. An 80% decrease would represent a drop from the highest levels currently observed to near the REC1 level. The following paragraphs provide the technical rationale for this recommendation. They describe how:

- Sampling frequencies are based on examination of the historical data and on statistical power analyses
- Historical data show that peak bacterial levels occur in late summer and early fall, corresponding to the period of greatest recreational use, suggesting that this is the best period for conducting comparisons to the REC1 standard
- The ideal months for tracking trends during the peak period, however, differ from site to site
- The needed frequency for assessing compliance with the REC1 standard is 5 samples per month (30-day period), while the preferred frequency for assessing trends in a reasonable time frame is 10 samples per month
- The sampling frequency that meets both needs is 10 samples per month, in August and September.

The revised monitoring frequency is based on an examination of patterns in the Aliso Creek bacterial monitoring datasets as well as on statistical power analyses on these data. Statistical power analysis is a standard tool in study design, in which estimates of

variability in target indicators are used to determine the level of sampling effort needed to detect different amounts of change in those indicators. Power analyses will be repeated at intervals, as additional data accumulate, to confirm that sampling frequencies are adequate or to provide the basis for any needed midcourse corrections to the sampling design.

The REC1 standard (related to Question 1) for fecal coliforms is a geometric mean of 200/100 ml for five samples taken over a 30-day period. In addition, not more than 10% of the samples taken over this period can exceed 400/100ml. **Figures B-1** and **B-2** show that the downstream stations are above the REC1 standard most of the time by both criteria. Since this is the portion of the Creek where the incidence of human contact recreation is highest, these data provide the basis for targeting sampling at a key subset of months rather than throughout the entire year.

The highest fecal coliform counts consistently occur in the summer and fall, with the peak usually in the fall. Since these are the warmer months where human contact recreation in the Creek is most likely, it will be most beneficial to reduce the fecal coliform levels during this period and monitoring should accordingly also focus on this period. **Figures B-1** and **B-2** indicate that two thirty day sampling periods in the late summer / early fall period should be sufficient to determine whether the creek locations meet the REC 1 standard during the most relevant and critical part of the year. When levels drop closer to the standard, further power tests should be performed to determine if additional precision could be achieved with an increased number of samples per 30-day period.

The situation for tracking trends (Question 2) is different, however. Because the fecal coliform levels vary considerably among the months in lower Aliso Creek, it would statistically be most efficient to stratify the trend analyses by month, with separate trend analyses for each month. Lumping months that normally have highly divergent fecal coliform counts would increase the within-year variability and make it more difficult to detect trends over time. Power tests (Fryer and Nicholson, 1993) were performed to estimate the number of years and number of samples within a 30-day period that might be required to detect different percentages of decrease in fecal coliform counts (**Figure B-3**). Power tests were performed only at stations and for months for which more than one year was sampled because the power tests require an estimate of between-year variability.

Figure B-3, with plots for each station organized in order of increasing geomean, shows that the ideal months to sample differ from station to station. For example, the highest power for a given sampling effort occurs in August for the SOCWA treatment plant site (**Figure B-3.d.**) but in June for the Aliso Wood Canyon Park Site (**Figure B-3.c.**).

Because it would be logistically inefficient to sample each station at a different time, some tradeoffs are always required in applying power analysis results to real-world situations. In this case, a sampling frequency of 10 samples per month, collected in August and September at each of the five stations would provide the ability to assess compliance with the REC1 objective in the most critical period of the year, as well as to

track trends over time, with the goal of detecting an 80% reduction in fecal coliform levels over a ten-year period. An 80% decrease would represent a drop from the highest levels currently observed to near the REC1 level.

B.2 BMP Evaluation Sampling Frequency

As for the status and trends monitoring, statistical power analyses were used to determine an appropriate sampling frequency for the BMP evaluation stations and the revised monitoring frequency of 20 samples per year at each high-priority drain station, collected in the June – September period, is based on these analyses.

Figure B-4 shows that bacterial levels in the high-priority drains, as well as at the upstream and downstream stations associated with each, are typically highest in the June – September period and lower throughout the rest of the year. Power analyses therefore focused on this period in order to reduce the within-year variability. Power analyses were performed for two measures, the load from each drain (**Figure B-5**) and the impact of each drain (**Figure B-6**) measured as the difference between the downstream and upstream stations. It will not be feasible to track loads at station J06 (**Figure B-5**) nor to track impacts at station J01P08 (**Figure B-6**). With the exception of these parameters at these stations, however, the power analysis suggests that a sampling frequency of 20 samples, collected in the June – September period, would be adequate to detect an average 50% reduction in loads and an average 30% reduction in impact over a ten year period.

B.3 Analysis of BMP Effects

Our past experience with the inherent variability in bacteria levels (both in discharges and in receiving waters), along with the statistical power analysis results, show that it may well take many years to reliably detect substantial trends in measures of loads and impact at individual sites. We therefore investigated other, system-wide analysis approaches which proved able, in some instances, to describe the results of BMP implementation on a shorter time frame.

The first analysis approach is based on a method commonly used by oceanographers and climate scientists. It involves calculating the overall system-wide mean of key parameters (e.g., loads, flow) and then examining the deviations over time from the system mean at each site. This approach was informative in providing more insight into both the unique behavior of each site as well as responses to BMPs. **Table B-1** lists all stations in alphabetic order, along with their ranks on a number of key variables, including degree of year-to-year decrease in loads (based on dry season data only) compared against the system-wide average. **Figure B-7** provides the graphical results for each station, all in terms of deviation from the overall system average. **Table B-2** provides more detailed information on the specifics of BMPs implemented in each drainage area.

Figures 5 and **B-7**, along with **Table B-2**, show that some discharges demonstrate patterns of decreasing loads that can be related to BMP implementation. However, these

data also show that not all drains with a pattern of decreasing loads can be correlated with more intensive BMP implementation, and vice versa.

This analysis approach was not able to clearly show the results of all BMP efforts throughout the watershed. However, it was successful in describing overall patterns and often revealing BMP effects where efforts have been most intensive.

The second analysis approach focused on testing the assumption that reducing discharge loads from individual pipes will reduce the impact of these discharges on the creek receiving water below the discharge. This assumption was tested by performing regressions of impact (downstream minus upstream concentrations) against discharge load for each pipe for both Enterococcus and fecal coliform.

These regressions (**Figures B-8 and B-9**) show that reduced loads are correlated with reduced impacts at only a subset of the pipes and that results for Enterococcus and fecal coliform differ at the same pipe. Thus, while the first analysis demonstrated that reductions in loads are detectable at some locations, these reductions do not necessarily always result in reductions in impacts in the receiving water. This is largely because the size of impact is strongly influenced by the amount of water in the Creek. Thus, the same load will produce a larger impact if it enters the Creek where flows are low and a smaller impact if it enters the Creek where flow are higher.

Table B-1. Historical monitoring stations, listed in alphabetic order.

“Map ID” refers to station identification on Figure 5. “Input Conc” refers to bacteria concentration in the discharge. Each station is ranked from highest to lowest, compared to all other stations, on several key variables, e.g., a “Load Rank” of 5 indicates the 5th highest load overall. “Decrease Rank” is based on year-to-year decrease in loads (or concentration where loads not available) during the dry season. Some data is missing for some stations.

Alpha Order	Station	Map ID	Load Rank	Input Conc Rank	Decrease Rank	Flow (cfs) Rank
1	CTPJ01	41		35	25	
2	J01P01	7	8	21	28	9
3	J01P03	10	5	13	19	8
4	J01P04	11	26	20	32	24
5	J01P05	9	22	17	23	23
6	J01P06	3	19	30	36	11
7	J01P08	1	7	2	9	16
8	J01P21	28	33	36	4	33
9	J01P22	26	17	18	17	19
10	J01P23	25	13	5	33	15
11	J01P24	24	30	31	5	21
12	J01P25	22	28	32	1	20
13	J01P26	23	16	16	29	17
14	J01P27	16	3	1	22	7
15	J01P28	15	11	27	2	5
16	J01P30	14	14	4	13	18
17	J01P33	21	25	10	15	28
18	J01TBN2	4	29	12	7	31
19	J01TBN3	8	27	24	12	29
20	J01TBN4	17	24	19	34	22
21	J01TBN7	20	31	23	26	32
22	J01TBN8	2	32	33	27	25
23	J02P05	30	4	6	31	6
24	J02P08	31	1	7	30	2
25	J02TBN1	29	12	8	3	14
26	J03P01	34		26	24	
27	J03P02	27	2	22	18	1
28	J03P05	33	6	11	8	10
29	J03P13	32	15	28	14	12
30	J03TBN1	35	21	3	21	30
31	J03TBN2	36	20	15	20	27
32	J04	37		25	16	
33	J05	13	18	34	11	3
34	J06	12	10	29	35	4
35	J07P01	6	23	9	6	26
36	J07P02	5	9	14	10	13

Table B-2. BMP implementation details in each drainage area.

BMP Category is as in Figure 5, where #1 is basic JURMP Action Plan (inspections, education, enforcement, and promotion of best practices); #2 is #1 + more focused non-structural BMP efforts, #3 is #1 + structural BMPs, and #4 is all of the above. Loads trends: A is clear decrease; B is clear increase; C is no apparent trend.

Drainage	BMP Category	Loads Trend	BMP Details
CTPJ01	NA	B	
J01P01	1	C	
J01P03	2	B	Catch basin inserts
J01P04	2	B	Catch basin inserts
J01P05	1	B	
J01P06	1	C	
J01P08	2	A	Source ID reconnaissance, focused education programs for likely sources
J01P21	1	A	
J01P22	1	B	
J01P23	1	C	
J01P24	3	A	Partial implementation of catch basin retrofits, trash screens, and filters
J01P25	3	A	CDS unit
J01P26	1	B	
J01P27	1	B	
J01P28	4	A	Sampling, monitoring, and intensive surveillance programs, intensive public education program, strict enforcement of BMPS for commercial facilities, installation of Clear Creek treatment system
J01P30	2	A	Sampling, monitoring, and intensive surveillance programs
J01P33	1	B	
J01TBN2	1	A	
J01TBN3	2	B	Catch basin inserts
J01TBN4	1	C	
J01TBN7	1	B	
J01TBN8	1	B	
J02P05	2	C	Sampling and monitoring program, intensive education program for homeowners and landscapers re urban runoff
J02P08	1	B	
J02TBN1	1	A	
J03P01	3	B	Stream restoration for short reach
J03P02	4	B	Intensive surveillance and source ID, education and enforcement, installation of catch basin inserts, temporary dry weather diversion and installation of Clear Creek system (Note: site was upstream of diversion and CCS and thus unaffected by these treatments), installation of WETCAT treatment wetlands
J03P05	1	A	
J03P13	1	A	
J03TBN1	1	C	
J03TBN2	1	B	
J04	3	C	Surveillance program commercial strip mall, strict BMP enforcement for commercial facilities, partial implementation of catch basin retrofits, trash screens, and filters
J05	3	B	Aliso Hills Channel treatment wetlands
J06	1	B	
J07P01	2	B	Catch basin inserts
J07P02	2	A	Catch basin inserts

Figure B-1. Fecal coliform measurements at and upstream/downstream of discharge points in lower Aliso Creek. The data points are 5-sample moving geometric averages. The data values used in an average are the sample for the date and the four previous samples. The horizontal dashed line represents the Basin Plan REC1 objective for fecal coliforms (geomean not higher than 200/100 ml). The point symbols indicate the year of sampling, with the symbol equal to the last digit of the year (e.g., 1 for 2001, 2 for 2002).

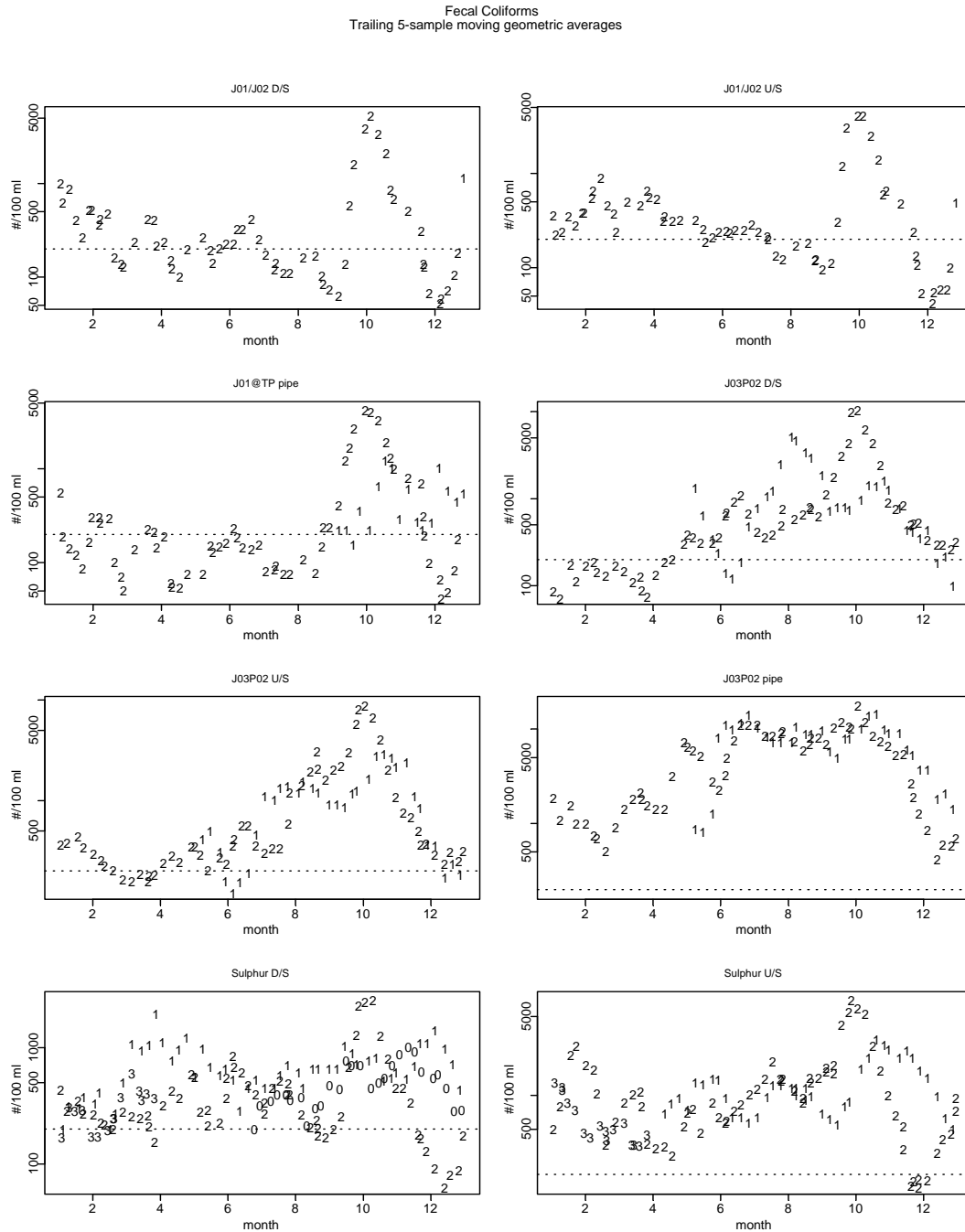


Figure B-2. Fecal coliform measurements at and upstream/downstream of discharge points in lower Aliso Creek. The data points are the percent of fecal coliform samples above 400/100 ml in the five most recent samples. The horizontal dashed line represents the Basin Plan REC1 objective for fecal coliforms (no more than 10% above 400/100 ml). The point symbols indicate the year of sampling, with the symbol equal to the last digit of the year (e.g., 1 for 2001, 2 for 2002).

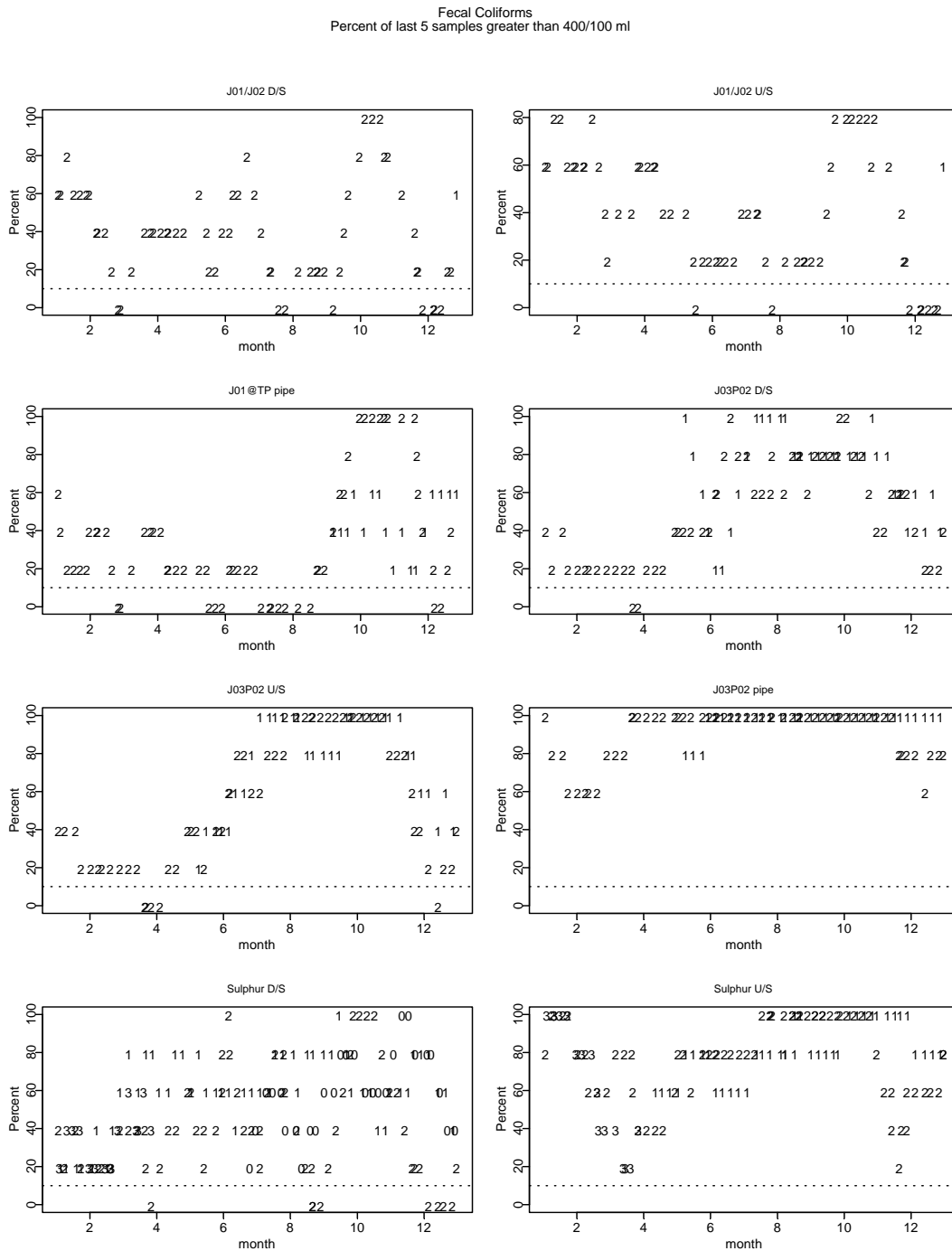


Figure B-3a. Power analysis of a trend monitoring design at the AWMA ROAD Bridge, station Sulphur Creek upstream. The y-axis shows the amount of change detectable, the x-axis the years of sampling, and the different curves the number of samples in a given 30-day period (5, 10, 20, 40) needed for 80% power.

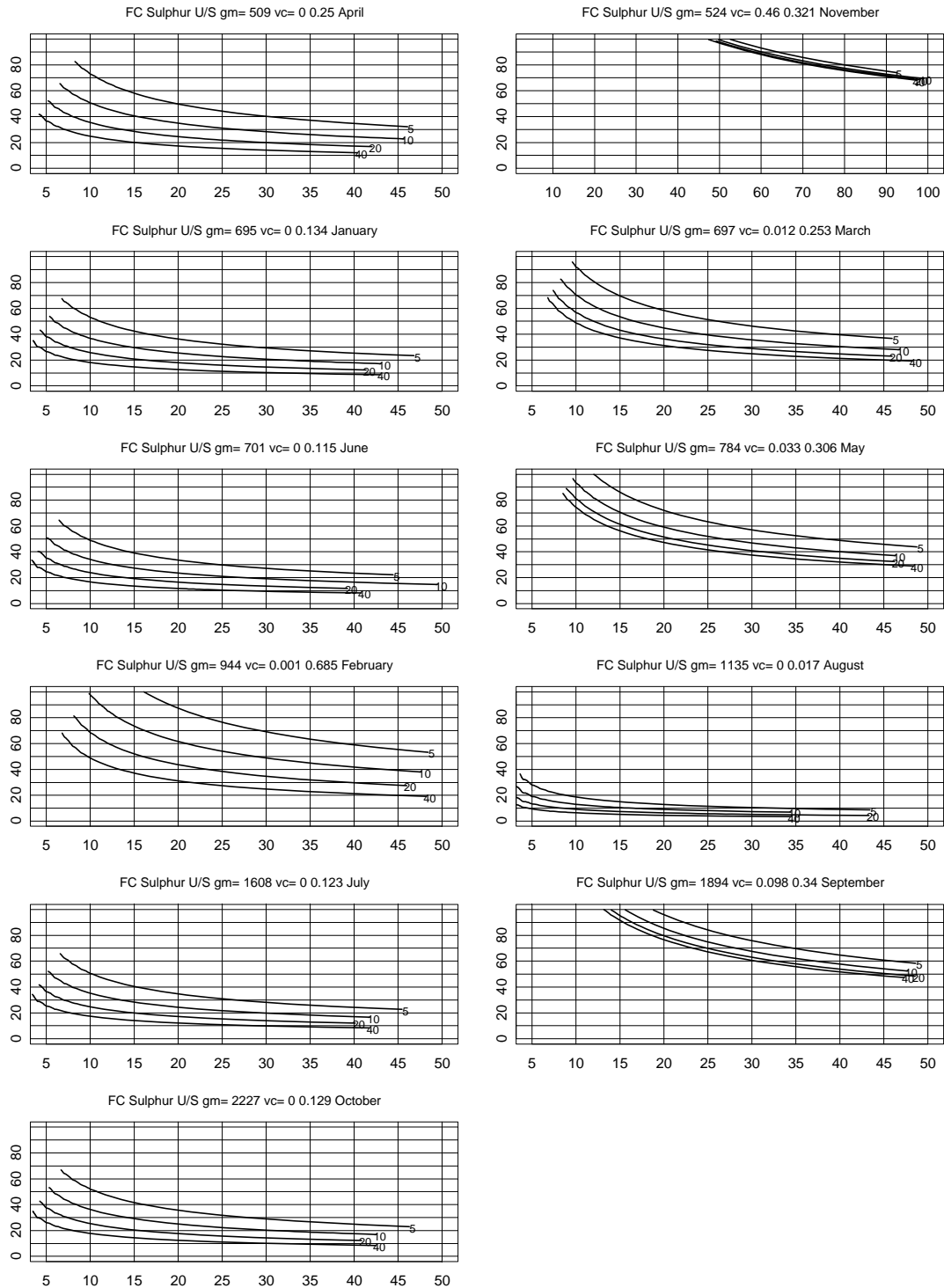


Figure B-3b. Power analysis of a trend monitoring design at the confluence of Aliso and Sulphur Creeks, station J03P02 downstream. The y-axis shows the amount of change detectable, the x-axis the years of sampling, and the different curves the number of samples in a given 30-day period (5, 10, 20, 40) needed for 80% power.

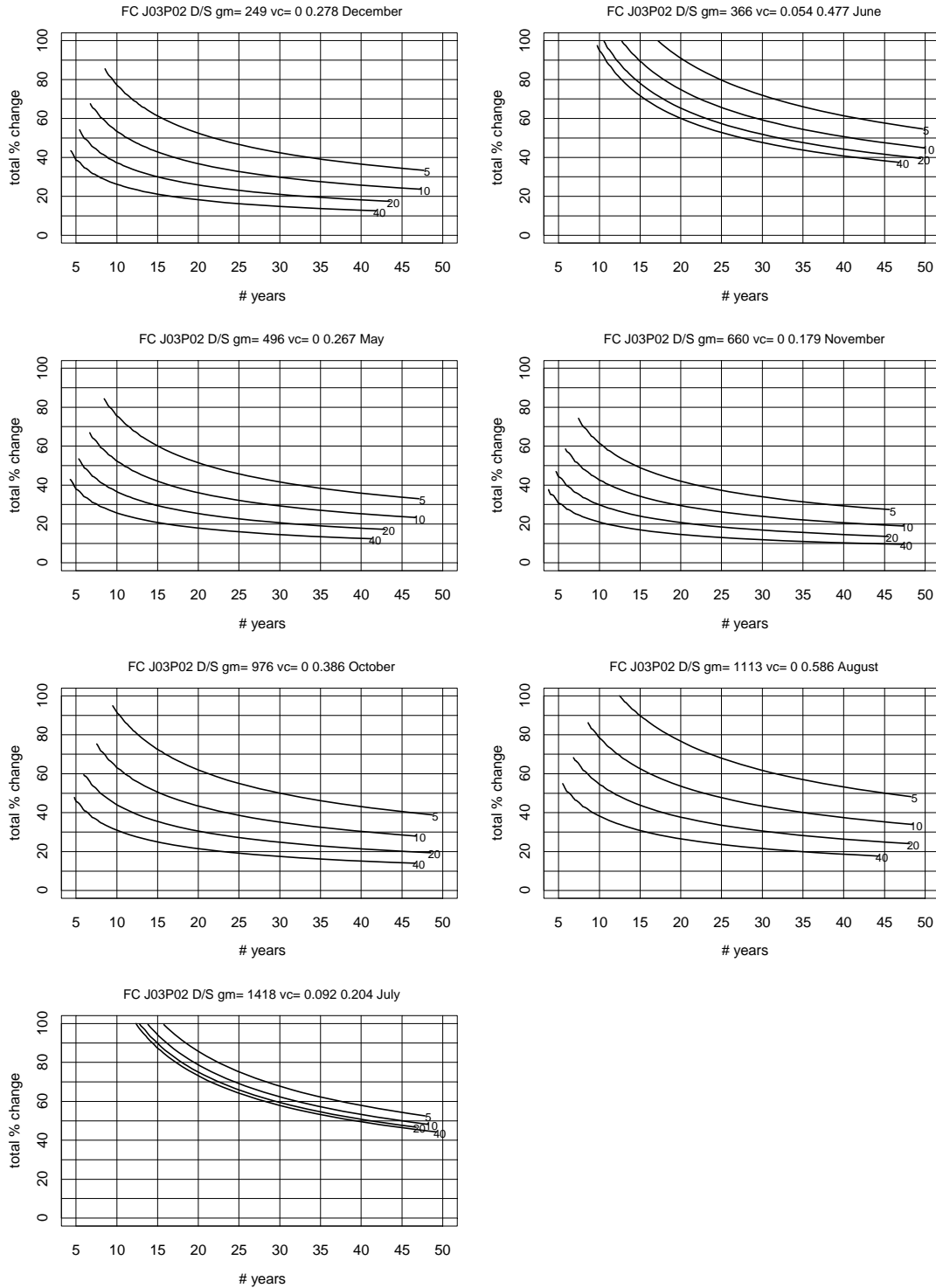


Figure B-3c. Power analysis of a trend monitoring design at Aliso Wood Canyon Park, station Sulphur Creek downstream. The y-axis shows the amount of change detectable, the x-axis the years of sampling, and the different curves the number of samples in a given 30-day period (5, 10, 20, 40) needed for 80% power.

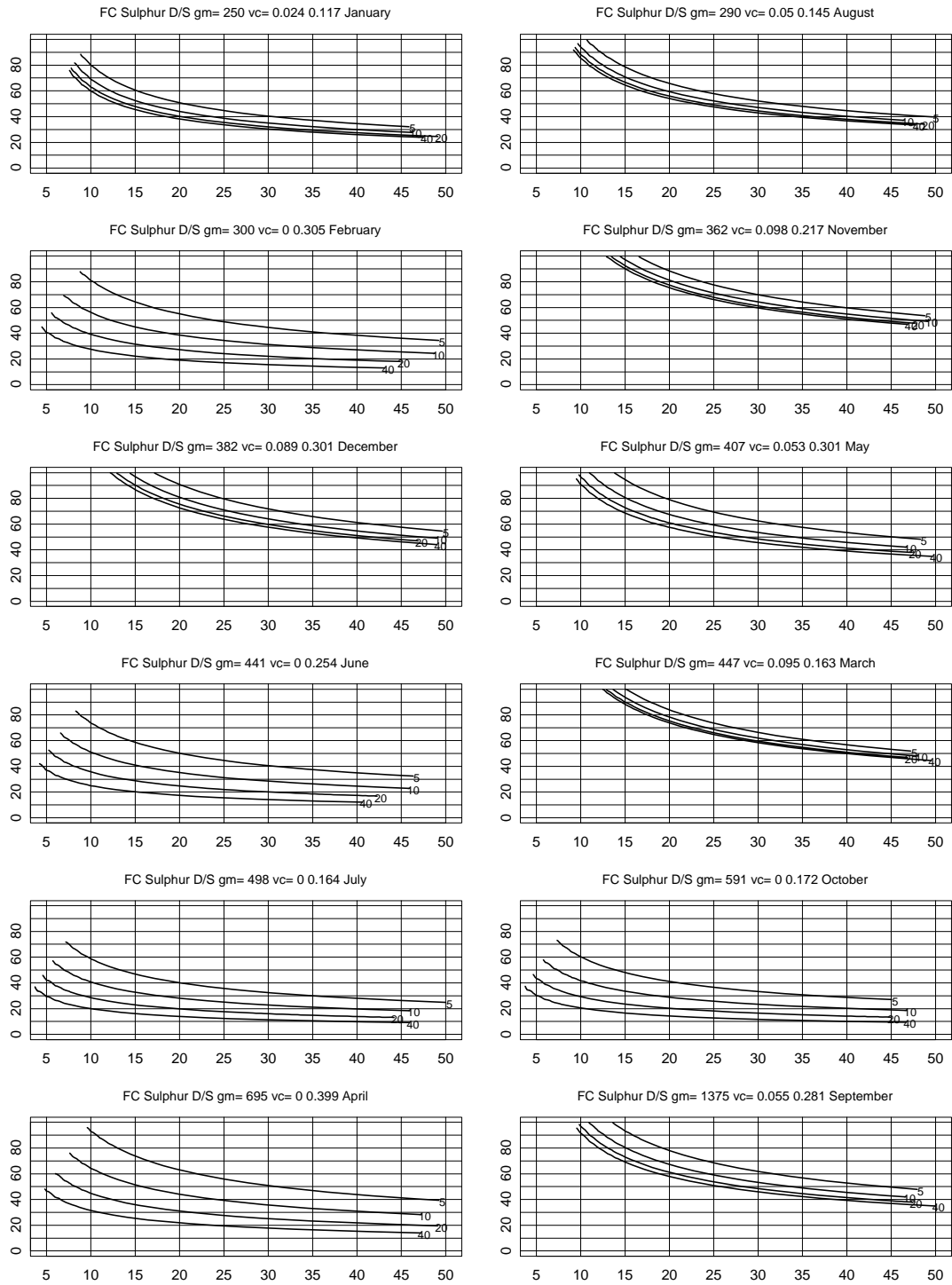


Figure B-3d. Power analysis of a trend monitoring design at the SOCWA treatment plant, station J01@TP. The y-axis shows the amount of change detectable, the x-axis the years of sampling, and the different curves the number of samples in a given 30-day period (5, 10, 20, 40) needed for 80% power.

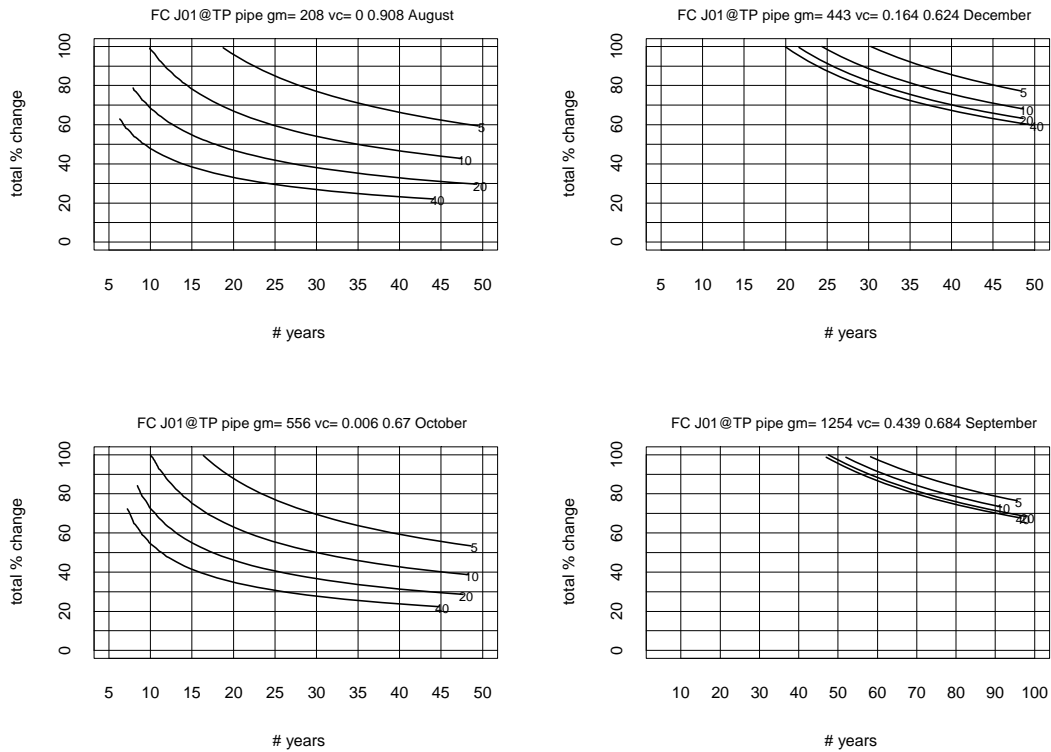


Figure B-4. Fecal coliform levels at the high-priority drains in the Aliso Creek watershed. The dashed line represents the Basin Plan REC1 objective for fecal coliforms (geomean not higher than 200/100 ml).

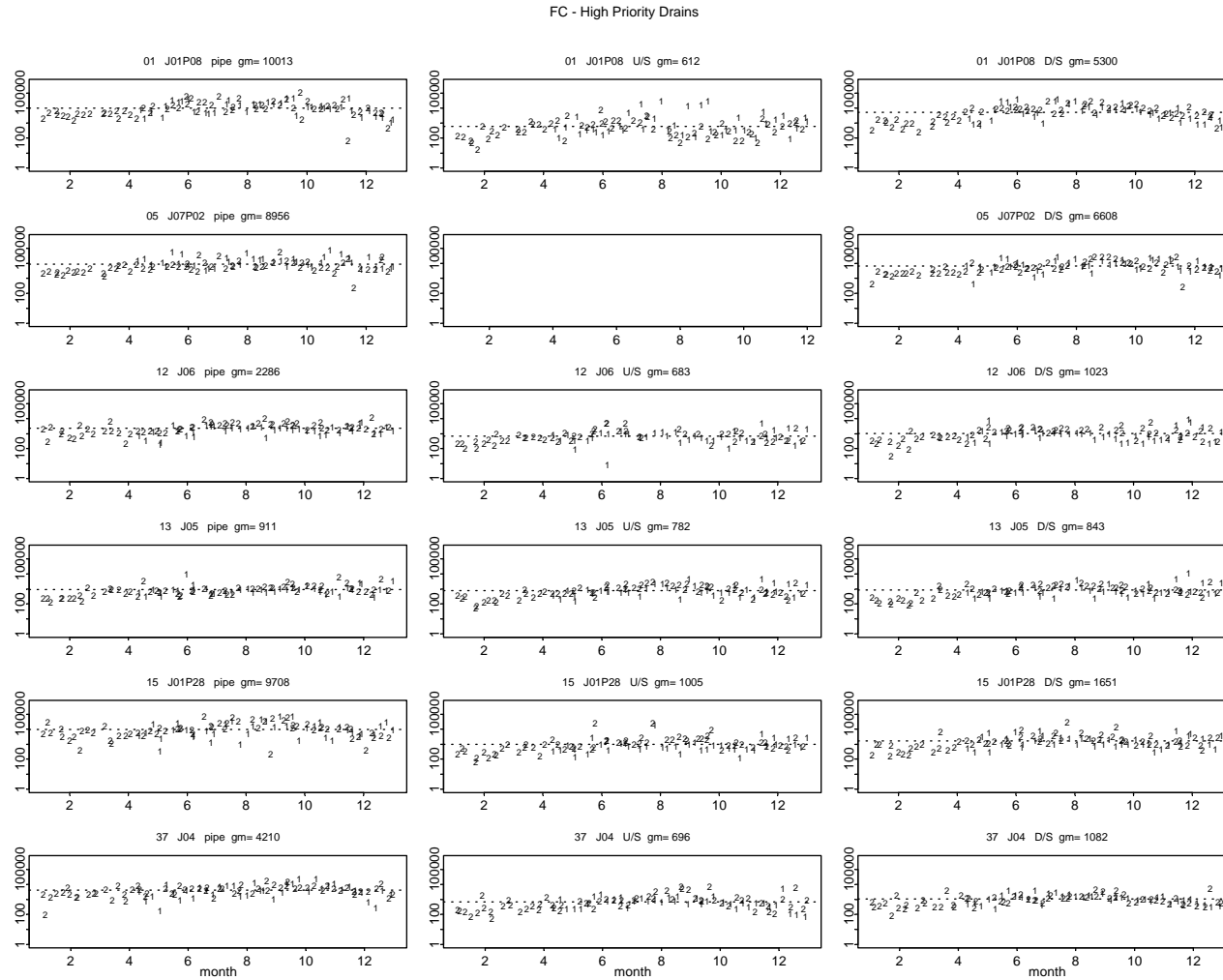


Figure B-5a. Power analysis of a trend monitoring design for fecal coliform loads at the high-priority drains in the Aliso Creek watershed. The y-axis shows the amount of change detectable, the x-axis the number of years sampling, and the different curves the number of samples in per year (5, 10, 20, 40) needed for 80% power. No results are shown for station J04 because the flow was not measured in 2002. Power estimates are based on data from months June - September.

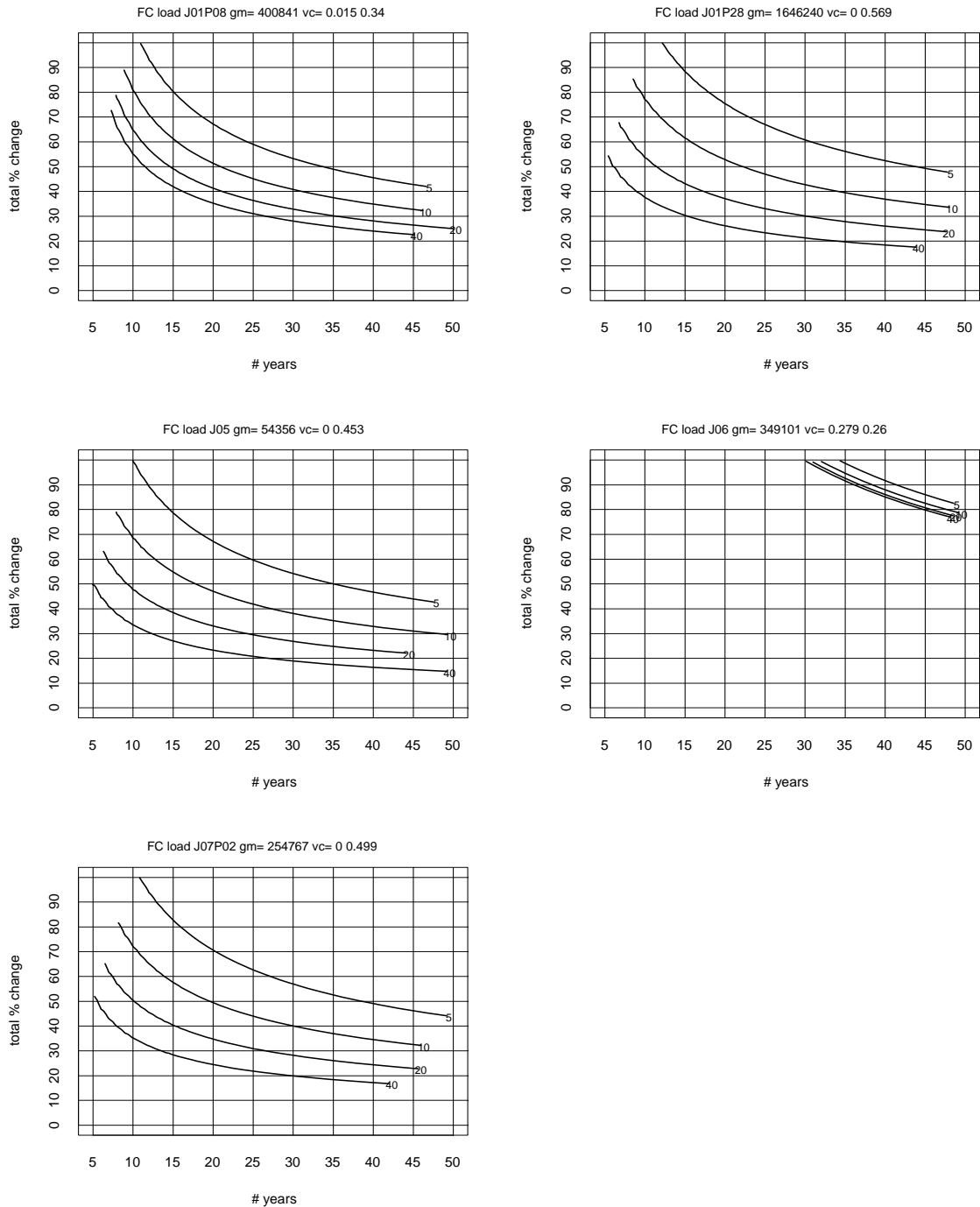


Figure B-5b. Power analysis of a trend monitoring design for fecal coliform loads at the remaining drains in the Aliso Creek watershed. The y-axis shows the amount of change detectable, the x-axis the number of years sampling, and the different curves the number of samples in per year (5, 10, 20, 40) needed for 80% power. Power estimates are based on data from months June - September.

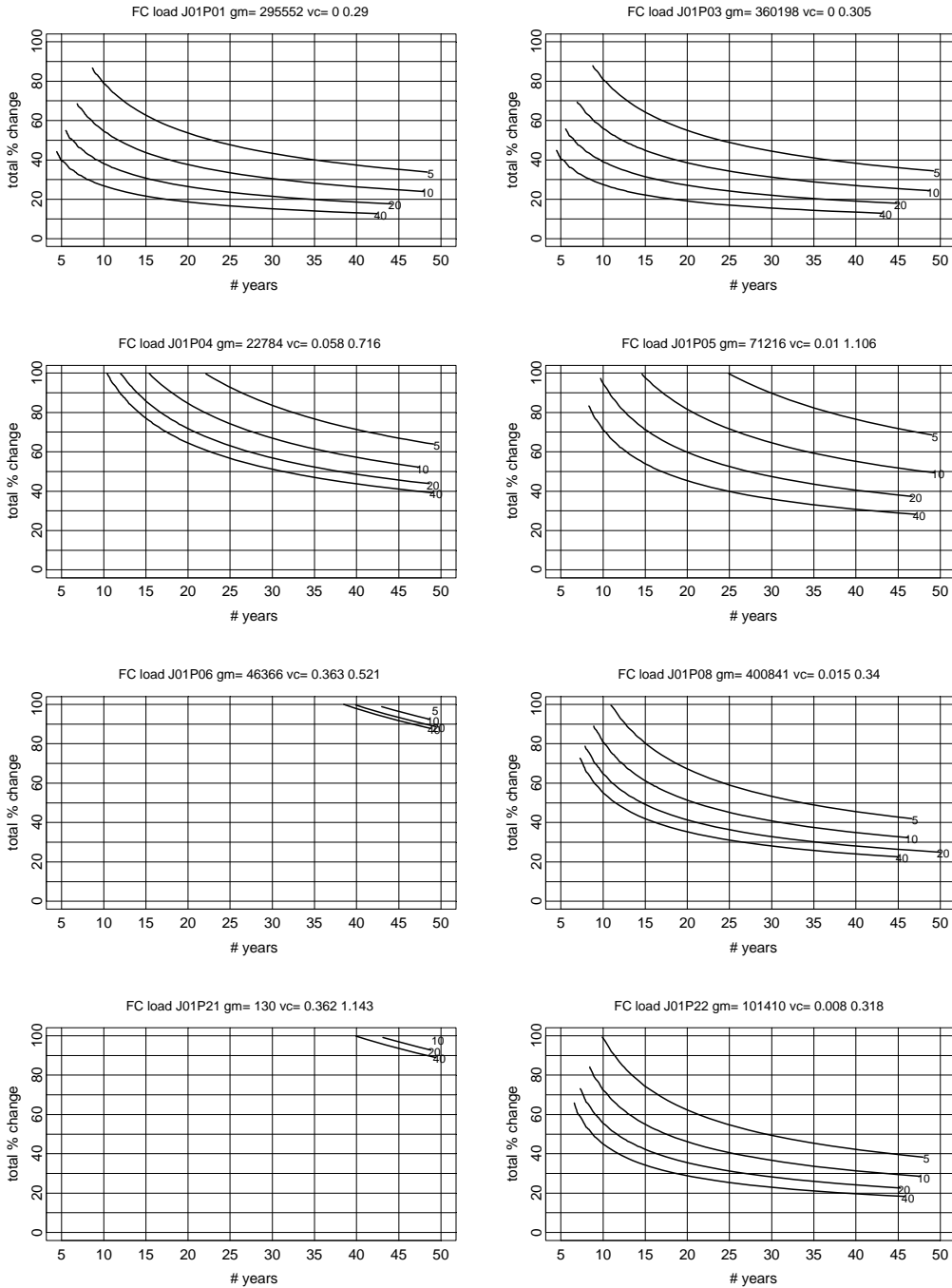


Figure B-5b (continued). Power analysis of a trend monitoring design for fecal coliform loads at the remaining drains in the Aliso Creek watershed.

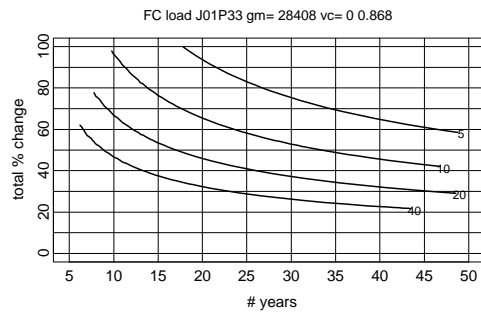
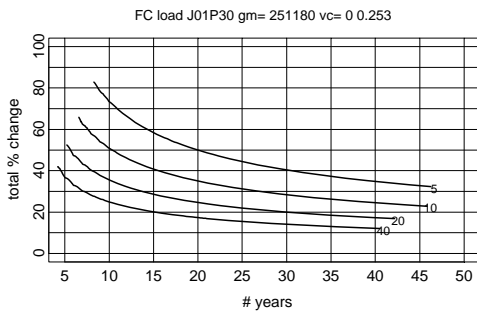
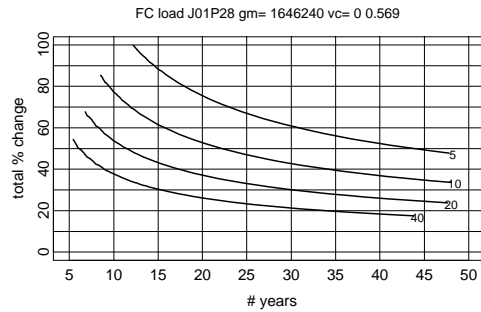
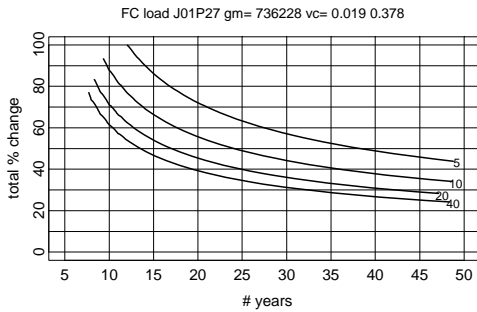
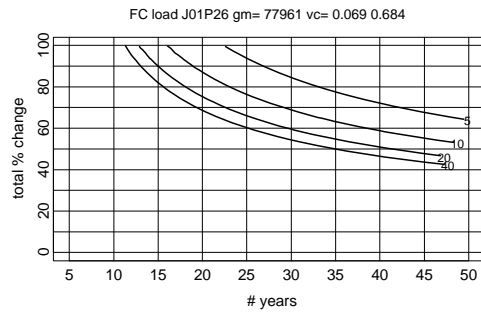
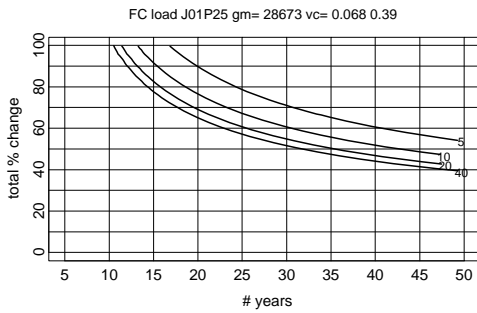
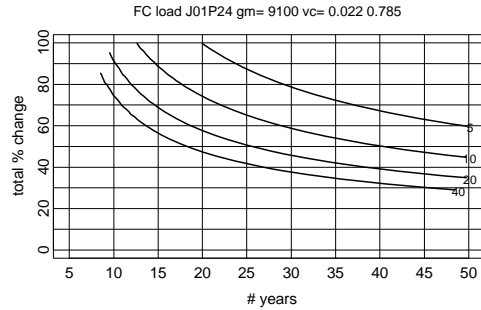
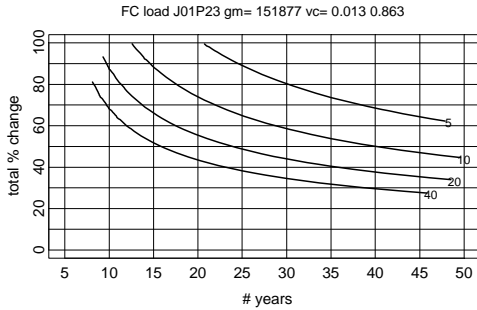


Figure B-5b (continued). Power analysis of a trend monitoring design for fecal coliform loads at the remaining drains in the Aliso Creek watershed.

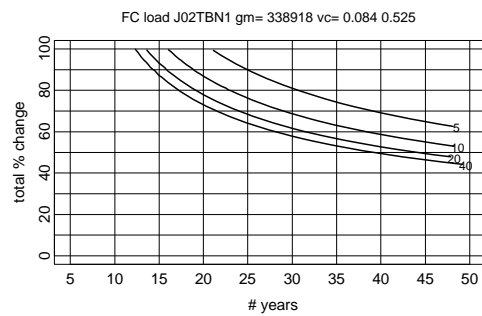
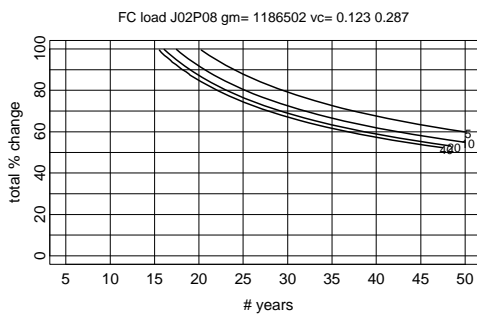
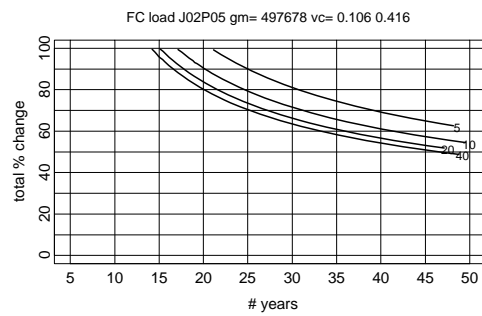
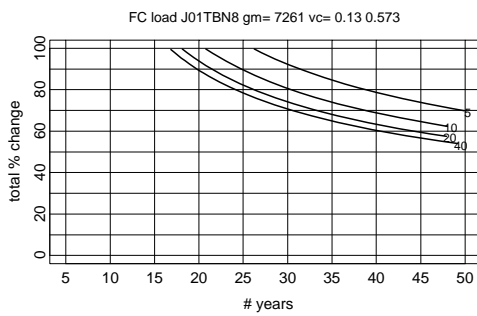
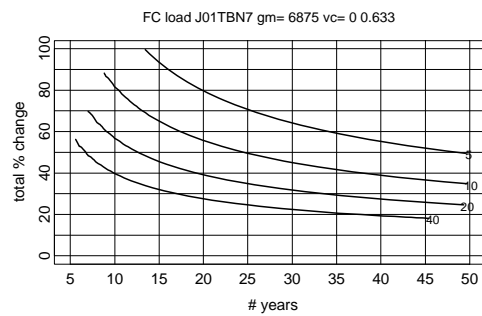
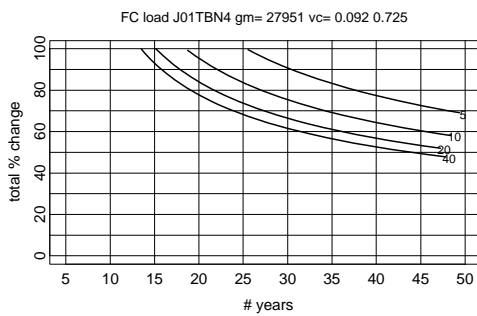
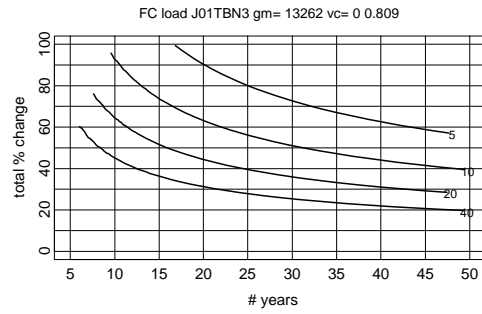
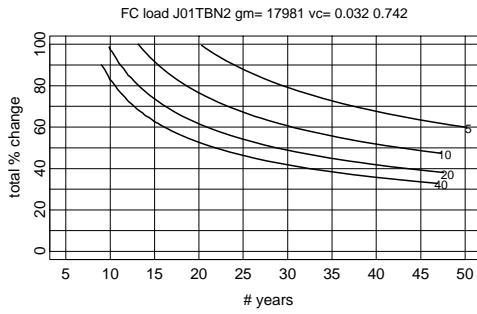


Figure B-5b (continued). Power analysis of a trend monitoring design for fecal coliform loads at the remaining drains in the Aliso Creek watershed.

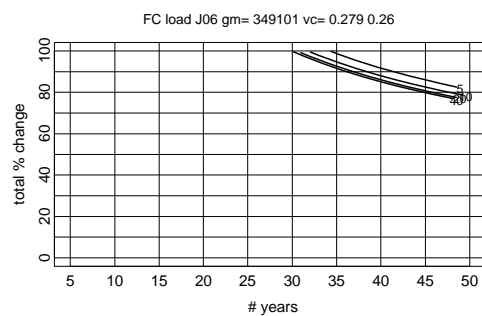
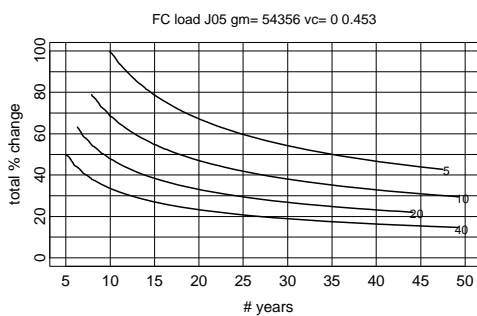
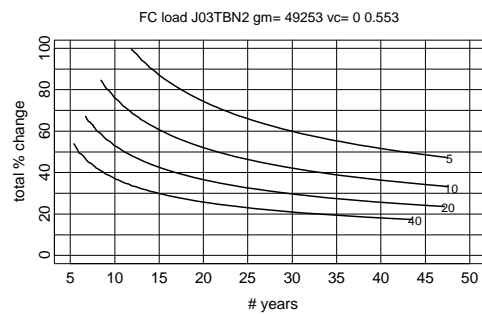
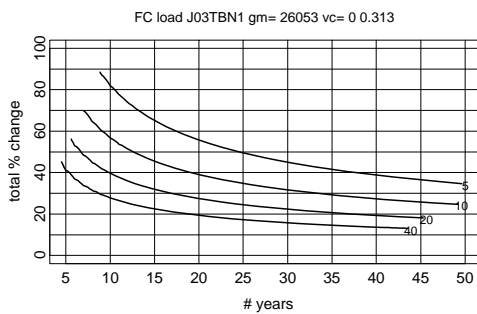
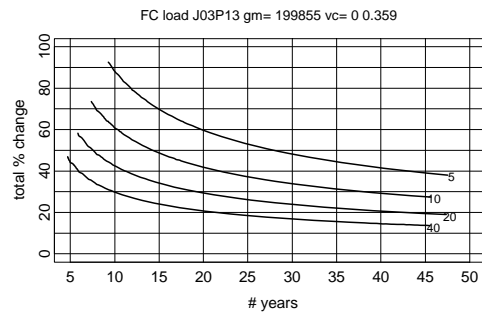
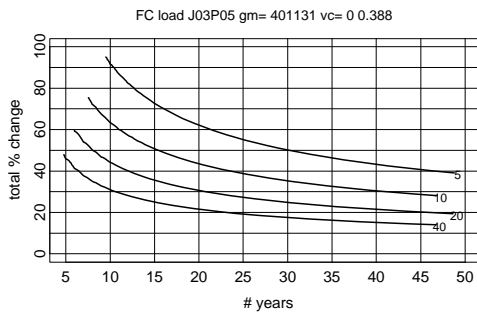
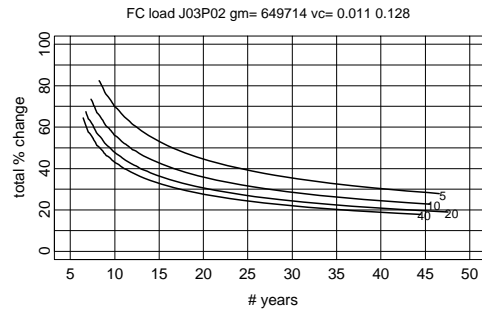
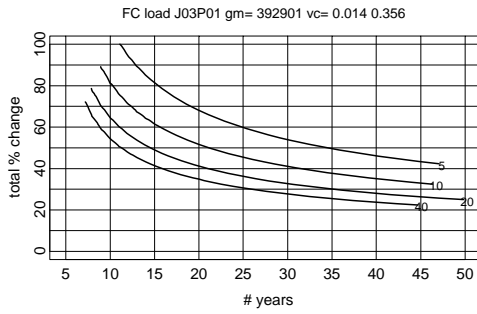


Figure B-5b (continued). Power analysis of a trend monitoring design for fecal coliform loads at the remaining drains in the Aliso Creek watershed.

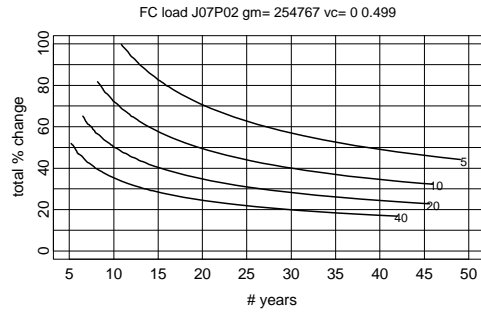
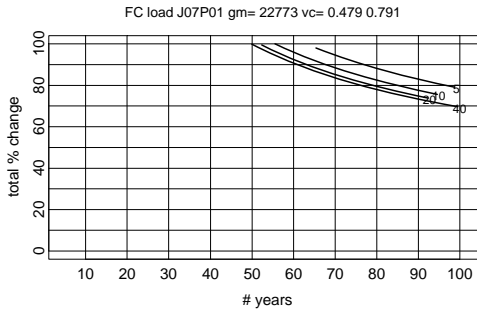


Figure B-6a. Power analysis of a trend monitoring design for fecal coliform impact at the high-priority drains in the Aliso Creek watershed. The y-axis shows the amount of change detectable, the x-axis the number of years sampling, and the different curves the number of samples in per year (5, 10, 20, 40) needed for 80% power. Power estimates are based on data from months June - September.

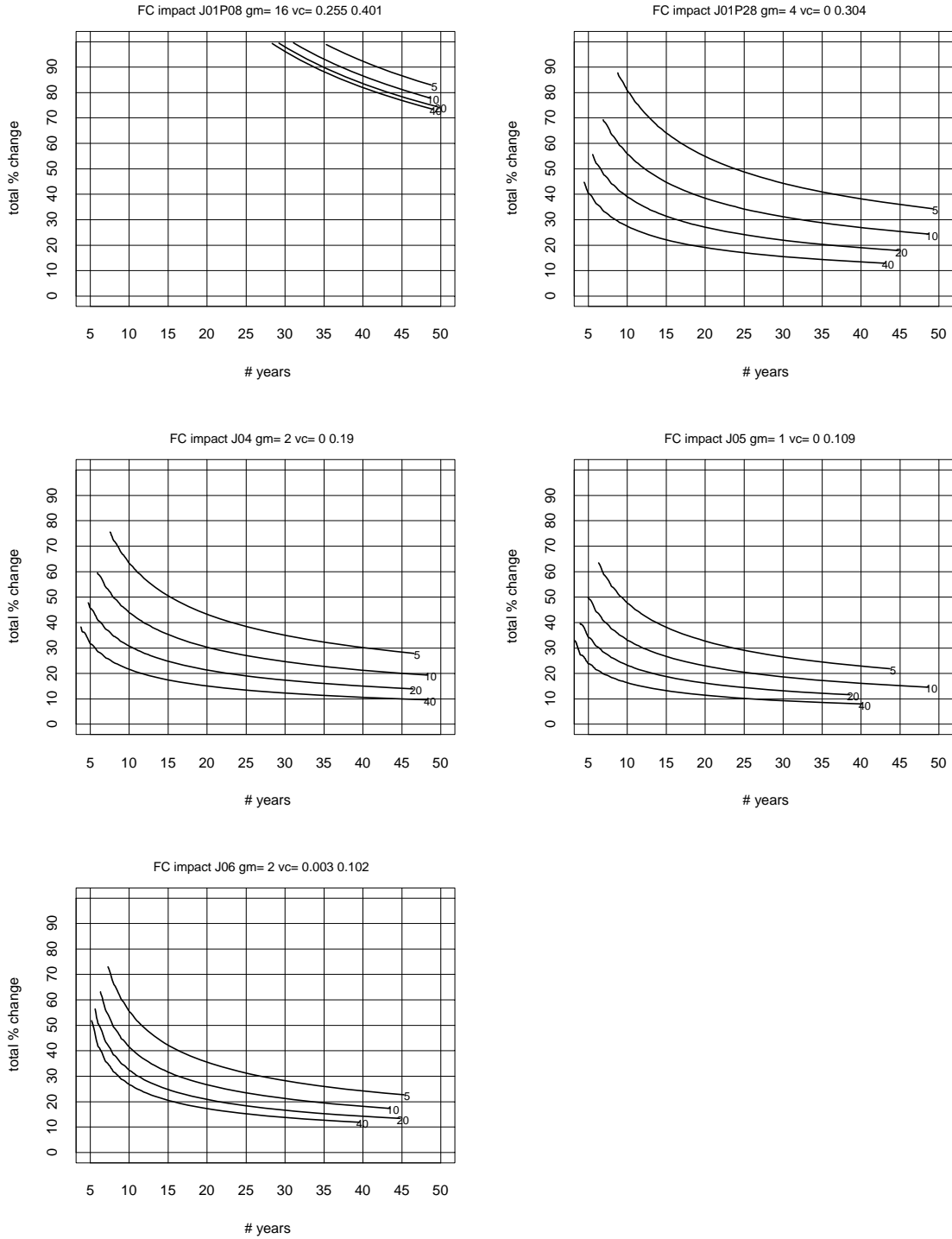


Figure B-6b. Power analysis of a trend monitoring design for fecal coliform impact at the remaining drains in the Aliso Creek watershed. The y-axis shows the amount of change detectable, the x-axis the number of years sampling, and the different curves the number of samples in per year (5, 10, 20, 40) needed for 80% power. Power estimates are based on data from months June - September.

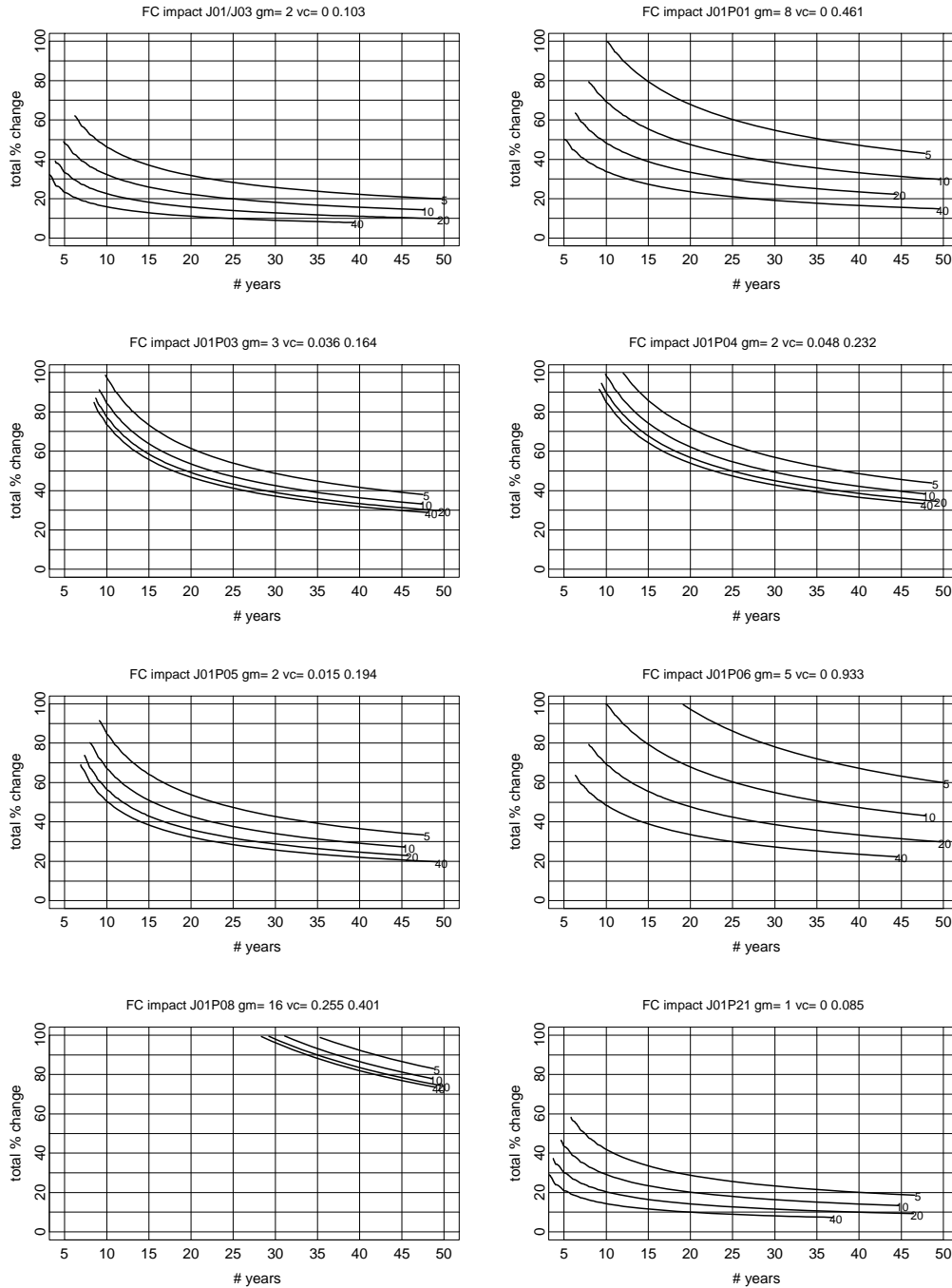


Figure B-6b (continued). Power analysis of a trend monitoring design for fecal coliform impact at the remaining drains in the Aliso Creek watershed.

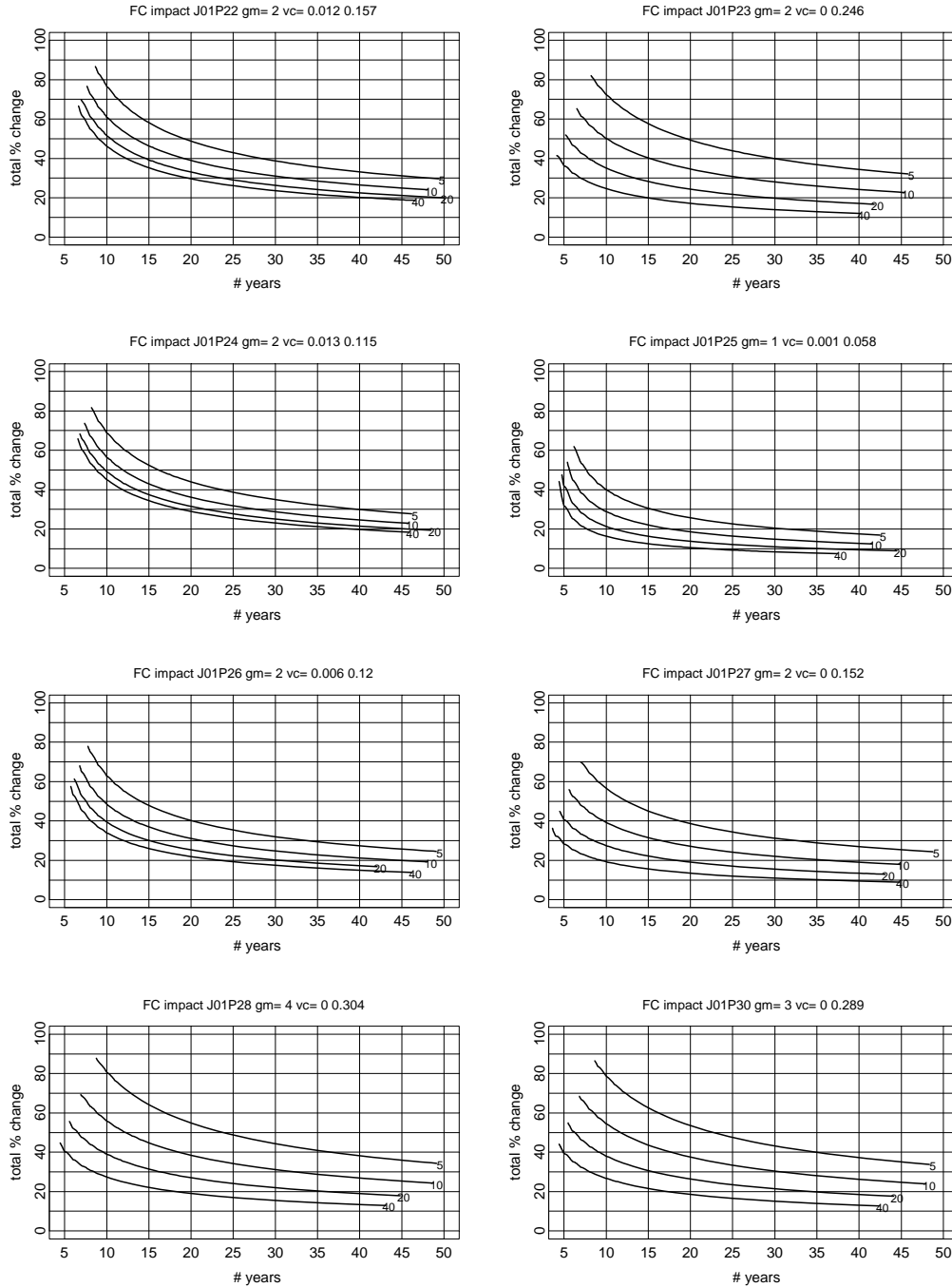


Figure B-6b (continued). Power analysis of a trend monitoring design for fecal coliform impact at the remaining drains in the Aliso Creek watershed.

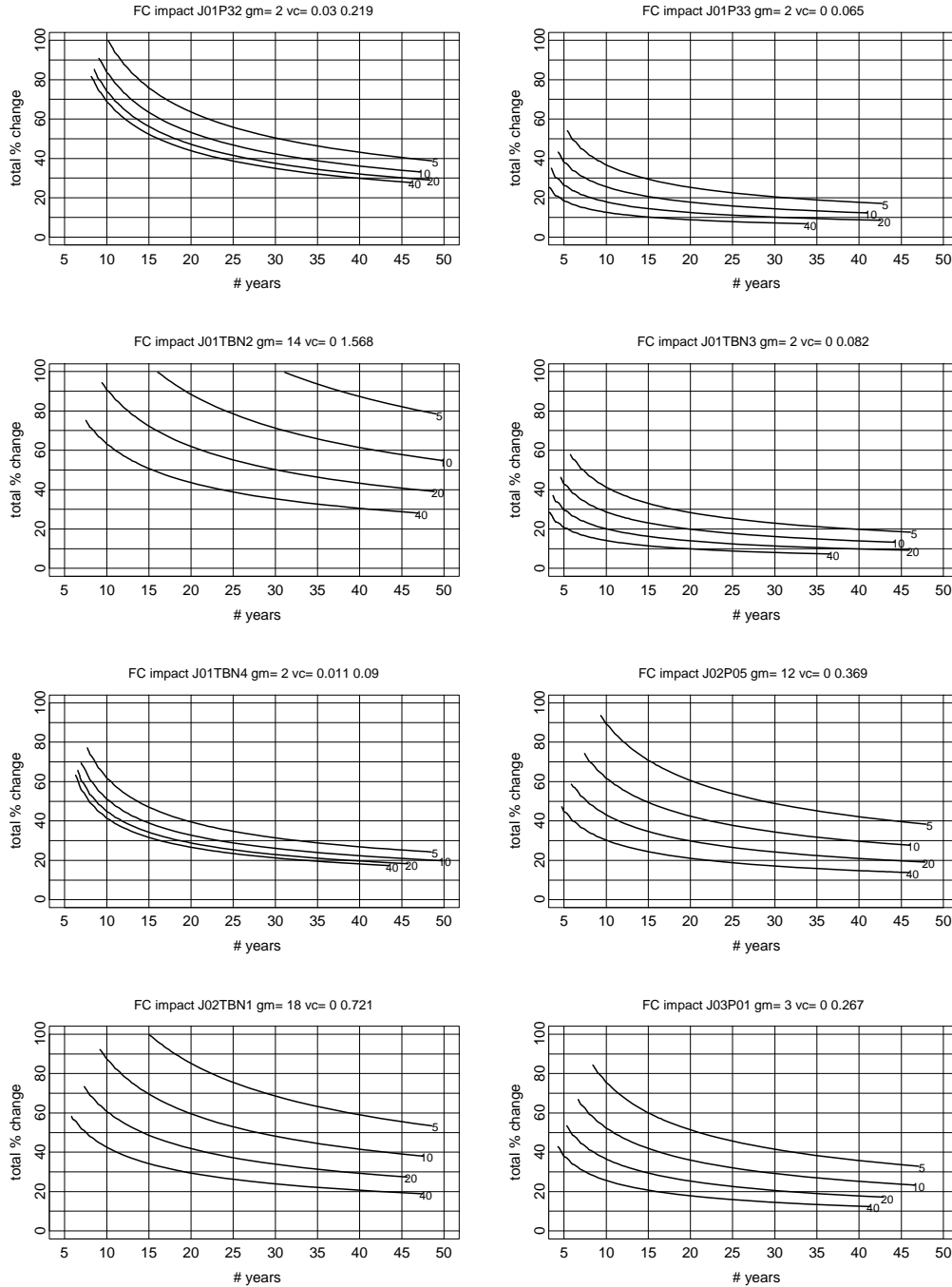


Figure B-6b (continued). Power analysis of a trend monitoring design for fecal coliform impact at the remaining drains in the Aliso Creek watershed.

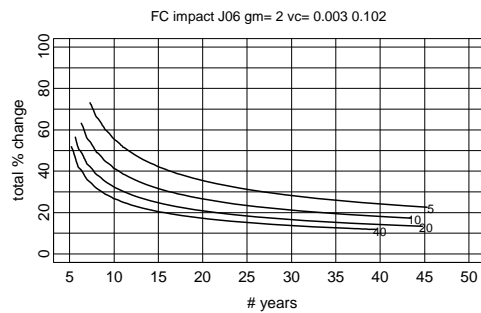
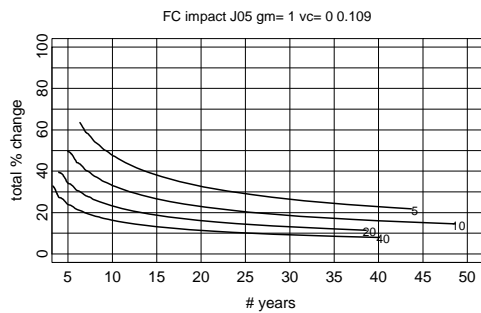
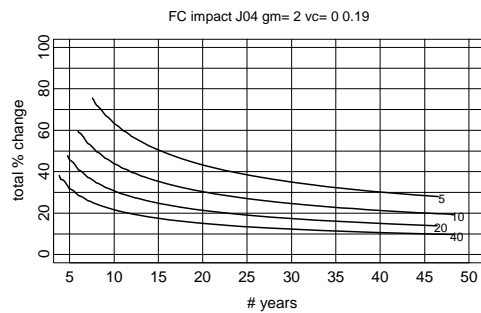
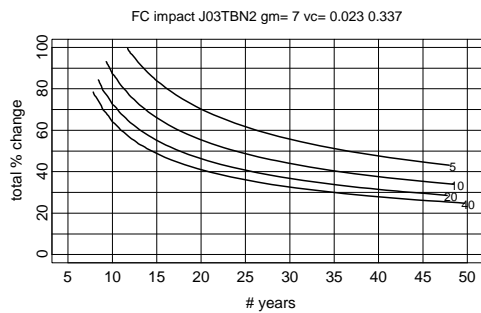
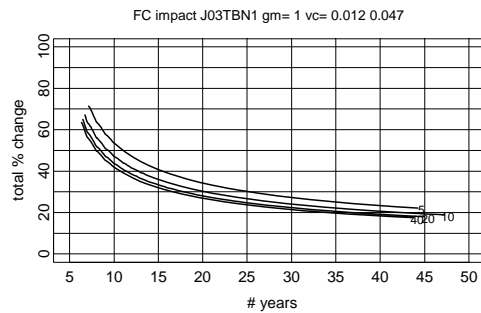
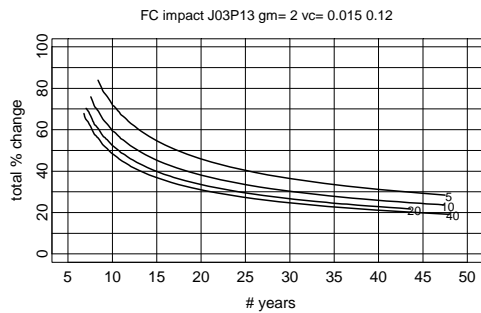
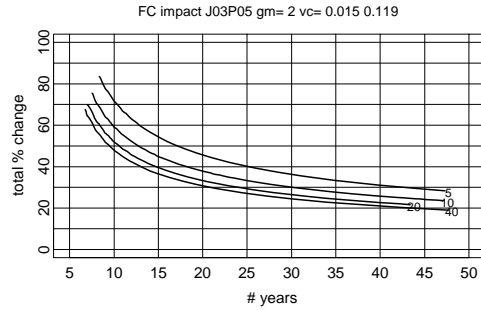
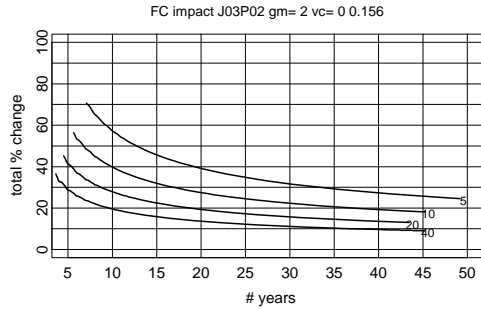


Figure B-6b (continued). Power analysis of a trend monitoring design for fecal coliform impact at the remaining drains in the Aliso Creek watershed.

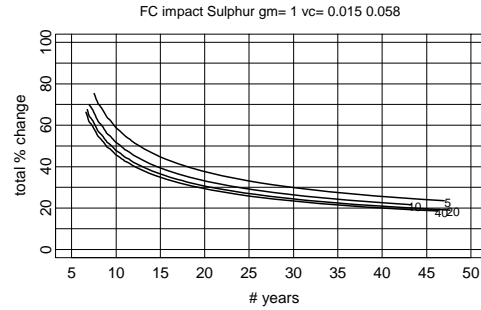
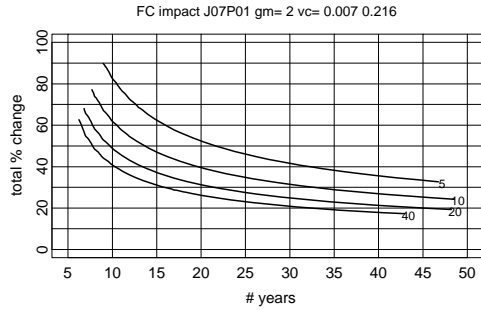


Figure B-7. Patterns of bacterial loads, concentration in the discharge, and discharge flow at all monitored drains. All parameters calculated as deviations from the long-term system mean. The dark portion of each vertical bar indicates Enterococcus and the blue portion fecal coliform. "Load" is bacterial load in the pipe discharge; "CFS" is the measure of flow (cubic feet/second) in the discharge, "CONC" is concentration in the discharge. Rank of this station, from highest to lowest, on each parameter is presented at the top of the figure.

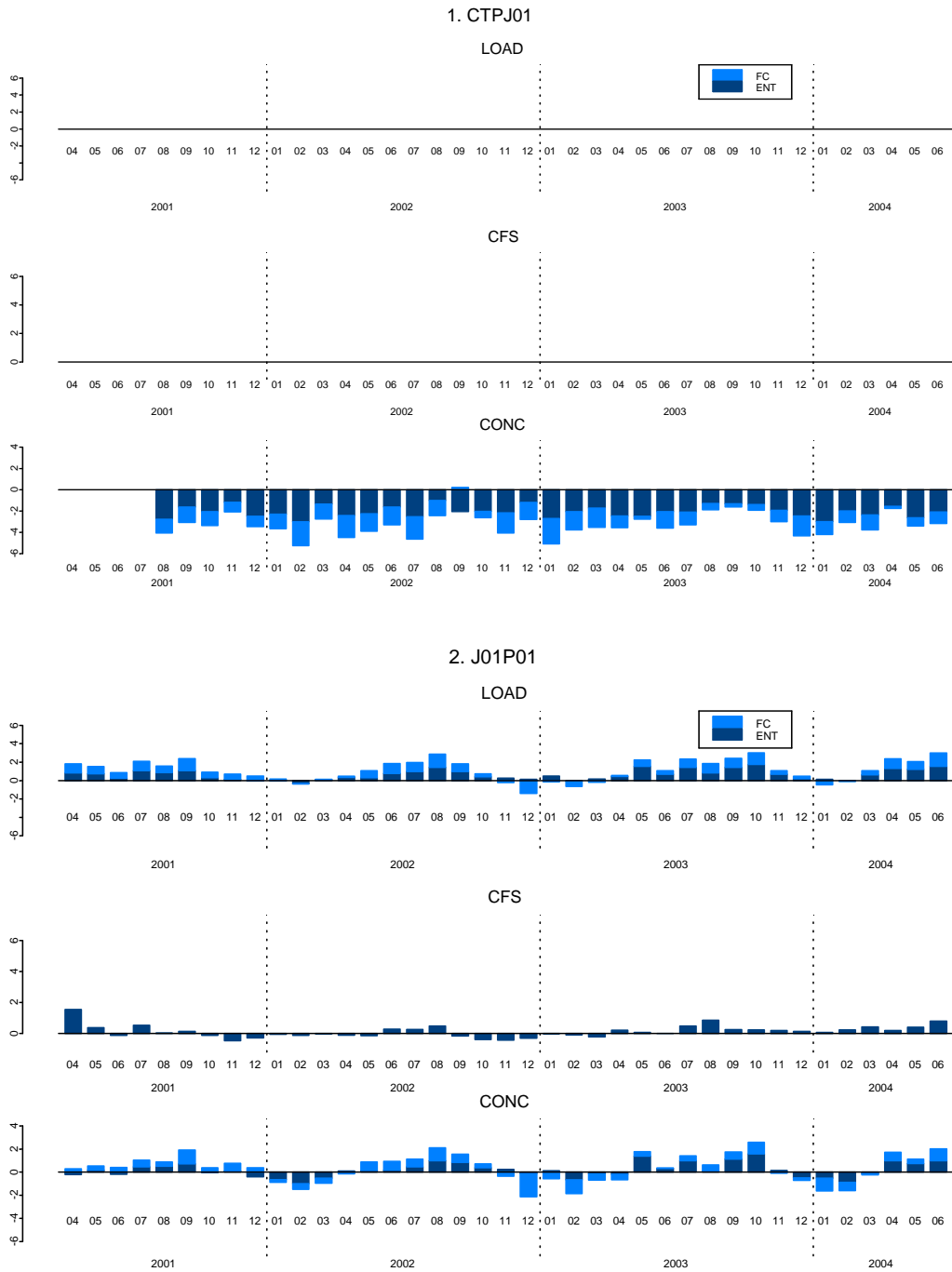
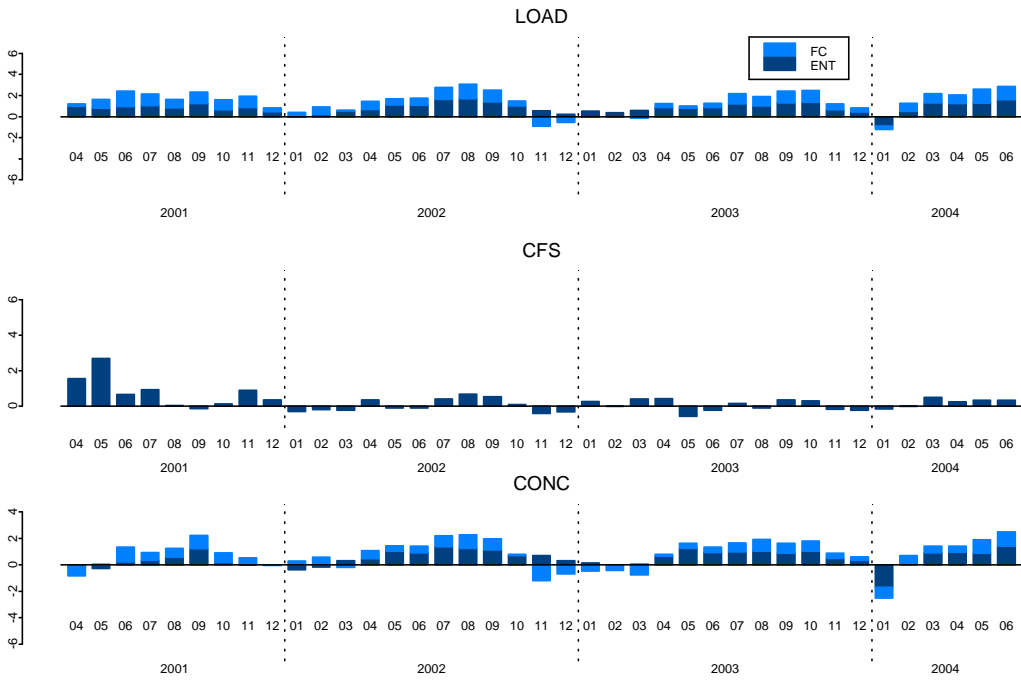


Figure B-7 (continued).

3. J01P03



4. J01P04

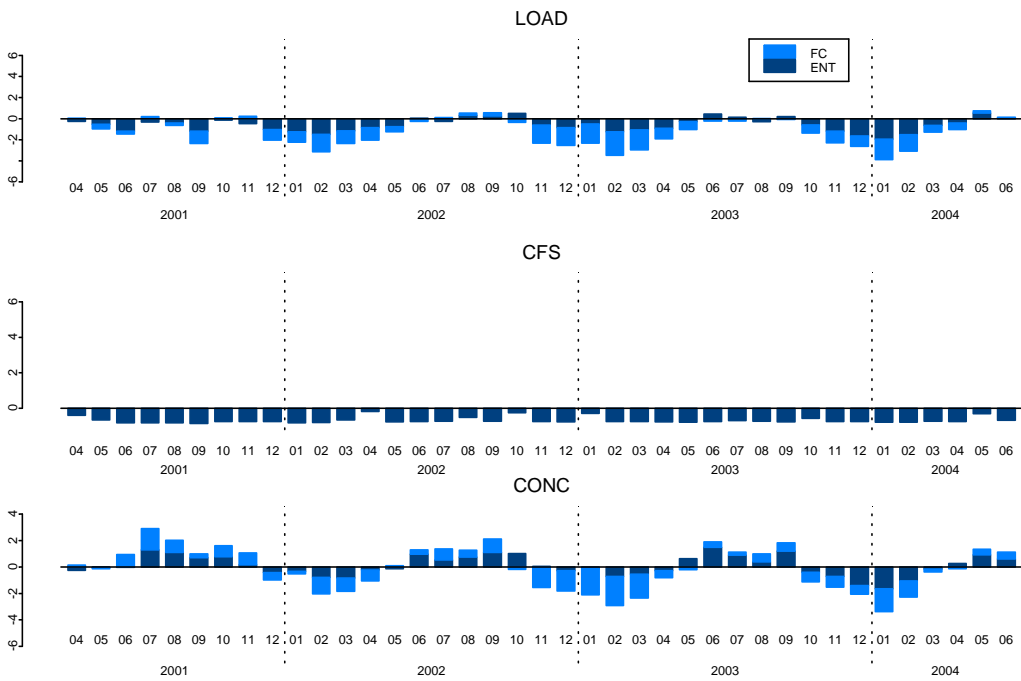
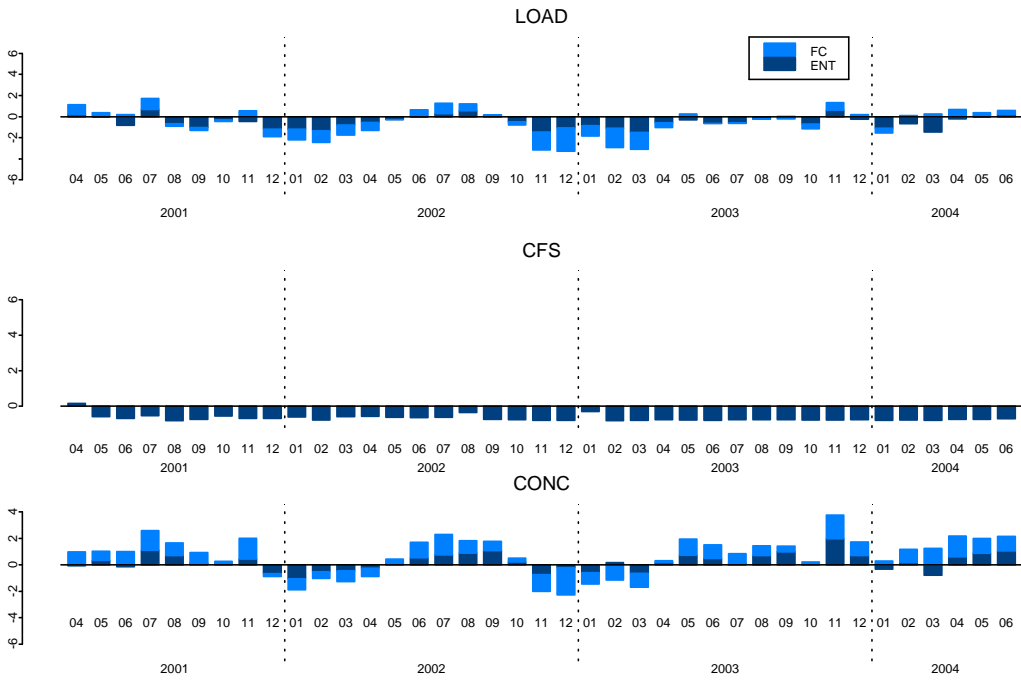


Figure B-7 (continued).

5. J01P05



6. J01P06

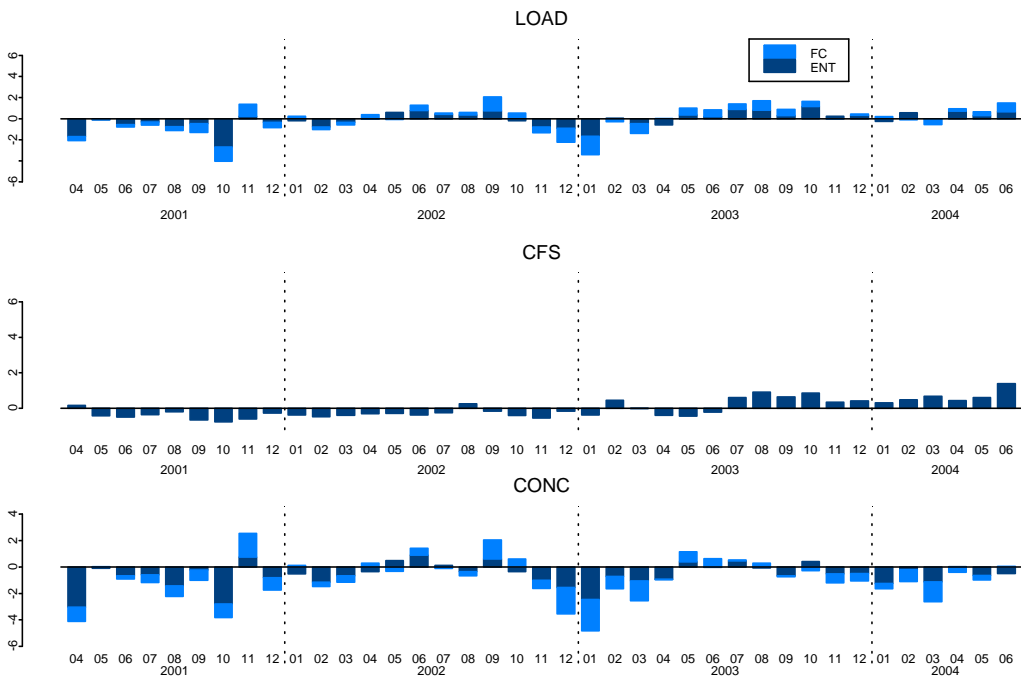
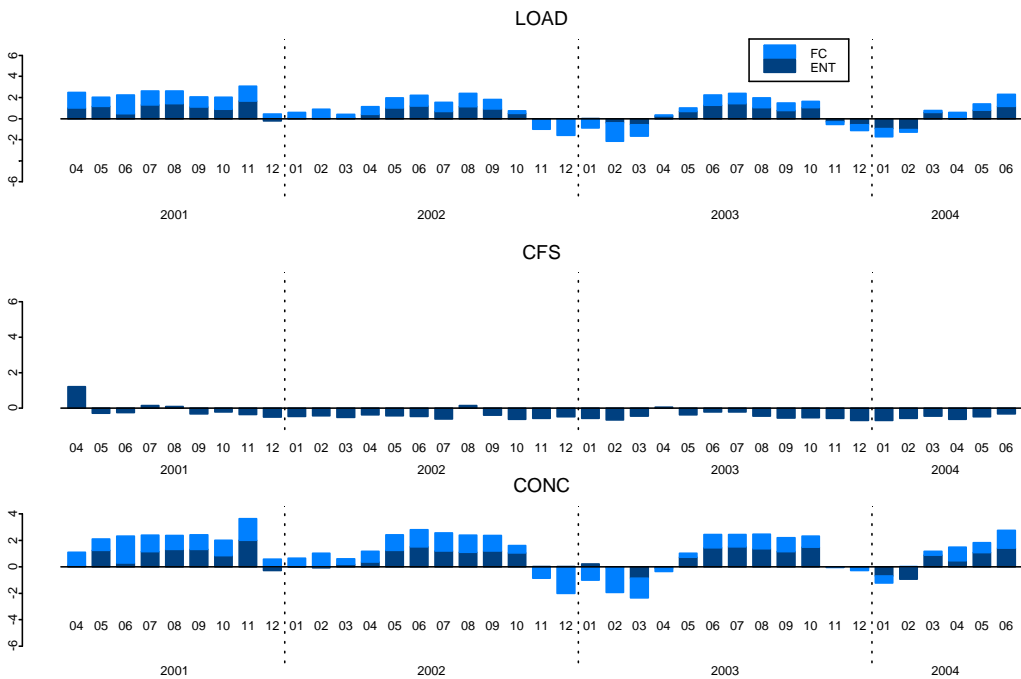


Figure B-7 (continued).

7. J01P08



8. J01P21

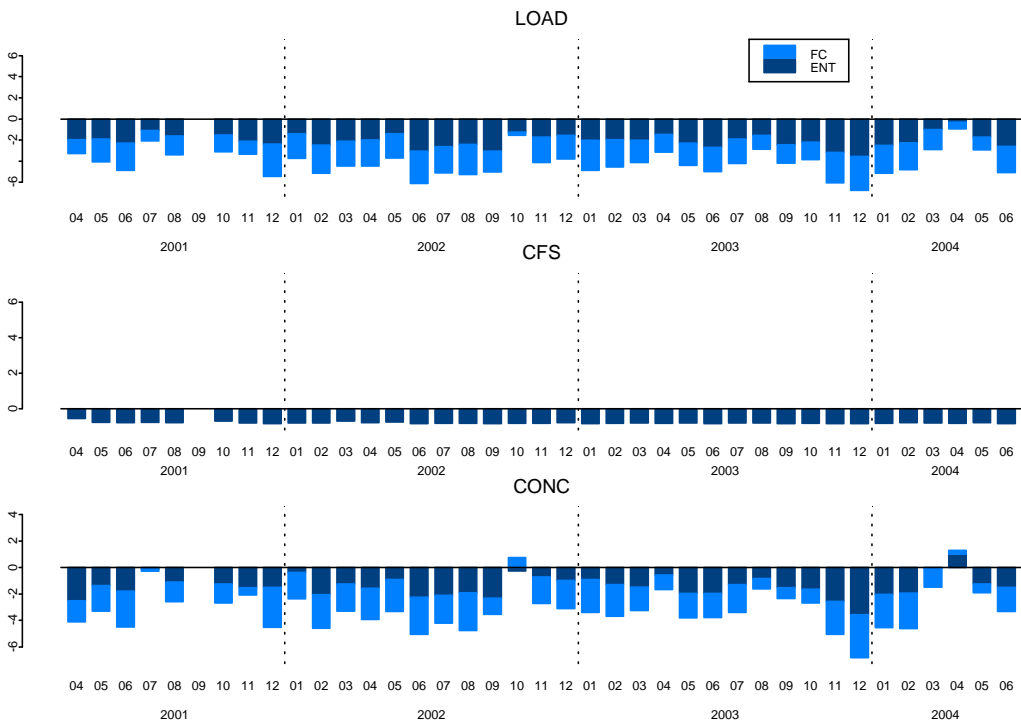
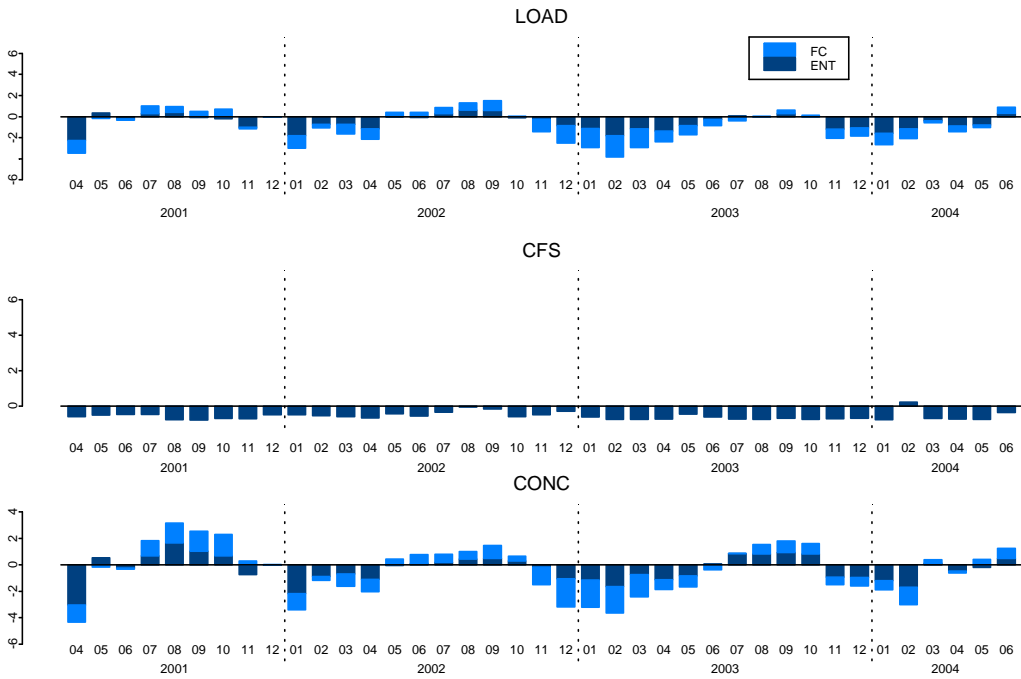


Figure B-7 (continued).

9. J01P22



10. J01P23

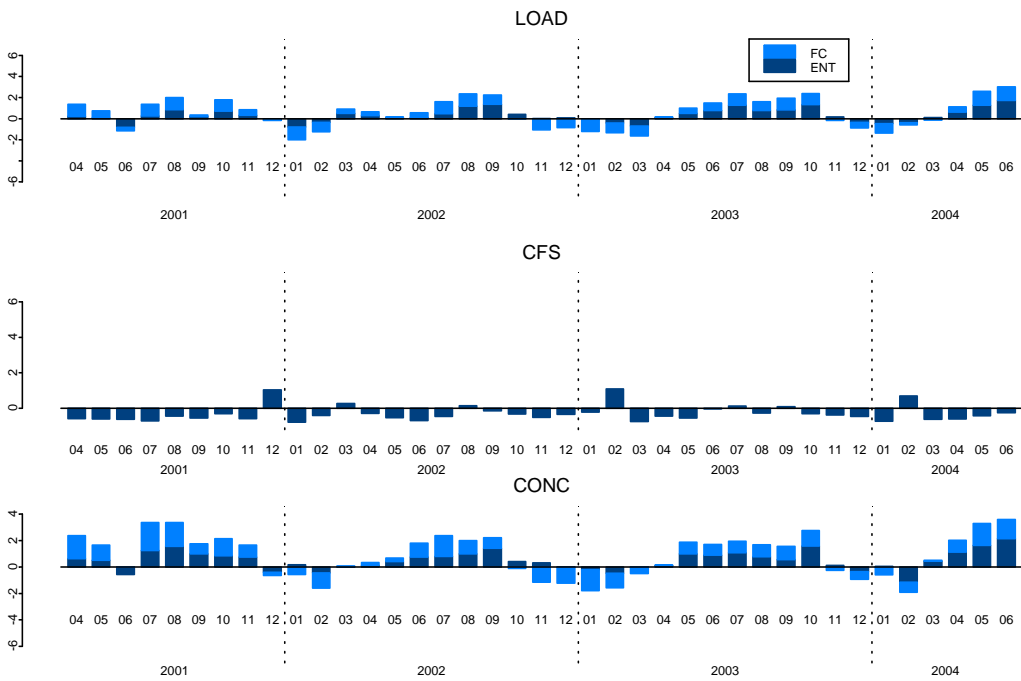


Figure B-7 (continued).

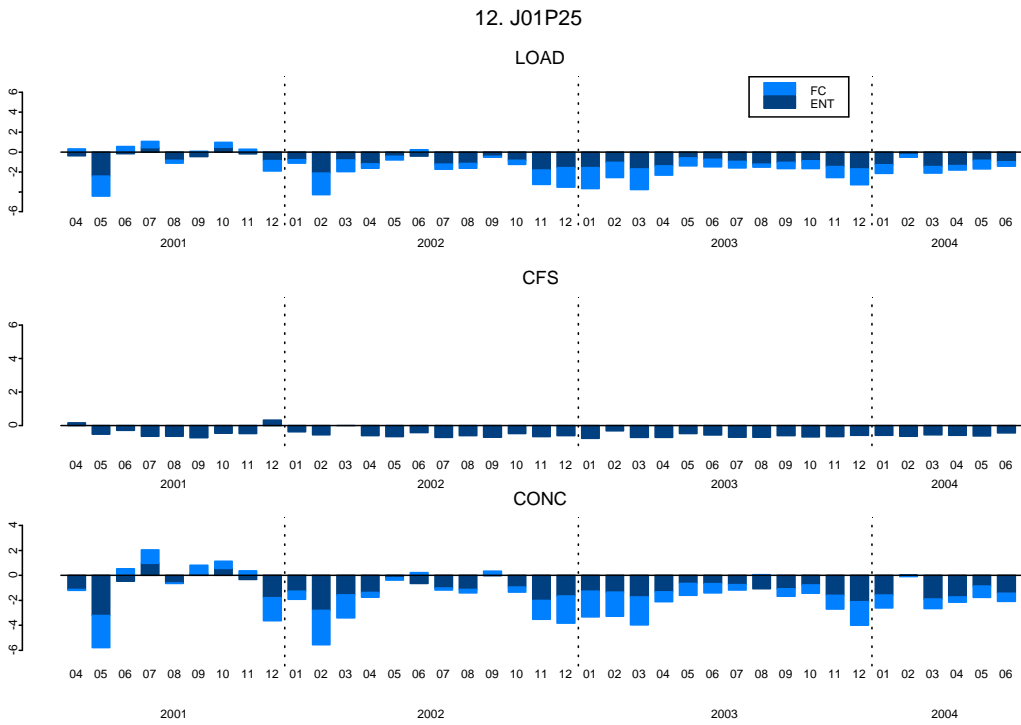
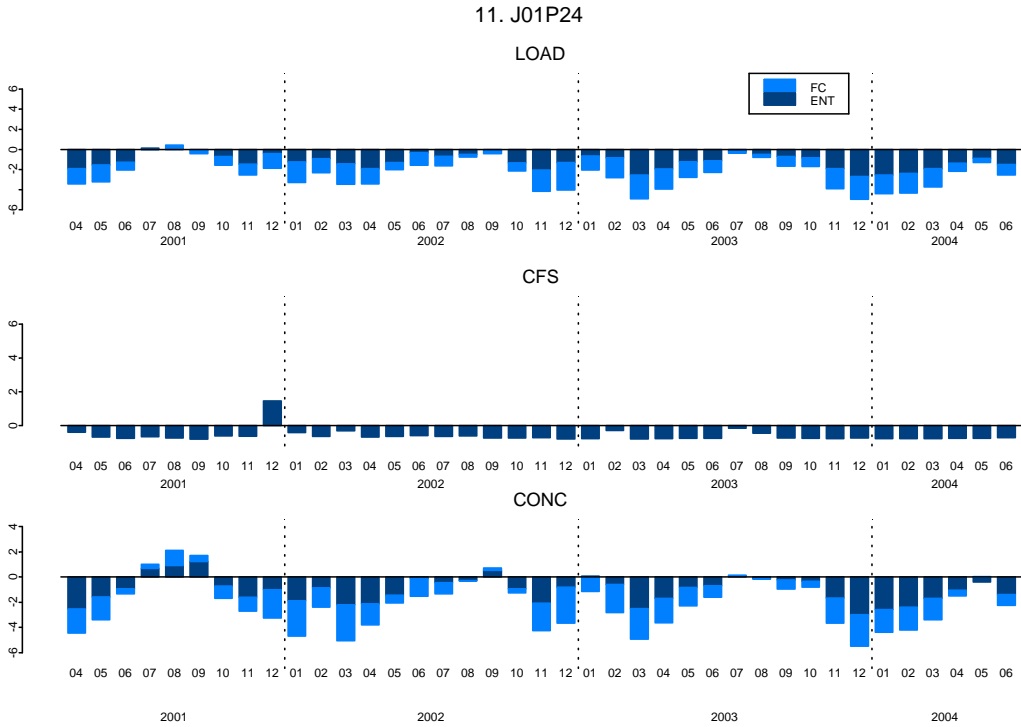
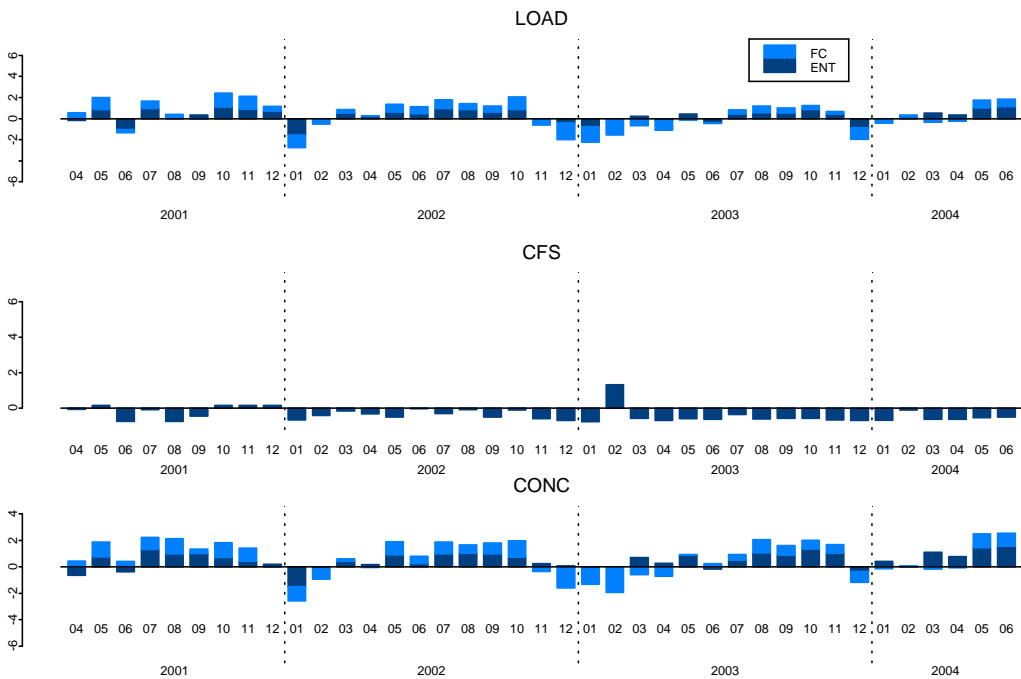


Figure B-7 (continued).

13. J01P26



14. J01P27

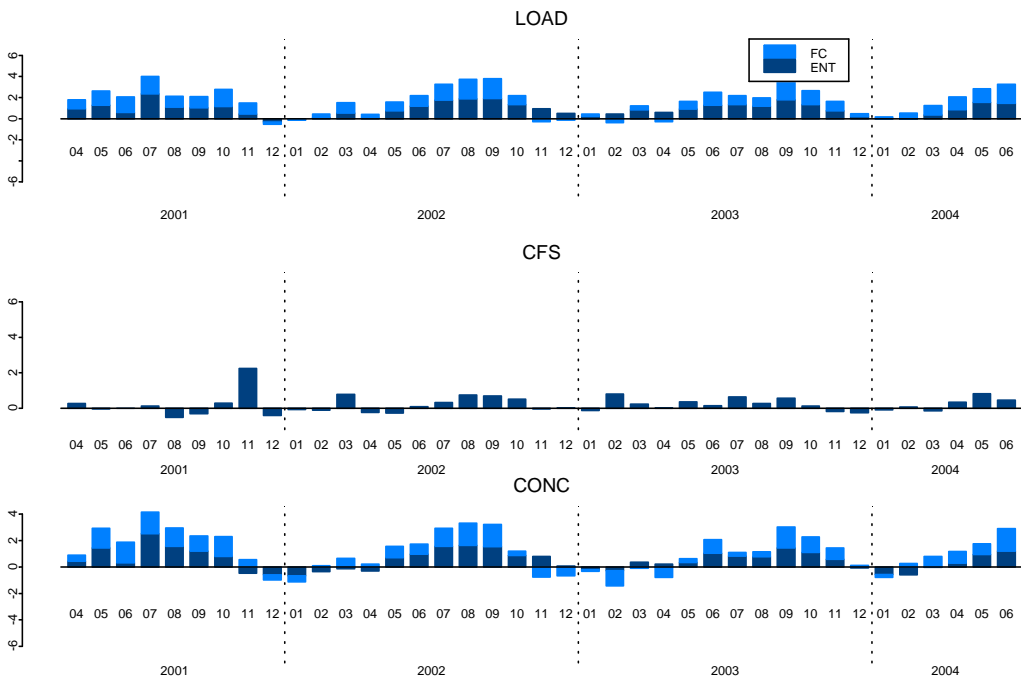
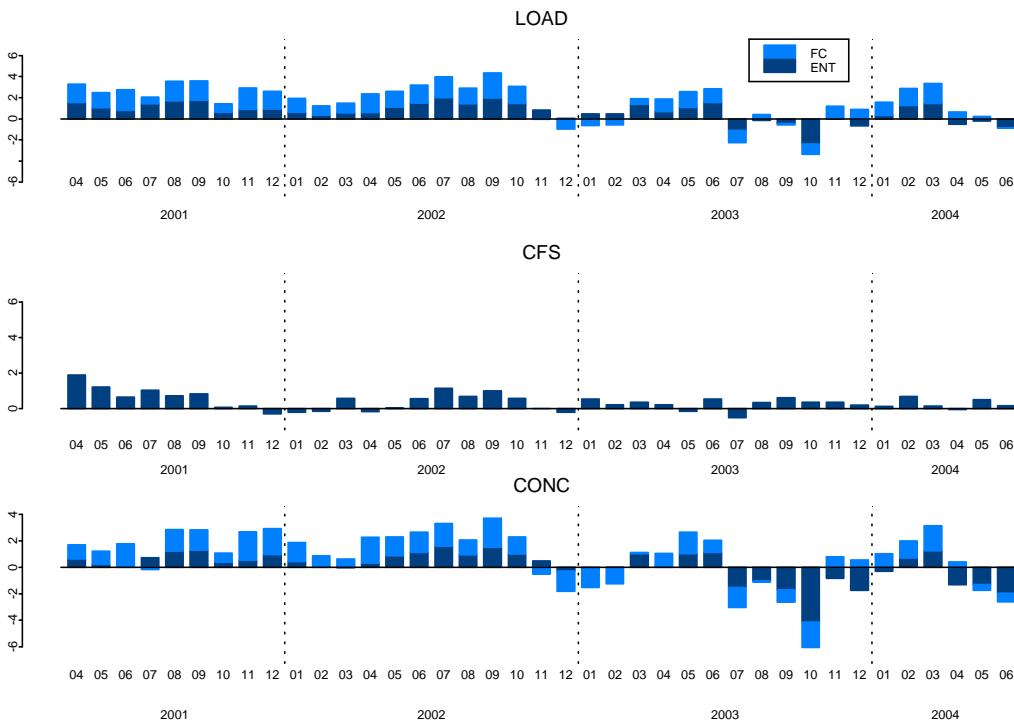


Figure B-7 (continued).

15. J01P28



16. J01P30

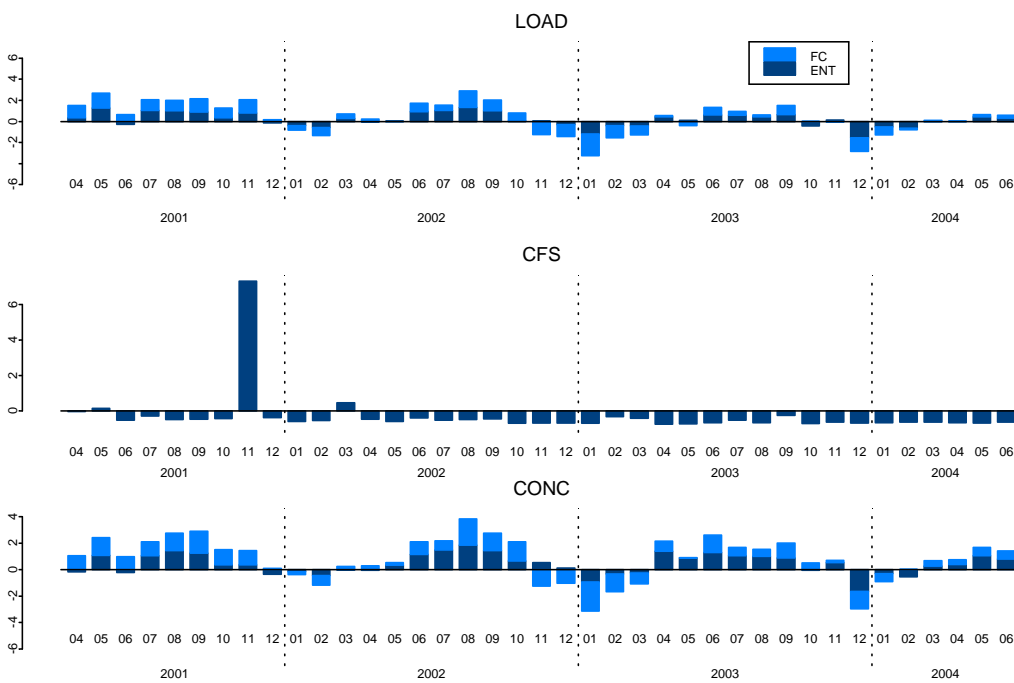
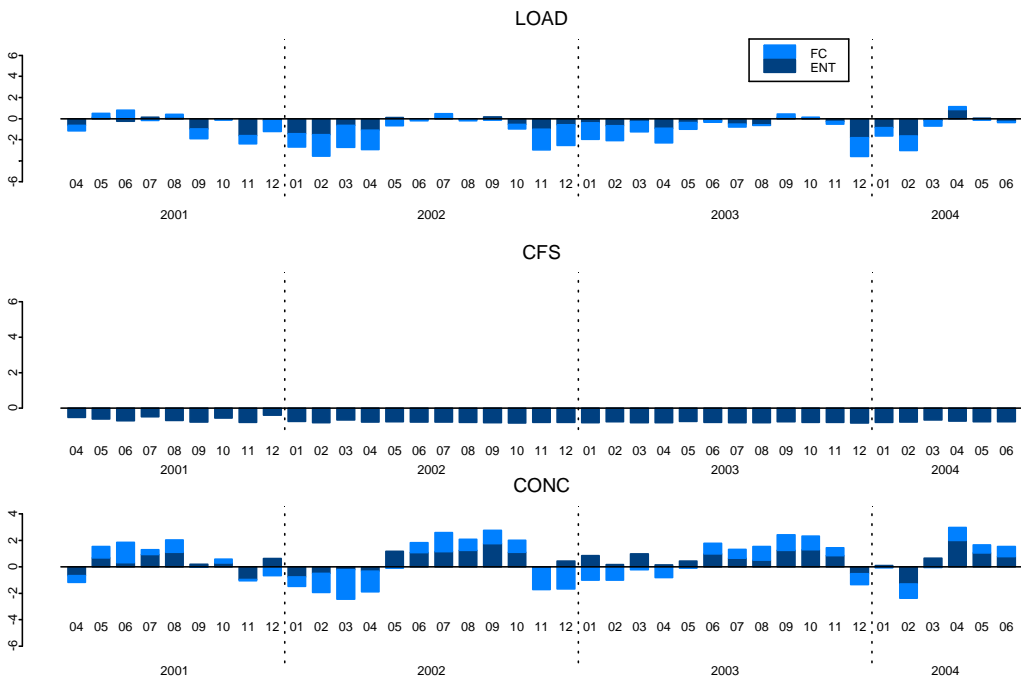


Figure B-7 (continued).

17. J01P33



18. J01TBN2

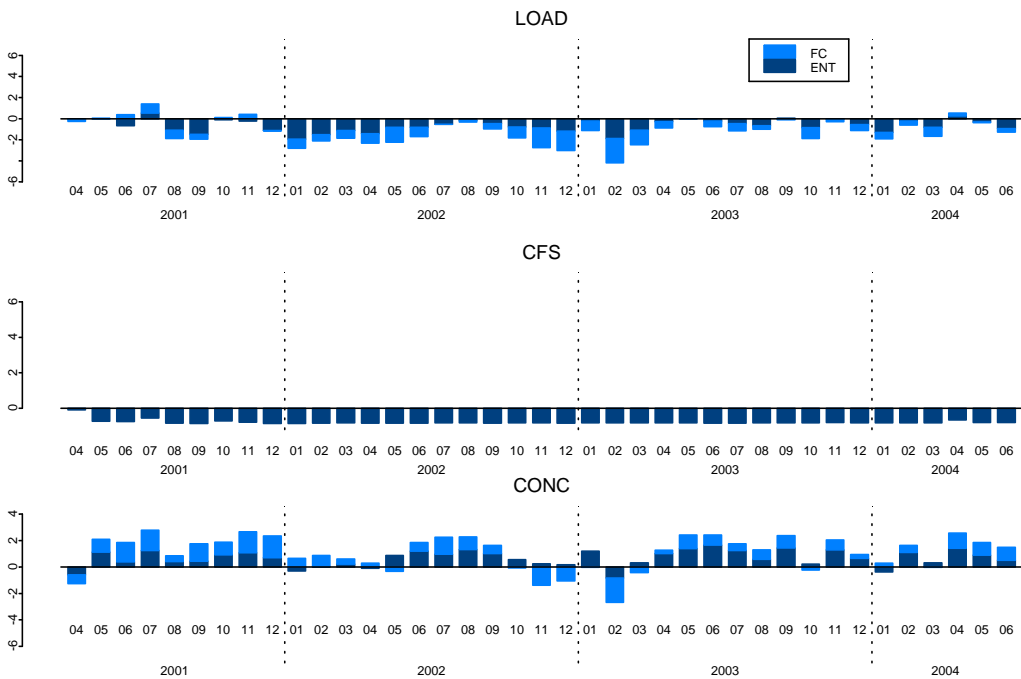
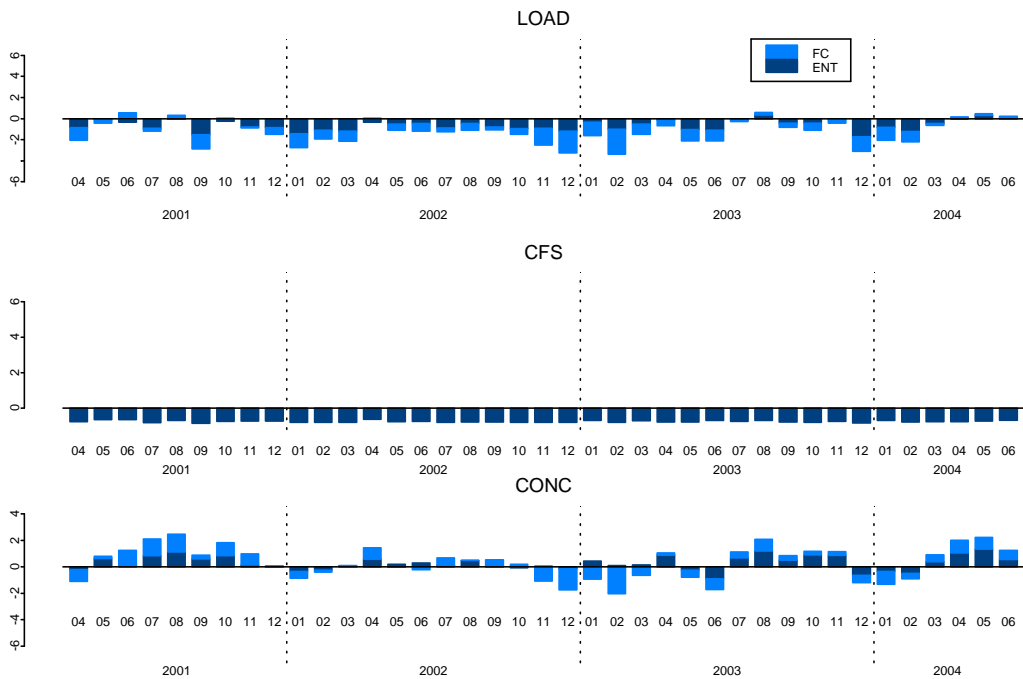


Figure B-7 (continued).

19. J01TBN3



20. J01TBN4

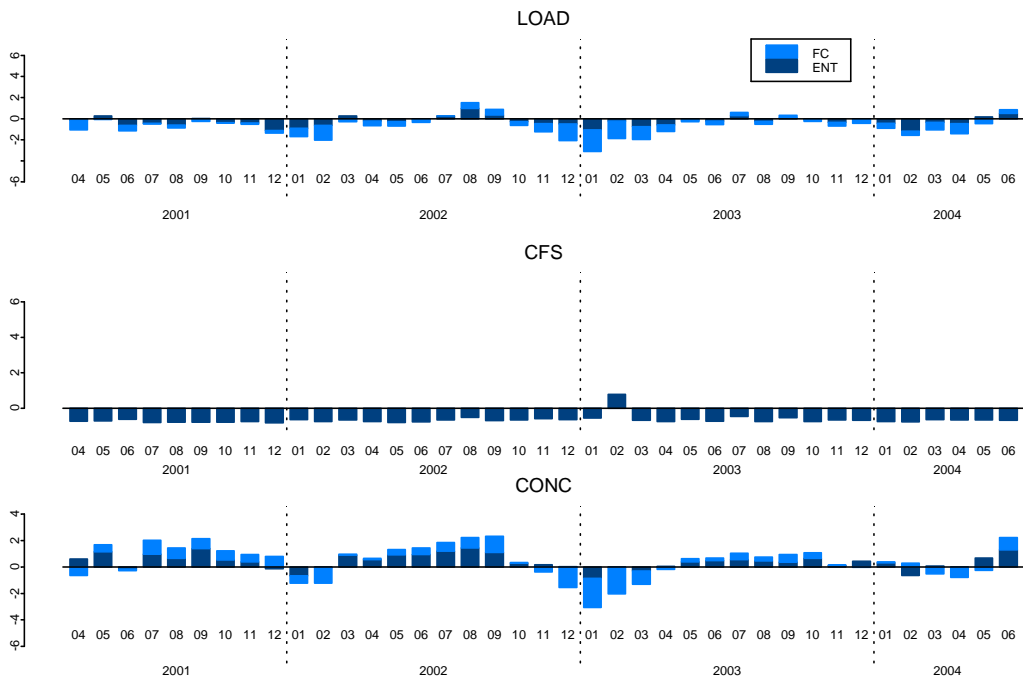


Figure B-7 (continued).

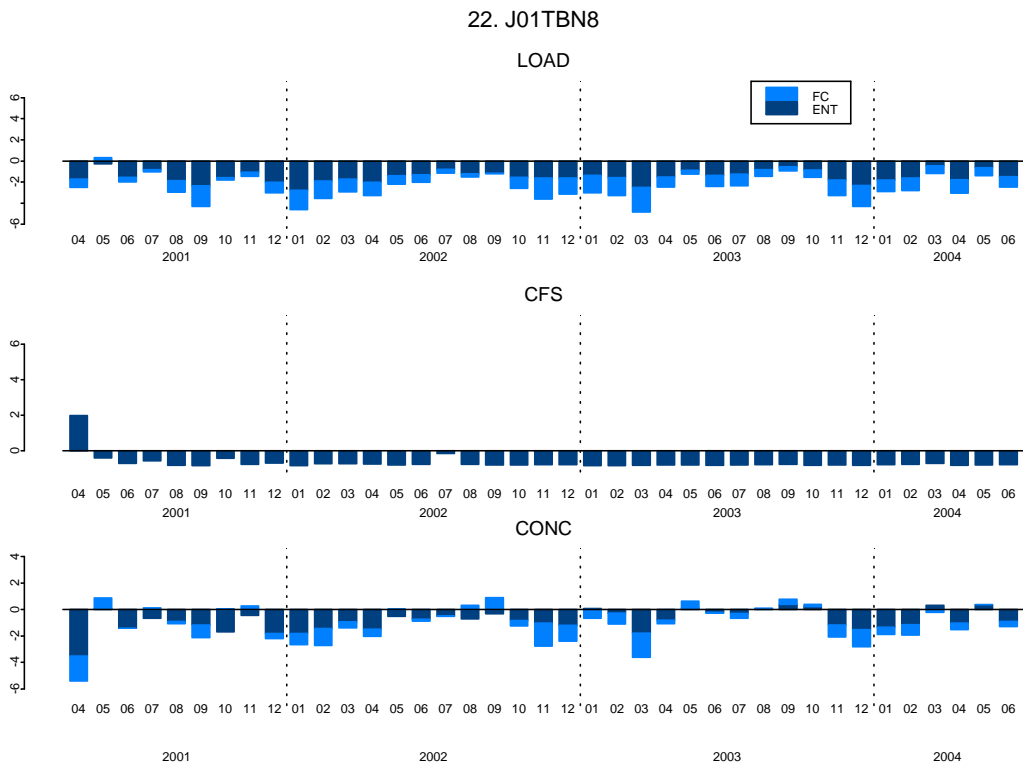
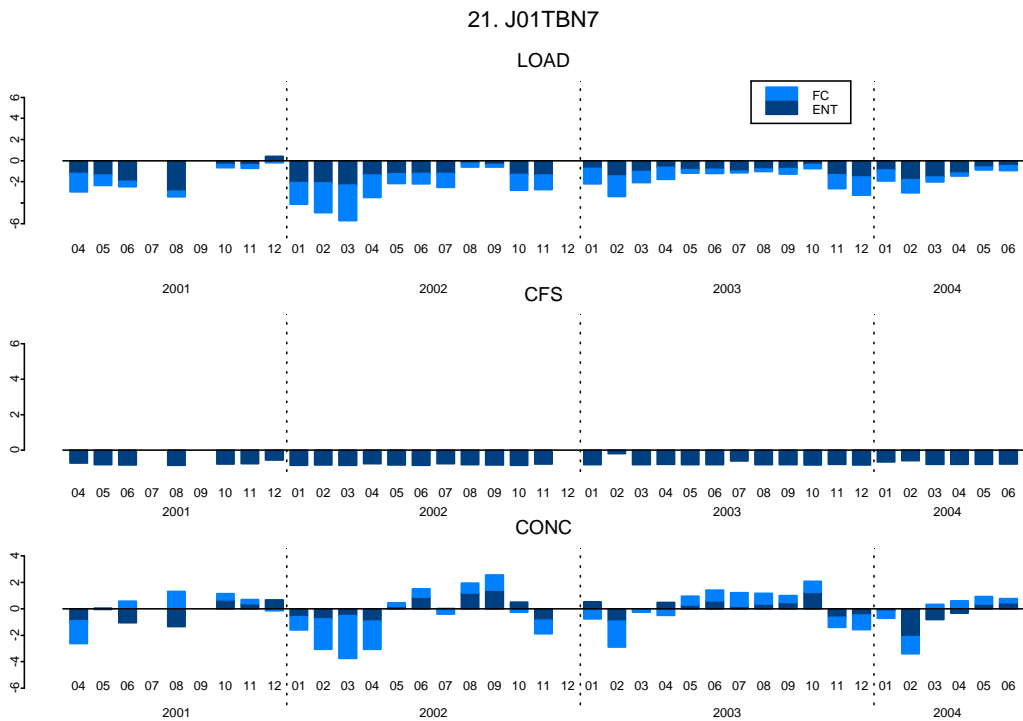
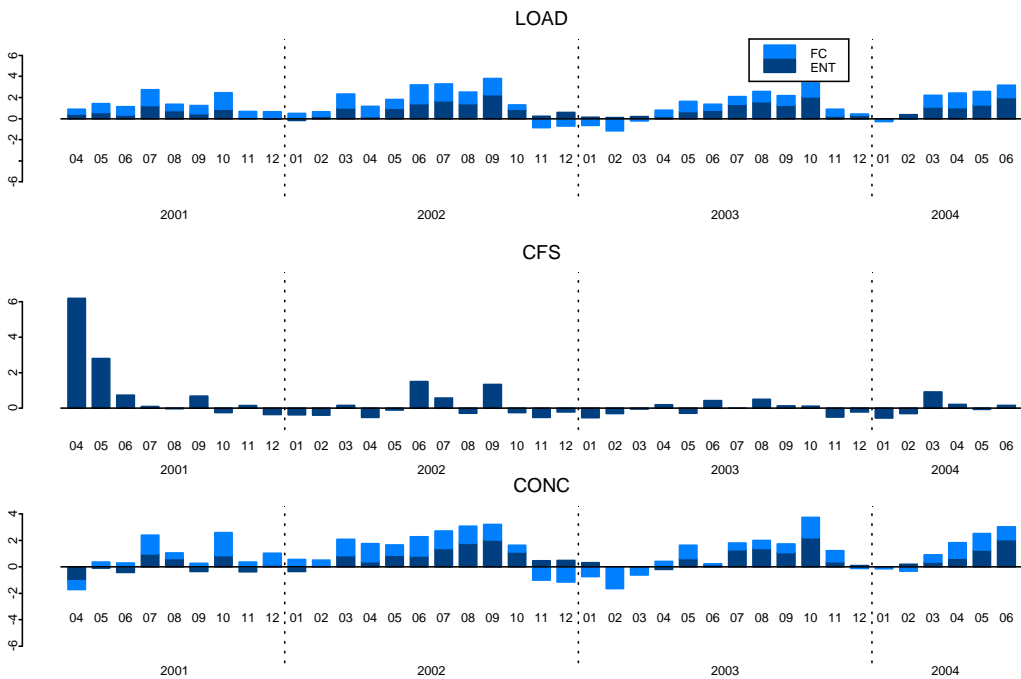


Figure B-7 (continued).

23. J02P05



24. J02P08

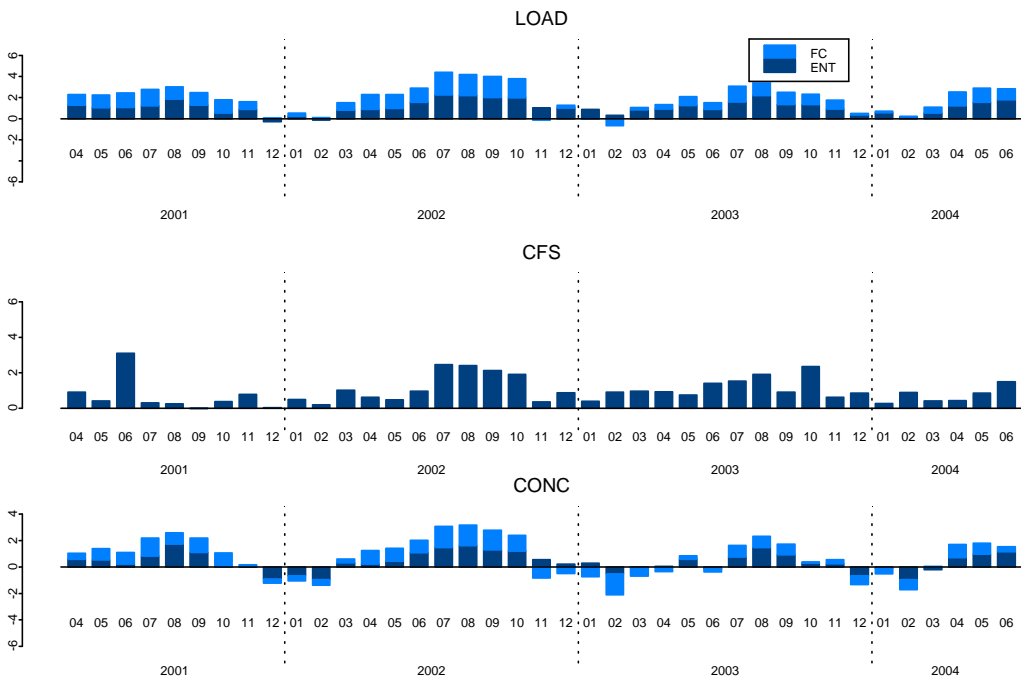
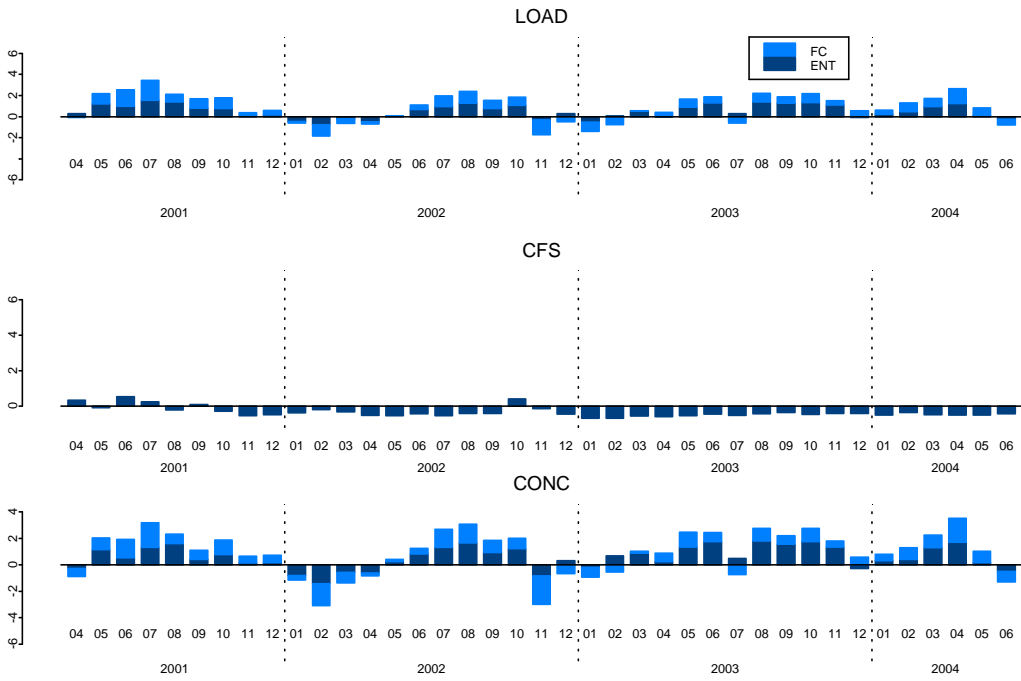


Figure B-7 (continued).

25. J02TBN1



26. J03P01

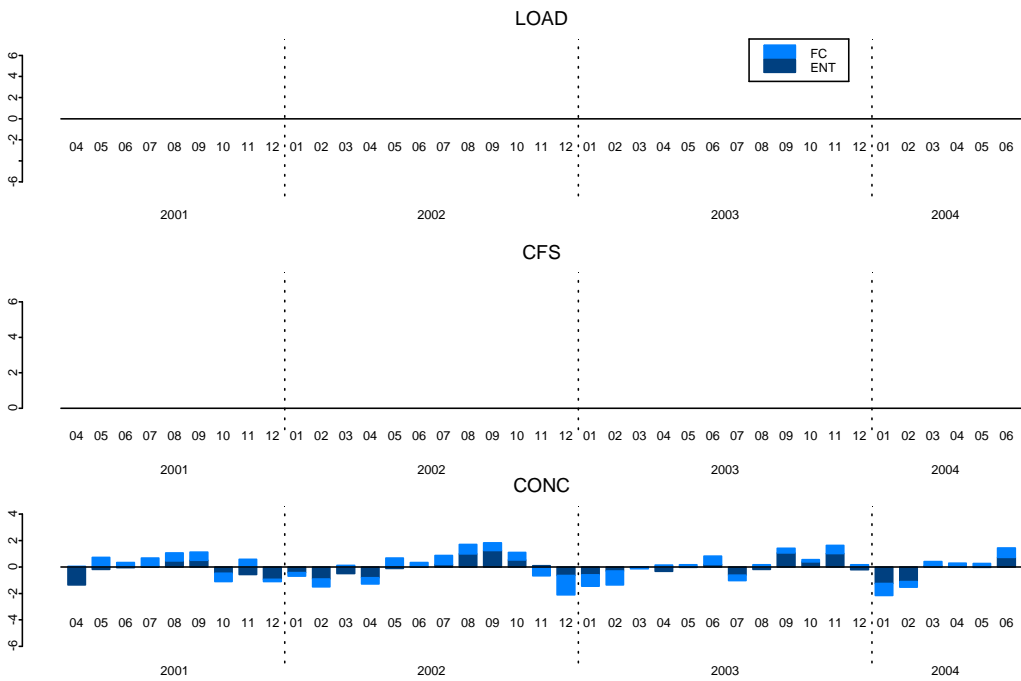
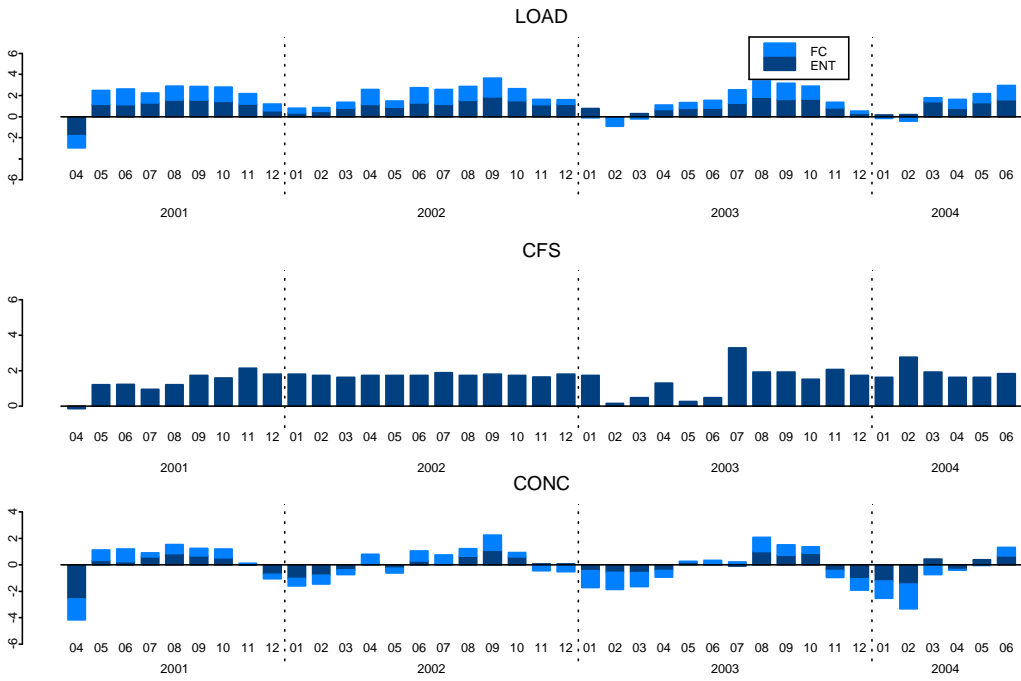


Figure B-7 (continued).

27. J03P02



28. J03P05

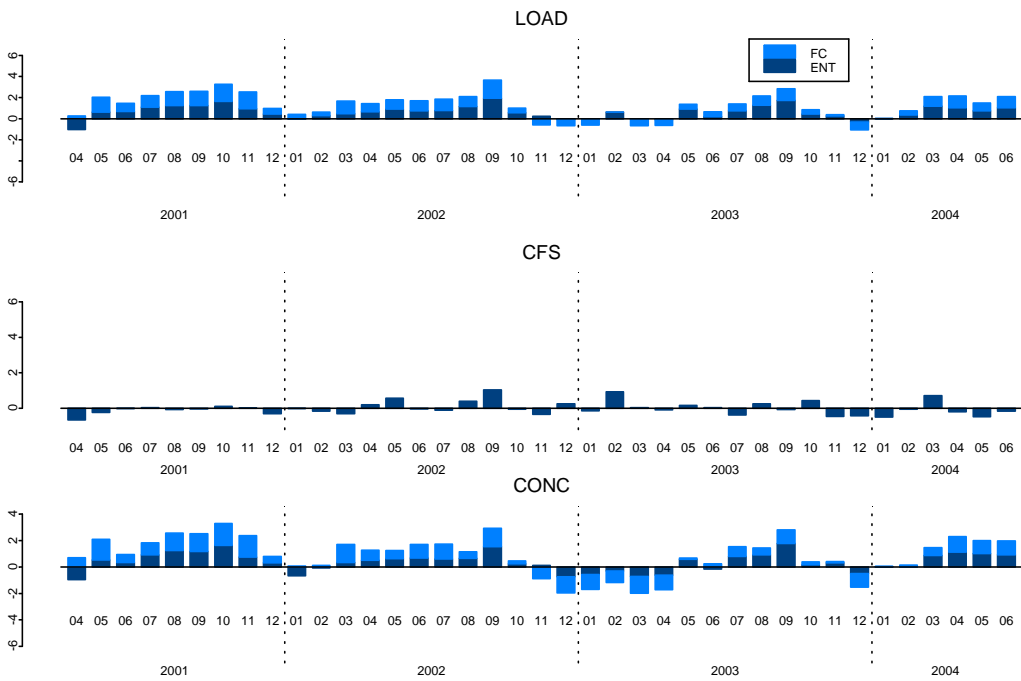
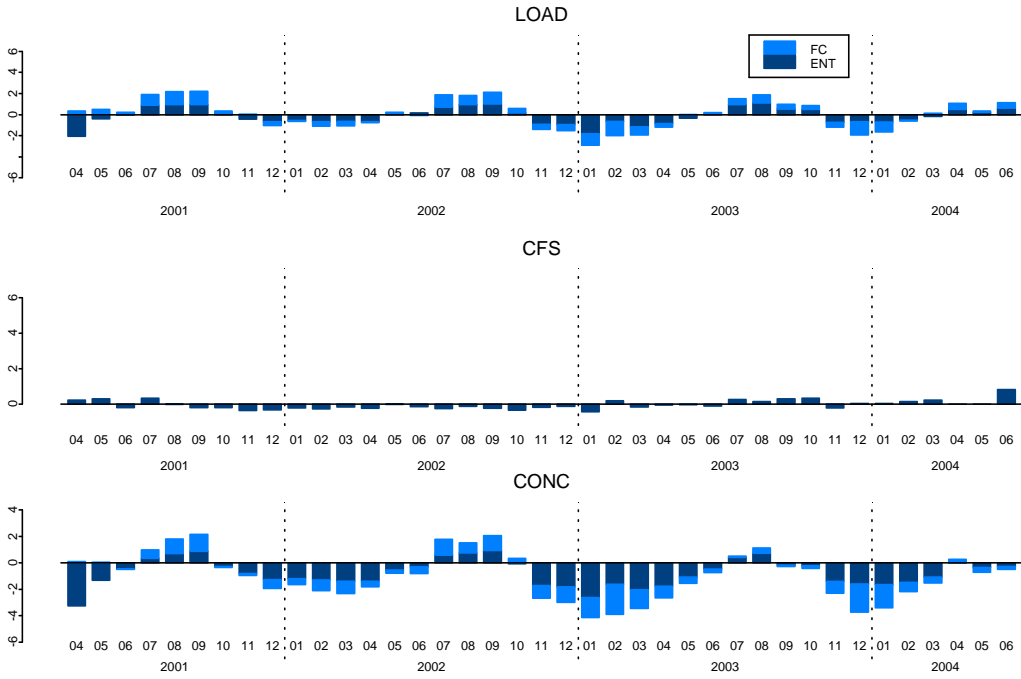


Figure B-7 (continued).

29. J03P13



30. J03TBN1

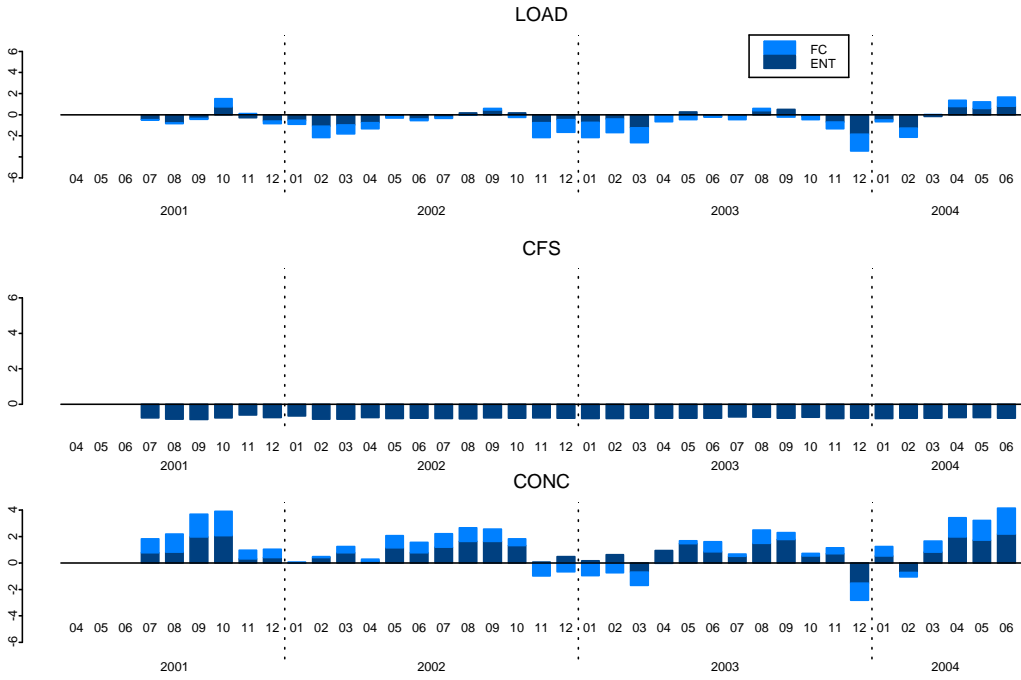
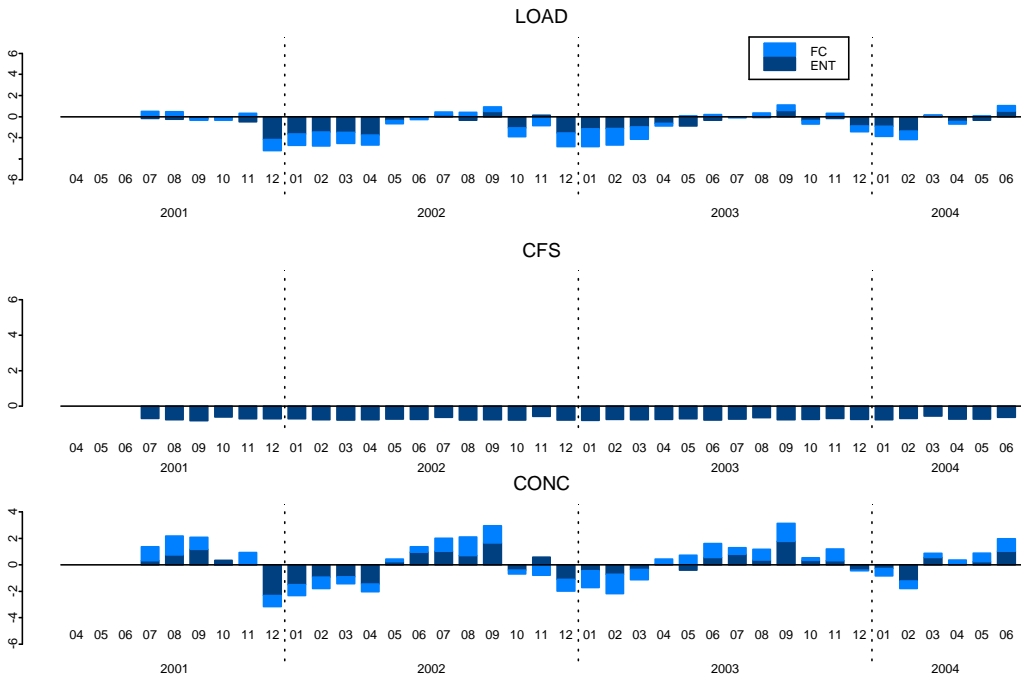


Figure B-7 (continued).

31. J03TBN2



32. J04

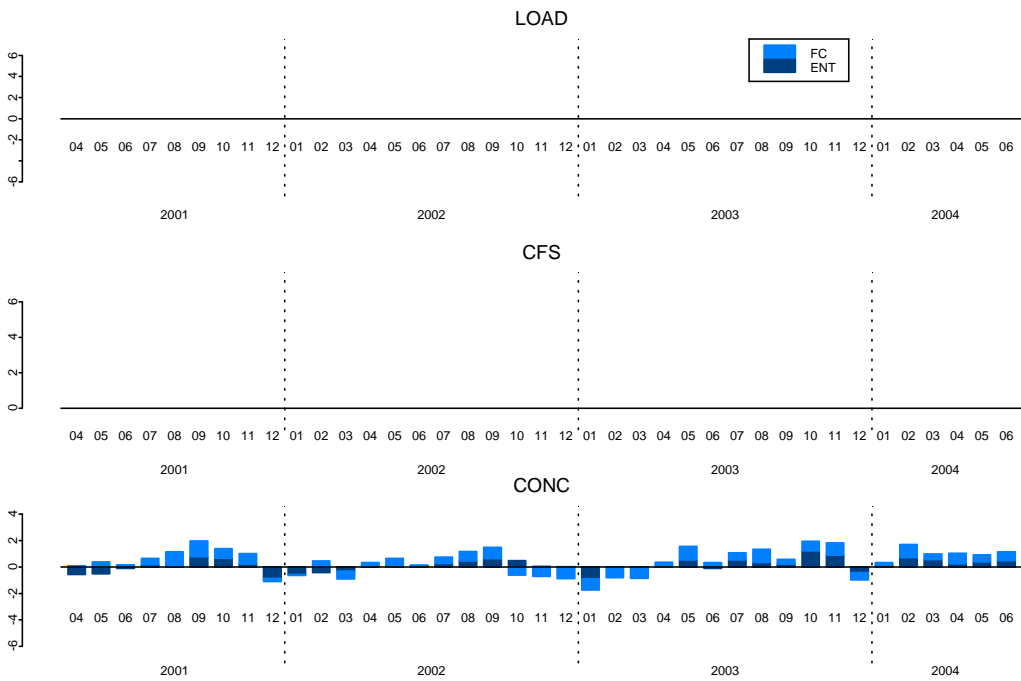


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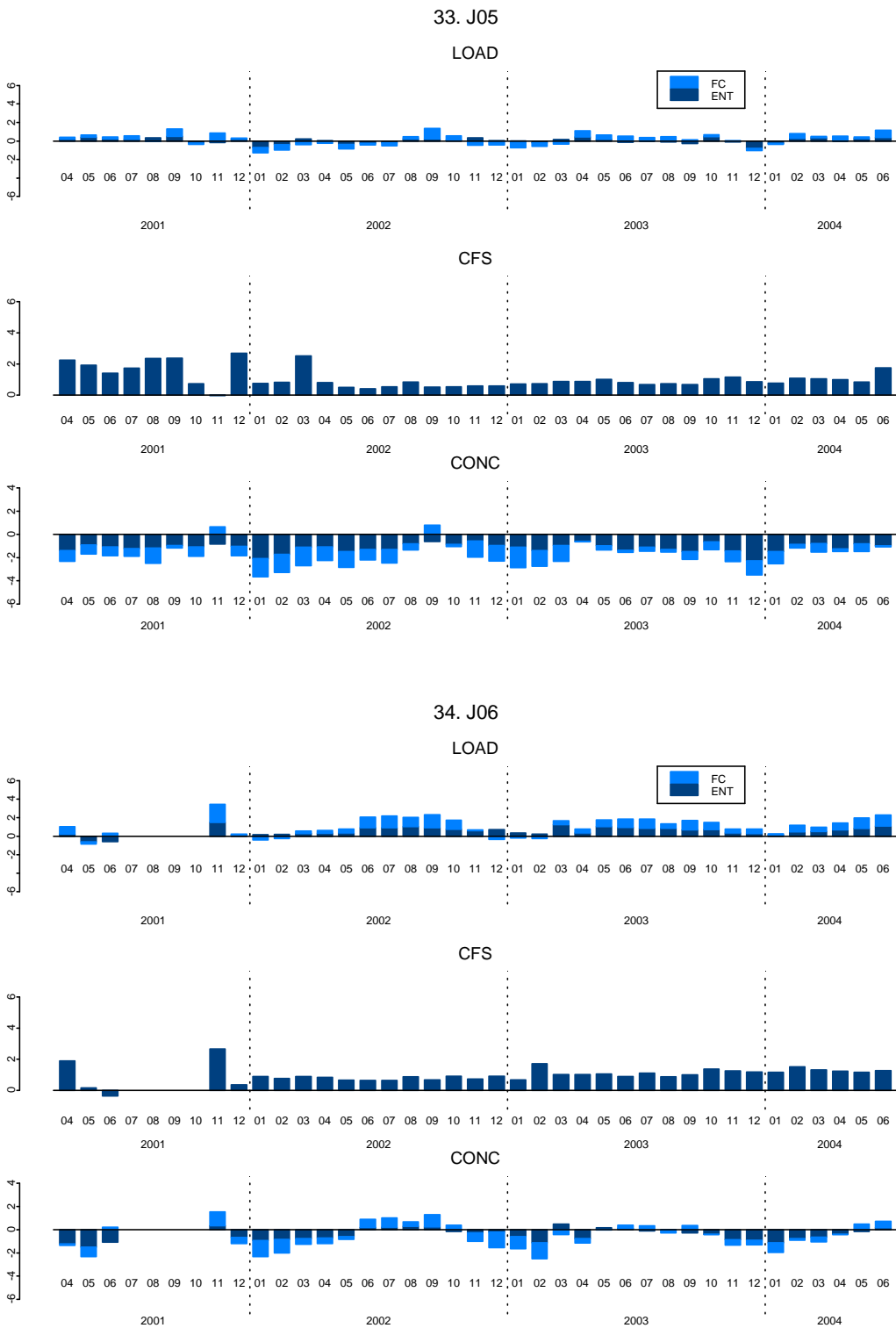
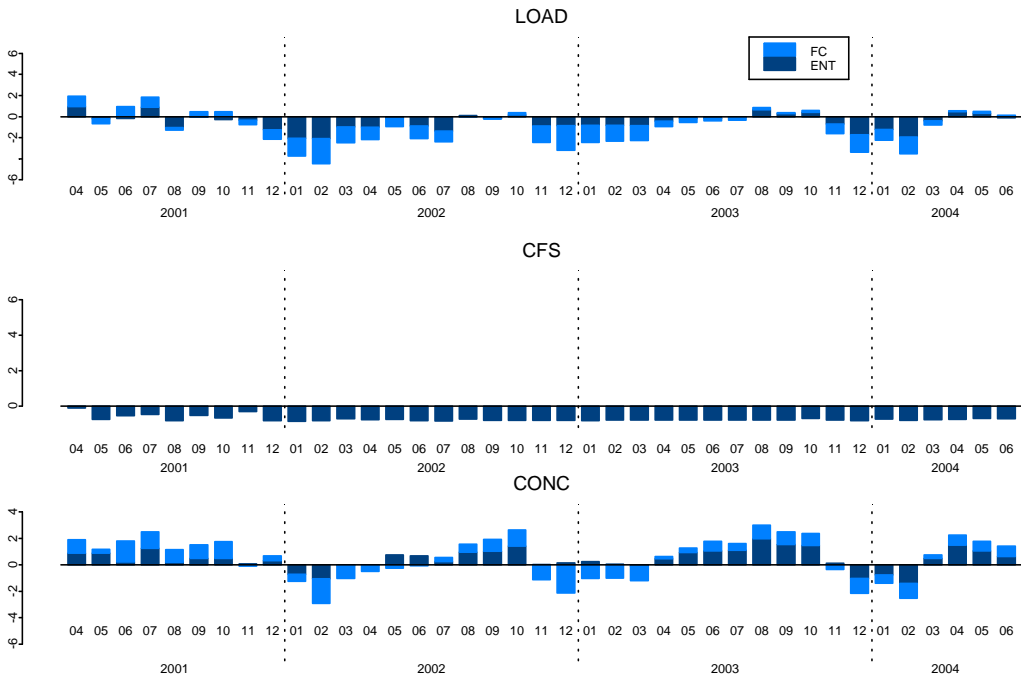


Figure B-7 (continued).

35. J07P01



36. J07P02

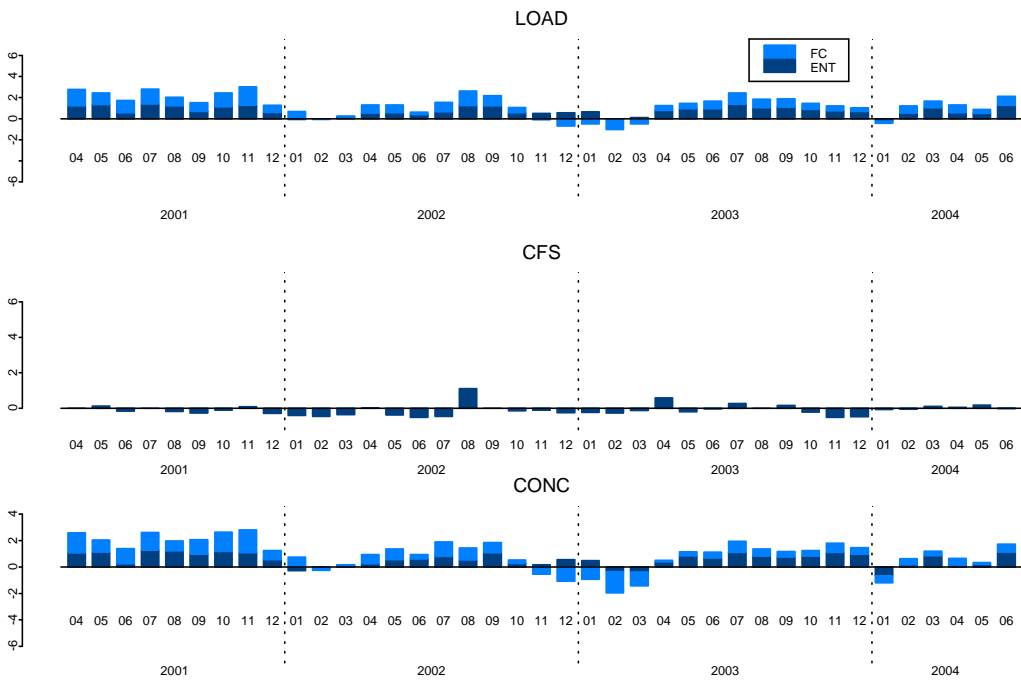


Figure B-8. Linear correlation between impact (difference between downstream and upstream concentrations) and load for Enterococcus at each pipe.

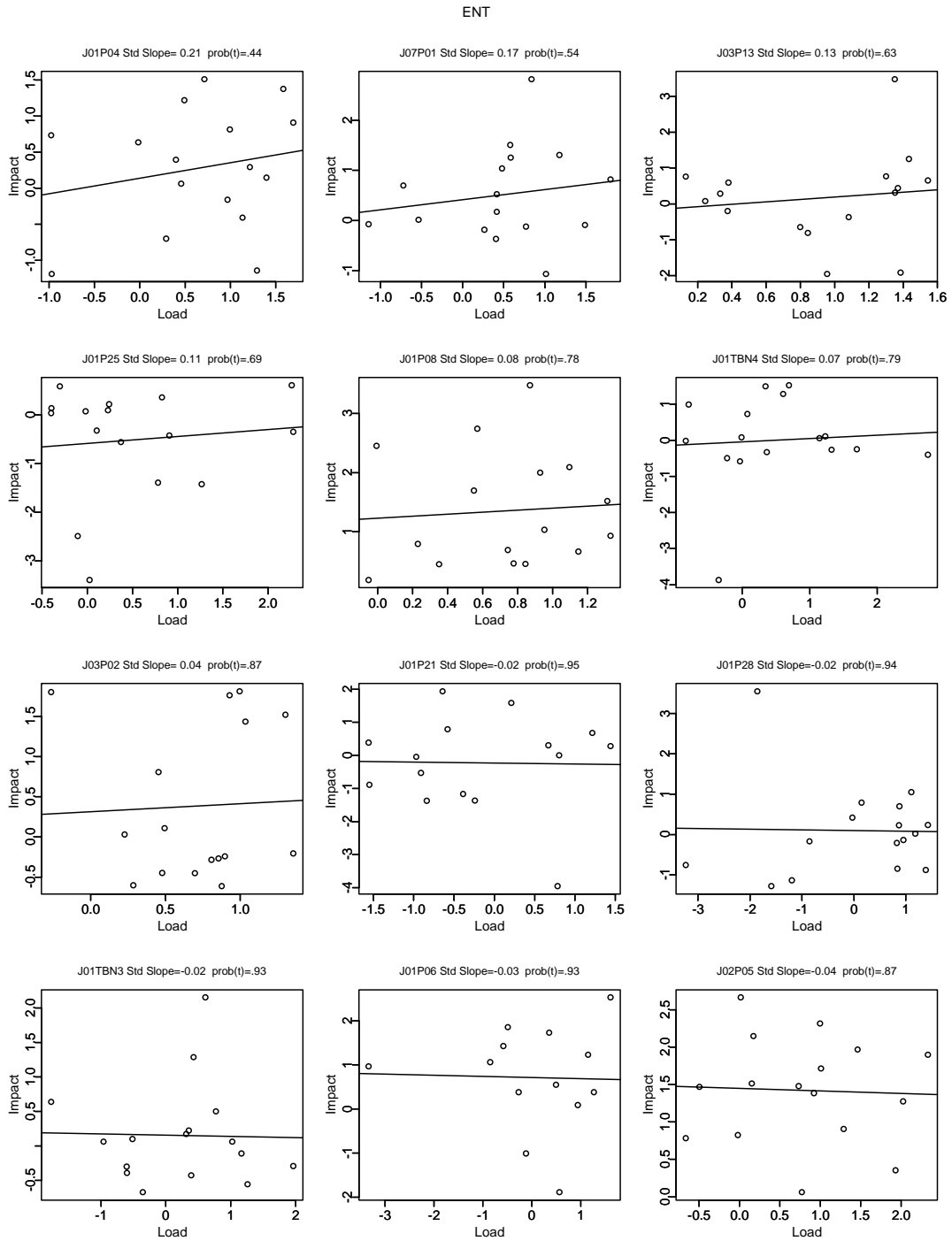


Figure B-8 (continued). Linear correlation between impact (difference between downstream and upstream concentrations) and load for Enterococcus at each pipe.

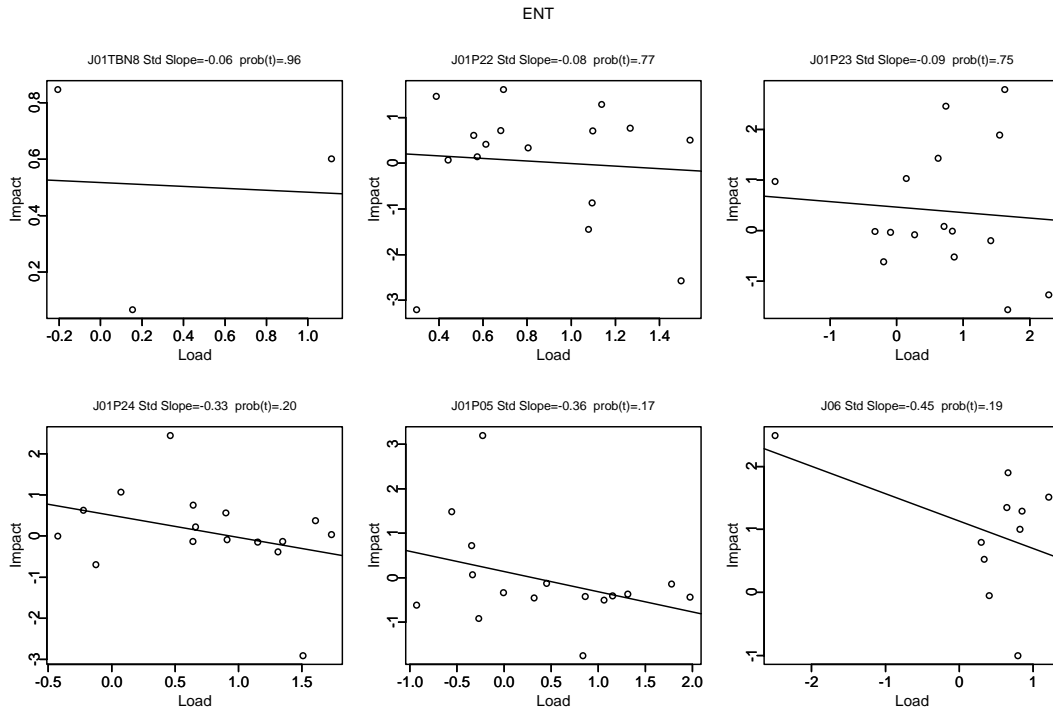


Figure B-9. Linear correlation between impact (difference between downstream and upstream concentrations) and load for fecal coliform at each pipe.

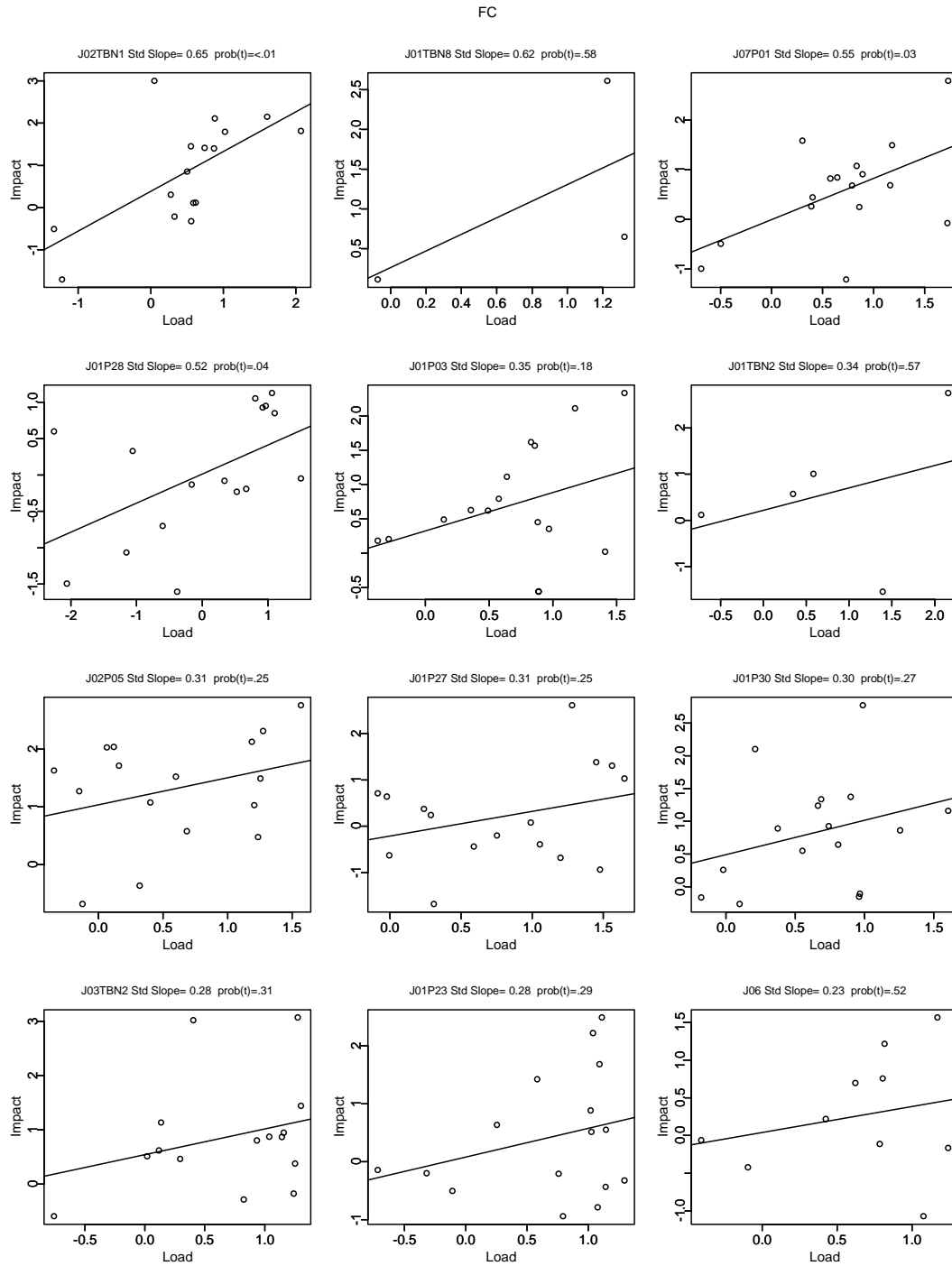


Figure B-9 (continued). Linear correlation between impact (difference between downstream and upstream concentrations) and load for fecal coliform at each pipe.

FC

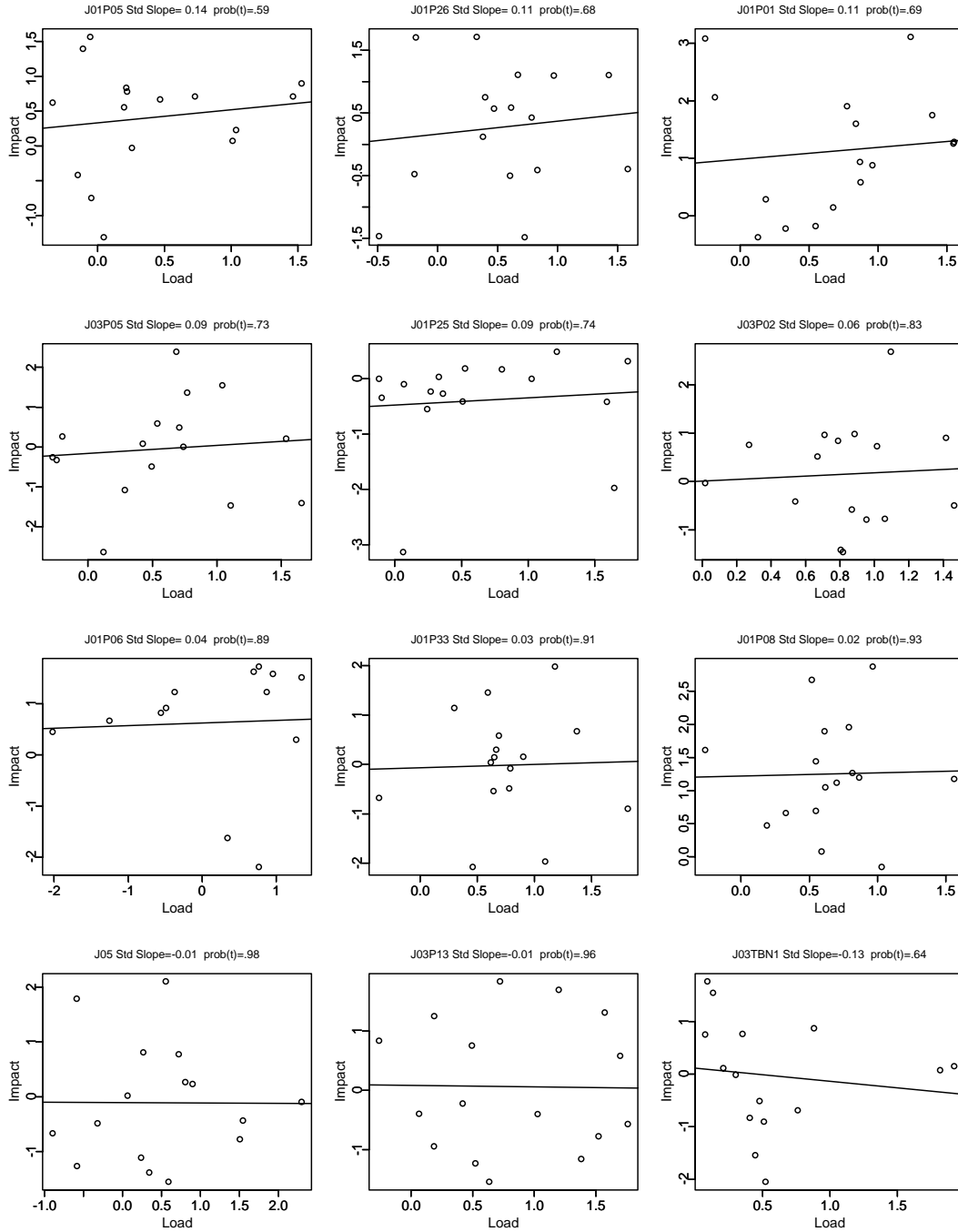


Figure B-9 (continued). Linear correlation between impact (difference between downstream and upstream concentrations) and load for fecal coliform at each pipe.

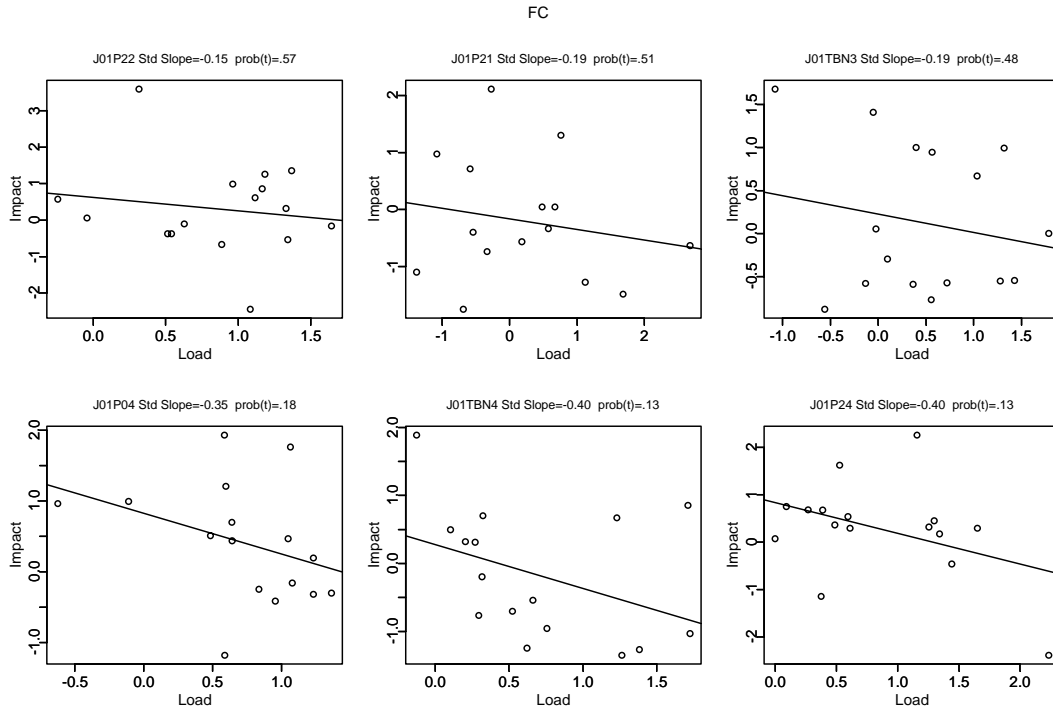


EXHIBIT 2
STRATEGY TABLES

ALISO CREEK WATERSHED - WATERSHED ACTION PLAN STRATEGY TABLE - GENERAL ACTIVITIES

ACTION	PROGRESS REPORT (2004-05)	ACTION PLAN SCHEDULE (2005-06)	TIMEFRAME	PARTNERS	
AC-1 Encourage participation in watershed meetings.					
AC-1a	Actively participate in Aliso Creek Watershed Permittee meetings, including: 1) Tier 1 Aliso Creek Watershed Committee 2) Stakeholder Tier II Committee	1) Tier 1 Aliso Creek Watershed Committee generally met the second Monday of every other month. 2) The Tier II Stakeholder committee generally meets four quarterly.	Attend meetings -ongoing.	Ongoing / long term.	Watershed Cities County of Orange OC Flood Control District
AC-2 Enhance the extent of public participation in watershed issues.					
AC-2a	Focus on providing opportunities for participation in watershed activities.	The following public participation events were posted on the www.ocwatersheds.com website: 1) Coastal & Inner Coastal Watershed Clean-up Day a) Aliso Hills Channel b) Aliso Viejo Middle School c) Wood Canyon Wilderness Park d) Aliso Creek Beach 2) Tierra Nativa 3) Earth Day 4) Children's Water Festival 5) Ocean Institute - Watershed Education Program	Continue to host and/or participant in events which provide an appropriate venue to disseminate environmental education focused on constituents of concern.	Ongoing / long term.	Watershed Cities County of Orange OC Flood Control District
AC-3 Educate the public regarding priority water quality issues.					
AC-3a	Use Permittee's websites as an informational tool to educate the watershed's businesses and residents.	Convey constituent of concern-specific public education materials and information on Permittees websites. The following pollutant specific information has been provided electronically for posting on Permittee's websites: 1) <i>Help Prevent Ocean Pollution: Tips for Pet Care</i> 2) <i>Help Prevent Ocean Pollution: Tips for Horse Care</i> 3) <i>Help Prevent Ocean Pollution: Tips for Landscape & Gardening</i> 4) <i>Green Thumb Blue Ocean Newsletter</i> 5) <i>Keeping Your Car and the Environment Sparkling Clean Newsletter</i> 6) Trash PSA 7) General Pollutant PSA	Ongoing 1) Continue to make technical reports and findings accessible to the public. 2) Continue to provide information in formats compatible for website posting.	Ongoing / long term.	Watershed Cities County of Orange OC Flood Control District
AC-4 Update and report on plans and policies.					
AC-4a	Review Local Implementation Plan (DAMP/LIP), Watershed Action Plan (DAMP/WAP) and other applicable plans annually to update focus on constituents of concern.	The first Watershed Chapter Annual Report was submitted to RWQCB on 11/15/04. In response to comments from the Regional Board, the short term and long term strategies for compliance with the Directive have been added in the form of these tables. DAMP/Watershed Chapter (now termed Watershed Action Plan) updated and revised in September 2005 to incorporate the requirements of the Aliso Creek 13225 Directive for bacteria. Major additions include the development of Long Term and Short Term Strategy tables to address priority pollutants for the County and Watershed Cities. Watershed Chapter Annual Report submitted to RWQCB on 11/15/05.	1) Report on progress on DAMP/WAP and update as needed. 2) Report on DAMP/LIP Program as they relate to constituents of concern.	Annually (November 15 annual report) / long term.	Watershed Cities County of Orange OC Flood Control District

ALISO CREEK WATERSHED - WATERSHED ACTION PLAN STRATEGY TABLE - GENERAL ACTIVITIES

ACTION	PROGRESS REPORT (2004-05)	ACTION PLAN SCHEDULE (2005-06)	TIMEFRAME	PARTNERS	
AC-5 Evaluate water quality data to identify new constituents of concern.					
AC-5a	Evaluate County water quality monitoring data and other data available to us (data from SCWRP, Army Corps of Engineers, etc.).	Reviewed current water quality data as it pertains to identified constituents of concern.	Continue to review current water quality data on constituents of concern.	Ongoing / long term.	Watershed Cities County of Orange OC Flood Control District SCWRP
AC-5b	Create and maintain a GIS information database for the selected storm drain input including land use types, topography, major sewer lines, reclaimed water lines, septic systems, homeowner or community association areas and jurisdictional boundaries.	I don't know if this exists.	Ongoing database maintenance.	Ongoing / long term.	Watershed Cities County of Orange OC Flood Control District
AC-6 Identify opportunities to implement controls addressing the priority water quality issues of concern on a Watershed Cooperative basis					
AC-6a	Reduce urban runoff from over-irrigation. Landscape irrigation is a major contributor to dry weather flows, both as surface runoff and subsurface seepage that ultimately drains into the storm drain system.	Investigated reports of urban runoff, educated the public regarding the connection between urban runoff & ocean pollution, and provided notices of problems to parties found over-irrigating.	Continue to investigate, educate, and provide notices. Provide new technologies in conjunction with water agencies (such as SmarTimers) and look for opportunities to reduce runoff in public infrastructure.	Ongoing / long term.	Watershed Cities County of Orange OC Flood Control District Water Suppliers
AC-6b	Identify potential drainage system retrofit opportunities within the watershed.	Identified publically-owned lands and public projects where regional improvements could be implemented.	Continue to identify public lands and project projects where regional improvements could be implemented.	Ongoing / long term.	Watershed Cities County of Orange OC Flood Control District
AC-6c	Implement NPDES Third Permit Term Monitoring Program and report findings annually. Develop and implement Aliso Creek 13225 Directive Monitoring and report findings quarterly.	Program approved in FY2002-03 and fully implemented in FY2003-04. The major elements of the monitoring program are: urban stream bioassessment, mass loading, coastal stormdrains, ambient coastal receiving waters, dry weather reconnaissance, Dana Point Harbor and toxicity.	Undertake monitoring and report findings Quarterly reports submitted on July 29, 2005, October 31, 2005, January, 31, 2006 and April 29, 2006.	Ongoing / long term.	Watershed Cities County of Orange OC Flood Control District

ALISO CREEK WATERSHED - WATERSHED ACTION PLAN STRATEGY TABLE - PATHOGEN INDICATOR BACTERIA

ACTION	PROGRESS REPORT (2004-05)	ACTION PLAN SCHEDULE (2005-06)	TIMEFRAME	PARTNERS	
AC-fc1 Identify approaches and opportunities for addressing pathogen indicator bacteria.					
AC-fc1a	<p>Participate with other Permittees to provide input to the Stakeholders Advisory Group (SAG) for the Bacteria TMDL I for Beaches and Creeks in the San Diego Region with regard to correlations between bacteria and potential urban sources. Evaluate data collected in the Aliso watershed on bacteria and other Aliso 303(d) constituents of concern in conjunction with grant-funded projects and/or other structural BMP projects, for findings related to sources of bacteria in the MS4. Evaluate data collected in the Aliso watershed on bacteria and other Aliso 303(d) constituents of concern in conjunction with grant-funded projects and/or other structural BMP projects, for findings related to sources of bacteria in the MS4.</p>	<p>Attended SAG meetings and reviewed the draft TMDL Technical Report (March 2004) that utilized Aliso Creek data as the underpinning of a mathematical model for land-use-based prediction of bacteria discharges from creeks to ocean, region-wide. Provided comments to the RWQCB on the lack of clarity in the Report's presentation of the "wash-off" model calculations, problems with theoretical critical points of compliance; and regarding bacteria sources unrecognized in the Report, including natural background levels, wildlife, sediments, and environmental propagation of bacteria.</p> <p>Supported the SAG in participating in a SCCWRP-based investigative analysis of wet- and dry-weather "natural background" occurrence rates of fecal bacteria at "reference" beaches with undeveloped tributary watersheds at beach sites in Ventura, Los Angeles, Orange and San Diego Counties. Evaluated data collected after submittal of the Final Assessment Report for the Proposition 13 WetCAT grant in March 2004. Earlier findings had identified wildlife, organic debris and fertilizers, pet wastes, and soil as sources. Mass load analyses showed in-pipe growth of fecal coliform and Enterococcus bacteria populations during warm weather. During cold weather, in-pipe die-off of fecal coliform was seen, but Enterococcus populations stayed stable when comparing influent to effluent mass loads. Findings were presented at the H2O Conference in Long Beach in Fall 2004.</p>	<p>Continue SAG participation regarding urban bacteria sources. Provide input to the TMDL Implementation Plan for Aliso Creek. Support upcoming SCCWRP studies on "natural background" bacteria in "reference" creeks.</p>	<p>Ongoing/long term.</p>	<p>Watershed Cities County of Orange OC Flood Control District Regional Board Stakeholders</p>

ALISO CREEK WATERSHED - WATERSHED ACTION PLAN STRATEGY TABLE - PATHOGEN INDICATOR BACTERIA

ACTION		PROGRESS REPORT (2004-05)	ACTION PLAN SCHEDULE (2005-06)	TIMEFRAME	PARTNERS
AC-fc1b	Evaluate data collected in the Aliso watershed on bacteria and other Aliso 303(d) constituents of concern in conjunction with monitoring, research or ID/IC investigations, and share findings for insights on bacteria sources that may be applicable watershed-wide.	<p>1) Evaluated data on bacteria and other 303(d) constituents of concern from the Dry Weather Monitoring Program sites in the Aliso watershed in Laguna Niguel. Bacteria concentrations continued to be elevated but not consistently outside "action" parameters established in the DWMP. Certain other potentially toxic constituents merited follow-up.</p> <p>2) Evaluated data on bacteria developed in the Aliso 13225 monitoring effort. The County's consultant developed a longer-term trend evaluation system for each pipe based on loads and comparison to system-wide averages. Laguna</p> <p>3) Enrolled the WetCAT West Wetland in a BMP Effectiveness study conducted by SCCWRP in Winter 2005. Because the study was conducted in mid-winter, bacteria levels were too low for conclusive findings. No human viruses were detected, which helps confirm earlier experimental findings during the first year of CAO 99-211 that there are no significant sewage source inputs into the J03P02 system.</p>	Follow up on toxicity issues flagged by the DWMP in Summer 2005. Share 13225 analytical methods with TMDL SAG as possible prototype.	Ongoing/long term.	Watershed Cities County of Orange OC Flood Control District Regional Board SCCWRP
AC-fc1c	Identify candidate structural BMP technologies such as catch basin or in-line filters that assist in lowering bacterial concentrations in Aliso Creek.	Consult with co-permittees for information on technologies and performance results as opportunities arise.	Continue research and potential testing activities.	Ongoing.	Watershed Cities County of Orange OC Flood Control District
AC-fc1d	With Laguna Niguel as lead agency, expand on the findings of the pilot GreenBack Landscape Renewal Rebate Program in the Sulphur Creek watershed (Aliso's single largest tributary area, including parts of both Laguna Hills and Laguna Niguel) to encourage broader public and individual awareness and commitments to changing the prevailing design of suburban landscaping so as to reduce the anthropogenic sources and conduits for bacteria and other 303(d) constituents of concern.	Permittees to coordinate in the region wide expansion of a GreenBack-type program as a high-priority project in the Proposition 50 Chapter 8 competition for Integrated Regional Water Management Plan Implementation Grants, for which the first proposal submittals were made in late Spring 2005 under a cooperative effort with the County.	GreenBack-type program expansion region-wide under the Integrated Regional Water Management Program.	Ongoing.	Watershed Cities County of Orange OC Flood Control District Regional Board
AC-fc1e	Cooperate with the US Army Corps of Engineers to implement the English Creek Aquatic Restoration Study and Project.	The English Creek Aquatic Preliminary Restoration Plan (PRP) is currently under development and was completed in May 2005. Funding in the amount of \$99,170 was obtained in FY 2003 to complete the PRP. An additional \$380,000 was obtained for FY 2006, subject to confirmation with Congressional House records.	Continue cooperation with USACE for the development of the Detailed Project Report.		Watershed Cities County of Orange OC Flood Control District Army Corps of Engineers

ALISO CREEK WATERSHED - WATERSHED ACTION PLAN STRATEGY TABLE - PATHOGEN INDICATOR BACTERIA

ACTION		PROGRESS REPORT (2004-05)	ACTION PLAN SCHEDULE (2005-06)	TIMEFRAME	PARTNERS
AC-fc1f	Cooperate under the Integrated Regional Water Management Plan with South Countywide efforts to identify and seek funding for structural and non-structural BMP implementation programs targeted at bacteria and other 303(d) constituents of concern in the Aliso watershed.	Attended region wide stakeholder meetings and Governance Subcommittee meetings and provided review and comments on documents to assist in the development of the Integrated Regional Water Management Plan for South Orange County. Assisted in the development of a Step 1 proposal for Proposition 50 chapter 8 implementation grant funding. Promoted giving high priority to projects such as landscaping retrofits and SmarTimers that would help prevent surface water pollution by bacteria and other 303(d) constituents of concern. Supported efforts to give high priority in the IRWMP for an epidemiological study at Doheny Beach that may provide insight into health risks associated with different bacteria sources.	Assist in Winter 2006 development of Step 2 proposals for bacteria-related IRWMP projects.		Watershed Cities County of Orange OC Flood Control District Water/Sewer Districts
AC-fc2 Implement controls/BMPs for addressing pathogen indicator bacteria.					
AC-fc2a	Install, stock, or provide bag dispensers for collection and disposal of dog fecal waste parks in the Aliso Creek watershed. Canine feces are a source of bacteria.	Permittees provided and stocked doggy bags dispensers at select parks (need determined by Permittee) in Aliso Creek Watershed. Park signs explain the need for park users to pick up their pet waste.	Continue stocking dispensers and adding additional dispensers as need is identified.	Ongoing.	Watershed Cities County of Orange OC Flood Control District
AC-fc2b	Implement LIP Section A-10 ID/IC and report incidents involving watershed fecal coliform.	The Permittees have undertaken action to attempt to identify, eliminate and proactively prevent sources of bacteria from entering the storm drain system using a variety of approaches including: Field Investigation and Identification Sources of Indicator Bacteria; Storm Drain Area Mapping; and Drainage Facility Maintenance.	Continue to implement the Dry Weather Monitoring Program to evaluate whether source control can effect a significant reduction in receiving water levels of indicator bacteria.	Ongoing/long term.	Watershed Cities County of Orange OC Flood Control District
AC-fc2c	Implement the Munger Stormdrain sand filter project.	Construction began on the filtration basin, located in Aliso Creek, in December 2004; however, work was suspended due to the intensity and frequency of winter storms.	Continue project implementation		County of Orange OC Flood Control District
AC-fc2d	Distribute door hangers, residential-related BMPs, and one-on-one education/outreach.	Distributed door hangers, residential and HOA/Common interest area (CIA) BMP fact sheets, and one-on-one education/outreach.	Continue distribution of door hangars.		Watershed Cities County of Orange OC Flood Control District
AC-fc2e	Install and operate, during dry weather, UV disinfection water treatment system at J01P28.	System continued operation in 2004. Due to the extended 2003-04 storm season, the system was restarted in June 2004.	Operate and evaluate system in 2005		County of Orange OC Flood Control District
AC-fc2f	Create and post signs at approximately 28 locations along Aliso Creek warning the public not to wade or swim in the water	Installation was completed in 2000. Signs are maintained along the creek.	Ongoing sign maintenance		Watershed Cities County of Orange OC Flood Control District

ALISO CREEK WATERSHED - WATERSHED ACTION PLAN STRATEGY TABLE - PATHOGEN INDICATOR BACTERIA

ACTION		PROGRESS REPORT (2004-05)	ACTION PLAN SCHEDULE (2005-06)	TIMEFRAME	PARTNERS
AC-fc2g	Pursue strategies recommended in the USACE Aliso Creek Watershed Management Plan as opportunities arise within Laguna Niguel for projects that would reduce bacteria and other 303(d) constituents of concern.	The Aliso Creek Watershed Management Plan identified that 87% of the Sulphur Creek tributary had severely degraded functional capacity, and recommended that stream restoration occur wherever feasible. In 2004-05, progress was made on the USACE Section 206 Ecosystem Restoration Project on Sulphur Creek, the Upper Sulphur Creek Restoration Project, and the Narco Channel Restoration Project. All three projects are intended to improve the hydrologic, biologic and water quality integrity of the Sulphur Creek system, which is Aliso's largest single tributary. Stream restoration will restore biofiltration and assimilative capacity for bacteria and reduce water temperatures, which will decrease bacteria propagation rates.	Complete construction of the Section 206 and Upper Sulphur projects. Finalize design on the Narco Channel project.		County of Orange SWRCB State DWR State Coastal Conservancy
AC-fc2h	Place appropriate signage in horse and dog use areas of parks.	Sign placed at public horse trailer parking lot at Aliso & Wood Canyon Regional Park requesting that public place horse and trailer waste in receptacles provided. Signs and plastic "doggie bags" have been placed in pet areas of Aliso & Wood Canyon Regional Park for pet waste cleanup.	Investigate locations for placement of additional signs.		County of Orange
AC-fc2h	Implement programs to install catch basin filters at suitable sites. Organic debris in the MS4 promotes bacteria growth.	Lake Forest: Project work was initiated to install four catch basin filters and one hydrodynamic separator. Project scheduled to finish by December 2005. Laguna Hills: The final paperwork for the Sulphur Solution Proposition 13 proposal was executed by the SWRCB in Summer 2004. The grant included an \$184,000 "Control" subproject to subsidize the retrofit of approximately 200 debris screens throughout the Sulphur Creek subwatershed, including parts of both Laguna Hills and Laguna Niguel. Laguna Niguel: Pursue and implement programs as feasible to install trash/debris controls for catch basin inlets at suitable sites throughout the Aliso watershed. Organic debris in the MS4 promotes growth of bacteria populations and may have adherences of phosphorus and toxic landscape pesticides. Laguna Woods: The City has been monitoring other jurisdictions' use of catch basin inserts intended to remove bacterial contaminants. To date the data has not supported the product claims. The City is looking for cost effective retrofit bacteria BMPs that could be installed in the Aliso Creek watershed. In the interim source elimination has been the primary emphasis.	Implement and report progress annually.	Ongoing.	Watershed Cities County of Orange OC Flood Control District

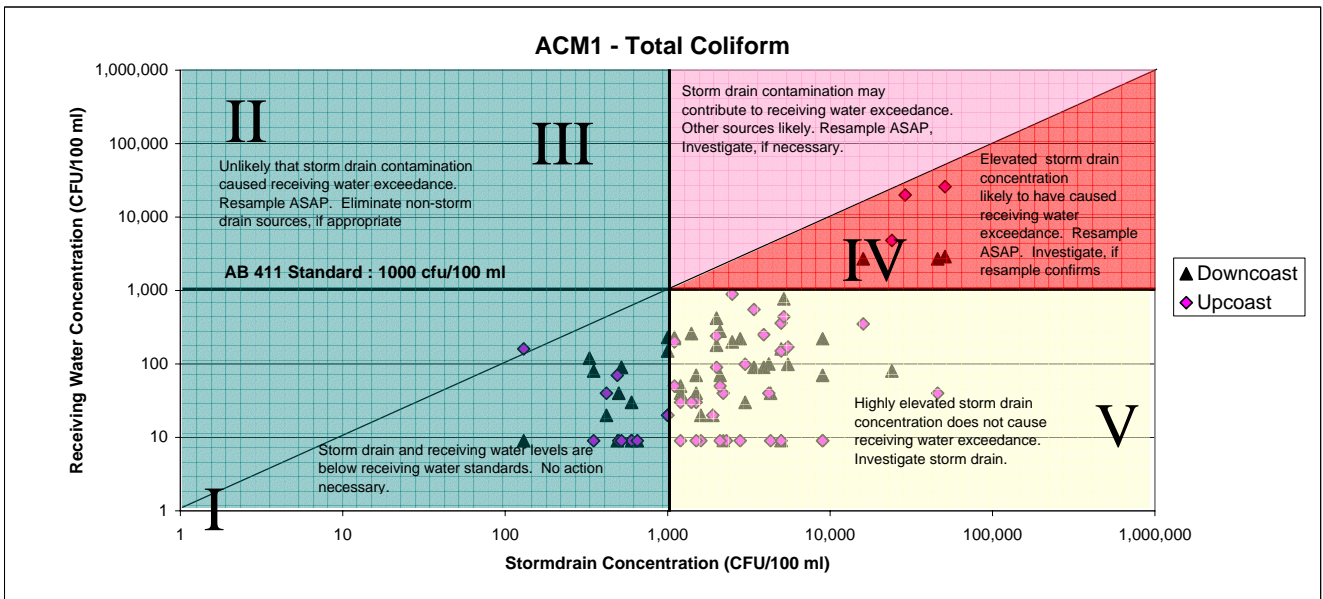
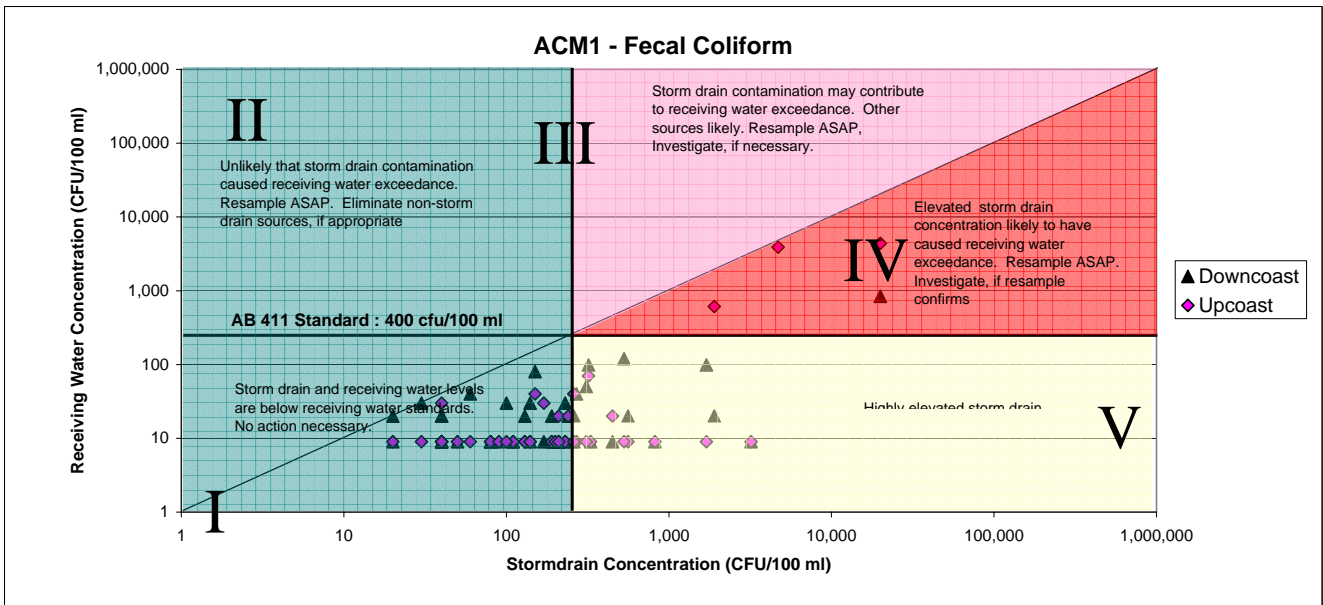
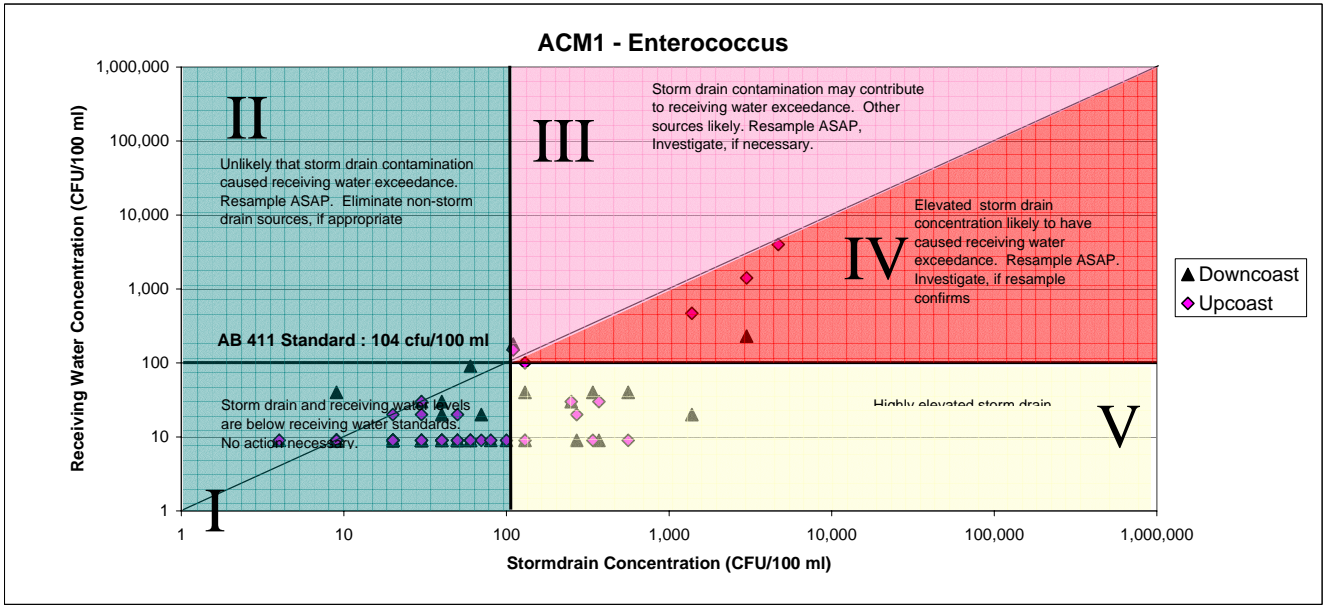
ATTACHMENT 1: WATER QUALITY MONITORING DATA

ATTACHMENT 1a

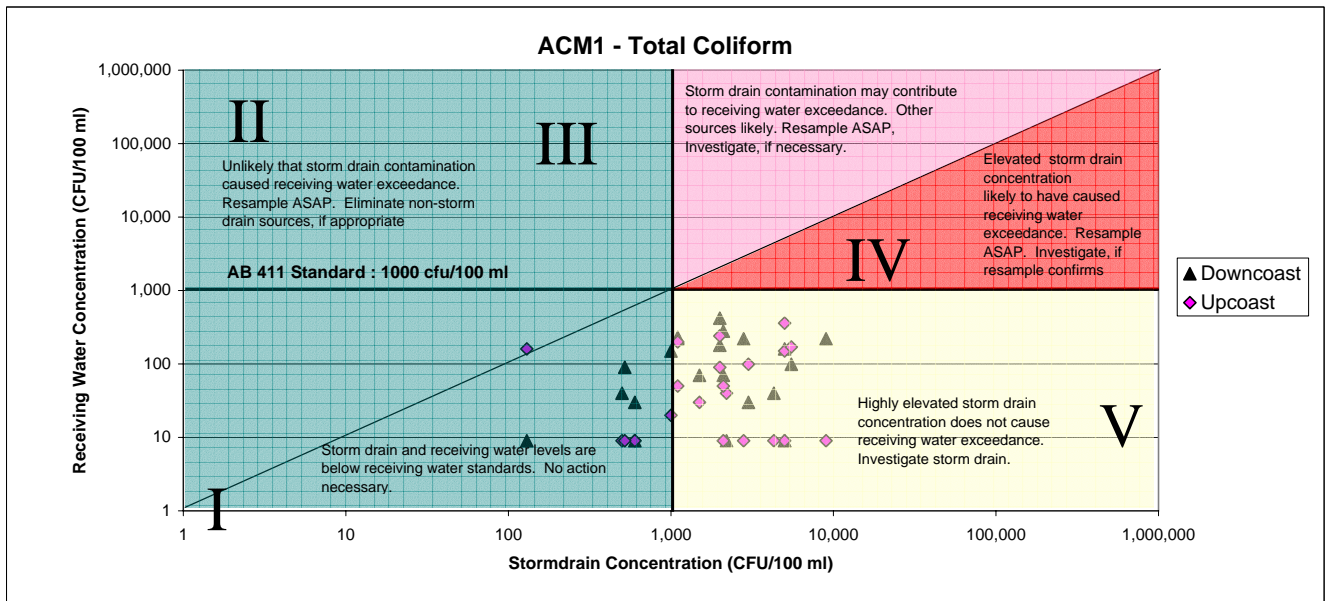
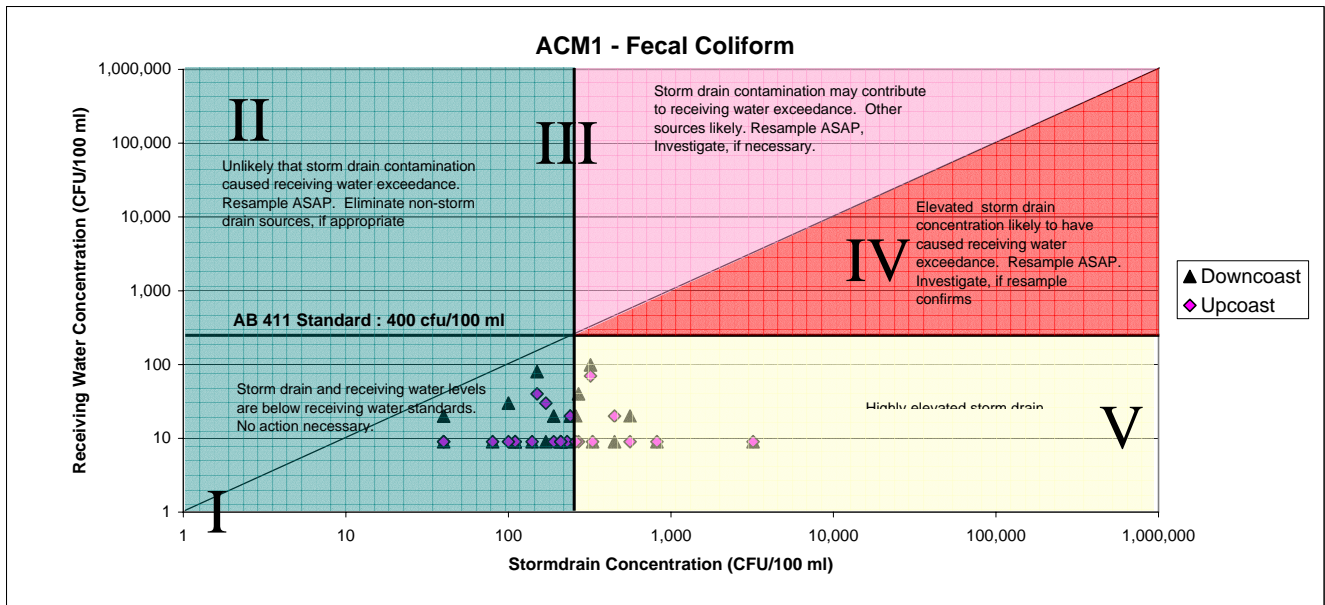
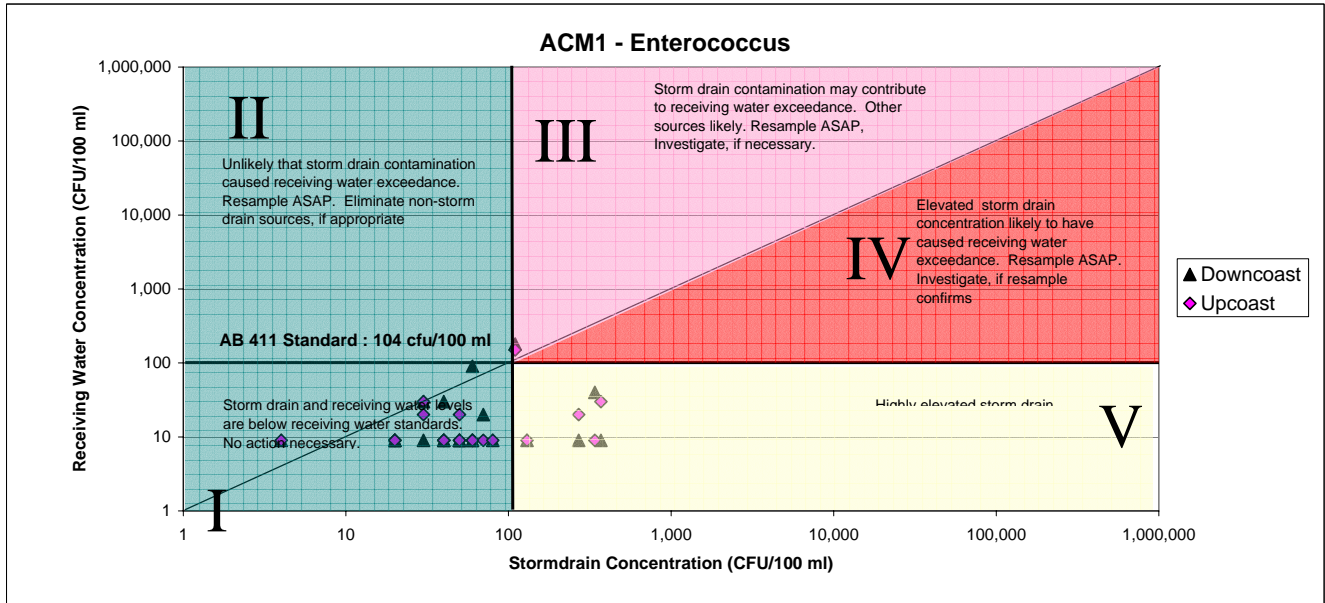
Proportion of All Samples Exceeding AB411 Standards Near Coastal Stormdrains

Entire Year			AB411 Season		
Rank	Station	Avg Hits	Rank	Station	Avg Hits
1	BLULGN	0.000	1	RIVERA	0.000
1	HEISLR	0.000	1	SCCS17	0.000
1	LADERA	0.000	1	SCCS52	0.000
1	PEARL	0.000	1	TRFCYN	0.000
1	TRFCYN	0.000	1	VICTRA	0.000
2	BLUBRD	0.003	1	WEST	0.000
3	DUMOND	0.004	1	BLUBRD	0.000
3	SCCS52	0.004	1	BLULGN	0.000
4	WEST	0.007	1	DUMOND	0.000
5	MARIPO	0.008	1	HEISLR	0.000
5	SCCS17	0.008	1	LADERA	0.000
6	LINDAL	0.016	1	LINDAL	0.000
6	RIVERA	0.016	1	MAINBC	0.000
7	CSBBR1	0.020	1	MARIPO	0.000
8	EMRLD	0.021	1	PEARL	0.000
9	ELMORO	0.022	2	PICO	0.015
10	PIER	0.023	2	CLEO	0.015
11	CLEO	0.041	2	ELMORO	0.015
12	PICO	0.042	2	EMRLD	0.015
13	MAINBC	0.043	3	PIER	0.023
14	CSBMP1	0.050	3	CSBBR1	0.023
15	DSB1	0.057	4	CSBMP1	0.061
15	VICTRA	0.057	5	DSB1	0.068
16	POCHE	0.081	6	POCHE	0.121
17	DSB4	0.133	7	DSB4	0.136
18	SCM1	0.238	8	DSB5	0.188
19	SJC1	0.455	9	SJC1	0.242
20	DSB5	0.493	10	SCM1	0.288

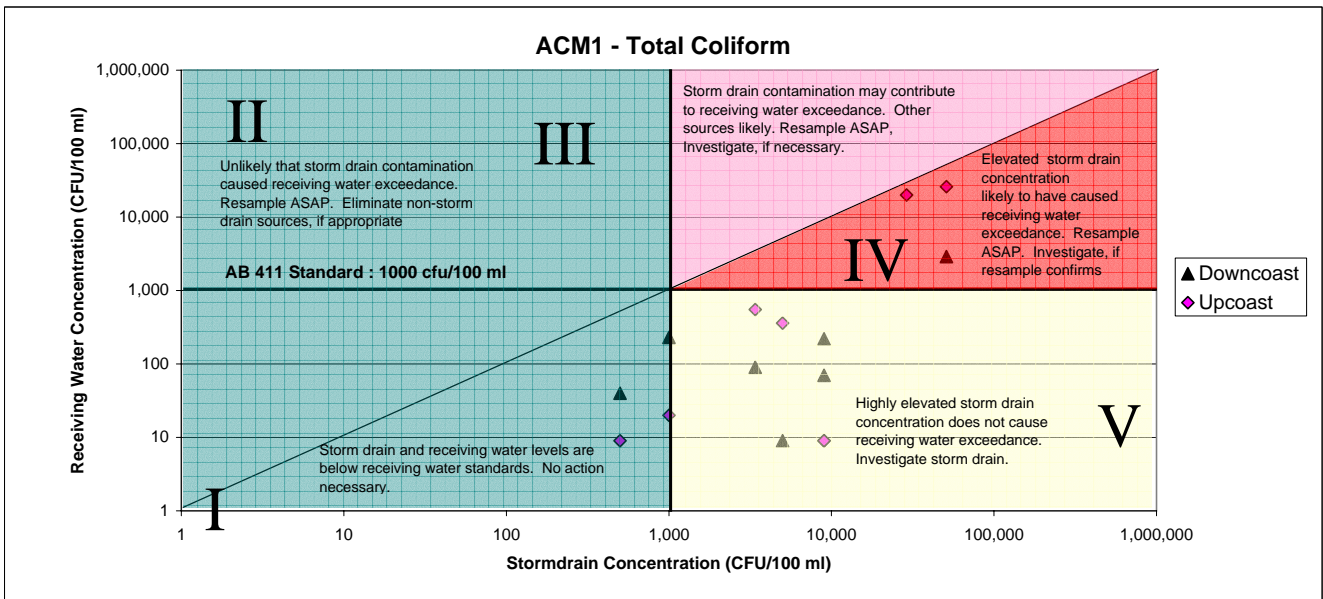
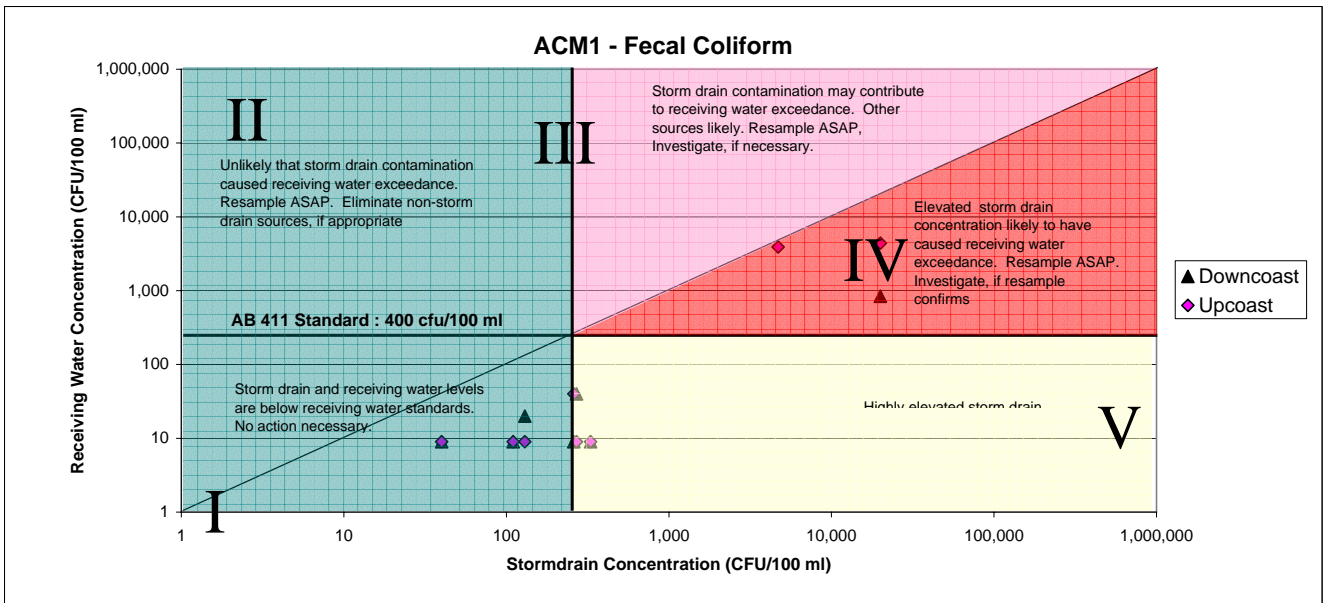
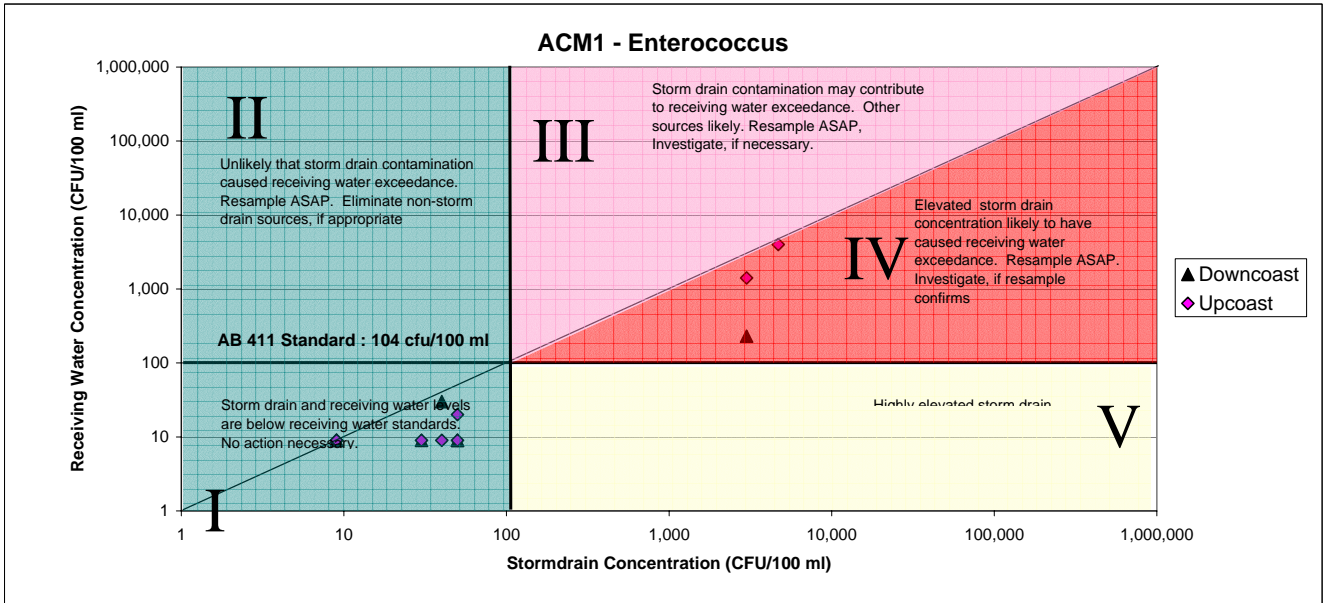
Whole Year



AB-411 Months



Flows to Ocean



ATTACHMENT 1: WATER QUALITY MONITORING DATA

ATTACHMENT 1c

Coastal Stormdrain Sites Ranked in Terms of Significance of Regression Slopes for
All Bacterial Indicators, Based on Data From the Entire Year

Enterococcus			Fecal Coliform			Total Coliform		
Rank	Station	P-Value	Rank	Station	P-Value	Rank	Station	P-Value
1	ACM1	< 0.0001	1	ACM1	< 0.0001	1	ACM1	< 0.0001
1	DSB5	< 0.0001	2	BLULGN	0.0002	1	BLULGN	< 0.0001
1	PICO	< 0.0001	3	POCHE	0.0006	1	DSB5	< 0.0001
1	POCHE	< 0.0001	4	DSB5	0.0024	2	PICO	0.0002
2	MAINBC	0.0009	5	LINDAL	0.0074	3	PEARL	0.0009
3	SCM1	0.0012	6	BLUBRD	0.012	4	POCHE	0.0014
4	SCCS17	0.0013	7	PICO	0.0158	5	RIVERA	0.0032
5	SCCS52	0.0045	8	MAINBC	0.0247	6	TRFCYN	0.0117
6	CSBBR1	0.0091	9	DUMOND	0.042	7	MAINBC	0.0123
7	CLEO	0.0278	10	RIVERA	0.043	8	SCCS17	0.0171
8	CSBMP1	0.0298	11	CSBBR1	0.0897	9	BLUBRD	0.0236
9	DUMOND	0.0324	12	DSB1	0.1307	10	LINDAL	0.0432
10	LINDAL	0.0382	13	SCM1	0.1578	11	CSBBR1	0.0551
11	RIVERA	0.0666	14	PEARL	0.1736	12	CLEO	0.0603
12	BLUBRD	0.0688	15	CSBMP1	0.2106	13	DUMOND	0.1097
13	PIER	0.0998	16	SCCS17	0.3196	14	MARIPO	0.1539
14	BLULGN	0.1103	17	ELMORO	0.3303	15	HEISLR	0.3007
15	TRFCYN	0.1783	18	WEST	0.3384	16	DSB1	0.3095
16	MARIPO	0.2325	19	CLEO	0.4766	17	SCM1	0.404
17	SJC1	0.2941	20	HEISLR	0.4871	18	CSBMP1	1
18	VICTRA	0.4105	21	EMRLD	1	18	ELMORO	1
19	ELMORO	0.4279	21	LADERA	1	18	EMRLD	1
20	EMRLD	0.4942	21	MARIPO	1	18	LADERA	1
21	DSB1	1	21	PIER	1	18	PIER	1
21	HEISLR	1	21	SCCS52	1	18	SCCS52	1
21	LADERA	1	21	SJC1	1	18	SJC1	1
21	PEARL	1	21	TRFCYN	1	18	VICTRA	1
21	WEST	1	21	VICTRA	1	18	WEST	1

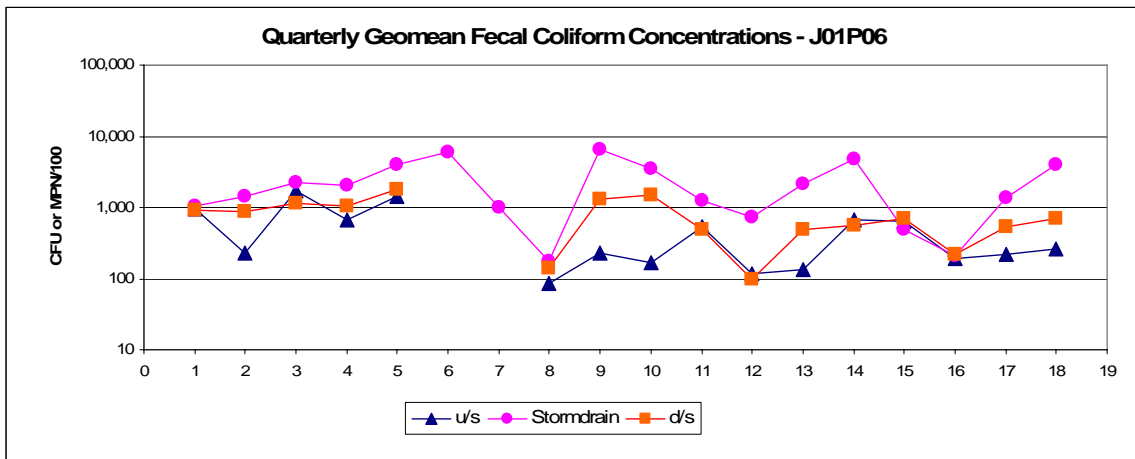
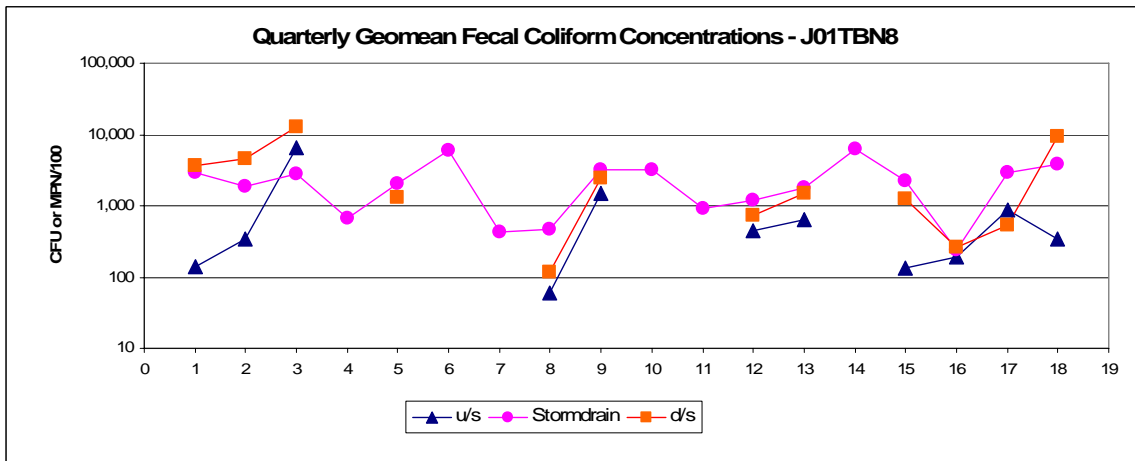
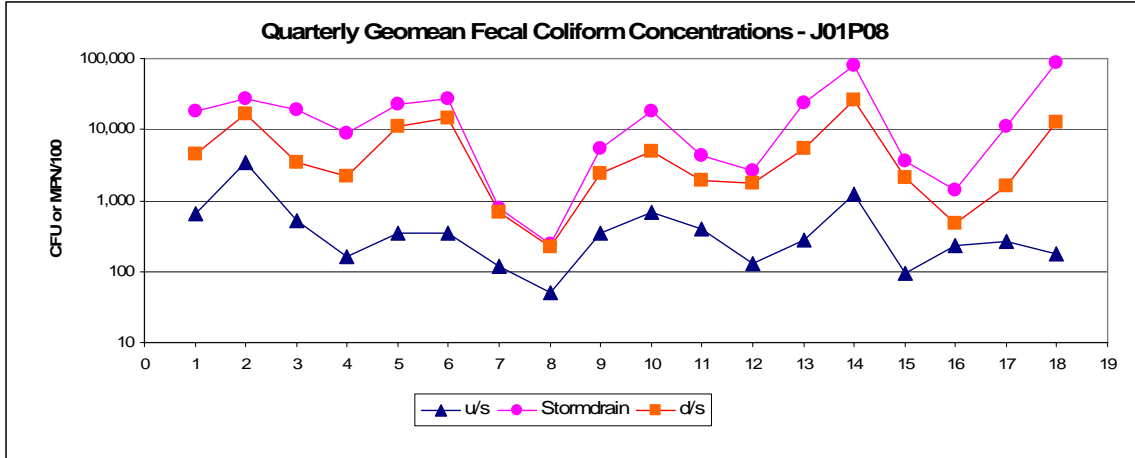
ATTACHMENT 1: WATER QUALITY MONITORING DATA

Coastal Stormdrain Sites Ranked in Terms of Significance of Regression Slopes for All Bacterial Indicators, Based on Data From the AB411 Season

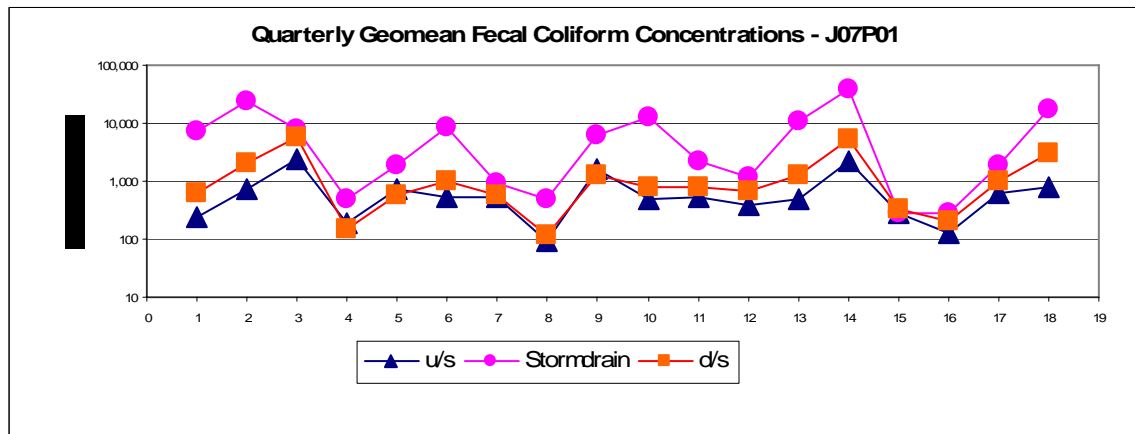
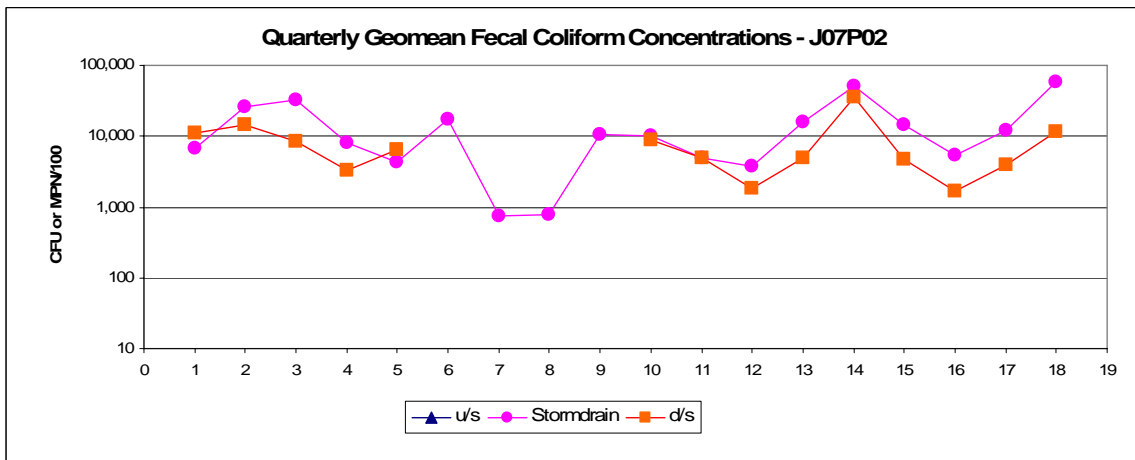
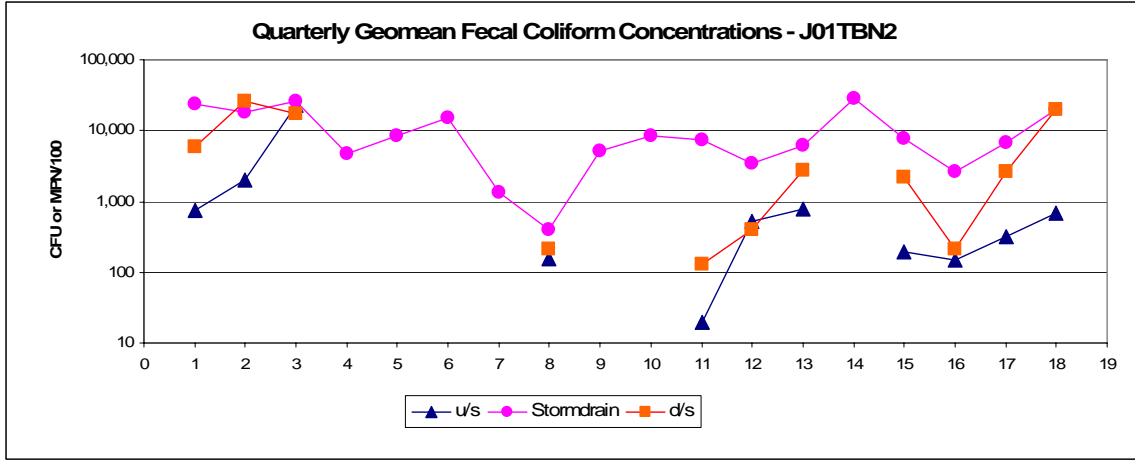
Enterococcus			Fecal Coliform			Total Coliform		
Rank	Station	P-Value	Rank	Station	P-Value	Rank	Station	P-Value
1	DSB5	< 0.0001	1	RIVERA	< 0.0001	1	DSB5	0.0002
2	ELMORO	0.004	2	PICO	0.009	2	BLULGN	0.0006
3	POCHE	0.0049	3	BLULGN	0.0096	3	RIVERA	0.0042
4	DSB1	0.01	4	DSB5	0.014	4	POCHE	0.0098
5	RIVERA	0.0383	5	POCHE	0.0177	5	PICO	0.0139
6	SCM1	0.0431	6	DSB1	0.0292	6	DSB1	0.018
7	ACM1	0.0469	7	CLEO	0.0318	7	CLEO	0.0226
8	PICO	0.1278	8	LINDAL	0.0504	8	SCM1	0.0323
9	BLULGN	0.1976	9	ELMORO	0.2061	9	LINDAL	0.0486
10	LINDAL	0.2175	10	SCCS52	0.2606	10	TRFCYN	0.115
11	HEISLR	0.2966	11	SCM1	0.2653	11	DUMOND	0.138
12	TRFCYN	0.3313	12	TRFCYN	0.3119	12	PIER	0.1462
13	CLEO	0.3533	13	MARIPO	0.321	13	MARIPO	0.1593
14	WEST	0.3877	14	BLUBRD	0.3936	14	ACM1	0.1681
15	CSBMP1	0.4538	15	CSBBR1	0.4172	15	ELMORO	0.1989
16	PIER	0.4652	16	ACM1	0.4796	16	BLUBRD	0.3082
17	BLUBRD	1	17	CSBMP1	1	17	SCCS17	0.3091
17	CSBBR1	1	17	DUMOND	1	18	PEARL	0.315
17	DUMOND	1	17	HEISLR	1	19	WEST	0.3955
17	LADERA	1	17	LADERA	1	20	CSBMP1	0.4106
17	MAINBC	1	17	MAINBC	1	21	CSBBR1	1
17	MARIPO	1	17	PEARL	1	21	HEISLR	1
17	PEARL	1	17	PIER	1	21	LADERA	1
17	SCCS17	1	17	SCCS17	1	21	MAINBC	1
17	SCCS52	1	17	SJC1	1	21	SCCS52	1
17	SJC1	1	17	WEST	1	21	SJC1	1

ATTACHMENT 1d

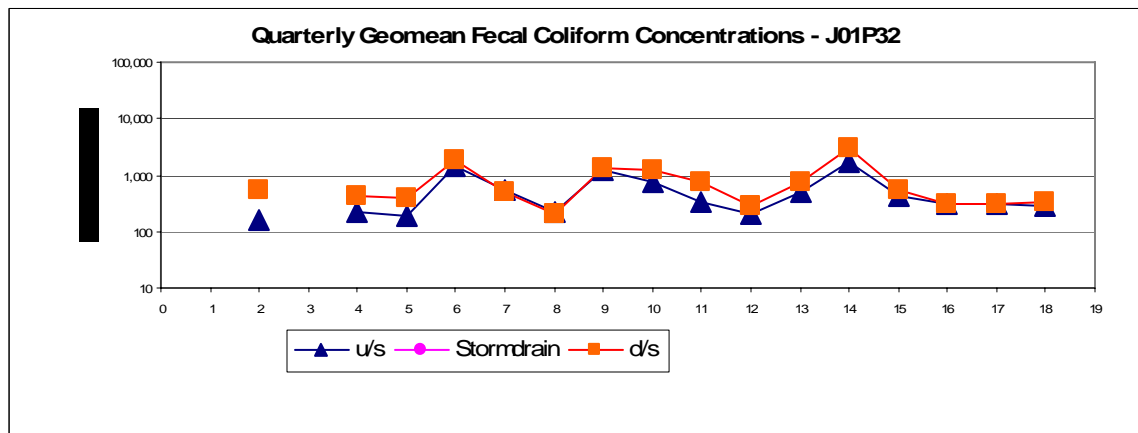
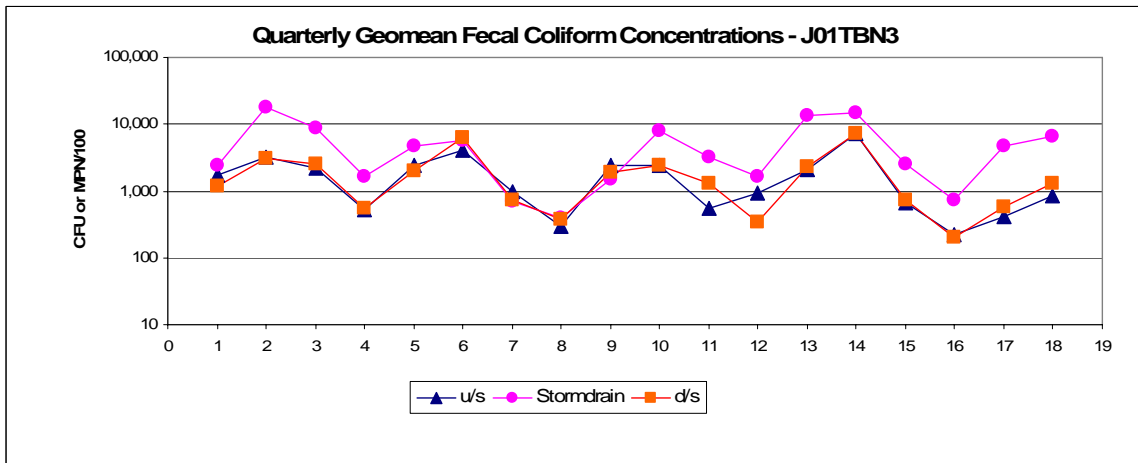
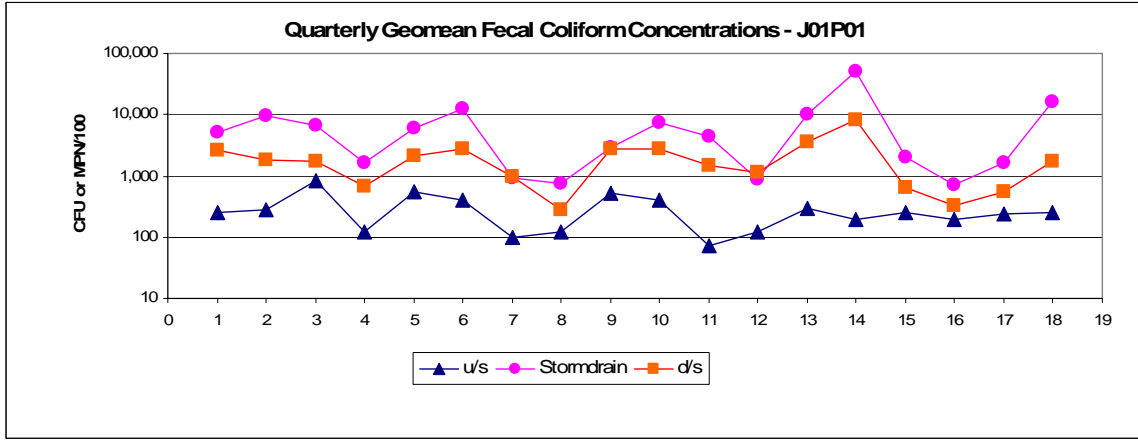
Stormdrain Fecal Coliform Geomeans



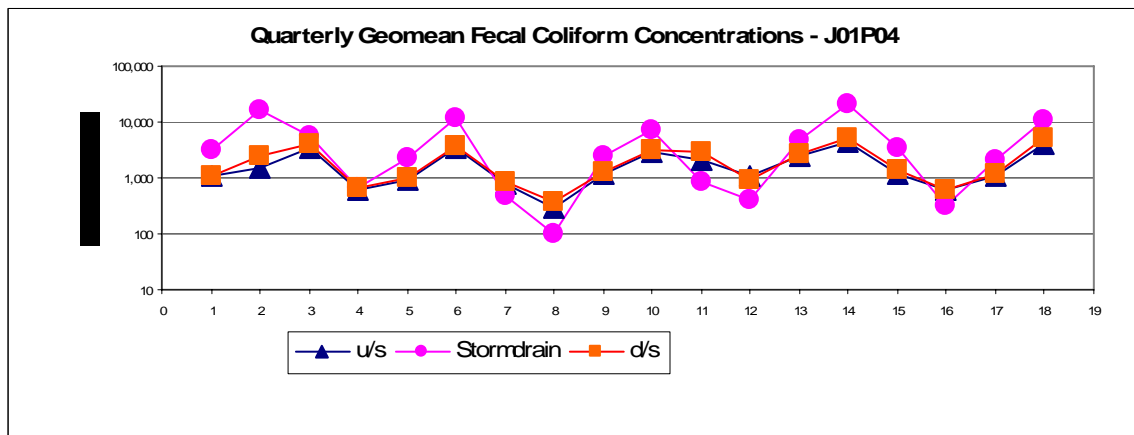
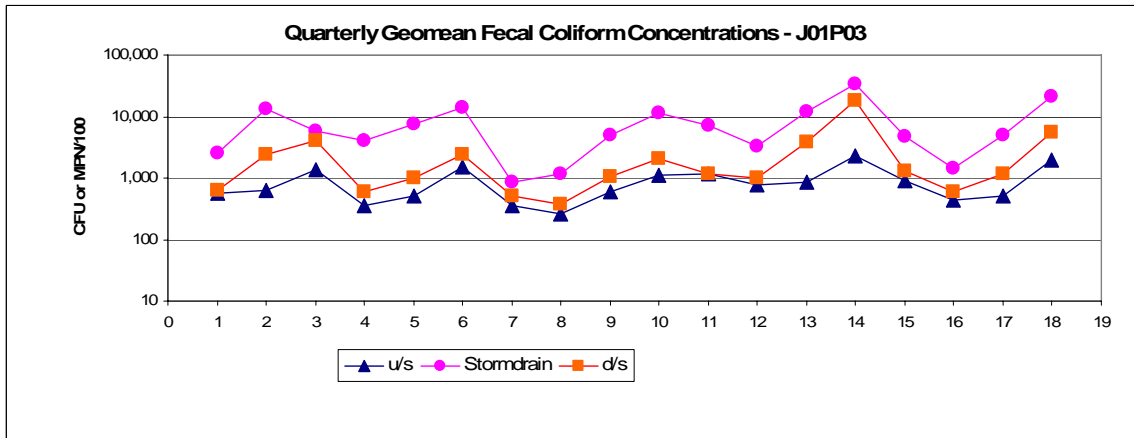
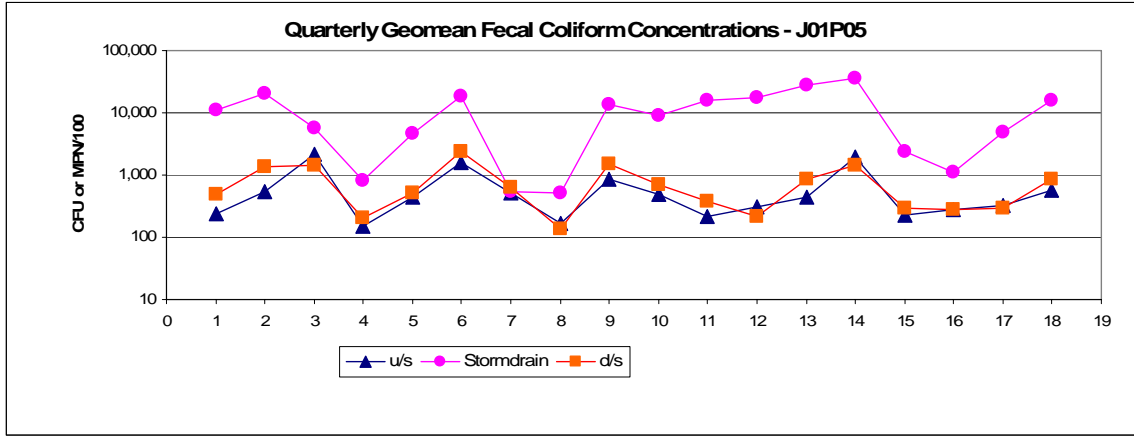
ATTACHMENT 1: WATER QUALITY MONITORING DATA



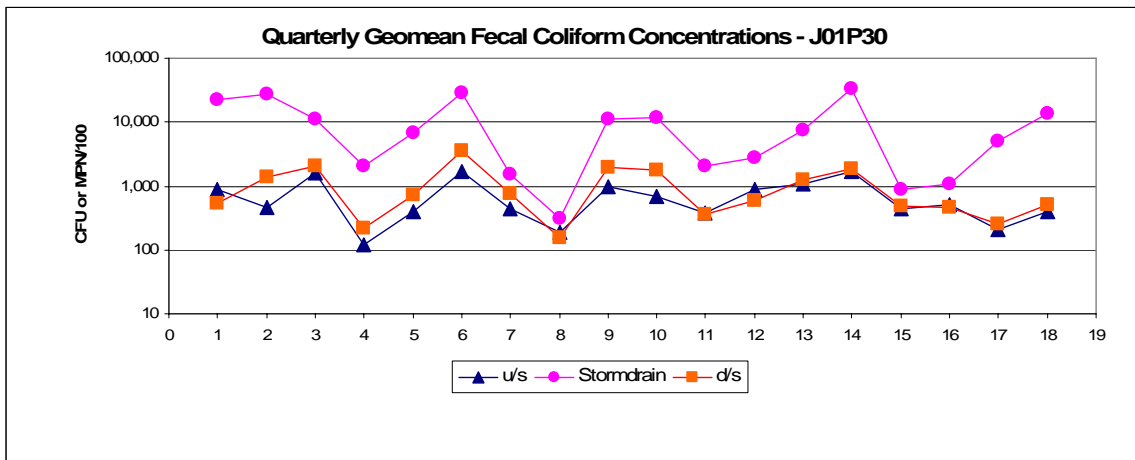
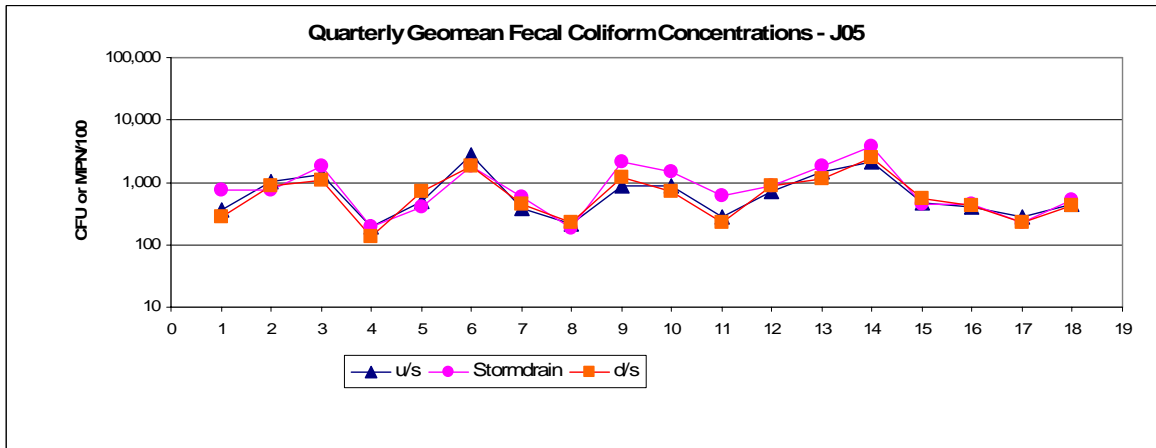
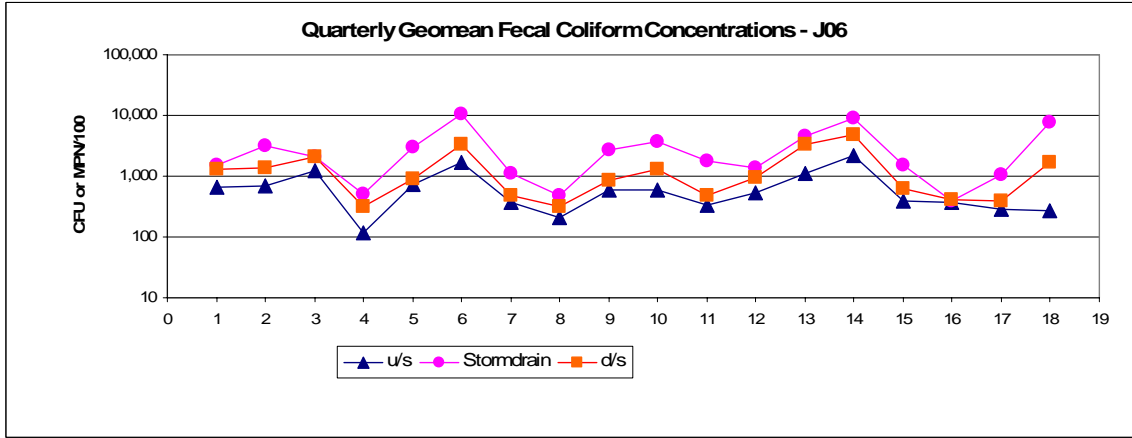
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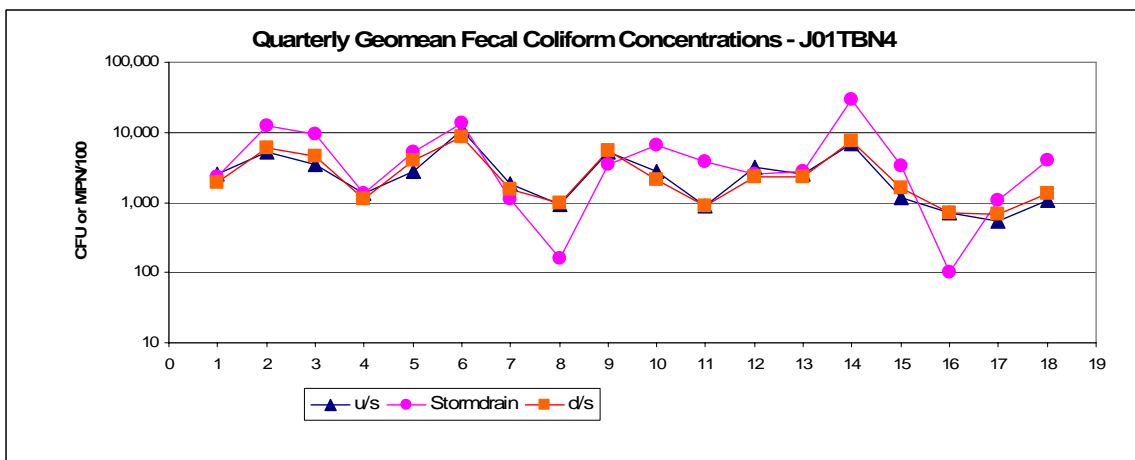
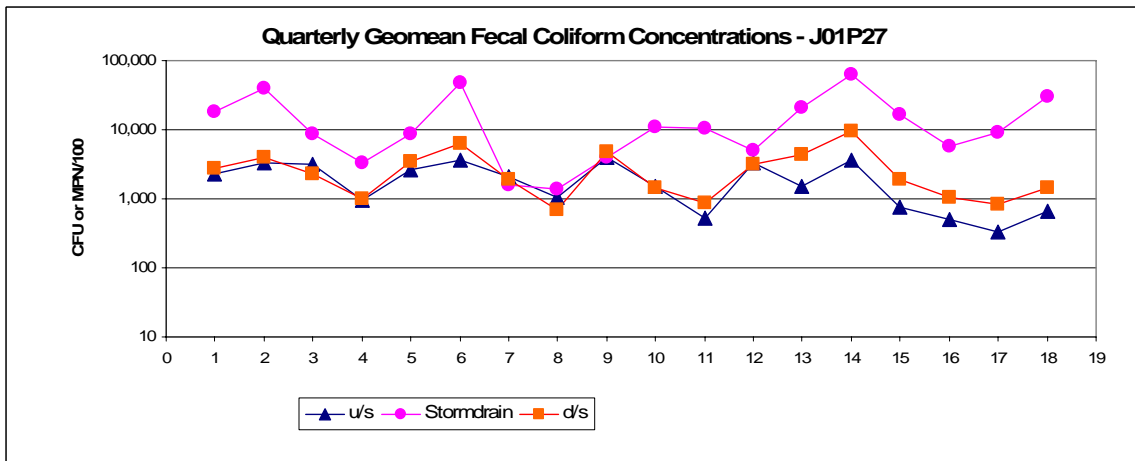
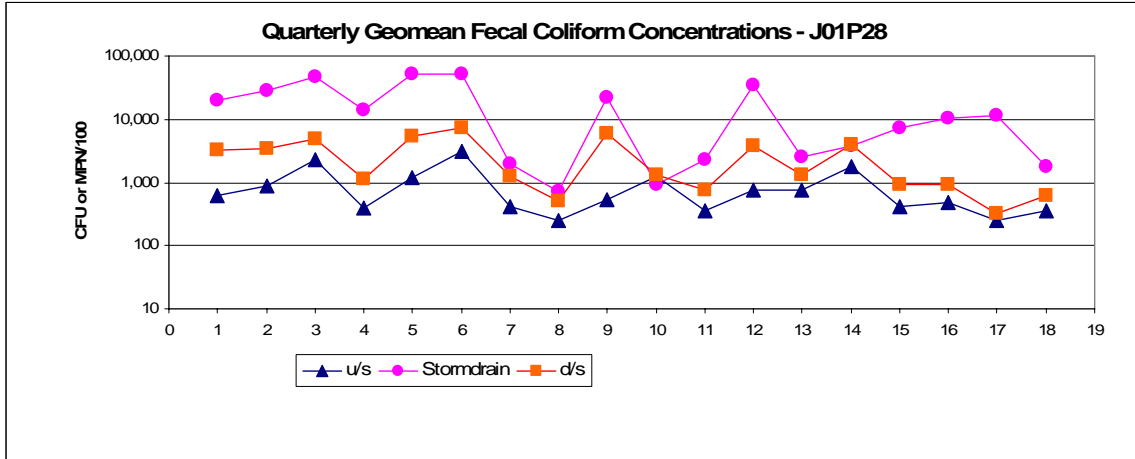
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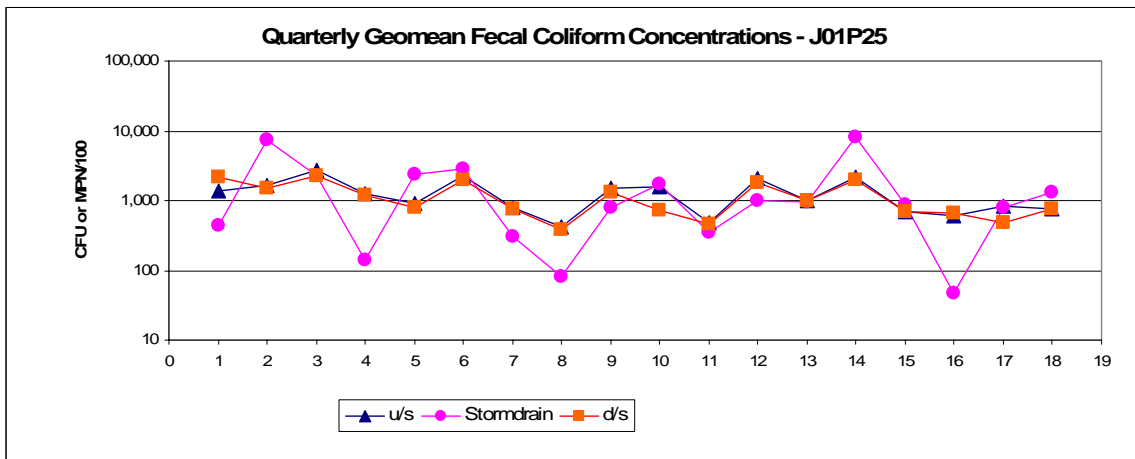
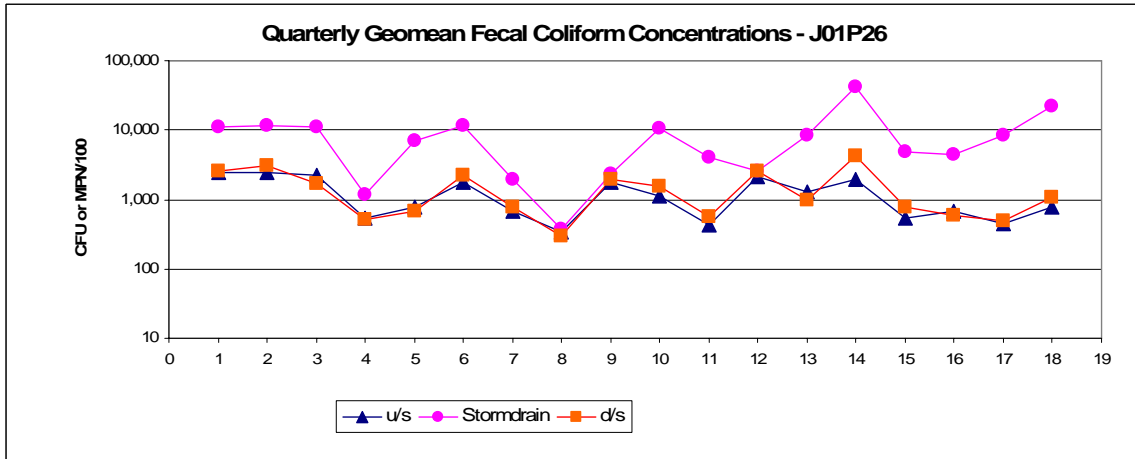
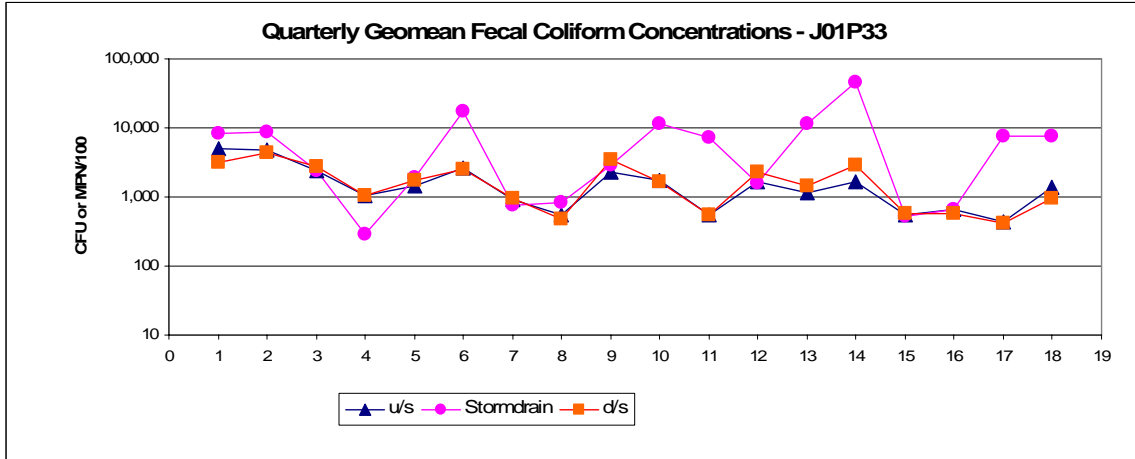
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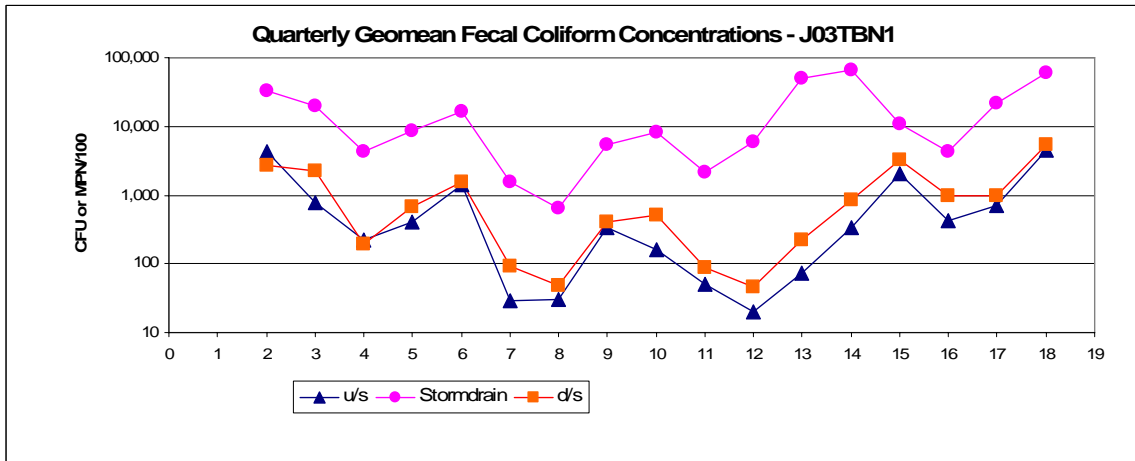
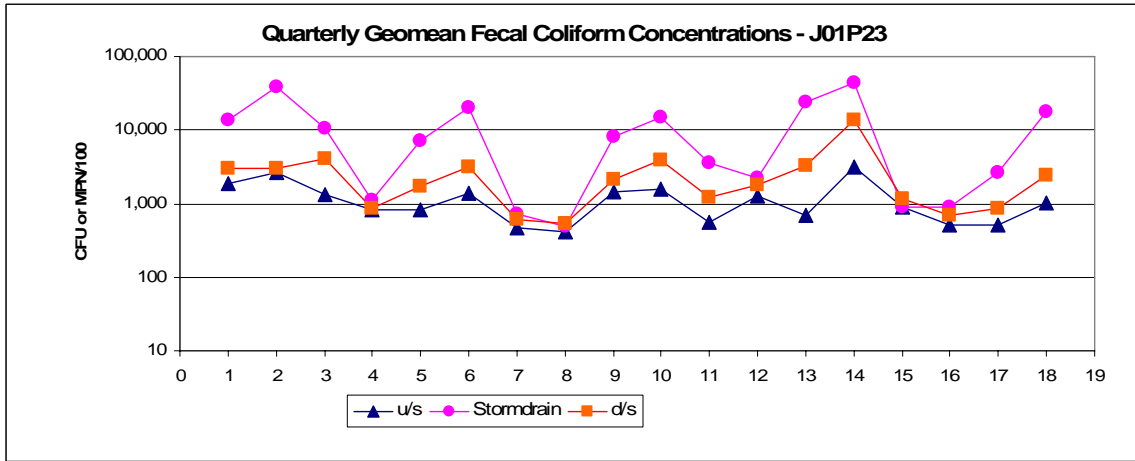
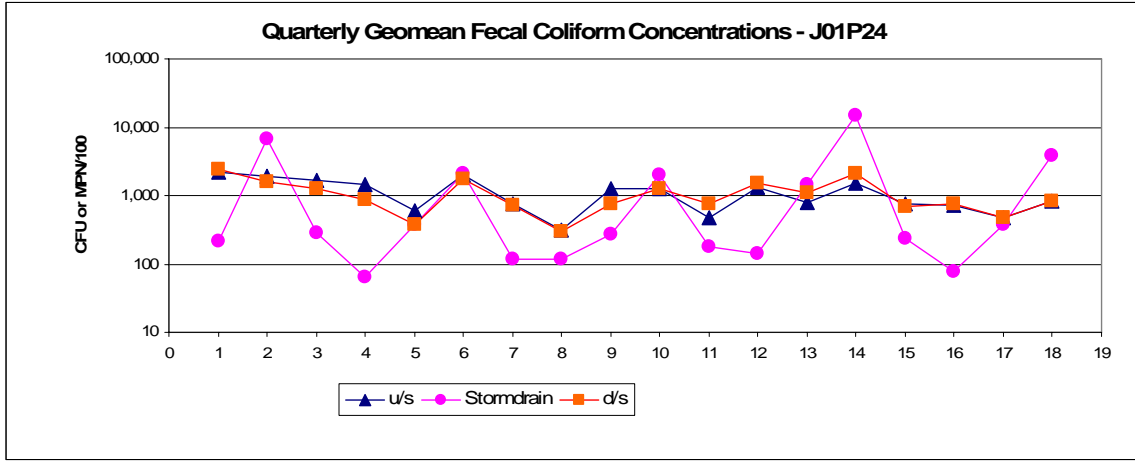
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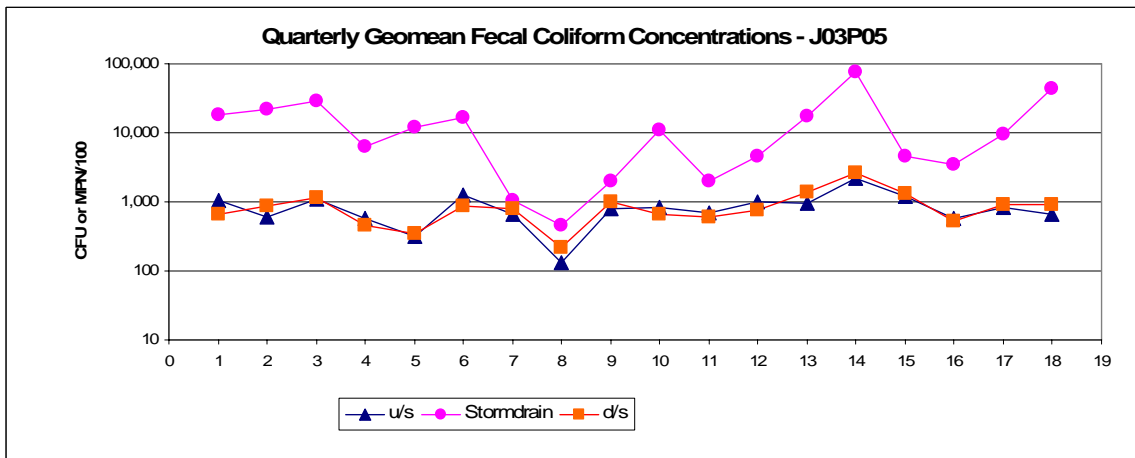
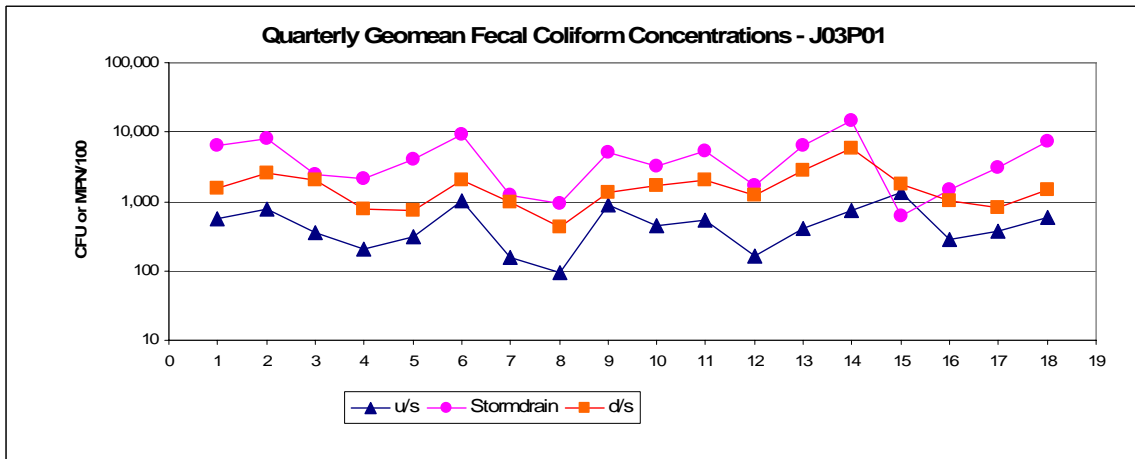
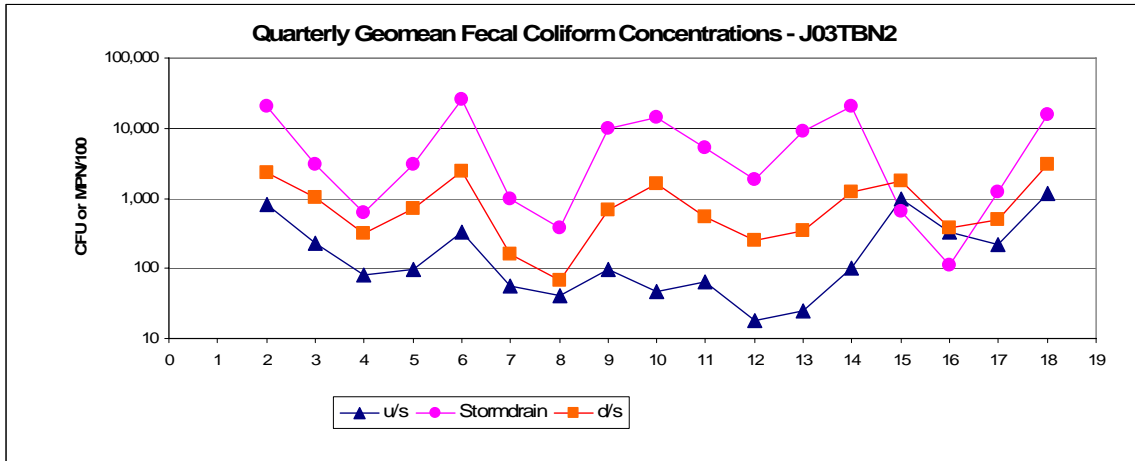
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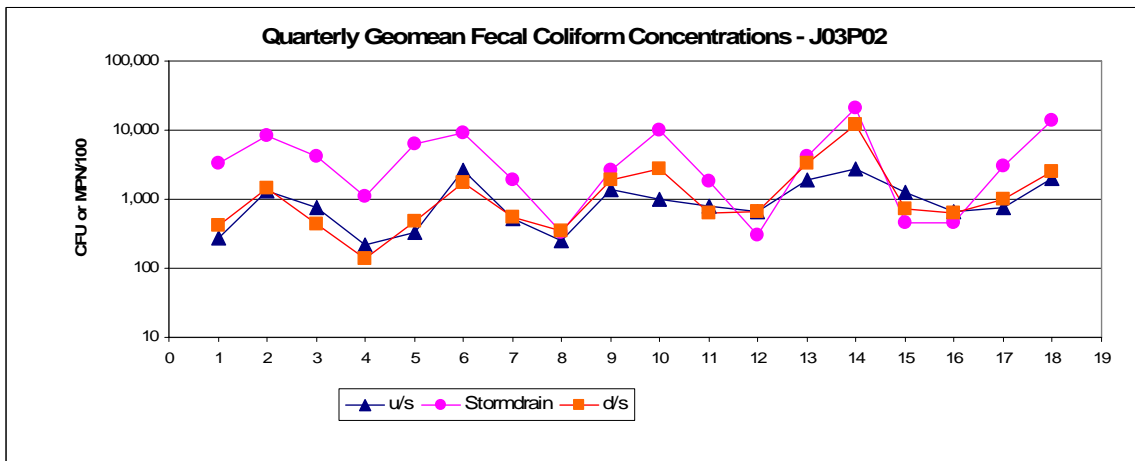
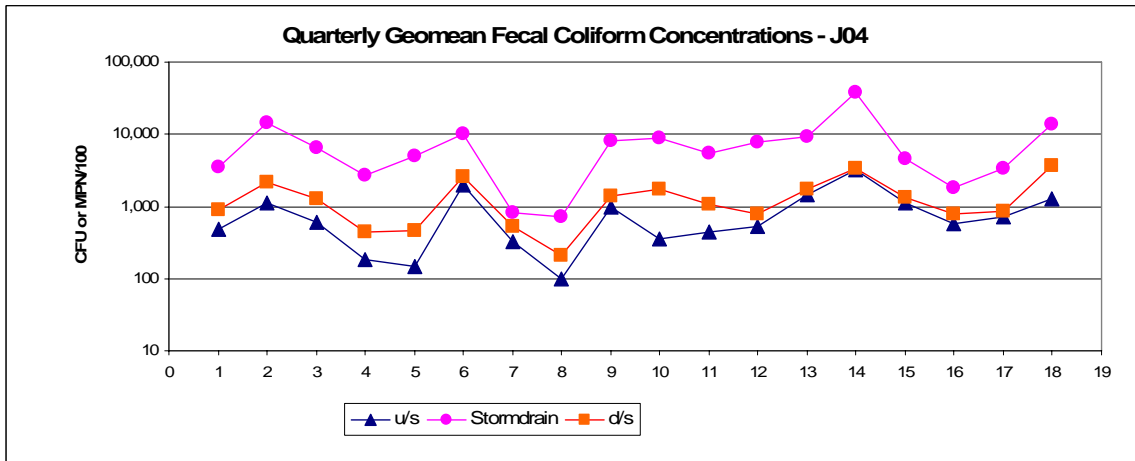
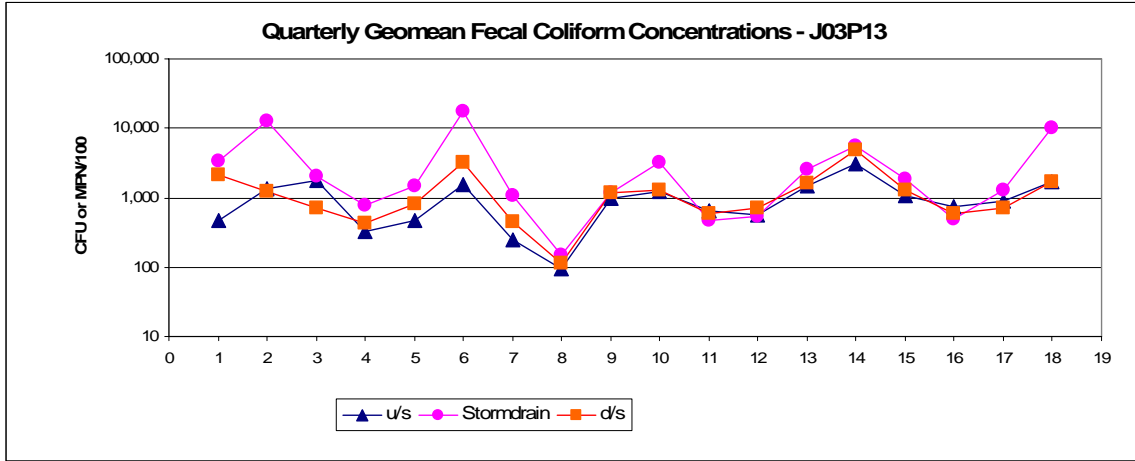
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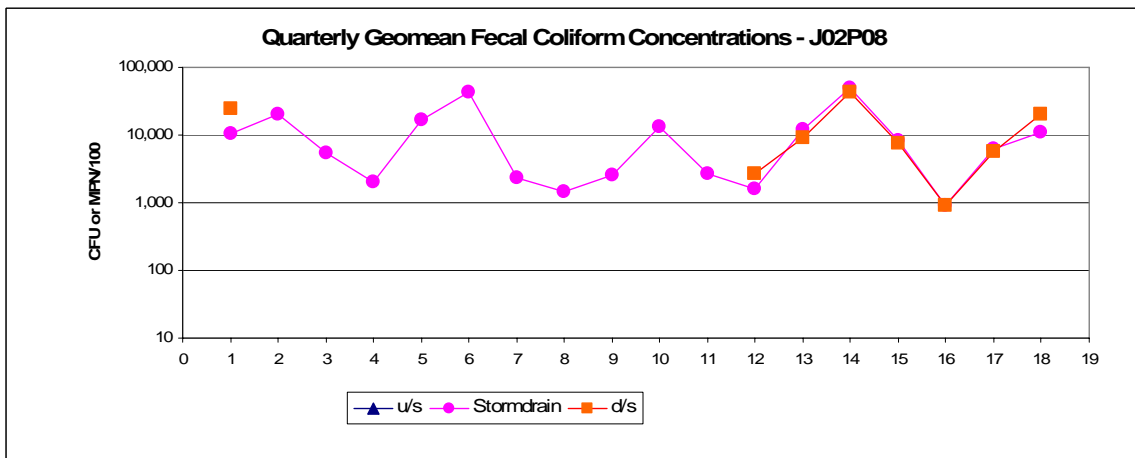
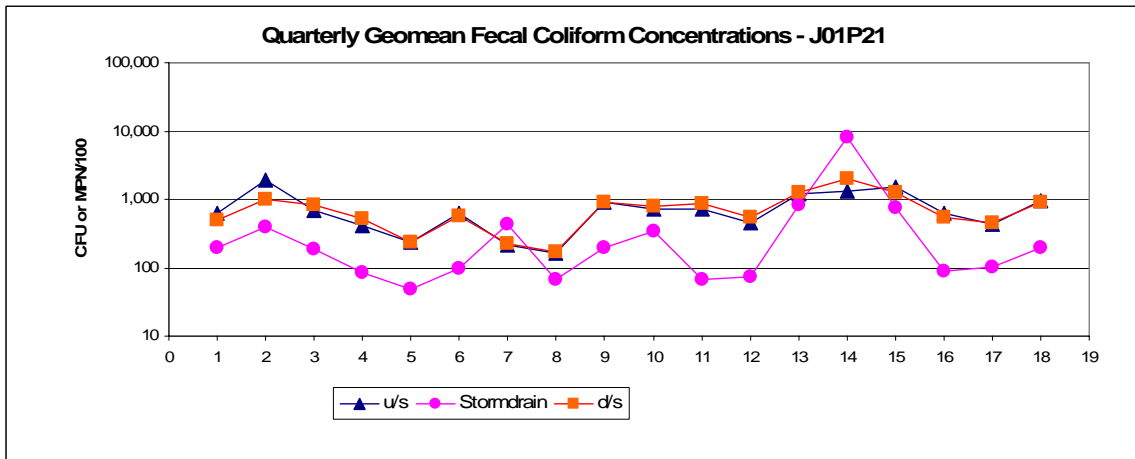
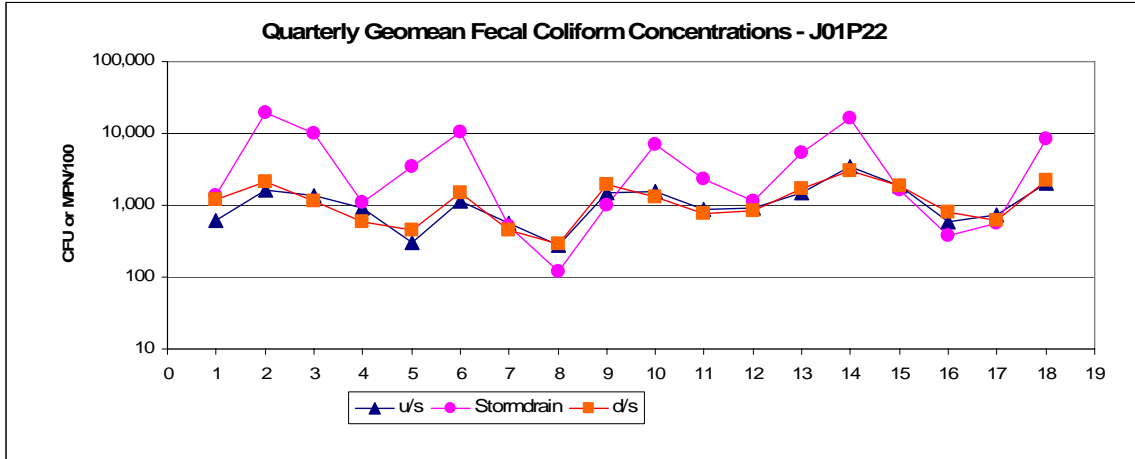
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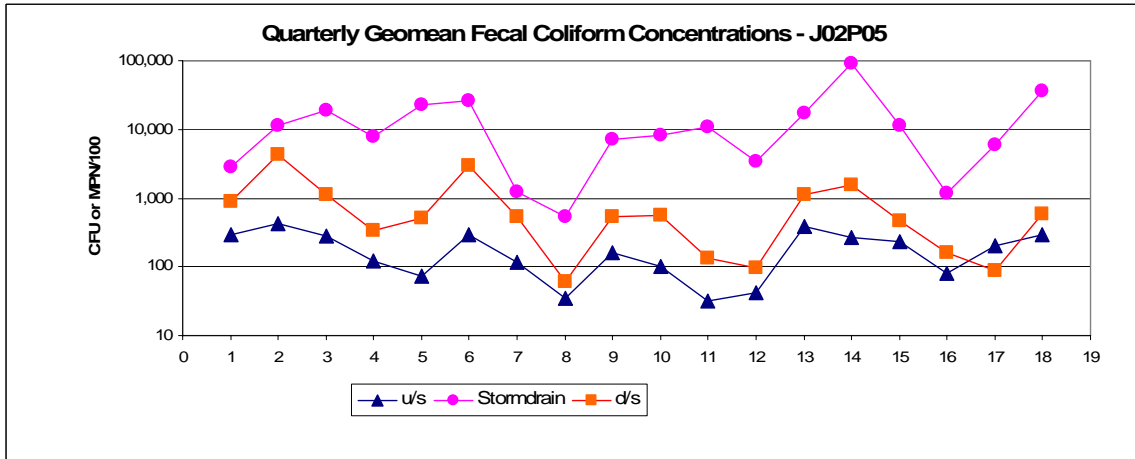
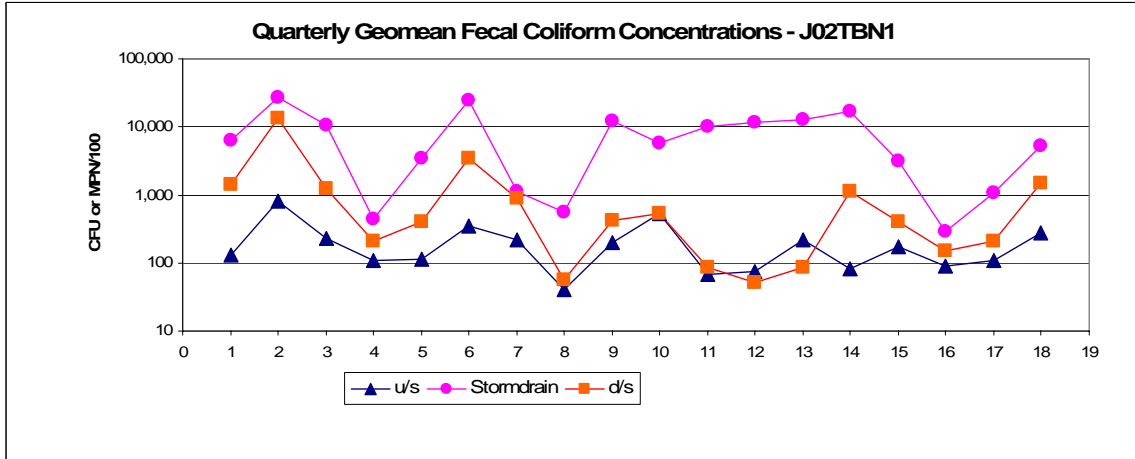
ATTACHMENT 1: WATER QUALITY MONITORING DATA



ATTACHMENT 1: WATER QUALITY MONITORING DATA



ATTACHMENT 1: WATER QUALITY MONITORING DATA



ATTACHMENT 39

**CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
SAN DIEGO REGION
ORDER NO. R9-2002-0001
NPDES NO. CAS0108740**

**WASTE DISCHARGE REQUIREMENTS
FOR DISCHARGES OF URBAN RUNOFF FROM
THE MUNICIPAL SEPARATE STORM SEWER SYSTEMS (MS4s)
DRAINING THE WATERSHEDS OF THE
COUNTY OF ORANGE,
THE INCORPORATED CITIES OF ORANGE COUNTY,
AND THE
ORANGE COUNTY FLOOD CONTROL DISTRICT
WITHIN THE SAN DIEGO REGION**

The California Regional Water Quality Control Board, San Diego Region (hereinafter SDRWQCB), finds that:

1. **COPERMITTEES ARE DISCHARGERS OF URBAN RUNOFF:** Each of the persons in Table 1 below, hereinafter called Copermittees or dischargers, owns or operates a municipal separate storm sewer system (MS4), through which it discharges urban runoff into waters of the United States within the San Diego Region. The Copermittees serve a population of approximately 500,000 people within the San Diego Region. The MS4s operated by the Copermittees fall into one or more of the following categories: (1) a medium or large MS4 that services a population of greater than 100,000 or 250,000 respectively; or (2) a small MS4 that is "interrelated" to a medium or large MS4; or (3) an MS4 which contributes to a violation of a water quality standard; or (4) an MS4 which is a significant contributor of pollutants to waters of the United States.

Table 1. Municipal Copermittees

1.	City of Aliso Viejo	8.	City of Mission Viejo
2.	City of Dana Point	9.	City of Rancho Santa Margarita
3.	City of Laguna Beach	10.	City of San Clemente
4.	City of Lake Forest	11.	City of San Juan Capistrano
5.	City of Laguna Hills	12.	County of Orange
6.	City of Laguna Niguel	13.	Orange County Flood Control District
7.	City of Laguna Woods		

2. **URBAN RUNOFF CONTAINS "WASTE" AND IS A "POINT SOURCE DISCHARGE OF POLLUTANTS":** Urban runoff contains waste, as defined in the California Water Code, and pollutants that adversely affect the quality of the waters of the State. The discharge of urban runoff from an MS4 is a "discharge of pollutants from a point source" into waters of the United States as defined in the Clean Water Act.
3. **URBAN DEVELOPMENT AND RUNOFF CAUSES RECEIVING WATER DEGRADATION:** Urban runoff discharges from MS4s are a leading cause of receiving water quality impairment in the San Diego Region and throughout the United States. As runoff flows over urban areas, it picks up harmful pollutants such as pathogens, sediment (resulting from human activities), fertilizers, pesticides, heavy metals, and petroleum products. These pollutants often become dissolved or suspended in urban runoff and are conveyed and discharged to receiving waters, such as streams, lakes, lagoons, bays, and the ocean without treatment. Once in receiving waters, these pollutants harm aquatic life primarily through toxicity and habitat degradation. Furthermore, the pollutants can enter the food chain and may eventually enter the tissues of fish and humans.

There is a strong direct correlation between "urbanization" and "impacts to receiving water quality". In general, the more heavily developed the area, the greater the impacts to receiving waters from urban runoff.

These impacts especially threaten environmentally sensitive areas (such as Clean Water Act section 303(d) impaired water bodies, areas designated as Areas of Special Biological Significance, water bodies designated with the RARE beneficial use, riparian or estuarine areas designated by the Copermittees as Critical Aquatic Resources (CARS), and regional parks and preserves containing receiving waters within the Cities and County of Orange). Such environmentally sensitive areas have a much lower capacity to withstand pollutant shocks than might be acceptable in the general circumstance. In essence, urban development that is ordinarily insignificant in its impact on the environment may, in a particularly sensitive environment, be significant.

4. **URBAN DEVELOPMENT INCREASES POLLUTANT LOAD, VOLUME, AND VELOCITY OF RUNOFF:** During urban development two important changes occur. First, natural vegetated pervious ground cover is converted to impervious surfaces such as paved highways, streets, rooftops, and parking lots. Natural vegetated soil can both absorb rainwater and remove pollutants providing a very effective natural purification process. Because pavement and concrete can neither absorb water nor remove pollutants, the natural purification characteristics of the land are lost.

Secondly, urban development creates new pollution sources as human population density increases and brings with it proportionately higher levels of car emissions, car maintenance wastes, municipal sewage, pesticides, household hazardous wastes, pet wastes, trash, etc. which can either be washed or directly dumped into the MS4.

As a result of these two changes, the runoff leaving the developed urban area is significantly greater in volume, velocity and pollutant load than the pre-development runoff from the same area.

The significance of the impacts of urban development on receiving waters is determined by the scope of the project, such as the size of the project, the project land-use type, etc. Large projects (such as commercial developments greater than 100,000 square feet, home subdivisions greater than 10 units, and streets, roads, highways, and freeways) generally have large amounts of impervious surface, and therefore have greater potential to significantly impact receiving waters by increasing erosion (through increased peak flow rates, flow velocities, flow volumes, and flow durations) than smaller projects. Projects of particular land use types also have greater potential to significantly impact receiving waters due to the presence of typically large amounts of pollutants on site or an increased potential for pollutants to move off site (such as automotive repair shops, restaurants, parking lots, streets, roads, highways, and freeways, hillside development, and retail gasoline outlets).

5. **WATER QUALITY DEGRADATION INCREASES WITH PERCENT IMPERVIOUSNESS:** The increased volume and velocity of runoff from developed urban areas greatly accelerates the erosion of downstream natural channels. Numerous studies have demonstrated a direct correlation between the degree of imperviousness of an area and the degradation of its receiving water quality. Significant declines in the biological integrity and physical habitat of streams and other receiving waters have been found to occur with as little as a 10% conversion from natural to impervious surfaces. (Developments of medium density single family homes range between 25 to 60% impervious). Today "% impervious coverage" is believed to be a reliable indicator and predictor of the water quality degradation expected from planned new development.
6. **URBAN RUNOFF IS A HUMAN HEALTH THREAT:** Urban runoff contains pollutants, which threaten human health. Human illnesses have been clearly linked to recreating (i.e., swimming, surfing, etc.) near storm drains flowing to coastal beach waters. Such flows from urban areas often result in the posting or closure of local beaches.

Pollutants transported to receiving waters by urban runoff can also enter the food chain. Once in the food chain they can "bioaccumulate" in the tissues of invertebrates (e.g., mussels, oysters, and

lobsters) and fish which may be eventually consumed by humans. Furthermore, some pollutants are also known to “biomagnify”. This phenomenon can result in pollutant concentrations in the body fat of top predators that are millions of times greater than the concentrations in the tissues of their lower trophic (food chain) counterparts or in ambient waters.

7. **POLLUTANT TYPES:** The most common categories of pollutants in urban runoff include total suspended solids, sediment (due to anthropogenic activities); pathogens (e.g., bacteria, viruses, protozoa); heavy metals (e.g., copper, lead, zinc and cadmium); petroleum products and polynuclear aromatic hydrocarbons; synthetic organics (e.g., pesticides, herbicides, and PCBs); nutrients (e.g., nitrogen and phosphorus fertilizers), oxygen-demanding substances (decaying vegetation, animal waste), and trash.
8. **URBAN STREAMS AS AN MS4 COMPONENT:** Historic and current development make use of natural drainage patterns and features as conveyances for urban runoff. Urban streams used in this manner are both MS4s and receiving waters.
9. **URBAN RUNOFF CAUSES BENEFICIAL USE IMPAIRMENT:** Individually and in combination, the discharge of pollutants and increased flows from MS4s can cause or threaten to cause a condition of pollution (i.e., unreasonable impairment of water quality for designated beneficial uses), contamination, or nuisance. The discharge of pollutants from MS4s can cause the concentration of pollutants to exceed applicable receiving water quality objectives and impair or threaten to impair designated beneficial uses. The discharge of urban runoff may also impact the physical habitat of receiving waters. Significant stream channel incision and bank erosion is a feature common in the Aliso Creek watershed and other drainages in Orange County and may be caused in part by changes in peak flow rates and volumes resulting from urban development. Preliminary results of the Ambient Bioassessment Monitoring Program in Aliso Creek and San Juan Creek in 1998 and 1999 indicate impacts to the benthic community that may be the result of water quality and habitat degradation.
10. **COPERMITTEES IMPLEMENT URBAN RUNOFF MANAGEMENT PROGRAMS (URMPs):** Copermittee implementation of Urban Runoff Management Programs (URMPs) designed to reduce discharges of pollutants and flow into and from MS4s to the maximum extent practicable (MEP) can protect receiving water quality by promoting attainment of water quality objectives necessary to support designated beneficial uses. To be most effective, URMPs must contain both structural and non-structural best management practices (BMPs).
11. **BEST MANAGEMENT PRACTICES (BMPs):** Pollutants can be effectively reduced in urban runoff by the application of a combination of pollution prevention, source control, and treatment control BMPs. Source control BMPs (both structural and non-structural) minimize the contact between pollutants and flows (e.g., rerouting run-on around pollutant sources or keeping pollutants on-site and out of receiving waters). Treatment control (or structural) BMPs remove pollutants from urban runoff. Where feasible, use of BMPs that utilize natural processes should be assessed. These types of BMPs, such as grassy swales and constructed wetlands, can frequently be as effective as less natural BMPs, while providing additional benefits such as aesthetics and habitat.
12. **POLLUTION PREVENTION:** Pollution prevention, the initial reduction/elimination of pollutant generation at its source, is the best “first line of defense” for Copermittees and should be used in conjunction with source control and treatment control BMPs. Pollutants that are never generated do not have to be controlled or treated. Encouragement during planning processes of the use of pollution prevention BMPs can be an effective means for pollution prevention BMPs to be implemented, through such methods as education, landscaping, etc.
13. **RECEIVING WATER LIMITATIONS:** Compliance with receiving water limits based on applicable water quality objectives is necessary to ensure that MS4 discharges will not cause or contribute to violations of water quality objectives and the creation of conditions of pollution.

14. **RECEIVING WATER LIMITATION COMPLIANCE STRATEGY:** Implementation of BMPs cannot ensure attainment of receiving water quality objectives under all circumstances; some BMPs may not prove to be as effective as anticipated. An iterative process of BMP development, implementation, monitoring, and assessment is necessary to assure that an Urban Runoff Management Program is sufficiently comprehensive and effective to achieve compliance with receiving water quality objectives.
15. **COPERMITTEES' RESPONSIBILITY FOR ILLICIT DISCHARGES FROM THIRD PARTIES:** As operators of MS4s, the Copermittees cannot passively receive and discharge pollutants from third parties. By providing free and open access to an MS4 that conveys discharges to the waters of the United States, the operator of an MS4 that does not prohibit and/or control discharges into its system essentially accepts responsibility for those discharges. These discharges may cause or contribute to a condition of contamination or exceedances of receiving water quality objectives.
16. **COPERMITTEES' RESPONSIBILITY BASED ON LAND USE AUTHORITY:** Utilizing their land use authority, Copermittees authorize and realize benefits from the urban development which generates the pollutants and runoff that impair receiving waters. Since the Copermittees utilize their legal authority to authorize urbanization, they must also exercise their legal authority to ensure that the resulting increased pollutant loads and flows do not further degrade receiving waters.
17. **THREE PHASES OF URBAN DEVELOPMENT:** Urban development has three major phases: (1) land use planning for new development; (2) construction; and (3) the "use" or existing development phase. Because the Copermittees authorize, permit, and realize benefits from each of these phases, and because each phase has a profound impact on water quality, the Copermittees have commensurate responsibilities to protect water quality during each phase. In other words, Copermittees are held responsible for the short and long-term water quality consequences of their land use planning, construction, and existing development decisions.
18. **PLANNING PHASE FOR NEW DEVELOPMENT:** Because land use planning and zoning is where urban development is conceived, it is the phase in which the greatest and most cost-effective opportunities to protect water quality exists. When a Copermittee incorporates policies and principles designed to safeguard water resources into its General Plan and development project approval processes, it has taken a far-reaching step towards the preservation of local water resources for future generations.
19. **CONSTRUCTION PHASE:** Construction activities are a significant cause of receiving water impairment. Siltation is currently the largest cause of river impairment in the United States. Sediment runoff rates from construction sites greatly exceed natural erosion rates of undisturbed lands causing siltation and impairment of receiving waters. In addition to requiring implementation of the full range of BMPs, an effective construction runoff program must include local plan review, permit conditions, field inspections, and enforcement.
20. **EXISTING DEVELOPMENT:** The Copermittees' wet weather monitoring results collected during the past decade, as well as volumes of other references in the literature today, confirm substantial pollutant loads to receiving waters in runoff from existing urban development. Implementation of jurisdictional and watershed URMPs, which include extensive controls on existing development, can reduce pollutant loadings over the long term.
21. **CHANGES NEEDED:** Because the urbanization process is a direct and leading cause of water quality degradation in this Region, fundamental changes to existing policies and practices about urban development are needed if the beneficial uses of the San Diego Region's natural water resources are to be protected.
22. **DUAL REGULATION OF INDUSTRIAL AND CONSTRUCTION SITES:** Discharges of runoff from industrial and construction sites in this Region are subject to dual (state and local) regulation. (1) All industries and construction sites are subject to the local permits, plans, and ordinances of the municipal jurisdiction in which it is located. Pursuant to this Order, local (storm water, grading,

construction, and use) permits, plans, and ordinances must (a) prohibit the discharge of pollutants and non-storm water into the MS4; and (b) require the routine use of BMPs to reduce pollutants in site runoff. (2) Many industries and construction sites are also subject to regulation under the statewide General Industrial Storm Water Permit or statewide General Construction Storm Water Permit¹. These statewide general permits are adopted by the State Water Resources Control Board and enforced by the nine Regional Water Quality Control Boards throughout California. Like the Copermittees' local permits and ordinances, the statewide General Industrial and Construction Permits also (a) prohibit the discharge of pollutants and non-storm water; and (b) require the routine use of BMPs to reduce pollutants in site runoff.

Recognizing that both authorities share a common goal, the federal storm water regulations at 40 CFR 122.26 (and its preamble) call for the dual system to ensure the most effective oversight of industrial and construction site discharges. Under this dual system, each municipal Copermittee is responsible for enforcing its local permits, plans, and ordinances within its jurisdiction. Similarly, the SDRWQCB is responsible for enforcing both statewide general permits and this Order within the San Diego Region.

23. **EDUCATION:** Education is the foundation of every effective URMP and the basis for changes in behavior at a societal level. Education of municipal planning, inspection, and maintenance department staffs is especially critical to ensure that in-house staffs understand how their activities impact water quality, how to accomplish their jobs while protecting water quality, and their specific roles and responsibilities for compliance with this Order. Public education, designed to target various urban land users and other audiences, is also essential to inform the public of how individual actions impact receiving water quality and how these impacts can be minimized. The proposed Drainage Area Management Plan (DAMP) that was submitted to the SDRWQCB by the Orange County Copermittees in September 2000 has a strong emphasis on education measures.
24. **ENFORCING LOCAL LEGAL AUTHORITY:** Enforcement of local urban runoff related ordinances, permits, and plans is an essential component of every URMP and is specifically required in the federal storm water regulations and this Order. Routine inspections provide an effective means by which Copermittees can evaluate compliance with their permits and ordinances. Inspections are especially important at high-risk areas for pollutant discharges such as industrial and construction sites.

When industrial or construction site discharges occur in violation of local permits and ordinances, the SDRWQCB looks to the municipality that has authorized the discharge for appropriate actions (typically education followed by enforcement where education has been unsuccessful). Each Copermittee must also provide enforcement against illegal discharges from other land uses it has authorized, such as commercial and residential developments.
25. **PUBLIC PARTICIPATION:** Public participation during the URMP development process is necessary to ensure that all stakeholder interests and a variety of creative solutions are considered.
26. **TOXICITY:** Urban runoff discharges from MS4s often contain pollutants that cause toxicity, (i.e., adverse responses of organisms to chemicals or physical agents ranging from mortality to physiological responses such as impaired reproduction or growth anomalies). The water quality objectives for toxicity provided in the Water Quality Control Plan, San Diego Basin, Region 9, (Basin Plan), state in part *"All waters shall be free of toxic substances in concentrations that are toxic to, or that produce detrimental physiological responses in human, plant, animal, or aquatic life....The survival of aquatic life in surface waters subjected to a waste discharge or other controllable water quality factors, shall not be less than*

¹ The "statewide General Industrial Storm Water Permit" refers to State Water Resources Control Board Water Quality Order No. 97-03-DWQ National Pollutant Discharge Elimination System General Permit No. CAS000001, Waste Discharge Requirements for Discharges of Storm Water Associated with Industrial Activities Excluding Construction Activities. The "statewide General Construction Storm Water Permit" refers to State Water Resources Control Board Order No. 99-08-DWQ National Pollutant Discharge Elimination System General Permit No. CAS000002, Waste Discharge Requirements for Discharges of Storm Water Runoff Associated with Construction Activity.

that for the same water body in areas unaffected by the waste discharge...” Urban runoff discharges from MS4s are considered toxic when (1) the toxic effect observed in an acute toxicity test exceeds zero Toxic Units Acute (TU_a=0); or (2) the toxic effect observed in a chronic toxicity test exceeds one Toxic Unit Chronic (TU_c=1).

- 27. **FOCUS ON MAN-MADE POLLUTANTS AND FLOWS:** The focus of this Order is on the control of urban runoff pollutants and flows, which are either generated or accelerated by human activities. This Order is not meant to control background or naturally occurring pollutants and flows.
- 28. **COMMON WATERSHEDS AND CWA SECTION 303(d) IMPAIRED WATERS:** The Copermittees discharge urban runoff into lakes, streams, creeks, bays, the Pacific Ocean, and tributaries thereto within six hydrologic areas within Orange County as shown in Table 2 below. During its downstream course, urban runoff is conveyed through lined and unlined (natural, manmade, and partially modified) channels, all of which are defined as components of the Copermittees’ MS4.

Some of the receiving water bodies listed below, which receive or convey urban runoff discharges, have been designated as impaired by the SDRWQCB and USEPA in 1998 pursuant to Clean Water Act section 303(d). Additional water bodies may be listed during the term of this Order pursuant to Clean Water Act section 303(d) as impaired as more information is collected and analyzed.

Table 2. Watershed Management Areas (WMAs)

SDRWQCB WATERSHED MANAGEMENT AREA (WMA)	HYDROLOGIC UNIT(S)	MAJOR SURFACE WATER BODIES	303(d) POLLUTANT(S) OF CONCERN OR WATER QUALITY EFFECT	COPERMITTEES
San Juan Creek WMA	San Juan Hydrologic Unit (901.00)	Moro Canyon Creek Laguna Canyon Creek Aliso Creek English Canyon Creek Sulphur Creek Wood Canyon Creek Salt Creek San Juan Creek Bell Canyon Creek Canada Gobernadora Arroyo Trabuco Oso Creek Prima Deshecha Canada Segunda Deshecha Canada Pacific Ocean	1. Coliform Bacteria	1. County of Orange 2. City of Aliso Viejo 3. City of Dana Point 4. City of Laguna Beach 5. City of Lake Forest 6. City of Laguna Hills 7. City of Laguna Niguel 8. City of Laguna Woods 9. City of Mission Viejo 10. City of Rancho Santa Margarita 11. City of San Juan Capistrano 12. City of San Clemente 13. Orange County Flood Control District

- 29. **CUMULATIVE POLLUTANT LOAD CONTRIBUTIONS:** Because they are interconnected, each MS4 within a watershed contributes to the cumulative pollutant loading, volume, and velocity of urban runoff and the ensuing degradation of downstream receiving water bodies. Accordingly, inland MS4s contribute to coastal impairments.
- 30. **LAND USE PLANNING ON A WATERSHED SCALE:** Because urban runoff does not recognize political boundaries, “watershed-based” land use planning (pursued collaboratively by neighboring local governments) can greatly enhance the protection of shared natural water resources. Such planning enables multiple jurisdictions to work together to plan for both development and resource conservation that can be environmentally as well as economically sustainable.
- 31. **INTERGOVERNMENTAL COORDINATION:** Within their common watersheds it is essential for the Copermittees to coordinate their water quality protection and land use planning activities to achieve the greatest protection of receiving water bodies. Copermittee coordination with other watershed stakeholders, especially CALTRANS and the Department of Defense is also critical.

Continued implementation of the management structure developed under previous permits, within which the Copermittees subject to this Order, will fund and coordinate those aspects of their joint obligations will promote implementation of Urban Runoff Management Programs on a watershed and regional basis in the most cost effective manner.

32. **WASTE REMOVAL:** Waste and pollutants which are deposited and accumulate in MS4 drainage structures will be discharged from these structures to waters of the United States unless they are removed. These discharges may cause or contribute to, or threaten to cause or contribute to, a condition of pollution in receiving waters. Once removed, such accumulated wastes must be characterized and lawfully disposed.
33. **CHANGING THE STORM WATER MANAGEMENT APPROACH:** In contrast to the conventional "conveyance" approach, a more natural approach to storm water management seeks to filter and infiltrate runoff by allowing it to flow slowly over permeable vegetated surfaces. By "preserving and restoring the natural hydrologic cycle", filtration and infiltration can greatly reduce the volume/peak rate, velocity, and pollutant loads of urban runoff. The greatest opportunities for changing from a "conveyance" to a more natural management approach occur during the land use planning and zoning processes and when new development projects are under early design.
34. **INFILTRATION AND POTENTIAL GROUNDWATER CONTAMINATION:** Any drainage feature that infiltrates runoff poses some risk of potential groundwater contamination. Although dependent on several factors, the risks typically associated with properly managed infiltration of runoff (especially from residential land use areas) are not significant. The risks associated with infiltration can be managed by many techniques, including (1) designing landscape drainage features that promote infiltration of runoff, but do not "inject" runoff (injection bypasses the natural processes of filtering and transformation that occur in the soil); (2) taking reasonable steps to prevent the illegal disposal of wastes; and (3) ensuring that each drainage feature is adequately maintained in perpetuity. Minimum conditions needed to protect groundwater are specified in section F.1.b. of this Order.
35. **VECTOR CONTROL:** Certain BMPs implemented or required by municipalities for urban runoff management may create a habitat for vectors (e.g. mosquitoes and rodents) if not properly designed or maintained. Close collaboration and cooperative effort between municipalities and local vector control agencies and the State Department of Health Services during the development and implementation of the Urban Runoff Management Programs is necessary to minimize nuisances and public health impacts resulting from vector breeding.
36. **LEGAL AUTHORITY:** This Order is based on the federal Clean Water Act, the Porter-Cologne Water Quality Control Act (Division 7 of the Water Code, commencing with Section 13000), applicable state and federal regulations, all applicable provisions of statewide Water Quality Control Plans and Policies adopted by the State Water Resources Control Board, the Regional Water Quality Control Plan (Basin Plan) adopted by the Regional Board, the California Toxics Rule, and the California Toxics Rule Implementation Plan.
37. **TOTAL MAXIMUM DAILY LOADS (TMDLs):** 40 CFR 122.44 (d)(vii)(B) requires that NPDES permits contain effluent limitations that are consistent with waste load allocations developed under a TMDL. Several TMDLs are being developed in the San Diego Region for impaired water bodies that receive Copermittees' discharge. Once these TMDLs are approved by the SDRWQCB and USEPA, Copermittees' discharge of urban runoff into an impaired water body will be subject to load allocations established by the TMDLs. This Order may be revised by the Regional Board to implement the TMDL waste load allocations for specific water bodies within the Orange County watersheds.
38. **ANTIDegradation:** Conscientious implementation of URMPs that satisfy the requirements contained in this Order will reduce the likelihood that discharges from MS4s will cause or contribute to unreasonable degradation of the quality of receiving waters. Therefore, this Order is in

conformance with SWRCB Resolution No. 68-16 and the federal antidegradation policy described in 40 CFR 131.12.

39. **CEQA:** The issuance of waste discharge requirements for the discharge of urban runoff from MS4s to waters of the United States is exempt from the requirement for preparation of environmental documents under the California Environmental Quality Act (CEQA) (Public Resources Code, Division 13, Chapter 3, § 21000 et seq.) in accordance with the CWC § 13389.
40. **COMMON INTEREST DEVELOPMENTS AND HOMEOWNERS ASSOCIATIONS:** Common interest developments occur within the jurisdiction of the Copermittees. Commonly owned areas can include those used to convey urban runoff. State Law (Civil code 1350-1376) requires that an association be established to manage the commonly owned areas. Urban runoff from storm water conveyance systems within common interest developments is discharged to receiving waters and/or MS4s. This runoff is expected to have water quality and quantity characteristics similar to runoff from areas of similar land use and drainage area.
41. **REPORT OF WASTE DISCHARGE:** In September 2000, the Orange County Copermittees submitted a Report of Waste Discharge and a proposed Drainage Area Management Plan (DAMP) for 2001-2006 to the SDRWQCB.
42. **PUBLIC NOTICE:** The SDRWQCB has notified the Copermittees, all known interested parties, and the public of its intent to consider adoption of an Order prescribing waste discharge requirements that would serve to renew an NPDES permit for the existing discharge of urban runoff.
43. **PUBLIC HEARING:** The SDRWQCB has, at a public meeting on January 9, 2002, held a public hearing and heard and considered all comments pertaining to the terms and conditions of this Order.

IT IS HEREBY ORDERED that the Copermittees, in order to meet the provisions contained in Division 7 of the California Water Code and regulations adopted thereunder, and the provisions of the Clean Water Act and regulations adopted thereunder, shall each comply with the following:

A. PROHIBITIONS -- DISCHARGES

1. Discharges into and from MS4s in a manner causing, or threatening to cause, a condition of pollution, contamination, or nuisance (as defined in CWC § 13050), in waters of the state are prohibited.
2. Discharges from MS4s that cause or contribute to exceedances of receiving water quality objectives for surface water or groundwater are prohibited.
3. Discharges from MS4s containing pollutants which have not been reduced to the maximum extent practicable (MEP) are prohibited.
4. In addition to the above prohibitions, discharges from MS4s are subject to all Basin Plan prohibitions cited in **Attachment A** to this Order.

B. PROHIBITIONS -- NON-STORM WATER DISCHARGES

1. Each Copermittee shall effectively prohibit **all** types of non-storm water discharges into its Municipal Separate Storm Sewer System (MS4) unless such discharges are either authorized by a separate NPDES permit; or not prohibited in accordance with B.2. and B.3. below.
2. Pursuant to 40 CFR 122.26(d)(2)(iv)(B)(1), the following categories of non-storm water discharges need only be prohibited from entering an MS4 if such categories of discharges are identified by the Copermittee as a significant source of pollutants to waters of the United States:

- a. Diverted stream flows;
 - b. Rising ground waters;
 - c. Uncontaminated ground water infiltration [as defined at 40 CFR 35.2005(20)] to MS4s;
 - d. Uncontaminated pumped ground water;
 - e. Foundation drains;
 - f. Springs;
 - g. Water from crawl space pumps;
 - h. Footing drains;
 - i. Air conditioning condensation;
 - j. Flows from riparian habitats and wetlands;
 - k. Water line flushing;
 - l. Landscape irrigation;
 - m. Discharges from potable water sources other than water main breaks;
 - n. Irrigation water;
 - o. Lawn watering;
 - p. Individual residential car washing; and
 - q. Dechlorinated swimming pool discharges.
3. When a discharge category above is identified as a significant source of pollutants to waters of the United States, the Copermittee shall either:
- a. Prohibit the discharge category from entering its MS4; **OR**
 - b. Not prohibit the discharge category and implement, or require the responsible party(ies) to implement, BMPs which will reduce pollutants to the MEP; **AND**
 - c. For each discharge category not prohibited, the Copermittee shall submit the following information to the SDRWQCB within **365 days** of adoption of this Order:
 - (1) The non-storm water discharge category listed above which the Copermittee elects not to prohibit; and
 - (2) The BMP(s) for each discharge category listed above which the Copermittee will implement, or require the responsible party(ies) to implement, to prevent or reduce pollutants to the MEP.
4. **Fire Fighting Flows:** Emergency and non-emergency fire fighting flows need not be prohibited. However, where applicable, when not interfering with health and safety issues, BMPs for non-emergency fire fighting flows are encouraged.
5. **Dry Weather Monitoring and Non-Storm Water Discharges:** Each Copermittee shall examine all dry weather monitoring results collected in accordance with section F.5. and Attachment E of this Order to identify water quality problems which may be the result of any non-prohibited discharge category(ies) identified above in Non-Storm Water Discharges to MS4s Prohibition B.2. Follow-up investigations shall be conducted as necessary to identify and control any non-prohibited discharge category(ies) listed above.

C. RECEIVING WATER LIMITATIONS

1. Discharges from MS4s that cause or contribute to the violation of water quality standards (designated beneficial uses and water quality objectives developed to protect beneficial uses) are prohibited.
2. Each Copermittee shall comply with Part C.1., Part A.2, and Part A.4 as it applies to Prohibition 5 in Attachment A of this Order through timely implementation of control measures and other actions to

reduce pollutants in urban runoff discharges in accordance with the Jurisdictional Urban Runoff Management Program (Jurisdictional URMP) and other requirements of this Order including any modifications. The Jurisdictional URMP shall be designed to achieve compliance with Part C.1., Part A.2, and Part A.4 as it applies to Prohibition 5 in Attachment A of this Order. If exceedance(s) of water quality standards persist notwithstanding implementation of the URMP and other requirements of this Order, the Copermittee shall assure compliance with Part C.1., Part A.2, and Part A.4 as it applies to Prohibition 5 in Attachment A of this Order by complying with the following procedure:

- a. Upon a determination by either the Copermittee or the SDRWQCB that MS4 discharges are causing or contributing to an exceedance of an applicable water quality standard, the Copermittee shall promptly notify and thereafter submit a report to the SDRWQCB that describes BMPs that are currently being implemented and additional BMPs that will be implemented to prevent or reduce any pollutants that are causing or contributing to the exceedance of water quality standards. The report may be incorporated in the annual update to the Jurisdictional URMP unless the SDRWQCB directs an earlier submittal. The report shall include an implementation schedule. The SDRWQCB may require modifications to the report;
- b. Submit any modifications to the report required by the SDRWQCB within 30 days of notification;
- c. Within 30 days following approval of the report described above by the SDRWQCB, the Copermittee shall revise its Jurisdictional URMP and monitoring program to incorporate the approved modified BMPs that have been and will be implemented, the implementation schedule, and any additional monitoring required;
- d. Implement the revised Jurisdictional URMP and monitoring program in accordance with the approved schedule.

So long as the Copermittee has complied with the procedures set forth above and are implementing the revised Jurisdictional URMP, the Copermittee does not have to repeat the same procedure for continuing or recurring exceedances of the same receiving water limitations unless directed by the SDRWQCB to do so.

3. Nothing in this section shall prevent the SDRWQCB from enforcing any provision of this Order while the Copermittee prepares and implements the above report.

D. LEGAL AUTHORITY

1. Each Copermittee shall establish, maintain, and enforce adequate legal authority to control pollutant discharges **into** and **from** its MS4 through ordinance, statute, permit, contract or similar means. This legal authority must, at a minimum, authorize the Copermittee to:
 - a. Control the contribution of pollutants in discharges of runoff associated with industrial and construction activity **to** its MS4 and control the quality of runoff **from** industrial and construction sites. This requirement applies both to industrial and construction sites that have coverage under the statewide general industrial or construction storm water permits, as well as to those sites that do not. Grading ordinances shall be upgraded and enforced as necessary to comply with this Order.
 - b. Prohibit **all** identified illicit discharges not otherwise allowed pursuant to section B.2 including but not limited to:
 - (1) Sewage;

- (2) Discharges of wash water resulting from the hosing or cleaning of gas stations, auto repair garages, or other types of automotive services facilities;
 - (3) Discharges resulting from the cleaning, repair, or maintenance of any type of equipment, machinery, or facility including motor vehicles, cement-related equipment, and port-a-potty servicing, etc.;
 - (4) Discharges of wash water from mobile operations such as mobile automobile washing, steam cleaning, power washing, and carpet cleaning, etc.;
 - (5) Discharges of wash water from the cleaning or hosing of impervious surfaces in municipal, industrial, commercial, and residential areas including parking lots, streets, sidewalks, driveways, patios, plazas, work yards and outdoor eating or drinking areas, etc.;
 - (6) Discharges of runoff from material storage areas containing chemicals, fuels, grease, oil, or other hazardous materials;
 - (7) Discharges of pool or fountain water containing chlorine, biocides, or other chemicals; discharges of pool or fountain filter backwash water;
 - (8) Discharges of sediment, pet waste, vegetation clippings, or other landscape or construction-related wastes; and
 - (9) Discharges of food-related wastes (e.g., grease, fish processing, and restaurant kitchen mat and trash bin wash water, etc.).
- c. Prohibit and eliminate illicit connections to the MS4;
 - d. Control the discharge of spills, dumping, or disposal of materials other than storm water to its MS4;
 - e. Require compliance with conditions in Copermittee ordinances, permits, contracts or orders (i.e., hold dischargers to its MS4 accountable for their contributions of pollutants and flows);
 - f. Utilize enforcement mechanisms to require compliance with Copermittee storm water ordinances, permits, contracts, or orders;
 - g. Control the contribution of pollutants from one portion of the shared MS4 to another portion of the MS4 through interagency agreements among Copermittees. Control of the contribution of pollutants from one portion of the shared MS4 to another portion of the MS4 through interagency agreements with other owners of the MS4 such as CALTRANS, Native American Tribes, and the Department of Defense is encouraged;
 - h. Carry out all inspections, surveillance, and monitoring necessary to determine compliance and noncompliance with local ordinances and permits and with this Order, including the prohibition on illicit discharges to the MS4. This means the Copermittee must have authority to enter, sample, inspect, review and copy records, and require regular reports from industrial facilities discharging into its MS4, including construction sites; and
 - i. Require the use of best management practices (BMPs) to prevent or reduce the discharge of pollutants to MS4s.
2. Within **365 days** of adoption of this Order, each Copermittee shall provide to the SDRWQCB a statement certified by its chief legal counsel that the Copermittee has adequate legal authority to

implement and enforce each of the requirements contained in 40 CFR 122.26(d)(2)(i)(A-F) and this Order. This statement shall include:

- a. Identification of all departments within the jurisdiction that conduct urban runoff related activities, and their roles and responsibilities under this Order. Include an up to date organizational chart specifying these departments and key personnel;
- b. Citation of urban runoff related ordinances and the reasons they are enforceable;
- c. Identification of the local administrative and legal procedures available to mandate compliance with urban runoff related ordinances and therefore with the conditions of this Order;
- d. Description of how these ordinances are implemented and appealed; and
- e. Description of whether the municipality can issue administrative orders and injunctions or if it must go through the court system for enforcement actions.

E. TECHNOLOGY BASED STANDARDS

Each Copermittee shall implement, or require implementation of, best management practices to ensure that the following pollutant discharges **into** and/or **from** its MS4 are reduced to the applicable technology based standard as specified below:

Table 3. Technology Based Standards²

POLLUTANT DISCHARGE FROM	DESCRIPTION	APPLICABLE PERFORMANCE STANDARD
Industrial Activity <u>owned by the Copermittee</u>	Categorical Industry in 40 CFR 122.26	The Copermittees are required to implement BMPs to the BAT/BCT standard (pursuant to Statewide General Industrial Permit)
Industrial Activity	All other industry	The Copermittees are required to implement or require the implementation of BMPs to the MEP standard for discharges into their MS4s. ³
Construction Activity <u>owned by the Copermittee</u>	Greater than or Equal to 5 Acres (or less than 5 acres and Part of a Larger Common Plan of Sale or Development)	The Copermittees are required to implement BMPs to the BAT/BCT standard (pursuant to Statewide General Construction Permit)
Construction Activity	All Other construction	The Copermittees are required to implement or require the implementation of BMPs to the MEP standard for discharges into their MS4s ⁴
Other Sources	All Other Land Use Activities	The Copermittees are required to implement or require the implementation of BMPs to the MEP standard for discharges into their MS4s
MS4s	All discharges from MS4s	The Copermittees are required to implement or require the implementation of BMPs to the MEP standard for all discharges from their MS4s

² Pursuant to this Order, each Copermittee shall ensure that pollutants in runoff from industrial and construction sites within its jurisdiction have been reduced to the MEP standard before entering its MS4. The industrial and construction site dischargers themselves however must ensure that pollutants in runoff leaving their sites have been reduced to the BAT/BCT standard pursuant to either the statewide General Industrial or Construction Storm Water Permit. Runoff from industrial and construction sites owned by municipalities and subject to either the General Industrial or Construction Storm Water Permits, must meet the BAT/BCT standard.

³ The facility operator is required to implement BMPs to the BAT/BCT standard pursuant to the Statewide General Industrial permit.

⁴ The facility operator is required to implement BMPs to the BAT/BCT standard pursuant to the Statewide General Construction permit.

F. JURISDICTIONAL URBAN RUNOFF MANAGEMENT PROGRAM

Each Copermittee shall take appropriate actions to reduce discharges of pollutants and runoff flow during each of the three major phases of urban development, i.e., the planning, construction, and existing development (or use) phases. Following the adoption of the Order and prior to the full implementation of the Jurisdictional URMP, each Copermittee shall at a minimum implement the provisions and commitments of the proposed DAMP submitted in September 2000.

Each Copermittee shall implement a Jurisdictional Urban Runoff Management Program (Jurisdictional URMP) that contains the components shown below as described in Sections F.1. through F.9:

F.1. Land-Use Planning for New Development and Redevelopment Component**F.2. Construction Component****F.3. Existing Development Component**

- a. Municipal
- b. Industrial
- c. Commercial
- d. Residential

F.4. Education Component**F.5. Illicit Discharge Detection and Elimination Component****F.6. Common Interest Areas and Homeowners Associations****F.7. Public Participation Component****F.8. Assessment of Jurisdictional URMP Effectiveness Component****F.9. Fiscal Analysis Component*****F.1. Land-Use Planning for New Development and Redevelopment Component***

Each Copermittee shall minimize the short and long-term impacts on receiving water quality from new development and redevelopment. In order to reduce pollutants and runoff flows from new development and redevelopment to the maximum extent practicable, each Copermittee shall at a minimum:

- F.1.a Assess General Plan
- F.1.b Modify Development Project Approval Processes
- F.1.c Revise Environmental Review Processes
- F.1.d Conduct Education Efforts Focused on New Development and Redevelopment

F.1.a. Assess General Plan

Each Copermittee's General Plan or equivalent plan (e.g., Comprehensive, Master, or Community Plan) shall include water quality and watershed protection principles and policies to direct land-use decisions and require implementation of consistent water quality protection measures for development projects. As part of its Jurisdictional Urban Runoff Management Program document, each Copermittee shall provide a workplan with time schedule detailing any changes to its General Plan regarding water quality and watershed protection. Examples of water quality and watershed protection principles and policies to be considered include the following:

- (1) Minimize the amount of impervious surfaces and directly connected impervious surfaces in areas of new development and redevelopment and where feasible slow runoff and maximize on-site infiltration of runoff.
- (2) Implement pollution prevention methods supplemented by pollutant source controls and treatment. Use small collection strategies located at, or as close as possible to, the source (i.e., the point where water initially meets the ground) to minimize the transport of urban runoff and pollutants offsite and into an MS4.

- (3) Preserve, and where possible, create or restore areas that provide important water quality benefits, such as riparian corridors, wetlands, and buffer zones. Encourage land acquisition of such areas.
- (4) Limit disturbances of natural water bodies and natural drainage systems caused by development including roads, highways, and bridges.
- (5) Prior to making land use decisions, utilize methods available to estimate increases in pollutant loads and flows resulting from projected future development. Require incorporation of structural and non-structural BMPs to mitigate the projected increases in pollutant loads and flows.
- (6) Avoid development of areas that are particularly susceptible to erosion and sediment loss; or establish development guidance that identifies these areas and protects them from erosion and sediment loss.
- (7) Reduce pollutants associated with vehicles and increasing traffic resulting from development. Coordinate local traffic management reduction efforts with Orange County Transit Authority's Congestion Management Plan.
- (8) Post-development runoff from a site shall not contain pollutant loads that cause or contribute to an exceedance of receiving water quality objectives and which have not been reduced to the maximum extent practicable.

F.1.b. Modify Development Project Approval Processes

Prior to project approval and issuance of local permits, Copermittees shall require each proposed project to implement measures to ensure that pollutants and runoff from the development will be reduced to the maximum extent practicable and will not cause or contribute to an exceedance of receiving water quality objectives. Each Copermittee shall further ensure that all development will be in compliance with Copermittee storm water ordinances, local permits, all other applicable ordinances and requirements, and this Order.

(1) *Development Project Requirements*

Each Copermittee shall include development project requirements in local permits to ensure that pollutant discharges from development are reduced to the maximum extent practicable, peak runoff velocities and runoff volumes from development are controlled, and that receiving water quality objectives are not violated throughout the life of the project. Such requirements shall, at a minimum:

- (a) Require project proponent to implement source control BMPs for all applicable development projects.
- (b) Require project proponent to implement site design/landscape characteristics where feasible which maximize infiltration, provide retention, slow runoff, and minimize impervious land coverage for all development projects.
- (c) Require project proponent to implement buffer zones for natural water bodies, where feasible. Where buffer zone implementation is infeasible, require project proponent to implement other buffers such as trees, lighting restrictions, access restrictions, etc.
- (d) Require industrial applicants subject to California's statewide General NPDES Permit for Storm Water Discharges Associated with Industrial Activities (Except Construction), (hereinafter General Industrial Permit), to provide evidence of coverage under the General Industrial Permit.
- (e) Require project proponent to ensure its grading or other construction activities meet the provisions specified in Section F.2. of this Order.

- (f) Require project proponent to provide proof of a mechanism which will ensure ongoing long-term maintenance of all structural post-construction BMPs.

(2) *Standard Urban Storm Water Mitigation Plans (SUSMPs)*

Within 365 days of adoption of this Order, the Copermittees shall collectively develop a model Standard Urban Storm Water Mitigation Plan (SUSMP) to reduce pollutants and to maintain or reduce downstream erosion and stream habitat from all new development and significant redevelopment projects falling under the priority project categories or locations listed in section F.1.b.(2)(a) below. The Copermittees shall submit the model SUSMP to the SDRWQCB. Within 180 days of development of the model SUSMP, each Copermittee shall adopt its own local SUSMP, and amended ordinances consistent with the model SUSMP, and shall submit both (local SUSMP and amended ordinances) to the SDRWQCB.

Immediately following adoption of its local SUSMP, each Copermittee shall ensure that all new development and significant redevelopment projects falling under the priority project categories or locations listed in F.1.b.(2)(a) below meet SUSMP requirements. The SUSMP requirements shall apply to all priority projects or phases of priority projects that have not yet begun grading or construction activities. If a Copermittee determines that lawful prior approval of a project exists, whereby application of SUSMP requirements to the project is infeasible, SUSMP requirements need not apply to the project. Where feasible, the Copermittees shall utilize the 18-month SUSMP implementation period to ensure that projects undergoing approval processes include application of SUSMP requirements in their plans.

- (a) *Priority Development Project Categories - SUSMP requirements shall apply to all new development and significant redevelopment projects falling under the priority project categories or locations listed below.* Significant redevelopment is defined as the creation or addition of at least 5,000 square feet of impervious surfaces on an already developed site. Significant redevelopment includes, but is not limited to: the expansion of a building footprint or addition or replacement of a structure; structural development including an increase in gross floor area and/or exterior construction or remodeling; replacement of impervious surface that is not part of a routine maintenance activity; and land disturbing activities related with structural or impervious surfaces. Where significant redevelopment results in an increase of less than fifty percent of the impervious surfaces of a previously existing development, and the existing development was not subject to SUSMP requirements, the numeric sizing criteria discussed in section F.1.b.(2)(c) applies only to the addition, and not to the entire development.
 - i. *Home subdivisions of 10 or more housing units.* This category includes single-family homes, multi-family homes, condominiums, and apartments.
 - ii. *Commercial developments greater than 100,000 square feet.* This category is defined as any development on private land that is not for heavy industrial or residential uses where the land area for development is greater than 100,000 square feet. The category includes, but is not limited to: hospitals; laboratories and other medical facilities; educational institutions; recreational facilities; commercial nurseries; multi-apartment buildings; car wash facilities; mini-malls and other business complexes; shopping malls; hotels; office buildings; public warehouses; automotive dealerships; commercial airfields; and other light industrial facilities.
 - iii. *Automotive repair shops.* This category is defined as a facility that is categorized in any one of the following Standard Industrial Classification (SIC) codes: 5013, 5014, 5541, 7532-7534, or 7536-7539.

- iv. *Restaurants.* This category is defined as a facility that sells prepared foods and drinks for consumption, including stationary lunch counters and refreshment stands selling prepared foods and drinks for immediate consumption (SIC code 5812), where the land area for development is greater than 5,000 square feet. Restaurants where land development is less than 5,000 square feet shall meet all SUSMP requirements except for structural treatment BMP and numeric sizing criteria requirement F.1.b.(2)(c) and peak flow rate requirement F.1.b(2)(b)(i).
 - v. *All hillside development greater than 5,000 square feet.* This category is defined as any development which creates 5,000 square feet of impervious surface which is located in an area with known erosive soil conditions, where the development will grade on any natural slope that is twenty-five percent or greater.
 - vi. *Environmentally Sensitive Areas: All development and redevelopment located within or directly adjacent to or discharging directly to an environmentally sensitive area (where discharges from the development or redevelopment will enter receiving waters within the environmentally sensitive area), which either creates 2,500 square feet of impervious surface on a proposed project site or increases the area of imperviousness of a proposed project site to 10% or more of its naturally occurring condition.* Environmentally sensitive areas include but are not limited to all Clean Water Act Section 303(d) impaired water bodies; areas designated as Areas of Special Biological Significance by the State Water Resources Control Board (Water Quality Control Plan for the San Diego Basin (1994) and amendments); water bodies designated with the RARE beneficial use by the State Water Resources Control Board (Water Quality Control Plan for the San Diego Basin (1994) and amendments); areas designated as preserves or equivalent under the Natural Community Conservation Planning Program; and any areas designated as Critical Aquatic Resources (CARS) or other equivalent environmentally sensitive areas which have been identified by the Copermitttees. "Directly adjacent" means situated within 200 feet of the environmentally sensitive area. "Discharging directly to" means outflow from a drainage conveyance system that is composed entirely of flows from the subject development or redevelopment site, and not commingled with flows from adjacent lands.
 - vii. *Parking lots 5,000 square feet or more or with 15 or more parking spaces and potentially exposed to urban runoff.* Parking lot is defined as a land area or facility for the temporary parking or storage of motor vehicles used personally, for business, or for commerce.
 - viii. *Street, roads, highways, and freeways.* This category includes any paved surface that is 5,000 square feet or greater used for the transportation of automobiles, trucks, motorcycles, and other vehicles.
- (b) BMP Requirements – The SUSMP shall include a list of recommended source control and structural treatment BMPs. The SUSMP shall require all new development and significant redevelopment projects falling under the above priority project categories or locations to implement a combination of BMPs selected from the recommended BMP list, including at a minimum (1) source control BMPs and (2) structural treatment BMPs. The BMPs shall, at a minimum:
- i. Control the post-development peak storm water runoff discharge rates and velocities to maintain or reduce pre-development downstream erosion, and to protect stream habitat;

- ii. Conserve natural areas where feasible;
 - iii. Minimize storm water pollutants of concern in urban runoff from the new development or significant redevelopment (through implementation of source control BMPs). Identification of pollutants of concern should include at a minimum consideration of any pollutants for which water bodies receiving the development's runoff are listed as impaired under Clean Water Act section 303(d), any pollutant associated with the land use type of the development, and any pollutant commonly associated with urban runoff;
 - iv. Remove pollutants of concern from urban runoff (through implementation of structural treatment BMPs);
 - v. Minimize directly connected impervious areas where feasible;
 - vi. Protect slopes and channels from eroding;
 - vii. Include storm drain stenciling and signage;
 - viii. Include properly designed outdoor material storage areas;
 - ix. Include properly designed trash storage areas;
 - x. Include proof of a mechanism, to be provided by the project proponent or Copermittee, which will ensure ongoing long-term structural BMP maintenance;
 - xi. Include additional water quality provisions applicable to individual priority project categories;
 - xii. Be correctly designed so as to remove pollutants to the maximum extent practicable;
 - xiii. Be implemented close to pollutant sources, when feasible, and prior to discharging into receiving waters supporting beneficial uses; and
 - xiv. Ensure that post-development runoff does not contain pollutant loads which cause or contribute to an exceedance of water quality objectives and which have not been reduced to the maximum extent practicable.
- (c) Numeric Sizing Criteria – The SUSMP shall require structural treatment BMPs to be implemented for all priority development projects. All structural treatment BMPs shall be located so as to infiltrate, filter, or treat the required runoff volume or flow prior to its discharge to any receiving water body supporting beneficial uses. Structural treatment BMPs may be shared by multiple new development projects as long as construction of any shared structural treatment BMPs is completed prior to the use of any new development project from which the structural treatment BMP will receive runoff.

In addition to meeting the BMP requirements listed in item F.1.b.(2)(b) above, all structural treatment BMPs for a single priority development project shall collectively be sized to comply with the following numeric sizing criteria:

Volume

Volume-based BMPs shall be designed to mitigate (infiltrate, filter, or treat) either:

- i. The volume of runoff produced from a 24-hour 85th percentile storm event, as determined from the local historical rainfall record (0.8 inch approximate average for the Orange County area);⁵ or
- ii. The volume of runoff produced by the 85th percentile 24-hour rainfall event, determined as the maximized capture storm water volume for the area, from the formula recommended in Urban Runoff Quality

⁵This volume is not a single volume to be applied to all of Orange County. The size of the 85th percentile storm event is different for various parts of the County. The Copermittees are encouraged to calculate the 85th percentile storm event for each of their jurisdictions using local rain data pertinent to their particular jurisdiction (the 0.8 inch standard is a rough average for the County and should only be used where appropriate rain data is not available). In addition, isopluvial maps may be used to extrapolate rainfall data to areas where insufficient data exists in order to determine the volume of the local 85th percentile storm event in such areas. Where the Copermittees will use isopluvial maps to determine the 85th percentile storm event in areas lacking rain data, the Copermittees shall describe their method for using isopluvial maps in the model and local SUSMPs.

Management, WEF Manual of Practice No. 23/ASCE Manual of Practice No. 87, (1998); or

- iii. The volume of annual runoff based on unit basin storage volume, to achieve 90% or more volume treatment by the method recommended in California Stormwater Best Management Practices Handbook – Industrial/Commercial, (1993); or
- iv. The volume of runoff, as determined from the local historical rainfall record, that achieves approximately the same reduction in pollutant loads and flows as achieved by mitigation of the 85th percentile 24-hour runoff event;⁶

OR

Flow

Flow-based BMPs shall be designed to mitigate (infiltrate, filter, or treat) either:

- i. The maximum flow rate of runoff produced from a rainfall intensity of 0.2 inch of rainfall per hour, for each hour; or
- ii. The maximum flow rate of runoff produced by the 85th percentile hourly rainfall intensity, as determined from the local historical rainfall record, multiplied by a factor of two; or
- iii. The maximum flow rate of runoff, as determined from the local historical rainfall record, that achieves approximately the same reduction in pollutant loads and flows as achieved by mitigation of the 85th percentile hourly rainfall intensity multiplied by a factor of two.

- (d) Equivalent Numeric Sizing Criteria - The Copermittees may develop, as part of the model SUSMP, any equivalent method for calculating the volume or flow which must be mitigated (i.e., any equivalent method for calculating numeric sizing criteria) by post-construction structural treatment BMPs. Such equivalent sizing criteria may be authorized by the SDRWQCB for use in place of the above criteria. In the absence of development and subsequent authorization of such equivalent numeric sizing criteria, the above numeric sizing criteria requirement shall be implemented.
- (e) Pollutants or Conditions of Concern – As part of the model SUSMP, the Copermittees shall develop a procedure for pollutants or conditions of concern to be identified for each new development or significant redevelopment project. The procedure shall include, at a minimum, consideration of (1) receiving water quality (including pollutants for which receiving waters are listed as impaired under Clean Water Act section 303(d)); (2) land use type of the development project and pollutants associated with that land use type; (3) pollutants expected to be present on site; (4) changes in storm water discharge flow rates, velocities, durations, and volumes resulting from the development project; and (5) sensitivity of receiving waters to changes in storm water discharge flow rates, velocities, durations, and volumes.
- (f) Implementation Process – As part of the model SUSMP, the Copermittees shall develop a process by which SUSMP requirements will be implemented. The process shall identify at what point in the planning process development projects will be required to meet SUSMP requirements. The process shall also include identification of the roles and responsibilities of various municipal departments in implementing the SUSMP requirements, as well as any other measures necessary for the implementation of SUSMP requirements.

⁶ Under this volume criteria, hourly rainfall data may be used to calculate the 85th percentile storm event, where each storm event is identified by its separation from other storm events by at least six hours of no rain. Where the Copermittees may use hourly rainfall data to calculate the 85th percentile storm event, the Copermittees shall describe their method for using hourly rainfall data to calculate the 85th percentile storm event in the model and local SUSMPs.

- (g) Waiver Provision – A Copermittee may provide for a project to be waived from the requirement of implementing all structural treatment BMPs (F.1.b.(2)(b) & F.1.b.(2)(c)) if infeasibility can be established. A waiver of infeasibility shall only be granted by a Copermittee when all available structural treatment BMPs have been considered and rejected as infeasible. Copermittees shall notify the SDRWQCB within 5 days of each waiver issued and shall include the name of the person granting each waiver.

As part of the model SUSMP, the Copermittees may develop a program to require project proponents who have received waivers to transfer the savings in cost, as determined by the Copermittee(s), to a storm water mitigation fund. This program may be implemented by all Copermittees that choose to provide waivers. Funds may be used on projects to improve urban runoff quality within the watershed of the waived project. The waiver program may identify:

- i. The entity or entities that will manage the storm water mitigation fund (i.e., assume full responsibility for)
 - ii. The range and types of acceptable projects for which mitigation funds may be expended;
 - iii. The entity or entities that will assume full responsibility for each mitigation project including its successful completion
 - iv. How the dollar amount of fund contributions will be determined.
- (h) Infiltration and Groundwater Protection – To protect groundwater quality, each Copermittee shall apply restrictions to the use of structural treatment BMPs which are designed to primarily function as infiltration devices (such as infiltration trenches and infiltration basins). Such restrictions shall ensure that the use of such infiltration structural treatment BMPs shall not cause or contribute to an exceedance of groundwater quality objectives. At a minimum, use of structural treatment BMPs which are designed to primarily function as infiltration devices shall meet the following conditions:⁷
- i. Urban runoff shall undergo pretreatment such as sedimentation or filtration prior to infiltration.
 - ii. All dry weather flows shall be diverted from infiltration devices.
 - iii. Pollution prevention and source control BMPs shall be implemented at a level appropriate to protect groundwater quality at sites where infiltration structural treatment BMPs are to be used.
 - iv. Infiltration structural treatment BMPs shall be adequately maintained so that they remove pollutants to the maximum extent practicable.
 - v. The vertical distance from the base of any infiltration structural treatment BMP to the seasonal high groundwater mark shall be at least 10 feet. Where groundwater basins do not support beneficial uses, this vertical distance criteria may be reduced, provided groundwater quality is maintained.
 - vi. The soil through which infiltration is to occur shall have physical and chemical characteristics (such as appropriate cation exchange capacity, organic content, clay content, and infiltration rate) which are adequate for proper infiltration durations and treatment of urban runoff for the protection of groundwater beneficial uses.
 - vii. Infiltration structural treatment BMPs shall not be used for areas of industrial or light industrial activity; areas subject to high vehicular traffic (25,000 or greater average daily traffic on main roadway or 15,000 or more average daily traffic on any intersecting roadway); automotive repair shops; car washes; fleet storage

⁷ These conditions do not apply to structural treatment BMPs which allow incidental infiltration and are not designed to primarily function as infiltration devices (such as grassy swales, detention basins, vegetated buffer strips, constructed wetlands, etc.)

- areas (bus, truck, etc.); nurseries; and other high threat to water quality land uses and activities as designated by each Copermittee.
- viii. Infiltration structural BMPs shall be located a minimum of 100 feet horizontally from any water supply wells.

As part of the model and local SUSMPs, the Copermittees may develop alternative restrictions on the use of structural treatment BMPs which are designed to primarily function as infiltration devices.

- (i) Downstream Erosion – As part of the model SUSMP and the local SUSMPs, the Copermittees shall develop criteria to ensure that discharges from new development and significant redevelopment maintain or reduce pre-development downstream erosion and protect stream habitat. At a minimum, criteria shall be developed to control peak storm water discharge rates and velocities in order to maintain or reduce pre-development downstream erosion and protect stream habitat. Storm water discharge volumes and durations should also be considered.

F.1.c. Revise Environmental Review Processes

- (1) To the extent feasible, the Copermittees shall revise their current environmental review processes to include requirements for evaluation of water quality effects and identification of appropriate mitigation measures. The following questions are examples to be considered in addressing increased pollutants and flows from proposed projects:
- (a) Could the proposed project result in an increase in pollutant discharges to receiving waters? Consider water quality parameters such as temperature, dissolved oxygen, turbidity and other typical storm water pollutants (e.g., heavy metals, pathogens, petroleum derivatives, synthetic organics, sediment, nutrients, oxygen-demanding substances, and trash).
 - (b) Could the proposed project result in significant alteration of receiving water quality during or following construction?
 - (c) Could the proposed project result in increased impervious surfaces and associated increased runoff?
 - (d) Could the proposed project create a significant adverse environmental impact to drainage patterns due to changes in runoff flow rates or volumes?
 - (e) Could the proposed project result in increased erosion downstream?
 - (f) Is the project tributary to an already impaired water body, as listed on the Clean Water Act Section 303(d) list? If so, can it result in an increase in any pollutant for which the water body is already impaired?
 - (g) Is project tributary to other environmentally sensitive areas? If so, can it exacerbate already existing sensitive conditions?
 - (h) Could the proposed project have a potentially significant environmental impact on surface water quality, to either marine, fresh, or wetland waters?
 - (i) Could the proposed project have a potentially significant adverse impact on ground water quality?
 - (j) Could the proposed project cause or contribute to an exceedance of applicable surface or groundwater receiving water quality objectives or degradation of beneficial uses?
 - (k) Can the project impact aquatic, wetland, or riparian habitat?

F.1.d. Conduct Education Efforts Focused on New Development and Redevelopment

- (1) Internal: Municipal Staff and Others

Each Copermittee shall implement an education program to ensure that its planning and development review staffs (and Planning Boards and Elected Officials, if applicable) have an understanding of:

- (a) Federal, state, and local water quality laws and regulations applicable to development projects;
 - (b) The connection between land use decisions and short and long-term water quality impacts (i.e., impacts from land development and urbanization); and
 - (c) How impacts to receiving water quality resulting from development can be minimized (i.e., through implementation of various source control and structural BMPs).
- (2) External: Project Applicants, Developers, Contractors, Property Owners, Community Planning Groups

As early in the planning and development process as possible, each Copermittee shall implement a program to educate project applicants, developers, contractors, property owners, and community planning groups on the following topics:

- (a) Federal, state, and local water quality laws and regulations applicable to development projects;
- (b) Required federal, state, and local permits pertaining to water quality;
- (c) Water quality impacts of urbanization; and
- (d) Methods for minimizing the impacts of development on receiving water quality.

F.2. Construction Component

Each Copermittee shall implement a Construction Component of its Jurisdictional URMP to reduce pollutants in runoff from construction sites during all construction phases. At a minimum the construction component shall address:

- F.2.a. Pollution Prevention
- F.2.b. Grading Ordinance Update
- F.2.c. Modify Construction and Grading Approval Process
- F.2.d. Source Identification
- F.2.e. Threat to Water Quality Prioritization
- F.2.f. BMP Implementation
- F.2.g. Inspection of Construction Sites
- F.2.h. Enforcement of Construction Sites
- F.2.i. Reporting of Non-compliant Sites
- F.2.j. Education Focused on Construction Activities

F.2.a. Pollution Prevention (Construction)

Each Copermittee shall implement pollution prevention methods in its Construction Component and shall require its use by construction site owners, developers, contractors, and other responsible parties, where appropriate.

F.2.b. Grading Ordinance Update (Construction)

Each Copermittee shall review and update its grading ordinances as necessary for compliance with its storm water ordinances and this Order. The updated grading ordinance shall require implementation of BMPs and other measures during all construction activities, including the following BMPs and other measures or their equivalent:

- (1) Erosion prevention;
- (2) Seasonal restrictions on grading;
- (3) Slope stabilization requirements;
- (4) Phased grading;
- (5) Revegetation as early as feasible;

- (6) Preservation of natural hydrologic features;
- (7) Preservation of riparian buffers and corridors;
- (8) Maintenance of all source control and structural treatment BMPs; and
- (9) Retention and proper management of sediment and other construction pollutants on site.

F.2.c Modify Construction and Grading Approval Process (Construction)

Prior to approval and issuance of local construction and grading permits, each Copermittee shall require all individual proposed construction and grading projects to implement measures to ensure that pollutants from the site will be reduced to the maximum extent practicable and will not cause or contribute to an exceedance of water quality objectives. Each Copermittee shall further ensure that all grading and construction activities will be in compliance with applicable Copermittee ordinances (e.g., storm water, grading, construction, etc.) and other applicable requirements, including this Order.

(1) Construction and Grading Project Requirements

Include construction and grading project requirements in local grading and construction permits to ensure that pollutant discharges are reduced to the maximum extent practicable and water quality objectives are not violated during the construction phase. Such requirements shall include the following requirements or their equivalent:

- (a) Require project proponent to develop and implement a plan to manage storm water and non-storm water discharges from the site at all times;
- (b) Require project proponent to minimize grading during the wet season and coincide grading with seasonal dry weather periods to the extent feasible. If grading does occur during the wet season, require project proponent to implement additional BMPs for any rain events which may occur, as necessary for compliance with this Order;
- (c) Require project proponent to emphasize erosion prevention as the most important measure for keeping sediment on site during construction;
- (d) Require project proponent to utilize sediment controls as a supplement to erosion prevention for keeping sediment on-site during construction, and never as the single or primary method;
- (e) Require project proponent to minimize areas that are cleared and graded to only the portion of the site that is necessary for construction;
- (f) Require project proponent to minimize exposure time of disturbed soil areas;
- (g) Require project proponent to temporarily stabilize and reseed disturbed soil areas as rapidly as possible;
- (h) Require project proponent to permanently revegetate or landscape as early as feasible;
- (i) Require project proponent to stabilize all slopes; and
- (j) Require project proponents subject to California's statewide General NPDES Permit for Storm Water Discharges Associated With Construction Activities, (hereinafter General Construction Permit), to provide evidence of existing coverage under the General Construction Permit.

F.2.d. Source Identification (Construction)

Each Copermittee shall annually develop and update, prior to the rainy season, a watershed-based inventory of all construction sites within its jurisdiction regardless of site size or ownership. This requirement is applicable to all construction sites regardless of whether the construction site is subject to the California statewide General NPDES Permit for Storm Water Discharges Associated With Construction Activities (hereinafter General Construction Permit), or other individual NPDES permit. The use of an automated database system, such as Geographical Information System (GIS) is highly recommended, but not required.

F.2.e. Threat to Water Quality Prioritization (Construction)

- (1) To establish priorities for construction oversight activities under this Order, the Copermittee shall prioritize its watershed-based inventory (developed pursuant to F.2.d. above) by threat to water quality. Each construction site shall be classified as high, medium, or low threat to water quality. In evaluating threat to water quality each Copermittee shall consider (1) soil erosion potential; (2) site slope; (3) project size and type; (4) sensitivity of receiving water bodies; (5) proximity to receiving water bodies; (6) non-storm water discharges; and (7) any other relevant factors.
- (2) A high priority construction site shall at a minimum be defined as a site meeting either of the following criteria or equivalent criteria:
 - (a) The site is 50 acres or more and grading will occur during the wet season; OR
 - (b) The site is (1) 5 acres or more and (2) tributary to a Clean Water Act section 303(d) water body impaired for sediment or is within or directly adjacent to or discharging directly to a receiving water within an environmentally sensitive area (as defined in section F.1.b.(2)(a)vi. of this Order).

F.2.f. BMP Implementation (Construction)

- (1) Each Copermittee shall designate a set of minimum BMPs for high, medium, and low threat to water quality construction sites (as determined under section F.2.e). BMPs are to be implemented year round.
- (2) Each Copermittee shall implement, or require the implementation of, the designated minimum BMPs (based upon the site's threat to water quality rating) at each construction site within its jurisdiction year round. If particular minimum BMPs are infeasible at any specific site, each Copermittee shall implement, or require the implementation of, other equivalent BMPs. Each Copermittee shall also implement or require any additional site specific BMPs as necessary to comply with this Order, including BMPs which are more stringent than those required under the statewide General Construction Permit.
- (3) Each Copermittee shall implement, or require the implementation of, BMPs year round; however, BMP implementation requirements can vary based on wet and dry seasons.
- (4) Each Copermittee shall implement, or require implementation of, additional controls for construction sites tributary to Clean Water Act section 303(d) water bodies impaired for sediment as necessary to comply with this Order. Each Copermittee shall implement, or require implementation of, additional controls for construction sites within or adjacent to or discharging directly to receiving waters within environmentally sensitive areas (as defined in section F.1.b.(2)(a)vi. of this Order) as necessary to comply with this Order.

F.2.g. Inspection of Construction Sites (Construction)

- (1) Each Copermittee shall conduct construction site inspections for compliance with its ordinances (grading, storm water, etc.), permits (construction, grading, etc.), and this Order. Inspections shall include review of site erosion control and BMP implementation plans.
- (2) Each Copermittee shall establish inspection frequencies and priorities as determined by the threat to water quality prioritization described in F.2.e above. During the wet season (i.e., October 1 through April 30 of each year), each Copermittee shall inspect, at a minimum, each High Priority construction site, either:

(a) Weekly

OR

- (b) Monthly for any site that the responsible Copermittee certifies in a written statement to the SDRWQCB all of the following (certified statements may be submitted to the SDRWQCB at any time for one or more sites):
- i. Copermittee has record of construction site's Waste Discharge Identification Number (WDID#) documenting construction site's coverage under the statewide General Construction Permit; and
 - ii. Copermittee has reviewed the construction site's Storm Water Pollution Prevention Plan (SWPPP); and
 - iii. Copermittee finds SWPPP to be in compliance with all local ordinances, permits, and plans; and
 - iv. Copermittee finds that the SWPPP is being properly implemented on site.

At a minimum, Medium and Low Priority construction sites shall be inspected by Copermittees twice during the wet season. All construction sites shall be inspected by the Copermittees as needed during the dry season (i.e., May 1 through September 30 of each year).

- (3) Based upon site inspection findings, each Copermittee shall implement all follow-up actions necessary to comply with this Order.

F.2.h. Enforcement of Construction Sites (Construction)

Each Copermittee shall enforce its ordinances (grading, storm water, etc.) and permits (construction, grading, etc.) at all construction sites as necessary to maintain compliance with this Order. Copermittee ordinances or other regulatory mechanisms shall include sanctions to ensure compliance. Sanctions shall include the following or their equivalent: Non-monetary penalties, fines, bonding requirements, and/or permit denials for non-compliance.

F.2.i. Reporting of Non-compliant Sites (Construction)

Each Copermittee shall provide oral notification to the SDRWQCB of non-compliant sites that are determined to pose a threat to human or environmental health within its jurisdiction within 24 hours of the discovery of noncompliance, as required under section R.1 (and B.6 of Attachment C) of this Order.

Each Copermittee shall develop and submit criteria by which to evaluate events of non-compliance to determine whether they pose a threat to human or environmental health. These criteria shall be submitted in the Jurisdictional Urban Runoff Management Program Document and Annual Reports for SDRWQCB review.

Such oral notification shall be followed up by a written report to be submitted to the SDRWQCB within 5 days of the incidence of non-compliance as required under section R.1 (and B.6 of Attachment C) of this Order. Sites are considered non-compliant when one or more violations of local ordinances, permits, plans, or this Order exist on the site.

F.2.j. Education Focused on Construction Activities (Construction)

(1) Internal: Municipal Staff

Each Copermittee shall implement an education program to ensure that its construction, building, and grading review staffs and inspectors have an understanding of:

- (a) Federal, state, and local water quality laws and regulations applicable to construction and grading activities.
- (b) The connection between construction activities and water quality impacts (i.e., impacts from land development and urbanization).
- (c) How erosion can be prevented.
- (d) How impacts to receiving water quality resulting from construction activities can be minimized (i.e., through implementation of various source control and structural BMPs).
- (e) Applicable topics listed in section F.4. of this Order.

(2) External: Project Applicants, Contractors, Developers, Property Owners, and other Responsible Parties

Each Copermittee shall implement an education program to ensure that project applicants, contractors, developers, property owners, and other responsible parties have an understanding of the topics outlined in section F.2.j.(1) above of this Order.

F.3. Existing Development Component

Each Copermittee shall minimize the short and long-term impacts on receiving water quality from all types of existing development.

F.3.a. Municipal (Existing Development)

Each Copermittee shall implement a Municipal (Existing Development) Component to prevent or reduce pollutants in runoff from all municipal land use areas and activities. At a minimum the municipal component shall address:

- | | |
|-----------|---|
| F.3.a.(1) | Pollution Prevention |
| F.3.a.(2) | Source Identification |
| F.3.a.(3) | Threat to Water Quality Prioritization |
| F.3.a.(4) | BMP Implementation |
| F.3.a.(5) | Maintenance of Municipal Separate Storm Sewer System |
| F.3.a.(6) | Management of Pesticides, Herbicides, and Fertilizers |
| F.3.a.(7) | Inspection of Municipal Areas and Activities |
| F.3.a.(8) | Enforcement of Municipal Areas and Activities |

F.3.a.(1) Pollution Prevention (Municipal)

Each Copermittee shall include and describe pollution prevention methods within its Municipal (Existing Development) Component. Each Copermittee shall require the use of pollution prevention methods by municipal departments, contractors, and personnel, where appropriate.

F.3.a.(2) Source Identification (Municipal)

Each Copermittee shall develop, and update annually, a watershed-based inventory of the name, address (if applicable), and description of all municipal land use areas and activities which generate pollutants.

F.3.a.(3) Threat to Water Quality Prioritization (Municipal)

- (a) To establish priorities for oversight of municipal areas and activities required under this Order, each Copermittee shall prioritize each watershed inventory in F.3.a.2. above by threat to water quality and update annually. Each municipal area and activity shall be classified as high, medium, or low threat to water quality. In evaluating threat to water quality, each Copermittee shall consider (1) type of municipal area or activity; (2) materials used; (3) wastes generated; (4) pollutant discharge potential; (5) non-storm water discharges; (6) size of facility or area; (7) proximity to receiving water bodies; (8) sensitivity of receiving water bodies; and (9) any other relevant factors.
- (b) At a minimum, the high priority municipal areas and activities shall include the following:
- i. Roads, Streets, Highways, and Parking Facilities.
 - ii. Flood Management Projects and Flood Control Devices.
 - iii. Areas and activities tributary to a Clean Water Act section 303(d) impaired water body, where an area or activity generates pollutants for which the water body is impaired. Areas and activities within or adjacent to or discharging directly to receiving waters within environmentally sensitive areas (as defined in section F.1.b.(2)(a)vi of this Order).
 - iv. Municipal Waste Facilities.
 - Active or closed municipal landfills;
 - Publicly owned treatment works (including water and wastewater treatment plants) and sanitary sewage collection systems;
 - Municipal separate storm sewer systems;
 - Incinerators;
 - Solid waste transfer facilities;
 - Land application sites;
 - Uncontrolled sanitary landfills;
 - Corporate yards including maintenance and storage yards for materials, waste, equipment and vehicles;
 - Sites for disposing and treating sewage sludge; and
 - Hazardous waste treatment, disposal, and recovery facilities.
 - v. Other municipal areas and activities that the Copermittee determines may contribute a significant pollutant load to the MS4.
 - vi. Municipal airfields.

F.3.a.(4) BMP Implementation (Municipal)

- (a) Each Copermittee shall designate a set of minimum BMPs for high, medium, and low threat to water quality municipal areas and activities (as determined under section F.3.a.(3)). The designated minimum BMPs for high threat to water quality municipal areas and activities shall be area or activity specific as appropriate.
- (b) Each Copermittee shall implement, or require the implementation of, the designated minimum BMPs (based upon the threat to water quality rating) at each municipal area or activity within its jurisdiction. If particular minimum BMPs are infeasible for any specific area or activity, each Copermittee shall implement, or require implementation of other equivalent BMPs. Each Copermittee shall also implement any additional BMPs as are necessary to comply with this Order.
- i. Each Copermittee shall evaluate feasibility of retrofitting existing structural flood control devices and retrofit where needed.
- (c) Each Copermittee shall implement, or require implementation of, any additional controls for municipal areas and activities tributary to Clean Water Act section 303(d) impaired

water bodies (where an area or activity generates pollutants for which the water body is impaired) as necessary to comply with this Order. Each Copermittee shall implement, or require implementation of, additional controls for municipal areas and activities within or directly adjacent to or discharging directly to receiving waters within environmentally sensitive areas (as defined in section F.1.b.(2)(a)vi. of this Order) as necessary to comply with this Order.

F.3.a.(5) Maintenance of Municipal Separate Storm Sewer System (Municipal)

- (a) Each Copermittee shall implement a schedule of maintenance activities at all structural controls designed to reduce pollutant discharges to or from its MS4s and related drainage structures.
- (b) Each Copermittee shall implement a schedule of maintenance activities for the municipal separate storm sewer system.
- (c) The maintenance activities must, at a minimum, include:
 - i. Inspection and removal of accumulated waste (e.g. sediment, trash, debris and other pollutants) between May 1 and September 30 of each year;
 - ii. Additional cleaning as necessary between October 1 and April 30 of each year;
 - iii. Record keeping of cleaning and the overall quantity of waste removed;
 - iv. Proper disposal of waste removed pursuant to applicable laws;
 - v. Measures to eliminate waste discharges during MS4 maintenance and cleaning activities.

F.3.a.(6) Management of Pesticides, Herbicides, and Fertilizers (Municipal)

The Copermittees shall implement BMPs to reduce the contribution of pollutants associated with the application, storage, and disposal of pesticides, herbicides and fertilizers from municipal areas and activities to MS4s. Important municipal areas and activities include municipal facilities, public rights-of-way, parks, recreational facilities, golf courses, cemeteries, botanical or zoological gardens and exhibits, landscaped areas, etc.

Such BMPs shall include, at a minimum: (1) educational activities, permits, certifications and other measures for municipal applicators and distributors; (2) integrated pest management measures that rely on non-chemical solutions; (3) the use of native vegetation; (4) schedules for irrigation and chemical application; and (5) the collection and proper disposal of unused pesticides, herbicides, and fertilizers.

F.3.a.(7) Inspection of Municipal Areas and Activities (Municipal)

At a minimum, each Copermittee shall inspect high priority municipal areas and activities annually. Based upon site inspection findings, each Copermittee shall implement all follow-up actions necessary to comply with this Order.

F.3.a.(8) Enforcement of Municipal Areas and Activities (Municipal)

Each Copermittee shall enforce its storm water ordinance for all municipal areas and activities as necessary to maintain compliance with this Order.

F.3.b. Industrial (Existing Development)

Each Copermittee shall implement an Industrial (Existing Development) Component to reduce pollutants in runoff from all industrial sites. At a minimum the industrial component shall address:

- F.3.b.(1) Pollution Prevention
- F.3.b.(2) Source Identification
- F.3.b.(3) Threat to Water Quality Prioritization
- F.3.b.(4) BMP Implementation
- F.3.b.(5) Monitoring of Industrial Sites
- F.3.b.(6) Inspection of Industrial Sites
- F.3.b.(7) Enforcement Measures for Industrial Sites
- F.3.b.(8) Reporting of Non-compliant Sites

F.3.b.(1) Pollution Prevention (Industrial)

Each Copermittee shall include and describe pollution prevention methods within its Industrial (Existing Development) Component. Each Copermittee shall require the use of pollution prevention methods by industry, where appropriate.

F.3.b.(2) Source Identification (Industrial)

Each Copermittee shall develop and update annually a watershed-based inventory of all industrial sites within its jurisdiction regardless of site ownership. This requirement is applicable to all industrial sites regardless of whether the industrial site is subject to the California statewide General NPDES Permit for Storm Water Discharges Associated With Industrial Activities, Except Construction (hereinafter General Industrial Permit) or other individual NPDES permit.

The inventory shall include the following minimum information for each industrial site: name; address; and a narrative description including SIC codes which best reflects the principal products or services provided by each facility.

F.3.b.(3) Threat to Water Quality Prioritization (Industrial)

- (a) To establish priorities for industrial oversight activities under this Order, the Copermittee shall prioritize each watershed-based inventory in F.3.b.(2) above by threat to water quality and update annually. Each industrial site shall be classified as high, medium, or low threat to water quality. In evaluating threat to water quality each Copermittee shall consider (1) type of industrial activity (SIC Code); (2) materials used in industrial processes; (3) wastes generated; (4) pollutant discharge potential; (5) non-storm water discharges; (6) size of facility; (7) proximity to receiving water bodies; (8) sensitivity of receiving water bodies; (9) whether the industrial site is subject to the statewide General Industrial Permit; and (10) any other relevant factors.
- (b) At a minimum the high priority industrial sites shall include industrial facilities that are subject to section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA); industrial facilities tributary to a Clean Water Act section 303(d) impaired water body, where a facility generates pollutants for which the water body is impaired; industrial facilities within or directly adjacent to or discharging directly to receiving waters within environmentally sensitive areas (as defined in section F.1.b.(2)(a)vi. of this Order); facilities subject to the statewide General Industrial Permit (excluding those facilities that have been approved for No Exposure Certification); and all other industrial facilities that the Copermittee determines are contributing significant pollutant loading to its MS4, regardless of whether such facilities are covered under the statewide General Industrial Permit or other NPDES permit.

F.3.b.(4) BMP Implementation (Industrial)

- (a) Each Copermittee shall designate a set of minimum BMPs for high, medium, and low threat to water quality industrial sites (as determined under section F.3.b.(3)). The designated minimum BMPs for high threat to water quality industrial sites shall be industry and site specific as appropriate.
- (b) Each Copermittee shall implement, or require the implementation of, the designated minimum BMPs (based upon the site's threat to water quality rating) at each industrial site within its jurisdiction. If particular minimum BMPs are infeasible at any specific site, each Copermittee shall implement, or require implementation of, other equivalent BMPs. Each Copermittee shall also implement or require any additional site specific BMPs as necessary to comply with this Order including BMPs which are more stringent than those required under the statewide General Industrial Permit.
- (c) Each Copermittee shall implement, or require implementation of, additional controls for industrial sites tributary to Clean Water Act section 303(d) impaired water bodies (where a site generates pollutants for which the water body is impaired) as necessary to comply with this Order. Each Copermittee shall implement, or require implementation of, additional controls for industrial sites within or directly adjacent to or discharging directly to receiving waters within environmentally sensitive areas (as defined in section F.1.b.(2)(a)vi. of this Order) as necessary to comply with this Order.

F.3.b.(5) Monitoring of Industrial Sites (Industrial)

- (a) Each Copermittee shall conduct, or require industry to conduct, a monitoring program for runoff from each high threat to water quality industrial site (identified in F.3.b.(3) above). Group monitoring by multiple industrial sites conducted under group monitoring programs approved by the State Water Resources Control Board is acceptable.
- (b) At a minimum, the monitoring program shall provide quantitative data from two storm events per year on the following constituents:
 - i. Any pollutant listed in effluent guidelines subcategories where applicable;
 - ii. Any pollutant for which an effluent limit has been established in an existing NPDES permit for the facility;
 - iii. Oil and grease or Total Organic Carbon (TOC);
 - iv. pH;
 - v. Total suspended solids (TSS);
 - vi. Specific conductance; and
 - vii. Toxic chemicals and other pollutants that are likely to be present in storm water discharges.
 - viii. Any pollutant that may be used, stored, or generated at the facility, which may be discharged to a water body or a tributary of that water body that is listed as impaired under Clean Water Act Section 303(d) for that pollutant(s), unless the facility can demonstrate approval of No Exposure Certification.

F.3.b.(6) Inspection of Industrial Sites (Industrial)

- (a) Each Copermittee shall conduct industrial site inspections for compliance with its ordinances, permits, and this Order. Inspections shall include review of BMP implementation plans.
- (b) Each Copermittee shall establish inspection frequencies and priorities as determined by the threat to water quality prioritization described in F.3.b.(3) above. Each Copermittee shall inspect high priority industrial sites, at a minimum:

i. Annually

OR

ii. Bi-annually for any site that the responsible Copermittee certifies in a written statement to the SDRWQCB all of the following (certified statements may be submitted to the SDRWQCB at any time for one or more sites):

- Copermittee has record of industrial site's Waste Discharge Identification Number (WDID#) documenting industrial site's coverage under the statewide General Industrial Permit; and
- Copermittee has reviewed the industrial site's Storm Water Pollution Prevention Plan (SWPPP); and
- Copermittee finds SWPPP to be in compliance with all local ordinances, permits, and plans; and
- Copermittee finds that the SWPPP is being properly implemented on site.

Each Copermittee shall inspect medium and low threat to water quality industrial sites as needed.

- (c) Based upon site inspection findings, each Copermittee shall implement all follow-up actions necessary to comply with this Order.
- (d) To the extent that the SDRWQCB has conducted an inspection of a high priority industrial site during a particular year, the requirement for the responsible Copermittee to inspect this site during the same year will be satisfied.

F.3.b.(7) Enforcement of Industrial Sites (Industrial)

Each Copermittee shall enforce its storm water ordinance at all industrial sites as necessary to maintain compliance with this Order. Copermittee ordinances or other regulatory mechanisms shall include sanctions to ensure compliance. Sanctions shall include the following or their equivalent: Non-monetary penalties, fines, bonding requirements, and/or permit denials for non-compliance.

F.3.b.(8) Reporting of Non-compliant Sites (Industrial)

Each Copermittee shall provide oral notification to the SDRWQCB of non-compliant sites that are determined to pose a threat to human or environmental health within its jurisdiction within 24 hours of the discovery of noncompliance, as required under section R.1 (and B.6 of Attachment C) of this Order.

Each Copermittee shall develop and submit criteria by which to evaluate events of non-compliance to determine whether they pose a threat to human or environmental health. These criteria shall be submitted in the Jurisdictional Urban Runoff Management Program Document and Annual Reports for SDRWQCB review.

Such oral notification shall be followed up by a written report to be submitted to the SDRWQCB within 5 days of the incidence of non-compliance as required under section R.1 (and B.6 of Attachment C) of this Order. Sites are considered non-compliant when one or more violations of local ordinances, permits, plans, or this Order exist on the site.

F.3.c. Commercial (Existing Development)

Each Copermittee shall implement a Commercial (Existing Development) Component to reduce pollutants in runoff from commercial sites. At a minimum the commercial component shall address:

- F.3.c.(1) Pollution Prevention
- F.3.c.(2) Source Identification
- F.3.c.(3) BMP Implementation
- F.3.c.(4) Inspection of Commercial Sites and Sources
- F.3.c.(5) Enforcement of Commercial Sites and Sources

F.3.c.(1) Pollution Prevention (Commercial)

Each Copermittee shall include and describe pollution prevention methods within its Commercial (Existing Development) Component. Each Copermittee shall require the use of pollution prevention methods by commercial facilities, where appropriate.

F.3.c.(2) Source Identification (Commercial)

Each Copermittee shall develop and update annually an inventory of the following high priority threat to water quality commercial sites/sources listed below. (If any commercial site/source listed below is inventoried as an industrial site, as required under section F.3.b.(2) of this Order, it is not necessary to also inventory it as a commercial site/source).

- (a) Automobile mechanical repair, maintenance, fueling, or cleaning;
- (b) Airplane mechanical repair, maintenance, fueling, or cleaning;
- (c) Boat mechanical repair, maintenance, fueling, or cleaning;
- (d) Equipment repair, maintenance, fueling, or cleaning;
- (e) Automobile and other vehicle body repair or painting;
- (f) Mobile automobile or other vehicle washing;
- (g) Automobile (or other vehicle) parking lots and storage facilities;
- (h) Retail or wholesale fueling;
- (i) Pest control services;
- (j) Eating or drinking establishments;
- (k) Mobile carpet, drape or furniture cleaning;
- (l) Cement mixing or cutting;
- (m) Masonry;
- (n) Painting and coating;
- (o) Botanical or zoological gardens and exhibits;
- (p) Landscaping;
- (q) Nurseries and greenhouses;
- (r) Golf courses, parks and other recreational areas/facilities;
- (s) Cemeteries;
- (t) Pool and fountain cleaning;
- (u) Marinas;
- (v) Port-a-Potty servicing;
- (w) Other commercial sites/sources that the Copermittee determines may contribute a significant pollutant load to the MS4;
- (x) Any commercial site or source tributary to a Clean Water Act section 303(d) impaired water body, where the site or source generates pollutants for which the water body is impaired; and
- (y) Any commercial site or source within or directly adjacent to or discharging directly to a coastal lagoon or other receiving water within an environmentally sensitive area (as defined in F.1.b(2)(a)vi. of this Order).

F.3.c.(3) BMP Implementation (Commercial)

- (a) Each Copermittee shall designate a set of minimum BMPs for the high priority threat to water quality commercial sites/sources (listed above in section F.3.c.(2)). The designated minimum BMPs for the high threat to water quality commercial sites/sources shall be site and source specific as appropriate.
- (b) Each Copermittee shall implement, or require the implementation of, the designated minimum BMPs at each high priority threat to water quality commercial site/source within its jurisdiction. If particular minimum BMPs are infeasible for any specific site/source, each Copermittee shall implement, or require the implementation of, other equivalent BMPs. Each Copermittee shall also implement or require any additional site specific BMPs as necessary to comply with this Order.
- (c) Each Copermittee shall implement, or require implementation of, additional controls for commercial sites or sources tributary to Clean Water Act section 303(d) impaired water bodies (where a site or source generates pollutants for which the water body is impaired) as necessary to comply with this Order. Each Copermittee shall implement, or require implementation of, additional controls for commercial sites or sources within or directly adjacent to or discharging directly to coastal lagoons or other receiving waters within environmentally sensitive areas (as defined in section F.1.b.(2)(a)vi. of this Order) as necessary to comply with this Order.

F.3.c.(4) Inspection of Commercial Sites and Sources (Commercial)

Each Copermittee shall inspect high priority commercial sites and sources as needed. Based upon site inspection findings, each Copermittee shall implement all follow-up actions necessary to comply with this Order.

F.3.c.(5) Enforcement of Commercial Sites and Sources (Commercial)

Each Copermittee shall enforce its storm water ordinance for all commercial sites and sources as necessary to maintain compliance with this Order.

F.3.d. Residential (Existing Development)

Each Copermittee shall implement a Residential (Existing Development) Component to prevent or reduce pollutants in runoff from all residential land use areas and activities. At a minimum the residential component shall address:

- F.3.d.(1) Pollution Prevention
- F.3.d.(2) Threat to Water Quality Prioritization
- F.3.d.(3) BMP Implementation
- F.3.d.(4) Enforcement of Residential Areas and Activities

F.3.d.(1) Pollution Prevention (Residential)

Each Copermittee shall include pollution prevention methods in its Residential (Existing Development) Component and shall encourage their use by residents, where appropriate.

F.3.d.(2) Threat to Water Quality Prioritization (Residential)

Each Copermittee shall identify high priority residential areas and activities. At a minimum, these shall include:

- Automobile repair and maintenance;
- Automobile washing;
- Automobile parking;
- Home and garden care activities and product use (pesticides, herbicides, and fertilizers);
- Disposal of household hazardous waste (e.g., paints, cleaning products, and other wastes generated during home improvement or maintenance activities);
- Disposal of pet waste;
- Disposal of green waste;
- Any other residential source that the Copermittee determines may contribute a significant pollutant load to the MS4;
- Any residence tributary to a Clean Water Act section 303(d) impaired water body, where the residence generates pollutants for which the water body is impaired; and
- Any residence within or directly adjacent to or discharging directly to coastal waters or other receiving waters within an environmentally sensitive area (as defined in F.1.b.(2)(a)vi. of this Order).

F.3.d.(3) BMP Implementation (Residential)

- (a) Each Copermittee shall designate a set of minimum BMPs for high threat to water quality residential areas and activities (as required under section F.3.d.(2)). The designated minimum BMPs for high threat to water quality residential areas and activities shall be area or activity specific.
- (b) Each Copermittee shall implement or require implementation of the designated minimum BMPs for high threat to water quality residential areas and activities. If particular minimum BMPs are infeasible for any specific site/source, each Copermittee shall require implementation of other equivalent BMPs. Each Copermittee shall also implement, or require implementation of, any additional BMPs as are necessary to comply with this Order.
- (c) Each Copermittee shall implement, or require implementation of, any additional controls for residential areas and activities tributary to Clean Water Act Section 303(d) impaired water bodies (where a residential area or activity generates pollutants for which the water body is impaired) as necessary to comply with this Order. Each Copermittee shall implement, or require implementation of, additional controls for residential areas within or directly adjacent to or discharging directly to coastal waters or other receiving waters within environmentally sensitive areas (as defined in section F.1.b.(2)(a)vi. of this Order) as necessary to comply with this Order.

F.3.d.(4) Enforcement of Residential Areas and Activities (Residential)

Each Copermittee shall enforce its storm water ordinance for all residential areas and activities as necessary to maintain compliance with this Order.

F.4. Education Component

Each Copermittee shall implement an Education Component using all media as appropriate to (1) measurably increase the knowledge of the target communities regarding MS4s, impacts of urban runoff on receiving waters, and potential BMP solutions for the target audience; and (2) to measurably change the behavior of target communities and thereby reduce pollutant releases to MS4s and the environment. At a minimum the education component shall address the following target communities:

- Municipal Departments and Personnel

- Construction Site Owners and Developers
- Industrial Owners and Operators
- Commercial Owners and Operators
- Residential Community, General Public, and School Children
- Quasi-Governmental Agencies/Districts (i.e., educational institutions, water districts, sanitation districts, etc.)

F.4.a. All Target Communities

The Education Program for each target audience may contain information on the following topics where applicable:

- State and Federal water quality laws
- Requirements of local municipal permits and ordinances (e.g., storm water and grading ordinances and permits)
- Water conservation
- Impacts of urban runoff on receiving waters
- Watershed concepts (i.e., stewardship, connection between inland activities and coastal problems, etc.)
- Distinction between MS4s and sanitary sewers
- Importance of good housekeeping (e.g., sweeping impervious surfaces instead of hosing)
- Pollution prevention and safe alternatives
- Household hazardous waste collection
- Recycling
- BMPs: Site specific, structural and source control
- BMP maintenance
- Non-storm water disposal alternatives (e.g., all wash waters)
- Pet and animal waste disposal
- Proper solid waste disposal (e.g., garbage, tires, appliances, furniture, vehicles)
- Equipment and vehicle maintenance and repair
- Public reporting mechanisms
- Green waste disposal
- Integrated pest management
- Native vegetation
- Proper disposal of boat and recreational vehicle waste
- Traffic reduction, alternative fuel use

F.4.b. Municipal, Construction, Industrial, Commercial, and Quasi-Governmental (educational institutions, water districts, sanitation districts, etc.) Communities

In addition to the topics listed in F.4.a. above, the Municipal, Construction, Industrial, Commercial, and Quasi-Governmental (Educational Institutions, Water Districts, Sanitation Districts) Communities may also be educated on the following topics where applicable:

- Basic urban runoff training for all personnel
- Additional urban runoff training for appropriate personnel
- Illicit Discharge Detection and Elimination observations and follow-up during daily work activities
- Lawful disposal of catchbasin and other MS4 cleanout wastes
- Water quality awareness for Emergency/First Responders
- California's Statewide General NPDES Permit for Storm Water Discharges Associated with Industrial Activities (Except Construction).

- California's Statewide General NPDES Permit for Storm Water Discharges Associated with Construction Activities
- SDRWQCB's General NPDES Permit for Groundwater Dewatering
- 401 Water Quality Certification by the SDRWQCB
- Statewide General NPDES Utility Vault Permit (NPDES No. CAG990002)
- SDRWQCB Waste Discharge Requirements for Dredging Activities
- Local requirements beyond statewide general permits
- Federal, state and local water quality regulations that affect development projects
- Water quality impacts associated with land development
- Alternative materials & designs to maintain peak runoff values
- How to conduct a storm water inspection
- Potable water discharges to the MS4
- Dechlorination techniques
- Hydrostatic testing
- Spill response, containment, & recovery
- Preventive maintenance
- How to do your job and protect water quality

F.4.c. Residential, General Public, School Children Communities

In addition to the topics listed in F.4.a. above, the Residential, General Public, and School Children Communities may be educated on the following topics where applicable:

- Public reporting information resources
- Residential and charity car-washing
- Community activities (e.g., "Adopt a Storm Drain, Watershed, or Highway" Programs, citizen monitoring, creek/beach cleanups, environmental protection organization activities, etc.)

F.5. Illicit Discharge Detection and Elimination Component

Each Copermittee shall implement an Illicit Discharge Detection and Elimination Component containing measures to actively seek and eliminate illicit discharges and connections. At a minimum the Illicit Discharge Detection and Elimination Component shall address:

- F.5.a Illicit Discharges and Connections
- F.5.b Dry Weather Monitoring Program
- F.5.c Investigation / Inspection and Follow-up
- F.5.d Elimination of Illicit Discharges and Connections
- F.5.e Enforce Ordinances
- F.5.f Prevent and Respond To Sewage Spills (Including from Private Laterals and Failing Septic Systems) and Other Spills
- F.5.g Facilitate Public Reporting of Illicit Discharges and Connections – Public Hotline
- F.5.h Facilitate Disposal of Used Oil and Toxic Materials
- F.5.i Limit Infiltration From Sanitary Sewer to MS4

F.5.a. Illicit Discharges and Connections

Each Copermittee shall implement a program to actively seek and eliminate illicit discharges and connections into its MS4. The program shall address all types of illicit discharges and connections excluding those non-storm water discharges not prohibited by the Copermittee in accordance with Section B. of this Order.

F.5.b. Dry Weather Monitoring Program

Each Copermittee shall conduct dry weather inspections, field screening, and analytical monitoring of MS4 outfalls within its jurisdiction to detect illicit discharges and connections in accordance with Attachment E of this Order.

F.5.c. Investigation / Inspection and Follow-Up

Each Copermittee shall investigate and inspect any portion of the MS4 that, based on dry weather monitoring results or other appropriate information, indicates a reasonable potential for illicit discharges, illicit connections, or other sources of non-storm water (including non-prohibited discharge(s) identified in Section B. of this Order). Each Copermittee shall establish criteria to identify portions of the system where such follow-up investigations are appropriate.

F.5.d. Elimination of Illicit Discharges and Connections

Each Copermittee shall eliminate all detected illicit discharges, discharge sources, and connections immediately.

F.5.e. Enforce Ordinances

Each Copermittee shall implement and enforce its ordinances, orders, or other legal authority to prevent illicit discharges and connections to its MS4. Each Copermittee shall also implement and enforce its ordinance, orders, or other legal authority to eliminate detected illicit discharges and connections to it MS4.

F.5.f. Prevent and Respond to Sewage Spills (Including from Private Laterals and Failing Septic Systems) and Other Spills

Each Copermittee shall prevent, respond to, contain and clean up all sewage and other spills that may discharge into its MS4 from any source (including private laterals and failing septic systems). Spill response teams shall prevent entry of spills into the MS4 and contamination of surface water, ground water and soil to the maximum extent practicable. Each Copermittee shall coordinate spill prevention, containment and response activities throughout all appropriate departments, programs and agencies to ensure maximum water quality protection at all times.

Each Copermittee shall develop and implement a mechanism whereby it is notified of all sewage spills from private laterals and failing septic systems into its MS4. Each Copermittee shall prevent, respond to, contain and clean up sewage from any such notification.

F.5.g. Facilitate Public Reporting of Illicit Discharges and Connections - Public Hotline

Each Copermittee shall promote, publicize and facilitate public reporting of illicit discharges or water quality impacts associated with discharges into or from MS4s. Each Copermittee shall facilitate public reporting through development and operation of a public hotline. Public hotlines can be Copermittee-specific or shared by Copermittees. All storm water hotlines shall be capable of receiving reports in both English and Spanish 24 hours per day / seven days per week. Copermittees shall respond to and resolve each reported incident. All reported incidents, and how each was resolved, shall be summarized in each Copermittee's individual Jurisdictional URMP Annual Report.

F.5.h. Facilitate Disposal of Used Oil and Toxic Materials

Each Copermittee shall facilitate the proper management and disposal of used oil, toxic materials, and other household hazardous wastes. Such facilitation shall include educational

activities, public information activities, and establishment of collection sites operated by the Copermittee or a private entity. Neighborhood collection of household hazardous wastes is encouraged.

F.5.i. Limit Infiltration From Sanitary Sewer to MS4/ Provide Preventive Maintenance of Both

Each Copermittee shall implement controls and measures to limit infiltration of seepage from municipal sanitary sewers to MS4s through thorough, routine preventive maintenance of the MS4. Each Copermittee that operates both a municipal sanitary sewer system and a MS4 shall implement controls and measures to limit infiltration of seepage from the municipal sanitary sewers to the MS4s that shall include overall sanitary sewer and MS4 surveys and thorough, routine preventive maintenance of both.

F.6. Common Interest Areas and Homeowners Associations

- a. Each Copermittee shall develop and implement a plan for ensuring that urban runoff within common interest areas from private roads, drainage facilities, and other components of the storm water conveyance system, including those managed by associations, meets the objectives of this Order.
- b. As part of its individual Jurisdictional URMP Annual Report, each Copermittee shall describe the measures taken to ensure that urban runoff from common interest areas to the MS4 meets the objectives of this Order.

F.7. Public Participation Component

Each Copermittee shall incorporate a mechanism for public participation in the implementation of the Jurisdictional URMP.

F.8. Assessment of Jurisdictional URMP Effectiveness Component

- a. As part of its individual Jurisdictional URMP, each Copermittee shall develop a long-term strategy for assessing the effectiveness of its individual Jurisdictional URMP. The long-term assessment strategy shall identify specific direct and indirect measurements that each Copermittee will use to track the long-term progress of its individual Jurisdictional URMP towards achieving improvements in receiving water quality. Methods used for assessing effectiveness shall include the following or their equivalent: surveys, pollutant loading estimations, and receiving water quality monitoring. The long-term strategy shall also discuss the role of monitoring data in substantiating or refining the assessment.
- b. As part of its individual Jurisdictional URMP Annual Report, each Copermittee shall include an assessment of the effectiveness of its Jurisdictional URMP using the direct and indirect assessment measurements and methods developed in its long-term assessment strategy.

F.9. Fiscal Analysis Component

Each Copermittee shall secure the resources necessary to meet the requirements of this Order. As part of its individual Jurisdictional URMP, each Copermittee shall develop a strategy to conduct a fiscal analysis of its urban runoff management program in its entirety. In order to demonstrate sufficient financial resources to implement the conditions of this Order, each Copermittee shall conduct an annual fiscal analysis as part of its individual Jurisdictional URMP Annual Report. This analysis shall, for each fiscal year covered by this Order, evaluate the expenditures (such as capital, operation and maintenance, education, and administrative expenditures) necessary to accomplish the activities of the Copermittee's urban runoff management program. Such analysis shall include a description of the source(s) of funds that are proposed to meet the necessary expenditures, including legal restrictions on the use of such funds.

G. IMPLEMENTATION OF JURISDICTIONAL URMP

Each Copermittee shall have completed full implementation of all requirements of the Jurisdictional URMP section of this Order no later than **365 days after adoption** of this Order, except as stated as follows: Within 180 days of development of the model SUSMP, each Copermittee shall adopt its own local SUSMP, and amended ordinances consistent with the model SUSMP, and shall submit both (local SUSMP and amended ordinances) to the SDRWQCB.

Following the adoption of the Order and prior to the full implementation of the Jurisdictional URMP, the Copermittees shall at a minimum implement the provisions and commitments of the proposed DAMP submitted in September 2000.

H. SUBMITTAL OF JURISDICTIONAL URMP DOCUMENT

The written account of the overall program to be conducted by each Copermittee within its jurisdiction during the five-year life of this Order is referred to as the "Jurisdictional URMP Document".

1. Individual – Each Copermittee shall submit to the Principal Permittee(s) an individual Jurisdictional URMP document which describes all activities it has undertaken or is undertaking to implement the requirements of each component of the Jurisdictional URMP section F. of this Order.

a. At a minimum, the individual Jurisdictional URMP document shall contain the following information for the following components:

(1) Construction Component

- (a) Which pollution prevention methods will be required for implementation, and how and where they will be required
- (b) Updated grading ordinances
- (c) A description of the modified construction and grading approval process
- (d) Updated construction and grading project requirements in local grading and construction permits
- (e) A completed watershed-based inventory of all construction sites
- (f) A completed prioritization of all construction sites based on threat to water quality
- (g) Which BMPs will be implemented, or required to be implemented, for each priority category
- (h) How BMPs will be implemented, or required to be implemented, for each priority category
- (i) Planned inspection frequencies for each priority category
- (j) Methods for inspection
- (k) A description of enforcement mechanisms and how they will be used
- (l) A description of how non-compliant sites will be identified and the process for notifying the SDRWQCB, including a list of current non-compliant sites
- (m) A description of the construction education program and how it will be implemented

(2) Municipal (Existing Development) Component

- (a) Which pollution prevention methods will be required for implementation, and how and where they will be required
- (b) A completed watershed-based inventory of all municipal land use areas and activities
- (c) A completed prioritization of all municipal areas and activities based on threat to water quality
- (d) Which BMPs will be implemented, or required to be implemented, for each priority category
- (e) How BMPs will be implemented, or required to be implemented, for each priority category

- (f) Municipal maintenance activities and schedules
 - (g) Management strategy for pesticides, herbicides, and fertilizer use.
 - (h) Planned inspection frequencies for the high priority category
 - (i) Methods for inspection
 - (j) A description of enforcement mechanisms and how they will be used
- (3) Industrial (Existing Development) Component
- (a) Which pollution prevention methods will be required for implementation, and how and where they will be required
 - (b) A completed watershed-based inventory of all industrial sites
 - (c) A completed prioritization of all industrial sites based on threat to water quality
 - (d) Which BMPs will be implemented, or required to be implemented, for each priority category
 - (e) How BMPs will be implemented, or required to be implemented, for each priority category
 - (f) A description of the monitoring program to be conducted, or required to be conducted
 - (g) Planned inspection frequencies for each priority category
 - (h) Methods for inspection
 - (i) A description of enforcement mechanisms and how they will be used
 - (j) A description of how non-compliant sites will be identified and the process for notifying the SDRWQCB, including a list of current non-compliant sites
- (4) Commercial (Existing Development) Component
- (a) Which pollution prevention methods will be required for implementation, and how and where they will be required
 - (b) A completed watershed-based inventory of high priority commercial sites
 - (c) Which BMPs will be implemented, or required to be implemented, for high priority sites
 - (d) How BMPs will be implemented, or required to be implemented, for high priority sites
 - (e) Planned inspection frequencies for high priority sites
 - (f) Methods for inspection
 - (g) A description of enforcement mechanisms and how they will be used
- (5) Residential (Existing Development) Component
- (a) Which pollution prevention methods will be encouraged for implementation, and how and where they will be encouraged
 - (b) A completed inventory of high priority residential areas and activities
 - (c) Which BMPs will be implemented, or required to be implemented, for high priority areas and activities
 - (d) How BMPs will be implemented, or required to be implemented, for high priority areas and activities
 - (e) A description of enforcement mechanisms and how they will be used
- (6) Education Component
- (a) A description of the content, form, and frequency of education efforts for each target community
- (7) Illicit Discharges Detection and Elimination Component
- (a) A description of the program to actively seek and eliminate illicit discharges and connections

- (b) A description of dry weather monitoring to be conducted to detect illicit discharges and connections (see Attachment E)
 - (c) A description of investigation and inspection procedures to follow-up on dry weather monitoring results or other information which indicate potential for illicit discharges and connections
 - (d) A description of procedures to eliminate detected illicit discharges and connections
 - (e) A description of enforcement mechanisms and how they will be used
 - (f) A description of methods to prevent, respond to, contain, and clean up all sewage (including spills from private laterals and failing septic systems) and other spills in order to prevent entrance into the MS4
 - (g) A description of the mechanism to receive notification of spills from private laterals
 - (h) A description of efforts to facilitate public reporting of illicit discharges and connections, including a public hotline
 - (i) A description of efforts to facilitate proper disposal of used oil and other toxic materials
 - (j) A description of controls and measures to be implemented to limit infiltration of seepage from sanitary sewers to MS4s
 - (k) A description of routine preventive maintenance activities on the sanitary system (where applicable) and the MS4
- (8) Public Participation Component
- (a) A description of how public participation will be included in the implementation of the Jurisdictional URMP
- (9) Assessment of Jurisdictional URMP Effectiveness Component
- (a) A description of strategies to be used for assessing the long-term effectiveness of the individual Jurisdictional URMP.
- (10) Fiscal Analysis Component
- (a) A description of the strategy to be used to conduct a fiscal analysis of the urban runoff management program.
- (11) Land-Use Planning for New Development and Redevelopment Component
- (a) Workplan for inclusion in General Plan (or equivalent plan) of water quality and watershed protection principles and policies
 - (b) Development project requirements in local development permits
 - (c) Participation efforts conducted in the development of the Model SUSMP
 - (d) Environmental review processes revisions
 - (e) A description of the planning education program and how it will be implemented
- (12) Fire Fighting
- (a) A description of a program to reduce pollutants from non-emergency fire fighting flows identified by the Copermittee to be significant sources of pollutants.
- (13) Common Interest Areas and Homeowners Associations
- (a) A description of the program that will be implemented to ensure that urban runoff within common interest areas from private roads, drainage facilities, and other components of the storm water conveyance system including those managed by associations meets the objectives of this Order.

- b. Each Copermittee shall submit to the Principal Permittee(s) each part of its individual Jurisdictional URMP document by the dates specified by the Principal Permittee(s).
 - c. In addition to submittal of the Jurisdictional URMP document, each Copermittee shall submit to the SDRWQCB its own adopted local SUSMP consistent with the submitted Model SUSMP, as described in section F.1.b.(2). of this Order. Each Copermittee's own local SUSMP, along with its amended ordinances, shall be submitted to the SDRWQCB within 180 days of the submittal of the Model SUSMP to the SDRWQCB.
2. Unified – The Principal Permittee(s) shall submit the unified Jurisdictional URMP document to the SDRWQCB. The unified Jurisdictional URMP document shall be submitted in two parts (the collected Jurisdictional URMPs and the model SUSMP).
- a. The unified Jurisdictional URMP document submittal shall address the requirements of the entire Jurisdictional URMP sections F.1 - F.9. of this Order, with the exception of the local SUSMP requirements (which are to be implemented 180 days after submittal of the model SUSMP by the SDRWQCB).
 - b. The unified Jurisdictional URMP document submittal shall contain a section covering common activities conducted collectively by the Copermittees including jointly developed reporting formats (section O.4), to be produced by the Principal Permittee(s), and the thirteen individual Jurisdictional URMP documents.
 - c. The Principal Permittee(s) shall be responsible for the development and production of a stand alone Model SUSMP document meeting the requirements of section F.1.b.(2) of this Order.
 - d. The Principal Permittee(s) shall submit the unified Jurisdictional URMP document, including the Model SUSMP, to the SDRWQCB within **365 days of adoption** of this Order.
3. Universal Reporting Requirements

All individual and unified Jurisdictional URMP document submittals shall include an executive summary, introduction, conclusion, recommendations, and signed certified statement. Each Copermittee shall submit its individual Jurisdictional Urban Runoff Management Program Document with a signed certified statement. The Principal Permittee(s) shall submit a signed certified statement referring to its individual Jurisdictional Urban Runoff Management Program Document, the section covering common activities conducted collectively by the Copermittees, and the Model SUSMP document meeting the requirements of section F.1.b.(2) of this Order as produced by the Principal Permittee(s).

I. SUBMITTAL OF JURISDICTIONAL URMP ANNUAL REPORT

1. Individual - Each individual Jurisdictional URMP Annual Report shall be a documentation of the activities conducted by each Copermittee during the past annual reporting period. Each Jurisdictional URMP Annual Report shall, at a minimum, contain the following:
 - a. Comprehensive description of all activities conducted by the Copermittee to meet all requirements of each component of the Jurisdictional URMP section of this Order;
 - F.1. Land-Use Planning for New Development and Redevelopment Component
 - F.2. Construction Component
 - F.3. Existing Development Component (Including Municipal, Industrial, Commercial, Residential, and Education)
 - F.4. Education Component
 - F.5. Illicit Discharge Detection and Elimination Component
 - F.6. Common Interest Areas and Homeowners Associations

- F.7. Public Participation Component
- F.8. Assessment of Jurisdictional URMP Effectiveness Component
- F.9. Fiscal Analysis Component

- b. Each Copermittee's accounting of all:
 - (1) Reports of illicit discharges (i.e., complaints) and how each was resolved (indicating referral source);
 - (2) Inspections conducted;
 - (3) Enforcement actions taken; and
 - (4) Education efforts conducted.
 - c. Public participation mechanisms utilized during the Jurisdictional URMP implementation process;
 - d. Proposed revisions to the Jurisdictional URMP;
 - e. A summary of all urban runoff related data not included in the annual monitoring report (e.g., special investigations);
 - f. Budget for upcoming year;
 - g. Identification of management measures proven to be ineffective in reducing urban runoff pollutants and flow; and
 - h. Identification of water quality improvements or degradation.
2. Unified - The unified Jurisdictional URMP Annual Report shall contain a section covering common activities conducted collectively by the Copermittees, to be produced by the Principal Permittee(s), and the thirteen individual Jurisdictional URMP Annual Reports. Each Copermittee shall submit to the Principal Permittee(s) an individual Jurisdictional URMP Annual Report by the date specified by the Principal Permittee(s). The Principal Permittee(s) shall submit a unified Jurisdictional URMP Annual Report to the SDRWQCB prior to **November 9, 2003 and prior to every November 9th thereafter**. The reporting period for these annual reports shall be the previous fiscal year. For example, the report submitted prior to November 9, 2003 shall cover the reporting period July 1, 2002 to June 30, 2003.
3. Universal Reporting Requirements

All individual and unified Jurisdictional URMP submittals shall include an executive summary, introduction, conclusion, recommendations, and signed certified statement. Each Copermittee shall submit its individual Jurisdictional Urban Runoff Management Program Annual Report with a signed certified statement. The Principal Permittee(s) shall submit a signed certified statement referring to its individual Jurisdictional Urban Runoff Management Program Annual Report and the section covering common activities conducted collectively by the Copermittees as produced by the Principal Permittee(s).

J. WATERSHED URBAN RUNOFF MANAGEMENT PROGRAM

- 1. Each Copermittee shall collaborate with other Copermittees to identify, address, and mitigate the highest priority water quality issues/pollutants in the six (Table 4) watersheds in the San Juan Creek Watershed Management Area.
- 2. Each Copermittee shall collaborate with all other Copermittees discharging urban runoff into the same watershed to develop and implement a Watershed Urban Runoff Management Program (Watershed URMP) for the six watersheds in the San Juan Creek Watershed Management Area.

The Watershed URMP shall, at a minimum contain the following:

- a. An accurate map of the watersheds of the San Juan Creek Watershed Management Area in Orange County (preferably in Geographical Information System [GIS] format) that identifies all receiving waters (including the Pacific Ocean); all Clean Water Act section 303(d) impaired receiving waters (including the Pacific Ocean); existing and planned land uses; MS4s, major highways; jurisdictional boundaries; and inventoried commercial, construction, industrial, municipal sites, and residential areas.
- b. An assessment of the water quality of all receiving waters in the watershed based upon (1) existing water quality data; and (2) annual dry weather monitoring that satisfies requirements of section F.5 and Attachment E of this Order; and (3) watershed receiving water quality monitoring that satisfies the watershed monitoring requirements of Attachment B;
- c. An identification and prioritization of major water quality problems in the watershed caused or contributed to by MS4 discharges and the likely source(s) of the problem(s);
- d. An implementation time schedule of short and long-term recommended activities (individual and collective) needed to address the highest priority water quality problem(s) identified in section J.2.c of this Order. For this section, "short-term activities" shall mean those activities that are to be completed during the life of this Order and "long-term activities" shall mean those activities that are to be completed beyond the life of this Order;
- e. A mechanism for public participation throughout the entire watershed URMP process;
- f. A watershed-based education program that builds on and expands upon the education activities conducted by each Copermittee in a given watershed and that can focus on water quality issues specific to that watershed;
- g. A mechanism to facilitate collaborative "watershed-based" (i.e., natural resource-based) land use planning with neighboring local governments in the watershed.
- h. Short-term strategy for assessing the effectiveness of the activities and programs implemented under the Watershed URMP. The short term assessment strategy shall identify methods to assess the Watershed URMP effectiveness and include specific direct and indirect performance measurements that will track the immediate progress and accomplishments of the Watershed URMP towards improving receiving water quality impacted by urban runoff discharges. The short-term strategy shall also discuss the role of monitoring data collected by the Copermittees in substantiating or refining the assessment.
- i. Long-term strategy for assessing the effectiveness of the Watershed URMP. The long-term assessment strategy shall identify specific direct and indirect performance measurements that will track the long-term progress of Watershed URMP towards achieving improvements in receiving water quality impacted by urban runoff discharges. Methods used for assessing effectiveness shall include the following or their equivalent: surveys, pollutant loading estimations, and receiving water quality monitoring. The long-term strategy shall also discuss the role of monitoring data in substantiating or refining the assessment.

Table 4. Orange County Copermittees by Watershed for the San Juan Creek Watershed Management Area

Watershed	Major Receiving Water Bodies⁸	Copermittees
Orange County Coastal Streams - Laguna	Moro Canyon Creek Emerald Canyon Creek Laguna Canyon Creek Blue Bird Canyon Creek Rim Rock Canyon Creek Hobo Canyon Creek	County of Orange Laguna Beach Laguna Woods Orange County Flood Control District Aliso Viejo
Aliso Creek	Aliso Creek English Canyon Creek Sulphur Canyon Creek Wood Canyon Creek	Aliso Viejo Laguna Beach Laguna Hills Laguna Niguel Laguna Woods Lake Forest Mission Viejo County of Orange Orange County Flood Control District
Dana Point Coastal Streams	Salt Creek Arroyo Salada Creek San Juan Canyon	Dana Point Laguna Niguel Orange County Flood Control District
San Juan Creek	San Juan Creek Trampas Canyon Creek Canada Gobernadora Canada Chiquita Horno Creek Arroyo Trabuco Creek Tijeras Canyon Creek Live Oak Canyon Creek Oso Creek La Paz Creek Lucas Canyon Creek Verdugo Canyon Creek Bell Canyon Creek Dove Canyon Creek Crow Canyon Creek	San Juan Capistrano Mission Viejo Laguna Hills Laguna Niguel Dana Point Rancho Santa Margarita County of Orange Orange County Flood Control District San Clemente
Orange County Coastal Streams - San Clemente	Prima Deshecha Canada Segunda Deshecha Canada	San Clemente San Juan Capistrano County of Orange Orange County Flood Control District Dana Point
San Mateo Creek	Christianitos Creek Gambino Canyon Creek La Paz Canyon Creek Talega Canyon Creek	San Clemente County of Orange Orange County Flood Control District

⁸ Indented water bodies are tributary to the above water body.

K. IMPLEMENTATION OF WATERSHED URMP

Each Copermittee shall implement all requirements of the Watershed URMP section of this Order by August 13, 2003 unless otherwise specified. Following the adoption of the Order and prior to the full implementation of the Watershed URMP, the Copermittees shall at a minimum collectively implement the provisions and commitments of the proposed DAMP submitted in September 2000.

L. SUBMITTAL OF WATERSHED URMP DOCUMENT

The written account of the overall watershed program to be conducted by each Copermittee during the remaining life of this Order is referred to as the "Watershed URMP Document". The Watershed URMP is conducted concurrently with the Jurisdictional URMP.⁹

1. The Watershed URMP document shall state how the member Copermittees within each watershed will develop and implement the requirements of the Watershed URMP section J. of this Order. The Watershed URMP document shall include:
 - (1) A completed watershed map
 - (2) A water quality assessment of the San Juan Creek Watershed Management Area within Orange County and watershed monitoring needed
 - (3) Prioritization of water quality problems within Orange County in the San Diego Region
 - (4) Recommended activities (short and long term) to be conducted jointly by the Copermittees and a timeline for implementation
 - (5) Individual Copermittee implementation responsibilities and time schedules for implementation
 - (6) A description of watershed public participation mechanisms
 - (7) A description of watershed education mechanisms
 - (8) A description of the mechanism and implementation schedule for watershed-based land use planning
 - (9) A strategy for assessing the short-term effectiveness of the Watershed URMP
 - (10) A strategy for assessing the long-term effectiveness of the Watershed URMP
 - (11) A program to address common interest areas and homeowners associations
2. The Principal Permittee(s) shall submit the Watershed URMP document to the SDRWQCB by August 13, 2003.
3. Universal Reporting Requirements.

All Watershed URMP submittals shall include an executive summary, introduction, conclusion, recommendations, and signed certified statement. Each Copermittee shall submit a signed certified statement covering its responsibilities in the Watershed URMP Document. The Principal Permittee(s) shall submit a signed certified statement referring to its responsibilities in the Watershed URMP Document and the section covering common activities conducted collectively by the Copermittees as produced by the Principal Permittee(s).

⁹As the Copermittees jointly revise and implement the submitted proposed DAMP and each Copermittee revises and implements its jurisdictional level program to satisfy the requirements of this Order, it is expected that many activities will be conducted on both a jurisdictional level (e.g., enforcement of local ordinances and permits) and a watershed level. Implementation of the Watershed URMP is not meant to replace, but to expand and complement implementation of the Jurisdictional URMP. For this reason, it is necessary to report management activities on both levels. This can be accomplished either by submitting both a Jurisdictional URMP Annual Report and a Watershed URMP Annual Report or by submitting a single Watershed URMP Annual Report that contains two separate sections (i.e., watershed activities and jurisdictional activities). Information need only be reported once (to the extent something is covered in the Watershed URMP Annual Report, it need not be covered again in the Jurisdictional URMP Annual Report).

M. SUBMITTAL OF WATERSHED URMP ANNUAL REPORT

1. Each Watershed URMP Annual Report shall be a documentation of the activities conducted by watershed member Copermittees during the previous annual reporting period to meet the requirements of all components of the Watershed URMP section of this Order. Each Watershed URMP Annual Report shall, at a minimum, contain the following:
 - a. Comprehensive description of all activities conducted by the watershed member Copermittees to meet all requirements of each component of Watershed URMP section J. of this Order
 - b. A section covering common activities conducted collectively by the Copermittees, to be produced by the Principal Permittee(s)
 - c. Public participation mechanisms utilized during the Watershed URMP implementation process;
 - d. Mechanism for watershed-based land use planning;
 - e. Assessment of effectiveness of Watershed URMP;
 - f. Proposed revisions to the Watershed URMP;
 - g. A summary of watershed effort related data not included in the annual monitoring report (e.g., special investigations); and
 - h. Identification of water quality improvements or degradation.
2. The Principal Permittee(s) shall submit the Watershed URMP Annual Report to the SDRWQCB prior to November 9, 2004 and prior to every November 9th thereafter. The reporting period for these annual reports shall be the previous fiscal year. For example, the report submitted prior to November 9, 2004 shall cover the reporting period July 1, 2003 to June 30, 2004.
3. Universal Reporting Requirements

All Watershed URMP submittals shall include an executive summary, introduction, conclusion, recommendations, and signed certified statement. Each Copermittee shall submit a signed certified statement covering its responsibilities in the Watershed URMP Annual Report. The Principal Permittee(s) shall submit a signed certified statement referring to its responsibilities in the Watershed URMP Annual Report and the section covering common activities conducted collectively by the Copermittees as produced by the Principal Permittee(s).

N. PROGRAM MANAGEMENT

1. The Copermittees shall implement the Program Management activities and commitments as described in section 2 (Program Management) of the proposed DAMP.

O. PRINCIPAL PERMITTEE RESPONSIBILITIES

Within 90 days of adoption of this Order, the Copermittees shall designate the Principal Permittee(s) and notify the SDRWQCB of the name(s) of the Principal Permittee(s). The Principal Permittee(s) may require the Copermittees to reimburse the Principal Permittee(s) for reasonable costs incurred while performing coordination responsibilities and other related tasks. The Principal Permittee(s) shall, at a minimum:

1. Be responsible for implementing or coordinating the implementation of the Program Management activities and commitments described in section 2 (Program Management) of the proposed DAMP.
2. Serve as liaison(s) between the Copermittees and the SDRWQCB on general permit issues.
3. Coordinate permit activities among the Copermittees and facilitate collaboration on the development and implementation of programs required under this Order;

4. Coordinate the joint development by all of the Copermittees of standardized format(s) for all reports required under this Order (e.g., annual reports, monitoring reports, fiscal analysis reports, and program effectiveness reports, etc.). The standardized reporting format(s) shall be used by all Copermittees and shall include protocols for electronic reporting. The Principal Permittee(s) shall submit the standardized format(s) to the SDRWQCB as part of the unified Jurisdictional URMP document no later than **365 days after adoption** of this Order.
5. Integrate individual Copermittee documents and reports required under this Order into single unified documents and reports for submittal to the SDRWQCB as described below. If a reporting date falls on a non-working day or State holiday, then the report is to be submitted on the following working day.
 - a. Unified Jurisdictional URMP Document – The Principal Permittee(s) shall submit the unified Jurisdictional URMP document in its entirety (including the model SUSMP) to the SDRWQCB within 365 days of the adoption of this Order.

The Principal Permittee(s) shall be responsible for producing the sections of the unified Jurisdictional URMP document submittals covering common activities conducted by the Copermittees. The Principal Permittee(s) shall be responsible for the development and production of a stand alone Model SUSMP document meeting the requirements of section F.1.b.(2). of this Order. The Principal Permittee(s) shall also be responsible for collecting and assembling the individual Jurisdictional URMP document submittals covering the activities conducted by each individual Copermittee.

- b. Unified Jurisdictional URMP Annual Reports – The Principal Permittee(s) shall submit unified Jurisdictional URMP Annual Reports to the SDRWQCB prior to November 9th of each year, beginning on **November 9, 2003**. The reporting period for these annual reports shall be the previous fiscal year. For example, the report submitted prior to November 9, 2003 shall cover the reporting period July 1, 2002 to June 30, 2003.

The Principal Permittee(s) shall be responsible for producing the section of the unified Jurisdictional URMP Annual Reports covering common activities conducted by the Copermittees. The Principal Permittee(s) shall also be responsible for collecting and assembling the individual Jurisdictional URMP Annual Reports covering the activities conducted by each individual Copermittee.

- c. Watershed URMP Document – The Principal Permittee(s) shall prepare and submit the Watershed URMP document to the SDRWQCB by **August 13, 2003** .
 - d. Watershed URMP Annual Report - The Principal Permittee(s) shall prepare and submit the Watershed URMP Annual Reports to the SDRWQCB prior to November 9th of each year, beginning on **November 9, 2004**. The reporting period for these annual reports shall be the previous fiscal year. For example, the report submitted prior to November 9, 2004 shall cover the reporting period July 1, 2003 to June 30, 2004.
 - e. Receiving Waters Monitoring and Reporting Program - The Principal Permittee(s) shall be responsible for the production and submittal of the Previous Monitoring and Future Recommendations Report. The report shall be submitted to the SDRWQCB within 180 days of adoption of this Order.
 - f. Receiving Waters Monitoring and Reporting Program - The Principal Permittee(s) shall be responsible for the development and production of the Receiving Waters Monitoring Program as it is outlined in Attachment B. The Principal Permittee(s) shall submit the Receiving Waters Monitoring Program to the SDRWQCB within 180 days of adoption of this Order.

- g. Receiving Waters Monitoring and Reporting Program – The Principal Permittee(s) shall be responsible for coordinating the joint development by all of the Copermittees of monitoring reporting formats (Section O.4) and for implementing the Receiving Waters Monitoring Program as outlined in Attachment B by August 13, 2002.
- h. Receiving Waters Monitoring and Reporting Program - The Principal Permittee(s) shall submit the Receiving Waters Monitoring Annual Report to the SDRWQCB prior to November 9th of each year, beginning on November 9, 2003.
- i. Formal Agreements/Standardized Formats - The Principal Permittee(s) shall submit to the SDRWQCB, within 365 days of adoption of this Order, a formal agreement between the Copermittees which provides a management structure for meeting the requirements of this Order (as described in section N.1.). The Principal Permittee(s) shall submit to the SDRWQCB, within 365 days of adoption of this Order, standardized formats for all reports and documents required under this Order.
- j. Dry Weather Monitoring - The Principal Permittee(s) shall collectively submit the Copermittees' dry weather monitoring maps and procedures to the SDRWQCB within 365 days of adoption of this Order.

P. RECEIVING WATERS MONITORING AND REPORTING PROGRAM

1. Pursuant to California Water Code section 13267, each Copermittee shall comply with the Receiving Waters Monitoring and Reporting Program for Order No. R9-2002-0001 contained in **Attachment B** of this Order.
2. Each Copermittee shall also comply with standard provisions, reporting requirements, and notifications contained in **Attachment C** of this Order.

Q. TASKS AND SUBMITTAL SUMMARY

The tasks and submittals required under this Order are summarized in Tables 5 and 6 below:

Table 5. Task Summary

Task No.	Task	Permit Section	Completion Date	Frequency
1	Identify discharges not to be prohibited and BMPs required for treatment of discharges not prohibited	B.3.	365 days after adoption of Order	One Time
2	Examine field screening results to identify water quality problems resulting from non-prohibited non-storm water discharges, including follow-up of problems	B.5.	Prior to November 9, 2003	Annually
3	Notify SDRWQCB of discharges causing or contributing to an exceedance of water quality standards	C.2.a.	Immediate	As Needed
4	Establish adequate legal authority to control pollutant discharges into and from MS4	D.1.	365 days after adoption of Order	One Time
5	Assess General Plan to incorporate water quality and watershed protection principles	F.1.a.	365 days after adoption of Order	One Time
6	Include Development Project Requirements in local permits	F.1.b.(1).	365 days after adoption of Order	One Time
7	Develop Model SUSMP	F.1.b.(2).	365 days after adoption of Order	One Time
8	Develop and adopt individual local SUSMP and amended ordinances	F.1.b.(2).	180 days after development of Model SUSMP	One Time
9	Implement individual jurisdictional SUSMP	F.1.b.(2).	180 days after submittal of Model SUSMP to SDRWQCB	Continuous

Task No.	Task	Permit Section	Completion Date	Frequency
10	Revise environmental review processes	F.1.c.(1).	365 days after adoption of Order	One Time
11	Conduct education program for municipal planning and development review staff, project applicants, developers, contractors, community planning groups, and property owners	F.1.d.(1). And F.1.d.(2).	365 days after adoption of Order	Ongoing
12	Implement all requirements of Construction Component of Jurisdictional URMP	F.2.a. – F.2.j.	365 days after adoption of Order	Ongoing
13	Notify SDRWQCB of non-compliant construction sites that pose a threat to human or environmental health	F.2.i.	Within 24 hours of discovery of noncompliance	As Needed
14	Implement all requirements of Municipal Existing Development Component of Jurisdictional URMP	F.3.a.(1). – F.3.a.(8).	365 days after adoption of Order	Ongoing
15	Implement all requirements of Industrial Existing Development Component of Jurisdictional URMP	F.3.b.(1) – F.3.b.(8)	365 days after adoption of Order	Ongoing
16	Notify SDRWQCB of non-compliant industrial sites that pose a threat to human or environmental health	F.3.b.8.	Within 24 hours of discovery of noncompliance	As Needed
17	Implement all requirements of Commercial Existing Development Component of Jurisdictional URMP	F.3.c.(1) – F.3.c.(5)	365 days after adoption of Order	Ongoing
18	Implement all requirements of Residential Existing Development Component of Jurisdictional URMP	F.3.d.(1) – F.3.d.(4)	365 days after adoption of Order	Ongoing
19	Implement all requirements of Education Component of Jurisdictional URMP	F.4.a. – F.4.c.	365 days after adoption of Order	Ongoing
20	Implement all requirements of Illicit Discharge Detection and Elimination Component of Jurisdictional URMP	F.5.a. – F.5.i.	365 days after adoption of Order	Ongoing
21	Develop a plan to manage urban runoff from common interest areas, private roads, drainage facilities, and other components of the storm water conveyance system, including those managed by homeowners associations.	F.6.	365 days after adoption of Order	One Time
22	Implement all requirements of Public Participation Component of Jurisdictional URMP	F.7.	365 days after adoption of Order	Ongoing
23	Develop strategy for assessment of Jurisdictional URMP effectiveness	F.8.a.	365 days after adoption of Order	One Time
24	Assess Jurisdictional URMP effectiveness	F.8.b.	Prior to November 9, 2003	Annually
25	Develop strategy for fiscal analysis of urban runoff management program	F.9.	365 days after adoption of Order	One Time
26	Conduct fiscal analysis of urban runoff management program in entirety	F.9.	Prior to November 9, 2003	Annually
27	Develop and implement Watershed URMP	J.2.	August 13, 2003	Ongoing
28	Implement Program Management activities and commitments in proposed DAMP	N.1.	Immediately	Ongoing
29	Develop standardized formats for all required reports of this Order	O.4.	365 days after adoption of Order	One Time
30	Develop Receiving Waters Monitoring Document	Attachment B	180 days after adoption of Order	One Time
31	Implement Receiving Waters Monitoring Program	Attachment B	180 days after adoption of Order	Continuous
32	Develop Dry Weather Monitoring Program Document	Attachment E	365 days after adoption of Order	One Time
33	Conduct Dry Weather Monitoring Program	Attachment E	Begins May 1, 2003 Thereafter conducted May 1 st to September 30 th	Annually
34	Complete NPDES applications for issuance of renewal watershed-based permits	Attachment C	At least 180 days prior to expiration of Order	One Time

Task No.	Task	Permit Section	Completion Date	Frequency
35	Notify SDRWQCB of any incidence of non-compliance with this Order that poses a threat to human or environmental health.	R.1, B.6 of Attachment C	Within 24 hours of discovery of non-compliance	As Needed
36	Designate Principal Permittee(s) and notify SDRWQCB	O.	90 days after adoption of the Order	One Time

Table 6. Submittal Summary

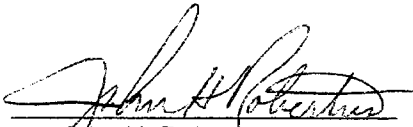
Submittal No.	Submittal	Permit Section	Completion Date	Frequency
1	Submit identification of discharges not to be prohibited and BMPs required for treatment of discharges not prohibited	B.3.	365 days after adoption of Order	One Time
2	Report on discharges causing or contributing to an exceedance of water quality standards, including description of BMP implementation	C.2.a.	With individual Jurisdictional URMP Annual Reports	As Needed
3	Submit Certified Statement of Adequate Legal Authority	D.2.	365 days after adoption of Order	One Time
4	Submit certified statement if particular high priority construction sites are to be inspected monthly rather than weekly in the rainy season	F.2.g.(2).	365 days after adoption of Order and as needed thereafter	As Needed
5	Submit report on non-compliant construction sites that pose a threat to human or environmental health.	F.2.i.	Within 5 Days of discovery of non-compliance	As Needed
6	Submit report on non-compliant industrial sites that pose a threat to human or environmental health.	F.3.b.8.	Within 5 days of discovery of non compliance	As Needed
7	Submit to Principal Permittee(s) individual Jurisdictional URMP document covering requirements for all Components	H.1.a.	Prior to 365 days after adoption of Order (Principal Permittee(s) specifies date of submittal)	One Time
8	(This space reserved).			
9	Principal Permittee(s) shall submit to SDRWQCB unified Jurisdictional URMP document covering requirements for all Components, including Model SUSMP	H.2.a.	365 days after adoption of Order	One Time
10	(This space reserved).			
11	Submit to SDRWQCB local SUSMP and amended ordinances	F.1.b.(2). and H.1.d.	180 days after development of Model SUSMP	One Time
12	Submit to Principal Permittee(s) individual Jurisdictional URMP Annual Report	I.1.	Prior to November 9, 2003 (Principal Permittee(s) specifies date of submittal)	Annually
13	Principal Permittee(s) shall submit 1st unified Jurisdictional URMP Annual Report to SDRWQCB	I.2.	Prior to November 9, 2003	One Time and Annually Thereafter
14	Submit to Principal Permittee(s) Watershed Specific URMP document	L.1.	Prior to August 13, 2003 (Principal Permittee(s) specifies date of submittal)	One Time
15	Principal Permittee(s) shall submit Watershed URMP document to SDRWQCB	L.2.	August 13, 2003	One Time
16	Principal Permittee(s) shall submit 2nd unified Jurisdictional URMP Annual Report to SDRWQCB	I.2.	Prior to November 9, 2004	One Time
17	(This space reserved).			
18	Principal Permittee(s) shall submit 1st Watershed URMP Annual Report to SDRWQCB	M.2.	Prior to November 9, 2004	One Time and Annually Thereafter
19	Principal Permittee(s) shall submit 3rd unified Jurisdictional URMP Annual Report to SDRWQCB	I.2.	Prior to November 9, 2005	One Time

Submittal No.	Submittal	Permit Section	Completion Date	Frequency
20	Principal Permittee(s) shall submit 2 nd Watershed URMP Annual Report to SDRWQCB	M.2.	Prior to November 9, 2005	One Time
21	Principal Permittee(s) shall submit 4 th unified Jurisdictional URMP Annual Report to SDRWQCB	I.2.	Prior to November 9, 2006	One Time
22	Principal Permittee(s) shall submit 3 rd Watershed URMP Annual Report to SDRWQCB	M.2.	Prior to November 9, 2006	One Time
23	Principal Permittee(s) shall submit 5 th unified Jurisdictional URMP Annual Report to SDRWQCB	I.2.	Prior to November 9, 2007	One Time
24	Principal Permittee(s) shall submit standardized formats for all reports required under this Order	O.4.	365 days after adoption of Order	One Time
25	Principal Permittee(s) submits Receiving Waters Monitoring Program Document	Attachment B	180 days after adoption of Order	One Time
26	Principal Permittee(s) submits Receiving Waters Monitoring Annual Report to SDRWQCB	Attachment B	Prior to November 9, 2003	Annually
27	Submit to Principal Permittee(s) Dry Weather Monitoring Program Document	Attachment E	Prior to 365 days after adoption of Order	One Time
28	Principal Permittee(s) submits collective Dry Weather Monitoring Program Documents	Attachment E	365 days after adoption of Order	One Time
29	Submit to Principal Permittee(s) Dry Weather Monitoring Program results as part of individual Jurisdictional URMP Annual Report	Attachment E	Prior to November 9, 2003, as part of individual Jurisdictional URMP Annual Report	Annually
30	Principal Permittee(s) shall submit NPDES applications for issuance of renewal watershed-based permits	Attachment C	At least 180 days prior to expiration of this Order	One Time
31	Submit reports of any incidence of non-compliance with this Order that poses a threat to human or environmental health.	R.1, B.6 of Attachment C	Within 5 days of discovery of non compliance	As Needed

R. STANDARD PROVISIONS, REPORTING REQUIREMENTS AND NOTIFICATIONS

1. Each Copermitttee shall comply with Standard Provisions, Reporting Requirements, and Notifications contained in **Attachment C** of this Order. This includes 24 hour/5day reporting requirements for any instance of non-compliance with this Order as described in section B.6 of Attachment C.
2. All plans, reports and subsequent amendments submitted in compliance with this Order shall be implemented immediately (or as otherwise specified) and shall be an enforceable part of this Order upon submission to the SDRWQCB. All submittals by Copermitttees must be adequate to implement the requirements of this Order.

I, John H. Robertus, Executive Officer, do hereby certify the foregoing is a full, true, and correct copy of an Order adopted by the California Regional Water Quality Control Board, San Diego Region, on **February 13, 2002**.


 John H. Robertus
 Executive Officer

ATTACHMENT A

BASIN PLAN PROHIBITIONS

California Water Code Section 13243 provides that a Regional Board, in a water quality control plan, may specify certain conditions or areas where the discharge of waste, or certain types of waste is not permitted. The following discharge prohibitions are applicable to any person, as defined by Section 13050(c) of the California Water Code, who is a citizen, domiciliary, or political agency or entity of California whose activities in California could affect the quality of waters of the state within the boundaries of the San Diego Region.

1. The discharge of waste to waters of the state in a manner causing, or threatening to cause a condition of pollution, contamination or nuisance as defined in California Water Code Section 13050, is prohibited.
2. The discharge of waste to land, except as authorized by waste discharge requirements or the terms described in California Water Code Section 13264 is prohibited.
3. The discharge of pollutants or dredged or fill material to waters of the United States except as authorized by an NPDES permit or a dredged or fill material permit (subject to the exemption described in California Water Code §13376) is prohibited.
4. Discharges of recycled water to lakes or reservoirs used for municipal water supply or to inland surface water tributaries thereto are prohibited, unless this Regional Board issues a NPDES permit authorizing such a discharge; the proposed discharge has been approved by the State Department of Health Services and the operating agency of the impacted reservoir; and the discharger has an approved fail-safe long-term disposal alternative.
5. The discharge of waste to inland surface waters, except in cases where the quality of the discharge complies with applicable receiving water quality objectives, is prohibited. Allowances for dilution may be made at the discretion of the Regional Board. Consideration would include streamflow data, the degree of treatment provided and safety measures to ensure reliability of facility performance. As an example, discharge of secondary effluent would probably be permitted if streamflow provided 100:1 dilution capability.
6. The discharge of waste in a manner causing flow, ponding, or surfacing on lands not owned or under the control of the discharger is prohibited, unless the discharge is authorized by the Regional Board.
7. The dumping, deposition, or discharge of waste directly into waters of the state, or adjacent to such waters in any manner which may permit its being transported into the waters, is prohibited unless authorized by the Regional Board.
8. Any discharge to a storm water conveyance system that is not composed entirely of "*storm water*" is prohibited unless authorized by the Regional Board. [The federal regulations, 40 CFR 122.26 (b) (13), define storm water as storm water runoff, snow melt runoff, and surface runoff and drainage. 40 CFR 122.26 (b) (2) defines an illicit discharge as any discharge to a storm water conveyance system that is not composed entirely of storm water except discharges pursuant to a NPDES permit and discharges resulting from fire fighting activities. [§122.26 amended at 56 FR 56553, November 5, 1991; 57 FR 11412, April 2, 1992].

9. The unauthorized discharge of treated or untreated sewage to waters of the state or to a storm water conveyance system is prohibited.
10. The discharge of industrial wastes to conventional septic tank/subsurface disposal systems, except as authorized by the terms described in California Water Code Section 13264, is prohibited.
11. The discharge of radioactive wastes amenable to alternative methods of disposal into the waters of the state is prohibited.
12. The discharge of any radiological, chemical, or biological warfare agent into waters of the state is prohibited.
13. The discharge of waste into a natural or excavated site below historic water levels is prohibited unless the discharge is authorized by the Regional Board.
14. The discharge of sand, silt, clay, or other earthen materials from any activity, including land grading and construction, in quantities which cause deleterious bottom deposits, turbidity or discoloration in waters of the state or which unreasonably affect, or threaten to affect, beneficial uses of such waters is prohibited.
15. The discharge of treated or untreated sewage from vessels to Mission Bay, Oceanside Harbor, Dana Point Harbor, or other small boat harbors is prohibited.
16. The discharge of untreated sewage from vessels to San Diego Bay is prohibited.
17. The discharge of treated sewage from vessels to portions of San Diego Bay that are less than 30 feet deep at mean lower low water (MLLW) is prohibited.
18. The discharge of treated sewage from vessels, which do not have a properly functioning US Coast Guard certified Type I or Type II marine sanitation device, to portions of San Diego Bay that are greater than 30 feet deep at mean lower low water (MLLW) is prohibited.

ATTACHMENT B

RECEIVING WATERS MONITORING AND REPORTING PROGRAM FOR ORDER NO. R9-2002-0001

B.1 Receiving Waters Monitoring Program

The Copermittees shall collaborate to develop, implement, and report annually on a Receiving Waters Monitoring Program for Orange County within the San Diego Region. The primary objectives of the Receiving Waters Monitoring and Reporting Program include:

- Assessing compliance with Order No. R9-2002-0001;
- Measuring the effectiveness of Urban Runoff Management Plans;
- Assessing the chemical, physical, and biological impacts to receiving waters resulting from urban runoff; and
- Assessing the overall health and evaluating long-term trends in receiving water quality.

Order No. R9-2002-0001 may be modified by the SDRWQCB Executive Officer without further public notice to direct the Copermittees to participate in comprehensive regional monitoring activities in the Southern California Bight in lieu of specific Order R9-2002-0001 receiving waters monitoring requirements during the term of this Order.

B.2 Receiving Waters Monitoring Program Document

Within **180** days of the adoption of this Order the Copermittees shall submit to the SDRWQCB a Receiving Waters Monitoring Program document, subject to SDRWQCB review, that incorporates the following components:

- a. Previous Monitoring and Future Recommendations Technical Report; and
- b. Receiving Waters Monitoring Program

B.2.a. Previous Monitoring and Future Recommendations Technical Report

The Copermittees shall collaborate to prepare a technical report that provides analysis, interpretation, and summary of all previous wet weather monitoring results from programs conducted in the watersheds within the San Diego Region under the First Term Permit, the Second Term Permit, and the Orange County Water Quality Monitoring Program (99-04 Plan) currently being implemented by the Copermittees. The report shall also provide recommendations for the Receiving Waters Monitoring Program to comply with the objectives listed in Attachment B.1 above and incorporates the specific receiving waters monitoring requirements of Attachment B.2.b. At a minimum, the report shall:

- (1) Summarize the cumulative findings of all previous wet weather monitoring;
- (2) Identify detectable trends in water quality data and receiving water quality, based on the cumulative previous wet weather monitoring findings;
- (3) Interpret the cumulative previous wet weather monitoring findings;
- (4) Describe the monitoring design, sampling and analytical methods employed in the 99-04 Plan within the San Diego Region;
- (5) Describe the identification of Critical Aquatic Resources and Warm Spots in the 99-04 Plan within the San Diego Region and how these will be addressed in the Receiving Waters Monitoring Program;
- (6) Draw conclusions regarding the cumulative previous wet weather monitoring findings;

- (7) Describe how the monitoring data collected under the previous monitoring programs, including the 99-04 Plan, have been utilized by the Copermittees in the implementation of the 1993 DAMP under Order No. 96-03;
- (8) Describe how the monitoring data collected under this Order will be utilized in the implementation of the Jurisdictional and Watershed Urban Runoff Management Plans;
- (9) Provide recommendations for future monitoring activities in the San Diego Region (i.e. number and location of sampling stations, frequency of sampling, parameters to be analyzed, methods and materials to be used, and a rationale for each) that achieves the objectives listed in section B.1 and incorporates the specific program requirements of section B.2.b of this Attachment; and
- (10) Include an executive summary, introduction, conclusion, and summary of recommendations.

B.2.b. Receiving Waters Monitoring Program

The Copermittees shall collaborate to review and revise the existing 99-04 Plan utilizing the findings of the Previous Monitoring and Future Recommendations Technical Report. The revised 99-04 Plan shall incorporate the specific requirements of this section for Orange County within the San Diego Region and henceforth referred to under this Order as the Receiving Waters Monitoring Program. The Receiving Waters Monitoring Program shall at a minimum include, satisfy, or exceed the following requirements:

- (1) The Receiving Waters Monitoring shall be conducted during each reporting period under the Order. A reporting period is defined as October 1st to September 30th of any year. The first reporting period under this Order is October 1, 2002 to September 30, 2003.
- (2) Both the annual and long-term objectives of the Receiving Waters Monitoring Program shall be clearly stated and reported annually and shall focus on the primary objectives of the program listed in Attachment B.1.
- (3) The monitoring program design, implementation, analysis, assessment, and reporting shall be conducted annually on a watershed basis for each of the six hydrologic units in the San Juan Creek Watershed Management Area within Orange County (Orange County Coastal Streams – Laguna, Aliso Creek Watershed, Dana Point Watershed, San Juan Creek Watershed, Orange County Coastal Streams – San Clemente, and San Mateo Creek) as defined in the Water Quality Control Plan for the San Diego Region (9) and Watershed Management Chapter for the San Diego Region.
- (4) Monitoring results shall be assessed and reported annually on a watershed basis as a single report by the Copermittees consisting of one common section and six watershed sections. Monitoring, analysis, assessment, and reporting shall satisfy the requirements of specified below for each watershed as applicable.
- (5) Describe how the Copermittees may collaborate with other agencies or organizations conducting similar monitoring, such as the Southern California Coastal Water Research Project (SCCWRP), including the possibility of participating in coordinated comprehensive regional monitoring in the Southern California Bight under this Order.
- (6) The Receiving Waters Monitoring Program document shall be submitted to the SDRWQCB for review and comment no later than 180 days following the adoption of this Order.
- (7) Implementation of the Receiving Waters Monitoring Program shall begin no later than August 13, 2002.
- (8) The Receiving Waters Monitoring Program shall incorporate the components listed below and shall address the primary objectives of the Receiving Waters Monitoring Program:
 - (a) Urban Stream Bioassessment
 - (b) Long Term Mass Loading

- (c) Coastal Storm Drain Outfall Monitoring
- (d) Ambient Coastal Receiving Waters Monitoring

B.2.b.8.a Urban Stream Bioassessment Monitoring

1. The Copermittees shall collaborate to develop and implement an urban stream bioassessment monitoring program. At a minimum, the program shall consist of station identification, sampling, monitoring, and analysis of data for 12 bioassessment stations in order to determine the biological and physical integrity of urban streams within the County of Orange. In addition to the urban stream bioassessment stations, three reference bioassessment stations shall be identified, sampled, monitored, and analyzed. The selection, sampling, monitoring, and analysis of bioassessment stations shall meet the following requirements:
 - a. Each urban stream bioassessment station shall be selected using the following criteria. Each urban stream bioassessment station shall:
 - (1) be located within the jurisdiction of a Copermittee; or
 - (2) be located within one of the six watersheds described above; and
 - (3) be representative of urban stream conditions within one of the six watersheds specified in Section J, Table 4 of this Order; and
 - (4) meet the physical criteria of the California Stream Bioassessment Procedure¹; and
 - (5) to the extent feasible, coincide with the location of an already existing monitoring station used by the California Department of Fish and Game in the conduct of the SDRWQCB's Ambient Bioassessment Program.
 - b. Each bioassessment station shall be monitored twice annually, in May and October of each year, beginning in October 2002². A minimum of three replicate samples shall be collected at each station during each sampling event.
 - c. Sampling, laboratory, quality assurance, and analysis procedures shall follow the standardized procedures set forth in the California Department of Fish and Game's California Stream Bioassessment Procedure (CSBP). Analysis procedures shall include comparison between station mean values for various biological metrics. Sampling, laboratory, quality assurance, and analytical procedures shall follow the standardized "Non-Point Source Bioassessment Sampling Procedures" for professional bioassessment set forth in the CSBP. In the event that the CSBP "Point-Source Professional Bioassessment Procedure" is performed in place of the "Non Point Source Bioassessment Sampling Procedure," justification and documentation of the procedure shall be submitted with the report. Results of the Urban Stream Bioassessment Monitoring shall be reported annually as part of the overall Receiving Waters Monitoring and Reporting Program for Order No. R9-2002-0001. Reporting of the bioassessment data shall follow the format of the San Diego Regional Water Quality Control Board 1999 Biological Assessment Annual Report³. The report shall include:

¹ California Stream Bioassessment Procedure (Protocol Brief for Biological and Physical/Habitat Assessment in Wadeable Streams), California Department of Fish and Game – Aquatic Bioassessment Laboratory, May 1999.

² Bioassessment sampling shall be performed in May and October each year.

³ San Diego Regional Water Quality Control Board, 1999 Biological Assessment Annual Report. A Water Quality Inventory Series: Biological and Physical/Habitat Assessment of California Water Bodies. California Department of Fish and Game Office of Spill Prevention and Response, Water Pollution Control Laboratory. December 1999.

- (1) All physical, chemical and biological data collected in the assessment;
 - (2) Photographic documentation of assessment and reference stations;
 - (3) Documentation of quality assurance and control procedures;
 - (4) Analysis that includes calculation of the metrics used in both the CSBP and the 1999 Annual Report.
 - (5) The assessment shall utilize a regional index of biological integrity when it becomes available.
 - (6) The report shall provide interpretation for comparisons of mean biological and habitat assessment metric values between assessment and reference stations.
 - (7) Electronic data formatted to California Department of Fish and Game Aquatic Bioassessment Laboratory specifications for inclusion in the Statewide Access Bioassessment database.
- d. A professional environmental laboratory or Copermittee staff shall perform all sampling, laboratory, quality assurance, and analytical procedures. While valuable, data collected by volunteer monitoring organizations shall not be submitted in place of professional assessments.
- e. Reference stations shall be selected following the recommendations in the 1999 Annual Report, Hughes (1995)⁴ and Barbour et. al. (1999)⁵. Reference stations shall be evaluated annually by the Copermittees for suitability and the results included in the annual report. New reference stations will be selected as needed by the Copermittees.
2. The Copermittees shall design and implement a program to conduct standardized toxicity testing at urban stream bioassessment stations where the bioassessment data indicates significant impairment. When findings indicate the presence of toxicity, a Toxicity Identification Evaluation (TIE) shall be conducted to determine the cause(s) of the toxicity.

B.2.b.8.b Long Term Mass Loading

For purposes of evaluating long-term trends and assessing the effectiveness of urban runoff management programs, the Copermittees shall continue to implement the mass loading monitoring conducted under the 99-04 Plan in Orange County within the San Diego Region. The mass loading monitoring component shall, however, be revised as necessary to ensure adequate coverage of the San Diego Region and to specify that when findings or observations indicate the possible presence of toxicity, a Toxicity Identification Evaluation (TIE) shall be conducted to determine the cause(s) of the toxicity.

B.2.b.8.c. Coastal Storm Drain Outfall Monitoring

The Copermittees shall collaborate to develop and implement a monitoring program for discharges of urban runoff from coastal storm drain outfalls. The program shall meet the following requirements:

4 Hughes, R. M. (1995) Defining Acceptable Biological Status by Comparing with Reference Conditions in Biological Assessment and Criteria: Tools for Water Resource Planning and Decision Making, Wayne S. Davis and Thomas P. Simon eds. Lewis Publishers, Boca Raton, LA.

5 Barbour, M.T. , J Gerritsen, B.D. Synder, and J.B. Stribling (1999) Rapid Bioassessment Protocols For Use in Streams and Wadeable Rivers: Periphyton, Benthic Macroinvertebrates, and Fish. Second Edition. EPA 841-B-99-002.

1. The program shall include rationale and criteria for selection of storm drain outfalls to be monitored.
2. The program shall include collection of samples for analysis of total coliform, fecal coliform, and enterococci, in addition to any other indicators or pathogens identified by the Copermitees.
3. Samples shall be collected at both the storm drain outfall and in the surf zone (at ankle to knee water depths) directly in front of the outfall.
4. Samples shall be collected during both dry and wet weather periods.
5. Exceedances of public health standards for bacteria must be reported to the County of Orange Health Care Agency, Regulatory Health Services, Environmental Health, Ocean Recreation Protection Program as soon as possible by the Copermitees.

B.2.b.8.d. Ambient Coastal Receiving Water Monitoring

The Copermitees shall collaborate to develop and implement a program to assess the overall health of the coastal receiving waters and monitor the impact of urban runoff on ambient receiving water quality. This monitoring shall include Dana Cove, the creek and stream mouths, the Pacific Ocean coastline of Orange County within the San Diego region, and all Clean Water Act section 303(d) water bodies or other environmentally sensitive areas as defined in F.1.b.(2)(a)vi of this Order.

B.3 Implementation of the Receiving Waters Monitoring Program

Upon approval by the SDRWQCB the Copermitees shall implement the Receiving Waters Monitoring Program.

B.4 Interim Implementation of the 99-04 Plan

Until approval of the Receiving Waters Monitoring Program by the SDRWQCB, the Copermitees shall continue to implement the 99-04 Plan as described in Appendix K of the proposed DAMP.

B.5 Submittal of Receiving Waters Monitoring Annual Reports

The Principal Permittee shall submit the Receiving Waters Monitoring Annual Report to the SDRWQCB prior to November 9th of each year, beginning on November 9, 2003.

B.6 Monitoring Annual Report Requirements

- a. Monitoring reports shall provide the data/results, methods of evaluating the data, graphical summaries of the data, and an explanation/discussion of the data for each monitoring program component listed above.
- b. Monitoring reports shall include an analysis of the findings of each monitoring program component listed above. The analysis shall identify and prioritize water quality problems. Based on the identification and prioritization of water quality problems, the analysis shall identify potential sources of the problems, and recommend future monitoring and BMP implementation measures for identifying and addressing the sources. The analysis shall also include an evaluation of the effectiveness of existing control measures.

- c. Monitoring reports shall include identification and analysis of any long-term trends in storm water or receiving water quality.
- d. Monitoring reports shall provide an estimation of total pollutant loads (wet weather loads plus dry weather loads) due to urban runoff for each of the watersheds specified in Section J, Table 4 of Order No. R9-2002-0001.
- e. Monitoring reports shall for each monitoring program component listed above, include an assessment of compliance with applicable water quality standards.
- f. All monitoring reports shall use a standard report format and shall include the following:
 - 1. A stand alone comprehensive executive summary addressing all sections of the monitoring report;
 - 2. Comprehensive interpretations and conclusions; and
 - 3. Recommendations for future actions.
- g. All monitoring reports submitted to the Principal Permittee or the SDRWQCB shall contain the certified perjury statement described in Standard Reporting Requirements in Attachment C section B.9.d.
- h. A committee (consisting of no less than three members) shall review all monitoring reports prior to submittal to the SDRWQCB. All review comments shall also be submitted to the SDRWQCB.
- i. All monitoring reports shall be submitted in both electronic and paper formats.
- j. All monitoring reports shall describe monitoring station locations by latitude and longitude coordinates, frequency of sampling, quality assurance/quality control procedures and sampling and analysis protocols.
- k. Monitoring programs and reports shall comply with Section B.7 of Attachment B, as well as Attachment C.

B.7 Standard Monitoring Requirements

- a. All monitoring activities shall meet the following requirements:

- 1. Monitoring and Records [40 CFR 122.41(j)(1)]

Samples and measurements taken for the purpose of monitoring shall be representative of the monitored activity.

- 2. Monitoring and Records [40 CFR 122.41(j)(2)] [California Water Code § 13383(a)]

The discharger shall retain records of all monitoring information, including all calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentation, copies of all reports required by this Order, and records of all data used to complete the application for this permit, for a period of at least three years from the date of the sample, measurement, report or application. This period may be extended by request of the SDRWQCB at any time.

3. Monitoring and Records [40 CFR 122.21(j)(3)]

Records of monitoring information shall include the information requested in Attachment B and the following:

- a. The date, exact place, and time of sampling or measurements;
- b. The individual(s) who performed the sampling or measurements;
- c. The date(s) analyses were performed;
- d. The individual(s) who performed the analyses;
- e. The analytical techniques or methods used; and
- f. The results of such analyses.

4. Monitoring and Records [40 CFR 122.21(j)(4)]

Monitoring results must be conducted according to test procedures approved under 40 CFR part 136 unless other test procedures have been specified in this Order.

5. Monitoring and Records [40 CFR 122.21(j)(5)]

The Clean Water Act provides that any person who falsifies, tampers with, or knowingly renders inaccurate any monitoring device or method required to be maintained under this Order shall, upon conviction, be punished by a fine of not more than \$10,000, or by imprisonment for not more than two years, or both. If a conviction of a person is for a violation committed after a first conviction of such person under this paragraph, punishment is a fine of not more than \$20,000 per day of violation, or by imprisonment of not more than four years, or both.

6. Monitoring and Records [40 CFR 122.41(k)(2)]

The Clean Water Act provides that any person who knowingly makes any false statement, representation, or certification in any record or other document submitted or required to be maintained under this permit, including monitoring reports or reports of compliance or non-compliance shall, upon conviction, be punished by a fine of not more than \$10,000 per violation, or by imprisonment for not more than six months per violation, or by both.

7. Monitoring Reports [40 CFR 122.41(l)(4)]

Monitoring results shall be reported at the intervals specified elsewhere in this Order.

8. Monitoring Reports [40 CFR 122.41(l)(4)(ii)]

If the discharger monitors any pollutant more frequently than required by the permit using test procedures approved under 40 CFR part 136, unless otherwise specified in the Order, the results of this monitoring shall be included in the calculation and reporting of the data submitted in the reports requested by the SDRWQCB.

9. Monitoring Reports [40 CFR 122.41(l)(4)(iii)]

Calculations for all limitations which require averaging of measurements shall utilize an arithmetic mean unless otherwise specified by the SDRWQCB in the Order.

ATTACHMENT C
STANDARD PROVISIONS
REPORTING REQUIREMENTS, AND
NOTIFICATIONS

A. STANDARD PROVISIONS

1. Duty To Comply [40 CFR 122.41(a)(1)]
The discharger shall comply with effluent standards or prohibitions established under Section 307(a) of the Clean Water Act for toxic pollutants and with standards for sewage sludge use or disposal established under Section 405(d) of the Clean Water Act within the time provided in the regulations that establish these standards or prohibitions or standards for sewage sludge use or disposal, even if this Order has not yet been modified to incorporate the requirement.
2. Need to Halt or Reduce Activity Not a Defense [40 CFR 122.41(c)]
It shall not be a defense for the discharger in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this Order. Upon reduction, loss, or failure of a treatment facility, the discharger shall, to the extent necessary to maintain compliance with this Order, control production or all discharges, or both, until the facility is restored or an alternative method of treatment is provided. This provision applies, for example, when the primary source of power of a treatment facility fails, is reduced, or is lost.
3. Duty to Mitigate [40 CFR 122.41(d)]
The discharger shall take all reasonable steps to minimize or prevent any discharge or prevent any discharge or sludge use or disposal in violation of this Order which has a reasonable likelihood of adversely affecting human health or the environment.
4. Proper Operation and Maintenance [40 CFR 122.41(e)]
The discharger shall at all times properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) which are installed or used by the discharger to achieve compliance with the conditions of this Order. Proper operation and maintenance also includes adequate laboratory controls and appropriate quality assurance procedures. This provision requires the operation of back-up or auxiliary facilities or similar systems which are installed by the discharger only when the operation is necessary to achieve compliance with the conditions of this Order.
5. Permit Actions [40 CFR 122.41(f)] [California Water Code § 13381]
This Order may be modified, revoked and reissued, or terminated for cause including, but not limited to, the following:
 - a. Violation of any terms or conditions of this Order;
 - b. Obtaining this Order by misrepresentation or failure to disclose fully all relevant facts;
 - c. A change in any condition that requires either a temporary or permanent reduction or elimination of the authorized discharge; or
 - d. A determination that the permitted activity endangers human health or the environment and can only be regulated to acceptable levels by permit modification or termination.

The filing of a request by the discharger for modification, revocation and reissuance, or termination of this Order, or a notification of planned changes or anticipated noncompliance does not stay any condition of this Order.

6. Property Rights [40 CFR 122.41(g)] [California Water Code §13263(g)]
This Order does not convey any property rights of any sort or any exclusive privilege. The requirements prescribed herein do not authorize the commission of any act causing injury to persons or property, nor protect the discharger from liabilities under federal, state, or local laws, nor create a vested right for the discharger to continue the waste discharge.
7. Inspection and Entry [40 CFR 122.41(i)] [California Water Code § 13267(c)]
The discharger shall allow the SDRWQCB, or an authorized SDRWQCB representative, or an authorized representative of the USEPA (including an authorized contractor acting as a representative of the SDRWQCB or USEPA), upon presentation of credentials and other documents as may be required by law, to:
 - a. Enter upon the discharger's premises where a regulated facility or activity is located or conducted, or where records must be kept under the conditions of this Order;
 - b. Have access to and copy, at reasonable times, any records that must be kept under the conditions of this Order;
 - c. Inspect at reasonable times any facilities, equipment (including monitoring and control equipment), practices, or operations regulated or required under this Order; and
 - d. Sample or monitor at reasonable times, for the purposes of assuring compliance with this Order or as otherwise authorized by the Clean Water Act or California Water Code, any substances or parameters at any location.
8. Bypass of Treatment Facilities [40 CFR 122.41(m)]
 - a. Definitions
 - (1) "Bypass" means the intentional diversion of waste streams from any portion of a treatment facility.
 - (2) "Severe property damage" means substantial physical damage to property, damage to the treatment facilities which causes them to become inoperable, or substantial and permanent loss of natural resources which can reasonably be expected to occur in the absence of a bypass. Severe property damage does not mean economic loss caused by delays in production.
 - b. Bypass not Exceeding Limitations

The discharger may allow any bypass to occur which does not cause effluent limitations of this Order or the concentrations of pollutants set forth in Ocean Plan Table A or Table B to be exceeded, but only if it also is for essential maintenance to assure efficient operation. These bypasses are not subject to the provisions of paragraphs c. and d. of this provision.
 - c. Notice
 - (1) Anticipated bypass. If the discharger knows in advance of the need for a bypass, it shall submit prior notice, if possible, at least ten days before the date of the bypass.
 - (2) Unanticipated bypass. The discharger shall submit notice of an unanticipated bypass as required in section B.7 of Attachment C.

d. Prohibition of Bypass

Bypass is prohibited, and the SDRWQCB may take enforcement action against the discharger for bypass, unless:

- (1) Bypass was unavoidable to prevent loss of life, personal injury, or severe property damage;
- (2) There were no feasible alternatives to the bypass, such as the use of auxiliary treatment facilities, retention of untreated wastes, or maintenance during normal periods of equipment downtime. This condition is not satisfied if adequate back-up equipment should have been installed in the exercise of reasonable engineering judgment to prevent a bypass which occurred during normal periods of equipment downtime or preventive maintenance; and
- (3) The discharger submitted notices as required under paragraph c. of this section. The SDRWQCB may approve an anticipated bypass, after considering its adverse effects, if the SDRWQCB determines that it will meet the three conditions listed above in paragraph d.(1) of this section.

9. Upset [40 CFR 122.41(n)]

- a. Definition "Upset" means an exceptional incident in which there is unintentional and temporary noncompliance with technology based effluent limitations because of factors beyond the reasonable control of the discharger. An upset does not include noncompliance to the extent caused by operational error, improperly designed treatment facilities, inadequate treatment facilities, lack of preventive maintenance, or careless or improper operation.
- b. Effect of an Upset An upset constitutes an affirmative defense to an action brought for noncompliance with such technology based permit effluent limitations if the requirements of paragraph c. of this section are met. No determination made during administrative review of claims that noncompliance was caused by upset, and before an action for noncompliance, is final administrative action subject to judicial review.
- c. Conditions Necessary for a Demonstration of Upset A discharger who wishes to establish the affirmative defense of upset shall demonstrate, through properly signed, contemporaneous operating logs, or other relevant evidence that:
 - (1) An upset occurred and that the discharger can identify the cause(s) of the upset;
 - (2) The permitted facility was at the time being properly operated;
 - (3) The discharger submitted notice of the upset as required in section B.7 of Attachment C of this Order; and
 - (4) The discharger complied with any remedial measures required under Provision A.5. of Attachment C of this Order.
- d. Burden of Proof In any enforcement proceeding the discharger seeking to establish the occurrence of an upset has the burden of proof.

10. Other Effluent Limitations and Standards [40 CFR 122.44(b)(1)]

If any toxic effluent standard or prohibition (including any schedule of compliance specified in such effluent standard or prohibition) is promulgated under Section 307(a) of the Clean Water Act for a toxic pollutant which is present in the discharge and that standard or prohibition is more stringent than any limitation on the pollutant in this Order, the SDRWQCB may institute proceedings under these regulations to modify or revoke and reissue the Order to conform to the toxic effluent standard or prohibition.

11. The discharger shall take all reasonable steps to minimize or correct any adverse impact on the environment resulting from noncompliance with this Order, including such accelerated or additional monitoring as may be necessary to determine the nature and impact of the noncomplying discharge.
12. The provisions of this Order are severable, and if any provision of this Order, or the application of any provision of this Order to any circumstances, is held invalid, the application of such provision to other circumstances, and the remainder of this Order, shall not be affected thereby.
13. The discharger shall comply with any interim effluent limitations as established by addendum, enforcement action, or revised waste discharge requirements which have been, or may be, adopted by this SDRWQCB.

B. REPORTING REQUIREMENTS

1. Duty to Reapply [40 CFR 122.41(b)] This Order expires on **February 13, 2007**. If the discharger wishes to continue any activity regulated by this Order after the expiration date of this Order, the discharger must apply for and obtain new waste discharge requirements. The discharger must file a Report of Waste Discharge in accordance with Title 23, California Code of Regulations not later than **180 days** in advance of the expiration date of this Order as application for issuance of new waste discharge requirements.
2. Duty to Provide Information [40 CFR 122.41(h)] The discharger shall furnish to the SDRWQCB, SWRCB, or USEPA, within a reasonable time, any information which the SDRWQCB, SWRCB, or USEPA may request to determine whether cause exists for modifying, revoking and reissuing, or terminating this Order, or to determine compliance with this Order. The discharger shall also furnish to the SDRWQCB, SWRCB, or USEPA, upon request, copies of records required to be kept by this Order.
3. Planned Changes [40 CFR 122.41(l)(1)] The discharger shall give notice to the SDRWQCB as soon as possible of any planned physical alterations or additions to the permitted facility. Notice is required only when:
 - a. The alteration or addition to a permitted facility may meet one of the criteria for determining whether a facility is a new source in 40 CFR Part 122.29(b);
 - b. The alteration or addition could significantly change the nature or increase the quantity of pollutants discharged. This notification applies to pollutants which are subject neither to effluent limitations in this Order, nor to notification requirements under 40 CFR 122.42(a)(l); or
 - c. The alteration or addition results in a significant change in the discharger's sludge use or disposal practices, and such alteration, addition, or change may justify the application of conditions in this Order that are different from or absent in the existing Order, including notification of additional use or disposal sites not reported during the permit application process or not reported pursuant to an approved land application plan.
4. Anticipated Non-Compliance [40 CFR 122.41(l)(2)] The discharger shall give advance notice to the SDRWQCB of any planned changes in the permitted facility or activity which may result in noncompliance with the requirements of this Order.

5. Transfers [40 CFR 122.41(l)(3)] This Order is not transferable to any person except after notice to the SDRWQCB. The SDRWQCB may require modification or revocation and reissuance of this Order to change the name of the discharger and incorporate such other requirements as may be necessary under the Clean Water Act or the California Water Code in accordance with the following:
 - a. Transfers by Modification [40 CFR 122.61(a)]

Except as provided in paragraph b. of this reporting requirement, this Order may be transferred by the discharger to a new owner or operator only if this Order has been modified or revoked and reissued, or a minor modification made to identify the new discharger and incorporate such other requirements as may be necessary under the Clean Water Act or California Water Code.
 - b. Automatic Transfers [40 CFR 122.61(b)]

As an alternative to transfers under paragraph a. of this reporting requirement, any NPDES permit may be automatically transferred to a new discharger if:

 - (1) The current discharger notifies the SDRWQCB at least 30 days in advance of the proposed transfer date in paragraph b.(2) of this reporting requirement;
 - (2) The notice includes a written agreement between the existing and new dischargers containing a specific date for transfer of permit responsibility, coverage, and liability between them; and
 - (3) The SDRWQCB does not notify the existing discharger and the proposed new discharger of his or her intent to modify or revoke and reissue the Order. A modification under this subparagraph may also be a minor modification under 40 CFR Part 122.63. If this notice is not received, the transfer is effective on the date specified in the agreement mentioned in paragraph b.(2) of this reporting requirement.
6. Twenty-four Hour Reporting [40 CFR 122.41(l)(6)]

Each Copermittee shall develop and submit criteria by which to evaluate events of non-compliance to determine whether they pose a threat to human or environmental health. These criteria shall be submitted in the Jurisdictional Urban Runoff Management Program Document and Annual Reports for SDRWQCB review. Using these criteria the discharger shall report any noncompliance with this Order or any noncompliance that may endanger human health or environmental health. Any information shall be provided orally to the SDRWQCB within **24 hours** from the time the discharger becomes aware of the circumstances. A written description of any noncompliance shall be submitted to the SDRWQCB within **five days** of such an occurrence and contain a description of the noncompliance and its cause; the period of noncompliance, including exact dates and times, and if the noncompliance has not been corrected, the anticipated time it is expected to continue; and steps taken or planned to reduce, eliminate, and prevent recurrence of the noncompliance. The following shall be included as information which must be reported within 24 hours under this reporting requirement:

 - a. Any unanticipated bypass which exceeds any effluent limitation in this Order;
 - b. Any discharge of treated or untreated wastewater, including reclaimed or recycled wastewater, resulting from pipeline breaks, obstruction, surcharge or any other circumstance;
 - c. Any discharge or spill of raw or potable water not authorized by this order or resulting from pipeline breaks, obstruction, surcharge or any other circumstance;

- d. Any upset which exceeds any effluent limitation in this Order;
 - e. Any spill or discharge of non-storm water not authorized by this Order. Non-storm water discharges not prohibited by the Copermittees pursuant to Section B of this Order need not be reported under this section; and
 - f. Any violation of this Order.
7. Other Non-Compliance [40 CFR 122.41(l)(7)]
The discharger shall report all instances of noncompliance not reported elsewhere under other sections of this Order at the time annual reports are submitted. The reports shall contain the information listed in part B.6 of Attachment C of this Order.
8. Other Information [40 CFR 122.41(l)(8)]
Where the discharger becomes aware that it failed to submit any relevant facts in a Report of Waste Discharge, or submitted incorrect information in a Report of Waste Discharge, or in any report to the SDRWQCB, it shall promptly submit such facts or information.
9. Signatory Requirements [40 CFR 122.41(k)(1) and 40 CFR 122.22]
All applications, reports, or information submitted to the SDRWQCB shall be signed and certified.
- a. All Reports of Waste Discharge shall be signed as follows:
 - (1) For a corporation: by a responsible corporate officer. For the purpose of this section, a responsible corporate officer means: (a) a president, secretary, treasurer, or vice-president of the corporation in charge of a principal business function, or any other person who performs similar policy- or decision-making functions for the corporation; or (b) the manager of one or more manufacturing, production, or operating facilities employing more than 250 persons or having gross annual sales or expenditures exceeding \$25 million (in second-quarter 1980 dollars), if authority to sign documents has been assigned or delegated to the manager in accordance with corporate procedures.
 - (2) For a partnership or sole proprietorship: by a general partner or the proprietor, respectively; or
 - (3) For a municipality, State, Federal or other public agency: by either a principal executive officer or ranking elected official. For purposes of this section, a principal executive officer of a Federal agency includes: (a) the chief executive officer of the agency; or (b) a senior executive officer having responsibility for the overall operations of a principal geographic unit of the agency (e.g., Regional Administrators of USEPA).
 - b. All reports required by this Order, and other information requested by the SDRWQCB shall be signed by a person described in paragraph a. of this reporting requirement, or by a duly authorized representative of that person. A person is a duly authorized representative only if:
 - (1) The authorization is made in writing by a person described in paragraph a. of this reporting requirement;
 - (2) The authorization specifies either an individual or a position having responsibility for the overall operation of the regulated facility or activity, such as the position of

plant manager, operator of a well or a well field, superintendent, position of equivalent responsibility, or an individual or position having overall responsibility for environmental matters for the company. (A duly authorized representative may thus be either a named individual or any individual occupying a named position.); and,

(3) The written authorization is submitted to the SDRWQCB.

- c. If an authorization under paragraph b. of this reporting requirement is no longer accurate because a different individual or position has responsibility for the overall operation of the facility, a new authorization satisfying the requirements of paragraph b. of this reporting requirement must be submitted to the SDRWQCB prior to or together with any reports, information, or applications to be signed by an authorized representative.
- d. Any person signing a document under paragraph a. or b. of this reporting requirement shall make the following certification:

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

10. Except for data determined to be confidential under 40 CFR Part 2, all reports prepared in accordance with the terms of this Order shall be available for public inspection at the offices of the SDRWQCB. As required by the Clean Water Act, Reports of Waste Discharge, this Order, and effluent data shall not be considered confidential.
11. The discharger shall submit reports and provide notifications as required by this Order to the following:

DAVE GIBSON
NORTHERN WATERSHED PROTECTION UNIT
CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
SAN DIEGO REGION
9174 SKY PARK COURT, SUITE 100
SAN DIEGO CA 92123-4340
Telephone: (858) 467-4387 Fax: (858) 571-6972

EUGENE BROMLEY
US ENVIRONMENTAL PROTECTION AGENCY
REGION IX
PERMITS ISSUANCE SECTION (W-5-1)
75 HAWTHORNE STREET
SAN FRANCISCO CA 94105

12. Unless otherwise directed, the discharger shall submit three copies of each report required under this Order to the SDRWQCB and one copy to USEPA.

C. NOTIFICATIONS

1. California Water Code Section 13263(g)
No discharge of waste into the waters of the state, whether or not such discharge is made pursuant to waste discharge requirements, shall create a vested right to continue such discharge. All discharges of waste into waters of the state are privileges, not rights.
2. The SDRWQCB has, in prior years, issued a limited number of individual NPDES permits for non-storm water discharges to municipal storm water conveyance systems. The SDRWQCB or SWRCB may in the future, upon prior notice to the Copermitee(s), issue an NPDES permit for any non-storm water discharge (or class of non-storm water discharges) to a municipal storm water conveyance system. Copermitees may prohibit any non-storm water discharge (or class of non-storm water discharges) to a municipal storm water conveyance system that is authorized under such separate NPDES permits.
3. Enforcement Provisions [40 CFR 122.41(a)(2)] [California Water Code §§ 13385 and 13387]
The Clean Water Act provides that any person who violates section 301, 302, 306, 307, 308, 318 or 405 of the Act, or any condition or limitation of this Order, is subject to a civil penalty not to exceed \$25,000 per day for each violation. The Clean Water Act provides that any person who negligently violates sections 301, 302, 306, 307, 308, 318, or 405 of the Act, or any condition or limitation of this Order, is subject to criminal penalties of \$2,500 to \$25,000 per day of violation, or imprisonment of not more than one year, or both. In the case of a second or subsequent conviction for a negligent violation, a person shall be subject to criminal penalties of not more than \$50,000 per day of violation, or by imprisonment of not more than two years, or both. Any person who knowingly violates such sections, or such conditions or limitations is subject to criminal penalties of \$5,000 to \$50,000 per day of violation, or imprisonment for not more than three years, or both. In the case of a second or subsequent conviction for a knowing violation, a person shall be subject to criminal penalties of not more than \$100,000 per day of violation, or imprisonment of not more than six years, or both. Any person who knowingly violates section 301, 302, 303, 306, 307, 308, 318 or 405 of the Act, or any condition or limitation of this Order, and who knows at that time that he or she thereby places another person in imminent danger of death or serious bodily injury, shall, upon conviction, be subject to a fine of not more than \$250,000 or imprisonment of not more than 15 years, or both. In the case of a second or subsequent conviction for a knowing endangerment violation, a person shall be subject to a fine of not more than \$500,000 or by imprisonment of not more than 30 years, or both. An organization, as defined in section 309(c)(3)(B)(iii) of the Clean Water Act, shall, upon conviction of violating the imminent danger provision, be subject to a fine of not more than \$1,000,000 and can be fined up to \$2,000,000 for second or subsequent convictions.
4. Except as provided in Standard Provisions A.10. and A.11. in Attachment C of this Order, nothing in this Order shall be construed to relieve the discharger from civil or criminal penalties for noncompliance.
5. Nothing in this Order shall be construed to preclude the institution of any legal action or relieve the discharger from any responsibilities, liabilities, or penalties to which the discharger is or may be subject to under Section 311 of the Clean Water Act.
6. Nothing in this Order shall be construed to preclude institution of any legal action or relieve the discharger from any responsibilities, liabilities, or penalties established pursuant to any applicable State law or regulation under authority preserved by Section 510 of the Clean Water Act.

7. This Order shall become effective on **February 13, 2002**, provided the USEPA Regional Administrator has no objection. If the Regional Administrator objects to its issuance, this Order shall not become effective until such objection is withdrawn.
8. This Order supersedes Order No. 96-03 upon the effective date of this Order.

ATTACHMENT D

GLOSSARY

Beneficial Uses - The uses of water necessary for the survival or well being of man, plants, and wildlife. These uses of water serve to promote the tangible and intangible economic, social, and environmental goals "Beneficial Uses" of the waters of the State that may be protected against include, but are not limited to, domestic, municipal, agricultural and industrial supply; power generation; recreation; aesthetic enjoyment; navigation; and preservation and enhancement of fish, wildlife, and other aquatic resources or preserves. Existing beneficial uses are uses that were attained in the surface or ground water on or after November 28, 1975; and potential beneficial uses are uses that would probably develop in future years through the implementation of various control measures. "Beneficial Uses" are equivalent to "Designated Uses" under federal law. [California Water Code Section 13050(f)].

Best Available Technology (BAT) – BAT is the acronym for best available technology economically achievable. BAT is the technology-based standard established by congress in CWA section 402(p)(3)(A) for industrial dischargers of storm water. Technology-based standards establish the level of pollutant reductions that dischargers must achieve, typically by treatment or by a combination of treatment and best management practices, or BMPs. For example, secondary treatment (or the removal of 85% suspended solids and BOD) is the BAT for suspended solid and BOD removal from a sewage treatment plant. BAT generally emphasizes treatment methods first and pollution prevention and source control BMPs secondarily.

The best economically achievable technology that will result in reasonable further progress toward the national goal of eliminating the discharge of all pollutants, as determined in accordance with regulations issued by the Environmental Protection Agency Administrator. Factors relating to the assessment of best available technology shall take into account the age of equipment and facilities involved, the process employed, the engineering aspects of the application of various types of control techniques, process changes, the cost of achieving such effluent reduction, non-water quality environmental impact (including energy requirements), and such other factors as the permitting authority deems appropriate.

Best Conventional Technology (BCT) – BCT is an acronym for Best Conventional Technology. BCT is the treatment techniques, processes and procedure innovations, operating methods that eliminate amounts of chemical, physical, and biological characteristics of pollutant constituents to the degree of reduction attainable through the application of the best management practices to the maximum extent practicable.

Best Management Practices - Best Management Practices (BMPs) are defined in 40 CFR 122.2 as schedules of activities, prohibitions of practices, maintenance procedures, and other management practices to prevent or reduce the pollution of waters of the United States. BMPs also include treatment requirements, operating procedures and practices to control plant site runoff, spillage or leaks, sludge or waste disposal, or drainage from raw material storage. In the case of municipal storm water permits, BMPs are typically used in place of numeric effluent limits.

Bioaccumulate - The progressive accumulation of contaminants in the tissues of organisms through any route including respiration, ingestion, or direct contact with contaminated water, sediment, pore water, or dredged material to a higher concentration than in the surrounding environment. Bioaccumulation occurs with exposure and is independent of the trophic level.

Bioassessment - The use of biological community information to evaluate the biological integrity of a water body and its watershed. With respect to aquatic ecosystems, bioassessment is the collection and analysis of samples of the benthic macroinvertebrate community together with physical/habitat quality measurements associated with the sampling site and the watershed to evaluate the biological condition (i.e. biological integrity) of a water body.

Bioconcentration – A process by which there is a net accumulation of a chemical directly from water into aquatic organisms resulting from simultaneous uptake and elimination by gill or epithelial tissue. Bioconcentration differs from bioaccumulation in that bioaccumulation refers to the progressive concentration of contaminants in the tissues of organisms through multiple pathways.

Biocriteria - Under the Clean Water Act, numerical values or narrative expressions that define a desired biological condition for a water body that are legally enforceable. The U.S. EPA defines biocriteria as: “numerical values or narrative expressions that describe the reference biological integrity of aquatic communities inhabiting waters of a given designated aquatic life use...(that)...describe the characteristics of water body segments least impaired by human activities.”

Biological Integrity - Defined in Karr J.R. and D.R. Dudley. 1981. Ecological perspective on water quality goals. Environmental Management 5:55-68 as: “A balanced, integrated, adaptive community of organisms having a species composition, diversity, and functional organization comparable to that of natural habitat of the region.” Also referred to as ecosystem health.

Biomagnification – The transfer and progressive increase in tissue concentrations of a contaminant along the food chain. Because some pollutants can be transferred to higher trophic levels, carnivores at the top of the food chain, such as predatory fish, birds, and mammals (including humans), obtain most of their pollution burden from aquatic ecosystems by ingestion. Thus, although such pollutants may only be present in receiving waters in low concentrations, they can have a significant impact to the integrity of the ecosystem through biomagnification.

Clean Water Act Section 402(p) - [33 USC 1342(p)] is the federal statute requiring municipal and industrial dischargers to obtain NPDES permits for their discharges of storm water.

Clean Water Act Section 303(d) Water Body - is an impaired water body in which water quality does not meet applicable water quality standards and/or is not expected to meet water quality standards, even after the application of technology based pollution controls required by the CWA. The discharge of urban runoff to these water bodies by the Copermittees is significant because these discharges can cause or contribute to violations of applicable water quality standards.

Contamination - As defined in the Porter-Cologne Water Quality Control Act, contamination is “an impairment of the quality of waters of the state by waste to a degree which creates a hazard to the public health through poisoning or through the spread of disease. ‘Contamination’ includes any equivalent effect resulting from the disposal of waste whether or not waters of the state are affected.”

Designated Waste - Designated waste is defined as a “nonhazardous waste which consists of pollutants which, under ambient environmental conditions at the waste management unit, could be released at concentrations in excess of applicable water quality objectives, or which could cause degradation of waters of the state.” [CCR Title 27, Chapter 3, Subchapter 2, Article 2, Section 20210; WC Section 13173]

Effluent Limitations - Limitations on the volume of each waste discharge, and the quantity and concentrations of pollutants in the discharge. The limitations are designed to ensure that the

discharge does not cause water quality objectives to be exceeded in the receiving water and does not adversely affect beneficial uses.

Effluent limitations are limitations of the quantity and concentrations of pollutants in a discharge. The limitations are designed to ensure that the discharge does not cause water quality objectives to be exceeded in the receiving water and does not adversely affect beneficial uses. In other words, an effluent limit is the maximum concentration of a pollutant that a discharge can contain. To meet effluent limitations, the effluent typically must undergo one or more forms of treatment to remove pollutants in order to lower the pollutant concentration below the limit. Effluent limits are typically numeric (e.g., 10 mg/l), but can also be narrative (e.g., no toxics in toxic amounts).

Erosion – When land is diminished or worn away due to wind, water, or glacial ice. Often the eroded debris (silt or sediment) becomes a pollutant via storm water runoff. Erosion occurs naturally but can be intensified by land clearing activities such as farming, development, road building, and timber harvesting.

Grading - The cutting and/or filling of the land surface to a desired slope or elevation.

Hazardous Waste - Hazardous waste is defined as “any waste which, under Section 600 of Title 22 of this code, is required to be managed according to Chapter 30 of Division 4.5 of Title 22 of this code.” [CCR Title 22, Division 4.5, Chapter 11, Article 1]

Illicit Discharge - Any discharge to a municipal separate storm sewer that is not composed entirely of storm water except discharges pursuant to a NPDES permit (other than the NPDES permit for discharges from the municipal separate storm sewer) and discharges resulting from fire fighting activities.

Inert Waste - Inert waste is defined as one that “does not contain hazardous waste or soluble pollutants at concentrations in excess of applicable water quality objectives, and does not contain significant quantities of decomposable waste.” [CCR Title 27, Chapter 3, Subchapter 2, Article 2, Section 20230]

MEP – MEP is the acronym for Maximum Extent Practicable. MEP is the technology-based standard established by Congress in CWA section 402(p)(3)(B)(iii) that municipal dischargers of storm water (MS4s) must meet. Technology-based standards establish the level of pollutant reductions that dischargers must achieve, typically by treatment or by a combination of treatment and best management practices (BMPs). MEP generally emphasizes pollution prevention and source control BMPs primarily (as the first line of defense) in combination with treatment methods serving as a backup (additional line of defense). MEP considers economics and is generally, but not necessarily, less stringent than BAT. A definition for MEP is not provided either in the statute or in the regulations. Instead the definition of MEP is dynamic and will be defined by the following process over time: municipalities propose their definition of MEP by way of their Urban Runoff Management Plan. Their total collective and individual activities conducted pursuant to the Urban Runoff Management Plan becomes their proposal for MEP as it applies both to their overall effort, as well as to specific activities (e.g., MEP for street sweeping, or MEP for municipal separate storm sewer system maintenance). In the absence of a proposal acceptable to the SDRWQCB, the SDRWQCB defines MEP.

In a memo dated February 11, 1993, entitled "Definition of Maximum Extent Practicable," Elizabeth Jennings, Senior Staff Counsel, SWRCB addressed the achievement of the MEP standard as follows:

“To achieve the MEP standard, municipalities must employ whatever Best Management Practices (BMPs) are technically feasible (i.e., are likely to be effective) and are not cost

prohibitive. The major emphasis is on technical feasibility. Reducing pollutants to the MEP means choosing effective BMPs, and rejecting applicable BMPs only where other effective BMPs will serve the same purpose, or the BMPs would not be technically feasible, or the cost would be prohibitive. In selecting BMPs to achieve the MEP standard, the following factors may be useful to consider:

- a. *Effectiveness: Will the BMPs address a pollutant (or pollutant source) of concern?*
- b. *Regulatory Compliance: Is the BMP in compliance with storm water regulations as well as other environmental regulations?*
- c. *Public Acceptance: Does the BMP have public support?*
- d. *Cost: Will the cost of implementing the BMP have a reasonable relationship to the pollution control benefits to be achieved?*
- e. *Technical Feasibility: Is the BMP technically feasible considering soils, geography, water resources, etc?*

The final determination regarding whether a municipality has reduced pollutants to the maximum extent practicable can only be made by the Regional or State Water Boards, and not by the municipal discharger. If a municipality reviews a lengthy menu of BMPs and chooses to select only a few of the least expensive, it is likely that MEP has not been met. On the other hand, if a municipal discharger employs all applicable BMPs except those where it can show that they are not technically feasible in the locality, or whose cost would exceed any benefit derived, it would have met the standard. Where a choice may be made between two BMPs that should provide generally comparable effectiveness, the discharger may choose the least expensive alternative and exclude the more expensive BMP. However, it would not be acceptable either to reject all BMPs that would address a pollutant source, or to pick a BMP base solely on cost, which would be clearly less effective. In selecting BMPs the municipality must make a serious attempt to comply and practical solutions may not be lightly rejected. In any case, the burden would be on the municipal discharger to show compliance with its permit. After selecting a menu of BMPs, it is the responsibility of the discharger to ensure that all BMPs are implemented.”

Municipal Storm Water Conveyance System – (See Municipal Separate Storm Sewer System or MS4).

Municipal Separate Storm Sewer System (MS4) – MS4 is an acronym for Municipal Separate Storm Sewer System. A Municipal Separate Storm Sewer System is a conveyance or system of conveyances (including roads with drainage systems, municipal streets, catch basins, curbs, gutters, ditches, natural drainage features or channels, modified natural channels, man-made channels, or storm drains): (i) Owned or operated by a State, city town, borough, county, parish, district, association, or other public body (created by or pursuant to State law) having jurisdiction over disposal of sewage, industrial wastes, storm water, or other wastes, including special districts under State law such as a sewer district, flood control district or drainage district, or similar entity, or an Indian tribe or an authorized Indian tribal organization, or designated and approved management agency under section 208 of the CWA that discharges to waters of the United States; (ii) Designated or used for collecting or conveying storm water; (iii) Which is not a combined sewer; (iv) Which is not part of the Publicly Owned Treatment Works (POTW) as defined at 40 CFR 122.2.

Historic and current development make use of natural drainage patterns and features as conveyances for urban runoff. Urban streams used in this manner are part of the municipalities MS4 regardless of whether they are natural, man-made, or partially modified features. In these cases, the urban stream is both an MS4 and a receiving water.

National Pollution Discharge Elimination System (NPDES) - These permits pertain to the discharge of waste to surface waters only. All State and Federal NPDES permits are also WDRs.

Non-hazardous Solid Waste - Non-hazardous solid waste means all putrescible and nonputrescible solid, semi-solid, and liquid wastes, including garbage, trash, refuse, paper, rubbish, ashes, industrial wastes, demolition and construction wastes, abandoned vehicles and parts thereof, discarded home and industrial appliances, manure, vegetable or animal solid and semi-solid wastes and other discarded solid or semi-solid waste; provided that such wastes do not contain wastes which must be managed as hazardous wastes, or wastes which contain soluble pollutants in concentration which exceed applicable water quality objectives or could cause degradation of waters of the state." [CCR Title 27, Chapter 3, Subchapter 2, Article 2, Section 20220]

Non Point Source (NPS) – Non point source refers to diffuse, widespread sources of pollution. These sources may be large or small, but are generally numerous throughout a watershed. Non Point Sources include but are not limited to urban, agricultural, or industrial areas, roads, highways, construction sites, communities served by septic systems, recreational boating activities, timber harvesting, mining, livestock grazing, as well as physical changes to stream channels, and habitat degradation. NPS pollution can occur year round any time rainfall, snowmelt, irrigation, or any other source of water runs over land or through the ground, picks up pollutants from these numerous, diffuse sources and deposits them into rivers, lakes, and coastal waters or introduces them into ground water.

Non-Storm Water - Non-storm water consists of all discharges to and from a storm water conveyance system that do not originate from precipitation events (i.e., all discharges from a conveyance system other than storm water). Non-storm water includes illicit discharges, non-prohibited discharges, and NPDES permitted discharges. An illicit discharge is defined at 40 CFR 122.26(b)(2) as any discharge to a municipal storm water conveyance system that is not composed entirely of storm water except discharges pursuant to a separate NPDES permit and discharges resulting from emergency fire fighting activities.

Nuisance - As defined in the Porter-Cologne Water Quality Control Act a nuisance is "anything which meets all of the following requirements: 1) Is injurious to health, or is indecent, or offensive to the senses, or an obstruction to the free use of property, so as to interfere with the comfortable enjoyment of life or property. 2) Affects at the same time an entire community or neighborhood, or any considerable number of persons, although the extent of the annoyance or damage inflicted upon individuals may be unequal. 3) Occurs during, or as a result of, the treatment or disposal of wastes."

Numeric effluent limitations - The typical method by which effluent limits are prescribed for pollutants in waste discharge requirements implementing the federal NPDES regulations. When numeric effluent limits are met at the "end-of-pipe", the effluent discharge generally will not cause water quality standards to be exceeded in the receiving waters (i.e., water quality standards will also be met).

Person - A person is defined as an individual, association, partnership, corporation, municipality, State or Federal agency, or an agent or employee thereof. [40 CFR 122.2].

Point Source - Any discernible, confined, and discrete conveyance, including, but not limited to, any pipe, ditch, channel, tunnel, conduit, well, discrete fissure, container, rolling stock, concentrated animal feeding operations, landfill leachate collection systems, vessel, or other floating craft from which pollutants are or may be discharged.

Pollution - As defined in the Porter-Cologne Water Quality Control Act, pollution is “the alteration of the quality of the waters of the State by waste, to a degree that unreasonably affects the either of the following: A) The waters for beneficial uses; or 2) Facilities that serve these beneficial uses.” Pollution may include contamination.

Pollutant - A pollutant is broadly defined as any agent that may cause or contribute to the degradation of water quality such that a condition of pollution or contamination is created or aggravated.

Pollution Prevention - Pollution prevention is defined as practices and processes that reduce or eliminate the generation of pollutants, in contrast to source control, treatment, or disposal.

Post-Construction BMPs - A subset of BMPs including structural and non-structural controls which detain, retain, filter, or educate to prevent the release of pollutants to surface waters during the final functional life of development.

Pre-Development Runoff Conditions - The runoff conditions that exist onsite immediately before the planned development activities occur. This definition is not intended to be interpreted as that period before any human-induced land activities occurred. This definition pertains to redevelopment as well as initial development.

Receiving Water Limitations - Waste discharge requirements issued by the SDRWQCB typically include both: (1) “Effluent Limitations” (or “Discharge Limitations”) that specify the technology-based or water-quality-based effluent limitations; and (2) “Receiving Water Limitations” that specify the water quality objectives in the Basin Plan as well as any other limitations necessary to attain those objectives. In summary, the “Receiving Water Limitations” provision is the provision used to implement the requirement of CWA section 301(b)(1)(C) that NPDES permits must include any more stringent limitations necessary to meet water quality standards.

Sediment - Soil, sand, and minerals washed from land into water. Sediment resulting from anthropogenic sources (i.e. human induced land disturbance activities) is considered a pollutant. This Order regulates only the discharges of sediment from anthropogenic sources and does not regulate naturally occurring sources of sediment. Sediment can destroy fish-nesting areas, clog animal habitats, and cloud waters so that sunlight does not reach aquatic plants.

Storm Water - “Storm water” is as defined urban runoff and snowmelt runoff consisting only of those discharges which originate from precipitation events. Storm water is that portion of precipitation that flows across a surface to the storm drain system or receiving waters. Examples of this phenomenon include: the water that flows off a building’s roof when it rains (runoff from an impervious surface); the water that flows into streams when snow on the ground begins to melt (runoff from a semi-pervious surface); and the water that flows from a vegetated surface when rainfall is in excess of the rate at which it can infiltrate into the underlying soil (runoff from a pervious surface). When all factors are equal, runoff increases as the perviousness of a surface decreases. During precipitation events in urban areas, rain water picks up and transports pollutants through storm water conveyance systems, and ultimately to waters of the United States.

Toxicity - Adverse responses of organisms to chemicals or physical agents ranging from mortality to physiological responses such as impaired reproduction or growth anomalies). The water quality objectives for toxicity provided in the Water Quality Control Plan, San Diego Basin, Region 9, (Basin Plan), state in part...*“All waters shall be free of toxic substances in concentrations that are toxic to, or that produce detrimental physiological responses in human, plant, animal, or aquatic life....The survival of aquatic life in surface waters subjected to a waste*

discharge or other controllable water quality factors, shall not be less than that for the same water body in areas unaffected by the waste discharge”.... Urban runoff discharges from MS4s are considered toxic when (1) the toxic effect observed in an acute toxicity test exceeds zero Toxic Units Acute (Tua=0); or (2) the toxic effect observed in a chronic toxicity test exceeds one Toxic Unit Chronic (Tuc=1). Urban runoff discharges from MS4s often contain pollutants that cause toxicity.

Total Maximum Daily Load (TMDL) - The TMDL is the maximum amount of a pollutant that can be discharged into a water body from all sources (point and non-point) and still maintain water quality standards. Under Clean Water Act section 303(d), TMDLs must be developed for all water bodies that do not meet water quality standards after application of technology-based controls.

Urban Runoff - Urban runoff is defined as all flows in a storm water conveyance system and consists of the following components: (1) storm water (wet weather flows) and (2) non-storm water illicit discharges (dry weather flows).

Waste - As defined in California Water Code Section 13050(d), “waste includes sewage and any and all other waste substances, liquid, solid, gaseous, or radioactive, associated with human habitation, or of human or animal origin, or from any producing, manufacturing, or processing operation, including waste placed within containers of whatever nature prior to, and for purposes of, disposal.”

Article 2 of CCR Title 23, Chapter 15 (Chapter 15) contains a waste classification system which applies to solid and semi-solid waste which cannot be discharged directly or indirectly to water of the state and which therefore must be discharged to land for treatment, storage, or disposal in accordance with Chapter 15. There are four classifications of waste (listed in order of highest to lowest threat to water quality): hazardous waste, designated waste, nonhazardous solid waste, and inert waste.

Water Quality Objective - Numerical or narrative limits on constituents or characteristics of water designated to protect designated beneficial uses of the water. [California Water Code Section 13050 (h)]. California’s water quality objectives are established by the State and Regional Water Boards in the Water Quality Control Plans.

As stated in the Porter-Cologne Requirements for discharge (CWC 13263): "(Waste discharge) requirements shall implement any relevant water quality control plans that have been adopted, and shall take into consideration the beneficial uses to be protected, the water objectives reasonably required for that purpose, other waste discharges, the need to prevent nuisance, and the provisions of Section 13241."

A more comprehensive list of legal authority containing water quality objectives applicable to this Order can be found in Finding 37 and in Section VII Directives Discussion Underlying Broad Legal Authority for Order R9-2002-0001 pp. 76-78.

Numeric or narrative limits for pollutants or characteristics of water designed to protect the beneficial uses of the water. In other words, a water quality objective is the maximum concentration of a pollutant that can exist in a receiving water and still generally ensure that the beneficial uses of the receiving water remain protected (i.e., not impaired). Since water quality objectives are designed specifically to protect the beneficial uses, when the objectives are violated the beneficial uses are, by definition, no longer protected and become impaired. This is a fundamental concept under the Porter-Cologne Act. Equally fundamental is Porter-Cologne’s definition of pollution. A condition of pollution exists when the water quality needed to support designated beneficial uses has become unreasonably affected or impaired; in other words, when

the water quality objectives have been violated. These underlying definitions (regarding beneficial use protection) are the reason why all waste discharge requirements implementing the federal NPDES regulations require compliance with water quality objectives. (Water quality objectives are also called water quality criteria in the Clean Water Act.)

Water Quality Standards - are defined as the beneficial uses (e.g., swimming, fishing, municipal drinking water supply, etc.) of water and the water quality objectives necessary to protect those uses.

Waters of the State - Any water, surface or underground, including saline waters within the boundaries of the State [California Water Code Section 13050 (e)]. The definition of the Waters of the State is broader than that for the Waters of the United States in that all water in the State is considered to be a Waters of the State regardless of circumstances or condition. Under this definition, a Municipal Separate Storm Sewer System (MS4) is always considered to be a Waters of the State.

Waters of the United States - Waters of the United States can be broadly defined as navigable surface waters and all tributary surface waters to navigable surface waters. Groundwater is not considered to be a Waters of the United States.

As defined in the 40 CFR 122.2, the Waters of the U.S. are defined as: “**(a) All waters, which are currently used, were used in the past, or may be susceptible to use in interstate or foreign commerce, including all waters which are subject to the ebb and flow of the tide;** (b) All interstate waters, including interstate “wetlands;” (c) All other waters such as intrastate lakes, rivers, streams (including intermittent streams), mudflats, sandflats, “wetlands,” sloughs, prairie potholes, wet meadows, playa lakes, or natural ponds the use, degradation or destruction of which would affect or could affect interstate or foreign commerce including any such waters: (1) Which are or could be used by interstate or foreign travelers for recreational or other purposes; (2) From which fish or shellfish are or could be taken and sold in interstate or foreign commerce; or (3) Which are used or could be used for industrial purposes by industries in interstate commerce; (d) All impoundments of waters otherwise defined as waters of the United States under this definition: **(e) Tributaries of waters identified in paragraphs (a) through (d) of this definition;** (f) The territorial seas; and (g) “Wetlands” adjacent to waters (other than waters that are themselves wetlands) identified in paragraphs (a) through (f) of this definition. Waters of the United States do not include prior converted cropland. Notwithstanding the determination of an area’s status as prior converted cropland by any other federal agency, for the purposes of the Clean Water Act, the final authority regarding Clean Water Act jurisdiction remains with the EPA.”

Watershed - That geographical area which drains to a specified point on a water course, usually a confluence of streams or rivers (also known as drainage area, catchment, or river basin).

ATTACHMENT E

DRY WEATHER MONITORING PROGRAM SPECIFICATIONS - URBAN RUNOFF

E.1 Dry Weather Monitoring Program

Each Copermittees shall review and revise as necessary its Dry Weather Monitoring Program to comply with section F.5 of this Order. The Dry Weather Monitoring Program for each Copermittee shall meet or exceed the specifications of this Attachment. The objectives of the Dry Weather Monitoring Program are:

- Assessing compliance with Order No. R9-2002-0001;
- Detect and eliminate illicit discharges and illegal connections to the MS4; and
- Characterize urban runoff within the MS4 system with respect to water quality constituents that may cause or contribute to exceedances of receiving water quality objectives when discharged to receiving waters.

E.2 Dry Weather Monitoring Program Document

Based upon a review of its Detection/Elimination of Illegal Discharges and Illicit Connections Program, each Copermittee shall revise or develop a Dry Weather Monitoring Program Document that meets or exceeds the specifications listed in section E.4 of this Attachment. The Dry Weather Monitoring Program shall be designed and implemented to address the objectives listed in section E.1 of this Attachment. Each Copermittee shall submit its Dry Weather Monitoring Program to the Principal Permittee as part of its Jurisdictional Urban Runoff Management Program Document on the date prescribed by the Principal Permittee. The Principal Permittee shall collectively submit the dry weather monitoring maps and procedures to the SDRWQCB within **365** days of adoption of this Order.

E.3 Implementation of the Dry Weather Monitoring Program

Each Copermittee shall implement its Dry Weather Monitoring Program by May 1, 2003. Following the adoption of this Order and prior to implementation of the Dry Weather Monitoring Program under the Jurisdictional URMP, each Copermittee shall continue to implement the Illicit Discharge and Illegal Connection programs and commitments described in the Orange County Water Quality Monitoring Program (99-04 Plan) and the proposed Drainage Area Management Plan (DAMP).

E.4 Dry Weather Monitoring Program Specifications

Each Copermittee shall develop or revise its Dry Weather Monitoring Program to meet or exceed the following requirements:

- a. Develop MS4 Map: Each Copermittee shall develop or obtain an up-to-date labeled map of its entire municipal separate storm sewer system (MS4) and the corresponding drainage watersheds within its jurisdiction. The use of a Geographic Information System (GIS) is highly recommended, but not required. The accuracy of the MS4 map shall be confirmed and updated at least annually during monitoring activities.

- b. Monitoring Stations: Based upon a review of its past Dry Weather Monitoring Programs, each Copermittee shall select dry weather monitoring stations within its jurisdiction to be monitored in the Dry Weather Monitoring Program.
- (1) Each Copermittee shall develop or revise its program to describe the rationale used to determine the number and locations of stations necessary to comply with the Order.
 - (2) Each Copermittee shall confirm that each major drainage area within its jurisdiction contains at least one station.
 - (3) Stations shall be either major outfalls or other outfall points (or any other point of access such as manholes) located throughout the MS4 to provide adequate coverage of the entire MS4 system.
 - (4) Each Copermittee shall clearly identify each dry weather monitoring station on its MS4 Map as either a separate GIS layer or a map overlay hereafter referred to as a Dry Weather Monitoring Stations Map.
- c. Determining Sampling Frequency: Dry weather analytical and field screening monitoring shall be conducted at each identified station at least twice between May 1st and September 30th of each year or as more frequently as the Copermittee determines is necessary to comply with the requirements of Section F.5 of the Order.
- (1) Each Copermittee shall develop or revise written procedures that describe the criteria and process used to determine the number and frequency of inspections, field screening and analytical monitoring to be performed.
 - (2) Any changes in Dry Weather Monitoring inspection or sampling frequency shall be described and reported in detail annually in the Dry Weather Monitoring Report section of the Jurisdictional URMP Annual Report.
- d. Develop Dry Weather Analytical Monitoring Procedures: Each Copermittee shall develop or revise written procedures for dry weather analytical and field screening monitoring (consistent with 40 CFR part 136), that shall include field observations, field screening monitoring, and analytical monitoring.
- (1) The Dry Weather Monitoring Program shall be designed to emphasize frequent, geographically widespread inspections, monitoring, and follow up investigations to detect illicit discharges and illegal connections. At a minimum, the procedures must be based on or incorporate the following guidelines and criteria:
 - (a) At each site inspected or sampled, record general information such as time since last rain, quantity of last rain, site descriptions (i.e., conveyance type, dominant watershed land uses), flow estimation (i.e., width of water surface, approximate depth of water, approximate flow velocity, flow rate), and visual observations (e.g., odor, color, clarity, floatables, deposits/stains, vegetation condition, structural condition, and biology).
 - (b) If flow or ponded runoff is observed at a station and there has been at least seventy-two (72) hours of dry weather, shall make observations and collect at least one (1) set of grab samples for field screening and/or analytical testing that meets or exceeds the requirements of section E.4.d.1.d (Field Screening Parameters) or E.4.d.1.e (Analytical Monitoring Parameters).
 - (c) Perform field screening analysis on all sites with ponded or flowing water and at a minimum collect samples at no less than 25% of these sites for analytical testing.
 - (d) Field Screening Monitoring Parameters: At a minimum, conduct field screening analysis of the following constituents:
 - (1) Specific conductance (calculate estimated Total Dissolved Solids).
 - (2) Turbidity
 - (3) pH

- (4) Reactive Phosphorous
- (5) Nitrate Nitrogen
- (6) Ammonia Nitrogen
- (7) Phenol
- (8) Surfactants (MBAS)

- (e) Analytical Monitoring Parameters: At a minimum, collect samples for analytical laboratory analysis of the following constituents:
 - (1) Total Hardness
 - (2) Oil and Grease
 - (3) Diazinon and Chlorpyrifos
 - (4) Cadmium (Dissolved)
 - (5) Copper (Dissolved)
 - (6) Lead (Dissolved)
 - (7) Zinc (Dissolved)
 - (8) Enterococcus Bacteria
 - (9) Total Coliform Bacteria
 - (10) Fecal Coliform Bacteria
 - (f) If the station is dry (no flowing or ponded runoff), make and record all applicable observations and select another station from the list of alternate stations for monitoring.
- (2) The Dry Weather Monitoring Program shall include criteria for dry weather inspection, analytical and field screening monitoring results whereby exceedance of the criteria will require follow-up investigations to be conducted to identify the source causing the exceedance of the criteria.
 - (3) Dry weather analytical and field screening monitoring stations identified to exceed dry weather monitoring criteria for any constituents shall continue to be screened in subsequent years.
 - (4) The Dry Weather Monitoring Program shall include procedures for source identification follow up investigations in the event of exceedance of dry weather analytical and field screening monitoring result criteria. These procedures shall be consistent with procedures required in section F.5.c. of this Order.
 - (5) The Dry Weather Monitoring Program shall include procedures to eliminate detected illicit discharges and connections. These procedures shall be consistent with each Copermittee's Illicit Discharge and Elimination component of its Jurisdictional Urban Runoff Management Plan as discussed in section F.5 of this Order.
 - (6) During monitoring, the accuracy of its MS4 map and shall be confirmed. Correct any inaccuracies in either the MS4 map or the Dry Weather Monitoring Stations Map and resubmit the corrected maps in the next annual report.

E.5 Summarize and Report Dry Weather Monitoring Results

As part of its individual Jurisdictional URMP Annual Report, each Copermittee shall summarize and report on its Dry Weather Monitoring Program results. The data shall be presented in tabular and graphical form. The reporting shall include all inspection, field screening, and analytical monitoring results. Each Copermittee shall also report all follow up and elimination activities for potential illicit discharges and connections undertaken by the Copermittee during that year. Dry weather analytical monitoring reports shall comply with all monitoring and standard reporting requirements in Attachments B and C of Order R9-2002-0001. The Principal Permittee shall submit to the SDRWQCB the individual Dry Weather Monitoring reports as part of the unified Jurisdictional URMP Annual Report prior to November 9, 2003, and every year thereafter.

FACT SHEET/TECHNICAL REPORT

FOR

SDRWQCB ORDER NO. R9-2002-0001

MUNICIPAL STORM WATER PERMIT

FOR

THE COUNTY OF ORANGE,

THE INCORPORATED CITIES OF ORANGE COUNTY,

AND

ORANGE COUNTY FLOOD CONTROL DISTRICT

WITHIN

THE SAN DIEGO REGION

San Diego Regional Water Quality Control Board

February 13, 2002

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ATTACHMENT 2 - 1998 Clean Water Act Section 303(D) Impaired Waterbody List

ATTACHMENT 3 - Copermitttee Populations (2000 U.S. Census Bureau)

ATTACHMENT 4 - Discussion Of Municipal Storm Water Permitting And The Watershed
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ATTACHMENT 5 - DAMP Analysis For Order No. R9-2002-0001

ATTACHMENT 6 – Response to Comments Received Regarding Order No. R9-2002-0001
(Previously Tentative Order No. 2001-193)

LIST OF ABBREVIATIONS

99-04 Plan	Orange County Water Quality Monitoring Program
BAT	Best Available Technology
BMP	Best Management Practice
CAR	Critical Aquatic Resource
CEQA	California Environmental Quality Act
CWA	Clean Water Act
CWC	California Water Code
DAMP	Drainage Area Management Plan
MEP	Maximum Extent Practicable
MS4	Municipal Separate Storm Sewer System
NPDES	National Pollutant Discharge Elimination System
NURP	Nationwide Urban Runoff Program
SANDAG	San Diego Association of Governments
SDRWQCB	San Diego Regional Water Quality Control Board
SERRA	South East Regional Reclamation Authority
SUSMP	Standard Urban Storm Water Mitigation Plan
SWRCB	State Water Resources Control Board
SWPPP	Storm Water Pollution Prevention Plan
TAC	State Water Resources Control Board Urban Runoff Technical Advisory Committee
TMDL	Total Maximum Daily Load
URMP	Urban Runoff Management Program
USACE	United States Army Corps of Engineers
US EPA	United States Environmental Protection Agency

I. FACT SHEET/TECHNICAL REPORT FORMAT

The purpose of this Fact Sheet/Technical Report is to give the Copermittees and the interested public an overview of the permit and a practical discussion of its requirements, as well as a clear explanation of the regulatory justification for the permit requirements. The Fact Sheet/Technical Report can be considered to consist of two primary parts. The first part (which includes sections I. through V.) contains general information regarding urban runoff and the permit, including a summary of the permit in section IV. This part of the Fact Sheet/Technical Report provides an overview of the permit and the reasoning behind its requirements, and is likely to be the most pertinent part of the Fact Sheet/Technical Report for the more casual reader.

The second part of the Fact Sheet/Technical Report (which includes sections VI. and VII.) contains more detailed practical discussions and regulatory justifications of each permit component, and is meant to be used as a reference document during review of the permit. In sections V. and VI. of this Fact Sheet/Technical Report, each component of the permit is displayed in italics, followed by a discussion of the permit component. Section VII. (which addresses permit directives) also includes appropriate legal authority citations for each permit component. Each permit component is broken down in this manner so that the reader may find "stand alone" justification for each issue or permit component. This allows the Fact Sheet/Technical Report to be used as a reference during review of the permit. Please note that this has led to some repetition, as justifications for different sections are often similar or identical.

The Attachments 1-6 provide supporting information including NPDES permit justifications relative to Orange County, Copermittee population estimates, a list of impaired water bodies, a discussion of storm water permitting and the SDRWQCB watershed management approach, and a discussion of the SDRWQCB analysis of the Report of Waste Discharge and proposed DAMP submitted by the Orange County Copermittees with respect to the Order. Attachment 6 includes staff responses to written comments including those received at the two staff workshops on July 19, 2001 and August 8, 2001. It should be noted that nearly every section of the permit was commented upon and that the responses to the comments are substantive and provide detailed support for the requirements of this Order.

II. BACKGROUND – IMPACTS OF URBAN RUNOFF

A. WATER QUALITY

Urban runoff is fundamentally important to the water quality of Southern California. It has been found to be a leading cause of water quality impairment in the San Diego Region and nationwide. Untreated pollutants in urban runoff, indiscriminate of dry or wet weather conditions, routinely find their way to our creeks, lagoons, bays, and ocean as easily from over watering of residential lawns as from rainstorms. Urban runoff in the San Diego Region is commonly contaminated with pesticides, fertilizers, animal droppings, trash, food wastes, automotive byproducts, and many other toxic substances that are generated by our urban environment. Water that flows over streets, parking lots, construction sites, and industrial, commercial, residential, and municipal areas carries these untreated pollutants through storm drain networks directly to the receiving waters of the region. Southern

California, with the highest coastal population density of the entire country,¹ suffers multiple tribulations from this urban generated pollution source. The type and extent of land-uses common to southern Orange County (industrial, commercial, residential, municipal, and construction) are the same landuses common throughout the coastal areas of the San Diego Region. With respect to potential urban runoff discharge quality/quantity, shopping malls, homes, and businesses located near Aliso Creek in Orange County are little different from a shopping malls, homes, and businesses located near Buena Vista Creek in San Diego County or Temecula Creek in Riverside County.

The United States Environmental Protection Agency (US EPA) recognizes urban wet weather flows as the number one source of estuarine pollution in coastal communities.² This trend is reflected locally by the 1998-1999 City of San Diego and Co-Permittee NPDES Storm Water Monitoring Program Report, which names urban runoff as one of the most significant contributors of pollution to our waterways and coastal areas. Furthermore, this document reports that monitoring efforts indicate that in-stream concentrations of pathogen indicators (fecal coliform and streptococcus) and heavy metals (such as cadmium, copper, lead, and zinc) exceed state and federal water quality criteria. Storm water within the region has also been found to contain the pesticides diazinon and chlorpyrifos (Dursban) at levels that can cause chronic or acute toxicity.³ These trends are also represented in data collected by the Orange County Copermittees (see discussion below).

Preliminary results of the SDRWQCB's Ambient Bioassessment Monitoring Program from 1998-2000 indicate that the benthic macroinvertebrate communities of Aliso Creek, San Juan Creek, and Arroyo Trabuco may be adversely impacted.

Inland surface water quality data in southern Orange County has been collected under the NPDES program by the Orange County Copermittees and under a number of other efforts, notably the Aliso Creek Watershed Management Study that was funded by a 205(j) grant from the State Water Resources Control Board. Data from these two sources have been among the most thoroughly assessed in the region and provide the best representation of contemporary water quality during the period of the Copermittees' DAMP. In particular, the U.S. Army Corps of Engineers (USACE) has assessed available water quality data in the Aliso Creek and San Juan Creek watersheds as part of comprehensive watershed studies to determine a process for restoring habitat and alleviating potential flood damage. A qualitative analysis of urban runoff was also performed by at least four Orange County Grand Juries from 1998-2001. Together, these sources of data and subsequent analyses indicate that urban runoff and storm water in southern Orange County is impairing water quality and that additional management efforts can have a positive impact of constituents of concern.

¹ Culliton, T.M. et al. 1988. "50 years of population changes along the nation's coast." *Coastal Trends Series, Report No. 2*. National Oceanic and Atmospheric Administration, Strategic Assessments Branch. As cited in Moore, S. L., et al. *Composition and Distribution of Beach Debris in Orange County, California*. Southern California Coastal Water Research Project, Southern California Marine Institute, Divers Involved Voluntarily in Environmental Rehabilitation and Safety.

² US EPA. 1999. 40 CFR Parts 9, 122, 123, and 124. National Pollutant Discharge Elimination System – Regulations for Revision of the Water Pollution Control Program Addressing Storm Water Discharges; Final Rule. 64 FR 68727.

³ City of San Diego. 1999. 1989-1999 City of San Diego and Co-permittee NPDES Stormwater Monitoring Program Report. URS Greiner Woodward Clyde.

NPDES STORMWATER SAMPLING: Monitoring of urban runoff in the San Diego region in the 1999/2000 reporting period showed CTR (California Toxics Rule) exceedances of acute metals at the point of discharge to receiving waters in 94% of reported samples. From 1992 to 2000 the Copermittees report EMC data for one stream in the south county, Oso Creek. There are no discernible trends over time in the Oso Creek EMC data. There were no assessments for 1997, 1998, and 2000. At best, the data show a lack of water quality improvement, implying that the DAMP is not having a positive effect on EMC parameters in Oso Creek.

ALISO CREEK 205(J) BACTERIA INVESTIGATIONS: Bacteriological sampling demonstrated that high levels of Total and Fecal Coliform and Enterococcus bacteria were common in the watershed. Contact (REC-1) and Non-Contact Water Recreation (REC-2) standards were exceeded at all monitored stations except the uppermost. For example, three sampling locations on tributaries to Aliso Creek had *E. coli* averages over 2,000 MPN/100ml and two sampling locations on the main stem of Aliso Creek had average fecal coliform or *E. coli* averages greater than 2,000 MPN/100ml during the study period.

SOUTH EAST REGIONAL RECLAMATION AUTHORITY (SERRA) SURF ZONE BACTERIA DATA: Bacteriological sampling conducted by SERRA in the surf zone near the mouth of Prima Deshecha indicated elevated levels of fecal coliform and Enterococcus are present. One surf zone station is approximately 100 feet north of the Prima Deshecha beach outfall. From June 2000 through February 2001, 26 of 59 (44%) samples exceeded ocean water criteria for Enterococcus at this station. Regional Board staff does not attribute these elevated levels to the effluent discharged from SERRA's ocean outfall, but believe the creek may be a significant source of Fecal Coliform and Enterococcus bacteria.

USACE SAN JUAN CREEK WATERSHED STUDY: The USACE San Juan Creek Watershed Management Feasibility Study identifies high Fecal Coliform bacteria counts measured at the lowermost end of San Juan Creek as the greatest water quality concern in the watershed. Their analysis of water quality data from 1992-1995 further showed moderate contamination in San Juan Creek, Trabuco Creek, and Oso Creek. Their survey of historical data indicated that lead levels have dropped, copper levels have increased, and spikes of chromium and nitrates occur. The Feasibility Study concludes that *"Water quality in the San Juan creek watershed area is primarily influenced by nonpoint source stormwater runoff primarily from urban and residential areas."* (P.E44, SEC. 4.4.2.1).

USACE ALISO CREEK WATERSHED STUDY: In the USACE environmental evaluation for Aliso Creek watershed water quality, pollution concerns include runoff of pesticides and herbicides in areas near the creek. Non-point source pollution is attributed to an increase in urban developments and the associated storm water runoff. *"Due to the increase in development in the upper regions of the Aliso Creek watershed, stormwater runoff is likely the most prominent on-going factor causing deterioration of water quality."* (P.E40, SEC. 4.4.1.1).

GRAND JURY FINDINGS: The 1999-2000 Grand Jury investigating “The Rainy Season’s “First Flush” Hits the Harbors of Orange County,” found that in spite of the County’s strong emphasis on public education as required by the DAMP, a significant amount of trash finds its way into the County-maintained flood control channels and County-maintained storm drains, rather than being disposed of properly. In “The Urban Runoff Battle: Ready, Fire, Aim!” the 2001 Grand Jury examined beach advisory postings and concluded that since the total number of postings is nearly identical in 1999 and 2000, “*virtually no improvement has occurred.*”

B. IMPACTS OF URBAN RUNOFF

In Orange County, urban runoff enters the storm drains and then discharges to inland surface waters or, in some coastal areas, directly to the ocean. Urban runoff carries pollutants, contaminants, and other stressors from a large number of potential sources in developed areas. Impacts from these pollutants carried by urban runoff and the discharge of the runoff itself to surface waters include damage to riparian and in-stream habitats, increased flooding potential, threats to human and environmental, and subsequent economic ramifications.

Urban runoff causes many impacts in Southern California, including increased public health risks, high concentrations of toxic metals in harbor and ocean sediments, and toxicity to aquatic life.⁴ A study exploring the health risks associated with urban runoff in Southern California was conducted in 1995 by the Santa Monica Bay Restoration Project using a survey of 15,000 bathers at three Santa Monica beaches. The study concluded that there is a 57% higher rate of illness in swimmers who swim adjacent to storm drains than in swimmers who swim more than 400 yards away from storm drains.

The San Diego Regional Water Quality Control Board (SDRWQCB) finds that such problems are indeed frequently urban runoff related. For instance, a common conveyance for a sewage spill to reach a beach is through the municipal storm water system. Also, exceedances of standards at some of our Region’s beaches have unquestionably been conveyed by the storm water drainage system.⁵ In addition, urban runoff is increasingly being targeted as the cause of beach closures and postings in other areas of the San Diego Region and Southern California. Urban runoff has been identified as a principal contributor to Fecal Coliform bacteria contamination in Orange County’s Aliso Creek, a creek which often causes beach postings when flowing into the ocean.⁶ Municipal enforcement efforts focusing on urban runoff have also resulted in reduced coliform levels in receiving waters in Encinitas in San Diego County.⁷ Finally, US EPA goes on to say that urban storm water runoff and sewer overflows have become the largest cause of beach closings in the United States for the previous three years, becoming more significant than

⁴ Threats to beneficial uses such as swimming and seafood consumption or ecosystem health have been demonstrated in numerous studies. Two important studies to note for Southern California are: Bay, S., Jones, B.H. and Schiff, K. 1999. Study of the Impact of Stormwater Discharge on Santa Monica Bay. Sea Grant Program, University of Southern California; and Haile, R.W., et al. 1996. An Epidemiological Study of Possible Adverse Health Effects of Swimming in Santa Monica Bay. Santa Monica Bay Restoration Project.

⁵ SDRWQCB Cleanup and Abatement Order No. 97-69 and Cease and Desist Order No. 98-74, both were issued to the City of Coronado.

⁶ SDRWQCB Cleanup and Abatement Order No. 99-211, issued to the City of Laguna Niguel and the County of Orange.

⁷ Kathy Weldon, City of Encinitas, Presentation to Beach Water Quality Workgroup, June 1, 2000.

such sources as oil spills and publicly owned treatment works.⁸

A May 1999 draft of the Aliso Creek Watershed Management Feasibility Study (Aliso Study) mentioned above, led by the USACE, concluded that the Aliso Creek watershed "is not in good health," and attributes many of the problems to storm water runoff. The Aliso Study developed a watershed management plan intended to identify feasible management options to improve environmental and economic conditions in the watershed and reestablish a stable, healthy, and sustainable watershed environment. The feasibility study and a concurrent one prepared for the San Juan Creek watershed do not guarantee the "feasible" projects will be implemented, but instead provide information to the County of Orange, the cities, water districts and other partners regarding potential corrective actions and the current impacts from urban runoff. Some of these findings and proposed projects may be incorporated into the Jurisdictional and Watershed Urban Runoff Management Programs.

Some of the major impacts associated with the discharge of pollutants in urban runoff include, but are not limited to:

BEACH CLOSURES: A number of the beach postings in the San Juan Creek Watershed Management Area within Orange County, including locations in Dana Point, Aliso Beach, and others are attributed to pollution from urban runoff. Beaches are posted and can be closed when bacteria levels indicate a potential health risk to humans. Coastal economies suffer when people decrease their time spent at beaches due to beach closings or fear of coastal water pollution.

Copermittees understand the connection between urban runoff pollution and beach impairments. Several of the coastal Copermittees, including Laguna Beach and Dana Point, have implemented or are proposing dry-weather diversions that route urban runoff in streams or storm drain outfalls to sewer lines in an attempt to keep pollution contained in urban runoff from impacting beaches. As discussed elsewhere in this document, dry weather diversions to the sanitary sewer or regional treatment facilities present significant problems with respect to urban runoff and should not be the primary means whereby urban runoff is managed.

The following table, adapted from the 2001 Grand Jury report "The Urban Runoff Battle: Ready, Fire, Aim!" and based on data obtained from the Orange County Health Care Agency, lists the number of beach postings at South County Beaches in 2000.

⁸ US EPA. 1999. 40 CFR Parts 9, 122, 123, and 124. National Pollutant Discharge Elimination System – Regulations for Revision of the Water Pollution Control Program Addressing Storm Water Discharges; Final Rule. 64 FR 68727.

Posting Location	Number of Postings	Total Days Posted	Posting Location	Number of Postings	Total Days Posted
Crystal Cove State Park	9	23	Doheny State Beach Park	9	315
Laguna Beach	32	77	Capistrano County Beach	6	248
Aliso Beach	13	23	Capistrano Bay District	7	107
Monarch Beach	5	49	Poche Beach	5	163
Salt Creek Beach	3	4	San Clemente City Beach	8	20
Dana Point Harbor	12	739*	San Clemente State Beach	1	3
* includes 2 long term postings totaling 569 days					

HABITAT STRESS: An aquatic life assessment conducted as part of the Aliso Creek Watershed 205(j) study demonstrated habitat within the study sites is unstable and under considerable environmental stress. The poor conditions were deemed likely attributable to high variability in flow volumes and velocities, sediment load and movement, high water temperatures, poor riparian development, and poor water quality. All of these influences can, at least in part, be attributable to a change in the runoff regime associated with urban development. The 205(j) study report concludes that continued development in the watershed without appropriate mitigation would lead to increased riparian habitat degradation. In addition, the USACE studies conclude that channel down-cutting is responsible for the loss of riparian habitat in many reaches of both Aliso Creek and San Juan Creek watersheds. Down-cutting of channels decreases the ability of water to reach the floodplains and riparian zones. Down-cutting is attributable to altered hydrology, including increased volume and peak discharge rates of runoff. Channel down-cutting creates a channelized stream condition that increases the threat of flooding downstream. Habitat loss and degradation were also cited as a major problem in the USACE San Juan Creek Watershed Study.

CHANNEL INSTABILITY: According to the USACE San Juan Creek Watershed Study, intense development since the 1980's is correlated with significant down-cutting and bank erosion on San Juan Creek and its main tributaries, especially in the lower reaches. Erosion and channel instability are identified in the USACE study as one of the major watershed problems. Channel instability and erosion degrade existing in-stream and riparian habitat and prevent the establishment of further stable habitat areas.

In addition, private and public property, including important infrastructure such as rail lines, sewer and water lines, and roads, have been threatened by erosion within the San Juan Creek and Aliso Creek watersheds.

FLOODING: The USACE San Juan Creek Watershed Study concluded that the threat of flooding in the lower San Juan Creek watershed has been exacerbated by changes to the creek's hydrology as a result of urbanization in the watershed.

Potential flooding of the downstream portions of Oso, Trabuco, and San Juan Creeks is characterized by the USACE as a major watershed problem.

TOXICITY: A water quality data assessment conducted as part of the Aliso 205(j) study characterized surface water from several locations in the watershed and determined aquatic toxicity tests during two storm events caused varying degrees of mortality to test organisms. Storm sampling for toxicity was conducted twice at five locations within Aliso Creek during the study period. While two of the ten samples showed no mortality for *Ceriodaphnia*, six samples resulted in 100% mortality, one showed 85% mortality and one showed 95% mortality. The report suggests several possible sources of aquatic toxicity, all of which are derived from urban runoff.

These trends were observed in San Diego County as well and were considered during the adoption process for the San Diego Municipal Storm Water Permit Order No. 2001-01. As described in the Fact Sheet/Technical Report for that permit, in 1999, there were 29 days in which the San Diego County Health Department issued general advisories to avoid waters 300 feet either side of all storm drain outlets in order to protect the public from potential adverse health effects caused by urban runoff. Also, in 1999 there were 720 combined beach closures and postings in San Diego County. The San Diego County Department of Health does not recommend the public recreate in closed or posted waters due to associated health risk. A breakdown of the beach closure and posting data is as follows: 127 of these closings were related to sewage spills, 71 related to river mouth outlets or some other excavation, and 522 of the days were related to some exceedance of water quality standards.⁹

Regardless of how beach posting and closure data is interpreted, one thing is clear: the beneficial uses are not being adequately attained or protected for the waters in the San Diego Region, and urban runoff is a significant contributor to this receiving water impairment. For Orange County and the San Diego Region as a whole, known throughout the world for its beach lifestyle, these statistics are bound to have increasingly serious effects on tourism revenue as well as the local cultural identity.

III. ECONOMIC ISSUES

Urban runoff degrades surface water quality, but its impacts spread beyond the channel banks. Beach closures and other losses of recreational opportunity have a direct economic impact on communities whose economies are dependent on access to surface waters. Furthermore, property loss or damage from erosion and flooding has direct and indirect economic impacts on communities. In addition, replacement or perennial protection of public infrastructure from problems associated with urban runoff requires significant amount of public expenditures, thus diverting funds from other public agency concerns. The Copermittees have the power to encourage choices that decrease the impacts of urban runoff through activities such as public education on water quality issues, implementation of BMPs, and enforcement of water quality-related ordinances. The relationship between urban runoff, water quality, and both micro and macroeconomics in southern Orange County has been addressed in several reports, including the USACE watershed studies, Orange County Grand Jury reports, and others.

⁹ Information provided by the San Diego County Department of Public Health.

Water quality affects the recreational value of a water body and watershed. A recreational use analysis conducted within the Aliso 205(j) Watershed Study identified potential increases in recreational value would occur if the water quality improvements in the USACE Aliso Creek Watershed studies were implemented. The analysis noted that the largest benefit would be realized at Aliso Beach Park, but would require watershed-scale action because of the nature of the impacts derived from urban runoff.

The choices made by agencies, individuals, and businesses to protect water quality may be a decision based on microeconomics. The enforcement of local ordinances is an important tool of the Copermittees that can affect decisions made by agencies, individuals, and businesses. The disincentive to pollute created by enforcement, however, has been found to be insufficient by the 1998-1999 Orange County Grand Jury investigating "Coastal Water Quality and Urban Runoff in Orange County." The Grand Jury concluded that current local fines were less than abatement costs, thus the level of enforcement may actually invite some polluters to continue polluting. The Grand Jury recommended that the County address the possibility of increasing fines for violators. This approach is supported in this Order.

With respect to economic impacts of urban runoff to Orange County communities, the following (incomplete) information should be considered:

DANA POINT: In response to a Grand Jury finding (1999-2000 Rainy Season's First Flush Hits the Harbors of Orange County), the city of Dana Point notes the interrelationship between the clean coastal water and the economic health of the city. Dana Point reports receiving \$5.2 million in T.O.T. funds in FY 1999-2000 "due in large part because of proximity to the beach. Without clean beaches, Dana Point risks losing its major revenue source."

LAGUNA BEACH: Tourism is one of the primary components of the Laguna Beach economy and the beach is one of the main tourist attractions in the city. In 1999, hotel/motel bed tax revenue was approximately \$3 million, representing 13% of the City's general fund revenue. The City Council recognizes the value of the beaches to tourists and the local population and has funded several low-flow diversion systems in an attempt to decrease beach pollution and beach closures.

DOHENY STATE BEACH: In 1997, the USACE prepared an economic analysis as part of the San Juan Creek and Aliso Creek Watershed Study. Recreational value for Doheny State Beach, based on annual visitation of 670,545 people in 1995, was calculated at \$2,850,000. Furthermore, the USACE notes that lifeguards reported that beach attendance falls dramatically when there are unhealthy conditions in the ocean. In 1999, the USACE prepared an updated economic study as part of the Feasibility Phase of the San Juan Creek Watershed Management Study. The 1999 study reports that average beach attendance from 1996 to 1998 increased to 918,735. The USACE places a recreation value per visitor at \$5.76, which implies the annual recreational value of Doheny State Beach for 1996 to 1998 was \$5,291,914.

ALISO BEACH: In 1997, the USACE prepared an economic analysis as part of the San Juan Creek and Aliso Creek Watershed Study. Recreational value for Aliso Beach, based on annual visitation of 3,477,369 people in 1995, was calculated at \$14,779,000. In the 1999 Draft Feasibility Report for the Aliso Creek Watershed Management Study,

the USACE noted that the average beach attendance from 1996 to 1998 decreased to 1,148,374. The recreation value per visitor was calculated at \$4.50 and the average annual impact from water quality-related beach closures at Aliso Beach Park was estimated to be \$468,392. This number is comparable to an economic analysis conducted as part of the Aliso Creek Watershed 205(j) study that estimated the annual average recreational value impact of beach closures at Aliso Beach Park to be \$468,400.

The following information was considered during the adoption process for the San Diego Municipal Storm Water Permit, Order No. 2001-01. Because significant elements of the Order are similar to those adopted for San Diego County and because the information is broadly applicable to conditions in Orange County, the information is presented again for consideration. In the San Diego Region, polluted urban runoff not only poses a public health threat, but an economic one as well. A January 5, 1997 New York Times article warns: *Travel Advisory. Storm Drains Pose San Diego Health Risk*.¹⁰ In the July 3, 2000 edition of Forbes Magazine, an article entitled *Don't Go Near the Water. Beaches That Make You Go Ewwwww!*, two San Diego area beaches are highlighted as having troubles. The article is particularly hard on the Mission Bay beaches, in stating, "If San Diego County has established itself as the California capital of sewage spills, this beach is its White House."¹¹ Local problems do indeed make national news. US EPA also brings attention to our region in the guidance document *Liquid Assets 2000* in saying, "Although our lakes, rivers, estuaries, and wetlands are much cleaner than they were in 1970, headlines like these are all too common..."¹² Next to the quote is pictured the San Diego page from the San Diego Union Tribune bearing the headline "Human Waste Fouls Three Beaches, DNA Tests Find."¹³ Being spotlighted by the federal government in this context is definitely less than auspicious.

There may be no way to measure what effects such negative press have had on value lost due to changed vacation plans. However, one can presume that continued publicity will take its toll on local economies. According to a 1996 San Diego Association of Governments (SANDAG) Memorandum, the California Division of Tourism has estimated that each out-of-state visitor spends \$101.00 a day. The memo goes on to state that based on projections from the California Department of Boating and Waterways nearly \$1.2 billion in direct revenue and \$1.2 billion in indirect revenue is pumped into the San Diego area economy each year by out-of-state visitors.¹⁴ It would seem that given the importance of tourism to our area, municipalities cannot afford to ignore water quality. The bottom line is that there is no need to wait and see how much the waters can take before our economy is affected. We can simply look to catastrophes that other regions have

¹⁰ Kopytoff, V.G. 1/5/1997. *Travel Advisory: Storm Drains Pose San Diego Health Risk*. The New York Times.

¹¹ Powers, K. 7/3/2000. *Don't Go Near the Water. Beaches That Make You Go Ewwwww!* Forbes Magazine.

¹² US EPA. 2000. *Liquid Assets 2000. America's Water Resources at a Turning Point*. EPA -840-B-00-001.

¹³ Rodgers, T. 1/21/00. *Human Waste Fouls 3 Beaches, DNA Tests find*. The San Diego Union-Tribune.

¹⁴ San Diego Association of Governments. 10/25/96. *Memorandum: California Department of Boating and Waterways: Unpublished Survey Information Regarding Beach Use*. Written to the Shoreline Erosion Committee.

already had to bear. The 1988 medical waste wash-ups closing New York and New Jersey beaches caused an estimated \$4 billion loss to the local economy.¹⁵

“Willingness to pay” gives an indication of how much the public values clean water. A study conducted by Colorado State University researchers on a 45-mile stretch of the South Platte River looked at the value of ecosystem services. The services studied were habitat for fish and wildlife, recreation, erosion control, natural purification of water and dilution of wastewater. Results from nearly 100 in-person interviews show that households would pay on average \$21 per month for additional ecosystem services.¹⁶ The article goes on to explain that while the marginal benefits are often quite small per person, the non-rival nature of environmental goods often results in simultaneous enjoyment by millions of people. Therefore, ensuring dependable good water quality could mean huge social benefits. The National Water Research Institute states, “Water has a psychological value...People derive measurable pleasure from recreational activities like boating and fishing and find comfort in knowing that the water they drink is of the highest quality.”¹⁷

Water quality as an externality can also cause shifts in real estate value. To help assess this we consider other areas of the country. US EPA looked at a study conducted on real estate around Lake Champlain in the Northeastern United States. Property values in the area of the lake with good water quality were valued an average of 20% more than property around poor water quality.¹⁸ Research right here in California indicates that property values can increase by at least 3% for employing bank stabilization procedures and up to 11% for improving fishing habitat.¹⁹

Within the past decade or so we see that investor’s concerns about environmental quality do indeed drive investment decisions. *Money* magazine conducts a “Best Places to Live” survey every year. In 1995, clean water and air ranked as the most important factors in choosing a place to live. It is important to note that they were ranked above typical high priority quality of life issues such as low crime rates, plentiful doctors or hospitals, and low taxes.²⁰ In the 2000 *Money* magazine “Best Places to Live” analysis, clean water was

¹⁵ US EPA. 1996. Liquid Assets: A Summertime Perspective on the Importance of Clean Water to the Nation’s Economy. EPA 800-R-96-002. Page 5.

¹⁶ Loomis J., et al. 1999. Measuring the Total Economic Value of Restoring Ecosystem Services in an Impaired River Basin: Results from a Contingent Valuation Method Survey. Proceedings of the Third Workshop in the Environmental Policy and Economics Workshop Series. Sponsored by US EPA’s Offices of Economy & Environment, and Reserved & Development. April 21-22, 1999.

¹⁷ National Water Research Institute. The Value of Water: Recognizing and Using the Full Water Supply. National Water Research Institute, Fountain Valley, CA as cited in US EPA. 2000. Liquid Assets 2000. *America’s Water Resources at a Turning Point*. EPA –840-B-00-001.

¹⁸ US EPA. 1996. Liquid Assets: A Summertime Perspective on the Importance of Clean Water to the Nation’s Economy. EPA 800-R-96-002. Page 8.

¹⁹ Streiner C. and Loomis. J. 1996. Estimating the Benefits of Urban Stream Restoration Using the Hedonic Price Method. *Rivers* 5(4): 267-268 as cited in Loomis J., et al. 1999. Measuring the Total Economic Value of Restoring Ecosystem Services in an Impaired River Basin: Results from a Contingent Valuation Method Survey. Proceedings of the Third Workshop in the Environmental Policy and Economics Workshop Series. Sponsored by US EPA’s Offices of Economy & Environment, and Reserved & Development. April 21-22, 1999.

²⁰ US EPA. 1996. Liquid Assets: A Summertime Perspective on the Importance of Clean Water to the Nation’s Economy. EPA 800-R-96-002. Page 9.

cited as a contributing factor in three of the top six choices from around the country.²¹ Needless to say, San Diego did not make the list this year.

The SANDAG *Regional Growth Management Strategy, Water Quality Element* summarizes future needs in development strategies for San Diego by stating, "Protecting the health of the water bodies in the region calls for a new approach to storm water management in new development and redevelopment, an approach which considers the possibilities for *pollution prevention* and maximizing infiltration."²² This is may be generally true for Orange County as well. However, many stakeholders feel that the prospect of such planning presents an economic burden. Not so, according to a *Watershed Protection Techniques* article, "The Benefits of Better Site Design in Residential Subdivision."²³ The journal did a comparative hydrology analysis for a medium-density residential subdivision using open space and conventional design. The following table shows the environmental benefits of using an open space versus conventional design.

Table One: Change in Site Characteristics from a Conventional Design to Open Space Design (*Both employ storm water protection practices*).

Factor of Concern	Percent Change by Applying Open Space Design
Impervious cover	24% decrease
Residential Lawn	48% decrease
Stormwater Runoff	24% decrease
Stormwater Infiltration	55% increase
Phosphorus Export	60% decrease
Nitrogen Export	45% decrease
Development Cost	20% decrease

Source: Adapted from the Center for Watershed Protection, 2000.

It's no surprise that environmentally sensitive planning techniques will produce environmental benefits, but what may be surprising is they can also produce economic benefits. The total cost to build this development was about 20% less using the open space design as opposed to the conventional design. Less road paving, as well as shorter sidewalks, water lines, sewer lines, curbs and gutters contributed to the savings.

An example from Davis, California reflects similar results. The Village Homes development, consisting of 22 houses and 40 apartments, employed narrow streets, plus graded land, channels and ponds to encourage on-site rain absorption. The resulting cost savings was \$700/unit less than using conventional storm water management systems. It is also important to note that the development did not flood when a 100-year level flood hit the area. In fact, the owner Judy Corbett reported that the development soaked in some runoff from surrounding communities.²⁴ The ideas and technologies used in both of these examples have been available for many years. However, outdated development requirements, subdivision codes, zoning regulations, street standards, and drainage requirements have discouraged developers from even attempting changes in convention.

²¹ Gertner J. and Kirwan, R. 2000. *Money Magazine*. "The Best Places to Live 2000." As downloaded from http://www.money.com/money/depts/real_estate/bestplaces

²² San Diego Association of Governments. 1997. *Regional Growth Management Strategy: Water Quality Element*.

²³ Center for Watershed Protection. 2000. The Benefits of Better Site Design in Residential Subdivisions. *Water Protection Techniques*. 3(2): Page 641.

²⁴ Keith, L.D. 6/5/00. Fight Brewing in Southern California Over Construction Rules Aimed at Stormwater Runoff. *Fresno Bee*.

This problem can best be remedied on the municipal level. Local authorities can work to better encourage water quality sensitive planning techniques. Conditions of approval for new developments can be updated to allow for site designs that address water quality concerns. For instance, cities could decrease the width of impervious streets by allowing one way streets on alternate blocks. Providing discretion for creative thinking on site design can save developers money and help municipalities protect their local water quality. Employing such techniques also follows with SANDAG's *Regional Growth Management Strategy*. Preserving natural habitats and open spaces is one of the five basic elements the strategy recommends for addressing all growth-related questions.²⁵

SANDAG has also developed *The Cities/County Forecast for the San Diego Region*, which attempts to project the demands that humans are going to place on the region over the next 20 years. The report contains some startling projections. According to the article, we can expect 1 million more people and over 400,000 new homes in the area over the next two decades.²⁶ According to the United States Census Bureau, the estimated population for San Diego County in July 1999 was 2,820,844 people.²⁷ We can therefore expect a 35% increase in population in just over 20 years. Secondly, the implications of 400,000 new homes extend beyond the homes themselves to include new roads, shopping malls, business parks, parking lots, schools and all the other amenities that accompany new development. Although largely built out, southern Orange County is currently experiencing dramatic growth similar to that discussed above in the SANDAG report for San Diego County. Regulations of today must anticipate and address this growth. The Order was drafted to address this and other similar issues with respect to the discharge of urban runoff throughout the San Diego Region.

To help with this matter, the Order includes a requirement for the Orange County Copermittees to develop Standard Urban Storm Water Mitigation Plans (SUSMPs) for broad categories of new development and significant redevelopment. SUSMPs as developed by the Copermittees will require developers to implement post-construction best management practices (BMPs) to reduce storm water flows and the associated pollutant loads generated from the development. What this means is that runoff carrying automobile byproducts, pet droppings, trash, and lawn chemicals for instance will need to be infiltrated, filtered, or treated before it is allowed to leave all new development. The reasoning for this is simple: Since previous efforts under the First and Second Term Permits and 1993 DAMP were not successful in protecting the beneficial uses of water quality in the past, increased population and development pressures will need to be addressed differently than they were in the past.

²⁵ San Diego Association of Governments. 1999. "2020 Cities/County Forecast for the San Diego Region." *SANDAG INFO*. Page 2.

²⁶ San Diego Association of Governments. 1999. "2020 Cities/County Forecast for the San Diego Region." *SANDAG INFO*. Page 2.

²⁷ As downloaded from the United States Census Bureau website:
[Http://www.census.gov/population/estimates/county/co-00-1/99C_06.txt](http://www.census.gov/population/estimates/county/co-00-1/99C_06.txt)

IV. PERMIT SUMMARY

HISTORICAL PERSPECTIVE ON THE DEVELOPMENT OF THE ORDER (PERMIT SUMMARY)

The federal Clean Water Act was amended in 1987 to address urban runoff. One requirement of the amendment was that many municipalities throughout the United States were obligated for the first time to obtain National Pollutant Discharge Elimination System (NPDES) permits for discharges of urban runoff from their municipal separate storm sewer systems (MS4s). In response to the Clean Water Act amendment (and the pending federal NPDES regulations which would implement the amendment), the SDRWQCB issued an "early" municipal storm water permit, Order No. 90-38, in July 1990 to the County of Orange, the six incorporated cities within the County of Orange in the San Diego Region, and the Orange County Flood Control District (hereinafter Copermittees) for their urban runoff discharges. As the name implies, this "early" permit was issued prior to the November 1990 promulgation of the final federal storm water regulations. Although Order No. 90-38 contained the "essentials" of the 1990 regulations, the requirements were written in very broad, generic and often vague terms. Broad generic terms were incorporated into the permit for the purpose of providing the maximum amount of flexibility to the Copermittees in implementing the new requirements (flexibility was, in fact, the stated reason for issuing the permit in advance of the final regulations). This lack of specificity was reflected in the Drainage Area Management Plan implemented under this First Term Permit in 1993 and renewed under the Second Term Permit in 1996. From staff's perspective however, this same lack of specificity, combined with the lack of funding and political will, also provided the Copermittees with ample reasons to take few substantive steps towards permit compliance. The situation was exacerbated by the SDRWQCB's own lack of storm water resources and the general sense that the infant program was a considerably lower priority than its existing and competing core regulatory programs. In staff's assessment, the result was a general lack of action by the Copermittees and a general lack of corresponding reaction (enforcement) by the SDRWQCB during the early years of the storm water program.

When viewed relative to the early years, substantial progress towards compliance has been made by many of the Copermittees and improvements in the SDRWQCB's oversight have occurred as well. But when viewed relative to the magnitude of the problem, we've collectively progressed little in ten years and enormous challenges remain in Orange County. Today, urban runoff is the single largest discharge of waste and the leading cause of water quality impairment in the San Diego Region. One has only to look as far as the now too familiar "health advisory or beach closure" signs and the diversion of streams to the sanitary sewer to see the troubling local consequences of urban runoff.

Although renewed in 1996 as Order No. 96-03, the 1993 DAMP implemented by the Copermittees was not significantly updated until 2000. Although the Report of Waste Discharge and proposed DAMP submitted to the SDRWQCB were greatly improved over the earlier DAMP, staff has concluded that in most respects, the proposed DAMP and the new commitments submitted by the Copermittees reflect the basic requirements of the 1990 Federal Regulations and in most cases do not represent significant improvement over the 1993 DAMP. Continued implementation of the DAMP without amendment will not adequately address the impacts to receiving waters resulting from the discharge of urban runoff and would not achieve MEP as defined in this Order. In order to provide the

Copermittees with the minimum requirements to meet the MEP standard of the SDRWQCB, a more specifically detailed Order is proposed that emphasizes the strong jurisdictional level programs developed by the Copermittees during the First and Second Term Permits as well as the watershed-level approach embodied in the proposed DAMP.

At the jurisdictional level, the Copermittees have a number of options available to them in developing the programs to meet the requirements of the Order. Each Copermittee has the discretion to individually develop and implement its Jurisdictional URMP. The Copermittees also have the discretion to develop a model Jurisdictional URMP or model Jurisdictional URMP components. The Jurisdictional URMP or equivalent is subject to review and comment by the SDRWQCB. Each Copermittee is responsible for ensuring that the Jurisdictional URMP addresses the specific urban runoff issues within its jurisdiction. To the extent that a model or template Jurisdictional URMP forms the basis of its program, each Copermittee is individually responsible for: 1) tailoring the model to the conditions within its jurisdiction; 2) implementing the program within its jurisdiction; and 3) ensuring that the implementation of the model Jurisdictional URMP satisfies all of the requirements of the Order within its jurisdiction. However, it is important to note that implementation of the minimum requirements of a Copermittee authored management plan alone does not guarantee compliance with the Order. The determination of compliance to the MEP and to receiving water quality objectives under this Order rests with the SDRWQCB.

MUNICIPAL STORM WATER NPDES PERMITS OVERVIEW (PERMIT SUMMARY)

Municipal storm water NPDES permits seek to ensure that the beneficial uses of a receiving water are protected despite discharges from MS4s into that receiving water. Beneficial uses are defined as the uses of water necessary for the survival or well being of man, plants, and wildlife. Municipal storm water NPDES permits contain requirements to achieve numeric and narrative receiving water quality objectives which are established to protect these beneficial uses. Water quality objectives are defined as constituent concentrations, levels, or narrative statements, representing a quality of water that supports the most sensitive beneficial uses that have been designated for a water body. At this time, municipal storm water NPDES permits contain water quality objectives and a prohibition that MS4 discharges may not cause the water quality objectives in the receiving water to be exceeded. By definition, when the water quality objectives of a receiving water are exceeded, the beneficial uses of that water are not adequately protected.

Typical NPDES permits are based on the concept of employing full-scale treatment of an effluent to remove pollutants at the end of the pipe (i.e., just before being discharged into receiving waters). Accordingly, typical NPDES permits contain numeric effluent limits that are arithmetically derived from receiving water quality objectives for each pollutant of concern in the effluent. However, municipal storm water permits are not typical NPDES permits because they are not based on the concept of full-scale treatment of polluted storm water. Full-scale end of pipe treatment for storm water is not considered economically and technologically feasible at this time. Therefore municipal storm water permits do not contain numeric effluent limits, but rather are based on the concept that pollutants can be effectively reduced in storm water to the maximum extent practicable by the application of a wide range of best management practices (BMPs). The technology-based performance standard of "maximum extent practicable" refers to evaluation and implementation of BMPs to the maximum extent practicable, except where (1) other effective BMPs will achieve greater or substantially similar pollution benefits; (2) the BMP

is not technically feasible; or (3) the cost of BMP implementation greatly outweighs the pollution control benefits.

In other words, in municipal storm water permits, receiving water quality objectives are attained by way of BMP implementation, including use of pollution prevention, source control, and treatment control BMPs. To protect receiving water beneficial uses, municipal storm water permits require the use of best management practices which prevent the generation of pollutants and keep runoff from coming into contact with pollutants, to be supplemented by the use of methods that remove or treat pollutants.

COPERMITTEE RESPONSIBILITY BASED ON LAND USE AUTHORITY (PERMIT SUMMARY)

Storm water permits are issued to municipalities because of their land use authority. The ultimate responsibility for the pollutant discharges, increased runoff, and inevitable long-term water quality degradation that results from urbanization lies with local governments. This responsibility is based on the fact that it is the local governments that have authorized the urbanization (i.e., conversion of natural pervious ground cover to impervious urban surfaces) and the land uses that generate the pollutants and runoff. Furthermore, the MS4 through which the pollutants and increased flows are conveyed, and ultimately discharged into San Diego's natural receiving waters, are owned and operated by the same local governments. In summary, the municipal Copermittees under Order No. R9-2002-0001 are responsible for discharges into and out of their storm water conveyance systems because (1) they own or operate the MS4; and (2) they have the legal authority that authorizes the very development and land uses which generate the pollutants and increased flows in the first place.

Order No. R9-2002-0001 holds the local government accountable for this direct link between its land use decisions and water quality degradation. The permit recognizes that each of the three major stages in the urbanization process (development planning, construction, and the use or operational stage) are controlled by and must be authorized by the local government. Accordingly, this permit requires the local government to implement or require the implementation of appropriate best management practices to reduce pollutant discharges and increased flow during each of the three stages of urbanization.

For example, since grading cannot commence prior to the issuance of a local grading permit, the Copermittees have a built-in mechanism to ensure that all grading activities are protective of receiving water quality. The Copermittee has the authority and discretion to withhold issuance of the grading permit until the project proponent has demonstrated to the satisfaction of the Copermittee that the project will not violate the Copermittee's ordinances or cause the Copermittee to be in violation of its municipal storm water permit. Since the Copermittee will ultimately be held responsible for any discharges from the grading project by the SDRWQCB, the Copermittee will want to use its own permitting authority to ensure that whatever measures the Copermittee deems necessary to protect discharges into its MS4 are in fact taken by the project proponent.

ORDER NO. R9-2002-0001 OVERVIEW (PERMIT SUMMARY)

Order No. R9-2002-0001 is the proposed re-issuance of Order No. 96-03 (i.e., the renewal municipal storm water permit for the Copermittees within the County of Orange in the San Diego Region). Order No. R9-2002-0001 incorporates two highly controversial precedent setting decisions by the State Water Resources Control Board (SWRCB). Specifically, Order No. R9-2002-0001 includes: (1) explicit language requiring municipal storm water dischargers to meet numeric receiving water quality standards²⁸ (in addition to meeting the Maximum Extent Practicable or MEP technology based-standard); and (2) numeric sizing criteria (i.e., design standards) for structural post-construction best management practices (BMPs) for new development and significant redevelopment.

28 The issue of whether municipal storm water dischargers must meet water quality standards has been intensely debated for the past five years in California and throughout the nation. During that same five-year period, the SDRWQCB developed and adopted three other municipal storm water permits. As a consequence of the ongoing debate, each of the three permits was immediately appealed (primarily) on the basis of the water quality standards language. In particular, SDRWQCB Order No. 96-03, the Municipal Storm Water Permit for Orange County Copermittees was adopted and appealed in 1996. SDRWQCB Order No. 97-08, the Municipal Storm Water Permit for CALTRANS was adopted and appealed in 1997. SDRWQCB Order No. 98-02, the Municipal Storm Water Permit for Riverside County Copermittees was adopted and appealed in 1998.

In response to the appeal of the SDRWQCB's permit for Orange County, the SWRCB issued Order WQ 98-01 prescribing specific precedent-setting water quality standards language to be included in all future California MS4 permits. In essence, the SWRCB's precedent-setting language made very clear that storm water discharges must attain receiving water quality standards. In addition, unlike previously adopted versions of the language, it did not state that "violations of water quality standards are not violations of the municipal storm water permit under certain conditions." Likewise, the order's language did not indicate that the "implementation of best management practices is the 'functional equivalent' of meeting water quality standards."

In response to the appeal of the SDRWQCB's permit for Riverside County and the formal objection of the permit by the USEPA, the SWRCB issued Order WQ 99-05, modifying its own precedent-setting language (as specified in Order WQ 98-01) to meet the specific objections of the USEPA. SWRCB Order WQ 99-05 specified even more stringent requirements for municipal dischargers to meet water quality standards. In response to USEPA's formal objections to SDRWQCB Order No. 98-02, the USEPA assumed responsibility for the Riverside County permit and subsequently issued its own MS4 permit with water quality standards language for Riverside County in 1999. Upon issuance of its own permit, the USEPA returned full responsibility for the NPDES permit back to the SDRWQCB. In November 2000, the SDRWQCB amended its Order No. 98-02 to replace the existing language with the full text of the USEPA-issued NPDES permit. At that time, SDRWQCB Order No. 98-02 officially resumed function as both state waste discharge requirements and a federal NPDES permit.

Also following USEPA's issuance of its own MS4 permit for Riverside Copermittees (but in response to a separate similar USEPA-issued MS4 permit), the United States Court of Appeals for the Ninth Circuit (*Defenders of Wildlife v. Browner*, 1999, 197 F. 3d 1035), upheld USEPA's requirement for MS4 dischargers to meet water quality standards, but it did so on the basis of USEPA's discretion rather than on the basis of strict compliance with the Clean Water Act.

On October 14, 1999, the SWRCB issued what is currently its "final" legal opinion on the matter. In summary, the 1999 SWRCB opinion concluded that RWQCBs should continue to include the water quality standards language established in SWRCB Order WQ 99-05 in all future MS4 permits issued in California. The required language has been incorporated into Order No. R9-2002-0001.

While the requirements of Order No. R9-2002-0001 are markedly more clear and specific than those of Order No. 96-03, they are based on the same 1990 federal storm water regulations. Where Order No. 96-03 and Order No. R9-2002-0001 differ, Order No. R9-2002-0001 is more specific as to what is necessary for Copermittee compliance. The increased specificity of Order No. R9-2002-0001's requirements is necessary to address specific local urban runoff concerns, promote the attainment and protection of water quality standards in receiving waters, and satisfy the Copermittee's repeated request for the SDRWQCB to identify the minimum effort required for compliance with the permit. Where requirements are more stringent than the federal storm water regulations, they are generally based on specific guidance from the USEPA and/or the SWRCB and are authorized under both the Clean Water Act section 402(p)(3)(iii) as well as the California Water Code section 13377. Furthermore, the requirements in Order No. R9-2002-0001 represents the SDRWQCB's interpretation of the requisite maximum extent practicable (MEP) technology-based standard.

Order No. R9-2002-0001 places the responsibility for urban runoff discharges into and from MS4s on the Copermittees which own and operate the systems. This responsibility is based on the Copermittees' land use authority. Since the Copermittees permit, authorize, and realize benefits from urban development within their jurisdictions, Order No. R9-2002-0001 holds the Copermittees responsible for the short and long-term water quality consequences of their land use decisions. Furthermore because water quality degradation is the direct result of the urbanization process, Copermittees must implement (or require others to implement) controls to reduce the flow and pollutants generated from each of the three major phases of urbanization that they authorize; namely the (1) land use planning, (2) construction; and (3) use or existing development phase.

The principal requirements of Order No. R9-2002-0001 include the following: (1) each Copermittee shall prohibit all non-storm water discharges not specifically exempted to its MS4; (2) each Copermittee shall reduce pollutants in urban runoff discharges into and from its MS4 to the maximum extent practicable, (MEP); (3) each Copermittee shall ensure that urban runoff discharges into and from its MS4 do not cause or contribute to an exceedance of receiving water quality objectives; (4) each Copermittee shall actively seek and eliminate all sources of illicit discharges to its MS4; and (5) each Copermittee shall obtain, maintain, and enforce adequate legal authority (such as local ordinances and permits) to comply with all provisions of the Order.

Two Levels of Copermittee Responsibility

This Order is issued to each of the Copermittees and contains requirements to be implemented individually and collectively. Each Copermittee must carry out the requirements of Order No. R9-2002-0001 across two broad levels of responsibility. Copermittees have responsibility for the water quality impacts of urbanization within (1) their jurisdiction and (2) their watershed. The jurisdictional responsibility of each Copermittee stems from Copermittee land use authority within its jurisdiction. As discussed above, the Copermittee has authority over the three stages of development (planning, construction, and use or operation) within its jurisdiction. Each Copermittee must therefore take responsibility for water quality impacts resulting from their jurisdictional land use decisions.

Watershed responsibility is also necessary from each Copermittee. This is because each Copermittee is located somewhere within a watershed it shares with other Copermittees. Urban runoff generated in various Copermittee jurisdictions does not follow jurisdictional boundaries, but rather travels through many jurisdictions while flowing towards receiving waters. Simplistically, a watershed can be thought of as a common pipe to the ocean, along the length of which reside the Copermittees within the watershed. Inland Copermittees can be thought of as upstream contributors of pollutants and flow to the common pipe; while coastal Copermittees can be considered downstream contributors. Collectively the Copermittees within the watershed each contribute to the cumulative pollutant load that is conveyed in urban runoff by their interconnected MS4 systems to the receiving waters. Therefore, each Copermittee has collective, shared responsibility for the impacts of its urbanization on the watershed in which it is located. Both coastal and inland cities contribute to receiving water quality problems and both must accept responsibility for contributing to the solution. The Copermittees will address the watershed level activities discussed above in the Watershed Urban Runoff Management Program that will incorporate elements of the proposed Drainage Area Management Plan submitted in September 2000 (see discussion below and for section J of this Order).

Order No. R9-2002-0001 reflects these two broad levels of responsibility, in that it requires implementation of comprehensive urban runoff management plans on both a jurisdictional and watershed level.

Permit Requirements

Order No. R9-2002-0001 contains the following principal elements:

- Legal Authority – Each Copermittee shall establish and maintain adequate legal authority to control pollutant discharges into and from its MS4.
- Jurisdictional Urban Runoff Management Program – Each Copermittee shall develop and implement a Jurisdictional Urban Runoff Management Program (Jurisdictional URMP) which will reduce discharges of pollutants and runoff flow during each major phase of urban development (i.e., planning, construction, and use or operation phases) within its jurisdiction.
- Watershed Urban Runoff Management Program – Each Copermittee shall collaborate with other Copermittees within the San Juan Creek Watershed Management Area within Orange County to revise the proposed DAMP and develop and implement a Watershed Urban Runoff Management Program (Watershed URMP) that will identify and address the highest priority water quality issues/pollutants in the watershed management area.
- Program Management – Each Copermittee shall collaborate with all other Copermittees to address common issues, promote consistency, and plan and coordinate urban runoff management activities as described in section 2 of the proposed DAMP.
- Monitoring – The Copermittees shall collectively develop and implement a Receiving Waters Monitoring Program which shall focus on the collection of monitoring data to be used for the assessment of compliance, achievement of water quality objectives, and the protection of beneficial uses.
- Reporting – Each Copermittee shall submit various reports describing the measures it is undertaking to meet the requirements of Order No. R9-2002-0001.

Each of these principal elements of Order No. R9-2002-0001 is discussed in greater detail below.

Legal Authority

Each Copermittee must adopt and enforce whatever legal authority is needed to eliminate or reduce pollutant discharges from all urban land use sources into and out of its MS4. This legal authority must include the ability to prohibit all discharges into the MS4 except for those that originate from precipitation (and a few other minor exceptions). Each Copermittee must also have legal authority to conduct inspections, collect samples, and require businesses to implement BMPs. Legal authority can be developed through ordinance, permit, contract, or similar means. Each Copermittee must ensure that its requirements are being complied with and use its legal authority to take enforcement actions against violators that are not meeting the Copermittee's requirements.

Jurisdictional Urban Runoff Management Program

The focus of the Jurisdictional Urban Runoff Management Program (URMP) is to address urban runoff during each phase of urbanization (i.e., planning, construction, and use or operation phases). The Jurisdictional URMP includes specific requirements for each of these phases of urbanization, as well as broad requirements that apply to all of the phases. Solid Jurisdictional level programs are necessary to realize truly effective watershed-level programs.

The Jurisdictional URMP singles out the planning phase of urbanization since addressing urban runoff during the planning phase of development is an effective means (in terms of both cost and performance) for protecting receiving water quality. The planning stage provides the greatest number and variety of opportunities for addressing runoff, as well as the most cost-effective time for implementation of BMPs. Order No. R9-2002-0001 includes the following requirements for addressing urban runoff during the planning phase of new development:

- Each Copermittee shall incorporate water quality protection principles and policies into its General Plan or equivalent plan to guide land use decisions.
- Each Copermittee shall modify its development project approval processes to ensure water quality concerns are addressed by development projects. This requirement includes development and implementation by each Copermittee of water quality conditions of approval for projects. Each Copermittee shall also develop and implement Standard Urban Storm Water Mitigation Plans (SUSMPs), requiring various categories of development to implement post-construction BMPs meeting specific numeric sizing criteria.
- Each Copermittee shall revise its environmental review process to include requirements for evaluation of water quality effects from development projects.
- Each Copermittee shall conduct education efforts for its planning and development review staffs, as well as the development community at large.

The construction phase of urbanization is also singled out in the Jurisdictional URMP requirements of Order No. R9-2002-0001. Construction sites and practices are given a high priority in the Jurisdictional URMP requirements due to their significant potential for erosion and discharge of pollutants to MS4s and receiving waters. Order No. R9-2002-

0001 includes the following requirements for addressing urban runoff during the construction phase of urbanization:

- Each Copermittee shall implement, or require implementation of, pollution prevention measures at construction sites.
- Each Copermittee shall update its grading ordinance to require grading and construction activities to include pollution prevention, source control, and structural treatment BMPs.
- Each Copermittee shall update its construction and grading approval processes to ensure water quality concerns are addressed by construction/grading projects. This requirement includes development and implementation by each Copermittee of water quality conditions of approval for construction and grading projects.
- Each Copermittee shall maintain an inventory of all construction sites within its jurisdiction.
- Each Copermittee shall establish priorities for construction oversight activities.
- Each Copermittee shall implement, or require implementation of, minimum BMPs at construction sites. The level of BMPs to be implemented shall be basis on the priority level of the site.
- Each Copermittee shall conduct inspections of construction sites based on construction site priority level.
- Each Copermittee shall enforce its ordinances at all construction sites.
- Each Copermittee shall report non-compliant construction sites to the SDRWQCB.
- Each Copermittee shall conduct education efforts for its construction, building, and grading review staffs, as well as the construction community at large.

The Jurisdictional URMP contains extensive requirements for existing development as well. All urban land uses are addressed by the requirements. The specific land uses identified in the Jurisdictional URMP are municipal, industrial, commercial, and residential land uses. In general, the structure of the Jurisdictional URMP requirements for each of these land uses are similar. For each of the existing development land uses, the Jurisdictional URMP requirements include:

- Each Copermittee shall implement, or require implementation of, pollution prevention measures for each land use.
- Each Copermittee shall maintain an inventory of sites for the various land uses within its jurisdiction. The types of sites to be inventoried for each land use are detailed in section VII. of this fact sheet as well as the permit.
- Each Copermittee shall establish priorities for oversight activities of sites for each land use. The types of sites to be prioritized for each land use are detailed in section VII. of this fact sheet as well as the permit.
- Each Copermittee shall implement, or require implementation of, minimum BMPs at sites for each land use, based on the sites' designated priority levels.
- Each Copermittee shall conduct inspections of sites for each land use based on the sites' designated priority levels.
- Each Copermittee shall enforce its ordinances at all sites for all land uses.

In addition to the general requirements listed above for each land use, the Jurisdictional URMP also contains specific requirements for each land use. These requirements are detailed section VII. of this fact sheet as well as the permit.

While the specific Jurisdictional URMP requirements for each of the three phases of urbanization (i.e., planning, construction, and use or operational phase) are detailed above, the Jurisdictional URMP also contains requirements that apply to all of the phases of urbanization. These include:

- Education – Each Copermittee shall implement an education program using various types of media to (1) increase the knowledge of target communities regarding MS4s, impacts of urban runoff on receiving waters, and potential BMP solutions; and (2) change the behavior of target communities and thereby reduce pollutant releases to the MS4 and receiving waters. Education was emphasized under previous permits and most Copermittees already have well developed education programs.
- Illicit Discharge Detection and Elimination – Each Copermittee shall develop and implement measures to detect and eliminate all illicit discharges. This includes measures to respond to sewage and other spills, limit infiltration from sanitary sewers, and facilitate proper disposal and encourage reporting by the public.
- Public Participation – Each Copermittee shall incorporate a mechanism for public participation in the implementation of the Jurisdictional URMP.
- Assessment of Effectiveness – Each Copermittee shall develop a long-term strategy for assessing the effectiveness of its urban runoff management program.
- Fiscal Analysis – Each Copermittee conduct annual fiscal analyses to exhibit adequate fiscal resources necessary to meet the requirements of Order No. R9-2002-0001.

Watershed Urban Runoff Management Program

As discussed above, each Copermittee has responsibility for the impacts of its urban runoff on its respective watershed(s). This is because urban runoff does not follow jurisdictional boundaries, and often travels through many jurisdictions while flowing to receiving waters. Therefore, the actions of various municipalities within a watershed regarding urban runoff can have a cumulative impact upon shared receiving waters. For this reason, Order No. R9-2002-0001 requires the Copermittees to develop and implement a Watershed URMP for the San Juan Creek Watershed Management Area within Orange County as specified in section J of this Order. The Watershed URMP will be developed later in the permit cycle than the Jurisdictional URMP and is intended to build upon and enhance the Jurisdictional URMPs. The purpose of the Watershed URMP is to identify and address the highest priority water quality issues/pollutants in each of the six hydrologic units of the San Juan Creek Watershed Management Area within Orange County. Under the Watershed URMP requirements, for each hydrologic unit of the watershed, the Copermittees shall:

- Map the watershed and identify all receiving waters, all impaired receiving waters, land uses, highways, jurisdictional boundaries, and inventoried commercial, industrial, construction, municipal sites, and residential areas.
- Assess the water quality of all receiving waters in the watershed based on existing data, and eventually perform watershed based water quality monitoring.
- Identify and prioritize major water quality problems in the watershed caused or contributed to by discharges from MS4s, including potential sources of the problems.

- Develop and implement a time schedule of activities needed to address the highest priority water quality problems.
- Identify which Copermittee is responsible for implementing each recommended watershed activity.
- Develop and implement a mechanism for public participation in watershed activities.
- Develop and implement a watershed based education program.
- Develop a strategy for assessing the effectiveness of the Watershed URMP.

Program Management

The Copermittees shall implement the collective program management structure and commitments described in the proposed DAMP that allows individual Copermittees to carry out permit requirements with other Copermittees, either as a whole (all of the Copermittees countywide) or within a watershed (Copermittees within a watershed). This requirement provides for more effective urban runoff management, in that it defines various Copermittee roles, aids in the sharing of costs to meet permit requirements, and provides performance standards to assess compliance.

Monitoring

Order No. R9-2002-0001 requires a comprehensive monitoring program for urban runoff impacts to receiving waters. The monitoring program will help prioritize efforts so that limited resources will be most effective in improving receiving water quality. It will also aid in assessing the effectiveness of urban runoff management efforts. The Copermittees are to develop the monitoring program; however, the SDRWQCB has outlined several aspects to be included in the program. These aspects include:

- Development of a Receiving Waters Monitoring Program Document that includes both a Previous Monitoring and Future Recommendations (Technical) Report which summarizes all previous wet weather monitoring results and recommends future monitoring activities as well as a Receiving Waters Monitoring Program based upon that report and its recommendations.
- Development and implementation of a urban stream bioassessment monitoring program, which shall consist of station identification, sampling, monitoring, and analysis of bioassessment stations to determine the biological and physical integrity of urban streams within the County of San Diego.
- Review and revision of the monitoring program for existing mass loading stations for the purposes of evaluating long-term trends as described in the Orange County Water Quality Monitoring Program (99-04 Plan).
- Development and implementation of a monitoring program for discharges of urban runoff from coastal storm drain outfalls.
- Development and implementation of a monitoring program to assess the chemical, physical, and biological impact of urban runoff on ambient coastal receiving water quality.

Reporting

Under Order No. R9-2002-0001, each Copermittee must submit a series of documents and reports. The following is a brief description of the primary reports required by Order

No. R9-2002-0001. When each Copermittee has developed its Jurisdictional Urban Runoff Management Programs and its part of the Watershed Urban Runoff Management Program (by dates specified in the permit), it must submit documents describing the programs. Each Copermittee must also annually submit its Jurisdictional URMP Annual Reports and collaborate to submit the Watershed URMP Annual Reports once the programs have been implemented. An annual Receiving Waters Monitoring Program Report for the Copermittees must also be submitted. There are other documents and reports required for submittal; these documents and reports are detailed in section VII. of this fact sheet and in Order No. R9-2002-0001.

CONCLUSION (PERMIT SUMMARY)

Order No. R9-2002-0001 is an essential mechanism for maintaining and improving water quality in Orange County. Order No. R9-2002-0001, which was drafted to be applied throughout the San Diego Region, represents the SDRWQCB definition of the minimum requirements to achieve compliance to the MEP and to protect the beneficial uses of receiving waters. Since the inception of the NPDES Storm Water Program, progress has been made in the San Diego Region to control urban runoff pollution. The Orange County Copermittees have developed some strong programs under the First and Second Term Permits that this Order is intended to build upon and enhance. Also, there is a better understanding by local managers of the regulations, the public education campaigns implemented by the Copermittees under previous permits, and improved Copermittee group communication. However, continued improvement in urban runoff quality is still necessary to achieve sound protection of beneficial uses of the region's receiving waters.

V. COMMON MUNICIPAL STORM WATER PERMIT ISSUES

Interested parties have frequently brought the following issues listed below to the attention of the SDRWQCB. During issuance of previous municipal storm water permits, most comments from interested parties have revolved around these issues. For this reason, the SDRWQCB has included its responses to the following issues in order to clarify its position regarding the issues.

1. Issue: Is the SDRWQCB required to meet California Environmental Quality Act (CEQA) requirements prior to adoption of the Draft Municipal Storm Water Permit for Orange County, the Incorporated Cities within Orange County, and the Orange County Flood Control District within the San Diego Region Order No. R9-2002-0001 (Order)?

Response: No. The adoption and issuance of the Order itself, and the requirements contained in the Order are exempt from CEQA under California Water Code section 13389. California Water Code section 13389 exempts the adoption of waste discharge requirements (such as NPDES permits) from CEQA requirements. In its review of Order No. 2001-01, the template from which this Order is derived, the SWRCB stated: "As we have stated in several prior orders, the provisions of CEQA requiring adoption of environmental documents do not apply to NPDES permits. BIA contends that the exemption from CEQA contained in section 13389 applies only to the extent that the specific provisions of the permit are required by the federal Clean Water Act. This contention is easily rejected without addressing whether federal law mandated all of the permit provisions. The plain language of section 13389 broadly exempts the Regional Water Board from the requirements of CEQA to prepare environmental documents when

adopting “any waste discharge requirement” pursuant to Chapter 5.5 (§§ 13370 et seq., which applies to NPDES permits). BIA cites the decision in *Committee for a Progressive Gilroy v. State Water Resources Control Board* (1987) 192 Cal.App.3d 847. That case upheld the State Water Board’s view that section 13389 applies only to NPDES permits, and not to waste discharge requirements that are adopted pursuant only to state law. The case did not concern an NPDES permit, and does not support BIA’s argument.”

2. Issue: Do the requirements of the Order constitute an “unfunded mandate”?

Response: No. The requirements of the Order are not within the definition of “unfunded mandate” that would require reimbursement of costs under the California Constitution. This is because the requirements of the Order are derived from the federal Clean Water Act, as opposed to State Law. Since the Order would implement a federal requirement, rather than a state requirement, the Order is not an “unfunded mandate” by the state. The State Water Resources Control Board (SWRCB) has previously determined in several circumstances that regional board orders are exempt from the requirement for reimbursement under the California Constitution.

3. Issue: Does the SDRWQCB have the legal authority to require municipalities to regulate urban runoff flow to protect beneficial uses of receiving waters?

Response: Yes. Federal NPDES regulation 40 CFR 122.44(d)(1) requires municipal storm water permits to include any requirements necessary to “[a]chieve water quality standards established under section 303 of the CWA, including State narrative criteria for water quality.” The term “water quality standards” in this context refers to a water body’s **beneficial uses** and the water quality objectives necessary to protect those beneficial uses. The negative impact of urban runoff flow on the beneficial uses of receiving waters has been widely documented. Increases in flows from impervious surfaces associated with urbanization can result in (1) increases in the number of bankfull events and increased peak flow rates; (2) sedimentation and increased sediment transport; (3) frequent flooding; (4) stream bed scouring and habitat degradation; (5) shoreline erosion and stream bank widening; (6) decreased baseflow; (7) loss of fish populations and loss of sensitive aquatic species; (8) aesthetic degradation; and (9) changes in stream morphology.²⁹ Many of these effects have been identified in the Aliso Creek and San Juan Creek hydrologic units in studies conducted by the Copermittees and the Army Corps of Engineers as summarized elsewhere in this document. US EPA finds that the level of imperviousness resulting from urbanization is strongly correlated with the water quality impairment of nearby receiving waters.³⁰ US EPA further attributes much of this water quality impairment to changes in flow conditions from urbanization, stating “[I]n many cases, the impacts on receiving streams due to high storm water flow rates or volumes can be more significant than those attributable to the

²⁹ U.S. Environmental Protection Agency. 1999. Preliminary Data Summary of Urban Storm Water Best Management Practices. EPA-821-R-99-012. p. 4-24.

³⁰ U.S. Environmental Protection Agency. 1999. 40 CFR Parts 9, 122, 123, and 124 National Pollutant discharge Elimination System – Regulations for Revision of the Water Pollution Control Program Addressing Storm Water Discharges; Final Rule. p. 68727.

contaminants found in storm water discharges.”³¹ Therefore, in order to protect the beneficial uses and water quality objectives of waters receiving urban runoff flows (as **required** by 40 CFR 122.44(d)(1)), the SDRWQCB has under certain circumstances placed limits on urban runoff flows in the Order.

In addition, the authority of states to regulate flow in order to protect water quality standards has been addressed by the U.S. Supreme Court in PUD No. 1 v. Washington Department of Ecology, 511 U.S. 700 (1994). In this case the U.S. Supreme Court found that the Clean Water Act applies to water quantity as well as water quality, stating “[p]etitioners also assert more generally that the Clean Water Act is only concerned with water ‘quality’ and does not allow the regulation of water ‘quantity.’ This is an artificial distinction. In many cases, water quantity is closely related to water quality.” The U.S. Supreme court goes on to refer to the Clean Water Act’s definition of pollution (“the man-made or man induced alteration of the chemical, physical, biological, and radiological integrity of water” 33 U.S.C. 1362(19)) and states “[t]his broad conception of pollution – one which expressly evinces Congress’ concern with the physical and biological integrity of water – refutes petitioners’ assertion that the Act draws a sharp distinction between the regulation of water ‘quantity’ and water ‘quality.’” In this context, the U.S. Supreme Court held that the state’s regulation of flow was “a limitation necessary to enforce the designated use of the River as a fish habitat.” Finally, it was held that the state’s regulation of flow was “a proper application of the state and federal antidegradation regulations, as it ensures than an ‘existing instream water use’ will be ‘maintained and protected.’ 40 CFR 131.12(a)(1) (1992).”

4. Issue: Can the SDRWQCB include in the Order more specific requirements than those stated in the federal NPDES regulations?

Response: Yes. In both a general sense, as well as specifically relating to municipal storm water, the Clean Water Act explicitly preserves independent state authority to enact and implement its own standards and requirements, provided that such standards and requirements are at least as stringent as those that would be mandated by the Clean Water Act and the federal regulations. For example, as one general overriding principle, Clean Water Act section 510 states “nothing in this chapter shall (1) preclude or deny the right of any State or political subdivision thereof or interstate agency to adopt or enforce (A) any standard or limitation respecting discharges of pollutants, or (B) any requirement respecting control or abatement of pollution [...]” When relating specifically to storm water, Clean Water Act section 402(p)(3)(B)(iii) clearly provides states with wide-ranging discretion, stating that municipal storm water permits “[s]hall require controls to reduce the discharge of pollutants to the maximum extent practicable, including management practices, control techniques and system, design and engineering methods, **and such other provisions as the Administrator or the State determines appropriate for the control of such pollutants**” (emphasis added).

Therefore, where the Order contains requirements more specific than those included in the federal NPDES regulations 40 CFR 122.26(d), it is seeking to

³¹ U.S. Environmental Protection Agency. 1999. Preliminary Data Summary of Urban Storm Water Best Management Practices. EPA-821-R-99-012. p. 4-23.

meet the above Clean Water Act requirements, as well as other particular federal NPDES regulations such as 40 CFR 122.44(d)(1)(i). This federal NPDES regulation requires NPDES permits to include limitations to “control all pollutants or pollutant parameters (either conventional, nonconventional, or toxic pollutants) which the Director determines are or may be discharged at a level which will cause, have the reasonable potential to cause, or contribute to an excursion above any State water quality standard, including State narrative criteria for water quality.” Given the continued impact of urban runoff on receiving waters within the San Diego region, increased specificity in municipal storm water permits is necessary to meet the above CWA and federal regulation requirements.

In a 1992 decision, the U.S. Court of Appeals for the Ninth Circuit (NRDC v. US EPA, 966 F.2d 1292) interpreted the language in Clean Water Act section 402(p)(3)(B)(iii) as providing the State with substantial discretion and authority: “[t]he language in (iii), above, requires the Administrator or the State to design controls. Congress did not mandate a minimum standards approach or specify that U.S. EPA develop minimal performance requirements [...] we must defer to U.S. EPA on matters such as this, where U.S. EPA has supplied a reasoned explanation of its choices.” The decision in essence holds that the U.S. EPA and the States are authorized to require implementation of storm water control programs that, upon “reasoned explanation,” accomplish the goals of CWA section 402(p). The Ninth Circuit Court of Appeals further reinforced the State’s authority in this area more recently in 1999. In Defenders of Wildlife v. Browner (1999) Case No. 98-71080, the Court cited the language of CWA section 402(p)(3)(B)(iii) and stated “[t]hat provision gives the U.S. EPA discretion to determine what pollution controls are appropriate. As this court stated in NRDC v. U.S. EPA, ‘Congress gave the administrator discretion to determine what controls are necessary [...].’”

Furthermore, the increased specificity included in the Order is in line with US EPA guidance included in its *Guidance Manual for the Preparation of Part 2 of the NPDES Permit Applications for Discharges from Municipal Separate Storm Sewer Systems*³² and its *Interim Permitting Approach for Water Quality-Based Effluent Limitations in Storm Water Permits*.³³ Where the Order is more specific than the federal regulations, it is frequently based on the recommendations of the Guidance Manual. The Interim Permitting Approach also supports increased specificity in storm water permits, recommending that municipal storm water permits use “best management practices (BMPs) in first-round storm water permits, and **expanded or better-tailored BMPs in subsequent permits**, where necessary, to provide for the attainment of water quality standards. In cases where adequate information exists to develop more specific conditions or limitations to meet water quality standards, these conditions or limitations are to be incorporated into storm water permits, as necessary and appropriate” (emphasis added). It is important to note that the SWRCB cited US EPA’s

³² U.S. Environmental Protection Agency. 1992. *Guidance Manual for the Preparation of Part 2 of the NPDES Permit Applications for Discharges from Municipal Separate Storm Sewer Systems*. EPA 833-B-92-002.

³³ U.S. Environmental Protection Agency. 1996. *Interim Permitting Approach for Water Quality-Based Effluent Limitations in Storm Water Permits*. 61 FR 43761.

Interim Permitting Approach as support for its recent decision which upheld the increased specificity of numeric sizing criteria requirements for post-construction BMPs as appropriate requirements in municipal storm water permits.

Finally, Copermittees in the San Diego Region have frequently requested clarification from the SDRWQCB on what is necessary to achieve compliance with the current Municipal Storm Water Permits. The Order responds to this request by describing the minimum permit requirements in detail.

5. Issue: Does the Order dictate the design and manner of compliance in which the Copermittees are to comply with its requirements, in violation of California Water Code section 13360?

Response: No. CWA section 402(p)(3)(B)(iii) provides that municipal storm water permits "shall require controls to reduce the discharge of pollutants to the maximum extent practicable, including management practices, control techniques and system, design and engineering methods, and such other provisions as the Administrator or the State determines appropriate for the control of such pollutants." To meet this requirement of the CWA, the Order requires the implementation of BMPs, as required under Federal NPDES regulation 40 CFR 122.44(k). While the Order includes requirements for widespread BMP implementation, it does not require use of any particular BMPs. The Order actually encourages implementation of combinations of BMPs, and further does not preclude any particular BMPs or other means of compliance. A permit which allows for seemingly infinite means for achieving compliance does not 'specify the design or manner of compliance' in violation of California Water Code section 13360.

The specified programs included in the Order must be implemented by the Copermittees in order to carry out the CWA requirements. Any specified programs in the Order are made all the more necessary by the exclusion of numerical effluent limits from the permit. Reliance on BMPs as opposed to numerical effluent limits requires specification of those programs that are relied upon to reduce pollution.

Finally, the SWRCB's recent decision on the appeal of the Los Angeles Regional Water Quality Control Board's (LARWQCB's) action on SUSMPs and numeric sizing criteria appears to support inclusion of detail in municipal storm water permits on the level which is found in the Order. The SWRCB found that the numeric sizing criteria requirement for post-construction BMPs did not violate California Water Code section 13360. Provided that the numeric sizing criteria requirement is most likely the most specific requirement in the Order, the SWRCB decision in support of numeric sizing criteria indicates its general approval of the level of detail found in the Order.

6. Issue: Do discharges from municipal separate storm sewer systems (MS4s) need to meet the water quality standards (beneficial uses and water quality objectives) of the receiving waters to which they discharge?

Response: Yes. The issue of whether storm water discharges from MS4s must meet water quality standards has been intensely debated for the past five years.

The argument arises because Clean Water Act section 402(p) fails to clearly state that municipal dischargers of storm water must meet water quality standards. On the issue of industrial discharges of storm water, the statute clearly indicates that industrial dischargers must meet both (1) the technology-based standard of “best available technology economically achievable (BAT)” and (2) applicable water quality standards. On the issue of municipal discharges however, the statute states that municipal dischargers must meet (1) the technology-based standard of “maximum extent practicable (MEP)” and (2) “such other provisions that the Administrator or the State determines appropriate for the control of such pollutants.” The statute fails, however, to specifically state that municipal dischargers must meet water quality standards.

As a result, the municipal storm water dischargers have argued that they do not have to meet water quality standards; and that they only are required to meet the MEP standard. Environmental interest groups maintain that not only do MS4 discharges have to meet water quality standards, but that MS4 permits must also comply with numeric effluent limitations for the purpose of meeting water quality standards. On the issue of water quality standards, the US EPA, the SWRCB, and the SDRWQCB have consistently maintained that MS4s must indeed comply with water quality standards. On the issue of whether water quality standards must be met by numeric effluent limits, the US EPA, the SWRCB (in Orders WQ 91-03 and WQ 91-04), and the SDRWQCB have maintained that MS4 permits can, at this time, contain narrative requirements for the implementation of BMPs in place of numeric effluent limits.

SWRCB rationale: In addition to relying on US EPA’s legal opinion concluding that MS4s must meet MEP and water quality standards, the SWRCB also relied on the Clean Water Act’s explicit authority for States to require “such other provisions that the Administrator or the State determines appropriate for the control of such pollutants” in addition to the technology-based standard of MEP. To further support its conclusions that MS4 permit dischargers must meet water quality standards, the SWRCB relied on provisions of the California Water Code that specify that all waste discharge requirements must implement applicable Basin Plans and take into consideration the appropriate water quality objectives for the protection of beneficial uses.

The SWRCB first formally concluded that permits for MS4s must contain effluent limitations based on water quality standards in its Order WQ 91-03. In that Order, the SWRCB also concluded that it was appropriate for Regional Boards to achieve this result by requiring best management practices, rather than by inserting numeric effluent limitations into MS4 permits. In Order WQ 98-01, the SWRCB prescribed specific precedent setting Receiving Water Limitations language to be included in all future MS4 permits. This language specifically requires that MS4 dischargers meet water quality standards and allows for the use of narrative BMPs (increasing in stringency and implemented in an iterative process) as the mechanism by which water quality standards can be met.

In Order WQ 99-05, the SWRCB modified its receiving water limitations language found in Order WQ 98-01 to meet specific objections by the US EPA (the modifications resulted in stricter compliance with water quality standards). SWRCB Order WQ 99-05 states “In Order WQ 98-01, the State Water

Resources Control Board (State Water Board) ordered that certain receiving water limitation language be included in future municipal storm water permits. Following inclusion of that language in permits issued by the San Francisco Bay and San Diego Regional Water Quality Control Boards (Regional Water Boards) for Vallejo and Riverside respectively, the United States Environmental Protection Agency (EPA) objected to the permits. The EPA objection was based on the receiving water limitation language. The EPA has now issued those permits itself and has included receiving water limitation language it deems appropriate.

“In light of EPA’s objection to the receiving water limitation language in Order WQ 98-01 and its adoption of alternative language, the State Water Board is revising its instructions regarding receiving water limitation language for municipal storm water permits. It is hereby ordered that Order WQ 98-01 will be amended to remove the receiving water limitation language contained therein and to substitute the EPA language. Based on the reasons stated here, and as a precedent decision, the following receiving water limitation language [which is found in Receiving Water Limitations item C. of Order No. R9-2002-0001] shall be included in future municipal storm water permits.”

In a late 1999 case involving MS4 permits issued by US EPA to several Arizona cities (*Defenders of Wildlife v. Browner*, 1999, 197 F. 3d 1035), the United States Court of Appeals for the Ninth Circuit upheld US EPA’s requirement for MS4 dischargers to meet water quality standards, but it did so on the basis of US EPA’s discretion rather than on the basis of strict compliance with the Clean Water Act. In other words, while holding that the Clean Water Act does not require all MS4 discharges to comply strictly with state water quality standards, the Court also held that US EPA has the authority to determine that ensuring strict compliance with state water quality standards is necessary to control pollutants. On the question of whether MS4 permits must contain numeric effluent limitations, the court upheld US EPA’s use of iterative BMPs in place of numeric effluent limits.

SWRCB’s final position: On October 14, 1999, the SWRCB issued a legal opinion on the federal appellate decision and provided advice to the Regional Boards on how to proceed in the future. In the memorandum, the SWRCB concludes that the recent Ninth Circuit opinion upholds the discretion of US EPA and the State to (continue to) issue permits to MS4s that require compliance with water quality standards through iterative BMPs. Moreover, the memorandum states that “[...] because most MS4 discharges enter impaired water bodies, there is a real need for permits to include stringent requirements to protect those water bodies. As total maximum daily loads (TMDLs) are developed, it is likely that MS4s will have to participate in pollutant load reductions, and the MS4 permits are the most effective vehicles for those reductions.” Finally, in Order No. WQ 2001-15, the SWRCB stated that Order No. 2001-01, the template from which this permit is derived, “The Regional Water Board appropriately required compliance with water quality standards and included requirements to achieve reduction of pollutants to the maximum extent practicable. In summary, the SWRCB concludes that the Regional Boards should continue to include the Receiving Water Limitations language established in SWRCB Order WQ 99-05 in all future permits.

Accordingly, the SDRWQCB has required in the Order that discharges from MS4s meet receiving water quality objectives.

7. Issue: What is the definition of “maximum extent practicable (MEP)” and who defines it?

Response: Under Section 402(p) of the Clean Water Act, municipalities are required to reduce the discharge of pollutants from their storm water conveyance systems to the maximum extent practicable (MEP). MEP is the critical technology-based performance standard which municipalities must attain in order to comply with their municipal storm water permits. The MEP standard establishes the level of pollutant reductions the municipality must achieve. MEP generally emphasizes pollution prevention and source control BMPs (as the first line of defense) **in combination** with treatment methods serving as a backup (additional line of defense).

To achieve the MEP standard, municipalities must employ whatever BMPs are technically feasible (i.e., are likely to be effective) and are not cost prohibitive. The major emphasis is on technical feasibility. Reducing pollutants to the MEP means choosing effective BMPs, and rejecting applicable BMPs only where other effective BMPs will serve the same purpose, or the BMPs would not be technically feasible, or the cost would be prohibitive. In selecting BMPs to achieve the MEP standard, the following factors may be useful to consider:

- a. Effectiveness: Will the BMPs address a pollutant (or pollutant source) of concern?
- b. Regulatory Compliance: Is the BMP in compliance with storm water regulations as well as other environmental regulations?
- c. Public Acceptance: Does the BMP have public support?
- d. Cost: Will the cost of implementing the BMP have a reasonable relationship to the pollution control benefits to be achieved?
- e. Technical Feasibility: Is the BMP technically feasible considering soils, geography, water resources, etc?

If a municipality reviews a lengthy menu of BMPs and chooses to select only a few of the least expensive BMPs, it is likely that MEP has not been met. On the other hand, if a municipal discharger employs all applicable BMPs except those where it can show that they are not technically feasible in the locality, or whose cost is prohibitive, it would have met the standard. Where a choice may be made between two BMPs that should provide generally comparable effectiveness, the discharger may choose the least expensive alternative and exclude the more expensive BMP. However, it would not be acceptable either to reject all BMPs that would address a pollutant source, or to pick a BMP base solely on cost, which would be clearly less effective. In selecting BMPs the municipality must make a serious attempt to comply and practical solutions may not be lightly rejected. In any case, the burden would be on the municipal discharger to show

compliance with its permit. After selecting a menu of BMPs, it is the responsibility of the discharger to ensure that all BMPs are implemented.³⁴

A definition of MEP is not provided in either the federal statute or in the federal regulations. The final determination regarding whether a municipality has reduced pollutants to the maximum extent practicable can only be made by the Regional or State Water Boards, and not by the municipal discharger. While Regional or State Boards ultimately define MEP, it is the responsibility of the Copermittees to initially propose actions that implement BMPs to reduce pollution to the MEP. In other words, the Copermittees' Jurisdictional and Watershed Urban Runoff Management Programs (URMPs) to be developed under the Order are the Copermittees' proposals of MEP. Their total collective and individual activities conducted pursuant to their URMPs become their proposal for MEP as it applies both to their overall effort, as well as to specific activities.

It is the SDRWQCB's responsibility to evaluate the proposed programs and specific BMPs to determine what constitutes MEP, using the above guidance and the court's decision in NRDC v. California Department of Transportation, Federal District Court, Central District of California (1994). The court stated that a permittee must evaluate and implement BMPs except where (1) other effective BMPs will achieve greater or substantially similar pollution control benefits; (2) the BMP is not technically feasible; or (3) the cost of BMP implementation greatly outweighs the pollution control benefits. In the absence of a proposal acceptable to the SDRWQCB, the SDRWQCB will define MEP by requiring implementation of additional measures by the Copermittees.

8. Issue: Can the SDRWQCB compel municipalities to use the local authority to control activities of third parties subject to their governmental jurisdiction that could affect the quality of the waters of the state?

Response: Yes. Copermittees cannot passively receive and discharge pollutants from third parties. As US EPA states, "The operator of a small MS4 that does not prohibit and/or control discharges into its system essentially accepts 'title' for those discharges. At a minimum, by providing free and open access to the MS4s that convey discharges to the waters of the United States, the municipal storm sewer system enables water quality impairment by third parties."³⁵

Discharges of pollutants to the MS4 must therefore be controlled, and an important means for a municipality to achieve this is through the development and enforcement of municipal legal authority. USEPA states "A crucial requirement of the NPDES storm water regulation is that a municipality must demonstrate that it has adequate legal authority to control the contribution of pollutants in storm water discharged to its MS4. [...] In order to have an effective municipal storm water

³⁴Source: February 11, 1993 memo entitled "Definition of Maximum Extent Practicable" by Elizabeth Jennings, Senior Staff Counsel, SWRCB

³⁵U.S. Environmental Protection Agency. 1999. 40 CFR Parts 9, 122, 123, and 124 National Pollutant discharge Elimination System – Regulations for Revision of the Water Pollution Control Program Addressing Storm Water Discharges; Final Rule. p. 68765.

management program, a municipality must have adequate legal authority to control the contribution of pollutants to the MS4. [...] ‘Control,’ in this context, means not only to require disclosure of information, but also to limit, discourage, or terminate a storm water discharge to the MS4.”³⁶

Since discharges that enter the MS4 are generally discharged unimpeded directly into receiving waters, the Copermittee’s legal authority is to apply to both discharges into and from MS4s. Federal NPDES regulations clearly provide the SDRWQCB with the legal authority to require municipalities to control discharges from third parties into their MS4. 40 CFR 122.26(d)(2)(iv)(A - D) require municipalities to implement controls to reduce pollutants in urban runoff **from** commercial, residential, industrial, and construction land uses or activities. Federal NPDES regulations 40 CFR 122.26(d)(2)(i)(A - D) require municipalities to have legal authority to control various discharges **to** their MS4. This concept is further supported in the Preamble to the Phase II Final Rule NPDES storm water regulations, which states “The operators of regulated small MS4s cannot passively receive and discharge pollutants **from** third parties”³⁷ (emphasis added). Due to the greater water quality concerns generally experienced by larger municipalities, Phase II Final Rule findings for small municipalities are also applicable to larger municipalities such as the Copermittees. Finally, underlying the Federal NPDES storm water regulations is the Clean Water Act, which states in section 402(p)(3)(B)(ii) that municipalities shall “effectively prohibit non-stormwater discharges **into** the storm sewers” (emphasis added).

The requirement for municipal storm water dischargers to have, and exercise, local governmental authority in order to comply with water quality control obligations is analogous to the requirement for Publicly Owned Treatment Works to have and exercise legal authority to require pretreatment of industrial wastes being discharged to their sewage collections systems (CWA 402(b)(8)).

9. Issue: Does the Order improperly shift responsibility for control of construction and industrial sources of pollution to the Copermittees?

Response: No. The Copermittees are not responsible for enforcing or overseeing the General Statewide Industrial or Construction Permits. The SDRWQCB will oversee and enforce the General Statewide Industrial and Construction Permits. The Copermittees are however, responsible for enforcing their ordinances that implement the Order, including the prohibitions against illicit discharges. In some cases, the Copermittees may be required to implement or require the implementation of BMPs at construction or industrial sites that exceed the minimum requirements of the General Statewide Industrial or Construction Permits in order to achieve compliance with the requirements of the Order. USEPA supports this approach, clearly placing responsibility for the control of discharges from construction and industrial sites with municipalities.

³⁶U.S. Environmental Protection Agency. 1992. Guidance Manual for the Preparation of Part 2 of the NPDES Permit Applications for Discharges from Municipal Separate Storm Sewer Systems. EPA 833-B-92-002.

³⁷U.S. Environmental Protection Agency. 1999. 40 CFR Parts 9, 122, 123, and 124 National Pollutant discharge Elimination System – Regulations for Revision of the Water Pollution Control Program Addressing Storm Water Discharges; Final Rule. p. 68765.

US EPA felt it so important to control the discharge of pollutants from construction and industry that it established a double system of regulation over construction and industrial sites. Two parallel regulatory systems were established with the same common objective of keeping pollutants from construction and industrial sites out of the municipal separate storm sewer system (MS4). A structure was created where local governments must enforce their local ordinances and permits as required under their municipal storm water permits, while the SDRWQCB (state) must enforce its statewide general construction and industrial storm water permits. The two regulatory systems were designed to complement and support each other in the shared goal of minimizing pollutant discharges in runoff from construction and industrial sites. To this extent, this Order actually enables the SDRWQCB to alleviate some of the annual burden for inspecting high priority industrial sites by permitting a SDRWQCB inspection of a facility to satisfy the Copermittee requirement to inspect the same facility (section F.3.b.6.d). The SDRWQCB has recently added two full time positions to the Industrial Compliance Unit that conducts these inspections.

Local governments have the primary regulatory authority over the majority of construction and industrial sites since they issue the development and land use permits for the sites. In other words, the Copermittees are responsible for the water quality consequences of their planning, construction, and land use decisions that result in discharges into their MS4s.

US EPA supports this approach, clearly placing responsibility for the control of discharges from construction and industrial sites with municipalities. US EPA notes in the preamble to the storm water regulations that municipalities are in the best place to enforce industrial compliance with storm water discharge requirements, stating “[b]ecause storm water from industrial facilities may be a major contributor of pollutants to MS4s, municipalities are obligated to develop controls for storm water discharges associated with industrial activity through their system in their storm water management program [...]”³⁸ and “[t]hese permits are expected to require that controls be placed on storm water discharges associated with industrial activity which discharge through the municipal system.”³⁹

Regarding construction sites, US EPA also places enforcement responsibility on municipalities, requiring small municipalities to develop and implement “[a]n ordinance or other regulatory mechanism to require erosion and sediment controls, as well as **sanctions** to ensure compliance [...]” (40 CFR 122.34(b)(4)(ii)(A)) (emphasis added). In its guidance for the Phase II regulations, US EPA goes on to support increased municipality responsibility, stating “Even though all construction sites that disturb more than one acre are covered nationally by an NPDES storm water permit, the construction site runoff

³⁸U.S. Environmental Protection Agency. 1990. 40 CFR Parts 122, 123, and 124 National Pollutant discharge Elimination System Permit Application Regulations for Storm Water Discharges; Final Rule. p. 48000.

³⁹U.S. Environmental Protection Agency. 1990. 40 CFR Parts 122, 123, and 124 National Pollutant discharge Elimination System Permit Application Regulations for Storm Water Discharges; Final Rule. p. 48006.

control minimum measure for the small MS4 program is needed to induce more localized site regulation and enforcement efforts, and to enable operators of regulated small MS4s to more effectively control construction site discharges into their MS4s.”⁴⁰ While these above citations refer to small municipalities under Phase II of the NPDES program, US EPA recommendations to small municipalities are applicable to larger municipalities such as the Copermittees, due to the typically more serious water quality concerns attributed to such larger municipalities.

10. Issue: Must the Order require that municipal storm water discharges meet numeric effluent limits?

Response: No. Although NPDES permits must contain conditions to ensure that water quality standards are met, this does not require the use of numeric effluent limitations. Under the Clean Water Act and federal NPDES regulations, permitting authorities may employ a variety of conditions and limitations in storm water permits, including best management practices, performance objectives, narrative conditions, monitoring triggers, actions levels (e.g., monitoring benchmarks, toxicity reduction evaluation action levels), etc., as the necessary effluent limitations, where numeric effluent limitations are determined to be unnecessary or infeasible.

Neither the Clean Water Act nor the federal NPDES regulations require numeric effluent limitations for municipal storm water discharges. Section 301 of the Clean Water Act requires that discharger permits include effluent limitations necessary to meet water quality standards. Section 502 defines “effluent limitations” to mean any restriction on quantities, rates, and concentrations of constituents discharged from point sources. The Clean Water Act does not say that effluent limitations need be numeric. As a result, US EPA and States have flexibility in terms of how to express effluent limitations.

US EPA has, through the federal NPDES regulations, interpreted the Clean Water Act statute to allow for non-numeric effluent limitations (e.g., best management practices) to replace numeric effluent limitations where numeric effluent limitations are infeasible (40 CFR 122.44(k)). US EPA has found numeric effluent limitations infeasible because storm water discharges are highly variable both in terms of flow and pollutant concentrations, and the relationships between discharges and water quality can be complex. The current use of system-wide permits and a variety of jurisdiction-wide BMPs, including educational and programmatic BMPs, does not easily lend itself to the existing methodologies for deriving numeric effluent limitations.

It should be noted that while the Order does not specify numeric effluent limitations for municipal urban runoff discharges, it does not preclude numeric effluent limitations from applying to municipal urban runoff discharges into impaired water bodies. Where impaired water bodies are not meeting their water quality standards, numeric effluent limitations may be placed on municipal urban runoff discharges through the implementation of total maximum daily loads

⁴⁰ U.S. Environmental Protection Agency. 2000. Storm Water Phase II Compliance Assistance Guide. EPA 833-R-00-002.

(TMDLs) or other means. Furthermore, methods utilized to calculate waste load allocations for TMDLs may eventually be used to develop numeric effluent limitations for urban runoff in municipal storm water permits.⁴¹

11. Issue: Does the Order provide adequate time for the Copermitees to develop and implement programs to meet its requirements?

Response: Yes. The Order provides the Copermitees with at least one-year to develop and implement their Jurisdictional Urban Runoff Management Programs. With regards to the component of the Jurisdictional Urban Runoff Management Programs which addresses planning and new development, the Copermitees are given a full year for development and implementation. In addition, the Copermitees are allowed at least 18 months to develop and implement their individual Standard Urban Storm Water Mitigation Plans (SUSMPs) for new development. Given that the federal NPDES storm water regulations, as well as the Copermitees' current storm water permit requirements, have been in place for approximately 10 years under the First and Second Term Permits, the Copermitees should require little time to develop and implement Jurisdictional Urban Runoff Management Programs which meet the requirements of the Order. The time periods provided by the Order should be more than adequate.

12. Issue: Does have the SDRWQCB have the authority to require SUSMPs and numeric sizing criteria in Order No. R9-2002-0001

Response: Yes. Pursuant to the Clean Water Act and Federal NPDES regulations, municipal storm water permits must require controls to reduce the discharge of pollutants to the maximum extent practicable including controls which address pollutant discharges resulting from new development and significant redevelopment. Both the Los Angeles Regional Water Quality Control Board (Order No. 96-54) and the San Diego Regional Water Quality Control Board (2001-01) have adopted SUSMP requirements in their Municipal Storm Water Permits. The SWRCB Order No. 2000-11(from appeal of LARWQCB permit) finds that SUSMP requirements (including numeric sizing criteria) reflect a reasonable interpretation of development controls that achieve reduction of pollutants in storm water discharges to the maximum extent practicable. In Order No. WQ 2001-15, the SWRCB continued its support of the SUSMP requirements stating "This Board very recently reviewed the need for controls on urban runoff in MS4 permits, the emphasis on best management practices (BMPs) in lieu of numeric effluent limitations, and the expectation that the level of effort to control urban runoff will increase over time. We pointed out that urban runoff is a significant contributor of impairment to waters throughout the state, and that additional controls are needed. Specifically, in Board Order WQ 2000-11 (hereinafter, LA SUSMP Order), we concluded that the Los Angeles Regional Water Board acted appropriately in determining that numeric standards for the design of BMPs to control runoff from new construction and redevelopment constituted controls to the MEP. The San Diego permit incorporates numeric design standards for runoff from new construction and redevelopment similar to those considered in the LA SUSMP order. In addition, the

⁴¹ Source: U.S. Environmental Protection Agency. 1996. Interim Permitting Approach for Water Quality-Based Effluent Limitations in Storm Water Permits. 61 FR 43761.

permit addresses programmatic requirements in other areas. The LA SUSMP order was a precedential decision, and we will not reiterate our findings and conclusions from that decision.” The numeric sizing criteria is included to ensure that structural treatment BMPs are sized effectively to remove pollutants of concern to the maximum extent practicable. The Order allows Copermittees discretion in what BMPs will be implemented at a project and provides sizing options based on either runoff volume or flow.

13. Issue: Should the Order allow for urban runoff from new development and significant redevelopment to be addressed by regional BMPs (i.e., end of pipe or diversion BMPs) in lieu of site-specific BMPs?

Response: No, with the exceptions discussed below. Implementation of BMPs on a site by site basis provides many benefits. By its very definition, new development presents opportunities for on-site BMPs to be designed into the development as an integral component, at low cost, and with a greater likelihood for protecting water quality downstream over the life of the development. Treatment costs for municipal storm water generally increase with distance from the source. Regional “end of pipe” treatment also results in the loss of cost reducing opportunities for water quality improvements en route. Rather than increasing costs, small collection strategies, located at the point where runoff initially meets the ground, repeated consistently over entire projects, will usually yield the greatest water quality improvements for the least cost (BASMAA, 1999).

Furthermore, regional BMP approaches (such as end of pipe diversions) can send the wrong message to dischargers and the public, which can then cause setbacks in progress that has already been made. Instead of the idea that “business as usual” is acceptable since regional BMPs will “take care of everything” downstream, the message that SUSMPs and numeric sizing criteria should send is that behavior and site design must change in order for water quality to improve.

The SDRWQCB is skeptical that large-scale regional BMPs would be cost effective. Treatment costs for municipal storm water generally increase with distance from the source. Regional “end of pipe” treatment also results in the loss of cost reducing opportunities for water quality improvements en route. Rather than increasing costs, small collection strategies, located at the point where runoff initially meets the ground, repeated consistently over entire projects, will usually yield the greatest water quality improvements for the least cost.⁴² Furthermore, where regional approaches have been relatively successful, such as Fresno, generally few municipalities have been involved. In urbanized watersheds with many different jurisdictions, such as those in Los Angeles, Orange and San Diego Counties, there will be significantly greater organizational and jurisdictional difficulties, and hence drastically higher costs. For example, the failure in the San Diego Region of a regional BMP approach, the Carmel Valley Restoration Project, occurred due to a breakdown in coordination among agencies and resulted in a \$527,000 Administrative Civil Liability fine against the City of San Diego. While the SDRWQCB supports watershed based intergovernmental coordination, in practice,

⁴² Bay Area Stormwater Management Agencies Association. 1999. Start at the Source. Forbes Custom Publishing.

this coordination is not yet in place and may take many years to develop. Furthermore, the difficulties of coordination on a watershed level are only compounded when expanded to a regional level.

Furthermore, a regional BMP approach (i.e. end of pipe treatment) will probably lead to a progressive erosion of storm water quality gains achieved through aforementioned education programs. Since most municipalities in Southern California have historically used natural drainage features as storm water conveyances, there could be an additional loss of beneficial uses, including aesthetic benefits, in those waterways upstream of the proposed regional mitigation facilities. The inadequate implementation of on-site BMPs, which may consequently result from focusing on regional end of pipe BMP approaches, may be more damaging than maintaining the status quo. The overall result of a regional BMP approach could be additional water quality degradation to already impacted receiving waters, while new development and significant redevelopment with inadequate BMP controls continues apace.

Additionally, popular short-term regional solutions, such as end of pipe diversions into sanitary sewers, are effective only for dry weather flows. The sanitary sewerage collection systems found in the San Diego Region were not designed to handle the increased loads from dry weather flows, let alone flows from even minor storm runoff events. Likewise, the existing coastal Publicly Owned Treatment Works (POTWs) are not sized to treat wet weather flows, have almost no capacity for expansion, and will not be able to treat storm water flows.

Finally, it is important to note that in 2000, Governor Davis opposed increasing funding for regional diversion BMPs. In his veto message of a \$6.9 million bill that would have funneled money to Orange County to help curb urban runoff and clean beaches, Davis said the legislation "focuses on a temporary, seasonal fix and does not provide for identification and elimination of the sources of contamination."

Consequently, nearly all of the programs required and implemented under the Phase I Municipal Storm Water NPDES permits have been focused on source reduction through modification of behaviors/practices, in combination with the use of on-site structural BMPs, rather than on regional end of pipe treatment or diversion. In fact, on-site BMP implementation (such as a combination of pollution prevention, source control, and treatment BMPs) is a fundamental requirement of Order No. R9-2002-0001. Shifting BMP implementation from an on-site focus to a regional focus violates this fundamental requirement.

However, while onsite BMPs provide many benefits, there may be cases where offsite structural BMPs, implemented on a "neighborhood" or "sub-watershed" basis, may be more feasible. This is particularly the case for existing development, where opportunities for innovative site design do not exist. To allow more flexibility in BMP implementation, the Order SUSMP requirements regarding structural treatment BMPs have been drafted to allow BMPs to be shared by multiple new development projects on a "neighborhood" or "sub-watershed" level. The SWRCB supports this approach in Order WQ 2000-11, which states "We do note that there could be further cost savings for developers if the permittees develop a regional solution to the problem." It should be noted, however, that shared BMPs will be required to be implemented upstream from

any receiving water supporting beneficial uses. The receiving waters (such as urban streams) of the region cannot be used to transport potentially contaminated urban runoff to "regional" treatment facilities.

14. Issue: Will the SDRWQCB approve the Copermittees' Urban Runoff Management Programs (URMPs) and other submittals?

Response: No. The SDRWQCB does not approve dischargers' submittals.⁴³ It is the responsibility of the Copermittees to develop and implement adequate URMPs and other measures required by Order No. R9-2002-0001 in a timely manner. In other words, a Copermittee cannot postpone implementation of its URMP because the URMP has not been approved by the SDRWQCB. The SDRWQCB will review the URMPs and other documents and provide comments where inadequacies are observed. Provision of comments by the SDRWQCB or lack thereof does not constitute approval on the part of the SDRWQCB. The SDRWQCB will provide as much guidance as possible regarding the requirements of Order No. R9-2002-0001, but ultimately the responsibility for development and implementation lies with the Copermittees.

15. Issue: Will the Order's various requirements for implementation of structural BMPs and infiltration adversely impact wetlands by reducing flows reaching the wetlands?

Response: No. The Order will not adversely impact wetlands through a reduction in their receipt of flows. There are two conditions to consider regarding flows to wetlands: wet weather flows and dry weather flows.

The Order has been drafted to include only one requirement (F.1.b.2.b.i.) regarding wet weather flows. It is important to note this requirement only applies to new development and significant redevelopment, and therefore does not effect the majority of the area of most watersheds. The requirement states: "BMPs shall [...] Control the post-development peak storm water runoff discharge rates and velocities as necessary to maintain or reduce pre-development downstream erosion, and to protect stream habitat." As can be seen, the requirement attempts to maintain peak flow rates at predevelopment levels. Nowhere does the requirement make it necessary for peak flow rates to be reduced below predevelopment rates. By seeking to maintain predevelopment peak flow rates, the Order helps preserve the natural wet-weather runoff conditions, thereby protecting wetlands, as opposed to adversely impacting them.

The Order's SUSMP requirements include the option of infiltration of storm water. This is an option, and need not be used if concerns exist regarding unforeseen impacts. The Order also promotes infiltration of storm water runoff during wet weather. Again, these requirements seek to maintain the natural infiltration rates and thereby maintain the natural flow regime, which can only benefit wetlands. Development, with its associated impervious surfaces, greatly reduces infiltration

⁴³This response refers to the SDRWQCB's policy against staff approval of dischargers' programs or documents. At times, the SDRWQCB will approve dischargers' programs or documents at a public hearing during the public process. An example of this is the requirement in this Order for the Copermittees to develop a model Standard Urban Storm Water Mitigation Plan (SUSMP). The model SUSMP is to be approved by the SDRWQCB during a public hearing. However, in general, the documents and programs required by Order No. R9-2002-0001 will not be approved by SDRWQCB, and never by SDRWQCB staff.

at newly developed sites. Maximization of infiltration at such development sites will only swing infiltration rates back closer to their natural predevelopment levels. It is doubtful that natural predevelopment infiltration levels can even be achieved at developed sites, as many engineers attested to at the Order workshops. Therefore, it is highly unlikely that requirements promoting the use of infiltration will result in decreased flows to wetlands, thereby causing any adverse impacts. On the contrary, promotion of infiltration maintains natural groundwater recharge and overland runoff rates, both of which are necessary for most healthy wetlands. Any argument focusing only on quantity of overland flows misses the important impact groundwater recharge typically has on wetlands.

The other flow condition the Order addresses is dry weather flows. It has been stated that the Order's prohibitions on illicit discharges (section B) will impact the artificial dry weather flows upon which some wetlands are reliant. This is incorrect. The requirements for the prohibition of non-storm water discharges in section B of the Order are almost identical to requirements regarding non-storm water discharges in the current Orange County Municipal Storm Water Permit (Order No. 96-03). Clearly, these prohibitions have not led to the halt of dry weather urban runoff within Orange County over the last ten years. It has been further stated that Legal Authority section D.1.b of the Order will also result in decreased dry weather flows to wetlands. Again, this is not the case. This section requires the Copermittees to have legal authority to prohibit the discharges described in the section. It does not require the discharges to be prohibited in all instances, but rather requires the Copermittees to have the legal authority to prohibit such discharges in the event that prohibition is determined to be necessary. Irregardless, it is doubtful that any of the discharges discussed in section D.1.b would be beneficial to wetlands.

It has also been suggested that the provisions of the Order will require the diversion of dry weather flows to the sanitary sewer, thereby depriving wetlands of valuable artificial flows. Nowhere does the Order require diversion of any types of flow to the sanitary sewer. The Order actually does the opposite by promoting onsite controls and discouraging diversion. The Fact Sheet/Technical Report also discusses a preference for on site controls as opposed to diversion-type regional solutions. Furthermore, the Order's requirement that dry weather flows be diverted from structural infiltration BMPs (section F.1.b.2.i.iii) does not constitute a diversion to the sanitary sewer. Dry weather flows can simply be diverted to other BMPs such as filters, which would remove pollutants in the dry weather flows prior to their discharge to wetlands or other downstream areas.

16. Issue: Does the federal Clean Water Act and State Water Code give the SDRWQCB the broad legal authority which staff claims, and on which the validity of the Order depends?

Response: Yes. The California Water Code 13263 & 13377 give SDRWQCB authority to regulate discharges to preserve highest reasonable water quality and water quality needed to sustain beneficial uses, including aquatic habitat, etc. NPDES regulations mandate reduction of pollutants in storm water that cause or contribute to pollution to MEP by municipalities; evidence establishes risk of unreasonable degradation and pollution associated with urban runoff and

support's SDRWQCB imposition of requirements implementing "MEP" performance standards.

While CWA does not require municipalities to satisfy receiving water standards; [Defenders of Wildlife v Browner (9th c, 1999), 191F3d 1159] WQ sections 13263 & 13377 requires WDRs functioning as NPDES permits to implement water quality objectives (i.e., water quality standards) in basin plans and provisions of the CWA and NPDES regulations needed to protect beneficial uses, and to prevent nuisance.

17. Issue: Since the region's storm water problems stem from existing land use actions, will new development and redevelopment would carry a disproportionate share of the financial obligation to implement the provisions of the permit?

Response: No. The Order does not require new development and redevelopment to carry a disproportionate share of the financial burden to implement the provisions of the permit. The requirements on new development and redevelopment are required under the Federal NPDES regulations, and are designed to prevent new development and redevelopment from exacerbating existing conditions. The SWRCB supports this approach, stating in Order WQ 2000-11 that "[i]n the context of the entire effort required by the permit, the development controls can be seen as preventing the existing situation from becoming worse." The requirements for new development and redevelopment are only one section of the Order; the entire rest of the Order is focused on existing problems stemming from existing development conditions. The controls on new development do not result in a disproportionate financial obligation, since incorporation of BMPs during the planning phase of development has been consistently shown to be the most cost effective approach to reduce pollutant loads to receiving waters (USEPA, 1999).

18. Issue: Does the Order expand legal authority over local government in a manner not prescribed?

Response: No. The Order does not expand on the legal authority provided the SDRWQCB by the Clean Water Act and Porter-Cologne. The increased detail in the Order is supported by the Clean Water Act, Porter-Cologne, and more recent guidance from USEPA and the SWRCB. Where the Order has increased detail, the detailed requirements are included as necessary to achieve water quality standards.

The Clean Water Act supports increased detail in permits, where necessary, in section 402(p)(3)(B)(iii), which requires that permits for discharges from municipal storm sewers "shall require controls to reduce the discharge of pollutants to the maximum extent practicable, including management practices, control techniques and system, design and engineering methods, and such other provisions as the Administrator or the State determines appropriate for the control of such pollutants." Porter-Cologne also supports this approach in section 13377, which requires "Notwithstanding any other provision of this division, the state board or the regional boards shall, as required or authorized by the Federal Water Pollution Control Act (Clean Water Act), as amended, issue waste discharge requirements and dredged or fill material permits which apply

and ensure compliance with all applicable provisions of the act and acts amendatory thereof or supplementary, thereto, together with anymore stringent effluent standards or limitation necessary to implement water quality control plans, or for the protection of beneficial uses, or to prevent nuisance."

More recent USEPA guidance also supports more detail in storm water permits where needed to meet water quality standards. In its "Interim Permitting Approach for Water Quality-Based Effluent Limitations in Storm Water Permits" USEPA states "The interim permitting approach uses best management practices (BMPs) in first-round storm water permits, and expanded or better-tailored BMPs in subsequent permits, where necessary, to provide for the attainment of water quality standards." The SWRCB cited this guidance in Order WQ 2000-11, which upheld SUSMP requirements as a correct interpretation of the MEP standard.

19. Issue: Is the specificity of the Order in direct conflict with an iterative process described in the Order?

Response: No. The term "iterative process" only appears in the Order once, at Finding 14, where it applies to section C of the Order. The term specifically refers to the process to be undertaken in the situation where discharges from an MS4 persist in causing or contributing to an exceedance of water quality objectives, despite the Copermittee's full implementation of its urban runoff management program (see section C of the Order). The term does not mean that compliance with the whole urban runoff management program and Order should be an "iterative process." Instead, the term means that efforts required to meet water quality standards, which go above and beyond those required in the urban runoff management program and other sections of the Order, may be implemented in an "iterative process."

VI. FINDINGS DISCUSSION

1. Finding states the following:

COPERMITTEES ARE DISCHARGERS OF URBAN RUNOFF: Each of the persons in Table 1 below, hereinafter called Copermittees or dischargers, owns or operates a municipal separate storm sewer system (MS4), through which it discharges urban runoff into waters of the United States within the San Diego Region. The Copermittees serve a population of approximately 500,000 people within the San Diego Region. The MS4s operated by the Copermittees fall into one or more of the following categories: (1) a medium or large MS4 that services a population of greater than 100,000 or 250,000 respectively; or (2) a small MS4 that is "interrelated" to a medium or large MS4; or (3) an MS4 which contributes to a violation of a water quality standard; or (4) an MS4 which is a significant contributor of pollutants to waters of the United States.

Table 1. Municipal Copermittees

1.	City of Aliso Viejo	8.	City of Mission Viejo
2.	City of Dana Point	9.	City of Rancho Santa Margarita
3.	City of Laguna Beach	10.	City of San Clemente
4.	City of Lake Forest	11.	City of San Juan Capistrano
5.	City of Laguna Hills	12.	County of Orange
6.	City of Laguna Niguel	13.	Orange County Flood Control District
7.	City of Laguna Woods		

Discussion: Section 402 of the Clean Water Act prohibits the discharge of any pollutant to waters of the United States from a point source, unless that discharge is authorized by a NPDES permit. Though urban runoff comes from a diffuse source, it is discharged through MS4s, which are point sources under the Clean Water Act. Federal NPDES regulation 40 CFR 122.26(a) (iii) and (iv) provide that discharges from MS4s, which service medium or large populations greater than 100,000 or 250,000 respectively, shall be required to obtain a NPDES permit. Federal NPDES regulation 40 CFR 122.26(a)(v) also provides that a NPDES permit is required for "A [storm water] discharge which the Director, or in States with approved NPDES programs, either the Director or the EPA Regional Administrator, determines to contribute to a violation of a water quality standard or is a significant contributor of pollutants to waters of the United States." Such sources are then designated into the program. See Attachment 1, NPDES Municipal Storm Water Permit Justifications, for an explanation on NPDES municipal storm water permit coverage for each municipality.

2. Finding states the following:

URBAN RUNOFF CONTAINS "WASTE" AND IS A "POINT SOURCE DISCHARGE OF POLLUTANTS": Urban runoff contains waste, as defined in the California Water Code, and pollutants that adversely affect the quality of the waters of the State. The discharge of urban runoff from an MS4 is a "discharge of pollutants from a point source" into waters of the United States as defined in the Clean Water Act.

Discussion: The legal definition of "waste" can be found in California Water Code (CWC) section 13050(d), which states "'Waste' includes sewage and any and all other waste substances, liquid, solid, gaseous, or radioactive, associated with human habitation, or of human or animal origin, or from any producing, manufacturing, or processing operation, including waste placed within containers of whatever nature prior to, and for purposes of, disposal." 40 CFR 122.2 defines

“point source” as “any discernible, confined, and discrete conveyance, including but not limited to, any pipe, ditch, channel, tunnel, conduit, well, discrete fissure, container, rolling stock, concentrated animal feeding operation, landfill leachate collection system, vessel or other floating craft from which pollutants are or may be discharged. This term does not include return flows from irrigated agriculture or agricultural storm water runoff.” 40 CFR 122.2 defines “discharge of a pollutant” as “Any addition of any ‘pollutant’ or combination of pollutants to ‘waters of the United States’ from any point source.” Also, the justification for control of pollution into Californian waters can be found at CWC Section 13260(a)(1). The Finding was revised in response to SWRCB Order WQ 2001-15 to state that urban runoff contains waste.

3. Finding states the following:

URBAN DEVELOPMENT AND RUNOFF CAUSES RECEIVING WATER DEGRADATION: *Urban runoff discharges from MS4s are a leading cause of receiving water quality impairment in the San Diego Region and throughout the United States. As runoff flows over urban areas, it picks up harmful pollutants such as pathogens, sediment (resulting from human activities), fertilizers, pesticides, heavy metals, and petroleum products. These pollutants often become dissolved or suspended in urban runoff and are conveyed and discharged to receiving waters, such as streams, lakes, lagoons, bays, and the ocean without treatment. Once in receiving waters, these pollutants harm aquatic life primarily through toxicity and habitat degradation. Furthermore, the pollutants can enter the food chain and may eventually enter the tissues of fish and humans.*

There is a strong direct correlation between “urbanization” and “impacts to receiving water quality”. In general, the more heavily developed the area, the greater the impacts to receiving waters from urban runoff.

These impacts especially threaten environmentally sensitive areas (such as Clean Water Act section 303(d) impaired water bodies, areas designated as Areas of Special Biological Significance, water bodies designated with the RARE beneficial use, riparian or estuarine areas designated by the Copermittees as Critical Aquatic Resources (CARS), and regional parks and preserves containing receiving waters within the Cities and County of Orange). Such environmentally sensitive areas have a much lower capacity to withstand pollutant shocks than might be acceptable in the general circumstance. In essence, urban development that is ordinarily insignificant in its impact on the environment may, in a particularly sensitive environment, be significant.

Discussion: Urbanization generally results in an increase in pollutant sources and impervious surfaces. The increase in pollutant sources associated with human land use leads to an increase in pollutant loads found in urban runoff, while the increase in impervious surfaces associated with development prevents natural processes from reducing those pollutant loads. The impervious surfaces associated with urbanization prevent soil infiltration and natural vegetation filtration of urban runoff. The end result is urban runoff flows that are higher in volume and pollutant loads. This causes the quality of receiving waters to be adversely impacted and beneficial uses to be impaired.

The US EPA supports this finding, stating in its 1996 National Water Quality Inventory that urban runoff/discharges from storm sewers are a major source of water quality impairment nationwide.⁴⁴ The 1996 Inventory also found urban runoff to be the leading cause of ocean impairment for those ocean miles

⁴⁴ US EPA. 1998. The National Water Quality Inventory, 1996 Report to Congress. EPA 841-R-97-008. As cited in 64 FR 68726.

surveyed.⁴⁵ In addition, the Region's Clean Water Act section 303(d) list (see Attachment 2), which identifies water bodies with impaired beneficial uses within the region, also indicates that the impacts of urban runoff on receiving waters are significant. Many of the impaired water bodies on the 303(d) list are impaired by constituents that have been found at high levels within urban runoff by the regional storm water monitoring program.⁴⁶ Examples of constituents frequently responsible for beneficial use impairment include total and fecal coliform, heavy metals, and sediment; these constituents have been found at high levels in urban runoff both regionally and nationwide.^{47, 48}

Beneficial use impairment resulting from urban runoff not only harms aquatic life, but can adversely impact human health as well. The US EPA finds that receiving water impairment from urban runoff can impact human health when it states "As runoff flows over areas altered by development, it picks up harmful sediment and chemicals such as oil and grease, pesticides, heavy metals, and nutrients (e.g., nitrogen and phosphorus). These pollutants often become suspended in runoff and are carried to receiving waters, such as lakes, ponds, and streams. Once deposited, these pollutants can enter the food chain through small aquatic life, eventually entering the tissues of fish and humans."⁴⁹

4. Finding states the following:

URBAN DEVELOPMENT INCREASES POLLUTANT LOAD, VOLUME, AND VELOCITY OF RUNOFF: *During urban development two important changes occur. First, natural vegetated pervious ground cover is converted to impervious surfaces such as paved highways, streets, rooftops, and parking lots. Natural vegetated soil can both absorb rainwater and remove pollutants providing a very effective natural purification process. Because pavement and concrete can neither absorb water nor remove pollutants, the natural purification characteristics of the land are lost.*

Secondly, urban development creates new pollution sources as human population density increases and brings with it proportionately higher levels of car emissions, car maintenance wastes, municipal sewage, pesticides, household hazardous wastes, pet wastes, trash, etc. which can either be washed or directly dumped into the MS4.

As a result of these two changes, the runoff leaving the developed urban area is significantly greater in volume, velocity and pollutant load than the pre-development runoff from the same area.

The significance of the impacts of urban development on receiving waters is determined by the scope of the project, such as the size of the project, the project land-use type, etc. Large projects (such as commercial developments greater than 100,000 square feet, home subdivisions greater than 10 units, and streets, roads, highways, and freeways) generally have large amounts of impervious surface, and therefore have greater potential to significantly impact receiving waters by increasing erosion (through increased peak flow rates, flow velocities, flow volumes, and flow durations) than smaller projects. Projects of particular land use types also have greater potential to significantly impact receiving waters due to the presence of typically large amounts of pollutants on site or an increased potential for pollutants to move off site (such as automotive repair shops,

⁴⁵ US EPA. 1998. The National Water Quality Inventory, 1996 Report to Congress. EPA 841-R-97-008. As cited in 64 FR 68726.

⁴⁶ City of San Diego. 1999. 1998-1999 City of San Diego and Co-permittee NPDES Storm Water Monitoring Program Report. By URS Greiner Woodward Clyde.

⁴⁷ City of San Diego. 1999. 1998-1999 City of San Diego and Co-permittee NPDES Storm Water Monitoring Program Report. By URS Greiner Woodward Clyde.

⁴⁸ US EPA. 1983. Results of the Nationwide Urban Runoff Program, Volume 1 – Final Report.

⁴⁹ US EPA. 2000. Storm Water Phase II Compliance Assistance Guide. EPA 833-R-00-002.

restaurants, parking lots, streets, roads, highways, and freeways, hillside development, and retail gasoline outlets).

Discussion: Urbanization increases the amount of impervious ground cover of an area. For example, residential areas commonly cover the ground with approximately 30-70% impervious surfaces.⁵⁰ Regarding the impact of urbanization's impervious surfaces on urban runoff volume and velocity, the State Water Resources Control Board (SWRCB) Urban Runoff Technical Advisory Committee states in its 1994 report:

Changes in stream hydrology resulting from urbanization include: increased peak discharges; increased total volume of runoff; decreased time needed for runoff to reach the stream; increased frequency and severity of flooding; changes in stream flow during dry periods due to reduced levels of infiltration in the watershed; and greater runoff velocity during storms.

This finding is further supported by the SDRWQCB's Water Quality Control Plan (Basin Plan). Regarding the impact of urban development on urban runoff pollutant loads, the Basin Plan states:

Nonpoint source pollution is primarily the result of man's uses of land such as urbanization, roads and highways, vehicles, agriculture, construction, industry, mineral extraction, physical habitat alteration (dredging/filling), hydromodification (diversion, impoundment, channelization), silviculture (logging), and other activities which disturb land.⁵¹ As a result, when rain falls on and drains through urban freeways, industries, construction sites, and neighborhoods it picks up a multitude of pollutants. The pollutants can be dissolved in the runoff and quickly transported by gravity flow through a vast network of concrete channels and underground pipes referred to as storm water conveyance systems. Such systems ultimately discharge the polluted runoff, without treatment, into the nation's creeks, rivers, estuaries, bays, and oceans.⁵²

5. Finding states the following:

WATER QUALITY DEGRADATION INCREASES WITH PERCENT IMPERVIOUSNESS: *The increased volume and velocity of runoff from developed urban areas greatly accelerates the erosion of downstream natural channels. Numerous studies have demonstrated a direct correlation between the degree of imperviousness of an area and the degradation of its receiving water quality. Significant declines in the biological integrity and physical habitat of streams and other receiving waters have been found to occur with as little as a 10% conversion from natural to impervious surfaces. (Developments of medium density single family homes range between 25 to 60% impervious). Today "% impervious coverage" is believed to be a reliable indicator and predictor of the water quality degradation expected from planned new development.*

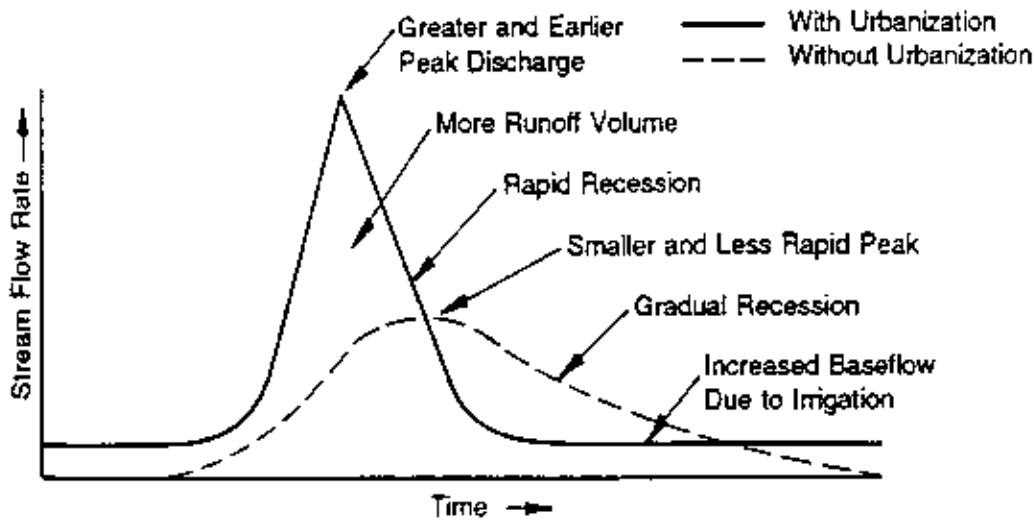
⁵⁰ Dunne, T. and Leopold, L.B. 1978. Water in Environmental Planning.

⁵¹ SDRWQCB. 1994. Water Quality Control Plan for the San Diego Basin. Page 4-66.

⁵² SDRWQCB. 1994. Water Quality Control Plan for the San Diego Basin. Page 4-69 through 4-70.

Discussion: Studies have shown that the level of imperviousness in an area strongly correlates with the quality of nearby receiving waters.⁵³ One comprehensive study, which looked at numerous areas, variables, and methods, revealed that stream degradation occurs at levels of imperviousness as low as (10% to 20%).⁵⁴ Degradation indicates a decline in the biological integrity and physical habitat conditions that are necessary to support natural biological diversity. For instance, few urban streams can support diverse benthic communities with imperviousness greater or equal to 25%.⁵⁵ To provide some perspective, a medium density, single family home area can be from 25% to 60% impervious (variation due to street and parking design).⁵⁶

The following figure shows the flow rate of an urban vs. a natural stream. What the figure demonstrates is that urban stream flows have greater peaks and volumes, as well as shorter retention times than natural stream flows. The greater peak flows and volumes result in stream degradation through increased erosion of stream banks and damage to aquatic habitat. The shorter retention times result in less time for sediments and other pollutants to settle before being carried out to the ocean. This sediment, and the associated pollutants it carries, can be a significant cause of degradation to the region's receiving waters, including coastal lagoons.



Source: Adapted from Schueler, 1997⁵⁷

⁵³ US EPA. 1999. 40 CFR Parts 9, 122, 123, and 124 National Pollutant Discharge Elimination System-Regulations for Revision of the Water Pollution Control Program Addressing Storm Water Discharges. 64 FR 68725.

⁵⁴ US EPA. 1999. 40 CFR Parts 9, 122, 123, and 124 National Pollutant Discharge Elimination System-Regulations for Revision of the Water Pollution Control Program Addressing Storm Water Discharges. 64 FR 68725.

⁵⁵ US EPA. 1999. 40 CFR Parts 9, 122, 123, and 124 National Pollutant Discharge Elimination System-Regulations for Revision of the Water Pollution Control Program Addressing Storm Water Discharges. 64 FR 68725.

⁵⁶ Schueler, T.R. 1994. *The Importance of Imperviousness*. Watershed Protection Techniques. As cited in 64 FR 68725.

⁵⁷ Schueler, T.R. 1987. *Controlling Urban Runoff: A Practical Manual for Planning and Designing Urban BMPs*. Metropolitan Washington Council of Governments.

6. Finding states the following:

URBAN RUNOFF IS A HUMAN HEALTH THREAT: *Urban runoff contains pollutants, which threaten human health. Human illnesses have been clearly linked to recreating (i.e., swimming, surfing, etc.) near storm drains flowing to coastal beach waters. Such flows from urban areas often result in the posting or closure of local beaches.*

Pollutants transported to receiving waters by urban runoff can also enter the food chain. Once in the food chain they can "bioaccumulate" in the tissues of invertebrates (e.g., mussels, oysters, and lobsters) and fish which may be eventually consumed by humans. Furthermore, some pollutants are also known to "biomagnify". This phenomenon can result in pollutant concentrations in the body fat of top predators that are millions of times greater than the concentrations in the tissues of their lower trophic (food chain) counterparts or in ambient waters.

Discussion: This finding is supported by a landmark study conducted by the Santa Monica Bay Restoration Project. The study found that there was an increased occurrence of illness in people that swam in proximity to a flowing storm drain outlet.⁵⁸

In addition to the human health risk urban runoff poses from bodily contact, urban runoff also has the potential to adversely impact human health through bioaccumulation/biomagnification of urban runoff pollutants in the food chain. Pollutants such as heavy metals and pesticides, which are commonly found in urban runoff, have been found to bioaccumulate and biomagnify in long-lived organisms at the higher trophic levels.⁵⁹ Since many aquatic species are utilized for human consumption, toxic substances accumulated in species' tissues can pose a significant threat to public health.

The US EPA supports this finding when it states "As runoff flows over areas altered by development, it picks up harmful sediment and chemicals such as oil and grease, pesticides, heavy metals, and nutrients (e.g., nitrogen and phosphorus). These pollutants often become suspended in runoff and are carried to receiving waters, such as lakes, ponds, and streams. Once deposited, these pollutants can enter the food chain through small aquatic life, eventually entering the tissues of fish and humans."⁶⁰

7. Finding states the following:

POLLUTANT TYPES: *The most common categories of pollutants in urban runoff include total suspended solids, sediment (due to anthropogenic activities); pathogens (e.g., bacteria, viruses, protozoa); heavy metals (e.g., copper, lead, zinc and cadmium); petroleum products and polynuclear aromatic hydrocarbons; synthetic organics (e.g., pesticides, herbicides, and PCBs); nutrients (e.g., nitrogen and phosphorus fertilizers), oxygen-demanding substances (decaying vegetation, animal waste), and trash.*

Discussion: US EPA Nationwide Urban Runoff Program (NURP) data shows that heavy metals, organics, coliform bacteria, nutrients (e.g., fertilizers), oxygen demanding substances (e.g., decaying vegetation), and total suspended solids are

⁵⁸ Haile, R.W., et al. 1996. An Epidemiological Study of Possible Adverse Health Effects of Swimming in Santa Monica Bay. Santa Monica Bay Restoration Project.

⁵⁹ Abel, P.D. 1996. Water Pollution Biology.

⁶⁰ US EPA. 2000. Storm Water Phase II Compliance Assistance Guide. EPA 833-R-00-002.

found at relatively high levels in urban runoff.⁶¹ The Basin Plan goes on to identify examples of nonpoint sources in southern California to include lawn and garden chemicals, household and automotive care products dumped or drained on streets, sediment that erodes from construction sites, and various pollutants deposited by atmospheric deposition.⁶² In addition, the SWRCB Urban Runoff Technical Advisory Committee finds urban runoff pollutants to include sediment, nutrients, oxygen-demanding substances, road salts, heavy metals, petroleum hydrocarbons, pathogenic bacteria, viruses, and pesticides.”

8. Finding states the following:

URBAN STREAMS AS AN MS4 COMPONENT: *Historic and current development make use of natural drainage patterns and features as conveyances for urban runoff. Urban streams used in this manner are both MS4s and receiving waters.*

Discussion: Natural drainage patterns and urban streams are frequently used by municipalities to convey urban runoff away from development within their jurisdiction. This is exhibited when urban streams and natural drainage systems are often altered (channelized, lined, widened, etc.) by municipalities in order to control and convey the increased urban runoff flows resulting from the urban development. Since the natural drainage or urban stream is used by the municipality to convey urban runoff, it becomes part of the municipality's MS4. However, urban streams and natural drainages used to convey urban runoff are part of a municipality's MS4 regardless of whether they have been altered by the municipality or not. For example, urban streams frequently run back and forth between lined and unlined (or natural) segments. Changes in the condition of an urban stream's channel (lined or unlined) does not constitute a change in the use of the urban stream or drainage by a municipality. In this manner, urban streams can be both receiving waters and MS4s.

9. Finding states the following:

URBAN RUNOFF CAUSES BENEFICIAL USE IMPAIRMENT: *Individually and in combination, the discharge of pollutants and increased flows from MS4s can cause or threaten to cause a condition of pollution (i.e., unreasonable impairment of water quality for designated beneficial uses), contamination, or nuisance. The discharge of pollutants from MS4s can cause the concentration of pollutants to exceed applicable receiving water quality objectives and impair or threaten to impair designated beneficial uses. The discharge of urban runoff may also impact the physical habitat of receiving waters. Significant stream channel incision and bank erosion is a feature common in the Aliso Creek watershed and other drainages in Orange County and may be caused in part by changes in peak flow rates and volumes resulting from urban development. Preliminary results of the Ambient Bioassessment Monitoring Program in Aliso Creek and San Juan Creek in 1998 and 1999 indicate impacts to the benthic community that may be the result of water quality and habitat degradation.*

Discussion: The Basin Plan supports this finding:

[W]hen rain falls on and drains through urban freeways, industries, construction sites, and neighborhoods it picks up a multitude of pollutants. The pollutants can be dissolved in the runoff and quickly transported by gravity flow through a vast network of concrete channels and underground

⁶¹ US EPA. 1983. Results of the Nationwide Urban Runoff Program, Volume 1-Final Report.

⁶² SDRWQCB. 1994. Water Quality Control Plan for the San Diego Basin. Page 4-1.

pipes referred to as storm water conveyance systems. Such systems ultimately discharge the polluted runoff, without treatment, into the nation's creeks, rivers, estuaries, bays, and oceans. [...] These pollutants severely degrade the beneficial uses of surface waters, and threaten the health of both humans and aquatic organisms.⁶³

The US EPA also supports this finding, stating in its 1996 National Water Quality Inventory that urban runoff/discharges from storm sewers are a major source of water quality impairment nationwide.⁶⁴ The 1996 Inventory also found urban runoff to be the leading cause of ocean impairment for those ocean miles surveyed.⁶⁵ In addition, the Region's Clean Water Act section 303(d) list (see Attachment 2), which identifies water bodies with impaired beneficial uses within the region, also indicates that the impacts of urban runoff on receiving waters are significant. Many of the impaired water bodies on the 303(d) list are impaired by constituents that have been found at high levels within urban runoff by the regional storm water monitoring program.⁶⁶ Examples of constituents frequently responsible for beneficial use impairment include total and fecal coliform, heavy metals, and sediment; these constituents have been found at high levels in urban runoff both regionally and nationwide.^{67,68}

10. Finding states the following:

COPERMITTEES IMPLEMENT URBAN RUNOFF MANAGEMENT PROGRAMS (URMPs):

Copermittee implementation of Urban Runoff Management Programs (URMPs) designed to reduce discharges of pollutants and flow into and from MS4s to the maximum extent practicable (MEP) can protect receiving water quality by promoting attainment of water quality objectives necessary to support designated beneficial uses. To be most effective, URMPs must contain both structural and non-structural best management practices (BMPs).

Discussion: US EPA finds that a "satisfactory proposed management program will address: management practices; control techniques and systems; design and engineering methods; and other measures to ensure the reduction of pollutants to the maximum extent practicable (MEP)."⁶⁹ The US EPA further states that "at a minimum, the proposed management program must include: [...] Identification of structural control measures to be included in these proposed programs."⁷⁰ These statements indicate that it is expected that URMPs be developed by the Copermittees that contain both structural and non-structural BMPs for the purpose

⁶³ SDRWQCB. 1994. Water Quality Control Plan for the San Diego Basin. Page 4-69 through 4-70.

⁶⁴ US EPA. 1998. The National Water Quality Inventory, 1996 Report to Congress. EPA 841-R-97-008. As cited in 64 FR 68726.

⁶⁵ US EPA. 1998. The National Water Quality Inventory, 1996 Report to Congress. EPA 841-R-97-008. As cited in 64 FR 68726.

⁶⁶ City of San Diego. 1999. 1998-1999 City of San Diego and Co-permittee NPDES Storm Water Monitoring Program Report. By URS Greiner Woodward Clyde.

⁶⁷ City of San Diego. 1999. 1998-1999 City of San Diego and Co-permittee NPDES Storm Water Monitoring Program Report. By URS Greiner Woodward Clyde.

⁶⁸ US EPA. 1983. Results of the Nationwide Urban Runoff Program, Volume 1 – Final Report.

⁶⁹ US EPA. 1992. Guidance Manual for the Preparation of Part II of the NPDES Permit Applications for discharges from Municipal Separate Storm Sewer Systems. EPA 833-B-92-002.

⁷⁰ US EPA. 1992. Guidance Manual for the Preparation of Part II of the NPDES Permit Applications for discharges from Municipal Separate Storm Sewer Systems. EPA 833-B-92-002.

of reducing pollutants in MS4 discharges to the maximum extent practicable. When pollutants in MS4 discharges are treated to the maximum extent practicable, receiving water quality and beneficial uses are typically protected through the attainment of water quality objectives. However, it should be noted that pollutant discharges which have the potential to cause or contribute to an exceedance of water quality objectives (such as discharges to Clean Water Act section 303(d) waterbodies) may require implementation of BMPs beyond the "maximum extent practicable" standard (40 CFR 122.44(d)(1)(i)).

11. Finding states the following:

BEST MANAGEMENT PRACTICES (BMPs): *Pollutants can be effectively reduced in urban runoff by the application of a combination of pollution prevention, source control, and treatment control BMPs. Source control BMPs (both structural and non-structural) minimize the contact between pollutants and flows (e.g., rerouting run-on around pollutant sources or keeping pollutants on-site and out of receiving waters). Treatment control (or structural) BMPs remove pollutants from urban runoff. Where feasible, use of BMPs that utilize natural processes should be assessed. These types of BMPs, such as grassy swales and constructed wetlands, can frequently be as effective as less natural BMPs, while providing additional benefits such as aesthetics and habitat..*

Discussion: The SWRCB finds in its Order WQ 98-01 that BMPs are effective in reducing pollutants in urban runoff, stating that "implementation of BMPs [is] generally the most appropriate form of effluent limitations when designed to satisfy technology requirements, including reduction of pollutants to the maximum extent practicable." The SWRCB Urban Runoff Technical Advisory Committee further supports this finding by recommending "that nonpoint source pollution control can be accomplished most effectively by giving priority to [best management practices] in the following order:

1. Prevention – implementation of practices that use or promote pollution free alternatives;
2. Source Control – implementation of control measures that focus on preventing or minimizing urban runoff from contacting pollution sources;
3. Treatment Controls – implementation of practices that require treatment of polluted runoff either onsite or offsite."

US EPA also supports the utilization of a combination of BMPs to address pollutants in urban runoff. For example, US EPA has found there has been success in addressing illicit discharge related problems through BMP initiatives like storm drain stenciling and recycling programs, including household hazardous waste special collection days.⁷¹ Structural BMP performance data has also been compiled and summarized by US EPA.⁷² This data indicates that structural BMPs can be effective in reducing pollutants in urban runoff discharges. The summary provides the performance ranges of various types of structural BMPs for removing suspended solids, nutrients, pathogens, and metals from storm water flows. These pollutants are in general the pollutants of most concern in storm water in the San Diego Region. For suspended solids, the least effective

⁷¹ US EPA. 1999. 40 CFR Parts 9, 122, 123, and 124 National Pollutant Discharge Elimination System-Regulations for Revision of the Water Pollution Control Program Addressing Storm Water Discharges. 64 FR 68728.

⁷² USEPA. 1999. Preliminary Data Summary of Urban Storm Water Best Management Practices. EPA 821-R-99-012.

structural BMP type was found to remove 30-65% of the pollutant load, while the most effective was found to remove 65-100% of the pollutant load. For nutrients, the least effective structural BMP type was found to remove 15-45% of the pollutant load, while the most effective was found to remove 65-100% of the pollutant load. For pathogens, the least effective structural BMP type was found to remove <30% of the pollutant load, while the most effective was found to remove 65-100% of the pollutant load. For metals, the least effective structural BMP type was found to remove 15-45% of the pollutant load, while the most effective was found to remove 65-100% of the pollutant load.

12. Finding states the following:

POLLUTION PREVENTION: *Pollution prevention, the initial reduction/elimination of pollutant generation at its source, is the best "first line of defense" for Copermittees and should be used in conjunction with source control and treatment control BMPs. Pollutants that are never generated do not have to be controlled or treated. Encouragement during planning processes of the use of pollution prevention BMPs can be an effective means for pollution prevention BMPs to be implemented, through such methods as education, landscaping, etc.*

Discussion: Pollution prevention, the reduction or elimination of pollutant generation at its source, is an essential aspect of BMP implementation. By limiting the generation of pollutants by urban activities, less pollutants are available to be washed from urban areas, resulting in reduced pollutant loads in storm water discharges from these areas. In addition, there is no need to control or treat pollutants that are not initially generated. Furthermore, pollution prevention BMPs are generally more cost effective than removal of pollutants by treatment facilities or cleanup of contaminated media.⁷³

In the Pollution Prevention Act of 1990, Congress established a national policy that emphasizes pollution prevention over control and treatment. California Water Code section 13263.3(a) also supports pollution prevention, stating "The Legislature finds and declares that pollution prevention should be the first step in a hierarchy for reducing pollution and managing wastes, and to achieve environmental stewardship for society. The Legislature also finds and declares that pollution prevention is necessary to support the federal goal of zero discharge of pollutants into navigable waters." Finally, the Basin Plan also supports this finding by stating that "[T]o eliminate pollutants in storm water, one can either clean it up by removing pollutants or prevent it from becoming polluted in the first place. Because of the overwhelming volume of storm water and the enormous costs associated with pollutant removal, pollution prevention is the only approach that makes sense."

13. Finding states the following:

RECEIVING WATER LIMITATIONS: *Compliance with receiving water limits based on applicable water quality objectives is necessary to ensure that MS4 discharges will not cause or contribute to violations of water quality objectives and the creation of conditions of pollution.*

⁷³Center for Watershed Protection, 2000. Assessing the Potential for Urban Watershed Restoration, Article 142 in the Protection, Tom Schueler.

Discussion: Urban runoff discharges from MS4s are a leading cause of receiving water quality impairment in the San Diego Region and throughout the United States. Due to this significant contribution to the impairment of receiving waters, discharges from MS4s that cause or contribute to the violation of water quality standards (i.e., beneficial uses and the water quality objectives necessary to protect those uses) must be controlled and prohibited. MS4 permits must therefore include stringent discharge requirements to protect water bodies from discharges from MS4s.

The issue of whether storm water discharges from MS4s must meet water quality standards has been intensely debated for the past five years. The argument arises because Clean Water Act section 402(p) fails to clearly state that municipal dischargers of storm water must meet water quality standards. On the issue of industrial discharges of storm water, the statute clearly indicates that industrial dischargers must meet both (1) the technology-based standard of “best available technology economically achievable (BAT)” and (2) applicable water quality standards. On the issue of municipal discharges however, the statute states that municipal dischargers must meet (1) the technology-based standard of “maximum extent practicable (MEP)” and (2) “such other provisions that the Administrator or the State determines appropriate for the control of such pollutants.” The statute fails, however, to specifically state that municipal dischargers must meet water quality standards.

As a result, the municipal storm water dischargers have argued that they do not have to meet water quality standards; and that they only are required to meet MEP. Environmental interest groups maintain that not only do MS4 discharges have to meet water quality standards, but that MS4 permits must also comply with numeric effluent limitations for the purpose of meeting water quality standards. On the issue of water quality standards, the US EPA, the SWRCB, and the SDRWQCB have consistently maintained that MS4s must indeed comply with water quality standards. On the issue of whether water quality standards must be met by numeric effluent limits, the US EPA, the SWRCB (in Orders WQ 91-03 and WQ 91-04), and the SDRWQCB have maintained that MS4 permits can, at this time, contain narrative requirements for the implementation of BMPs in place of numeric effluent limits.

SWRCB rationale: In addition to relying on US EPA’s legal opinion concluding that MS4s must meet MEP and water quality standards, the SWRCB also relied on the Clean Water Act’s explicit authority for States to require “such other provisions that the Administrator or the State determines appropriate for the control of such pollutants” in addition to the technology-based standard of MEP. To further support its conclusions that MS4 permit dischargers must meet water quality standards, the SWRCB relied on provisions of the California Water Code that specify that all waste discharge requirements must implement applicable Basin Plans and take into consideration the appropriate water quality objectives for the protection of beneficial uses.

The SWRCB first formally concluded that permits for MS4s must contain effluent limitations based on water quality standards in its Order WQ 91-03. In that Order, the SWRCB also concluded that it was appropriate for Regional Boards to achieve this result by requiring best management practices, rather than by inserting

numeric effluent limitations into MS4 permits. In Order WQ 98-01, the SWRCB prescribed specific precedent setting Receiving Water Limitations language to be included in all future MS4 permits. This language specifically requires that MS4 dischargers meet water quality standards and allows for the use of narrative BMPs (increasing in stringency and implemented in an iterative process) as the mechanism by which water quality standards can be met.

In Order WQ 99-05, the SWRCB modified its receiving water limitations language in Order WQ 98-01 to meet specific objections by the US EPA (the modifications resulted in stricter compliance with water quality standards). SWRCB Order WQ 99-05 states "In Order WQ 98-01, the State Water Resources Control Board (State Water Board) ordered that certain receiving water limitation language be included in future municipal storm water permits. Following inclusion of that language in permits issued by the San Francisco Bay and San Diego Regional Water Quality Control Boards (Regional Water Boards) for Vallejo and Riverside respectively, the United States Environmental Protection Agency (EPA) objected to the permits. The EPA objection was based on the receiving water limitation language. The EPA has now issued those permits itself and has included receiving water limitation language it deems appropriate.

"In light of EPA's objection to the receiving water limitation language in Order WQ 98-01 and its adoption of alternative language, the State Water Board is revising its instructions regarding receiving water limitation language for municipal storm water permits. It is hereby ordered that Order WQ 98-01 will be amended to remove the receiving water limitation language contained therein and to substitute the EPA language. Based on the reasons stated here, and as a precedent decision, the following receiving water limitation language [which is found in Receiving Water Limitations item C. of Order No. R9-2002-0001] shall be included in future municipal storm water permits."

In a late 1999 case involving MS4 permits issued by US EPA to several Arizona cities (*Defenders of Wildlife v. Browner*, 1999, 197 F. 3d 1035), the United States Court of Appeals for the Ninth Circuit upheld US EPA's requirement for MS4 dischargers to meet water quality standards, but it did so on the basis of US EPA's discretion rather than on the basis of strict compliance with the Clean Water Act. In other words, while holding that the Clean Water Act does not require all MS4 discharges to comply strictly with state water quality standards, the Court also held that US EPA has the authority to determine that ensuring strict compliance with state water quality standards is necessary to control pollutants. On the question of whether MS4 permits must contain numeric effluent limitations, the court upheld US EPA's use of iterative BMPs in place of numeric effluent limits.

SWRCB's final position: On October 14, 1999, the SWRCB issued a legal opinion on the federal appellate decision and provided advice to the Regional Boards on how to proceed in the future. In the memorandum, the SWRCB concludes that the recent Ninth Circuit opinion upholds the discretion of US EPA and the State to (continue to) issue permits to MS4s that require compliance with water quality standards through iterative BMPs. Moreover, the memorandum states that "[...] because most MS4 discharges enter impaired water bodies, there is a real need for permits to include stringent requirements to protect those water bodies. As total maximum daily loads (TMDLs) are developed, it is likely that MS4s will have

to participate in pollutant load reductions, and the MS4 permits are the most effective vehicles for those reductions.” In summary, the SWRCB concludes that the Regional Boards should continue to include the Receiving Water Limitations language established in SWRCB Order WQ 99-05 in all future permits.

Accordingly, the SDRWQCB has included the Receiving Water Limitations language in Receiving Water Limitations item C. of Order No. R9-2002-0001.

14. Finding states the following:

RECEIVING WATER LIMITATION COMPLIANCE STRATEGY: *Implementation of BMPs cannot ensure attainment of receiving water quality objectives under all circumstances; some BMPs may not prove to be as effective as anticipated. An iterative process of BMP development, implementation, monitoring, and assessment is necessary to assure that an Urban Runoff Management Program is sufficiently comprehensive and effective to achieve compliance with receiving water quality objectives.*

Discussion: As discussed above in the Finding 13 discussion, the US EPA and SWRCB have discretion to issue municipal storm water permits which require compliance with water quality standards. To ensure that MS4 discharges comply with water quality standards, the SWRCB has adopted US EPA language in SWRCB Order WQ 99-05 that dictates implementation of an iterative BMP process when water quality standards are not met. This language is included in Order No. R9-2002-0001 in Receiving Water Limitations item C. The iterative BMP process requires the implementation of increasingly stringent BMPs until receiving water standards are achieved. This is necessary because implementation of BMPs alone cannot ensure attainment of receiving water quality objectives. For example, a BMP that is effective in one situation may not be applicable in another. An iterative process of BMP development, implementation, and assessment is needed to promote consistent compliance with receiving water quality objectives. If assessment of a given BMP confirms that the BMP is ineffective, the iterative process should be restarted, with redevelopment of a new BMP which is anticipated to result in compliance with receiving water quality objectives. Regarding BMP assessment, the SWRCB Urban Runoff Technical Advisory Committee states “The [Storm Water Pollution Prevention Plan] SWPPP must be revised if an inspection indicates a need to alter the BMPs: drop ineffective BMPs, add new BMPs, or modify a BMP that is to remain in the SWPPP.” It should be noted that while implementation of the iterative BMP process is a means to achieve compliance with water quality objectives, it does not shield the discharger from enforcement actions for continued non-compliance with water quality objectives.

15. Finding states the following:

COPERMITTEES' RESPONSIBILITY FOR ILLICIT DISCHARGES FROM THIRD PARTIES: *As operators of MS4s, the Copermittees cannot passively receive and discharge pollutants from third parties. By providing free and open access to an MS4 that conveys discharges to the waters of the United States, the operator of an MS4 that does not prohibit and/or control discharges into its system essentially accepts responsibility for those discharges. These discharges may cause or contribute to a condition of contamination or exceedances of receiving water quality objectives*

Discussion: Clean Water Act section 402(p) requires operators of MS4s to prohibit non-storm water into their MS4s. This is necessary because pollutants that enter the MS4 generally are conveyed through the MS4 to be eventually discharged

into receiving waters. If a municipality does not prohibit non-storm water discharges, it is providing the pathway (its MS4) which enables pollutants to reach receiving waters. Since the municipality's storm water management service can result in pollutant discharges to receiving waters, the municipality must accept responsibility for the water quality consequences resulting from this service. Furthermore, third party discharges can cause a municipality to be out of compliance with its permit. Since pollutants from third parties that enter the MS4 will eventually be discharged from the MS4 to receiving waters, the third party discharges can result in a situation of municipality non-compliance if the discharges lead to an exceedance of water quality standards. For these reasons, each Copermittee must prohibit and/or control discharges from third parties to its MS4.

16. Finding states the following:

COPERMITTEES' RESPONSIBILITY BASED ON LAND USE AUTHORITY: Utilizing their land use authority, Copermittees authorize and realize benefits from the urban development which generates the pollutants and runoff that impair receiving waters. Since the Copermittees utilize their legal authority to authorize urbanization, they must also exercise their legal authority to ensure that the resulting increased pollutant loads and flows do not further degrade receiving waters.

Discussion: Storm water permits are issued to municipalities because of their land use authority. The ultimate responsibility for the pollutant discharges, increased runoff, and inevitable long-term water quality degradation that results from urbanization lies with local governments. This responsibility is based on the fact that it is the local governments that have authorized the urbanization (i.e., conversion of natural pervious ground cover to impervious urban surfaces) and the land uses that generate the pollutants and runoff. Furthermore, the MS4 through which the pollutants and increased flows are conveyed, and ultimately discharged into San Diego's natural receiving waters, are owned and operated by the same local governments. In summary, the municipal Copermittees under Order No. R9-2002-0001 are responsible for discharges into and out of their storm water conveyance systems because (1) they own and operate the MS4; and (2) they have the legal authority that authorizes the very development and land uses with generate the pollutants and increased flows in the first place.

Order No. R9-2002-0001 holds the local government accountable for this direct link between its land use decisions and water quality degradation. The permit recognizes that each of the three major stages in the urbanization process (development planning, construction, and the use or operational stage) are controlled by and must be authorized by the local government. Accordingly, this permit requires the local government to implement, or require others to implement, appropriate best management practices to reduce pollutant discharges and increased flow during each of the three stages of urbanization.

For example, since grading cannot commence prior to the issuance of a local grading permit, the Copermittees have a built-in mechanism to ensure that all grading activities are protective of receiving water quality. The Copermittee has the authority and discretion to withhold issuance of the grading permit until the project proponent has demonstrated to the satisfaction of the Copermittee that the project will not violate the Copermittee's ordinances or cause the Copermittee to

be in violation of its municipal storm water permit. Since the Copermittee will ultimately be held responsible for any discharges from the grading project by the SDRWQCB, the Copermittee will want to use its own permitting authority to ensure that whatever measures the Copermittee deems necessary to protect discharges into its MS4 are in fact taken by the project proponent.

17. Finding states the following:

THREE PHASES OF URBAN DEVELOPMENT: *Urban development has three major phases: (1) land use planning for new development; (2) construction; and (3) the "use" or existing development phase. Because the Copermittees authorize, permit, and realize benefits from each of these phases, and because each phase has a profound impact on water quality, the Copermittees have commensurate responsibilities to protect water quality during each phase. In other words, Copermittees are held responsible for the short and long-term water quality consequences of their land use planning, construction, and existing development decisions.*

Discussion: Through its permitting processes, each Copermittee authorizes the three major phases of urban development within its jurisdiction. Each Copermittee can also realize benefits from the authorization of urban development. For these reasons, each Copermittee must assume responsibility for its urban development decisions (see also the Discussion for Finding 16). The Federal Regulations clearly require municipalities to address urban runoff during each stage of development. Regarding BMP implementation during each stage of urban development, US EPA recommends that Copermittees ensure the appropriate implementation of the structural BMPs by considering some or all of the following: pre-construction review of BMP designs; inspections during construction to verify BMPs are built as designed; post-construction inspection and maintenance of BMPs; and penalty provisions for noncompliance with design, construction or operation and maintenance.⁷⁴

18. Finding states the following:

PLANNING PHASE FOR NEW DEVELOPMENT: *Because land use planning and zoning is where urban development is conceived, it is the phase in which the greatest and most cost-effective opportunities to protect water quality exists. When a Copermittee incorporates policies and principles designed to safeguard water resources into its General Plan and development project approval processes, it has taken a far-reaching step towards the preservation of local water resources for future generations.*

Discussion: Including plans for BMP implementation during the design phase of new development and redevelopment offers the most cost effective strategy to reduce urban runoff pollutant loads to surface waters.⁷⁵ The Phase II regulations for small municipalities reflect the necessity of addressing urban runoff during the early planning phase. Due to the greater water quality concerns generally experienced by larger municipalities, Phase II requirements for small municipalities are also applicable to larger municipalities such as the Copermittees. The Phase II regulations direct municipalities to develop, implement, and enforce a program to address storm water runoff from new development and redevelopment projects that disturb greater than or equal to one acre, including projects less than one acre

⁷⁴ US EPA. 1999. 40 CFR Parts 9, 122, 123, and 124 National Pollutant Discharge Elimination System-Regulations for Revision of the Water Pollution Control Program Addressing Storm Water Discharges; Final Rule. 64 FR 68845.

⁷⁵ US EPA. 2000. Storm Water Phase II Compliance Assistance Guide. EPA 833-R-00-002.

that are part of a larger common plan of development or sale. The program must ensure that controls are in place that would prevent or minimize water quality impacts. This includes developing and implementing strategies that include a combination of structural and/or non-structural BMPs appropriate to the locality. The program must also ensure the adequate long-term operation and maintenance of BMPs.⁷⁶ US EPA expands on the Phase II regulations for urban development when it recommends that Copermitttees:

“[A]dopt a planning process that identifies the municipality’s program goals (e.g., minimize water quality impacts resulting from post-construction runoff from new development and redevelopment), implementation strategies (e.g., adopt a combination of structural and/or non-structural BMPs), operation and maintenance policies and procedures, and enforcement procedures. In developing your program, you should consider assessing existing ordinances, policies, programs and studies that address storm water runoff quality.”

19. Finding states the following:

CONSTRUCTION PHASE: Construction activities are a significant cause of receiving water impairment. Siltation is currently the largest cause of river impairment in the United States. Sediment runoff rates from construction sites greatly exceed natural erosion rates of undisturbed lands causing siltation and impairment of receiving waters. In addition to requiring implementation of the full range of BMPs, an effective construction runoff program must include local plan review, permit conditions, field inspections, and enforcement.

Discussion: The US EPA strongly supports this finding in the Phase II regulations. The US EPA explains in the regulations that storm water discharges generated during construction activities can cause an array of physical, chemical, and biological water quality impacts. Specifically, the biological, chemical and physical integrity of the waters may become severely compromised due to runoff from construction sites. Fine sediment from construction sites can adversely affect aquatic ecosystems by reducing light penetration, impeding sight-feeding, smothering benthic organisms, abrading gills and other sensitive structures, reducing habitat by clogging interstitial spaces within the streambed, and reducing intergravel dissolved oxygen by reducing the permeability of the bed material. Water quality impairment also results, in part, because a number of pollutants are preferentially absorbed onto mineral or organic particles found in fine sediment. The interconnected process of erosion (detachment of the soil particles), sediment transport, and delivery is the primary pathway for introducing key pollutants, such as nutrients, metals, and organic compounds into aquatic systems.⁷⁷

20. Finding states the following:

⁷⁶ US EPA. 1999. 40 CFR Parts 9, 122, 123, and 124 National Pollutant Discharge Elimination System-Regulations for Revision of the Water Pollution Control Program Addressing Storm Water Discharges; Final Rule. 64 FR 68845.

⁷⁷ US EPA. 1999. 40 CFR Parts 9, 122, 123, and 124 National Pollutant Discharge Elimination System-Regulations for Revision of the Water Pollution Control Program Addressing Storm Water Discharges; Final Rule. 64 FR 68728.

EXISTING DEVELOPMENT: *The Copermittees' wet weather monitoring results collected during the past decade, as well as volumes of other references in the literature today, confirm substantial pollutant loads to receiving waters in runoff from existing urban development. Implementation of jurisdictional and watershed URMPs, which include extensive controls on existing development, can reduce pollutant loadings over the long term.*

Discussion: This finding is supported by the results of the City of San Diego and Co-permittee NPDES Stormwater Monitoring Program annual reports.⁷⁸

21. Finding states the following:

CHANGES NEEDED: *Because the urbanization process is a direct and leading cause of water quality degradation in this Region, fundamental changes to existing policies and practices about urban development are needed if the beneficial uses of the San Diego Region's natural water resources are to be protected.*

Discussion: Urban runoff has been recognized as a leading cause of water quality degradation both regionally and nationwide. The 1998-1999 City of San Diego and Co-Permittee NPDES Stormwater Monitoring Program Report reflects the water quality issues resulting from urban runoff that have been observed in the San Diego region and on a nationwide level. Monitoring efforts indicate that instream concentrations of pathogen indicators (fecal coliform and streptococcus) and heavy metals (such as cadmium, copper, lead, and zinc) exceed state and federal water quality criteria. In addition, storm water within the region has been found to contain the pesticides diazinon and chlorpyrifos (Dursban) at levels that can cause chronic or acute toxicity.⁷⁹

As the monitoring program results indicate, urban runoff is identified as a primary source of receiving water quality impairment within the Region. Though urban land use occupies approximately 30% of the monitoring program study area, approximately 50% or more of the total pollutant load for many constituents is contributed by urbanized land uses including residential, commercial, and industrial land uses.⁸⁰ The Region's Clean Water Act Section 303(d) list, which identifies water bodies with impaired beneficial uses within the Region, also indicates that the impacts of urban runoff are significant. Many of the impaired water bodies on the 303(d) list are impaired by constituents that have been found at high levels within urban runoff by the regional storm water monitoring program. Examples of constituents frequently responsible for beneficial use impairment include total and fecal coliform, heavy metals, and sediment; these constituents have been found at high levels in urban runoff both regionally and nationwide.

Clearly, current policies and practices to protect water quality from the impacts of urbanization have not been entirely effective. A shift is toward new and expanded policies and practices is needed to achieve the requirements of the Clean Water Act. The requirements of Order No. R9-2002-0001 include and encourage new policies and practices to manage urban runoff. These new policies and practices

⁷⁸ City of San Diego. Multiple Years. City of San Diego and Co-permittee NPDES Stormwater Monitoring Program. Prepared by Woodward Clyde Consultants.

⁷⁹ City of San Diego. 1999. 1998-1999 City of San Diego and Co-permittee NPDES Stormwater Monitoring Program Report. Prepared by URS Greiner Woodward Clyde.

⁸⁰ City of San Diego. 1998. 1997-1998 City of San Diego and Co-permittee NPDES Stormwater Monitoring Program Report. Woodward Clyde Consultants.

are based on US EPA and SWRCB guidance, and are supported by recent and ongoing research. The requirements of Order No. R9-2002-0001 are discussed individually in further detail in section VII of this Fact Sheet/Technical Report.

22. Finding states the following:

DUAL REGULATION OF INDUSTRIAL AND CONSTRUCTION SITES: *Discharges of runoff from industrial and construction sites in this Region are subject to dual (state and local) regulation. (1) All industries and construction sites are subject to the local permits, plans, and ordinances of the municipal jurisdiction in which it is located. Pursuant to this Order, local (storm water, grading, construction, and use) permits, plans, and ordinances must (a) prohibit the discharge of pollutants and non-storm water into the MS4; and (b) require the routine use of BMPs to reduce pollutants in site runoff. (2) Many industries and construction sites are also subject to regulation under the statewide General Industrial Storm Water Permit or statewide General Construction Storm Water Permit¹. These statewide general permits are adopted by the State Water Resources Control Board and enforced by the nine Regional Water Quality Control Boards throughout California. Like the Copermittees' local permits and ordinances, the statewide General Industrial and Construction Permits also (a) prohibit the discharge of pollutants and non-storm water; and (b) require the routine use of BMPs to reduce pollutants in site runoff.*

Recognizing that both authorities share a common goal, the federal storm water regulations at 40 CFR 122.26 (and its preamble) call for the dual system to ensure the most effective oversight of industrial and construction site discharges. Under this dual system, each municipal Copermittee is responsible for enforcing its local permits, plans, and ordinances within its jurisdiction. Similarly, the SDRWQCB is responsible for enforcing both statewide general permits and this Order within the San Diego Region.

Discussion: US EPA finds the control of pollutant discharges from industry and construction so important to receiving water quality that it has established a double system of regulation over industrial and construction sites. This double system of regulation consists of two parallel regulatory systems with the same common objective: to keep pollutants from industrial and construction sites out of the MS4. In this double system of regulation for runoff from industrial and construction sites, local governments must enforce their legal authorities (i.e., local ordinances and permits) while the SDRWQCB must enforce its legal authority (i.e., statewide general industrial and construction storm water permits). These two regulatory systems are designed to complement and support each other. Municipalities are not required to enforce SDRWQCB and SWRCB permits; however, they are required to enforce their ordinances and permits. The Federal regulations are clear that municipalities have responsibility to address runoff from industrial and construction sites which enters their MS4s.

Municipalities have this responsibility because they have the authority to issue land use and development permits. Since municipalities are the lead permitting authority for industrial land use and construction activities, they are also the lead for enforcement regarding runoff discharges from these sites. For sites where the municipality is the lead permitting authority, the SDRWQCB will work with the municipality and provide support where needed. In some instances, where the

¹The "statewide General Industrial Storm Water Permit" refers to State Water Resources Control Board Water Quality Order No. 97-03-DWQ National Pollutant Discharge Elimination System General Permit No. CAS000001, Waste Discharge Requirements for Discharges of Storm Water Associated with Industrial Activities Excluding Construction Activities. The "statewide General Construction Storm Water Permit" refers to State Water Resources Control Board Order No. 99-08-DWQ National Pollutant Discharge Elimination System General Permit No. CAS000002, Waste Discharge Requirements for Discharges of Storm Water Runoff Associated with Construction Activity.

SDRWQCB is the primary regulatory authority and lead permitting authority (e.g., for landfills and sewage collection and treatment systems), the SDRWQCB is the lead for enforcement and will look for support from the municipalities.

23. Finding states the following:

EDUCATION: *Education is the foundation of every effective URMP and the basis for changes in behavior at a societal level. Education of municipal planning, inspection, and maintenance department staffs is especially critical to ensure that in-house staffs understand how their activities impact water quality, how to accomplish their jobs while protecting water quality, and their specific roles and responsibilities for compliance with this Order. Public education, designed to target various urban land users and other audiences, is also essential to inform the public of how individual actions impact receiving water quality and how these impacts can be minimized. The proposed Drainage Area Management Plan (DAMP) that was submitted to the SDRWQCB by the Orange County Copermittees in September 2000 has a strong emphasis on education measures.*

Discussion: The SWRCB and US EPA both recognize education as a critical component of storm water management. In its 1994 report, the SWRCB Technical Advisory Committee (TAC) “recognizes that education with an emphasis on pollution prevention is the fundamental basis for solving nonpoint source pollution problems.” The TAC goes on to recommend that target audiences for education efforts include the government, youth groups, the development community, and business and industrial groups. According to the Phase II Storm Water Regulations found at 64 FR 68754 and 68754, US EPA believes that as the public gains a greater understanding of the storm water program through education, the municipality is likely to gain more support for the program (including funding initiatives). In addition, compliance with the program will probably be greater if the public understands the personal responsibilities expected of them. US EPA goes on to explain that a public education program should inform individuals and households about problems and the steps they can take to reduce or prevent storm water pollution.

24. Finding states the following:

ENFORCING LOCAL LEGAL AUTHORITY: *Enforcement of local urban runoff related ordinances, permits, and plans is an essential component of every URMP and is specifically required in the federal storm water regulations and this Order. Routine inspections provide an effective means by which Copermittees can evaluate compliance with their permits and ordinances. Inspections are especially important at high-risk areas for pollutant discharges such as industrial and construction sites.*

When industrial or construction site discharges occur in violation of local permits and ordinances, the SDRWQCB looks to the municipality that has authorized the discharge for appropriate actions (typically education followed by enforcement where education has been unsuccessful). Each Copermittee must also provide enforcement against illegal discharges from other land uses it has authorized, such as commercial and residential developments.

Discussion: Since municipalities approve and permit construction and land use within their jurisdiction, they must assume responsibility for urban runoff discharges from these activities and land uses. The Federal NPDES regulations 40 CFR 122.26(d)(2)(iv)(A – D) are clear in placing responsibility on municipalities for control of urban runoff from third party activities and land uses to their MS4. In order for municipalities to assume this responsibility, they must implement ordinances, permits, and plans addressing urban runoff from third parties. Assessments for compliance with their ordinances, permits, and plans are

essential for a municipality to ensure that third parties are not causing the municipality to be in violation of its municipal storm water permit. When conditions of non-compliance is determined, enforcement is necessary to ensure that violations of municipality ordinances and permits are corrected. Without enforcement, third parties do not have incentive to correct violations. US EPA supports inspections and enforcement by municipalities when it states "Effective inspection and enforcement requires [...] penalties to deter infractions and intervention by the municipal authority to correct violations. Enforcement mechanisms [...] also must be described."⁸¹

US EPA discusses the "dual regulation" of construction sites in its *Storm Water Phase II Compliance Assistance Guide*, which states "Even though all construction sites that disturb more than one acre are covered nationally by an NPDES storm water permit, the construction site runoff control minimum measure [...] is needed to induce more localized site regulation and enforcement efforts, and to enable operators [...] to more effectively control construction site discharges into their MS4s." While the *Storm Water Phase II Compliance Assistance Guide* applies to small municipalities, requirements for small municipalities are applicable to larger municipalities, such as the Copermittees, due to the generally more serious water quality problems caused by larger municipalities.

Municipalities assume initial responsibility for enforcement against illegal discharges from land uses and activities within their jurisdiction because of their land use authority. Since the municipality approves and permits development and land use, it must ensure that its development or land use decisions do not result in receiving water quality degradation. The SDRWQCB will assist municipalities in enforcement against non-compliant sites after the municipality has exhibited a good faith effort to bring the site into compliance.

25. Finding states the following:

PUBLIC PARTICIPATION: *Public participation during the URMP development process is necessary to ensure that all stakeholder interests and a variety of creative solutions are considered.*

Discussion: This finding is supported by the Phase II Storm Water Regulations found at 64 FR 68755 which states, "[E]arly and frequent public involvement can shorten implementation schedules and broaden public support for a program." It goes on to explain, "[P]ublic participation is likely to ensure a more successful storm water program by providing valuable expertise and a conduit to other programs and governments."

26. Finding states the following:

TOXICITY: *Urban runoff discharges from MS4s often contain pollutants that cause toxicity, (i.e., adverse responses of organisms to chemicals or physical agents ranging from mortality to physiological responses such as impaired reproduction or growth anomalies). The water quality objectives for toxicity provided in the Water Quality Control Plan, San Diego Basin, Region 9, (Basin Plan), state in part "All waters shall be free of toxic substances in concentrations that are toxic to, or that produce detrimental physiological responses in human, plant, animal, or aquatic life.... The*

⁸¹ US EPA. 1992. Guidance Manual for the Preparation of Part II of the NPDES Permit Applications for Discharges from Municipal Separate Storm Sewer Systems. EPA 833-B-92-002.

survival of aquatic life in surface waters subjected to a waste discharge or other controllable water quality factors, shall not be less than that for the same water body in areas unaffected by the waste discharge..." Urban runoff discharges from MS4s are considered toxic when (1) the toxic effect observed in an acute toxicity test exceeds zero Toxic Units Acute (TU_a=0); or (2) the toxic effect observed in a chronic toxicity test exceeds one Toxic Unit Chronic (TU_c=1).

Discussion: Consideration of urban runoff toxicity is significant because toxicity assessments measure the potential effect of a discharge on receiving waters. This is particularly useful in assessing impacts, as opposed to measurements of pollutant concentrations where the effect of the pollutant concentration on receiving waters may be unknown. Finding 26 and this discussion clarify SDRWQCB expectations regarding urban runoff toxicity. Toxicity is also further discussed in Appendix I of the SWRCB's 1997 Water Quality Control Plan – Ocean Waters of California, "California Ocean Plan."

Toxicity is commonly evaluated in terms of both acute toxicity and chronic toxicity. "Acute toxicity concentration" can be expressed in Toxic Units Acute (TU_a). The Ocean Plan defines acute toxicity and a method for calculating TU_a in a manner that can be used for ocean waters and other waters. Using this Ocean Plan definition and calculation methodology, 100% survival of test organisms in an acute toxicity test yields an acute toxicity concentration of zero TU_a. 100% survival of test organisms corresponds to the Basin Plan narrative objective of 'no toxics in toxic amounts.' Therefore, an acute toxicity concentration in excess of zero TU_a would not meet the Basin Plan narrative objective for toxicity.

"Chronic toxicity concentration" can be expressed in Toxic Units Chronic (TU_c). As with acute toxicity, the Ocean Plan defines chronic toxicity and a method for calculating TU_c that can be used for ocean waters and other waters. Using this Ocean Plan definition and calculation methodology, the absence of observable effects on test organisms in undiluted test water in a critical life stage toxicity test yields a chronic toxicity concentration of 1 TU_c. The absence of observable effects on test organisms in undiluted test water corresponds to the Basin Plan narrative objective of 'no toxics in toxic amounts.' Therefore, a chronic toxicity concentration in excess of 1 TU_c would not meet the Basin Plan narrative objective for toxicity.

27. Finding states the following:

FOCUS ON MAN-MADE POLLUTANTS AND FLOWS: *The focus of this Order is on the control of urban runoff pollutants and flows, which are either generated or accelerated by human activities. This Order is not meant to control background or naturally occurring pollutants and flows.*

Discussion: In general, man-made pollutants and flows are the cause of receiving water impairment resulting from urban runoff. This is because human activities increase the concentrations of constituents above natural or background levels. Flow volumes and rates are also increased above background levels due to human activities, in both wet and dry weather. The focus of Order No. R9-2002-0001 is therefore placed man-made pollutants and flows. Man-made pollutants and flows are also focused on due to our ability to control them. In comparison with naturally occurring pollutants and flows, man-made pollutants and flows are significantly easier to control. The SDRWQCB has discretion to require control of

flows under a United States Supreme Court decision, which held that regulation of flow to protect beneficial uses is within the authority of the Clean Water Act (PUD No. 1 v. WA Dept. of Ecology, 511 U.S. 700 (1994)).

28. Finding states the following:

COMMON WATERSHEDS AND CWA SECTION 303(d) IMPAIRED WATERS: *The Copermittees discharge urban runoff into lakes, streams, creeks, bays, the Pacific Ocean, and tributaries thereto within six hydrologic areas within Orange County as shown in Table 2 below. During its downstream course, urban runoff is conveyed through lined and unlined (natural, manmade, and partially modified) channels, all of which are defined as components of the Copermittees' MS4.*

Some of the receiving water bodies listed below, which receive or convey urban runoff discharges, have been designated as impaired by the SDRWQCB and USEPA in 1998 pursuant to Clean Water Act section 303(d). Additional water bodies may be listed during the term of this Order pursuant to Clean Water Act section 303(d) as impaired as more information is collected and analyzed.

Table 2. Watershed Management Areas (WMAs)

SDRWQCB WATERSHED MANAGEMENT AREA (WMA)	HYDROLOGIC UNIT(S)	MAJOR SURFACE WATER BODIES	303(d) POLLUTANT(S) OF CONCERN OR WATER QUALITY EFFECT	COPERMITTEES
San Juan Creek WMA	San Juan Hydrologic Unit (901.00)	Moro Canyon Creek Laguna Canyon Creek Aliso Creek English Canyon Creek Sulphur Creek Wood Canyon Creek Salt Creek San Juan Creek Bell Canyon Creek Canada Gobernadora Arroyo Trabuco Oso Creek Prima Deshecha Canada Segunda Deshecha Canada Pacific Ocean	1. Coliform Bacteria	1. County of Orange 2. City of Aliso Viejo 3. City of Dana Point 4. City of Laguna Beach 5. City of Lake Forest 6. City of Laguna Hills 7. City of Laguna Niguel 8. City of Laguna Woods 9. City of Mission Viejo 10. City of Rancho Santa Margarita 11. City of San Juan Capistrano 12. City of San Clemente 13. Orange County Flood Control District

Discussion: The 1998 California 303(d) List and TMDL Priority Schedule identifies impaired receiving water bodies and their watersheds within the State of California. The Copermittees which discharge from MS4s to these water bodies are identified in the Regional Board *Draft Watershed Management Approach*.⁸² For an explanation on how the watershed approach fits into the NPDES municipal storm water permitting program, see Attachment 4, Municipal Storm Water Permitting and the Watershed Approach.

29. Finding states the following:

CUMULATIVE POLLUTANT LOAD CONTRIBUTIONS: *Because they are interconnected, each MS4 within a watershed contributes to the cumulative pollutant loading, volume, and velocity of urban runoff and the ensuing degradation of downstream receiving water bodies. Accordingly, inland MS4s contribute to coastal impairments.*

Discussion: A watershed is the drainage basin, outlined by topographic divides, which drain to a common outlet, such as a stream, lake, estuary, enclosed bay, or

⁸² SDRWQCB. 1999. Fifth Draft Watershed Management Approach for the San Diego Region.

ocean. Therefore, when various MS4s discharge into the same watershed, the discharges eventually flow into a common receiving water body. In this manner, individual MS4s that share the same watershed contribute to cumulative pollutant loading in the watershed's receiving water body. To help alleviate this cumulative loading, watershed based water quality protection is needed. The SWRCB Urban Runoff Technical Advisory Committee defines watershed based water quality protection as "the prevention/control of pollution and management of human activities within a geographically or other defined drainage area to protect, restore, and/or enhance the natural resources and beneficial uses within the watershed."

30. Finding states the following:

LAND USE PLANNING ON A WATERSHED SCALE: *Because urban runoff does not recognize political boundaries, "watershed-based" land use planning (pursued collaboratively by neighboring local governments) can greatly enhance the protection of shared natural water resources. Such planning enables multiple jurisdictions to work together to plan for both development and resource conservation that can be environmentally as well as economically sustainable.*

Discussion: Conventional planning and zoning can be limited in their ability to protect the environmental quality of creeks, rivers, and other waterbodies. Watershed-based planning is often ignored, despite the fact that receiving waters unite land by collecting runoff from throughout the watershed. Since watersheds unite land, they can be used as an effective basis for planning. Watershed-based planning enables local and regional areas to realize economic, social, and other benefits associated with growth, while conserving the resources needed to sustain such growth, including water quality. This type of planning can involve four steps: (1) Identify the watersheds shared by the participating jurisdictions; (2) Identify, assess, and prioritize the natural, social, and other resources in the watersheds; (3) Prioritize areas for growth, protection, and conservation, based on prioritized resources; and (4) Develop plans and regulations to guide growth and protect resources. Local governments can start with simple, yet effective, steps toward watershed planning, such as adopting a watershed-based planning approach, articulating the basic strategy in their General Plans, and beginning to pursue the basic strategy in collaboration with neighboring local governments who share the watersheds. New mechanisms have been created to facilitate watershed-based planning and zoning, such as the San Francisquito Creek Watershed Coordinated Resource Management Process and the Santa Clara Basin Watershed Management Initiative.⁸³

31. Finding states the following:

INTERGOVERNMENTAL COORDINATION: *Within their common watersheds it is essential for the Copermitees to coordinate their water quality protection and land use planning activities to achieve the greatest protection of receiving water bodies. Copermitee coordination with other watershed stakeholders, especially CALTRANS and the Department of Defense is also critical.*

Continued implementation of the management structure developed under previous permits, within which the Copermitees subject to this Order, will fund and coordinate those aspects of their joint obligations will promote implementation of Urban Runoff Management Programs on a watershed and regional basis in the most cost effective manner.

⁸³ Source: Bay Area Stormwater Management Agencies Association. 1999. Start at the Source. Forbes Custom Publishing.

Discussion: Within a given watershed, “water quality and beneficial uses may be affected by many different activities – which may occur throughout or only in certain parts of watersheds, and which may occur near to or far from locations of known water problems” (SDRWQCB,1999). This implies that pollutant sources may actually be located far from where the water quality problem manifests itself. Therefore, water quality problems generated by one municipality may impact another municipality. In addition, municipalities within a watershed all contribute pollutants to shared receiving waters. For these reasons, coordination between municipalities and stakeholders within a watershed is necessary. Watershed scale coordination provides for the highest priority water quality problems to be addressed, resulting in the greatest improvements in water quality for costs incurred. Intergovernmental coordination can also result in cost savings through the sharing of resources between Copermittees.

Also, federal NPDES regulation 40 CFR 122.26(d)(2)(iv) requires where necessary intergovernmental coordination by stating “a proposed management program covers the duration of the permit. It shall include a comprehensive planning process which involves public participation and where necessary intergovernmental coordination, to reduce the discharge of pollutants to the maximum extent practicable using management practices, control techniques and system, design and engineering methods, and such other provisions which are appropriate.” In addition, the US EPA finds that “[Copermittees] may use jurisdictional agreements to show adequate legal authority and to ensure planning, coordination, and the sharing of the resource burden of permit compliance” (1992).

32. Finding states the following:

WASTE REMOVAL: *Waste and pollutants which are deposited and accumulate in MS4 drainage structures will be discharged from these structures to waters of the United States unless they are removed. These discharges may cause or contribute to, or threaten to cause or contribute to, a condition of pollution in receiving waters. Once removed, such accumulated wastes must be characterized and lawfully disposed.*

Discussion: When rain falls and drains urban freeways, industries, construction sites, and neighborhoods it picks up a multitude of pollutants. Gravity flow transports the pollutants to the MS4. Illicit discharges and connections also contribute a significant amount of pollutants to MS4s. MS4s are commonly designed to convey their contents as quickly as possible. Due to these typically high flow rates within the concrete conveyance systems of MS4s, pollutants that enter or are deposited in the MS4 and not removed are generally flushed unimpeded through the MS4 to waters of the United States. The US EPA found in its National Urban Runoff Pollution study (1983) that pollutant concentrations in urban runoff discharged from MS4s frequently exceed established receiving water quality objectives and drinking water standards. Therefore, when waste is deposited in the MS4, it is generally flushed to receiving waters, when it can potentially cause or contribute to a violation of water quality standards.

33. Finding states the following:

CHANGING THE STORM WATER MANAGEMENT APPROACH: *In contrast to the conventional “conveyance” approach, a more natural approach to storm water management seeks to filter and infiltrate runoff by allowing it to flow slowly over permeable vegetated surfaces. By “preserving and restoring the natural hydrologic cycle”, filtration and infiltration can greatly reduce the volume/peak*

rate, velocity, and pollutant loads of urban runoff. The greatest opportunities for changing from a "conveyance" to a more natural management approach occur during the land use planning and zoning processes and when new development projects are under early design.

Discussion: Urbanization generally results in an increase in pollutant sources and impervious surfaces. The increase in pollutant sources leads to an increase in pollutant loads found in storm water, while the increase in impervious surfaces prevents natural processes from reducing those pollutant loads. The impervious surfaces associated with urbanization and its storm water conveyance systems prevent storm water from infiltrating into the soil. Natural vegetation and soil are prevented from filtering urban runoff, resulting in storm water flows that are higher in volume and pollutant loads. This causes the quality of receiving waters to be adversely impacted and beneficial uses to be impaired.

Studies have revealed that the level of imperviousness resulting from urbanization is strongly correlated with the water quality impairment of nearby receiving waters.⁸⁴ Urbanization creates new sources of pollutants and provides for their rapid transport to receiving waters through storm water conveyance systems. Urbanization also adversely impacts receiving waters through changes it causes to local hydrology. Increases in population density and imperviousness stemming from urbanization result in changes to stream hydrology, including:

1. increased peak discharges compared to predevelopment levels;
2. increased volume of storm water runoff with each storm compared to pre-development levels;
3. decreased travel time to reach receiving water;
4. increased frequency and severity of floods;
5. increased runoff velocity during storms due to a combination of effects of higher discharge peaks, rapid time of concentration, and smoother hydraulic surfaces from channelization; and
6. decreased infiltration and diminished groundwater recharge.

In many cases the impacts on receiving waters due to changes in hydrology can be more significant than those attributable to the contaminants found in storm water discharges (USEPA, 1999b). These impacts include stream bank erosion (increased sediment load and subsequent deposition), benthic habitat degradation, and decreased diversity of macroinvertebrates.

For the above reasons, this Order encourages an approach to storm water management that seeks to preserve and restore the natural hydrologic cycle. Open space designs which maximize pervious surfaces and retention of "natural" drainages have been found to reduce both the costs of development and pollutant export.⁸⁵ Moreover, US EPA finds including plans for a "natural" site design and BMP implementation during the design phase of new development and

⁸⁴ U.S. Environmental Protection Agency. 1999. 40 CFR Parts 9, 122, 123, and 124 National Pollutant Discharge Elimination System – Regulations for Revision of the Water Pollution Control Program Addressing Storm Water Discharges; Final Rule.

⁸⁵ Center for Watershed Protection. 2000. "The Benefits of Better Site Design in Residential Subdivisions." Watershed Protection Techniques. Vol. 3. No. 2.

redevelopment offers the most cost effective strategy to reduce pollutant loads to surface waters.⁸⁶

34. Finding states the following:

INFILTRATION AND POTENTIAL GROUNDWATER CONTAMINATION: *Any drainage feature that infiltrates runoff poses some risk of potential groundwater contamination. Although dependent on several factors, the risks typically associated with properly managed infiltration of runoff (especially from residential land use areas) are not significant. The risks associated with infiltration can be managed by many techniques, including (1) designing landscape drainage features that promote infiltration of runoff, but do not “inject” runoff (injection bypasses the natural processes of filtering and transformation that occur in the soil); (2) taking reasonable steps to prevent the illegal disposal of wastes; and (3) ensuring that each drainage feature is adequately maintained in perpetuity. Minimum conditions needed to protect groundwater are specified in section F.1.b. of this Order.*

Discussion: Infiltration is an effective means for managing urban runoff. However, measures must be taken to protect groundwater quality when infiltration of urban runoff is implemented. US EPA supports urban runoff infiltration and provides guidance for protection of groundwater: “With a reasonable degree of site-specific design considerations to compensate for soil characteristics, infiltration may be very effective in controlling both urban runoff quality and quantity problems. This strategy encourages infiltration of urban runoff to replace the natural infiltration capacity lost through urbanization and to use the natural filtering and sorption capacity of soils to remove pollutants; however, the potential for some types of urban runoff to contaminate groundwater through infiltration requires some restrictions.”⁸⁷ The restrictions placed on urban runoff infiltration in Order No. R9-2002-0001 is based on recommendations provided by the US EPA Risk Reduction Engineering Laboratory. The SWRCB found in its draft order on the appeal of the Los Angeles Regional Water Quality Control Board’s (LARWQCB’s) Standard Urban Storm Water Mitigation Plan (SUSMP) requirements that the guidance provided in the above referenced document by the US EPA Risk Reduction Engineering Laboratory is sufficient for the protection of groundwater quality from urban runoff infiltration. To further protect groundwater quality, Order No. R9-2002-0001 also includes guidance from the LARWQCB,⁸⁸ the State of Washington,⁸⁹ and the State of Maryland.⁹⁰

35. Finding states the following:

VECTOR CONTROL: *Certain BMPs implemented or required by municipalities for urban runoff management may create a habitat for vectors (e.g. mosquitoes and rodents) if not properly designed or maintained. Close collaboration and cooperative effort between municipalities and local vector control agencies and the State Department of Health Services during the development and*

⁸⁶ U.S. Environmental Protection Agency. 1999. 40 CFR Parts 9, 122, 123, and 124 National Pollutant Discharge Elimination System – Regulations for Revision of the Water Pollution Control Program Addressing Storm Water Discharges; Final Rule.

⁸⁷ U.S. Environmental Protection Agency. 1994. Potential Groundwater Contamination from Intentional and Nonintentional Stormwater Infiltration. EPA 600 SR-94 051.

⁸⁸ Guidance on vertical distance from base of BMP to groundwater table. LARWQCB. 2000. Standard Urban Storm Water Mitigation Plan for Los Angeles County and Cities in Los Angeles County.

⁸⁹ Washington State Department of Ecology. 1999. Draft Stormwater Management in Washington State. Volume V – Runoff Treatment BMPs. Pub. No. 99-15.

⁹⁰ Maryland Department of the Environment. 1999. 2000 Maryland Stormwater Design Manual. Volume I.

implementation of the Urban Runoff Management Programs is necessary to minimize nuisances and public health impacts resulting from vector breeding.

Discussion:

The implementation of certain structural BMPs or other urban runoff treatment systems can result in significant vector problems in the form of increased breeding or harborage habitat for mosquitoes, rodents or other potentially disease transmitting organisms. The implementation of BMPs that retain water may provide breeding habitat for a variety of mosquito species, some of which have the potential to transmit diseases such as Western Equine Encephalitis, St. Louis Encephalomyelitis, and malaria. Recent BMP implementation studies by CALTRANS⁹¹ in District 7 and District 11 have demonstrated mosquito breeding associated with some types of BMPs. The CALTRANS BMP Retrofit Pilot study cited lack of maintenance and improper design as factors contributing to mosquito production. However, a Watershed Protection Techniques article⁹² describes management techniques to select, design and maintain structural treatment BMPs for urban runoff to minimize mosquito production. State and local urban runoff management programs that include structural BMPs with the potential to retain water have been implemented in Florida and the Chesapeake Bay region without resulting in significant public health threats from mosquitoes or other vectors⁹³. The finding identifies the potential vector issues related to BMP implementation and the role of collaborative program development between municipalities and vector control agencies in addressing and minimizing vector production in the implementation of the Jurisdictional Urban Runoff Management Program.

36. Finding states the following:

LEGAL AUTHORITY: *This Order is based on the federal Clean Water Act, the Porter-Cologne Water Quality Control Act (Division 7 of the Water Code, commencing with Section 13000), applicable state and federal regulations, all applicable provisions of statewide Water Quality Control Plans and Policies adopted by the State Water Resources Control Board, the Regional Water Quality Control Plan (Basin Plan) adopted by the Regional Board, the California Toxics Rule, and the California Toxics Rule Implementation Plan.*

Discussion:

The United States and State of California have sought to protect streams, bays, lagoons, the ocean, and other waters from human-induced pollution. Municipal separate storm sewer systems (MS4s) are recognized as a significant conveyor of pollutants to waters of the United States and waters of the State of California. In 1987, Congress established Clean Water Act Amendments to create requirements for storm water discharges under the NPDES program, which provides for permit systems to regulate the discharge of pollutants. Under the Porter-Cologne Water Quality Control Act (California Water Code), the State Water Resources Control Board and each Regional Water Quality Control Board have primary responsibility for the coordination and control of water quality,

⁹¹ Caltrans BMP Retrofit Pilot Studies: A Preliminary Assessment of Vector Production (2000), Vicki Kramer, Vector Borne Disease Section, California Department of Health Services.

⁹² Watershed Protection Techniques (1995) 1(4):203-207 Mosquitoes in Constructed Wetlands: A Management Bugaboo?

⁹³ Shaver, E. and R. Baldwin (1995) Sand Filter Design for Water Quality Treatment in Herricks, E., Ed. Stormwater Runoff and Receiving Systems: Impact, Monitoring, and Assessment, CRC Lewis Publishers, New York, NY.

including the authority to implement the Federal Clean Water Act. Porter Cologne (section 13240) directs the Regional Boards to set water quality objectives via adoption of Basin Plans that conform to all state policies for water quality control. As a means for achieving those water quality objectives, Porter Cologne (section 13243) further authorizes the Regional Boards to establish waste discharge requirements to prohibit waste discharges in certain conditions or areas. Since 1990 the San Diego Regional Board has issued area-wide NPDES permits for storm water runoff. This Order will renew Order No. 96-03 as a means to attain water quality objectives in the Basin Plan by limiting the contributions of pollutants conveyed by urban runoff and to comply with Federal Clean Water Act. Further discussions of the broad and specific legal authority associated with the prohibitions and directives of this Order are provided throughout this document.

37. Finding states the following:

TOTAL MAXIMUM DAILY LOADS (TMDLs): *40 CFR 122.44 (d)(vii)(B) requires that NPDES permits contain effluent limitations that are consistent with waste load allocations developed under a TMDL. Several TMDLs are being developed in the San Diego Region for impaired water bodies that receive Copermitees' discharge. Once these TMDLs are approved by the SDRWQCB and USEPA, Copermitees' discharge of urban runoff into an impaired water body will be subject to load allocations established by the TMDLs. This Order may be revised by the Regional Board to implement the TMDL waste load allocations for specific water bodies within the Orange County watersheds.*

Discussion:

40 CFR 122.44 (d)(vii)(B) requires that NPDES permit effluent limitations be consistent with any waste load allocation for the discharge that are prepared by the state (Regional Board) and approved by USEPA. Furthermore, USEPA's guidance for developing TMDLs in California includes a recommendation that the state (Regional Board) evaluate how waste load allocations will be translated into NPDES permits as part of the development of the TMDL implementation plan. Once TMDL limits are established and approved by USEPA, NPDES permits will be required to include effluent limitations that are consistent with the TMDL allocations. This Order may be specifically revised by the Regional Board to implement the TMDL waste load allocations for specific water bodies within the Orange County watersheds. There are no USEPA approved TMDLs for the San Diego Region, and therefore no limitations that can be explicitly included in the Order at this time. This finding was added to the permit to reference TMDLs and their relationship to the permit.

38. Finding states the following:

ANTIDegradation: *Conscientious implementation of URMPs that satisfy the requirements contained in this Order will reduce the likelihood that discharges from MS4s will cause or contribute to unreasonable degradation of the quality of receiving waters. Therefore, this Order is in conformance with SWRCB Resolution No. 68-16 and the federal antidegradation policy described in 40 CFR 131.12.*

Discussion: Implementation of URMPs is required to reduce pollutants in urban runoff to the maximum extent practicable. Reduction of pollutants to the maximum extent practicable will prevent degradation of the quality of receiving waters. Therefore, implementation of URMPs that satisfy the requirements of Order No. R9-2002-0001 will prevent violations of receiving water quality objectives. The

Basin Plan states that "Water quality objectives must [...] conform to US EPA regulations covering antidegradation (40 CFR 131.12) and State Board Resolution 68-16, Statement of Policy with Respect to Maintaining High Quality of Waters in California." As a result, when water quality objectives are met through the implementation of URMPs, US EPA and SWRCB antidegradation policy requirements are also met.

39. Finding states the following:

CEQA: *The issuance of waste discharge requirements for the discharge of urban runoff from MS4s to waters of the United States is exempt from the requirement for preparation of environmental documents under the California Environmental Quality Act (CEQA) (Public Resources Code, Division 13, Chapter 3, § 21000 et seq.) in accordance with the CWC § 13389.*

Discussion: CWC section 13389 provides that "Neither the state board nor the regional boards shall be required to comply with the provisions of Chapter 3 (commencing with section 21100) of Division 13 of the Public Resources Code prior to the adoption of any waste discharge requirement, except requirements for new sources as defined in the Federal Water Pollution Control Act or acts amendatory thereof or supplementary thereto."

40. Finding states the following:

COMMON INTEREST DEVELOPMENTS AND HOMEOWNERS ASSOCIATIONS: *Common interest developments occur within the jurisdiction of the Copermittees. Commonly owned areas can include those used to convey urban runoff. State Law (Civil code 1350-1376) requires that an association be established to manage the commonly owned areas. Urban runoff from storm water conveyance systems within common interest developments is discharged to receiving waters and/or MS4s. This runoff is expected to have water quality and quantity characteristics similar to runoff from areas of similar land use and drainage area.*

Discussion:

Many residential neighborhoods and some commercial areas within the jurisdiction of the Copermittees are within common interest developments and are, therefore, subject to management of common areas by associations. The Declaration of the Covenants, Conditions and Restrictions (CC&Rs) contains the ground rules for the operation of such an association. CC&Rs are an appropriate method for protecting the common plan of developments and to provide for a mechanism for financial support for the upkeep of common areas including roads, storm drains, and other components of storm water conveyance systems.

In certain cases the Copermittees may neither own nor operate the storm water conveyance systems within common interest developments. Presently, some Copermittees have agreements with the responsible association(s) in which the association either allows the Copermittee to implement best management practices or the association agrees to uphold the intent of the DAMP. Rather than list the associations as Copermittees, this Order interprets common interest areas as property subject to the codes and ordinance and enforcement mechanisms of the city or county in which it resides and, therefore, holds the local government responsible for the discharge of wastes from private storm water conveyance systems.

41. Finding states the following:

REPORT OF WASTE DISCHARGE: *In September 2000, the Orange County Copermittees submitted a Report of Waste Discharge and a proposed Drainage Area Management Plan (DAMP) for 2001-2006 to the SDRWQCB.*

Discussion:

The Orange County Copermittees submitted the Report of Waste Discharge and a proposed Drainage Area Management Plan (DAMP) for Orange County. A staff level review of the Report of Waste Discharge and the proposed DAMP submitted in September 2000 concluded that implementation of the proposed DAMP would not satisfy the MEP standard as defined in this Order or adequately protect the beneficial uses of the receiving waters of Orange County within the San Diego Region. Although the Copermittees proposed performance commitments that improved the 1993 DAMP, staff concluded that the DAMP as a whole does not provide adequate specific information on the required implementation of BMPs that would prevent, treat or reduce the pollutants in the discharges of urban runoff to the maximum extent practicable. The proposed DAMP does not incorporate sufficient tools to complement public education as a means to increase public cooperation in the effort to reduce sources of urban runoff pollution.

Implementation of the DAMP has not adequately protected the beneficial uses of the receiving waters of Orange County within the San Diego region as evidenced in part by the ongoing beach closures, elevated bacterial contamination of Aliso Creek, and the continued diversion of Aliso Creek into the AMWA Regional Treatment Facility (sewer) outfall at Aliso State Beach. In addition, the Orange County Grand Jury found that local enforcement actions are insufficient to deter polluters because monetary fines related to urban runoff pollution are "so minimal that it is often more cost effective for the offender to pay the fine than to properly dispose of the pollutants." (source: OC Grand Jury, 1998-1999 "Coastal Water Quality and Urban Runoff in Orange County") Furthermore, during the May 9, 2001 meeting of the SDRWQCB in Laguna Beach, concerns were expressed regarding the adequacy of proposed BMP implementation, source identification and control, and the urban runoff management programs being employed by the Copermittees.

A more detailed analysis of the proposed DAMP has been prepared and presented as Attachment 5 of this Fact Sheet/Technical Report. In addition, this subject has been extensively addressed in the response to comments, which will be appended to this document.

42. Finding states the following:

PUBLIC NOTICE: *The SDRWQCB has notified the Copermittees, all known interested parties, and the public of its intent to consider adoption of an Order prescribing waste discharge requirements that would serve to renew an NPDES permit for the existing discharge of urban runoff.*

Discussion: Public notification of development of a draft permit is required under Federal regulation 40 CFR 124.10(a)(1)(ii). This regulation states "(a) Scope. (1) The Director shall give public notice that the following actions have occurred: (ii) A draft permit has been prepared under Sec. 124.6(d)." Public notifications "shall allow at least 30 days for public comment," as required under Federal regulation 40 CFR 124.10(b)(1). Public notification is also required under California Water

Code Section 13378, which states “Waste discharge requirements and dredged or fill material permits shall be adopted only after notice and any necessary hearing.”

43. Finding states the following:

***PUBLIC HEARING:** The SDRWQCB has, at a public meeting on January 9, 2002, held a public hearing and heard and considered all comments pertaining to the terms and conditions of this Order.*

Discussion: Public hearings are required under California Water Code Section 13378, which states “Waste discharge requirements and dredged or fill material permits shall be adopted only after notice and any necessary hearing.” Federal regulation 40 CFR 124.12(a)(1) also requires public hearings for draft permits, stating “The Director shall hold a public hearing whenever he or she finds, on the basis or requests, a significant degree of public interest in a draft permit(s).” Regarding public notice of a public hearing, Federal regulation 40 CFR 124.10(b)(2) states that “Public notice of a public hearing shall be given at least 30 days before the hearing.”

VII. DIRECTIVES DISCUSSION

UNDERLYING BROAD LEGAL AUTHORITY FOR ORDER NO. R9-2002-0001

The following statutes, regulations, and Water Quality Control Plans provided the basis for Order No. R9-2002-0001: Clean Water Act, California Water Code, 40 CFR Parts 122, 123, 124 (National Pollutant Discharge Elimination System Permit Application Regulations for Storm Water Discharges, Final Rule), Part II of 40 CFR Parts 9, 122, 123, and 124 (National Pollutant Discharge Elimination System – Regulations for Revision of the Water Pollution Control Program Addressing Storm Water Discharges; Final Rule), Water Quality Control Plan – Ocean Waters of California (California Ocean Plan), Water Quality Control Plan for the San Diego Basin (Basin Plan), 40 CFR 131 Water Quality Standards; Establishment of Numeric Criteria for Priority Toxic Pollutants for the State of California; Rule (California Toxics Rule), and the California Toxics Rule Implementation Plan.

The following broad legal authority citations generally apply to all directives in Order No. R9-2002-0001, and provide the SDRWQCB with ample underlying authority to require each of the directives.

CWA 402(p)(3)(B)(ii) – Prohibit Non-Storm Water

The CWA requires in section 402(p)(3)(B)(ii) that permits for discharges from municipal storm sewers “shall include a requirement to effectively prohibit non-stormwater discharges into the storm sewers.”

CWA 402(p)(3)(B)(iii) – Reduce to MEP and Whatever Else is Needed

The CWA requires in section 402(p)(3)(B)(iii) that permits for discharges from municipal storm sewers “shall require controls to reduce the discharge of pollutants to the maximum extent practicable, including management practices, control techniques and system, design and engineering methods, and such other

provisions as the Administrator or the State determines appropriate for the control of such pollutants.”

40 CFR 122.26(d)(2)(i)(B,C,E, and F) – Obtain Adequate Legal Authority

Federal NPDES regulations 40 CFR 122.26(d)(2)(i)(B,C,E, and F) provide that each Copermittee’s permit application “shall consist of : (i) Adequate legal authority. A demonstration that the applicant can operate pursuant to legal authority established by statute, ordinance or series of contracts which authorizes or enables the applicant at a minimum to: [...] (B) Prohibit through ordinance, order or similar means, illicit discharges to the municipal separate storm sewer; (C) Control through ordinance, order or similar means the discharge to a municipal separate storm sewer of spills, dumping or disposal of materials other than storm water; [...] (E) Require compliance with condition in ordinances, permits, contracts or orders; and (F) Carry out all inspection, surveillance and monitoring procedures necessary to determine compliance and noncompliance with permit conditions including the prohibition on illicit discharges to the municipal separate storm sewer.”

40 CFR 122.26(d)(2)(iv) – Reduce to the MEP and Whatever Else is Needed

Federal NPDES regulation 40 CFR 122.26(d)(2)(iv) provides that the Copermittee shall develop and implement a proposed management program which “shall include a comprehensive planning process which involves public participation and where necessary intergovernmental coordination, to reduce the discharge of pollutants to the maximum extent practicable using management practices, control techniques and system, design and engineering methods, and such other provisions which are appropriate. The program shall also include a description of staff and equipment available to implement the program. [...] Proposed programs may impose controls on a systemwide basis, a watershed basis, a jurisdiction basis, or on individual outfalls. [...] Proposed management programs shall describe priorities for implementing controls.”

CWC 13377 – Implement Clean Water Act and Whatever Else is Needed

California Water Code section 13377 provides that “Notwithstanding any other provision of this division, the state board or the regional boards shall, as required or authorized by the Federal Water Pollution Control Act (Clean Water Act), as amended, issue waste discharge requirements and dredged or fill material permits which apply and ensure compliance with all applicable provisions of the act and acts amendatory thereof or supplementary, thereto, together with anymore stringent effluent standards or limitation necessary to implement water quality control plans, or for the protection of beneficial uses, or to prevent nuisance.”

In addition to the five broad legal authority items cited above, which underlie all of the directives in Order No. R9-2002-0001, additional specific legal authority citations applicable to particular directives of Order No. R9-2002-0001 are provided in this Fact Sheet/Technical Report as necessary. Some of these additional specific legal authority citations apply to entire components of Order No. R9-2002-0001. In this case, the specific legal authority quotations are provided at the beginning of the discussion of the permit component, while the legal authority is again cited under each directive of the component. Furthermore, some specific legal authority citations only apply to distinct directives of

Order No. R9-2002-0001. When this occurs, the quotation of the specific legal authority citation will appear with the discussion of the distinct permit directive.

A. PROHIBITIONS – DISCHARGES

A.1. Prohibitions – Discharges states the following:

Discharges into and from MS4s in a manner causing, or threatening to cause, a condition of pollution, contamination, or nuisance (as defined in CWC § 13050), in waters of the state are prohibited.

Broad Legal Authority: CWA sections 402(p)(3)(B)(ii-iii), CWC section 13377, and Federal NPDES regulations 40 CFR 122.26(d)(2)(i)(B, C, E, and F) and 40 CFR 122.26(d)(2)(iv).

Specific Legal Authority: The SDRWQCB Water Quality Control Plan for the San Diego Basin (Basin Plan) contains the following waste discharge prohibition: “The discharge of waste to waters of the state in a manner causing, or threatening to cause a condition of pollution, contamination, or nuisance as defined in California Water Code Section 13050, is prohibited.”

California Water Code section 13050(l) states“(1) ‘Pollution’ means an alteration of the quality of waters of the state by waste to a degree which unreasonably affects either of the following: (A) The water for beneficial uses. (B) Facilities which serve beneficial uses. (2) ‘Pollution’ may include “contamination.”

California Water Code section 13050(k) states “‘Contamination’ means an impairment of the quality of waters of the state by waste to a degree which creates a hazard to public health through poisoning or through the spread of disease. ‘Contamination’ includes any equivalent effect resulting from the disposal of waste, whether or not waters of the state are affected.”

California Water Code section 13050(m) states “‘Nuisance’ means anything which meets all of the following requirements: (1) Is injurious to health, or is indecent or offensive to the senses, or an obstruction to the free use of property, so as to interfere with the comfortable enjoyment of life or property. (2) Affects at the same time an entire community or neighborhood, or any considerable number of persons, although the extent of the annoyance or damage inflicted upon individuals may be unequal. (3) Occurs during, or as a result of, the treatment or disposal of wastes.”

California Water Code Section 13243 provides that “A regional board, in a water quality control plan or in waste discharge requirements, may specify certain conditions or areas where the discharge of waste, or certain types of waste, will not be permitted.”

California Water Code Section 13263(a) provides that waste discharge requirements prescribed by the SDRWQCB implement the Basin Plan.

Federal NPDES regulations 40 CFR 122.26(d)(2)(iv)(A - D) require municipalities to implement controls to reduce pollutants in urban runoff from commercial, residential, industrial, and construction land uses or activities.

Federal NPDES regulations 40 CFR 122.26(d)(2)(i)(A - D) require municipalities to have legal authority to control various discharges to their MS4.

Discussion: Prohibition item A.1. characterizes a basic premise and primary goal of Order No. R9-2002-0001. The entire thrust of Order No. R9-2002-0001 is to prevent discharges from MS4s from causing, or threatening to cause, a condition of pollution, contamination, or nuisance. In fact, Prohibition item A.1. exhibits a major component of the SDRWQCB's mission, and is included in its Basin Plan. The SDRWQCB seeks to preserve and enhance the quality of the region's waters, and one primary method to achieve this is by preventing conditions of pollution, contamination, or nuisance in the region's waters. As discussed in Finding 9, urban runoff discharges from MS4s can cause these conditions. Therefore, Prohibition item A.1 is included in Order No. R9-2002-0001 to prevent urban runoff discharges which may cause or threaten to cause conditions of pollution, contamination, or nuisance.

Since discharges that enter the MS4 are generally discharged unimpeded directly into receiving waters, this prohibition applies to both discharges into and from MS4s. Federal NPDES regulations clearly provide the SDRWQCB with the legal authority to require municipalities to control discharges from third parties into their MS4. 40 CFR 122.26(d)(2)(iv)(A - D) require municipalities to implement controls to reduce pollutants in urban runoff **from** commercial, residential, industrial, and construction land uses or activities. Federal NPDES regulations 40 CFR 122.26(d)(2)(i)(A - D) require municipalities to have legal authority to control various discharges **to** their MS4. This concept is further supported in the Preamble to the Phase II Final Rule NPDES storm water regulations, which states "The operators of regulated small MS4s cannot passively receive and discharge pollutants **from** third parties" (US EPA, 1999). Due to the greater water quality concerns generally experienced by larger municipalities, Phase II Final Rule findings for small municipalities are also applicable to larger municipalities such as the Copermittees. Finally, underlying the Federal NPDES storm water regulations is the Clean Water Act, which states in section 402(p)(3)(B)(ii) that municipalities shall "effectively prohibit non-stormwater discharges **into** the storm sewers."

The requirement for municipal storm water dischargers to have, and exercise, local governmental authority in order to comply with water quality control obligations (such as Prohibition A.1 of Order No. R9-2002-0001) is analogous to the requirement for Publicly Owned Treatment Works to have and exercise legal authority to require pretreatment of industrial wastes being discharged to their sewage collections systems (CWA 402(b)(8)).

The SDRWQCB has discretion to require Prohibition item A.1. in Order No. R9-2002-0001 under the broad and specific legal authority cited above.

A.2. Prohibitions – Discharges states the following:

Discharges from MS4s that cause or contribute to exceedances of receiving water quality objectives for surface water or groundwater are prohibited.

Broad Legal Authority: CWA sections 402(p)(3)(B)(ii-iii), CWC section 13377, and Federal NPDES regulations 40 CFR 122.26(d)(2)(i)(B, C, E, and F) and 40 CFR 122.26(d)(2)(iv).

Specific Legal Authority: Federal NPDES regulation 40 CFR 122.44(d)(1)(i) requires NPDES permits to include limitations to “control all pollutants or pollutant parameters (either conventional, nonconventional, or toxic pollutants) which the Director determines are or may be discharged at a level which will cause, have reasonable potential to cause, or contribute to an excursion above any State water quality standard, including State narrative criteria for water quality.”

California Water Code section 13241 requires each regional board to “establish such water quality objectives in water quality control plans as in its judgement will ensure the reasonable protection of beneficial uses and the prevention of nuisance [...]”

California Water Code Section 13243 provides that “A regional board, in a water quality control plan or in waste discharge requirements, may specify certain conditions or areas where the discharge of waste, or certain types of waste, will not be permitted.”

California Water Code Section 13263(a) provides that waste discharge requirements prescribed by the SDRWQCB implement the Basin Plan.

Discussion: As with Prohibition item A.1., Prohibition item A.2. also characterizes a primary goal of Order No. R9-2002-0001 and the SDRWQCB. This goal is to protect the beneficial uses of the region’s waters and achieve the water quality objectives necessary to protect those uses. The overarching intent of the Clean Water Act embodies Prohibition item A.2. as well; the Act’s objective is to “restore and maintain all chemical, physical and biological integrity of the Nation’s waters [to make all surface waters] fishable [and] swimmable.”

As discussed in Finding 3, urban runoff discharges from MS4s can cause or contribute to exceedances of receiving water quality objectives. For this reason, there is a real need for municipal storm water permits to include stringent requirements such as Prohibition item A.2. to protect those water bodies. To meet this need the SDRWQCB has included receiving water limitations, which dictate water quality standards (designated beneficial uses and water quality objectives developed to protect beneficial uses), in Receiving Water Limitations item C. of Order No. R9-2002-0001 (see the Discussion for this item for more information). To ensure that water quality standards are protected and receiving water limitations met, the SDRWQCB must prohibit MS4 discharges that cause or contribute to exceedances of receiving water quality objectives.

The SDRWQCB has discretion to require Prohibition item A.2. in Order No. R9-2002-0001 under the broad and specific legal authority cited above.

A.3. Prohibitions – Discharges states the following:

Discharges from MS4s containing pollutants which have not been reduced to the maximum extent practicable (MEP) are prohibited.

Broad Legal Authority: CWA sections 402(p)(3)(B)(ii-iii), CWC section 13377, and Federal NPDES regulations 40 CFR 122.26(d)(2)(i)(B, C, E, and F) and 40 CFR 122.26(d)(2)(iv).

Specific Legal Authority: California Water Code Section 13243 provides that “A regional board, in a water quality control plan or in waste discharge requirements, may specify certain conditions or areas where the discharge of waste, or certain types of waste, will not be permitted.”

Discussion: As discussed in Findings 3 and 9, urban runoff discharges from MS4s can cause receiving water degradation and beneficial use impairment. For this reason, pollutants in these discharges must be reduced to the maximum extent practicable (see Finding 10). The Clean Water Act and Federal NPDES regulations clearly require operators of MS4s to reduce pollutants in discharges from MS4s to the maximum extent practicable. Therefore, the SDRWQCB has prohibited discharges that do not meet this requirement.

The SDRWQCB has discretion to require Prohibition item A.3. in Order No. R9-2002-0001 under the broad and specific legal authority cited above.

This prohibition has been revised and is included in the Order in response to a draft SWRCB Order WQ 2001-15, (In the Matter of the Petitions of Building Industry Association of San Diego County and Western States Petroleum Association for Review of Waste Discharge Requirements Order No. 2001-01 for Urban Runoff from San Diego County [NPDES No. CAS0108758] Issued by the California Water Quality Control Board, San Diego Region).

A.4. Prohibitions – Discharges states the following:

In addition to the above prohibitions, discharges from MS4s are subject to all Basin Plan prohibitions cited in Attachment A to this Order.

Broad Legal Authority: CWA sections 402(p)(3)(B)(ii-iii), CWC section 13377, and Federal NPDES regulations 40 CFR 122.26(d)(2)(i)(B, C, E, and F) and 40 CFR 122.26(d)(2)(iv).

Specific Legal Authority: California Water Code Section 13243 provides that “A regional board, in a water quality control plan or in waste discharge requirements, may specify certain conditions or areas where the discharge of waste, or certain types of waste, will not be permitted.”

California Water Code Section 13263(a) provides that waste discharge requirements prescribed by the SDRWQCB implement the Basin Plan.

Discussion: As discussed in Findings 3, 6, and 9, the discharge of pollutants from MS4s can cause the concentration of pollutants to exceed applicable

receiving water quality objectives, impair or threaten to impair designated beneficial uses, and pose a significant threat to the public health. To prevent these conditions, the Prohibitions included in the SDRWQCB's Basin Plan must therefore apply to MS4 discharges. The Basin Plan contains Prohibitions established by the SDRWQCB pursuant to California Water Code Section 13243. The SDRWQCB is required to implement Basin Plan Prohibitions in Order No. R9-2002-0001 pursuant to California Water Code Section 13263(a).

The SDRWQCB has discretion to require Prohibition item A.5. in Order No. R9-2002-0001 under the broad and specific legal authority cited above.

B. PROHIBITIONS – NON STORM WATER DISCHARGES

B.1. Prohibitions – Non-Storm Water Discharges states the following:

*Each Copermittee shall effectively prohibit **all** types of non-storm water discharges into its Municipal Separate Storm Sewer System (MS4) unless such discharges are either authorized by a separate NPDES permit; or not prohibited in accordance with B.2. and B.3. below.*

Broad Legal Authority: CWA sections 402(p)(3)(B)(ii-iii), CWC section 13377, and Federal NPDES regulations 40 CFR 122.26(d)(2)(i)(B, C, E, and F) and 40 CFR 122.26(d)(2)(iv).

Specific Legal Authority: Federal NPDES regulation 40 CFR 122.26(d)(2)(iv)(B) requires MS4 operators “to detect and remove (or require the discharger to the municipal separate storm sewer to obtain a separate NPDES permit for) illicit discharges and improper disposal into the storm sewer.”

Federal NPDES regulation 40 CFR 122.26(d)(2)(iv)(B)(1) provides that the Copermittees shall prevent all types of illicit discharges into the MS4 except for the non-storm water discharges listed in Prohibition item B.2., provided that these discharges are not found to be a significant source of pollutants.

Discussion: Illicit or non-storm water discharges can constitute a significant portion of urban runoff discharges from MS4s. US EPA states “A study conducted in 1987 in Sacramento, California, found that almost one-half of the water discharged from a local MS4 was not directly attributable to precipitation runoff. A significant portion of these dry weather flows were from illicit and/or inappropriate discharges and connections to the MS4” (2000).

MS4 discharges attributable to illicit or non-storm water discharges can be a significant source of pollutant loading to receiving waters. The NURP study concluded that the quality of urban runoff can be adversely impacted by illicit discharges and connections (US EPA, 1983). Furthermore, US EPA states that illicit or non-storm water discharges result in “untreated discharges that contribute high levels of pollutants, including heavy metals, toxics, oil and grease, solvents, nutrients, viruses, and bacteria to receiving waterbodies. Pollutant levels from these illicit discharges have been shown in EPA studies to be high enough to significantly degrade receiving water quality and threaten aquatic wildlife and human health” (2000).

For these reasons, CWA section 402(p)(3)(B)(ii) requires each Copermittee to prohibit non-storm water discharges into its MS4. The detection and elimination of illicit discharges and connections is also clearly identified in the federal regulations as a high priority (40 CFR 122.26(d)(2)(iv)(B) and 122.26(d)(2)(iv)(B)(1)). As guidance for detecting and eliminating illicit discharges and connections, the US EPA suggests "The proposed management program must include a description of inspection procedures, orders, ordinances, and other legal authorities necessary to prevent illicit discharges to the MS4" (1992).

The SDRWQCB has the discretion to require Prohibition item B.1. in Order No. R9-2002-0001 under the broad and specific legal authority cited above.

B.2. Prohibitions – Non-Storm Water Discharges states the following:

Pursuant to 40 CFR 122.26(d)(2)(iv)(B)(1), the following categories of non-storm water discharges need only be prohibited from entering an MS4 if such categories of discharges are identified by the Copermittee as a significant source of pollutants to waters of the United States:

- a. *Diverted stream flows;*
- b. *Rising ground waters;*
- c. *Uncontaminated ground water infiltration [as defined at 40 CFR 35.2005(20)] to MS4s;*
- d. *Uncontaminated pumped ground water;*
- e. *Foundation drains;*
- f. *Springs;*
- g. *Water from crawl space pumps;*
- h. *Footing drains;*
- i. *Air conditioning condensation;*
- j. *Flows from riparian habitats and wetlands;*
- k. *Water line flushing;*
- l. *Landscape irrigation;*
- m. *Discharges from potable water sources other than water main breaks;*
- n. *Irrigation water;*
- o. *Lawn watering;*
- p. *Individual residential car washing; and*
- q. *Dechlorinated swimming pool discharges.*

Broad Legal Authority: CWA sections 402(p)(3)(B)(ii-iii), CWC section 13377, and Federal NPDES regulations 40 CFR 122.26(d)(2)(i)(B, C, E, and F) and 40 CFR 122.26(d)(2)(iv).

Specific Legal Authority: Federal NPDES regulation 40 CFR 122.26(d)(2)(iv)(B) requires MS4 operators "to detect and remove (or require the discharger to the municipal separate storm sewer to obtain a separate NPDES permit for) illicit discharges and improper disposal into the storm sewer."

Federal NPDES regulation 40 CFR 122.26(d)(2)(iv)(B)(1) provides that the Copermittees shall prevent all types of illicit discharges into the MS4 except for the non-storm water discharges listed in Prohibition item B.2., provided that these discharges are not found to be a significant source of pollutants.

Discussion: The discharges listed in Prohibition item B.2. are referred to as "de minimis" discharges in the Federal NPDES regulations. They are considered acceptable non-storm water discharges to the MS4 only when found by the municipality to not be a significant source of pollutants to the MS4 (40 CFR 122.26(d)(2)(iv)(B)(1)). Regarding these discharges, US EPA states "While EPA

does not consider these flows to be innocuous, they are only to be regulated by the storm water program to the extent that they may be identified as significant sources of pollutants to waters of the United States under certain circumstances” (1992).

The SDRWQCB has discretion to require Prohibition item B.2. in Order No. R9-2002-0001 under the broad and specific legal authority cited above.

B.3. Prohibitions – Non-Storm Water Discharges states the following:

When a discharge category above is identified as a significant source of pollutants to waters of the United States, the Copermittee shall either:

- a. *Prohibit the discharge category from entering its MS4; **OR***
- b. *Not prohibit the discharge category and implement, or require the responsible party(ies) to implement, BMPs which will reduce pollutants to the MEP; **AND***
- c. *For each discharge or discharge class not prohibited, the Copermittee shall submit the following information to the SDRWQCB within 180 days of adoption of this Order:*
 - (1) *The non-storm water discharge category listed above which the Copermittee elects not to prohibit; and*
 - (2) *The BMP(s) for each discharge category listed above which the Copermittee will implement, or require the responsible party(ies) to implement, to prevent or reduce pollutants to the MEP.*

Broad Legal Authority: CWA sections 402(p)(3)(B)(ii-iii), CWC section 13377, and Federal NPDES regulations 40 CFR 122.26(d)(2)(i)(B, C, E, and F) and 40 CFR 122.26(d)(2)(iv).

Specific Legal Authority: Federal NPDES regulation 40 CFR 122.26(d)(2)(iv)(B) requires MS4 operators “to detect and remove (or require the discharger to the municipal separate storm sewer to obtain a separate NPDES permit for) illicit discharges and improper disposal into the storm sewer.”

Federal NPDES regulation 40 CFR 122.26(d)(2)(iv)(B)(1) provides that the Copermittees shall prevent all types of illicit discharges into the MS4 except for the non-storm water discharges listed in Prohibition item B.2., provided that these discharges are not found to be a significant source of pollutants.

California Water Code Section 13267 provides that “the regional board may require that any person who has discharged [...] shall furnish, under penalty of perjury, technical or monitoring reports which the regional board requires.”

Discussion: Discharges listed in Prohibition item B.2. which are found to be significant sources of pollutants cannot be discharged to the MS4 without implementation of applicable control measures. These control measures can include prohibition of the discharges or implementation of BMPs to reduce pollutants in the discharges to the maximum extent practicable. If a municipality chooses not to prohibit such a discharge, the municipality must supply the SDRWQCB information assuring that pollutants in the discharges will be reduced to the maximum extent practicable. This will help ensure that the municipality has

a plan in place to address the discharges, thereby reducing the potential for the discharges to impact receiving water quality.

The SDRWQCB has discretion to require Prohibition item B.3. in Order No. R9-2002-0001 under the broad and specific legal authority cited above.

B.4. Prohibitions – Non-Storm Water Discharges states the following:

***Fire Fighting Flows:** Emergency and non-emergency fire fighting flows need not be prohibited. However, where applicable, when not interfering with health and safety issues, BMPs for non-emergency fire fighting flows are encouraged.*

Broad Legal Authority: CWA sections 402(p)(3)(B)(ii-iii), CWC section 13377, and Federal NPDES regulations 40 CFR 122.26(d)(2)(i)(B, C, E, and F) and 40 CFR 122.26(d)(2)(iv).

Specific Legal Authority: Federal NPDES regulation 40 CFR 122.26(d)(2)(iv)(B) requires MS4 operators “to detect and remove (or require the discharger to the municipal separate storm sewer to obtain a separate NPDES permit for) illicit discharges and improper disposal into the storm sewer.”

Federal NPDES regulation 40 CFR 122.26(d)(2)(iv)(B)(1) provides that Copermittees “shall address discharges or flows from fire fighting only where such discharges or flows are identified as significant sources of pollutants to waters of the United States.”

Discussion: Discharges or flows from non-emergency fire fighting can be a significant source of pollutants to the MS4. Pollutants that enter the MS4 are generally flushed out to receiving waters. Discharges or flows from non-emergency fire fighting activities can therefore negatively impact receiving water quality. For this reason, non-emergency fire fighting discharges and flows must be addressed when identified as significant sources of pollutants.

The SDRWQCB has discretion to require Prohibition item B.4. in Order No. R9-2002-0001 under the broad and specific legal authority cited above.

B.5. Prohibitions – Non-Storm Water Discharges states the following:

***Dry Weather Monitoring and Non-Storm Water Discharges:** Each Copermittee shall examine all dry weather monitoring results collected in accordance with section F.5. and Attachment E of this Order to identify water quality problems which may be the result of any non-prohibited discharge category(ies) identified above in Non-Storm Water Discharges to MS4s Prohibition B.2. Follow-up investigations shall be conducted as necessary to identify and control any non-prohibited discharge category(ies) listed above.*

Broad Legal Authority: CWA sections 402(p)(3)(B)(ii-iii), CWC section 13377, and Federal NPDES regulations 40 CFR 122.26(d)(2)(i)(B, C, E, and F) and 40 CFR 122.26(d)(2)(iv).

Specific Legal Authority: Federal NPDES regulation 40 CFR 122.26(d)(2)(iv)(B) requires MS4 operators “to detect and remove (or require the discharger to the municipal separate storm sewer to obtain a separate NPDES permit for) illicit discharges and improper disposal into the storm sewer.”

Federal NPDES regulation 40 CFR 122.26(d)(2)(iv)(B)(2) requires that Copermittees shall provide "A description of procedures to conduct on-going field screening activities during the life of the permit, including areas or locations that will be evaluated by such field screens."

Federal NPDES regulation 40 CFR 122.26(d)(2)(iv)(B)(3) provides that Copermittees shall "investigate portions of the separate storm sewer system that, based on the results of a field screen, or other appropriate information, indicate a reasonable potential of containing illicit discharges or other sources on non-storm water."

Discussion: Non-prohibited non-storm water discharges can be a significant source of pollutants to the MS4. These discharges can reach receiving waters, causing negative impacts to receiving water quality. Field screening can be an effective tool to help prevent these conditions. Field screening results can be used to identify non-prohibited discharges that may be a significant source of pollutants to the MS4. When field screening results exhibit potential non-storm water discharges, follow-up investigations should be conducted to find if non-prohibited discharges are the source. This information can then be used to prohibit the non-prohibited discharge or require implementation of BMPs.

The SDRWQCB has discretion to require Prohibition item B.5. in Order No. R9-2002-0001 under the broad and specific legal authority cited above.

C. RECEIVING WATER LIMITATIONS

C. Receiving Water Limitations states the following:

1. *Discharges from MS4s that cause or contribute to the violation of water quality standards (designated beneficial uses and water quality objectives developed to protect beneficial uses) are prohibited.*
2. *Each Copermittee shall comply with Part C.1., Part A.2 and Part A.4 as it applies to Prohibition 5 in Attachment A of this Order through timely implementation of control measures and other actions to reduce pollutants in urban runoff discharges in accordance with the Jurisdictional Urban Runoff Management Program (Jurisdictional URMP) and other requirements of this Order including any modifications. The Jurisdictional URMP shall be designed to achieve compliance with Part C.1., Part A.2 and Part A.4 as it applies to Prohibition 5 in Attachment A of this Order. If exceedance(s) of water quality standards persist notwithstanding implementation of the URMP and other requirements of this Order, the Copermittee shall assure compliance with Part C.1., Part A.2 and Part A.4 as it applies to Prohibition 5 in Attachment A of this Order by complying with the following procedure:*
 - a. *Upon a determination by either the Copermittee or the SDRWQCB that MS4 discharges are causing or contributing to an exceedance of an applicable water quality standard, the Copermittee shall promptly notify and thereafter submit a report to the SDRWQCB that describes BMPs that are currently being implemented and additional BMPs that will be implemented to prevent or reduce any pollutants that are causing or contributing to the exceedance of water quality standards. The report may be incorporated in the annual update to the Jurisdictional URMP unless the SDRWQCB directs an earlier submittal. The report shall include an implementation schedule. The SDRWQCB may require modifications to the report;*

- b. *Submit any modifications to the report required by the SDRWQCB within 30 days of notification;*
- c. *Within 30 days following approval of the report described above by the SDRWQCB, the Copermittee shall revise its Jurisdictional URMP and monitoring program to incorporate the approved modified BMPs that have been and will be implemented, the implementation schedule, and any additional monitoring required;*
- d. *Implement the revised Jurisdictional URMP and monitoring program in accordance with the approved schedule.*

So long as the Copermittee has complied with the procedures set forth above and are implementing the revised Jurisdictional URMP, the Copermittee does not have to repeat the same procedure for continuing or recurring exceedances of the same receiving water limitations unless directed by the SDRWQCB to do so.

3. *Nothing in this section shall prevent the SDRWQCB from enforcing any provision of this Order while the Copermittee prepares and implements the above report.*

Broad Legal Authority: CWA sections 402(p)(3)(B)(ii-iii), CWC section 13377, and Federal NPDES regulations 40 CFR 122.26(d)(2)(i)(B, C, E, and F) and 40 CFR 122.26(d)(2)(iv).

Specific Legal Authority: California Water Code Section 13241 provides that the "SDRWQCB shall establish such water quality objectives in water quality control plans as in its judgement will ensure the reasonable protection of beneficial uses and the prevention of nuisance."

California Water Code Section 13263(a) provides that waste discharge requirements prescribed by the SDRWQCB implement the Basin Plan.

Discussion: See the above discussion of Finding 13 in section VI. of this Fact Sheet/Technical Report.

This section has been modified in response to a SWRCB Order WQ 2001-15 (In the Matter of the Petitions of Building Industry Association of San Diego County and Western States Petroleum Association for Review of Waste Discharge Requirements Order No. 2001-01 for Urban Runoff from San Diego County [NPDES No. CAS0108758] Issued by the California Water Quality Control Board, San Diego Region).

D. LEGAL AUTHORITY

D.1. Legal Authority states the following:

*Each Copermittee shall establish, maintain, and enforce adequate legal authority to control pollutant discharges **into** and **from** its MS4 through ordinance, statute, permit, contract or similar means. This legal authority must, at a minimum, authorize the Copermittee to:*

Broad Legal Authority: CWA sections 402(p)(3)(B)(ii-iii), CWC section 13377, and Federal NPDES regulations 40 CFR 122.26(d)(2)(i)(B, C, E, and F) and 40 CFR 122.26(d)(2)(iv).

Specific Legal Authority: Federal NPDES regulation 40 CFR 122.26(d)(2)(i)(A) provides that the Copermittees shall develop and implement legal authority to "Control through ordinance, order or similar means, the contribution of pollutants

to the municipal storm sewer by storm water discharges associated with industrial activity and the quality of storm water discharged from sites of industrial activity.”

Federal NPDES regulation 40 CFR 122.26(d)(2)(i)(D) provides that the Copermittees shall develop and implement legal authority to “Control through interagency agreements among coapplicants the contribution of pollutants from one portion of the municipal system to another portion of the municipal system.”

Illicit discharge is defined under Federal NPDES regulation 40 CFR 122.26(b)(2) as “any discharge to a municipal separate storm sewer system that is not composed entirely of storm water except discharges pursuant to a NPDES permit (other than the NPDES permit for discharges from the municipal separate storm sewer) and discharges resulting from fire fighting activities.”

Federal NPDES regulations 40 CFR 122.26(d)(2)(iv)(A - D) require municipalities to implement controls to reduce pollutants in urban runoff from commercial, residential, industrial, and construction land uses or activities.

Discussion: As discussed in Finding 15, Copermittees cannot passively receive and discharge pollutants from third parties. As US EPA states, “The operator of a small MS4 that does not prohibit and/or control discharges into its system essentially accepts ‘title’ for those discharges. At a minimum, by providing free and open access to the MS4s that convey discharges to the waters of the United States, the municipal storm sewer system enables water quality impairment by third parties” (1999).

Discharges of pollutants to the MS4 must therefore be controlled, and an important means for a municipality to achieve this is through development of municipal legal authority. USEPA states “A crucial requirement of the NPDES storm water regulation is that a municipality must demonstrate that it has adequate legal authority to control the contribution of pollutants in storm water discharged to its MS4. [...] In order to have an effective municipal storm water management program, a municipality must have adequate legal authority to control the contribution of pollutants to the MS4. [...] ‘Control,’ in this context, means not only to require disclosure of information, but also to limit, discourage, or terminate a storm water discharge to the MS4” (1992).

Since discharges that enter the MS4 are generally discharged unimpeded directly into receiving waters, the Copermittee’s legal authority is to apply to both discharges into and from MS4s. Federal NPDES regulations clearly provide the SDRWQCB with the legal authority to require municipalities to control discharges from third parties into their MS4. 40 CFR 122.26(d)(2)(iv)(A - D) require municipalities to implement controls to reduce pollutants in urban runoff **from** commercial, residential, industrial, and construction land uses or activities. Federal NPDES regulations 40 CFR 122.26(d)(2)(i)(A - D) require municipalities to have legal authority to control various discharges **to** their MS4. This concept is further supported in the Preamble to the Phase II Final Rule NPDES storm water regulations, which states “The operators of regulated small MS4s cannot passively receive and discharge pollutants **from** third parties” (US EPA, 1999). Due to the greater water quality concerns generally experienced by larger municipalities,

Phase II Final Rule findings for small municipalities are also applicable to larger municipalities such as the Copermittees. Finally, underlying the Federal NPDES storm water regulations is the Clean Water Act, which states in section 402(p)(3)(B)(ii) that municipalities shall “effectively prohibit non-stormwater discharges **into** the storm sewers.”

The requirement for municipal storm water dischargers to have, and exercise, local governmental authority in order to comply with water quality control obligations is analogous to the requirement for Publicly Owned Treatment Works to have and exercise legal authority to require pretreatment of industrial wastes being discharged to their sewage collections systems (CWA 402(b)(8)).

The SDRWQCB has discretion to require Legal Authority item D.1 in Order No. R9-2002-0001 under the broad and specific legal authority cited above.

D.1.a. Legal Authority states the following:

*Control the contribution of pollutants in discharges of runoff associated with industrial and construction activity **to** its MS4 and control the quality of runoff **from** industrial and construction sites. This requirement applies both to industrial and construction sites that have coverage under the statewide general industrial or construction storm water permits, as well as to those sites that do not. Grading ordinances shall be upgraded as necessary to comply with this Order.*

Broad Legal Authority: CWA sections 402(p)(3)(B)(ii-iii), CWC section 13377, and Federal NPDES regulations 40 CFR 122.26(d)(2)(i)(B, C, E, and F) and 40 CFR 122.26(d)(2)(iv).

Specific Legal Authority: Federal NPDES regulation 40 CFR 122.26(d)(2)(i)(A) provides that the Copermittees shall develop and implement legal authority to “Control through ordinance, order or similar means, the contribution of pollutants to the municipal storm sewer by storm water discharges associated with industrial activity and the quality of storm water discharged from sites of industrial activity.”

Federal NPDES regulation 40 CFR 122.26(b)(14) provides that “The following categories of facilities are considered to be engaging in ‘industrial activity’ for purposes of this subsection: [...] (x) Construction activity including clearing, grading and excavation activities [...].”

Discussion: Industrial and construction sites are frequently sources of pollutants such as hazardous materials or sediment. These pollutants are typically carried to MS4s by urban runoff. As discussed in Finding 32, pollutants in urban runoff which enter the MS4 are generally discharged from these structures into receiving waters, where they may cause or contribute to a condition of pollution. Pollutant discharges from industrial and construction sites to MS4s must therefore be controlled. As discussed in Finding 22, municipalities are responsible for discharges from industrial and construction sites to their MS4s (see also Discussion under Legal Authority item D.1). US EPA supports this when it states “To comply with its permit, a municipality must have the authority to hold dischargers accountable for their contributions to separate storm sewers” (1992).

A necessary means for controlling pollutant discharges from industrial and construction sites is the development and implementation of legal authority that

addresses urban runoff from these sites. The Federal NPDES regulations clearly emphasize the development and implementation of legal authority for controlling pollutant discharges from industrial and construction sites in 40 CFR 122.26(d)(2)(i)(A) and 40 CFR 122.26(b)(14).

Ordinances, statutes, permits, or contracts can be used to develop legal authority. For example, grading ordinances should be upgraded to control pollutant discharges from construction sites. The US EPA suggests this, stating "All construction sites, regardless of size, must be addressed by the municipality. [...] A description of the local erosion and sediment control law or ordinance is needed to satisfy this program requirement. The description should include information that links the enforcement of the law or ordinance to the legal authority of the applicant" (1992). The US EPA further states "a municipality, to satisfy its permit conditions, may need to impose additional requirements on discharges from permitted industrial facilities, as well as discharges from industrial facilities and construction sites not required to obtain permits. Therefore, a municipality should develop a mechanism to assure that all industrial facilities and construction sites that discharge to the MS4 know their obligation to comply with the applicable terms of the municipality's storm water ordinances" (1992).

The SDRWQCB has discretion to require Legal Authority item D.1.a in Order No. R9-2002-0001 under the broad and specific legal authority cited above.

D.1.b. Legal Authority states the following:

*Prohibit **all** illicit discharges not otherwise allowed pursuant to section B.2 including but not limited to:*

- (1) Sewage;*
- (2) Discharges of wash water resulting from the hosing or cleaning of gas stations, auto repair garages, or other types of automotive services facilities;*
- (3) Discharges resulting from the cleaning, repair, or maintenance of any type of equipment, machinery, or facility including motor vehicles, cement-related equipment, and port-a-potty servicing;*
- (4) Discharges of wash water from mobile operations such as mobile automobile washing, steam cleaning, power washing, and carpet cleaning, etc.;*
- (5) Discharges of wash water from the cleaning or hosing of impervious surfaces in municipal, industrial, commercial, and residential areas including parking lots, streets, sidewalks, driveways, patios, plazas, work yards and outdoor eating or drinking areas, etc.;*
- (6) Discharges of runoff from material storage areas containing chemicals, fuels, grease, oil, or other hazardous materials;*
- (7) Discharges of pool or fountain water containing chlorine, biocides, or other chemicals; discharges of pool or fountain filter backwash water;*
- (8) Discharges of sediment, pet waste, vegetation clippings, or other landscape or construction-related wastes; and*

(9) *Discharges of food-related wastes (e.g., grease, fish processing, and restaurant kitchen mat and trash bin wash water, etc.).*

Broad Legal Authority: CWA sections 402(p)(3)(B)(ii-iii), CWC section 13377, and Federal NPDES regulations 40 CFR 122.26(d)(2)(i)(B, C, E, and F) and 40 CFR 122.26(d)(2)(iv).

Specific Legal Authority: Federal NPDES regulation 40 CFR 122.26 (b)(2) defines an illicit discharge as “any discharge to a municipal separate storm sewer that is not composed entirely of storm water except discharges pursuant to a NPDES permit (other than the NPDES permit for discharges from the municipal separate storm sewer) and discharges resulting from fire fighting activities.”

California Water Code Section 13243 also provides that a “regional board, in a water quality control plan or in waste discharge requirements, may specify certain conditions or areas where the discharge of waste, or certain types of waste, will not be permitted.”

Discussion: Illicit or non-storm water discharges can be a significant source of pollutants to the MS4. As discussed in Finding 32, pollutants that enter the MS4 are generally discharged to receiving waters, where they can impact receiving water quality. Illicit or non-storm water discharges must therefore be prohibited. In order to effectively prohibit illicit or non-storm water discharges, legal authority addressing the discharges must be developed and implemented by each Copermitee.

The SDRWQCB has discretion to require Legal Authority item D.1.b in Order No. R9-2002-0001 under the broad and specific legal authority cited above.

D.1.c. Legal Authority states the following:

Prohibit and eliminate illicit connections to the MS4;

Broad Legal Authority: CWA sections 402(p)(3)(B)(ii-iii), CWC section 13377, and Federal NPDES regulations 40 CFR 122.26(d)(2)(i)(B, C, E, and F) and 40 CFR 122.26(d)(2)(iv).

Specific Legal Authority: Federal NPDES regulation 40 CFR 122.26(b)(2) defines an illicit discharge as “any discharge to a municipal separate storm sewer that is not composed entirely of storm water except discharges pursuant to a NPDES permit (other than the NPDES permit for discharges from the municipal separate storm sewer) and discharges resulting from fire fighting activities.”

California Water Code Section 13243 also provides that a “regional board, in a water quality control plan or in waste discharge requirements, may specify certain conditions or areas where the discharge of waste, or certain types of waste, will not be permitted.”

Discussion: An illicit connection is a connection to the MS4 that carries illicit discharges to the MS4. Because illicit discharges to the MS4 are prohibited (discussed in section D.1.b. Legal Authority above), illicit connections are also

prohibited and must be eliminated. In order to effectively prohibit and eliminate illicit connections, legal authority addressing the discharges must be developed and implemented by each Copermittee.

The SDRWQCB has discretion to require Legal Authority item D.1.c in Order No. R9-2002-0001 under the broad and specific legal authority cited above.

D.1.d. Legal Authority states the following:

Control the discharge of spills, dumping, or disposal of materials other than storm water to its MS4;

Broad Legal Authority: CWA sections 402(p)(3)(B)(ii-iii), CWC section 13377, and Federal NPDES regulations 40 CFR 122.26(d)(2)(i)(B, C, E, and F) and 40 CFR 122.26(d)(2)(iv).

Specific Legal Authority: California Water Code Section 13243 also provides that a “regional board, in a water quality control plan or in waste discharge requirements, may specify certain conditions or areas where the discharge of waste, or certain types of waste, will not be permitted.”

Discussion: Non-storm water discharges such as spills, dumping, and disposal of materials can be a significant source of pollutants to the MS4. As discussed in Finding 32, pollutants deposited in MS4s most likely will be discharged to receiving waters, where they can impact receiving water quality. Non-storm water discharges such as spills, dumping, or disposal of materials must therefore be prohibited. In order to effectively prohibit these non-storm water discharges, legal authority addressing the discharges must be developed and implemented by each Copermittee. The SDRWQCB has discretion to require Legal Authority item D.1.d in Order No. R9-2002-0001 under the broad and specific legal authority cited above.

D.1.e. and D.1.f. Legal Authority state the following:

Require compliance with conditions in Copermittee ordinances, permits, contracts or orders (i.e., hold dischargers to its MS4 accountable for their contributions of pollutants and flows);

Utilize enforcement mechanisms to require compliance with Copermittee storm water ordinances, permits, contracts, or orders;

Broad Legal Authority: CWA sections 402(p)(3)(B)(ii-iii), CWC section 13377, and Federal NPDES regulations 40 CFR 122.26(d)(2)(i)(B, C, E, and F) and 40 CFR 122.26(d)(2)(iv).

Discussion: As discussed in Finding 15, the Copermittees cannot passively receive and discharge pollutants from third parties. Each Copermittee must implement ordinances, permits, contracts, and orders to hold dischargers to MS4s accountable for their contributions of pollutants. In order for the ordinances to be effective, each Copermittee must be able to require compliance with the ordinances. Lack of ordinance enforcement by a Copermittee allows third parties to violate a municipality’s ordinances with little fear of retribution, leading to receiving water quality degradation. US EPA recommends that a municipality in its urban runoff management program “identify the administrative and legal

procedures available to mandate compliance with appropriate ordinances, and therefore, with permit conditions. [Programs] should contain descriptions of how ordinances are implemented and appealed. In particular, a municipality should indicate if it can issue administrative orders and injunctions or if it must go through the court system for enforcement actions” (1992).

The SDRWQCB has discretion to require Legal Authority item D.1.e and D.1.f in Order No. R9-2002-0001 under the broad and specific legal authority cited above.

D.1.g. Legal Authority states the following:

Control the contribution of pollutants from one portion of the shared MS4 to another portion of the MS4 through interagency agreements among Copermittees. Control of the contribution of pollutants from one portion of the shared MS4 to another portion of the MS4 through interagency agreements with other owners of the MS4 such as CALTRANS, Native American Tribes, and the Department of Defense is encouraged;

Broad Legal Authority: CWA sections 402(p)(3)(B)(ii-iii), CWC section 13377, and Federal NPDES regulations 40 CFR 122.26(d)(2)(i)(B, C, E, and F) and 40 CFR 122.26(d)(2)(iv).

Specific Legal Authority: Federal NPDES regulation 40 CFR 122.26(d)(2)(i)(D) provides that the Copermittee must demonstrate that it can control “through interagency agreements among coapplicants the contribution of pollutants from one portion of the municipal system to another portion of the municipal system.”

Discussion: Discharges from Copermittees that share an MS4 eventually reach the same receiving water body. Each Copermittee that discharges to the shared MS4 is therefore responsible for discharges from the shared MS4, and the impacts of those discharges on receiving waters. The Copermittees of a shared MS4 must demonstrate that together they can control the contribution of pollutants over the whole shared MS4. To this effect, the US EPA states “When two or more municipalities submit a joint application, each coapplicant must demonstrate that it individually possesses adequate legal authority over the entire municipal system it operates and owns. A coapplicant need not fulfill every component of legal authority specified in the regulations, as long as the combined legal authority of all coapplicants satisfies the regulatory criteria for every segment of the MS4 (including authority over all sources that discharge to the MS4). [...] Coapplicants also may use interjurisdictional agreements to show legal authority and to ensure planning, coordination, and the sharing of the resource burden of permit compliance” (1992).

The SDRWQCB has discretion to require Legal Authority item D.1.g. in Order No. R9-2002-0001 under the broad and specific legal authority cited above.

D.1.h. Legal Authority states the following:

Carry out all inspections, surveillance, and monitoring necessary to determine compliance and noncompliance with local ordinances and permits and with this Order, including the prohibition on illicit discharges to the MS4. This means the Copermittee must have authority to enter, sample, inspect, review and copy records, and require regular reports from industrial facilities discharging into its MS4, including construction sites; and

Broad Legal Authority: CWA sections 402(p)(3)(B)(ii-iii), CWC section 13377, and Federal NPDES regulations 40 CFR 122.26(d)(2)(i)(B, C, E, and F) and 40 CFR 122.26(d)(2)(iv).

Discussion: The Copermittees' ability to determine compliance and noncompliance with permit conditions is critical to control pollutant discharges to and from MS4s. Determination of compliance and noncompliance allows for significant sources of pollutants to be identified and addressed, thereby minimizing the discharge of pollutants from the MS4 and the resulting receiving water quality degradation. For this reason each Copermittee must have legal authority to carry out the inspections, surveillance, and monitoring necessary to assess compliance. Regarding compliance determination, US EPA states "municipalities should provide documentation of their authority to enter, sample, inspect, review, and copy records, etc., as well as demonstrate their authority to require regular reports" (1992).

The SDRWQCB has discretion to require Legal Authority item D.1.h in Order No. R9-2002-0001 under the broad legal authority cited above.

D.1.i. Legal Authority states the following:

Require the use of best management practices (BMPs) to prevent or reduce the discharge of pollutants to MS4s.

Broad Legal Authority: CWA sections 402(p)(3)(B)(ii-iii), CWC section 13377, and Federal NPDES regulations 40 CFR 122.26(d)(2)(i)(B, C, E, and F) and 40 CFR 122.26(d)(2)(iv).

Specific Legal Authority: Federal NPDES regulation 40 CFR 122.26(d)(1)(ii) requires from the Copermittee "A description of existing legal authority to control discharges to the municipal separate storm sewer system."

Discussion: As discussed in Finding 15, the Copermittees cannot passively receive and discharge pollutants from third parties. The Copermittees must ensure discharges of pollutants to the MS4 are reduced to the maximum extent practicable. In order to achieve this, and hold third party dischargers responsible for their contributions of pollutants, the Copermittees must require the use of BMPs by third party dischargers (see Discussion under Legal Authority item D.1).

The SDRWQCB has discretion to require Legal Authority item D.1.i in Order No. R9-2002-0001 under the broad and specific legal authority cited above.

D.2. Legal Authority states the following:

Within 365 days of adoption of this Order, each Copermittee shall provide to the SDRWQCB a statement certified by its chief legal counsel that the Copermittee has adequate legal authority to implement and enforce each of the requirements contained in 40 CFR 122.26(d)(2)(i)(A-F) and this Order. This statement shall include:

- a. *Identification of all departments within the jurisdiction that conduct urban runoff related activities, and their roles and responsibilities under this Order. Include an up to date organizational chart specifying these departments and key personnel.*
- b. *Citation of urban runoff related ordinances and the reasons they are enforceable;*
- c. *Identification of the local administrative and legal procedures available to mandate compliance with urban runoff related ordinances and therefore with the conditions of this Order;*
- d. *Description of how these ordinances are implemented and appealed; and*
- e. *Description of whether the municipality can issue administrative orders and injunctions or if it must go through the court system for enforcement actions.*

Broad Legal Authority: CWA sections 402(p)(3)(B)(ii-iii), CWC section 13377, and Federal NPDES regulations 40 CFR 122.26(d)(2)(i)(B, C, E, and F) and 40 CFR 122.26(d)(2)(iv).

Specific Legal Authority: Federal NPDES regulation 40 CFR 122.26(d)(2)(i)(A) provides that the Copermittees shall develop and implement legal authority to “Control through ordinance, order or similar means, the contribution of pollutants to the municipal storm sewer by storm water discharges associated with industrial activity and the quality of storm water discharged from sites of industrial activity.”

Federal NPDES regulation 40 CFR 122.26(d)(2)(i)(D) provides that the Copermittee must demonstrate that it can control “through interagency agreements among coapplicants the contribution of pollutants from one portion of the municipal system to another portion of the municipal system.”

Discussion: Copermittees must demonstrate that they can operate pursuant to legal authority to meet the requirements of Federal NPDES regulations 40 CFR 122.26(d)(2)(A-F). For the Copermittee to demonstrate this legal authority, the US EPA suggests that “One acceptable way to support a declaration of adequate legal authority, including the ability to enforce appropriate ordinances, is for the municipality to provide a certification from the Municipal General Counsel or equivalent. The certification should state that the applicant has the legal authority to apply and enforce the requirements of 40 CFR 122.26(d)(2)(i)(A-F) in State or local courts. The certification would, therefore, cite specific ordinances and the reasons why they are enforceable. The statement should discuss what the municipality can do to ensure full compliance with 40 CFR 122.26(d)(2)(i)” (1992).

The SDRWQCB has discretion to require Legal Authority item D.2 in Order No. R9-2002-0001 under the broad and specific legal authority cited above.

E. TECHNOLOGY BASED STANDARDS

E. Technology Based Standards states the following:

*Each Copermittee shall implement, or require implementation of, best management practices to ensure that the following pollutant discharges **into** and/or **from** its MS4 are reduced to the applicable technology based standard as specified below:*

Table 3. Technology Based Standards

POLLUTANT DISCHARGE FROM	DESCRIPTION	APPLICABLE PERFORMANCE STANDARD
<i>Industrial Activity <u>owned by the Copermittee</u></i>	<i>Categorical Industry in 40 CFR 122.26</i>	<i>The Copermittees are required to implement BMPs to the BAT/BCT standard (pursuant to Statewide General Industrial Permit)</i>
<i>Industrial Activity</i>	<i>All other industry</i>	<i>The Copermittees are required to implement or require the implementation of BMPs to the MEP standard for discharges into their MS4s.⁹⁴</i>
<i>Construction Activity <u>owned by the Copermittee</u></i>	<i>Greater than or Equal to 5 Acres (or less than 5 acres and Part of a Larger Common Plan of Sale or Development)</i>	<i>The Copermittees are required to implement BMPs to the BAT/BCT standard (pursuant to Statewide General Construction Permit)</i>
<i>Construction Activity</i>	<i>All Other construction</i>	<i>The Copermittees are required to implement or require the implementation of BMPs to the MEP standard for discharges into their MS4s⁹⁵</i>
<i>Other Sources</i>	<i>All Other Land Use Activities</i>	<i>The Copermittees are required to implement or require the implementation of BMPs to the MEP standard for discharges into their MS4s</i>
<i>MS4s</i>	<i>All discharges from MS4s</i>	<i>The Copermittees are required to implement or require the implementation of BMPs to the MEP standard for all discharges from their MS4s</i>

Broad Legal Authority: CWA sections 402(p)(3)(B)(ii-iii), CWC section 13377, and Federal NPDES regulations 40 CFR 122.26(d)(2)(i)(B, C, E, and F) and 40 CFR 122.26(d)(2)(iv).

Specific Legal Authority: CWA section 402(p)(3)(A) requires “Permits for discharges associated with industrial activity shall meet all applicable provisions of this section and section 301.”

CWA section 301(b)(2) requires “effluent limitations for categories and classes of point sources, other than publicly owned treatment works, which (i) shall require application of the best available technology economically achievable for such category or class, which will result in reasonable further progress toward the national goal of eliminating the discharge of all pollutants.”

Federal NPDES regulation 40 CFR 122.26(b)(14) provides that “The following categories of facilities are considered to be engaging in ‘industrial activity’ for purposes of this subsection: [...] (x) Construction activity including clearing, grading and excavation activities [...].”

Federal NPDES regulations 40 CFR 122.26(d)(2)(iv)(A-D) require municipalities to control pollutants in urban runoff discharges to the MS4 to the maximum extent practicable from urban land uses such as residential, commercial, municipal, industrial, and construction.

⁹⁴ The facility operator is required to implement BMPs to the BAT/BCT standard pursuant to the Statewide General Industrial permit.

⁹⁵ The facility operator is required to implement BMPs to the BAT/BCT standard pursuant to the Statewide General Construction permit.

Discussion: Pollutant discharges in storm water to and from MS4s are held to applicable technology based standards. Storm water discharges to the MS4 from industrial and construction activities owned by the Copermittee, which fall under the general statewide industrial and construction storm water permits, must meet the BAT/BCT performance standard per permit requirements. This BAT/BCT performance standard is required in CWA section 301(b)(2), and is further described in CWA sections 304(b)(2-4).

Pollutant discharges in storm water **to** and **from** the MS4 for all other urban land use activities, including industrial and construction activities not covered under the statewide general permits, must be reduced to the maximum extent practicable. CWA section 402(p)(3)(B)(iii) and Federal NPDES regulation 40 CFR 122.26 (d)(2)(iv) require pollutant discharges in urban runoff discharged **from** MS4s to be reduced to the maximum extent practicable.

Since discharges that enter the MS4 are generally discharged unimpeded directly into receiving waters, the maximum extent practicable standard is to apply to both discharges into and from MS4s. Federal NPDES regulations clearly provide the SDRWQCB with the legal authority to require municipalities to control discharges from third parties into their MS4. 40 CFR 122.26(d)(2)(iv)(A - D) require municipalities to implement controls to reduce pollutants in urban runoff **from** commercial, residential, industrial, and construction land uses or activities to the maximum extent practicable. Federal NPDES regulations 40 CFR 122.26(d)(2)(i)(A - D) require municipalities to have legal authority to control various discharges **to** their MS4. This concept is further supported in the Preamble to the Phase II Final Rule NPDES storm water regulations, which states "The operators of regulated small MS4s cannot passively receive and discharge pollutants **from** third parties" (US EPA, 1999). Due to the greater water quality concerns generally experienced by larger municipalities, Phase II Final Rule findings for small municipalities are also applicable to larger municipalities such as the Copermittees. Finally, underlying the Federal NPDES storm water regulations is the Clean Water Act, which states in section 402(p)(3)(B)(ii) that municipalities shall "effectively prohibit non-stormwater discharges **into** the storm sewers."

The requirement for municipal storm water dischargers to have, and exercise, local governmental authority in order to comply with water quality control obligations is analogous to the requirement for Publicly Owned Treatment Works to have and exercise legal authority to require pretreatment of industrial wastes being discharged to their sewage collections systems (CWA 402(b)(8)).

The SDRWQCB has discretion to require Technology Based Standards item E. in Order No. R9-2002-0001 under the broad and specific legal authority cited above.

F. JURISDICTIONAL URBAN RUNOFF MANAGEMENT PROGRAM

The following underlying broad legal authority citations generally apply to all directives of section F. Jurisdictional Urban Runoff Management Program of Order No. R9-2002-0001, and provide the SDRWQCB with ample underlying authority to require each of the directives. These legal authority citations are also listed under the Underlying Broad Legal

Authority for Order No. R9-2002-0001 segment of section VII. of this Fact Sheet/Technical Report. They are repeated here to emphasize their pertinence to the Jurisdictional Urban Runoff Management Program section of Order No. R9-2002-0001, which is the primary component of the Order.

In addition to the five broad legal authority items cited below that underlie all of the directives in section F. of Order No. R9-2002-0001, additional specific legal authority citations applicable to particular directives of section F. are provided in this section of the Fact Sheet/Technical Report as necessary. Some of these additional specific legal authority citations apply to entire components of section F. of Order No. R9-2002-0001. In these cases, the specific legal authority quotations are provided at the beginning of the discussion of the permit component, while the legal authority is again cited under each directive of the component. Furthermore, some specific legal authority citations only apply to distinct directives of section F. of Order No. R9-2002-0001. When this occurs, the quotation of the specific legal authority citation will appear with the discussion of the distinct permit directive.

CWA 402(p)(3)(B)(ii) – Prohibit Non-Storm Water

The CWA requires in section 402(p)(3)(B)(ii) that a storm water program “shall include a requirement to effectively prohibit non-stormwater discharges into the storm sewers.”

CWA 402(p)(3)(B)(iii) – Reduce to MEP and Whatever Else is Needed

The CWA requires in section 402(p)(3)(B)(iii) that a storm water program “shall require controls to reduce the discharge of pollutants to the maximum extent practicable, including management practices, control techniques and system, design and engineering methods, and such other provisions as the Administrator or the State determines appropriate for the control of such pollutants.”

40 CFR 122.26(d)(2)(i)(B,C,E, and F) – Obtain Adequate Legal Authority

Federal NPDES regulations 40 CFR 122.26(d)(2)(i)(B,C,E, and F) provide that each Copermitttee’s permit application “shall consist of : (i) Adequate legal authority. A demonstration that the applicant can operate pursuant to legal authority established by statute, ordinance or series of contracts which authorizes or enables the applicant at a minimum to: [...] (B) Prohibit through ordinance, order or similar means, illicit discharges to the municipal separate storm sewer; (C) Control through ordinance, order or similar means the discharge to a municipal separate storm sewer of spills, dumping or disposal of materials other than storm water; [...] (E) Require compliance with condition in ordinances, permits, contracts or orders; and (F) Carry out all inspection, surveillance and monitoring procedures necessary to determine compliance and noncompliance with permit conditions including the prohibition on illicit discharges to the municipal separate storm sewer.”

40 CFR 122.26(d)(2)(iv) – Reduce to MEP and Whatever Else is Needed

Federal NPDES regulation 40 CFR 122.26(d)(2)(iv) provides that the Copermitttee shall develop and implement a proposed management program which “shall include a comprehensive planning process which involves public participation and where necessary intergovernmental coordination, to reduce the discharge of pollutants to the maximum extent practicable using management practices, control techniques and system, design and engineering methods, and such other

provisions which are appropriate. The program shall also include a description of staff and equipment available to implement the program. [...] Proposed programs may impose controls on a systemwide basis, a watershed basis, a jurisdiction basis, or on individual outfalls. [...] Proposed management programs shall describe priorities for implementing controls.”

CWC 13377 – Implement CWA and Whatever Else is Needed

California Water Code section 13377 provides that “Notwithstanding any other provision of this division, the state board or the regional boards shall, as required or authorized by the Federal Water Pollution Control Act (Clean Water Act), as amended, issue waste discharge requirements and dredged or fill material permits which apply and ensure compliance with all applicable provisions of the act and acts amendatory thereof or supplementary, thereto, together with an more stringent effluent standards or limitation necessary to implement water quality control plans, or for the protection of beneficial uses, or to prevent nuisance.”

F. Jurisdictional Urban Runoff Management Program states the following:

Each Copermittee shall take appropriate actions to reduce discharges of pollutants and runoff flow during each of the three major phases of urban development, i.e., the planning, construction, and existing development (or use) phases. Following the adoption of the Order and prior to the full implementation of the Jurisdictional URMP, each Copermittee shall at a minimum implement the provisions and commitments of the proposed DAMP submitted in September 2000.

Each Copermittee shall implement a Jurisdictional Urban Runoff Management Program (Jurisdictional URMP) that contains the components shown below as described in Sections F.1. through F.9:

- F.1. Land-Use Planning for New Development and Redevelopment Component*
- F.2. Construction Component*
- F.3. Existing Development Component*
 - a. Municipal*
 - b. Industrial*
 - c. Commercial*
 - d. Residential*
- F.4. Education Component*
- F.5. Illicit Discharge Detection and Elimination Component*
- F.6. Common Interest Areas and Homeowners Associations*
- F.7. Public Participation Component*
- F.8. Assessment of Jurisdictional URMP Effectiveness Component*
- F.9. Fiscal Analysis Component*

Broad Legal Authority: CWA sections 402(p)(3)(B)(ii-iii), CWC section 13377, and Federal NPDES regulations 40 CFR 122.26(d)(2)(i)(B,C,E, and F) and 40 CFR 122.26(d)(2)(iv).

Specific Legal Authority: Federal NPDES regulations 40 CFR 122.26(d)(2)(iv)(A – D) include provisions for inclusion of program components F.1 – F.9 in the Jurisdictional URMPs.

Discussion: As discussed in Finding 17, urban development has three major phases: (1) land use planning for new development; (2) construction; and (3) the land use or existing development phase. Because the Copermittees authorize each of these phases, they have commensurate responsibilities to protect water quality during each phase. Findings 18 – 20 indicate how each of these phases of development can be a significant source of pollutants in urban runoff and can impact receiving water quality. To address the potential negative impacts from the three phases of urban development, Urban Runoff Management Programs focusing on the three phases must be developed and implemented (see Finding 10). US EPA places importance on the development and implementation of URMPs when it states “Under the Part 2 application requirements, municipalities must propose site-specific storm water management programs. This is the most important aspect of the permit application” (1992).

The SDRWQCB has discretion to require development and implementation of Jurisdictional Urban Runoff Management Programs in Order No. R9-2002-0001 under the broad and specific legal authority cited above.

F.1. LAND-USE PLANNING FOR NEW DEVELOPMENT AND REDEVELOPMENT COMPONENT

In addition to the underlying broad legal authority citations listed above in section VII. of this Fact Sheet/Technical Report, the following specific legal authority item also generally applies to all directives under Jurisdictional Urban Runoff Management Program item F.1. Land-Use Planning for New Development and Redevelopment Component of Order No. R9-2002-0001. Other specific legal authority items applicable only to distinct directives of Jurisdictional Urban Runoff Management Program item F.1. are provided as necessary.

Federal NPDES regulation 40 CFR 122.26(d)(2)(iv)(A)(2) provides that Copermittees develop and implement a proposed management program which is to include “A description of planning procedures including a comprehensive master plan to develop, implement and enforce controls to reduce the discharge of pollutants from municipal separate storm sewers which receive discharges from areas of new development and significant redevelopment. Such plan shall address controls to reduce pollutants in discharges from municipal separate storm sewers after construction is completed.”

F.1. Land-Use Planning for New Development and Redevelopment Component states the following:

Each Copermittee shall minimize the short and long-term impacts on receiving water quality from new development and redevelopment. In order to reduce pollutants and runoff flows from new development and redevelopment to the maximum extent practicable, each Copermittee shall at a minimum:

- F.1.a Assess General Plan*
- F.1.b Modify Development Project Approval Processes*
- F.1.c Revise Environmental Review Processes*
- F.1.d Conduct Education Efforts Focused on New Development and Redevelopment*

Broad Legal Authority: CWA sections 402(p)(3)(B)(ii-iii), CWC section 13377, and Federal NPDES regulations 40 CFR 122.26(d)(2)(i)(B,C,E, and F) and 40 CFR 122.26(d)(2)(iv).

Specific Legal Authority: Federal NPDES regulation 40 CFR 122.26(d)(2)(iv)(A)(2) generally applies to all directives under Jurisdictional Urban Runoff Management Program item F.1. Land-Use Planning for New Development and Redevelopment Component of Order No. R9-2002-0001.

Discussion: As discussed in Finding 4, urban development can negatively impact receiving water quality by increasing the pollutant load, volume, and velocity of urban runoff. An effective means for minimizing these impacts is to address water quality concerns during the planning phase of urban development. US EPA supports this, stating "Post-construction storm water management in areas undergoing new development or redevelopment is necessary because runoff from these areas has been shown to significantly effect receiving waterbodies. Many studies indicate that prior planning and design for the minimization of pollutants in post-construction storm water discharges is the most cost-effective approach to storm water quality management" (2000). For these reasons, Order No. R9-2002-0001 includes a requirement for the development and implementation of a Land-Use Planning for New Development and Redevelopment Component.

The SDRWQCB has discretion to require Jurisdictional Urban Runoff Program item F.1. in Order No. R9-2002-0001 under the broad and specific legal authority cited above.

F.1.a. Assess General Plan of the Jurisdictional Urban Runoff Management Program states the following:

Each Copermittee's General Plan or equivalent plan (e.g., Comprehensive, Master, or Community Plan) shall include water quality and watershed protection principles and policies to direct land-use decisions and require implementation of consistent water quality protection measures for development projects. As part of its Jurisdictional Urban Runoff Management Program document, each Copermittee shall provide a workplan with time schedule detailing any changes to its General Plan regarding water quality and watershed protection. Examples of water quality and watershed protection principles and policies to be considered include the following:

- (1) *Minimize the amount of impervious surfaces and directly connected impervious surfaces in areas of new development and redevelopment and where feasible slow runoff and maximize on-site infiltration of runoff.*
- (2) *Implement pollution prevention methods supplemented by pollutant source controls and treatment. Use small collection strategies located at, or as close as possible to, the source (i.e., the point where water initially meets the ground) to minimize the transport of urban runoff and pollutants offsite and into an MS4.*
- (3) *Preserve, and where possible, create or restore areas that provide important water quality benefits, such as riparian corridors, wetlands, and buffer zones. Encourage land acquisition of such areas.*
- (4) *Limit disturbances of natural water bodies and natural drainage systems caused by development including roads, highways, and bridges.*
- (5) *Prior to making land use decisions, utilize methods available to estimate increases in pollutant loads and flows resulting from projected future development. Require*

incorporation of structural and non-structural BMPs to mitigate the projected increases in pollutant loads and flows.

- (6) *Avoid development of areas that are particularly susceptible to erosion and sediment loss; or establish development guidance that identifies these areas and protects them from erosion and sediment loss.*
- (7) *Reduce pollutants associated with vehicles and increasing traffic resulting from development. Coordinate local traffic management reduction efforts with Orange County Transit Authority's Congestion Management Plan.*
- (8) *Post-development runoff from a site shall not contain pollutant loads that cause or contribute to an exceedance of receiving water quality objectives and which have not been reduced to the maximum extent practicable.*

Broad Legal Authority: CWA sections 402(p)(3)(B)(ii-iii), CWC section 13377, and Federal NPDES regulations 40 CFR 122.26(d)(2)(i)(B,C,E, and F) and 40 CFR 122.26(d)(2)(iv).

Specific Legal Authority: Federal NPDES regulation 40 CFR 122.26(d)(2)(iv)(A)(2) generally applies to all directives under Jurisdictional Urban Runoff Management Program item F.1. Land-Use Planning for New Development and Redevelopment Component of Order No. R9-2002-0001.

Discussion: The US EPA finds that the Copermittee "must thoroughly describe how the municipality's comprehensive plan is compatible with the storm water regulations" (1992). To achieve this, the Copermittee shall incorporate water quality and watershed protection principles and policies into its General Plan (or equivalent plan). US EPA supports addressing urban runoff problems in General Plans (or equivalent plans) when it states "Runoff problems can be addressed efficiently with sound planning procedures. Master Plans, Comprehensive Plans, and zoning ordinances can promote improved water quality by guiding the growth of a community away from sensitive areas and by restricting certain types of growth (industrial, for example) to areas that can support it without compromising water quality" (2000).

The principles included in Jurisdictional Urban Runoff Management Program item F.1.a. are based on findings by the SWRCB Urban Runoff Technical Advisory Committee. They incorporate basic measures that have been found to minimize pollutants in urban runoff from new development and redevelopment.

The SDRWQCB has discretion to require Jurisdictional Urban Runoff Management Program item F.1.a. in Order No. R9-2002-0001 under the broad legal authority cited above.

F.1.b. Modify Development Project Approval Processes of the Jurisdictional Urban Runoff Management Program states the following:

Prior to project approval and issuance of local permits, Copermittees shall require each proposed project to implement measures to ensure that pollutants and runoff from the development will be reduced to the maximum extent practicable and will not cause or contribute to an exceedance of receiving water quality objectives. Each Copermittee shall further ensure that all development will be in compliance with Copermittee storm water ordinances, local permits, all other applicable ordinances and requirements, and this Order.

Broad Legal Authority: CWA sections 402(p)(3)(B)(ii-iii), CWC section 13377, and Federal NPDES regulations 40 CFR 122.26(d)(2)(i)(B,C,E, and F) and 40 CFR 122.26(d)(2)(iv).

Specific Legal Authority: Federal NPDES regulation 40 CFR 122.26(d)(2)(iv)(A)(2) generally applies to all directives under Jurisdictional Urban Runoff Management Program item F.1. Land-Use Planning for New Development and Redevelopment Component of Order No. R9-2002-0001.

Discussion: As discussed in Finding 18, incorporating post-construction BMPs into new development and redevelopment during project planning and approval is an effective means for controlling pollutants in urban runoff. US EPA finds review of development plans during the project approval process necessary, stating: "Proposed storm water management programs should include planning procedures for both during and after construction to implement control measures to ensure that pollution is reduced to the maximum extent practicable in areas of new development and redevelopment. Design criteria and performance standards may be used to assist in meeting this objective. Further, storm water management program goals should be reviewed during planning processes that guide development to appropriate locations and steer intensive land uses away from sensitive environmental areas. [...] A municipality should describe how it plans to implement the proposed standards (e.g., through an ordinance requiring approval of storm water management programs, a review and approval process, and adequate enforcement)" (1992).

The SDRWQCB has discretion to require Jurisdictional Urban Runoff Program item F.1.b. in Order No. R9-2002-0001 under the broad legal authority cited above.

F.1.b.(1). Development Project Requirements of the Jurisdictional Urban Runoff Management Program states the following:

Each Copermittee shall include development project requirements in local permits to ensure that pollutant discharges from development are reduced to the maximum extent practicable, peak runoff velocities and runoff volumes from development are controlled, and that receiving water quality objectives are not violated throughout the life of the project. Such requirements shall, at a minimum:

- (a) Require project proponent to implement source control BMPs for all applicable development projects.*
- (b) Require project proponent to implement site design/landscape characteristics where feasible which maximize infiltration, provide retention, slow runoff, and minimize impervious land coverage for all development projects.*
- (c) Require project proponent to implement buffer zones for natural water bodies, where feasible. Where buffer zone implementation is infeasible, require project proponent to implement other buffers such as trees, lighting restrictions, access restrictions, etc.*
- (d) Require industrial applicants subject to California's statewide General NPDES Permit for Storm Water Discharges Associated with Industrial Activities (Except Construction), (hereinafter General Industrial Permit), to provide evidence of coverage under the General Industrial Permit.*
- (e) Require project proponent to ensure its grading or other construction activities meet the provisions specified in Section F.2. of this Order.*

- (f) *Require project proponent to provide proof of a mechanism which will ensure ongoing long-term maintenance of all structural post-construction BMPs.*

Broad Legal Authority: CWA sections 402(p)(3)(B)(ii-iii), CWC section 13377, and Federal NPDES regulations 40 CFR 122.26(d)(2)(i)(B,C,E, and F) and 40 CFR 122.26(d)(2)(iv).

Specific Legal Authority: Federal NPDES regulation 40 CFR 122.26(d)(2)(iv)(A)(2) generally applies to all directives under Jurisdictional Urban Runoff Management Program item F.1. Land-Use Planning for New Development and Redevelopment Component of Order No. R9-2002-0001.

Discussion: Regarding conditions of approval in storm water permits, the US EPA finds that “Proposed storm water management programs should include planning procedures for both during and after construction to implement control measures to ensure that pollution is reduced to the maximum extent practicable in areas of new development and redevelopment. Design criteria and performance standards may be used to assist in meeting this objective” (1992). The US EPA further finds that “The municipality should consider storm water controls and structural controls in planning, zoning, and site or subdivision plan approval” (1992). In addition, US EPA states each Copermittee should “have an ordinance or other regulatory mechanism requiring the implementation of post-construction runoff controls [...]” (2000).

Furthermore, in its Phase II Final Rule, US EPA requires small municipalities to “Use an ordinance or other regulatory mechanism to address post-construction runoff from new development and redevelopment projects [...]” (1999). Due to the greater water quality concerns generally experienced by larger municipalities, Phase II Final Rule requirements for small municipalities are also applicable to larger municipalities such as the Copermittees.

The SDRWQCB has discretion to require Jurisdictional Urban Runoff Program item F.1.b.(1). in Order No. R9-2002-0001 under the broad legal authority cited above.

F.1.b.(2). Standard Urban Storm Water Mitigation Plans (SUSMPs) of the Jurisdictional Urban Runoff Management Program states the following:

Within 365 days of adoption of this Order, the Copermittees shall collectively develop a model Standard Urban Storm Water Mitigation Plan (SUSMP) to reduce pollutants and to maintain or reduce downstream erosion and stream habitat from all new development and significant redevelopment projects falling under the priority project categories or locations listed in section F.1.b.(2)(a) below. The Copermittees shall submit the model SUSMP to the SDRWQCB. Within 180 days of development of the model SUSMP, each Copermittee shall adopt its own local SUSMP, and amended ordinances consistent with the model SUSMP, and shall submit both (local SUSMP and amended ordinances) to the SDRWQCB.

Immediately following adoption of its local SUSMP, each Copermittee shall ensure that all new development and significant redevelopment projects falling under the priority project categories or locations listed in F.1.b.(2)(a) below meet SUSMP requirements. The SUSMP requirements shall apply to all priority projects or phases of priority projects that have not yet begun grading or construction activities. If a Copermittee determines that lawful prior approval of a project exists, whereby application of SUSMP requirements to the project is infeasible, SUSMP requirements need not apply to the project. Where feasible, the Copermittees shall utilize the 18-month SUSMP

implementation period to ensure that projects undergoing approval processes include application of SUSMP requirements in their plans.

(a) *Priority Development Project Categories - SUSMP requirements shall apply to all new development and significant redevelopment projects falling under the priority project categories or locations listed below. Significant redevelopment is defined as the creation or addition of at least 5,000 square feet of impervious surfaces on an already developed site. Significant redevelopment includes, but is not limited to: the expansion of a building footprint or addition or replacement of a structure; structural development including an increase in gross floor area and/or exterior construction or remodeling; replacement of impervious surface that is not part of a routine maintenance activity; and land disturbing activities related with structural or impervious surfaces. Where significant redevelopment results in an increase of less than fifty percent of the impervious surfaces of a previously existing development, and the existing development was not subject to SUSMP requirements, the numeric sizing criteria discussed in section F.1.b.(2)(c) applies only to the addition, and not to the entire development.*

- i. Home subdivisions of 10 or more housing units. This category includes single-family homes, multi-family homes, condominiums, and apartments.*
- ii. Commercial developments greater than 100,000 square feet. This category is defined as any development on private land that is not for heavy industrial or residential uses where the land area for development is greater than 100,000 square feet. The category includes, but is not limited to: hospitals; laboratories and other medical facilities; educational institutions; recreational facilities; commercial nurseries; multi-apartment buildings; car wash facilities; mini-malls and other business complexes; shopping malls; hotels; office buildings; public warehouses; automotive dealerships; commercial airfields; and other light industrial facilities.*
- iii. Automotive repair shops. This category is defined as a facility that is categorized in any one of the following Standard Industrial Classification (SIC) codes: 5013, 5014, 5541, 7532-7534, or 7536-7539.*
- iv. Restaurants. This category is defined as a facility that sells prepared foods and drinks for consumption, including stationary lunch counters and refreshment stands selling prepared foods and drinks for immediate consumption (SIC code 5812), where the land area for development is greater than 5,000 square feet. Restaurants where land development is less than 5,000 square feet shall meet all SUSMP requirements except for structural treatment BMP and numeric sizing criteria requirement F.1.b.(2)(c) and peak flow rate requirement F.1.b(2)(b)(i).*
- v. All hillside development greater than 5,000 square feet. This category is defined as any development which creates 5,000 square feet of impervious surface which is located in an area with known erosive soil conditions, where the development will grade on any natural slope that is twenty-five percent or greater.*
- vi. Environmentally Sensitive Areas: All development and redevelopment located within or directly adjacent to or discharging directly to an environmentally sensitive area (where discharges from the development or redevelopment will enter receiving waters within the environmentally sensitive area), which either creates 2,500 square feet of impervious surface on a proposed project site or increases the area of imperviousness of a proposed project site to 10% or more of its naturally occurring condition. Environmentally sensitive areas include but are not limited to all Clean Water Act Section 303(d) impaired water bodies; areas designated as Areas of Special Biological Significance by the State Water Resources Control Board (Water Quality Control Plan for the San Diego Basin (1994) and amendments); water bodies designated with the RARE beneficial use by the State Water Resources Control Board (Water Quality Control Plan for the San Diego Basin (1994) and amendments); areas designated as preserves or equivalent under the Natural Community Conservation Planning Program; and any areas designated as Critical Aquatic Resources (CARS) or other equivalent environmentally sensitive areas which have been identified by the Copermittees. "Directly adjacent" means situated within 200 feet of the environmentally sensitive area. "Discharging directly to" means outflow from a drainage conveyance system that is composed entirely of flows from the subject development or redevelopment site, and not commingled with flows from adjacent lands.*

- vii. *Parking lots 5,000 square feet or more or with 15 or more parking spaces and potentially exposed to urban runoff. Parking lot is defined as a land area or facility for the temporary parking or storage of motor vehicles used personally, for business, or for commerce.*
 - viii. *Street, roads, highways, and freeways. This category includes any paved surface that is 5,000 square feet or greater used for the transportation of automobiles, trucks, motorcycles, and other vehicles.*
- (b) *BMP Requirements – The SUSMP shall include a list of recommended source control and structural treatment BMPs. The SUSMP shall require all new development and significant redevelopment projects falling under the above priority project categories or locations to implement a combination of BMPs selected from the recommended BMP list, including at a minimum (1) source control BMPs and (2) structural treatment BMPs. The BMPs shall, at a minimum:*
- i. *Control the post-development peak storm water runoff discharge rates and velocities to maintain or reduce pre-development downstream erosion, and to protect stream habitat;*
 - ii. *Conserve natural areas where feasible;*
 - iii. *Minimize storm water pollutants of concern in urban runoff from the new development or significant redevelopment (through implementation of source control BMPs). Identification of pollutants of concern should include at a minimum consideration of any pollutants for which water bodies receiving the development's runoff are listed as impaired under Clean Water Act section 303(d), any pollutant associated with the land use type of the development, and any pollutant commonly associated with urban runoff;*
 - iv. *Remove pollutants of concern from urban runoff (through implementation of structural treatment BMPs);*
 - v. *Minimize directly connected impervious areas where feasible;*
 - vi. *Protect slopes and channels from eroding;*
 - vii. *Include storm drain stenciling and signage;*
 - viii. *Include properly designed outdoor material storage areas;*
 - ix. *Include properly designed trash storage areas;*
 - x. *Include proof of a mechanism, to be provided by the project proponent or Copermittee, which will ensure ongoing long-term structural BMP maintenance;*
 - xi. *Include additional water quality provisions applicable to individual priority project categories;*
 - xii. *Be correctly designed so as to remove pollutants to the maximum extent practicable;*
 - xiii. *Be implemented close to pollutant sources, when feasible, and prior to discharging into receiving waters supporting beneficial uses; and*
 - xiv. *Ensure that post-development runoff does not contain pollutant loads which cause or contribute to an exceedance of water quality objectives and which have not been reduced to the maximum extent practicable.*
- (c) *Numeric Sizing Criteria – The SUSMP shall require structural treatment BMPs to be implemented for all priority development projects. All structural treatment BMPs shall be located so as to infiltrate, filter, or treat the required runoff volume or flow prior to its discharge to any receiving water body supporting beneficial uses. Structural treatment BMPs may be shared by multiple new development projects as long as construction of any shared structural treatment BMPs is completed prior to the use of any new development project from which the structural treatment BMP will receive runoff.*

In addition to meeting the BMP requirements listed in item F.1.b.(2)(b) above, all structural treatment BMPs for a single priority development project shall collectively be sized to comply with the following numeric sizing criteria:

Volume

Volume-based BMPs shall be designed to mitigate (infiltrate, filter, or treat) either:

- i. The volume of runoff produced from a 24-hour 85th percentile storm event, as determined from the local historical rainfall record (0.8 inch approximate average for the Orange County area),⁹⁶ or
- ii. The volume of runoff produced by the 85th percentile 24-hour rainfall event, determined as the maximized capture storm water volume for the area, from the formula recommended in Urban Runoff Quality Management, WEF Manual of Practice No. 23/ASCE Manual of Practice No. 87, (1998); or
- iii. The volume of annual runoff based on unit basin storage volume, to achieve 90% or more volume treatment by the method recommended in California Stormwater Best Management Practices Handbook – Industrial/Commercial, (1993); or
- iv. The volume of runoff, as determined from the local historical rainfall record, that achieves approximately the same reduction in pollutant loads and flows as achieved by mitigation of the 85th percentile 24-hour runoff event;⁹⁷

OR

Flow

Flow-based BMPs shall be designed to mitigate (infiltrate, filter, or treat) either:

- i. The maximum flow rate of runoff produced from a rainfall intensity of 0.2 inch of rainfall per hour, for each hour; or
 - ii. The maximum flow rate of runoff produced by the 85th percentile hourly rainfall intensity, as determined from the local historical rainfall record, multiplied by a factor of two; or
 - iii. The maximum flow rate of runoff, as determined from the local historical rainfall record, that achieves approximately the same reduction in pollutant loads and flows as achieved by mitigation of the 85th percentile hourly rainfall intensity multiplied by a factor of two.
- (d) *Equivalent Numeric Sizing Criteria* - The Copermittees may develop, as part of the model SUSMP, any equivalent method for calculating the volume or flow which must be mitigated (i.e., any equivalent method for calculating numeric sizing criteria) by post-construction structural treatment BMPs. Such equivalent sizing criteria may be authorized by the SDRWQCB for use in place of the above criteria. In the absence of development and subsequent authorization of such equivalent numeric sizing criteria, the above numeric sizing criteria requirement shall be implemented.
- (e) *Pollutants or Conditions of Concern* – As part of the model SUSMP, the Copermittees shall develop a procedure for pollutants or conditions of concern to be identified for each new development or significant redevelopment project. The procedure shall include, at a minimum, consideration of (1) receiving water quality (including pollutants for which receiving waters are listed as impaired under Clean Water Act section 303(d)); (2) land use type of the development project and pollutants associated with that land use type; (3) pollutants expected to be present on site; (4) changes in storm water discharge flow rates, velocities, durations, and volumes resulting from the development project; and (5) sensitivity of receiving waters to changes in storm water discharge flow rates, velocities, durations, and volumes.
- (f) *Implementation Process* – As part of the model SUSMP, the Copermittees shall develop a process by which SUSMP requirements will be implemented. The process shall identify at what point in the planning process development projects will be required to meet SUSMP requirements. The process

⁹⁶This volume is not a single volume to be applied to all of Orange County. The size of the 85th percentile storm event is different for various parts of the County. The Copermittees are encouraged to calculate the 85th percentile storm event for each of their jurisdictions using local rain data pertinent to their particular jurisdiction (the 0.8 inch standard is a rough average for the County and should only be used where appropriate rain data is not available). In addition, isopluvial maps may be used to extrapolate rainfall data to areas where insufficient data exists in order to determine the volume of the local 85th percentile storm event in such areas. Where the Copermittees will use isopluvial maps to determine the 85th percentile storm event in areas lacking rain data, the Copermittees shall describe their method for using isopluvial maps in the model and local SUSMPs.

⁹⁷ Under this volume criteria, hourly rainfall data may be used to calculate the 85th percentile storm event, where each storm event is identified by its separation from other storm events by at least six hours of no rain. Where the Copermittees may use hourly rainfall data to calculate the 85th percentile storm event, the Copermittees shall describe their method for using hourly rainfall data to calculate the 85th percentile storm event in the model and local SUSMPs.

shall also include identification of the roles and responsibilities of various municipal departments in implementing the SUSMP requirements, as well as any other measures necessary for the implementation of SUSMP requirements.

- (g) *Waiver Provision – A Copermitee may provide for a project to be waived from the requirement of implementing all structural treatment BMPs (F.1.b.(2)(b) & F.1.b.(2)(c)) if infeasibility can be established. A waiver of infeasibility shall only be granted by a Copermitee when all available structural treatment BMPs have been considered and rejected as infeasible. Copermitees shall notify the SDRWQCB within 5 days of each waiver issued and shall include the name of the person granting each waiver.*

As part of the model SUSMP, the Copermitees may develop a program to require project proponents who have received waivers to transfer the savings in cost, as determined by the Copermitee(s), to a storm water mitigation fund. This program may be implemented by all Copermitees that choose to provide waivers. Funds may be used on projects to improve urban runoff quality within the watershed of the waived project. The waiver program may identify:

- i. The entity or entities that will manage the storm water mitigation fund (i.e., assume full responsibility for)*
 - ii. The range and types of acceptable projects for which mitigation funds may be expended;*
 - iii. The entity or entities that will assume full responsibility for each mitigation project including its successful completion*
 - iv. How the dollar amount of fund contributions will be determined.*
- (h) *Infiltration and Groundwater Protection – To protect groundwater quality, each Copermitee shall apply restrictions to the use of structural treatment BMPs which are designed to primarily function as infiltration devices (such as infiltration trenches and infiltration basins). Such restrictions shall ensure that the use of such infiltration structural treatment BMPs shall not cause or contribute to an exceedance of groundwater quality objectives. At a minimum, use of structural treatment BMPs which are designed to primarily function as infiltration devices shall meet the following conditions:⁹⁸*
- i. Urban runoff shall undergo pretreatment such as sedimentation or filtration prior to infiltration.*
 - ii. All dry weather flows shall be diverted from infiltration devices.*
 - iii. Pollution prevention and source control BMPs shall be implemented at a level appropriate to protect groundwater quality at sites where infiltration structural treatment BMPs are to be used.*
 - iv. Infiltration structural treatment BMPs shall be adequately maintained so that they remove pollutants to the maximum extent practicable.*
 - v. The vertical distance from the base of any infiltration structural treatment BMP to the seasonal high groundwater mark shall be at least 10 feet. Where groundwater basins do not support beneficial uses, this vertical distance criteria may be reduced, provided groundwater quality is maintained.*
 - vi. The soil through which infiltration is to occur shall have physical and chemical characteristics (such as appropriate cation exchange capacity, organic content, clay content, and infiltration rate) which are adequate for proper infiltration durations and treatment of urban runoff for the protection of groundwater beneficial uses.*
 - vii. Infiltration structural treatment BMPs shall not be used for areas of industrial or light industrial activity; areas subject to high vehicular traffic (25,000 or greater average daily traffic on main roadway or 15,000 or more average daily traffic on any intersecting roadway); automotive repair shops; car washes; fleet storage areas (bus, truck, etc.); nurseries; and other high threat to water quality land uses and activities as designated by each Copermitee.*
 - viii. Infiltration structural BMPs shall be located a minimum of 100 feet horizontally from any water supply wells.*

As part of the model and local SUSMPs, the Copermitees may develop alternative restrictions on the use of structural treatment BMPs which are designed to primarily function as infiltration devices.

- (j) *Downstream Erosion – As part of the model SUSMP and the local SUSMPs, the Copermitees shall develop criteria to ensure that discharges from new development and significant redevelopment*

⁹⁸ These conditions do not apply to structural treatment BMPs which allow incidental infiltration and are not designed to primarily function as infiltration devices (such as grassy swales, detention basins, vegetated buffer strips, constructed wetlands, etc.)

maintain or reduce pre-development downstream erosion and protect stream habitat. At a minimum, criteria shall be developed to control peak storm water discharge rates and velocities in order to maintain or reduce pre-development downstream erosion and protect stream habitat. Storm water discharge volumes and durations should also be considered.

Broad Legal Authority: CWA sections 402(p)(3)(B)(ii-iii), CWC section 13377, and Federal NPDES regulations 40 CFR 122.26(d)(2)(i)(B,C,E, and F) and 40 CFR 122.26(d)(2)(iv).

Specific Legal Authority: Federal NPDES regulation 40 CFR 122.26(d)(2)(iv)(A)(2) generally applies to all directives under Jurisdictional Urban Runoff Management Program item F.1. Land-Use Planning for New Development and Redevelopment Component of Order No. R9-2002-0001.

California Water Code Section 13267 provides that "the regional board may require that any person who has discharged [...] shall furnish, under penalty of perjury, technical or monitoring reports which the regional board requires."

Discussion: Copermittees must utilize planning procedures to reduce the discharge of pollutants from new development and redevelopment to the maximum extent practicable. This is necessary due to the potential for new development to increase the volume, flow velocity, and pollutant load of urban runoff (see Findings 4 and 5). As the SWRCB Urban Runoff Technical Advisory Committee (TAC) states, "Urban development often results in impacts to the land and consequently the water bodies adjacent to the land. The two major changes that result from urbanization are changes in stream hydrology and an increase in pollutant loading." To alleviate these potential negative impacts on receiving waters, each Copermittee must develop and implement a Standard Urban Runoff Mitigation Plan for various categories of development.

GENERAL INFORMATION ON SUSMPs

As part of the Jurisdictional Urban Runoff Management Program, Copermittees must also develop Standard Urban Runoff Management Plans (SUSMPs) for certain development and significant redevelopment projects falling under priority project categories. The project categories generally result in the large increases in impervious surfaces, are potential significant sources of pollutants, or have a history of storm water mismanagement. The SUSMPs include requirements for implementation of minimum source control and structural treatment BMPs. The structural treatment BMPs also have numeric sizing criteria that must be met based on volume or flow (of runoff). By developing and implementing the SUSMPs, the Copermittees are reducing the potential negative impacts of urban runoff on receiving waters.

SUPPORT FOR SUSMPS

Support for the inclusion of the SUSMP requirements is found in both Federal and State guidance/regulations. Pursuant to the Clean Water Act and Federal NPDES regulations, municipal storm water permits must require controls to reduce the discharge of pollutants to the maximum extent practicable including controls which address pollutant discharges resulting from new development and significant redevelopment. Clean Water Act section 402(p)(3)(B)(iii) gives USEPA

and States considerable discretion on establishing provisions for implementation in storm water programs, stating “require controls to reduce the discharge of pollutants to the maximum extent practicable, including management practices, control techniques and systems, design and engineering methods, and such other provisions as the Administrator or the State determines appropriate for the control of pollutants.” USEPA also recommends design criteria (such as numeric sizing criteria) and performance standards for post construction BMPs at development sites (1992). The increased specificity of the SUSMP requirements is also in line with U.S. EPA Interim Permitting Approach guidance, which states that first round permit BMPs should be expanded or better-tailored where necessary in subsequent permits to attain water quality standards (1996). The SWRCB Urban Runoff Technical Advisory Committee supports development of plans such as SUSMPs, stating that “The TAC recommends that communities of all sizes implement programs[...] to address control of urban runoff pollution from new development and construction.” Both the Los Angeles Regional Water Quality Control Board (Order No. 96-54) and the San Diego Regional Water Quality Control Board (Order No. 2001-01) have adopted SUSMP requirements in their Municipal Storm Water Permits. The SWRCB Order No. 2000-11(from appeal of LARWQCB permit) finds that SUSMP requirements reflect a reasonable interpretation of development controls that achieve reduction of pollutants in storm water discharges to the maximum extent practicable.

The current Municipal Storm Water Permit for Orange County and Cities (Order No. 96-03) generally addresses new development and redevelopment. The Permit requires the Copermittees to implement new development BMPs that were developed under the previous first term permit (Order No. 90-38). These BMP guidelines were developed in 1993 by a New Development Task Force comprised of government and industry representatives. The guidelines are very general, resulting in development projects proceeding with minimal measures to reduce the impacts of urban runoff. Consequently, Order No. R9-2002-0001 contains SUSMP requirements that are more prescriptive than Order 96-03 to establish a framework of narrative and numeric criteria that ensure adequate measures are taken to address urban runoff.

SUSMP REQUIREMENTS IN ORANGE COUNTY PERMIT

Staff reviewed the SUSMP requirements included in the San Diego Municipal Storm Water Permit to determine applicability to the Orange County Municipal Storm Water Permit. Staff also reviewed public comments, the Los Angeles Municipal Storm Water Permit, and SWRCB Order No. 2000-11. The following sections are proposed to be included in the Orange County Permit and include discussion on intent of the requirements.

Priority Development Projects Categories

1. Home subdivisions of 10 or more housing units
2. Commercial developments greater than 100,000 square feet
3. Automotive repair shops
4. Restaurants
5. All hillside development greater than 5,000 square feet
6. Environmentally Sensitive Areas (defined in the Order)

7. Parking lots 5,000 square feet or more or with 15 or more parking spaces
8. Street, roads, highways, and freeways

The categories listed above will either result in a large increase of impervious surfaces or are potential significant sources of pollutants. These types of projects are typical of new development and significant redevelopment that are likely to occur and be locally approved by the Copermittees in Orange County. The SUSMP provisions that apply to the eight categories of new development and significant redevelopment are separated into two categories, required and optional

1. Required Provisions

BMPs Requirements

Requires SUSMPs include a list of recommended source control and structural BMPs for all projects falling under the priority development categories. Also establishes criteria that these BMPs must meet. The intent of the requirements is to allow the Copermittees and developers flexibility in choosing which combination of source control and structural treatment BMPs are to be implemented at a site. The intent of the criteria is to define what minimum performance standards must be met by these selected BMPs.

Numeric Sizing Criteria

Requires structural BMPs to meet numeric sizing criteria to mitigate (infiltrate, filter, or treat) volume or flow prior to discharge into receiving waters. The numeric sizing criteria is included to ensure that structural BMPs are sized effectively to remove the pollutants of concern. The sizing criteria are based on capture of runoff from a 24-hour 85th percentile storm. The 24-hour 85th percentile storm represents the “knee” of a precipitation probability curve from which it is no longer cost effective to treat runoff. The precipitation curve is calculated by using local historical rainfall data on the number and intensity of storm events. The Regional Board staff has calculated the average 24-hour 85th percentile storm for area covered by the permit to be 0.8 inch (see San Diego SUSMP staff report for example calculations). However, the requirements allow needed flexibility for the Copermittees and developers to mitigate runoff based on either volume or flow. In addition, the requirements allow for several different options to calculate the amount of runoff to ensure that projects are not required to capture runoff from storm events beyond the point of diminishing returns. For example, a project proponent may demonstrate that the 24-hour 85th storm event may be less than the average 0.8 inch by using local precipitation data.

Pollutants or Conditions of Concern

As part of the model SUSMP, requires the Copermittees to develop a procedure to identify pollutants or conditions of concern for each development or significant redevelopment project. The intent of the requirements is to provide consistency in the application of the SUSMPs between the Copermittees. This requirement was included in response to consistency concerns of the Copermittees.

Implementation Process

As part of the model SUSMP, requires identification at what point in the planning process that projects must meet SUSMP requirements and what are roles/responsibilities of municipal departments. The intent of this requirement is to provide consistency in the application of the SUSMPs between the Copermittees. This requirement was included in response to consistency concerns of the Copermittees.

Infiltration and Groundwater Protection

Requires restrictions for structural treatment BMPs that are designed to primarily function as infiltration devices to protect groundwater quality. Defines what restrictions are placed on these BMPs, but allows Copermittees to develop alternative restrictions. Applying large amounts of runoff water in a small area has the potential to adversely impact groundwater quality. The intent of these requirements is to provide necessary restrictions for use of these structural BMPs to protect the beneficial uses (municipal, agricultural, industrial) of groundwater in the Orange County section of the San Juan Creek Watershed Management Area. The intent of the requirements is also to provide the Copermittees needed flexibility to develop alternative restrictions for projects or locations.

Downstream Erosion

Require Copermittees to develop criteria to ensure discharges from new development and significant redevelopment maintain or reduce pre-development downstream erosion and protect stream habitat. Development and significant redevelopment can cause increases in runoff amount and velocity causing down erosion problems. The intent of these requirements is to mitigate these potential increases and prevent downstream erosion problems as seen in Aliso & San Juan Creeks.

2. Optional Provisions

Equivalent Numeric Sizing Criteria

Allows Copermittees the opportunity to develop an equivalent method for calculating the volume or flow to be mitigated. The intent of the requirement is to provide necessary flexibility to Copermittees to develop equivalent methods in calculating the volume or flow that must be mitigated from the 24-hour 85th percentile storm event.

Waiver Provision

Allows Copermittees to waive structural treatment BMPs when all available BMPs have been considered and rejected as infeasible. Also allows the Copermittees to develop a program to require projects that receive waivers, to transfer the cost savings to a fund. The intent of the requirements is to allow Copermittees necessary flexibility to waive structural BMPs when it can be established that the implementation of structural BMPs that meet numeric sizing criteria is not feasible at a given site. This provision also allows Copermittees

discretion to transfer the costs saving from such a waiver to a fund for water quality projects within the watershed.

The SDRWQCB has discretion to require Standard Urban Runoff Mitigation Plans in Jurisdictional Urban Runoff Management Program item F.1.b.(2). of Order No. R9-2002-0001 under the broad and specific legal authority cited above.

F.1.c. Revise Environmental Review Processes of the Jurisdictional Urban Runoff Management Program states the following:

- (1) *To the extent feasible, the Copermitees shall revise their current environmental review processes to include requirements for evaluation of water quality effects and identification of appropriate mitigation measures. The following questions are examples to be considered in addressing increased pollutants and flows from proposed projects:*
 - (a) *Could the proposed project result in an increase in pollutant discharges to receiving waters? Consider water quality parameters such as temperature, dissolved oxygen, turbidity and other typical storm water pollutants (e.g., heavy metals, pathogens, petroleum derivatives, synthetic organics, sediment, nutrients, oxygen-demanding substances, and trash).*
 - (b) *Could the proposed project result in significant alteration of receiving water quality during or following construction?*
 - (c) *Could the proposed project result in increased impervious surfaces and associated increased runoff?*
 - (d) *Could the proposed project create a significant adverse environmental impact to drainage patterns due to changes in runoff flow rates or volumes?*
 - (e) *Could the proposed project result in increased erosion downstream?*
 - (f) *Is the project tributary to an already impaired water body, as listed on the Clean Water Act Section 303(d) list? If so, can it result in an increase in any pollutant for which the water body is already impaired?*
 - (g) *Is project tributary to other environmentally sensitive areas? If so, can it exacerbate already existing sensitive conditions?*
 - (h) *Could the proposed project have a potentially significant environmental impact on surface water quality, to either marine, fresh, or wetland waters?*
 - (i) *Could the proposed project have a potentially significant adverse impact on ground water quality?*
 - (j) *Could the proposed project cause or contribute to an exceedance of applicable surface or groundwater receiving water quality objectives or degradation of beneficial uses?*
 - (k) *Can the project impact aquatic, wetland, or riparian habitat?*

Broad Legal Authority: CWA sections 402(p)(3)(B)(ii-iii), CWC section 13377, and Federal NPDES regulations 40 CFR 122.26(d)(2)(i)(B,C,E, and F) and 40 CFR 122.26(d)(2)(iv).

Specific Legal Authority: Federal NPDES regulation 40 CFR 122.26(d)(2)(iv)(A)(2) generally applies to all directives under Jurisdictional Urban Runoff Management Program item F.1. Land-Use Planning for New Development and Redevelopment Component of Order No. R9-2002-0001.

Discussion: Consideration of the effects of new development and redevelopment on water quality during project approval processes will help ensure that potential water quality problems resulting from the development are identified and addressed. The US EPA finds that "Proposed storm water management programs should include planning procedures for both during and after construction to implement control measures to ensure that pollution is reduced to the maximum extent practicable in areas of new development and redevelopment. Design criteria and performance standards may be used to assist in meeting this objective"

(1992). The US EPA further finds that "The municipality should consider storm water controls and structural controls in planning, zoning, and site or subdivision plan approval" (1992). The SWRCB Urban Runoff Technical Advisory Committee advises that the Copermittees' CEQA initial study checklists be revised to include consideration of water quality effects from new development or redevelopment. The questions included in Jurisdiction Urban Runoff Management Program item F.1.c. are based on questions recommended by the Technical Advisory Committee. The SDRWQCB has discretion to require Jurisdictional Urban Runoff Program item F.1.c. in Order No. R9-2002-0001 under the broad legal authority cited above.

F.1.d. Conduct Education Efforts Focused on New Development and Redevelopment of the Jurisdictional Urban Runoff Management Program states the following:

(1) *Internal: Municipal Staff and Others*

Each Copermittee shall implement an education program to ensure that its planning and development review staffs (and Planning Boards and Elected Officials, if applicable) have an understanding of:

- (a) *Federal, state, and local water quality laws and regulations applicable to development projects;*
- (b) *The connection between land use decisions and short and long-term water quality impacts (i.e., impacts from land development and urbanization); and*
- (c) *How impacts to receiving water quality resulting from development can be minimized (i.e., through implementation of various source control and structural BMPs).*

(2) *External: Project Applicants, Developers, Contractors, Property Owners, Community Planning Groups*

As early in the planning and development process as possible, each Copermittee shall implement a program to educate project applicants, developers, contractors, property owners, and community planning groups on the following topics:

- (a) *Federal, state, and local water quality laws and regulations applicable to development projects;*
- (b) *Required federal, state, and local permits pertaining to water quality;*
- (c) *Water quality impacts of urbanization; and*
- (d) *Methods for minimizing the impacts of development on receiving water quality.*

Broad Legal Authority: CWA sections 402(p)(3)(B)(ii-iii), CWC section 13377, and Federal NPDES regulations 40 CFR 122.26(d)(2)(i)(B,C,E, and F) and 40 CFR 122.26(d)(2)(iv).

Specific Legal Authority: Federal NPDES regulation 40 CFR 122.26(d)(2)(iv)(A)(2) generally applies to all directives under Jurisdictional Urban Runoff Management Program item F.1. Land-Use Planning for New Development and Redevelopment Component of Order No. R9-2002-0001.

Discussion: Training of municipal planning and development review staff is a critical aspect of an urban runoff management program. As discussed in Finding 18, development and implementation of urban runoff control measures as early in the project planning process as possible is an effective means (in terms of both cost and performance) for minimizing the impacts of urban runoff to receiving

waters. Municipal planning and development review staff are well-positioned to ensure that water quality considerations are incorporated into development projects in the early planning stages. With adequate training, municipal planning and development review staff can require implementation of BMPs early in the project planning process, thereby minimizing the urban runoff impacts of development in a cost effective manner. US EPA supports training of municipal staff when it identifies "training for appropriate employees" as a measurable goal of an urban runoff management program (2000).

Education on storm water planning issues for the public sector involved with development is equally critical. When the public sector has knowledge of storm water issues and regulations, it is more likely to incorporate storm water planning in the development and redevelopment process. In this manner, implementation of measures to address storm water issues will be included in development plans, saving time and money for the developer and the municipality. The SWRCB Urban Runoff Technical Advisory Committee finds that Copermittees should "Establish an education/information dissemination program that includes such things as: brochures to distribute to developers and contractors at permit counters and by mail; reference and training manuals for planners, engineers, inspectors, developers, contractors; and training and information exchange workshops."

Furthermore, in its Phase II Final Rule, US EPA requires small municipalities to "...implement a public education program to distribute educational materials to the community or conduct equivalent outreach activities [...]" (1999). Due to the greater water quality concerns generally experienced by larger municipalities, Phase II Final Rule requirements for small municipalities are also applicable to larger municipalities such as the Copermittees.

The SDRWQCB has discretion to require Jurisdictional Urban Runoff Program item F.1.d. in Order No. R9-2002-0001 under the broad legal authority cited above.

F.2. CONSTRUCTION COMPONENT

In addition to the underlying broad legal authority citations listed above in section VII. of this Fact Sheet/Technical Report, the following specific legal authority item also generally applies to all directives under Jurisdictional Urban Runoff Management Program item F.2. Construction Component of Order No. R9-2002-0001. Other specific legal authority items applicable only to distinct directives of Jurisdictional Urban Runoff Management Program item F.2. are provided as necessary.

Federal NPDES regulation 40 CFR 122.26(d)(2)(iv)(D) provides that the proposed management program include "A description of a program to implement and maintain structural and non-structural best management practices to reduce pollutants in storm water runoff from construction sites to the municipal storm sewer system."

F.2. Construction Component of the Jurisdictional Urban Runoff Management Program states the following:

Each Copermittee shall implement a Construction Component of its Jurisdictional URMP to reduce pollutants in runoff from construction sites during all construction phases. At a minimum the construction component shall address:

- F.2.a. Pollution Prevention*
- F.2.b. Grading Ordinance Update*
- F.2.c. Modify Construction and Grading Approval Process*
- F.2.d. Source Identification*
- F.2.e. Threat to Water Quality Prioritization*
- F.2.f. BMP Implementation*
- F.2.g. Inspection of Construction Sites*
- F.2.h. Enforcement of Construction Sites*
- F.2.i. Reporting of Non-compliant Sites*
- F.2.j. Education Focused on Construction Activities*

Broad Legal Authority: CWA sections 402(p)(3)(B)(ii-iii), CWC section 13377, and Federal NPDES regulations 40 CFR 122.26(d)(2)(i)(B,C,E, and F) and 40 CFR 122.26(d)(2)(iv).

Specific Legal Authority: Federal NPDES regulation 40 CFR 122.26(d)(2)(iv)(D) generally applies to all directives under Jurisdictional Urban Runoff Management Program item F.2. Construction Component of Order No. R9-2002-0001.

Discussion: CWA sections 402(p)(3)(B)(ii-iii) requires each Copermittee to prohibit non-storm water discharges into its MS4 and to reduce the discharge of pollutants to the maximum extent practicable for all urban land uses. The purpose of these two broad requirements is to minimize the short and long-term impacts of urban runoff on receiving water quality. Land used for construction activities is clearly identified in the federal regulations as one of several high priority land uses from which pollutants in urban runoff discharges must be reduced to the maximum extent practicable by each Copermittee. Federal NPDES regulation 40 CFR 122.26(d)(2)(iv) requires the development of a proposed management program to reduce the discharge of pollutants in storm water to the maximum extent practicable. Federal NPDES regulation 40 CFR 122.26(d)(2)(iv)(D) requires that this program include components which address construction sites and activities.

Natural erosion processes are accelerated when existing protective cover is removed during construction. Suspended sediments constitute the largest mass of pollutant loadings to surface waters. As discussed in Finding 19, the primary source of these sediments is construction sites. Sediments from construction site erosion can be effectively reduced in urban runoff by the application of a wide range of BMPs, which emphasize pollution prevention and source control and are supplemented by treatment control BMPs. For these reasons, each Copermittee must develop and implement a Construction Component that utilizes BMPs to control pollutants in runoff generated from construction sites.

The SDRWQCB has discretion to require Jurisdictional Urban Runoff Program item F.2 in Order No. R9-2002-0001 under broad legal authority cited above.

F.2.a. Pollution Prevention (Construction) of the Jurisdictional Urban Runoff Management Program states the following:

Each Copermittee shall implement pollution prevention methods in its Construction Component and shall require its use by construction site owners, developers, contractors, and other responsible parties, where appropriate.

Broad Legal Authority: CWA sections 402(p)(3)(B)(ii-iii), CWC section 13377, and Federal NPDES regulations 40 CFR 122.26(d)(2)(i)(B,C,E, and F) and 40 CFR 122.26(d)(2)(iv).

Specific Legal Authority: Federal NPDES regulation 40 CFR 122.26(d)(2)(iv)(D) generally applies to all directives under Jurisdictional Urban Runoff Management Program item F.2. Construction Component of Order No. R9-2002-0001.

Federal NPDES regulation 40 CFR 122.26(d)(2)(iv)(D)(1) provides that the proposed management program include “A description of procedures for site planning which incorporate consideration of potential water quality impacts.”

Federal NPDES regulation 40 CFR 122.26(d)(2)(iv)(D)(2) provides that the proposed management program include “A description of requirements for nonstructural and structural best management practices.”

Discussion: Each Copermittee must develop a program to reduce the discharge of pollutants in storm water from construction sites to the maximum extent practicable. In order to achieve this level of pollution reduction, BMPs must be implemented.⁹⁹ As discussed in Finding 12, pollution prevention (the reduction or elimination of pollutant generation at its source) is an essential aspect of BMPs. By limiting the generation of pollutants, less pollutants are available to be washed from construction sites, resulting in reduced pollutant loads in storm water discharges from these sites. In addition, there is no need to control or treat pollutants that are not initially generated. Furthermore, pollution prevention BMPs are generally more cost effective than removal of pollutants by treatment facilities or cleanup of contaminated media. In the Pollution Prevention Act of 1990, Congress established a national policy that emphasizes pollution prevention over control and treatment. Since pollution prevention is an effective and efficient means for reducing pollutant loads in storm water runoff, pollution prevention methods are an important aspect of BMPs to be included in the Construction Component of the Jurisdictional URMP.¹⁰⁰

The SDRWQCB has discretion to require Jurisdictional Urban Runoff Program item F.2.a in Order No. R9-2002-0001 under the broad and specific legal authority cited above.

F.2.b. Grading Ordinance Update (Construction) of the Jurisdictional Urban Runoff Management Program states the following:

⁹⁹Santa Clara Valley Urban Runoff Pollution Program, 1995. Blueprint for a Clean Bay:Best Management Practices to Prevent Stormwater Pollution from Construction Related Activities.

¹⁰⁰U.S. EPA, 1996. Controlling Stormwater Runoff Discharges from Small Construction Sites: A National Review.

Each Copermittee shall review and update its grading ordinances as necessary for compliance with its storm water ordinances and this Order. The updated grading ordinance shall require implementation of BMPs and other measures during all construction activities, including the following BMPs and other measures or their equivalent:

- (1) Erosion prevention;
- (2) Seasonal restrictions on grading;
- (3) Slope stabilization requirements;
- (4) Phased grading;
- (5) Revegetation as early as feasible;
- (6) Preservation of natural hydrologic features;
- (7) Preservation of riparian buffers and corridors;
- (8) Maintenance of all source control and structural treatment BMPs; and
- (9) Retention and proper management of sediment and other construction pollutants on site.

Broad Legal Authority: CWA sections 402(p)(3)(B)(ii-iii), CWC section 13377, and Federal NPDES regulations 40 CFR 122.26(d)(2)(i)(B,C,E, and F) and 40 CFR 122.26(d)(2)(iv).

Specific Legal Authority: Federal NPDES regulation 40 CFR 122.26(d)(2)(iv)(D) generally applies to all directives under Jurisdictional Urban Runoff Management Program item F.2. Construction Component of Order No. R9-2002-0001.

Federal NPDES regulation 40 CFR 122.26(d)(2)(iv)(D)(1) provides that the proposed management program include “A description of procedures for site planning which incorporate consideration of potential water quality impacts.”

Federal NPDES regulation 40 CFR 122.26(d)(2)(iv)(D)(2) provides that the proposed management program include “A description of requirements for nonstructural and structural best management practices.”

Federal NPDES regulation 40 CFR 122.26(d)(2)(i)(A) provides that each Copermittee must demonstrate that it can control “through ordinance, permit, contract, order or similar means, the contribution of pollutants to the municipal storm sewer by storm water discharges associated with industrial activity and the quality of storm water discharged from site of industrial activity.”

Federal NPDES regulation 40 CFR 122.26(b)(14) provides that “The following categories of facilities are considered to be engaging in ‘industrial activity’ for the purposes of this subsection: [...] (x) Construction activity including cleaning, grading and excavation activities [...].”

Discussion: Copermittees must reduce pollutant discharges in storm water from construction sites to the maximum extent practicable. In order to achieve this level of pollution reduction, BMPs must be implemented. An effective means for ensuring BMP implementation at construction sites is through the development and implementation of grading ordinances which require pollution prevention, source control, and structural treatment BMPs. Updated grading ordinances that adequately address water quality considerations will provide Copermittees with the necessary legal authority to require effective BMPs at construction sites.

The US EPA suggests that local ordinance be used to require implementation of BMPs, stating that “A description of the local erosion and sediment control law or

ordinance is needed to satisfy this requirement [i.e., Federal NPDES regulation 40 CFR 122.26(d)(2)(iv)(D)(2)]” (1992). Regarding Copermittee approval of construction activities, the US EPA further states that “applicants must propose site review and approval procedures that address sediment and erosion controls, storm water management, and other appropriate measures. Approvals should be clearly tied to commitments to implement structural and nonstructural BMPs during the construction process” (1992).

Furthermore, in its Phase II Final Rule, US EPA requires small municipalities to develop and implement for construction sites “An ordinance or other regulatory mechanism to require erosion and sediment controls, as well as sanctions to ensure compliance [...]” (1999). Due to the greater water quality concerns generally experienced by larger municipalities, Phase II Final Rule requirements for small municipalities are also applicable to larger municipalities such as the Copermittees.

The SDRWQCB has discretion to require Jurisdictional Urban Runoff Management Program item F.2.b in Order No. R9-2002-0001 under the broad and specific legal authority cited above.

F.2.c. Modify Construction and Grading Approval Process (Construction) of the Jurisdictional Urban Runoff Management Program states the following:

Prior to approval and issuance of local construction and grading permits, each Copermittee shall require all individual proposed construction and grading projects to implement measures to ensure that pollutants from the site will be reduced to the maximum extent practicable and will not cause or contribute to an exceedance of water quality objectives. Each Copermittee shall further ensure that all grading and construction activities will be in compliance with applicable Copermittee ordinances (e.g., storm water, grading, construction, etc.) and other applicable requirements, including this Order.

(1) Construction and Grading Project Requirements

Include construction and grading project requirements in local grading and construction permits to ensure that pollutant discharges are reduced to the maximum extent practicable and water quality objectives are not violated during the construction phase. Such requirements shall include the following requirements or their equivalent:

- (a) Require project proponent to develop and implement a plan to manage storm water and non-storm water discharges from the site at all times;*
- (b) Require project proponent to minimize grading during the wet season and coincide grading with seasonal dry weather periods to the extent feasible. If grading does occur during the wet season, require project proponent to implement additional BMPs for any rain events which may occur, as necessary for compliance with this Order;*
- (c) Require project proponent to emphasize erosion prevention as the most important measure for keeping sediment on site during construction;*
- (d) Require project proponent to utilize sediment controls as a supplement to erosion prevention for keeping sediment on-site during construction, and never as the single or primary method;*
- (e) Require project proponent to minimize areas that are cleared and graded to only the portion of the site that is necessary for construction;*
- (f) Require project proponent to minimize exposure time of disturbed soil areas;*
- (g) Require project proponent to temporarily stabilize and reseed disturbed soil areas as rapidly as possible;*
- (h) Require project proponent to permanently revegetate or landscape as early as feasible;*
- (i) Require project proponent to stabilize all slopes; and*
- (j) Require project proponents subject to California’s statewide General NPDES Permit for Storm Water Discharges Associated With Construction Activities, (hereinafter General*

Construction Permit), to provide evidence of existing coverage under the General Construction Permit.

Broad Legal Authority: CWA sections 402(p)(3)(B)(ii-iii), CWC section 13377, and Federal NPDES regulations 40 CFR 122.26(d)(2)(i)(B,C,E, and F) and 40 CFR 122.26(d)(2)(iv).

Specific Legal Authority: Federal NPDES regulation 40 CFR 122.26(d)(2)(iv)(D) generally applies to all directives under Jurisdictional Urban Runoff Management Program item F.2. Construction Component of Order No. R9-2002-0001.

Federal NPDES regulation 40 CFR 122.26(d)(2)(iv)(D)(1) provides that the proposed management program include “A description of procedures for site planning which incorporate consideration of potential water quality impacts.”

Federal NPDES regulation 40 CFR 122.26(d)(2)(iv)(D)(2) provides that the proposed management program include “A description of requirements for nonstructural and structural best management practices.”

Federal NPDES regulation 40 CFR 122.26(d)(2)(i)(A) provides that each Copermittee must demonstrate that it can control “through ordinance, permit, contract, order or similar means, the contribution of pollutants to the municipal storm sewer by storm water discharges associated with industrial activity and the quality of storm water discharged from site of industrial activity.”

Federal NPDES regulation 40 CFR 122.26(b)(14) provides that “The following categories of facilities are considered to be engaging in ‘industrial activity’ for the purposes of this subsection: [...] (x) Construction activity including cleaning, grading and excavation activities [...].”

Discussion: As discussed in Finding 16, since each Copermittee approves and issues construction and grading permits, and discharges from construction and grading activities enter its MS4, each Copermittee is responsible for the pollutant discharges resulting from construction and grading activities. Each Copermittee must ensure that pollutant discharges from construction and grading activities are reduced to the maximum extent practicable and do not result in degradation of receiving waters. An effective means for achieving this is to develop conditions of approval for grading and construction permits that require measures to minimize pollutant discharges. The US EPA recommends approval processes which consider water quality impacts, stating that approval process requirements should “include phasing development to coincide with seasonal dry periods, minimizing areas that are cleared and graded to only the portion of the site that is necessary for construction, exposing areas for the briefest period possible, and stabilizing and reseeding disturbed areas rapidly after construction activity is completed” (1992). Other suggested construction and grading conditions of approval listed in this item are based on SWRCB Urban Runoff Technical Advisory Committee recommendations.

During approval and issuance of grading and construction permits, each Copermittee must review construction and grading plans to ensure that the conditions of approval are met. US EPA states that to determine if a construction

site is in compliance with construction and grading ordinances and permits, the “MS4 operator should review the site plans submitted by the construction site operator before ground is broken” (2000). Furthermore, in its Phase II Final Rule, US EPA requires small municipalities to develop and implement for construction sites “Procedures for site plan review which incorporate consideration of potential water quality impacts” (1999). Due to the greater water quality concerns generally experienced by larger municipalities, Phase II Final Rule requirements for small municipalities are also applicable to larger municipalities such as the Copermittees.

The SDRWQCB has discretion to require Jurisdictional Urban Runoff Management Program item F.2.c in Order No. R9-2002-0001 under the broad and specific legal authority cited above.

F.2.d. Source Identification (Construction) of the Jurisdictional Urban Runoff Management Program states the following:

Each Copermittee shall annually develop and update, prior to the rainy season, a watershed-based inventory of all construction sites within its jurisdiction regardless of site size or ownership. This requirement is applicable to all construction sites regardless of whether the construction site is subject to the California statewide General NPDES Permit for Storm Water Discharges Associated With Construction Activities (hereinafter General Construction Permit), or other individual NPDES permit. The use of an automated database system, such as Geographical Information System (GIS) is highly recommended, but not required.

Broad Legal Authority: CWA sections 402(p)(3)(B)(ii-iii), CWC section 13377, and Federal NPDES regulations 40 CFR 122.26(d)(2)(i)(B,C,E, and F) and 40 CFR 122.26(d)(2)(iv).

Specific Legal Authority: Federal NPDES regulation 40 CFR 122.26(d)(2)(iv)(D) generally applies to all directives under Jurisdictional Urban Runoff Management Program item F.2. Construction Component of Order No. R9-2002-0001.

Federal NPDES regulation 40 CFR 122.26(d)(2)(iv)(D)(3) provides that the proposed management program include “A description of procedures for identifying priorities for inspecting sites and enforcing control measures which consider the nature of the construction activity, topography, and the characteristics of soils and receiving water quality.”

Discussion: In order to prohibit non-storm water discharges, reduce construction pollutant sources to the maximum extent practicable, and ensure that adequate BMPs are implemented, Copermittees must first identify all of the construction sites within their jurisdiction. The construction sites are to be inventoried on a watershed basis in order to help with prioritization of the sites. For example, construction sites which are found to be located in a watershed with impaired receiving waters for sediment should be considered a high priority for BMP implementation, inspections, and enforcement. The US EPA requires that all construction sites be addressed (and therefore inventoried), stating: “All construction sites, regardless of size, must be addressed by the municipality. To begin to identify these sites, the applicant should obtain lists of construction site operators that are covered by general or individual storm water NPDES permits from the NPDES permitting authority. However, construction sites not covered by a storm water discharge permit also need to be addressed by the municipality.

The best way to identify these construction sites and implement an effective BMP program to reduce pollutants in their runoff is through the site planning process” (1992).

The SDRWQCB has discretion to require Jurisdictional Urban Runoff Program item F.4.d in Order No. R9-2002-0001 under the broad and specific legal authority cited above.

F.2.e. Threat to Water Quality Prioritization (Construction) of the Jurisdictional Urban Runoff Management Program states the following:

- (1) *To establish priorities for construction oversight activities under this Order, the Copermittee shall prioritize its watershed-based inventory (developed pursuant to F.2.d. above) by threat to water quality. Each construction site shall be classified as high, medium, or low threat to water quality. In evaluating threat to water quality each Copermittee shall consider (1) soil erosion potential; (2) site slope; (3) project size and type; (4) sensitivity of receiving water bodies; (5) proximity to receiving water bodies; (6) non-storm water discharges; and (7) any other relevant factors.*
- (2) *A high priority construction site shall at a minimum be defined as a site meeting either of the following criteria or equivalent criteria:*
 - (a) *The site is 50 acres or more and grading will occur during the wet season; OR*
 - (b) *The site is (1) 5 acres or more and (2) tributary to a Clean Water Act section 303(d) water body impaired for sediment or is within or directly adjacent to or discharging directly to a receiving water within an environmentally sensitive area (as defined in section F.1.b.(2)(a)vi. of this Order).*

Broad Legal Authority: CWA sections 402(p)(3)(B)(ii-iii), CWC section 13377, and Federal NPDES regulations 40 CFR 122.26(d)(2)(i)(B,C,E, and F) and 40 CFR 122.26(d)(2)(iv).

Specific Legal Authority: Federal NPDES regulation 40 CFR 122.26(d)(2)(iv)(D) generally applies to all directives under Jurisdictional Urban Runoff Management Program item F.2. Construction Component of Order No. R9-2002-0001.

Federal NPDES regulation 40 CFR 122.26(d)(2)(iv)(D)(3) provides that the proposed management program include “A description of procedures for identifying priorities for inspecting sites and enforcing control measures which consider the nature of the construction activity, topography, and the characteristics of soils and receiving water quality.”

Discussion: As discussed in Finding 19, construction sites are high risk areas for pollutant discharges to storm water. Development of an inventory of construction sites within a watershed will help identify potential sources of pollutants in storm water. By assessing information provided in the inventory (such as site topography and site proximity to receiving waters), sites can be prioritized by threat to water quality. Those sites that pose the greatest threat can then be targeted for inspection and monitoring. This will allow for limited inspection and monitoring time to be most effective.

The types of construction sites identified as high priority in this item are identified as such due to their high potential for erosion and impacting receiving waters. These types of construction sites are generally large, requiring grading of a large

area, resulting in a large area of disturbed earth which is susceptible to erosion. Hillside construction is also high priority, due to its susceptibility to slope erosion. Any construction sites tributary to a CWA section 303(d) waterbody are also high priority due to their potential to further degrade those waterbodies. US EPA supports this type of prioritization, stating that municipalities should “identify priority sites for inspection and enforcement based on the nature and extent of the construction activity, topography, and the characteristics of soils and receiving water quality” (2000).

The SDRWQCB has discretion to require Jurisdictional Urban Runoff Program item F.2.e in Order No. R9-2002-0001 under the broad and specific legal authority cited above.

F.2.f.(1), F.2.f.(2), and F.2.f.(3) BMP Implementation (Construction) of the Jurisdictional Urban Runoff Management Program state the following:

- (1) *Each Copermitttee shall designate a set of minimum BMPs for high, medium, and low threat to water quality construction sites (as determined under section F.2.e). BMPs are to be implemented year round.*
- (2) *Each Copermitttee shall implement, or require the implementation of, the designated minimum BMPs (based upon the site's threat to water quality rating) at each construction site within its jurisdiction year round. If particular minimum BMPs are infeasible at any specific site, each Copermitttee shall implement, or require the implementation of, other equivalent BMPs. Each Copermitttee shall also implement or require any additional site specific BMPs as necessary to comply with this Order, including BMPs which are more stringent than those required under the statewide General Construction Permit.*
- (3) *Each Copermitttee shall implement, or require the implementation of, BMPs year round; however, BMP implementation requirements can vary based on wet and dry seasons.*

Broad Legal Authority: CWA sections 402(p)(3)(B)(ii-iii), CWC section 13377, and Federal NPDES regulations 40 CFR 122.26(d)(2)(i)(B,C,E, and F) and 40 CFR 122.26(d)(2)(iv).

Specific Legal Authority: Federal NPDES regulation 40 CFR 122.26(d)(2)(iv)(D) generally applies to all directives under Jurisdictional Urban Runoff Management Program item F.2. Construction Component of Order No. R9-2002-0001.

Federal NPDES regulation 40 CFR 122.26(d)(2)(iv)(D)(2) provides that the proposed management program include “A description of requirements for nonstructural and structural best management practices.”

Federal NPDES regulation 40 CFR 122.26(d)(2)(iv)(D)(3) provides that the proposed management program include “A description of procedures for identifying priorities for inspecting sites and enforcing control measures which consider the nature of the construction activity, topography, and the characteristics of soils and receiving water quality.”

Discussion: Copermitttees must reduce the discharge of pollutants in storm water from construction sites to the maximum extent practicable. To achieve this level of pollutant reduction, BMPs must be implemented (see Finding 11). Designation of a set of minimum BMPs for high, medium, and low threat construction sites will help ensure that appropriate BMPs are implemented at construction sites. These

minimum BMPs will also serve as guidance as to the level of water quality protection required.

Regarding designation of BMPs to be implemented, the US EPA states that “the proposed management program should describe requirements for nonstructural and structural BMPs that operators of construction activities that discharge to MS4s must meet” (1992). While minimum BMPs will be required at all construction sites, implementation of particular BMPs will be site specific in order to address various conditions at different sites. Regarding site specific BMPs, the US EPA states “Appropriate structural and nonstructural control requirements will vary by project. Project type, size, and duration, as well as soil composition, site slope, and proximity to sensitive receiving waters will determine the appropriate structural and nonstructural BMPs” (1992).

In order to comply with Order No. R9-2002-0001 requirements, implemented BMPs may need to be more stringent than those required under the statewide General Construction Permit. The US EPA implies that local sediment and erosion control requirements may be more stringent than statewide General Construction Permit requirements when it states that “construction sites covered under NPDES permit regulations must indicate whether they are in compliance with State and local sediment and erosion control plans” (1992).

The SDRWQCB has discretion to require Jurisdictional Urban Runoff Program items F.2.f.(1-3) in Order No. R9-2002-0001 under the broad and specific legal authority cited above.

F.2.f.(4) BMP Implementation (Construction) of the Jurisdictional Urban Runoff Management Program states the following:

Each Copermitttee shall implement, or require implementation of, additional controls for construction sites tributary to Clean Water Act section 303(d) water bodies impaired for sediment as necessary to comply with this Order. Each Copermitttee shall implement, or require implementation of, additional controls for construction sites within or adjacent to or discharging directly to receiving waters within environmentally sensitive areas (as defined in section F.1.b.(2)(a)vi. of this Order) as necessary to comply with this Order.

Broad Legal Authority: CWA sections 402(p)(3)(B)(ii-iii), CWC section 13377, and Federal NPDES regulations 40 CFR 122.26(d)(2)(i)(B,C,E, and F) and 40 CFR 122.26(d)(2)(iv).

Specific Legal Authority: Federal NPDES regulation 40 CFR 122.26(d)(2)(iv)(D) generally applies to all directives under Jurisdictional Urban Runoff Management Program item F.2. Construction Component of Order No. R9-2002-0001.

Federal NPDES regulation 40 CFR 122.44(d)(1)(i) requires NPDES permits to include limitations to “control all pollutants or pollutant parameters (either conventional, nonconventional, or toxic pollutants) which the Director determines are or may be discharged at a level which will cause, have reasonable potential to cause, or contribute to an excursion above any State water quality standard, including State narrative criteria for water quality.”

Discussion: CWA section 303(d) water bodies are impaired water bodies that are not achieving the water quality objectives necessary to protect their beneficial uses. As discussed in Finding 3, urban runoff discharges from MS4s are a leading cause of receiving water quality impairment in the San Diego Region and throughout the United States. Since discharges that cause or contribute to an exceedance of water quality standards are prohibited (see section C.1. of Order No. R9-2002-0001), any discharges to CWA section 303(d) waterbodies of pollutants for which the waterbody is impaired are prohibited. Therefore, construction sites and activities tributary to these water bodies must implement additional controls to ensure that they are not discharging the pollutants which are causing or contributing to the impairment of these water bodies.

With regards to coastal lagoons and other sensitive water bodies, additional controls are needed to protect these valuable and unique resources. In their Nonpoint Source Program Strategy and Implementation Plan, the SWRCB and California Coastal Commission support additional controls for critical coastal areas, stating "the State will seek to attain and maintain applicable water quality standards, and protect waters threatened by land uses, or by substantial expansion of existing land uses, by implementing additional management measures."

Furthermore, US EPA supports additional controls for construction sites tributary to impaired or sensitive water bodies, stating "The proximity and sensitivity of the receiving water to which the construction site discharges is an important consideration. For construction sites that discharge to receiving waters that do not support their designated use or other waters of special concern, additional construction site controls are probably warranted and should be strongly considered" (1992).

The SDRWQCB has the discretion to require Jurisdictional Urban Runoff Program item F.2.f.(4) in Order No. R9-2002-0001 under the broad and specific legal authority cited above.

F.2.g. Inspection of Construction Sites (Construction) of the Jurisdictional Urban Runoff Management Program states the following:

- (1) *Each Copermittee shall conduct construction site inspections for compliance with its ordinances (grading, storm water, etc.), permits (construction, grading, etc.), and this Order. Inspections shall include review of site erosion control and BMP implementation plans..*
- (2) *Each Copermittee shall establish inspection frequencies and priorities as determined by the threat to water quality prioritization described in F.2.e above. During the wet season (i.e., October 1 through April 30 of each year), each Copermittee shall inspect, at a minimum, each High Priority construction site, either:*

(a) *Weekly*

OR

(b) *Monthly for any site that the responsible Copermittee certifies in a written statement to the SDRWQCB all of the following (certified statements may be submitted to the SDRWQCB at any time for one or more sites):*

- i. *Copermittee has record of construction site's Waste Discharge Identification Number (WDID#) documenting construction site's coverage under the statewide General Construction Permit; and*

- ii. Copermittee has reviewed the construction site's Storm Water Pollution Prevention Plan (SWPPP); and
- iii. Copermittee finds SWPPP to be in compliance with all local ordinances, permits, and plans; and
- iv. Copermittee finds that the SWPPP is being properly implemented on site.

At a minimum, Medium and Low Priority construction sites shall be inspected by Copermittees twice during the wet season. All construction sites shall be inspected by the Copermittees as needed during the dry season (i.e., May 1 through September 30 of each year).

- (3) *Based upon site inspection findings, each Copermittee shall implement all follow-up actions necessary to comply with this Order.*

Broad Legal Authority: CWA sections 402(p)(3)(B)(ii-iii), CWC section 13377, and Federal NPDES regulations 40 CFR 122.26(d)(2)(i)(B,C,E, and F) and 40 CFR 122.26(d)(2)(iv).

Specific Legal Authority: Federal NPDES regulation 40 CFR 122.26(d)(2)(iv)(D) generally applies to all directives under Jurisdictional Urban Runoff Management Program item F.2. Construction Component of Order No. R9-2002-0001.

Federal NPDES regulation 40 CFR 122.26(d)(2)(iv)(D)(3) provides that the proposed management program include "A description of procedures for identifying priorities for inspecting sites and enforcing control measures which consider the nature of the construction activity, topography, and the characteristics of soils and receiving water quality."

Discussion: As discussed in Finding 24, inspections provide a necessary means by which Copermittees can evaluate compliance with their municipal ordinances. Inspections are especially important at high-risk areas for pollutant discharges, such as industrial and construction sites. To ensure that BMPs are properly installed and maintained, US EPA states MS4 operators should "develop procedures for site inspection and enforcement of control measures to deter infractions" (2000). Inspections of construction projects in the early stages of land disturbance have been shown to be an effective tool to ensure initial compliance with its local ordinances, permits and erosion control plans. A study was conducted by the North Carolina Department of Environment, which evaluated the effectiveness of their Erosion and Sediment Control Program (Malcom et al., 1990). The study found that at the start of construction, less than half of construction sites inspected had installed all of the sediment and erosion control measures specified on their approved plans, and even higher degrees of noncompliance were found in the maintenance of these measures once they were installed.¹⁰¹

Construction site inspections shall be conducted to determine compliance with applicable ordinances and permits, including Order No. R9-2002-0001. To this effect, the US EPA finds that "Site inspections are expected to be the primary enforcement mechanism by which erosion and sediment controls are maintained" (1992). When inspections result in findings of noncompliance, follow-up by the Copermittee to ensure compliance is necessary. The US EPA states "Effective inspection and enforcement requires [...] intervention by the municipal authority to

¹⁰¹Malcom, H.R., A.C. Beard, R.J. Burby, E.J. Kaiser, M.I. Luger, and R.G. Patterson. 1990. *Evaluation of the North Carolina Erosion and Sediment Control Program*. Raleigh NC: Land Quality Section, Division of Land Resources, North Carolina Department of Environmental Health and Natural Resources.

correct violations” (1992). This is supported by the North Carolina Study that provided empirical support for the importance of inspections in increasing construction site compliance with local and state ordinances. Both the frequency and duration of project inspections were positively associated with the level of installation and maintenance compliance at the construction sites (Malcom et al., 1990). US EPA further finds “inspections give the MS4 operator an opportunity to provide additional guidance and education, issue warnings or assess penalties”(2000)”. Frequent inspections by Copermittees of high priority construction sites will keep compliance a priority, and allow opportunities for inspectors to enhance problem-solving skills among site personnel.

Construction site inspection frequencies are to be based on threat to water quality prioritization. US EPA supports this, stating that site inspection procedures should “identify priority sites for inspection and enforcement based on the nature and extent of the construction activity, topography, and the characteristics of soils and receiving water quality” (2000). For example, construction sites that are considered a high threat to water quality are to be given a high priority for inspection. This will allow for limited inspection and monitoring time to be most effective. Weekly to monthly inspection of high threat sites is necessary due to the dynamic nature of construction activities. Medium and low threat construction sites can be inspected less frequently, due to their reduced risk of negatively impacting receiving waters. Review of SWPPPs can be one effective tool for determining frequency of site inspections. Construction sites which effectively implement the measures of a comprehensive SWPPP may not need to be inspected as frequently as less diligent sites.

The SDRWQCB has discretion to require Jurisdictional Urban Runoff Program item F.2.g in Order No. R9-2002-0001 under the broad and specific legal authority cited above.

F.2.h. Enforcement of Construction Sites (Construction) of the Jurisdictional Urban Runoff Management Program states the following:

Each Copermittee shall enforce its ordinances (grading, storm water, etc.) and permits (construction, grading, etc.) at all construction sites as necessary to maintain compliance with this Order. Copermittee ordinances or other regulatory mechanisms shall include sanctions to ensure compliance. Sanctions shall include the following or their equivalent: Non-monetary penalties, fines, bonding requirements, and/or permit denials for non-compliance.

Broad Legal Authority: CWA sections 402(p)(3)(B)(ii-iii), CWC section 13377, and Federal NPDES regulations 40 CFR 122.26(d)(2)(i)(B,C,E, and F) and 40 CFR 122.26(d)(2)(iv).

Specific Legal Authority: Federal NPDES regulation 40 CFR 122.26(d)(2)(iv)(D) generally applies to all directives under Jurisdictional Urban Runoff Management Program item F.2. Construction Component of Order No. R9-2002-0001.

Federal NPDES regulation 40 CFR 122.26(d)(2)(iv)(D)(3) provides that the proposed management program include “A description of procedures for identifying priorities for inspecting sites and enforcing control measures which consider the nature of the construction activity, topography, and the characteristics of soils and receiving water quality.”

Discussion: Each Copermittee must develop grading and storm water ordinances under its Jurisdictional Urban Runoff Management Program. As discussed in Finding 24, when a Copermittee determines a violation of its grading or storm water ordinance, it must pursue correction of the violation. A critical aspect of the correction of violations is enforcement of ordinances. Enforcement increases the probability of correction of a violation. The US EPA supports development of enforceable ordinances and permits when it states “applicants must describe proposed regulatory programs to reduce pollutants in storm water runoff from construction sites to the MS4” (1992). The US EPA supports enforcement of these ordinances and permits at construction sites when it states “Effective inspection and enforcement requires [...] penalties to deter infractions and intervention by the municipal authority to correct violations. Enforcement mechanisms [...] also must be described” (1992).

Furthermore, in its Phase II Final Rule, US EPA requires small municipalities to develop and implement “An ordinance or other regulatory mechanism to require erosion and sediment controls, as well as sanctions to ensure compliance [...]” (1999). Due to the greater water quality concerns generally experienced by larger municipalities, Phase II Final Rule requirements for small municipalities are also applicable to larger municipalities such as the Copermittees.

The SDRWQCB has discretion to require Jurisdictional Urban Runoff Program item F.2.h of Order No. R9-2002-0001 under the broad and specific legal authority cited above.

F.2.i. Reporting of Non-compliant Sites (Construction) of the Jurisdictional Urban Runoff Management Program states the following:

Each Copermittee shall provide oral notification to the SDRWQCB of non-compliant sites that are determined to pose a threat to human or environmental health within its jurisdiction within 24 hours of the discovery of noncompliance, as required under section R.1 (and B.6 of Attachment C) of this Order.

Each Copermittee shall develop and submit criteria by which to evaluate events of non-compliance to determine whether they pose a threat to human or environmental health. These criteria shall be submitted in the Jurisdictional Urban Runoff Management Program Document and Annual Reports for SDRWQCB review.

Such oral notification shall be followed up by a written report to be submitted to the SDRWQCB within 5 days of the incidence of non-compliance as required under section R.1 (and B.6 of Attachment C) of this Order. Sites are considered non-compliant when one or more violations of local ordinances, permits, plans, or this Order exist on the site.

Broad Legal Authority: CWA sections 402(p)(3)(B)(ii-iii), CWC section 13377, and Federal NPDES regulations 40 CFR 122.26(d)(2)(i)(B,C,E, and F) and 40 CFR 122.26(d)(2)(iv).

Specific Legal Authority: Federal NPDES regulation 40 CFR 122.26(d)(2)(iv)(D) generally applies to all directives under Jurisdictional Urban Runoff Management Program item F.2. Construction Component of Order No. R9-2002-0001.

California Water Code section 13267 provides that “the regional board may require than any person who has discharged [...] shall furnish, under penalty of perjury, technical or monitoring reports which the regional board requires.”

Federal NPDES regulation 40 CFR 122.44(l)(6) states “The permittee shall report any noncompliance which may endanger health or the environment. Any information shall be provided orally within 24 hours from the time the permittee becomes aware of the circumstances. A written submission shall also be provided within 5 days of the time the permittee becomes aware of the circumstances. The written submission shall contain a description of the noncompliance and its cause; the period of non-compliance, including exact dates and times, and if the noncompliance has not been corrected, the anticipated time it is expected to continue; and steps taken or planned to reduce, eliminate, and prevent reoccurrence of the noncompliance.”

Discussion: Follow-up with non-compliant construction sites is essential to ensure that the site has taken adequate corrective measures to achieve compliance. To help ensure that compliance has been achieved, the Copermittees shall report non-compliant industrial sites to the SDRWQCB. The SDRWQCB can then participate in follow-up efforts to assure that the construction site is in compliance. Notification of non-compliance is common to all NPDES permits under Federal NPDES regulation 40 CFR 122.44(l)(6).

The SDRWQCB has discretion to require Jurisdictional Urban Runoff Program item F.3.b.(7) in Order No. R9-2002-0001 under the broad and specific legal authority cited above.

F.2.j. Education Focused on Construction Activities (Construction) of the Jurisdictional Urban Runoff Management Program states the following:

(1) *Internal: Municipal Staff*

Each Copermittee shall implement an education program to ensure that its construction, building, and grading review staffs and inspectors have an understanding of:

- (a) *Federal, state, and local water quality laws and regulations applicable to construction and grading activities.*
- (b) *The connection between construction activities and water quality impacts (i.e., impacts from land development and urbanization).*
- (c) *How erosion can be prevented.*
- (d) *How impacts to receiving water quality resulting from construction activities can be minimized (i.e., through implementation of various source control and structural BMPs).*
- (e) *Applicable topics listed in section F.4. of this Order.*

(2) *External: Project Applicants, Contractors, Developers, Property Owners, and other Responsible Parties*

Each Copermittee shall implement an education program to ensure that project applicants, contractors, developers, property owners, and other responsible parties have an understanding of the topics outlined in section F.2.j.(1) above of this Order.

Broad Legal Authority: CWA sections 402(p)(3)(B)(ii-iii), CWC section 13377, and Federal NPDES regulations 40 CFR 122.26(d)(2)(i)(B,C,E, and F) and 40 CFR 122.26(d)(2)(iv).

Specific Legal Authority: Federal NPDES regulation 40 CFR 122.26(d)(2)(iv)(D) generally applies to all directives under Jurisdictional Urban Runoff Management Program item F.2. Construction Component of Order No. R9-2002-0001.

Federal NPDES regulation 40 CFR 122.26(d)(2)(iv)(D)(4) provides that the proposed management program include “A description of appropriate educational and training measures for construction site operators.”

Discussion: As discussed in Finding 23, implementation of an education program is an important best management practice for construction sites and activities. The SWRCB Technical Advisory Committee “recognizes that education with an emphasis on pollution prevention is the fundamental basis for solving nonpoint source pollution problems.” The TAC points out several target communities for education efforts, including “Government: Educate agencies and officials to achieve better communication, consistency, collaboration, and coordination at the federal, state and local levels” and “Development Community: Educate the development community, including developers, contractors, architects, and local government planners, engineers, and inspectors, on nonpoint source pollution problems associated with development and redevelopment and construction activities and involve them in problem definitions and solutions.”

The US EPA also supports education efforts for parties involved in construction, stating “technical information on how to incorporate storm water management with erosion and sediment control and other BMP training courses are recommended for municipal employees and construction site operators.”

The SDRWQCB has discretion to require Jurisdictional Urban Runoff Management Program item F.2.j. in Order No. R9-2002-0001 under the broad and specific legal authority cited above.

F.3. EXISTING DEVELOPMENT COMPONENT

F.3. Existing Development Component of the Jurisdictional Urban Runoff Management Program states the following:

Each Copermitttee shall minimize the short and long-term impacts on receiving water quality from all types of existing development.

Broad Legal Authority: CWA sections 402(p)(3)(B)(ii-iii), CWC section 13377, and Federal NPDES regulations 40 CFR 122.26(d)(2)(i)(B,C,E, and F) and 40 CFR 122.26(d)(2)(iv).

Discussion: CWA sections 402(p)(3)(B)(ii-iii) require each Copermitttee to prohibit non-storm water discharges into its MS4 and to reduce the discharge of pollutants to the maximum extent practicable for all urban land uses. The purpose of these two broad requirements is to minimize the short and long-term impacts of urban runoff on receiving water quality. The SDRWQCB has discretion to require Jurisdictional Urban Runoff Management Program item F.3 of Order No. R9-2002-0001 under the broad legal authority cited above.

F.3.a. MUNICIPAL (EXISTING DEVELOPMENT)

In addition to the underlying broad legal authority citations listed above in section VII. of this Fact Sheet/Technical Report, the following specific legal authority items also generally apply to all directives under Jurisdictional Urban Runoff Management Program item F.3.a. Municipal (Existing Development) of Order No. R9-2002-0001. Other specific legal authority items applicable only to distinct directives of Jurisdictional Urban Runoff Management Program item F.3.a. are provided as necessary.

Federal NPDES regulation 40 CFR 122.26(d)(2)(iv)(A)(1) provides that the proposed management program include “A description of maintenance activities and a maintenance schedule for structural controls to reduce pollutants (including floatables) in discharges from municipal separate storm sewers.”

Federal NPDES regulation 40 CFR 122.26(d)(2)(iv)(A)(3) provides that the proposed management program include “A description for operating and maintaining public streets, roads and highways and procedures for reducing the impact on receiving waters of discharges from municipal storm sewer systems, including pollutants discharged as a result of deicing activities.”

Federal NPDES regulation 40 CFR 122.26(d)(2)(iv)(A)(4) provides that the proposed management program include “A description of procedures to assure that flood management projects assess the impacts on the water quality of receiving water bodies and that existing structural flood control devices have been evaluated to determine if retrofitting the device to provide additional pollutant removal from storm water is feasible.”

Federal NPDES regulation 40 CFR 122.26(d)(2)(iv)(A)(5) provides that the proposed management program include “A description of a program to monitor pollutants in runoff from operating or closed municipal landfills or other treatment, storage or disposal facilities for municipal waste, which shall identify priorities and procedures for inspections and establishing and implementing control measures for such discharges.”

Federal NPDES regulation 40 CFR 122.26(d)(2)(iv)(A)(6) provides that the proposed management program include “A description of a program to reduce to the maximum extent practicable, pollutants in discharges from municipal separate storm sewers associated with the application of pesticides, herbicides, and fertilizer which will include, as appropriate, controls such as educational activities, permits, certifications, and other measures for commercial applicators and distributors, and controls for application in public right-of-ways and at municipal facilities.”

F.3.a. Municipal (Existing Development) of the Jurisdictional Urban Runoff Management Program states the following:

Each Copermittee shall implement a Municipal (Existing Development) Component to prevent or reduce pollutants in runoff from all municipal land use areas and activities. At a minimum the municipal component shall address:

- F.3.a.(1) Pollution Prevention*
- F.3.a.(2) Source Identification*
- F.3.a.(3) Threat to Water Quality Prioritization*
- F.3.a.(4) BMP Implementation*
- F.3.a.(5) Maintenance of Municipal Separate Storm Sewer System*
- F.3.a.(6) Management of Pesticides, Herbicides, and Fertilizers*
- F.3.a.(7) Inspection of Municipal Areas and Activities*
- F.3.a.(8) Enforcement of Municipal Areas and Activities*

Broad Legal Authority: CWA sections 402(p)(3)(B)(ii-iii), CWC section 13377, and Federal NPDES regulations 40 CFR 122.26(d)(2)(i)(B,C,E, and F) and 40 CFR 122.26(d)(2)(iv).

Specific Legal Authority: Federal NPDES regulations 40 CFR 122.26(d)(2)(iv)(A)(1,3,4,5, and 6) generally apply to all directives under Jurisdictional Urban Runoff Management Program item F.3.a. Municipal (Existing Development) of Order No. R9-2002-0001.

Discussion: CWA sections 402(p)(3)(B)(ii-iii) requires each Copermittee to prohibit non-storm water discharges into its MS4 and to reduce the discharge of pollutants to the maximum extent practicable for all urban land uses. The purpose of these two broad requirements is to minimize the short and long-term impacts of urban runoff on receiving water quality. Land used for municipal activities is clearly identified in the federal regulations as one of several high priority land uses from which pollutants in urban runoff discharges must be reduced to the maximum extent practicable by each Copermittee. Federal NPDES regulation 40 CFR 122.26(d)(2)(iv) requires the development of a proposed management program to reduce the discharge of pollutants in storm water to the maximum extent practicable. Federal NPDES regulations 40 CFR 122.26(d)(2)(iv)(A)(1) and 40 CFR 122.26(d)(2)(iv)(A)(3-6) require that this program include components which address municipal areas and activities.

US EPA targets municipal areas and activities “to help ensure a reduction in the amount and type of pollution that (1) collects on streets, parking lots, open spaces, and storage and vehicle maintenance areas and is discharged into local waterways; and (2) results from actions such as environmentally damaging land development and flood management practices or poor maintenance of storm sewer systems” (2000). To reduce pollutant discharges from municipal areas and activities to the maximum extent practicable, BMPs must be implemented. Therefore, a municipal existing development component requiring BMPs must be developed and implemented as part of each Copermittee’s Jurisdictional URMP.

The SDRWQCB has discretion to require Jurisdictional Urban Runoff Management Program item F.3.a in Order No. R9-2002-0001 under the broad legal authority cited above.

F.3.a.(1) Pollution Prevention (Municipal) of the Jurisdictional Urban Runoff Management Program states the following:

Each Copermittee shall include and describe pollution prevention methods within its Municipal (Existing Development) Component. Each Copermittee shall require the use of pollution prevention methods by municipal departments, contractors, and personnel, where appropriate.

Broad Legal Authority: CWA sections 402(p)(3)(B)(ii-iii), CWC section 13377, and Federal NPDES regulations 40 CFR 122.26(d)(2)(i)(B,C,E, and F) and 40 CFR 122.26(d)(2)(iv).

Specific Legal Authority: Federal NPDES regulations 40 CFR 122.26(d)(2)(iv)(A)(1,3,4,5, and 6) generally apply to all directives under Jurisdictional Urban Runoff Management Program item F.3.a. Municipal (Existing Development) of Order No. R9-2002-0001.

Discussion: Each Copermittee must develop a program to reduce the discharge of pollutants to and from the MS4 to the maximum extent practicable for all urban land uses and activities, including municipal areas and activities. In order to achieve this level of pollution reduction, BMPs must be implemented. Pollution prevention, the reduction or elimination of pollutant generation at its source, is an essential aspect of BMPs. By limiting the generation of pollutants, less pollutants are available to be washed from municipal areas and activities, resulting in reduced pollutant loads in storm water discharges from these areas and activities. In addition, there is no need to control or treat pollutants that are not initially generated. Furthermore, pollution prevention BMPs are generally more cost effective than removal of pollutants by treatment facilities or cleanup of contaminated media. In the Pollution Prevention Act of 1990, Congress established a national policy that emphasizes pollution prevention over control and treatment. Since pollution prevention is an effective and efficient means for reducing pollutant loads in storm water runoff, pollution prevention methods are an important aspect of BMPs to be included in the municipal existing development component.¹⁰²

The SDRWQCB has discretion to require Jurisdictional Urban Runoff Management Program item F.3.a.(1) in Order No. R9-2002-0001 under the broad legal authority cited above.

F.3.a.(2) Source Identification (Municipal) of the Jurisdictional Urban Runoff Management Program states the following:

Each Copermittee shall develop, and update annually, a watershed-based inventory of the name, address (if applicable), and description of all municipal land use areas and activities which generate pollutants.

Broad Legal Authority: CWA sections 402(p)(3)(B)(ii-iii), CWC section 13377, and Federal NPDES regulations 40 CFR 122.26(d)(2)(i)(B,C,E, and F) and 40 CFR 122.26(d)(2)(iv).

¹⁰²National Association of Counties, 1995. Preventing pollution in Our Cities and Counties: A Compendium of Case Studies.

Specific Legal Authority: Federal NPDES regulations 40 CFR 122.26(d)(2)(iv) (A)(1,3,4,5, and 6) generally apply to all directives under Jurisdictional Urban Runoff Management Program item F.3.a. Municipal (Existing Development) of Order No. R9-2002-0001.

Discussion: In order to prohibit non-storm water discharges, reduce municipal pollutant sources to the maximum extent practicable, and ensure that adequate BMPs are implemented, Copermittees must first identify all of the municipal areas and pollutant source activities within their jurisdiction. The municipal areas and pollutant source activities are to be inventoried on a watershed basis in order to help with prioritization of the sites. For example, municipal pollutant sources which are found to be located in a watershed with impaired receiving waters should be considered a high priority for BMP implementation, inspections, and monitoring. Regarding municipal pollutant source inventories, the US EPA states "The first step is to identify facilities that handle municipal waste and summarize their operations" (1992). The SDRWQCB has discretion to require Jurisdictional Urban Runoff Management Program item F.3.a.(2) of Order No. R9-2002-0001 under the broad legal authority cited above.

F.3.a.(3)(a) Threat to Water Quality Prioritization (Municipal) of the Jurisdictional Urban Runoff Management Program states the following:

To establish priorities for oversight of municipal areas and activities required under this Order, each Copermittee shall prioritize each watershed inventory in F.3.a.2. above by threat to water quality and update annually. Each municipal area and activity shall be classified as high, medium, or low threat to water quality. In evaluating threat to water quality, each Copermittee shall consider (1) type of municipal area or activity; (2) materials used; (3) wastes generated; (4) pollutant discharge potential; (5) non-storm water discharges; (6) size of facility or area; (7) proximity to receiving water bodies; (8) sensitivity of receiving water bodies; and (9) any other relevant factors.

Broad Legal Authority: CWA sections 402(p)(3)(B)(ii-iii), CWC section 13377, and Federal NPDES regulations 40 CFR 122.26(d)(2)(i)(B,C,E, and F) and 40 CFR 122.26(d)(2)(iv).

Specific Legal Authority: Federal NPDES regulations 40 CFR 122.26(d)(2)(iv) (A)(1,3,4,5, and 6) generally apply to all directives under Jurisdictional Urban Runoff Management Program item F.3.a. Municipal (Existing Development) of Order No. R9-2002-0001.

Discussion: Many municipal pollutant sources pose a high risk for pollutant discharges to storm water. By assessing information provided in the municipal pollutant source inventory (such as principal pollutants used or services provided by a municipal facility), sites can be prioritized by threat to water quality. Those sites which pose the greatest threat can then be targeted for BMP implementation, inspection, and monitoring. This will allow for limited resources to be most effective in reducing pollutant discharges from municipal sources.

The SDRWQCB has discretion to require Jurisdictional Urban Runoff Management Program item F.3.a.(3)(a) in Order No. R9-2002-0001 under the broad legal authority cited above.

F.3.a.(3)(b) Threat to Water Quality Prioritization (Municipal) of the Jurisdictional Urban Runoff Management Program states the following:

At a minimum, the high priority municipal areas and activities shall include the following:

- i. Roads, Streets, Highways, and Parking Facilities.*
- ii. Flood Management Projects and Flood Control Devices.*
- iii. Areas and activities tributary to a Clean Water Act section 303(d) impaired water body, where an area or activity generates pollutants for which the water body is impaired. Areas and activities within or adjacent to or discharging directly to receiving waters within environmentally sensitive areas (as defined in section F.1.b.(2)(a)vi. of this Order).*
- iv. Municipal Waste Facilities.*
 - *Active or closed municipal landfills;*
 - *Publicly owned treatment works (including water and wastewater treatment plants) and sanitary sewage collection systems;*
 - *Municipal separate storm sewer systems;*
 - *Incinerators;*
 - *Solid waste transfer facilities;*
 - *Land application sites;*
 - *Uncontrolled sanitary landfills;*
 - *Corporate yards including maintenance and storage yards for materials, waste, equipment and vehicles;*
 - *Sites for disposing and treating sewage sludge; and*
 - *Hazardous waste treatment, disposal, and recovery facilities.*
- v. Other municipal areas and activities that the Copermittee determines may contribute a significant pollutant load to the MS4.*
- vi. Municipal airfields.*

Broad Legal Authority: CWA sections 402(p)(3)(B)(ii-iii), CWC section 13377, and Federal NPDES regulations 40 CFR 122.26(d)(2)(i)(B,C,E, and F) and 40 CFR 122.26(d)(2)(iv).

Specific Legal Authority: Federal NPDES regulations 40 CFR 122.26(d)(2)(iv)(A)(1,3,4,5, and 6) generally apply to all directives under Jurisdictional Urban Runoff Management Program item F.3.a. Municipal (Existing Development) of Order No. R9-2002-0001.

Discussion: Identification of high priority municipal pollutant areas and activities allows for limited pollution reduction resources to be most effective. Targeting high priority municipal areas and activities for BMP implementation, inspection, and monitoring provides the greatest reduction in risk of degrading receiving waters per expenditure.

Items (i), (ii), and (iv) above are considered to be high priority sources since they are specifically addressed in Federal NPDES regulations 40 CFR 122.26(d)(2)(iv)(A)(3-5). Regarding roads, highways, and parking facilities, the US EPA states "Road maintenance practices, especially snow management and road repair, and traffic are significant sources of pollutants in storm water discharges. [...] Municipal equipment yards and maintenance shops that support road maintenance activities can also be significant sources of pollutants" (1992). Regarding flood management projects and flood control devices, the US EPA states "Storm water management devices and structures that focus solely on water quantity are usually not designed to remove pollutants, and may sometimes harm aquatic habitat and aesthetic values" (1992). Regarding

municipal waste facilities, the US EPA states “Applicants must describe programs that identify measures to monitor and reduce pollutants in storm water discharges from facilities that handle municipal waste, including sewage sludge. [...] The types of facilities that should be included are: active or closed municipal waste landfills; publicly owned treatment works, including water and wastewater treatment plants; incinerators; municipal solid waste transfer facilities; land application sites; uncontrolled sanitary landfills; maintenance and storage yards for waste transportation fleets and equipment; sites for disposing or treating sludge from municipal treatment works; and other treatment, storage, or disposal facilities for municipal waste” (1992).

Areas and activities included in item (iii) are considered high priority due to their location in relation to CWA section 303(d) water bodies. Pollutant loading of these water bodies must be avoided to aid in their recovery and ensure against their further degradation.

The SDRWQCB has discretion to require Jurisdictional Urban Runoff Management Program item F.3.a.(3)(b) in Order No. R9-2002-0001 under the broad legal authority cited above.

F.3.a.(4)(a) and F.3.a.(4)(b) BMP Implementation (Municipal) of the Jurisdictional Urban Runoff Management Program state the following:

- (a) *Each Copermittee shall designate a set of minimum BMPs for high, medium, and low threat to water quality municipal areas and activities (as determined under section F.3.a.(3)). The designated minimum BMPs for high threat to water quality municipal areas and activities shall be area or activity specific as appropriate.*
- (b) *Each Copermittee shall implement, or require the implementation of, the designated minimum BMPs (based upon the threat to water quality rating) at each municipal area or activity within its jurisdiction. If particular minimum BMPs are infeasible for any specific area or activity, each Copermittee shall implement, or require implementation of other equivalent BMPs. Each Copermittee shall also implement any additional BMPs as are necessary to comply with this Order.*
 - i. *Each Copermittee shall evaluate feasibility of retrofitting existing structural flood control devices and retrofit where needed.*

Broad Legal Authority: CWA sections 402(p)(3)(B)(ii-iii), CWC section 13377, and Federal NPDES regulations 40 CFR 122.26(d)(2)(i)(B,C,E, and F) and 40 CFR 122.26(d)(2)(iv).

Specific Legal Authority: Federal NPDES regulations 40 CFR 122.26(d)(2)(iv)(A)(1,3,4,5, and 6) generally apply to all directives under Jurisdictional Urban Runoff Management Program item F.3.a. Municipal (Existing Development) of Order No. R9-2002-0001.

Discussion: Copermittees must reduce the discharge of pollutants to the MS4 to the maximum extent practicable. In order to achieve this level of pollution reduction in storm water discharges from municipal areas and activities, BMPs must be implemented. To ensure that adequate BMPs are utilized for various municipal areas and activities, each Copermittee shall designate and implement a set of minimum BMPs for high, medium, and low threat to water quality municipal

areas and activities. The designated minimum BMPs will provide guidance as to the level of water quality protection required for various municipal areas and activities.

The US EPA recommends that Copermittees include in the proposed management program BMP measures for addressing municipal area and activities. Regarding public street, road, or highway BMPs, the US EPA states that "proposed management programs must include a description of practices for operation and maintenance of public streets, roads, and highways, and procedures for reducing the impact of runoff from these areas on receiving waters. [...] Pollutants from traffic can be minimized by using nonstructural controls (e.g., traffic reduction and improved traffic management), structural controls (e.g., traditional and innovative BMPs), and changing maintenance activities" (1992).

Regarding flood management projects, the US EPA finds that flood management projects can be harmful to receiving waters, stating that "Storm water management devices and structures that focus solely on water quantity are usually not designed to remove pollutants, and may sometimes harm aquatic habitat and aesthetic values" (1992). As flood control structures and other elements of the MS4 age and retrofitting becomes necessary, opportunities for water quality improvements arise. Conveyance systems which take water quality consideration into account (such as grassed swales, vegetated detention ponds, etc.) can often cost less to construct than traditional concrete systems. Evaluation of the applicability of such systems during retrofitting must occur to ensure that pollutants in urban runoff are reduced to the maximum extent practicable. The US EPA supports utilizing BMPs for pollution reduction in flood management projects, stating that "The proposed management program must demonstrate that flood management projects take into account the effects on the water quality of receiving water bodies. [...] Opportunities for pollutant reduction should be considered" (1992).

Regarding municipal waste facility BMPs, the US EPA states that "Procedures to evaluate, inspect, monitor, and establish control measures for municipal waste sites over the term of the NPDES permit should be described" (1992).

The SDRWQCB has discretion to require Jurisdictional Urban Runoff Management Program item F.3.a.(4)(a) and F.3.a.(4)(b) in Order No. R9-2002-0001 under the broad legal authority cited above.

F.3.a.(4)(c) BMP Implementation (Municipal) of the Jurisdictional Urban Runoff Management Program states the following:

Each Copermittee shall implement, or require implementation of, any additional controls for municipal areas and activities tributary to Clean Water Act section 303(d) impaired water bodies (where an area or activity generates pollutants for which the water body is impaired) as necessary to comply with this Order. Each Copermittee shall implement, or require implementation of, additional controls for municipal areas and activities within or directly adjacent to or discharging directly to receiving waters within environmentally sensitive areas (as defined in section F.1.b.(2)(a)vi. of this Order) as necessary to comply with this Order.

Broad Legal Authority: CWA sections 402(p)(3)(B)(ii-iii), CWC section 13377, and Federal NPDES regulations 40 CFR 122.26(d)(2)(i)(B,C,E, and F) and 40 CFR 122.26(d)(2)(iv).

Specific Legal Authority: Federal NPDES regulations 40 CFR 122.26(d)(2)(iv) (A)(1,3,4,5, and 6) generally apply to all directives under Jurisdictional Urban Runoff Management Program item F.3.a. Municipal (Existing Development) of Order No. R9-2002-0001.

Federal NPDES regulation 40 CFR 122.44(d)(1)(i) requires NPDES permits to include limitations to “control all pollutants or pollutant parameters (either conventional, nonconventional, or toxic pollutants) which the Director determines are or may be discharged at a level which will cause, have reasonable potential to cause, or contribute to an excursion above any State water quality standard, including State narrative criteria for water quality.”

Discussion: CWA section 303(d) water bodies are water bodies which are not achieving the water quality objectives necessary to protect their beneficial uses. As discussed in Finding 3, urban runoff discharges from MS4s are a leading cause of receiving water quality impairment in the San Diego Region and throughout the United States. Since discharges which cause or contribute to an exceedance of water quality standards must be controlled and are prohibited (see section C.1. of Order No. R9-2002-0001), discharges to CWA section 303(d) waterbodies of pollutants for which the waterbody is impaired must be controlled and are prohibited. Therefore, municipal areas and activities tributary to these water bodies must implement additional controls to ensure that they are not discharging the pollutants which are causing or contributing to the impairment of these water bodies.

With regards to coastal lagoons and other sensitive water bodies, additional controls are needed to protect these valuable and unique resources. In their Nonpoint Source Program Strategy and Implementation Plan, the SWRCB and California Coastal Commission support additional controls for critical coastal areas, stating “the State will seek to attain and maintain applicable water quality standards, and protect waters threatened by land uses, or by substantial expansion of existing land uses, by implementing additional management measures.”

The SDRWQCB has the discretion to require Jurisdictional Urban Runoff Program item F.3.a.(4)(c) in Order No. R9-2002-0001 under the broad and specific legal authority cited above.

F.3.a.(5) Maintenance of Municipal Separate Storm Sewer System (Municipal) of the Jurisdictional Urban Runoff Management Program states the following:

- (a) *Each Copermitttee shall implement a schedule of maintenance activities at all structural controls designed to reduce pollutant discharges to or from its MS4s and related drainage structures.*
- (b) *Each Copermitttee shall implement a schedule of maintenance activities for the municipal separate storm sewer system.*
- (c) *The maintenance activities must, at a minimum, include:*
 - i. *Inspection and removal of accumulated waste (e.g. sediment, trash, debris and other pollutants) between May 1 and September 30 of each year;*

- ii. *Additional cleaning as necessary between October 1 and April 30 of each year;*
- iii. *Record keeping of cleaning and the overall quantity of waste removed;*
- iv. *Proper disposal of waste removed pursuant to applicable laws;*
- v. *Measures to eliminate waste discharges during MS4 maintenance and cleaning activities.*

Broad Legal Authority: CWA sections 402(p)(3)(B)(ii-iii), CWC section 13377, and Federal NPDES regulations 40 CFR 122.26(d)(2)(i)(B,C,E, and F) and 40 CFR 122.26(d)(2)(iv).

Specific Legal Authority: Federal NPDES regulations 40 CFR 122.26(d)(2)(iv) (A)(1,3,4,5, and 6) generally apply to all directives under Jurisdictional Urban Runoff Management Program item F.3.a. Municipal (Existing Development) of Order No. R9-2002-0001.

Discussion: Maintenance is critical to the successful implementation of every URMP. The US EPA finds that "Lack of maintenance often limits the effectiveness of storm water structural controls such as detention/retention basins and infiltration devices. [...] The proposed program should provide for maintenance logs and identify specific maintenance activities for each class of control, such as removing sediment from retention ponds every five years, cleaning catch basins annually, and removing litter from channels twice a year. If maintenance activities are scheduled infrequently, inspections must be scheduled to ensure that the control is operating adequately. In cases where scheduled maintenance is not appropriate, maintenance should be based on inspections of the control structure or frequency of storm events. If maintenance depends on the results of inspections or if it occurs infrequently, the applicant must provide an inspection schedule. The applicant should also identify the municipal department(s) responsible for the maintenance program" (1992). The maintenance schedule included in this item is based on the above US EPA recommendations. This maintenance schedule will help ensure that structural controls are in adequate condition to be effective year round but especially at the beginning of and throughout the rainy season.

Maintenance of municipal facilities, control structures, and the MS4 is considered so essential by US EPA that the requirement to conduct a maintenance program is specifically directed in both the Phase I and Phase II storm water regulations. In both cases, the maintenance programs must include a training component and have the ultimate goal of preventing pollutant runoff from municipal operations. Municipal activities should set a good example for all non-municipal personnel and the public.

The SDRWQCB has discretion to require Jurisdictional Urban Runoff Program item F.3.a.(5) in Order No. R9-2002-0001 under the broad legal authority cited above.

F.3.a.(6) Management of Pesticides, Herbicides, and Fertilizers (Municipal) of the Jurisdictional Urban Runoff Management Program states the following:

The Copermittees shall implement BMPs to reduce the contribution of pollutants associated with the application, storage, and disposal of pesticides, herbicides and fertilizers from municipal areas and activities to MS4s. Important municipal areas and activities include municipal facilities, public rights-of-way, parks, recreational facilities, golf courses, cemeteries, botanical or zoological gardens and exhibits, landscaped areas, etc.

Such BMPs shall include, at a minimum: (1) educational activities, permits, certifications and other measures for municipal applicators and distributors; (2) integrated pest management measures that rely on non-chemical solutions; (3) the use of native vegetation; (4) schedules for irrigation and chemical application; and (5) the collection and proper disposal of unused pesticides, herbicides, and fertilizers.

Broad Legal Authority: CWA sections 402(p)(3)(B)(ii-iii), CWC section 13377, and Federal NPDES regulations 40 CFR 122.26(d)(2)(i)(B,C,E, and F) and 40 CFR 122.26(d)(2)(iv).

Specific Legal Authority: Federal NPDES regulations 40 CFR 122.26(d)(2)(iv)(A)(1,3,4,5, and 6) generally apply to all directives under Jurisdictional Urban Runoff Management Program item F.3.a. Municipal (Existing Development) of Order No. R9-2002-0001.

Discussion: Regarding the municipal use of pesticides, herbicides, and fertilizers, the US EPA finds that “The proposed program should include educational measures for the public and commercial applicators, and should include integrated pest management measures that rely on non-chemical solutions to pest control. The program should also describe how educational materials will be developed and distributed. Applicants are encouraged to consider providing information for the collection and proper disposal of unused pesticides, herbicides, and fertilizers, or to establish their own program. [...] In addition, applicants must include a discussion of controls for the application of pesticides, herbicides, and fertilizers in public rights-of-way and at municipal facilities. Planting low-maintenance vegetation, such as perennial ground covers, reduces pesticide and herbicide use. Native vegetation is often preferable because there is less need to apply fertilizers and herbicides, and to perform other forms of maintenance, such as mowing” (1992). Based on these US EPA recommendations, the SDRWQCB included Jurisdictional Urban Runoff Management Program item F.3.a.(6) in Order No. R9-2002-0001.

The SDRWQCB has discretion to include Jurisdictional Urban Runoff Management Program item F.3.a.(6) in Order No. R9-2002-0001 under the broad legal authority cited above.

F.3.a.(7) Inspection of Municipal Areas and Activities (Municipal) of the Jurisdictional Urban Runoff Management Program states the following:

At a minimum, each Copermittee shall inspect high priority municipal areas and activities annually. Based upon site inspection findings, each Copermittee shall implement all follow-up actions necessary to comply with this Order.

Broad Legal Authority: CWA sections 402(p)(3)(B)(ii-iii), CWC section 13377, and Federal NPDES regulations 40 CFR 122.26(d)(2)(i)(B,C,E, and F) and 40 CFR 122.26(d)(2)(iv).

Specific Legal Authority: Federal NPDES regulations 40 CFR 122.26(d)(2)(iv) (A)(1,3,4,5, and 6) generally apply to all directives under Jurisdictional Urban Runoff Management Program item F.3.a. Municipal (Existing Development) of Order No. R9-2002-0001.

Discussion: The USEPA finds that the municipal areas and activities listed in section F.3.a.(3) of Order No. R9-2002-0001 can be a significant source of pollutants in urban runoff (see Discussion for F.3.a.(3) above). Since these municipal areas and activities can be a significant source of pollutants, annual inspections are necessary to ensure that proper measures are being undertaken to reduce pollutant discharges to the maximum extent practicable. The USEPA supports inspections of municipal areas and activities, stating "Applicants must describe programs that identify measures to monitor and reduce pollutants in storm water discharges from facilities that handle municipal waste, including sewage sludge. [...] The types of facilities that should be included are: active or closed municipal waste landfills; publicly owned treatment works, including water and wastewater treatment plants; incinerators; municipal solid waste transfer facilities; land application sites; uncontrolled sanitary landfills; maintenance and storage yards for waste transportation fleets and equipment; sites for disposing or treating sludge from municipal treatment works; and other treatment, storage, or disposal facilities for municipal waste" (1992). The USEPA further states that "Procedures to evaluate, inspect, monitor, and establish control measures for municipal waste sites over the term of the NPDES permit should be described" (1992).

The SDRWQCB has discretion to require Jurisdictional Urban Runoff Management Program item F.3.a.(7) in Order No. R9-2002-0001 under the broad legal authority cited above.

F.3.a.(8) Enforcement of Municipal Areas and Activities (Municipal) of the Jurisdictional Urban Runoff Management Program states the following:

Each Copermitttee shall enforce its storm water ordinance for all municipal areas and activities as necessary to maintain compliance with this Order.

Broad Legal Authority: CWA sections 402(p)(3)(B)(ii-iii), CWC section 13377, and Federal NPDES regulations 40 CFR 122.26(d)(2)(i)(B,C,E, and F) and 40 CFR 122.26(d)(2)(iv).

Specific Legal Authority: Federal NPDES regulations 40 CFR 122.26(d)(2)(iv) (A)(1,3,4,5, and 6) generally apply to all directives under Jurisdictional Urban Runoff Management Program item F.3.a. Municipal (Existing Development) of Order No. R9-2002-0001.

Discussion: When a Copermitttee determines a violation of its storm water ordinance, it must pursue correction of the violation. A critical aspect of the correction of violations is enforcement of ordinances. Enforcement increases the

probability of correction of a violation. Regarding inspection and enforcement measures, the US EPA states "Effective inspection and enforcement requires [...] penalties to deter infractions and intervention by the municipal authority to correct violations. Enforcement mechanisms [...] also must be described" (1992).

The SDRWQCB has discretion to require Jurisdictional Urban Runoff Management Program item F.3.a.(8) in Order No. R9-2002-0001 under the broad legal authority cited above.

F.3.b. INDUSTRIAL (EXISTING DEVELOPMENT)

In addition to the underlying broad legal authority citations listed above in section VII. of this Fact Sheet/Technical Report, the following specific legal authority items also generally apply to all directives under Jurisdictional Urban Runoff Management Program item F.3.b. Industrial (Existing Development) of Order No. R9-2002-0001. Other specific legal authority items applicable only to distinct directives of Jurisdictional Urban Runoff Management Program item F.3.b. are provided as necessary.

Federal NPDES regulation 40 CFR 122.26(d)(2)(iv)(C) provides that the proposed management program include "A description of a program to monitor and control pollutants in storm water discharges to municipal systems from municipal landfills, hazardous waste treatment, disposal and recovery facilities, industrial facilities that are subject to section 313 of title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA), and industrial facilities that the municipal permit applicant determines are contributing a substantial pollutant loading to the municipal storm sewer system."

Federal NPDES regulation 40 CFR 122.26(d)(2)(iv)(C)(1) provides that the Copermittee must "identify priorities and procedures for inspections and establishing and implementing control measures for such discharges."

F.3.b. Industrial (Existing Development) for the Jurisdictional Urban Runoff Management Program states the following:

Each Copermittee shall implement an Industrial (Existing Development) Component to reduce pollutants in runoff from all industrial sites. At a minimum the industrial component shall address:

- F.3.b.(1) Pollution Prevention*
- F.3.b.(2) Source Identification*
- F.3.b.(3) Threat to Water Quality Prioritization*
- F.3.b.(4) BMP Implementation*
- F.3.b.(5) Monitoring of Industrial Sites*
- F.3.b.(6) Inspection of Industrial Sites*
- F.3.b.(7) Enforcement Measures for Industrial Sites*
- F.3.b.(8) Reporting of Non-compliant Sites*

Broad Legal Authority: CWA sections 402(p)(3)(B)(ii-iii), CWC section 13377, and Federal NPDES regulations 40 CFR 122.26(d)(2)(i)(B,C,E, and F) and 40 CFR 122.26(d)(2)(iv).

Specific Legal Authority: Federal NPDES regulations 40 CFR 122.26(d)(2)(iv)(C) and 40 CFR 122.26(d)(2)(iv)(C)(1) generally apply to all directives under

Jurisdictional Urban Runoff Management Program item F.3.b. Industrial (Existing Development) of Order No. R9-2002-0001.

Discussion: CWA sections 402(p)(3)(B)(ii-iii) require each Copermittee to prohibit non-storm water discharges into its MS4 and to reduce the discharge of pollutants to the maximum extent practicable for all urban land uses. The purpose of these two broad requirements is to minimize the short and long-term impacts of urban runoff on receiving water quality. Land used for industrial activities is clearly identified in the federal regulations as one of several high priority land uses from which pollutants in urban runoff discharges must be reduced to the maximum extent practicable by each Copermittee. Federal NPDES regulation 40 CFR 122.26(d)(2)(iv) requires the development of a proposed management program to reduce the discharge of pollutants in storm water to the maximum extent practicable. Federal NPDES regulation 40 CFR 122.26(d)(2)(iv)(C) requires that this program include a component which addresses industrial sites.

Due to their numerous potential pollutant sources, industrial sites are relatively high risk areas for pollutant discharges to storm water. In order to control the discharge of pollutants from industrial sites to the maximum extent practicable, implementation of BMPs is necessary. As discussed in Finding 12, BMPs effectively reduce pollutants in urban runoff by emphasizing pollution prevention and source controls, followed by treatment controls. The industrial existing development component will provide a program for the development and implementation of BMPs to address pollutants in storm water discharges from industrial sites. The US EPA supports such a program, stating "NPDES permits for MS4s will establish responsibilities for municipal system operators to control pollutants from industrial storm water discharged through their system" (1992).

The SDRWQCB has discretion to require Jurisdictional Urban Runoff Management Program item F.3.b. in Order No. R9-2002-0001 under the broad legal authority cited above.

F.3.b.(1) Pollution Prevention (Industrial) of the Jurisdictional Urban Runoff Management Program states the following:

Each Copermittee shall include and describe pollution prevention methods within its Industrial (Existing Development) Component. Each Copermittee shall require the use of pollution prevention methods by industry, where appropriate.

Broad Legal Authority: CWA sections 402(p)(3)(B)(ii-iii), CWC section 13377, and Federal NPDES regulations 40 CFR 122.26(d)(2)(i)(B,C,E, and F) and 40 CFR 122.26(d)(2)(iv).

Specific Legal Authority: Federal NPDES regulations 40 CFR 122.26(d)(2)(iv)(C) and 40 CFR 122.26(d)(2)(iv)(C)(1) generally apply to all directives under Jurisdictional Urban Runoff Management Program item F.3.b. Industrial (Existing Development) of Order No. R9-2002-0001.

Discussion: Each Copermittee must develop a program to reduce the discharge of pollutants to and from its MS4 to the maximum extent practicable for all urban land uses, including industrial land uses. In order to achieve this level of pollution

reduction, BMPs must be implemented. Pollution prevention, the reduction or elimination of pollutant generation at its source, is an essential aspect of BMPs. By limiting the generation of pollutants, less pollutants are available to be washed from industrial sites, resulting in reduced pollutant loads in storm water discharges from these sites. In addition, there is no need to control or treat pollutants which are not initially generated. Furthermore, pollution prevention BMPs are generally more cost effective than removal of pollutants by treatment facilities or cleanup of contaminated media.¹⁰³ In the Pollution Prevention Act of 1990, Congress established a national policy that emphasizes pollution prevention over control and treatment. Since pollution prevention is an effective and efficient means for reducing pollutant loads in storm water runoff, pollution prevention methods are an important aspect of BMPs to be included in the industrial existing development component.

The SDRWQCB has discretion to require Jurisdictional Urban Runoff Program item F.3.b.(1) in Order No. R9-2002-0001 under the broad legal authority cited above.

F.3.b.(2) Source Identification (Industrial) of the Jurisdictional Urban Runoff Management Program states the following:

Each Copermittee shall develop and update annually a watershed-based inventory of all industrial sites within its jurisdiction regardless of site ownership. This requirement is applicable to all industrial sites regardless of whether the industrial site is subject to the California statewide General NPDES Permit for Storm Water Discharges Associated With Industrial Activities, Except Construction (hereinafter General Industrial Permit) or other individual NPDES permit.

The inventory shall include the following minimum information for each industrial site: name; address; and a narrative description including SIC codes which best reflects the principal products or services provided by each facility.

Broad Legal Authority: CWA sections 402(p)(3)(B)(ii-iii), CWC section 13377, and Federal NPDES regulations 40 CFR 122.26(d)(2)(i)(B,C,E, and F) and 40 CFR 122.26(d)(2)(iv).

Specific Legal Authority: Federal NPDES regulations 40 CFR 122.26(d)(2)(iv)(C) and 40 CFR 122.26(d)(2)(iv)(C)(1) generally apply to all directives under Jurisdictional Urban Runoff Management Program item F.3.b. Industrial (Existing Development) of Order No. R9-2002-0001.

Federal NPDES regulation 40 CFR 122.26(d)(2)(ii) provides that the Copermittee "Provide an inventory, organized by watershed of the name and address, and a description (such as SIC codes) which best reflects the principal products or services provided by each facility which may discharge, to the municipal separate storm sewer, storm water associated with industrial activity."

Discussion: Due to their numerous potential pollutant sources, industrial sites are high risk areas for pollutant discharges to storm water. In order to prohibit non-storm water discharges, reduce industrial pollutant sources to the maximum extent practicable, and ensure that adequate BMPs are implemented, each

¹⁰³U.S. EPA, 1992. Storm Water Management of Industrial Activities: Developing Pollution Prevention Plans and Best Management Practices

Copermittee must first identify all industrial sites within their jurisdiction. Development of an inventory of industrial sites within a watershed will help identify potential industrial sources of pollutants in storm water. By assessing information provided in the inventory (such as principal products, services provided, and location), sites with the highest risk to receiving water quality can be identified, and priority for inspection, monitoring, and enforcement can be placed on those sites. By focusing inspection and monitoring on high priority sites, the effectiveness of limited inspection and monitoring resources can be maximized.

The SDRWQCB has discretion to require inventories of industrial sites in Jurisdictional Urban Runoff Program item F.3.b.(2) of Order No. R9-2002-0001 under the broad and specific legal authority above.

F.3.b.(3) Threat to Water Quality Prioritization (Industrial) of the Jurisdictional Urban Runoff Management Program states the following:

- (a) *To establish priorities for industrial oversight activities under this Order, the Copermittee shall prioritize each watershed-based inventory in F.3.b.(2) above by threat to water quality and update annually. Each industrial site shall be classified as high, medium, or low threat to water quality. In evaluating threat to water quality each Copermittee shall consider (1) type of industrial activity (SIC Code); (2) materials used in industrial processes; (3) wastes generated; (4) pollutant discharge potential; (5) non-storm water discharges; (6) size of facility; (7) proximity to receiving water bodies; (8) sensitivity of receiving water bodies; (9) whether the industrial site is subject to the statewide General Industrial Permit; and (10) any other relevant factors.*
- (b) *At a minimum the high priority industrial sites shall include industrial facilities that are subject to section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA); industrial facilities tributary to a Clean Water Act section 303(d) impaired water body, where a facility generates pollutants for which the water body is impaired; industrial facilities within or directly adjacent to or discharging directly to receiving waters within environmentally sensitive areas (as defined in section F.1.b.(2)(a)vi. of this Order); facilities subject to the statewide General Industrial Permit (excluding those facilities that have been approved for No Exposure Certification); and all other industrial facilities that the Copermittee determines are contributing significant pollutant loading to its MS4, regardless of whether such facilities are covered under the statewide General Industrial Permit or other NPDES permit.*

Broad Legal Authority: CWA sections 402(p)(3)(B)(ii-iii), CWC section 13377, and Federal NPDES regulations 40 CFR 122.26(d)(2)(i)(B,C,E, and F) and 40 CFR 122.26(d)(2)(iv).

Specific Legal Authority: Federal NPDES regulations 40 CFR 122.26(d)(2)(iv)(C) and 40 CFR 122.26(d)(2)(iv)(C)(1) generally apply to all directives under Jurisdictional Urban Runoff Management Program item F.3.b. Industrial (Existing Development) of Order No. R9-2002-0001.

Federal NPDES regulation 40 CFR 122.26(d)(2)(ii) provides that the Copermittee "Provide an inventory, organized by watershed of the name and address, and a description (such as SIC codes) which best reflects the principal products or services provided by each facility which may discharge, to the municipal separate storm sewer, storm water associated with industrial activity."

Discussion: Due to their numerous pollutant sources, industrial sites are high risk areas for pollutant discharges to storm water. Development of an inventory

of industrial sites within a watershed will help identify potential sources of pollutants in urban runoff. By assessing information provided in the inventory (such as principal products or services provided by the facility), sites can be prioritized by threat to water quality. Those sites that pose the greatest threat can then be targeted for inspection and monitoring. This will allow for limited inspection and monitoring time to be most effective. Regarding industrial site priority designation, the US EPA states that "When municipalities develop criteria for identifying additional priority industrial facilities, they are advised to consider, at a minimum:

- The type of industrial activity (SIC codes can help characterize the type of industrial activity);
- The use and management of chemicals or raw products at the facility and the likelihood that storm water discharge from the site will be contaminated; and
- The size and location of the facility in relation to sensitive watersheds" (1992).

The SDRWQCB has discretion to require Jurisdictional Urban Runoff Program item F.3.b.(3) in Order No. R9-2002-0001 under the broad and specific legal authority cited above.

F.3.b.(4)(a) and F.3.b.(4)(b) BMP Implementation (Industrial) of the Jurisdictional Urban Runoff Management Program states the following:

- (a) *Each Copermitttee shall designate a set of minimum BMPs for high, medium, and low threat to water quality industrial sites (as determined under section F.3.b.(3)). The designated minimum BMPs for high threat to water quality industrial sites shall be industry and site specific as appropriate.*
- (b) *Each Copermitttee shall implement, or require the implementation of, the designated minimum BMPs (based upon the site's threat to water quality rating) at each industrial site within its jurisdiction. If particular minimum BMPs are infeasible at any specific site, each Copermitttee shall implement, or require implementation of, other equivalent BMPs. Each Copermitttee shall also implement or require any additional site specific BMPs as necessary to comply with this Order including BMPs which are more stringent than those required under the statewide General Industrial Permit.*

Broad Legal Authority: CWA sections 402(p)(3)(B)(ii-iii), CWC section 13377, and Federal NPDES regulations 40 CFR 122.26(d)(2)(i)(B,C,E, and F) and 40 CFR 122.26(d)(2)(iv).

Specific Legal Authority: Federal NPDES regulations 40 CFR 122.26(d)(2)(iv)(C) and 40 CFR 122.26(d)(2)(iv)(C)(1) generally apply to all directives under Jurisdictional Urban Runoff Management Program item F.3.b. Industrial (Existing Development) of Order No. R9-2002-0001.

Discussion: Copermitttees must reduce the discharge of pollutants to the MS4 from industrial sites to the maximum extent practicable. In order to achieve this level pollution reduction in storm water discharges from industrial sites, BMPs must be designated and implemented. To ensure that adequate BMPs are utilized at the industrial sites, each Copermitttee shall designate and require implementation of a set of minimum BMPs for high, medium, and low threat to water quality

industrial sites. The designated minimum BMPs will provide guidance on level of water quality protection required. The US EPA recommends that Copermitees provide BMP guidance to industrial facilities, stating “the applicant should suggest procedures for requiring pollutant control measures in runoff from priority industrial facilities. Applicants should provide information to the industrial facilities that discharge to the MS4s and industry-specific guidance on appropriate control measures that industries discharging to the systems should follow” (1992).

In order to adequately protect receiving water quality and allow Copermitees to meet their permit responsibilities under Order No. R9-2002-0001, additional BMPs may be required, including BMPs more stringent than those required under the state wide General Industrial Permit. Regarding additional BMP requirements of this type, the US EPA finds that “nothing in the Federal regulations would prohibit the municipality from requiring additional controls beyond the permit requirements for industrial activities. For this reason, the EPA recommends that municipal applicants incorporate a provision in the proposed storm water management program that allows the municipality to require priority industrial facilities to implement the controls necessary for the municipality to meet its permit responsibilities” (1992).

The SDRWQCB has discretion to require Jurisdictional Urban Runoff Program items F.3.b.(4)(a) and F.3.b.(4)(b) in Order No. R9-2002-0001 under the broad legal authority cited above.

F.3.b.(4)(c) BMP Implementation (Industrial) of the Jurisdictional Urban Runoff Management Program states the following:

Each Copermitee shall implement, or require implementation of, additional controls for industrial sites tributary to Clean Water Act section 303(d) impaired water bodies (where a site generates pollutants for which the water body is impaired) as necessary to comply with this Order. Each Copermitee shall implement, or require implementation of, additional controls for industrial sites within or directly adjacent to or discharging directly to receiving waters within environmentally sensitive areas (as defined in section F.1.b.(2)(a)vi. of this Order) as necessary to comply with this Order.

Broad Legal Authority: CWA sections 402(p)(3)(B)(ii-iii), CWC section 13377, and Federal NPDES regulations 40 CFR 122.26(d)(2)(i)(B,C,E, and F) and 40 CFR 122.26(d)(2)(iv).

Specific Legal Authority: Federal NPDES regulations 40 CFR 122.26(d)(2)(iv)(C) and 40 CFR 122.26(d)(2)(iv)(C)(1) generally apply to all directives under Jurisdictional Urban Runoff Management Program item F.3.b. Industrial (Existing Development) of Order No. R9-2002-0001.

Federal NPDES regulation 40 CFR 122.44(d)(1)(i) requires NPDES permits to include limitations to “control all pollutants or pollutant parameters (either conventional, nonconventional, or toxic pollutants) which the Director determines are or may be discharged at a level which will cause, have reasonable potential to cause, or contribute to an excursion above any State water quality standard, including State narrative criteria for water quality.”

Discussion: CWA section 303(d) water bodies are water bodies that are not achieving the water quality objectives necessary to protect their beneficial uses. As

discussed in Finding 3, urban runoff discharges from MS4s are a leading cause of receiving water quality impairment in the San Diego Region and throughout the United States. Since discharges which cause or contribute to an exceedance of water quality standards must be controlled and are also prohibited (see section C.1. of Order No. R9-2002-0001), discharges to CWA section 303(d) water bodies of pollutants for which the waterbody is impaired must be controlled and prohibited. Therefore, municipal areas and activities tributary to these water bodies must implement additional controls to ensure that they are not discharging the pollutants which are causing or contributing to the impairment of these water bodies.

Regarding coastal lagoons and other sensitive water bodies, additional controls are needed to protect these valuable and unique resources. In their Nonpoint Source Program Strategy and Implementation Plan, the SWRCB and California Coastal Commission support additional controls for critical coastal areas, stating "the State will seek to attain and maintain applicable water quality standards, and protect waters threatened by land uses, or by substantial expansion of existing land uses, by implementing additional management measures."

The SDRWQCB has the discretion to require Jurisdictional Urban Runoff Program item F.3.b.(4)(c) in Order No. R9-2002-0001 under the broad and specific legal authority cited above.

F.3.b.(5) Monitoring of Industrial Sites (Industrial) of the Jurisdictional Urban Runoff Management Program states the following:

- (a) *Each Copermitttee shall conduct, or require industry to conduct, a monitoring program for runoff from each high threat to water quality industrial site (identified in F.3.b.(3) above). Group monitoring by multiple industrial sites conducted under group monitoring programs approved by the State Water Resources Control Board is acceptable.*
- (b) *At a minimum, the monitoring program shall provide quantitative data from two storm events per year on the following constituents:*
 - i. *Any pollutant listed in effluent guidelines subcategories where applicable;*
 - ii. *Any pollutant for which an effluent limit has been established in an existing NPDES permit for the facility;*
 - iii. *Oil and grease or Total Organic Carbon (TOC);*
 - iv. *pH;*
 - v. *Total suspended solids (TSS);*
 - vi. *Specific conductance; and*
 - vii. *Toxic chemicals and other pollutants that are likely to be present in storm water discharges.*
 - viii. *Any pollutant that may be used, stored, or generated at the facility, which may be discharged to a water body or a tributary of that water body that is listed as impaired under Clean Water Act Section 303(d) for that pollutant(s), unless the facility can demonstrate approval of No Exposure Certification.*

Broad Legal Authority: CWA sections 402(p)(3)(B)(ii-iii), CWC section 13377, and Federal NPDES regulations 40 CFR 122.26(d)(2)(i)(B,C,E, and F) and 40 CFR 122.26(d)(2)(iv).

Specific Legal Authority: Federal NPDES regulations 40 CFR 122.26(d)(2)(iv)(C) and 40 CFR 122.26(d)(2)(iv)(C)(1) generally apply to all directives under Jurisdictional Urban Runoff Management Program item F.3.b. Industrial (Existing Development) of Order No. R9-2002-0001.

Federal NPDES regulation 40 CFR 122.26(d)(2)(iv)(C)(2) provides that the proposed management program shall “Describe a monitoring program for storm water discharges associated with the industrial facilities identified in paragraph (d)(2)(iv)(C) of this section, to be implemented during the term of the permit, including the submission of quantitative data on the following constituents: any pollutants limited in effluent guidelines subcategories, where applicable; any pollutant listed in an existing NPDES permit for a facility; oil and grease, COD, pH, BOD₅, TSS, total phosphorus, total Kjeldhal nitrogen, nitrate plus nitrite nitrogen, and any information on discharges required under 40 CFR 122.21(g)(7)(iii) and (iv).”

Discussion: The purpose of the monitoring program is to provide the information needed by each Copermittee to assess the effectiveness of its Industrial BMP Program. Quantitative data is required for two storm events per year in order to identify potential trends and/or anomalies in the data. The Copermittee may be able to obtain this monitoring information from some industrial sites by requesting submittal of the Annual Reports required under the General Industrial Storm Water Permit.

The SDRWQCB has discretion to require Jurisdictional Urban Runoff Program item F.3.b.(5) in Order No. R9-2002-0001 under the broad and specific legal authority cited above.

F.3.b.(6) Inspection of Industrial Sites (Industrial) of the Jurisdictional Urban Runoff Management Program states the following:

- (a) *Each Copermittee shall conduct industrial site inspections for compliance with its ordinances, permits, and this Order. Inspections shall include review of BMP implementation plans.*
- (b) *Each Copermittee shall establish inspection frequencies and priorities as determined by the threat to water quality prioritization described in F.3.b.(3) above. Each Copermittee shall inspect high priority industrial sites, at a minimum:*
 - i. *Annually*

OR

 - ii. *Bi-annually for any site that the responsible Copermittee certifies in a written statement to the SDRWQCB all of the following (certified statements may be submitted to the SDRWQCB at any time for one or more sites):*
 - *Copermittee has record of industrial site’s Waste Discharge Identification Number (WDID#) documenting industrial site’s coverage under the statewide General Industrial Permit; and*
 - *Copermittee has reviewed the industrial site’s Storm Water Pollution Prevention Plan (SWPPP); and*
 - *Copermittee finds SWPPP to be in compliance with all local ordinances, permits, and plans; and*
 - *Copermittee finds that the SWPPP is being properly implemented on site.*

Each Copermittee shall inspect medium and low threat to water quality industrial sites as needed.

- (c) *Based upon site inspection findings, each Copermittee shall implement all follow-up actions necessary to comply with this Order.*

(d) To the extent that the SDRWQCB has conducted an inspection of a high priority industrial site during a particular year, the requirement for the responsible Copermittee to inspect this site during the same year will be satisfied.

Broad Legal Authority: CWA sections 402(p)(3)(B)(ii-iii), CWC section 13377, and Federal NPDES regulations 40 CFR 122.26(d)(2)(i)(B,C,E, and F) and 40 CFR 122.26(d)(2)(iv).

Specific Legal Authority: Federal NPDES regulations 40 CFR 122.26(d)(2)(iv)(C) and 40 CFR 122.26(d)(2)(iv)(C)(1) generally apply to all directives under Jurisdictional Urban Runoff Management Program item F.3.b. Industrial (Existing Development) of Order No. R9-2002-0001.

Discussion: Routine inspections provide an effective means by which Copermittees can evaluate compliance with their ordinances. Inspections are especially important at high risk areas for pollutant discharges, such as industrial and construction sites. Industrial site inspection frequencies are to be based on threat to water quality prioritization. For example, industrial sites that are considered a high threat to water quality are to be given a high priority for inspection. This allows for limited inspection resources to be most effective. Annual or bi-annual inspection of high threat sites is necessary to ensure that changes to the site that may be detrimental to water quality are identified and addressed.

Review of a facility's Storm Water Pollution Prevention Plan (SWPPP) can be an effective tool in inspecting the facility's storm water controls. The US EPA recommends that municipalities review SWPPPs during inspections when it states "Municipalities are urged to evaluate pollution prevention plans and discharge monitoring data collected by the industrial facility to ensure that the facility is in compliance with its NPDES storm water permit. Site inspections should include (1) an evaluation of the pollution prevention plan and any other pertinent documents, and (2) an onsite visual inspection of the facility to evaluate the potential for discharges of contaminated storm water from the site and to assess the effectiveness of the pollution prevention plan" (1992).

Regarding industrial site inspections, the US EPA finds that "The proposed management program should describe the inspection procedures that will be followed.[...] Proposed management programs should address minimum frequency for routine inspections. For example, how often, how much of the site, and how long an inspection may take are appropriate to explain in this proposed management program component. Applicants should also describe procedures for conducting inspections and provide an inspector's checklist" (1992). The US EPA also finds that follow-up actions are to be implemented based upon site inspection findings: "The results of inspection may be used as a basis for requiring storm water management controls and enhanced pollution prevention measures" (1992).

Due to the large number of industrial sites within the region, sites that have been inspected by the SDRWQCB do not need to be re-inspected by a Copermittee within the same year. This practice will increase collaboration between the SDRWQCB and the Copermittees for industrial site inspections. Collaboration

between the SDRWQCB and the Copermittees can provide for more efficient and effective overall inspection of industrial sites within the region. Regarding collaboration for inspection of industrial sites, US EPA states "The storm water regulations envision that NPDES permitting authorities and municipal operators will cooperate to develop programs to monitor and control pollutants in storm water discharges to municipal systems from various sites that handle waste and certain industrial facilities" (1992).

The SDRWQCB has discretion to require Jurisdictional Urban Runoff Program item F.3.b.(6) in Order No. R9-2002-0001 under the broad legal authority cited above.

F.3.b.(7) Enforcement of Industrial Sites (Industrial) of the Jurisdictional Urban Runoff Management Program states the following:

Each Copermittee shall enforce its storm water ordinance at all industrial sites as necessary to maintain compliance with this Order. Copermittee ordinances or other regulatory mechanisms shall include sanctions to ensure compliance. Sanctions shall include the following or their equivalent: Non-monetary penalties, fines, bonding requirements, and/or permit denials for non-compliance.

Broad Legal Authority: CWA sections 402(p)(3)(B)(ii-iii), CWC section 13377, and Federal NPDES regulations 40 CFR 122.26(d)(2)(i)(B,C,E, and F) and 40 CFR 122.26(d)(2)(iv).

Specific Legal Authority: Federal NPDES regulations 40 CFR 122.26(d)(2)(iv)(C) and 40 CFR 122.26(d)(2)(iv)(C)(1) generally apply to all directives under Jurisdictional Urban Runoff Management Program item F.3.b. Industrial (Existing Development) of Order No. R9-2002-0001.

Federal NPDES regulation 40 CFR 122.26(d)(2)(i)(A) provides that each Copermittee must demonstrate that it can control "through ordinance, permit, contract, order or similar means, the contribution of pollutants to the municipal storm sewer by storm water discharges associated with industrial activity and the quality of storm water discharged from site of industrial activity."

Discussion: The Copermittee is ultimately responsible for discharges to and from their MS4. Each Copermittee must therefore develop and enforce storm water ordinances in order reduce pollutant discharges to the MS4 to the maximum extent practicable and comply with its permit responsibilities. These ordinances must be applied at all industrial sites to ensure that pollutant discharges to the MS4 are reduced to the maximum extent practicable and permit requirements are met. To this effect, the US EPA "recommends that municipal applicants incorporate a provision in the proposed management program that allows the municipality to require priority industrial facilities to implement the controls necessary for the municipality to meet its permit responsibilities" (1992). Regarding enforcement at industrial sites, the US EPA further states "The municipality, as a permittee, is responsible for compliance with its permit and must have authority to implement the conditions in its permit. To comply with its permit, a municipality must have the authority to hold dischargers accountable for their contributions to separate storm sewers" (1992).

The SDRWQCB has discretion to require Jurisdictional Urban Runoff Program item F.3.b.(7) in Order No. R9-2002-0001 under the broad and specific legal authority cited above.

F.3.b.(8) Reporting of Non-compliant Sites (Industrial) of the Jurisdictional Urban Runoff Management Program states the following:

Each Copermitee shall provide oral notification to the SDRWQCB of non-compliant sites that are determined to pose a threat to human or environmental health within its jurisdiction within 24 hours of the discovery of noncompliance, as required under section R.1 (and B.6 of Attachment C) of this Order.

Each Copermitee shall develop and submit criteria by which to evaluate events of non-compliance to determine whether they pose a threat to human or environmental health. These criteria shall be submitted in the Jurisdictional Urban Runoff Management Program Document and Annual Reports for SDRWQCB review.

Such oral notification shall be followed up by a written report to be submitted to the SDRWQCB within 5 days of the incidence of non-compliance as required under section R.1 (and B.6 of Attachment C) of this Order. Sites are considered non-compliant when one or more violations of local ordinances, permits, plans, or this Order exist on the site.

Broad Legal Authority: CWA sections 402(p)(3)(B)(ii-iii), CWC section 13377, and Federal NPDES regulations 40 CFR 122.26(d)(2)(i)(B,C,E, and F) and 40 CFR 122.26(d)(2)(iv).

Specific Legal Authority: Federal NPDES regulations 40 CFR 122.26(d)(2)(iv)(C) and 40 CFR 122.26(d)(2)(iv)(C)(1) generally apply to all directives under Jurisdictional Urban Runoff Management Program item F.3.b. Industrial (Existing Development) of Order No. R9-2002-0001.

Federal NPDES regulation 40 CFR 122.26(d)(2)(i)(A) provides that each Copermitee must demonstrate that it can control “through ordinance, permit, contract, order or similar means, the contribution of pollutants to the municipal storm sewer by storm water discharges associated with industrial activity and the quality of storm water discharged from site of industrial activity.”

Federal NPDES regulation 40 CFR 122.44(l)(6) states “The permittee shall report any noncompliance which may endanger health or the environment. Any information shall be provided orally within 24 hours from the time the permittee becomes aware of the circumstances. A written submission shall also be provided within 5 days of the time the permittee becomes aware of the circumstances. The written submission shall contain a description of the noncompliance and its cause; the period of non-compliance, including exact dates and times, and if the noncompliance has not been corrected, the anticipated time it is expected to continue; and steps taken or planned to reduce, eliminate, and prevent reoccurrence of the noncompliance.”

Discussion: Follow-up with non-compliant industrial sites is essential to ensure that the site has taken adequate corrective measures to achieve compliance. To help ensure that compliance has been achieved, the Copermitees shall report non-compliant industrial sites to the SDRWQCB. The SDRWQCB can then

participate in follow-up efforts to assure that the industrial site is in compliance. The US EPA supports this type of collaboration when it states “the municipality will help EPA and authorized NPDES states: [...] Inspect and monitor industrial facilities to verify that the industries discharging storm water to the municipal systems are in compliance with their NPDES storm water permit, if required” (1992). Notification of non-compliant sites is a common requirement of all NPDES permits under Federal NPDES regulation 40 CFR 122.44(l)(6).

The SDRWQCB has discretion to require Jurisdictional Urban Runoff Program item F.3.b.(8) in Order No. R9-2002-0001 under the broad and specific legal authority cited above.

F.3.c. COMMERCIAL (EXISTING DEVELOPMENT)

In addition to the underlying broad legal authority citations listed above in section VII. of this Fact Sheet/Technical Report, the following specific legal authority item also generally applies to all directives under Jurisdictional Urban Runoff Management Program item F.3.c. Commercial (Existing Development) of Order No. R9-2002-0001. Other specific legal authority items applicable only to distinct directives of Jurisdictional Urban Runoff Management Program item F.3.c. are provided as necessary.

Federal NPDES regulation 40 CFR 122.26(d)(2)(iv)(A) provides that the Copermittee develop a proposed management program which includes “A description of structural and source control measures to reduce pollutants from runoff from commercial and residential areas that are discharged from the municipal storm sewer system that are to be implemented during the life of the permit, accompanied with an estimate of the expected reduction of pollutant loads and a proposed schedule for implementing such controls.”

F.3.c. Commercial (Existing Development) of the Jurisdictional Urban Runoff Management Program states the following:

Each Copermittee shall implement a Commercial (Existing Development) Component to reduce pollutants in runoff from commercial sites. At a minimum the commercial component shall address:

- F.3.c.(1) Pollution Prevention*
- F.3.c.(2) Source Identification*
- F.3.c.(3) BMP Implementation*
- F.3.c.(4) Inspection of Commercial Sites and Sources*
- F.3.c.(5) Enforcement Measures for Commercial Sites and Sources*

Broad Legal Authority: CWA sections 402(p)(3)(B)(ii-iii), CWC section 13377, and Federal NPDES regulations 40 CFR 122.26(d)(2)(i)(B,C,E, and F) and 40 CFR 122.26(d)(2)(iv).

Specific Legal Authority: Federal NPDES regulation 40 CFR 122.26(d)(2)(iv)(A) generally applies to all directives under Jurisdictional Urban Runoff Management Program item F.3.c. Commercial (Existing Development) of Order No. R9-2002-0001.

Discussion: CWA sections 402(p)(3)(B)(ii-iii) require each Copermittee to prohibit non-storm water discharges into its MS4 and to reduce the discharge of pollutants

to the maximum extent practicable for all urban land uses. The purpose of these two broad requirements is to minimize the short and long-term impacts of urban runoff on receiving water quality. Land used for commercial activities is clearly identified in the federal regulations as one of several high priority land uses from which pollutants in urban runoff discharges must be reduced to the maximum extent practicable by each Copermittee. Federal NPDES regulation 40 CFR 122.26(d)(2)(iv) requires the development of a proposed management program to reduce the discharge of pollutants in storm water to the maximum extent practicable. Federal NPDES regulation 40 CFR 122.26(d)(2)(iv)(A) requires that this program include a component which addresses commercial sites and sources.

Commercial sites and sources have the potential to be significant sources of pollutants in urban runoff. To reduce the discharge of pollutants in urban runoff from commercial sites to the maximum extent practicable, BMPs must be implemented. As discussed in Finding 12, BMPs effectively reduce pollutants in urban runoff by emphasizing pollution prevention and source controls, followed by treatment controls. The commercial existing development component will provide a program for the development and implementation of BMPs to address pollutants in storm water discharges from commercial sites and activities.

The SDRWQCB has discretion to require Jurisdictional Urban Runoff Program item F.3.c. in Order No. R9-2002-0001 under the broad legal authority cited above.

F.3.c.(1) Pollution Prevention (Commercial) of the Jurisdictional Urban Runoff Management Program states the following:

Each Copermittee shall include and describe pollution prevention methods within its Commercial (Existing Development) Component. Each Copermittee shall require the use of pollution prevention methods by commercial facilities, where appropriate.

Broad Legal Authority: CWA sections 402(p)(3)(B)(ii-iii), CWC section 13377, and Federal NPDES regulations 40 CFR 122.26(d)(2)(i)(B,C,E, and F) and 40 CFR 122.26(d)(2)(iv).

Specific Legal Authority: Federal NPDES regulation 40 CFR 122.26(d)(2)(iv)(A) generally applies to all directives under Jurisdictional Urban Runoff Management Program item F.3.c. Commercial (Existing Development) of Order No. R9-2002-0001.

Discussion: Each Copermittee must develop a program to reduce the discharge of pollutants to and from its MS4 to the maximum extent practicable. In order to achieve this level of pollution reduction, BMPs must be implemented. As discussed in Finding 12, pollution prevention (the reduction or elimination of pollutant generation at its source) is an essential aspect of BMP programs. By limiting the generation of pollutants, less pollutants are available to be washed from commercial sites and sources, resulting in reduced pollutant loads in storm water discharges from these sites and sources. In addition, there is no need to control or treat pollutants that are not initially generated. Furthermore, pollution prevention BMPs are generally more cost effective than removal of pollutants by treatment facilities or cleanup of contaminated media.¹⁰⁴ In the Pollution

¹⁰⁴Urban Runoff Technical Advisory Group, 1992. Urban Runoff Pollution Prevention Practices.

Prevention Act of 1990, Congress established a national policy that emphasizes pollution prevention over control and treatment. Since pollution prevention is an effective and efficient means for reducing pollutant loads in storm water runoff, pollution prevention methods are an important aspect of BMPs to be included in the commercial existing development component of the Jurisdictional URMP.

The SDRWQCB has discretion to require Jurisdictional Urban Runoff Program item F.3.c.(1) in Order No. R9-2002-0001 under the broad legal authority cited above.

F.3.c.(2) Source Identification (Commercial) of the Jurisdictional Urban Runoff Management Program states the following:

Each Copermitttee shall develop and update annually an inventory of the following high priority threat to water quality commercial sites/sources listed below. (If any commercial site/source listed below is inventoried as an industrial site, as required under section F.3.b.(2) of this Order, it is not necessary to also inventory it as a commercial site/source).

- (a) *Automobile mechanical repair, maintenance, fueling, or cleaning;*
- (b) *Airplane mechanical repair, maintenance, fueling, or cleaning;*
- (c) *Boat mechanical repair, maintenance, fueling, or cleaning;*
- (d) *Equipment repair, maintenance, fueling, or cleaning;*
- (e) *Automobile and other vehicle body repair or painting;*
- (f) *Mobile automobile or other vehicle washing;*
- (g) *Automobile (or other vehicle) parking lots and storage facilities;*
- (h) *Retail or wholesale fueling;*
- (i) *Pest control services;*
- (j) *Eating or drinking establishments;*
- (k) *Mobile carpet, drape or furniture cleaning;*
- (l) *Cement mixing or cutting;*
- (m) *Masonry;*
- (n) *Painting and coating;*
- (o) *Botanical or zoological gardens and exhibits;*
- (p) *Landscaping;*
- (q) *Nurseries and greenhouses;*
- (r) *Golf courses, parks and other recreational areas/facilities;*
- (s) *Cemeteries;*
- (t) *Pool and fountain cleaning;*
- (u) *Marinas;*
- (v) *Port-a-Potty servicing;*
- (w) *Other commercial sites/sources that the Copermitttee determines may contribute a significant pollutant load to the MS4;*
- (x) *Any commercial site or source tributary to a Clean Water Act section 303(d) impaired water body, where the site or source generates pollutants for which the water body is impaired; and*
- (y) *Any commercial site or source within or directly adjacent to or discharging directly to a coastal lagoon or other receiving water within an environmentally sensitive area (as defined in F.1.b(2)(a)vi. of this Order).*

Broad Legal Authority: CWA sections 402(p)(3)(B)(ii-iii), CWC section 13377, and Federal NPDES regulations 40 CFR 122.26(d)(2)(i)(B,C,E, and F) and 40 CFR 122.26(d)(2)(iv).

Specific Legal Authority: Federal NPDES regulation 40 CFR 122.26(d)(2)(iv)(A) generally applies to all directives under Jurisdictional Urban Runoff Management Program item F.3.c. Commercial (Existing Development) of Order No. R9-2002-0001.

Discussion: In order to prohibit non-storm water discharges, reduce commercial pollutant sources to the maximum extent practicable, and ensure that adequate BMPs are implemented, Copermittees must first identify all high priority threat to water quality commercial pollutant sources. Based on the number of complaints received by the SDRWQCB and the Copermittees, the types of commercial sites and activities listed in item F.3.c.(2) are potential high risk areas for pollutant discharges to storm water. The sites and activities are identified as such due to their frequent use of substances often found to be present as pollutants in urban runoff, combined with frequent mismanagement of runoff from the sites and activities. Therefore, development of an inventory of these commercial sites within a watershed will help identify the location of potential sources of pollutants in storm water. Pollutants found to be present in receiving waters can then be traced to the sites that frequently use such substances. In this manner an inventory of commercial sites can help in targeting commercial sites for inspection, monitoring, and potential enforcement. This will allow for limited inspection, monitoring, and enforcement time to be most effective.

The SDRWQCB has discretion to require Jurisdictional Urban Runoff Program item F.3.c.(2) in Order No. R9-2002-0001 under the broad legal authority cited above.

F.3.c.(3)(a) and F.3.c.(3)(b) BMP Implementation (Commercial) of the Jurisdictional Urban Runoff Management Program states the following:

Each Copermittee shall designate a set of minimum BMPs for the high priority threat to water quality commercial sites/sources (listed above in section F.3.c.(2)). The designated minimum BMPs for the high threat to water quality commercial sites/sources shall be site and source specific as appropriate.

Each Copermittee shall implement, or require the implementation of, the designated minimum BMPs at each high priority threat to water quality commercial site/source within its jurisdiction. If particular minimum BMPs are infeasible for any specific site/source, each Copermittee shall implement, or require the implementation of, other equivalent BMPs. Each Copermittee shall also implement or require any additional site specific BMPs as necessary to comply with this Order.

Broad Legal Authority: CWA sections 402(p)(3)(B)(ii-iii), CWC section 13377, and Federal NPDES regulations 40 CFR 122.26(d)(2)(i)(B,C,E, and F) and 40 CFR 122.26(d)(2)(iv).

Specific Legal Authority: Federal NPDES regulation 40 CFR 122.26(d)(2)(iv)(A) generally applies to all directives under Jurisdictional Urban Runoff Management Program item F.3.c. Commercial (Existing Development) of Order No. R9-2002-0001.

Discussion: Copermittees must reduce the discharge of pollutants in storm water from commercial sites and activities to the maximum extent practicable. To achieve this level of pollutant reduction, BMPs must be implemented (see Finding 11). Designation of a set of minimum BMPs for high threat commercial sites will help ensure that appropriate BMPs are implemented at the sites. These minimum BMPs will also serve as guidance as to the level of water quality protection required. While minimum BMPs will be required at all high threat commercial sites, implementation of particular minimum BMPs will be site and source specific in

order to address different conditions at various sites. BMPs to be implemented must comply with Order No. R9-2002-0001. As such, additional site specific BMPs may be necessary to comply with other aspects of Order No. R9-2002-0001. The SDRWQCB has discretion to require Jurisdictional Urban Runoff Program items F.3.c.(3)(a) and F.3.c.(3)(b) in Order No. R9-2002-0001 under the broad legal authority cited above.

F.3.c.(3)(c) BMP Implementation (Commercial) of the Jurisdictional Urban Runoff Management Program states the following:

Each Copermitttee shall implement, or require implementation of, additional controls for commercial sites or sources tributary to Clean Water Act section 303(d) impaired water bodies (where a site or source generates pollutants for which the water body is impaired) as necessary to comply with this Order. Each Copermitttee shall implement, or require implementation of, additional controls for commercial sites or sources within or directly adjacent to or discharging directly to coastal lagoons or other receiving waters within environmentally sensitive areas (as defined in section F.1.b.(2)(a)vi. of this Order) as necessary to comply with this Order.

Broad Legal Authority: CWA sections 402(p)(3)(B)(ii-iii), CWC section 13377, and Federal NPDES regulations 40 CFR 122.26(d)(2)(i)(B,C,E, and F) and 40 CFR 122.26(d)(2)(iv).

Specific Legal Authority: Federal NPDES regulation 40 CFR 122.26(d)(2)(iv)(A) generally applies to all directives under Jurisdictional Urban Runoff Management Program item F.3.c. Commercial (Existing Development) of Order No. R9-2002-0001.

Federal NPDES regulation 40 CFR 122.44(d)(1)(i) requires NPDES permits to include limitations to “control all pollutants or pollutant parameters (either conventional, nonconventional, or toxic pollutants) which the Director determines are or may be discharged at a level which will cause, have reasonable potential to cause, or contribute to an excursion above any State water quality standard, including State narrative criteria for water quality.”

Discussion: CWA section 303(d) water bodies are water bodies that are not achieving the water quality objectives necessary to protect their beneficial uses. As discussed in Finding 3, urban runoff discharges from MS4s are a leading cause of receiving water quality impairment in the San Diego Region and throughout the United States. Since discharges which cause or contribute to an exceedance of water quality standards must be controlled and are also prohibited (see section C.1. of Order No. R9-2002-0001), discharges to CWA section 303(d) water bodies of pollutants for which the waterbody is impaired must be controlled and prohibited. Therefore, commercial sites and activities tributary to these water bodies must implement additional controls to ensure that they are not discharging the pollutants which are causing or contributing to the impairment of these water bodies.

Regarding coastal lagoons and other sensitive water bodies, additional controls are needed to protect these valuable and unique resources. In their Nonpoint Source Program Strategy and Implementation Plan, the SWRCB and California Coastal Commission support additional controls for critical coastal areas, stating “the State will seek to attain and maintain applicable water quality standards, and

protect waters threatened by land uses, or by substantial expansion of existing land uses, by implementing additional management measures.”

The SDRWQCB has the discretion to require Jurisdictional Urban Runoff Program item F.3.c.(3)(c) in Order No. R9-2002-0001 under the broad and specific legal authority cited above.

F.3.c.(4) Inspection of Commercial Sites and Sources (Commercial) and F.3.c.(5) Enforcement of Commercial Sites and Sources (Commercial) of the Jurisdictional Urban Runoff Management Program state the following:

Each Copermittee shall inspect high priority commercial sites and sources as needed. Based upon site inspection findings, each Copermittee shall implement all follow-up actions necessary to comply with this Order.

Each Copermittee shall enforce its storm water ordinance for all commercial sites and sources as necessary to maintain compliance with this Order.

Broad Legal Authority: CWA sections 402(p)(3)(B)(ii-iii), CWC section 13377, and Federal NPDES regulations 40 CFR 122.26(d)(2)(i)(B,C,E, and F) and 40 CFR 122.26(d)(2)(iv).

Specific Legal Authority: Federal NPDES regulation 40 CFR 122.26(d)(2)(iv)(A) generally applies to all directives under Jurisdictional Urban Runoff Management Program item F.3.c. Commercial (Existing Development) of Order No. R9-2002-0001.

Discussion: BMPs must be implemented for commercial sites and activities to reduce the discharge of pollutants from the sites and activities to the maximum extent practicable. Inspection of commercial sites is necessary to ensure that implemented BMPs are adequate. As discussed in Finding 24, inspections provide a necessary means by which Copermittees can evaluate compliance with their ordinances and requirements of Order No. R9-2002-0001. Inspections are especially important for high risk commercial sites and activities, such as commercial sites and activities where urban runoff is not properly managed. If inspections identify noncompliance conditions, enforcement of storm water ordinance is also necessary to ensure adequate BMP implementation. Regarding inspection and enforcement measures, the US EPA states “Effective inspection and enforcement requires [...] penalties to deter infractions and intervention by the municipal authority to correct violations. Enforcement mechanisms [...] also must be described” (1992).

The SDRWQCB has discretion to require Jurisdictional Urban Runoff Program items F.3.c.(4) and F.3.c.(5) in Order No. R9-2002-0001 under the broad legal authority cited above.

F.3.d. RESIDENTIAL (EXISTING DEVELOPMENT)

In addition to the underlying broad legal authority citations listed above in section VII. of this Fact Sheet/Technical Report, the following specific legal authority item also generally applies to all directives under Jurisdictional Urban Runoff Management Program item F.3.d. Residential (Existing Development) of Order No. R9-2002-0001. Other specific legal authority items applicable only to distinct directives of Jurisdictional Urban Runoff Management Program item F.3.d. are provided as necessary.

Federal NPDES regulation 40 CFR 122.26(d)(2)(iv)(A) provides that the Copermittee develop a proposed management program which includes "A description of structural and source control measures to reduce pollutants from runoff from commercial and residential areas that are discharged from the municipal storm sewer system that are to be implemented during the life of the permit, accompanied with an estimate of the expected reduction of pollutant loads and a proposed schedule for implementing such controls."

F.3.d. Residential (Existing Development) of the Jurisdictional Urban Runoff Management Program states the following:

Each Copermittee shall implement a Residential (Existing Development) Component to prevent or reduce pollutants in runoff from all residential land use areas and activities. At a minimum the residential component shall address:

- F.3.d.(1) Pollution Prevention*
- F.3.d.(2) Threat to Water Quality Prioritization*
- F.3.d.(3) BMP Implementation*
- F.3.d.(4) Enforcement of Residential Areas and Activities*

Broad Legal Authority: CWA sections 402(p)(3)(B)(ii-iii), CWC section 13377, and Federal NPDES regulations 40 CFR 122.26(d)(2)(i)(B,C,E, and F) and 40 CFR 122.26(d)(2)(iv).

Specific Legal Authority: Federal NPDES regulation 40 CFR 122.26(d)(2)(iv)(A) generally applies to all directives under Jurisdictional Urban Runoff Management Program item F.3.d. Residential (Existing Development) of Order No. R9-2002-0001.

Discussion: CWA sections 402(p)(3)(B)(ii-iii) require each Copermittee to prohibit non-storm water discharges into its MS4 and to reduce the discharge of pollutants to the maximum extent practicable for all urban land uses. The purpose of these two broad requirements is to minimize the short and long-term impacts of urban runoff on receiving water quality. Land used for residential activities is clearly identified in the federal regulations as one of several high priority land uses from which pollutants in urban runoff discharges must be reduced to the maximum extent practicable by each Copermittee. Federal NPDES regulation 40 CFR 122.26(d)(2)(iv) requires the development of a proposed management program to reduce the discharge of pollutants in storm water to the maximum extent practicable. Federal NPDES regulation 40 CFR 122.26(d)(2)(iv)(A) requires that this program include a component which addresses residential areas and activities.

Residential areas and activities have the potential to be significant sources of pollutants in urban runoff. In residential areas pollution sources conveyed by the MS4 include activities related to automobile maintenance, landscaping/gardening, home-improvement, pets, and others, including those described below in section F.3.d.(2). Through the DAMP, Orange County Copermittees have instituted or promoted residential pollution prevention BMPs, including street sweeping, household hazardous waste collections, and education. Nationally, education is increasingly being used as a tool for pollution prevention in residential areas, where the use of regulatory enforcement actions has traditionally been less than in other land use areas. Pollution prevention can encourage responsible residential nutrient management, such as proper fertilization rates and proper pet waste disposal, when a connection is established between such practices and local or regional water quality needs (see "A Survey of Residential Nutrient Behavior" in Nonpoint Source News Notes, July 2000). Similarly, source control is vital to protect urban watersheds from pesticides that are applied in residential areas and are transported to streams via the MS4. For example in a review, "Diazinon Sources in Runoff from the San Francisco Region," the Center for Watershed Protection concluded that, "the only real tool to control diazinon in urban watersheds is source control to either reduce the use of diazinon or to apply it in a safer manner." In addition, where structural BMPs or MS4 facilities are owned or operated by the residential community, pollution prevention activities taken by local governments can include maintenance guidance. For example, the Northern Virginia Regional Planning Commission offers maintenance guidance because after finding that reduced or improper maintenance by some private owners contributed to a higher failure rate of BMPs (see "Maintaining Your BMP: A guidebook for Private Owners and Operators in Northern Virginia").

To reduce the discharge of pollutants in urban runoff from residential areas and activities to the maximum extent practicable, BMPs must be implemented. As discussed in Finding 12, BMPs effectively reduce pollutants in urban runoff by emphasizing pollution prevention and source controls, followed by treatment controls. The residential existing development component will provide a program for the development and implementation of BMPs to address pollutants in storm water discharges from residential areas and activities.

The SDRWQCB has discretion to require Jurisdictional Urban Runoff Program item F.3.d. in Order No. R9-2002-0001 under the broad legal authority cited above.

F.3.d.(1) Pollution Prevention (Residential) for the Jurisdictional Urban Runoff Management Program states the following:

Each Copermittee shall include pollution prevention methods in its Residential (Existing Development) Component and shall encourage their use by all residents, where appropriate.

Broad Legal Authority: CWA sections 402(p)(3)(B)(ii-iii), CWC section 13377, and Federal NPDES regulations 40 CFR 122.26(d)(2)(i)(B,C,E, and F) and 40 CFR 122.26(d)(2)(iv).

Specific Legal Authority: Federal NPDES regulation 40 CFR 122.26(d)(2)(iv)(A) generally applies to all directives under Jurisdictional Urban Runoff Management

Program item F.3.d. Residential (Existing Development) of Order No. R9-2002-0001.

Discussion: Each Copermittee must develop a program to reduce the discharge of pollutants to and from its MS4 to the maximum extent practicable. In order to achieve this level of pollution reduction, BMPs must be implemented. As discussed in Finding 12, pollution prevention (the reduction or elimination of pollutant generation at its source) is an essential aspect of BMP programs. By limiting the generation of pollutants, less pollutants are available to be washed from residential areas and activities, resulting in reduced pollutant loads in storm water discharges from these areas and activities. In addition, there is no need to control or treat pollutants that are not initially generated. Furthermore, pollution prevention BMPs are generally more cost effective than removal of pollutants by treatment facilities or cleanup of contaminated media.¹⁰⁵ In the Pollution Prevention Act of 1990, Congress established a national policy that emphasizes pollution prevention over control and treatment. Since pollution prevention is an effective and efficient means for reducing pollutant loads in storm water runoff, pollution prevention methods are an important aspect of BMPs to be included in the residential existing development component of the Jurisdictional URMP.

The SDRWQCB has discretion to require Jurisdictional Urban Runoff Program item F.3.d.(1) in Order No. R9-2002-0001 under the broad legal authority cited above.

F.3.d.(2) Threat to Water Quality Prioritization (Residential) for the Jurisdictional Urban Runoff Management Program states the following:

Each Copermittee shall identify high priority residential areas and activities. At a minimum, these shall include:

- *Automobile repair and maintenance;*
- *Automobile washing;*
- *Automobile parking;*
- *Home and garden care activities and product use (pesticides, herbicides, and fertilizers);*
- *Disposal of household hazardous waste (e.g., paints, cleaning products, and other wastes generated during home improvement or maintenance activities);*
- *Disposal of pet waste;*
- *Disposal of green waste;*
- *Any other residential source that the Copermittee determines may contribute a significant pollutant load to the MS4; and*
- *Any residence tributary to a Clean Water Act section 303(d) impaired water body, where the residence generates pollutants for which the water body is impaired; and*
- *Any residence within or directly adjacent to or discharging directly to coastal waters or other receiving waters within an environmentally sensitive area (as defined in F. 1.b.(2)(a)vi. of this Order).*

Broad Legal Authority: CWA sections 402(p)(3)(B)(ii-iii), CWC section 13377, and Federal NPDES regulations 40 CFR 122.26(d)(2)(i)(B,C,E, and F) and 40 CFR 122.26(d)(2)(iv).

¹⁰⁵Center for Watershed Protection, 1998. Better Site: A Handbook for Changing Development Rules in Your Community.

Specific Legal Authority: Federal NPDES regulation 40 CFR 122.26(d)(2)(iv)(A) generally applies to all directives under Jurisdictional Urban Runoff Management Program item F.3.d. Residential (Existing Development) of Order No. R9-2002-0001.

Discussion: The above residential areas and activities are identified as high priority threats to water quality due to their wide distribution, their association with pollutants of concern in urban runoff, and their historical mismanagement of associated urban runoff. Identification of high priority residential areas and activities will help focus BMP implementation efforts on these areas and activities. By focusing efforts on high priority areas and activities, the greatest potential for water quality improvements will result. Therefore, limited Copermittee staff time will be focused where it can be most effective.

The SDRWQCB has discretion to require Jurisdictional Urban Runoff Program item F.3.d.(2) in Order No. R9-2002-0001 under the broad legal authority cited above.

F.3.d.(3)(a) and F.3.d.(3)(b) BMP Implementation (Residential) for the Jurisdictional Urban Runoff Management Program state the following:

- (a) *Each Copermittee shall designate a set of minimum BMPs for high threat to water quality residential areas and activities (as required under section F.3.d.(2)). The designated minimum BMPs for high threat to water quality residential areas and activities shall be area or activity specific.*
- (b) *Each Copermittee shall implement or require implementation of the designated minimum BMPs for high threat to water quality residential areas and activities. If particular minimum BMPs are infeasible for any specific site/source, each Copermittee shall require implementation of other equivalent BMPs. Each Copermittee shall also implement, or require implementation of, any additional BMPs as are necessary to comply with this Order.*

Broad Legal Authority: CWA sections 402(p)(3)(B)(ii-iii), CWC section 13377, and Federal NPDES regulations 40 CFR 122.26(d)(2)(i)(B,C,E, and F) and 40 CFR 122.26(d)(2)(iv).

Specific Legal Authority: Federal NPDES regulation 40 CFR 122.26(d)(2)(iv)(A) generally applies to all directives under Jurisdictional Urban Runoff Management Program item F.3.d. Residential (Existing Development) of Order No. R9-2002-0001.

Discussion: Copermittees must reduce the discharge of pollutants in storm water from residential areas and activities to the maximum extent practicable. To achieve this level of pollutant reduction, BMPs must be implemented (see Finding 11). Designation of a set of minimum BMPs for high threat residential areas and activities will help ensure that appropriate BMPs are implemented. These minimum BMPs will also serve as guidance as to the level of water quality protection required. While minimum BMPs will be required for all high threat residential areas and activities, implementation of particular minimum BMPs will be site and source specific in order to address different conditions for various areas and activities. BMPs to be implemented must comply with Order No. R9-2002-0001. As such, additional site specific BMPs may be necessary to comply with other aspects of Order No. R9-2002-0001.

The SDRWQCB has discretion to require Jurisdictional Urban Runoff Program items F.3.d.(3)(a) and F.3.d.(3)(b) in Order No. R9-2002-0001 under the broad legal authority cited above.

F.3.d.(3)(c) BMP Implementation (Residential) for the Jurisdictional Urban Runoff Management Program states the following:

- (c) *Each Copermittee shall implement, or require implementation of, any additional controls for residential areas and activities tributary to Clean Water Act Section 303(d) impaired water bodies (where a residential area or activity generates pollutants for which the water body is impaired) as necessary to comply with this Order. Each Copermittee shall implement, or require implementation of, additional controls for residential areas within or directly adjacent to or discharging directly to coastal waters or other receiving waters within environmentally sensitive areas (as defined in section F.1.b.(2)(a)vi. of this Order) as necessary to comply with this Order.*

Broad Legal Authority: CWA sections 402(p)(3)(B)(ii-iii), CWC section 13377, and Federal NPDES regulations 40 CFR 122.26(d)(2)(i)(B,C,E, and F) and 40 CFR 122.26(d)(2)(iv).

Specific Legal Authority: Federal NPDES regulation 40 CFR 122.26(d)(2)(iv)(A) generally applies to all directives under Jurisdictional Urban Runoff Management Program item F.3.d. Residential (Existing Development) of Order No. R9-2002-0001.

Federal NPDES regulation 40 CFR 122.44(d)(1)(i) requires NPDES permits to include limitations to “control all pollutants or pollutant parameters (either conventional, nonconventional, or toxic pollutants) which the Director determines are or may be discharged at a level which will cause, have reasonable potential to cause, or contribute to an excursion above any State water quality standard, including State narrative criteria for water quality.”

Discussion: CWA section 303(d) water bodies are water bodies that are not achieving the water quality objectives necessary to protect their beneficial uses. As discussed in Finding 3, urban runoff discharges from MS4s are a leading cause of receiving water quality impairment in the San Diego Region and throughout the United States. Since discharges which cause or contribute to an exceedance of water quality standards must be controlled and are also prohibited (see section C.1. of Order No. R9-2002-0001), discharges to CWA section 303(d) water bodies of pollutants for which the waterbody is impaired must be controlled and prohibited. Therefore, residential areas and activities tributary to these water bodies must implement additional controls to ensure that they are not discharging the pollutants which are causing or contributing to the impairment of these water bodies.

Regarding coastal lagoons and other sensitive water bodies, additional controls are needed to protect these valuable and unique resources. In their Nonpoint Source Program Strategy and Implementation Plan, the SWRCB and California Coastal Commission support additional controls for critical coastal areas, stating “the State will seek to attain and maintain applicable water quality standards, and protect waters threatened by land uses, or by substantial expansion of existing land uses, by implementing additional management measures.”

The SDRWQCB has the discretion to require Jurisdictional Urban Runoff Program item F.3.d.(3)(c) in Order No. R9-2002-0001 under the broad and specific legal authority cited above.

F.3.d.(4) Enforcement of Residential Areas and Activities (Residential) for the Jurisdictional Urban Runoff Management Program states the following:

Each Copermittee shall enforce its storm water ordinance for all residential areas and activities as necessary to maintain compliance with this Order.

Broad Legal Authority: CWA sections 402(p)(3)(B)(ii-iii), CWC section 13377, and Federal NPDES regulations 40 CFR 122.26(d)(2)(i)(B,C,E, and F) and 40 CFR 122.26(d)(2)(iv).

Specific Legal Authority: Federal NPDES regulation 40 CFR 122.26(d)(2)(iv)(A) generally applies to all directives under Jurisdictional Urban Runoff Management Program item F.3.d. Residential (Existing Development) of Order No. R9-2002-0001.

Discussion: As discussed in Finding 24, enforcement of storm water ordinances, permits, and plans is an essential aspect of a Jurisdictional URMP. Enforcement measures increase the probability that non-compliance situations will not occur or will be corrected. Regarding enforcement measures, the US EPA states “Effective inspection and enforcement requires [...] penalties to deter infractions and intervention by the municipal authority to correct violations. Enforcement mechanisms [...] also must be described” (1992).

The SDRWQCB has discretion to require Jurisdictional Urban Runoff Program item F.3.d.(4) in Order No. R9-2002-0001 under the broad legal authority cited above.

F.4. EDUCATION COMPONENT

F.4. Education Component of the Jurisdictional Urban Runoff Management Program states the following:

Each Copermittee shall implement an Education Component using all media as appropriate to (1) measurably increase the knowledge of the target communities regarding MS4s, impacts of urban runoff on receiving waters, and potential BMP solutions for the target audience; and (2) to measurably change the behavior of target communities and thereby reduce pollutant releases to MS4s and the environment. At a minimum the education component shall address the following target communities:

- *Municipal Departments and Personnel*
- *Construction Site Owners and Developers*
- *Industrial Owners and Operators*
- *Commercial Owners and Operators*
- *Residential Community, General Public, and School Children*
- *Quasi-Governmental Agencies/Districts (i.e., educational institutions, water districts, sanitation districts, etc.)*

F.4.a. All Target Communities

The Education Program for each target audience may contain information on the following topics where applicable:

- *State and Federal water quality laws*
- *Requirements of local municipal permits and ordinances (e.g., storm water and grading ordinances and permits)*
- *Water conservation*
- *Impacts of urban runoff on receiving waters*
- *Watershed concepts (i.e., stewardship, connection between inland activities and coastal problems, etc.)*
- *Distinction between MS4s and sanitary sewers*
- *Importance of good housekeeping (e.g., sweeping impervious surfaces instead of hosing)*
- *Pollution prevention and safe alternatives*
- *Household hazardous waste collection*
- *Recycling*
- *BMPs: Site specific, structural and source control*
- *BMP maintenance*
- *Non-storm water disposal alternatives (e.g., all wash waters)*
- *Pet and animal waste disposal*
- *Proper solid waste disposal (e.g., garbage, tires, appliances, furniture, vehicles)*
- *Equipment and vehicle maintenance and repair*
- *Public reporting mechanisms*
- *Green waste disposal*
- *Integrated pest management*
- *Native vegetation*
- *Proper disposal of boat and recreational vehicle waste*
- *Traffic reduction, alternative fuel use*

F.4.b. Municipal, Construction, Industrial, Commercial, and Quasi-Governmental (educational institutions, water districts, sanitation districts, etc.) Communities

In addition to the topics listed in F.4.a. above, the Municipal, Construction, Industrial, Commercial, and Quasi-Governmental (Educational Institutions, Water Districts, Sanitation Districts) Communities may also be educated on the following topics where applicable:

- *Basic urban runoff training for all personnel*
- *Additional urban runoff training for appropriate personnel*
- *Illicit Discharge Detection and Elimination observations and follow-up during daily work activities*
- *Lawful disposal of catchbasin and other MS4 cleanout wastes*
- *Water quality awareness for Emergency/First Responders*
- *California's Statewide General NPDES Permit for Storm Water Discharges Associated with Industrial Activities (Except Construction).*
- *California's Statewide General NPDES Permit for Storm Water Discharges Associated with Construction Activities*
- *SDRWQCB's General NPDES Permit for Groundwater Dewatering*
- *401 Water Quality Certification by the SDRWQCB*
- *Statewide General NPDES Utility Vault Permit (NPDES No. CAG990002)*
- *SDRWQCB Waste Discharge Requirements for Dredging Activities*
- *Local requirements beyond statewide general permits*
- *Federal, state and local water quality regulations that affect development projects*
- *Water quality impacts associated with land development*
- *Alternative materials & designs to maintain peak runoff values*
- *How to conduct a storm water inspection*
- *Potable water discharges to the MS4*
- *Dechlorination techniques*
- *Hydrostatic testing*
- *Spill response, containment, & recovery*
- *Preventive maintenance*
- *How to do your job and protect water quality*

F.4.c. Residential, General Public, School Children Communities

In addition to the topics listed in F.4.a. above, the Residential, General Public, and School Children Communities may be educated on the following topics where applicable:

- *Public reporting information resources*
- *Residential and charity car-washing*
- *Community activities (e.g., "Adopt a Storm Drain, Watershed, or Highway" Programs, citizen monitoring, creek/beach cleanups, environmental protection organization activities, etc.)*

Broad Legal Authority: CWA sections 402(p)(3)(B)(ii-iii), CWC section 13377, and Federal NPDES regulations 40 CFR 122.26(d)(2)(i)(B,C,E, and F) and 40 CFR 122.26(d)(2)(iv).

Specific Legal Authority: Federal NPDES regulation 40 CFR 122.26(d)(2)(iv)(A)(6) provides that the proposed management program include "A description of a program to reduce to the maximum extent practicable, pollutants in discharges from municipal separate storm sewers associated with the application of pesticides, herbicides, and fertilizer which will include, as appropriate, controls such as educational activities, permits, certifications, and other measures for commercial applicators and distributors, and controls for application in public right-of-ways and at municipal facilities."

Federal NPDES regulation 40 CFR 122.26(d)(2)(iv)(B)(6) provides that the proposed management program include "A description of educational activities, public information activities, and other appropriate activities to facilitate the proper management and disposal of used oil and toxic materials."

Federal NPDES regulation 40 CFR 122.26(d)(2)(iv)(D)(4) provides that the proposed management program include "A description of appropriate educational and training measures for construction site operators."

Discussion: As discussed in Finding 23, implementation of an Education Component is a critical best management practice and an important aspect of the Jurisdictional URMP. The SWRCB Technical Advisory Committee "recognizes that education with an emphasis on pollution prevention is the fundamental basis for solving nonpoint source pollution problems." The US EPA finds that "An informed and knowledgeable community is critical to the success of a storm water management program since it helps ensure the following:

Greater support for the program as the public gains a greater understanding of the reasons why it is necessary and important. [...]

Greater compliance with the program as the public becomes aware of the personal responsibilities expected of them and others in the community, including the individual actions they can take to protect or improve the quality of area waters" (2000).

Regarding target audiences, US EPA states "The public education program should use a mix of appropriate local strategies to address the viewpoints and concerns of a variety of audiences and communities, including minority and disadvantaged

communities, as well as children” (2000). The target communities included in Education item 7 are based on recommendations of the TAC, which states:

“Target Audiences should include:

1. Government: Educate government agencies and officials to achieve better communication, consistency, collaboration, and coordination at the federal, state and local levels.
2. K-12/Youth Groups: Establish statewide education programs, including curricula, on watershed awareness and nonpoint source pollution problems and solutions, based on a state lead role building upon and coordinating with existing local programs.
3. Development Community: Educate the development community, including developers, contractors, architects, and local government planners, engineers, and inspectors, on nonpoint source pollution problems associated with development and redevelopment and construction activities and involve them in problem definitions and solutions.
4. Business and Industrial Groups.”

The required topics to be covered in the Education Component are based on topics of concern as discussed by the US EPA (1992) and the SWRCB Technical Advisory Committee. Additional education topics were also added based on the number of complaints received by the SDRWQCB and the Copermittees for various topics of concern.

US EPA identifies measurable goals for urban runoff education programs, including such goals as creation of a website, halting dumping of grease and other pollutants into the storm drain by a certain percentage of restaurants, and detecting a percent reduction in litter or animal waste in discharges (2000).

Public education was strongly emphasized in the 1993 DAMP implemented under the First and Second Term Permits. Consequently, the Copermittees already have well-developed education programs that may be readily reviewed and as necessary revised to satisfy the requirements of this Order. The specific detail provided in this section and other sections of the permit where education is identified as a necessary part of the Jurisdictional Program, is provided to establish a framework within which the Copermittees will review and as necessary update their already extensive programs.

The SDRWQCB has the discretion to require item F.4 of the Jurisdictional URMP in Order No. R9-2002-0001 under the broad and specific legal authority cited above.

F.5. ILLICIT DISCHARGE DETECTION AND ELIMINATION COMPONENT

In addition to the underlying broad legal authority citations listed above in section VII. of this Fact Sheet/Technical Report, the following specific legal authority items also generally apply to all directives under Jurisdictional Urban Runoff Management Program item F.5. Illicit Discharge and Detection Elimination Component of Order No. R9-2002-0001. Other specific legal authority items applicable only to distinct directives of Jurisdictional Urban Runoff Management Program item F.5. are provided as necessary.

Federal NPDES regulations 40 CFR 122.26(d)(2)(iv)(B) provides that the proposed management program “shall be based on a description of a program, including a schedule, to detect and remove (or require the discharger to the municipal storm sewer to obtain a separate NPDES permit for) illicit discharges and improper disposal into the storm sewer.”

Federal NPDES regulation 40 CFR 122.26(d)(2)(iv)(B)(1) provides that the Copermittee include in its proposed management program “a program, including inspections, to implement and enforce an ordinance, orders or similar means to prevent illicit discharges to the municipal storm sewer system.” This regulation excludes prohibition of those non-storm water discharges listed in Section B.1 of Order No. R9-2002-0001.

F.5. Illicit Discharge Detection and Elimination Component of the Jurisdictional Urban Runoff Management Program states the following:

Each Copermittee shall implement an Illicit Discharge Detection and Elimination Component containing measures to actively seek and eliminate illicit discharges and connections. At a minimum the Illicit Discharge Detection and Elimination Component shall address:

- F.5.a Illicit Discharges and Connections*
- F.5.b Dry Weather Monitoring*
- F.5.c Investigation / Inspection and Follow-up*
- F.5.d Elimination of Illicit Discharges and Connections*
- F.5.e Enforce Ordinances*
- F.5.f Prevent and Respond To Sewage Spills (Including from Private Laterals and Failing Septic Systems) and Other Spills*
- F.5.g Facilitate Public Reporting of Illicit Discharges and Connections – Public Hotline*
- F.5.h Facilitate Disposal of Used Oil and Toxic Materials*
- F.5.i Limit Infiltration From Sanitary Sewer to MS4*

Broad Legal Authority: CWA sections 402(p)(3)(B)(ii-iii), CWC section 13377, and Federal NPDES regulations 40 CFR 122.26(d)(2)(i)(B,C,E, and F) and 40 CFR 122.26(d)(2)(iv).

Specific Legal Authority: Federal NPDES regulations 40 CFR 122.26(d)(2)(iv)(B) and 40 CFR 122.26(d)(2)(iv)(B)(1) generally apply to all directives under Jurisdictional Urban Runoff Management Program item F.5. Illicit Discharge Detection and Elimination Component of Order No. R9-2002-0001.

Discussion: Illicit discharges and connections can constitute a significant portion of urban runoff discharges from MS4s. US EPA states “A study conducted in 1987 in Sacramento, California, found that almost one-half of the water discharged from a local MS4 was not directly attributable to precipitation runoff. A significant portion of these dry weather flows were from illicit and/or inappropriate discharges and connections to the MS4” (2000).

MS4 discharges attributable to illicit discharges and connections can be a significant source of pollutant loading to receiving waters. The NURP study concluded that the quality of urban runoff can be adversely impacted by illicit discharges and connections (US EPA, 1983). Furthermore, US EPA states that illicit discharges and connections result in “untreated discharges that contribute

high levels of pollutants, including heavy metals, toxics, oil and grease, solvents, nutrients, viruses, and bacteria to receiving waterbodies. Pollutant levels from these illicit discharges have been shown in EPA studies to be high enough to significantly degrade receiving water quality and threaten aquatic wildlife and human health” (2000).

For these reasons, CWA section 402(p)(3)(B)(ii) requires each Copermittee to prohibit non-storm water discharges into its MS4. The detection and elimination of illicit discharges and connections is also clearly identified in the federal regulations as a high priority (40 CFR 122.26(d)(2)(iv)(B) and 122.26(d)(2)(iv)(B)(1)). As guidance for detecting and eliminating illicit discharges and connections, the US EPA suggests “The proposed management program must include a description of inspection procedures, orders, ordinances, and other legal authorities necessary to prevent illicit discharges to the MS4” (1992).

The SDRWQCB has the discretion to require Jurisdictional Urban Runoff Management Program item F.5 in Order No. R9-2002-0001 under the broad legal authority cited above.

F.5.a. Illicit Discharges and Connections of the Jurisdictional Urban Runoff Management Program states the following:

Each Copermittee shall implement a program to actively seek and eliminate illicit discharges and connections into its MS4. The program shall address all types of illicit discharges and connections excluding those non-storm water discharges not prohibited by the Copermittee in accordance with Section B. of this Order.

Broad Legal Authority: CWA sections 402(p)(3)(B)(ii-iii), CWC section 13377, and Federal NPDES regulations 40 CFR 122.26(d)(2)(i)(B,C,E, and F) and 40 CFR 122.26(d)(2)(iv).

Specific Legal Authority: Federal NPDES regulations 40 CFR 122.26(d)(2)(iv)(B) and 40 CFR 122.26(d)(2)(iv)(B)(1) generally apply to all directives under Jurisdictional Urban Runoff Management Program item F.5. Illicit Discharge Detection and Elimination Component of Order No. R9-2002-0001.

Discussion: See discussion for F.5 Illicit Discharge Detection and Elimination Component above.

F.5.b. Dry Weather Monitoring of the Jurisdictional Urban Runoff Management Program states the following:

Each Copermittee shall conduct dry weather inspections, field screening, and analytical monitoring of MS4 outfalls within its jurisdiction to detect illicit discharges and connections in accordance with Attachment E of this Order.

Broad Legal Authority: CWA sections 402(p)(3)(B)(ii-iii), CWC section 13377, and Federal NPDES regulations 40 CFR 122.26(d)(2)(i)(B,C,E, and F) and 40 CFR 122.26(d)(2)(iv).

Specific Legal Authority: Federal NPDES regulations 40 CFR 122.26(d)(2)(iv)(B) and 40 CFR 122.26(d)(2)(iv)(B)(1) generally apply to all directives under

Jurisdictional Urban Runoff Management Program item F.5. Illicit Discharge Detection and Elimination Component of Order No. R9-2002-0001.

Federal NPDES regulation 40 CFR 122.26(d)(2)(iv)(B)(2) provides that the Copermittee include in its proposed management program “a description of procedures to conduct on-going field screening activities during the life of the permit, including areas or locations that will be evaluated by such field screens.”

Discussion: Since illicit discharges and connections can be significant sources of pollutants in urban runoff, and can cause receiving water degradation, the locations of all illicit discharges and connections need to be identified. An effective means for achieving this is analytical monitoring of dry weather urban runoff flows. Through frequent, geographically widespread MS4 inspections, field screening and laboratory analysis of dry weather urban runoff, the Copermittees can identify locations potentially impacted by illicit discharges or connections. If results indicate that an illicit discharge or connection may be present, then follow-up procedures can be followed to pinpoint the source of the illicit discharge or connection. Once the illicit discharge or connection source is identified, steps may be taken to eliminate the discharge or connection. In this manner, dry weather analytical monitoring of urban runoff can lead to the elimination of illicit discharges and connections and the reduction of pollutants in urban runoff.

The Copermittees directed in Attachment E to review their Illegal Discharge and Illicit Connections programs and update them to include more frequent, geographically widespread inspections, field screening analysis, and laboratory analysis of specific parameters. Although the minimum number of inspections is set at twice during the period of May 1st to September 30th of each year, it is expected that more frequent inspections may be necessary. An emphasis is placed on designing a program with clear criteria and rationale. The programs designed should be flexible and implemented in a manner that will enable the Copermittees to identify illicit discharges and illegal connections, respond to citizen complaints, and follow-up on ongoing investigations to identify and eliminate sources.

The SDRWQCB has the discretion to require Jurisdictional Urban Runoff Management Program item F.5.b in Order No. R9-2002-0001 under the broad and specific legal authority cited above.

F.5.c. Investigation/Inspection and Follow-up of the Jurisdictional Urban Runoff Management Program states the following:

Each Copermittee shall investigate and inspect any portion of the MS4 that, based on dry weather monitoring results or other appropriate information, indicates a reasonable potential for illicit discharges, illicit connections, or other sources of non-storm water (including non-prohibited discharge(s) identified in Section B. of this Order). Each Copermittee shall establish criteria to identify portions of the system where such follow-up investigations are appropriate.

Broad Legal Authority: CWA sections 402(p)(3)(B)(ii-iii), CWC section 13377, and Federal NPDES regulations 40 CFR 122.26(d)(2)(i)(B,C,E, and F) and 40 CFR 122.26(d)(2)(iv).

Specific Legal Authority: Federal NPDES regulations 40 CFR 122.26(d)(2)(iv)(B) and 40 CFR 122.26(d)(2)(iv)(B)(1) generally apply to all directives under Jurisdictional Urban Runoff Management Program item F.5. Illicit Discharge Detection and Elimination Component of Order No. R9-2002-0001.

Federal NPDES regulation 40 CFR 122.26(d)(2)(iv)(B)(3) provides that the Copermittee include in its proposed management program “procedures to be followed to investigate portions of the separate storm sewer system that, based on the results of the field screen, or other appropriate information, indicate a reasonable potential of containing illicit discharges or other sources of non-storm water.”

Discussion: The quality of urban runoff can be adversely impacted by illicit discharges and connections (US EPA, 1983). Elimination of these sources of pollutants can therefore result in a dramatic improvement in the quality of urban runoff discharges from MS4s, which in turn can result in improved receiving water quality. If field screening results indicate the presence of illicit discharges to the MS4, that portion of the MS4 must be investigated to eliminate the illicit discharge and prevent further potential degradation of receiving waters. To determine when follow-up procedures should be undertaken, US EPA states “Applicants should propose criteria to identify portions of the system where follow-up investigations are appropriate” (1992).

Procedures to investigate priority locations for illicit connections include sampling for such constituents as Total Coliform Bacteria Fecal Coliform Bacteria, Enterococcus Bacteria, surfactants (MBAS), residual chlorine, oil and grease, selected dissolved metals, fluoride, phenolic compounds, and potassium. Inspection of the storm sewer system, use of remote-control cameras, on-site inspections, and dye testing at priority or suspect facilities, and additional discharge monitoring to pinpoint pollutant sources are also important elements of such programs.

The SDRWQCB has the discretion to require Jurisdictional Urban Runoff Management Program item F.5.c in Order No. R9-2002-0001 under the broad and specific legal authority cited above.

F.5.d. Elimination of Illicit Discharges and Connections of the Jurisdictional Urban Runoff Management Program states the following:

Each Copermittee shall eliminate all detected illicit discharges, discharge sources, and connections immediately.

Broad Legal Authority: CWA sections 402(p)(3)(B)(ii-iii), CWC section 13377, and Federal NPDES regulations 40 CFR 122.26(d)(2)(i)(B,C,E, and F) and 40 CFR 122.26(d)(2)(iv).

Specific Legal Authority: Federal NPDES regulations 40 CFR 122.26(d)(2)(iv)(B) and 40 CFR 122.26(d)(2)(iv)(B)(1) generally apply to all directives under Jurisdictional Urban Runoff Management Program item F.5. Illicit Discharge Detection and Elimination Component of Order No. R9-2002-0001.

Water Quality Control Plan for the San Diego Basin Waste Discharge Prohibition 8 states "Any discharge to a storm water conveyance system that is not entirely composed of 'storm water' is prohibited unless authorized by the Regional Board." California Water Code Section 13263(a) provides that waste discharge requirements prescribed by the SDRWQCB implement the Basin Plan.

Discussion: Under CWA section 402(p)(3)(B)(ii) and Water Quality Control Plan for the San Diego Basin Waste Discharge Prohibition 8 non-storm water discharges are prohibited. By definition, illicit discharges and connections are non-storm water discharges. Federal NPDES regulation 40 CFR 122.26(d)(2)(iv)(B) also requires illicit discharges and connections to be detected and removed. Therefore, any detected illicit discharges or connections must be eliminated. US EPA supports elimination of detected illicit discharges and connections when it states "Once the source is identified, the offending discharger should be notified and directed to correct the problem. Education efforts and working with the discharger can be effective in resolving the problem before taking legal action."

The SDRWQCB has discretion to require Jurisdictional Urban Runoff Management Program item F.5.d in Order No. R9-2002-0001 under the broad and specific legal authority cited above.

F.5.e. Enforce Ordinances of the Jurisdictional Urban Runoff Management Program states the following:

Each Copermittee shall implement and enforce its ordinances, orders, or other legal authority to prevent illicit discharges and connections to its MS4. Each Copermittee shall also implement and enforce its ordinance, orders, or other legal authority to eliminate detected illicit discharges and connections to it MS4.

Broad Legal Authority: CWA sections 402(p)(3)(B)(ii-iii), CWC section 13377, and Federal NPDES regulations 40 CFR 122.26(d)(2)(i)(B,C,E, and F) and 40 CFR 122.26(d)(2)(iv).

Specific Legal Authority: Federal NPDES regulations 40 CFR 122.26(d)(2)(iv)(B) and 40 CFR 122.26(d)(2)(iv)(B)(1) generally apply to all directives under Jurisdictional Urban Runoff Management Program item F.5. Illicit Discharge Detection and Elimination Component of Order No. R9-2002-0001.

Discussion: To prevent and eliminate illicit discharges and connections, the Copermittee must implement and enforce its ordinance, orders, or other legal authority over illicit discharges and connections. The US EPA states that this "proposed management program component should describe how the prohibition on illicit discharges will be implemented and enforced. The description could include a schedule and allocation of staff and resources. A direct linkage should exist between this program component and the adequate legal authority requirements for the ordinances and orders to effectively implement the prohibition of illicit discharges" (1992).

The SDRWQCB has the discretion to require Jurisdictional Urban Runoff Management Program item F.5.e in Order No. R9-2002-0001 under the broad legal authority cited above.

F.5.f. Prevent and Respond to Sewage Spills (Including from Private Laterals and Failing Septic Systems) and Other Spills of the Jurisdictional Urban Runoff Management Program states the following:

Each Copermittee shall prevent, respond to, contain and clean up all sewage and other spills that may discharge into its MS4 from any source (including private laterals and failing septic systems). Spill response teams shall prevent entry of spills into the MS4 and contamination of surface water, ground water and soil to the maximum extent practicable. Each Copermittee shall coordinate spill prevention, containment and response activities throughout all appropriate departments, programs and agencies to ensure maximum water quality protection at all times.

Each Copermittee shall develop and implement a mechanism whereby it is notified of all sewage spills from private laterals and failing septic systems into its MS4. Each Copermittee shall prevent, respond to, contain and clean up sewage from any such notification.

Broad Legal Authority: CWA sections 402(p)(3)(B)(ii-iii), CWC section 13377, and Federal NPDES regulations 40 CFR 122.26(d)(2)(i)(B,C,E, and F) and 40 CFR 122.26(d)(2)(iv).

Specific Legal Authority: Federal NPDES regulations 40 CFR 122.26(d)(2)(iv)(B) and 40 CFR 122.26(d)(2)(iv)(B)(1) generally apply to all directives under Jurisdictional Urban Runoff Management Program item F.5. Illicit Discharge Detection and Elimination Component of Order No. R9-2002-0001.

Federal NPDES regulations 40 CFR 122.26(d)(2)(iv)(B)(4) provides that the Copermittee include in its proposed management program “a description of procedures to prevent, contain, and respond to spills that may discharge into the municipal separate storm sewer.”

Discussion: Sewage and other spills frequently enter the MS4, to be carried and discharged to receiving waters. Such spills into and from the MS4 can severely impair receiving water quality and pose a significant threat to public health. To avoid these negative impacts, the proposed management program must describe procedures that the Copermittee will implement to prevent, contain, and respond to spills that may discharge into the MS4. The US EPA states “The goal of a spill prevention program is to reduce the frequency and extent of spills of hazardous materials which can cause water quality impairment. Spill containment programs may establish minimum chemical storage and handling requirements, require users to submit prevention and control plans, and ensure site inspections. [...] Spill response teams should attempt to prevent or minimize contamination of surface water, groundwater, and soil. Spill response programs often require a coordinated response from a number of municipal departments. Municipalities should describe how response procedures within these programs attempt to mitigate potential pollutant discharges to surface waters and the MS4” (1992). Spills from private laterals have been identified in the San Diego Region as a significant source of illicit discharges to MS4s and must be addressed by the Copermittees. Failing private septic systems have also been identified as potential illicit discharges that should be addressed by Copermittees that may have septic systems within their jurisdictions. The Copermittees are directed to implement a program in which they are notified of all such spills. One mechanism to achieve compliance with this requirement is to update business licenses or permits of plumbers or other potential responders (e.g. apartment management agencies,

homeowners associations, etc) to these spills to report them to the Copermittee in whose jurisdiction the spill occurred.

The SDRWQCB has discretion to require Jurisdictional Urban Runoff Management Program item F.5.f in Order No. R9-2002-0001 under the broad and specific legal authority cited above.

F.5.g. Facilitate Public Reporting of Illicit Discharges and Connections – Public Hotline of the Jurisdictional Urban Runoff Management Program states the following:

Each Copermittee shall promote, publicize and facilitate public reporting of illicit discharges or water quality impacts associated with discharges into or from MS4s. Each Copermittee shall facilitate public reporting through development and operation of a public hotline. Public hotlines can be Copermittee-specific or shared by Copermittees. All storm water hotlines shall be capable of receiving reports in both English and Spanish 24 hours per day / seven days per week. Copermittees shall respond to and resolve each reported incident. All reported incidents, and how each was resolved, shall be summarized in each Copermittee's individual Jurisdictional URMP Annual Report.

Broad Legal Authority: CWA sections 402(p)(3)(B)(ii-iii), CWC section 13377, and Federal NPDES regulations 40 CFR 122.26(d)(2)(i)(B,C,E, and F) and 40 CFR 122.26(d)(2)(iv).

Specific Legal Authority: Federal NPDES regulations 40 CFR 122.26(d)(2)(iv)(B) and 40 CFR 122.26(d)(2)(iv)(B)(1) generally apply to all directives under Jurisdictional Urban Runoff Management Program item F.5. Illicit Discharge Detection and Elimination Component of Order No. R9-2002-0001.

Federal NPDES regulations 40 CFR 122.26(d)(2)(iv)(B)(4) provides that the Copermittee include in its proposed management program “a description of a program to promote, publicize, and facilitate public reporting of the presence of illicit discharges or water quality impacts associated with discharges from municipal separate storm sewers.”

Discussion: Regarding public reporting of illicit discharges or water quality impacts associated with discharges from MS4s, the US EPA states “Timely reporting by the public of improper disposal and illicit discharges are critical components of programs to control such sources. To enhance public awareness, programs may include setting up a public information hotline number, educating school students, community and volunteer watchdog groups, using inserts into utility bills, and newspaper, radio, and television announcements to inform the public about what to look for and how to report incidents” (1992). As indicated in the Report of Waste Discharge and proposed DAMP, the Orange County Copermittees already have mechanisms in place to facilitate public reporting of potential illicit discharges that meet or exceed the requirements of this section.

The SDRWQCB has discretion to require Jurisdictional Urban Runoff Management Program item F.5.g in Order No. R9-2002-0001 under the broad and specific legal authority cited above.

F.5.h. Facilitate Disposal of Used Oil and Toxic Materials of the Jurisdictional Urban Runoff Management Program states the following:

Each Copermittee shall facilitate the proper management and disposal of used oil, toxic materials, and other household hazardous wastes. Such facilitation shall include educational activities, public information activities, and establishment of collection sites operated by the Copermittee or a private entity. Neighborhood collection of household hazardous wastes is encouraged.

Broad Legal Authority: CWA sections 402(p)(3)(B)(ii-iii), CWC section 13377, and Federal NPDES regulations 40 CFR 122.26(d)(2)(i)(B,C,E, and F) and 40 CFR 122.26(d)(2)(iv).

Specific Legal Authority: Federal NPDES regulations 40 CFR 122.26(d)(2)(iv)(B) and 40 CFR 122.26(d)(2)(iv)(B)(1) generally apply to all directives under Jurisdictional Urban Runoff Management Program item F.5. Illicit Discharge Detection and Elimination Component of Order No. R9-2002-0001.

Federal NPDES regulations 40 CFR 122.26(d)(2)(iv)(B)(6) provides that the Copermittee include in its proposed management program “a description of educational activities, public information activities, and other appropriate activities to facilitate the proper management and disposal of used oil and toxic materials.”

Discussion: The US EPA states “If private individuals find the proper disposal of used oil or toxic materials difficult, incidents of improper disposal (such as into the MS4) increase” (1992). Therefore Copermittees are required to propose a program component that will facilitate the proper disposal of used oil and toxics from households by establishing municipally operated collection sites, or ensuring that privately operated collections sites are available. The US EPA suggests this program component “should describe outreach plans to handlers of used oil and to the public, and operating plans for oil and household waste collection programs” (1992). As indicated in the Report of Waste Discharge and proposed DAMP, the Orange County Copermittees already have mechanisms in place to facilitate the proper management and disposal of used oil and toxic materials that meets or exceed the requirements of this section.

The SDRWQCB has discretion to require Jurisdictional Urban Runoff Management Program item F.5.h in Order No. R9-2002-0001 under the broad and specific legal authority cited above.

F.5.i. Limit Infiltration from Sanitary Sewer to MS4 / Provide Preventive Maintenance of Both of the Jurisdictional Urban Runoff Management Program states the following:

Each Copermittee shall implement controls and measures to limit infiltration of seepage from municipal sanitary sewers to MS4s through thorough, routine preventive maintenance of the MS4. Each Copermittee that operates both a municipal sanitary sewer system and a MS4 shall implement controls and measures to limit infiltration of seepage from the municipal sanitary sewers to the MS4s that shall include overall sanitary sewer and MS4 surveys and thorough, routine preventive maintenance of both.

Broad Legal Authority: CWA sections 402(p)(3)(B)(ii-iii), CWC section 13377, and Federal NPDES regulations 40 CFR 122.26(d)(2)(i)(B,C,E, and F) and 40 CFR 122.26(d)(2)(iv).

Specific Legal Authority: Federal NPDES regulations 40 CFR 122.26(d)(2)(iv)(B) and 40 CFR 122.26(d)(2)(iv)(B)(1) generally apply to all directives under Jurisdictional Urban Runoff Management Program item F.5. Illicit Discharge Detection and Elimination Component of Order No. R9-2002-0001.

Federal NPDES regulations 40 CFR 122.26(d)(2)(iv)(B)(4) provides that the Copermittee include in its proposed management program “a description of controls to limit infiltration of seepage from municipal sanitary sewers to municipal separate storm sewer systems where necessary.”

Discussion: Regarding seepage from sanitary sewers, the US EPA states “Raw sewage can seep from sanitary sewage collection systems through leaks and cracks in aging pipes, poorly constructed manholes and joints, and main breaks. Sewage from a leaky sanitary system can flow to storm sewers or contaminate ground water supplies. Interaction between sanitary sewers and separate storm sewers may occur at manholes and where sanitary sewer laterals and storm sewer trenches cross. Separate storm sewers and sanitary sewers may share the same trench, which is generally filled with very porous material such as gravel” (1992). When raw sewage enters the storm water system, it can reach receiving waters untreated, posing a threat to water quality and public health. In order to prevent this condition, the Copermittees are directed to perform these inspection and maintenance activities. To the extent that a Copermittee operates both a MS4 and a sanitary sewer, the Copermittee is directed to coordinate the thorough, routine preventive maintenance of both systems. In cases where the Copermittee does not operate the sanitary sewer, the Copermittee is implicitly encouraged to coordinate the maintenance of the MS4 and sanitary sewer with the operator of the sanitary sewer, but must at a minimum ensure the thorough, routine preventive maintenance of the MS4 system.

The SDRWQCB has discretion to require Jurisdictional Urban Runoff Management Program item F.5.i in Order No. R9-2002-0001 under the broad and specific legal authority cited above.

F.6. COMMON INTEREST AREAS AND HOMEOWNERS ASSOCIATIONS

F.6 Common Interest Areas and Homeowners Associations Component of the Jurisdictional Urban Runoff Management Plan states the following:

- a. *Each Copermittee shall develop and implement a plan for ensuring that urban runoff within common interest areas from private roads, drainage facilities, and other components of the storm water conveyance system, including those managed by associations, meets the objectives of this Order.*
- b. *As part of its individual Jurisdictional URMP Annual Report, each Copermittee shall describe the measures taken to ensure that urban runoff from common interest areas to the MS4 meets the objectives of this Order.*

Broad Legal Authority: CWA sections 402(p)(3)(B)(ii-iii), CWC section 13377, and Federal NPDES regulations 40 CFR 122.26(d)(2)(i)(B,C,E, and F) and 40 CFR 122.26(d)(2)(iv).

Discussion: Many residential neighborhoods and some commercial areas within the jurisdiction of the Copermittees are within common interest developments and are, therefore, subject to management of common areas by associations. The Declaration of the Covenants, Conditions and Restrictions (CC&Rs) contains the ground rules for the operation of such an association. CC&Rs are an appropriate method for protecting the common plan of developments and to provide for a mechanism for financial support for the upkeep of common areas including roads, storm drains, and other components of storm water conveyance systems.

In certain cases the Copermittees may neither own nor operate the storm water conveyance systems within common interest developments. Presently, some Copermittees have agreements with the responsible association(s) in which the association either allows the Copermittee to implement best management practices or the association agrees to uphold the intent of the DAMP. Rather than list the associations as Copermittees, this Order interprets common interest areas as property subject to the codes and ordinance and enforcement mechanisms of the city or county in which it resides and, therefore, holds the local government responsible for the discharge of wastes from private storm water conveyance systems.

The SDRWQCB has discretion to require Jurisdictional Urban Runoff Management Program item F.6 in Order No. R9-2002-0001 under the broad and specific legal authority cited above.

F.7. PUBLIC PARTICIPATION COMPONENT

F.7. Public Participation Component of the Jurisdictional Urban Runoff Management Program states the following:

Each Copermittee shall incorporate a mechanism for public participation in the implementation of the Jurisdictional URMP.

Broad Legal Authority: CWA sections 402(p)(3)(B)(ii-iii), CWC section 13377, and Federal NPDES regulations 40 CFR 122.26(d)(2)(i)(B,C,E, and F) and 40 CFR 122.26(d)(2)(iv).

Discussion: Public participation can be an important tool for strengthening an urban runoff management program. US EPA strongly supports public participation when it states "An active and involved community is crucial to the success of a storm water management program because it allows for:

Broader public support since citizens who participate in the development and decision making process are partially responsible for the program and, therefore, may be less likely to raise legal challenges to the program and more likely to take an active role in its implementation;

Shorter implementation schedules due to fewer obstacles in the form of public and legal challenges and increased sources in the form of citizen volunteers;

A broader base of expertise and economic benefits since the community can be a valuable, and free, intellectual resource; and

A conduit to other programs as citizens involved in the storm water program development process provide important cross-connections and relationships with other community and government programs. This benefit is particularly valuable when trying to implement a storm water program on a watershed basis, as encouraged by EPA" (2000).

The SDRWQCB has discretion to require Jurisdictional Urban Runoff Management Program item F.7 in Order No. R9-2002-0001 under the broad legal authority cited above.

F.8. ASSESSMENT OF JURISDICTIONAL URMP EFFECTIVENESS COMPONENT

F.8. Assessment of Jurisdictional URMP Effectiveness Component of the Jurisdictional Urban Runoff Management Program states the following:

- a. *As part of its individual Jurisdictional URMP, each Copermittee shall develop a long-term strategy for assessing the effectiveness of its individual Jurisdictional URMP. The long-term assessment strategy shall identify specific direct and indirect measurements that each Copermittee will use to track the long-term progress of its individual Jurisdictional URMP towards achieving improvements in receiving water quality. Methods used for assessing effectiveness shall include the following or their equivalent: surveys, pollutant loading estimations, and receiving water quality monitoring. The long-term strategy shall also discuss the role of monitoring data in substantiating or refining the assessment.*
- b. *As part of its individual Jurisdictional URMP Annual Report, each Copermittee shall include an assessment of the effectiveness of its Jurisdictional URMP using the direct and indirect assessment measurements and methods developed in its long-term assessment strategy.*

Broad Legal Authority: CWA sections 402(p)(3)(B)(ii-iii), CWC section 13377, and Federal NPDES regulations 40 CFR 122.26(d)(2)(i)(B,C,E, and F) and 40 CFR 122.26(d)(2)(iv).

Specific Legal Authority: Federal NPDES regulation 40 CFR 122.26(d)(2)(v) provides that the Copermittees must include "Estimated reductions in loadings of pollutants from discharges of municipal storm sewer constituents from municipal storm sewer systems expected as the result of the municipal storm water quality management program. The assessment shall also identify known impacts of storm water controls on ground water." Under Federal NPDES regulation 40 CFR 122.42(c) applicants must provide annual reports on the progress of their storm water management programs.

Discussion: Regarding the assessment of the effectiveness of URMPs, the US EPA states that "At a minimum, applicants must submit estimated reductions in pollutant loads expected to result from implemented controls and describe known impacts of storm water controls on groundwater" (1992). The US EPA suggests that the assessments include direct and indirect measurements of effectiveness, stating that "Reductions in pollutant loads due to the implementation and maintenance of structural controls provide direct measurements of the effectiveness of the storm water management program. In addition, EPA encourages applicants to go beyond the minimum requirement and assess the

effectiveness of their storm water management program through other direct measurements as well as indirect measurements" (1992). The US EPA also recommends that monitoring data be used to substantiate or refine the assessment, suggesting that "the estimated removal efficiencies can be refined through the monitoring program. [...] Throughout the permit term, the municipality must submit refinements to its assessment or additional direct measurements of program effectiveness in its annual report" (1992). Finally, the US EPA suggests that the assessment be used for long-term assessment of progress when it states "The applicant should use direct measurements of program effectiveness as it begins to assess its long-term progress in improving water quality through storm water management practices. [...] [A]pplicants are encouraged to use direct measurements of program effectiveness, such as annual pollutant loads, event mean concentrations, and seasonal pollutant loadings, to begin to estimate long-term trends" (1992).

The SDRWQCB has discretion to require Jurisdiction Urban Runoff Management Program item F.8 in Order No. R9-2002-0001 under the broad and specific legal authority cited above.

F.9. FISCAL ANALYSIS COMPONENT

F.9. Fiscal Analysis Component of the Jurisdictional Urban Runoff Management Program states the following:

Each Copermitttee shall secure the resources necessary to meet the requirements of this Order. As part of its individual Jurisdictional URMP, each Copermitttee shall develop a strategy to conduct a fiscal analysis of its urban runoff management program in its entirety. In order to demonstrate sufficient financial resources to implement the conditions of this Order, each Copermitttee shall conduct an annual fiscal analysis as part of its individual Jurisdictional URMP Annual Report. This analysis shall, for each fiscal year covered by this Order, evaluate the expenditures (such as capital, operation and maintenance, education, and administrative expenditures) necessary to accomplish the activities of the Copermitttee's urban runoff management program. Such analysis shall include a description of the source(s) of funds that are proposed to meet the necessary expenditures, including legal restrictions on the use of such funds.

Broad Legal Authority: CWA sections 402(p)(3)(B)(ii-iii), CWC section 13377, and Federal NPDES regulations 40 CFR 122.26(d)(2)(i)(B,C,E, and F) and 40 CFR 122.26(d)(2)(iv).

Specific Legal Authority: Federal NPDES regulation 40 CFR 122.26(d)(2)(vi) provides that "[The Copermitttee must submit] for each fiscal year to be covered by the permit, a fiscal analysis of the necessary capital and operation and maintenance expenditures necessary to accomplish the activities of the programs under paragraphs (d)(2)(iii) and (iv) of this section. Such analysis shall include a description of the source of funds that are proposed to meet the necessary expenditures, including legal restrictions on the use of such funds."

Discussion: A fiscal analysis can be an important planning tool. The US EPA finds that "examining the levels of proposed spending and funding allows the permitting authority to gauge the ability of the applicant to implement the program and predict its effectiveness. The fiscal analysis also will help the [SDRWQCB] determine whether the applicant has met the statutory requirement of reducing the discharge

of pollutants to the MS4 to the maximum extent practicable. Finally, the estimates help the applicant evaluate the feasibility and cost-effectiveness of its program” (1992).

The SDRWQCB has discretion to require Jurisdictional Urban Runoff Management item F.9 in Order No. R9-2002-0001 under the broad and specific legal authority cited above.

G. IMPLEMENTATION OF JURISDICTIONAL URMP

G. Implementation of Jurisdictional URMP states the following:

*Each Copermittee shall have completed full implementation of all requirements of the Jurisdictional URMP section of this Order no later than **365 days after adoption** of this Order, except as stated as follows: Within 180 days of development of the model SUSMP, each Copermittee shall adopt its own local SUSMP, and amended ordinances consistent with the model SUSMP, and shall submit both (local SUSMP and amended ordinances) to the SDRWQCB.*

Following the adoption of the Order and prior to the full implementation of the Jurisdictional URMP, the Copermittees shall at a minimum implement the provisions and commitments of the proposed DAMP submitted in September 2000.

Broad Legal Authority: CWA sections 402(p)(3)(B)(ii-iii), CWC section 13377, and Federal NPDES regulations 40 CFR 122.26(d)(2)(i)(B,C,E, and F) and 40 CFR 122.26(d)(2)(iv).

Discussion: The requirements of the NPDES regulations for urban runoff have been in place for many years. Falling under these regulations, the Copermittees should currently be implementing adequate urban runoff programs to be in compliance with the regulations. The requirements in Order No. R9-2002-0001 are based on the NPDES regulations; therefore, the vast majority of the requirements in Order No. R9-2002-0001 should already be implemented by the Copermittees. For this reason, implementation schedules of 180 days and 365 days should be more than adequate to meet the requirements of Order No. R9-2002-0001.

The SDRWQCB has discretion to require Implementation of Jurisdictional URMP item G. in Order No. R9-2002-0001 under the broad legal authority cited above.

H. SUBMITTAL OF JURISDICTIONAL URMP DOCUMENT

H. Submittal of Jurisdictional URMP Document states the following:

The written account of the overall program to be conducted by each Copermittee within its jurisdiction during the five-year life of this Order is referred to as the “Jurisdictional URMP Document”.

1. *Individual – Each Copermittee shall submit to the Principal Permittee(s) an individual Jurisdictional URMP document which describes all activities it has undertaken or is undertaking to implement the requirements of each component of the Jurisdictional URMP section F. of this Order.*
 - a. *At a minimum, the individual Jurisdictional URMP document shall contain the following information for the following components:*

(1) *Construction Component*

- (a) *Which pollution prevention methods will be required for implementation, and how and where they will be required*
- (b) *Updated grading ordinances*
- (c) *A description of the modified construction and grading approval process*
- (d) *Updated construction and grading project requirements in local grading and construction permits*
- (e) *A completed watershed-based inventory of all construction sites*
- (f) *A completed prioritization of all construction sites based on threat to water quality*
- (g) *Which BMPs will be implemented, or required to be implemented, for each priority category*
- (h) *How BMPs will be implemented, or required to be implemented, for each priority category*
- (i) *Planned inspection frequencies for each priority category*
- (j) *Methods for inspection*
- (k) *A description of enforcement mechanisms and how they will be used*
- (l) *A description of how non-compliant sites will be identified and the process for notifying the SDRWQCB, including a list of current non-compliant sites*
- (m) *A description of the construction education program and how it will be implemented*

(2) *Municipal (Existing Development) Component*

- (a) *Which pollution prevention methods will be required for implementation, and how and where they will be required*
- (b) *A completed watershed-based inventory of all municipal land use areas and activities*
- (c) *A completed prioritization of all municipal areas and activities based on threat to water quality*
- (d) *Which BMPs will be implemented, or required to be implemented, for each priority category*
- (e) *How BMPs will be implemented, or required to be implemented, for each priority category*
- (f) *Municipal maintenance activities and schedules*
- (g) *Management strategy for pesticides, herbicides, and fertilizer use.*
- (h) *Planned inspection frequencies for the high priority category*
- (i) *Methods for inspection*
- (j) *A description of enforcement mechanisms and how they will be used*

(3) *Industrial (Existing Development) Component*

- (a) *Which pollution prevention methods will be required for implementation, and how and where they will be required*
- (b) *A completed watershed-based inventory of all industrial sites*
- (c) *A completed prioritization of all industrial sites based on threat to water quality*
- (d) *Which BMPs will be implemented, or required to be implemented, for each priority category*
- (e) *How BMPs will be implemented, or required to be implemented, for each priority category*
- (f) *A description of the monitoring program to be conducted, or required to be conducted*
- (g) *Planned inspection frequencies for each priority category*
- (h) *Methods for inspection*
- (i) *A description of enforcement mechanisms and how they will be used*
- (j) *A description of how non-compliant sites will be identified and the process for notifying the SDRWQCB, including a list of current non-compliant sites*

(4) *Commercial (Existing Development) Component*

- (a) *Which pollution prevention methods will be required for implementation, and how and where they will be required*
- (b) *A completed watershed-based inventory of high priority commercial sites*

- (c) *Which BMPs will be implemented, or required to be implemented, for high priority sites*
 - (d) *How BMPs will be implemented, or required to be implemented, for high priority sites*
 - (e) *Planned inspection frequencies for high priority sites*
 - (f) *Methods for inspection*
 - (g) *A description of enforcement mechanisms and how they will be used*
- (5) *Residential (Existing Development) Component*
- (a) *Which pollution prevention methods will be encouraged for implementation, and how and where they will be encouraged*
 - (b) *A completed inventory of high priority residential areas and activities*
 - (c) *Which BMPs will be implemented, or required to be implemented, for high priority areas and activities*
 - (d) *How BMPs will be implemented, or required to be implemented, for high priority areas and activities*
 - (e) *A description of enforcement mechanisms and how they will be used*
- (6) *Education Component*
- (a) *A description of the content, form, and frequency of education efforts for each target community*
- (7) *Illicit Discharges Detection and Elimination Component*
- (a) *A description of the program to actively seek and eliminate illicit discharges and connections*
 - (b) *A description of dry weather monitoring to be conducted to detect illicit discharges and connections (see Attachment E)*
 - (c) *A description of investigation and inspection procedures to follow-up on dry weather monitoring results or other information which indicate potential for illicit discharges and connections*
 - (d) *A description of procedures to eliminate detected illicit discharges and connections*
 - (e) *A description of enforcement mechanisms and how they will be used*
 - (f) *A description of methods to prevent, respond to, contain, and clean up all sewage (including spills from private laterals and failing septic systems) and other spills in order to prevent entrance into the MS4*
 - (g) *A description of the mechanism to receive notification of spills from private laterals*
 - (h) *A description of efforts to facilitate public reporting of illicit discharges and connections, including a public hotline*
 - (i) *A description of efforts to facilitate proper disposal of used oil and other toxic materials*
 - (j) *A description of controls and measures to be implemented to limit infiltration of seepage from sanitary sewers to MS4s*
 - (k) *A description of routine preventive maintenance activities on the sanitary system (where applicable) and the MS4*
- (8) *Public Participation Component*
- (a) *A description of how public participation will be included in the implementation of the Jurisdictional URMP*
- (9) *Assessment of Jurisdictional URMP Effectiveness Component*
- (a) *A description of strategies to be used for assessing the long-term effectiveness of the individual Jurisdictional URMP.*

- (10) *Fiscal Analysis Component*
 - (a) *A description of the strategy to be used to conduct a fiscal analysis of the urban runoff management program.*
 - (11) *Land-Use Planning for New Development and Redevelopment Component*
 - (a) *Workplan for inclusion in General Plan (or equivalent plan) of water quality and watershed protection principles and policies*
 - (b) *Development project requirements in local development permits*
 - (c) *Participation efforts conducted in the development of the Model SUSMP*
 - (d) *Environmental review processes revisions*
 - (e) *A description of the planning education program and how it will be implemented*
 - (12) *Fire Fighting*
 - (a) *A description of a program to reduce pollutants from non-emergency fire fighting flows identified by the Copermittee to be significant sources of pollutants.*
 - (13) *Common Interest Areas and Homeowners Associations*
 - (a) *A description of the program that will be implemented to ensure that urban runoff within common interest areas from private roads, drainage facilities, and other components of the storm water conveyance system including those managed by associations meets the objectives of this Order.*
- b. *Each Copermittee shall submit to the Principal Permittee each part of its individual Jurisdictional URMP document by the dates specified by the Principal Permittee.*
 - c. *In addition to submittal of the Jurisdictional URMP document, each Copermittee shall submit to the SDRWQCB its own adopted local SUSMP consistent with the submitted Model SUSMP, as described in section F.1.b.(2). of this Order. Each Copermittee's own local SUSMP, along with its amended ordinances, shall be submitted to the SDRWQCB within 180 days of the submittal of the Model SUSMP to the SDRWQCB.*
2. *Unified – The Principal Permittee(s) shall submit the unified Jurisdictional URMP document to the SDRWQCB. The unified Jurisdictional URMP document shall be submitted in two parts (the collected Jurisdictional URMPs and the model SUSMP).*
- a. *The unified Jurisdictional URMP document submittal shall address the requirements of the entire Jurisdictional URMP sections F.1 – F.9. of this Order, with the exception of the local SUSMP requirements (which are to be implemented 180 days after approval of the model SUSMP by the SDRWQCB).*
 - b. *The unified Jurisdictional URMP document submittal shall contain a section covering common activities conducted collectively by the Copermittees including jointly developed reporting formats (section O.4), to be produced by the Principal Permittee(s), and the thirteen individual Jurisdictional URMP documents.*
 - c. *The Principal Permittee(s) shall be responsible for the development and production of a stand alone Model SUSMP document meeting the requirements of section F.1.b.(2) of this Order.*
 - d. *The Principal Permittee(s) shall submit the unified Jurisdictional URMP document, including the Model SUSMP, to the SDRWQCB within **365 days of adoption** of this Order.*
3. *Universal Reporting Requirements*
- All individual and unified Jurisdictional URMP document submittals shall include an executive summary, introduction, conclusion, recommendations, and signed certified statement. Each Copermittee shall submit its individual Jurisdictional Urban Runoff Management Program Document with a signed certified statement. The Principal Permittee(s) shall submit a signed*

certified statement referring to its individual Jurisdictional Urban Runoff Management Program Document, the section covering common activities conducted collectively by the Copermittees, and the Model SUSMP document meeting the requirements of section F.1.b.(2) of this Order as produced by the Principal Permittee(s).

Broad Legal Authority: CWA sections 402(p)(3)(B)(ii-iii), CWC section 13377, and Federal NPDES regulations 40 CFR 122.26(d)(2)(i)(B,C,E, and F) and 40 CFR 122.26(d)(2)(iv).

Specific Legal Authority: California Water Code section 13267 provides that “the regional board may require than any person who has discharged [...] shall furnish, under penalty of perjury, technical or monitoring reports which the regional board requires.”

Discussion: Federal NPDES regulations 40 CFR 122.26(d)(2)(iv) require each Copermittee to develop and implement an urban runoff management program. The SDRWQCB must assess the urban runoff management program to ensure that it is adequate to prohibit non-storm water discharges and reduce pollutant discharges to and from the MS4 to the maximum extent practicable. In order for the SDRWQCB to assess the urban runoff management program, each Copermittee must submit to the SDRWQCB a description of their program. The description must detail all activities the Copermittee is undertaking to implement the requirements of each component of the Jurisdictional URMP section of Order No. R9-2002-0001.

The submittal schedule of 365 days for Jurisdictional URMP documents is designed to provide each Copermittee some time to develop its Jurisdictional URMP. However, this time is limited since the Jurisdictional URMP requirements are based on NPDES regulations that have been in place for many years. The vast majority of the requirements in the Jurisdictional URMP should already be implemented by each Copermittee. Therefore, the provided submittal schedule should be more than adequate for each Copermittee to rework its Jurisdictional URMP to meet the Jurisdictional URMP requirements of Order No. R9-2002-0001.

Compilation of the individual Jurisdictional URMP documents into a unified Jurisdictional URMP document by the Principal Permittee will ease the effort needed to assess and digest the information contained in the documents. The Principal Permittee’s provision of a summary covering common activities conducted collectively by the Copermittees will provide a useful overview of urban runoff management efforts within the County of San Diego. This type of compilation of the Copermittees’ documents has been recommended by the Copermittees in the past.

The SDRWQCB has discretion to require Submittal of Jurisdictional URMP Document item H. in Order No. R9-2002-0001 under the broad and specific legal authority cited above.

I. SUBMITTAL OF JURISDICTIONAL URMP ANNUAL REPORT

I. Submittal of Jurisdictional URMP Annual Report states the following:

1. *Individual - Each individual Jurisdictional URMP Annual Report shall be a documentation of the activities conducted by each Copermittee during the past annual reporting period. Each Jurisdictional URMP Annual Report shall, at a minimum, contain the following*
 - a. *Comprehensive description of all activities conducted by the Copermittee to meet all requirements of each component of the Jurisdictional URMP section of this Order;*
 - F.1. *Land-Use Planning for New Development and Redevelopment Component*
 - F.2. *Construction Component*
 - F.3. *Existing Development Component (Including Municipal, Industrial, Commercial, Residential, and Education)*
 - F.4. *Education Component*
 - F.5. *Illicit Discharge Detection and Elimination Component*
 - F.6. *Common Interest Areas and Homeowners Associations*
 - F.7. *Public Participation Component*
 - F.8. *Assessment of Jurisdictional URMP Effectiveness Component*
 - F.9. *Fiscal Analysis Component*
 - b. *Each Copermittee's accounting of all:*
 - (1) *Reports of illicit discharges (i.e., complaints) and how each was resolved (indicating referral source);*
 - (2) *Inspections conducted;*
 - (3) *Enforcement actions taken; and*
 - (4) *Education efforts conducted.*
 - c. *Public participation mechanisms utilized during the Jurisdictional URMP implementation process;*
 - d. *Proposed revisions to the Jurisdictional URMP;*
 - e. *A summary of all urban runoff related data not included in the annual monitoring report (e.g., special investigations);*
 - f. *Budget for upcoming year;*
 - g. *Identification of management measures proven to be ineffective in reducing urban runoff pollutants and flow; and*
 - h. *Identification of water quality improvements or degradation.*
2. *Unified - The unified Jurisdictional URMP Annual Report shall contain a section covering common activities conducted collectively by the Copermittees, to be produced by the Principal Permittee(s), and the thirteen individual Jurisdictional URMP Annual Reports. Each Copermittee shall submit to the Principal Permittee(s) an individual Jurisdictional URMP Annual Report by the date specified by the Principal Permittee(s). The Principal Permittee(s) shall submit a unified Jurisdictional URMP Annual Report to the SDRWQCB prior to **November 9, 2003 and prior to every November 9th thereafter**. The reporting period for these annual reports shall be the previous fiscal year. For example, the report submitted prior to November 9, 2003 shall cover the reporting period July 1, 2002 to June 30, 2003.*
3. *Universal Reporting Requirements*

All individual and unified Jurisdictional URMP submittals shall include an executive summary, introduction, conclusion, recommendations, and signed certified statement. Each Copermittee shall submit its individual Jurisdictional Urban Runoff Management Program Annual Report with a signed certified statement. The Principal Permittee(s) shall submit a signed certified statement referring to its individual Jurisdictional Urban Runoff Management Program Annual Report and

the section covering common activities conducted collectively by the Copermittees as produced by the Principal Permittee(s).

Broad Legal Authority: CWA sections 402(p)(3)(B)(ii-iii), CWC section 13377, and Federal NPDES regulations 40 CFR 122.26(d)(2)(i)(B,C,E, and F) and 40 CFR 122.26(d)(2)(iv).

Specific Legal Authority: Federal NPDES regulation 40 CFR 122.42(c) requires that "The operator of a large or medium municipal separate storm sewer system or a municipal separate storm sewer system that has been designated by the director under § 122.26(a)(1)(v) of this part must submit an annual report by the anniversary of the date of the issuance of the permit for such system. The report shall include: (1) The status of implementing the components of the storm water management program that are established as permit conditions; (2) Proposed changes to the storm water management program that are established as permit condition. Such proposed changes shall be consistent with § 122.26(d)(2)(iii) of this part; (3) Revisions, if necessary, to the assessment of controls and the fiscal analysis reported in the permit application under § 122.26(d)(2)(iv) and (d)(2)(v) of this part; (4) A summary of data, including monitoring data, that is accumulated throughout the reporting year; (5) Annual expenditures and budget for year following each annual report; (6) A summary describing the number and nature of enforcement actions, inspections, and public education programs; (7) Identification of water quality improvements or degradation."

Discussion: Federal NPDES regulations 40 CFR 122.26(d)(2)(iv) require each Copermittee to develop and implement an urban runoff management program. The SDRWQCB must assess the urban runoff management program to ensure that it is adequate to prohibit non-storm water discharges and reduce pollutant discharges to and from the MS4 to the maximum extent practicable. In order for the SDRWQCB to assess the urban runoff management program, each Copermittee must submit to the SDRWQCB an annual report describing all of the activities it undertook to meet the requirements of the Jurisdictional URMP section of Order No. R9-2002-0001.

The Jurisdictional URMP Annual Reports can also be useful tools for the Copermittees. They provide a focus to review, update, or revise the URMPs on an annual basis. Successful and unsuccessful measures can be identified, helping to focus efforts on areas or issues that provide the greatest results. Areas or issues that have received insufficient efforts can also be identified and improved.

The SDRWQCB has the discretion to require Submittal of Jurisdictional URMP Annual Report item I. in Order No. R9-2002-0001 under the broad and specific legal authority cited above.

J. WATERSHED URBAN RUNOFF MANAGEMENT PROGRAM

J.1. Watershed Urban Runoff Management Program states the following:

Each Copermittee shall collaborate with other Copermittees to identify, address, and mitigate the highest priority water quality issues/pollutants in the six (Table 4) watersheds in the San Juan Creek Watershed Management Area.

Broad Legal Authority: CWA sections 402(p)(3)(B)(ii-iii), CWC section 13377, and Federal NPDES regulations 40 CFR 122.26(d)(2)(i)(B,C,E, and F) and 40 CFR 122.26(d)(2)(iv).

Discussion: Urban runoff does not follow municipality boundaries, and often travels through many municipalities while flowing towards receiving waters. The actions of various municipalities within a watershed regarding urban runoff can therefore have a cumulative impact upon shared receiving waters. Due to the interrelated nature of urban runoff management, Copermittee collaboration is necessary to minimize shared receiving water quality degradation (see Finding 31). Copermittee collaboration of this type focuses water quality protection on watersheds, which is effective because it “more clearly identif[ies] critical areas and practices which need to be targeted for pollution prevention and corrective actions” (SDRWQCB, 1994). The highest priority water quality issues/pollutants in each watershed can be identified and addressed, providing the greatest water quality improvements for the amount of effort. The SWRCB Urban Runoff Technical Advisory Committee recommends Copermittee collaboration for watershed based water quality protection, stating “Municipal permits should have watershed specific components.” Rather than duplicating requirements implemented at a Jurisdictional level, the watershed-level requirements of this section build upon and enhance the Jurisdictional programs and focus on water issues specific to each hydrologic unit of the San Juan Creek Watershed Management Area within Orange County.

The SDRWQCB has discretion to require Watershed Urban Runoff Management Program item J.1. in Order No. R9-2002-0001 under the broad legal authority cited above.

J.2. Watershed Urban Runoff Management Program states the following:

Each Copermittee shall collaborate with all other Copermittees discharging urban runoff into the same watershed to develop and implement a Watershed Urban Runoff Management Program (Watershed URMP) for the six watersheds in the San Juan Creek Watershed Management Area. The Watershed URMP shall, at a minimum contain the following:

- a. *An accurate map of the watersheds of the San Juan Creek Watershed Management Area in Orange County (preferably in Geographical Information System [GIS] format) that identifies all receiving waters (including the Pacific Ocean); all Clean Water Act section 303(d) impaired receiving waters (including the Pacific Ocean); existing and planned land uses; MS4s, major highways; jurisdictional boundaries; and inventoried commercial, construction, industrial, municipal sites, and residential areas.*
- b. *An assessment of the water quality of all receiving waters in the watershed based upon (1) existing water quality data; and (2) annual dry weather monitoring that satisfies requirements of section F.5 and Attachment E of this Order; and (3) watershed receiving water quality monitoring that satisfies the watershed monitoring requirements of Attachment B;*
- c. *An identification and prioritization of major water quality problems in the watershed caused or contributed to by MS4 discharges and the likely source(s) of the problem(s);*
- d. *An implementation time schedule of short and long-term recommended activities (individual and collective) needed to address the highest priority water quality problem(s) identified in section J.2.c of this Order. For this section, “short-term activities” shall mean those activities that are to be completed during the life of this Order and “long-term activities” shall mean those activities that are to be completed beyond the life of this Order;*

- e. *A mechanism for public participation throughout the entire watershed URMP process;*
- f. *A watershed-based education program that builds on and expands upon the education activities conducted by each Copermittee in a given watershed and that can focus on water quality issues specific to that watershed;*
- g. *A mechanism to facilitate collaborative “watershed-based” (i.e., natural resource-based) land use planning with neighboring local governments in the watershed.*
- h. *Short-term strategy for assessing the effectiveness of the activities and programs implemented under the Watershed URMP. The short term assessment strategy shall identify methods to assess the Watershed URMP effectiveness and include specific direct and indirect performance measurements that will track the immediate progress and accomplishments of the Watershed URMP towards improving receiving water quality impacted by urban runoff discharges. The short-term strategy shall also discuss the role of monitoring data collected by the Copermittees in substantiating or refining the assessment.*
- i. *Long-term strategy for assessing the effectiveness of the Watershed URMP. The long-term assessment strategy shall identify specific direct and indirect performance measurements that will track the long-term progress of Watershed URMP towards achieving improvements in receiving water quality impacted by urban runoff discharges. Methods used for assessing effectiveness shall include the following or their equivalent: surveys, pollutant loading estimations, and receiving water quality monitoring. The long-term strategy shall also discuss the role of monitoring data in substantiating or refining the assessment.*

Table 4. Orange County Copermittees by Watershed for the San Juan Creek Watershed Management Area

Watershed	Major Receiving Water Bodies	Copermittees Receiving Water Bodies
<i>Orange County Coastal Streams - Laguna</i>	<i>Moro Canyon Creek Emerald Canyon Creek Laguna Canyon Creek Blue Bird Canyon Creek Rim Rock Canyon Creek Hobo Canyon Creek</i>	<i>Aliso Viejo County of Orange Laguna Beach Laguna Woods Orange County Flood Control District</i>
<i>Aliso Creek</i>	<i>Aliso Creek English Canyon Creek Sulphur Canyon Creek Wood Canyon Creek</i>	<i>Aliso Viejo Laguna Beach Laguna Hills Laguna Niguel Laguna Woods Lake Forest Mission Viejo County of Orange Orange County Flood Control District</i>
<i>Dana Point Coastal Streams</i>	<i>Salt Creek Arroyo Salada Creek San Juan Canyon</i>	<i>Dana Point Laguna Niguel Orange County Flood Control District</i>
<i>San Juan Creek</i>	<i>San Juan Creek Trampas Canyon Creek Canada Gobernadora Canada Chiquita Horno Creek Arroyo Trabuco Creek Tijeras Canyon Creek Live Oak Canyon Creek Oso Creek La Paz Creek Lucas Canyon Creek Verdugo Canyon Creek Bell Canyon Creek</i>	<i>San Juan Capistrano Mission Viejo Laguna Hills Laguna Niguel Dana Point Rancho Santa Margarita County of Orange Orange County Flood Control District San Clemente</i>

<i>Watershed</i>	<i>Major Receiving Water Bodies</i>	<i>Copermittees Receiving Water Bodies</i>
	<i>Dove Canyon Creek Crow Canyon Creek</i>	
<i>Orange County Coastal Streams - San Clemente</i>	<i>Prima Deshecha Canada Segunda Deshecha Canada</i>	<i>San Clemente San Juan Capistrano County of Orange Orange County Flood Control District Dana Point</i>
<i>San Mateo Creek</i>	<i>Christianitos Creek Gambino Canyon Creek La Paz Canyon Creek Talega Canyon Creek</i>	<i>San Clemente County of Orange</i>

Broad Legal Authority: CWA sections 402(p)(3)(B)(ii-iii), CWC section 13377, and Federal NPDES regulations 40 CFR 122.26(d)(2)(i)(B,C,E, and F) and 40 CFR 122.26(d)(2)(iv).

Discussion: Management of urban runoff on a watershed basis is recommended by the SWRCB and the SDRWQCB. The SWRCB Urban Runoff Technical Advisory Committee (TAC) defines watershed based water quality protection as “the prevention/control of pollution and management of human activities in a geographically or other defined drainage area to protect, restore, and/or enhance the natural resources and beneficial uses within the watershed.” The TAC recommends that “All NPDES permits and Waste Discharge Requirements should be considered for reissuance on a watershed basis.” The SDRWQCB also recommends watershed based water quality protection, stating in its Basin Plan that “public agencies and private organizations concerned with water resources have come to recognize that a comprehensive evaluation of pollutant contributions on a watershed scale is the only way to realistically assess cumulative impacts and formulate workable strategies to truly protect our water resources. Both water pollution and habitat degradation problems can best be solved by following a basin-wide approach.” Moreover, under the First and Second Term Permits, the Orange County Copermittees implemented a Drainage Area Management Plan that embodied watershed concepts. However, in actual practice, most of the significant elements of the DAMP were implemented on a countywide basis rather than an actual watershed basis. The SDRWQCB has therefore required development of a Watershed URMP specific to the six hydrologic units of the San Juan Creek Watershed Management Area within Orange County by the Orange County Copermittees.

Development and implementation of the Watershed URMP will provide for more effective and focused receiving water quality protection. The Watershed URMP will provide for threatened or impaired receiving waters, including their pollutants or concern, to be identified. The entire watershed for the receiving water can then be assessed, allowing for critical areas and practices to be targeted for corrective actions. Known sources of pollutants of concern can be investigated for potential water quality impacts. Problem areas can then be addressed, leading to eventual improvements in receiving water quality. Management of urban runoff on a watershed basis allows for specific water quality problems to be targeted so that efforts result in maximized water quality improvements.

Regarding watershed-based land-use planning, see the discussion of Finding 30. For a more detailed discussion of the municipal storm water permitting and

SDRWQCB watershed management approach, see the discussion in Attachment 4 and the Watershed Management Approach Chapter for the San Diego Region.

The SDRWQCB has discretion to require Watershed Urban Runoff Management Program item J.2. in Order No. R9-2002-0001 under the broad legal authority cited above.

K. IMPLEMENTATION OF WATERSHED URMP

K. Implementation of Watershed URMP states the following:

Each Copermittee shall implement of all requirements of the Watershed URMP section of this Order by August 13, 2003 unless otherwise specified. Following the adoption of the Order and prior to the full implementation of the Watershed URMP, the Copermittees shall at a minimum collectively implement the provisions and commitments of the proposed DAMP submitted in September 2000.

Broad Legal Authority: CWA sections 402(p)(3)(B)(ii-iii), CWC section 13377, and Federal NPDES regulations 40 CFR 122.26(d)(2)(i)(B,C,E, and F) and 40 CFR 122.26(d)(2)(iv).

Discussion: As discussed above in section J.2 and Attachment 4, the SDRWQCB finds watershed based urban runoff management to be an effective means for managing urban runoff. Watershed based urban runoff management focuses on the most pressing water quality concerns, so that management efforts result in the greatest water quality improvements. The SDWQCB is seeking to expand practical watershed based urban runoff management, including the potential for reissuance of municipal storm water permits on a watershed basis. In order to work towards this goal, the SDRWQCB is requiring implementation of a Watershed URMP by the Copermittees. The SWRCB Urban Runoff Technical Advisory Committee supports watershed management of urban runoff, stating "Municipal permits should have watershed specific components" and "All NPDES permits and Waste Discharge Requirements should be considered for reissuance on a watershed basis." The SDRWQCB foresees the shift to extensive watershed management of urban runoff to be gradual; it is therefore providing the Copermittees with several years before Watershed URMP implementation is required.

The SDRWQCB has discretion to require Watershed Urban Runoff Management Program item K. in Order No. R9-2002-0001 under the broad legal authority cited above.

L. SUBMITTAL OF WATERSHED URMP DOCUMENT

L. Submittal of Watershed URMP Document states the following:

The written account of the overall watershed program to be conducted by each Copermittee during the remaining life of this Order is referred to as the "Watershed URMP Document". The Watershed URMP is conducted concurrently with the Jurisdictional URMP.¹⁰⁶

¹⁰⁶As the Copermittees jointly revise and implement the submitted proposed DAMP and each Copermittee revises and implements its jurisdictional level program to satisfy the requirements of this Order, it is expected that many activities will

1. *The Watershed URMP document shall state how the member Copermittees within each watershed will develop and implement the requirements of the Watershed URMP section J. of this Order. The Watershed URMP document shall include:*
 - (1) *A completed watershed map*
 - (2) *A water quality assessment of the San Juan Creek Watershed Management Area within Orange County and watershed monitoring needed*
 - (3) *Prioritization of water quality problems within Orange County in the San Diego Region*
 - (4) *Recommended activities (short and long term) to be conducted jointly by the Copermittees and a timeline for implementation*
 - (5) *Individual Copermittee implementation responsibilities and time schedules for implementation*
 - (6) *A description of watershed public participation mechanisms*
 - (7) *A description of watershed education mechanisms*
 - (8) *A description of the mechanism and implementation schedule for watershed-based land use planning*
 - (9) *A strategy for assessing the short-term effectiveness of the Watershed URMP*
 - (10) *A strategy for assessing the long-term effectiveness of the Watershed URMP*
 - (11) *A program to address common interest areas and homeowners associations*
2. *The Principal Permittee(s) shall submit the Watershed URMP document to the SDRWQCB by August 13, 2003.*
3. *Universal Reporting Requirements.*

All Watershed URMP submittals shall include an executive summary, introduction, conclusion, recommendations, and signed certified statement. Each Copermittee shall submit a signed certified statement covering its responsibilities in the Watershed URMP Document. The Principal Permittee(s) shall submit a signed certified statement referring to its responsibilities in the Watershed URMP Document and the section covering common activities conducted collectively by the Copermittees as produced by the Principal Permittee(s).

Broad Legal Authority: CWA sections 402(p)(3)(B)(ii-iii), CWC section 13377, and Federal NPDES regulations 40 CFR 122.26(d)(2)(i)(B,C,E, and F) and 40 CFR 122.26(d)(2)(iv).

Specific Legal Authority: California Water Code section 13267 provides that “the regional board may require than any person who has discharged [...] shall furnish, under penalty of perjury, technical or monitoring reports which the regional board requires.”

Discussion: Order No. 200-128 requires each Copermittee to participate in the development and implementation of the Watershed URMP under Federal NPDES regulation 40 CFR 122.26(d)(2)(iv). The SDRWQCB must assess the Watershed URMP to ensure that it is adequate to assess and address the specific water quality problems within the six hydrologic units in the San Juan Creek Watershed Management Area within Orange County. In order for the SDRWQCB to assess the Watershed URMP, a detailed description of the Watershed URMP must be submitted to the SDRWQCB. The descriptions must detail all activities the applicable Copermittees have undertaken under the 1993 DAMP, the

be conducted on both a jurisdictional level (e.g., enforcement of local ordinances and permits) and a watershed level. Implementation of the Watershed URMP is not meant to replace, but to expand and complement implementation of the Jurisdictional URMP. For this reason, it is necessary to report management activities on both levels. This can be accomplished either by submitting both a Jurisdictional URMP Annual Report and a Watershed URMP Annual Report or by submitting a single Watershed URMP Annual Report that contains two separate sections (i.e., watershed activities and jurisdictional activities). Information need only be reported once (to the extent something is covered in the Watershed URMP Annual Report, it need not be covered again the Jurisdictional URMP Annual Report).

commitments of the proposed DAMP, and the new activities they are undertaking to implement the requirements of Watershed URMP section of Order No. R9-2002-0001.

The submittal schedule for Watershed URMP Document is designed to provide the Copermitees with adequate time to review and revise the proposed DAMP and develop, submit and implement the Watershed URMP. Based on their previous experience working at a watershed level under the First and Second Term Permits (i.e. the 1993 DAMP), the submittal schedule should be more than adequate for the Copermitees to collaborate for the development and implementation of the Watershed URMP.

The requirement for the Principal Permittee to provide a summary covering common activities conducted collectively by the Copermitees will provide a useful overview of watershed efforts within the San Juan Creek Watershed Management Area with Orange County. This type of compilation and submittal of the Copermitees' documents has been recommended by the Copermitees in the past.

The SDRWQCB has discretion to require Submittal of Watershed URMP Document item L. in Order No. R9-2002-0001 under the broad and specific legal authority cited above.

M. SUBMITTAL OF WATERSHED URMP ANNUAL REPORT

M. Submittal of Watershed URMP Annual Report states the following:

1. *Each Watershed URMP Annual Report shall be a documentation of the activities conducted by watershed member Copermitees during the previous annual reporting period to meet the requirements of all components of the Watershed URMP section of this Order. Each Watershed URMP Annual Report shall, at a minimum, contain the following:*
 - a. *Comprehensive description of all activities conducted by the watershed member Copermitees to meet all requirements of each component of Watershed URMP section J. of this Order*
 - b. *A section covering common activities conducted collectively by the Copermitees, to be produced by the Principal Permittee(s)*
 - c. *Public participation mechanisms utilized during the Watershed URMP implementation process;*
 - d. *Mechanism for watershed-based land use planning;*
 - e. *Assessment of effectiveness of Watershed URMP;*
 - f. *Proposed revisions to the Watershed URMP;*
 - g. *A summary of watershed effort related data not included in the annual monitoring report (e.g., special investigations); and*
 - h. *Identification of water quality improvements or degradation.*
2. *The Principal Permittee(s) shall submit the Watershed URMP Annual Report to the SDRWQCB prior to November 9, 2004 and prior to every November 9th thereafter. The reporting period for these annual reports shall be the previous fiscal year. For example, the report submitted prior to November 9, 2004 shall cover the reporting period July 1, 2003 to June 30, 2004.*
3. *Universal Reporting Requirements*

All Watershed URMP submittals shall include an executive summary, introduction, conclusion, recommendations, and signed certified statement. Each Copermitee shall submit a signed certified statement covering its responsibilities in the Watershed URMP Annual Report. The Principal Permittee(s) shall submit a signed certified statement referring to its responsibilities in the Watershed URMP Annual Report and the section covering common activities conducted

collectively by the Copermittees as produced by the Principal Permittee(s).

Broad Legal Authority: CWA sections 402(p)(3)(B)(ii-iii), CWC section 13377, and Federal NPDES regulations 40 CFR 122.26(d)(2)(i)(B,C,E, and F) and 40 CFR 122.26(d)(2)(iv).

Specific Legal Authority: California Water Code section 13267 provides that “the regional board may require than any person who has discharged [...] shall furnish, under penalty of perjury, technical or monitoring reports which the regional board requires.”

Federal NPDES regulation 40 CFR 122.42(c) requires that “The operator of a large or medium municipal separate storm sewer system or a municipal separate storm sewer system that has been designated by the director under § 122.26(a)(1)(v) of this part must submit an annual report by the anniversary of the date of the issuance of the permit for such system. The report shall include: (1) The status of implementing the components of the storm water management program that are established as permit conditions; (2) Proposed changes to the storm water management program that are established as permit condition. Such proposed changes shall be consistent with § 122.26(d)(2)(iii) of this part; (3) Revisions, if necessary, to the assessment of controls and the fiscal analysis reported in the permit application under § 122.26(d)(2)(iv) and (d)(2)(v) of this part; (4) A summary of data, including monitoring data, that is accumulated throughout the reporting year; (5) Annual expenditures and budget for year following each annual report; (6) A summary describing the number and nature of enforcement actions, inspections, and public education programs; (7) Identification of water quality improvements or degradation.”

Discussion: Federal NPDES regulations 40 CFR 122.26(d)(2)(iv) require the Copermittees to develop and implement urban runoff management programs, of which the Watershed URMP is a part. The SDRWQCB must assess the Watershed URMP to ensure that is adequate to assess and address the specific water quality problems within the six hydrologic units of the San Juan Creek Watershed Management Area within Orange County. In order for the SDRWQCB to assess the Watershed URMP, the Copermittees must submit to the SDRWQCB annual reports describing all of the activities undertaken to meet the requirements of the Watershed URMP section of Order No. R9-2002-0001.

The Watershed URMP Annual Reports can also be useful tools for the Copermittees. They provide a focus to review, update, or revise the URMPs on an annual basis. Successful and unsuccessful measures can be identified, helping to focus efforts on areas or issues that provide the greatest results. Areas or issues that have received insufficient efforts can also be identified and improved.

The SDRWQCB has the discretion to require Submittal of Watershed URMP Annual Report item M. in Order No. R9-2002-0001 under the broad and specific legal authority cited above.

N. PROGRAM MANAGEMENT

N. Program Management states the following:

The Copermittees shall implement the Program Management activities and commitments as described in section 2 (Program Management) of the proposed DAMP.

Broad Legal Authority: CWA sections 402(p)(3)(B)(ii-iii), CWC section 13377, and Federal NPDES regulations 40 CFR 122.26(d)(2)(i)(B,C,E, and F) and 40 CFR 122.26(d)(2)(iv).

Specific Legal Authority: Federal NPDES regulation 40 CFR 122.26(d)(2)(i)(D) provides that "[The Copermittee must demonstrate that it can control] through interagency agreements among coapplicants the contribution of pollutants from one portion of the municipal system to another portion of the municipal system."

Discussion: Storm water runoff does not follow municipality boundaries, and often travels through many municipalities while flowing towards receiving waters. Municipalities' actions towards storm water can therefore have a cumulative impact upon shared receiving waters. Due to the interrelated nature of storm water management, Copermittee collaboration is necessary.

Copermittee collaboration results in more effective storm water management, while also aiding the process of complying with permit requirements. For example, formal agreements between Copermittees can help define Copermittee roles and ensure that all permit requirements are addressed. Agreements can also be made to share the costs necessary to maintain compliance with the permit. In addition, designation of a Principal Permittee, through which reporting tasks can be coordinated, provides for standardization and compilation of required reports, thereby easing reporting efforts. This in turn improves digestion and assessment of report information, making the reports more useful to the Copermittees, which in turn can result in more effective urban runoff management.

The US EPA recommends Copermittee collaboration when it suggests "Coapplicants [...] may use interjurisdictional agreements to show adequate legal authority and to ensure planning, coordination, and the sharing of the resource burden of permit compliance. When more than one entity is submitting an application for a MS4 (either as coapplicants or as individual applicants for different parts of a system), the role of each party must be well defined. Each applicant or coapplicant must show the ability to fulfill its responsibilities, including legal authority for the separate storm sewers it owns or operates" (1992).

In recognition of these factors, the Copermittees included a Program Management structure and commitments in their proposed DAMP. This section requires the Copermittees, at a minimum, to implement those activities and commitments in developing and implementing the various components of their Jurisdictional and Watershed Urban Runoff Management Programs.

The SDRWQCB has discretion to require the Program Management section N. in Order No. R9-2002-0001 under the broad and specific legal authority cited above.

O. PRINCIPAL PERMITTEE RESPONSIBILITIES

O. Principal Permittee Responsibilities states the following:

Within 90 days of adoption of this Order, the Copermittees shall designate the Principal Permittee(s) and notify the SDRWQCB of the name(s) of the Principal Permittee(s). The Principal Permittee(s) may require the Copermittees to reimburse the Principal Permittee(s) for reasonable costs incurred while performing coordination responsibilities and other related tasks. The Principal Permittee(s) shall, at a minimum:

1. *Be responsible for implementing or coordinating the implementation of the Program Management activities and commitments described in section 2 (Program Management) of the proposed DAMP.*
2. *Serve as liaison(s) between the Copermittees and the SDRWQCB on general permit issues.*
3. *Coordinate permit activities among the Copermittees and facilitate collaboration on the development and implementation of programs required under this Order;*
4. *Coordinate the joint development by all of the Copermittees of standardized format(s) for all reports required under this Order (e.g., annual reports, monitoring reports, fiscal analysis reports, and program effectiveness reports, etc.). The standardized reporting format(s) shall be used by all Copermittees and shall include protocols for electronic reporting. The Principal Permittee(s) shall submit the standardized format(s) to the SDRWQCB as part of the unified Jurisdictional URMP document no later than **365 days after adoption** of this Order.*
5. *Integrate individual Copermittee documents and reports required under this Order into single unified documents and reports for submittal to the SDRWQCB as described below. If a reporting date falls on a non-working day or State holiday, then the report is to be submitted on the following working day.*
 - a. *Unified Jurisdictional URMP Document – The Principal Permittee(s) shall submit the unified Jurisdictional URMP document in its entirety (including the model SUSMP) to the SDRWQCB within 365 days of the adoption of this Order.*

The Principal Permittee(s) shall be responsible for producing the sections of the unified Jurisdictional URMP document submittals covering common activities conducted by the Copermittees. The Principal Permittee(s) shall be responsible for the development and production of a stand alone Model SUSMP document meeting the requirements of section F.1.b.(2). of this Order. The Principal Permittee(s) shall also be responsible for collecting and assembling the individual Jurisdictional URMP document submittals covering the activities conducted by each individual Copermittee.

- b. *Unified Jurisdictional URMP Annual Reports – The Principal Permittee(s) shall submit unified Jurisdictional URMP Annual Reports to the SDRWQCB prior to November 9th of each year, beginning on **November 9, 2003**. The reporting period for these annual reports shall be the previous fiscal year. For example, the report submitted prior to November 9, 2003 shall cover the reporting period July 1, 2002 to June 30, 2003.*

The Principal Permittee(s) shall be responsible for producing the section of the unified Jurisdictional URMP Annual Reports covering common activities conducted by the Copermittees. The Principal Permittee(s) shall also be responsible for collecting and assembling the individual Jurisdictional URMP Annual Reports covering the activities conducted by each individual Copermittee.

- c. *Watershed URMP Document – The Principal Permittee(s) shall prepare and submit the Watershed URMP document to the SDRWQCB by **August 13, 2003**.*
- d. *Watershed URMP Annual Report - The Principal Permittee(s) shall prepare and submit the Watershed URMP Annual Reports to the SDRWQCB prior to November 9th of each year, beginning on **November 9, 2004**. The reporting period for these annual reports shall be the previous fiscal year. For example, the report submitted prior to November 9, 2004 shall cover the reporting period July 1, 2003 to June 30, 2004.*
- e. *Receiving Waters Monitoring and Reporting Program - The Principal Permittee(s) shall be responsible for the production and submittal of the Previous Monitoring and Future Recommendations Report. The report shall be submitted to the SDRWQCB within 180 days of adoption of this Order.*
- f. *Receiving Waters Monitoring and Reporting Program - The Principal Permittee(s) shall be responsible for the development and production of the Receiving Waters Monitoring Program as it is outlined in Attachment B. The Principal Permittee(s) shall submit the Receiving Waters Monitoring Program to the SDRWQCB within 180 days of adoption of this Order.*
- g. *Receiving Waters Monitoring and Reporting Program – The Principal Permittee(s) shall be responsible for coordinating the joint development by all of the Copermittees of monitoring reporting formats (Section O.4) and for implementing the Receiving Waters Monitoring Program as outlined in Attachment B by August 13, 2002.*
- h. *Receiving Waters Monitoring and Reporting Program - The Principal Permittee(s) shall submit the Receiving Waters Monitoring Annual Report to the SDRWQCB prior to November 9th of each year, beginning on November 9, 2003.*
- i. *Formal Agreements/Standardized Formats - The Principal Permittee(s) shall submit to the SDRWQCB, within 365 days of adoption of this Order, a formal agreement between the Copermittees which provides a management structure for meeting the requirements of this Order (as described in section N.1.). The Principal Permittee(s) shall submit to the SDRWQCB, within 365 days of adoption of this Order, standardized formats for all reports and documents required under this Order.*
- j. *Dry Weather Monitoring - The Principal Permittee(s) shall collectively submit the Copermittees' dry weather monitoring maps and procedures to the SDRWQCB within 365 days of adoption of this Order.*

Broad Legal Authority: CWA sections 402(p)(3)(B)(ii-iii), CWC section 13377, and Federal NPDES regulations 40 CFR 122.26(d)(2)(i)(B,C,E, and F) and 40 CFR 122.26(d)(2)(iv).

Specific Legal Authority: Federal NPDES regulation 40 CFR 122.26(a)(3)(iii)(C) provides that "A regional authority may be responsible for submitting a permit application."

Federal NPDES regulation 40 CFR 122.26(d)(2)(i)(D) provides that "[The Copermittee must demonstrate that it can control] through interagency agreements among coapplicants the contribution of pollutants from one portion of the municipal system to another portion of the municipal system."

Discussion: Intergovernmental coordination is necessary in urban runoff management, given the transitory nature of urban runoff problems. A Principal Permittee will facilitate intergovernmental coordination, which will improve the development, implementation, and effectiveness of urban runoff management efforts within the region. One way in which a Principal Permittee will improve urban runoff management efforts is through the coordination of reporting tasks.

This provides for the standardization and compilation of required reports, which in turn increases the ease with which report information can be digested and assessed. Standardized documents provide for easier assessment and application of report data, making reports more useful for Copermittees, which can result in more effective storm water management. In section 2.2.3 of the proposed DAMP, the role of the Principal Permittee is further described to include providing program management, budgeting, developing public education materials, and conducting water quality monitoring.

The SDRWQCB has discretion to require Principal Permittee Responsibilities item O. in Order No. R9-2002-0001 under the broad and specific legal authority cited above.

P. RECEIVING WATERS MONITORING AND REPORTING PROGRAM

P. Receiving Waters Monitoring and Reporting Program states the following:

1. *Pursuant to California Water Code section 13267, each Copermittee shall comply with the Receiving Waters Monitoring and Reporting Program for Order No. R9-2002-0001 contained in **Attachment B** of this Order.*
2. *Each Copermittee shall also comply with standard provisions, reporting requirements, and notifications contained in **Attachment C** of this Order.*

Broad Legal Authority: CWA sections 402(p)(3)(B)(ii-iii), CWC section 13377, and Federal NPDES regulations 40 CFR 122.26(d)(2)(i)(B,C,E, and F) and 40 CFR 122.26(d)(2)(iv).

Specific Legal Authority: Copermittees must conduct a comprehensive monitoring program as required under Federal NPDES regulations 40 CFR 122.26(d)(2)(iii). Standard provisions, reporting requirements, and notifications included in Attachment C are consistent to all NPDES permits and are generally found in Federal NPDES regulation 40 CFR 122.41 (Federal NPDES regulation citations are provided in the Attachment).

Discussion: A comprehensive monitoring program is an important aspect of an urban runoff management program. The primary objectives of the monitoring program include:

- 1) Assessing compliance with Order No. R9-2002-0001;
- 2) Measuring the effectiveness of Urban Runoff Management Plans;
- 3) Assessing the chemical, physical, and biological impacts to receiving waters resulting from urban runoff; and
- 4) Assessing the overall health and evaluating long-term trends in receiving water quality.

Receiving waters monitoring programs are important and powerful regulatory and management tools. Using data collected from a monitoring program, urban runoff management efforts can be prioritized, helping limited resources be most effective in improving receiving water quality. For example, a monitoring program can provide data that can allow for specific receiving waters and watersheds to be targeted for urban runoff management efforts based on their need. Particular

pollutants, contaminants, stressors, and their respective sources can also be identified and targeted using monitoring data. In addition, monitoring data can be useful in assessing the effectiveness of an urban runoff management program. Successful efforts that have resulted in receiving water quality improvements can be analyzed for application elsewhere, while areas that need greater efforts can also be identified. In general, a comprehensive monitoring program can supply a wealth of data that can be used in a wide range of applications for improving water quality. In recognition of these facts, the Orange County Copermittees initiated the Orange County Water Quality Monitoring Program (99-04 Plan) in 1999 to assess the impact of urban runoff on receiving waters as well as to evaluate the methodologies underlying those assessments.

The Copermittees are directed to collaborate and prepare a technical report that summarizes and analyzes the water quality data collected under the previous Orders including the 99-04 Plan. This requirement is necessary to place the current monitoring program being implemented in the Orange County portion of the San Juan Creek Watershed Management Area into perspective. The 99-04 Plan was developed to assess urban runoff in Orange County as a whole, but a strong emphasis was placed on the northern parts of the County outside of the San Diego Region covered under this Order. Moreover, it is necessary to review and revise the 99-04 Plan and other monitoring efforts to include specific monitoring requirements of Attachment B. This technical report will provide the Copermittees as well as the public with an important summary and analysis of the monitoring data collected and a framework within which to develop a Receiving Waters Monitoring Program to be implemented under this Order.

The monitoring and reporting requirements in Attachment B and C of this Order address the need for a comprehensive, flexible, iterative monitoring approach that is focused on compliance issues relevant to the different conditions existing in Orange County within the San Diego Region. A number of monitoring tools and approaches are available to achieve the objectives of this compliance oriented monitoring program.

Order No. R9-2002-0001 may be modified for a specified period of time to direct the Copermittees to participate in comprehensive regional monitoring activities conducted in the Southern California Bight during the term of the permit. This provision is consistent with other NPDES permits issued by the SDRWCB. Such participation maximizes scientific and financial resources using a wide ranging and cost-effective monitoring design to assess the chemical, physical and biological impacts of urban runoff on receiving waters throughout the Southern California Bight.

The following is a discussion of each of the principal aspects of the proposed monitoring program required in Attachment B of Order No. R9-2002-0001:

Within 180 days of the adoption of this Order the Copermittees shall submit to the SDRWQCB a Receiving Waters Monitoring Program Document, subject to SDRWQCB review, that incorporates the following components:

- I. Previous Monitoring and Future Recommendations (Technical) Report; and

II. Receiving Waters Monitoring Program

I. Previous Monitoring and Future Recommendations (Technical) Report

The Orange County Copermittees have conducted dry and wet weather monitoring since 1990. Prior to the adoption of Order No. 90-38, Orange County routinely collected data from drainage facilities tributary to receiving waters. In addition, numerous other studies have been conducted in the Southern California Bight that bear on the issue of impacts to receiving waters resulting from municipal urban runoff discharges. Although significant historic data exists in Orange County to characterize discharges of urban runoff, Orange County has also changed significantly in the last ten years. Because land use has changed and continues to change dramatically in Orange County, historic trends and characterizations identified during the previous monitoring efforts may have also changed. To adequately assess compliance with this Order, assess the chemical, physical, and biological impacts of urban runoff discharges on receiving waters, and better characterize historic trends, the data collected and the methods utilized in the previous monitoring programs must be re-evaluated in the San Diego Region with respect to urban runoff and receiving waters in Orange County.

As identified in the 99-04 Plan, the Receiving Waters Monitoring Program implemented by the Orange County Copermittees should be based on a sound understanding of urban runoff issues and the results of previous monitoring efforts to avoid duplicative or unproductive monitoring and to ensure that the data collected is the most scientifically valid and useful as practicable. This requirement will help establish that the Receiving Waters Monitoring Program to be implemented in Orange County within the San Diego Region will achieve those goals.

II. Receiving Waters Monitoring Program

As described above, the objectives of this program are assessment of compliance and assessment of the physical, chemical, and biological impacts of the discharge of urban runoff on receiving waters. This section requires the Copermittees to utilize the findings of the Previous Monitoring and Future Recommendations Report and the most recent 99-04 Plan monitoring results to collaborate, develop, conduct, and report on a year round Receiving Waters Monitoring Program.

The Receiving Waters Monitoring Program, at a minimum shall include, but is not limited to the following components:

A. Urban Stream Bioassessment Monitoring.

Bioassessment is the direct measurement of the biological and physical condition of receiving waters, such as rivers and streams, using benthic macroinvertebrates. It is a direct measurement of the attainment or maintenance of the beneficial uses¹⁰⁷ of a water body. This methodology utilizes in-situ biological endpoints as an integrative measure of receiving water integrity. Bioassessment monitoring integrates the effects of both

¹⁰⁷ Specifically COLD or WARM, and to a lesser extent WILD or RARE beneficial uses.

water chemistry impacts and the physical habitat impacts (e.g. sedimentation or erosion) of various discharges on the biological community native to the receiving waters. Moreover, bioassessment is a direct measurement of the impact of cumulative, sub-lethal doses of pollutants or contaminants that may be below reasonable water chemistry detection limits, but that are not without biological affect.

Because bioassessment focuses on communities of living organisms as integrators of cumulative impacts resulting from water quality or habitat degradation, it defines the ecological risks resulting from urban runoff that are as important to human health and well-being as the more obvious threats of toxic pollution or pathogens. Bioassessment not only identifies that an impact has occurred, but also measures the affect of the impact and tracks recovery when control or restoration measures have been taken. These features make bioassessment a powerful tool to assess compliance, evaluate the effectiveness of BMPs (e.g. artificial wetlands), and to track both short term and long term trends.

B. Long Term Mass Loading

For purposes of evaluating long-term trends and assessing the effectiveness of urban runoff management programs, the Copermittees shall continue to implement the long term mass loading sampling and analysis initiated under the Orange County Water Quality Monitoring Program (99-04 Plan) in Orange County in the San Diego Region. The 99-04 Plan shall be revised as necessary to ensure more complete coverage of the six hydrologic units in the Orange County portion of the San Juan Creek Watershed Management area of the San Diego Region. The program shall also be revised to specify that when findings or observations indicate the possible presence of toxicity, a Toxicity Identification Evaluation (TIE) shall be conducted to determine the cause(s) of the toxicity.

Wet weather monitoring by the Copermittees has focused on estimations of pollutant loadings in storm water runoff. Although this approach has drawbacks, it continues to represent the best long-term trend assessment of pollutant discharges to receiving waters from municipal storm water sewer systems.

C. Coastal Storm Drain Outfall Monitoring

One of the primary impacts to coastal receiving waters is the loss of recreational beneficial uses resulting from urban runoff. This component of the monitoring program is meant to be integrated and coordinated with similar monitoring programs to address this issue. The Copermittees are provided with a significant degree of discretion in designing and implementing the Coastal Storm Drain Outfall Monitoring and are encouraged to collaborate with other agencies. The determination of the location of the sampling stations, frequency of sampling, and the criteria by which these factors are defined are left to the Copermittees and their collaborators in order to provide them with the flexibility to design the most

scientifically applicable program. The program must, however, monitor the principle indicators (Total and Fecal Coliform Bacteria and Enterococcus Bacteria) used in assessing the public health impacts of urban runoff on coastal receiving waters. It necessary to implement this program year-round in order to address the different seasonal recreational uses and potential public health impacts of urban runoff discharges. The Copermittees may also include any other pathogens or indicators that they conclude are useful to assess the recreational and public health impacts of urban runoff on coastal receiving waters.

D. Ambient Coastal Receiving Water Monitoring

This monitoring program component addresses the overall health of the receiving waters and assesses the impact on these water bodies from urban runoff. The Copermittees will develop a program for the coastal receiving waters that integrates measures of the physical, chemical, and biological conditions of the coastal waters as a function of urban runoff. Monitoring that is currently being performed under the 99-04 Plan may continue to be implemented under the Receiving Waters Monitoring Program, but the scope of the program will be significantly increased to include coverage of the entire coastline of the Orange County portion of the San Juan Creek Watershed Management area. The Ambient Coastal Receiving Waters Monitoring program may be required to include parameters and methods not presently part of the 99-04 Plan. The Copermittees have a wide degree of discretion in designing the Ambient Coastal Receiving Waters Monitoring component and are encouraged to collaborate with other agencies or organizations conducting similar monitoring.

Significant changes in the format and detail of the Receiving Waters Monitoring Program will be required to make the reports specific to the San Diego Region of Orange County and more readily useable by members of the public not familiar with the history and the specific details of water quality monitoring in Orange County. The monitoring reports shall provide the data and results, the methods of evaluating the data, graphical summaries of the data and an explanation and discussion of the data for each monitoring component listed above. The report will also provide an analysis of each component, prioritize water quality problems, identify the sources of the problems, and recommend future monitoring and BMP implementation measures. The Copermittees will be expected to make both long term and short term use of this data to refine and improve their Jurisdictional and Watershed Urban Runoff Management Programs. To this extent, the analysis shall also include an evaluation of the effectiveness of existing control measures with respect to water quality problems identified in the course of the review of previous monitoring methods and results as well as data collected under this Order. The Copermittees will also be required to clearly identify exceedances of receiving water quality objectives, provide ongoing analysis of short term and long term trends in urban runoff and receiving water quality, provide a three person committee review of the reports prior to submitting them to the SDRWQCB, and provide comprehensive interpretations and conclusions. These provisions are necessary to provide contextually and scientifically useful data regarding the

impact of urban runoff discharges on the receiving waters of Orange County within the San Juan Creek Watershed Management Area of the Diego Region.

The SDRWQCB has discretion to require Receiving Waters Monitoring and Reporting Program item P. in Order No. R9-2002-0001 under the broad and specific legal authority cited above.

Q. TASKS AND SUBMITTAL SUMMARY

Q. Tasks and Submittal Summary states the following:

The tasks and submittals required under this Order are summarized in Tables 5 and 6 below:

Table 5. Task Summary

Task No.	Task	Permit Section	Completion Date	Frequency
1	Identify discharges not to be prohibited and BMPs required for treatment of discharges not prohibited	B.3.	365 days after adoption of Order	One Time
2	Examine field screening results to identify water quality problems resulting from non-prohibited non-storm water discharges, including follow-up of problems	B.5.	Prior to November 9, 2003	Annually
3	Notify SDRWQCB of discharges causing or contributing to an exceedance of water quality standards	C.2.a.	Immediate	As Needed
4	Establish adequate legal authority to control pollutant discharges into and from MS4	D.1.	365 days after adoption of Order	One Time
5	Assess General Plan to incorporate water quality and watershed protection principles	F.1.a.	365 days after adoption of Order	One Time
6	Include Development Project Requirements in local permits	F.1.b.(1).	365 days after adoption of Order	One Time
7	Develop Model SUSMP	F.1.b.(2).	365 days after adoption of Order	One Time
8	Develop and adopt individual local SUSMP and amended ordinances	F.1.b.(2).	180 days after development of Model SUSMP	One Time
9	Implement individual jurisdictional SUSMP	F.1.b.(2).	180 days after approval of Model SUSMP by SDRWQCB	Continuous
10	Revise environmental review processes	F.1.c.(1).	365 days after adoption of Order	One Time
11	Conduct education program for municipal planning and development review staff, project applicants, developers, contractors, community planning groups, and property owners	F.1.d.(1). And F.1.d.(2).	365 days after adoption of Order	Ongoing
12	Implement all requirements of Construction Component of Jurisdictional URMP	F.2.a. – F.2.j.	365 days after adoption of Order	Ongoing
13	Notify SDRWQCB of non-compliant construction sites that pose a threat to human or environmental health	F.2.i.	Within 24 hours of discovery of noncompliance	As Needed
14	Implement all requirements of Municipal	F.3.a.(1). –	365 days after	Ongoing

Task No.	Task	Permit Section	Completion Date	Frequency
	<i>Existing Development Component of Jurisdictional URMP</i>	<i>F.3.a.(8).</i>	<i>adoption of Order</i>	
15	<i>Implement all requirements of Industrial Existing Development Component of Jurisdictional URMP</i>	<i>F.3.b.(1) – F.3.b.(8)</i>	<i>365 days after adoption of Order</i>	<i>Ongoing</i>
16	<i>Notify SDRWQCB of non-compliant industrial sites that pose a threat to human or environmental health</i>	<i>F.3.b.8.</i>	<i>Within 24 hours of discovery of noncompliance</i>	<i>As Needed</i>
17	<i>Implement all requirements of Commercial Existing Development Component of Jurisdictional URMP</i>	<i>F.3.c.(1) – F.3.c.(5)</i>	<i>365 days after adoption of Order</i>	<i>Ongoing</i>
18	<i>Implement all requirements of Residential Existing Development Component of Jurisdictional URMP</i>	<i>F.3.d.(1) – F.3.d.(4)</i>	<i>365 days after adoption of Order</i>	<i>Ongoing</i>
19	<i>Implement all requirements of Education Component of Jurisdictional URMP</i>	<i>F.4.a. – F.4.c.</i>	<i>365 days after adoption of Order</i>	<i>Ongoing</i>
20	<i>Implement all requirements of Illicit Discharge Detection and Elimination Component of Jurisdictional URMP</i>	<i>F.5.a. – F.5.i.</i>	<i>365 days after adoption of Order</i>	<i>Ongoing</i>
21	<i>Develop a plan to manage urban runoff from common interest areas, private roads, drainage facilities, and other components of the storm water conveyance system, including those managed by homeowners associations.</i>	<i>F.6.</i>	<i>365 days after adoption of Order</i>	<i>One Time</i>
22	<i>Implement all requirements of Public Participation Component of Jurisdictional URMP</i>	<i>F.7.</i>	<i>365 days after adoption of Order</i>	<i>Ongoing</i>
23	<i>Develop strategy for assessment of Jurisdictional URMP effectiveness</i>	<i>F.8.a.</i>	<i>365 days after adoption of Order</i>	<i>One Time</i>
24	<i>Assess Jurisdictional URMP effectiveness</i>	<i>F.8.b.</i>	<i>Prior to November 9, 2003</i>	<i>Annually</i>
25	<i>Develop strategy for fiscal analysis of urban runoff management program</i>	<i>F.9.</i>	<i>365 days after adoption of Order</i>	<i>One Time</i>
26	<i>Conduct fiscal analysis of urban runoff management program in entirety</i>	<i>F.9.</i>	<i>Prior to November 9, 2003</i>	<i>Annually</i>
27	<i>Develop and implement Watershed URMP</i>	<i>J.2.</i>	<i>August 13, 2003</i>	<i>Ongoing</i>
28	<i>Implement Program Management activities and commitments in proposed DAMP</i>	<i>N.1</i>	<i>Immediately</i>	<i>Ongoing</i>
29	<i>Develop standardized formats for all required reports of this Order</i>	<i>O.4.</i>	<i>365 days after adoption of Order</i>	<i>One Time</i>
30	<i>Develop Receiving Waters Monitoring Document</i>	<i>Attachment B</i>	<i>180 days after adoption of Order</i>	<i>One Time</i>
31	<i>Implement Receiving Waters Monitoring Program</i>	<i>Attachment B</i>	<i>180 days after adoption of Order</i>	<i>Continuous</i>
32	<i>Develop Dry Weather Monitoring Program Document</i>	<i>Attachment E</i>	<i>365 days after adoption of Order</i>	<i>One Time</i>
33	<i>Conduct Dry Weather Monitoring Program</i>	<i>Attachment E</i>	<i>Begins May 1, 2003 Thereafter conducted May 1st to September 30th</i>	<i>Annually</i>
34	<i>Complete NPDES applications for issuance of renewal watershed-based permits</i>	<i>Attachment C</i>	<i>At least 180 days prior to expiration of Order</i>	<i>One Time</i>
35	<i>Notify SDRWQCB of any incidence of non-compliance with this Order that</i>	<i>R. 1, B.6 of Attachment C</i>	<i>Within 24 hours of discovery of non-</i>	<i>As Needed</i>

Task No.	Task	Permit Section	Completion Date	Frequency
	<i>poses a threat to human or environmental health.</i>		<i>compliance</i>	
36	<i>Designate Principal Permittee(s) and notify SDRWQCB</i>	O.	<i>90 days after adoption of the Order</i>	<i>One Time</i>

Table 6. Submittal Summary

Submittal No.	Submittal	Permit Section	Completion Date	Frequency
1	<i>Submit identification of discharges not to be prohibited and BMPs required for treatment of discharges not prohibited</i>	B.3.	<i>365 days after adoption of Order</i>	<i>One Time</i>
2	<i>Report on discharges causing or contributing to an exceedance of water quality standards, including description of BMP implementation</i>	C.2.a.	<i>With individual Jurisdictional URMP Annual Reports</i>	<i>As Needed</i>
3	<i>Submit Certified Statement of Adequate Legal Authority</i>	D.2.	<i>365 days after adoption of Order</i>	<i>One Time</i>
4	<i>Submit certified statement if particular high priority construction sites are to be inspected monthly rather than weekly in the rainy season</i>	F.2.g.(2).	<i>365 days after adoption of Order and as needed thereafter</i>	<i>As Needed</i>
5	<i>Submit report on non-compliant construction sites that pose a threat to human or environmental health.</i>	F.2.i.	<i>Within 5 Days of discovery of non-compliance</i>	<i>As Needed</i>
6	<i>Submit report on non-compliant industrial sites that pose a threat to human or environmental health.</i>	F.3.b.8.	<i>Within 5 days of discovery of non compliance</i>	<i>As Needed</i>
7	<i>Submit to Principal Permittee(s) individual Jurisdictional URMP document covering requirements for all Components</i>	H.1.a.	<i>Prior to 365 days after adoption of Order (Principal Permittee(s) specifies date of submittal)</i>	<i>One Time</i>
8	<i>(This space reserved).</i>			
9	<i>Principal Permittee(s) shall submit to SDRWQCB unified Jurisdictional URMP document covering requirements for all Components, including Model SUSMP</i>	H.2.a.	<i>365 days after adoption of Order</i>	<i>One Time</i>
10	<i>(This space reserved).</i>			
11	<i>Submit to SDRWQCB local SUSMP and amended ordinances</i>	F.1.b.(2). and H.1.d.	<i>180 days after development of Model SUSMP</i>	<i>One Time</i>
12	<i>Submit to Principal Permittee(s) individual Jurisdictional URMP Annual Report</i>	I.1.	<i>Prior to November 9, 2003 (Principal Permittee(s) specifies date of submittal)</i>	<i>Annually</i>
13	<i>Principal Permittee(s) shall submit 1st unified Jurisdictional URMP Annual Report to SDRWQCB</i>	I.2.	<i>Prior to November 9, 2003</i>	<i>One Time and Annually Thereafter</i>
14	<i>Submit to Principal Permittee(s) Watershed Specific URMP document</i>	L.1.	<i>Prior to August 13, 2003 (Principal Permittee(s) specifies date of</i>	<i>One Time</i>

Submittal No.	Submittal	Permit Section	Completion Date	Frequency
			submittal)	
15	Principal Permittee(s) shall submit Watershed URMP document to SDRWQCB	L.2.	August 13, 2003	One Time
16	Principal Permittee(s) shall submit 2nd unified Jurisdictional URMP Annual Report to SDRWQCB	I.2.	Prior to November 9, 2004	One Time
17	(This space reserved).			
18	Principal Permittee(s) shall submit 1st Watershed URMP Annual Report to SDRWQCB	M.2.	Prior to November 9, 2004	One Time and Annually Thereafter
19	Principal Permittee(s) shall submit 3rd unified Jurisdictional URMP Annual Report to SDRWQCB	I.2.	Prior to November 9, 2005	One Time
20	Principal Permittee(s) shall submit 2 nd Watershed URMP Annual Report to SDRWQCB	M.2.	Prior to November 9, 2005	One Time
21	Principal Permittee(s) shall submit 4 th unified Jurisdictional URMP Annual Report to SDRWQCB	I.2.	Prior to November 9, 2006	One Time
22	Principal Permittee(s) shall submit 3 rd Watershed URMP Annual Report to SDRWQCB	M.2.	Prior to November 9, 2006	One Time
23	Principal Permittee(s) shall submit 5 th unified Jurisdictional URMP Annual Report to SDRWQCB	I.2.	Prior to November 9, 2007	One Time
24	Principal Permittee(s) shall submit standardized formats for all reports required under this Order	O.4.	365 days after adoption of Order	One Time
25	Principal Permittee(s) submits Receiving Waters Monitoring Program Document	Attachment B	180 days after adoption of Order	One Time
26	Principal Permittee(s) submits Receiving Waters Monitoring Annual Report to SDRWQCB	Attachment B	Prior to July 9, 2003	Annually
27	Submit to Principal Permittee(s) Dry Weather Monitoring Program Document	Attachment E	Prior to 365 days after adoption of Order	One Time
28	Principal Permittee(s) submits collective Dry Weather Monitoring Program Documents	Attachment E	365 days after adoption of Order	One Time
29	Submit to Principal Permittee(s) Dry Weather Monitoring Program results as part of individual Jurisdictional URMP Annual Report	Attachment E	Prior to November 9, 2003, as part of individual Jurisdictional URMP Annual Report	Annually
30	Principal Permittee(s) shall submit NPDES applications for issuance of renewal watershed-based permits	Attachment C	At least 180 days prior to expiration of this Order	One Time
31	Submit reports of any incidence of non-compliance with this Order that poses a threat to human or environmental health.	R.1, B.6 of Attachment C	Within 5 days of discovery of non compliance	As Needed

Discussion: See the legal authority citations and discussions of the applicable permit sections.

R. STANDARD PROVISIONS, REPORTING REQUIREMENTS AND NOTIFICATIONS

R. Standard Provisions, Reporting Requirements and Notifications states the following:

1. *Each Copermitttee shall comply with Standard Provisions, Reporting Requirements, and Notifications contained in **Attachment C** of this Order. This includes 24 hour/5day reporting requirements for any instance of non-compliance with this Order as described in section B.6 of Attachment C.*
2. *All plans, reports and subsequent amendments submitted in compliance with this Order shall be implemented immediately (or as otherwise specified) and shall be an enforceable part of this Order upon submission to the SDRWQCB. All submittals by Copermitttees must be adequate to implement the requirements of this Order.*

Broad Legal Authority: CWA sections 402(p)(3)(B)(ii-iii), CWC section 13377, and Federal NPDES regulations 40 CFR 122.26(d)(2)(i)(B,C,E, and F) and 40 CFR 122.26(d)(2)(iv).

Specific Legal Authority: Standard provisions, reporting requirements, and notifications included in Attachment C are consistent to all NPDES permits and are generally found in Federal NPDES regulation 40 CFR 122.41 (Federal NPDES regulation citations are provided in the Attachment).

Federal NPDES regulation 40 CFR 122.44(l)(6) states "The permittee shall report any noncompliance which may endanger health or the environment. Any information shall be provided orally within 24 hours from the time the permittee becomes aware of the circumstances. A written submission shall also be provided within 5 days of the time the permittee becomes aware of the circumstances. The written submission shall contain a description of the noncompliance and its cause; the period of non-compliance, including exact dates and times, and if the noncompliance has not been corrected, the anticipated time it is expected to continue; and steps taken or planned to reduce, eliminate, and prevent reoccurrence of the noncompliance."

Discussion: Implementation of plans, reports, and subsequent amendments by the Copermitttees is an important requirement of Order No. R9-2002-0001. Many of the requirements of Order No. R9-2002-0001 rely upon the Copermitttees' development and implementation of plans and programs. Without implementation, plans and programs will not improve water quality. For this reason, the plans must be implemented and shall be enforceable upon submission to the SDRWQCB. Incidences of noncompliance with the requirements of this Order must be reported to the SDRWQCB within 24 hours, as required for all NPDES permits under Federal NPDES regulation 40 CFR 122.44(l)(6).

The SDRWQCB has discretion to require Standard Provisions, Reporting Requirements and Notifications item R. in Order No. R9-2002-0001 under the broad and specific legal authority cited above.

VIII. REFERENCES

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Attachment 1

NPDES Municipal Storm Water Permit Justifications

Copermittee	Large or Medium MS4?	Contributes to a violation of a water quality standard or is a significant contributor of pollutants to waters of the U.S'?
Aliso Viejo	No	Yes. Pacific Ocean Shoreline, Aliso Beach HA 901.13; Aliso Beach; Aliso Creek; Aliso Creek (Mouth)
Dana Point	No	Yes. Pacific Ocean Shoreline, Dana Point HA, Salt Creek (large), Salt Creek Service Rd, Dana Strand, North Beach Creek, Capo Beach, San Juan Creek(Lower), San Juan Creek (Mouth)
Laguna Beach	No	Yes. Pacific Ocean Shoreline, Laguna Beach HA 901.12; Laguna Beach, Irvine Cove-Riveria, Heisler Park-North, Main Beach (large), Laguna Ave., Cleo Street, Bluebird Canyon Rd., Ocean Way, Dumond Dr, Lagunita/Blue Lagoon, South Coast Hwy at Hospital, West St, Aliso Beach; Aliso Creek; Aliso Creek (Mouth)
Lake Forest	No	Yes. Pacific Ocean Shoreline, Aliso Beach HAS 901.13; Aliso Beach; Aliso Creek; Aliso Creek (Mouth)
Laguna Hills	No	Yes. Pacific Ocean Shoreline, Aliso Beach HAS 901.13; Aliso Beach; Aliso Creek; Aliso Creek (Mouth)
Laguna Niguel	No	Yes. Pacific Ocean Shoreline, Dana Point HA 901.14, Salt Creek (large), Salt Creek Service Rd, Dana Strand, North Beach Creek, Capo Beach, San Juan Creek(Lower), San Juan Creek (Mouth), Aliso Beach; Aliso Creek; Aliso Creek (Mouth)
Laguna Woods	No	Yes. Pacific Ocean Shoreline, Aliso Beach HAS 901.13; Aliso Beach; Aliso Creek; Aliso Creek (Mouth)
Mission Viejo	No	Yes. Pacific Ocean Shoreline, San Juan HU 901.10, San Juan Creek (Lower), San Juan Creek (Mouth), Aliso Beach, Aliso Creek; Aliso Creek (Mouth)
Rancho Santa Margarita	No	Yes. Pacific Ocean Shoreline, San Juan HU 901.10, San Juan Creek (Lower), San Juan Creek (Mouth)
San Juan Capistrano	No	Yes. Pacific Ocean Shoreline, San Juan HU 901.10, San Juan Creek (Lower), San Juan Creek (Mouth)
San Clemente	No	Yes. Pacific Ocean Shoreline, San Clemente HA 901.30; Poche Beach (large), Pico Drain (large), El Portal Stairs, Mariposa, Linda Lane, South Linda Lane, Lifeguard Headquarters, Trafalgar Canyon, Under Pier, La Ladera, Riveria Beach, Salem Tressel, , San Juan Creek (Lower), San Juan Creek (Mouth)
Orange, Co	Yes, by population. ²	Yes. See Attachment 2, 1998 Clean Water Act Section 303(d) List. San Juan Creek WMA and Aliso Creek WMA.
Orange County Flood Control District	Yes, Interrealionaship ¹ with Aliso Viejo, Dana Point, Laguna Beach, Lake Forest, Laguna Hills, Laguna Niguel, Laguna Woods, Mission Viejo, Rancho Santa Margarita, San Juan Capistrano, San Clemente, and Orange County.	Pacific Ocean Shoreline, San Juan HU 901.10, San Juan Creek (Lower), San Juan Creek (Mouth), Aliso Beach , Aliso Creek; Aliso Creek (Mouth)

¹ See 40 CFR 122.26(b)(4)(iii) and (7)(iii).

² See Attachment 3, Copermittee Populations.

Attachment 2 - 1998 Clean Water Act Section 303(d) Impaired Waterbody List

Waterbody ¹	Watershed Management Area	HU, HA, or HSA ²	Total Size ³	Non Support ⁴	Partially Support ⁵	Exceeds Standard ⁶	Sources ⁷	Impairment ⁸	Beneficial Uses ⁹	TMDL Priority ¹⁰	Level ¹¹	Start ¹²	End ¹³
Aliso Creek	Aliso Creek WMA	901.13	7.2 mi			1 mi	Point/Nonpoint	Coliform	Rec-1, Rec-2	Medium	1	7/97	7/01
Aliso Creek, mouth of	Aliso Creek WMA	901.13	0.3 ac			0.3 ac	Point/Nonpoint	Coliform	Rec-1, Rec-2	Medium	1	7/97	7/01
Pacific Ocean Shoreline, Aliso Beach HSA 901.13; Aliso Beach	Aliso Creek WMA	901.13	1 mi		0.01 mi		Point/Nonpoint	Coliform	Rec-1, Rec-2	Medium	1	7/97	7/01
Agua Hedionda Lagoon	Carlsbad WMA	904.31	320 ac		5 ac		Point/Nonpoint	Sediment	Aquatic life	Medium	3	7/04	7/07
						5 ac	Point/Nonpoint	Coliform	Rec-1, Rec-2	Low	2	7/99	7/09
					5 ac		Point/Nonpoint	Coliform	Shellfish harvest	Low	2	7/99	7/09
Buena Vista Lagoon	Carlsbad WMA	904.21	350 ac		350 ac		Point/Nonpoint	Sediment	Aquatic life	Medium	3	7/04	7/07
					150 ac		Point/Nonpoint	Nutrients	Aquatic life	Low	3	7/04	7/07
						350 ac	Point/Nonpoint	Coliform	Rec-1, Rec-2	Low	2	7/99	7/09
Loma Alta Slough	Carlsbad WMA	904.10	8 ac	8 ac			Nonpoint	Eutrophication	Aquatic life	Low	2	7/99	7/09
						8 ac	Nonpoint	Coliform	Rec-1, Rec-2	Low	2	7/99	7/09
Pacific Ocean Shoreline, Loma Alta HA 904.10; Loma Alta Creek Mouth	Carlsbad WMA	904.10	1.5 mi	0.01 to 1 mi*			Point/Nonpoint	Coliform	Rec-1, Rec-2, Shellfish harvest	Low	2	7/99	7/09
Pacific Ocean Shoreline, Buena Vista Creek HA 904.20; Pine Street (Carlsbad), Carlsbad Village Pkwy (Carlsbad)	Carlsbad WMA	904.20	2.2 mi	0.02 mi			Point/Nonpoint	Coliform	Rec-1, Rec-2, Shellfish harvest	Low	2	7/99	7/09
Pacific Ocean Shoreline, San Marcos HA 904.50; Moonlight State Beach	Carlsbad WMA	904.50	5.8 mi	0.01 mi			Point/Nonpoint	Coliform	Rec-1, Rec-2, Shellfish harvest	Low	2	7/99	7/09
Pacific Ocean Shoreline, Escondido Creek HA 904.60; Solana Beach, San Elijo Lagoon	Carlsbad WMA	904.60	3.0 mi	0.02 mi			Point/Nonpoint	Coliform	Rec-1, Rec-2, Shellfish harvest	Low	2	7/99	7/09

Attachment 2
SDRWQCB Order No. R9-2002-0001

Waterbody ¹	Watershed Management Area	HU, HA, or HSA ²	Total Size ³	Non Support ⁴	Partially Support ⁵	Exceeds Standard ⁶	Sources ⁷	Impairment ⁸	Beneficial Uses ⁹	TMDL Priority ¹⁰	Level ¹¹	Start ¹²	End ¹³
San Elijo Lagoon	Carlsbad WMA	904.61	330 ac	330 ac			Point/Nonpoint	Eutrophication	Aquatic life	Low	2	7/99	7/09
					150 ac		Point/Nonpoint	Sediment	Aquatic life	Medium	3	7/04	7/07
						150 ac	Point/Nonpoint	Coliform	Rec-1, Rec-2, Shellfish harvest, Fish consumption	Low	2	7/99	7/09
Famosa Slough	Mission Bay WMA	906.40	28 ac		28 ac		Nonpoint	Eutrophication	Aquatic life	Medium	3	7/05	7/08
Los Penasquitos Lagoon	Mission Bay WMA	906.10	385 ac	385 ac			Point/Nonpoint	Sediment	Aquatic life	Medium	3	7/05	7/08
Mission Bay	Mission Bay WMA	906.30	1540 ac	1 ac			Point/Nonpoint	Eutrophication, Lead	Aquatic life	Medium	3	7/05	7/08
		906.40	906.50	1540 ac			Point/Nonpoint	Coliform	Rec-1, Rec-2, Shellfish harvest	Low	2	7/99	7/09
Pacific Ocean Shoreline, Scripps HA 906.30, El Paseo Grande, Del Oro, Vallecitos, Avenida de la Playa, Coast Blvd, Children's Pool, Ravina, Vista de la Playa, Bonair, Playa del Norte, Palomar (La Jolla); Tourmaline, Grand Avenue (Pacific Beach)	Mission Bay WMA	906.30	13 mi	0.13 mi			Point/Nonpoint	Coliform	Rec-1, Rec-2, Shellfish harvest	Low	2	7/99	7/09
Tecolote Creek	Mission Bay WMA	906.50	6 mi		6 mi		Point/Nonpoint	Stormwater (Cadmium, Copper, Lead, Zinc, Toxicity)	Aquatic life	Medium	3	7/05	7/08
						6 mi	Point/Nonpoint	Coliform	Rec-1, Rec-2	Low	2	7/99	7/09
Chollas Creek	San Diego Bay WMA	908.22	4.8 mi		1 mi		Point/Nonpoint	Stormwater (Cadmium, Copper, Lead, Zinc, Toxicity)	Aquatic life	High	1	1/98	7/03
						1 mi	Point/Nonpoint	Coliform	Rec-1, Rec-2	Low	2	7/99	7/09

Attachment 2
SDRWQCB Order No. R9-2002-0001

Waterbody ¹	Watershed Management Area	HU, HA, or HSA ²	Total Size ³	Non Support ⁴	Partially Support ⁵	Exceeds Standard ⁶	Sources ⁷	Impairment ⁸	Beneficial Uses ⁹	TMDL Priority ¹⁰	Level ¹¹	Start ¹²	End ¹³
Pacific Ocean Shoreline, Coronado HA 910.10; North Beach, Loma Avenue, Pine Street, Sunset Park (Coronado)	San Diego Bay WMA	910.00	10.2 mi	.04 mi			Point/ Nonpoint	Coliform	Rec-1, Rec-2, Shellfish harvest	Low	2	7/99	7/09
San Diego Bay; Near Sub Base	San Diego Bay WMA	900.00	12000 ac	16 ac			Point/ Nonpoint	Benthic community degradation*, Toxicity*	Aquatic life	High	1	1/98	7/03
San Diego Bay; Shelter Island Yacht Basin	San Diego Bay WMA	900.00	12000 ac			50 ac	Point/ Nonpoint	Dissolved copper	Aquatic life	High	1	1/98	7/03
San Diego Bay; Near Grape Street	San Diego Bay WMA	900.00	12000 ac	7 ac			Point/ Nonpoint	Benthic community degradation*, Toxicity*	Aquatic life	High	1	1/98	7/03
San Diego Bay; Downtown Piers	San Diego Bay WMA	900.00	12000 ac	10 ac			Point/ Nonpoint	Benthic community degradation*, Toxicity*	Aquatic life	High	1	1/98	7/03
San Diego Bay; Near Switzer Creek	San Diego Bay WMA	900.00	12000 ac	6 ac			Point/ Nonpoint	Benthic community degradation*, Toxicity*	Aquatic life	High	1	1/98	7/03
San Diego Bay; Near Coronado Bridge	San Diego Bay WMA	900.00	12000 ac	30 ac			Point/ Nonpoint	Benthic community degradation*, Toxicity*	Aquatic life	High	1	1/98	7/03
San Diego Bay; Near Chollas Creek	San Diego Bay WMA	900.00	12000 ac	14 ac			Point/ Nonpoint	Benthic community degradation*, Toxicity*	Aquatic life	High	1	1/98	7/03
San Diego Bay; San Diego Naval Station	San Diego Bay WMA	900.00	12000 ac	76 ac			Point/ Nonpoint	Benthic community degradation*, Toxicity*	Aquatic life	High	1	1/98	7/03
San Diego Bay; Seventh Street Channel	San Diego Bay WMA	900.00	12000 ac	9 ac			Point/ Nonpoint	Benthic community degradation*, Toxicity*	Aquatic life	High	1	1/98	7/03

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Waterbody ¹	Watershed Management Area	HU, HA, or HSA ²	Total Size ³	Non Support ⁴	Partially Support ⁵	Exceeds Standard ⁶	Sources ⁷	Impairment ⁸	Beneficial Uses ⁹	TMDL Priority ¹⁰	Level ¹¹	Start ¹²	End ¹³
San Diego Bay; North of 24th Street Marine Terminal	San Diego Bay WMA	900.00	12000 ac	10 ac			Point/Nonpoint	Benthic community degradation*, Toxicity*	Aquatic life	High	1	1/98	7/03
San Diego Bay Shoreline, Lindbergh HSA 908.21; G St, B St Pier	San Diego Bay WMA	908.21	8.7 mi	0.2 mi			Point/Nonpoint	Coliform	Rec-1, Rec-2	Low	2	7/99	7/09
San Diego Bay Shoreline, Telegraph HSA 909.11; Chula Vista Marina	San Diego Bay WMA	909.11	0.5 mi	0.01 mi			Point/Nonpoint	Coliform	Rec-1, Rec-2	Low	2	7/99	7/09
Pacific Ocean Shoreline, San Diego HU 907.00, San Diego River Mouth, (Ocean Beach)	San Diego River WMA	907.00	1.4 mi	0.02 to 0.5 mi*			Point/Nonpoint	Coliform	Rec-1, Rec-2, Shellfish harvest	Low	2	7/99	7/09
Pacific Ocean Shoreline, San Dieguito HU 905.00; Del Mar (Anderson Canyon), San Dieguito Lagoon Mouth	San Dieguito River WMA	905.00	3.0 mi	0.02 mi			Point/Nonpoint	Coliform	Rec-1, Rec-2, Shellfish harvest	Low	2	7/99	7/09
Pacific Ocean Shoreline, Laguna Beach HSA 901.12; Laguna Beach, Irvine Cove-Riveria, Heisler Park -North, Main Beach (large), Laguna Ave, Cleo Street, Bluebird Canyon Road, Ocean Way, Dumond Dr, Lagunita/ Blue Lagoon, South Coast Hwy at Hospital, West St, 1000 Steps, Table Rock	San Juan Creek WMA	901.12	2.5 mi		0.15 mi		Point/Nonpoint	Coliform	Rec-1, Rec-2, Shellfish harvest	Low	2	7/00	7/10
Pacific Ocean Shoreline, Dana Point HSA 901.14, Salt Creek (large), Salt Creek Service Rd, Dana Strand, North Beach Creek, Capo Beach	San Juan Creek WMA	901.14	6.5 mi		0.06 mi		Point/Nonpoint	Coliform	Rec-1, Rec-2, Shellfish harvest	Low	2	7/00	7/10
Pacific Ocean Shoreline, Lower San Juan HSA 901.27; San Juan Creek (large)	San Juan Creek WMA	901.3	1 mi		0.02 mi		Point/Nonpoint	Coliform	Rec-1, Rec-2, Shellfish harvest	Low	2	7/00	7/10

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Waterbody ¹	Watershed Management Area	HU, HA, or HSA ²	Total Size ³	Non Support ⁴	Partially Support ⁵	Exceeds Standard ⁶	Sources ⁷	Impairment ⁸	Beneficial Uses ⁹	TMDL Priority ¹⁰	Level ¹¹	Start ¹²	End ¹³
Pacific Ocean Shoreline, San Clemente HA 901.30; Poche Beach (large), Pico Drain (large), El Portal Stairs, Mariposa, Linda Lane, South Linda Lane, Lifeguard Headquarters, Trafalgar Canyon, Under Pier, La Ladera, Riveria Beach, Salem Tressel, Cypress Shores	San Juan Creek WMA	901.30	7 mi		0.15 mi		Point/ Nonpoint	Coliform	Rec-1, Rec-2, Shellfish harvest	Low	2	7/00	7/10
San Juan Creek, Lower	San Juan Creek WMA	901.20	3.4 mi			1 mi	Point/ Nonpoint	Coliform	Rec-1, Rec-2	Low	2	7/00	7/10
San Juan Creek, Mouth	San Juan Creek WMA	901.20	2 ac			2 ac	Point/ Nonpoint	Coliform	Rec-1, Rec-2	Low	2	7/00	7/10
Guajome Lake	San Luis Rey River WMA	903.11	25 ac	25 ac			Point/ Nonpoint	Eutrophication	Aquatic life	Medium	3	7/08	7/11
Pacific Ocean Shoreline, San Luis Rey HU 903.00; San Luis Rey River Mouth	San Luis Rey River WMA	903.00	1 mi	0.01 mi			Point/ Nonpoint	Coliform	Rec-1, Rec-2, Shellfish harvest	Low	2	7/99	7/09
Rainbow Creek	Santa Margarita River WMA	902.20	11 mi	5 mi			Point/ Nonpoint	Rec-1, Rec-2, Eutrophication	Aquatic life	High	1	7/98	7/00
Santa Margarita Lagoon	Santa Margarita River WMA	902.11	268 ac	1 ac			Point/ Nonpoint	Eutrophication	Aquatic life, Rec-1, Rec-2	High	2	7/96	7/05
Pacific Ocean Shoreline, Tijuana HU 911.00; Tijuana River	Tijuana River WMA	911.00	3.2 mi	3.2 mi			Point/ Nonpoint	Coliform	Rec-1, Rec-2	Low	2	7/98	7/11
			3.2 mi		3.2 mi		Point/ Nonpoint	Coliform	Shellfish harvest, Fish consumption	Low	2	7/98	7/11
Tijuana River	Tijuana River WMA	911.11	7 mi	7 mi			Point/ Nonpoint	Coliform	Rec-1, Rec-2, Fish consumption	Low	2	7/98	7/11

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Waterbody ¹	Watershed Management Area	HU, HA, or HSA ²	Total Size ³	Non Support ⁴	Partially Support ⁵	Exceeds Standard ⁶	Sources ⁷	Impairment ⁸	Beneficial Uses ⁹	TMDL Priority ¹⁰	Level ¹¹	Start ¹²	End ¹³
				7 mi			Point/ Nonpoint	Eutrophication , Low dissolved oxygen, Solids, Trace metals, Synthetic organics, Pesticides	Aquatic life	Low	3	7/98	7/11
				7 mi			Point/ Nonpoint	Eutrophication , Trash, Pesticides, Synthetic organics, Trace metals	Fish consumption	Low	3	7/98	7/11
Tijuana River Estuary	Tijuana River WMA	911.11	150 ac		1 ac		Point/ Nonpoint	Nickel, Thallium, Lead, Pesticides, Eutrophication , Trash	Aquatic life	Low	3	7/98	7/11
				1 ac			Point/ Nonpoint	Pesticides	Fish consumption	Low	3	7/98	7/11
				150 ac			Point/ Nonpoint	Coliform	Rec-1, Rec-2, Fish consumption, Shellfish harvest	Low	2	7/98	7/11

Attachment 3

Copermittee Populations (2000 U.S. Census Bureau)

Copermittee	Population
Aliso Viejo	40,200
Dana Point	35,100
Laguna Beach	23,750
Lake Forest	58,700
Laguna Hills	31,200
Laguna Niquel	61,900
Laguna Woods	16,500
Mission Viejo	93,100
Rancho Santa Margarita	47,200
San Clemente	49,950
San Juan Capistrano	33,800
County of Orange	2,846,300
Orange County Flood Control District	N/A

Attachment 4

Discussion of Municipal Storm Water Permitting and the Watershed Approach

Municipal Storm Water Requirements, Order No. R9-2002-0001

Under the municipal storm water requirements, municipalities are responsible for pollutant discharges into and out of storm water conveyance systems from land uses within their jurisdiction and watershed. This responsibility is based in large part on land use and permitting authority, and underscores the direct link between land use decisions and the resulting long-term water quality consequences of those decisions.

Accordingly, the municipal storm water requirements require municipalities to impose controls on existing and future development as necessary to reduce pollutant discharges. A critical provision of this Order is that Copermittees' required to obtain and enforce the legal authorities (i.e., local ordinances, permits) as necessary to maintain (or restore) compliance with the municipal storm water requirements contained in this Order.

Municipal storm water requirements contained in the Federal Regulations and this Order also specifically direct permittees to prohibit illicit discharges¹⁰⁸ from entering into their storm water conveyance systems. This means ongoing requirements to detect (actively seek out) polluted runoff entering the systems, identify the source(s) causing the problem, and eliminate the problem(s).

SDRWQCB's Watershed Approach

The term "watershed approach" can mean different things to different people. It often involves several agencies, organizations, and communities addressing numerous environmental concerns. When the SDRWQCB defines a watershed approach, as it has

¹⁰⁸ The term "illicit discharge" is defined in the federal storm water regulations at 40 CFR 122.26 in very broad terms. An illicit discharge is any discharge that is not composed entirely of "storm water". Storm water is one of two components of "urban runoff". Urban runoff is the correct term for any and all flows in a municipal storm water conveyance system. Storm water is defined as any flow that originated from precipitation only. Non-storm water is the "catch-all" phrase referring to all flows in the system that originated from any source other than precipitation.

Technically, uncontaminated rainwater is the only "allowable" flow in the storm water conveyance system. As a practical matter, we are currently assuming a rather lenient enforcement position against municipalities for discharging precipitation that has picked up urban pollutants. We have however assumed a much more aggressive enforcement position against municipalities that have failed to enforce their own legal authorities or implement appropriate source control and structural best management practices (BMPs) to the maximum extent practicable. Such BMPs must effectively reduce or eliminate pollutants that would otherwise be available for transport to receiving waters by precipitation. The SDRWQCB has also taken a much more stringent view of runoff originating from sources other than precipitation (e.g., excess irrigation, car washing, etc.) which convey urban pollutants. Such non-storm water flows are prohibited under the municipal storm water requirements. In all cases, the SDRWQCB looks to see if the responsible municipality(s) have truly demonstrated a "good faith" and thorough effort to find, reduce or eliminate pollutants, and their sources. Such good faith efforts must include enforcement of local ordinances and permits, education efforts that are focused on pollutant(s) of concern, and implementation of effective source control and structural BMPs. These efforts should concentrate on man-made, man-accelerated, or "controllable" sources, rather than on uncontrollable sources (e.g., focus on eliminating pet waste rather than wild animal waste).

in the document entitled “Watershed Management Approach for the San Diego Region,”¹⁰⁹ it is limiting its concerns exclusively to water quality issues.

The SDRWQCB’s watershed approach considers each geographic watershed (or subwatershed) as a whole and seeks to identify and mitigate all sources of pollutants (both point and non-point sources) throughout the watershed which contribute to the impairment of common downstream receiving waters. This definition emphasizes the important contribution (of pollutants and flow) from “inland sources” to “coastal problems”, such as those that have historically plagued San Diego and Orange County Beaches. Like the municipal storm water requirements, one of the most important steps in the SDRWQCB’s watershed effort is the identification and elimination of the sources causing such water quality impairments.

A word about what a watershed approach is “not” is also in order. The SDRWQCB’s (or any one else’s) watershed approach is not:

1. A reduction in the responsibility or authority of the SDRWQCB;
2. An abdication of responsibility or authority by the SDRWQCB;
3. A reduction in the tools at the disposal of the SDRWQCB;
4. A reduction in or limit on the discretion of the SDRWQCB; or
5. A substitution for compliance with regulatory requirements (i.e. NPDES permits or Waste Discharge Requirements).

Nexus Between Municipal Storm Water Permit and Watershed Approach

The municipal storm water requirements and the SDRWQCB’s watershed approach are fully consistent with each other. Both have the same overall objectives and both direct many of the same specific actions; for example identification and elimination sources of pollutants. The municipal storm water requirements is a traditional regulatory measure. These are addressed in the form of NPDES permits and Waste Discharge Requirements issued to dischargers. In actual practice, the “watershed approach” is, at the moment, largely a non-regulatory measure.

It should be emphasized that regulatory and non-regulatory measures are not mutually exclusive. The premise that the watershed approach “contrasts” with regulation is incorrect. The best way to explain the relationship between the two is to say that a “watershed approach” includes, but is not limited to, the issuance of regulatory requirements by the SDRWQCB and regulatory compliance on the part of permitted dischargers. Waste Discharge Requirements and NPDES Permits may or may not include a watershed effort. While a community watershed effort often involves issues beyond the scope of complying with waste discharge requirements, compliance with applicable requirements is always an essential component of any watershed effort. Furthermore, because urban runoff pollution is inextricably linked to cumulative pollutants in runoff contributed by all sources in a watershed, it makes a great deal of sense that Copermittees would choose to implement the requirements of the municipal storm water permit in the context of a watershed approach. This was the objective of the 1993 Drainage Area Management Plan (DAMP) implemented under the First and

¹⁰⁹ “Watershed Management Approach for the San Diego Region”; Sixth version (draft). Regional Water Quality Control Board, San Diego Region; January 7, 2000.

Second Term Permits. Nonetheless, a municipal storm water permit is issued to each Copermittee and each Copermittee is individually responsible for implementing the requirements of the permit. Within the context of a watershed effort (e.g. the Watershed Urban Runoff Management Plan or Watershed URMP), the watershed-wide efforts undertaken by a set of Copermittees in a given drainage builds upon and enhances the jurisdictional efforts of each Copermittee. Under the First and Second Term Permits, significant elements of the DAMP were actually implemented on a countywide basis in two watershed areas within two different Regional Boards with little actual emphasis on specific watershed issues or programs. The implementation of solid jurisdictional level programs, the program management component of the proposed DAMP, and the Watershed URMP focused on the San Juan Creek Watershed Management Area within Orange County, will bring the implementation of the concepts expressed in the proposed DAMP to fruition.

In addition to fully supporting a watershed approach for protecting water quality, the SDRWQCB is engaged in a gradual process to shifting its regulatory efforts towards a watershed (rather than programmatic¹¹⁰) basis. This means that in the future waste discharge requirements may be issued on a watershed basis. Indeed, the renewal of this Order represents a true watershed level application of the municipal storm water regulatory tool envisioned in the DAMP, since the provisions of this Order will be specifically applied by the Copermittees to that part of the San Juan Creek Watershed Management Area within Orange County. The remaining part of that watershed management area lies within Camp Pendleton and a small part of unincorporated San Diego County between Camp Pendleton and Orange County. These areas will be addressed in the future renewal of this Order under the Phase II storm water regulations.

At this time, a few waste discharge requirements “encourage” required activities to be conducted on a watershed basis. In the future, it is likely that waste discharge requirements will “require” that activities be conducted on a watershed basis by all dischargers within the watershed in order to address common water quality problems. The fact that many watershed efforts today are voluntary, but may soon be required under waste discharge requirements, illustrates the “three-tiered” watershed approach described in the SDRWQCB’s “Watershed Management Approach for the San Diego Region”. The three-tiered concept embodies the gradual shift from “tier one” stakeholder driven voluntary watershed efforts to “tier three” efforts mandated by waste discharge requirements.

To the extent that a watershed stakeholder is also subject to waste discharge requirements, a tier one, or voluntary watershed effort can only exist in conjunction with, and acknowledgment of, the mandatory requirements of the waste discharge requirements. This is the current situation for the Orange County Copermittees that will be emphasized under this Order. It is the responsibility of the SDRWQB to ensure that the Copermittees are complying with the municipal storm water requirements and to the extent that they are not, to take appropriate enforcement action.

¹¹⁰ Our office is currently organized into a combination of discrete program units (e.g. Land Discharge, Site Mitigation, and Tank Mitigation and Cleanup Units) and two watershed protection units (Northern and Southern Watershed Protection Units).

Attachment 5 - DAMP Analysis for Order No. R9-2002-0001

Order No. R9-2002-0001 Orange County Municipal Storm Water Permit Component	Order No. R9-2002-0001 Section	Proposed Orange County DAMP Section	Order No. R9-2002-0001 Orange County Permit Requirements	Proposed Orange County DAMP Discussion
Findings	1-43	Not Addressed	Findings	Not applicable
Prohibitions – Discharges	A.1	4.0 Appendix E1	Prohibit all discharges into and from MS4s that cause or threaten to cause conditions of pollution, contamination or nuisance in waters of the State.	Neither the DAMP nor the Model Water Quality Ordinance (Appendix E1 Water Quality Ordinance) adequately addresses this requirement. The Water Quality Ordinance should be updated to better detail the specific language as well as the intent already implied in sections II and IV of the ordinance.
Prohibitions – Discharges	A.2	4.0 Appendix E1	Prohibit all discharges from MS4s that cause or contribute to exceedances of receiving water quality objectives.	Neither the DAMP nor the Water Quality Ordinance (Appendix E1) adequately addresses this requirement. Sections II, III, and IV of the Water Quality Ordinance should be updated to better detail the specific language as well as the intent already implied in sections II and IV of the ordinance to include and implement this prohibition.
Prohibitions – Discharges	A.3	1.2; 4.0 Appendix E1	Prohibit all discharges containing pollutants not reduced to the MEP.	The DAMP does specifically address this prohibition requirement in several sections. The Water Quality Ordinance, however, does not address this requirement.
Prohibitions – Discharges	A.4	4.0 Appendix E1	Discharges from MS4s are subject to Basin Plan Prohibitions.	This prohibition is not addressed in either the DAMP or the Water Quality Ordinance. Both should be updated to include and implement this prohibition.

Prohibitions – Non-Storm Water Discharges	B.1	1.2; 4.2; 4.3; 4.4; Appendix E1	Copermittees prohibit all non - storm water discharges into MS4s unless separately authorized by NPDES or are not prohibited as per B.2 or B.3.	DAMP and Water Quality Ordinance (Appendix E1) effectively prohibits all non storm water discharges not separately authorized by NPDES permits or that are not prohibited as per B.2 and B.3 of the Order No. R9-2002-0001.
Prohibitions – Non-Storm Water Discharges	B.2	1.2; 4.2; 4.3; 4.4; Appendix E1	Non-Storm Water, Non-Prohibited Discharges that are not a significant source of pollutants.	The list in the Water Quality Ordinance (App. E1) is incomplete and includes exemptions not identified in the Federal Regulations or the Order (e.g. sewage spills, roof runoff, agricultural irrigation runoff, and reclaimed water runoff).
Prohibitions – Non-Storm Water Discharges	B.3	1.2; 4.2; 4.3; 4.4; Appendix E1	Procedures to address non-storm, non-prohibited discharges that are a significant source of pollutants.	<p>The DAMP and the Water Quality Ordinance do not adequately address the B.2 non-storm water discharges that are determined by the Copermittee(s) to be a significant source of pollutants. The Water Quality Ordinance (section IV.D) only addresses the prohibition of otherwise exempted discharges on a case by case basis as determined by an Authorized Inspector. The DAMP and the Water Quality Ordinance does not address the requirement that the discharge <u>category</u> be prohibited from entering the MS4; OR that the Copermittee shall not prohibit the discharge category and implement or require the implementation of BMPs; AND a file report with the SDRWQCB within 365 days of the adoption of the Order describing the discharge category and the BMPs to be required by the Copermittee.</p> <p>Section IV.D of the Water Quality Ordinance details only site specific instances in which B.2 allowable discharges may be prohibited, but does not discuss the permissible discharge conditions, the implementation of BMPs, nor the report to the SDRWQCB describing the above.</p>

				Both the DAMP and the Water Quality Ordinance should be updated to completely address this requirement.
Prohibitions – Non-Storm Water Discharges	B.4	1.2 4.0 5.0 10.0 Appendix E1	Emergency fire fighting flows are not prohibited. Copermittees develop and implement a program within 365 days to reduce pollutants from non-emergency fire fighting flows identified as significant sources of pollutants.	A program to reduce pollutants from non-emergency fire fighting flows identified by the Copermittees to be a significant source of pollutants is not specified in the DAMP. The Water Quality Ordinance does not specifically address the issue of non-emergency fire fighting activities. The Water Quality Ordinance should be revised to address this requirement.
Prohibitions – Non-Storm Water Discharges	B.5	4.0; 10.0; Appendix K	Examine all dry weather monitoring results collected in accordance with section F.5 and Attachment E to identify water quality problems resulting from non-storm water, non-prohibited discharges. Follow-up investigations to be conducted as necessary to identify and control such discharges when they are found to be significant sources of pollutants.	The DAMP discusses historical efforts conducted under the First and Second Term Permits, but does not specify how Dry Weather Monitoring will be performed and the data evaluated by each Copermittee as per section B.5 of the Order. Nor does Appendix K provide sufficient specific detail on the monitoring and inspections to be performed in each jurisdiction that would satisfy the requirements of section B.5 of the Order. See section F.5 for more discussion on the inadequacy of Dry Weather Monitoring Program to be implemented under the proposed DAMP.
Receiving Water Limitations	C.1	Not Addressed	Discharges from MS4s that cause or contribute to the violation of water quality standards are prohibited.	Neither the DAMP nor the Water Quality Ordinance specifically prohibits discharges that cause or contribute to exceedances of receiving water quality objectives. The DAMP and the Water Quality Ordinance should be updated to include and implement this prohibition.
Receiving Water Limitations	C.2	1.0; 1.2; 1.3; 1.4; 2.2;	Requirement that each Copermittee shall comply with section C.1 above through the timely implementation of the Jurisdictional Urban Runoff	The DAMP does not specifically address how the Copermittees will prohibit and respond to discharges that cause or contribute to exceedances of receiving water quality objectives. The DAMP sections that address discharge

		<p>2.3; 3.2; 3.3; 3.5; 4.0 4.1; 4.2; 4.3; 4.4</p>	<p>Management Program (i.e. BMPs and programs). Procedure to address MS4 discharges that are causing or contributing to an exceedance of receiving water quality objectives. The Copermittees are required to notify the SDRWQCB and thereafter submit a report that describes BMPs that are currently being implemented and additional BMPs that will be implemented to prevent or reduce any pollutants that are causing or contributing to the exceedance of water quality standards.</p> <p>Modifications to the report must be reported to the SDRWQCB within 30 days of notification.</p> <p>The requirement also includes a provision that the Copermittee(s) revise and implement the revised Jurisdictional Urban Runoff Management Program to incorporate the approved BMPs, the implementation schedule, and any monitoring required.</p> <p>The revised Jurisdictional Urban Runoff Management Program, monitoring program,</p>	<p>prohibitions, BMP implementation, legal authority, and regulatory requirements do not include or implement the requirement that discharges do not cause or contribute to receiving water quality objectives as a condition of the DAMP implementation and permit compliance. This section, which contains precedential language required by the State Board and USEPA, is a one of the most important components of the Order that is inadequately addressed in the DAMP.</p> <p>The DAMP provides only general discussions of iterative BMP implementation/evaluation that lack specific performance measures or time lines sufficient to address protection of beneficial uses and compliance with receiving water quality objectives. The DAMP describes limitations to their ability to evaluate BMPs and states that several years would be required to evaluate the effectiveness of BMPs (section 3.3.2).</p> <p>The DAMP does not specify how the requirements of section C of the Order, which contains precedential language required by the State Board and USEPA, will be implemented at a jurisdictional or a collective level by the Copermittees.</p>
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			and implementation schedule must be implemented within 30 days of approval by the SDRWQCB.	
Receiving Water Limitations	C.3	Not Addressed	SDRWQCB has authority to enforce any provision of the Order while the Copermittee prepares and implements the report required in C.2.	The DAMP does not address this provision of section C of the Order.
Legal Authority	D.1	4.0; 4.1; 4.2; Appendix E1	Each Copermittee establishes, maintains, and enforces adequate legal authority to control pollutant discharges into and from its MS4.	The DAMP and the Water Quality Ordinance generally satisfies the requirements of section D of the Order.
Legal Authority	D.1.a	4.2; 8.0; 8.1; 8.2; 8.3; 8.4; 8.6; 8.7; Appendix H	Legal authority to control contribution of pollutants to MS4 from construction and industrial sites.	<p>The DAMP addresses the requirement of each Copermittee to certify legal authority to control contribution of pollutants to the MS4 from industrial activity, but does not address construction (section 4.2).</p> <p>Section 8.2 of the proposed DAMP discusses the regulatory requirements pertaining to construction sites, but does not acknowledge Copermittee responsibility to certify legal authority to control the contribution of pollutants to the MS4 from construction sites apart from coordinating enforcement actions under the Water Quality Ordinance with the SDRWQCB.</p> <p>Section 8.3 discusses Public Works Construction Practices, but does not address the responsibility of the Copermittees to certify legal authority to control contribution of pollutants to the MS4.</p> <p>Section 8.4 discusses Copermittee oversight of private construction practices through enforcement of grading codes to protect slopes</p>

				<p>from erosion and failure, but does not adequately address the requirement of the Copermittees to certify legal authority to control the contribution of pollutants to the MS4 from construction sites.</p> <p>Appendix H and the new commitments of section 8.7 of the proposed DAMP do not adequately address the requirement of the Copermittees to certify their legal authority to control the contribution of pollutants to the MS4 from construction sites.</p>
<p>Legal Authority</p>	<p>D.1.b</p>		<p>Prohibit all identified illicit discharges not exempted under B.2 including list of discharges 1-9.</p>	<p>The DAMP and the Water Quality Ordinance adequately addresses the requirement to prohibit all illicit discharges not exempted under B.2.</p> <p>The DAMP, however, does not describe in sufficient detail how the Copermittees will address sewage, discharges of wash water resulting from the hosing or cleaning of gas stations, auto repair garages, or other types of automotive facilities; Discharges resulting from the cleaning, repair, or maintenance of any type of equipment, machinery, or facility including motor vehicles, cement-related equipment, and portable toilet servicing, etc.; Discharges of wash water from mobile operations such as mobile automobile washing, steam cleaning, power washing, and carpet cleaning, etc.;</p> <p>Discharges of wash water from the cleaning or hosing of impervious surfaces in municipal, industrial, commercial, and residential areas including parking lots, streets, sidewalks, driveways, patios, plazas, work yards and outdoor eating or drinking areas, etc.;</p> <p>Discharges of runoff from material storage areas</p>

				<p>containing chemicals, fuels, grease, oil, or other hazardous materials; Discharges of pool or fountain water containing chlorine, biocides, or other chemicals; discharges of pool or fountain filter backwash water;</p> <p>Discharges of sediment, pet waste, vegetation clippings, or other landscape or construction-related wastes; and Discharges of food-related wastes (e.g., grease, fish processing, and restaurant kitchen mat and trash bin wash water, etc.).</p>
Legal Authority	D.1.c	4.2	Prohibit all illicit connections to MS4.	<p>The DAMP and the Water Quality Ordinance adequately address the requirement to prohibit all illicit connections to MS4.</p> <p>With respect to Jurisdictional Urban Runoff Management Program requirements required under the Order, the DAMP, however, lacks the specificity necessary for successful implementation and assessment of compliance.</p>
Legal Authority	D.1.d	4.2	Control discharge of spills, dumping, or disposal of materials to MS4.	<p>The DAMP and the Water Quality Ordinance adequately address the requirement to control of discharges (i.e. spills, dumping, or disposal of materials) into the MS4.</p> <p>With respect to Jurisdictional Urban Runoff Management Program requirements required under the Order, the DAMP, however, lacks the specificity necessary for successful implementation and assessment of compliance.</p>
Legal Authority	D.1.e	4.2; Appendix E1	Require compliance with conditions of Copermittee ordinances, permits, contracts, or Orders.	<p>The DAMP includes the requirement of compliance with conditions in ordinances, permits, contracts or orders.</p> <p>Although, the Water Quality Ordinance (Appendix E1) generally implements the prohibitions of the Order, it lacks significant elements (see above)</p>

				<p>that should be included.</p> <p>The Enforcement Consistency Guide (Appendix E2) provides guidance for enforcement activities to be undertaken by Copermittee inspectors.</p> <p>The Water Quality Ordinance and the Enforcement Consistency Guide, however, are somewhat dated and should be updated to include and implement requirements of the Order.</p>
Legal Authority	D.1.f	4.2; Appendix E1	Utilize enforcement tools to require compliance with Copermittee ordinances, permits, contracts or orders.	<p>The DAMP includes the requirement of compliance with conditions in ordinances, permits, contracts or orders.</p> <p>Although, the Water Quality Ordinance (Appendix E1) generally implements the prohibitions of the Order, it lacks significant elements (see above) that should be included.</p> <p>The Enforcement Consistency Guide (Appendix E2) provides guidance for enforcement activities to be undertaken by Copermittee inspectors.</p> <p>The Water Quality Ordinance and the Enforcement Consistency Guide, however, are somewhat dated and should be updated to include and implement requirements of the Order.</p>
Legal Authority	D.1.g	2.2.9; 4.1; 4.2 Appendix C	Interagency agreements to control contribution of pollutants from one portion of a shared MS4 to another portion of the MS4.	<p>The DAMP adequately addresses the requirement, but fails to provide sufficient detail with regards to the implementation by the Copermittees of the interagency agreement that controls the contribution of pollutants from one portion of a shared MS4 to another portion of the MS4.</p>
Legal Authority	D.1.h	4.2	Carry out inspections, surveillance, and monitoring necessary to determine compliance and	<p>The DAMP adequately addresses the requirement for inspections, surveillance, and monitoring necessary to determine compliance and non-compliance with permit conditions. However, the</p>

			noncompliance with local ordinances and permits under the Order.	DAMP lacks specificity in regards to various program components, inspection frequencies, time-lines for implementation, assessment of program effectiveness, and follow-up activities by Copermittees individually and collectively.
Legal Authority	D.1.i	1.2; 1.3; 1.4; 3.1; 3.2; 3.3; 3.4; 3.5; 4.1; 4.2; 4.3	Require use of BMPs to prevent or reduce discharge of pollutants to MS4s.	The DAMP adequately addresses the requirement for BMP implementation, but lacks specificity in regards to BMP implementation, program components, time lines for implementation, assessment of program effectiveness, and follow-up activities by Copermittees individually and collectively.
Legal Authority	D.2	4.2	Submit statement within 365 days certified by chief legal counsel that the Copermittee has adequate legal authority to implement and enforce each of the requirements in 40 CFR 122.26(d)(2)(I)(A-F) and this Order.	<p>The DAMP states that the Copermittees submitted certification of legal authority to regulate the discharge of pollutants to the MS4 system (40 CFR 122.26(d)(2)(I)(A-F)) as of July 31, 1997.</p> <p>The DAMP does not commit the Copermittees to submitting an updated certification of legal authority that reflects the requirements of the Order.</p>
Technology Based Standards	E (Table 3)	Not Addressed	Copermittee implements or requires implementation of BMPs to ensure that pollutant discharges into and from its MS4 are reduced to the applicable technology based standard.	<p>The DAMP does not specify the Technology Based Standards applicable to pollutant discharges from industrial activities owned by the Copermittee, or general industrial and construction activity.</p> <p>The DAMP incorrectly identifies MEP as the standard for construction activity owned by the Copermittee (Appendix H.3.1). The standard to be applied under the terms of the Order is the BAT/BCT standard applicable to construction activities authorized under the Statewide General</p>

				<p>Construction Storm Water Permit. It should be noted, in fact, that Order No. 96-03 did not specifically exempt the Copermittees from implementing BMPs at the BAT/BCT level at municipal construction sites > 5 acres. The Order only exempted the Copermittees from applying for coverage under the statewide permit. Provision No. 24 stated "All other terms and conditions of the latest version of the State's General Construction Activity Storm Water Permit shall be applicable."</p> <p>Order No. R9-2002-0001 does not continue the provisions (Nos. 19-24) of Order No. 96-03 that exempted municipal construction activities from coverage under the Statewide General Construction Storm Water Permit.</p>
<p>Jurisdictional Urban Runoff Management Program</p>	<p>F</p>	<p>Sections 1-12</p>	<p>Each Copermittee reduces discharges of pollutants and runoff flow during each of the three major phases of urban development (planning, construction, and land-use phases).</p> <p>Each Copermittee shall implement the provisions and commitments of proposed DAMP until full implementation of the Jurisdictional Urban Runoff Management Program.</p>	<p>The proposed DAMP and appendices does not adequately address in specific detail how the Copermittees will reduce the discharge of pollutants and runoff flow during each of the three major phases of urban development. The various sections of the proposed DAMP provides general and over-arching discussion of the need to address these issues through the implementation of BMPs, but fails to provide sufficient detail and implementation timelines by which to assess compliance with the Order.</p> <p>The proposed DAMP also fails entirely to address the requirement to prevent or respond to <u>exceedances of receiving water quality objectives</u> resulting from the discharge of urban runoff from these three phases of land-use through the implementation of pollution prevention, source identification and elimination, enforcement, education, and other structural and non structural</p>

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				BMPs and programs. Specific deficiencies of the DAMP are discussed below with respect to the Order.
Land-Use Planning for New Development and Redevelopment Component	F.1	7.0; Appendix G	Minimize short-term and long-term impacts on receiving waters from new development and redevelopment.	
Land-Use Planning for New Development and Redevelopment Component	F.1.a	7.0; Appendix G	Assess General Plan	The DAMP does not indicate that the Copermittees will assess their general plans or equivalent to include watershed protection principles.
Land-Use Planning for New Development and Redevelopment Component	F.1.b.1	7.0; Appendix G	Modify Development Project Approval Processes	The DAMP has requirements for all projects to develop a water quality management plan that include BMPs to be used at the site. However, the DAMP does not require all projects meet the minimum requirements listed in the Order (e.g., source control).
Land-Use Planning for New Development and Redevelopment Component	F.1.b.2	7.0; Appendix G	Modify Development Project Approval Processes	The DAMP does not include the development of Standard Urban Storm Water Mitigation Plans on watershed (model) and jurisdictional (local) levels.
Land-Use Planning for New Development and Redevelopment Component	F.1.b.2.a	7.0; Appendix G	Standard Urban Storm Water Mitigation Plans (SUSMPs)	The DAMP does not include the priority development categories listed in the Order. The DAMP has BMP requirements at all development projects regardless of size or land use. However, the BMP requirements in the DAMP do not meet the minimum SUSMP requirements. The Copermittees do have discretion to require all projects meet SUSMP requirements.
Land-Use Planning for New Development and Redevelopment Component	F.1.b.2.b	7.0; Appendix G	SUSMPs - BMP Requirements	The BMPs listed in the DAMP are inadequate and do not meet the minimum requirements of this Section. The Copermittees must develop their own list of recommended source control and structural BMPs to be implemented at least the priority development projects listed in the order. The recommended BMPs must also meet

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				minimum performance criteria.
Land-Use Planning for New Development and Redevelopment Component	F.1.b.2.c	7.0; Appendix G	SUSMPs – Numeric Sizing Criteria	The DAMP does not include numeric sizing criteria for structural BMPs
Land-Use Planning for New Development and Redevelopment Component	F.1.b.2.d	7.0 Appendix G	SUSMPs – Equivalent Numeric Sizing Criteria	The DAMP does not include a process for developing as part of the Model SUSMP an equivalent method for calculating the volume or flow which must be mitigated (i.e. an equivalent method for calculating numeric sizing criteria) by post construction BMPs.
Land-Use Planning for New Development and Redevelopment Component	F.1.b.2.e	7.0; Appendix G	SUSMPs- Pollutants or Conditions of Concern	The DAMP does not include a specific procedure for identifying pollutants or conditions of concern.
Land-Use Planning for New Development and Redevelopment Component	F.1.b.2.f	7.0; Appendix G	SUSMPs – Implementation Process	The DAMP does not include a procedure for implementation of SUSMP requirements.
Land-Use Planning for New Development and Redevelopment Component	F.1.b.2.g	7.0 Appendix H	SUSMPs – Waiver Provision	The DAMP does not include a procedure for developing and implementing a waiver provision.
Land-Use Planning for New Development and Redevelopment Component	F.1.b.2.h	7.0; Appendix G	SUSMPs – Infiltration and Groundwater Protection	The DAMP does not include groundwater protection restrictions for use with infiltration structural BMPs.
Land-Use Planning for New Development and Redevelopment Component	F.1.b.2.i	7.0; Appendix G	SUSMPs – Downstream Erosion	The DAMP does not address downstream erosion from development and redevelopment projects.
Land-Use Planning for New Development and Redevelopment Component	F.1.c	7.0; Appendix G	Revise Environmental Review Processes	The DAMP does not include clear and specific language that indicates water quality and mitigation measures will be evaluated during the Copermittees environmental review processes.
Land-Use Planning for New Development and Redevelopment Component	F.1.d	7.0; Appendix G	Conduct Education Efforts Focused on New Development and Redevelopment	The DAMP adequately addresses the education requirements of the Order, but additional specific detail regarding implementation should be included with respect to the requirements of this section of the Order.
Construction Component	F.2	8.0 Appendix H	Implement a construction component of the Jurisdictional URMP to reduce	The Construction section of the DAMP is generally inadequate to address the requirements of Order No. R9-2002-0001. It focuses mainly on

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			pollutants in runoff from construction sites during all construction phases.	Public Works construction projects, and does not address requirements for private construction projects.
Construction Component	F.2.a	Not addressed	Pollution Prevention	The DAMP does not include pollution prevention methods for construction, and should be updated to include and implement these methods.
Construction Component	F.2.b	8.4 8.7	Grading Ordinance Update	The DAMP does include a new commitment to review grading/erosion control ordinances on an as needed basis to achieve consistency with other regulatory requirements, but it does not contain language requiring the implementation of BMPs to be include in the update.
Construction Component	F.2.c	Not addressed	Modify Construction and Grading Approval Process	The DAMP does not include clear and specific language that indicates the construction and grading approval process will be modified to ensure that pollutants will be reduced to MEP.
Construction Component	F.2.d	Not addressed	Source Identification	The DAMP does not address the development of a watershed-based construction site inventory of all sites within their jurisdiction.
Construction Component	F.2.e	Not addressed	Threat to Water Quality Prioritization	The DAMP does not address the threat to water quality prioritization of construction sites.
Construction Component	F.2.f	8.6; Appendix H	BMP Implementation	The DAMP does not set minimum BMP requirements based on threat to water quality prioritization. The DAMP does set minimum BMP requirements, but only for public works construction projects and not private construction sites.
Construction Component	F.2.g	8.4	Inspection of Construction Sites	Although the DAMP does address inspection frequencies of construction sites by construction and grading inspectors, these frequencies are not based on the threat to water quality prioritization, and are not adequate to comply with the requirements of Order No. R9-2002-0001.
Construction Component	F.2.h	8.2	Enforcement of Construction Sites	The DAMP includes provisions for coordination of enforcement efforts between Regional Board and the Copermittees. However, the DAMP lacks

				specific reference to the enforcement efforts of Copermittees' ordinances with respect to construction activities within their jurisdiction.
Construction Component	F.2.i	Not addressed	Reporting of Non-Compliant Sites	The DAMP does not include criteria for Copermittee evaluation and notification to the Regional Board of non-compliant construction sites.
Construction Component	F.2.j	8.7	Education Focused on Construction Activities.	The DAMP provides for adequate educational efforts for Municipal staff, developers and project proponents.
Existing Development Component	F.3		Minimize short-term and long-term impacts on receiving water quality from all types of existing development.	As the proposed DAMP attempts to broadly address countywide storm water discharges, the specificity required to manage discharges locally and on a watershed basis is compromised. As a result, for the region of Orange County subject to the San Diego Regional Water Quality Control Board, the DAMP does not result in a plan to reduce pollutants in urban runoff discharges from existing municipal, industrial, commercial, and residential areas to the maximum extent practicable (MEP). For instance, although the Permit allows for a BMP-based approach to reaching MEP, an assessment of BMP effectiveness (DAMP section 3.3) at the jurisdictional level is not effectively attainable under the current monitoring program.
Municipal (Existing Development)	F.3.a.1 F.3.a.2 F.3.a.3 F.3.a.4 F.3.a.5 F.3.a.6 F.3.a.7 F.3.a.8	5.0; Appendix M	Pollution Prevention Source Identification Threat to Water Quality Prioritization BMP Implementation Maintenance of MS4 Management of Pesticides, Herbicides, and Fertilizers Inspection of Municipal Areas and Activities Enforcement of Municipal	Although the DAMP describes a Hazardous Waste Management/Environmental Performance Report (section 5.3.6), the program description does not provide sufficient detail to evaluate the pollution prevention and source identification (Inventory) components of this report. With respect to public agency (Municipal – Existing Development) land uses, the DAMP and Appendices F and M provide sufficient detail concerning the pollution prevention, source

			Areas and Activities	<p>identification, and threat to water quality prioritization for many of the categories identified in the Order. However, it is not apparent that the source identification included the active landfills, publicly owned treatment works, the MS4 systems, incinerators, land application sites, or uncontrolled sanitary landfills. To the extent that these public agency land use activities or areas are present, the DAMP and Appendix M should be updated to address these areas and activities. Also, it is not apparent in Appendix 3 of Appendix M that San Juan Capistrano, Rancho Santa Margarita, Laguna Woods, and Lake Forest have complied with this requirement of the DAMP.</p> <p>The BMP Reference Manual provided in Appendix 2 of Appendix M is dated and should be updated by the Copermittees.</p> <p>Furthermore, the DAMP and Appendices do not establish minimum required BMPs to be implemented by public agencies with respect to the municipal areas and activities. This section and the Appendices should be updated to address all of the municipal areas and activities identified as high priority categories and include the required designated minimum BMPs for the public agency areas and activities inventoried and identified as low, medium, or high priorities.</p> <p>The MS4 maintenance activities described by the Copermittees in sections 5.3.3 and 5.4 satisfy the requirements of section F.3.a.5. The new commitment by the Copermittees to annually inspect and clean out as necessary (to be determined by criteria under development) is in particular a significant commitment. The</p>
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				commitment to update MS4 maps both on paper and electronically following significant changes is also a noteworthy commitment that satisfies requirements in the Order.
Industrial (Existing Development)	F.3.b.1 F.3.b.2 F.3.b.3 F.3.b.4 F.3.b.5 F.3.b.6 F.3.b.7 F.3.b.8	9.0;	Pollution Prevention Source Identification Threat to Water Quality Prioritization BMP Implementation Monitoring of Industrial Sites Inspection of Industrial Sites Enforcement of Industrial Sites Reporting of Non-Compliant Sites	<p>The proposed DAMP is insufficient to effectively identify industrial sources of discharges to the municipal separate storm sewer system (MS4). The proposed DAMP commitment to assess the feasibility of establishing a mechanism to ensure coverage under the State's Industrial General Permit prior to issuance of a business license does address an action (identification) that is required under Federal regulations (40 CFR 122.26(d)(2)(ii)), yet does not actually commit the Copermittees to providing an inventory of industrial facilities (DAMP section 9). Given the relatively small size and limited industrial activity within most of the municipalities subject to the Order, the DAMP commitment seems to unnecessarily delay compliance with the Federal regulations.</p> <p>The proposed DAMP does not provide for effective inspection, surveillance, and monitoring procedures to determine compliance with permit conditions, including illicit discharges to the MS4. Inspections of industrial facilities for local compliance are performed by various County agencies, but there is no documentation of visits, findings, monitoring, or follow-up actions, thus, there is no means for assessing whether high priority sites within a local jurisdiction are in compliance with prohibitions on illicit discharges (DAMP sections 9 and 10).</p>
Commercial (Existing Development)	F.3.c.1 F.3.c.2	3.0; 3.1;	Pollution Prevention Source Identification	The proposed DAMP does not base development of BMP guidance, education, or selection of target

	F.3.c.3 F.3.c.4 F.3.c.5	3.2; 10.0	BMP Implementation Inspection of Commercial Sites and Sources Enforcement of Commercial Sites and Sources.	<p>commercial activities on jurisdictional needs and does not propose to address many commercial activities known to be threats to water quality (DAMP section 6 and Appendix L). Commercial activities targeted for BMP guidance and education are selected on Countywide criteria, regardless of the threat a targeted commercial activity poses in a specific municipality.</p> <p>The proposed DAMP does not adequately ensure that high priority commercial activities are inspected for compliance with local storm water ordinances. Inspections of commercial facilities for local compliance are performed by various County agencies, but there is no documentation of visits, findings, or follow-up actions, thus, there is no means for assessing whether high priority sites within a local jurisdiction are being inspected or for assessing the effectiveness of the inspection procedures (DAMP sections 3.0 and 10.0).</p>
Residential (Existing Development)	F.3.d.1 F.3.d.2 F.3.d.3 F.3.d.4		Pollution Prevention Threat to Water Quality Prioritization BMP Implementation Enforcement of Residential Areas and Activities	<p>Although the proposed DAMP would continue a strong educational effort targeting residential activities, it neglects to prioritize particular residential activities for action (DAMP section 6). Furthermore, it does provide a framework from which to assess the need or feasibility of structural BMPs. Given the proliferation of residential development and the documented contribution of pollutants from residential activities that enter receiving waters via the MS4, the DAMP provides inadequate commitments for ensuring that pollutants in urban runoff from residential activities are reduced to the maximum extent practicable.</p>
Education Component	F.4	6.0; 6.3.2 6.4;	Implement the Education Component of the Jurisdictional URMP to	<p>The proposed DAMP continues a strong commitment to public education shown by the Copermittees during the first two Permit periods.</p>

		Appendix L	measurably increase the knowledge of target communities and change behavior of target communities.	<p>Two notable new commitments are the formation of a public education committee and the implementation of the Public and Business Education Strategy. The Copermittees should review the various educational programs to ensure that they satisfy all the requirements of the Order in sections F.1.d, F.2.j, F.4.a, F.4.b, and F.4.c., especially with respect to the target audiences and contents of the Educational Components.</p> <p>The DAMP correctly emphasizes “effective” education programs, but could provide more specific information regarding the criteria that have been found to characterize effective educational programs.</p>
Illicit Discharge Detection and Elimination Component	F.5.	10.0; Appendix K	Implement the Illicit Discharge and Elimination Component of the Jurisdictional URMP to actively seek and eliminate illicit discharges and connections.	<p>See comments regarding industrial and commercial facility inspections (DAMP section 10.3).</p> <p>In addition, investigation and enforcement measures in the proposed DAMP appear to be insufficient to implement and enforce means to prevent illicit discharges to the MS4 (DAMP section 10). For example, as reported in the Report of Waste Discharge and NPDES Annual Progress Reports, the overwhelming majority of enforcement actions consist of educational letters in response to complaints and actual observances of discharges that violate local ordinances. There is no proposed mechanism, however, for determining the effectiveness of such letters. For example, there is no attempt to assess whether a recipient of an educational letter understands the content of the letter, any enclosed storm water brochures, or the actual liability of continuing to discharge illegally to the MS4.</p>

				<p>The proposed DAMP calls for reviewing and revising coordinated spill response procedures with sewerage agencies, but there is no timeframe (DAMP section 10). In addition, although spills from private laterals are a threat to water quality, there is no indication of a plan to address this source of pollution.</p>
<p>Illicit Discharge Detection and Elimination Component</p>	F.5.a	10.0	<p>Illicit Discharges and Connections</p>	<p>Section 10.1 incorrectly identifies illicit discharges as “any <u>intentional</u> discharge...that is not entirely composed of storm water...” (emphasis added). The DAMP does not adequately address <u>unintentional</u> discharges not composed entirely of storm water that enter the MS4 system. In fact, the Water Quality Ordinance specifically provides an exception for accidental sewage spills, roof runoff, and reclaimed water runoff from enforcement as illicit discharges.</p>
<p>Illicit Discharge Detection and Elimination Component</p>	F.5.b	10.0; Appendix K	<p>Dry Weather Monitoring Program</p>	<p>The discussion of the dry weather monitoring component of the Orange County Water Quality Monitoring Program in Appendix K provides a general description of the program development and goals, but leaves unanswered, or insufficiently described, how the program will be implemented year by year at a jurisdictional level. The monitoring proposal in Appendix K is insufficiently detailed and where detail is provided, the program appears to be too rigid and focused on specific locations to detect episodic illicit discharges in a broader, watershed context.</p> <p>Only three “warm spot” stations and three “reconnaissance warm spot” sampling stations are located in the San Juan Creek Watershed Management Area covered under this Order. It is not clear in Appendix K from sections 5.1, 5.1.2, Table 5.1, and Figure 5.2 that these</p>

				<p>reconnaissance stations are included in the 5 year plan for Source Identification for Warm Spots and CARs (Critical Aquatic Resources). Furthermore, the San Juan Creek watershed, the largest hydrologic unit in the San Juan Creek Watershed Management Area, does not seem to be included in this program. Moreover, the section (5.1.4) of Appendix K discussing Aliso Creek is very dated (even with respect to information available in September 2000) and does not describe in any detail how the results of the previous investigations will be addressed in the Dry Weather Monitoring Program or the implementation of the proposed DAMP.</p> <p>Section 5.2.2 of Appendix K provides only very general description of monitoring tools and techniques that may be used to identify sources. Although the use of a mobile lab on a monthly basis is proposed, the section lacks clearly presented, specific information with respect to the sites to be sampled, parameters to be analyzed at each, and the follow-up mechanisms and investigative measures to be employed.</p> <p>The sampling parameters and frequencies are not sufficiently detailed, and where described, they may be insufficient to detect incidental, episodic, and short duration illicit discharges even in these drainages. The monitoring program described does not provide enough information to the Copermittees in a timely enough manner to result in the detection and elimination of illicit discharges and illegal connections. The monitoring program is insufficiently linked to the jurisdictional level program.</p>
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				<p>Where land use investigation studies are proposed, these focus only on various, select, BMPs (i.e. trash dumpster areas, street sweeping efficiencies, inlet trash racks, and motor fuel concrete dispensing area interruptible drainages). To the extent that land use investigations are performed, they should include each of the major categories of land use. Land use investigations may not provide adequate, timely information regarding episodic illicit discharges or illegal connections.</p> <p>Finally, the program reevaluation period of five years for this monitoring effort (ending June 2003) is too long to provide timely information and adaptive management opportunities to a Dry Weather Monitoring Program intended to detect and eliminate illicit discharges and illegal connections.</p> <p>The Dry Weather Monitoring Program should be extensively reviewed and revised to address the requirements of the Order and to provide a broader scope for reconnaissance and surveillance Dry Weather Monitoring that considers the entire San Juan Creek Watershed Management Area within Orange County.</p>
<p>Illicit Discharge Detection and Elimination Component</p>	<p>F.5.c F.5.d F.5.e</p>	<p>10.0; Appendix K</p>	<p>Investigation/Inspection and Follow-up</p> <p>Elimination of Illicit Discharges and Connections</p> <p>Enforce Ordinances</p>	<p>DAMP does not provide necessary detail for detection and elimination of Illicit Discharges and Illegal Connections (IC/IDs). It does provide for training of inspectors and regular meetings to discuss compliance inspections, but only for industrial inspections. This should be expanded to include municipal, residential, and commercial land uses and to address detection and elimination of IC/IDs. The dry weather monitoring program should be describe specific minimum</p>

				frequencies of inspections, monitoring requirements, trigger thresholds for further investigation, and minimum response and enforcement actions.
Illicit Discharge Detection and Elimination Component	F.5.f	10.0	Prevent and Respond to Sewage Spills (Including Private Laterals and Failing Septic Systems) and Other Spills	The New Commitment to coordinate with major sewerage agencies the review and revision of procedures and practices for sewage spill response does not have sufficient detail by which to evaluate the compliance by the Copermittees with the Order. For example, the new commitment does not address the Copermittee level prevention, response, and clean up of all sewage and other spills from any source, including private laterals and failing septic systems. Also, the new commitment does not address the prevention of entry of silts into the MS4 and contamination of surface water, ground water, and soil to the MEP. Finally, the new commitment and section 10 in general does not address in sufficient detail how the Copermittees will satisfy the requirement to coordinate spill prevention, containment, and response activities throughout all appropriate departments, programs, and agencies.
Illicit Discharge Detection and Elimination Component	F.5.g	10.0	Facilitate Public Reporting of Illicit Discharges and Connections – Public Hotline	The proposed DAMP includes very good countywide programs to facilitate public reporting of illicit discharges and connections. Additional specific detail is necessary at a jurisdictional level regarding the implementation of this requirement.
	F.5.h	5.1; 5.3.2; 5.3.7; 10.0	Facilitate Public Disposal of Used Oil and Toxic Materials	The DAMP adequately describes the programs implemented to facilitate the public disposal of used oil and toxic materials. These programs have been very successfully implemented by the Copermittees and should be continued.
	F.5.i	5.1; 5.4; 10.0	Limit Infiltration from Sanitary Sewer to MS4	Although the DAMP discusses the extensive inspection and clean out program proposed for the MS4 system, the DAMP does not adequately

				describe the measures undertaken by the Copermittees to limit infiltration from sanitary sewers to the MS4. For example, the DAMP proposes an annual inspection rate 80% of the MS4 system, but does not describe measures to be implemented that would provide for the thorough, preventative maintenance of the MS4. Moreover, the role of the Copermittees that own or operate both a sanitary sewer and a MS4 system is not adequately described in the DAMP.
Common Interest Areas and Homeowners Associations	F.6.a F.6.b	7.0; Appendix G	Each Copermittee develops and implements a plan to ensure that urban runoff originating within common interest areas meets the objectives of the Order. Each Copermittee describes in its Annual Report measures taken to ensure that urban runoff discharged from common interest areas into its MS4 meets the objectives of the Order.	The DAMP addresses new developments subject to ownership and management by common interest associations (DAMP section 7 and Appendix G), but does not provide adequate means for assuring that existing development in common interest areas are reducing pollutants to the MEP.
Public Participation Component	F.7	3.3.4	Each Copermittee incorporates a mechanism for public participation in the implementation of the Jurisdictional URMP.	The proposed DAMP encourages public participation in accordance with the NPDES Storm Water Permits, but does not specifically describe a mechanism for public participation in the implementation of the Jurisdictional Urban Runoff Management Program (or DAMP).
Assessment of Jurisdictional URMP Effectiveness Component	F.8.a F.8.b	Section 5.0 (ROWD); 3.1; 3.2; 3.3.1; 3.3.2; 3.4;	Each Copermittee develops a long-term strategy to assess the effectiveness of its Jurisdictional URMP. Strategy shall include direct and indirect measurements.	Although the DAMP relies on a BMP-based approach to reducing pollutants in storm water discharges to the maximum extent practicable, an assessment of BMP effectiveness (DAMP section 3.3) at the jurisdictional level is not effectively attainable under the current monitoring program (see comments for F.3 above).

		<p>3.5</p>	<p>Strategy shall consider the role of monitoring data in substantiating or refining the assessment.</p> <p>Each Copermittee shall include an assessment of the effectiveness of the Jurisdictional URMP in its Annual Report as described above.</p>	<p>Section 5.0 of the Report of Waste Discharge and section 3.3.2 of DAMP lacks specificity with regard to the assessment of the effectiveness of all of the general programs or individual BMP implemented to reduce pollutant loading to the MS4 and receiving waters. These sections, rather, discusses why the Copermittees feel they are unable to evaluate BMPs and a list of studies that have or will be performed, mostly by non-Copermittees. Section 3.3.2 refers to a number of programs that are currently contributing to the assessment of individual project BMP performance, but does not list, refer to, or describe these programs.</p> <p>Where the DAMP commits to the assessment BMP effectiveness, the DAMP fails to provide sufficient information regarding how the assessments will be performed, what the time lines for the assessments will be followed, and how the implementation of the DAMP will incorporate the data collected from the assessments.</p> <p>Section 3.3.3 of the DAMP states that the DAMP will be revised and submitted as the proposed plan for each Report of Waste Discharge. Section 3.5 includes as a new commitment the assessment and evaluation of data from site-specific BMPs in order to determine effectiveness of the BMP implementation. It is not clear from section 3.3.3 that the DAMP will be revised and updated as data from the assessments of program and BMP implementation is made available. The DAMP proposes to be a dynamic document subject to revision and improvement on</p>
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				<p>an annual basis, but review of previously submitted DAMPs does not indicate that this has in practice been accomplished. The 1993 DAMP and the 2001 DAMP are very similar in structure and content. Section 3.3.2 states that the BMPs implemented under the previous permits will be largely continued and indicates that in many instances, changes have been included to further improve the effectiveness over the Third Permit Term and to increase Copermittee commitment to their implementation. However, it is not clear in the subsequent sections of the DAMP where or how these changes have been made. Section 3.3.2 also includes two statements that make it appear unlikely that the DAMP will be significantly updated annually: "Assessing the cumulative effect of BMPs employed countywide on the water quality of receiving waters may take a number of years" and "it has not proven possible to characterize the effects of ...BMPs." Given the lack of specificity in these sections, and the apparent inability to assess the effectiveness of the BMPs implemented, the DAMP approaches to assessing program effectiveness as required in sections F.8 and J.2.h and J.2.i is considered inadequate.</p>
Fiscal Analysis Component	F.9	2.2.2; 2.2.5; 3.4; Appendix C; Appendix D	<p>Each Copermittee shall secure the resources necessary to meet the requirements of the Order</p> <p>Each Copermittee shall develop a strategy to conduct a fiscal analysis of its Jurisdictional URMP in its entirety.</p>	<p>Federal NPDES regulations require the Copermittees to estimate the funds required to carry out the capital and operations and maintenance activities of their programs and to provide a description of the source(s) of funds to be used. The DAMP calls for the Copermittees to report each year on their non-shared expenditures for the previous fiscal year, the budget for the current fiscal year and a description of the source of funds. In addition, shared costs fund activities performed by the County of Orange as Principal</p>

			<p>Each Copermittee shall conduct an annual fiscal analysis as part of its Jurisdictional URMP Annual Report.</p> <p>The fiscal analysis shall evaluate the expenditures necessary to accomplish the activities of the Jurisdictional URMP.</p> <p>The fiscal analysis shall include a description of the source(s) of funds that are proposed to meet the necessary expenditures including legal restrictions on the use of such funds.</p>	<p>Permittee on behalf of the Copermittees. In general this fiscal analysis approach satisfies the requirements of the Order.</p> <p>In the 2000 NPDES Annual Report, however, where 8 cities and the County of Orange provide fiscal analyses in a table format corresponding to DAMP section commitments, we are concerned about the following trends. "Drainage facility maintenance" is the only element projected for funding by every Copermittee. Four cities (50%) and the County project no funds for "public property and street chemical spill response." Six cities (75%) and the county project no spending on "environmental performance," which is an evaluation of municipal facilities. Four cities (50%) and the County project no spending on "nonpoint source pollution awareness" and six cities (75%) and the County project no spending on "household hazardous waste collection." Four cities (50%) and the County project no spending on "requiring new development BMPs (supportive of planning, etc.)," and "requiring construction BMPs (supportive of plan check and inspection)." In addition, three cities (38%) project no spending on "facility inspection," although this may presumably be attributed to some cities delegating inspection to the Principal Permittee. Yet, seven cities (88%) and the County project no spending on "other efforts to identify and eliminate illicit connections."</p> <p>Taken together, these spending projections imply that either the reporting system should be modified or there is a systemic lack of commitment to addressing DAMP elements at the jurisdictional level.</p>
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<p>Implementation of Jurisdictional URMP</p>	<p>G</p>		<p>Each Copermittee shall have completed full implementation of the requirements of the Jurisdictional URMP no later than 365 days following adoption of the Order.</p> <p>Full implementation does not include the implementation of the model SUSMP. Within 180 days of the development of the model SUSMP, each Copermittee shall adopt its own local SUSMP and amended ordinances consistent with the model SUSMP.</p> <p>Within 180 days of the development of the model SUSMP, each Copermittee shall submit its local SUSMP and amended ordinances consistent with the model SUSMP.</p> <p>Following the adoption of the Order and prior to the implementation of the Jurisdictional URMP, each Copermittee shall at a minimum implement the provisions and commitments of the proposed DAMP.</p>	<p>The DAMP does not adequately address the requirements of section G as described in the preceding section (F) of the Order.</p>
<p>Submittal of Jurisdictional URMP Document</p>	<p>H</p>	<p>Not Addressed</p>	<p>Each Copermittee shall submit to the Principal Permittee(s) an individual Jurisdictional URMP</p>	<p>The DAMP does not adequately address the requirements of section H of the Order since it is specific to the requirements of sections F and G of</p>

			<p>Document.</p> <p>The Jurisdictional URMP Document shall contain a written account of the overall program to be conducted by the Copermittee within its jurisdiction.</p>	<p>the Order. See discussion of these sections above.</p>
<p>Submittal of Jurisdictional URMP Annual Report</p>	I	Not Addressed	<p>Requirements for the submittal of each Copermittee's Jurisdictional URMP Report.</p>	<p>The DAMP does not adequately address the requirements of section I of the Order since it is specific to the requirements of sections F, G, and H of the Order. See discussion of these sections above.</p>
<p>Watershed Urban Runoff Management Program (Watershed URMP)</p>	J.1	1.3; 3.3.1; 11.4	<p>Copermittees collaborate to review and revise as necessary the proposed DAMP to identify, address, and mitigate the highest priority water quality issues/pollutants in the six hydrologic units in the San Juan Creek Watershed Management Area.</p>	<p>The DAMP indicates that water quality problems have been and will be identified and prioritized. However, the water quality planning initiatives referred to in section 1.3 and described in sections 3.3.1 and 11.4 consist primarily of monitoring activities Section 11.4 describes water quality planning initiatives underway in Orange County, only one of which is located in the San Juan Creek Watershed Management Area. The DAMP does not adequately address the other five hydrologic units. Moreover, most of the section discussing the Aliso Creek watershed focuses on the 205(j) grant study and the SDRWQCB directives for increased monitoring in the Aliso Creek watershed. The activities or plans of the Copermittees to identify and eliminate sources of the elevated bacteria levels and toxicity identified in the Aliso Creek watershed are not addressed. None of the new commitments in 11.5 address the requirement to identify and eliminate sources and to implement BMPs to reduce pollutants in the discharges.</p>
<p>Watershed Urban Runoff</p>	J.2	1.3;	<p>Copermittees collaborate to</p>	<p>The DAMP does not specifically address the</p>

Management Program (Watershed URMP)		3.3.1; 11.4	develop and implement a Watershed Urban Runoff Management program for the six hydrologic units of the San Juan Creek Watershed Management Area.	requirement to collaborate to develop and implement a Watershed URMP or equivalent for each of the six hydrologic units of the San Juan Creek Watershed Management Area within Orange County. See also the discussion above for section J.1.
Watershed Urban Runoff Management Program (Watershed URMP)	J.2.a	1.3; 3.3.1; 11.4	Prepare an accurate map of the watersheds in the San Juan Creek Watershed Management Area that identifies all receiving waters, all 303(d) listed water bodies, existing and planned land uses, MS4s, major highways, jurisdictional boundaries, and inventoried commercial, construction, industrial, municipal sites, and residential areas.	Although the Copermittees have prepared maps of the Aliso Creek watershed in response to directives from the SDRWQCB, the preparation of these maps as described in section J.2.a is not addressed in the DAMP.
Watershed Urban Runoff Management Program (Watershed URMP)	J.2.b	3.3.1; 3.3.2; 10.0; 11.0; 11.4; Appendix K	An assessment of water quality of all receiving waters in the watershed based on existing water quality data, annual dry weather monitoring, and watershed receiving water quality monitoring.	It is not apparent that the water quality monitoring program discussed in the DAMP and Appendix K will adequately assess water quality of all receiving waters in the San Juan Creek Watershed Management Area. The DAMP and monitoring programs should be updated to comply with this requirement of the Order.
Watershed Urban Runoff Management Program (Watershed URMP)	J.2.c	3.3.1; 3.3.2; 10.0; 11.0; 11.3.3 11.4; Appendix K	Identify and prioritize major water quality problems caused or contributed to by MS4 discharges and the likely source(s) of the problem(s).	This requirement is not adequately addressed in the DAMP or Appendix K. The DAMP states that one purpose of the monitoring is to determine the role "if any" that storm water discharges in the impairment of beneficial uses. However, it is not clear that the monitoring plan described in Appendix K and the DAMP is adequate in scope to address this question in the San Juan Creek Watershed Management Area. See the

<p>Watershed Urban Runoff Management Program (Watershed URMP)</p>	<p>J.2.d</p>		<p>Implementation time schedule for short and long term recommended activities (individual and collective) needed to address the highest priority water quality problems identified above.</p>	<p>discussion for section P below.</p> <p>The DAMP does not include an implementation time schedule for short or long term recommended activities (individual or collective) needed to address the highest water quality problems in the San Juan Creek Watershed Management Area.</p> <p>It should be noted here that many of the new commitments proposed in the DAMP are activities that were logically required under both the First Term and Second Term Permits (e.g. attendance at workshops, training seminars, and Copermittee TAC meetings) rather than implementation of specific BMPs to address either watershed level or jurisdictional level water quality impacts from MS4 discharges.</p>
<p>Watershed Urban Runoff Management Program (Watershed URMP)</p>	<p>J.2.e</p>		<p>Mechanism for public participation</p>	<p>The proposed DAMP encourages public participation in accordance with the NPDES Storm Water Permits, but does not specifically describe a mechanism for public participation in the implementation of the Watershed Urban Runoff Management Program (or the DAMP water quality planning initiatives such as the one on Aliso Creek).</p>
<p>Watershed Urban Runoff Management Program (Watershed URMP)</p>	<p>J.2.f</p>		<p>Watershed based education program that builds on and expands upon the education activities conducted by each Copermittee.</p>	<p>The proposed DAMP continues a strong commitment to public education shown by the Copermittees during the first two Permit periods. Two notable new commitments are the formation of a public education committee and the implementation of the Public and Business Education Strategy. The Copermittees should review the various educational programs to ensure that they satisfy all the requirements of the Order, especially with respect to the target audiences and contents of the Educational Component at both a jurisdictional as well as a</p>

				watershed level. The DAMP correctly emphasizes “effective” education programs, but does not provide more specific information regarding the criteria for effective educational programs.
Watershed Urban Runoff Management Program (Watershed URMP)	J.2.g	Not Addressed	A Mechanism to facilitate collaborative watershed-based land use planning with neighboring governments in the watershed.	The DAMP does not address this requirement of the Order.
Watershed Urban Runoff Management Program (Watershed URMP)	J.2.h	Not Addressed	Short-term strategy for assessing the effectiveness of the activities and programs implemented under the Watershed URMP. The short-term assessment strategy shall identify methods to assess Watershed URMP effectiveness and include specific direct and indirect performance measures that will track the immediate progress and accomplishments of the Watershed URMP towards improving water quality impacted by urban runoff discharges. The short-term strategy shall address the use of monitoring data collected by the Copermittees in substantiating and refining the assessment.	The DAMP does not address this requirement of the Order. As discussed above, the DAMP fails in most sections to adequately describe a detailed strategy for assessing program effectiveness on either a jurisdictional or watershed level.
Watershed Urban Runoff Management Program (Watershed URMP)	J.2.i		Long- term strategy for assessing the effectiveness of the activities and programs	The DAMP does not address this requirement of the Order. As discussed above, the DAMP fails in most sections to adequately describe a detailed

			implemented under the Watershed URMP. The long-term assessment strategy shall identify include specific direct and indirect performance measures that will track the long-term progress of the Watershed URMP towards improving water quality impacted by urban runoff discharges. The measures shall include surveys, pollutant loading estimations, and receiving water quality monitoring (or their equivalents). The long-term strategy shall address the use of monitoring data collected by the Copermitttees in substantiating and refining the assessment.	strategy for assessing program effectiveness on either a jurisdictional or watershed level.
Implementation of Watershed URMP	K	Not Addressed	Requirements for the implementation of the requirements of the Watershed URMP for the San Juan Creek Watershed Management Area.	The DAMP does not adequately address the requirements of section G as described in the preceding section (J) of the Order.
Submittal of Watershed URMP Document	L	Not Addressed	Requirements for the submittal of the Watershed URMP Document for the San Juan Creek Watershed Management Area.	The DAMP does not adequately address the requirements of section L of the Order since it is specific to the requirements of sections J and K of the Order. See discussion of these sections above.
Submittal of Watershed URMP Annual Report	M	Not Addressed	Requirements for the submittal of the Watershed URMP Annual Report for the San Juan Creek Watershed Management Area.	The DAMP does not adequately address the requirements of section L of the Order since it is specific to the requirements of sections J, K, and L of the Order. See discussion of these sections above.

Program Management	N	2.0; Appendix C; Appendix D	The Copermittees shall implement the Program Management activities and commitments as described in section 2 (Program Management) of the proposed DAMP.	The DAMP contains adequate information and commitments by the Copermittees with regard to program management. See also the discussion below regarding the Principal Permittee Responsibilities.
Principal Permittee Responsibilities	O	2.0; Appendix C;	Description of the designation of the Principal Permittee by the Copermittees and the responsibilities of the Principal Permittee.	The DAMP adequately describes the Principal Permittee Responsibilities, but does address the provision in the Order for the selection of more than one Principal Permittee.
Receiving Waters Monitoring and Reporting Program	P	10.0; 11.0; Appendix K	The Copermittees shall comply with the Receiving Water Monitoring and Reporting Program for Order No. R9-2002-0001 (Attachment B).	<p>The monitoring program described in the DAMP is not adequate to assess compliance with the Order. Section 11.0 of the DAMP describes the objectives of previous monitoring efforts and indicates that the results of the monitoring will be used to “provide technical information to support effective stormwater management program activities...”but does not sufficiently describe what technical information is being collected in the monitoring program or how that information will be used. Other sections of the DAMP where this information might be employed are also vague and non-committal. The DAMP should include specific detail in this regard, especially with respect to identifiable performance standards and time lines for implementation.</p> <p>Two of the four “new commitments,” in which the Copermittees propose to review and revise elements of the water quality monitoring program, are activities that should have been implemented and continue to be implemented as a matter of course. They do not represent significant new commitments.</p>

				<p>The new commitments to participate in the Southern California Bight Regional Monitoring Programs and Southern California Stormwater Monitoring/Research Cooperative Program are supportive of section B. 2.b.5 of Attachment B of the Order. The DAMP, however, should identify how role the Copermittees will specifically participate in these activities and what the anticipated products or results will be.</p> <p>Notably absent in section 11 as a whole, and sections 11.2 and 11.3 in particular, is the assessment of compliance objective of the monitoring program. Since the Second Term Permit monitoring program will carry over into the Third Term, it is necessary that the monitoring also be designed to assess compliance with the Order. This is a critical component of an NPDES and WDR Monitoring and Reporting Program and should be addressed in the DAMP and Appendix K.</p> <p>As discussed in section F.5, only three warm spots and three reconnaissance sites will be monitored under the program. The main effort of the monitoring program described in section 11 and Appendix K is focused in northern Orange County. Significant areas of the San Juan Creek Watershed Management Area covered under the Order are not adequately addressed in the Orange County Water Quality Monitoring Program as it is now described. Also, the monitoring to be performed will not adequately assess the biological, physical and chemical impacts to the receiving waters resulting from the discharge of urban runoff. In particular, coastal storm drain outfall monitoring, ambient coastal receiving</p>
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				<p>waters (apart from Dana Harbor) monitoring, and urban stream bioassessment are not adequately addressed in the DAMP and Appendix K.</p> <p>The DAMP and Appendix K should be updated to satisfy the requirements of section P and Attachment B of the Order.</p>
Task and Submittal Summary	Q	Not Addressed	Tables of Tasks and Submittals required specifically under Order No. R9-2002-0001.	The DAMP does not adequately specify the tasks and deliverables apart from the Annual Reports, next Report of Waste Discharge and submittal of the proposed DAMP at the end of the Third Term Permit cycle. Also, the DAMP does not adequately address reporting of events of non-compliance.
Standard Provisions, Reporting Requirements and Notifications	R	Not Addressed	Requirement for each Copermittee to comply with Standard Provisions, Reporting Requirements, and Notifications contained in Attachment C of the Order.	The DAMP does not adequately address all of the Standard Provisions and Reporting Requirements and Notifications. In particular, the DAMP fails to address the reporting of events of non-compliance. Also, it is not clear that the DAMP meets the requirements in section R.2 that all plans reports, and subsequent amendments submitted in compliance with the Order will be implemented immediately unless otherwise specified and that they will be an enforceable part of the Order upon submission to the SDRWQCB.
Attachment A – Basin Plan Prohibitions		Not Addressed		The DAMP does not adequately address implementation of the Basin Plan Prohibitions under the Third Term Permit as required in the Order.
Attachment B – Receiving Waters Monitoring and Reporting Program for Order No. R9- 2002-0001		10.0; 11.0; Appendix K		See discussion in section P above.
Attachment C – Standard Provisions, Reporting Requirements, and Notifications		Not Addressed		Not specifically addressed by the DAMP.

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Attachment D – Glossary		Glossary (pp. vi-ix)		The DAMP includes a glossary, but it does not define all of the terms contained in Attachment D of the Order.
Attachment E – Dry Weather Analytical and Field Screening Monitoring Specifications – Urban Runoff		10.0; Appendix K		See discussion in section F.5 above.

ATTACHMENT 6 - RESPONSE TO COMMENTS

(Please note, Tentative Order No. 2001-93 was renumbered to Order No. R9-2002-0001)

GENERAL COMMENTS.....	1
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GENERAL COMMENTS

Comment: California Coastal Commission appreciates the opportunity to comment on a subject that has long been of high priority to the Coastal Commission: contaminated storm water runoff and its prevention. We applaud your vision and leadership and strongly support the Waste Discharge Requirements. The Coastal Commission enthusiastically supports your work on the Waste Discharge Requirements, for they are an important step towards attaining the goal of healthy, clean watersheds and beaches. The Coastal Commission staff looks forward to our continued partnership with you on these issues, as we recognize that only through collaboration can we protect water quality to the greatest extent. *(California Coastal Commission)*

Response: Comment noted.

Comment: In the draft Technical Report it states that the permit is very prescriptive which helps with repeated requests from the Permittees about what they should be doing in order to comply. If this is the case, why does the permit not include the 69, measurable proactive performance commitments that the Permittees proposed in the 2000 DAMP? *(County of Orange)*

Response: Tentative Order is more prescriptive than Order 96-03 in that it clearly identifies the nature of actions that the copermitttees must implement to address urban runoff from their jurisdictions. The performance measures proposed in the 2000 DAMP, where applicable, can be included in the JURMP and WURMP.

Comment: Bob Morris indicated that the proposed draft permit is very similar to the 1996 permit. One only has to read each permit to see that the 1996 and 2001 permits are totally different. If the Regional Board wanted to keep the permits similar, couldn't the suggested changes be worked out with the permittees in revising the DAMP? *(County of Orange)*

Response: The Tentative Order is similar to the 1996 permit in that both are based on applicable Federal and State law. The Tentative Order does, however, require more specific items to be addressed in each municipality's urban runoff management plan. This is intentional because the municipal management programs revised per each renewal of the 5-year NPDES permit need to be strengthened. Recognizing the effort put forth in the development of the revised DAMP to address countywide issues, the Tentative Order does not prohibit each copermitttee from using the DAMP as a starting point from which to develop jurisdictional plans.

Comment: Response (to first comment, page 2 of Draft Response to Workshop 1) references a "review of technical and economic data that has determined what is broadly feasible." Will this review be provided to the Copermittees so we understand the basis of your assumptions? (*Laguna Niguel*)

Response: The Tentative Order represents the SDRWQCB's framework for MEP. The response to the comment cited above referred to the 10 years work reviewing reports, plans, monitoring data, and other information submitted by municipal storm water Copermittees throughout the San Diego Region. Additionally, a number of references, most of which are cited in the Fact Sheet/Technical Report, also provided information that was incorporated in the Tentative Order. These resources are available to the Copermittees and the public.

Comment: The Cities congratulate the Board Staff for a thorough and very detailed draft, one which attempts to clarify arcane points as well as spell out fundamental requirements in coming to grips with the most important issue of protection of the quality of the waters into which storm water and urban runoff flow. (*Lake Forest & Laguna Woods*)

Response: Comment noted.

Comment: Concerned about County Planning Commission in current Ladera runoff and proposals to add 25,000 new homes east of M.V. What mitigation is planned? (*Mission Viejo*)

Response: Comment noted. The Tentative Order would require new developments of the size mentioned in the comment to comply with SUSMP (Section F.1.b.(2)) criteria to mitigate the impacts of storm water on receiving waters.

Comment: Effluent-dependent (urban runoff) ephemeral streams (e.g. Aliso Creek) are being proposed as potential re-claimed water harvests. Who owns and who may treat and sell these discharges? (*Richard Gardner*)

Response: Aliso Creek meets the definition of both Waters of the State and Waters of the United States. As such, the water in Aliso Creek may be allocated for use by the SWRCB. A water right is a legal entitlement authorizing water to be diverted from a specified source and put to beneficial, nonwasteful use. Water rights are property rights, but their holders do not own the water itself, they possess the right to use it. The exercise of some water rights requires a permit or license from the State Water Resources Control Board, whose objective is to ensure that the State's waters are put to the best possible use and that the public interest is served. In making decisions, the Board must keep three major goals in mind: 1) developing water resources in an orderly manner; 2) preventing waste and unreasonable use of water; and 3) protecting the environment. Water right permits and licenses contain conditions for the use of the water. Water right permits carefully spell out the amounts, conditions, and construction timetables for the proposed water project. Before the Board issues a permit, it must take into account all prior rights and the availability of water in the basin. The Board considers, too, the flows needed to preserve instream uses such as recreation and fish and wildlife habitat. Records of water appropriation and use statewide are maintained by the State Board's Division of Water Rights.

Comment: "Fishable/Swimmable" is Rec-1, so why is there a Rec-2 standard that allows confusion via basin plans? Does Fed EPA recognize Rec-2? (*South Orange County Watershed Conservancy*)

Response: The REC-2 beneficial use includes the uses of water for recreational activities involving proximity to water, but not normally involving body contact with water, where ingestion of water is reasonably possible. The beneficial uses of waterbodies in the San Diego Region are designated by the SDRWQCB and are consistent with USEPA beneficial use categories. The USEPA includes a "secondary" water recreation beneficial use in addition to fishable and swimmable beneficial uses.

Comment: The RWQCB should state that they will provide assistance and support on issues that may arise between Copermittees when addressing jurisdictional issues (shared MS4's -what is coming in to one jurisdiction's MS4 from another's). (*Surfrider Foundation*)

Response: The Principal Permittee is identified in the Tentative Order as the liason(s) between the Copermittees and the SDRWQCB on general permit issues as well as the coordinator of permit activities among the Copermittees. Working with the Principal Permittee, the SDRWQCB will provide such assistance and support as appropriate on issues that may arise between Copermittees when addressing interjurisdictional issues related to the implementation and enforcement of the TentativeOrder.

Comment: We urge the State Board to fully fund and assist in the enforcement and implementation of this order. As you know, in Orange County alone last year there were 881 beach closings. We believe that this permit will help minimize pollution and urban runoff, which is directly impacting water quality along the Orange County coast. (*Surfrider Foundation*)

Response: Comment noted.

Comment: The Surfrider Foundation strongly supports the San Diego Regional Water Quality Control Boards draft Orange County Stormwater Permit which implements urban runoff and pollution control measures, as well as monitoring and assessment throughout southern Orange County.

We believe that this permit details appropriate actions that need to be taken by Copermittees, requiring them to develop and implement Urban Runoff Management Plans (URMP's) to reduce discharges of pollutants to the Maximum Extent Practicable through implementation of Best Management Practices for new development and redevelopment, construction activities, existing development (municipal, industrial, commercial and residential), discharge detection and elimination, and assessment of the effectiveness of the URMP. We also support the requirements for public education and participations part of the URMP development process.

While we are aware that many of the cities and other entities involved with this permit may cite budget constraints as reasons to delay or reduce the scope of the required programs, we believe that full implementation of this order should proceed according to the schedule proposed by the RWQCB.

The RWQCB has developed the framework for a comprehensive urban runoff control program that we believe is crucial to the environmental health of Orange County's beaches and the ocean. (*Surfrider Foundation*)

Response: Comment noted.

Comment: The costs to the Copermittees and the public to implement the requirements of the Tentative Order may be prohibitive.

Economic Considerations:

The proposed permit and the "Economic Issues" section in the draft Fact Sheet do not include any discussion of the costs to Copermitees to comply with the draft Order does not address the economic impacts that the Order would have on the City and the other Copermitees. Instead, the Technical Report focuses on the potential economic impacts to the Permittees of polluted beaches and other waters. These are economic costs of the status quo, not the economic costs of the Tentative Order. To the extent the Technical Report does discuss potential costs of the Tentative Order, it is only with respect to potential costs to developers to comply with the new development requirements of the Tentative Order. Water Code section 13241 only authorizes the Regional Board to require water quality "conditions that could reasonably be achieved through the coordinated control of all factors which affect water quality in the area." Without an adequate analysis of the costs of the proposed permit, the Regional Board cannot fulfill its obligation to take "economic considerations" into account when making its case-by-case determination of appropriate permit requirements meeting the maximum extent practicable standard and in issuing waste discharge requirements pursuant to state law. Therefore, the proposed permit fails to comply with Section 13241(d) of the Water Code and the Clean Water Act.

The Regional Board has both a legal and moral duty to consider the adverse impacts of its actions, together with the beneficial impacts, prior to acting. Water Code Section 13000 requires that: "...activities and factors which may affect the quality of the waters of the state shall be regulated to attain the highest water quality which is reasonable, considering all demands being made, and to be made on those waters and the total values involved, beneficial and detrimental, economic and social, tangible and intangible." This section generally has been interpreted to mean that, in the course of regulating water quality, Regional Boards must consider and balance various public interest factors and regulate in a reasonable manner consistent with the interests of the people of the State. This directive of the State Legislature should serve to guide all of the regulatory activities of the Regional Board, including the issuance of waste discharge requirements. Water Code Section 13263(a) requires the Regional Boards to address the factors specified in Section 13241 prior to adopting waste discharge requirements. Among other factors, Water Code Section 13241 requires the Regional Board to consider economic considerations prior to adopting water quality objectives that ensure the reasonable protection of beneficial uses:

Generally an assessment of "economic considerations" as required by the Water Code means an assessment and comparison of costs and benefits. See Economic Considerations Task Force Report to the State Board Regarding Development of the Inland Surface Waters Plan and the Enclosed Bays and Estuaries Plan, October 1995. The State Board's Chief Counsel has expressed the opinion that, when considering economics, the Regional Boards should not simply rely on economic information supplied by the regulated community. Rather the Regional Boards should independently assess economics. See January 4, 1994 Memorandum from William R. Attwater, Chief Counsel, State Water Resources Control Board, to Regional Water Board Executive Officers and Regional Water Board Attorneys entitled: "Guidance on Consideration of Economics in the Adoption of Water Quality Objectives."

MEP Standard:

Under Section 402(p)(3) of the CWA, permits for MS4s must require controls to reduce the discharge of pollutants to the maximum extent practicable. 33 U.S.C. § 1342(p)(3). EPA has not developed effluent guidelines for this MEP standard, and both EPA and the State Board have determined to use BMPs to implement the MEP standard in MS4 permits. In the absence of effluent guidelines, Section 402(a) requires a case-by-case determination of what is practicable, taking into account technical feasibility, cost and affordability.² Accordingly, the State Board has acknowledged that the MEP standard requires the rejection of BMPs when they are not technically feasible or the "cost would be

prohibitive.” See State Board Order WQ 2000- 11 at 20. Similarly, Section 13263(a) of the Water Code requires the Regional Board to consider all of the factors enumerated in Section 13241 when issuing a MS4 permit. The Technical Report does not indicate that any of the required factors have been adequately considered.

“MEP” means to the maximum extent practicable, taking into account considerations of synergistic, additive, and competing factors, including but not limited to, gravity of the problem, technical feasibility, fiscal feasibility, public health risks, societal concerns, and social benefits. See Regional Board Order No. 96-03 (current permit), p. 2, fn. 1; Santa Ana Regional Board Order No. 01-20 (Interim Draft, June 15, 2001), p. 7, fn. 7; Los Angeles Regional Board Order No. 01-XXX (Second Draft, June 29, 2001), Part 5, Definitions, p. 50. See also State Board Office of Chief Counsel, Memorandum dated February 11, 1999, interpreting MEP to include technical feasibility, cost, and benefit.

Cost Estimates and Analyses:

The County of Orange (County) is providing the following analysis of the potential costs and impacts of Tentative Order No. 2001-193 (Tentative Order) for consideration by the San Diego Regional Water Quality Control Board (Regional Board or RWQCB). The analysis addresses: (1) the costs that the citizens and businesses of the County may be required to incur as a result of the Tentative Order; (2) the adverse environmental impacts which may result from adoption of the Tentative Order; (3) the legal exposure which the County and the cities may face if the Tentative Order were to be adopted as proposed; and (4) the potential secondary impacts of the increased costs on the County’s economy and citizens.

The purpose of this analysis is to demonstrate that adoption of the Tentative Order could result in significant costs and adverse impacts, which the Regional Board needs to consider, together with the beneficial impacts, prior to acting on the Tentative Order. The analysis is not intended to be exhaustive or complete, but rather indicative of the costs and impacts that could occur if the Tentative Order were to be adopted. The County believes that, on the basis of this analysis, the Regional Board should conduct its own independent analysis of costs and impacts, beneficial and detrimental, weigh the costs and relative impacts, and modify the Tentative Order accordingly. The impact analysis addresses only the most significant of the new requirements proposed in the Tentative Order, including the following requirements:

1. The requirements to immediately comply with water quality standards, as contained in Prohibition A.2, Receiving Water Limitation C.1, and numerous references in Jurisdictional Urban Runoff Management Plan Section F.
2. The replacement of the current Drainage Area Management Plan (DAMP), with the prescriptive Jurisdictional Urban Runoff Management Program (JURMP), as contained in Section F.

The Impact Analysis is organized as follows. First, there are summaries of the overall costs and impacts of the Tentative Order. Second, there is a discussion of the duty of the Regional Board to consider such costs and impacts prior to adoption of the Tentative Order. Finally, there is a detailed analysis of the costs and impacts of the two major new requirements of concern listed above.

The draft permit imposes several requirements resulting in excessive financial burdens for both program and management costs on municipalities. Under the current NPDES permit, the County and cities are required to implement the DAMP, which was approved by the Regional Board in 1996. For fiscal year 2002-2003, the County estimates that implementation of the DAMP will require an annual expenditure of \$4 million per year. For the same fiscal year, the County estimates that performance of the new tasks necessary under the prescriptive program would require an additional \$14 million per

year to administer. This includes many new full time equivalent employees and additional outside consultant costs that would increase annual implementation costs incurred by the County and the cities under the DAMP by 100%.

Compliance with the Tentative Order would require the County and the cities to incur the following costs:

- It would require construction of a massive system to collect and treat urban runoff, estimated to cost on the order of \$1.4 billion.
- It would require the County and the cities to add many new full time equivalent employees and increase use of outside consultants to administer the program, at an additional cost of \$14 million per year.

Increased Costs to Local Residents and Businesses

In order to finance the construction and operation of the urban runoff treatment system and the increased administrative costs, it would be necessary to increase residential and business costs:

- Residential costs for urban drainage service would have to be increased by approximately \$65 per month (\$59 per month for the urban runoff treatment system and \$6 per month for increased administrative costs).
- The average business costs for urban drainage would have to be increased by approximately \$208 per month (\$190 per month for the urban runoff treatment system and \$18 per month for increased administrative costs).

Adverse Secondary Impacts of Additional Costs

The imposition of additional costs on the citizens and business within the area covered by the Tentative Order could also have a number of adverse secondary impacts. For example, it could adversely impact employment, new development, and the economy of the area. It could also adversely impact public health in lower income families by causing them to divert discretionary income from health care to urban drainage.

Weighing of Beneficial and Adverse Impacts

Although the Tentative Order would result in a number of beneficial impacts, it would also result in a number of adverse impacts. A weighing of the beneficial and adverse impacts leads to the unavoidable conclusion that adoption of the Tentative Order would result in more harm than good. This should cause the RWQCB to amend the Tentative Order prior to adoption to remove the problematic requirements and replace them with requirements that are based on a balancing of public interest factors and which result in more good than harm. The most significant costs and adverse impacts are attributable to the requirement to immediately comply with water quality standards, but significant impacts also result from the requirement to implement a prescriptive management program. The costs and impacts associated with each of these requirements are discussed later in this analysis.

As previously stated, the Tentative Order requires that discharges from the MS4s immediately comply with water quality standards. The County's analysis of the costs and impacts of this requirement is presented below.

Costs of Requirement to Achieve Water Quality Standards Required Treatment Controls

The County and cities currently implement best management practices (BMPs) in accordance with the Regional Board-approved Drainage Area Management Plan (DAMP), as required by the current NPDES permit. With respect to attainment of water quality standards, Section C of the current permit establishes an iterative process for investigating and addressing exceedances of water quality

standards, with the intent that continued refinement of BMPs will eventually lead to compliance with standards. However, if BMPs ultimately prove insufficient to achieve current water quality objectives, federal and State policies provide for the development of alternative water quality objectives that provide reasonable protection of beneficial uses based on local site-specific conditions. Such policies exist because most of the current water quality objectives are based on US EPA national water quality criteria, or a one-size fits all approach, rather than on local water quality uses and conditions. US EPA acknowledges that the national criteria may not be appropriate in all situations.¹ In this regard, it should be noted that many of the inland surface waters within the area are not naturally perennial streams and, but for the discharge of urban runoff, would not contain flow through most of the year. It would be reasonable, therefore, to apply less stringent standards to these streams than natural perennial streams, just as the State Board is presently considering in drafting its "Effluent Dependent Waters" Policy. The Receiving Water language that the State Board adopted in Order No. 99-05 and which was subsequently incorporated into Section C of our current NPDES permit allows consideration of alternative site-specific objectives prior to the requirement of controls that go beyond practicable BMPs. That is one reason the County is willing to accept similar language in the new permit, even though the Ninth Circuit Court of Appeals has clarified that the Clean Water Act does not require that discharges from MS4s strictly comply with water quality standards. The Tentative Order, however, does not comport with Order No. 99-05, and in Prohibition A.2 requires that all urban runoff discharges immediately comply with all water quality standards, irrespective of whether they are achievable with practicable BMPs and irrespective of whether they are appropriate for the types of streams in the area covered by the Tentative Order.

Based on current evidence, the County has to assume that current standards for certain constituents, including but not limited to fecal coliform bacteria, copper, lead, zinc, and nickel, are not going to be achievable through practicable BMPs. For example, the applicable objectives for copper, lead, and other metals are based on US EPA-recommended national water quality criteria for protection of aquatic life developed from laboratory studies. US EPA acknowledges that its metals criteria may be overly conservative in natural waters and has developed processes to adjust the criteria on a site-specific basis. Based on site-specific studies performed in other streams similar to those in the area, it is reasonable to expect that the site-specific copper objective that would be protective of water in local streams would be three to ten times the currently applicable objective.

Thus, pursuant to the Tentative Order, additional controls beyond BMPs would have to be implemented to achieve strict compliance with water quality standards. In the County's judgment, strict compliance with water quality standards would necessitate implementation of structural controls to treat all urban runoff discharges prior to discharge to any local stream or water body. The exact level of treatment necessary to assure compliance with these standards cannot be determined with any degree of certainty. Chemical coagulation, sedimentation, filtration, and disinfection (processes similar to those employed in a conventional water treatment plant) would likely be necessary. Advanced treatment processes, such as carbon treatment or membrane filtration, may also be necessary. In order to ascertain the exact treatment controls needed for compliance with water quality standards, it would be necessary to gather more information and conduct pilot studies. This was not possible within the time frame allowed for commenting on the Tentative Order. An important element of the urban runoff treatment system is a system to intercept the urban runoff before it reaches local streams and to convey it to one or more central locations for treatment. This element is required because it is infeasible to place treatment plants at every point where a storm drain discharges to streams. Moreover, because of the nature of storm events and runoff, it is necessary to provide equalizing storage prior to treatment in order to minimize the size of the treatment plant. Within this particular area, it would be most logical to construct interceptor lines along the length of each creek to convey the storm water to the coast. At a point at or near the coast, equalizing storage would be provided and the storm water could either be treated at individual, watershed treatment plants, or pumped to one or more central plants. Most likely the treated storm water would be discharged to the

ocean. The nature of the Orange County coastal area would present considerable challenges to siting storage facilities of the size necessary to trim storm water peaks and treatment plants. All in all, the system would be a massive, unprecedented undertaking. The County is unaware of any MS4 in the country that has collected and treated all its urban runoff to a level necessary to achieve water quality standards prior to discharge.

Irrespective of this, a prudent person would have to conclude that the only actions that could be taken to assure consistent compliance with current water quality standards, and therefore the proposed permit requirement, would be to collect and treat all urban runoff prior to discharge. The time required to plan, design, finance, and construct a system of this size and complexity would be between ten and twenty years. In the interim, before the system became operational, the County and cities would be in violation of this requirement and subject to enforcement action, fines, and other penalties.

Treatment Costs

The County has not had sufficient time to conduct the engineering studies necessary to determine the exact nature and cost of the collection, storage and treatment facilities that would be necessary to achieve strict compliance with water quality standards. Instead the County has relied for this purpose on a 1997 analysis performed by the County of Sacramento. That analysis assessed the controls and costs necessary to bring urban runoff from the Sacramento metropolitan area into compliance with water quality standards proposed and later adopted in the California Toxics Rule (CTR). The CTR standards are currently applicable to all inland surface waters and enclosed bays and estuaries in California, including such waters within Orange County. Since the Tentative Order requires the discharges from MS4s to comply with all applicable standards, including the CTR standards, it is reasonable to rely on the Sacramento analysis to estimate the costs necessary to bring discharges from local MS4s into compliance with water quality standards. Although the Sacramento County analysis only addressed compliance with CTR standards, a similar system of collection, storage and treatment, and therefore similar costs, would be necessary to achieve certain other applicable standards, including the current Basin Plan objectives for fecal coliform.

Sacramento did a thorough analysis of the reductions that may be achievable through aggressive implementation of BMPs, determined that such BMPs would be insufficient to achieve standards for a number of constituents, and then sized facilities to collect, store, and treat urban runoff from the metropolitan area prior to discharge to the Sacramento River. Based on this analysis (See Appendix B-1), Sacramento determined that it would cost the metropolitan area of approximately 1 million people on the order of \$2.54 billion (in 1997 dollars) to construct the facilities necessary to comply with water quality standards. The annual costs, including amortized capital costs at 7% over twenty years and annual operation and maintenance costs, were estimated to be \$258 million per year. Updating these costs to 2001 dollars, the capital costs would be \$2.9 billion and the total annual cost would be \$295 million per year.

The Orange County population within the San Diego Region is approximately 500,000 people. Therefore, on a strict proportional basis, one could assume that it would cost the County and cities subject to the Tentative Order on the order of \$1.4 billion to construct the necessary collection and treatment facilities and on the order of \$148 million per year to pay for the construction and the ongoing operation and maintenance costs. A comparison of the climatic characteristics of the Sacramento and Orange County areas suggests that this strict proportional-based estimate is reasonable. Sacramento's mean rainfall (16.7 inches per year) is comparable with the mean annual rainfall in the Orange County area covered by the Tentative Order (13.5 inches at the coast and 20.5 inches in the foothills). There are a number of factors, however, that suggest Orange County's costs under the Tentative Order could be greater than those calculated on a proportional basis. First, Sacramento based its estimates on a 2.33-year return storm, whereas to eliminate violations even for one permit term, Orange County would have to design for at least a five-year storm. Second,

Sacramento's estimate was based on placing storm water collection lines along the two major rivers through the metropolitan area, whereas Orange County would have to place collection lines along each of the urban streams, for what appears to be a total length greater than that which formed the basis of the Sacramento cost estimate. Finally, Sacramento had considerable, low-cost agricultural land available next to the Sacramento River upon which to site large equalizing storage ponds and treatment facilities. Orange County does not have large amounts of low-cost land available along the coast for this purpose. For the purpose of these comments, it is reasonable to apply Sacramento's estimated costs for compliance with water quality standards, updated to year 2001 costs, on a strict proportional basis to that portion of Orange County covered by the Tentative Order. (On that basis, as previously stated, it would cost the County and cities subject to the Tentative Order on the order of \$1.4 billion to construct the necessary collection and treatment facilities and on the order of \$148 million per year to fund the construction and the ongoing operation and maintenance costs.) Detailed engineering studies of collection and treatment facilities sizing and alternatives, and pilot studies, would be necessary to develop more accurate cost estimates. However, the above costs represent the best possible engineering estimate based on the available information.

Adverse Impacts of Requirement to Achieve Water Quality Standards Increased Costs to Local Residents and Businesses

Implementation of the necessary treatment controls would have a significant impact on urban drainage costs paid by the area's residents and businesses. Based on a total annual cost of \$148 million per year and 500,000 residents, and assuming that local residents would be responsible for 80% of the total annual cost and local businesses would be responsible for the remaining 20%, the average household would be required to pay an additional \$59 per month (based on a population of 500,000, 3.0 persons per household, and 80% of the costs spread among those households). Assuming that the remaining 20% of the treatment costs would be divided between 13,000 businesses, the average business would be required to pay an additional \$190 per month as a result of this requirement. The estimated number of businesses is based on allocating the number of private non-farm establishments in Orange County as determined in the 2000 Census (75,154), to the southern portion of the County in proportion to the respective populations (500,000 for the southern portion and 2,846,289 for the entire County).

Adverse Secondary Impacts of Compliance Costs

The increased residential and business fees necessary to construct and operate the urban runoff treatment system could have adverse secondary impacts, as discussed below. Adverse impacts on the local economy. The increased residential and business costs required to achieve strict compliance with water quality standards could have a potential adverse impact on employment, personal and discretionary income, new development, and the general economy of the area. An economic impact analysis performed by the State of Ohio estimated that significant adverse economic impacts would occur if per capita costs were raised by about \$91 per year. The State of Ohio estimated that imposing effluent limitations in municipal wastewater and industrial permits requiring reverse osmosis would have had economic impacts well beyond just the increase in rates needed to pay for the additional treatment. Based on an estimated annualized cost of \$1 billion per year, Ohio, with a population on the order of 11 million people, estimated that real output would have decreased in all sectors of the State's economy, approximately 47,000 jobs would have been lost, total personal income would have fallen by 0.8%, and real discretionary income would have been reduced by 1.2%. The area of Orange County impacted by the Tentative Order has a population of about 500,000 people, and this population is facing a per capita cost increase of about \$296 per year to collect and treat urban runoff (total annual cost of \$148 million per year divided by 500,000 people), or about three times the per capita costs assumed in the Ohio study. The County has not attempted to estimate the adverse economic impacts that would occur as a result of the requirement to achieve strict compliance with water quality standards.

However, it is reasonable to assume, based on the Ohio study, that there would be adverse economic impacts as a result of this requirement. The Regional Board needs to independently evaluate the potential for adverse economic impacts before acting on the Tentative Order.

Adverse Impacts of the Prescriptive Program.

Implementation of the prescriptive program would have a significant impact on urban drainage costs paid by the area's residents and businesses. Based on a total annual cost of \$14 million per year and 500,000 residents, and assuming that local residents would be responsible for 80% of the total annual cost and local businesses would be responsible for the remaining 20%, the average household would be required to pay an additional \$6 per month (based on a population of 500,000, 3.0 persons per household, and 80% of the costs spread among those households). Assuming that the remaining 20% of the increased drainage costs would be divided between 13,000 businesses, the average business would be required to pay an additional \$18 per month.

Based on estimates by cities under the San Diego permit, the City of Lake Forest's storm water budget during the second year of the permit could easily approach \$500,000. The City understands the need to reinforce our efforts with respect to storm water quality management; however, the proposed permit takes an alarmingly expansive view of the role of the Regional Board in mandating the manner in which to achieve these objectives.

The Tentative Order would require resources intended for implementation of the DAMP be spent on some lower priority drainage issues as well as other high priority community needs.
(Lake Forest, Aliso Viejo, MJF Consulting, Rancho Santa Margarita, Mission Viejo, County of Orange, Richard Watson & Associates)

Response: The public adoption process for the Tentative Order enables to the SDRWQCB to consider all potential impacts, both beneficial and detrimental, consistent with the public interest.

The regional board is not required to undertake a formal Cost/Benefit Analysis, or other comprehensive economic analysis for the issuance of waste discharge requirements. While regional boards are required to consider economic factors in the development of basin plans (W.C. 13241), regional boards are not specifically required to undertake Cost/Benefit Analysis. Neither do federal regulations compel reliance on any particular form of economic analysis in the implementation of requirements based on the MEP performance standard; the admonition quoted from 64 Fed. Reg. 68722 & 68732 calls for flexible interpretation of MEP based on site-specific characteristics and "cost considerations as well as water quality effects...." Thus, while the regional board is advised to consider costs as a factor in determining the reasonableness or practicability of requirements, there is no state or federal mandate for a more formal economic analysis involving the development of Cost/Benefit or Cost-Effectiveness relationships.

The SDRWQCB considers factors that balance environmental protection with job creation, housing construction and affordability, and maintain a healthy economy during the process of adoption of the Tentative Order. It is the responsibility of the SDRWQCB to protect the beneficial uses of receiving waters within the San Diego Region through the implementation and enforcement of waste discharge requirements and permits while considering the costs required to protect or restore those waters. It is the responsibility of the Copermittees, however, to secure the resources and implement and enforce the programs necessary to meet the requirements of the Tentative Order.

The SDRWQCB has considered the costs associated with implementation of requirements for discharges to MS4 as well as the costs incurred as a result of exceedances of receiving water quality objectives associated with discharges from MS4. While there will be, undoubtedly, increased costs to municipalities to implement requirements of the Tentative Order, the increased burden associated

with these requirements is not unreasonable in view of the following factors: municipalities can pass costs for planning and permitting on to permit applicants; municipalities can impose fees on persons who use MS4 infrastructure or require services from the municipality; municipalities can incorporate pollution prevention and control planning into existing planning activities; and municipalities can incorporate pollution and control implementation into existing regulatory functions.

The Copermittees estimate that the Tentative Order will require an additional \$14 million (over DAMP costs) per year to achieve with the Tentative Order. However, it is the responsibility of the Copermittees to develop and implement a balanced program in compliance with the Tentative Order that will minimize costs and maximize benefits. The Copermittees have used an analysis by the County of Sacramento to estimate costs of compliance with the Tentative Order to be \$1.4 billion to construct a system to collect and treat all runoff. This analysis represent only one highly engineered alternative to achieve compliance and additional alternatives should be considered that may reduce costs.

Several of the commenters assert that the provisions of section 13241 of the CWC directly apply to the adoption of the Tentative Order. While the provisions of section 13241 may apply to the Tentative Order, they do not apply in the direct manner proposed by commenters. Section 13241 clearly applies to the development of water quality objectives. It includes a list of "factors to be considered by a regional board in establishing water quality objectives." Therefore, section 13241 may only apply to the Tentative Order's application of the water quality objectives designated in the Basin Plan. These water quality objectives are developed during the Basin Plan's planning process, not during adoption of permits meant to implement the Basin Plan (see section D.1 for further discussion). As such, the provisions of 13241 are met by the SDRWQCB during the process of adoption and re-issuance of the Basin Plan, as well as during the Triennial Review of water quality standards the SDRWQCB conducts pursuant to the Clean Water Act. Because the Tentative Order implements the Basin Plan's water quality objectives, these efforts to meet the provisions of 13241 during the Basin Plan planning process also apply to the Tentative Order. Therefore, the SDRWQCB has met the requirements of 13241 with respect to both the Basin Plan and the Tentative Order.

While the provisions of section 13241 do not directly apply to the adoption of the Tentative Order, the SDRWQCB has an adequately process in which to include "economic considerations" into its decision to adopt the Tentative Order. The Draft Fact Sheet/Technical Report for the Tentative Order contains a four page discussion of economic issues regarding the regulation and management of urban runoff. The Staff Report for Standard Urban Storm Water Mitigation Plans and Numerical Sizing Criteria for Best Management Practices for Order No. 2001-01 also includes calculations for estimated costs for compliance with the Tentative Order's SUSMP provisions. Information regarding the costs and benefits of implementing the SUSMP provisions were also provided to the SDRWQCB during a March 8, 2000 SUSMP workshop. In addition, the SDRWQCB received, reviewed, and responded to many comments regarding the cost of implementing the permit. Furthermore, largely effective urban runoff management programs, such as by the City of Encinitas, have been implemented with some success and have not been found to be cost prohibitive. At the time this response was prepared, the 20 Copermittees in San Diego County have spent eight months allocating and developing resources, hiring staff, and developing and implementing programs required under Order No. 2001-01, the model permit for the San Diego Region. Nearly all of these Copermittees argued that the costs would be prohibitive, but have not communicated to the SDRWQCB that they have found this to be the case.

The commenters assert that the SDRWQCB failed to consider the need for developing housing within the region in the Tentative Order. While the SDRWQCB is not strictly required to consider this issue in adopting permits, in actuality it has considered the Tentative Order's potential for impacting housing costs. The SDRWQCB has estimated that implementation of the SUSMP requirements would constitute less than 1% of total project construction costs. Moreover, the SWRCB has found that an

increase in cost of 1-2% for new development (including housing) is reasonable. As noted in a SDRWQCB response to another comment regarding the cost of housing in Southern California, other factors such as supply and demand have far more significant impact on the availability of affordable housing in Orange County. In light of these cost calculations and SWRCB guidance, it is clear that the SDRWQCB considered the need for developing housing with the region.

It should also be noted that by the County of Orange's estimate, annual costs for the program implemented under the status quo (i.e. the existing DAMP programs) will only increase by about 4 million dollars per year. This has been the case since the first term permit. However, it is apparent from the Copermittees own monitoring reports and comments submitted regarding the Tentative Order that very significant exceedances of receiving water quality exist and that deleterious impacts to the beneficial uses of those receiving waters is common. So common are these exceedances in the Aliso Creek watershed, that the entire flow of the creek in the summer months is diverted into a sanitary sewer outfall. Clearly the resources allocated thus far by the Copermittees in this watershed in particular, and in Orange County in general, in implementing their current programs and protecting the beneficial uses of the receiving waters has been far from satisfactory. While the implementation of the requirements of the Tentative Order will require greater resources than merely implementing the current programs, including the DAMP, the benefits to be derived merit the increased costs. While the SDRWQCB has not performed a cost analysis, the costs cited by the Copermittees appear to be excessive and based on engineering solutions that constitute only a limited, and very expensive cross section of the available alternatives. The Tentative Order provides the Copermittees with a framework of minimum requirements and standards and does not specify the manner of compliance. Within that framework, the Copermittees have a wide degree of flexibility and latitude to select the BMP programs that are the most cost effective to prevent or reduce pollutants to the MEP and to protect receiving water quality and beneficial uses.

Finally, it should be noted that in it's draft Order on the petition by the Building Industry Association and Western States Petroleum Association for the review of Order No. 2001-01, in which this assertion was prominently stated, the SWRCB has thus far declined to address this issue.

COMMENTS ON MULTIPLE SECTIONS

Comment: Tentative Order No. 2001-193 is basically a clone of the recently issued San Diego Permit and requires the Copermitees to develop new Jurisdictional and Watershed Urban Runoff Management Programs.

Regional Board staff has prepared an all-encompassing Tentative Order that marks a significant departure from the direction taken by the Regional Board in the first two permits issued to Orange County. The Tentative Order is inappropriate for south Orange County and should be significantly revised. The Tentative Order essentially requires the preparation of thirteen (13) Jurisdictional URMPs and one (1) Watershed URMP. This is not practical, cost-effective or prudent. The Copermitees will be required to spend hundreds of thousands of dollars and an enormous amount of staff and consultant time to produce new plan documents. This time and money would be much better spent on real projects and activities that improve water quality. If the Regional Board staff feels that the Draft DAMP requires more detail or specificity in certain areas, or if additional requirements are to be imposed, the DAMP should be amended as necessary.

The JURMP requirements should not be adopted unless and until the Permittees have been given an opportunity to revise the 2000 DAMP. When the Tentative Order was issued, the Regional Board staff dismissed the 2000 DAMP out of hand stating, "The SDRWQCB has determined the implementation of [sic] proposed DAMP would be inadequate to reduce pollutants in the discharge of urban runoff to the maximum extent practicable (MEP) and to protect the beneficial uses of the receiving waters of Orange County within the San Diego Region." Likewise, in the Technical Report, staff repeated its claim that the 2000 DAMP would not satisfy the MEP standard and protect beneficial uses, but failed to provide any real support for this assertion. Staff instead cited to perceived inadequacies in the prior DAMP as the main basis for rejecting the 2000 DAMP. Finding 10 is, in fact, a directive causing us to abandon the Drainage Area Management Plan developed on a regional basis in favor of a Jurisdictional Urban Runoff Management Program. This directive disregards the benefits of the DAMP and causes this relatively homogeneous region to create unnecessary individual URMPs for each jurisdiction. Enhancement of the existing DAMP should be the collaborative approach for this Order.

The Tentative Order should not be imposed until the Copermitees until have had sufficient time to review and analyze staff's comments on and concerns with the 2000 DAMP and have been provided with an adequate opportunity to address such comments and concerns. Even if the Regional Board staff's conclusions concerning the adequacy of the 2000 DAMP were accurate, its proposal to unilaterally impose JURMP requirements in its stead clearly puts the cart before the horse. Such requirements should not be imposed unless and until the Permittees have had sufficient time to review and analyze staff's comments on and concerns with the 2000 DAMP and have been provided with an adequate opportunity to address such comments and concerns. The obligation to provide this opportunity for review and revision is not only a component of the Permittees' existing permit, but also a requirement of all MS4 permits, as set forth in State Board Order WQ 98-01. Finally, staff's approach gives short shrift to the significant efforts the Permittees already have made to develop a comprehensive program for managing municipal storm water runoff. As acknowledged by staff, "[C]opermitees have been pro-active in developing [and] implementing a storm water management program, and have stated their intention to continue the development and implementation of storm water management programs." Transcript of Regional Board Hearing adopting Order 96-03, August 8, 1996, p. 20:20-24. That stated intent has been acted upon. The 2000 DAMP documents a program for improving water quality which the Permittees believe is both reasoned and reasonable, in light of the technical and economic exigencies municipalities face in dealing with the problems associated with storm water runoff. Nonetheless, if the Regional Board staff feels that the 2000 DAMP is deficient,

then it has an obligation to explain to the Permittees exactly what those deficiencies are and to provide the Permittees with an opportunity to correct them.

The JURMP requirements in the Tentative Order conflicts with the unified countywide storm water program developed in the DAMP that covers two Regional Board jurisdictions. In Orange County, we do not think a "one size fits all" approach is warranted, considering that we have made great strides in refining and strengthening our program. The Orange County program has a Drainage Area Management Plan (DAMP) that was adopted in 1993. The DAMP has guided the activities of our City and other Orange County cities within the jurisdictions of both Regional Boards. Furthermore, the 2000 DAMP contains many new commitments to strengthen our integrated NPDES program. We respectfully request continuation and enhancement of the DAMP. The DAMP continuation will provide a more beneficial program than to change management practices mid-stream and form separate, individual Jurisdictional Urban Runoff Management Programs (JURMP). The County of Orange, our Principal Permittee, has created a new Watershed & Coastal Resources Division that includes the Storm Water Program and provides a new framework for our watershed-based efforts. A new watershed structure imposed by your Board would confuse the issue and could undermine the existing Division.

Instead of requiring separate Watershed Urban Runoff Management Programs, why doesn't the Regional Board require a watershed section of the DAMP similar to the State Board's requirement that the CALTRANS Statewide Storm Water Management Plan contain a section describing location-specific requirements? Since the DAMP currently has a focus on developing watershed specific chapters that focus in on pollutants of concern, what not simply update the DAMP to include a chapter on each of the watersheds that incorporate the elements of the WURMP program that is in the Tentative Order?

The Revised DAMP should serve as the basis for the new NPDES Permit. The Copermitees have spent considerable time, money, and effort to develop and implement the DAMP which will provide a more beneficial program than to than the Jurisdictional Urban Runoff Management Programs (JURMP) required by the Tentative Order. The Copermitees estimates that DAMP implementation would cost \$9.5 to \$10.5 million annual cost to municipalities from 02/03 to 05/06 as opposed to \$23 to \$25 million annual cost for the Tentative Order. The Regional Board staff's evaluation of the adequacy of the 2000 DAMP was completely skewed since it compared the components of the 2000 DAMP to the requirements of the Tentative Order and, on the basis of that comparison, concluded that the 2000 DAMP was inadequate. It is not surprising, and perhaps expected, that the 2000 DAMP would not meet all of the new detailed and prescriptive requirements of an order which has yet to be adopted by the Regional Board

The Permittees are required to comply with the terms of their current permit though timely implementation of the approved DAMP and any required modifications, revisions, or amendments to the DAMP. See Order No. 96-03 § V.1. If the Executive Officer ("EO") determines that a discharge from an MS4 is causing or contributing to continuing or recurring impairment of beneficial uses or exceedances of water quality objectives, then the EO is required to evaluate the adequacy of the approved DAMP. If the EO finds the DAMP to be adequate, then the Permittees continue implementing the DAMP. If the EO finds the DAMP not adequate, then the EO may require the Permittees to revise the DAMP. Order No. 96-03 § IV.

The Regional Board never informed the Copermitees that the DAMP was inadequate as required by the second term permit Order 96-03. The original DAMP was approved by the Regional Board in 1996 and, since then, there has been no indication from Regional Board staff that the program was in any way inadequate until the July 2, 2001 Tentative Order was circulated for review and comment. On August 23 (one week before the deadline for submission of these comments), staff issued a Revised

Tentative Order, a Revised Technical Report and its analysis of the 2000 DAMP. While language referring to the SDRWQCB finding the DAMP to be inadequate was removed from the Tentative Order it was retained in the Fact Sheet/Technical Report. The Copermittees disagree that the 2000 DAMP is inadequate to satisfy the applicable MEP standard or that it lacks the specificity necessary to ensure that BMPs designed to achieve compliance with the MEP standard are properly implemented. Indeed, the Copermittees find this conclusion surprising given that the components of the 2000 DAMP are in many respects similar to those staff is mandating for inclusion in the JURMP.

The Regional Board should not base the Tentative Order on the area wide Storm Water Permit developed by and for San Diego County Copermittees and should not impose the Standard Urban Storm Water Mitigation Plan designed by and for the Los Angeles County Copermittees. Rather, the Regional Board should allow the Permittees to further develop the 2000 DAMP to serve the intents and purposes of the JURMP and WURMP requirements envisioned in the Tentative Order.

Ironically, the Regional Board staff previously recognized the inappropriateness of utilizing the San Diego Storm Water Permit as the template for the southern Orange County permit, noting that the 1996 Tentative Order should be modeled on the Santa Ana Regional Board's permit for Orange County (Order No. 96-31). The SUSMP requirements were not developed with regional considerations in mind. Rather, they were taken almost verbatim from the SUSMP developed for the Los Angeles County MS4 permit. Contrary to the guidance provided by Congress and EPA, the SUSMP requirements in the Tentative Order are not flexible nor are they site-specific. Furthermore, contrary to staff's apparent understanding, the State Board has not mandated SUSMPs in MS4 permits. Permittees should have the flexibility to develop programs for new development and significant redevelopment that are designed to meet the needs of their own jurisdictions. In fact, SUSMPs may be less effective in protecting overall water quality than the current approach reflected in the 2000 DAMP for reducing the discharge of pollutants from new development and significant redevelopment. The SUSMP approach would require the Permittees to focus solely on priority sites, to the exclusion of all other sites that may be contributing to water quality impairment.

The DAMP focuses on solving water quality problems in receiving waters, i.e. starts at the water being impacted and looks upstream at causes of such impacts. The Tentative Order does not prioritize water bodies for corrective action, but instead requires simultaneous action even for those without listed impairments. The Fact Sheet concludes the DAMP would no longer be an adequate basis of a storm water management program for Orange County, thus the Regional Board staff has effectively thrown out the DAMP, a program that has been in place and built upon for the past decade. The Permittees strongly believe that the DAMP forms a firm foundation for the Orange County storm water program and should not be disrupted or effectively thrown out by the Tentative Order. Therefore, the Permittees request that the DAMP continue to form the basis of future program development and ultimately the Tentative Order. The DAMP establishes a baseline program consisting of proven and cost-effective BMPs that are applicable to all areas countywide. The Tentative Order establishes an intensely prescriptive program for all types of land-use assessment and controls. The DAMP focuses on solving water quality problems in receiving waters, i.e. starts at the water being impacted and looks upstream at causes of such impacts. The Tentative Order focuses on addressing all urban land uses that may affect receiving waters i.e. starts at the land use and applies controls based on perceived threat to the receiving waters. The DAMP prioritizes waterbodies for corrective action with those listed as impaired having a higher priority. The Tentative Order does not prioritize waterbodies for corrective action, but instead requires simultaneous action even for those without listed impairments. The DAMP promotes watershed-level approach and regional BMPs that may also address non-urban sources. The Tentative Order is tightly focused on urban land-use controls and inter-municipal watershed plans, not recognizing watershed-scale restoration.

The existing Drainage Area Management Plan (DAMP) should be revised in place of developing a Jurisdictional Urban Runoff Management Program (URMP). Then, each Copermittee shall implement a DAMP Implementation Program that addresses the DAMP components shown below and described in Sections F. 1 through F.8. Since the Permittees feel strongly that the DAMP is an adequate stormwater program and embodies a holistic approach for dealing with countywide issues as well as specific receiving water impairments and pollutants of concern, a comparison of the updated 2000 Draft DAMP and Tentative Order was completed in order to better illustrate how many of the permit requirements the DAMP currently includes. In addition, the comparison also illustrates how many commitments and program elements the DAMP includes that go beyond the Tentative Order, illustrating the significant program commitment in Orange County. Attachment C compares the Draft 2000 DAMP to the Tentative Order and then provides an analysis as to whether the DAMP program element 1) is not included in the Tentative Order; 2) already partially meets the Tentative Order requirement; 3) already fully meets the Tentative Order requirement; or 4) the Tentative Order requirement is new and therefore, not currently a program element. Accordingly, the Permittees strongly believe that the DAMP forms a firm foundation for the Orange County stormwater program and should not be disrupted or effectively thrown out by the Tentative Order. Therefore, the Permittees request that the DAMP continue to form the basis of future program development and ultimately the Tentative Order. (*Laguna Niguel, San Juan Capistrano, Rancho Santa Margarita, Laguna Hills, County of Orange, San Clemente, Richard Watson and Associates, County of Orange Flood Control District, Dana Point*)

Response: Summary:

The Tentative Order represents the second renewal of a storm water permit in place for eleven years. Significant progress has been made since 1990, but even more significant progress must be made in order to protect receiving water quality and beneficial uses. This is the objective of the Tentative Order. The DAMP, as written, is not adequate, but may be revised to achieve the objectives of the Tentative Order. The following points summarize the more detailed response discussion provided below:

- The Tentative Order contains the framework for the minimum requirements considered necessary by the SDRWQCB to achieve the Maximum Extent Practicable (MEP) standard and to protect the beneficial uses of receiving waters.
- The plans and programs developed by the Copermittees, including the DAMP, are developed and implemented to ensure compliance with the requirements of the permits, not the other way around. The SDRWQCB does not have to wait upon the continued analysis and revision of the DAMP to adopt the Tentative Order.
- The Copermittees may revise and continue implementation of the Drainage Area Management Plan to meet all of the requirements and provisions of the Tentative Order. It is not necessary, however, that the Tentative Order direct them to do so.
- Each Copermittee is accountable for compliance with the Tentative Order and must have a jurisdictional level program tailored to the conditions, land use activities, receiving water quality, and urban runoff issues specific to its jurisdiction. These requirements are based upon the land use authority of each Copermittee.
- The DAMP, as written, does not currently satisfy these requirements, but certainly may serve as a starting point. The Copermittees were informed of this fact and of the opportunity to submit a revised DAMP in several communications.

- The Tentative Order is not a departure from the approach under previous permits and the DAMP, but rather it is more detailed and includes specific requirements, many of which are being implemented at some level under the DAMP. The Tentative Order builds upon and refines the approach taken heretofore under the previous permits and the DAMP.
- The Tentative Order supports a holistic, watershed approach in that it requires full assessment and consideration of all land use activities that contribute pollutants to urban runoff throughout the watershed rather than just in prioritized receiving waters. Sources of pollutants throughout the watershed must be addressed by the Copermittees. It is very important that in focusing on prioritizing water bodies that are already impacted for corrective action, that the Copermittees do not neglect to implement BMPs elsewhere in the watershed to protect other water bodies from becoming impacted and thus candidates for expensive corrective action.

Discussion:

The Tentative Order contains the framework for the minimum requirements considered by the SDRWQCB to be necessary to achieve MEP. The requirements in the Tentative Order are based on the Federal NPDES regulations and USEPA and SWRCB guidance. Where the Tentative Order is more specific than the Federal NPDES regulations, it is based on USEPA and SWRCB guidance. The SDRWQCB has authority to include more specific requirements than the Federal regulations under CWA section 402(p)(3)(B)(iii) and CWC section 13377. USEPA supports the approach of increasingly detailed storm water permits, stating "The interim permitting approach uses best management practices (BMPs) in first-round storm water permits, and expanded or better-tailored BMPs in subsequent permits, where necessary, to provide for the attainment of water quality standards" (USEPA, 1996). The Federal NPDES regulations, CWC, USEPA and SWRCB guidance do not require that a particular program or approach be mandated. None of the aforementioned authorities preclude or prohibit the SDRWQCB from adopting a new approach that it determines is necessary to achieve the MEP standard and to protect the beneficial uses of receiving waters.

As discussed in Finding 17 and the Fact Sheet/Technical Report, the Tentative Order requires more detailed and specific BMP programs to address all three phases of urban development (Land use planning, construction, and existing development). Because the Tentative Order is issued to each Copermittee, each Copermittee must have a program to manage urban runoff within its jurisdiction. The program must be tailored to address the specific urban runoff management issues within its jurisdiction and it must be specific enough as structured in the Tentative Order to ensure fair, uniform implementation and enforcement throughout the region.

As discussed in the Fact Sheet/Technical Report, the DAMP programs require refinement and revision to provide sufficient specificity and to better address these areas and activities in order to achieve the MEP standard and to protect beneficial uses of receiving waters. The Tentative Order does not conflict with the unified countywide storm water program developed and implemented in the Drainage Area Management Plan (DAMP) during the previous two permits.

As discussed during the workshops, it was the intent of the SDRWQCB since 1995 to develop a template Tentative Order that would be revised as necessary and issued throughout the San Diego Region including Orange and Riverside counties. Furthermore, it is evident from the comments received from several Orange County Copermittees during the adoption process for Order 2001-01 that it was common knowledge in Orange County that this was the case. With the benefit of eleven years of storm water permitting, the SDRWQCB has defined the minimum program components and standards it considers necessary for the San Diego Region municipal storm water Copermittees to achieve compliance with the MEP standard, discharge prohibitions, and receiving water limitations. This is embodied in the Tentative Order for which the DAMP, as written, is not satisfactory as the principal tool for implementation of those requirements and provisions. Finally, the Tentative Order

was drafted to ensure regional consistency throughout the San Diego Region when these NPDES Permits and Waste Discharge Requirements are issued on a watershed basis in this region.

The mission of the RWQCBs and SWRCB is to preserve and enhance the quality of California's water resources, and ensure their proper allocation and efficient use for the benefit of present and future generations. Unlike county boundaries, the RWQCB Regions were drawn to be inclusive of watersheds of a homogeneous nature. The "benefit" to which the mission statement refers is expressed in terms of the beneficial uses designated in regional Water Quality Control Plans (Basin Plans). Each RWQCB develops its Basin Plan for its own region, in keeping with California Water Code § 13240 et seq. Since the mission of the RWQCBs involves protecting beneficial uses that are designated by region or portion thereof, it is appropriate for the actions of a RWQCB to be specific to its region or portions thereof and consistent within that region. In other words, in carrying out its mission, it is more important that the SDRWQCB take actions as necessary and appropriate to consistently protect beneficial uses in the San Diego region than it is to achieve multi-regional or statewide permit consistency. Furthermore, NPDES permits and Waste Discharge Requirements are required to implement the Basin Plan requirements and provisions. It is argued that a "one size fits all approach" is not warranted. The Tentative Order provides a framework within which significant discretion and flexibility are provided. A common framework is not a "one size fits all approach" and is at least as justifiable as the strict adherence to a program structure established when comparatively little was known about urban runoff management. The Tentative Order is intended first and foremost to protect beneficial uses in the area to which it applies, not to be consistent with permits adopted in the past or that are applicable to other areas. It should be noted that the requirements of Tentative Order 2001-193 are not mutually exclusive of the requirements of Tentative Order 2001-20 proposed for adoption by the Santa Ana RWQCB. Furthermore, implementation of the requirements of Tentative Order 2001-193 would support compliance with the Santa Ana RWQCB Tentative Order and should not constitute substantial hardship to those Copermitees whose jurisdictions extend into both regions.

The Tentative Order does not render the water management plan developed by the County and cities with substantial stakeholder involvement (the DAMP) irrelevant. Nor did it dismiss the DAMP out of hand. In developing and implementing the DAMP under the first and second term permits, the Copermitees developed programs that may be revised and continued under the Tentative Order. However, the previous development and approval of any one or all of the programs, including the DAMP, does not preclude the SDRWQCB from requiring more detailed, more stringent, or differently structured program requirements under future permits. The Tentative Order does not require the Copermitees to discard the programs developed, but to improve upon and expand them as necessary. Moreover, many of the requirements of the Tentative Order are already being implemented at some level by the Copermitees. Nearly all of the performance commitments in the proposed DAMP would at least in part satisfy requirements of the Tentative Order simply because most of these were also required under Order No. 96-03 or are logical extensions of those programs. Nonetheless, the DAMP as written contains significant gaps, a lack of specificity, and should be accordingly updated to conform to the SDRWQCB's definition of the minimum programs and activities necessary to achieve MEP and protect beneficial uses of receiving waters.

The plans and programs developed by the Copermitees, including the DAMP, are developed and implemented to ensure compliance with the requirements of the permits, not the other way around. The Copermitees have the discretion to revise the DAMP and/or develop a model Jurisdictional Urban Runoff Management Program (Jurisdictional URMP) to meet or exceed the requirements of the Tentative Order. The Tentative Order does not "recognize" the DAMP because it is not necessary that it do so.

Contrary to the assertion in the comment above, SWRCB Order WQ 98-01 does not require review and revision of the DAMP prior to the adoption of a new permit beyond the review and revision conducted by the Copermittees in the preparation of their proposed DAMP and Report of Waste Discharge (ROWD). In fact, Order WQ 98-01 ordered the Receiving Water Limitations language in Order No. 96-03 to be interpreted following precedential language contained in Order WQ 98-01. The precedential language in Order WQ 98-01 did not include the language cited in the comment to the effect that the Executive Officer must determine that exceedances are occurring, must evaluate the adequacy of the approved DAMP, and only upon determining that the DAMP was inadequate, may require the revision of the DAMP. SWRCB Order WQ 98-01 effectively removed these requirements in Order No. 96-03.

The SDRWQCB has reviewed the proposed DAMP and the ROWD and has determined the continued implementation of the DAMP would be inadequate to meet the MEP standard and protect receiving water beneficial uses. Thus the SDRWQCB need not wait for the Copermittees to conduct a revision of the DAMP before adopting the Tentative Order, but rather, following the adoption of the Tentative Order, the Copermittees should make the revisions to the DAMP that are necessary. The language of Finding 41 was revised not because the DAMP was determined to be any more adequate, but rather because the original language was unnecessary to the Tentative Order. The analysis of the DAMP with respect to the SDRWQCB's definition of MEP and the discussion of the inadequacy of the DAMP as written and currently implemented was retained in the Fact Sheet/Technical Report to provide additional relevant information.

With respect to the previous approval of the DAMP, that approval was based on limited information and was relevant only to the five-year term of the permit that approved the DAMP Order No. 96-03. Order No. 96-03 made the DAMP an enforceable component of the Order, but did not make the preclude the SDRWQCB from issuing a permit that did not make the DAMP an enforceable component of the Order. Moreover, as discussed above, SWRCB Order WQ 98-01 effectively removed language that placed the burden upon the Executive Officer of the SDRWQCB to determine that exceedances of receiving water quality objectives were occurring and that the DAMP was inadequate prior to requiring revision of the DAMP. No provision, including those cited by the commenters, precluded the SDRWQCB from issuing or adopting a more specific, more detailed, or differently structured permit. The approval of the DAMP in Order No. 96-03 was based on a cursory review of the DAMP that resulted from very limited SDRWQCB resources. Moreover, given that the DAMP had only been developed as recently (then) as three years, it was determined to be good policy that the DAMP be approved as the principal tool for the implementation of the requirements of Order 96-03 until more information that would better define the programs and activities necessary to achieve MEP and protect beneficial uses of receiving waters was available.

Since 1996, the SDRWQCB has better defined its framework for compliance with the MEP standard and protection of receiving water quality in the form of the template that was adopted for San Diego County as Order No. 2001-01. In addition, as reported in the Copermittees monitoring reports and since 1996, water quality in receiving waters like Aliso Creek and San Juan Creek has continued to be degraded; a result at least in part due to the discharge of urban runoff. With exceedances of receiving water quality objectives, the diversion of a major stream into the sanitary sewer, and subsequent enforcement actions, it is clear that the implementation of the DAMP in practice has not achieved the objectives of Order No. 96-03. The commenters have cited elsewhere in their comments their concern that implementation of the requirements of the Tentative Order would not result in improved water quality, but it has not been demonstrated that continued implementation of the DAMP as written would be any more effective in protecting water quality than it has heretofore. The water quality problems facing Orange County are very similar to those elsewhere in the San Diego Region and merit the same management approach adopted elsewhere in the region.

Furthermore, the revised DAMP does not represent a significant advance beyond what was required under Order No. 96-03. Approximately 78% of the “New Performance Commitments” are commitments to implement or evaluate programs that were required under Order No. 96-03 or are logical extensions of those programs. For example 22% of the new commitments are for the evaluation and revision, if necessary, of programs or BMPs implemented under Order No. 96-03. Findings 21, 22 and 24 identify these activities as being integral to the DAMP as a “dynamic document.” Section V.29 of the Order required the submittal of a Report of Waste Discharge that incorporated any revisions to the DAMP, including evaluation of BMPs. Also, another 18% of the new commitments are commitments for the Copermitees to attend meetings or trainings coordinated by the Principal Permittee, which is generally required under section II part 4 of Order No. 96-03 “Participate in committees or subcommittees formed by the principal permittee to address storm water related issues to comply with the Order.” Mere evaluation of existing programs and attendance at meetings, which were required under the previous permit, are not new commitments that will demonstrably achieve compliance with receiving water quality objectives or the MEP standard. Thus, because of the ongoing exceedances of receiving water quality objectives, the limited nature of the new commitments, a lack of specificity in the DAMP, and the fact that the DAMP overall does not adequately address the requirements and activities considered by the SDRWQCB to be necessary to meet MEP and protect receiving water beneficial uses, the proposed DAMP was not considered adequate to be the foundation for the new permit.

Contrary to the assertion by several commenters that the SDRWQCB never informed the Copermitees that the DAMP was inadequate, the Copermitees were informed on several occasions that the DAMP was inadequate to be the basis for the new permit and that the San Diego template would be the model for the Orange County municipal storm water permit renewal. During the November 3, 2000 Santa Ana Basin MS4 Permit Renewal Coordination Meeting in Riverside, SDRWQCB staff verbally informed the Principle Permittee representative, Mr. Christopher Crompton, that the DAMP, as written, was inadequate and would not be the basis for the Tentative Order. During this meeting, several points were clearly made and discussed: 1) The San Diego County MS4 permit would be the model for the renewal of the Orange County permit; 2) The permit would be tied to meeting receiving water quality objectives; 3) That consistency with permits in other regions was not a priority; and 4) The DAMP could be revised. Although revisions were made to the DAMP and submitted to the SDRWQCB in a letter dated February 9, 2001, the revisions were not considered significant and the DAMP was determined to be inadequate as the basis for the new permit. This assessment of the DAMP was confirmed and communicated to the Copermitees in a letter sent February 20, 2001 addressed to Mr. Crompton which stated “Please review these comments as the DAMP, in its current form, has been found as to be inadequate to serve as the foundation for a new permit by this Regional Board.” The Copermitees were invited to submit a revised DAMP and despite a meeting with Orange County staff on March 29, 2001, in which the DAMP was discussed, no revision was submitted. Furthermore, the Copermitees were again formally notified that the DAMP in its current form was inadequate in a 13225 Directive addressed to Mr. Crompton on March 2, 2001 that stated the “...RWQCB review of the Proposed DAMP finds that, in its current form, will be inadequate to serve as the foundation for a program to correct the impairment of Aliso Creek.” These communications alone were sufficient to inform the Copermitees that the DAMP as written was inadequate to serve as a foundation for the Tentative Order. This information was included in the draft Tentative Order and Fact Sheet/Technical Report released on July 2, 2001. While the preparation of a detailed document describing the inadequacies of the DAMP was delayed while preparing the Tentative Order for release and the performance of the workshops, it is important to note that the basic, necessary information regarding the DAMP had been communicated. Furthermore, opportunities to meet again with SDRWQCB staff to discuss the DAMP and to revise and resubmit an updated DAMP were not exercised by the Copermitees.

Nonetheless, it is important again to note that the Tentative Order does not prohibit or preclude the revision and implementation of the DAMP, or equivalent document, as the primary means for compliance with each of the requirements of the Tentative Order. It should be stressed that the requirement for a specific, tailored JURMP Document from each Copermittee is necessary in any revised DAMP and will be subject to review and comment by the SDRWQCB. The reporting requirements of the Tentative Order were included to better track the progress of the development, implementation, and assessment of effectiveness of the required programs and were consolidated as much as possible. These requirements must also be included in a revision of the DAMP.

The development of the Tentative Order has been conducted with substantial review and comment since 1995 and significant changes have been made during its development to improve the implementation and enforcement of the Order by the Copermittees. Including 1500 comments received on the version of the Tentative Order adopted in San Diego County and the 684 comments received in 2001 on the Tentative Order, over 2,184 comments have been addressed. Apart from consideration of the DAMP, most of the comments for the two Orders were duplicative and addressed common issues.

The issues of appropriateness, flexibility, and specifics of the Standard Urban Storm Water Mitigation Plans are addressed specifically elsewhere in this document. With respect to the estimated costs of the implementation of the Tentative Order vs. that of the DAMP, the specified programs included in the Tentative Order must be implemented by the Copermittees in order to carry out the CWA requirements. Optimization of costs associated with implementation of the requirements of the Tentative Order is the responsibility of the Copermittees. The Tentative Order provides significant latitude and flexibility to the Copermittees to determine the most cost effective means of compliance. The requirements of the Tentative Order are intended to build upon the programs already developed by the Copermittees under the previous permits. Wherever possible, the RWQCB has attempted to provide this discretion and flexibility to the Copermittees, especially with regard to already developed programs such as the program management system developed by the Copermittees. Any specified programs in the Tentative Order are made all the more necessary by the exclusion of numerical effluent limits from the permit. Reliance on BMPs as opposed to numerical effluent limits requires specification of those programs that are relied upon to reduce pollution. The issue of estimated costs to implement the requirements of the Tentative Order is addressed in more detail elsewhere in this document. It should be noted here that the San Diego County Copermittees are developing the same programs and required under the Tentative Order and have thus far found it possible to allocate the necessary resources and meet the deadlines. Given that the Orange County program is eleven years along and that the DAMP is a "living document," it is reasonable to conclude that the Orange County Copermittees will, if they choose, be able to successfully revise the DAMP and implement it to comply with the requirements of the Tentative Order.

Finally, the one of the comments above cites one of the more significant weaknesses of the DAMP approach: that of a flawed "watershed approach." The Copermittees frequently cite the statement that the DAMP focuses on problems in receiving waters and that it starts at the water being impacted and looks upstream. The commenters have frequently criticized the Tentative Order for focusing also on land uses and source identification and control. Yet watersheds are by definition the sum of the land, waters, and activities or processes within them. A holistic approach must include all of the processes in the watersheds, not just conditions in the receiving waters. The condition of the receiving waters cannot be considered or protected in isolation from land uses and without positive action with respect to the various land uses tributary to the receiving waters. This seems to be the practice, though clearly not the intent, in some of the programs implemented under the DAMP. Contrary to the comment that the Tentative Order does not prioritize water bodies for corrective action, the Tentative Order does in fact require the Copermittees to address and prioritize urban land use activities authorized within their jurisdictions that may cause or contribute to the degradation of those same

water bodies. This is especially true with respect to water bodies listed as impaired on the 303(d) list. The Tentative Order in no way precludes the Copermittees from prioritizing water bodies for “corrective action.” Furthermore, the Tentative Order does not require that Copermittees abandon their prioritization of water quality issues or their mechanisms to optimize the use of their resources, but rather to review and as necessary revise them. The prioritization and approaches to water quality issues related to the management of urban runoff, however, must address all of the receiving waters in the San Juan Creek Watershed Management Area in Orange County subject to the discharge of urban runoff under the Tentative Order. Furthermore, it is very necessary that the programs be broadly designed and implemented to ensure that water bodies that are not currently a high priority by virtue of impairment do not become impaired and then require “corrective action.” The emphasis on solving water quality problems in receiving waters and prioritizing water bodies for “corrective action” seems to overlook this aspect of urban runoff management. Finally, it should be noted here, that “corrective action” cannot simply consist of engineering the receiving water bodies to accommodate urban runoff without the adequate and required consideration of the sources of that urban runoff. It is not appropriate to convert receiving waters into BMPs. Rather, the Copermittees should implement programs and BMPs to protect the receiving waters and to the extent necessary and desirable, restore or rehabilitate receiving waters impacted by urban runoff discharges.

As discussed above and elsewhere in this document, the restoration or rehabilitation of damaged or lost habitat that resulted from the previous discharges of urban runoff is not a substitute for the implementation of BMPs that prevent or reduce the MEP pollutants in urban runoff. This is an important part of the DAMP approach that warrants additional discussion. With respect to the U.S. Army Corps of Engineers (Corps) Watershed Studies of San Juan Creek and Aliso Creek, the Copermittees may include findings and plans developed during the course of this work in the development and implementation of the Jurisdictional and Watershed Urban Runoff Management Programs. However, the structural management measures proposed in these studies are limited in scope by the Corps jurisdiction to instream projects. These studies have provided only cursory recommendations for source identification and control and other activities that should be expected from a watershed management approach and compliance with the storm water permit. This has been a major weakness in the implementation of these programs under the DAMP and a contributing factor in the determination of the inadequacy of the DAMP. Moreover, although the Aliso Creek Watershed Management Study was submitted in May 1999 and included at least two activities (Watershed Education Plan and Non-Point Source Awareness Plan) that were compatible with provisions of Order No. 96-03 and the Drainage Area Management Plan, it is not yet apparent that these recommended activities have been implemented by the Copermittees in the Aliso Creek watershed. Furthermore, it should be again stated that the improvements, however beneficial to water quality, are not substitutes for the implementation of the types of BMPs and programs included in the Tentative Order. While the stabilization, rehabilitation, or restoration of impaired aquatic and riparian habitat are important activities that may help protect the Copermittees from exceedances of receiving water quality objectives through the restoration of the assimilative capacity of the receiving waters, this approach cannot be conducted in lieu of source identification and elimination of illicit discharges or the implementation of BMPs to prevent or reduce pollutants in urban runoff to the MEP. It is not clear that this approach is adequately represented in the DAMP or the programs it includes that are implemented by the Copermittees. The Tentative Order is intended to build upon this work and fill the gaps to ensure achievement of the MEP standard and protection of beneficial uses of receiving waters.

One comment above refers to the JURMP approach as diametrically opposed to the “holistic approach that the Copermittees have been pursuing for over a decade.” In fact, the approach defined in the Tentative Order is fully supportive of a holistic approach since it emphasizes the importance of the whole program and interdependence of its parts (i.e. the jurisdictional level programs) rather than a simple summation or a focus on the parts. A holistic approach is not a generalized approach that

neglects key parts of the whole, but rather an approach that seeks to understand the importance of individual components and their relationship to one another. A major weakness that is apparent in the implementation of the DAMP is a lack of consistent understanding and implementation of some of programs at a municipal level. That is, although the parts are tied together holistically within the document, they do not appear to be implemented in an interdependent manner in practice. For example, it is apparent from reports received from the Copermittees that despite the enforcement consistency guidance implemented under the DAMP, there are very different approaches to enforcement from municipality to municipality. Furthermore, as demonstrated in some of the comments received on the prohibitions on non-storm water discharges, there is a widespread lack of understanding among the Copermittees regarding some of the most basic requirements of the two previous permits as implemented through the DAMP. Also, there is an apparent disconnection between land-use planning and urban runoff management as embodied in the DAMP. Although the DAMP is discussed as a drainage or watershed based approach, it has for eight years neglected important tools such as watershed level land-use planning that actually does incorporate a holistic understanding of watershed morphology and processes. This is a key provision of the watershed approach of the Tentative Order. Building on the work of the last eleven years and filling some important gaps, the Tentative Order is fully supportive of the holistic approach the Copermittees having been pursuing under the storm water program.

The Tentative Order is a third term permit that is intended to build upon, expand, and improve as necessary the programs developed and implemented under the previous permits. However, the fact that the Copermittees have been permitted twice before does not necessarily constitute the achievement attributed to it in several comments. As discussed above, the review the previous DAMP and the draft Order No. 96-03, written by staff at the Santa Ana RWQCB, prior to and following the adoption of the DAMP in Order No. 96-03 was cursory due to very limited SDRWQCB resources. Despite concerns regarding the DAMP and draft permit, those resources were directed instead at the development of the San Diego Region template municipal storm water permit, adopted in February 2001 by the SDRWQCB, from which the Tentative Order is derived. Furthermore, Order No. 96-03 did not represent a major improvement or advance from Order No. 90-38. It principally required the continuation of programs developed under Order No. 90-38 with the addition of requirements for municipal facilities and activities. Nonetheless, the Copermittees have made advances and refinements in their programs that this Tentative Order now properly seeks to improve and build upon. This process of increasing stringency and detail in NPDES permits is clearly the intent expressed by the USEPA in the Federal NPDES regulations and subsequent guidance. This is made all the more necessary due to the continued degradation of receiving water quality and the ongoing and anticipated urban growth in Orange County. If extensively revised to meet or exceed the requirements of the Tentative Order, the DAMP, subject to review and comment by the SDRWQCB, may continue to be utilized by the Copermittees as the guiding document to implement the requirements of the Tentative Order. This does not require the specific direction in the Tentative Order sought by the commenters. The SDRWQCB has the discretion to require the provisions and format of the Tentative Order under the broad and specific legal authority cited in the Fact Sheet/Technical Report.

Comment: What training, technical resource, and educational programs will the State or Regional Board be offering or developing to assist the Copermittees with implementation of the education, prioritization, and BMP designation requirements? What resources and technical assistance are available to identify potential significant pollutants normally associated with industrial activities? Has the Board prepared training materials for use at the staff and public levels for all of the topics listed Sections F.4.a, b and c? It seems that there should be a series of consistent materials and information available to provide for continuity in staff and public education efforts throughout the county rather

than relying on each Copermittee to come up with something different. Will the Regional Board act as a clearinghouse for transfer of technical information available from other agencies such as copies of studies, testing data and guidelines for compliance already completed or in progress?

The SDRWQCB Should Model the EPA and Provide Technical Information, Education Programs and Materials, and Compliance Assistance. While we are sensitive to your regulatory role and responsibilities, it is essential that the State and Regional Boards also partner with the Copermittees in working towards water quality protection and improvement. Water Code Section 13167 requires the State Board to implement a public information program on matters involving water quality, and to maintain an information file on water quality research and other pertinent matters. (*Laguna Niguel, Mission Viejo*)

Response: The Regional Boards and State Water Resources Control Board (SWRCB) have been and will continue to be partners with the local governments, businesses, organizations, and individuals in the effort to preserve and enhance the quality of California's water resources. The SWRCB maintains a web site at <http://www.swrcb.ca.gov/stormwtr/> with information pertaining to storm water. The Regional Board has information available regarding many of the water quality issues under section F.4 of the Tentative Order. Regional Board staff will continue to be available to participate in educational or training sessions with the copermittees. Where resources permit, the Regional Board and SWRCB may help fund particular training sessions. An example is the Stormwater Quality Task Force, which produces guidance on storm water quality issues. In addition, grants are periodically offered that can be used to develop regionwide or municipal educational or training programs regarding stormwater issues. The municipalities may wish to cooperatively develop educational and training materials.

Comment: Does the Board have a program with incentives for those industrial and commercial businesses that choose to implement BMPs? (*Laguna Niguel*)

Response: Businesses that do not use BMPs risk violating State and local laws to protect water quality and public health. Under the Industrial NPDES program, the no-exposure certification is one incentive to implementing BMPs. The Regional Board does not currently have a monetary incentive program to implement BMPs, and the Regional Board considers it the obligation of the industrial and commercial partners to implement BMPs to preserve and enhance our water resources. We are interested in discussing options with the municipalities. for the development of various types of incentives, and we encourage the municipalities to develop incentive-based approaches in conjunction with education and enforcement efforts to achieving water quality objectives.

Comment: Item F.3.a.(3).a identifies municipal roads, streets, highways and parking facilities as high priority municipal activities that threaten water quality. Please provide additional information (i.e. scientific, empirical, other) for each of the municipal areas and activities. Why is each area/activity a high threat to water quality? What are the specific pollutants of concern associated with each municipal area/activity?

Only for high priority water bodies should the Permittees be required to categorize industrial sites as posing either a high, medium, or low threat to water quality, based on the criteria set for in this section.

Item F.3.c.(2) and item F.3.d.(2) commercial and residential activities that are considered to be high priority threats to water quality. These specific commercial sites/sources are not found in the Clean Water Act, the applicable Federal Regulations, the Porter-Cologne Act, or EPA guidance documents.

The Draft Fact Sheet/Technical Report provides no specific rationale for the selection of these commercial sites/sources. Please provide additional information (i.e. scientific, empirical, other) for each of the priority project categories. Why is each project category a high threat to water quality? What specific pollutants of concern are normally associated with each project category? (*Laguna Niguel, County of Orange*)

Response: The Federal NPDES regulations clearly place an emphasis on the prioritization of sites of various land uses. The Tentative Order's requirements regarding site prioritization are more detailed than those in the Federal NPDES regulations, and the SDRWQCB has increased the detail of the site prioritization requirements under Clean Water Act section 402(p)(3)(b)(iii), which states that a storm water program "shall require controls to reduce the discharge of pollutants to the maximum extent practicable, including management practices, control techniques and system, design and engineering methods, and such other provisions as the Administrator or the State determines appropriate for the control of such pollutants." This increased detail is necessary due to the continued degradation of the region's receiving waters caused by urban runoff.

In some cases, the SDRWQCB has identified high priority areas and activities based on USEPA guidance and experience with enforcement. Threat to Water Quality Prioritization allows the Copermittee to rate which site (construction, municipal, industrial, residential) will receive more of their oversight resources due to the site's ability to cause a greater negative impact to the receiving water quality in the event of a discharge. This inventory will help the Copermittee determine which sites are high priority and it will also be an important tool in watershed planning and management.

Regarding Municipal priority sites: Municipal roads, streets, highways and parking facilities are considered to be high priority sources since they are specifically addressed in Federal NPDES regulations 40 CFR 122.26(d)(2)(iv)(A). Regarding roads, highways, and parking facilities, the US EPA states "Road maintenance practices, especially... road repair, and traffic are significant sources of pollutants in storm water discharges."

Regarding industrial priority sites: The designation of high priority industrial sites is reasonable and justified. Industrial sites that are subject to section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA) are identified in the Federal NPDES regulations as sites for which the Copermittees must provide oversight. USEPA has also placed high priority on industrial sites subject to the General Industrial Permit by requiring them to receive coverage under the permit. Industries are also considered high priority due to their location in relation to CWA section 303(d) water bodies and environmentally sensitive areas. Pollutant loading of these water bodies must be avoided to aid in their recovery and ensure against their further degradation. The intent of this requirement was not to include all sites which were tributary to any 303(d) water body, but rather to include sites which had pollutants on-site which were tributary to 303(d) water bodies impaired for those same pollutants. In addition, the intent regarding environmentally sensitive areas was to provide these areas protection from industrial sites within or directly adjacent to the environmentally sensitive areas.

Regarding commercial priority sites: The assignment of high priority to the commercial sites and sources is based on several factors (as discussed in the draft Fact Sheet/ Technical Report). The primary factor considered was the presence of pollutants at the commercial sites/sources listed. All of the commercial sites/sources are associated with the use or generation of pollutants commonly found in urban runoff. These included oil, grease, and metals for categories a-h and u; Pesticides for categories i, o, p, q, r, and s; coliform for categories j and v; construction byproducts for categories l - n; detergents for category k; and chlorine for category t. In addition, the choice of categories was bolstered by years of professional experience receiving and reviewing complaints regarding illicit discharges. Other considerations included number of sites/sources and size of site/sources.

Regarding residential priority areas and activities: SDRWQCB believes it is well established that these residential activities generate pollutants which find their way to surface waterways. The residential areas and activities are identified as high priority threats to water quality due to their wide distribution, their association with pollutants of concern in urban runoff, and their historical mismanagement of associated urban runoff. By mere virtue of the materials and chemicals involved with these activities, the cumulative impact of hundreds of thousands of households are detrimental if done without water quality protection in mind.

Comment: Regarding commercial and residential land use, how is the Copermittee to implement or require implementation of BMPs on existing developed property if there is no development application or request for a building permit? (*Laguna Niguel*)

Response: The Tentative Order requires the Copermittees to designate and implement or require the implementation of minimum BMPs for high priority threats to water quality from municipal, commercial, and residential areas. Options for achieving these requirements may be assessed based on the natural and developed landscape, land use, type of activity, and capacity to retrofit. Site or activity-specific options may include, but are certainly not limited to, enforcement of current ordinances, development of new ordinances, negotiated agreements with property owners or users, and implementation by the municipalities.

Comment: What land use authority does City have to require BMP retrofits on existing residential development that is not being redeveloped? Does permit require structural BMP retrofits in this case? What authority do Copermittees have to impose BMPs on existing industrial and commercial projects? (*Laguna Niguel*)

Response: Each copermittee has adopted a storm water ordinance that prohibits pollutants from entering the storm drains. The Tentative Permit does not require BMP retrofits on existing residential development, but rather provides copermittees the flexibility to designate BMPs (Best Management Practices) appropriate to residential activities and areas that present high threats to receiving water quality.

The Copermittee is ultimately responsible for discharges to and from their MS4. Each Copermittee must therefore develop and enforce storm water ordinances in order reduce pollutant discharges to the MS4 to the maximum extent practicable and comply with its permit responsibilities. These ordinances must be applied at all industrial and high priority commercial sites to ensure that pollutant discharges to the MS4 are reduced to the maximum extent practicable and permit requirements are met. Due to their numerous potential pollutant sources, industrial sites are relatively high risk areas for pollutant discharges to storm water. In order to control the discharge of pollutants from industrial sites to the maximum extent practicable, implementation of BMPs is necessary. To this effect, the US EPA "recommends that municipal applicants incorporate a provision in the proposed management program that allows the municipality to require priority industrial facilities to implement the controls necessary for the municipality to meet its permit responsibilities" (1992). Regarding enforcement at industrial sites, the US EPA further states "The municipality, as a permittee, is responsible for compliance with its permit and must have authority to implement the conditions in its permit. To comply with its permit, a municipality must have the authority to hold dischargers accountable for their contributions to separate storm sewers" (1992).

Pursuant to the federal regulations implementing the stormwater program, municipalities are required to certify that they have ordinances that enable them to, among other things, prohibit discharges to

their ms 4 systems. Dischargers covered under the current permit, including the City of Laguna Niguel, have already made this assertion.

Comment: Municipal service and inspection levels are established at the discretion of city and county governing boards. What is the authority of the Copermittee to inspect existing properties without a search warrant if there is no visible sign of a violation? Please eliminate F.3.b.(6)(b) from the Tentative Order. What authority do Copermittees have to go onto high priority commercial sites and sources as needed and search for potential violations? Copermittees may have authority to either go onto a site or obtain a search warrant to go onto the site if they determine that a violation is taking place. What is the legal basis for reviewing municipalities to inspect commercial sites? (*Laguna Niguel, Richard Watson and Associates,*)

Response: Federal NPDES regulation 40 CFR 122.26(d)(2)(iv)(B) requires a program to detect and remove illicit discharges and improper disposal into the storm sewer. This program is required to include inspections to implement and enforce a municipal ordinance, order or other means to prevent illicit discharges to the MS4. Further, BMPs must be implemented for commercial sites and activities to reduce the discharge of pollutants from the sites and activities to the maximum extent practicable, and inspection of commercial sites is necessary to ensure that implemented BMPs are adequate. As discussed in Finding 24, inspections provide a necessary means by which Copermittees can evaluate compliance with their ordinances and requirements of Order No. 2001-193. Inspections are especially important for high risk commercial sites and activities, such as commercial sites and activities where urban runoff is not properly managed.

Comment: We ask the Board to acknowledge that tributary to” (as used in Sections F.1.c., F.2.f.(4), F.3.a.(3)(b), F.3.b.(3)(b) and F.3.c.(3)(c).) is defined as “directly adjacent to or discharging directly to” as detailed in Section F.1.b.(2).(vii)

In various sections of the Tentative Order, the Regional Board makes reference to sites as being “tributary” to water bodies. For example, Item F.2.e, requires the Permittees to prioritize construction sites based on the level of threat they pose to water quality and states that “high priority” construction sites include any sites that that are “tributary to a Clean Water Act section 303(d) water body impaired for sediment.” The use of the term “tributary” in this manner is incorrect. A “tributary” refers to a stream or other water course that enters or contributes flow to another water course or water body. Moreover, by using this term, the Regional Board staff is, in effect, extending the WQS applicable to the receiving waters for the Permittees’ MS4s all the way upstream to the actual runoff coming from the industrial, construction and other sites that drain into the MS4s. The Basin Plan specifically states that “[b]eneficial use designations apply to all tributaries to the indicated waterbody, if not listed separately.” Basin Plan, Table 2-2, p. 2-13. Whether the Regional Board staff intended this result is unclear. But in any event, it must be corrected. The Tentative Order therefore should be revised to delete the reference to “tributaries” throughout and indicate that storm water runoff from a site may enter into a water course or water body, either directly or via the Permittees’ MS4. (*Rancho Santa Margarita, County of Orange*)

Response: Tributary, as referred to in the Tentative Order, is purposely separate from the phrase “directly adjacent to or discharging directly to,” which is coupled with environmentally sensitive areas. Runoff that is not discharged directly to 303(d) listed water body may still be tributary to that water body as it commingles with other tributary streams. The term “tributary” refers to runoff from sites that may flow into a 303(d) listed water body, thus in the Tentative Order the phrase is placed within the context of 303(d) listed waterbodies.

The more stringent BMP requirements for discharges tributary to 303(d) listed water bodies refers specifically to activities that may be a source of those pollutants for which the water body is listed. Not all activities in the watershed tributary to a 303(d) listed water body generate pollutants impairing the waterbody. Activities that do not generate pollutants for which a 303(d) listed water body is listed would not be subject to the more stringent BMP requirements. CWA section 303(d) water bodies are impaired water bodies which are not achieving the water quality objectives necessary to protect their beneficial uses. As discussed in Finding 3, urban runoff discharges from MS4s are a leading cause of receiving water quality impairment in the San Diego Region and throughout the United States. Since discharges which cause or contribute to an exceedance of water quality standards are prohibited (see section C.1. of Order No. 2001-193), any discharges to CWA section 303(d) waterbodies of pollutants for which the waterbody is impaired are prohibited. Therefore, sites and activities tributary to these water bodies must implement additional controls to ensure that they are not discharging the pollutants which are causing or contributing to the impairment of these water bodies.

Furthermore, US EPA supports additional controls for construction sites tributary to impaired or sensitive water bodies, stating "The proximity and sensitivity of the receiving water to which the construction site discharges is an important consideration. For construction sites that discharge to receiving waters that do not support their designated use or other waters of special concern, additional construction site controls are probably warranted and should be strongly considered" (1992).

The Environmentally Sensitive Area (ESA) priority development project category is meant to apply to projects which have the potential to cause a direct impact to an ESA. In other words, the inclusion of the ESA category in the Tentative Order is designed to provide additional protection of ESAs. For this reason, the ESA category is limited to projects which are "within or directly adjacent or discharging directly to" an ESA, where "discharging directly to" means flows that are "not commingled."

Comment: The Tentative Order requires municipalities to develop and implement an extremely comprehensive program (through inspection and enforcement efforts) to address industrial, construction, commercial and residential storm water discharges into the MS4 system. This approach is too prescriptive and improperly limits the Copermittees flexibility and discretion. EPA guidance documents state that the operator of a MS4 has the flexibility to determine the BMPs for each storm water management program minimum control measure that are most appropriate for their system. While the content of the Tentative Order is helpful in understanding the Regional Board's thinking on possible components of a comprehensive storm water management program, such information should be offered as "guidance", not prescription or mandate.

The Tentative Order is overwhelming in its demands for reporting and paperwork and jeopardizes our ability to make timely gains in receiving water quality improvements. Also, this approach would not reflect the efforts by Orange County Copermittees to prioritize their water quality issues and optimize the use of their resources to address these issues to achieve the overall goals of its DAMP.

The Tentative Order prescribes a very detailed storm water program that goes beyond the provisions of the Clean Water Act, Porter-Cologne Act and the EPA measures and guidance outlined in section 122.26 for storm water management programs. In setting the NPDES municipal storm water regulations in 1990, EPA indicated that the permits would be flexible and coordinated with the discharger. This process seems to have been omitted in the development of this permit since numerous discussions with the San Diego region Board staff failed to achieve meaningful changes in the drafting of this permit from that issued to the county and cities of San Diego.

The Tentative Order establishes a prescriptive storm water management plan developed for San Diego County that abandons the approach of current and earlier permits, which require the County and cities to develop and implement a storm water management plan that meets certain general specifications. In previous hearings Board staff has indicated that a prescriptive permit was needed because the Permittees lacked a cohesive and implementable storm water management plan. However, this is not the case in Orange County and the same prescriptive permit is being issued even though a storm water management plan has been in existence since 1993. Under the Tentative Order, the storm water management plan developed by the County and cities with substantial stakeholder involvement (the DAMP) and approved by the Regional Board, essentially becomes irrelevant.

The incorporation into the NPDES permit of a prescriptive program means that any change in the program would require a formal amendment of the NPDES Permit. This is in contrast with the current permit, wherein the County and cities are authorized to deviate from the program set forth in the DAMP for good cause. Under the Tentative Order the County and cities would face enforcement action and/or citizen suits if they deviated in any respect from the detailed program specified in the permit. This will have two affects. First, even if there is agreement with Regional Board staff that a specified activity is no longer considered necessary, the County and/or cities must continue to perform that activity until such time that a permit amendment can be processed. Thus, local resources would be wasted on activities acknowledged to be nonproductive or unnecessary. Second, considerable Regional Board and local resources would be required to process permit amendments. If the Regional Board determines it has insufficient resources to process an amendment, then the County and cities would be stuck for the remainder of the permit term with implementing activities that all agree are unnecessary. For these reasons alone, a prescriptive approach is bad public policy.

The Clean Water Act regulations were designed to preserve flexibility and allow municipal permittees to fashion storm water management programs meeting their local needs and circumstances. When enacting the 1987 amendments to the CWA that added the municipal storm water permit requirements, Congress was aware of the difficulties in regulating discharges from MS4s solely through traditional end-of-pipe treatment. See 55 Fed. Reg. 47990, 48037-38 (Nov.16, 1990) (“Phase I Storm Water Rulemaking”). In earlier rulemakings, much of the criticism of the concept of subjecting discharges from MS4s to NPDES permits focused on the perception that “the rigid regulatory program applied to industrial process waters and effluents from [POTWs] was not appropriate for the site-specific nature and sources which are responsible for the discharge of pollutants from [MS4s].” Id. at 48038. The water quality impacts of discharges from MS4s depend on a wide range of factors, including: the magnitude and duration of rainfall events, the time period between events, soil conditions, the fraction of land that is impervious to rainfall, land use activities, the presence of illicit connections, and the ratio of the storm water discharge to receiving water flow. Id. In enacting the 1987 amendments, Congress recognized that: permit requirements for [MS4s] should be developed in a flexible manner to allow site-specific permit conditions to reflect the wide range of impacts that can be associated with these discharges. ...“All types of controls listed in subsection [402(p)(3)(C)] are not required to be incorporated into each permit.” Id. (quoting from 132 Cong.Rec. H10576 (daily ed. Oct. 15, 1986). Consistent with this Congressional intent, the Phase I Storm Water regulations “set[] out permit application requirements that are sufficiently flexible to allow the development of site-specific permit conditions.” Id. While EPA believed that all municipalities should face essentially the same responsibilities and commitments for achieving the goals of the CWA, it “agree[d] that as much flexibility as possible should be incorporated into the [MS4] program.” Id. The prescriptive, cookie-cutter approach mandated by the Tentative Order clearly is at odds with both Congress’ intent in enacting the municipal storm water program and with EPA’s intent in implementing it. Rather than allowing the Permittees the flexibility to develop and implement their own storm water management programs within the broad parameters set forth by EPA, the Tentative

Order would dictate to the Permittees what to include in their programs and how and when to implement them. (*County of Orange, Laguna Niguel, Aliso Viejo*)

Response: The Tentative Order contains the framework for the minimum requirements considered by the SDRWQCB to be necessary to achieve MEP. The requirements in the Tentative Order are based on the Federal NPDES regulations and USEPA and SWRCB guidance. Where the Tentative Order is more specific than the Federal NPDES regulations, it is based on USEPA and SWRCB guidance. The SDRWQCB has authority to include more specific requirements than the Federal regulations under CWA section 402(p)(3)(B)(iii) and CWC section 13377. USEPA supports the approach of increasingly detailed storm water permits, stating "The interim permitting approach uses best management practices (BMPs) in first-round storm water permits, and expanded or better-tailored BMPs in subsequent permits, where necessary, to provide for the attainment of water quality standards" (USEPA, 1996). The reporting requirements of the Tentative Order were included to better track the progress of the development and implementation of the required programs and were consolidated as much as possible. The Tentative Order does not require that Copermittees abandon the prioritization of water quality issues or their mechanisms to optimize the use of their resources, but rather to review and as necessary revise them. The prioritization and approaches to water quality issues related to the management of urban runoff, however, must address all of the receiving waters in the San Juan Creek Watershed Management Area in Orange County subject to the discharge of urban runoff. The development of the Tentative Order has been conducted with substantial review and comment and significant changes have been made to improve the implementation and enforcement of the Order by the Copermittees.

The Tentative Order does not go beyond the legal authorities cited in the comment and does provide the Copermittees with a wide range of flexibility and discretion. CWA section 402(p)(3)(B)(iii) provides that municipal storm water permits "shall require controls to reduce the discharge of pollutants to the maximum extent practicable, including management practices, control techniques and system, design and engineering methods, and such other provisions as the Administrator or the State determines appropriate for the control of such pollutants." To meet this requirement of the CWA, the Tentative Order requires the implementation of BMPs, as required under Federal NPDES regulation 40 CFR 122.44(k). While the Tentative Order includes requirements for widespread BMP implementation for specific categories of existing and planned land use, it does not require use of any particular BMPs. The Tentative Order actually encourages implementation of combinations of BMPs, and further does not preclude any particular BMPs or other means of compliance. A permit which allows for seemingly infinite means for achieving compliance does not 'specify the design or manner of compliance' in violation of California Water Code section 13360.

The specified programs included in the Tentative Order must be implemented by the Copermittees in order to carry out the CWA requirements. These are intended to build upon the programs already developed by the Copermittees under the previous permits. Any specified programs in the Tentative Order are made all the more necessary by the exclusion of numerical effluent limits from the permit. Reliance on BMPs as opposed to numerical effluent limits requires specification of those programs that are relied upon to reduce pollution.

With respect to the need for flexibility and coordination, the Tentative Order provides a framework within which the Copermittees may develop the programs, activities, and measures that will satisfy or exceed the requirements of the Tentative Order. Wherever possible, the RWQCB has attempted to provide discretion and flexibility to the Copermittees, especially with regard to already developed programs such as the program management system developed by the Copermittees.

The Tentative Order does not render the water management plan developed by the County and cities with substantial stakeholder involvement (the DAMP) irrelevant. As discussed during the workshops, it

was the intent of the SDRWQCB to develop a template Tentative Order that would be revised as necessary and issued throughout the San Diego Region. More importantly, the Tentative Order contains the framework for the minimum requirements considered by the SDRWQCB to be necessary to achieve MEP. The Tentative Order was drafted to ensure regional consistency throughout the San Diego Region when these NPDES Permits and Waste Discharge Requirements are issued on a watershed basis in this region. In developing and implementing the DAMP under the first and second term permits, the Copermittees developed programs that may be revised and continued under the Tentative Order. However, the previous development of any one or all of the programs, including the DAMP, does not preclude the SDRWQCB from requiring more detailed or more stringent requirements under future permits. The Tentative Order does not require the Copermittees to discard the programs developed, but to improve upon them. Moreover, many of the requirements of the Tentative Order are already being implemented at some level by the Copermittees. Because the Tentative Order is issued to each Copermittee, each Copermittee must have a program to management urban runoff within its jurisdiction. The program must be tailored to address the specific urban runoff management issues within its jurisdiction and it must be specific enough to ensure fair, uniform implementation and enforcement throughout the region. The Copermittees have the discretion to revise the DAMP and/or develop a model Jurisdictional Urban Runoff Management Program (Jurisdictional URMP) to meet or exceed the requirements of the Tentative Order.

Finally, the Tentative Order represents the definition of MEP adopted by the SDRWQCB. Within that framework, the Copermittees have significant opportunity and flexibility to develop and implement effective programs and to improve and modify these programs as necessary to achieve and maintain compliance with the Tentative Order and receiving water quality objectives. Moreover, the Copermittees are required to evaluate the effectiveness of JURMP programs and to revise the programs as necessary to comply with the Tentative Order and receiving water quality objectives. The contention that the Tentative Order would have to be amended to provide the Copermittees with the flexibility to modify activities is without merit. The requirements contained in the framework provided in the Tentative Order are sufficiently broad and inclusive to provide the Copermittees with largely the same degree of latitude in developing and implementing programs. Within this framework, the Copermittees will not be required to implement unnecessary or non-productive activities.

Comment: Although partially exempted from the Chapter 3 Environmental Impact Reporting (“EIR”) process pursuant to Water Code §13389, the remaining non-exempted parts of CEQA require all Regional Boards to consider the environmental consequences of their permitting actions, and to explore feasible alternatives and mitigation measures prior to the adoption of waste discharge requirements. See e.g., Pub. Res. Code §21002; 23 C.C.R. §3733. CEQA evidences an intent to have the RWQCB “identify, at the earliest possible time in the environmental review process, potential significant effects of the project, alternatives, and mitigation measures which would substantially reduce the effects.” Pub. Res. Code §21103.1. Once environmental consequences are identified, “a public agency may use discretionary powers provided by such other law for the purpose of mitigating or avoiding a significant effect on the environment.” Pub. Res. Code §21004. Public agencies, like the Regional Board, should not approve a project if there are feasible alternatives or feasible mitigation measures available which would substantially lessen the significant environmental effects of such a project. Pub. Res. Code §21002.

The Regional Board staff apparently has failed to consider the limitation that Section 13372 places on Section 13389. As noted in *Committee for a Progressive Gilroy v. State Water Resources Control Bd.*, 192 Cal. App. 3d 847, 862 (1987), Section 13372 “provides that the ‘provisions of this chapter [which includes section 13389] shall apply only to actions required under the Federal Water Pollution Control Act, as amended.’” (emphasis added). See also *San Francisco Civil Serv. Ass’n. v. Superior Court*, 16 Cal. 3d 46, 50 (1976). Therefore, Section 13389 only exempts compliance with CEQA if the CWA

requires the provisions of the permit. In this case, federal law does not require the contested provisions of the Tentative Order. Section 402(p)(3) of the CWA does give the Regional Board the discretion to include certain provisions in the Tentative Order that it deems appropriate. 33 U.S.C. § 1342(p)(3). However, to the extent the contested provisions are discretionary and not required under the CWA, Section 13389 does not exempt the Regional Board from complying with CEQA. The CEQA exemption only applies to actions required under the CWA. Because the Tentative Order contains numerous provisions beyond what is required by the CWA, the Regional Board must comply with CEQA before issuing the Tentative Order. Accordingly, Finding No. 39 should be deleted and the SDRWQCB must comply with CEQA requirements before adoption of the Tentative Order.

The Regional Board correctly cites the provision of the California Water Code exempting waste discharge requirements from Chapter 3 of the California Environmental Quality Act ("CEQA"); however, CEQA does apply to Regional Board permits to the extent that they contain provisions not required by the Clean Water Act.[12] The Clean Water Act does not require that municipal stormwater meet Water Quality Based Effluent Limits (WQBELs). Since the permit includes provisions not required by the Clean Water Act, the Regional Board cannot issue the permit without first conducting environmental review under CEQA. Where, as here, the action triggering CEQA compliance is a permit of countywide applicability with significant environmental implications, the Regional Board should prepare an Environmental Impact Report, including an alternatives analysis.

The Tentative Order May Not Be Adopted Without Review under the California Environmental Quality Act. It is the City's understanding that the Regional Board intends to adopt the Tentative Order without conducting any review pursuant to the California Environmental Quality Act ("CEQA"). Apparently, staff of the Regional Board is taking the position that CEQA review is not required because of the exemption contained in Water Code section 13389. Water Code section 13389 is, on its face, not applicable to Regional Board actions which impose "requirements for new sources as defined in the Federal Water Pollution Control Act." A "new source" is a source constructed after the standards applicable to the source are promulgated. The Tentative Order imposes requirements on new sources because it not only will apply to parts of the municipal separate storm sewer system ("MS4") constructed in the future, but also will apply to discharges into the MS4 from sources constructed in the future. Therefore, the Tentative Order imposes requirements for new sources and is not exempt from CEQA review.

Second, Water Code section 13389 only applies to actions which are required under the Clean Water Act. (See Water Code § 13372.) As Committee for a Progressive Gilroy v. State Water Resources Control Board (1987) 192 CalApp. 847, 862 makes clear, the exemption contained in Water Code section 13389 is a limited exemption and does not insulate discretionary acts of the Regional Board from the requirements of CEQA. The Tentative Order goes beyond the requirements of the Clean Water Act and imposes requirements which are discretionary, not mandatory. Therefore, adoption of the Tentative Order may only occur after the appropriate CEQA review has been performed. (*County of Orange, Laguna Niguel, Construction Industry Coalition on Water Quality, Aliso Viejo*)

Response: Discharges of urban runoff in municipal separate storm sewer systems (MS4s) involve discharges of pollutants from point sources to waters of the United States that are subject to regulation under federal Clean Water Act (CWA) and Chapter 5.5 of Porter Cologne Water Quality Control Act (PC). Chapter 5.5 of PC commencing with section 13370 provides additional water quality control authority specifically applicable to such discharges in order to ensure the consistency of California's state program for water quality with the federal NPDES programs as set forth in Water Code (WC) 13372.

Water Code 13389 relieves the RWQCB of its obligation to prepare environmental impact documentation under the California Environmental Quality Act (CEQA) prior to issuing waste

discharge requirements (WDRs) for discharges subject to regulation under Chapter 5.5, such as waste discharge requirements for MS4s. Issuance of requirements for discharges of urban runoff in MS4s is required by Section 402 (d) of the CWA. The fact that some of the specific requirements of a regional board order may exceed the nationwide minimum standards for MS4 regulation prescribed by the CWA and NPDES regulations in 40CFR 122.26 does not abrogate this exception. The "project" in this case is issuance of requirements for discharges in MS4s, an action required by the CWA and NPDES regulations. The comment contends that WC 13389 is not applicable to MS4s because the requirements will be applicable to sources that will be constructed in the future. This interpretation of the meaning of "new source" under the CWA misrepresents the definition of that term. The criterion for a "New Source" includes the promulgation of "national standards of performance" under CWA Section 307 (i.e. technology-based effluent limits for industrial source categories). MS4s are not within any of the promulgated industrial source categories and the USEPA has not promulgated national standards of performance for MS4s. Therefore, MS4s cannot be New Source at this time, regardless of when constructed. The comment contends that many provisions in Tentative Order are not required by the CWA or federal NPDES regulations; however, all provisions are intended to implement or clarify specific requirements in applicable federal regulations to protect water quality of waters of the United States within the San Diego Region. The comment also misrepresents the import of Progressive Gilroy by suggesting that reliance on the state statutory authority precludes reliance on the CEQA exemption in WC 13389.

In fact, all regulatory actions taken by the state to satisfy the requirements of the CWA rely on the state's independent authority to regulate activities affecting water quality. U.S. EPA authorization for California to implement the NPDES program depends upon the state's demonstration of independent authority to accomplish under state law what would be required under the federal CWA and NPDES regulations; Chapter 5.5 of PC ensures consistency between state and federal regulations for discharges subject to the CWA. Accordingly, WC 13389 provides exemption from environmental documentation under CEQA for any action that would be required for implementation of NPDES programs in California. Issuance of WDRs for MS4 is required for implementation of the CWA and NPDES program in California.

There are no alternatives to regulation of discharges in MS4 under WDRs implementing Basin Plan and NPDES regulations for storm water.

Finally, it should be noted that in its draft Order on the petition by the Building Industry Association and Western States Petroleum Association for the review of Order No. 2001-01, in which this issue was prominently raised, the SWRCB has stated "As we have stated in several prior orders, the provisions of CEQA requiring adoption of environmental documents do not apply to NPDES permits. BIA contends that the exemption from CEQA contained in section 13389 applies only to the extent that the specific provisions of the permit are required by the federal Clean Water Act. This contention is easily rejected without addressing whether federal law mandated all of the permit provisions. The plain language of section 13389 broadly exempts the Regional Water Board from the requirements of CEQA to prepare environmental documents when adopting 'any waste discharge requirement' pursuant to Chapter 5.5 (13370 et seq, which applies to NPDES permits). BIA cites the decision in Committee for a Progressive Gilroy v. State Water Resources Control Board (1987) 192 Cal.App.3d847. That case upheld the State Board's view that section 13389 applies only to NPDES permits, and not to waste discharge requirements that are adopted pursuant only to state law. The case did not concern an NPDES permit, and does not support BIA's argument." This discussion in the draft SWRCB Order strongly supports the SDRWQCB response to this issue.

Comment: The Tentative Order is Prescriptive and Violates CWC 13360: Many of the proposed requirements in the draft permit would be administratively and operationally overwhelming to

implement and would be an attempt to expand Regional Board control over City policies and procedures. In its current form, the Tentative Order, including its five separate attachments, is almost 80 pages in length, nearly three times as long as its predecessor. The principal reason for this length is that the Regional Board staff specifies in excruciating detail what the Permittees must do to comply with the substantive standards imposed under the Tentative Order. The Tentative Order, both generally and particularly with respect to the JURMP/SUSMP requirements, is unlawfully prescriptive under the Section 13360 of the Water Code and does not provide the flexibility envisioned by the CWA and its implementing regulations.

The Regional Board does not have the authority to dictate to municipalities the form or content of any ordinances, statutes, permits, contracts or similar means. The cities and counties have jurisdiction over these things. The Regional Board may not mandate or prescribe how compliance with discharge prohibitions shall be achieved. The Water Code prohibits this practice. Water Code section 13360(a) provides that: "No waste discharge requirement or other order of a regional board or the state board or decree of a court issued under this division shall specify the design, location, type of construction, or particular manner in which compliance may be had with that requirement, order, or decree, and no person so ordered shall be permitted to comply with the order in any lawful manner." How does the Regional Board justify telling Copermittees the manner in which they will comply with the requirement to control the quality of discharges from their MS4s? Clearly, the method or methods of achieving compliance are up to the City-not the Regional Board.

As one court has stated, Section 13360 permits the Regional Board to identify the "disease and command that it be cured" but prohibits the Regional Board from "dictating the cure." (Tahoe Sierra Preservation Council v. State Water Resources Control Board (1989) 210 Cal.App.3d 1421, 1438.)

The Tentative Order violates Water Code section 13360 because it dictates how the Copermittees must comply with the requirements contained in the Tentative Order--i.e., it dictates the cure. As the City has pointed out in its separate letter to the Regional Board, there are over 87 major tasks the Copermittees must perform to comply with the Tentative Order. Such a prescriptive approach, particularly one which may prevent regional solutions and tie the hands of the Copermittees, is beyond the Regional Board's authority.

As can be seen, Section 13360 grants a Copermittee unlimited authority to determine how best to meet the substantive obligations imposed under its storm water permit. This flexibility enables a Copermittee to ensure that its resources are used in the most efficient manner possible and thus is an essential component of the storm water permit. Ironically, this issue already has been addressed by the Regional Board's own legal counsel. As noted in the County of San Diego's comments on Tentative Order No. 2001-01 ("San Diego Comments"), in December 1997, the Regional Board staff sought advice concerning the permissible level of detail for municipal storm water permits. See San Diego Comments, p. A-3. In response, the Regional Board's legal counsel stated that while storm water permits could set forth certain performance goals, they could not specify the manner of complying with such goals. Id. Similarly, legal counsel advised that storm water permits could not prescribe the particular pollution control strategies to be used by the Copermittees. The Regional Board cannot and should not ignore either its statutory obligations or the advice of its legal counsel. While the Regional Board may tell the Permittees what they must do, it cannot tell the Permittees how they must do it.

Standard Urban Storm Water Mitigation Plans Violate CWC 13360:

The anti-regional-solution aspects of the permit proscribe lawful compliance options. The Regional Board has further invaded the discretion of the Copermittees by making it extremely difficult, if not impossible, for them to comply with the Permit through regional BMPs, at in-stream collection points where such BMPs could capture and treat large volumes of storm water. The Permit requires strict

compliance with receiving water standards before storm water and dry weather flow enter receiving waters. Since regional solutions generally would be located downstream of where runoff enters receiving waters, the Permit does not facilitate or promote such solutions; rather, it prevents them, at least where the receiving waters are impaired-precisely the situation calling out for regional solutions.

This anti-regional-solution bias can also be seen in the Permit's Standard Urban Storm Water Mitigation Plan ("SUSMP"). The SUSMP requires the construction of BMPs, "prior to . . . discharge to any receiving water body supporting beneficial uses." This location requirement will make it difficult in most cases for shared BMPs since the location of shared BMPs presumably would be downstream at some common drainage point, most likely in the receiving waters themselves. Thus, although the Permit states that BMPs may be shared by "multiple new development projects," there may be very few instances where such sharing is feasible.

Regional BMPs were heralded by the SWRCB in the Los Angeles SUSMP decision." They certainly represent a "lawful manner" with which to reach MEP. The Permit's anti-regional BMP provisions therefore violate Section 13360 (as well as MEP).

The volume and flow-based design standards for structural BMPs clearly run afoul of Section 13360. Both standards specify that, "BMPs shall be designed," in accordance with prescribed criteria. Permit, section F.1.b.2.c. The design standards dictate that MEP for "all priority development projects" corresponds to infiltrating, treating or filtering the runoff from a design storm or design rainfall intensity (Permit, section F. 1 .b.2.c), further limiting the "lawful manner" with which Copermittees might satisfy MEP. The Tentative Order, at Part F.1.b.(2)(c), starting on page 17, would impose "Numeric Sizing Criteria" in order to reduce the flow of water, whether or not it carries any "pollutants," off of real estate. We believe that the Board's authority under the Clean Water Act does not extend to the regulation of the rate of discharge of water, rather than regulating the discharges which the Congress addressed in the Clean Water Act, i.e., the discharge of pollutants. We are also particularly concerned that the "Numerical Sizing Criteria" exceed the Board's authority to prescribe how the Clean Water Act's goals of reducing the discharge of pollutants to waters of the United States are to be achieved, and in so doing, violate the limitations of section 13360 of the California Water Code. In particular, we are concerned that contrary to § 13360(a) of the California Water Code, the permit specifies numeric design criteria for post-construction BMPs that are more stringent than the criteria in the San Diego permit (BMPs designed to mitigate [infiltrate, filter, or treat] the runoff produced by a 0.8-inch rain event rather than a 0.6-inch rain event in San Diego). (*Richard Watson & Associates, Laguna Niguel, Mission Viejo, Aliso Viejo, Dana Point, County of Orange, Construction Industry Coalition on Water Quality, Lake Forest, Laguna Woods*)

Response: The Tentative Order does not "dictate the cure" but does provide a framework and a standard that the Copermittees must meet. As discussed in more detail elsewhere in this document, this represents the SDRWQCB's definition of the minimum standards necessary to meet MEP and protect receiving water beneficial uses.

California Water Code (CWC) section 13360 generally prohibits the Regional Boards from specifying the manner of compliance with state waste discharge requirements. However, CWC section 13377 provides that the Regional Boards shall issue waste discharge requirements which apply and ensure compliance with all applicable provisions of the Federal Water Pollution Control Act (33 U.S.C. §1251 et seq.), as amended, also known as the federal Clean Water Act (CWA). Since Tentative Order No. 2001-193 is written to implement CWA requirements, it does not violate section 13360 for the SDRWQCB to include specified programs of Best Management Practices (BMPs) to be implemented by the municipalities in order to carry out CWA requirements. Specificity is even more crucial in waste discharge requirements for storm water discharges given their lack of numerical effluent limits. In order to reduce storm water pollution to the maximum extent practicable (MEP), the Tentative Order

must require specific styles of BMPs (i.e., structural or source control), but that is not to say that the SDRWQCB is dictating one specific BMP to accomplish the task. The municipalities often have many BMPs available to get the job done.

Finally, with respect to the SUSMP requirements, it should be noted that in its draft Order on the petition by the Building Industry Association and Western States Petroleum Association for the review of Order No. 2001-01, in which this issue was prominently addressed, the SWRCB stated "The San Diego permit incorporates numeric design standards for runoff from new construction and redevelopment similar to those considered in the LA SUSMP order. In addition, the permit addresses programmatic requirements in other areas. The LA SUSMP order was a recedential decision, and we will not reiterate our findings and conclusions from that decision."

Comment: We are also concerned that the Tentative Order, as currently written, will not be practicable to implement and could expose the Copermittees that are attempting in good faith to comply with permit requirements to legal actions that are not preventable. The prohibition against violation of water quality standards is effective immediately. However, the County believes it would take ten to twenty years to construct the collection and treatment facilities necessary to comply with the prohibition. Until the construction of these facilities is completed, the County and cities would be in daily violation of several water quality standards at multiple locations throughout the area. These violations would expose the County and cities to a number of potential legal actions including enforcement action, third-party lawsuits, fines, and criminal sanctions. The citizens and businesses in the affected area would ultimately be required to pay these fines. (*County of Orange, Lake Forest, San Clemente, Aliso Viejo*)

Response: The requirements of the Tentative Order are based on the federal regulations and USEPA and SWRCB guidance and are practicable for the Copermittees to implement. The Tentative Order is a third term permit rather than a first or second term permit and is intended to build upon the programs developed during the first two permits. If BMPs have been implemented to MEP and exceedances of water quality standards still exist, an iterative process of additional BMP implementation must be implemented, per SWRCB Order WQ 99-05.

The requirements of the Tentative Order are not designed to ensure that the Copermittees are in compliance in all circumstances, thereby protecting them from any liability. The requirements in the Tentative Order are designed to protect receiving water quality from discharges of urban runoff from MS4s. The iterative process defined in section C of the Tentative Order ensures, without precluding any enforcement actions the SDRWQCB considers necessary, that Copermittees that are working in good faith to implement the requirements of the Order are not subject to unnecessary enforcement or legal actions.

Furthermore, the prohibition against violation of receiving water quality objectives is itself not a new requirement. It has been in effect during the five years of the second term permit Order No. 96-03. Order No. 96-03 included the following receiving water limitations: "The discharge of urban storm water, or non-storm water, from a municipal storm water conveyance system for which the permittees are responsible under the terms of this Order shall not cause continuing or recurring impairment of beneficial uses or exceedances of water quality objectives." Moreover, SWRCB Orders WQ 91-03, WQ 98-01, and most recently WQ 99-05 have clearly defined over period of 10 years the Copermittees' responsibility to ensure that discharges from their MS4s do not cause or contribute to exceedances of receiving water quality objectives. On October 14, 1999, the SWRCB issued a legal opinion on the federal appellate decision and provided advice to the Regional Boards on how to proceed in the future. In the memorandum, the SWRCB concludes that the recent Ninth Circuit

opinion upholds the discretion of US EPA and the State to (continue to) issue permits to MS4s that require compliance with water quality standards through iterative BMPs. Moreover, the memorandum states that “[...] because most MS4 discharges enter impaired water bodies, there is a real need for permits to include stringent requirements to protect those water bodies. As total maximum daily loads (TMDLs) are developed, it is likely that MS4s will have to participate in pollutant load reductions, and the MS4 permits are the most effective vehicles for those reductions.” In summary, the SWRCB concludes that the Regional Boards should continue to include the Receiving Water Limitations language established in SWRCB Order WQ 99-05 in all future permits. Accordingly, the SDRWQCB has required in the Tentative Order that discharges from MS4s meet receiving water quality objectives.

Finally, the collection and treatment facilities referred to in the comment have not been demonstrated by the Copermittees to be the only means by which they can reduce pollutants in the discharge of urban runoff to the MEP and prevent the discharges from causing or contributing to the exceedance of the receiving water quality objectives. Implementation of the requirements of the Tentative Order in good faith by the Copermittees does not expose the Copermittees unnecessarily to enforcement or legal action.

Comment: The Tentative Order requires municipalities to develop and implement an extremely comprehensive program (through inspection and enforcement efforts) to address industrial, construction, commercial and residential storm water discharges into the MS4 system. This approach is too prescriptive and improperly limits the Copermittees flexibility and discretion. EPA guidance documents state that the operator of a MS4 has the flexibility to determine the BMPs for each storm water management program minimum control measure that are most appropriate for their system. While the content of the Tentative Order is helpful in understanding the Regional Board’s thinking on possible components of a comprehensive storm water management program, such information should be offered as “guidance”, not prescription or mandate.

The Tentative Order is overwhelming in its demands for reporting and paperwork and jeopardizes our ability to make timely gains in receiving water quality improvements. Also, this approach would not reflect the efforts by Orange County Copermittees to prioritize their water quality issues and optimize the use of their resources to address these issues to achieve the overall goals of its DAMP.

The Tentative Order prescribes a very detailed storm water program that goes beyond the provisions of the Clean Water Act, Porter-Cologne Act and the EPA measures and guidance outlined in section 122.26 for storm water management programs. In setting the NPDES municipal storm water regulations in 1990, EPA indicated that the permits would be flexible and coordinated with the discharger. This process seems to have been omitted in the development of this permit since numerous discussions with the San Diego region Board staff failed to achieve meaningful changes in the drafting of this permit from that issued to the county and cities of San Diego.

The Tentative Order establishes a prescriptive storm water management plan developed for San Diego County that abandons the approach of current and earlier permits, which require the County and cities to develop and implement a storm water management plan that meets certain general specifications. In previous hearings Board staff has indicated that a prescriptive permit was needed because the Permittees lacked a cohesive and implementable storm water management plan. However, this is not the case in Orange County and the same prescriptive permit is being issued even though a storm water management plan has been in existence since 1993. Under the Tentative Order, the storm water management plan developed by the County and cities with substantial stakeholder involvement (the DAMP) and approved by the Regional Board, essentially becomes irrelevant.

The incorporation into the NPDES permit of a prescriptive program means that any change in the program would require a formal amendment of the NPDES Permit. This is in contrast with the current permit, wherein the County and cities are authorized to deviate from the program set forth in the DAMP for good cause. Under the Tentative Order the County and cities would face enforcement action and/or citizen suits if they deviated in any respect from the detailed program specified in the permit. This will have two affects. First, even if there is agreement with Regional Board staff that a specified activity is no longer considered necessary, the County and/or cities must continue to perform that activity until such time that a permit amendment can be processed. Thus, local resources would be wasted on activities acknowledged to be nonproductive or unnecessary. Second, considerable Regional Board and local resources would be required to process permit amendments. If the Regional Board determines it has insufficient resources to process an amendment, then the County and cities would be stuck for the remainder of the permit term with implementing activities that all agree are unnecessary. For these reasons alone, a prescriptive approach is bad public policy.

The Clean Water Act regulations were designed to preserve flexibility and allow municipal permittees to fashion storm water management programs meeting their local needs and circumstances. When enacting the 1987 amendments to the CWA that added the municipal storm water permit requirements, Congress was aware of the difficulties in regulating discharges from MS4s solely through traditional end-of-pipe treatment. See 55 Fed. Reg. 47990, 48037-38 (Nov.16, 1990) ("Phase I Storm Water Rulemaking"). In earlier rulemakings, much of the criticism of the concept of subjecting discharges from MS4s to NPDES permits focused on the perception that "the rigid regulatory program applied to industrial process waters and effluents from [POTWs] was not appropriate for the site-specific nature and sources which are responsible for the discharge of pollutants from [MS4s]." Id. at 48038. The water quality impacts of discharges from MS4s depend on a wide range of factors, including: the magnitude and duration of rainfall events, the time period between events, soil conditions, the fraction of land that is impervious to rainfall, land use activities, the presence of illicit connections, and the ratio of the storm water discharge to receiving water flow. Id. In enacting the 1987 amendments, Congress recognized that: permit requirements for [MS4s] should be developed in a flexible manner to allow site-specific permit conditions to reflect the wide range of impacts that can be associated with these discharges. ... "All types of controls listed in subsection [402(p)(3)(C)] are not required to be incorporated into each permit." Id. (quoting from 132 Cong. Rec. H10576 (daily ed. Oct. 15, 1986)). Consistent with this Congressional intent, the Phase I Storm Water regulations "set[] out permit application requirements that are sufficiently flexible to allow the development of site-specific permit conditions." Id. While EPA believed that all municipalities should face essentially the same responsibilities and commitments for achieving the goals of the CWA, it "agree[d] that as much flexibility as possible should be incorporated into the [MS4] program." Id. The prescriptive, cookie-cutter approach mandated by the Tentative Order clearly is at odds with both Congress' intent in enacting the municipal storm water program and with EPA's intent in implementing it. Rather than allowing the Permittees the flexibility to develop and implement their own storm water management programs within the broad parameters set forth by EPA, the Tentative Order would dictate to the Permittees what to include in their programs and how and when to implement them. (*County of Orange, Laguna Niguel, Aliso Viejo*)

Response: The Tentative Order contains the framework for the minimum requirements considered by the SDRWQCB to be necessary to achieve MEP. The requirements in the Tentative Order are based on the Federal NPDES regulations and USEPA and SWRCB guidance. Where the Tentative Order is more specific than the Federal NPDES regulations, it is based on USEPA and SWRCB guidance. The SDRWQCB has authority to include more specific requirements than the Federal regulations under CWA section 402(p)(3)(B)(iii) and CWC section 13377. USEPA supports the approach of increasingly detailed storm water permits, stating "The interim permitting approach uses best management practices (BMPs) in first-round storm water permits, and expanded or better-

tailored BMPs in subsequent permits, where necessary, to provide for the attainment of water quality standards" (USEPA, 1996). The reporting requirements of the Tentative Order were included to better track the progress of the development and implementation of the required programs and were consolidated as much as possible. The Tentative Order does not require that Copermittees abandon the prioritization of water quality issues or their mechanisms to optimize the use of their resources, but rather to review and as necessary revise them. The prioritization and approaches to water quality issues related to the management of urban runoff, however, must address all of the receiving waters in the San Juan Creek Watershed Management Area in Orange County subject to the discharge of urban runoff. The development of the Tentative Order has been conducted with substantial review and comment and significant changes have been made to improve the implementation and enforcement of the Order by the Copermittees.

The Tentative Order does not go beyond the legal authorities cited in the comment and does provide the Copermittees with a wide range of flexibility and discretion. CWA section 402(p)(3)(B)(iii) provides that municipal storm water permits "shall require controls to reduce the discharge of pollutants to the maximum extent practicable, including management practices, control techniques and system, design and engineering methods, and such other provisions as the Administrator or the State determines appropriate for the control of such pollutants." To meet this requirement of the CWA, the Tentative Order requires the implementation of BMPs, as required under Federal NPDES regulation 40 CFR 122.44(k). While the Tentative Order includes requirements for widespread BMP implementation for specific categories of existing and planned land use, it does not require use of any particular BMPs. The Tentative Order actually encourages implementation of combinations of BMPs, and further does not preclude any particular BMPs or other means of compliance. A permit which allows for seemingly infinite means for achieving compliance does not 'specify the design or manner of compliance' in violation of California Water Code section 13360.

The specified programs included in the Tentative Order must be implemented by the Copermittees in order to carry out the CWA requirements. These are intended to build upon the programs already developed by the Copermittees under the previous permits. Any specified programs in the Tentative Order are made all the more necessary by the exclusion of numerical effluent limits from the permit. Reliance on BMPs as opposed to numerical effluent limits requires specification of those programs that are relied upon to reduce pollution.

With respect to the need for flexibility and coordination, the Tentative Order provides a framework within which the Copermittees may develop the programs, activities, and measures that will satisfy or exceed the requirements of the Tentative Order. Wherever possible, the RWQCB has attempted to provide discretion and flexibility to the Copermittees, especially with regard to already developed programs such as the program management system developed by the Copermittees.

The Tentative Order does not render the water management plan developed by the County and cities with substantial stakeholder involvement (the DAMP) irrelevant.

As discussed during the workshops, it was the intent of the SDRWQCB to develop a template Tentative Order that would be revised as necessary and issued throughout the San Diego Region. More importantly, the Tentative Order contains the framework for the minimum requirements considered by the SDRWQCB to be necessary to achieve MEP. The Tentative Order was drafted to ensure regional consistency throughout the San Diego Region when these NPDES Permits and Waste Discharge Requirements are issued on a watershed basis in this region. In developing and implementing the DAMP under the first and second term permits, the Copermittees developed programs that may be revised and continued under the Tentative Order. However, the previous development of any one or all of the programs, including the DAMP, does not preclude the SDRWQCB from requiring more detailed or more stringent requirements under future permits. The Tentative Order does not require the Copermittees to discard the programs developed, but to improve

upon them. Moreover, many of the requirements of the Tentative Order are already being implemented at some level by the Copermittees. Because the Tentative Order is issued to each Copermittee, each Copermittee must have a program to management urban runoff within its jurisdiction. The program must be tailored to address the specific urban runoff management issues within its jurisdiction and it must be specific enough to ensure fair, uniform implementation and enforcement throughout the region. The Copermittees have the discretion to revise the DAMP and/or develop a model Jurisdictional Urban Runoff Management Program (Jurisdictional URMP) to meet or exceed the requirements of the Tentative Order.

Finally, the Tentative Order represents the definition of MEP adopted by the SDRWQCB. Within that framework, the Copermittees have significant opportunity and flexibility to develop and implement effective programs and to improve and modify these programs as necessary to achieve and maintain compliance with the Tentative Order and receiving water quality objectives. Moreover, the Copermittees are required to evaluate the effectiveness of JURMP programs and to revise the programs as necessary to comply with the Tentative Order and receiving water quality objectives. The contention that the Tentative Order would have to be amended to provide the Copermittees with the flexibility to modify activities is without merit. The requirements contained in the framework provided in the Tentative Order are sufficiently broad and inclusive to provide the Copermittees with largely the same degree of latitude in developing and implementing programs. Within this framework, the Copermittees will not be required to implement unnecessary or non-productive activities.

Comment: The Tentative Order will result in a divided regulatory system for Orange County. As noted above, The Tentative Order is copied also verbatim from the NPDES Permit the Regional Board issued for San Diego County. As the City has pointed out in its separate comment letter, this one-size-fits-all "San Diego Model" does not apply to the issues faced by Orange County cities and will derail progress toward water quality objectives. In addition, the "San Diego Model" is substantially different than the permit being considered by the Santa Ana Regional Board. Applying the "San Diego Model" to the southern portion of Orange County, while the Santa Ana Regional Board considers a more flexible model in northern Orange County, creates a divided regulatory system which threatens to undermine attempts to achieve the water quality objectives we all share.

As previously communicated to the Regional Board, Permittees believe the Santa Ana Regional Board in Order No. 01-20 (Interim Draft – June 15, 2001) establishes a better framework and a more reasonable approach to municipal storm water management than the Tentative Order. Similarly, Permittees submit that the Los Angeles Regional Board Order No. 01-XXX (Second Draft – June 29, 2001) is also better structured and more reasonable than the Tentative Order. Accordingly, Permittees strongly recommend that San Diego Regional Board consider these draft permits as models for revising the Tentative Order. (*Mission Viejo, San Juan Capistrano, Aliso Viejo, County of Orange,*)

Response: The model Permit, on which the Tentative Order 2001-193 is based, provides the additional detail for pollution prevention measures, source identification and elimination/control, inspection frequencies, education, enforcement, and structural and non structural BMPs that constitutes the definition of the SDRWQCB of what is necessary to achieve MEP.

The DAMP was reviewed with respect to the preparation of a template Tentative Order under development that was intended by the RWQCB to be revised as necessary and applied in each of the three counties in the San Diego Region. Part of the rationale for developing a template Tentative Order was to prepare San Diego Region Municipal Storm Water NPDES Copermittees in the three counties for the eventual issuance of these NPDES Permits and Waste Discharge Requirements on a watershed basis rather than a county basis while ensuring regional consistency within the San Diego Region. During workshops and public meetings conducted during adoption process for the first of

these permits (Order No. 2001-01), the RWQCB repeatedly affirmed this intention. Some of the preliminary results of that review were communicated to the Orange County Copermittees in February and March of 2001. A more detailed discussion of the Drainage Area Management Plan and the Copermittee's discretion to revise and implement it under the Tentative Order is provided elsewhere in this document.

Comment: The Draft Response to Workshop 1 (page 1) states that SDRWQCB has interpreted what MEP means. Isn't this the responsibility of the Copermittees under the process of JURMP development? If it is up to the Board to define MEP, then there must be some method of defining public policy for MEP, given the competing needs for public safety, air quality, education and other public issues. How can this public policy discussion not include city councils, County Boards of Supervisors, and other key elected officials?

With respect to managing fecal coliform bacteria loads to meet the REC-1 standards in receiving waters, it is quite possible that implementation of BMPs to the MEP still will not achieve these water quality objectives for existing developments. At that point permittees (cities) will be faced with diversion or end-of-pipe treatment as the only feasible way to achieve Receiving Water Limitations. The cost of diversion or end-of-pipe treatment for all storm drains in a watershed would surely be beyond the economic burden expected under MEP, yet this may be the only way of meeting REC- 1 standards. EPA's Phase I Storm Water regulations require municipalities to develop management programs to control discharges of pollutants (i.e., what is practicable) rather than requiring end-of-pipe treatment (i.e., what is not practicable). The Basin Plan calls for municipal storm water discharges to meet the MEP standard, but not any stricter end-of-pipe standards. To the extent that the Tentative Order attempts to hold the Permittees to a standard stricter than MEP, the Regional Board would not be implementing the Basin Plan and therefore would be in violation of Water Code section 13263(a).

The Tentative Order violates the MEP standard in several ways. The Tentative Order, on its face, is based upon a "receiving water quality objective" centered policy of "zero contribution" rather than MEP. Section A.2 flatly states that "[discharges from MS4s that cause or contribute to exceedances of receiving water quality objectives for surface water or groundwater are prohibited." This is an impossible standard to achieve and violates MEP. The Tentative Order and supporting documents fail to consider the factors which must be considered in developing an order based upon the MEP standard. Both federal and state directives require that developing an MEP standard requires consideration of specific factors, including cost and alternative approaches to resolving the problem. The Tentative Order's "zero contribution" policy is inconsistent with MEP because it will lead to selective enforcement of this unattainable policy. To actually monitor whether discharges from the each of the copermittees' MS4s are contributing in any manner to exceedances of receiving water quality objectives is impossible. What is likely to happen is that enforcement of the Tentative Order will be inconsistent, and enforcement, when it occurs, will likely lead to remedies which far exceed the provable violation. Such a policy (which essential means that all of the copermittees are always out of compliance) violates MEP.

The [Defenders of Wildlife v. Browner] court opined that while compliance with WQS was not required, Section 402(p)(3)(B)(iii) did provide EPA with discretion to require such compliance where necessary to control pollutants. Id. at 166-67. Misreading the court's dicta, the Regional Board staff finds support for the statement in the Technical Report that municipal storm water discharges must meet the MEP standard and any stricter standard necessary to meet WQS.¹ However, as noted, the court in Defenders expressly rejected this, saying that the CWA does not require municipal discharges to meet WQS. The court did not expressly address whether the EPA had discretion to require strict compliance with WQS where to do so was beyond the limits of practicability. However, the legislative

history is clear that Congress intended for MEP to be the only standard applicable to MS4 discharges, not MEP and any stricter standard necessary to meet WQS.

In short, to the extent the CWA provides the Regional Board with any discretion to impose obligations on the Permittees, that discretion must be exercised consistent with and within the confines of the MEP standard. The Regional Board does not have unlimited authority to require the Permittees to reduce the discharge of pollutants to the maximum extent practicable and to do “whatever else is needed,” nor can either Section 402(p)(3) or the court’s decision in *Defenders* be read to provide such authority. Ultimately, the only real authority provided to regional boards under Section 402(p)(3) is the authority to require a program to reduce the discharge of pollutants to the maximum extent practicable by using certain best management practices (“BMPs”) and “such other provisions as . . . the State determines appropriate for the control of such pollutants. (*Laguna Niguel, Aliso Viejo, County of Orange*)

Response: First, MEP has been defined in the Tentative Order. See Attachment D Glossary, Page D-3. Second, see the final portion for clarification of the criteria for which the Regional Board will determine if MEP has been met. Third, this portion also clarifies that the Regional and State Boards have the final responsibility of assessing whether MEP has been met.

Water Code 13263 & 13377 give RWQCB authority to regulate discharges to preserve highest reasonable water quality and water quality needed to sustain beneficial uses, including aquatic habitat, etc. NPDES regulations mandate reduction of pollutants in storm water that cause or contribute to pollution to MEP by municipalities; evidence establishes risk of unreasonable degradation and pollution associated with urban runoff and support’s RWQCB imposition of requirements implementing “MEP” performance standards. While CWA does not require municipalities to satisfy receiving water standards; [*Defenders of Wildlife v Browner* (9th c, 1999), 191F3d 1159] WQ sections 13263 & 13377 requires WDRs functioning as NPDES permits to implement water quality objectives (i.e., water quality standards) in basin plans and provisions of the CWA and NPDES regulations needed to protect beneficial uses, and to prevent nuisance.

The impacts urban runoff causes to receiving waters within our region makes the necessity for the inclusion of water quality standards in the Tentative Order clear. Findings 3, 4, 5, 6, and 9, as well as their corresponding discussions in the draft Fact Sheet/Technical Report, all discuss the impacts of urban runoff to the region’s receiving waters. Urban runoff is a leading cause of water quality impairment in the San Diego Region. To prevent urban runoff from continuing to be a leading cause of receiving water impairment, water quality standards are necessary in the Tentative Order. Compliance with water quality standards provides the necessary tool to ensure that water quality standards are achieved when implementation of BMPs to MEP are unsuccessful. The Copermittees efforts to date to implement BMPs to the MEP have not been sufficient to adequately protect receiving waters. The inclusion of requirements for compliance with water quality standards in the Tentative Order corrects this deficiency.

The issue of whether storm water discharges from MS4s must meet water quality standards has been intensely debated for the past five years. The argument arises because Clean Water Act section 402(p) fails to clearly state that municipal dischargers of storm water must meet water quality standards. On the issue of industrial discharges of storm water, the statute clearly indicates that industrial dischargers must meet both (1) the technology-based standard of “best available technology economically achievable (BAT)” and (2) applicable water quality standards. On the issue of municipal discharges however, the statute states that municipal dischargers must meet (1) the technology-based standard of “maximum extent practicable (MEP)” and (2) “such other provisions that the Administrator or the State determines appropriate for the control of such pollutants.” The statute fails, however, to specifically state that municipal dischargers must meet water quality standards. As a

result, the municipal storm water dischargers have argued that they do not have to meet water quality standards; and that they only are required to meet the MEP standard. Environmental interest groups maintain that not only do MS4 discharges have to meet water quality standards, but that MS4 permits must also comply with numeric effluent limitations for the purpose of meeting water quality standards. On the issue of water quality standards, the US EPA, the SWRCB, and the SDRWQCB have consistently maintained that MS4s must indeed comply with water quality standards.

SWRCB rationale: In addition to relying on US EPA's legal opinion concluding that MS4s must meet MEP and water quality standards, the SWRCB also relied on the Clean Water Act's explicit authority for States to require "such other provisions that the Administrator or the State determines appropriate for the control of such pollutants" in addition to the technology-based standard of MEP. To further support its conclusions that MS4 permit dischargers must meet water quality standards, the SWRCB relied on provisions of the California Water Code that specify that all waste discharge requirements must implement applicable Basin Plans and take into consideration the appropriate water quality objectives for the protection of beneficial uses.

The SWRCB first formally concluded that permits for MS4s must contain effluent limitations based on water quality standards in Order WQ 91-03. In that Order, the SWRCB also concluded that it was appropriate for Regional Boards to achieve this result by requiring best management practices, rather than by inserting numeric effluent limitations into MS4 permits. In Order WQ 98-01, the SWRCB prescribed specific precedent setting Receiving Water Limitations language to be included in all future MS4 permits. This language specifically requires that MS4 dischargers meet water quality standards and allows for the use of narrative BMPs (increasing in stringency and implemented in an iterative process) as the mechanism by which water quality standards can be met.

In Order WQ 99-05, the SWRCB modified its receiving water limitations language found in Order WQ 98-01 to meet specific objections by the US EPA (the modifications resulted in stricter compliance with water quality standards). SWRCB Order WQ 99-05 states "In Order WQ 98-01, the State Water Resources Control Board (State Water Board) ordered that certain receiving water limitation language be included in future municipal storm water permits. Following inclusion of that language in permits issued by the San Francisco Bay and San Diego Regional Water Quality Control Boards (Regional Water Boards) for Vallejo and Riverside respectively, the United States Environmental Protection Agency (EPA) objected to the permits. The EPA objection was based on the receiving water limitation language. The EPA has now issued those permits itself and has included receiving water limitation language it deems appropriate.

"In light of EPA's objection to the receiving water limitation language in Order WQ 98-01 and its adoption of alternative language, the State Water Board is revising its instructions regarding receiving water limitation language for municipal storm water permits. It is hereby ordered that Order WQ 98-01 will be amended to remove the receiving water limitation language contained therein and to substitute the EPA language. Based on the reasons stated here, and as a precedent decision, the following receiving water limitation language [which is found in Receiving Water Limitations item C. of Order No. 2001-01] shall be included in future municipal storm water permits." In a late 1999 case involving MS4 permits issued by US EPA to several Arizona cities (*Defenders of Wildlife v. Browner*, 1999, 197 F. 3d 1035), the United States Court of Appeals for the Ninth Circuit upheld US EPA's requirement for MS4 dischargers to meet water quality standards, but it did so on the basis of US EPA's discretion rather than on the basis of strict compliance with the Clean Water Act. In other words, while holding that the Clean Water Act does not require all MS4 discharges to comply strictly with state water quality standards, the Court also held that US EPA has the authority to determine that ensuring strict compliance with state water quality standards is necessary to control pollutants. On the question of whether MS4 permits must contain numeric effluent limitations, the court upheld US EPA's use of iterative BMPs in place of numeric effluent limits.

SWRCB's final position: On October 14, 1999, the SWRCB issued a legal opinion on the federal appellate decision and provided advice to the Regional Boards on how to proceed in the future. In the memorandum, the SWRCB concludes that the recent Ninth Circuit opinion upholds the discretion of US EPA and the State to (continue to) issue permits to MS4s that require compliance with water quality standards through iterative BMPs. Moreover, the memorandum states that "[...] because most MS4 discharges enter impaired water bodies, there is a real need for permits to include stringent requirements to protect those water bodies. As total maximum daily loads (TMDLs) are developed, it is likely that MS4s will have to participate in pollutant load reductions, and the MS4 permits are the most effective vehicles for those reductions." In summary, the SWRCB concludes that the Regional Boards should continue to include the Receiving Water Limitations language established in SWRCB Order WQ 99-05 in all future permits.

Accordingly, the SDRWQCB has required in the Tentative Order that discharges from MS4s meet receiving water quality objectives.

With respect to coliform discharges, structural diversion and end-of-pipe treatment is currently used as a short-term method to protect REC 1 uses while source identification efforts are conducted and best management practice options are developed and evaluated. We agree that costly diversion and end-of-pipe treatment points is not practicable at all discharge points. They, however, have not been demonstrated to be the only methods to reduce fecal coliform discharges to meet the REC 1 objective.

Finally, it should be noted that in its draft Order on the petition by the Building Industry Association and Western States Petroleum Association for the review of Order No. 2001-01, in which this issue was prominently raised, the SWRCB has stated "The Regional Water Board appropriately required compliance with water quality standards and included requirements to achieve reduction of pollutants to the maximum extent practicable." The specific recommendations for changes in the language identified in this draft resolution will be incorporated in the revised draft of the Tentative Order.

Comment: Weighing of Beneficial and Adverse Impacts In order to fulfill its responsibilities under the Water Code and CEQA and to the public, the Regional Board must consider the adverse impacts of the proposed requirement to achieve water quality standards in relation to the benefits. There is considerable evidence that, while the requirement to comply with water quality standards would provide a number of desirable benefits, inclusion of this requirement in the final NPDES permit would result in more harm than good. For this reason, the Regional Board should amend the Tentative Order prior to adoption and remove the prohibition requiring immediate compliance with water quality standards. In its place, the Regional Board should impose requirements that are based on a balancing of public interest factors and which provide more good than harm. The County believes the Receiving Water Limitations language in the current permit, with its iterative process of BMP implementation and assessment, does this.

Based on a comparison of costs, adverse impacts, and benefits, the prescriptive program incorporated into the Tentative Order is neither reasonable nor in the public interest. The costs to local residents and businesses would be significant. No public benefit would result from the program, which essentially mandates a stepping up of activities on low priority water quality issues. On the contrary, the requirement to expend equal effort on high and low priority issues would slow the pace at which water quality would otherwise be improved under the DAMP. The requirement to implement, enforce and expand coverage of the State General Permits for Industrial and Construction Activities would result in duplication of State activities and a waste of public funds. The prescriptive program would

reduce public resources available for higher priority, but discretionary community activities and therefore have an adverse impact on public health and welfare. Finally, the necessity of obtaining a formal permit amendment for any modification of any aspect of the prescriptive program before making such modification is wasteful of State and local resources and clearly not in the public interest. Thus, there is considerable evidence that inclusion of the prescriptive program in the final NPDES permit would result in more harm than good. For this reason, the Regional Board should amend the Tentative Order prior to adoption and remove the prescriptive program and, instead, require appropriate modifications to the DAMP. (*County of Orange*)

Response: Some of the major impacts in the region associated with the discharge of pollutants in urban runoff and unmitigated storm water include, beach closures, aquatic and riparian habitat stress, channel instability, flooding and toxicity. By reducing pollutants in storm water to the maximum extent practicable, enforcing prohibitions on illicit discharges, and mitigating flows from new development, the public will benefit from a reduction in the current impacts associated with storm water and urban runoff.

As discussed in response to other comments on receiving waters limitations, the SWRCB concludes that the Regional Boards should continue to include the Receiving Water Limitations language established in SWRCB Order WQ 99-05 in all future permits. An extensive discussion regarding the comments on the receiving water limitations is provided in response to comments elsewhere in this document. It should be noted that the discharge prohibitions and receiving waters limitations are in effect now irrespective of the adoption of the Tentative Order and that the Tentative Order carries forward these necessary and mandated requirements. Accordingly, the SDRWQCB has required in the Tentative Order that discharges from MS4s meet receiving water quality objectives.

Regarding prioritization, the SDRWQCB has the authority to assign site priorities for oversight by the Copermittees. The Federal NPDES regulations clearly place an emphasis on the prioritization of sites of various land uses. Per the Federal NPDES regulations, the Copermittees must control pollutants from construction, municipal, commercial, residential, and industrial land uses. BMPs must be implemented for all of these land uses. Since BMPs must be implemented for each land use, prioritization of sites falling under each land use category is an effective means for focusing efforts. The Tentative Order's requirements regarding site prioritization are more detailed than those in the Federal NPDES regulations. This increased detail is necessary due to the continued degradation of the region's receiving waters caused by urban runoff. Identification of high priority pollutant areas and activities allows for limited pollution reduction resources to be most effective. Prioritization will help the Copermittee determine which sites are high priority and it will also be an important tool in watershed planning and management. The same level of effort is not required for high and low priority sites. It is the Copermittees' discretion which BMPs are implemented for the various prioritized sites. Finally, the SWRCB upheld in Order WQ 2000-11 prioritization of sites by a Regional Board in the LARWQCB SUSMP. The LARWQCB SUSMP identified various priority development project categories which are high priority. The SWRCB found that identification of high priority sites was appropriate.

The requirements in the Tentative Order are based on the Federal NPDES regulations and USEPA and SWRCB guidance. Where the Tentative Order is more specific than the Federal NPDES regulations, it is based on USEPA and SWRCB guidance. The SDRWQCB has authority to include more specific requirements than the Federal regulations under CWA section 402(p)(3)(B)(iii) and CWC section 13377. The Tentative Order provides adequate flexibility to the Copermittees to implement their urban runoff management programs. The Copermittees are provided wide discretion in the implementation of BMPs. The Tentative Order does not prohibit each copermittee from modifying the proposed revised DAMP in order to develop a jurisdictional urban runoff management plan. Please see Attachment 5 of the Fact Sheet/Technical Report for a comparison of the proposed revised DAMP and the Tentative Order.

With respect to the comment that the SDRWQCB should amend the Tentative Order prior to adoption and remove the prescriptive program and, instead, require appropriate modifications to the DAMP, the question as to the prescriptive nature of the Tentative Order is addressed elsewhere in this document. Also, as discussed in the Fact Sheet/Technical Report and this document, while the DAMP as written is considered inadequate to achieve compliance with the MEP standard and receiving water quality objectives, the Copermittees have the discretion to revise the DAMP to meet the requirements of the Tentative Order.

Comment: The two workshops held by Regional Board staff have provided important feedback at a staff level, but only one Board member was in attendance to hear these comments. The SDRWQCB should hold a public workshop on Tentative Order 2001-193. Public workshops make for better public policy in that there are fewer restrictions, more time may be available, and the public and Copermittees may be more comfortable. The participants could be required to prepare topics in coordination to reduce repetitions, explain the ramifications of Tentative Order on the Copermittees, and that the participants provide productive, constructive alternatives if they are critical of a portion of Tentative Order.

There has been no detailed briefing on the Orange County municipal storm water permit in front of the Regional Board since 1996 and none of the Board members from that time are still in office. There is ample precedent for the Regional and State Boards to have multiple workshops on important issues, as is evidenced by the three workshops scheduled on the north Orange County permit by the Santa Ana Regional Board. A number of issues in the Tentative Order reflect major policy shifts from 1996 that need significant public consideration, which would be best accommodated by a workshop. *(MJF Consulting, Judy Johnson, County of Orange)*

Response: The SDRWQCB will conduct a public hearing to receive comments on the Tentative Order on November 14, 2001. The hearing has been scheduled to allow as much time as necessary to receive these comments. Moreover, the Tentative Order is based on Order No. 2001-01 and is intended to build upon the programs developed and implemented by the Copermittees under the first and second term permits. Extensive comments were received on Order 2001-01, including some from Copermittees in Orange County including the City of San Clemente, the City of San Juan Capistrano, and the County of Orange Public Facilities and Resources Department. Also, representatives of some Orange County Copermittees attended the three workshops held in San Diego in 2000. Based on the extensive review and comment period that has been available to the Copermittees, the SDRWQCB has determined that at this time the review and comment process for Tentative Order 2001-193 is sufficient to provide the SDRWQCB with information to consider the adoption of the Tentative Order. The SDRWQCB may consider requests during the public hearing for additional public hearings or workshops to gather and consider additional information on the Tentative Order.

Comment: The Tentative Order exceeds the limits imposed by the cwa by regulating the manner in which cities exercise land use authority. Contrary to the provisions of the Clean Water Act and California law, the Tentative Order, in numerous places, but especially Part F, would regulate land use, rather than simply requiring the Co-permittees to reduce the discharge of pollutants to the maximum extent practicable. Neither the Clean Water Act nor Porter Cologne gives the Regional Board authority to unduly influence this duty. Under California law, it is local governments, cities and counties, and not state executive agencies, which exercise land use authority. The authority of cities and counties to regulate land use comes from the California Constitution. Article XI, 57 confers on local governments the authority to regulate land use, through the exercise of the "police power." Case

law confirms the authority of cities and counties, recognizing that in their intrinsic character and by express declaration, state laws on county and city zoning are designed as standardizing limitations over local zoning practices, not as specific grants of authority to legislate. *Scrutton v. Sacramento County*. 275 Cal.App.2d 412 (1969).

The Tentative Order requires each municipality to revise its General Plan in order to meet the requirements being imposed by the Regional Board. The Tentative Order does not merely to recommend that the Permittees incorporate such plans and policies in their land use planning processes, but specifically requires the Permittees to incorporate them as part of their land use planning processes. These include requirements that the Permittees: (1) amend their General Plans; (2) modify their project approval processes to require new development and redevelopment projects adhere to the SUSMP (which in turn sets numerical design criteria for BMPs); (3) forbid the washing of driveways and patios, even in residential areas; (4) restrict the disposal of lawn clippings from the mowing of residential yards and public recreation areas; and (5) limit the ability of citizens to walk their pets outdoors. In doing so, the Regional Board would be impermissibly intruding on the local land use authority of the Permittees and violating the strictures of the CWA, the California Constitution and state law. See *supra* General Comments § VI. Accordingly, the County recommends that Finding No. 18 be deleted from the Tentative Order.

Part F.1 of the Tentative Order would require consideration of conditions for new development that take away local land use prerogatives from local government. Part F.1 .b.(l)(b), on page 14, for example, would require the City to subject development project land use approvals to the condition that the project proponent “. . . minimize impervious land coverage for all development approvals.” (Just where “minimize ” leaves off and “prohibit” begins is not spelled out in the Tentative Order.)

We suggest that the US EPA’s position on this issue is clear. In promulgating the Phase II storm water regulations, EPA said flatly “EPA recognizes that land use planning is within the authority of local governments.” 64 Fed.Reg. 68761, December 8, 1999. Furthermore, in the very first section of the Clean Water Act, CWA 9 101(b), 33 U.S.C. f, 1251(h), Congress made it clear that the CWA, including the NPDES program, is not meant to infringe on local land use authority: “It is the policy of the Congress to recognize, preserve, and protect the primary responsibilities and rights of States . . . to plan the development and use (including restoration, preservation, and enhancement) of land and water resources. . .”

This policy was relied on recently by the Supreme Court of the United States in a case in which the Court limited federal authority under the CWA over local land use matters. In *Solid Waste Agency of Northern Cook County v. Army Corps of Engineers*, 531 U.S. 159 (2001), the Court struck down a rule of the Army Corps of Engineers under which the Corps claimed jurisdiction over isolated intrastate wetlands. The Court found that the rule: “would result in a significant impingement of the States’ traditional and primary power over land and water use. See, e.g., *Hess v. Port Authority Trans-Hudson Corporation*, 513 U.S. 30, 44 (1994) (“[Regulation of land use [is] a function traditionally performed by local governments”). Rather than expressing a desire to readjust the federal-state balance in this manner, Congress [through the CWA] chose to ‘recognize, preserve, and protect the primary responsibilities and rights of States . . . to plan the development and use . . . of land and water resources’ 33 U.S.C. § 1251(b).

In summary, the Tentative Order’s encroachments upon local land uses and land use authority not only violate the CWA, and are contrary to EPA policy, they are contrary to California law, which places land use control firmly in the hands of local governments, not state agencies. The Tentative Order’s attempt to dictate land use decisions (e.g., “minimize impervious land coverage for all development projects” as required by F.1.b.(l)(b), page 14) to local governments is contrary to the separation of powers doctrine, as the California Constitution and the Legislature have placed Land use decisions in

the hands of local governments. Neither the California Constitution nor the Legislature assign any land use authority to Regional Water Quality Control Boards.

Recommendation: Convert the provisions Part F into an option to be considered by Co-permittees in the exercise of their discretion over land use matters, but do not make the adoption of the requirements now imposed by Part F mandatory. Focus the Permit on conditions which require the Co-permittees to reduce the discharge of pollutants to the maximum extent practicable. (*Rancho Santa Margarita, County of Orange, Lake Forest, Dana Point, Laguna Woods, Construction Industry Coalition on Water Quality*)

Response: The requirements of the Tentative Order implement the Federal NPDES regulations. These regulations require the Copermittees to enact ordinances to address particular situational discharges. The regulations also require General Plans to include urban runoff considerations (40 CFR 122.26(d)(2)(iv)(A)(2)). The Tentative Order has been written to provide the Copermittees discretion in how they include such considerations in their General Plans. Therefore, the Tentative Order does not supercede the authority local government.

California Water Code (CWC) section 13377 provides that the Regional Boards shall issue waste discharge requirements which apply and ensure compliance with all applicable provisions of the Federal Water Pollution Control Act (33 U.S.C. §1251 et seq.), as amended, also known as the federal Clean Water Act (CWA). Section 402(p)(3)(B)(iii) of the CWA requires municipalities to implement “controls to reduce the discharge of pollutants to the maximum extent practicable, including management practices, control techniques and system, design and engineering methods, and such other provisions as the Administrator or the State determines appropriate for the control of such pollutants.” The SDRWQCB’s responsibility is to translate this section of the CWA into the form of waste discharge requirements. Therefore the SDRWQCB has the authority to require specified programs to be implemented by the municipalities in order to carry out CWA requirements. Furthermore, a program involving land use is specifically addressed at 40 CFR 122.26(d)(2)(iv)(A)(2), “[a] description of planning procedures including a comprehensive master plan to develop, implement and enforce controls to reduce the discharge of pollutants from municipal separate storm sewers which receive discharges from areas of new development and significant redevelopment.” The Tentative Order solely requires Copermittees to exercise their planning power in a manner that takes into account potential water quality impacts and furthermore, for Copermittees to facilitate the smooth implementation of applicable provisions of the CWA.

Regarding specific activities that result in illicit discharges, the copermittees are not required to prohibit the activity (e.g., driveway washing, pet walking, etc.), only the discharge of waste to the MS4. There is no connection between the prohibition of these non-storm water discharges and land use. These non-storm water discharge prohibitions simply implement the Clean Water Act, which states that “permits for discharges from municipal storm sewers shall include a requirement to effectively prohibit non-storm water discharges into the storm sewers” (CWA section 402(p)(3)(B)). Therefore, the Permit must include such prohibitions in order to be in compliance with the Clean Water Act.

The Tentative Order does not attempt to provide the SDRWQCB with land use authority. The Tentative Order does not restrict the location or type of development. This authority resides with the Copermittees. The Tentative Order merely requires that developments within the Copermittees' jurisdictions consider water quality, and implement measures as necessary to achieve receiving water quality standards.

Finally, it should be noted that in its draft Order on the petition by the Building Industry Association and Western States Petroleum Association for the review of Order No. 2001-01, in which this issue was prominently raised, the SWRCB has thus far declined to respond to this issue.

Comment: Regional Board staff issued a revised Tentative Order and a revised Technical Report in the afternoon of August 24, barely four working days before the August 30 deadline. The County's comments have therefore necessarily been based on the original July 2 Tentative Order, and we have not been able to comprehensively assess the implications of the changes found in the revised Tentative Order and revised Technical Report, the latter of which includes over 50 new pages of analysis of the 2000 DAMP.

The County requested documents pertaining to Regional Board staff assessment of the 2000 DAMP in a Public Records Act request on August 7, 2001. On August 28, 2001, well beyond the ten-day period required by the Act, the County received some records and an invitation to copy additional documents at the Regional Board's offices. These documents therefore were not received in sufficient time to allow adequate analysis of key findings and conclusions concerning the 2000 DAMP, which underpin many of the conditions in the Tentative Order. (*County of Orange*)

Response: The second draft of the Tentative Order, released on August 23, 2001, contained primarily editorial changes and did not significantly alter the requirements of the Tentative Order. Changes in the Fact Sheet were made to provide greater clarification regarding issues raised during the public workshops. The Tentative Order is not based on the proposed DAMP and contains a framework for programs and BMPs that meet the SDRWQCB's interpretation of maximum extent practicable. Furthermore, the analysis of the DAMP was provided to describe in greater detail the earlier criticism by the SDRWQCB rather than as justification for the requirements of the Tentative Order. The adoption of the Tentative Order is neither dependent on the review of the DAMP nor is it based on specific commitments or plans contained within the DAMP. Thus, continued analysis and discussion of the DAMP is not necessary for the adoption of the Tentative Order. The hearing on the Tentative Order has been scheduled to provide the Copermittees and interested parties with sufficient time to review the Tentative Order and Fact Sheet prior to the hearing. Additional changes will be made based on a review of the comments submitted by August 30, 2001 as well as comments made in the hearing before the SDRWQCB.

Comment: The Tentative Order is an unfunded mandate that will burden the Copermittees with additional costs and take money away from other priorities. The provisions of the Tentative Order based on federal law giving discretion to the Regional Board or on state law pursuant to Water Code section 13377, cannot be considered federal mandate. Accordingly, the Regional Board must provide reimbursement to the Permittees for any and all requirements of the Tentative Order that exceed what is mandated by the CWA. (*Lake Forest, County of Orange, Rancho Santa Margarita, Laguna Hills*)

Response: As stated in the Draft Fact Sheet/Technical Report, the requirements of the Tentative Order are not within the definition of an "unfunded mandate" that would require reimbursement of costs under the California Constitution. The Tentative Order is not an unfunded mandate by the state since it is derived from the federal Clean Water Act and not state law. In addition, the Tentative Order is derived from federal USEPA regulations and guidance. The comment contends that many provisions in Tentative Order are not required by the CWA or federal NPDES regulations; however, all provisions are intended to implement or clarify specific requirements in applicable federal regulations to protect water quality of waters of the United States within the San Diego Region. As stated in

SWRCB Order No. 2000-11, the constitutional provisions regarding state mandates do not apply to NPDES permits like the Tentative Order.

Finally, it should be noted that in its draft Order on the petition by the Building Industry Association and Western States Petroleum Association for the review of Order No. 2001-01, in which this issue was prominently raised, the SWRCB has thus far declined to respond to this issue.

Comment: The prohibition would not be expected to have any net benefit with respect to the aquatic life beneficial use in San Juan Creek, Aliso Creek, or other inland streams. That is because the only certain method of complying with standards would be to remove the discharges from local waterways and streams, and that more than likely would have a negative impact on aquatic life.

The contact recreational use and the aquatic life use are the uses that potentially stand to benefit from the requirement to achieve water quality standards. The degree to which these uses will benefit depends on the degree to which water quality standards are exceeded and/or the uses are currently impaired. Based on the 303(d) List, the most apparent benefit of achieving water quality standards would be protection of the water contact recreational use, and specifically the public health of those who come into contact with the listed waters. The County's water quality studies are in agreement with the Section 303(d) List that impairment of the water contact recreation use due to high coliform bacteria levels is a major water quality issue in the area. But the County studies also identify potential impairment of the aquatic habitat use due to toxic constituents as another significant water quality issue. The County studies identify the source of coliform bacteria as urban runoff, wildlife, and sewer overflows, and the source of toxics as urban runoff, agriculture, urban development, and recreational boating. From the County's studies, it would appear that requiring urban runoff discharges to achieve water quality standards would reduce, but not necessarily eliminate the impairment of local waters for water contact recreational and aquatic habitat uses.

Because the relative contributions of pollutants of concern from the various sources have not yet been quantified, it is not possible to conclude with any degree of certainty that bringing urban runoff discharges into compliance with water quality standards would result in attainment of the impaired beneficial uses identified in the Section 303(d) List or in the County's studies. Nor is it possible to quantify the improvement in use that would occur as a result of this requirement in the Tentative Order. A case in point is Huntington Beach, where recent studies have shown that wildlife in the Talbert Marsh, rather than urban runoff, is the likely source of bacterial contamination. In addition, there is a question of whether compliance with water quality standards for toxics would reduce the impairment of aquatic habitat uses, in that the only certain method of achieving these standards would be to remove the discharge from local receiving waters, thereby removing the primary source of water from these local waters through much of the year. (*County of Orange*)

Response: The Tentative Order does not require the elimination of all discharges through the MS4, but sets the conditions under which discharges are permitted. The use of best management practices (BMPs) will reduce the risk to both public health and aquatic species by reducing the amount of pollutants discharged to the receiving waters. The storm water permit is one tool in watershed management. Please refer to Attachment 4 of the Fact Sheet/Technical Report for a discussion of municipal storm water permitting and the watershed approach to preserving and enhancing the quality of water resources.

In the case of Talbert Marsh, it appears the marsh was not engineered to provide adequate residence time for the volume and characteristics of the water. Other wetlands, including ones located closer to

the sources of urban runoff, such as those being constructed to treat urban runoff in the city of Laguna Niguel, significantly reduce levels of fecal coliform.

Studies conducted by the County on Aliso Creek in 1998 and 1999 that were funded by a section 205(j) watershed study grant from the State Water Resources Control Board indicated significant mortality to test organisms during wet weather flows. Recreational boating is not a contributor to toxicity in Aliso Creek, and agricultural land use is not identified on a watershed land use map prepared during the 205(j) watershed study. The Tentative Order would reduce the amount of toxics discharged from urban development, which can significantly reduce the amount of toxicity in the stream because urban development is currently, and will remain, the dominant land use in the drainage area.

Comment: There is a need to revise the policy interaction in the Tentative Order between watershed planning and Jurisdictional URMP requirements. The Tentative Order implies that all of the requirements for Jurisdictional SUSMPs will be applied to future development even if a Watershed URMP provides for more effective treatment systems using a broader scale geomorphologic and hydrologic scope. For example, technical studies completed for the Baseline Conditions Report undertaken for the Southern Orange County SAMP demonstrate the need for a complete understanding of the geology and hydrology of specific terrains within both the San Juan Creek watershed and the San Mateo Creek watershed in order to be able to fashion water quality strategies that can address the physical attributes of each watershed. Moreover, as reviewed in the Baseline Conditions Report, it is particularly important to understand the unique or distinctive attributes of each subwatershed in order to devise combined water quality/hydrology measures that address and respect the geomorphologic characteristics of each subwatershed and as each subwatershed contributes to overall stream course flows and characteristics.

In many cases, it is likely that project-oriented BMPs such as the 14 BMP requirements for SUSMPs may not be effective or workable when applied at a watershed or sub watershed level. For instance, the requirement to “minimize directly connected impervious areas, where feasible” may be counter-productive when siting development from a sub watershed perspective. In sandy terrains, it may be more effective to concentrate development on ridgelines in order to minimize impervious surfaces in valley floor drainage areas.

Sub-watershed plans must have the flexibility to devise water quality strategies that, in some instances, may replace Jurisdictional SUSMP requirements. If the Board is committed to encouraging watershed scale water quality planning, then the Board needs to modify its policies to reflect the likelihood that watershed policies may in some instances replace the Jurisdictional SUSMP requirements. Otherwise, the current proposals will not carry out the State NPS Plan Management Measure and policies emphasizing watershed approaches to water quality planning. We request that the Board explicitly acknowledge the benefits of undertaking water quality planning at the sub watershed level in conjunction with large-scale new development proposals so that storm water treatment and infiltration systems can be devised which use natural systems that are feasible and that respect the geomorphologic conditions found to be unique or distinctive within each sub watershed.

There is a need to recognize that watershed planning may be carried out more effectively within portions of complex watersheds at different times rather than the entire watershed at one time. Due to the physical and jurisdictional diversity of southern Orange County watersheds, it is desirable to encourage water quality planning to proceed within distinct hydrologic units rather than waiting for planning to proceed on the basis of the entire watershed. In furtherance of the Board’s above Finding 18, we request that the Board explicitly indicate that general plan and zoning measures for

undeveloped lands may be addressed from a water quality perspective in portions of watersheds so long as the planning area is coherent from a hydrologic and geomorphologic perspective.

There is a need to specifically allow alternative sub-watershed water quality strategies to be adopted either before or after the submittal of the model SUSMP and/or the Jurisdictional local SUSMP and amended ordinances. Due to the complexities of integrating land use planning and water quality planning in undertakings such as the southern Orange County SAMP, we request that the Board explicitly acknowledge that alternative strategies using the sub-watershed approach can be adopted independently of the SUSMP schedule and, at the time of final approval (e.g. County land use, 401 programmatic certification), the watershed or sub-watershed plan will define the BMP water quality requirements for the area subject to the sub-watershed plan. (*Rancho Mission Viejo,*)

Response: Watershed principles are not in conflict with the Tentative Order's Land Use Planning for New Development component and its SUSMP process. As discussed in Attachment 4 to the Fact Sheet, municipal storm water requirements are a traditional regulatory measure. These are addressed in the form of NPDES permits and Waste Discharge Requirements issued to dischargers. In actual practice, the "watershed approach" is, at the moment, largely a non-regulatory measure. Nonetheless, compliance with applicable requirements is always an essential component of any watershed effort. The federal requirement for municipal stormwater permittees is to develop a program that will reduce pollutants being washed by storm water into the MS4 then discharged into local waterbodies to the maximum extent practicable (MEP). The Tentative Order represents the definition of MEP adopted by the SDRWQCB. Within that framework, the Copermittees have significant opportunity and flexibility to develop and implement effective programs and to improve and modify these programs as necessary to achieve and maintain compliance with the Tentative Order and receiving water quality objectives.

The Tentative Order directs copermittees to include watershed protection principles and policies to direct land-use decisions and require implementation of consistent water quality protection measures. USEPA supports addressing urban runoff problems in General Plans (or equivalent plans) when it states "Runoff problems can be addressed efficiently with sound planning procedures. Master Plans, Comprehensive Plans, and zoning ordinances can promote improved water quality by guiding the growth of a community away from sensitive areas and by restricting certain types of growth (industrial, for example) to areas that can support it without compromising water quality" (USEPA, 2000). While the SDRWQCB has the legal authority to require the Copermittees' General Plans to include considerations of the water quality impacts caused by urban runoff, the Tentative Order provides the Copermittees with more discretion regarding the General Plans' contents. The Tentative Order only includes examples of the types of principles and policies which should be in a General Plan, instead of specific requirements. In addition, the Copermittees will be allowed to develop their own work plan and time schedule for any changes to their General Plans they find necessary. The copermittees must also modify their development project approval processes to ensure that pollutants and runoff from the development will be reduced to MEP and will not cause or contribute to an exceedance of receiving water quality objectives. The SUSMPs (section F.1.b.(2)) must include requirements for implementation of minimum source control and structural treatment BMPs at certain priority project categories, including the activity of large-scale development which is a potential significant source of pollutants.

The Tentative Order encourages copermittees to recognize local land and water resource conditions in the development of appropriate planning, review and BMP requirements. The General Plan review guidance and SUSMP provision only requires the site design/landscape characteristics where it is feasible. If the Copermittees determine that such measures are not feasible, they need not require them. While the Tentative Order includes requirements for widespread BMP implementation for specific categories of existing and planned land use, it does not require use of any particular BMPs. The Tentative Order actually encourages implementation of combinations of BMPs, and further does

not preclude any particular BMPs or other means of compliance. Copermitees have discretion in the methods to be developed and implemented to control post-development peak flow rates and downstream erosion. Furthermore, the Copermitees can develop and implement different methods to be applied in different watersheds or different areas of a watershed, provided that the different methods are effective in adequately reducing post-development peak flow rates to control erosion. In addition, while onsite BMPs provide many benefits, there may be cases where offsite structural BMPs, implemented on a “neighborhood” or “sub-watershed” basis, may be more feasible. This is particularly the case for existing development, where opportunities for innovative site design do not exist. To allow more flexibility in BMP implementation, the Tentative Order SUSMP requirements regarding structural treatment BMPs allows BMPs to be shared by multiple new development projects on a “neighborhood” or “sub-watershed” level. The SWRCB supports this approach in Order WQ 2000-11, which states “We do note that there could be further cost savings for developers if the permittees develop a regional solution to the problem.” It should be noted, however, that shared BMPs will be required to be implemented upstream from any receiving water supporting beneficial uses.

The commenters also refer to the Special Area Management Plan (SAMP) process. The Los Angeles District Corps of Engineers - Regulatory Branch is developing a SAMP for the San Juan / San Mateo Creek Watersheds of Orange County, California. The Los Angeles District is conducting the SAMP in coordination with the existing and the proposed amendment to the Southern Subregion Natural Community Conservation Plan (NCCP). The goal of the SAMP is to develop and implement a watershed-wide aquatic resource management plan and implementation program, which will include preservation, enhancement, and restoration of aquatic resources, while allowing reasonable and responsible economic development and activities within the watershed-wide study area. To achieve this goal, the aquatic resources within the San Juan / San Mateo Creek Watersheds are being identified, characterized, delineated, and assessed at a planning level. To date, the USACE has completed a baseline assessment of riparian ecosystem integrity in the watersheds under current conditions. The next task will be to compare several alternative development scenarios for impacts to riparian ecosystem integrity in the watershed. Alternatives to be considered include the USACE’s preferred alternative, in which certain areas identified in the baseline conditions report are proposed as set-aside areas, restoration areas, critical corridor linkage areas, and areas that are deemed suitable for development. Presumably, the landowner would also propose a preferred alternative, and a negotiated process would then result in the final SAMP.

There are several issues relevant to the Tentative Order and Jurisdictional Urban Runoff Management Plans. First, the SDRWQCB does not plan to exempt any landowner from municipal jurisdiction or federal regulations. A landowner in the SAMP watershed has asked the SWRCB for an exemption from the requirements of Municipal NPDES Storm Water Permits, and the SDRWQCB has not seen a response.

In fact, both the Tentative Order and the SAMP recognize and address the inherent importance to manage land-use activities in order to protect aquatic beneficial uses. To assess riparian habitat condition, models in the SAMP process rely on a set of land-based indicators, including the potential to contribute pesticides, nutrients, hydrocarbons and sediments to the stream reach. This is used to identify riparian reaches in which high ecosystem integrity should be maintained in the SAMP. Since reaches are assessed in the context of the local drainage basin, the SAMP will require that any development in these local drainage areas would be subject to relatively strict management measures.

Next, while the Tentative Order provides flexibility to the copermitee to select appropriate BMPs, the SAMP will require specific management measures at development locations. The USACE will seek guidance to determine specific management measures in certain priority areas. While this is more stringent than the requirements of the Tentative Order, the SUSMP BMP requirements (Section

F.1.b.(2)(b)) can provide a foundation for local site-specific options in these drainage areas, while ensuring that development in all the sub-watersheds meets certain minimum BMP criteria to support the beneficial uses throughout the entire stream network. The Tentative Order and the SAMP are, thus, complementary in the watershed management process. The Tentative Order provides the regulatory minimum measures to meet MEP, and the SAMP represents a collaborative process to identify and preserve the most critical riparian reaches from the effects of urbanization.

Finally, it is unacceptable to rely solely on a programmatic 401 certification to address federal and state regulations for urban runoff and storm water. The SDRWQCB has not made a determination whether a programmatic 401 certification will be issued for any project in the SAMP area. In addition, a 401 programmatic certification would be limited to subject to USACE jurisdiction, and would, therefore, not have authority over all the surface water resources in the SAMP area. Furthermore, to ensure the protection of aquatic resources, 401 certifications require compliance with local storm water ordinances and programs, including SUSMPs.

The SDRWQCB appreciates all efforts at watershed-based planning, but that does not relieve the necessity for compliance with the Clean Water Act, the California Water Code, and local storm water programs.

Comment: The Regional Board staff does not appear to have considered and taken into account the limitations imposed by Section 13377. First, many, if not most, of the requirements set forth in the Tentative Order are not effluent standards or limitations or even discharge-related obligations. For example, the Discharge Prohibitions and Receiving Water Limitations (“RWLs”) set forth in the Tentative Order purport to apply to discharges into and from the Permittees’ MS4. See Tentative Order, Items A-C. Clearly, the application of these provisions to storm water flows into the MS4 cannot be construed as effluent limitations or standards. See also General Comments § VII. Likewise, few of the Jurisdictional Urban Runoff Management Program (“JURMP”) requirements imposed under the Tentative Order constitute effluent standards and limitations. See, e.g., Tentative Order, Item F.1 (focusing solely on land-use planning for new development and redevelopment and including obligations to assess General Plans and to modify and revise development approval and environmental review processes); *id.*, Items F.4 & F7 (setting forth obligations pertaining to public participation and education); *id.*, Item F.9 (requiring each Copermittee to “conduct fiscal analysis of its urban runoff management program in its entirety.”) Second, even if these requirements could somehow be construed as effluent standards and limitations, the Regional Board staff still has not shown that they are “necessary” to implement water quality control plans, protect beneficial uses, or prevent nuisance. As the court made clear in the Southern California Edison case, it is not sufficient for the Regional Board simply to assert that it has the authority under Water Code section 13377 to impose more stringent effluent limitations and standards on the Permittees. It also must “enunciate its reasoning” for imposing such limitations and standards on the Permittees and demonstrate that its reasoning is “supported by the evidence.” In the Tentative Order, staff repeatedly cites the Regional Board’s authority for imposing obligations on the Permittees, but rarely provides any reasoning or evidentiary support. Third, in order for any more stringent effluent standards and limitations to be imposed, they must be consistent with the CWA. Thus, any more stringent standards or limitations must be within the limits of practicability. (*County of Orange*)

Response: Water Code 13263 & 13377 give RWQCB authority to regulate discharges to preserve highest reasonable water quality and water quality needed to sustain beneficial uses, including aquatic habitat, etc. NPDES regulations mandate reduction of pollutants in storm water that cause or contribute to pollution to MEP by municipalities; evidence establishes risk of unreasonable degradation and pollution associated with urban runoff and support’s RWQCB imposition of requirements implementing “MEP” performance standards. While CWA does not require

municipalities to satisfy receiving water standards; [Defenders of Wildlife v Browner (9th c, 1999), 191F3d 1159] WQ sections 13263 & 13377 requires WDRs functioning as NPDES permits to implement water quality objectives (i.e., water quality standards) in basin plans and provisions of the CWA and NPDES regulations needed to protect beneficial uses, and to prevent nuisance.

Finally, it should be noted that in it's draft Order on the petition by the Building Industry Association and Western States Petroleum Association for the review of Order No. 2001-01, in which this issue was prominently raised, the SWRCB has thus far declined to respond to this issue. Where the draft resolution has identified language that should be changed in Order No. 2001-01, the language has also been changed in the Tentative Order (e.g. Section C.1).

Comment: Recognizing the time and resources the San Diego Regional Board staff has invested in the structure and approach of the Tentative Order, Permittees have prepared the following strikeout version of the Tentative Order. The strikeout version shows revisions designed to address some of the more objectionable findings and significant shortcomings of the Tentative Order. It does not reflect all of the changes that Permittees believe should be made to the Tentative Order. Rather, it reflects a version of the Tentative Order that would be more acceptable to Permittees than the current draft. Although as noted above we ultimately believe the current efforts by the Santa Ana or Los Angeles Regional Boards are more appropriate models for permitting Orange County stormwater management program. Please note that the fact certain language or an entire provision has not been stricken or revised in the strikeout version should not be interpreted to mean that Permittees agree with the unrevised language or the provisions in the Tentative Order.

Attached for your review is a copy of the California Regional Water Quality Control Board (RWQCB) San Diego Region, Tentative Order No. 2001-193, NPDES No. CASO108740 draft permit for Orange County within the San Diego Region. This draft permit copy has been modified to include revising the existing Drainage Area Management Plan (DAMP) and implementing a Drainage Area Management Program in place of a Jurisdictional Urban Runoff Management Program (URMP). (*County of Orange, San Juan Capistrano*)

Response: The proposed changes in the Tentative Order are representative of the collective comments of the commenters that have been addressed in the SDRWQCB responses to comments. This includes comments concerning the Drainage Area Management Plan and receiving water quality limitations. The Tentative Order as drafted by the SDRWQCB represents the framework for MEP for the San Diego Region. Where appropriate, specific changes have been made to the Tentative Order and the Fact Sheet/Technical Report in response to the comments submitted.

Comment: The County is deeply concerned that the approach proposed in the Tentative Order, if implemented, will divert available funds away from important, ongoing watershed restoration initiatives in south Orange County towards a compliance program driven by land-use controls. If this occurs, much of the valuable watershed-level cooperation that has been achieved over the past few years will be replaced by municipal efforts to improve water quality in the gutters and catch basins on an individual jurisdiction basis. This will result in a loss of focus on the water problems that need to be solved in the true receiving waters, which are affected by more than just urban runoff. (*County of Orange*)

Response: The SDRWQCB encourages a watershed-based approach to preserving and enhancing water quality, but using such an approach is not a substitution for compliance with NPDES permits or Waste Discharge Requirements. Rather, the municipal storm water requirements and the

SDRWQCB's watershed approach are fully consistent with each other. Both have the same overall objectives and both direct many of the same specific actions; for example identification and elimination sources of pollutants. The municipal storm water requirements is a traditional regulatory measure. These are addressed in the form of NPDES permits and Waste Discharge Requirements issued to dischargers. In actual practice, the "watershed approach" is, at the moment, largely a non-regulatory measure.

The SDRWQCB recognizes that receiving waters are affected by more than urban runoff. Please see Attachment 4 of the Fact Sheet/Technical Order for a more thorough discussion of the nexus between the Municipal Storm Water Permit and the watershed approach for preserving and enhancing water quality.

A watershed approach recognizes that sources of pollution from throughout the drainage area can affect downstream receiving waters and, therefore, all such sources should be identified and mitigated. By implementing jurisdictional-level management programs, pollution can be prevented at the source, which is ultimately more cost-effective than treating the effects of water pollution and restoring quality to the waters.

The watershed approach encouraged by the SDRWQCB is not one in which independent local governments voluntarily resign their individual responsibilities to prevent pollution throughout the watershed in order to cooperatively restore discrete units of a degraded stream. Rather, the Storm Water Permit requires those parties responsible for pollution to identify and eliminate the sources of pollution. and the SDRWQCB encourages responsible parties to restore water resources which they have degraded.

The physical stream channel network is a manifestation of hydrology and sediment supply from land surfaces. The Tentative Order recognizes that the three phases of urban land development each pose significant threats to water quality from storm water runoff, and therefore requires the copermittees to each create and implement a management program to control pollutants from these land-use activities.

Comment: The JURMP requirements are contrary to the watershed approach to water quality management embraced by the Regional Board. As acknowledged in its Draft Watershed Management Approach, such an approach "is based on the premise that many water quality problems are best solved at the watershed level rather than at the individual waterbody or discharger level." Indeed, the benefits of a watershed approach are recognized by the Regional Board staff in the proposed findings on both the Tentative Order and the Revised Tentative Order. Yet, by requiring each Copermittee to prepare and implement a separate JURMP, the Regional Board staff is encouraging a piecemeal approach that will hinder, rather than help, progress toward improving water quality. Although the Tentative Order also requires the Permittees to collectively develop and implement a WURMP, this obligation is almost certain to be overshadowed by the more onerous JURMP requirement. In addition, resources that the Permittees could devote to implementing a regional watershed management program, will now have to be directed to implementing their individual JURMPs. Perhaps the County's greatest concern with the Tentative Order is that it embodies an approach to water quality management that is diametrical to the holistic approach that the Permittees have been pursuing for over decade. The Regional Board staff have rejected this holistic approach in a favor of one that is disjointed, lacks focus and will ultimately be far more costly. The 2000 DAMP focuses on identifying and prioritizing water quality problems, understanding the source of those problems, and then developing and implementing solutions to address such problems. In contrast, the JURMP essentially requires the Permittees to create and maintain an elaborate, detailed inventory of all sources that could potentially impact receiving waters and mandates that the Permittees takes steps

to address all such “problems,” with little or no emphasis on prioritizing those areas requiring the most urgent attention. (*County of Orange*)

Response: The Tentative Order, and the JURMP requirements in particular, are not contrary to the watershed management approach. The relationship and subsidiarity of the Municipal Storm Water Permit to watershed management are described in Attachment 4 of the Fact Sheet, which states in part that the SDRWQCB’s watershed approach considers each geographic watershed (or subwatershed) as a whole and seeks to identify and mitigate all sources of pollutants (both point and non-point sources) throughout the watershed which contribute to the impairment of common downstream receiving waters. This definition emphasizes the important contribution (of pollutants and flow) from “inland sources” to “coastal problems”, such as those that have historically plagued San Diego and Orange County Beaches. Like the municipal storm water requirements, one of the most important steps in the SDRWQCB’s watershed effort is the identification and elimination of the sources causing such water quality impairments.

The watershed approach involves the recognition that sources of pollutants generated upstream can impact downstream water bodies. Thus, it is vital that each copermittee develop a management program to reduce pollutants to MEP within its individual jurisdiction. This involves place-based education, BMP implementation, monitoring, and illicit discharge identification and elimination. The JURMP allows each copermittee to identify sources of pollutants that may be contributing to downstream areas of concern. In fact, the prioritization criteria specifically allows for limited pollution reduction resources to be most effective by focusing on high priority areas, including those that may impact water bodies of regional concern. Prioritization, therefore, will help the Copermittee determine which sites are high priority and is an important tool in watershed planning and management. The W-URMP (watershed urban runoff management program) then facilitates the resolution of water quality problems that are contributed to by multiple copermittees.

Within the context of a watershed effort (e.g. the Watershed Urban Runoff Management Plan or Watershed URMP), the watershed-wide efforts undertaken by a set of Copermittees in a given drainage builds upon and enhances the jurisdictional efforts of each Copermittee. Under the First and Second Term Permits, significant elements of the DAMP were actually implemented on a countywide basis in two watershed areas within two different Regional Boards with little actual emphasis on specific watershed issues or programs. The implementation of solid jurisdictional level programs, the program management component of the proposed DAMP, and the Watershed URMP focused on the San Juan Creek Watershed Management Area within Orange County, will bring the implementation of the concepts expressed in the proposed DAMP to fruition.

Comment: The requirement to immediately comply with water quality standards would have significant adverse impacts on the environment. The mandate to immediately comply with quality standards would require the County and cities to divert public resources from discretionary activities aimed at addressing high priority water quality issues in the area to the construction of the urban runoff treatment system necessary to comply with the mandate. Thus, in the ten to twenty-year interim, prior to the completion of the urban runoff treatment system, the water quality in local streams would be improved at a slower pace than would otherwise occur. In order to comply with water quality standards, it would be necessary to intercept all runoff prior to its reaching waters of the State (including any stream or estuary or the ocean) and to transport it to one or more central locations for treatment prior to discharge to the ocean. Currently, urban drainage is the primary source of water in local streams throughout much of the year. As a result of water being present year round in these streams, they support aquatic life, riparian habitat, and wildlife. Removal of the urban runoff from local streams would cause them to be dry throughout most of the year, thereby destroying the aquatic life, riparian habitat, and wildlife that presently exist.

Construction of the urban runoff collection and treatment system that would be necessary to comply with water quality standards would likely take on the order of ten to twenty years. During that period, the construction would disrupt the activities of local citizens and businesses (by the closing or restricting of streets and sidewalks), increase noise levels, and increase traffic. These impacts would adversely impact businesses in the vicinity of the construction and inconvenience and delay local citizens as they try to conduct their personal activities. Considerable fuel and energy would be required to construct the necessary storm water collection and treatment system and, once constructed, to operate the system. The increased demands for fuel and energy would further stress the already limited supplies. Moreover, the additional demands for fuel and energy, would have secondary environmental and economic impacts on the State as a whole.

In mandating that the County and cities implement low priority activities at considerable cost, the Tentative Order could have the effect of diverting limited public resources from other, higher priority community needs, including, but not necessarily limited to law enforcement, fire protection, and health and welfare activities. Thus, the proposed requirement that the County and the cities implement a prescriptive program could have an adverse impact on the health and welfare of local citizens.

The requirement to implement a prescriptive program would have the effect of delaying the incremental improvement in water quality that would otherwise occur in the absence of this requirement. That is because, under the DAMP, the County and cities were focusing effort on critical aquatic resources and pollutants that, based on monitoring, appear to present the greatest threat to beneficial uses in these waters. The Tentative Order does not recognize this approach and, instead, requires, under penalty of enforcement action, that the County and cities undertake numerous specified activities which, in the County's opinion, are of lower priority. Faced with limited public resources and the threat of enforcement action for failure to perform specifically required functions, it is likely that more emphasis will be placed on those low priority activities and less on activities deemed to be of higher priority with respect to improvement of water quality and enhancement of beneficial uses. As a result, it is likely that this requirement would have an adverse impact on water quality. (It should be noted that although the Tentative Order requires that urban runoff discharges achieve strict compliance with water quality standards and compliance with that requirement would ultimately improve water quality, implementation of the facilities necessary to achieve strict compliance would take between 10 and 20 years. In the interim, there are considerable water quality improvements that could be achieved through the present iterative process of BMPs, were it not for specific requirements in the Tentative Order that would cause staff resources to be diverted from those iterative efforts.

Response: Certain inconveniences, such as infrastructure maintenance may be unavoidable. An urban runoff management program based on the elements in the Tentative Order will improve water quality by detecting and eliminating non-storm discharges to receiving waters, reducing pollutants in runoff from municipal, industrial, commercial, residential, and construction areas, and control storm water discharges from new development and redevelopment areas.

The Tentative Order does not require a collection and treatment system as speculated. That assumption is based on an analysis of one option considered by another county to meet the criteria in the California Toxics Rule. The copermitees to this Tentative Order may consider other options for achieving the objectives of the Tentative Order, including source identification and elimination, implementation of best management practices, and the approaches outlined for new development and redevelopment that would create an urban runoff management program tailored to the land use and geography of the region. The local geography, in fact, makes it highly unlikely that elimination of dry-weather urban runoff will cause catastrophic changes in aquatic and riparian ecosystems because certain stream systems in the region receive baseflows from subsurface groundwater discharges.

Additionally, the use of on-site best management practices for source reduction and pollution prevention would decrease the need for costly and energy intensive treatment alternatives.

With respect to prioritization, the Tentative Order requires the southern Orange County municipalities to prioritize water quality concerns in their jurisdictions, rather than countywide, as has been the previous approach. The current urban runoff management approach based on incremental steps to address water quality issues throughout the entire county has not resulted in satisfactory water quality in many of the jurisdictions of south Orange County. Additionally, the management programs developed pursuant to section F.3 of the Tentative Order will develop priorities for water quality based on more extensive and pertinent data than the current level of monitoring effort, and should, therefore, result in more efficient water quality improvements in the short and long-terms.

Comment: The Tentative Order is Prescriptive and Violates CWC 13360: Many of the proposed requirements in the draft permit would be administratively and operationally overwhelming to implement and would be an attempt to expand Regional Board control over City policies and procedures. In its current form, the Tentative Order, including its five separate attachments, is almost 80 pages in length, nearly three times as long as its predecessor. The principal reason for this length is that the Regional Board staff specifies in excruciating detail what the Permittees must do to comply with the substantive standards imposed under the Tentative Order. The Tentative Order, both generally and particularly with respect to the JURMP/SUSMP requirements, is unlawfully prescriptive under the Section 13360 of the Water Code and does not provide the flexibility envisioned by the CWA and its implementing regulations.

The Regional Board does not have the authority to dictate to municipalities the form or content of any ordinances, statutes, permits, contracts or similar means. The cities and counties have jurisdiction over these things. The Regional Board may not mandate or prescribe how compliance with discharge prohibitions shall be achieved. The Water Code prohibits this practice. Water Code section 13360(a) provides that: "No waste discharge requirement or other order of a regional board or the state board or decree of a court issued under this division shall specify the design, location, type of construction, or particular manner in which compliance may be had with that requirement, order, or decree, and no person so ordered shall be permitted to comply with the order in any lawful manner." How does the Regional Board justify telling Copermittees the manner in which they will comply with the requirement to control the quality of discharges from their MS4s? Clearly, the method or methods of achieving compliance are up to the City-not the Regional Board.

As one court has stated, Section 13360 permits the Regional Board to identify the "disease and command that it be cured" but prohibits the Regional Board from "dictating the cure." (Tahoe Sierra Preservation Council v. State Water Resources Control Board (1989) 210 Cal.App.3d 1421, 1438.)

The Tentative Order violates Water Code section 13360 because it dictates how the Copermittees must comply with the requirements contained in the Tentative Order--i.e., it dictates the cure. As the City has pointed out in its separate letter to the Regional Board, there are over 87 major tasks the Copermittees must perform to comply with the Tentative Order. Such a prescriptive approach, particularly one which may prevent regional solutions and tie the hands of the Copermittees, is beyond the Regional Board's authority.

As can be seen, Section 13360 grants a Copermittee unlimited authority to determine how best to meet the substantive obligations imposed under its storm water permit. This flexibility enables a Copermittee to ensure that its resources are used in the most efficient manner possible and thus is an essential component of the storm water permit. Ironically, this issue already has been addressed by the Regional Board's own legal counsel. As noted in the County of San Diego's comments on

Tentative Order No. 2001-01 (“San Diego Comments”), in December 1997, the Regional Board staff sought advice concerning the permissible level of detail for municipal storm water permits. See San Diego Comments, p. A-3. In response, the Regional Board’s legal counsel stated that while storm water permits could set forth certain performance goals, they could not specify the manner of complying with such goals. Id. Similarly, legal counsel advised that storm water permits could not prescribe the particular pollution control strategies to be used by the Copermitees. The Regional Board cannot and should not ignore either its statutory obligations or the advice of its legal counsel. While the Regional Board may tell the Permittees what they must do, it cannot tell the Permittees how they must do it.

Standard Urban Storm Water Mitigation Plans Violate CWC 13360:

The anti-regional-solution aspects of the permit proscribe lawful compliance options. The Regional Board has further invaded the discretion of the Copermitees by making it extremely difficult, if not impossible, for them to comply with the Permit through regional BMPs, at in-stream collection points where such BMPs could capture and treat large volumes of storm water. The Permit requires strict compliance with receiving water standards before storm water and dry weather flow enter receiving waters. Since regional solutions generally would be located downstream of where runoff enters receiving waters, the Permit does not facilitate or promote such solutions; rather, it prevents them, at least where the receiving waters are impaired—precisely the situation calling out for regional solutions.

This anti-regional-solution bias can also be seen in the Permit’s Standard Urban Storm Water Mitigation Plan (“SUSMP”). The SUSMP requires the construction of BMPs, “prior to . . . discharge to any receiving water body supporting beneficial uses.” This location requirement will make it difficult in most cases for shared BMPs since the location of shared BMPs presumably would be downstream at some common drainage point, most likely in the receiving waters themselves. Thus, although the Permit states that BMPs may be shared by “multiple new development projects,” there may be very few instances where such sharing is feasible.

Regional BMPs were heralded by the SWRCB in the Los Angeles SUSMP decision.” They certainly represent a “lawful manner” with which to reach MEP. The Permit’s anti-regional BMP provisions therefore violate Section 13360 (as well as MEP).

The volume and flow-based design standards for structural BMPs clearly run afoul of Section 13360. Both standards specify that, “BMPs shall be designed,” in accordance with prescribed criteria. Permit, section F.1.b.2.c. The design standards dictate that MEP for “all priority development projects” corresponds to infiltrating, treating or filtering the runoff from a design storm or design rainfall intensity (Permit, section F. 1 .b.2.c), further limiting the “lawful manner” with which Copermitees might satisfy MEP. The Tentative Order, at Part F.1.b.(2)(c), starting on page 17, would impose “Numeric Sizing Criteria” in order to reduce the flow of water, whether or not it carries any “pollutants,” off of real estate. We believe that the Board’s authority under the Clean Water Act does not extend to the regulation of the rate of discharge of water, rather than regulating the discharges which the Congress addressed in the Clean Water Act, i.e., the discharge of pollutants. We are also particularly concerned that the “Numerical Sizing Criteria” exceed the Board’s authority to prescribe how the Clean Water Act’s goals of reducing the discharge of pollutants to waters of the United States are to be achieved, and in so doing, violate the limitations of section 13360 of the California Water Code. In particular, we are concerned that contrary to § 13360(a) of the California Water Code, the permit specifies numeric design criteria for post-construction BMPs that are more stringent than the criteria in the San Diego permit (BMPs designed to mitigate [infiltrate, filter, or treat] the runoff produced by a 0.8-inch rain event rather than a 0.6-inch rain event in San Diego).

(Richard Watson & Associates, Laguna Niguel, Mission Viejo, Aliso Viejo, Dana Point, County of Orange, Construction Industry Coalition on Water Quality, Lake Forest, Laguna Woods)

Response: The Tentative Order does not "dictate the cure" but does provide a framework and a standard that the Copermitees must meet. As discussed in more detail elsewhere in this document, this represents the SDRWQCB's definition of the minimum standards necessary to meet MEP and protect receiving water beneficial uses.

California Water Code (CWC) section 13360 generally prohibits the Regional Boards from specifying the manner of compliance with state waste discharge requirements. However, CWC section 13377 provides that the Regional Boards shall issue waste discharge requirements which apply and ensure compliance with all applicable provisions of the Federal Water Pollution Control Act (33 U.S.C. §1251 et seq.), as amended, also known as the federal Clean Water Act (CWA). Since Tentative Order No. 2001-193 is written to implement CWA requirements, it does not violate section 13360 for the SDRWQCB to include specified programs of Best Management Practices (BMPs) to be implemented by the municipalities in order to carry out CWA requirements. Specificity is even more crucial in waste discharge requirements for storm water discharges given their lack of numerical effluent limits. In order to reduce storm water pollution to the maximum extent practicable (MEP), the Tentative Order must require specific styles of BMPs (i.e., structural or source control), but that is not to say that the SDRWQCB is dictating one specific BMP to accomplish the task. The municipalities often have many BMPs available to get the job done.

Finally, with respect to the SUSMP requirements, it should be noted that in it's draft Order on the petition by the Building Industry Association and Western States Petroleum Association for the review of Order No. 2001-01, in which this issued was prominently addressed, the SWRCB stated "The San Diego permit incorporates numeric design standards for runoff from new construction and redevelopment similar to those considered in the LA SUSMP order. In addition, the permit addresses programmatic requirements in other areas. The LA SUSMP order was a precedential decision, and we will not reiterate our findings and conclusions from that decision."

Comment: The SDRWQCB may be expanding control over local government in a manner not prescribed by the Clean Water Act. The Findings in the draft permit, the discussion of Underlying Broad Legal Authority for Order No. 2001-193 in the Fact Sheet/Technical Report, and the discussions of the broad and specific legal authority for the various draft permit provisions appear to be designed to justify expanded authority. It appears that certain aspects of the Tentative Order may exceed the limits imposed by the Congress when it enacted the Clean Water Act, by the EPA when it issued regulations implementing the Clean Water Act, and even more fundamentally, the limits imposed by the U.S. Constitution and by state law on the authority of cities with respect to the development and use of private property. The proposed permit seems to have blended actual authorities with "expanded" authorities to justify this expanded control. For example, we are troubled by the phrase "and Whatever Else is Needed" in the headings for three sections of the Directives Discussion (see pages 71-72 of the Fact Sheet/Technical Report).

The Regional Board Cannot Impose Any More Stringent Standards Except Within The Limited Authorization Of California Water Code Section 13377. As discussed, Section 402(p)(3) provides the Regional Board with limited discretion to include in MS4 permits "such other provisions as . . . the State determines appropriate for the control of such pollutants," as long as such provisions are consistent with the MEP standard. See 33 U.S.C. § 1342(p)(3). However, it is important to note that the discretion provided under this section is not, in and of itself, a grant of any specific powers to the state agencies responsible for issuing MS4 permits. The Regional Board's authority to issue MS4 permits pursuant to the CWA must have a basis in state law. In this regard, the Regional Board staff cites to Water Code section 13377 as the source of its authority to require the Permittees to meet the MEP standard and to do "whatever else is needed." See Technical Report, pp. 74-75. But once again, staff has overstated the scope of the Regional Board's powers.

California Water Code Section 13377 states: Notwithstanding any other provision of this division, the state board or the regional boards shall, as required or authorized by the Federal Water Pollution Control Act, as amended, issue waste discharge requirements and dredged or fill material permits which apply and ensure compliance with all applicable provisions of the act . . . together with any more stringent effluent standards or limitations necessary to implement water quality control plans, or for the protection of beneficial uses, or to prevent nuisance. Cal. Water Code § 13377 (emphasis added). As can be seen, the first part of Section 13377 merely authorizes the Regional Board to carry out the provisions of the CWA. It does not give the Regional Board the power to go beyond the requirements of federal law.

Likewise, the second part of Section 13377 also is limited in scope, authorizing the Regional Board to impose more stringent effluent standards or limitations in certain limited circumstances. Specifically, the Regional Board must demonstrate that such standards or limitations are necessary to implement water quality control plans, protect beneficial uses, or prevent nuisance. In addition, the Regional Board's authority is limited by the requirements of Water Code section 13372, which allows the application of state law provisions only to the extent that such provisions are consistent with the federal act. Finally, in order to impose any limitations more stringent than the CWA, the Regional Board must "first enunciate its reasoning, which must in turn be supported by the evidence." See *Southern California Edison Co. v. State Water Resources Control Board*, 116 Cal. App. 3d 751, 759 (1981).

As discussed in the General Comments, the Permittees disagree with staff's expansive reading of its authority under state and federal law, as well as its conclusion regarding the scope of the MEP standard.

It is clear from even a cursory reading of the Tentative Order that it includes numerous requirements that go well beyond those mandated by the CWA. As noted, the Tentative Order applies water quality objectives to storm water discharges into the Permittees' MS4s, despite the fact that the CWA only speaks in terms of controlling such discharges from MS4s. See 33 U.S.C. § 1342(p)(3)(B); see also General Comments § VII. The Tentative Order also obligates the Permittees to individually develop and implement comprehensive JURMPs and to collectively develop and implement a Watershed Urban Runoff Management Program ("WURMP"). Indeed, nearly 50% of the Tentative Order is devoted to detailing the specifications for the JURMPs and WURMP. Yet, neither of these two programs is a specific requirement of the CWA. Rather, the CWA mandates only that the Permittees prepare and implement a management program that includes "a comprehensive planning process . . . to reduce the discharge of pollutants to the maximum extent practicable using management practices, control techniques and system, design and engineering methods, and such other provisions which are appropriate." 40 C.F.R. § 122.26(d)(2)(iv). Many of the programmatic elements required for the JURMP also are more extensive than those mandated by the CWA for inclusion in MS4 permits. For example, the CWA and its implementing regulations contain no requirements pertaining to land use planning for new developments and redevelopment. Compare Tentative Order, Item F.1, with 40 C.F.R. § 122.26(d)(2).

Likewise, the CWA does not specify the specific legal mechanism that the Permittees must use to ensure that discharges to their MS4s comply with applicable requirements. Compare Tentative Order, Items F.1.a – F.1.c (requiring Permittees to review and make specific revisions to their General Plans, as well as to their development approval and environmental review processes, in order to "reduce pollutants and runoff flow from new development and redevelopment to the maximum extent practicable"), with 40 C.F.R. § 122.26(d)(2)(i) (requiring only "a demonstration that the [permittee] can operate pursuant to legal authority established by statute, ordinance or series of contracts . . .") As yet another example, the Tentative Order imposes extensive obligations on the Permittees to "reduce

pollutants in runoff from all industrial sites.” Tentative Order, Item F.3.b. (emphasis added). However, under the CWA, the Permittees are only required to monitor and control pollutants in storm water discharges from those industrial facilities that: (1) are subject to Section 313 of the Superfund Amendments and Reauthorization Act of 1986 (“SARA”) or (2) the Permittees “determine[] are contributing a substantial pollutant loading to the municipal storm sewer system.” 40 C.F.R. § 122.26(d)(2)(iv)(C) (emphasis added).

As discussed in the prior comment and in the comments that follow, the County believes that in many instances the Regional Board would exceed its authority if it were to impose all of the requirements set forth in the Tentative Order. Moreover, to the extent the Regional Board were to exercise discretion, as authorized under state and federal law, it would be acting outside the scope of the mandates imposed by the CWA. Thus, the Regional Board cannot issue the Tentative Order unless and until it: (1) takes into consideration the economic impacts associated with adoption of the permit, as required by the CWA and the Porter Cologne Act; (2) subjects the permit to environmental review under the California Environmental Quality Act (“CEQA”); and (3) complies with the prohibition against unfunded mandates set forth in the California Constitution. (*Dana Point, County of Orange, San Juan Capistrano*)

Response: Water Code 13263 & 13377 give RWQCB authority to regulate discharges to preserve highest reasonable water quality and water quality needed to sustain beneficial uses, including aquatic habitat, etc. This does not constitute expanding control over local government in a manner nor prescribed by the Clean Water Act (CWA). NPDES regulations mandate reduction of pollutants in storm water that cause or contribute to pollution to MEP by municipalities; evidence establishes risk of unreasonable degradation and pollution associated with urban runoff and support’s RWQCB imposition of requirements implementing “MEP” performance standards.

While CWA does not require municipalities to satisfy receiving water standards; [Defenders of Wildlife v Browner (9th c, 1999), 191F3d 1159] WQ sections 13263 & 13377 requires WDRs functioning as NPDES permits to implement water quality objectives (i.e., water quality standards) in basin plans and provisions of the CWA and NPDES regulations needed to protect beneficial uses, and to prevent nuisance.

In fact, such regulation is not only allowed by the CWC, it is required. CWC section 13377 provides that the SDRWQCB issue waste discharge requirements as required by the Clean Water Act, “together with any more stringent effluent standards or limitations necessary to implement water quality control plans, or for the protection of beneficial uses, or to prevent nuisance.” Where the requirements of the Tentative Order may be more stringent than the CWA, the SDRWQCB has enunciated its reasoning in the Fact Sheet/Technical Report.

Since the Permit is a set of waste discharge requirements issued under the California Water Code (which happens to implement the NPDES program), the NPDES program is only a set of minimum standards for the Permit. The NPDES program requirements are not a limitation on the contents of the Permit, as it is a set of waste discharge requirements under the California Water Code. Nor do the NPDES storm water regulations set a maximum limit on States’ individual implementation of the NPDES program. As such, the State of California can include specific requirements in an NPDES permit that need not be specifically addressed in the NPDES storm water regulations. However, to the extent that inclusion of such requirements is meant to implement and clarify the NPDES storm water program to protect the region’s receiving waters, such requirements do not exceed the NPDES program.

Contrary to the commenters assertions, the provisions of the Permit are required by the CWA and CWC. The CWA requires the discharge of pollutants from MS4s to be reduced to the maximum extent

practicable. The SDRWQCB has defined the requirements of the Tentative Order constitute the minimum requirements necessary to meet MEP. This determination has been made by the SDRWQCB in light of the continued degradation of the region's receiving waters due to the Copermittees' urban runoff discharges. The SDRWQCB's determination of MEP is consistent with SWRCB guidance, which states "the final determination regarding whether a municipality has reduced pollutants to the maximum extent practicable can only be made by the Regional or State Water Boards, and not by the municipal discharger." Requirements in the Permit which are more detailed than those in the federal NPDES regulations are also consistent with USEPA's Interim Permitting Approach for Water Quality-Based Effluent Limitations in Storm Water Permits, which states "the interim permitting approach uses best management practices (BMPs) in first-round storm water permits, and expanded or better-tailored BMPs in subsequent permits, where necessary, to provide for the attainment of water quality standards."

Furthermore, the Permit's requirement that urban runoff discharges do not cause or contribute to an exceedance of water quality standards is required under both the federal NPDES regulations and CWC. Federal NPDES regulation 40 CFR 122.44(d)(1) requires NPDES permits to include any requirements necessary to "achieve water quality standards established under section 303 of the CWA, including State narrative criteria for water quality."

Section 13377 of Porter-Cologne also states:

the regional boards shall, as required or authorized by the Federal Water Pollution Control Act, as amended, issue waste discharge requirements and dredged or fill material permits which apply and ensure compliance with all applicable provisions of the act and acts amendatory thereof or supplementary, thereto, **together with any more stringent effluent standards or limitations necessary to implement water quality control plans, or for the protection of beneficial uses, or to prevent nuisance.** (emphasis added)

Therefore, the Permit's requirements are necessary to be in compliance with the CWA, the federal NPDES regulations, and CWC.

Contrary to the commenters assertions that the requirements for urban runoff management programs are not specific requirements of the CWA or Federal NPDES storm water regulations, the legal authorities cited throughout the Fact Sheet/Technical Report provide the SDRWQCB with ample underlying authority to require each of the directives. The SDRWQCB will not exceed its authority through the adoption of the Tentative Order and the implementation of its requirements and provisions by the Copermittees. The SDRWQCB, in exercising its discretion as authorized under State and Federal law, is not acting outside the scope of the mandates imposed by the CWA, but rather more fully implementing those mandates than it has heretofore. With respect to the consideration of economic impacts the requirement for environmental review under the California Environmental Quality Act, and the prohibition against unfunded mandates, these issues are addressed specifically elsewhere in this document.

Finally, it should be noted that in it's draft Order on the petition by the Building Industry Association and Western States Petroleum Association for the review of Order No. 2001-01, in which these issues were prominently raised, the SWRCB has thus far declined to respond to these issues.

Comment: Some of these comments also focus on concerns regarding strict legal interpretation of the Tentative Order as written versus the Board Staffs stated intent as expressed at the two workshops on the Tentative Order and in their responses to questions submitted at these workshops. In some cases the Board staff's responses to concerns about these issues have indicated that they would offer the permittees some flexibility in interpretation during implementation, however, such flexibility if not structured in the permit itself does not provide adequate legal protection for the permittees in the event of third-party law suits or a change in Board staff (*Aliso Viejo*)

Response: The Tentative Order contains the framework of minimum requirements for the Copermittees to develop and implement urban runoff management programs. Within that framework, the Copermittees have significant discretion and flexibility with regard to the programs and specific BMPs that are developed and implemented. The specific provisions of these programs and BMPs will be included in the Jurisdictional and Watershed Urban Runoff Management Program Documents, which are subject to SDRWQCB review and comment. Finally, the requirements of the Tentative Order are not designed to ensure that the Copermittees are in compliance in all circumstances, thereby protecting them from any liability. The requirements in the Tentative Order are designed to protect receiving water quality from discharges of urban runoff from MS4s. The iterative process defined in section C of the Tentative Order ensures, without precluding any enforcement actions the SDRWQCB considers necessary, that Copermittees that are working in good faith to implement the requirements of the Order are not subject to unnecessary enforcement or legal actions. To this extent, the Tentative Order provides adequate protection from differing interpretations of the Tentative Order that could result in third-party law suits or a changes in SDRWQCB staff.

Comment: The Tentative Order is invalid because the Regional Board has not complied with the Administrative Procedures Act. In developing regulations, orders or standards of general application, the Regional Board must comply with the express rule-making requirements of the Administrative Procedures Act ("APA"). (Gov. Code § 11342(g).) Although styled as a permit, the Tentative Order sets forth a set of regulations and establishes standards of general application which require compliance with the APA. Regulations promulgated without complying with the requirements of the APA are without legal effect. (*Grier v. Kizer* (1990) 219 Cal.App.3d 422,431.) In developing the Tentative Order, the Regional Board has not followed the public review and related requirements of the APA. Therefore, adoption of the Tentative Order is invalid. (*Aliso Viejo*)

Response: The development and adoption of the Tentative Order is exempt from the APA. The APA explicitly excludes the "issuance of [WDRs] and permits pursuant to section 13263" from its ambit (California Government Code section 11352(b)). The SWRCB has found this to be true stating in Order No. 2000-11: "the Administrative Procedure Act exempts the adoption of permits from its requirements." The provisions of the Tentative Order are required by the CWA and CWC. The CWA requires the discharge of pollutants from MS4s to be reduced to the maximum extent practicable.

The SDRWQCB has found that the requirements of the Tentative Order constitute MEP. This determination has been made by the SDRWQCB in light of the continued degradation of the region's receiving waters due to the Copermittees' urban runoff discharges. The SDRWQCB's determination of MEP is consistent with SWRCB guidance (February 11, 1993 Memorandum: Definition of Maximum Extent Practicable), which states "the final determination regarding whether a municipality has reduced pollutants to the maximum extent practicable can only be made by the Regional or State Water Boards, and not by the municipal discharger." SWRCB, 1993. Requirements in the Tentative Order which are more detailed than those in the federal NPDES regulations are also consistent with USEPA's Interim Permitting Approach for Water Quality-Based Effluent Limitations in Storm Water

Permits, which states “the interim permitting approach uses best management practices (BMPs) in first-round storm water permits, and expanded or better-tailored BMPs in subsequent permits, where necessary, to provide for the attainment of water quality standards.” Furthermore, the Tentative Order’s requirement that urban runoff discharges do not cause or contribute to an exceedance of water quality standards is required under both the federal NPDES regulations and CWC. Federal NPDES regulation 40 CFR 122.44(d)(1) requires NPDES permits to include any requirements necessary to “achieve water quality standards established under section 303 of the CWA, including State narrative criteria for water quality.” Section 13377 of Porter-Cologne also states: “the regional boards shall, as required or authorized by the Federal Water Pollution Control Act, as amended, issue waste discharge requirements and dredged or fill material permits which apply and ensure compliance with all applicable provisions of the act and acts amendatory thereof or supplementary, thereto, together with any more stringent effluent standards or limitations necessary to implement water quality control plans, or for the protection of beneficial uses, or to prevent nuisance.” Therefore, the Tentative Order’s requirements are necessary to be in compliance with the CWA, the federal NPDES regulations, and CWC. For this reason, the Tentative Order is exempt from the APA under California Government Code section 11352(b).

Comment: The Board in its concern for receiving water quality has brought two conflicting remedies to bear on the problem simultaneously-this is the source of our concern. On the one hand, the Board is pressing for water quality-focused, receiving water-driven remedies through its Aliso Creek Directive and its stated long-term strategy of moving toward watershed-based permits in the next permit cycle. On the other hand the Board through the URMP/JURMP process laid out in this order is seeking to impose at the front end a highly prescriptive set of standards which are to apply to all jurisdictions. This places the Aliso Creek cities between the proverbial “rock and a hard place.” We want to press forward with water quality/watershed action to improve receiving water quality, yet we will be forced to divert our energy toward immediate development of a written plan for all the elements of the URMP regardless of their relative potential to improve the water quality problems in Aliso Creek. The one-size-fits-all “San Diego Model NPDES Permit” threatens to derail progress toward water quality objectives, especially for the Aliso Creek cities which comprise seven of the eleven incorporated cities identified as municipal co-permittees in the order. The Aliso Creek co-permittees are being driven more quickly than are other areas under the Board’s jurisdiction toward a watershed-based solution to water quality problems via the Board’s Aliso Creek Directive. Yet we are still being ordered to comply with all the programmatic elements of the URMP/JURMP program along the same schedule as other permittees not yet in this position. Aliso Viejo environmental staff have begun work planning efforts to address the requirements of this draft order as well as respond to emerging results of dry weather monitoring stemming from the Aliso Creek Directive. There are an additional 51 major tasks beyond the 36 identified by Board staff that will be required in order to implement the full provisions of this draft order. The combined list of 87 major tasks is attached to assist the Board staff in understanding our concerns. (*Aliso Viejo*)

Response: The Aliso Creek Directive was issued under Order No. 96-03 as a result of persistent exceedances of receiving water quality objectives that have necessitated the diversion of Aliso Creek and the JO3PO2 conveyance into the sanitary sewer. The planning efforts of the Copermitees to address the requirements of this draft order and the response to the results of the dry weather monitoring should be not mutually exclusive. The programmatic requirements of Tentative Order 2001-193 require the Copermitees in this watershed to address the sources of the bacteria causing or contributing to these exceedances, eliminate illicit discharges, and to implement BMPs to the MEP. It is anticipated that the implementation of the Jurisdictional and Watershed Urban Runoff Management Programs in this watershed will mitigate the present condition of Aliso Creek. To the extent that the exceedances continue despite the implementation of BMPs to the MEP, the directives of section C of the Tentative Order provide the Copermitees with an iterative process to address

these exceedances. It should be noted that pollutant discharges which have the potential to cause or contribute to an exceedance of water quality objectives (such as discharges to Clean Water Act section 303(d) water bodies) may require implementation of BMPs beyond the “maximum extent practicable” standard (40 CFR 122.44(d)(1)(i)).

Comment: Public health and environmental quality are of great concern to the City of Aliso Viejo. In the area of water quality, the City would like very much to focus its resources on identifying the sources of receiving water quality problems and developing solutions to these problems so that we can be responsive to the Board’s Aliso Creek Directive, provide beneficial recreational opportunities for our citizens and, most fundamentally, be good stewards of the environment. *(Aliso Viejo)*

Response: Comment noted.

Comment: Please correct the pagination on the Table of Contents. *(Anonymous)*

Response: Comment noted.

Comment: BIA/SC asks that you consider the following items that set forth many, but not all, of the concerns that the building industry has with the proposed Permit (please reference the Construction Industry Coalition on Water Quality’s letter for a more detailed analysis of our concerns).

BIA/SC asks that you consider the following items that set forth many, but not all, of the concerns that the building industry has with the proposed Permit (please reference the Construction Industry Coalition on Water Quality’s letter for a more detailed analysis of our concerns). We are very interested in working with you to address these concerns and ensure that the Permit is modified in such a way as to protect jobs, housing and good water quality for all residents in the region.

1. The definition of all urban runoff as “waste”.
- 2 . The inclusion of strict receiving water limitation compliance language that would most likely create a situation where all dischargers would be in non-compliance of the Permit from day one of implementation.
- 3 . The unjustified selection of priority development categories and thresholds requiring SUSMP compliance that are not likely to provide environmental benefit in relation to the high construction and maintenance costs involved.
- 4 . The Permit does not distinguish between land use and project location with regard to the appropriate level of regulation. It promotes a one-size-fits-all approach to regulation, most likely due to the lack of scientific foundation needed to set more appropriate regulations for different project types and locations.
- 5 . The attempt of the Regional Board to regulate stormwater flows in this Permit, regardless of what constituents are in the stormwater.
- 6 . The Permit’s non-compliance with the Maximum Extent Practicable (MEP) implementation standard.
- 7 . The attempt of the Regional Board to control local land use decisions even when they do not have authority to do so.
- 8 . The expansion of the SUSMP to include Environmentally Sensitive Areas (ESA’s), where the definition of ESA will prompt almost all new development to mitigate storm water runoff, even though the State Water Resources Control Board stated that ESA’s are already heavily regulated and removed them as a priority SUSMP development category.

9. The Permit's attempt to override all operative provisions of the General Construction Activity Storm Water Permit.

10. The requirement to limit grading during the wet season.

11. The requirement for all construction projects to prepare a local S WPPP. (*Building Industry Association of Southern Californ*)

Response: These subjects are each addressed individually throughout the SDRWQCB response to comments.

In addition, many of these subjects have been previously addressed by the SDRWQCB in the Fact Sheet/Technical Report for Tentative Order 2001-193, during the process for adoption of Order No. 2001-01, and the SDRWQCB response to the petitions for Review of the Regional Water Quality Control Board - San Diego Region's February 21, 2001 Approval of the San Diego Municipal Storm Water Permit Order No. 2001-01 filed by the Building Industry Association and the Western States Petroleum Association.

Comment: How do you propose to enforce requirements based on words such as minimize, maximize, etc? (*Building Industry Association of Southern Californ*)

Response: The RWQCB will enforce the requirements of the Tentative Order based in part on the submitted Jurisdictional Urban Runoff Management Program Documents submitted by the Copermittees within 365 days of the adoption of the Tentative Order. In these documents, which are subject to review and comment by the SDRWQCB, the Copermittees will propose BMPs and activities that constitute "minimum" or "maximum" BMPs or activities that satisfy the requirements of the Tentative Order.

Comment: While CICWQ appreciates the Board's well-intentioned regulatory efforts to improve water quality, the proposed Permit could have significant detrimental effects on every CICWQ member employee - and more specifically - California's shrinking middle- and working-class. According to an August 6, 2001 Los Angeles Times article entitled, "Middle-Class Families Put in Economic Bind," a shrinking middle class and high housing costs represent key challenges to the state's economy and quality of life.

This Permit will most likely yield a number of unintended consequences that could further exacerbate the shrinking middle-class and increasing housing costs. These regulations will result in fewer, but more expensive residential projects being completed in the future, due to additional costs and restrictions involved in complying with these regulations. This will, in turn, compromise job growth, housing production and the ability of residents to own their own home. These factors can have a significant negative effect on the regional economy. (*Construction Industry Coalition on Water Quality*)

Response: A number of factors, most significantly supply and demand, affect the cost of housing in Southern California. The fact that homes in many areas of Riverside County have a median price in the low \$100,000's while homes in Orange County have a median price in the \$300,000's, while both are subject to the same environmental regulations, demonstrates the small impact such environmental regulations have on the price of housing relative to the other factors.

Comment: We are very concerned about the cost effectiveness of the Permit in relation to specifically, what the anticipated efficacy is of this Permit in terms of improving overall water quality? The Permit should provide actual improvement of water quality, not simply attempts at incremental

decreases in future contributions. As to the maximum extent practicable consideration, both the Regional and State Boards have not properly addressed key elements of the “practicality” component - i.e., technical and cost feasibility. While cleaning up a problem decades in the making certainly must be a priority, it will not be accomplished on the back of other critical social needs in California, such as housing. Even with the marginal cost estimates relied upon by Regional Board staff (figures we vigorously dispute), there is no consideration as to the effect of those marginal costs on driving the availability of housing further out of the reach of those residents of our state most in need.

We urge you to thoroughly review the comments provided by CICWQ and ask yourselves at what point water quality improvement efforts should be allowed to compromise the economic livelihoods of our working families, diminish new home production, increase housing costs, and jeopardize our regional economic strength. (*Construction Industry Coalition on Water Quality*)

Response: It is implementation of actions required by the permit, not the permit itself, that will meet MEP and improve water quality. That implementation is the responsibility of the Permittees. Regarding housing costs and water quality, briefly, there is no basis to the implied claim that the Tentative Order will compromise the economic livelihood of working families. The Tentative Order will protect beneficial uses of water resources, including uses that promote economic activity. The Tentative Order will also help to preserve the opportunity for economic gain through beneficial uses of water resources in the future. The cost of housing in Southern California is primarily driven by location and proximity to desirable features. Regarding the cost of implementing structural treatment BMPs at SUSMP priority development projects, the SDRWQCB and LARWQCB have demonstrated in past SUSMP documents that the cost of construction of structural treatment BMPs generally constitutes less than 1% of total project cost. Regarding costs of structural treatment BMPs, the SWRCB states in Order WQ 2000-11 “The Regional Board found that the cost to include BMPs that will meet the mitigation criteria will be one to two percent of the total development cost. This amount appears reasonable, especially in light of the amount of impervious surface already in Los Angeles County and the impacts on impaired water bodies.”

Comment: The JURMP Requirements Would Unravel The Permittees’ Existing Storm Water Management Programs. The tenor of the Tentative Order suggests that, in the Regional Board staff’s view, the JURMP requirements can easily be incorporated into the Permittees’ existing program for water quality management. As such, the Permittees are given only one year following adoption of the Tentative Order to “have completed full implementation of all requirements of the Jurisdictional URMP.” Tentative Order, Item G. However, as discussed above, the 2000 DAMP and its predecessor are based on a holistic approach that emphasizes managing water quality on a county-wide, watershed basis. All of the Permittees’ storm water management programs have been structured around this approach. To that end, the Permittees prepared a model storm water ordinance which was approved by the Regional Board in 1996 and then individually adopted by the Permittees. These ordinances form both the procedural and substantive framework for the Permittees’ jurisdictional storm water management programs.

The JURMP requirements would now require each Copermitttee to completely re-write, re-adopt and re-implement its storm water ordinances. Indeed, this administrative burden is one of the greatest costs associated with the proposed JURMP requirements. Moreover, it is unlikely that the Permittees could complete this effort within one year, especially since these revised storm water ordinances would require CEQA review. Finally, this effort would necessarily require the Permittees to redirect scarce resources away from their other components of their storm water management programs, including those that focus on managing water quality on a jurisdictional, rather than watershed, basis. In short, it is fallacious for the Regional Board staff to believe that the proposed JURMP requirements will simply augment the Permittees’ existing programs for managing storm water. Likewise, it is

ludicrous for staff to expect and demand that the major re-structuring of these programs which the JURMP requirements would necessitate could be accomplished in only one year (*County of Orange*)

Response: Rather than addressing urban runoff concerns on a countywide basis, the Tentative Order is designed to ensure that each municipality in the region covered by the SDRWQCB has a storm water management program sufficient to address the areas, land-use activities and concerns within its jurisdiction. This approach reflects a prioritization of pollution prevention over treatment of pollution, and can be efficiently incorporated into a watershed approach to managing urban runoff. Please see Attachment 4 of the Fact Sheet for a discussion of municipal storm water permitting and the watershed approach.

The JURMPs are based on requirements largely derived from Order 90-38, Order 96-03 and the NPDES regulations which have been in place for many years. The Tentative Order requires the Copermittees to modify the building and development codes and ordinances as necessary to comply with the Tentative Order. The Tentative Order states "Within 180 days of approval of the model SUSMP in the public process by the SDRWQCB, each Copermittee shall adopt its own local SUSMP, and amended ordinances consistent with the approved model SUSMP, and shall submit both (local SUSMP and amended ordinances) to the SDRWQCB." The Copermittees are provided 365 days to develop the model SUSMP and an additional 180 days for the local SUSMP. One and a half years should be sufficient to develop the necessary ordinances. Schedules for the implementation of the requirements of the Tentative Order should be adequate for CEQA review.

Comment: However, the County recently received a revised version of the Tentative Order ("Revised Tentative Order") and a revised Fact Sheet/Technical Report ("Revised Technical Report") both dated August 23, 2001. The latter document includes the Regional Board staff's analysis of the Permittees' Drainage Area Management Plan, as revised and submitted with their permit application ("2000 DAMP"). The County believes that these comments on the Tentative Order are also relevant and applicable to the Revised Tentative Order. Nonetheless, the County has not had an adequate opportunity to review the Revised Tentative Order in detail and has not yet had sufficient time to evaluate the recently received staff analysis of the 2000 DAMP. Accordingly, the County reserves the right to submit additional comments relating to Tentative Order No. 2001-193 and the supporting Fact Sheet/Technical Report to the Regional Board in the future. (*County of Orange*)

Response: The second draft of the Tentative Order, released on August 23, 2001, contained primarily editorial changes and did not significantly alter the requirements of the Tentative Order. Changes in the Fact Sheet were made to provide greater clarification regarding issues raised during the public workshops. The hearing has been scheduled to provide the Copermittees and interested parties with sufficient time to review the Tentative Order and Fact Sheet prior to the hearing. Additional changes will be made based on a review of the comments submitted by August 30, 2001 as well as comments made in the hearing before the SDRWQCB.

Comment: We believe the period for written comments should be extended by 30 days in order to allow a full airing of issues on both sides concerning this important Order, and to address two specific procedural concerns... (*County of Orange*)

Response: The second draft of the Tentative Order, released on August 23, 2001, contained primarily editorial changes and did not significantly alter the requirements of the Tentative Order. Changes in the Fact Sheet were made to provide greater clarification regarding issues raised during the public workshops. The Tentative Order is not based on the proposed DAMP and contains a framework for programs and BMPs that meet the SDRWQCB's interpretation of maximum extent

practicable. Furthermore, the analysis of the DAMP was provided to describe in greater detail the earlier criticism by the SDRWQCB rather than as justification for the requirements of the Tentative Order. The adoption of the Tentative Order is neither dependent on the review of the DAMP nor is it based on specific commitments or plans contained within the DAMP. Thus continued analysis and discussion of the DAMP is not necessary for the adoption of the Tentative Order. The hearing on the Tentative Order has been scheduled to provide the Copermittees and interested parties with sufficient time to review the Tentative Order and Fact Sheet prior to the hearing. Additional changes will be made based on a review of the comments submitted by August 30, 2001 as well as comments made in the hearing before the SDRWQCB.

Comment: Irrespective of any legal requirements, the Regional Board has a moral duty to conduct its activities in a manner consistent with the public interest. This, in turn, requires that the Regional Board consider and weigh all potential impacts, both beneficial and detrimental, prior to acting. (*County of Orange*)

Response: The public adoption process for the Tentative Order enables to the SDRWQCB to consider all potential impacts, both beneficial and detrimental, consistent with the public interest.

Comment: While the requirement to comply with water quality standards would benefit public health by reducing the risk of gastrointestinal and other water borne illnesses, there is evidence that the increased costs to residents to achieve the requirement would increase the risk of illnesses and even death. In analyzing US EPA's proposed drinking water standard for arsenic, the AEI-Brookings Joint Center for Regulatory Studies concluded that while the arsenic standard would likely save eleven lives per year due to reduced arsenic levels in drinking water, it would likely result in a net loss of ten lives per year. See Appendix B-3. As stated in the AEI-Brookings report: "The reason is that the costs of complying with the rule reduce the amount of private resources that people have to spend on a wide range of activities, including health care, children's education, and automobile safety. When people have fewer resources, they spend less to reduce risks." (*Ibid*, page 8.) The arsenic rule was estimated to cause about 10 million people nationally to incur increased costs of about \$21 per year, which is less than 1/10 th the \$296 per capita per year increase which the 500,000 people affected by the Tentative Order would face if the Order were adopted with a requirement for strict compliance with water quality standards. As in the case of adverse economic impacts, the Regional Board needs to independently evaluate the potential for adverse public health impacts before acting on the Tentative Order. (*County of Orange*)

Response: A comparison of the costs between implementation of the US EPA's Arsenic Rule and the RWQCB Tentative Order is not entirely appropriate. The arsenic rule is a drinking water standard mandated by the Safe Drinking Water Act while the Tentative Order is a NPDES permit and Waste Discharge Requirement. The two are directed toward different regulatory contexts - the drinking water standard is a numeric treatment standard based on a contaminant's threat to human health, whereas the Tentative Order is a BMP-based permit to discharge wastes that protects the beneficial uses of receiving waters and does not contain numeric effluent standards.

The use of the AEI-Brookings study to support the assertion that increased costs to comply with the requirements of the Tentative Order could lead to adverse health or economic effects is questionable. First, the study was restricted to short term costs and benefits. Second, the results of the study are incorrect - the cost-benefit analyses in the study were based on health risk estimates that have since been determined to be significantly underestimated. The National Academy of Sciences recently reported that USEPA significantly underestimated health risks associated with low level exposure to arsenic, such that even the new, lower standard proposed for drinking water may not be low enough

to protect the public health. This new information provides strong support for more stringent regulation in the case of arsenic; a fact that was recognized by the USEPA when it reinstated the proposed arsenic standard criticized by the study.

Furthermore, even if one could disregard the new information, the results of the AEI-Brookings study cannot be convincingly applied to the Tentative Order. The study was concerned with a drinking water standard so, by design, did not include some information in its analyses that would be pertinent. For instance, it did not include the benefit of individual health care savings that would result from less contaminant exposure or increased individual health care costs that could result from increased contaminant exposure. Moreover, the study could not consider the benefit of increased personal savings that would result from continued employment and/or tourism due to uncontaminated beaches or low incidence of water borne illness, which is the context of the comment that cited this study. In addition, it did not consider the potential loss of program supporting revenue to municipalities resulting from a reduction in the tax base due to a loss of business taxes or lower property taxes that could result from increased contaminant levels, continuing beach closures, and the loss of other beneficial uses. As a waste discharge requirement and NPDES permit, the Tentative Order presents economic opportunities concomitant with the increased costs. Consequently, although the implementation and enforcement of the Tentative Order may entail increased costs for the Copermitees, the critical use of the study in the context of the Tentative Order is neither useful nor appropriate.

Comment: In order to use our limited resources wisely and better effect water quality improvements, the Copermitees, with stakeholder approval, have developed priorities that address significant water quality problems first. The Tentative Permit would not allow us to do that. Is it the staff's intention that we address all of our stormwater problems at once, and if so, is this practicable? *(County of Orange)*

Response: The Tentative Order requires the copermitees to identify, address and mitigate the highest priority water quality issues/pollutants in the six watersheds as part of the watershed urban runoff management program. The copermitees shall develop an implementation time schedule of short and long-term recommended activities to address these priorities. Staff considers this approach reasonable and that the actions taken by the copermitees to comply with all requirements specified in the Tentative Order will provide an effective water quality improvement program.

Comment: Based upon the comments that you receive in the first and second workshops, when will the second version of the draft permit be released? *(County of Orange)*

Response: The second draft of the Tentative Order was released on August 23, 2001. The changes in the second draft were primarily editorial corrections and did not significantly alter the requirements of the Tentative Order. Additional changes will be made based on a review of the comments submitted by August 30, 2001 as well as comments made in the hearing before the SDRWQCB.

Comment: The City request that following revision of the Tentative Order after the comment period closes on August 30th, public comment be again solicited on the Revised Tentative Order. The City asks that this letter be included in the administrative record of this matter. *(Dana Point)*

Response: The SDRWQCB has the discretion to reopen the comment period based on its review of the Tentative Order and the comments received.

Comment: The City of Dana Point is very pleased to see that the Regional Board has taken such a proactive stance with respect to cleaning up the receiving waters in this area. Over the past several years the issue of water quality impairment has had a profound effect on coastal cities like Dana Point, both, with respect to citizens' quality of life, as well as from an economic standpoint. (*Dana Point*)

Response: Comment noted.

Comment: The beaches in Dana Point have regularly experienced postings and closures due to high bacteria levels emanating, principally, from the two creeks that enter the city and discharge into the ocean. And, while the waters from these creeks have a very direct impact on this community, very little of that water originates in Dana Point. This city has, thus, become the recipient of many communities' urban runoff that contributes to the degradation of our coastal waters. Dana Point's beaches and harbor are a principal attraction to our residents and visitors. For our citizens and visitors the beauty of these features would be worth little if they could no longer be enjoyed, but only viewed from afar. The irony in this is what so many of our residents (present, as well as future) and visitors come from those upstream, contributing communities. This situation has become a particular frustration for the City of Dana Point over the past few years in light of the efforts that we, as a community, have expended toward helping to clean up the creeks, beaches and the ocean. Despite our investment in public education programs, the installation of filters in our storm drain inlets, the diversion of nuisance waters to the sanitary sewer, weekly street sweeping, and the testing and monitoring included in those programs, we continue to see an increase in beach postings and closures as well as in the amounts of trash and debris washing up on our shores. We do realize, however, that it will take some time to restore these elements of our environment, just as it has taken many years to create the conditions with which we now live, and it will require the commitment and cooperation of all communities who have, in one way or another, contributed to the degradation of our waters.

It is for these reasons that we applaud the Regional Board for its intentions in drafting the proposed new Municipal Storm Water Permit for Orange County and Cities. (*Dana Point*)

Response: Comment noted.

Comment: There are numerous solutions available that can and will be implemented around and throughout an MS4, in conjunction with an ongoing education program, that will constitute a total Urban Runoff Management Program specifically designed to clean up the discharges from the MS4. This URMP will necessarily be unique to each community that it serves. However, by mandating the focus of resources and efforts on specific prohibitions and controls of discharges into an MS4, the Tentative Order unnecessarily limits the flexibility needed by the Copermittees to use the iterative process referenced in Finding 14 to tailor their individual programs to their specific circumstances. Furthermore, it limits their creativity to use the developing technologies to their best advantage, which has been the key to our City's successes thus far, and it would be our desire to continue on that path. In addition, it appears that failing to prevent some pollutants from entering our MS4 could, and would, subject the City to fines, regardless of what may be accomplished in cleaning up what is discharged from the system. We very strongly, therefore, recommend that the permit be crafted to at least distribute the focus uniformly from source to receiving water. (*Dana Point*)

Response: The Tentative Order contains the framework for the minimum requirements considered by the SDRWQCB to be necessary to achieve MEP. The requirements in the Tentative Order are

based on the Federal NPDES regulations and USEPA and SWRCB guidance, including the requirements to effectively prohibit non-storm water discharges to the MS4 and to develop a program to identify and eliminate sources and implement BMPs. Where the Tentative Order is more specific than the Federal NPDES regulations, it is based on USEPA and SWRCB guidance. The SDRWQCB has authority to include more specific requirements than the Federal regulations under CWA section 402(p)(3)(B)(iii) and CWC section 13377. USEPA supports the approach of increasingly detailed storm water permits, stating "The interim permitting approach uses best management practices (BMPs) in first-round storm water permits, and expanded or better-tailored BMPs in subsequent permits, where necessary, to provide for the attainment of water quality standards" (USEPA, 1996). The Copermittees must implement the specified programs included in the Tentative Order in order to carry out the CWA requirements. These are intended to build upon the programs already developed by the Copermittees under the previous permits. Any specified programs in the Tentative Order are made all the more necessary by the exclusion of numerical effluent limits from the permit. Reliance on BMPs as opposed to numerical effluent limits requires specification of those programs that are relied upon to reduce pollution. The Tentative Order has been drafted to provide additional uniformity in balancing the management of urban runoff by addressing both its sources as well as its impacts on receiving waters.

With respect to the need for flexibility and coordination, the Tentative Order provides a framework within which the Copermittees have the opportunity to utilize creativity and other resources to develop or improve upon the programs, activities, and measures that will satisfy or exceed the requirements of the Tentative Order. Wherever possible, the SDRWQCB has attempted to provide discretion and flexibility to the Copermittees, especially with regard to programs that the Copermittees have already developed and implemented. The Tentative Order has been structured to accommodate the iterative process referred to in Finding 15 and section C for the development and implementation of BMP programs while ensuring that the requirements can be implemented and enforced uniformly throughout the San Diego Region.

The Tentative Order was drafted to ensure regional consistency with the MEP approach adopted by the SDRWQCB throughout the San Diego Region when these NPDES Permits and Waste Discharge Requirements are issued on a watershed basis in this region. Nonetheless, as the commenter discussed above, because the Tentative Order is issued to each Copermittee, each Copermittee must have a program to management urban runoff within its jurisdiction. The program must be tailored to address the specific urban runoff management issues within its jurisdiction and it must be specific enough to ensure fair, uniform implementation and enforcement throughout the region.

Enforcement action related to the discharge of some pollutants to the MS4 will be appropriately tailored to the specific conditions related to the discharge and will take into consideration the implementation of the URMP, particularly in regards to the pollution prevention, source identification, BMP implementation and enforcement activities conducted by the discharger in accordance with the Tentative Order.

Comment: Failure to comment on other points in the Tentative Order or the Draft Fact Sheet/Technical Report should not be construed to give rise to any inference that the City waive objections to such other items. The City reserves the right to offer further comments. (*Dana Point*)

Response: Comment noted.

Comment: The City congratulates the Board Staff for a thorough and very detailed draft, one which attempts to clarify arcane points as well as spell out fundamental requirements in coming to

grips with the most important issue of protection of the quality of the waters into which storm water and urban runoff flow. By any standard, the Staffs efforts are most impressive. (*Dana Point*)

Response: Comment noted.

Comment: The City of Laguna Niguel is committed to working with the Regional Board and the Copermittees to develop and implement an expanded storm water management program that includes reasonable and practical approaches to improving the water quality of receiving waters in the South Orange County area. (*Laguna Niguel*)

Response: Comment Noted.

Comment: A table of contents would be very helpful in dealing with this document. Can you prepare one and attach it to the draft permit and its exhibits? (*Laguna Niguel*)

Response: A table of contents has been prepared and was distributed at the second workshop, public hearing, and on the SDRWQCB web site.

Comment: We request that both the Revised Order and Revised Fact Sheet documents be made available for public review prior to the closure of the public comment period. In recognition of the amount of work involved and recognizing that the Board meeting has been rescheduled to October, we also request that the comment period be extended by 15 to 30 days after distribution to allow affected parties sufficient opportunity to comment on the revised language. (*Laguna Niguel*)

Response: The second draft of the Tentative Order was released on August 23, 2001. The changes in the second draft were primarily editorial corrections and did not significantly alter the requirements of the Tentative Order. Additional changes will be made based on a review of the comments submitted by August 30, 2001 and presented in the hearing before the SDRWQCB. The hearing has been scheduled to provide the Copermittees and interested parties with sufficient time to review the Tentative Order and Fact Sheet.

Comment: Many of the proposed requirements in the draft permit would be administratively and operationally overwhelming to implement and would be an attempt to expand Regional Board control over City policies and procedures. We are concerned in particular that the permit requires a heavy workload by the City and several submittals within the first 365 days after adoption of the order. The City of Lake Forest is considering seeking federal funds to assist with the implementation of some of the components of the proposed permit. However, the timeline for application and potential receipt of federal grants is much longer than the Board's timeline for completion. As such, the Regional Board's implementation schedule may effectively lock out the City from the ability to obtain grant funds to offset the cost of these required programs. (*Lake Forest*)

Response: The requirements of the Tentative Order are based on the federal regulations and USEPA and SWRCB guidance and are practicable for the Copermittees to implement. The Tentative Order is a third term permit rather than a first or second term permit and is intended to build upon the programs developed during the first two permits. The Copermittees have the discretion to seek various funding sources to support their programs, but the requirement to implement the programs is not dependent on the successful application for Federal or other funding sources. Rather, the Copermittees are required to secure the resources necessary to meet the requirements of the

Tentative Order. As part of its individual Jurisdictional Urban Runoff Management Program, each Copermittee is required to develop a strategy to conduct a fiscal analysis of its urban runoff management program in its entirety. A fiscal analysis can be an important planning tool. The USEPA finds that "examining the levels of proposed spending and funding allows the permitting authority to gauge the ability of applicant to implement the program and predict its effectiveness." Conducting this analysis will better enable the Copermittees to project costs and secure the necessary funding.

The Regional Board has considered the costs associated with implementation of requirements for discharges to MS4 as well as the costs incurred as a result of pollution associated with discharges from MS4; while there will be, undoubtedly, incremental costs to municipalities to implement requirements for MS4, the increased burden associated with the tentative requirements is not unreasonable in view of the following factors: municipalities can pass costs for planning and permitting on to permit applicants; municipalities can impose fees on persons who use MS4 infrastructure or require services from the municipality; municipalities can incorporate pollution prevention and control planning into existing planning activities; and municipalities can incorporate pollution and control implementation into existing regulatory functions.

Comment: Will the Regional Board assist the copermittees in the form of grants or loans to cover the expenses associated with preparing the Urban Runoff Management Plan which must be prepared within 365 days of the date of the order, and the preparation and implementation of the Watershed Urban Runoff Management Program by April 2003? (*Mission Viejo*)

Response: Limited funding is available to the Copermittees through the State Revolving Fund loan program, Proposition 13 grant program and Clean Beaches Initiative program. Funds are also available for planning through the 205(j) program. The Copermittees have successfully applied to these programs for funding of specific projects (e.g. Aliso Creek Water Quality Enhancement 205(j) grant, the City of Laguna Niguel WETCAT Proposition 13 grant, City of Dana Point Clean Beach Initiative grant funding project) related to urban runoff management. However, this funding is limited to specific projects. The Copermittees are required to develop sufficient funding to develop and implement the programs necessary to comply with the Tentative Order.

Comment: The timeline for application and potential receipt of federal grants is much longer than the Board's timeline for completion. As such, the Regional Board's implementation schedule will effectively lock out the City from the ability to obtain grant funds to offset the cost of these required programs. (*Mission Viejo*)

Response: The Tentative Order sets the requirements under which discharges are permitted during the 5-year term of the renewed Permit. As such, there will be several years in which the copermittees may solicit and obtain Federal funds to implement various provisions.

Comment: The City of Rancho Santa Margarita has reviewed the Tentative Order 2001- 193 and discussed it with our Principal Permittee, the County of Orange. Like our fellow Permittees, we are committed to improving water quality in our region and we are open to programs which lead us together in that direction. As a Co-permittee with the County, we are also in general agreement with the County's concerns regarding Tentative Order 2000-193 and are submitting this letter to provide our review comments. (*Rancho Santa Margarita*)

Response: Comment Noted.

Comment: The Tentative Order may be an inappropriate model for the third permit. (*Rancho Santa Margarita*)

Response: Comment noted. Specific concerns are addressed elsewhere.

Comment: The Tentative Order expands RWQCB control over local government. For example, we are troubled by the phrase “and Whatever Else is Needed” in several of the headings in the fact sheet. (*Rancho Santa Margarita*)

Response: As described elsewhere, the Regional Board does have the legal authority to require municipalities to regulate urban runoff flow to protect beneficial uses of receiving waters.

The Clean Water Act requires in section 402(p)(3)(B)(iii) that permits for discharges from municipal storm sewers “shall require controls to reduce the discharge of pollutants to the maximum extent practicable, including management practices, control techniques and system, design and engineering methods, and such other provisions as the Administrator or the State determines appropriate for the control of such pollutants.”

In a memo dated February 11, 1993, entitled "Definition of Maximum Extent Practicable," Elizabeth Jennings, Senior Staff Counsel, SWRCB addressed the achievement of the MEP standard as follows: “To achieve the MEP standard, municipalities must employ whatever Best Management Practices (BMPs) are technically feasible (i.e., are likely to be effective) and are not cost prohibitive. The major emphasis is on technical feasibility. Reducing pollutants to the MEP means choosing effective BMPs, and rejecting applicable BMPs only where other effective BMPs will serve the same purpose, or the BMPs would not be technically feasible, or the cost would be prohibitive.”

California Water Code section 13377 provides that “Notwithstanding any other provision of this division, the state board or the regional boards shall, as required or authorized by the Federal Water Pollution Control Act (Clean Water Act), as amended, issue waste discharge requirements and dredged or fill material permits which apply and ensure compliance with all applicable provisions of the act and acts amendatory thereof or supplementary, thereto, together with anymore stringent effluent standards or limitation necessary to implement water quality control plans, or for the protection of beneficial uses, or to prevent nuisance.”

The Tentative Order describes the minimum components necessary to develop a program to reduce pollutants to the maximum extent practicable

Comment: Assuming many issues in some watersheds are unacceptable (quality, habitat, erosion, etc.), the existing condition is the result of the current governance (sewer districts, cities, county, etc.). Shouldn't the governance be changed to make these improvements? (*Richard Gardner*)

Response: Comment noted. The Tentative Order does not attempt to address the structure of local governance, but does require the municipalities, as the governing land-use body, to exercise authority and control over the discharge of pollutants to the MS4 system.

Comment: San Diego copermitees have indicated that there is a potential problem with the Regional Board staff's interpretation of the term "Tributary to" in relation to 303(d) listed water bodies;

where does that term appear in draft order 2001-193, and how do you interpret it? (*Richard Watson and Associates*)

Response: The term "tributary to" in relation to 303(d) water bodies appears in the "prioritization" steps of section F.3 under each of the existing land use components. The term also appears in F.1.C.1 as an example of an issue to consider during a project's environmental review. The intent, whether during prioritization of existing development sites or environmental review, is to determine if the expected runoff patterns from the activity would likely contribute pollutants to the 303(d) listed water body.

Comment: How would the results of the appeal of the San Diego Permit relate to the content of the new Orange County permit? (*Richard Watson and Associates*)

Response: If the appeal results in an order to change portions of the San Diego Permit (Order 2001-01) that are applicable to the proposed Orange County Permit (Tentative Order 2001-193), then appropriate changes would be made.

Comment: Many of the proposed requirements in the draft permit would be administratively and operationally overwhelming to implement and would be an attempt to expand Regional Board control over City policies and procedures. We are concerned in particular that the permit requires a heavy workload by the City and several submittals within the first 365 days after adoption of the order. The City of Lake Forest is considering seeking federal funds to assist with the implementation of some of the components of the proposed permit. However, the timeline for application and potential receipt of federal grants is much longer than the Board's timeline for completion. As such, the Regional Board's implementation schedule may effectively lock out the City from the ability to obtain grant funds to offset the cost of these required programs. (*Lake Forest*)

Response: The requirements of the Tentative Order are based on the federal regulations and USEPA and SWRCB guidance and are practicable for the Copermittees to implement. The Tentative Order is a third term permit rather than a first or second term permit and is intended to build upon the programs developed during the first two permits. The Copermittees have the discretion to seek various funding sources to support their programs, but the requirement to implement the programs is not dependent on the successful application for Federal or other funding sources. Rather, the Copermittees are required to secure the resources necessary to meet the requirements of the Tentative Order. As part of its individual Jurisdictional Urban Runoff Management Program, each Copermittee is required to develop a strategy to conduct a fiscal analysis of its urban runoff management program in its entirety. A fiscal analysis can be an important planning tool. The USEPA finds that "examining the levels of proposed spending and funding allows the permitting authority to gauge the ability of applicant to implement the program and predict its effectiveness." Conducting this analysis will better enable the Copermittees to project costs and secure the necessary funding.

The Regional Board has considered the costs associated with implementation of requirements for discharges to MS4 as well as the costs incurred as a result of pollution associated with discharges from MS4; while there will be, undoubtedly, incremental costs to municipalities to implement requirements for MS4, the increased burden associated with the tentative requirements is not unreasonable in view of the following factors: municipalities can pass costs for planning and permitting on to permit applicants; municipalities can impose fees on persons who use MS4 infrastructure or require services from the municipality; municipalities can incorporate pollution prevention and control planning into existing planning activities; and municipalities can incorporate pollution and control implementation into existing regulatory functions.

COMMENTS ON SPECIFIC SECTIONS

Section: Findings

Comment: The findings in the Order do not provide a legally adequate basis for the Tentative Order.

The Regional Board's regulations must be adequately supported by the Findings in the Tentative Order, and the Findings must be supported by the evidence in the Technical Report. (See, e.g., *Southern California Edison Co. v. State Water Resources Control Board*(1981) 116 Cal.App.3d 75 1, 759 (holding that a regional board must "annunciate its reasoning" and support that reasoning by evidence.) As explained in this letter, in the City's separate letter to the Regional Board and in the comment letters from the other copermitees, the Findings are inadequate and unsupported by appropriate evidence. This is especially true because the Tentative Order is taken almost verbatim from the San Diego NPDES Permit, and because the Regional Board has refused to recognize the value of the existing Drainage Area Management Plan ("DAMP") designed specifically for Orange County. The issues facing Orange County are significantly different than those faced in San Diego, and the Regional Board cannot merely copy (and rely upon) the Findings from the San Diego Permit without making specific findings as to the issues in Orange County and supporting those findings with appropriate evidence. (*Aliso Viejo*)

Response: Comments related to specific Findings are addressed elsewhere. Each Finding is supported in the Fact Sheet/Technical Report, and where necessary, references are made to conditions in southern Orange County. Conditions of impaired water quality and impacts of urban runoff in the region are documented in the Fact Sheet. The Findings that are similar to those in the San Diego Municipal NPDES Permit (Order 2001-01) were reviewed for applicability to the region of southern Orange County and were modified where appropriate. For instance, Finding 40 (Common Interest Areas and Homeowners Associations) was added because of the prevalence of common interest developments in the region. The DAMP is also recognized where suitable, such as Finding 23 (Education). For an assessment of the proposed revised DAMP in relation to the Tentative Order, please see Attachment 5 of the Fact Sheet. Although the DAMP was designed for conditions throughout Orange County, the Tentative Order requires the copermitees to develop urban runoff management plans tailored to the drainage areas in which the copermitees are located.

Section: Finding 1

Comment: What is the beneficial use of MS4s and how does that use compare with the beneficial use of the receiving waters? (*Lake Forest*)

Response: Municipal Separate Storm Sewer Systems (MS4) do not themselves have designated beneficial uses except in situations in which a stream segment that does have beneficial uses is a part of the MS4 (refer to Finding 8). In these cases, the stream segment can be both a MS4 and a receiving water with applicable beneficial uses.

Section: Finding 1

Comment: Finding 1 presupposes that each agency within the jurisdiction of the Board contributes to a violation of water quality standards. That statement has not been established and the term “may” should be inserted within sentence numbered (3) and (4). (*Laguna Hills*)

Response: Finding 1 identifies the copermitttees subject to the Tentative Order. The justification of inclusion for the copermitttees comes from the federal Phase 1 NPDES regulations (40 CFR 122.26). The MS4s for each copermitttee falls into one or more, but not necessarily all, of the criteria listed by the numbered sentences in Finding 1. The justification for each copermitttee is provided in Attachment 1 of the Fact Sheet/Technical Report. The majority of the copermitttees cannot be classified as operators or owners of large or medium MS4s, but do operate MS4s that are interrelated to the large MS4 of the County, contribute to a violation of water quality standards, and/or are significant contributors of pollutants to waters of the United States. Several surface waters, including much of the Pacific Ocean Shoreline, in the region are listed as impaired under section 303(d) for coliform. The MS4s from each copermitttee discharge into surface waters that are tributary to impaired surface waters.

Section: Finding 2

Comment: What is the legal justification or precedent for determining that the storm water component of urban runoff is a waste in and of itself? While much (far too much) urban runoff does contain pollutants, neither the SWRCB nor any court interpreting the California Water Code has ever held that storm water or urban runoff are “wastes,” in and of themselves. The definition of urban runoff as a waste is an oversimplified conclusionary statement that does not take into consideration the source of urban runoff and its pollutant, if any. These broad generalizations are made regardless of whether the pollutants are present at concentrations above or below water quality objectives. The definition of urban runoff as a waste would include storm water whether it reaches the storm drain by flowing over undeveloped land, or a parking lot, whether or not it intercepts waste materials on its way to the storm drain, and whether it contains any pollutants or is clean. The same is true for dry weather flow, regardless of its source or concentration. Urban runoff that is “clean” is clearly not a waste. This gross extension of the term “waste” turns rainfall into wastewater without any specific consideration of the actual contents of the runoff produced. Storm water and other forms of urban runoff become “wastes” or “pollutants” if they carry “sewage and any and all other waste substances..” or a pollutant. This is significant, as Section 402(p)(3)(B)(iii) of the CWA, 33 U.S.C. §1342(p)(3)(B)(iii) requires MS4 Copermitttees to reduce the discharge of “pollutants” to the “maximum extent practicable.” If all urban runoff is found to contain pollutants, it could be argued that MS4 Copermitttees are obligated to reduce the discharge of urban runoff to the maximum extent practicable. This finding condemns all public agencies as polluters when many sources of pollutants are not within the jurisdictional control of a municipality. This over broad construction of the law in which the permit attempts to expand SDRWQCB control over City policies and procedures is invalid and would be administratively and operationally overwhelming to implement.

Legislative History

The legislative history of the term “waste” confirms that it does not encompass urban runoff and storm water. The current definition of the term “waste” was enacted in 1969, in legislation streamlining the Water Code by combining two prior definitions, neither of which included urban runoff or storm water within their ambit. Further evidence of legislative intent is the fact that the legislation pre-dated by many years modern storm water regulation, coming at a time when application of the concept of “waste” to rainfall and urban runoff was simply unthinkable.

The 1969 changes to the Water Code arose out of a study by the SWRCB, commissioned by the Legislature.[3] The definition of “waste” recommended by the SWRCB represented a combination of the former definitions of “sewage” and “other waste,” neither of which included either urban runoff or storm water. Prior to the 1969 legislation, “sewage” and “other waste” were defined as follows: “Sewage” means any and all waste substance, liquid, or solid, associated with human habitation, or which contains or may be contaminated with human or animal excreta or excrement, offal, or any feculent matter.

“Other waste” means any and all liquid or solid waste substance, not sewage, from any producing, manufacturing, or processing operation of whatever nature. (Cal. Water Code §j 13005 (1967) (repealed 1969)) [Footnote 3: See Study Panel, California State Water Resources Control Board, Recommended Changes in Water Quality Control: Final Report of the Study Panel to the California State Water Resources Control Board (March 1969) (recommended legislative changes in Appendix A of the Final Report were adopted by the SWRCB on March 20, 1969).

Storm water is not sewage. Nor is it the kind of industrial waste encompassed by the prior definition of “other wastes.” Absent from these definitions are the terms “urban runoff,” “storm water,” or “dry weather flows.”

Importantly, the SWRCB said that, in combining these definitions: The proposed new definition of waste is intended to be as all-inclusive as the present definition of ‘sewage’ and ‘other waste.’

Thus, the combined definition was intended to simply merge the two prior definitions, with one exception. The SWRCB specifically identified that it was proposing to add gaseous and radioactive substances to the definition. The SWRCB identified no other ways in which the new definitions departed from the two it replaced.

In enacting the new definition of waste, the Legislature had before it interpretations of the prior definitions made by the California Attorney General, as well as the SWRCB’s report. The Attorney General had not interpreted the prior definitions as covering storm water or urban runoff. According to the Attorney General, the old definitions covered: leachate from mines, debris and sediment from logging operations, solid waste from dumps, irrigation return flow from agricultural operations, wastes produced from water or oil wells, and discharges from hydroelectric plants.[5] Storm water and urban runoff containing or consisting of such substances could be subject to discharge requirements. However, in the absence of a finding that statutorily covered “waste” is contained in storm water and urban runoff, they are not “waste” themselves. The Regional Board skips this essential link and simply declares runoff to be “waste.” Pointing to the presence of pollutants in the runoff does not relieve the Regional Board of its burden to determine whether these pollutants are present because the runoff has mixed with a category of “waste” within the ambit of the statute. “Pollutants” is a term defined in the federal CWA and does not occur in the Porter-Cologne definition of “waste.”

Legal Definition – CWC: The definition of waste in Section 13050(d) of Porter-Cologne does not specify urban runoff and seems to preclude the inclusion of storm water. This definition does not expressly include the term “urban runoff,” nor does it refer to “storm water” or “dry weather flows.” Rather, the definition refers to wastes generated by process, by products of human action, whether industrial or sanitary. In contrast, storm water itself is a natural occurrence, resulting from the forces of Nature, regardless of “human habitation” or “waste substances . . . of human or animal origin.” To the extent that storm water contains pollutants, generally their presence is related to the natural passage of rainfall runoff across the ground—not the active introduction by man of such pollutants. Thus, the plain language of the statute indicates that urban runoff, and most clearly storm water, is not “waste” for purposes of the Water Code.’ Runoff may pick up wastes, but it is not a waste in and of itself.

Legal Definition – CWA: The CWA defines the analogous term “pollutant” as follows: The term “pollutant” means dredged spoil, solid waste, incinerator residue, sewage, garbage, sewage sludge, munitions, chemical wastes, biological materials, radioactive materials, heat, wrecked or discarded equipment, rock, sand, cellar dirt and industrial, municipal, and agricultural waste discharged into water. CWA § 502(6), 33 U.S.C. § 1362(6). This definition clearly does not encompass “urban runoff.” Rather, a “pollutant” as defined may, for the most part, be contained in urban runoff. To interpret the term “waste” to include urban runoff would be inconsistent with the CWA and therefore such an interpretation is impermissible under Water Code section 13372.

Although urban runoff may contain and/or transport “wastes” or “pollutants” as defined under state and federal law, urban runoff is not, in and of itself, a “waste” as defined in the Porter Cologne Act. This point is made clearly (albeit inadvertently) by the Regional Board itself in its Response in Opposition to Petitions of Review of the Regional Board’s Tentative Order No. 2001-01 (“Opposition”). In that brief, in response to the same point the County is raising here, the Regional Board states: [T]he California Water Code . . . equates the discharge of pollutants (as required under the NPDES program) with the discharge of waste. Since the California Code provides that discharges of pollutants are analogous to discharges of waste, and since discharges of urban runoff have been found to contain pollutants, the California Water Code finds discharges of urban runoff to be discharges of waste. Opposition, p. 15 (emphasis added). With the exception of the last clause, the County agrees entirely with this statement. We submit, however, that the conclusion to be drawn from this statement is not that urban runoff is a waste, but rather, more logically, that since urban runoff has been found to contain pollutants, urban runoff may also contain waste. This point is essentially conceded in numerous places in the Technical Report. This conclusion that urban runoff may contain “waste” or “pollutants” (but is not, in and of itself, a waste or pollutant) is supported by the definitions of “waste” and “pollutant” in the Water Code and the CWA. The Water Code definition of “waste” is as follows: “Waste” includes sewage and any and all other waste substances, liquid, solid, gaseous, or radioactive, associated with human habitation, or of human or animal origin, or from any producing, manufacturing, or processing operation, including waste placed within containers of whatever nature prior to, and for purposes of, disposal. Water Code § 13050(d). This definition is very broad but it certainly does not appear to include “urban runoff” within its scope.

Legal Definition – 40CFR 122.26(b)(13): 40 CFR 122.26(b)(13) states that “Storm water means storm water runoff, snow melt runoff, and surface runoff and drainage.” Therefore, urban runoff that is surface runoff and drainage by definition is storm water and not wastewater. Additionally, the County notes that by defining urban runoff as a waste, the Tentative Order also effectively defines “storm water” as a waste. This is because the Tentative Order defines “urban runoff” as “all flows in a storm water conveyance system” consisting of storm water and dry weather flows. Tentative Order, Appendix D, p. D-7. However, defining “storm water” as a waste would be inconsistent with the federal definition of “storm water” as “storm water runoff, snow melt runoff, and surface runoff and drainage.” 40 C.F.R. § 122.26(b)(13). Under this definition, “urban runoff” (surface runoff and drainage) is “storm water,” not a “waste.”

Agency and Judicial Interpretations of the waste: Where industrial or municipal activity resulted in the introduction of “waste” into storm water, that specific storm water could be subject to discharge requirements. (Aluminum Co. of Am., SWRCB Order No. WQ 93-9 (1993); Lake Madrone Water Dist. v. State Water Res. Control Bd., 209 Cal.App. 3d 163, 166 (1989). These cases are distinguishable from the broad sweep of the Regional Board’s finding which proposes to classify every drop of rain water in San Diego County reaching a public storm drain as “waste.”

Recommendations: We recommend that Finding 2 be deleted from the permit.

Finding 2 should be revised as provided in the Los Angeles Regional Board's current draft permit. See, e.g., Finding B, Nature of Discharges and Sources of Pollutants ("The quality of [storm water] discharges varies considerably and is affected by the hydrology, geology, land use, season, and sequence and duration of hydrologic events." Finding B.1. "These compounds [in storm water] can have damaging effects . . ." Finding B.3.); Part 5, Definitions ("The term 'pollutant' shall not include uncontaminated storm water. The term 'pollutant' also shall not include any substance identified in this definition, if through compliance with the [BMPs] available, the discharge of such substance has been eliminated to the maximum extent practicable.")

Revise Finding 2 to read, in pertinent part: "Storm water and other forms of urban runoff become "wastes" or "pollutants" if they carry "sewage and any and all other waste substances.. ." or a pollutant."

The sentence in Finding 2, "The discharge of urban runoff from an MS4..." would read better as "The discharge of untreated urban runoff from an MS4..." because, as with nuisance water diversions to a sewage treatment plant, the subsequent discharge of the treated waste water to the receiving waters is permitted under the treatment authority's discharge permit. (*Richard Watson and Associates, Laguna Niguel, San Juan Capistrano, Mission Viejo, Laguna Hills, Rancho Santa Margarita, County of Orange, Construction Industry Coalition on Water Quality, Lake Forest, Dana Point, Laguna Woods*)

Response: The commenters assert that the California Water Code definition of "waste" does not apply to urban runoff. This assertion is incorrect. The California Water Code defines "waste" as "sewage and **any and all other waste substances**, liquid, solid, gaseous, or radioactive, **associated with human habitation** [...]" (emphasis added). The language of this definition clearly indicates the broad nature of its application. The inclusion of the terms "any and all" into the definition exhibits that the definition is not to be used to exclude certain substances from being defined as a waste, as the commenters attempt to do with urban runoff. Rather, these terms provide for the definition to be all-encompassing. In addition, the use of the words "associated with human habitation" in the definition indicates that the waste need not be generated by human activity, but merely be related with human habitation.

Contrary to the commenters assertions, urban runoff certainly meets this broad definition. Urbanization (human habitation) unequivocally alters the characteristics of runoff that would otherwise leave undeveloped land in a natural condition. As discussed in the Tentative Order's Findings and Fact Sheet/Technical Report, urban development increases the pollutant loads, volume, and velocity of runoff. These changes to runoff indicate that the physical and chemical attributes of urban runoff are caused by urbanization, thereby exhibiting that urban runoff is "associated" with human habitation. In fact, the increase in volume of urban runoff caused by urbanization's impervious surfaces not only changes the characteristics of the runoff, but actually generates the urban runoff as well by increasing its volume.

Furthermore, the very fact that MS4s have been constructed with the sole purpose of disposing of urban runoff exhibits that urban runoff is a waste. The MS4s are designed to dispose of the increased volumes of runoff generated by urbanization's impervious surfaces. The act of generating increased runoff, designing a system to collect the urban runoff, and discharging the urban runoff exhibits that urban runoff is a waste. MS4s would be unnecessary if urban runoff was not a waste and was not treated as such.

Nor does the extensive historical discussion provided by one commenter of the development of the definition of "waste" refute the categorization of urban runoff as a "waste." The commenter asserts that since the development of the definition of "waste" did not include a discussion of urban runoff, the definition cannot be applied to urban runoff. However, no such restriction exists. The same

argument was raised in the petition to the SWRCB for review of Order No. 2001-01. In fact, this petition exhibited SWRCB's intention that waste be defined broadly when they cite the SWRCB as stating: "The proposed new definition of waste is intended to be as **all-inclusive** as the present definition of 'sewage' and 'other waste'" (emphasis added). Rather than be a restriction on the types of discharges that can be identified as waste, such commentary indicates that the definition of waste was instead intended to be wide-ranging. The lack of information or knowledge on urban runoff and its impacts at the time the definition was developed in the late 1960s cannot be construed as intent on the part of the SWRCB to exclude any and all such discharges. Such an approach could severely limit any new types of discharges from being regulated under waste discharge requirements. For example, definition of waste has been applied in the form of Waste Discharge Requirements for such discharges as potable water discharges, utility vault discharges, etc that were not specifically described in the CWA or CWC. While the CWA and CWC did not specifically define urban runoff as a waste, neither did these authorities preclude this definition. The concept that the definition of waste can only include things precisely specified in the CWA and CWC is incorrect and goes against the intent of the CWA and CWC.

Moreover, the California Water Code (CWC) provides that discharges permitted under the federal NPDES program (such as discharges from MS4s) are analogous with discharges of waste. Chapter 5.5 of the California Water Code consolidates the federal NPDES program with the State of California's waste discharge requirement program. Since the State of California is authorized by USEPA to issue NPDES permits, which implement and enforce the requirements of the Clean Water Act (CWA), in California, NPDES permits within California are also Waste Discharge Requirements. Section 13376 requires "any person discharging **pollutants**" (emphasis added) (such as under an NPDES MS4 permit) to file a report of the discharge in compliance with the procedures set forth in section 13260. Section 13260 then proceeds to apply waste discharge requirements on "any person discharging waste" (emphasis added). As can be seen, despite the contradictory opinion of one commenter, the California Water Code in these two sections clearly equates the discharge of pollutants (as regulated under the NPDES program) with the discharge of **waste** (i.e. a discharger of pollutants is in fact a discharger of waste). In regards to the statement that "Storm water and other forms of urban runoff become 'wastes' or 'pollutants' if they carry 'sewage and any and all other waste substances...' or a pollutant," this is a clear misreading of the CWC. The CWC does not support the statement and makes no mention of the statement that a discharge must "carry" waste. Since the California Water Code provides that discharges of pollutants are analogous to discharges of waste, and since discharges of urban runoff have been found to contain pollutants, the California Water Code finds discharges of urban runoff to be discharges of waste. Thus, the legal requirements and definitions of the Clean Water Act and Federal Regulations, as implemented by the State of California through NPDES permits and Waste Discharge Requirements, support the definition of urban runoff as a "waste" and a "point source discharge of pollutants."

The legal definition of "waste" can be found in California Water Code (CWC) section 13050(d), which states "'Waste' includes sewage and any and all other waste substances, liquid, solid, gaseous, or radioactive, associated with human habitation, or of human or animal origin, or from any producing, manufacturing, or processing operation, including waste placed within containers of whatever nature prior to, and for purposes of, disposal." Numerous studies, including those conducted within the jurisdictions of the Copermittees have demonstrated that the storm water, or wet-weather, component of urban runoff carries pollutants derived from human habitation through the MS4 into receiving waters.

The definition of urban runoff as a waste is not an oversimplified or "conclusionary" statement. The assertion that it does not take into consideration the sources of urban runoff and pollutants is also incorrect. The Finding supports the Tentative Order that throughout requires the Copermittees, as dischargers of urban runoff, to comprehensively take into consideration the sources of urban runoff

and pollutants within their jurisdictions and to implement programs to manage the discharges of urban runoff through the timely implementation of BMPs to the MEP. Furthermore, the finding that urban runoff is a “waste” and a “point source discharge of pollutants” does not condemn all public agencies as polluters. The Finding supports the Tentative Order, which is a Waste Discharge Requirement and NPDES permit for the discharge of urban runoff, and does not condemn the Copermittees or public agencies as dischargers. Rather it sets the framework for compliance by the Copermittees with the MEP standard and the protection of the beneficial uses of receiving waters.

In response to the comment that defining the discharge of urban runoff as a discharge of waste is “an attempt to expand the SDRWQCB control over City policies and procedures,” it is unclear how this definition accomplishes this feat. The statement is not supported by evidence that the definition of the discharge of urban runoff as a discharge of “waste” and a “point source discharge of pollutants” results in any more infringement upon City policies and procedures than similar definitions applied to other NPDES discharges that may be under the administrative authority of a municipality (e.g. sewage discharges).

With respect to the comment that many sources of pollutants are not within the jurisdictional control of a municipality, it would seem that, in fact, the great majority of pollutants do originate within the jurisdictions of the Copermittees from land use activities authorized by the Copermittees. To the extent that sources of pollutants are not within the jurisdictional control of a municipality, the Tentative Order again sets the framework within which the Copermittees shall address these discharges. In response to the statement by one commenter that “Urban runoff that is ‘clean’ is clearly not a waste,” it should be noted that clean discharges from industrial processes are still considered to be a discharge of waste. Clearly then, the discharge of clean urban runoff should still be considered a discharge of waste.

Furthermore, the statement by commenter that the Copermittees are obligated to reduce the discharge of urban runoff to the maximum extent practicable may be correct when the sources of the urban runoff includes non-storm water, non-prohibited discharges that are found to be significant sources of pollutants. For example, the Tentative Order includes water conservation as an important public education topic to be included when appropriate. These provisions have been required in both previous permits in Orange County and are solidly based on the broad and specific legal authorities cited above and in the Fact Sheet/Technical Report.

Finally, there is specific precedent at the SWRCB for the definition of urban runoff as a waste. In a memo dated May 14, 1991, Sheila K. Vasey, Senior Staff Counsel of the State Water Resources Control Board, in referring to the discharge of urban runoff to San Diego Bay, described the Copermittees as “...point source dischargers of waste...” In addition, there is precedent within the Orange County storm water permitting history for the definition of urban runoff as waste. The first permit for southern Orange County, Order No. 90-38 included a finding that urban runoff constituted a discharge of waste. Finding 5 was revised in response to comments to include the statement “since stormwater and urban runoff contains “waste”, as defined in California Water Code (CWC Section 13050, stormwater and urban runoff discharges constitute a discharges of waste.” This language was also included in the San Diego Municipal Storm Water Permit Order No. 90-42, San Diego Municipal Storm Water Permit Order No. 2001-01, and the Riverside Municipal Storm Water Permit Order No. 90-46. Under these permits, the Copermittees of the San Diego Region have been required to manage urban runoff, including both wet weather and dry weather discharges, since 1990. Finally, it should be noted that in it's draft Order on the petition by the Building Industry Association and Western States Petroleum Association for the review of Order No. 2001-01, in which this issue was prominently raised, the SWRCB has stated "Using state terminology, it is appropriate that the Regional Water Board made a finding that urban runoff constitutes "waste."

For these reasons, the language in Finding 2 is correct and appropriate and pending a decision regarding the petition for review of Order No. 2001-01 by the SWRCB, the language of Finding 2 will remain unrevised in this Tentative Order.

Section: Findings 2, 6, 8

Comment: The Permit attempts to expand Regional Board control over City policies and procedures by asserting in the Findings that: Urban Runoff is a waste (Finding 2), urban runoff is a human health threat (Finding 6), urban streams that receive urban runoff are part of the municipal separate storm sewer system (Finding No. 8). (*Mission Viejo*)

Response: These concerns are addressed in other responses to comments.

Section: Finding 3

Comment: The premise that urban development is ordinarily insignificant in its impact on the environment is without foundation. It is in the very nature of human activity to modify the environment- it is well documented in historical literature that even Native Americans had a significant impact on their environment. We suggest that the Board strike this sentence to improve the clarity of the finding. (*Aliso Viejo*)

Response: The statement in Finding 3 that "...urban development that is ordinarily insignificant in its impact on the environment may, in a particularly sensitive environment, be significant" refers to the potential impact of discharges on sensitive water bodies, which may have lower capacity to assimilate pollutants.

The requirement for additional controls for these areas is a necessary layer of protection for these valuable resources. Each 303(d) water body or environmentally sensitive area (ESA) is either a valuable receiving water resource that should be protected from the impacts of urban runoff, or a degraded receiving water resource that should be protected from additional impacts. A sensitive habitat has a much lower capacity to withstand pollutant shocks than might be acceptable in the general circumstance, and so deserves attention. In essence, a project that is ordinarily insignificant in its impact on the environment may in a particularly sensitive environment be significant (LARWQCB, 2000). USEPA, in discussing storm water controls, notes: "Sensitive area protection is an important element of conservation design [...] These areas are particularly susceptible to degradation by storm water runoff" (USEPA, 1999a). Finally, the Office of Chief Counsel for State Water Resources Control Board noted in its October 14, 1999 discussion of the *Defenders v. Browner* decision that "...because most MS4 discharges enter impaired water bodies, there is a real need for permits to include stringent requirements to protect those water bodies."

This condition is additionally recognized in the San Diego Region in Areas of Special Biological Significance (ASBS) in which it was recognized that there are some "biological communities of such extraordinary...value that no acceptable risk of change in their environment as a result of man's activities, can be entertained." Heisler Park Ecological Reserve in the coastal waters off Laguna beach is an ASBS.

Section: Finding 3

Comment: We are concerned that the Permit does not distinguish between land uses or project location, with regard to the appropriate level of regulation. It is apparent that the goal of the Permit should be to establish BMPs that can be implemented to the maximum extent practicable (MEP), and also that promote further progress toward meeting water quality standards. To reach this goal, the Permit should focus on establishing pollutants of concern for the various receiving waters (not just one size fits all), causes of these pollutants of concern and then the implementation of BMPs that actually address these pollutants of concern. We feel that the Permit should recognize distinctions in the various land uses and regulate accordingly. (*Construction Industry Coalition on Water Quality*)

Response: The Tentative Order recognizes differences between land uses by requiring different components in the management programs (see F.1 through F.3). Project location is also considered as each copermittee develops a specific management program tailored to the municipality by considering factors unique to the location, such as proximity to sensitive areas. Pollutants of concern may vary between water bodies based on a variety of factors including decisions made by the copermittee, such as the types of projects approved in the area, and designated beneficial uses of the receiving waters. The SDRWQCB establishes beneficial uses, which can be considered by the copermittees in the evaluation of appropriate BMPs. The prioritization process outlined in the Tentative Order specifically calls for BMPs to be designated based on the threat posed by a particular activity and its location. The Tentative Order gives the copermittees the flexibility of designing and selecting appropriate BMPs. Finally, the monitoring requirements of the Tentative Order should help to define location-specific pollutants of concern.

Section: Finding 3

Comment: Under Finding 3, the word “untreated” again should be added before “Urban runoff” in the first sentence. The third sentence confirms this by stating that “These pollutants...are conveyed and discharged to receiving waters...without treatment.” (*Dana Point*)

Response: The language of Finding 3 of the Tentative Order is appropriate. Even when treated, urban runoff remains a waste and can still contain pollutants. Moreover, even when some treatment BMPs are implemented in a watershed, the greater volume of urban runoff discharged from MS4s remains untreated and contains pollutants.

Section: Finding 4

Comment: Finding 4 - This paragraph fails to recognize the circumstance of saturated soil conditions that result from repetitive patterns of rainfall. Under these circumstances, even natural ground becomes impervious to additional water and runoff is increased. Urbanization is not the sole cause of an increase of quantity and/or velocity of runoff. This paragraph also fails to recognize natural sources of pollutants such as wild animals that are prevalent in this region and whose wastes runoff into the streams causing pollutant loading. The last paragraph of this finding is overbroad, vague, and ambiguous and it is not suitable as a finding. (*Laguna Hills*)

Response: The increases in quantity and/or velocity of runoff following urbanization are well documented. The decrease in impervious surfaces resulting from urbanization decreases the capacity of the soil to retain stormwater, thereby increasing the rate at which runoff occurs relative to a given rain event. The last paragraph of the Finding describes the relationship between size of a development and the potential for impact to receiving waters based on relative changes to the

physical environment. The last paragraph of the finding also states that the types of pollutants that cause threats to receiving waters and the potential for pollutants to be transported off-site are a function of land-use activities. The paragraph then gives examples of land uses that typically contain significant amounts of pollutants or have an increased potential for pollutants to be transported off-site. These statements are consistent with fact and will remain in the findings.

Section: Finding 4

Comment: Under Finding 4, the fourth (last) paragraph states that larger projects generally have greater potential than smaller projects to significantly impact receiving waters. However, that is not necessarily true when one looks at the cumulative impacts of a number of smaller projects, as have been the rule rather than the exception, in the more built-out areas of the San Diego Region, including South Orange County. The potential for significant impact is more relevant to the density of development than to overall size. Perhaps amending the statement to read “. . . *larger, more densely developed projects...” would lend more credibility to it. Finding 5 bears this out. (*Dana Point*)

Response: The Finding recognizes that there are other factors besides size of project for determining the significance of the impacts of urban development. Incremental development for various land use activities as described above may create the same post-construction condition relative to the density of development and the percentage of impervious surfaces as a single large development. However, when comparing projects that are identical except for size, large develop sites would present a greater source of pollutants.

Section: Finding 5

Comment: While we recognize the superficial conclusion that more imperviousness may mean more deposit of contaminants (such as car exhaust) and less natural absorption of runoff, to brand imperviousness as categorically negative ignores some significant planning and environmental objectives. There cannot be increased density development without some increase in imperviousness. However, it is specifically higher density that is the key to concepts such as “smart growth” and more concentrated urban centers. This is not density for density’s sake, but density for the sake of concentrating development and increasing the potential for conservation. To inhibit imperviousness across the board, without sufficient acknowledgment and consideration of density’s potential to result in increased open space and conservation elsewhere is, at best, short sighted and counter-productive. The Permit must allow for and encourage a more comprehensive consideration as to whether density and imperviousness are in reality an exchange for greater undisturbed preservation elsewhere. (*Construction Industry Coalition on Water Quality*)

Response: An abundance of scientific literature documents impacts to the flow regime and aquatic habitat of streams as urbanization converts open space to imperviousness surfaces. Such changes are discussed for the Aliso Creek watershed in a recent watershed Reconnaissance Report by the U.S. Army Corps of Engineers. Minimizing the amount of impervious surfaces and directly connected impervious surfaces in areas of new development and redevelopment where feasible is a valid principle for water quality protection. While the SDRWQCB supports minimization of impervious surfaces to foster natural infiltration, it is not required. If site restrictions exist, the development, or redevelopment, can forgo infiltration and use filtration BMPs instead. Infiltration BMPs can frequently be constructed underground to conserve space. In addition, F.1.b.(2).(g) of the Tentative Order describes a waiver condition under which structural BMPs can be waived if site conditions render them infeasible. Therefore, the Tentative Order does not require reductions in development densities.

Section: Finding 6

Comment: There is inadequate research and studies to draw the conclusion that urban runoff is a threat to human health. The Santa Monica Bay study referenced in the Draft Fact Sheet Technical has had some scientific criticism and a recent Huntington Beach Study question the validity of the widely reported linkage between beach closures and urban runoff. The wording in the finding should be changed to be less conclusionary and indicate urban runoff may be a threat to human health. The bioaccumulation/biomanification wording in the finding does not take into account the potential for other sources. While bioaccumulation may occur, what types of fate and transport studies have been done with regard to these types of pollutants in urban runoff to support this finding? (*County of Orange, South Orange County Watersheds Conservancy, City of Laguna Niguel, Mission Viejo, Laguna Hills, Construction Industry Coalition on Water Quality, Dana Point, Lake Forest*)

Response: There is sufficient evidence to support that urban runoff is a threat to human health. The USEPA (Phase II Rules and Regulations) not only cites the Santa Monica Bay study, but also and cites other studies that document a relationship between gastrointestinal illness and swimmers and water quality. Furthermore, to the extent that the Santa Monica study has had "some scientific criticism," the results of that study have not been invalidated. In addition, a preliminary report from another epidemiology study currently under peer review has estimated that out of the 5.5 million people of visit Orange County beaches possibly as many as 100,000 people may develop gastrointestinal infections after swimming at those beaches. Nonetheless, additional studies and characterization of the discharges of urban runoff into receiving waters are needed. To that extent the SDRWQCB is in the process of funding an epidemiological study for Mission Bay in San Diego through a Supplemental Environmental Project. Moreover, this Tentative Order, through its requirements for Dry Weather Monitoring and Receiving Waters Monitoring, addresses the need for more specific information regarding the health threat resulting from the discharge of urban runoff into receiving waters. The finding simply points out that human illnesses have resulted that were clearly linked to recreational activity around discharging storm drains and that bioaccumulation/biomanification of pollutants in urban runoff can occur. Both of these statements are supported by USEPA Phase II Guidance. The SDRWQCB has not performed fate and transport studies to support this finding, but the Copermittees have the discretion to propose that type of monitoring in their Receiving Waters Monitoring Program.

Furthermore, MS4 discharges attributable to illicit discharges and connections can be a significant source of pollutant or contaminant loading to receiving waters. The NURP study concluded that the quality of urban runoff can be adversely impacted by illicit discharges and connections (US EPA, 1983). Furthermore, US EPA states that illicit discharges and connections result in "untreated discharges that contribute high levels of pollutants, including heavy metals, toxics, oil and grease, solvents, nutrients, viruses, and bacteria to receiving waterbodies. Pollutant levels from these illicit discharges have been shown in EPA studies to be high enough to significantly degrade receiving water quality and threaten aquatic wildlife and human health" (2000). One of the most significant problems in Orange County, as evidenced by numerous recent reports in the media, is the incidence of sewage spills and the delivery of sewage through the MS4 system to receiving waters. There certainly is no question that the pathogens contained in untreated sewage discharged from broken or leaking sewerage collection systems are a significant threat to public health. The County of Orange Health Care Agency automatically imposes a swimming closure at potentially affected coastal beaches if a sewage spill reaches the ocean in the vicinity.

For these reasons, CWA section 402(p)(3)(B)(ii) requires each Copermittee to prohibit non-storm water discharges into its MS4. The detection and elimination of illicit discharges and connections, including sewage spills, is also clearly identified in the federal regulations as a high priority (40 CFR

122.26(d)(2)(iv)(B) and 122.26(d)(2)(iv)(B)(1)). As guidance for detecting and eliminating illicit discharges and connections, the US EPA suggests "The proposed management program must include a description of inspection procedures, orders, ordinances, and other legal authorities necessary to prevent illicit discharges to the MS4" (1992). These are a central components of the Tentative Order that has been commented on extensively.

It should also be noted that the public clearly associates urban runoff with increased public health risks in the recreational use of receiving waters. This perception is evident in an article published in the Orange County Register on August 20, 2001 "Sewers: Health Is On The Line- Environment: Businesses, beaches, and bodies are at risk from epidemic failures in the county's underground network." As noted in the article "Microbes are the main disease-causing components in the mass of contaminants that washes into the ocean from cities every day." This public perception has been translated into public support for more stringent recreational waters monitoring by public health agencies and strong support (and increased resources) for more stringent regulatory action to reduce pollutants and contaminants in discharges like urban runoff.

Section: Finding 8

Comment: Provide a clear definition for waters of the U.S., waters of the state, MS4, and how they relate to receiving waters. Urban streams, as defined by the Tentative Order, should not be considered part of the MS4 system. Defining urban streams which convey urban runoff as both an MS4 and a receiving water removes them as for use as a structural treatment BMP (e.g., regional measure). (*Laguna Niguel, Laguna Hills, Lake Forest, San Juan Capistrano, Rancho Santa Margarita, Mission Viejo, San Clemente, Dana Point, County of Orange*)

Response: Waters of the state, waters of the U.S., MS4 are defined in Attachment D of the Tentative Order. Receiving waters are surface waters (including tributaries) that have beneficial uses designated by the Water Quality Control Plan for the San Diego Region. Natural drainages and urban streams are included in this definition, but can also be part of the MS4 when they are used to convey urban runoff regardless if they have been altered by the municipality or not. The system of conveyance (including roads, curbs, catch basins, and underground storm drain pipes) are considered part of the MS4, but are not considered receiving waters. The Tentative Order does not allow the use receiving waters to convey untreated urban runoff or to be used as a BMP.

Finally, it should be noted that in it's draft Order on the petition by the Building Industry Association and Western States Petroleum Association for the review of Order No. 2001-01, in which this issue was prominently raised, the SWRCB has stated "We also agree with the Regional Board's concern, stated in its response, that there may be instances where MS4s use 'waters of the United States' as part of their sewer system, and that the Board is charged with protecting all such waters. In reality, it is often difficult to define what is a water of the United States, especially in Southern California, where 'streams' may consist solely of urban runoff, especially in the dry season."

Section: Finding 9

Comment: What is the beneficial use of the receiving waters? Aliso Creek, especially. (*Lake Forest*)

Response: The beneficial uses of receiving waters subject to this Order can be found in Chapter 2 of the Water Quality Control Plan for the San Diego Basin (Basin Plan), available from the Regional Board office and on-line at <http://www.swrcb.ca.gov/rwqcb9/>. The beneficial uses of waterbodies in

the San Diego Region are designated by the SDRWQCB and are consistent with USEPA beneficial use categories. The designated beneficial uses for the inland waters of Aliso Creek are agriculture (AGR), non-contact recreation (REC 2), warm freshwater habitat (WARM), and wildlife habitat (WILD), with contact recreation (REC 1) as a potential beneficial use. In addition, designated beneficial uses for the Aliso Creek mouth are REC 1, REC 2, WILD, RARE (rare, threatened, or endangered species), and MAR (marine habitat). Finally, designated beneficial uses for the ground waters in the Aliso Creek watershed include AGR, and MUN (municipal and domestic supply).

Section: Finding 9

Comment: Finding No. 9 states that urban runoff causes beneficial use impairment. This broad conclusion is unsupported. At most, it can be said that urban runoff may cause (or contribute to) beneficial use impairment. Accordingly, the County recommends that Finding No. 9 be revised to reflect that urban runoff may (or may not) cause beneficial use impairment depending on site-specific factors. (*County of Orange*)

Response: The finding is supported. As noted in the Fact Sheet/Technical Report, the association between urban runoff and water quality impairment is acknowledged in EPA literature and the Basin Plan. It is also suggested in monitoring reports submitted by the copermittees under the NPDES program. Furthermore, habitat degradation depicted in the Aliso Creek 205(j) watershed study and reports by the U.S. Army Corps of Engineers implicate urban runoff as sources of the degradation.

Section: Finding 10

Comment: Reference Finding 10 Copermittees Implement Urban Runoff Management Programs: Where, that is, in what specific instances or watersheds, has it been shown that Urban Runoff Management Programs (URMPs) designed to reduce discharges of pollutants and flow into and from MS4s to the maximum extent practicable (MEP) can protect receiving water quality by promoting attainment of water quality objectives necessary to support designated beneficial uses. It is quite possible that URMPs implemented to MEP will not result in attainment of water quality objectives. The Board staff in their draft fact sheet acknowledges this in the last sentence of the discussion which accompanies this finding (p. 52 of fact sheet). The finding would be more accurate if the phrase to the maximum extent practicable were deleted. (*Aliso Viejo*)

Response: Maximum Extent Practicable (MEP) is the statutory standard that establishes the level of pollutant reductions that operators of regulated MS4s must achieve. The requirements of the Jurisdictional and Watershed Urban Runoff Management Programs targets the same land uses and categories (new development and significant redevelopment, construction, municipal, commercial, residential, and industrial) which have been identified by USEPA as major sources of pollutants in the Federal NPDES storm water regulations.

As discussed in the Fact Sheet/Technical Report, US EPA finds that a "satisfactory proposed management program will address: management practices; control techniques and systems; design and engineering methods; and other measures to ensure the reduction of pollutants to the maximum extent practicable (MEP)." The US EPA further states that "at a minimum, the proposed management program must include: [...] Identification of structural control measures to be included in these proposed programs." These statements indicate that it is expected that URMPs be developed by the Copermittees that contain both structural and non-structural BMPs for the purpose of reducing pollutants in MS4 discharges to the maximum extent practicable. When pollutants in MS4 discharges

are treated to the maximum extent practicable, receiving water quality and beneficial uses are typically protected through the attainment of water quality objectives. However, it should be noted that pollutant discharges which have the potential to cause or contribute to an exceedance of water quality objectives (such as discharges to Clean Water Act section 303(d) water bodies) may require implementation of BMPs beyond the "maximum extent practicable" standard (40 CFR 122.44(d)(1)(i)).

To the extent that BMPs implemented to the MEP have not been effective in preventing the discharge from causing or contributing to exceedances of receiving water quality objectives, section C of the Tentative Order provides precedential SWRCB direction to the Copermittees.

Section: Finding 11

Comment: Finding 11: This finding is inconsistent with other findings within the Order with regards to the discussion of (end of pipe) treatment control BMPs to remove pollutants from urban runoff. The Order is clear that general treatment control beyond the source is not acceptable to the Board. Therefore, either treatment control downstream of the MS4 must be embraced or this BMP should be removed. As a practical matter, however, in an urbanized area, end of pipe treatment control BMPs may be the only practical method to address pollutant loading and should be highly supported by the Board. Land area availability for development of grassy swales and constructed wetlands should also be acknowledged as unavailable in most urbanized areas, which necessarily leads to end of pipe treatment technologies as likely the most appropriate method of pollutant control prior to receiving waters. (*Laguna Hills*)

Response: In order to provide the Copermittees with flexibility and discretion, under Tentative Order the Copermittees will specify which BMPs they will implement or require to be implemented to reduce pollutants in urban runoff discharges to the MEP. End-of-pipe treatment control, such as diversions to the sanitary sewer or through on-site filtration devices, are typically only effective for dry-weather flows, and wet-weather flows must be treated to the maximum extent practicable.

Section: Finding 11

Comment: Paragraph 11 "Best Management Practices" recognizes constructed wetlands as a BMP. In a developed city, stormwater will have to be transported to scarce lands where wetlands are developed. Will you allow "polluted" urban runoff into a storm drain in order to treat it at a wetland before it goes to a regional receiving water? (*Laguna Hills*)

Response: The Tentative Order allows structural treatment BMPs (constructed wetlands) to be shared by multiple developments. The Tentative Order also requires, however, that the Copermittees prohibit the discharge of pollutants into and from the MS4 that cause or threaten to cause a condition of pollution, contamination, or nuisance. The Tentative Order does not permit the use of receiving waters for the conveyance of polluted runoff. Provided receiving waters are not used to convey untreated stormwater and sufficient source control BMPs are used, the proposed structural BMP would likely meet MEP.

Section: Finding 11

Comment: Is diversion of storm water (or dry weather urban runoff) to a sewer system considered by the Reg. Brd. as an acceptable structural BMP to meet the reqts. of the permit? If considered an "interim" measure only then how long will such diversions be permitted under the permit? (*SOCWA*)

Response: Which types of BMP are to be implemented is left largely to the Copermitees. The only type of BMP required by the Tentative Order for existing land uses is pollution prevention BMPs. The Tentative Order requires their use at sites as determined by the Copermitees. Relying solely on diversions of urban runoff, however, may not be sufficient to meet the requirements to reduce discharges to the maximum extent practicable. End-of-pipe diversions to the sanitary sewer or through on-site filtration devices are only effective for dry-weather flows, and wet-weather flows must be treated to the maximum extent practicable.

Section: Finding 13

Comment: The contention that CWA 402(p)(3)(B)9iii) statement, that a stormwater program "shall require controls to reduce the discharge of pollutants to the maximum extent practicable, including management practices, control techniques and system, design and engineering methods, and such other provisions as the Administrator or the State determines appropriate for the control of such pollutants," can be equivalently translated to mean "Reduce to MEP and whatever else is needed" is not a reasonable or proper interpretation of the meaning of the CWA sentence. Clearly, the intent is to give the Administrator or State ability to determine where or if other provisions beyond those listed are appropriate to reduce discharges to MEP. This "and whatever else is needed" phrase should be deleted from the Fact Sheet, because it is clearly not a "Fact". This same CWA clause is quoted in support of Finding #13 as justification for stating that MS4 discharges must necessarily numerical water quality objectives of receiving waters. The 9th Circuit (or at least, the pieces of it paraphrased in various places in the Fact Sheet) also supports the interpretation that "the Clean Water Act does not require all MS4 discharges to comply strictly with state water quality standards", but determinations might be made by the EPA (or RWQCB) in specific cases and locations, given specific evidence, that strict compliance with numerical water quality standards might be necessary. A blanket requirement is inappropriate. (*Laguna Niguel*)

Response: In response to the comment regarding the phrase "and whatever else is needed" cited in the Fact Sheet/Technical Report, the phrase is a plain language paraphrase used in the descriptive titles of three broad legal authorities supporting the directives of Section F of the Tentative Order. The phrase is not inappropriate. It should be noted that the phrase itself is an accurate, plain language interpretation of precisely the assertion made in the comment that "the intent is to give the Administrator or State ability to determine where or if other provisions beyond those listed are appropriate to reduce discharges to MEP." This is clearly the intent in the respective contexts of the three legal authorities cited: the State has the ability and the discretion to require additional controls, provisions, standards, or limitations necessary to achieve compliance with MEP or receiving water quality objectives. This is necessary because the Tentative Order is, in fact, a water quality based permit that requires the implementation of BMPs. The Copermitees, as dischargers of urban runoff permitted under the Federal NPDES storm water regulations and CWC Waste Discharge Requirements, are required to implement BMPs to prevent or reduce pollutants to the MEP and assure compliance with discharge prohibitions and receiving water quality objectives.

Water Code 13263 & 13377 give RWQCB authority to regulate discharges to preserve highest reasonable water quality and water quality needed to sustain beneficial uses, including aquatic habitat, etc. NPDES regulations mandate reduction of pollutants in storm water that cause or contribute to pollution to MEP by municipalities; evidence establishes risk of unreasonable degradation and pollution associated with urban runoff and support's RWQCB imposition of requirements implementing "MEP" performance standards. While CWA does not require municipalities to satisfy receiving water standards; [Defenders of Wildlife v Browner (9th c, 1999), 191F3d 1159] WQ sections 13263 & 13377 requires WDRs functioning as NPDES permits to

implement water quality objectives (i.e., water quality standards) in basin plans and provisions of the CWA and NPDES regulations needed to protect beneficial uses, and to prevent nuisance.

For the reasons cited above, the use of the paraphrase, plain language titles in the Fact Sheet/Technical Report is considered appropriate and will not be deleted.

Section: Finding 13

Comment: Finding 13: This finding should acknowledge that priority for pollution control should be given to locations of known recreational contact with water sources. A multi-year time frame should be offered for attainment of receiving water limitations at all other locations of receiving waters. (*Laguna Hills*)

Response: Recreation (REC-1 and REC-2) are not the only beneficial uses that the Tentative Order seeks to protect through the management of urban runoff. The Tentative Order requires the Copermittees to prioritize activities. Section C of the Tentative Order provides sufficient flexibility to the Copermittees to implement an iterative BMP program to address discharges that are found to cause or contribute to exceedances of receiving water quality objectives through the implementation of their Jurisdictional Urban Runoff Management Programs.

Section: Finding 14

Comment: Finding 14: This finding reasonably acknowledges the importance of an iterative process of BMP development, implementation, monitoring and assessment. Therefore, a multi-year strategy for permit compliance should be incorporated into the issuance of the Order. Expecting, for example, that an experimental BMP can be implemented and evaluated in a scientific manner in less than one-year is not realistic. And, should such a BMP found not to be effective, a jurisdiction may then be found in violation of the Order despite great efforts to comply. Such a violation is counter-productive to the iterative process and a collaborative approach to implementing receiving water limitation compliance strategies.

This Finding should embrace the co-permittees status as stakeholders in the U.S. Army Corps of Engineers Watershed Studies of San Juan Creek and of Aliso Creek and that funding of improvements identified in these studies are the priority for water quality improvements leading to protection of existing beneficial uses. Otherwise, financial resources will have to be shifted away from these improvements if this Order is implemented as written. (*Laguna Hills*)

Response: As discussed in the Fact Sheet/Technical Report discussion for Finding 13 and Finding 14, the US EPA and SWRCB have discretion to issue municipal storm water permits that require compliance with water quality standards. To ensure that MS4 discharges comply with water quality standards, the SWRCB has adopted US EPA language in SWRCB Order WQ 99-05 that dictates implementation of an iterative BMP process when water quality standards are not met. This language is included in Order No. 2001-193 in Receiving Water Limitations item C. The iterative BMP process requires the implementation of increasingly stringent BMPs until receiving water standards are achieved. This is necessary because implementation of BMPs alone cannot ensure attainment of receiving water quality objectives. For example, a BMP that is effective in one situation may not be applicable in another. An iterative process of BMP development, implementation, and assessment is needed to promote consistent compliance with receiving water quality objectives. If assessment of a given BMP confirms that the BMP is ineffective, the iterative process should be restarted, with redevelopment of a new BMP which is anticipated to result in compliance with receiving water quality

objectives. However, this process as described does not authorize the Copermitees to defer implementation of the requirements of the Tentative Order until some later date. It should be noted that while implementation of the iterative BMP process is a means to achieve compliance with water quality objectives, it does not shield the discharger from enforcement actions for continued non-compliance with water quality objectives.

With respect to the U.S. Army Corps of Engineers Watershed Studies of San Juan Creek and Aliso Creek, the Copermitees may include findings and plans developed during the course of this work in the development and implementation of the Jurisdictional and Watershed Urban Runoff Management Programs. However, the structural management measures proposed in these studies are limited in scope by the Corps jurisdiction to instream projects. These studies have provided only cursory recommendations for source identification and control and other activities that should be expected from a watershed management approach. Moreover, although the Aliso Creek Watershed Management Study was submitted in May 1999 and included at least two activities (Watershed Education Plan and Non-Point Source Awareness Plan) that were compatible with provisions of Order No. 96-03 and the Drainage Area Management Plan, it is not apparent that these recommended activities have been implemented by the Copermitees in the Aliso Creek watershed. Furthermore, it should be understood that the improvements, however beneficial to water quality, are not substitutes for the implementation of the types of BMPs and programs included in the Tentative Order. While the stabilization, rehabilitation, or restoration of impaired aquatic and riparian habitat are important activities that may help protect the Copermitees from exceedances of receiving water quality objectives through the restoration of the assimilative capacity of the receiving waters, this approach cannot be conducted in lieu of source identification and elimination of illicit discharges or the implementation of BMPs to prevent or reduce pollutants in urban runoff to the MEP.

Finally, it should be noted that compliance with the Tentative Order is not an iterative process. Compliance with the Tentative Order requires the achievement of MEP with respect to the removal or reduction of pollutants from discharges and the implementation of the Jurisdictional Urban Runoff Management Program to achieve compliance with Section C.1 of the Tentative Order. The iterative process phrase refers specifically to the Copermitees' process of BMP development, implementation, monitoring, and assessment in response to the implementation of BMPs that do not prove as effective as anticipated, with the result that a discharge is causing or contributing to an exceedance of receiving water quality objectives. This process is necessary to assure that an Urban Runoff Management Program is sufficiently comprehensive and effective to achieve compliance with receiving water quality objectives and the Tentative Order. Furthermore, the Tentative Order is a third term permit that builds upon programs developed and implemented under the previous permits.

Section: Finding 14

Comment: Finding 14 indicates that implementation of BMPs cannot ensure attainment of receiving water quality objectives under all circumstances. Does the Board intend to require implementation of BMPs beyond the maximum extent practicable standard if necessary to meet designated beneficial uses? (*Aliso Viejo*)

Response: Under Section 402(p) of the Clean Water Act, municipalities are required to reduce the discharge of pollutants from their storm water conveyance systems to the maximum extent practicable (MEP). MEP is the critical technology-based performance standard which municipalities must attain in order to comply with their municipal storm water permits. The MEP standard establishes the level of pollutant reductions the municipality must achieve. MEP generally emphasizes pollution prevention and source control BMPs (as the first line of defense) in combination with treatment methods serving as a backup (additional line of defense).

To achieve the MEP standard, municipalities must employ whatever BMPs are technically feasible (i.e., are likely to be effective) and are not cost prohibitive. The major emphasis is on technical feasibility. Reducing pollutants to the MEP means choosing effective BMPs, and rejecting applicable BMPs only where other effective BMPs will serve the same purpose, or the BMPs would not be technically feasible, or the cost would be prohibitive.

If a municipality reviews a lengthy menu of BMPs and chooses to select only a few of the least expensive BMPs, it is likely that MEP has not been met. On the other hand, if a municipal discharger employs all applicable BMPs except those where it can show that they are not technically feasible in the locality, or whose cost is prohibitive, it would have met the standard. Where a choice may be made between two BMPs that should provide generally comparable effectiveness, the discharger may choose the least expensive alternative and exclude the more expensive BMP. However, it would not be acceptable either to reject all BMPs that would address a pollutant source, or to pick a BMP base solely on cost, which would be clearly less effective. In selecting BMPs the municipality must make a serious attempt to comply and practical solutions may not be lightly rejected. In any case, the burden would be on the municipal discharger to show compliance with its permit. After selecting a menu of BMPs, it is the responsibility of the discharger to ensure that all BMPs are implemented.

It is the SDRWQCB's responsibility to evaluate the proposed programs and specific BMPs to determine what constitutes MEP, using the above guidance and the court's decision in NRDC v. California Department of Transportation, Federal District Court, Central District of California (1994). The court stated that a permittee must evaluate and implement BMPs except where (1) other effective BMPs will achieve greater or substantially similar pollution control benefits; (2) the BMP is not technically feasible; or (3) the cost of BMP implementation greatly outweighs the pollution control benefits. In the absence of a proposal acceptable to the SDRWQCB, the SDRWQCB will define MEP by requiring implementation of additional measures by the Copermitees.

As discussed in the Fact Sheet/Technical Report discussion for Finding 13 and Finding 14, the US EPA and SWRCB have discretion to issue municipal storm water permits that require compliance with water quality standards. To ensure that MS4 discharges comply with water quality standards, the SWRCB has adopted US EPA language in SWRCB Order WQ 99-05 that dictates implementation of an iterative BMP process when water quality standards are not met. This language is included in Order No. 2001-193 in Receiving Water Limitations item C. The iterative BMP process requires the implementation of increasingly stringent BMPs until receiving water standards are achieved. This is necessary because implementation of BMPs alone cannot ensure attainment of receiving water quality objectives. For example, a BMP that is effective in one situation may not be applicable in another. An iterative process of BMP development, implementation, and assessment is needed to promote consistent compliance with receiving water quality objectives. If assessment of a given BMP confirms that the BMP is ineffective, the iterative process should be restarted, with redevelopment of a new BMP which is anticipated to result in compliance with receiving water quality objectives. Regarding BMP assessment, the SWRCB Urban Runoff Technical Advisory Committee states "The [Storm Water Pollution Prevention Plan] SWPPP must be revised if an inspection indicates a need to alter the BMPs: drop ineffective BMPs, add new BMPs, or modify a BMP that is to remain in the SWPPP." It should be noted that while implementation of the iterative BMP process is a means to achieve compliance with water quality objectives, it does not shield the discharger from enforcement actions for continued non-compliance with water quality objectives. Thus, the SDRWQCB does not require implementation of BMPs beyond the maximum extent practicable standard, but rather it determines whether the MEP standard has been attained and requires that the Copermitee address exceedances of receiving water quality objectives through the iterative process described in section C of the Tentative Order. However, it should be noted that pollutant discharges which have the potential to cause or contribute to an exceedance of water quality objectives (such as discharges to Clean

Water Act section 303(d) water bodies) may require implementation of BMPs beyond the “maximum extent practicable” standard (40 CFR 122.44(d)(1)(i).

Finally, it should be noted that compliance with the Tentative Order is not an iterative process. Compliance with the Tentative Order requires the achievement of MEP with respect to the removal or reduction of pollutants from discharges and the implementation of the Jurisdictional Urban Runoff Management Program to achieve compliance with Section C.1 of the Tentative Order. The iterative process phrase refers specifically to the Copermitees’ process of BMP development, implementation, monitoring, and assessment in response to the implementation of BMPs that do not prove as effective as anticipated, with the result that a discharge is causing or contributing to an exceedance of receiving water quality objectives. This process is necessary to assure that an Urban Runoff Management Program is sufficiently comprehensive and effective to achieve compliance with receiving water quality objectives and the Tentative Order.

Section: Finding 14

Comment: Finding 14 is self-contradictory. Modify second sentence of Finding 14, page 4 to read: “An iterative process of BMP development, implementation, monitoring, and assessment may be necessary to assure that an Urban Runoff Management Program is sufficiently comprehensive and effective to achieve compliance with receiving water quality objectives to the maximum extent practicable.” In reality, every line of the Order is going to be quoted someday as a specific legal requirement, so “to MEP” should be added wherever that is what is really meant and most definitely in the Findings, which form the basic standard. Otherwise, there will be conflicts over interpretation, because there is certainly a perceived difference, and potentially a legally enforceable one, between the phrases “remove pollutants” and “remove pollutants of concern to MEP.” (*Laguna Niguel*)

Response: Finding 14 is not self-contradictory. The receiving water limitations requirements for BMPs to be implemented to achieve water quality standards is not guided by the MEP standard. Achievement of water quality standards is a separate and distinct goal for the NPDES municipal storm water program. It is not a subset of the MEP requirement to be overridden by the MEP standard. This is exhibited when USEPA states: “Today’s rule specifies that the “compliance target” for the design and implementation of municipal storm water control programs is “to reduce pollutants to the maximum extent practicable (MEP), to protect water quality, and to satisfy the appropriate water quality requirements of the CWA.” (64 FR 68753) Where necessary, the Tentative Order does identify where the MEP standard applies.

Section: Finding 15

Comment: The regional board is without authority to regulate third parties’ private property under the municipal permit. At issue herein is a municipal permit regulated under the NPDES provisions of the Clean Water Act. (See 33 U.S.C. § 1342(p)(3)(B).) The subject of the regulation is the MS4 itself and discharges there from. The permittee/copermittee (i.e., regulated entity) is the operator of the MS4. The permittee/copermittee (i.e., regulated entity) is the operator of the MS4. Notwithstanding this relatively straightforward regulatory concept, the proposed Permit far exceeds the bounds of permissible regulation thereunder. Specifically, under the guise of this municipal NPDES permit, the Regional Board asserts jurisdiction over third parties’ private property. (*Construction Industry Coalition on Water Quality*)

Response: The Tentative Order holds the copermitees responsible for illicit discharges from third parties, and the Copermitees are responsible for discharges both into and from their MS4.

Copermittees cannot passively receive and discharge pollutants from third parties. As US EPA states, “The operator of a small MS4 that does not prohibit and/or control discharges into its system essentially accepts ‘title’ for those discharges. At a minimum, by providing free and open access to the MS4s that convey discharges to the waters of the United States, the municipal storm sewer system enables water quality impairment by third parties” (USEPA, 1999b). Discharges of pollutants to the MS4 must therefore be controlled, and an important means for a municipality to achieve this is through the development and enforcement of municipal legal authority.

Order No. 2001-193 holds the local government accountable for the direct link between its land use decisions and water quality degradation. The permit recognizes that each of the three major stages in the urbanization process (development planning, construction, and the use or operational stage) is controlled by and must be authorized by the local government. Accordingly, this permit requires the local government to implement, or require others to implement, appropriate best management practices to reduce pollutant discharges and increased flow during each of the three stages of urbanization.

Section: Finding 15

Comment: For water utilities that already report directly to RWQCB staff with information and data for dewatering and construction activities, will they now report to affected copermittees and/or both? (*Irvine Ranch Water District*)

Response: The Tentative Order neither requires nor prohibits Copermittees to collect such information. However, agencies or organizations conducting such dewatering activities that discharge into MS4s may be required by the Copermittees to implement BMPs to reduce pollutants in the discharges to the MEP.

Section: Finding 15

Comment: Finding No. 15 is incorrect. It is based on a statement in the Final Rule for the Phase II regulations designed to encourage the Phase II communities to be more proactive than the regulations require. As the staff recognizes on page 54 of the Fact Sheet/Technical Report, if a municipality does not prohibit non-storm water discharges, it must accept responsibility for the water quality consequences of its decision. In other words, the municipality is responsible for the quality of discharges from its MS4. The staff goes on to say that, “For these reasons, each Co-permittee must prohibit and/or control discharges from third parties to its MS4.” This is an extrapolation of existing law. A municipality is responsible for the quality of the discharges from its storm drain system, with the methods of achieving compliance up to the municipality. The proposed approach may lead to appeals and possibly litigation. (*San Juan Capistrano*)

Response: Finding 15 is correct and appropriate. USEPA supports the concept that Copermittees cannot passively receive and discharge pollutants from third parties. As US EPA states, “The operator of a small MS4 that does not prohibit and/or control discharges into its system essentially accepts ‘title’ for those discharges. At a minimum, by providing free and open access to the MS4s that convey discharges to the waters of the United States, the municipal storm sewer system enables water quality impairment by third parties” (USEPA 1999b). Federal NPDES regulations clearly provide the SDRWQCB with the legal authority to require municipalities to control discharges from third parties into their MS4. 40 CFR 122.26(d)(2)(iv)(A - D) require municipalities to implement controls to reduce pollutants in urban runoff from commercial, residential, industrial, and construction land uses or activities. Federal NPDES regulations 40 CFR 122.26(d)(2)(i)(A - D) also require municipalities to

have legal authority to control various discharges to their MS4. This concept is further supported in the Preamble to the Phase II Final Rule NPDES storm water regulations, which states “The operators of regulated small MS4s cannot passively receive and discharge pollutants from third parties” (USEPA, 1999b). Due to the greater water quality concerns generally experienced by larger municipalities, Phase II Final Rule findings for small municipalities are also applicable to larger municipalities such as the Copermittees. Again, underlying the Federal NPDES storm water regulations is the Clean Water Act, which states in section 402(p)(3)(B)(ii) that municipalities shall “effectively prohibit non-stormwater discharges into the storm sewers.”

As discussed in the Fact Sheet/Technical Report, Clean Water Act section 402(p) requires operators of MS4s to prohibit non-storm water into their MS4s. This is necessary because pollutants that enter the MS4 generally are conveyed through the MS4 to be eventually discharged into receiving waters. If a municipality does not prohibit non-storm water discharges, it is providing the pathway (its MS4) which enables pollutants to reach receiving waters. Since the municipality’s storm water management service can result in pollutant discharges to receiving waters, the municipality must accept responsibility for the water quality consequences resulting from this service. Furthermore, third party discharges can cause a municipality to be out of compliance with its permit, exposing it to enforcement action and litigation. Since pollutants from third parties that enter the MS4 will eventually be discharged from the MS4 to receiving waters, the third party discharges can result in a situation of municipality non-compliance if the discharges lead to an exceedance of water quality standards. For these reasons, each Copermittee must prohibit and/or control discharges from third parties to its MS4.

It is important to note the SWRCB also supports control of discharges into MS4s. The SWRCB recently upheld the LARWQCB SUSMP requirements in Order WQ 2000-11. These requirements place significant restrictions on discharges from third parties into MS4s. In fact, the SUSMP provisions included in the Tentative Order, as upheld by the SWRCB, represent the most stringent and specific requirements in the Tentative Order regarding the control of discharges into the MS4. Finally, the requirement for municipal storm water dischargers to have, and exercise, local governmental authority in order to comply with water quality control obligations is analogous to the requirement for Publicly Owned Treatment Works to have and exercise legal authority to require pretreatment of industrial wastes being discharged to their sewage collections systems (CWA 402(b)(8)).

Section: Finding 15

Comment: Finding 8 of the existing permit, Order No. 96-03, has been dropped from this order. We respectfully request that this finding be reinstated, and we suggest some revised wording that may satisfy the Board: "The Regional Board recognizes that the permittees should not be held responsible for such facilities and/or discharges and it is imperative that these Federal and State agencies work cooperatively with the permittees to solve water quality problems on a watershed-wide basis." For instance, Caltrans is not a party to this permit yet they discharge their water from their property into the Copermittee MS4s. Do they take ultimate responsibility and liability all the way to the ocean? What recourse do the Copermittees have against other State and Federal owned lands, or other exempt agencies such as Native American Tribes?

The Tentative Order improperly imposes responsibility on Copermittees for the acts of private parties. Simply because a municipality has an obligation to establish and enforce prohibitions against illicit discharges does not mean they are “responsible for” such discharges. Nor does anything in the Porter Cologne Act or the CWA support such a contention. The imposition of “vicariously liability” on the copermittees for acts of third parties is inconsistent with state and federal law. The NPDES permit program is designed to control the discharge of pollutants from the MS4 “to the maximum extent practicable.” It cannot legally be used to hold copermittees “responsible” for the failure of private

parties to follow storm water runoff regulations. Rather, the Permittees only have the power to establish and enforce prohibitions against illicit discharges and to pursue violations of such prohibitions when they are identified. Accordingly, the County recommends that Finding No. 15 be deleted from the Tentative Order. (*Aliso Viejo, County of Orange, Laguna Niguel*)

Response: Finding 31 (Intergovernmental Coordination) notes that copermittee coordination regarding water quality protection and land use planning activities with other watershed stakeholders, especially Caltrans and the Department of Defense, is critical to achieve the greatest protection of receiving water bodies.

Municipalities cannot arrogate to themselves the authority to regulate discharges from facilities or activities beyond their jurisdiction, e.g., discharges from state and federal facilities including highways and Indian reservations directly to waters of the state that are not part or tributary to the municipality's MS4. Municipalities are required, however, to have or develop legal authority to regulate storm water discharges and urban runoff within their jurisdictions, including discharges that may be subject to concurrent regulation by the state and federal governments. In addition, where municipalities control access to MS4 infrastructure for the accommodation of discharges from entities within their jurisdiction (including school districts, state and federal facilities, construction sites and industrial facilities) municipalities must exercise such control in a manner consistent with their obligation under the Regional Board's requirements to reduce pollutants in their MS4 to the maximum extent practicable.

Federal NPDES regulations clearly provide the SDRWQCB with the legal authority to require municipalities to control discharges from third parties into their MS4. Municipalities required in 40 CFR 122.26(d)(2)(iv)(A - D) to implement controls to reduce pollutants in urban runoff from commercial, residential, industrial, and construction land uses or activities. Federal NPDES regulations 40 CFR 122.26(d)(2)(i)(A - D) also require municipalities to have legal authority to control various discharges to their MS4. This concept is further supported in the Preamble to the Phase II Final Rule NPDES storm water regulations, which states "The operators of regulated small MS4s cannot passively receive and discharge pollutants from third parties." Due to the greater water quality concerns generally experienced by larger municipalities, Phase II Final Rule findings for small municipalities are also applicable to larger municipalities such as the Copermittees. Finally, underlying the Federal NPDES storm water regulations is the Clean Water Act, which states in section 402(p)(3)(B)(ii) that municipalities shall "effectively prohibit non-stormwater discharges into the storm sewers"

The municipal Copermittees under Order No. 2001-193 are responsible for discharges into and out of their storm water conveyance systems because (1) they own and operate the MS4; and (2) they have the legal authority that authorizes the very development and land uses which generate the pollutants and increased flows in the first place. Order No. 2001-193 holds the local government accountable for this direct link between its land use decisions and water quality degradation. The permit recognizes that each of the three major stages in the urbanization process (development planning, construction, and the use or operational stage) is controlled by and must be authorized by the local government. Accordingly, this permit requires the local government to implement, or require others to implement, appropriate best management practices to reduce pollutant discharges and increased flow during each of the three stages of urbanization.

Section: Finding 16

Comment: Can you be more specific about what land use authority that cities have over existing properties?

While municipalities do regulate development occurring within their jurisdiction, there are constitutional limits on such regulation. The conditions imposed by a municipality must have a nexus with, and be reasonably proportional to, the impacts caused by a proposed development. Moreover, a municipality cannot impose restrictions on development that preclude the landowner from having an economically viable use of its land. As the recent Supreme Court decision in *Palazollo v. Rhode Island* makes clear, this prohibition applies even where the municipality imposes the restrictions before the landowner purchases the land. See *Palazollo v. Rhode Island*, 121 S.Ct. 2448 (2001). Thus, it is inaccurate for the Regional Board staff to assert that the Permittees have carte blanche control of all aspects of urban development within their boundaries. The County recommends that Finding No. 16 be deleted from the Tentative Order. (*County of Orange, Laguna Niguel*)

Response: Each copermittee has adopted a storm water ordinance that prohibits pollutants from entering the storm drains. The nexus between construction and post-construction land uses identified in the Tentative Order and impacts to water quality from runoff are well documented. The SUSMP requirements on new development and redevelopment will not preclude a landowner from having an economically viable use of land. Finding 16 will remain.

Section: Finding 17

Comment: Finding 17 should be deleted or revised to strike the word “profit” from the Copermittees authorization of urban development. Although the Copermittees may receive tax revenues from residential, commercial and industrial development that occurs within their boundaries, they do not necessarily “realize benefits” in the common sense of that phrase. The tax revenues collected by most municipalities are rarely sufficient to cover the demand for municipal services.

Finding 17 of the Tentative Order reflects a failure to appreciate the role and duties of local governments to exercise authority over land use, and the limitations imposed on the exercise of that authority. The authority of cities and counties to regulate land use comes from the California Constitution. Article XI, 97, confers on local governments the authority and the duty to regulate land use, through the exercise of the “police power.” Cities exercise land use authority not for the purpose of “profiting” from the exercise of their constitutional duty, but because the exercise of control over land use is their duty.

For the Tentative Order to attempt to impose a duty to protect water quality, without reference to any Constitutional provision or specific enactment of the legislature, based on this misunderstanding of the duty of cities is inappropriate and without legal basis. The Cities are aware of no legislation in which the California Legislature imposed a duty to protect water quality based on local governments’ exercise of their Constitutional duty to regulate land use. (*Laguna Hills, County of Orange, Dana Point, Rancho Santa Margarita, Lake Forest, Laguna Woods*)

Response: The word "profit" should have read "realize benefits." It was inadvertently left in Finding 17 of the draft Tentative Order during editing. Since the Copermittees permit, authorize, and realize benefits from urban development within their jurisdictions, Tentative Order No. 2001-193 holds the Copermittees responsible for the short and long-term water quality consequences of their land use decisions. "Profit" in this case refers to benefitting, financial or otherwise, from land use decisions. Municipalities retain land use authority for the purpose of realizing benefits, financial or otherwise, from decisions to urbanize. Furthermore because water quality degradation is the direct result of the urbanization process, Copermittees must implement (or require others to implement) controls to reduce the flow and pollutants generated from each of the three major phases of urbanization that they authorize; namely the (1) land use planning, (2) construction; and (3) use or existing development phase.

While the Copermittees may not “profit” from land development according to the common definition and use of the word, the Copermittees do realize, or intend to realize, net benefits that are not exclusively financial from the residential, commercial, industrial, and other activities proposed by private parties that they authorize within their jurisdiction. Because Copermittees have the land use authority to regulate these activities, which can be a source of pollutants and runoff that impair receiving waters, so the Copermittees must also exercise their legal authority to ensure that the resulting increased pollutant loads and flows do not further degrade receiving waters. Nonetheless, Finding 17 will be revised to use the words “realize benefits” in place of “profit.”

Section: Finding 19

Comment: Finding No. 19 states that construction activities are a significant cause of receiving water impairment. While siltation and sediment runoff may be a significant problem in the nation as a whole, there are no water bodies in the County within the jurisdiction of the Regional Board that are impaired by sediment. See Finding No. 28 (listing Section 303(d) impaired water bodies and noting that the only pollutant of concern for such water bodies is coliform bacteria); see also Attachment D (discussing impaired water bodies within jurisdiction of Regional Board).

Accordingly, the County recommends that Finding No. 19 be revised to reflect that construction activities may (or may not) cause receiving water impairment and that at present they are not a significant source of impairment in that portion of the County covered by the Tentative Order. (*County of Orange*)

Response: The finding is correct and justified because construction activities are a significant cause of receiving water impairment. Although at this point there are no water bodies in the County within the jurisdiction of the Regional Board that are listed as impaired by sediment, there are water bodies listed for sediment that are within the areas served by the DAMP. This suggests that the DAMP may not be sufficient to protect water bodies from the impacts of sediment. In addition, the listing process is not finite, and more reaches may become listed as additional data becomes available.

Section: Finding 19

Comment: Finding 19 fails to recognize the Drainage Area Management Plan currently in place in this region that includes construction activity controls. No new actions on the part of the co-permittees should be required, rather, previous control efforts that have successfully addressed these issues should be acknowledged. (*Laguna Hills*)

Response: The DAMP is recognized elsewhere in the Tentative Order and Fact Sheet. New actions by the copermittees are required in order to meet the technology-based MEP standard that is required in the federal regulations. Please see Attachment 5 of the Fact Sheet for an analysis of the proposed revised DAMP. There are a number of deficiencies with respect to construction activities. For instance, the DAMP does not set minimum BMP requirements based on threat to water quality prioritization, and minimum BMP requirements are only set for public works construction projects and not private construction sites. In addition, the DAMP does address inspection frequencies of construction sites by construction and grading inspectors and these frequencies are not based on the threat to water quality prioritization. The Tentative Order does not prohibit each copermittee from using information in the DAMP in the development of a jurisdictional urban runoff management plan.

Section: Finding 20

Comment: Finding 20 is incorrect based upon data generated by the County of Orange. Further, there is no evidence that the URMPs will, in fact, reduce pollutant loadings over the long term in any better form than the Drainage Area Management Plan. (*Laguna Hills*)

Response: Finding 20 states that monitoring data shows substantial pollutants loads are delivered to receiving waters in runoff from existing development. This is confirmed by the data submitted to the Regional Board by the copermittees pertaining to the municipal storm water permit, the Aliso Creek 205(j) study, Cleanup and Abatement Order 99-211, and the Aliso Creek 13225 Directive. In particular, elevated levels of fecal coliform at the outfalls are consistently reported. Additionally, in the latest NPDES Annual Progress Report (2000) data shows that 2 of 3 channels monitored for dissolved metals exceed California Toxics Rule Criteria for multiple constituents. Furthermore, wet-weather monitoring during the Aliso Creek 205(j) watershed study showed significant toxicity to aquatic test organisms.

Section: Finding 22

Comment: Does the Tentative Order require the Copermittees to have the legal authority to enforce the Industrial and Construction General Permits? Requiring the Copermittees to duplicate and/or expand the State programs regulating storm water discharges from industrial and construction sites is contrary to the Clean Water Act. Requiring the Copermittees enforce the MEP standard at construction and industrial sites would subejct the sites to different standards (BAT/BCT for General Statewide Permits). (*Aliso Viejo, Mission Viejo, Laguna Hills, County of Orange, MJF Consulting*)

Response: The Copermittees are not responsible for enforcing or overseeing the General Statewide Industrial or Construction Permits. The SDRWQCB will oversee and enforce the General Statewide Industrial and Construction Permits. The Copermittees are however, responsible for enforcing their ordinances(e.g. the Water Quality Ordinance) that implement the Tentative Order, including the prohibitions against illicit discharges. The Copermittees are responsible for ensuring that, at a minimum, discharges from industrial and construction sites meet the MEP standard of the Tentative Order. The Copermittees do have the discretion to require BMPs at construction sites that exceed MEP where appropriate. In some cases, the Copermittees may be required to implement or require the implementation of BMPs at construction or industrial sites that exceed the minimum requirements of the General Statewide Industrial or Construction Permits in order to achieve compliance with the requirements of the Tentative Order. USEPA supports this approach, clearly placing responsibility for the control of discharges from construction and industrial sites with municipalities. The USEPA notes in the preamble to the Storm Water Regulations that municipalities are in the best place to enforce compliance with storm water discharge requirements:

“Because storm water from industrial facilities may be a major contributor of pollutants to MS4s, municipalities are obligated to develop controls for storm water discharges associated with industrial activity through their system in their storm water management program...The CWA provides that permits for municipal separate storm sewers shall require municipalities to reduce pollutants to the maximum extent practicable. Permits issued to municipalities for discharges from municipal separate storm sewers will reflect terms, specified controls, and programs that achieve that goal.”

As noted in the Fact Sheet/Technical Report, the USEPA felt it so important to control the discharge of pollutants from construction and industry that it established a double system of regulation over construction and industrial sites. Two parallel regulatory systems were established with the same

common objective of keeping pollutants from construction and industrial sites out of the MS4. A structure was created where local governments must enforce their local ordinances and permits as required under their municipal storm water permits, while the SDRWQCB (state) must enforce its statewide general construction and industrial storm water permits. The two regulatory systems were designed to complement and support each other in the shared goal of minimizing pollutant discharges in runoff from construction and industrial sites.

Local governments have regulatory authority over the majority of construction and industrial sites since they issue the development and land use permits for the sites. In other words, the Copermittees are responsible for the water quality consequences of their planning, construction, and land use decisions.

Regarding construction sites, USEPA also places enforcement responsibility on municipalities, requiring small municipalities to develop and implement “[a]n ordinance or other regulatory mechanism to require erosion and sediment controls, as well as sanctions to ensure compliance [...]” (40 CFR 122.34(b)(4)(ii)(A)). In its guidance for the Phase II regulations, US EPA goes on to support increased municipality responsibility, stating “Even though all construction sites that disturb more than one acre are covered nationally by an NPDES storm water permit, the construction site runoff control minimum measure for the small MS4 program is needed to induce more localized site regulation and enforcement efforts, and to enable operators of regulated small MS4s to more effectively control construction site discharges into their MS4s.” While these above citations refer to small municipalities under Phase II of the NPDES program, USEPA recommendations to small municipalities are applicable to larger municipalities such as the Copermittees, due to the typically more serious water quality concerns attributed to such larger municipalities.

The language of the Tentative Order has been drafted to carefully describe the requirements of the Tentative Order with regard to the dual regulation of construction and industrial sites as discussed above. With the recent addition of resources and staff from budget augmentations in several programs, including storm water, the SDRWQCB is vigorously administering and enforcing the General Statewide Industrial and Construction permits. The SDRWQCB will enforce the General Statewide Construction and Industrial Permits; the Copermittees are required to enforce their own storm water ordinances.

Section: Finding 22

Comment: A portion of Finding 22 does not read as a “Finding”. Rather, it is worded as an “Order”, and, as such, should be placed in the Order section. As written, the latter portion of the first paragraph, beginning with “Pursuant to this Order...”, purports to be based on the Tentative Order. Yet, until the Tentative Order is adopted by the Board, there is no Order on which to base this portion of the finding. A finding must be based on existing facts. Therefore, that sentence, to include sub-parts (a) and (b), should be deleted from the finding. (*Dana Point*)

Response: The language of Finding 22 is that of a tentative Finding that refers to the directives contained within the Tentative Order. The language of a finding does not preclude reference to requirements contained within the Order. For example, Finding 19 of Order No. 96-03 contains references of tasks to be performed under Order 96-03. Moreover, the statements in Finding 22 that local permits, plans, and ordinances must prohibit the discharge of pollutants and non-storm water into the MS4 and require the routine use of BMPs to reduce pollutants in site runoff are based on the Federal Phase I storm water regulations and on language in the current municipal storm water permit

Order No. 96-03 (Finding 27, Finding 31, sections 3.1 and 3.2,). Consequently, the language of the Finding is appropriate and further revision is not necessary.

Section: Finding 24

Comment: What is the Board's definition of the frequency of "routine inspections"? (*Laguna Hills*)

Response: The frequency of routine inspections that are necessary to determine compliance with local permits and ordinances is determined by each copermitee. However, the Tentative Order does specify minimum inspection frequencies for the following categories of activities:

1. Construction - Section F.2.g;
2. High priority municipal existing development - Section F.3.a(7); and
3. High priority industrial sites - Section F.3.b(6).

Copermittees are given discretion in establishing frequency of inspections for all medium and low priority municipal and industrial sites, as well as all commercial sites.

Section: Finding 26

Comment: Finding 26 references the Basin Plan and quotes from it as follows: All waters shall be free of toxic substances in concentrations that are toxic to, or that produce detrimental physiological responses in human, plant animal, or aquatic life The survival of aquatic life in surface waters subjected to a waste discharge or other controllable water quality factors, shall not be less than that for the same water body in areas unaffected by the waste discharge... The finding then goes on to say that: Urban runoff discharges from MS4s are considered toxic when (1) the toxic effect observed in an acute toxicity test exceeds zero Toxic Units Acute (TUA=O) or (2) the toxic effect observed in a chronic toxicity test exceeds one Toxic Unit Chronic (TUC=I).

In responding to our question about this finding at the first Board workshop, the Board staff wrote: "Bioassessment not only identifies that an impact has occurred, but also measures the effect of the impact and tracks recovery when control or restoration measures have been taken, Bioassessment does not, however identify the sources of the impact. The toxicity testing requirement is necessary to identify the sources of impact to the benthic macroinvertebrate community to enable the Copermittees to adequately address these sources in their programs."

We are in concurrence with this statement by the Board staff that an appropriate use of toxicity testing is to identify the sources of toxicity once bioassessment monitoring has identified an impact. However, that is not the substance of Finding 26 that establishes the toxicity testing itself as the means for identifying impact.

The final sentence in the finding needs to clarify that where bioassessment data have indicated a significant impairment, toxicity testing is to be performed on a sample of the receiving water and must be compared against a control consisting of a similar receiving water unaffected by any other discharge in order to identify the presence of toxicity.

Finally, the case for establishing toxicity based on a TUA=O or TUC=I has not been adequately supported by Board staff in the Draft Fact Sheet/Technical Report for the Tentative Order. On page 64 of the Fact Sheet/Technical Report under finding 26 the staff makes the key assumption that the Basin Plan narrative objective of 'no toxics in toxic amounts' corresponds to 100% survival of test organisms in an acute toxicity study (Tua=O) and for a critical life stage toxicity test the absence of

observable effects in undiluted test water (should read receiving water) or a $TU_c=1$. This is the only basis given for establishing the $TU_a=0$ and $TU_c=1$ as the measure of toxicity. This is an extremely stringent requirement. Scientific assessment may lead to 85%, 90%, 95% or some other statistically significant outcome as the standard when considering MEP. We ask that the Board remove the last sentence of Finding 26 for there has been no significant analysis of what the potential outcome and implications of this finding could be. (*Aliso Viejo*)

Response: The requirements for the Copermittees to conduct toxicity monitoring are appropriate and necessary to determine the biological impact resulting from the discharge of urban runoff. As discussed in the comment, the Monitoring and Reporting Requirements of the Tentative Order include a requirement for the Copermittees to develop a program for standardized toxicity and Toxicity Identification Evaluation analyses to be performed at urban stream bioassessment stations where the bioassessment data indicates significant impairment. In this context, toxicity testing and TIE analysis are follow-up tools to identify potential causative factors for an observed impact on the benthic community. However, toxicity testing and TIE analysis is also an appropriate means for identifying the impact of the discharge of urban runoff in and of itself, which is the focus of Finding 26. The Tentative Order properly includes toxicity and TIE analysis as a primary assessment procedure as well as a follow-up procedure for stations in which benthic bioassessment data that indicate an impact has occurred.

The presence of toxicity in urban runoff discharged from MS4s that causes or contributes to an exceedance of receiving water quality objectives or constitutes a threat to human or environmental health is a violation of Order 90-42 and the Tentative Order. The Toxicity requirement is derived from the Ocean Plan and is properly supported. The Copermittees have the responsibility to ensure that the discharge from their MS4s does not cause or contribute to exceedances of receiving water quality objectives nor constitutes a threat to human or environmental health. Toxicity is a measurement of the impact of MS4 discharges to human and environmental health.

Section: Finding 26

Comment: Finding No. 26 states that urban runoff discharges from MS4s “often” contain pollutants that cause toxicity and implies that effluent toxicity limits apply to discharges of urban runoff from MS4s. The County disagrees. First, although discharges from MS4s “often” contain pollutants that can cause toxicity, the question is whether such pollutants are present in concentrations that in fact do cause toxicity. Second, as stated elsewhere in these comments, MS4s are not required to meet WQS. They are instead required to reduce the discharge of pollutants to the maximum extent practicable. Third, the numeric toxicity limits identified in this Finding are only applicable to certain discharges to ocean waters of the state, not to all waters of the state, and the limits are applicable to the receiving waters, not urban runoff discharges from MS4s. (*County of Orange*)

Response: Significant toxicity was found during storm events during the Aliso Creek 205(j) watershed study in 1998 and 1999. A majority of the cases resulted in zero percent survival during the acute 48-hour Ceriodaphnia test. Thus it is reasonable to conclude that pollutants conveyed by the MS4 to receiving waters are present in concentrations that in fact do cause toxicity.

The Copermittees have the responsibility to ensure that the discharge from their MS4s does not cause or contribute to exceedances of receiving water quality objectives nor constitutes a threat to human or environmental health. Toxicity is a measurement of the impact of MS4 discharges to human and environmental health

Section: Finding 27

Comment: Finding indicates that the Order is not meant to control background or naturally occurring pollutants and flows. Has the Board established that non-anthropogenic sources of fecal coliform do not naturally cause violations of designated uses (REC1 and REC 2)? *(Aliso Viejo)*

Response: The Regional Board has not established that naturally occurring pollutants and flows (containing fecal coliform) cause violations of REC 1 and REC 2 beneficial uses. In some cases DNA analysis has shown this to be true, but in most cases it is assumed that indicator coliform bacteria may be of human origin.

Section: Finding 27

Comment: The Tentative Order ostensibly applies to storm water flows both into and from the Permittees' MS4. The resulting effect is that the Permittees will be required to address runoff from many other non-urban sources. Indeed, under the Tentative Order, the Permittees will be forced to address non-point sources of runoff that would otherwise be exempt from regulation under the CWA, such as runoff from silviculture and agriculture. Thus, notwithstanding the "focus" of the Tentative Order as stated in Finding No. 27, the Permittees are being asked to mitigate more than simply those "urban runoff pollutants and flows" that are "generated or accelerated by human activities." It is both impermissible and impracticable for the Regional Board to saddle the Permittees with this obligation. *(County of Orange)*

Response: The copermitees are not held responsible for impacts from flows resulting from activities exempted from the Federal Clean Water Act regulations, but are held accountable for flows allowed to be conveyed through their MS4.

Section: Finding 27

Comment: Finding 27 should be expanded to acknowledge that urban runoff pollutants include those deposited upon roadways by motor vehicles over which the co-permittees have no jurisdictional authority. Should this Order continue to establish that no pollutants may enter into the storm drains that are being defined as receiving waters, then the co-permittees will automatically not be in compliance with this Order and will also have no ability to control the source of the pollutants. The maximum extent practical standard for Best Management Practices and control of pollutants should acknowledge that there are certain generators of pollutants over which the co-permittees have absolutely no authority or control. *(Laguna Hills)*

Response: As described elsewhere, the copermitees are responsible for discharges into and out of their MS4s, and they must treat storm water flows to the maximum extent practicable. BMPs are required to reduce the pollutant loads of storm water, including storm water that picks up pollutants deposited by motor vehicles. In order to provide the Copermitees with flexibility and discretion, under Tentative Order the Copermitees will specify which BMPs they will implement or require to be implemented to reduce pollutants in urban runoff discharges to the MEP.

Section: Finding 28

Comment: Finding No. 28, page 6: Table 2 under this Finding is misleading. Although it is true that the waterbodies identified in Table 2 have been listed for Coliform bacteria, the 303(d) list maintained

by the SWRCB indicates that most of these waterbodies are considered only a low priority, some a medium priority, and none a high priority. Table 2 in this Finding should reflect this prioritization. (*San Clemente*)

Response: The prioritizations given the 303(d) listed impaired water bodies are based on a number of factors including the severity of the impact, utilization of the beneficial uses impaired, available resources, and planned or anticipated actions by the Copermitees to reduce pollutants in the discharge of urban runoff to the MEP and to prevent discharges from causing or contributing to exceedances of receiving water quality objectives. Furthermore, the prioritization of 303(d) listed water bodies may be subject to revision as additional information and resources are made available. The prioritization of these water bodies was not included in the table for these reasons.

Section: Finding 29

Comment: There is no scientific basis for Finding 29 suggesting that each and every co-permittee are contributors to the cumulative pollutant loading of downstream receiving waters. The County disagrees with this unsupported and simplistic generalization. Simply because a watershed drains into a common coastal water body and the drainage contributes to water quality degradation of that water body, it does not follow that each inland MS4 in the watershed necessarily contributes to the impairment of the water body. Those MS4 discharges that have relatively good water quality may in fact help to reduce the impairment that may be caused by other sources. There are many sound technical reasons why a watershed management approach is needed in the Tentative Order to improve the quality of watershed receiving water bodies. The County strongly supports the watershed approach. However, simplistic generalizations have no place in the watershed rationale. Accordingly, Finding No. 29 should be revised and clarified.

Some MS4s may discharge into receiving waters miles upstream from an area of coastal impairment; however, at the point of discharge, the receiving water may consistently meet water quality objectives for its beneficial uses. How does an inland Copermitees determine whether a MS4 contributes to coastal impairments? By what criteria? Please clarify and provide a practical example(s). The Board should support regional studies to evaluate this circumstance prior to establishing a finding.

Furthermore, SDRWQCB staff Responses to Other Comments have acknowledged that receiving waters have assimilative capacity for many pollutants, so that total pollutant load going into the system is not necessarily (probably normally is not) equal by weight-or by concentration!-- to the total pollutants going out the downstream end. The pollutants are not cumulative with respect to the concentrations that define impairment or degradation. Therefore, this Finding should be eliminated or rephrased. (*Laguna Hills, County of Orange, Laguna Niguel*)

Response: As noted in the Fact Sheet discussion of Finding 29, a watershed is the drainage basin, outlined by topographic divides, which drain to a common outlet, such as a stream, lake, estuary, enclosed bay, or ocean. Therefore, when various MS4s discharge into the same watershed, the discharges eventually flow into a common receiving water body. In this manner, individual MS4s that share the same watershed contribute to cumulative pollutant loading in the watershed's receiving water body.

Attachment 2 of the Fact Sheet lists the 1998 Clean Water Act Section 303(d) Impaired Waterbody List. This list includes, and is not limited to, the Pacific Ocean shoreline at the major creek/river mouths, including Laguna Canyon, Aliso Creek, San Juan Creek, and those in San Clemente. The MS4 from each copermitee, therefore, is hydrologically connected to one or more impaired waterbodies. While some pollutants may be assimilated, or cause impairment in upstream areas,

Finding 29 recognizes the pollutant load in a waterbody augments by addition, and that downstream receiving waters are affected by the delivery of pollutants upstream.

Monitoring data collected to date in Aliso Creek, for which the lower mile, the mouth, and adjacent shoreline are listed as 303(d) impaired for fecal coliform, shows elevated levels of fecal coliform from outfalls from every municipality in the watershed and throughout the stream. Monitoring programs conducted under the Tentative Order should be designed to identify and evaluate contributing sources of this and other potential pollutants from the copermitees.

Section: Finding 30

Comment: Finding 30 fails to recognize the authority of local jurisdictions to establish their communities consistent with the will of the people without regard to other jurisdictions in the same watershed. It is inappropriate to make a finding that political boundaries should not be recognized in land use planning. (*Laguna Hills*)

Response: The Tentative Order recognizes the authority of local jurisdictions to establish and govern their communities consistent with the will of its citizens. The Tentative Order recognizes that water quality issues transcend political boundaries and can be best addressed through joint efforts. The Tentative Order does not require watershed level planning that ignores local jurisdictional issues, but does strongly recommend that the Copermitees address watershed level planning by identifying a mechanism to facilitate this activity. Developing a mechanism to facilitate watershed level planning is not inappropriate and does not require that political boundaries not be recognized in land use planning.

Section: Finding 31

Comment: Finding 31 should support and recognize the co-permittee structure established by the County of Orange approximately 10 years ago. Through the NPDES Technical Advisory Committee within the County of Orange, intergovernmental coordination has been achieved and is an on-going basis of dialogue and cooperation among agencies. (*Laguna Hills*)

Response: Finding 31 will be revised to recognize the Copermitee Program Management structure implemented under the previous permits.

Section: Finding 33

Comment: Finding 33 fails to recognize the fully built out condition of many of the jurisdictions in south Orange County. In this case, the storm water management approach and infrastructure planned and implemented over the last 30 years cannot possibly be changed until there is area-wide wholesale redevelopment that will likely not occur in the next 100 years. Furthermore, it should be recognized that the existing infrastructure was implemented to protect life and property from the hazards of storm flows and slope failures of unstable geologic formations prevalent in south Orange County. The suggested approach that, as a finding is actually a directive, may be unsafe and cause soil movement and land slides. (*Laguna Hills*)

Response: Finding 33 supports the encouragement of a storm water management approach from the disposal of rainfall to the protection of beneficial uses of receiving water. This approach is consistent with the objectives of the federal NPDES regulations that have been in effect since 1990

and the California Water Code, which stresses the prevention of pollution. The Tentative Order does not require wholesale dismantling of existing infrastructure in developed areas, and Finding 33 recognizes that the greatest opportunities for changing the approach to storm water management occur during the land use planning phase. Accordingly, the Tentative Order requires different components in the municipal programs for addressing storm water in new development and areas of existing development.

Section: Finding 33

Comment: Paragraphs 33 and 34 call for onsite water retention and infiltration. The addition of water to hillside development in south Orange County overlying the Capistrano Formation fractured bedrock may promote landslides. How do you propose we balance the public safety public threat? (*Laguna Hills*)

Response: Both retention and infiltration structural BMPs can be used to mitigate urban runoff, but are not required by the Tentative Order. The Tentative Order has infiltration restrictions to protect groundwater quality based on EPA guidance. However, the Copermitees may develop alternative infiltration restictions they consider appropriate.

Section: Finding 41

Comment: The Revised Technical Report still contains the staff's conclusions that implementation of the 2000 DAMP would be inadequate to reduce pollutants in the discharge from MS4s to the maximum extent practicable and to protect the beneficial uses of receiving waters, and the Revised Tentative Order is still based on that conclusion. Finding No. 41 (and the entire Tentative Order) should be revised to reflect that the Permittees will be provided with an opportunity to revise the 2000 DAMP to address any perceived deficiencies and that implementation of the 2000 DAMP must meet the MEP standard. (*County of Orange*)

Response: The Tentative Order does not prohibit the copermitees from revising elements of the DAMP in the development of jurisdictional urban runoff management programs. Please see Attachment 5 of the Fact Sheet/Technical Report for an a discussion of the proposed DAMP relative to the Tentative Order. This analysis outlines the deficiencies of the DAMP and can be used during the development of jurisdictional programs.

Section A

Comment: The Tentative Permit does not contain the mandatory BMP language of State Board Order 99-05. Does the staff intend to enforce the Discharge Prohibitions without regard to the iterative BMP process required by State Board Order 99-05? (*County of Orange*)

Response: The Tentative Permit does contain the mandatory language contained in State Board Order 99-05. State Board Order 99-05 required mandatory receiving water limitation language to be included in future municipal storm water permits. This mandatory language can be found in Tentative Order 2001-193 Section C. Staff intends to enforce all discharge prohibitions. However, the iterative BMP process required by State Board Order 99-05 is applicable to only those prohibitions regarding receiving water quality.

Section: A

Comment: The Permit's prohibitions in Section A that MS4 discharges do not cause or contribute to a violation of water quality standards are preempted by recent controlling authority and agency guidance, including State Board Order 99-05, which expressly struck the "cause or contribute" phrase. In addition, the receiving water limitations language in Section C is preempted by the Ninth Circuit Court of Appeals *Defenders of Wildlife v. Browner*, 191 F.3d 1159, 1164-66 (9th Cir. 1999) decision.

Numerical limits on stormwater have been deemed infeasible by U.S. EPA and the SWRCB. The Tentative Order must include the iterative BMP provisions mandated by State Board Order 99-05. Unfortunately, despite a claim to the contrary, the Tentative Order does not contain the State Board's mandatory language. Instead, the Tentative Order provides language similar to the required language, which significantly limits its application and effect. First, the iterative BMP process applies only to compliance with the Receiving Water Limitations (Section C), not to compliance with the Discharge Prohibitions (Section A). Second, while the language in Item C.2 purports to allow the Permittees to comply with the Receiving Water Limitations by developing and implementing appropriate BMPs (as mandated by the State Board), this safe harbor is really a mirage. This is because the Tentative Order prohibits any discharges that cause or contribute to exceedances of receiving water quality objectives under both Item A.2 (Discharge Prohibitions) and Item C.1 (RWLs). Thus, although the Permittees can comply with the Item C RWLs through the iterative BMP process, the Permittees are strictly prohibited from exceeding receiving water quality objectives in Item A of the Tentative Order.

Further, our legal analysis indicates that requirement that discharges from MS4s that cause or contribute to exceedances of receiving water quality objectives for surface or groundwater are prohibited is beyond the Maximum Extent Practicable Standard which governs MS4s and, as such, would be a discretionary action by the Regional Board.

There is no consideration of whether prohibition A.2 "could reasonably be achieved" through coordinated control of the factors that affect water quality in the area. This failure to consider what is reasonably achievable violates Sections 13263(a) and 13241(c) of the Water Code. (*Construction Industry Coalition on Water Quality, Dana Point, County of Orange, Laguna Niguel, Lake Forest, Laguna Woods, San Juan Capistrano, Mission Viejo*)

Response: The Permit's requirements regarding exceedances of water quality standards are directly based on State and Federal NPDES regulations and SWRCB and EPA guidance.

The comment that SWRCB Order WQ 99-05 "struck the 'cause or contribute to' phrase" is false. SWRCB Order WQ 99-05 affirmed the "cause or contribute to" phrase as precedential language to be included in all future municipal storm water permits and removed language objected to by the USEPA. Since the Order specifically states "...**the following receiving water limitation language shall be included in future municipal storm water permits** [...] a. Upon a determination by either the permittees or the Regional Water Board that **discharges are causing or contributing to an exceedance of an applicable WQS...**" (emphasis added), it is unclear how the SWRCB position on the "cause or contribute" language could be interpreted any differently than stated above. Moreover, the "cause or contribute to" phrase is central to the Receiving Waters Limitations language of the SWRCB Statewide General Storm Water Permits for the Construction Program, the Industrial Program, the CALTRANS Program, the Aquatic Pesticide General Permit, and the Updated Statewide NPDES Utility Vault Permit.

A number of commenters have confused Prohibition A.1 and A.2 (Prohibitions - Discharges). Prohibition A.1 refers to the prohibition against discharges into and from MS4s in a manner causing or threatening to cause a condition of pollution, contamination, or nuisance. Prohibition A.2 refers to the

prohibition against discharges from MS4s that cause or contribute to exceedances of receiving water quality objectives for surface water or groundwater. Furthermore, most of the commenters expressed concern that the Copermittees " ...would essentially be out of compliance (with the Tentative Order) on the first day the Tentative Order goes into effect."

It should be noted that with respect to both prohibitions A.1 and A.2 the Copermittees may, in fact, be out of compliance at this time without regard to the adoption of the Tentative Order. With respect to Prohibition A.1, this prohibition exhibits a major component of the SDRWQCB's mission, and is specifically included in its Basin Plan. The Basin Plan Waste Discharge Prohibition No. 1 found on p. 4-17 states: "The discharge of waste to waters of the state in a manner causing, or threatening to cause a condition of pollution, contamination, or nuisance as defined in California Water Code Section 13050, is prohibited." This prohibition is a standard Waste Discharge Prohibition that can also be found in each of the SWRCB General Permits listed above as well all SDRWQCB Waste Discharge Requirements. In fact, although this prohibition appears to be lacking in Order No. 96-03, it was included in Order No. 90-38 in section XV part A. This prohibition is in effect under the Basin Plan and applies to discharges permitted under Order No. 96-03. Thus, to the extent that discharges from the Copermittees' MS4s are causing, or threatening to cause a condition of pollution, contamination, or nuisance as defined in California Water Code Section 13050, these discharges are in violation of the Basin Plan and subject to enforcement action. The adoption of the Tentative Order is irrelevant to the condition of vulnerability of the Copermittees to enforcement action or third party litigation with respect to Prohibition A.1.

With respect to Prohibition A.2, this prohibition is currently embodied in Order No. 96-03 through section IV of that Order and the SWRCB Order WQ 99-05 and Order WQ 98-01. Furthermore, it can also be stated that this prohibition generally implements the Basin Plan Waste Discharge Prohibition No. 5 found on p. 4-17 and 4-18 that states: "The discharge of waste to inland surface waters, **except in cases where the quality of the discharge complies with applicable receiving water quality objectives**, is prohibited" (emphasis added). More importantly, the language contained in Section IV of Order No. 96-03, although not specifically amended, was directed by the SWRCB to be interpreted as discussed in Order WQ 98-01. SWRCB Order WQ 98-01 states in Section IV "1. The federal regulations implementing CWA section 401(p) requires NPDES permits to prohibit discharges of pollutants that 'cause or contribute' to exceedances of water quality standards and the permit (Order No. 96-03) will be so interpreted." Moreover, SWRCB Order WQ 99-05 did not amend or strike this language (i.e. the "cause or contribute" phrase), but affirmed that it be included in future municipal storm water permits. Thus, the precedential phrase "causing or contributing to an exceedance of an applicable water quality standard..." applies to the Orange County Copermittees under Order No. 96-03.

Consequently, to the extent that the Copermittees have determined (or the SDRWQCB has found) that discharges from their MS4s are causing or contributing to an exceedance of an applicable water quality standard, they may be in violation of Order No. 96-03 and may be subject to enforcement action depending on the circumstances. Despite the comments to the contrary, the adoption of the Tentative Order in no way alters this fact. The adoption of the Tentative Order is irrelevant to the condition of vulnerability of the Copermittees to enforcement action or third party litigation with respect to Prohibition A.2 or the provisions of Section C of the Tentative Order. These prohibitions and provisions are already in effect.

Furthermore, several commenters have asserted that the Prohibitions in Section A of the Tentative Order preempt the precedential provisions of Section C and that the "safe harbor" language of Section C is a "mirage." These comments are incorrect. First of all, the Prohibitions in Section A and the provisions of Section C of the Tentative Order are both equally applicable and enforceable. As discussed above, the Prohibitions in Section A implement the Basin Plan and are consistent with

Section C of the Tentative Order, without having to reiterate the precedential language contained in Section C. The iterative BMP implementation process applies to both. Section C will be revised to clarify this intent and conform to the draft SWRCB Order regarding the petition to review Order No. 2001-01. Secondly, the provisions of Section C are not a “safe harbor” to pollute receiving waters, but rather a module for the iterative implementation of more stringent BMPs to return the Copermitees to compliance with both the Discharge Prohibitions and Receiving Water Limitations. As noted by the SWRCB Chief Counsel in the letter of October 14, 1999, the SWRCB “...prescribed specific language that should be in receiving water limitations in order to protect water quality objectives.” No mention was made either in SWRCB Order WQ 99-05 or the subsequent guidance of the need to provide the Copermitees with a “safe harbor.” More to the point, the provisions of Section C do not provide authorization for the discharge of urban runoff that causes or contributes to the exceedances of receiving water quality objectives, but rather, it provides the Copermitees with a process to ensure their return to compliance with the requirements of the Tentative Order, including discharge prohibitions and receiving water quality objectives. This should not, however, be interpreted as it has by several commenters, that compliance with receiving water limitations and discharge prohibitions is iterative. The implementation of more stringent BMPs by the Copermitees is iterative; compliance with the discharge prohibitions and receiving waters limitations is not iterative.

This is clearly the intent of the SWRCB as evidenced in its statement in the precedential language “If exceedances of water quality objectives or water quality standards persist notwithstanding implementation of the SWMP and other requirements of this permit, the **permittees shall assure compliance with Discharge Prohibitions [] and Receiving Water Limitations...**” (Emphasis added). This language is consistent with the language in the Tentative Order found at Section C.2.

Furthermore, it is evident that the USEPA does not agree with the incorporation “safe harbor” clauses in the receiving water limitations language of municipal storm water permits. In its letter of January 21, 1998 to the Walt Petit, Executive Director of the SWRCB, the USEPA objected to language in Order No. 96-03 that stated “permittees will not be in violation of this provision...(if certain steps are taken to evaluate and improve the effectiveness of the Drainage Area Management Plan (DAMP)).” In objecting to this language USEPA stated this language was “of the greatest concern to EPA...we feel that it is necessary to state our disagreement with Conclusion 2 of the proposed Order (WQ 98-01), which would find that the quoted phrase, as used in the Orange County permit, complies with the CWA. **The Orange County permit includes the requirement that the discharges meet WQS in the receiving water.** That requirement was included in the Orange County permit in order to satisfy Section 301(b)(1)(C) of the CWA. **Excusing the discharger from violations of that requirement effectively negates the requirement, a result which is inconsistent with CWA Section 301(b)(1)(C)**”(Emphasis added). The USEPA went on to state that “This requirement clearly applies to all excursions above the WQS.”(Emphasis original). Following the adoption of SWRCB Order WQ 98-01, the USEPA again stated its disagreement with Conclusion 2 of the Order regarding the consistency of the existing RWLs (receiving water limitations) language in the Orange County permit with the CWA stating “The CWA does not provide for such an exception to compliance with standards.”

The absence of a “safe harbor” is confirmed in Section C.3 of the Tentative Order. At no time is a discharger whose discharge causes or contributes to an exceedance of receiving water quality objectives or that constitutes a threat to human or environmental health “immunized” from future enforcement actions by virtue of complying with standard NPDES Permitting BMP implementation and reporting requirements. Continuing the argument raised above, several commenters have asserted that the inclusion of Section C.3 of the Tentative Order violates the spirit and intent of SWRCB Order WQ 99-05. This interpretation is incorrect and is based on the erroneous interpretation of SWRCB Order WQ 99-05 as providing a “safe harbor.” SWRCB Order WQ 99-05 amended Order WQ 98-01 and did not carry over discussion previously included in Order WQ 98-01 that provided that

“Permittees will not be in violation of this provision so long as they are in compliance with the requirements’ specifying the process for evaluating and improving the effectiveness of the DAMP.”

It was in response to the objections cited above by the USEPA that the SWRCB did not include this language in Order WQ 98-01. However, other language that the USEPA determined “would unacceptably increase the burden of proof in establishing permit violations” was retained in the precedential language of Order WQ 98-01. It was in response to this language, incorporated in municipal storm water permits issued by the San Diego RWQCB for Riverside County and the San Francisco Bay RWQCB for the City of Vallejo, that the USEPA, following and citing the correspondence discussed above, chose to veto these NPDES permits and issue its own NPDES permits for these areas. Following the USEPA's objection to the receiving water limitation language in Order WQ 98-01 and its adoption of alternative language in its own permits, the SWRCB revised its instructions regarding receiving water limitation language in favor of the USEPA language and mandated its use in all future municipal storm water permits (Order WQ 99-05). It was in this context that the SWRCB issued Order WQ 99-05 without the “safe harbor” discussion and burden of proof language previously included in Order No. 96-03 and SWRCB Order WQ 98-01.

The SWRCB Order WQ 99-05, which instituted the use of language acceptable to USEPA, clearly does not preclude the SDRWQCB from enforcing any provision of the Tentative Order it considers necessary while the Copermittee prepares and implements the referenced report in Section C.2.a. This is confirmed in two Statewide General Permits (CALTRANS – Section C-2.3.c, Construction – Section B.3.c) issued by the SWRCB in which the exact language contained in Tentative Order section C.3 is included with the Receiving Waters Limitations language. Nonetheless, cooperative, responsible actions on the part of the discharger in attempt to comply with the Tentative Order are recognized as critical to resolving violations and protecting the beneficial uses of receiving waters and will be favorably considered prior to taking such enforcement action(s).

In addition, as discussed in part above, the Receiving Water Limitations language in Section C of the Tentative Order is taken directly from SWRCB Order WQ 99-05. Contrary to comments that the SDRWQCB has changed the SWRCB's mandatory language, the differences in language is insignificant. In its draft Order regarding the petition for review of Order No. 2001-01, which includes the same receiving waters limitations language included in the Tentative Order, the SWRCB stated “The language in the permit in Receiving Water Limitation C.1 and C.2 is consistent with the language in Board Order WQ 99-05, our most recent direction on this issue.”

The language in Section C.1 and C.2 is fully supportive of the intent and language of the SWRCB Order WQ 99-05. This language requires that MS4 discharges do not violate water quality standards, and that an iterative BMP process must be implemented to correct any violations of water quality standards. It should again be noted that the language allows for an iterative BMP implementation approach to return to compliance with water quality standards and discharge prohibitions. It is worth repeating that the precedential language of SWRCB Order WQ 99-05 states “the permittees shall **assure compliance with Discharge Prohibitions {} and Receiving Water Limitations...**” (Emphasis added). In response to the draft SWRCB Order on the petition to review Order No. 2001-01 and to better clarify the relationship between the Discharge Prohibitions and Receiving Water Limitations, Prohibition A.2 will be cited in section C.2. by adding “and Part A.2” following every instance of “Part C.1.”

The comment that the receiving waters limitations language is Section C of the Tentative Order is preempted by the Ninth Circuit Court of Appeals *Defenders of Wildlife v. Browner* is incorrect. The *Defenders of Wildlife* case addressed the question of whether CWA section 402(p) requires the establishment of water quality-based numeric effluent limits for municipal storm water discharges. The Court upheld USEPA's requirement for MS4 dischargers to meet water quality standards, but it did so

on the basis of USEPA's discretion rather than on the basis of strict compliance with the Clean Water Act. In other words, while holding that the Clean Water Act does not require all MS4 discharges to comply strictly with state water quality standards, the Court also held that USEPA has the authority to determine that ensuring strict compliance with state water quality standards is necessary to control pollutants. On the question of whether MS4 permits must contain numeric effluent limitations, the court upheld USEPA's use of iterative BMPs in place of numeric effluent limits.

On October 14, 1999, the SWRCB issued a legal opinion on the federal appellate decision in the Defenders of Wildlife case and provided advice to the Regional Boards on how to proceed in the future. In the memorandum, the SWRCB concludes that the recent Ninth Circuit opinion upholds the discretion of USEPA and the State to (continue to) issue permits to MS4s that require compliance with water quality standards through iterative BMPs. Moreover, the memorandum states that "[...] because most MS4 discharges enter impaired water bodies, there is a real need for permits to include stringent requirements to protect those water bodies. As total maximum daily loads (TMDLs) are developed, it is likely that MS4s will have to participate in pollutant load reductions, and the MS4 permits are the most effective vehicles for those reductions."

Contrary to the comment above, the receiving water limitations requirements for BMPs to be implemented to achieve water quality standards is not guided by the MEP standard. Achievement of water quality standards is a separate and distinct goal for the NPDES municipal storm water program. It is not a subset of the MEP requirement to be overridden by the MEP standard. This is exhibited when USEPA states: "Today's rule specifies that the "compliance target" for the design and implementation of municipal storm water control programs is "to reduce pollutants to the maximum extent practicable (MEP), to protect water quality, and to satisfy the appropriate water quality requirements of the CWA." (64 FR 68753) In summary, the Permit's requirements that MS4 discharges do not cause or contribute to a violation of water quality standards are not subject to the MEP standard, and therefore do not exceed MEP.

Finally, California Water Code section 13241 states that in establishing water quality objectives, regional boards must consider "(c) Water quality conditions that could reasonably be achieved through the coordinated control of all factors which affect water quality in the area". The language "coordinated control of all factors" indicates the stringent standards to which water quality objectives are subject. Note that the language does not state "control of factors to the maximum extent practicable." It should also be noted that the water quality monitoring reports submitted by the Copermittees demonstrates that while significant exceedances of receiving water quality objectives are common, compliance with receiving water quality is sometimes achieved. That the Copermittees have sometimes achieved compliance with the receiving water quality objectives with the current urban runoff management program exhibits that receiving water limitations in the Tentative Order can be reasonable achieved. Furthermore, USEPA exhibits its belief that compliance with water quality standards for wet weather discharges is achievable when it states "EPA anticipates that a permit for a regulated small MS4 operator implementing BMPs to satisfy the six minimum control measures will be sufficiently stringent to protect water quality, including water quality standards [...]" (64 FR 68753).

Section A (Prohibitions - Discharges) and Section C (Receiving Waters Limitations) of the Tentative Order, therefore, together provide the clear objective of Tentative Order 2001-193 and clear guidance regarding the procedure to be followed by the Copermittee in order to return to compliance. The Copermittees return to compliance with receiving water quality objectives and discharge prohibitions through a process of the development and implementation of more stringent BMPs. The objectives, guidance, and procedures to be followed by the Copermittees are entirely consistent with the SWRCB Order WQ 99-05, the Clean Water Act, and California Water Code.

In summary, both the SWRCB and the USEPA conclude that the Regional Boards should continue to include the Receiving Water Limitations language that is now established in SWRCB Order WQ 99-05 in all future permits. Accordingly, the SDRWQCB has the discretion to include the Discharge Prohibitions items A.1, A.2, and A.3 in Prohibitions Discharges Section A and has included the precedential SWRCB Order WQ 99-05 Receiving Water Limitations language in Receiving Water Limitations Section C of Tentative Order No. 2001-193 under the broad and specific legal authority cited in the Fact Sheet/Technical Report.

Section A Subsection A.2

Comment: Regional Board staff agreed at the first Workshop on this Tentative Order that REC-1 and REC-2 standards do not distinguish between human and animal sources of bacteria. Therefore Prohibition A.2, which prohibits discharges from MS4s containing pollutants that cause or contribute to exceedances of receiving water quality objectives for surface water does indeed control naturally occurring pollutants that are not Man-Made. The City of Aliso Viejo is proud of our open spaces. Could these areas be contributing to bacterial counts in runoff and if so is it reasonable to regulate open space? (*Aliso Viejo*)

Response: While sources of bacteria, including those that are naturally occurring, are variable, it is the anthropogenic sources of bacteria that cause or contribute to exceedances of receiving water quality objectives that the Copermittees are responsible for preventing. While open spaces that support habitat and associated wildlife may be sources of background bacteria, these sources in their naturally occurring condition are far less likely to cause or contribute to exceedances of receiving water quality objectives than are anthropogenic sources. The derivation of the receiving water quality standards and the beneficial uses they are intended to protect include consideration of background levels of the constituents. Moreover, the certain bacterial indicators utilized (i.e. *Enterococcus* sp.) are generally more indicative of anthropogenic sources. Finally, maintenance of open spaces in most contexts maintains the assimilative capacity of the aquatic, riparian, and upland habitats that provide a buffer against exceedances of receiving water quality objectives.

Sections A, B

Comment: While the permit contains specific reporting and monitoring requirements, we believe that numerical parameters for any pollutants should be set. This would allow the RWQCB to more easily enforce and supervise Copermittees, as well as provide supporting data on the effectiveness of BMP's. (*Surfrider Foundation*)

Response: Although NPDES permits must contain conditions to ensure that water quality standards are met, this does not require the use of numeric effluent limitations. Under the Clean Water Act and federal NPDES regulations, permitting authorities may employ a variety of conditions and limitations in storm water permits, including best management practices, performance objectives, narrative conditions, monitoring triggers, actions levels (e.g., monitoring benchmarks, toxicity reduction evaluation action levels), etc., as the necessary effluent limitations, where numeric effluent limitations are determined to be unnecessary or infeasible.

Neither the Clean Water Act nor the federal NPDES regulations require numeric effluent limitations for municipal storm water discharges. Section 301 of the Clean Water Act requires that discharger permits include effluent limitations necessary to meet water quality standards. Section 502 defines "effluent limitations" to mean any restriction on quantities, rates, and concentrations of constituents

discharged from point sources. The Clean Water Act does not say that effluent limitations need be numeric. As a result, US EPA and States have flexibility in terms of how to express effluent limitations.

US EPA has, through the federal NPDES regulations, interpreted the Clean Water Act statute to allow for non-numeric effluent limitations (e.g., best management practices) to replace numeric effluent limitations where numeric effluent limitations are infeasible (40 CFR 122.44(k)). US EPA has found numeric effluent limitations infeasible because storm water discharges are highly variable both in terms of flow and pollutant concentrations, and the relationships between discharges and water quality can be complex. The current use of system-wide permits and a variety of jurisdiction-wide BMPs, including educational and programmatic BMPs, does not easily lend itself to the existing methodologies for deriving numeric effluent limitations.

It should be noted that while the Tentative Order does not specify numeric effluent limitations for municipal urban runoff discharges, it does not preclude numeric effluent limitations from applying to municipal urban runoff discharges into impaired water bodies. Where impaired water bodies are not meeting their water quality standards, numeric effluent limitations may be placed on municipal urban runoff discharges through the implementation of total maximum daily loads (TMDLs) or other means. Furthermore, methods utilized to calculate waste load allocations for TMDLs may eventually be used to develop numeric effluent limitations for urban runoff in municipal storm water permits.

Section B

Comment: B.2 & B.3. Section B.2. lists certain non-storm water discharges that are considered Page 9 by federal regulation to be “de minimis” discharges. Section B.3. seems to suggest that the Copermittees must initially evaluate all of the categories of non-storm water discharges in B.2. and determine which ones are and are not significant sources of pollutants. It appears that the discharges identified in this section only are prohibited if the Copermittee determines it to be a “significant source of pollutants”. How will the Copermittee make this determination? What process will be followed, support data needed, and detailed studies required for each discharge before each discharge is deemed acceptable? Can other discharges be allowed if determined to not be a “significant source of pollutants”?

At the August 8th public workshop in Laguna Niguel, Regional Board staff indicated that this evaluation was to be done in conjunction with normal, dry weather, screening and monitoring activities. Task #1 in Section Q (Page 49) requires that the Copermittees must identify all of the discharges in B.2 that will not be prohibited within 365 days following adoption of the Order. Task #2 requires examination of field screening results to identify water quality problems result from non-prohibited non-storm water discharges by January 3 1,2003. Task #33 does not require the Dry Weather Monitoring Program to be conducted until May 2003. Please clarify what is being required and when. (*Laguna Niguel,*)

Response: As described in 40 CFR 122.26(d)(2)(iv)(B)(1), the categories of non-storm water discharges listed in section B.2 (B.2 discharges) need only be prohibited from entering the MS4 if such discharges are identified by the Copermittees as a significant source of pollutants. This is not a change from the 1st or 2nd term Permits. The dry weather, screening and monitoring activities are tools for identifying “de minimis” non-prohibited discharge category(ies) (de minimis discharges) that may cause or contribute to an exceedance of water quality objectives when discharged to receiving waters. Copermittees should use any means reasonably available during the first 365 days to identify B.2 discharges that are a significant source of pollutants (i.e., Task 1) . One available tool is existing

monitoring data, including, but not limited to, data collected from prior and current dry-weather monitoring activities. An evaluation of de minimis discharges as potential sources of pollutants using available water quality information is required within 365 days. Rather than proving that the de minimis discharge category(ies) are not a significant source of pollutants, the Copermittees are required to review their data to identify any de minimis discharge categories that are significant sources of pollutants. To the extent that water quality problems may be tied to a non-prohibited discharge category, the Copermittee is directed to address the discharge through prohibition or the implementation of BMPs to MEP as described in section B.3. The Tentative Order requires that the Copermittees identify any de minimis non-prohibited discharge categories that may be a significant source of pollutants and the activities that will be initiated to address these discharges in their Jurisdictional Urban Runoff Management Program (JURMP) Document (Task 1). As with the identification and elimination of illicit discharges, this is an ongoing assessment rather than a single event (Task 2). Task 2 indicates that this information is submitted as part of the JURMP Annual Report. The Copermittees may address any future identifications of de minimis non-prohibited discharge category(ies) as significant source of pollutants following the procedure detailed in section B.3 of the Tentative Order in its JURMP Annual Report. Task 33 describes the implementation of the Dry Weather Monitoring Program as required in section F.5 and Attachment E of the Tentative Order. Dry Weather Monitoring is conducted between May 1st and September 30th of each year beginning in May 1, 2003. Between the time of adoption of the Tentative Order and the implementation of this requirement, the Copermittees are directed to continue the implementation of the Orange County Water Quality Monitoring Program (99-04 Plan) that includes dry weather monitoring at selected sites. Task 33 has been revised in Table 5 to more clearly define this requirement. The SDRWQCB has the discretion to require Prohibition item B.5 and the Dry Weather Monitoring Program requirements in Section F.5 of the Tentative Order under the broad and specific legal authority cited in the Fact Sheet/Technical Report.

Section B

Comment: Multiple municipalities may contract with a single Fire Authority for service. Would it not be more appropriate to require copermittees to require that their Fire Authority develop and implement a program for reducing pollutants training and maintenance activities?

Fire Fighting Flows: We suggest that the wording in this section be changed so that instead of each co-permittee being required to develop and implement a program for reducing pollutants from non-emergency tire fighting flows, each co-permittee should require that the Fire Authority in their jurisdiction do so. This will allow Fire Authorities that serve multiple municipalities and jurisdiction to prepare a single program.

Item B.4 Fire Fighting Flows

Page 9 Reference is made that Emergency Fire Fighting Flows need not be prohibited. Non-Emergency Fire Fighting Flows should be also be listed separately in Item B.2 and subject to the same process to determine if it is a significant source of pollutants as provided for in Item B.3.

In section B.4 Fire Fighting Flows, the Tentative Order requires the development and implementation of a program to reduce pollutants from non-emergency fire fighting flows. The Tentative Order requires the involvement and cooperation of one or more agencies that are not Copermittees and are not under the jurisdiction of a Copermittee. The Tentative Order does not have a provision or a mechanism to either waive or extend to time for compliance with the requirement in these instances. In our specific case, the water system and fire hydrants are owned and maintained by South Coast Water District while the Orange County Fire Authority provides fire protection services to the City. The City has authority over neither and would, under the permit, be responsible for a required program

with no administrative authority over the principal participants. In such cases, it may be impossible to comply with this portion of the Order. We request that this situation be addressed in the permit. (*Aliso Viejo, Laguna Niguel, Dana Point*)

Response: The Tentative Order does not discourage such an approach. The Copermittees are required to develop or require the development of a program (e.g. by a Fire Authority) to reduce the discharge of pollutants resulting from training and maintenance activities to the MEP.

The Tentative Order adequately addresses these issues. The requirement that the Copermittees shall develop and implement a program as part of the Jurisdictional Urban Runoff Management Programs to reduce pollutants from non-emergency fire fighting activities identified by the Copermittees to be significant sources of pollution may not be waived. The Tentative Order provides the Copermittees a year in which to address discharges from these activities through a program that implements or requires the implementation of BMPs. One mechanism available to the Copermittees in the Tentative Order is the encouragement of third party agreements to implement the requirements of the Tentative Order. Such agreements can specify that BMPs that meet the MEP standard are employed by the Fire Fighting agencies during non-emergency fire fighting activities. Furthermore, under their land-use authority, the Copermittees have the authority to prohibit illicit discharges and to regulate activities that may result in discharges to their MS4s. In the above example, the Copermittee has the authority to require the Water District and Fire Authority to implement BMPs for non-emergency activities.

Section B

Comment: Section B.5 requires that each Copermittee “examine all dry weather analytical monitoring results collected in accordance with section F.5 and Attachment E of this Order to identify water quality problems which may be the result of any non-prohibited discharge category(ies) identified above in Non-Storm Water Discharges to MS4s ProhibitionB.2.” The Regional Board does not have the authority to require this monitoring. Please identify the statute or other legal authority which you believe allows the Regional Board to require dry weather analytical monitoring by Copermittees.

For those categories of non-storm water discharges that are not prohibited from entering an MS4, Item B.5 of the Tentative Order requires the Permittees to conduct certain follow-up investigations where such allowed non-storm water discharges are determined to be causing “water quality problems.” However, the County already completed its dry weather monitoring during the first permit term. As such, Item B.5 is superfluous and should be deleted from the Tentative Order.

Do Copermittees have to prove that B-2 discharges are not significant sources of pollution or only investigate if field screening identifies a potential problem? (*Laguna Niguel, County of Orange*)

Response: The requirement to assess the dry weather monitoring data to identify water quality problems that may be the result of any non-prohibited discharge is an ongoing requirement based on the 1990 Federal NPDES storm water regulations (40 CFR 122.26(d)(2)(iv)(B)(1-4) and is not superfluous. The quality of urban runoff can be adversely impacted by illicit discharges and connections (US EPA, 1983). Land use activities in a watershed may change over time and new sources of non-prohibited discharges or illicit prohibited discharges may develop. Elimination of these sources of pollutants can therefore result in a dramatic improvement in the quality of urban runoff discharges from MS4s, which in turn can result in improved receiving water quality. Thus, the requirement for municipal storm water Copermittees to conduct dry weather monitoring to detect and eliminate illicit discharges is an “ongoing” requirement rather a single event restricted to a first or second term permit (40 CFR 122.26(d)(2)(iv)(B)(2). Dry weather monitoring is also necessary to

identify these sources and evaluate the pollutant source potential of “de minimis” non-prohibited discharge categories (de minimis discharges) listed in section B.2 of the Tentative Order. Non-prohibited discharges can be significant sources of pollutants. These discharges can reach receiving waters causing negative impacts to receiving water quality. Follow-up investigations shall be conducted as necessary to identify and eliminate illicit discharges and control any de minimis discharge category(ies) that are found to be a significant source of pollutants. Rather than “proving” that the de minimis discharge category(ies) are not a significant source of pollutants, the Copermittees are required to review their data to identify any de minimis discharge categories that are significant sources of pollutants. To the extent that water quality problems may be tied to a non-prohibited discharge category, the Copermittee is directed to address the discharge through prohibition or the implementation of BMPs to MEP as described in section B.3. The Tentative Order requires that the Copermittees identify any de minimis non-prohibited discharge categories that may be a significant source of pollutants and the activities that will be initiated to address these discharges in their Jurisdictional Urban Runoff Management Program (JURMP) Document. As with the identification and elimination of illicit discharges, this is an ongoing assessment rather than a single event. The Copermittees may address any future identifications of de minimis non-prohibited discharge category(ies) as significant source of pollutants following the procedure detailed in section B.3 of the Tentative Order in its JURMP Annual Report. The SDRWQCB has the discretion to require Prohibition item B.5 and the Dry Weather Monitoring Program requirements in Section F.5 of the Tentative Order under the broad and specific legal authority cited in the Fact Sheet/Technical Report.

Section B

Comment: Section B.1, page 9, should be re-phrased to read, “Each Copermittee shall effectively prohibit all types of non-stormwater discharges into its Municipal Separate Storm Sewer System (MS4) unless such discharges are either authorized by a separate NPDES permit; not prohibited in accordance with B.2 and B.3 below, and/or have been treated to the Maximum Extent Practicable to remove pollutants.” For consistency, the SDRWQCB staff clarification described above for Section D. 1 .b would also apply to B. 1.

B.1. Prohibits all types of non-stormwater discharges unless authorized by separate NPDES permit or not prohibited in B.2. and B.3 - this does not allow for treatment BMPs of discharges not listed in B.2 unless have separate NPDES permit. Are car washes by youth or non profit groups where the wash water enters a street or a parking lot a prohibited activity? (*Laguna Niguel, Aliso Viejo, County of Orange*)

Response: Illicit discharges to the MS4 must be prohibited per federal regulations (40 CFR122.26(d)(2)(i)(B)). An illicit discharge is defined in the federal regulations as “any discharge to a municipal separate storm sewer that is not composed entirely of storm water except discharges pursuant to a NPDES permit (other than the NPDES permit for discharges from the municipal separate storm sewer) and discharges resulting from fire fighting activities.” Discharges from activities listed in section B.2 of the Tentative Order are later specifically exempted with the conditions described therein. As a result of the federal regulations, all other non-storm water discharges must be prohibited from entering the municipal separate storm sewer system.

Because non-storm water discharges other than those described in Section B.2 are prohibited, treatment BMPs, as discussed in the Tentative Order, are to be used to remove pollutants from storm water discharges to the maximum extent practicable. As a result, wash water from car washes other than individual residential car washing activities must be prohibited from entering the MS4.

Section B

Comment: Section B.4, page 9: a program to reduce pollution from non-emergency fire fighting flows is required only when identified as significant. Therefore, a completion date for this program should not be linked to the Order adoption date, but rather to the point at which such a determination is made. (*San Clemente*)

Response: Emergency fire fighting discharges do not require BMPs and are not prohibited. However, non-emergency fire fighting activities may be a significant source of pollutants and should be evaluated in the JURMP Document. To the extent that these discharges are identified by the Copermittee(s) as a significant source of pollutants, the Copermittee shall develop and implement a program within 365 days to reduce pollutants from non-emergency fire fighting activities. Section 122.26(d)(2)(iv)(B)(1) allows for permit conditions that either require municipal to prohibit or to otherwise control any of these types of discharges where appropriate. There may be instances where specified management practices are appropriate where these discharges do occur (e.e controlled blazes). Because the Tentative Order is a third term permit, it is appropriate that the Copermittees be directed to make a evaluation and determination on non-emergency fire fighting activities as a source of pollutants and require a program to reduce pollutants in these discharges should they be determined to be a significant source of pollutants.

Section B

Comment: Section B.3.c, page 9: The completion date specified in this section is inconsistent with the stated intent of this section. Section B.3 requires specific actions only when a discharge category listed in Section B.2 "is identified as a significant source of pollutants to waters of the United States." RWQCB staff reiterated in the August 8, 2001 public workshop that Section B.3 is intended only to trigger a response in the event that a Section B.2 discharge was determined to be a problem. Therefore, a completion date that is tied to the date of adoption of the Order is inappropriate as a discharge may be identified as a problem well after the specified completion date. Instead, the following text change is recommended:

"For each discharge category not prohibited, the Copermittee shall submit the following information to the SDRWQCB within 60 days of determining that the discharge category is a significant source of pollutants to waters of the United States:" (*San Clemente*)

Response: The completion date requirement in section B.3.c is appropriate. The requirement refers to non-prohibited, non-storm water discharge categories that a Copermittee has determined to be a significant source of pollutants. Since the Tentative Order is a third term permit, the Copermittees may have individually or collectively determined that one or more of these discharge categories may be a significant source(s) of pollutants. In that event, the Copermittees may prohibit the discharge category or not prohibit the discharge category and implement or require the implementation of BMP(s) to prevent or reduce pollutants to the MEP.

Section B Subsection B.2

Comment: Add a new item "r" to Section B.2, page 10: "B.2.r: Water being purposefully conveyed through MS4 facilities to a structural treatment site." (*Laguna Niguel*)

Response: Section B.2 includes only categories of non-storm water discharges listed in 40 CFR 122.26(d)(2)(iv)(B)(1) that do not have to be prohibited unless identified by the Copermittee as a significant source of pollutants. The Copermittees do not have the discretion to allow illicit discharges into the MS4 even if a structural BMP is implemented at some site removed from the discharge point. Storm water conveyed through MS4 facilities to a structural treatment site is not prohibited under the Tentative Order.

Section B Subsection B.2

Comment: Is reclaimed water included in the category of irrigation water and so therefore is it a non-prohibited discharge under B.2 unless it is determined to be a significant source of pollution?
(Aliso Viejo)

Response: Yes, reclaimed water being used for irrigation is included in the category of irrigation water. The use of recycled water within the jurisdiction of the South Orange County Wastewater Authority is regulated by this Regional Board under Order No. 97-052. Pollutants in discharges to recycled water use sites are reduced to meet body contact recreation criteria. In addition, facilities to be operated in accordance with best management practices (BMP's) to prevent direct human consumption of recycled water and to minimize misting, ponding, and runoff.

Section B Subsection B.2

Comment: If the Board staff think that the current water quality monitoring program needs to be revised, why not simply have the Permittees revise their existing 99-04 plan to include some additional comments? (The Permittees are already going to revise the program in 2002-2003 which would provide an opportune time to review the elements of the program). (County of Orange)

Response: The Copermittees are directed in Attachment B to collaborate to review and revise as necessary the 99-04 Plan and to include additional specific monitoring components for Orange County within the San Diego Region. The Fact Sheet /Technical Report recognizes the advanced monitoring work and commitment of the Orange County Copermittees. It is necessary, however, that the Receiving Waters Monitoring Program implemented under the Tentative Order address each of the hydrologic units in the San Juan Watershed Management Area within Orange County and assess the compliance of the Copermittees with the Tentative Order as well as the impact of the discharge of urban runoff on the physical, chemical and biological integrity of these receiving waters.

Section B Subsection B.2.b.8.a

Comment: In section B.2.b.8.a item d states that a professional environmental laboratory shall perform all sampling.....Why is this section this specific? Why are the Permittees not allowed to use trained staff to do the sampling if they so chose? (County of Orange)

Response: The definition of a professional environmental laboratory is inclusive of trained Copermittee staff that utilize standard methods and have any necessary certifications. Section B.2.b.8.a is specific with respect to the performance of sampling and analysis of bioassessment samples to clearly require that the work be performed at a professional level by trained staff. Aquatic bioassessment is a developing field with substantial analyst dependent variables in which citizen

volunteers currently play a significant role. Citizen volunteers, while an important resource, should not be relied upon by the Copermittees to perform this work.

Section B Subsection B.2.p

Comment: Please reword B.2.p. (individual residential car washing) with D.1.b.5 (washing or hosing of impervious surfaces). (*Laguna Niguel*)

Response: Individual residential car washing is identified as a non-storm water, non-prohibited discharge in 40 CFR 122.26(d)(2)(iv)(B)(1). This discharge does not have to be prohibited unless the Copermittee(s) determine it to be a significant source of pollutants. Washing or hosing of impervious surfaces as identified in section D.1.b.5 of the Tentative Order are illicit discharges and must be prohibited by the Copermittees as required in 40 CFR 122.26(b)(2). Consequently, the language of sections B.2.p and D.1.b.5 will not be revised. The SDRWQCB has discretion to require Prohibition item B.2. and the Legal Authority item D.1.b in Order No. 2001-193 under the broad and specific legal authority cited in the Fact Sheet/Technical Report.

Section B Subsection B.3

Comment: If a BMP prevents pollution of a B.2 discharge from entering the waterway, are there any further restrictions or prohibitions on the B.2 discharge? (*Clear Creek Systems*)

Response: The Tentative Order does not prohibit the discharge categories listed in Section B.2. The discharges listed in section B.2 were identified in 40 CFR 122.26(d)(2)(iv)(B)(1) as "de minimis" discharges that are considered to be acceptable discharges to the MS4 only when found by the Copermittees to not be a significant source of pollutants. Regarding these discharges, USEPA states "While EPA does not consider these flows to be innocuous, they are only to be regulated by the storm water program to the extent that they may be identified as significant sources of pollutants to waters of the United States under certain circumstances" (USEPA 1992). Thus, the Tentative Order only requires that these discharge categories be directly addressed by the Copermittees, individually or collectively, when they find that they are a significant source of pollutants. In such instances, the Copermittees may prohibit the discharge category or not prohibit the discharge category and implement or require the implementation of BMPs to reduce pollutants to the MEP and submit a report to the SDRWQCB regarding the discharge category. Nonetheless, for some of these discharge categories (e.g. landscape irrigation and lawn watering), general BMP programs like public education may provide opportunities for the Copermittees to address these discharges and prevent them from becoming significant sources of pollutants. For example, the public education requirements of section F.4.a of the Tentative Order includes water conservation as a topic to be included where appropriate. To the extent that the Copermittees determine that these discharge categories are not a significant source of pollutants, additional restrictions or prohibitions may be implemented by the Copermittees at their discretion, but are not required for these discharge categories.

Section D Subsection D.1

Comment: All requirements to control the quality of storm water discharges into the MS4 should be deleted from the permit. Federal regulations require permittees to effectively prohibit non storm

water discharges into the storm drain system and to have legal authority to take action to control the quality of storm water discharges into the storm drain system. The regulations do not mandate that the quality of all storm water discharges into the MS4 be controlled. A municipality is responsible for the quality of the discharges from its storm drain system, and methods of compliance are also the City's responsibility.

Finding No. 15 is incorrect. It is based on a statement in the Final Rule for the Phase II regulations designed to encourage the Phase II communities to be more proactive than the regulations require. As the staff recognizes on page 54 of the Fact Sheet/Technical Report, if a municipality does not prohibit non-storm water discharges, it must accept responsibility for the water quality consequences of its decision. In other words, the municipality is responsible for the quality of discharges from its MS4. The staff goes on to say that, "For these reasons, each Co-permittee must prohibit and/or control discharges from third parties to its MS4." This is an extrapolation of existing law. A municipality is responsible for the quality of the discharges from its storm drain system, with the methods of achieving compliance up to the municipality. The proposed approach may lead to appeals and possibly litigation.

It appears that the Regional Board may be attempting to expand authority over local government in a manner not prescribed by the Clean Water Act. 40 CFR 122.26(d)(2)(i) only requires that permittees demonstrate that they operate pursuant to legal authority to take certain actions. The draft permit dictates that municipalities control the quality of storm water entering their storm drains. These requirements are clearly contrary to both state and federal law and should be deleted from the permit.

The permit, by regulating flow both into and out of the MS4, exceeds the jurisdiction of the NPDES program. Neither federal nor state law provides the Regional Board with the authority to regulate discharges into the MS4. Clean Water Act Section 402(p)(3)(B)(iii) is limited to "discharges from municipal storm sewers". The statute does not authorize the regulation of discharges into MS4s. Congress likely refrained from regulating discharges into MS4s because any such regulation would impinge upon the authority of local officials to regulate land use and development.

The first prohibition eliminating discharges into and from MS4s is an inconsistent requirement with the Clean Water Act. The Order should strike the term "into" and rely upon Best Management Practices to minimize pollutants from Urban runoff, if any, into an MS4 recognizing many pollutant sources are not under the control of the co-permittee. Urbanization will necessarily result in some pollutants entering into the MS4 but, efforts can be made to reduce the pollutants prior to the drainage entering the receiving waters. The prohibition into the MS4 is inconsistent with the definition of receiving water and should be revised. (*Mission Viejo, Laguna Hills, Richard Watson and Associates, Dana Point, County of Orange, Lagna Niguel, Construction Industry Coalition on Water Quality*)

Response: The Clean Water Act is clear that Copermitees must prohibit non-storm water discharges into its MS4. It states at section 403(p)(3)(B)(iii) that Copermitees shall "prohibit non-storm water discharges into the storm sewers." The requirement for control of discharges into the MS4 is also currently clearly required of the Copermitees in Order No. 96-03. Section III.3 of Order No. 96-03 states "The permittees shall prohibit illicit/illegal discharges from entering into the municipal separate storm sewer systems... and require controls to reduce the discharge of pollutants to the maximum extent practicable." Moreover, the same language was included in Order No. 90-38 in Section III.A. Section III.6 is more direct when it states: "The permittees shall reduce the discharge of pollutants to the storm water conveyance systems to the maximum extent practicable." This requirement was also generally addressed in Order No. 90-38 in section III.C. Because of the risk to receiving waters resulting from the discharge of urban runoff and given that the Tentative Order is a third term permit and the requirement has been included during both previous permits it not warranted to eliminate this requirement.

USEPA supports the concept that Copermittees cannot passively receive and discharge pollutants from third parties. As US EPA states, “The operator of a small MS4 that does not prohibit and/or control discharges into its system essentially accepts ‘title’ for those discharges. At a minimum, by providing free and open access to the MS4s that convey discharges to the waters of the United States, the municipal storm sewer system enables water quality impairment by third parties” (USEPA, 1999b).

Discharges of pollutants to the MS4 must therefore be controlled, and an important means for a municipality to achieve this is through the development and enforcement of municipal legal authority. USEPA states “A crucial requirement of the NPDES storm water regulation is that a municipality must demonstrate that it has adequate legal authority to control the contribution of pollutants in storm water discharged to its MS4. [...] In order to have an effective municipal storm water management program, a municipality must have adequate legal authority to control the contribution of pollutants to the MS4. [...] ‘Control,’ in this context, means not only to require disclosure of information, but also to limit, discourage, or terminate a storm water discharge to the MS4” (USEPA, 1992).

Since discharges which enter the MS4 are generally discharged unimpeded directly into receiving waters, the Copermittee’s legal authority is to apply to both discharges into and from MS4s. Federal NPDES regulations clearly provide the SDRWQCB with the legal authority to require municipalities to control discharges from third parties into their MS4. 40 CFR 122.26(d)(2)(iv)(A - D) require municipalities to implement controls to reduce pollutants in urban runoff from commercial, residential, industrial, and construction land uses or activities. Federal NPDES regulations 40 CFR 122.26(d)(2)(i)(A - D) also require municipalities to have legal authority to control various discharges to their MS4. This concept is further supported in the Preamble to the Phase II Final Rule NPDES storm water regulations, which states “The operators of regulated small MS4s cannot passively receive and discharge pollutants from third parties” (USEPA, 1999b). Due to the greater water quality concerns generally experienced by larger municipalities, Phase II Final Rule findings for small municipalities are also applicable to larger municipalities such as the Copermittees. Finally, underlying the Federal NPDES storm water regulations is the Clean Water Act, which states in section 402(p)(3)(B)(ii) that municipalities shall “effectively prohibit non-stormwater discharges into the storm sewers.”

It is important to note the SWRCB also supports control of discharges into MS4s. The SWRCB recently upheld the LARWQCB SUSMP requirements in Order WQ 2000-11. These requirements place significant restrictions on discharges from third parties into MS4s. In fact, the SUSMP provisions included in the Tentative Order, as upheld by the SWRCB, represent the most stringent and specific requirements in the Tentative Order regarding the control of discharges into the MS4.

Finally, the requirement for municipal storm water dischargers to have, and exercise, local governmental authority in order to comply with water quality control obligations is analogous to the requirement for Publicly Owned Treatment Works to have and exercise legal authority to require pretreatment of industrial wastes being discharged to their sewage collections systems (CWA 402(b)(8)).

Section: C

Comment: Does the discharge from a MS4 have to meet the water quality objectives for the beneficial uses of the receiving water if the receiving water is already in compliance? (I.e., Receiving water meets REC 1 or REC 2 objective for fecal coliform, but MS4 discharge does not).

Under the Tentative Order, does the discharge from an MS4 have to meet the water quality objectives for all beneficial uses of the receiving water? What about potential beneficial uses? (*Laguna Niguel*)

Response: The discharges from the MS4 cannot cause or contribute to an exceedance of water quality objectives. It is understood that receiving waters may assimilate some pollutants and the Basin Plan prohibitions implemented under this Tentative Order allow for dilution of contaminants in receiving waters. The Tentative Order is intended to protect both existing and potential beneficial uses of waterbodies as identified in the Basin Plan. The issue of the receiving water quality limitations language in the Tentative Order is extensively discussed elsewhere in this document.

Section: D

Comment: The legal authority provision should follow the requirements of the Phase 1 regulations (40 CFR 122.26(d)(2)(i)(A-F)), which provide the coverage as well as the flexibility in implementing a BMP program. Thus we suggest that Provision D.1.b be deleted and in its place the Phase 1 requirements be included. Alternatively, we would recommend that the provision be modified to allow non stormwater discharges if BMPs are implemented.

The lead sentence in D.1.b, page 12, should be adjusted to read, "Prohibit all identified illicit discharges not otherwise allowed pursuant to section B.2 from which pollutants have not been removed to the Maximum Extent Practicable, including but not limited to: " At the second workshop SDRWQCB staff clarified that the Prohibitions in Section D.1.b, page 12, relating to "illicit discharges" refer to discharges from which pollutants have not been removed to the maximum extent practicable. This is an extremely important clarification with respect to the practical feasibility of creating ordinances and achieving compliance with this Order. (*Laguna Niguel,*)

Response: The federal Phase 1 regulations (40 CFR 122.26(d)(2)(i)(B)) state that legal authority must authorize or enable the copermittees to "prohibit through ordinance, order or similar means, illicit discharges to the municipal separate storm sewer." Accordingly, section D.1.b of the Tentative Order requires the copermittees to "prohibit all illicit discharges, including but not limited to..." Several illicit discharges are subsequently listed. California Water Code The federal regulations in 40 CFR 122.26(b) define illicit discharge as "any discharge to a municipal separate storm sewer that is not composed entirely of storm water except discharges pursuant to a NPDES permit (other than the NPDES permit for discharges from the municipal separate storm sewer) and discharges resulting from fire fighting activities." Thus, non-stormwater discharges are prohibited. In order to provide the Copermittees with flexibility and discretion, under Tentative Order the Copermittees will specify which BMPs they will implement or require to be implemented to reduce pollutants in urban runoff discharges to the MEP.

Section: D

Comment: Is the washing down of individual driveways a prohibited activity? The prohibition of residential hosing of impervious surfaces (Section D.1.b(5)) should be eliminated from the Order and replaced with educational efforts to encourage residential property owners to sweep their property in lieu of hosing with water. It is entirely impractical to enforce such a prohibition, another directive. A prohibition that cannot be enforced is not appropriate. With over 10,000 homes in our small community, it is infeasible to establish a policing force to eliminate this occurrence.

The permit contains conflicting provisions that will make compliance difficult, such as initially permitting individual car washing in Section B.2.p. while prohibiting discharges of wash water from

residential driveways in Section D.1.b(5). How does the Regional Board envision the municipalities enforcing the no hosing down of residential driveways? Section D.1.b(5) prohibits hosing of impervious areas from residential areas. Realistically, how do you expect that cities can prevent residents from hosing off driveways and sidewalks, etc.? Would the city or the resident be liable (assume City is conducting appropriate public education)? (*County of Orange, City of San Clemente, Laguna Hills, Mission Viejo, Lake Forest, Laguna Niguel*)

Response: Washing down of individual driveways is a prohibited activity for eleven years under both the first and second term permits. Federal NPDES regulation 40 CFR 122.26 (b)(2) defines an illicit discharge as "any discharge to a municipal separate storm sewer that is not composed entirely of storm water except discharges pursuant to a NPDES permit (other than the NPDES permit for discharges from the municipal separate storm sewer) and discharges resulting from fire fighting activities." Individual residential car washing, however, is specifically exempted from prohibition under the Federal regulations and is included in the list of non-prohibited non-storm water discharges in section B.2 of the Tentative Order.

In southern Orange County, hosing of impervious surfaces in residential areas has been identified as an activity that can contribute a significant amount of pollutants to the MS4. Many municipalities in the region are currently citing property owners and contractors who wash down impervious surfaces containing materials such as oil and grease, sand, masonry materials, and others for violations of local storm water ordinances. To date, educational letters have comprised the majority of enforcement actions, and violators are warned that fines will result from repeat occurrences. As violations of this nature are reported, we refer the case to the local municipality for enforcement under local ordinances. If a municipality does not adequately take actions, we would consider both the municipality and the landowner to be responsible.

Section D Subsection D.1

Comment: This paragraph requires "Each Copermitee shall establish, maintain and enforce adequate legal authority..." The discussion on Page 47, third paragraph, of the Draft Technical Report/Fact Sheet clarifies that this section requires the Copermitees to have legal authority, but "does not require the discharges to be prohibited in all instances, but rather requires the Copermitees to have the legal authority to prohibit such discharges in the event that prohibition is determined to be necessary." This clarification is useful, but the Permit language itself needs to be modified to assure that this interpretation is clear. The first sentence of paragraph D.1 should be revised to delete the words "and enforcement." Enforcement requirements are addressed elsewhere in the document, and to leave the words here is confusing. (*Laguna Niguel*)

Response: The discussion cited inadvertently confused non-storm water discharges that are not required to be prohibited (section B.2) with prohibited illicit discharges specifically identified in section D.1.b. The discharges listed in section D.1.b are illicit discharges that must be prohibited. The discussion concerned the broader issue of dry weather flows, some of which originate from the non-storm water, non-prohibited discharge categories cited in section B.2 of the Tentative Order. It is in reference to these non-prohibited, non-storm water discharge categories that comment cited refers when it states that the Tentative Order "does not require the discharges to be prohibited in all instances..." The non-storm, non-prohibited discharge categories listed in section B.2 do not need to be prohibited unless they are found to be significant sources of pollutants. In that even, the Copermitees have the discretion to not prohibit the discharge and implement or require the implementation of BMPs to prevent or reduce the pollutants to the MEP. The Fact Sheet/Technical Report for Tentative Order 2001-193 has been revised to clarify the intent of the discussion.

Section D Subsection D.1

Comment: Item D.1 of the Tentative Order should be accordingly revised to comport with the relevant CWA regulations at 40 C.F.R. § 122.26(d)(2)(i)(A-F). (*County of Orange*)

Response: The requirements of section D.1 of the Tentative Order fully support the federal regulations cited at 40 CFR 122.26(d)(2)(i)(A-F).

Section D Subsection D.1

Comment: Add a Citation to Authority to Prohibit Illicit Discharges. Parts D.1.b and h, on page 11, implement the requirement of 40 CFR § 122.26(d)(2)(i)(B) and (F) that Co-permittees are to possess the legal authority to prohibit “Illicit Discharges” and to conduct inspections, but fails to cite or refer to 40 CFR § 122.26(d)(2)(i)(B) or (F).

Recommendation: To improve the Order, change the “P” in “Prohibit” to lower case and add the following: “In accordance with the requirements of 40 CFR § 122.26(d)(2)(i)(B) and 40 CFR § 122.26(d)(2)(i)(F), prohibit...” (*Lake Forest & Laguna Woods*)

Response: The Fact Sheet/Technical Report provides sufficient citation of the broad and specific legal authority for the Leagl Authority items D.1.b and D.1.h cited in the comment.

Section D Subsection D.1.B

Comment: Many of the proposed requirements in the draft permit would be administratively and operationally overwhelming to implement and would be an attempt to expand Regional Board control over City policies and procedures. We are concerned in particular that the permit contains conflicting provisions that will make compliance difficult, such as initially permitting individual car washing in Section B.2.p. while prohibiting discharges of wash water from residential driveways in Section D.1.b(5).

The new permit is proposing to impose a number of unanticipated unfunded mandates on local government. Inspection costs would be extremely burdensome. The requirement to prohibit “Discharges of wash water from the cleaning or hosing of impervious surfaces in municipal, industrial, commercial, and residential areas including parking lots, streets, sidewalks, driveways, patios, plazas, work yards and outdoor eating or drinking areas, etc.” is administratively overwhelming. Taken to the extreme, this provision will require the deployment of a storm water police force. (*Mission Viejo, Lake Forest, San Juan Capistrano*)

Response: Individual residential car washing is specifically exempted from prohibition under the Federal regulations, and municipal inspectors should be able to differentiate between a car-washing activity and wash down of a residential driveway.

In southern Orange County, hosing of impervious surfaces in residential and commercial areas has been identified as an activity that contributes a significant amount of pollutants to the MS4. Many municipalities in the region are currently citing property owners and contractors who wash down

impervious surfaces containing materials such as oil and grease, sand, masonry materials, and others for violations of local storm water ordinances. To date, educational letters have comprised the majority of enforcement actions, and violators are warned that fines will result from repeat occurrences.

Section D Subsection D.1.B

Comment: Legal Authority 1.b. (2), (4), (5), (6) These are all prohibited discharges which result from washing down exterior areas. The Board does not distinguish between existing development and new development in this section. This provision will effectively force the cities to require that all existing commercial or industrial developments that need to perform these types of activities for the proper function of their business obtain an NPDES permit from the Board for their discharges. A more workable provision would be to require the permittees to prohibit these discharges from new development so that new facilities can be designed to avoid such discharges. However, for existing development the discharges should be prohibited by the permittees unless appropriate BMPs are implemented in accordance with B.3. (*Aliso Viejo*)

Response: The discharges cited by the commenter in section D.1.b are illicit discharges that were prohibited under the Phase I storm water regulations promulgated in 1990 (40 CFR 122.26(b)(2) and apply irrespective of new or existing development. The Copermitees are required to effectively prohibit these illicit discharges; the option to implement BMPs for non-storm water discharges apply only to the non-storm water, non-prohibited discharges identified in section B.2 of the Tentative Order. Both the first term permit Order No. 90-38 (section III) and the second term permit Order No. 96-03 (section III) required the Copermitees to effectively prohibit these discharges. The Tentative Order will not effectively require that all existing commercial or industrial developments that need to perform these types of activities for the proper function of their business obtain an NPDES permit from the SDRWQCB for their discharges.

Section D Subsection D.1.B

Comment: PART D.1.h Should be Revised to Conform to EPA Regulations as to "Reasonable Times." Part D.1.b, on inspection and copying of records, on page 11, fails to mention the limitation imposed by 40 CFR § 122.41(i), which provides that that access to all documents as may be required by law shall be conducted at "reasonable times."

Recommendation: PART D.1.b, on page 11, would be improved if it were revised to read as follows: "review, at reasonable times, and copy any records required by this Order, in accordance with 40 CFR § 122.41(i)." (*Lake Forest & Laguna Woods*)

Response: Section D.1.h requires that the Copermitees submit a certified statement of adequate legal authority to carry out all inspections, surveillance, and monitoring necessary to determine compliance and noncompliance with local ordinances and permits and with this Order, including the prohibition on illicit discharges to the MS4. It is assume that the legal document authorizing the Copermitees to perform these tasks will specify "reasonable times".

Section D Subsection D.1.b

Comment: Legal Authority Item D.1.b should be revised to delete the “examples” of illicit discharges. The legal authority requirements relating to illicit discharges should comport with the requirements of the CWA regulations at 40 C.F.R. § 122.26(d)(2)(i)(B). This will allow for greater flexibility in Permittee programs by allowing them to permit certain non-storm water discharges through the development and implementation of source control/treatment control BMPs for such discharges. (*County of Orange*)

Response: The Copermitees do not have the discretion to permit illicit discharges. The requirements of section D.1 of the Tentative Order fully support the federal regulations cited at 40 CFR 122.26(d)(2)(i)(A-F). The Copermitees are required under 40 C.F.R. § 122.26(d)(2)(i)(B) to "prohibit through ordinance, order, or similar mean, illiict discharges to the municipal separate storm sewer." The list of illicit discharges in section D.1.b include illicit discharges found to be significant problems in the San Diego Region. For example, sewage (D.1.b.1) discharges into MS4s is a major problem in Orange County and has been identified as contributing to impairment of receiving water quality. The SDRWQCB has the discretion to require the Legal Authority item D.1.b in the Tentative Order under the broad and specific legal authority cited in the Fact Sheet/Technical Report.

Section D Subsection D.1.B

Comment: In response to a question, Dave clarified that the "illicit discharges" that are prohibited refers to "discharges not treated to MEP." This verbage should be included in the sentence for clarity. (*Laguna Niguel*)

Response: Comment noted. All non-storm discharges, except those allowed pursuant to section B.2 of the Tentative Order, are prohibited. Pollutants in all permitted discharges to a MS4 must be reduced to MEP.

Section D Subsection D.1.b

Comment: Section D.1.b.2,4,5, and 6: These are all prohibited discharges which result from washing down exterior areas. Does the Board intend for commercial or industrial entities that need to perform these types of activities to obtain an NPDES permit from the Board? (*Aliso Viejo*)

Response: No, it is not likely that such discharges would comply with receiving water standards. Commercial and industrial entities must clean exterior areas without allowing discharges of washwater to a MS4.

Section D Subsection D.1.g

Comment: Shouldn't control of contribution of pollutants occur as part of the TMDL process? Why not simply include the requirement that the copermitees will comply with the TMDLs as they are promulgated? (*Aliso Viejo*)

Response: As total maximum daily loads (TMDLs) are developed, it is likely that MS4s will have to participate in pollutant load reductions. Currently there are no TMDLs for the receiving waters that are

targeted in this Tentative Order. In the interim, the use of iterative BMPs in place of numeric effluent limits has been approved by the Ninth Circuit Court of Appeals (*Defenders of Wildlife v. Browner*, 1999, 197 F. 3d 1035).

Section D Subsection D.1.h

Comment: This section requires the Copermittees to carry out inspections, surveillance, and monitoring necessary to determine compliance and non-compliance with local ordinances and permits and, this Order. The section requires the Copermittees to have the authority to enter, sample, inspect, review, and copy records from industrial facilities and construction sites. This section may conflict with Constitutional prohibitions against unlawful search and seizure. How can the Copermittee have the power and authority to enter property and search records of existing industrial sites without a search warrant? Please cite the specific legal authority which the Board believes the Copermittees possess to implement this provision. (*Laguna Hills*)

Response: Local governments, like state and federal governments, are precluded from unreasonable searches for and seizure of evidence, and, absent extraordinarily exigent circumstances, must obtain warrants before inspecting private property to enforce local ordinances. Nevertheless, it is common governmental practice to require persons who must obtain governmental authorization for their activities, or whose activities are subject to governmental regulation, to consent to reasonable inspection by the regulatory officials of the government. Thus, persons who discharge waste that could affect the quality of the waters of the state are required as a condition of their waste discharge requirements to allow inspection and sampling by the Regional Board. Similarly, local governments regulate development, construction, and industrial and commercial uses of property within their jurisdiction. Commercial food service establishments are subject to inspection by local health officials as a routine matter and construction sites are visited by building inspectors. Municipalities are required by federal NPDES regulations to have or develop legal authority to implement regulatory programs needed to reduce the discharge of pollutants to MS4, including the authority to inspect sources of pollutants that are discharged to MS4. Given the routine nature of local governmental inspections to enforce local health and building ordinances, it is not unreasonable to expect municipalities to provide authority for such inspections as may be necessary to reduce pollutants in MS4 by the consent of persons subject to the municipalities' regulatory authority. The SDRWQCB has the broad legal authority to require Legal Authority D.1.h cited in the fact Sheet/Technical Report: CWA sections 402(p)(3)(B)(ii-iii), CWC section 13377, and Federal NPDES regulations 40 CFR 122.26(d)(2)(i)(B, C, E, and F) and 40 CFR 122.26(d)(2)(iv).

Section D Subsection D.2

Comment: Section D.2 requires the Chief Legal Counsel of each Copermittee to certify that the Copermittee "has adequate legal authority to implement and enforce" each of the requirements of the Order. This certification must cite the "urban runoff related ordinances" adopted by the Copermittee and explain why they are enforceable. The Copermittee's enforcement procedures must be described. The Regional Board has no authority to require such a certification. The Regional Board has no authority to require that specific ordinances or statutes be adopted. The municipalities have the jurisdiction to determine what ordinances to adopt to ensure compliance with discharge requirements, (*Laguna Niguel*)

Response: The SDRWQCB is justified in requiring the Copermitees to submit a certified statement of adequate legal authority. California Water Code section 13377 provides that the Regional Boards shall issue waste discharge requirements which apply and ensure compliance with all applicable provisions of the Federal Water Pollution Control Act (33 U.S.C. §1251 et seq.), as amended, also known as the federal Clean Water Act (CWA). Tentative Order No. 2001-01 is written to implement CWA requirements, therefore the SDRWQCB can require the municipalities to demonstrate that they have adequate legal authority to implement the Tentative Order's requirements. The legal authority requirements can be found at 40 CFR (Code of Federal Regulations) 122.26(d)(2)(i). This section states that Copermitees must demonstrate that they "can operate pursuant to legal authority established by statute, ordinance or series of contracts which authorizes or enables the applicant at a minimum to: (A) Control through ordinance, permit, contract, order or similar means, the contribution of pollutants to the municipal storm sewer by storm water discharges associated with industrial activity and the quality of storm water discharged from sites of industrial activity; (B) Prohibit through ordinance, order or similar means, illicit discharges to the municipal storm sewer; (C) Control through ordinance, order or similar means the discharge to a municipal separate storm sewer of spills, dumping or disposal of materials other than storm water; (D) Control through interagency agreements among coapplicants the contribution of pollutants from one portion of the municipal system to another portion of the municipal system; (E) Require compliance with conditions in ordinances, permits, contracts or orders; and (F) Carry out all inspection, surveillance and monitoring procedures necessary to determine compliance and non-compliance with permit conditions including the prohibition on illicit discharges to the municipal separate storm sewer." The SDRWQCB has discretion to require Legal Authority item D.2 in Order No. 2001-193 under the broad and specific legal authority cited in the Fact Sheet/Technical Report.

Section D Subsection D.2

Comment: Legal Authority Item D.2 calls for each Permittee's chief legal counsel to certify a statement that the Permittee has adequate legal authority to implement and enforce the requirements of 40 C.F.R. § 122.26(d)(2)(i)(A-F) and the Tentative Order. The County's County Counsel has no objection to certifying such a statement. However, to the extent that the required statement includes items on which the County Counsel is not qualified to provide a legal opinion, or on which the County Counsel has no expertise, the County objects to the required items. For example, Item D.2.a calls for facts that are not within the knowledge or expertise of the County Counsel. Similarly, Items D.2.b and d call for the County Counsel to certify as to the reasons certain ordinances are enforceable and how they are implemented. Generally, the County and other Permittees have discretion as to how to enforce and implement a particular ordinance. Accordingly, these requirements would require the County Counsel to speculate as to how a particular department would implement and enforce an ordinance. Legal Authority Item D.2 should be revised accordingly to reflect these concerns. (*County of Orange*)

Response: Section D.2 of the revised Tentative Order is consistent with 40 CFR 122.26(d)(2)(1). Section D.2 requires each Copermitees' chief legal counsel certify and submit to the SDRWQCB a statement that the Copermitee has adequate legal authority to implement and enforce each of the requirements of the 40 CFR 122.26 (d)(2)(I)(A-F) and the Tentative Order. This is not a certification of the Jurisdictional Urban Runoff Management Program itself and does not require the Copermitees to speculate as to reasons certain ordinances are implementable or enforceable. The Copermitees have 365 days in which to compile and consolidate the information necessary for the requirements of section D.2 of the Tentative Order.

Section E

Comment: "Maximum extent practicable" is a vague term to me. What are the extent of an MEP?
(*Michael Hazzard*)

Response: MEP is described in the Glossary (Attachment D) of the Tentative Order. It is a technology-based standard without a strict definition because it is dynamic. The Regional Board follows an opinion of MEP articulated by the Senior Staff Council of the SWRCB. It describes factors that may be useful to consider when selecting BMPs to achieve MEP, and states in part that to achieve MEP municipalities must employ whatever BMPs are technically feasible and are not cost prohibitive. The Copermittees will propose their definition of MEP via the BMPs selected in Urban Runoff Management Plans. The final determination regarding whether a municipality has reduced pollutants to the MEP can only be made by the Reigonal or State Boards.

Section E

Comment: Why are industrial and construction activities owned by the Copermittee subject to the BAT/BCT performance standards while all other industrial and construction activities are only subject to the MEP standard? (*Laguna Niguel*)

Response: Industrial and construction activities subject to statewide NPDES permits are subject by Federal regulations to meet BAT/BCT as a technology-based performance standard. The municipalities must control pollutants in storm water to and from the MS4 for all other urban land use activities, including construction and industrial activities not subject to the statewide general NPDES permits, to the maximum extent practicable in order to meet the Federal requirements of the Municipal NPDES storm water permit.

Section E.4 Subsection E.4.d.1.e

Comment: In Section E.4.d.1.e of Attachment E of the Dry Weather Monitoring list Enterococcus bacteria twice within the analytical monitoring parameters. What did you actually want? Fecal coliform, acute or chronic toxicity, or (dare I say) virus? (*Irvine Ranch Water District*)

Response: The second Enterococcus should read Fecal Coliform. The Tentative Order has been revised to correct this error.

Section F

Comment: We believe that the Board and co-permittees have similar goals for this permit-to obtain as much water quality improvement as possible as quickly and efficiently as possible. To spend a year writing the specified plans that will sit on the shelf is counterproductive. The City of Aliso Viejo prefers to spend less time and effort on program writing and documentation and more effort on program development and implementation while still providing for accountability to the Board. The City of Aliso Viejo would like the flexibility to prioritize the required elements of the urban runoff management

plan and begin immediate development and implementation of those elements and the corresponding tasks that are likely to address most directly the specific water quality problems of the watershed. Staggered implementation of other elements will allow us to be most responsive to the Board's Directive for Aliso Creek

One way for the Board to oversee this process while still allowing the co-permittees the flexibility to deal with watershed-specific priorities is to group the URMP requirements into cohesive elements. Allow 24 months to fully develop and implement all elements of the JURMP, and require that a minimum number of elements be developed and implemented within the first year. Let the permittees prioritize implementation of the elements based on water quality priorities. Permittees would be required to develop and implement the remaining elements of the URMP during the second year. At the end of the second year the JURMP will be complete and furthermore, because it has been field tested, it will be a functional program from an implementation standpoint. For example, in jurisdictions where excess sediment is a high water quality concern the Construction elements of the JURMP may be among the prioritized elements, while in jurisdictions where bacterial pollutants are of highest concern the permittees may focus on existing land use-based elements in areas of greatest concern such as commercial/industrial elements or residential elements, depending on what land use areas are causing the greatest exceedances. As the prioritized elements are developed they can be shared with other co-permittees who may have prioritized other elements of the URMP. Furthermore, experience gained in implementing prioritized plan elements can be parlayed into streamlining implementation of other plan elements. *(Aliso Viejo)*

Response: The SDRWQCB appreciates the efforts of the recently incorporated (July 2001) City of Aliso Viejo to respond to the water quality concerns in Aliso Creek and to submit thoughtful comments on the Tentative Order. Based on the longevity of storm water management in Orange County and the progress made to date by the copermittees to the San Diego Municipal Storm Water Permit (Order 2001-01), the development and implementation of the Tentative Order's requirements are realistic and achievable. The SDRWQCB also appreciates that the City recognizes that an adaptive management approach is critical for addressing water quality concerns. However, allowing an additional year to develop components of the Jurisdictional Urban Runoff Management Program (JURMP) would not ensure that those elements would be "field tested," but rather would allow each copermittee to delay consideration of potentially significant sources of pollutants.

The SDRWQCB and the City of Aliso Viejo (and the federal EPA) do share an interest in the use of prioritization to efficiently use limited resources for preserving and enhancing water quality. Rather than a land-use based prioritization process, however, the federal NPDES regulations and the Tentative Order call for a pollutant and waterbody-based prioritization process. For instance, sites and activities are to be prioritized based on the threat to water quality so that resources expended accordingly. For existing development, therefore, the Tentative Order requires activities within each of the land uses (municipal, industrial, commercial, residential) to be assessed within one year so that priorities can be set and implementation can begin. The City does not need to postpone implementation of the JURMP or any of its components until 365 days after adoption of the Tentative Order, and is encouraged to implement components as they are developed.

In addition, the SDRWQCB encourages the sharing of information between copermittees during the development of the JURMP and other tasks of the Tentative Order. The copermittees to the San Diego Municipal Storm Water Permit (Order 2001-01) have been cooperatively developing model components, and SDRWQCB staff have been providing support. As the model components are developed, they are being posted on-line by the County of San Diego, and they can be viewed at http://www.co.san-diego.ca.us/cnty/cntydepts/landuse/env_health/pcw/.

Section F

Comment: Requirements for a proposed management plan to reduce the discharge of pollutants to the maximum extent practicable are described in 40 CFR 122.26(d)(2)(iv). Management programs may impose controls on a system-wide basis, a watershed basis, a jurisdiction basis, or on individual outfalls. The programs “shall describe priorities for implementing controls.” These programs are to be based on a number of factors with the mix of controls and the priorities established by the permittees. It appears that the proposed permit interprets the meaning of this section of the regulations to enable the Board staff to prescribe how local governments are to use their authorities to comply with the provisions of the Clean Water Act. It is the responsibility of the permittee to determine the most appropriate mix of source controls and treatment controls to control discharges from its storm drain system to the maximum extent practicable. (*San Juan Capistrano*)

Response: The SDRWQCB has the authority to assign site priorities for oversight by the Copermittees. The Federal NPDES regulations clearly place an emphasis on the prioritization of sites of various land uses. Federal NPDES regulation 40 CFR 122.26(d)(2)(iv)(D)(3) provides that the proposed management program include “A description of procedures for identifying priorities for inspecting sites and enforcing control measures which consider the nature of the construction activity, topography, and the characteristics of soils and receiving water quality.” Federal NPDES regulation 40 CFR 122.26(d)(2)(iv)(A)(5) provides that the proposed management program include “A description of a program to monitor pollutants in runoff from operating or closed municipal landfills or other treatment, storage or disposal facilities for municipal waste, which shall identify priorities and procedures for inspections and establishing and implementing control measures for such discharges.” Federal NPDES regulation 40 CFR 122.26(d)(2)(iv)(C)(1) provides that the Copermittee must “identify priorities and procedures for inspections and establishing and implementing control measures for such discharges.”

The Tentative Order’s requirements regarding site prioritization are more detailed than those in the Federal NPDES regulations. The SDRWQCB has increased the detail of the site prioritization requirements under Clean Water Act section 402(p)(3)(b)(iii), which states that a storm water program “shall require controls to reduce the discharge of pollutants to the maximum extent practicable, including management practices, control techniques and system, design and engineering methods, and such other provisions as the Administrator or the State determines appropriate for the control of such pollutants.”

Furthermore, the SWRCB upheld in Order WQ 2000-11 prioritization of sites by a Regional Board in the LARWQCB SUSMP. The LARWQCB SUSMP identified various priority development project categories which are high priority. The SWRCB found that identification of high priority sites was appropriate.

With respect to the comment concerning the SDRWQCB authority to prescribe how local governments are to use their authorities to comply with the provisions of the Clean Water Act, the Tentative Order contains the framework for the minimum requirements considered by the SDRWQCB to be necessary to achieve MEP. The requirements in the Tentative Order are based on the Federal NPDES regulations and USEPA and SWRCB guidance. Where the Tentative Order is more specific than the Federal NPDES regulations, it is based on USEPA and SWRCB guidance. The SDRWQCB has authority to include more specific requirements than the Federal regulations under CWA section 402(p)(3)(B)(iii) and CWC section 13377. USEPA supports the approach of increasingly detailed storm water permits, stating “The interim permitting approach uses best management practices (BMPs) in first-round storm water permits, and expanded or better-tailored BMPs in subsequent permits, where necessary, to provide for the attainment of water quality standards” (USEPA, 1996). The Tentative Order does not require that Copermittees abandon the prioritization of water quality

issues or their mechanisms to optimize the use of their resources, but rather to review and as necessary revise or expand them. The prioritization and approaches to water quality issues related to the management of urban runoff, however, must address all of the receiving waters in the San Juan Creek Watershed Management Area in Orange County subject to the discharge of urban runoff. The development of the Tentative Order has been conducted with substantial review and comment and significant changes have been made to improve the implementation and enforcement of the Order by the Copermittees.

The specified programs included in the Tentative Order must be implemented by the Copermittees in order to carry out the CWA requirements. While the Tentative Order includes requirements for widespread BMP implementation for specific categories of existing and planned land use, it does not require use of any particular BMPs. The Tentative Order actually encourages implementation of combinations of BMPs, and further does not preclude any particular BMPs or other means of compliance. These are intended to build upon the programs already developed by the Copermittees under the previous permits. Any specified programs in the Tentative Order are made all the more necessary by the exclusion of numerical effluent limits from the permit. Reliance on BMPs as opposed to numerical effluent limits requires specification of those programs that are relied upon to reduce pollution

Finally, the Tentative Order represents the definition of MEP adopted by the SDRWQCB. Within that framework, the Copermittees have significant opportunity and flexibility to prioritize water quality problems, develop and implement effective programs, and to improve and modify these programs as necessary to achieve and maintain compliance with the Tentative Order and receiving water quality objectives. Moreover, the Copermittees are required to evaluate the effectiveness of JURMP programs and to revise the programs as necessary to comply with the Tentative Order and receiving water quality objectives.

The SDRWQCB has discretion to require Jurisdictional Urban Runoff Program items in section F in Order No. 2001-193 under the broad and specific legal authority cited in the Fact Sheet/Technical Report.

Section: F.1

Comment: The Regional Board and Tentative Order lack the authority to regulate increased urban runoff peak flow rates and velocities since they do not constitute a discharge of pollutants as defined in the CWA or waste as defined by the CWC. While it is true that urbanization affects hydrology, such effects on the flow regime occur regardless of what pollutants are present in stormwater or, indeed, regardless of whether or not any pollutants are added to stormwater as it traverses the land. While such effects may constitute "pollution" as that term is defined in the Clean Water Act, they do not constitute the "discharge of pollutants," as that phrase is defined in the Clean Water Act. "EPA does not consider flow to be a pollutant." The public storm drain program is limited to controls on pollutant discharges. Other Clean Water Act programs not administered by the Regional Board are designed to address general pollution problems, such as might result from bank erosion and widening of channels. Water per se, regardless of what constituents are in it, is not a "pollutant" regulated under the NPDES program, within the statutory definition. Thus, the regulation of stormwater flows in this Permit is void under the Clean Water Act to the extent it is regulating flow velocities, flow volumes and flow durations.

Revisions to the Water Quality Planning and Management Regulation and Revisions to the National Pollutant Discharge Elimination System Program in Support of Revisions to the Water Quality Planning and Management Regulation, 65 Fed. Reg. 43586,43619 (July 13,2000). Case law

interpreting the Clean Water Act uniformly has found the definition of “pollutant” to not include downstream erosion. See e.g., *National Wildlife Fed’n. v. Gorsuch*, 693 F.2d 156, 171-172 (D.C. Cir. 1982) (holding that discharges from dams were not discharges of pollutants, but rather were discharges that altered water quality conditions - namely scouring the downstream channel - and as such, did not fall under the definition of “pollutant” and did not require an NPDES permit); *Missouri, ex rel. Ashcroft v. Department of the Army*, 672 F.2d 1297, 1303 (8th Cir. 1982) (finding that fluctuations in flow rates of water that created downstream erosion did not result in the “discharge of a pollutant” under the CWA and the relevant permit was void to the extent it regulated downstream erosion (*Lake Forest, Laguna Woods, Construction Industry Coalition on Water Quality*))

Response: MS4 discharges with increased urban runoff peak flow rates and velocities resulting from new development and significant redevelopment are regulable under the NPDES program and California Water Code. This is supported in the response to the petition to the SWRCB of the San Diego Municipal Permit Order No. 2001-01:

1. MS4 Discharges with Increased Urban Runoff Peak Flow Rates and Velocities Resulting from New Development and Significant Redevelopment are Regulable Under the NPDES Program

Petitioners assert that the Permit cannot regulate increased urban runoff flow volumes, rates, velocities, and durations as they are caused by new development and redevelopment. The basis for their argument is that urban runoff flow is not regulable under the NPDES program. In this argument, they are incorrect. As discussed in the Draft Fact Sheet/Technical Report, NPDES permits must protect receiving water quality standards. Federal NPDES regulation 40 CFR 122.44(d)(1) requires municipal storm water permits to include any requirements necessary to “achieve water quality standards established under section 303 of the CWA, including State narrative criteria for water quality.” The administrative record includes ample evidence that altered flow regimes resulting from new development and significant redevelopment can negatively impact water quality standards. As such, the Permit includes requirements for the management of flow in order to protect receiving water beneficial uses and water quality objectives, as it is required under the federal NPDES storm water regulations.

Indeed, the Permit’s approach in this respect follows SWRCB guidance. The SWRCB states in Order WQ 98-01 “to comply with CWA section 301, municipal storm water permits must include effluent limitations where necessary to meet [...] water quality standards” (at pg. 4). In fact, the municipal storm water receiving water limitations language, as drafted by the SWRCB, requires MS4 discharges to be in compliance with water quality standards. This requirement stands irregardless of whether the MS4 discharge is causing or contributing to violations of water quality standards through altered flow regimes or pollutant discharges.

Furthermore, the Permit’s language regarding regulation of urban runoff discharge peak flow rates and velocities is virtually identical to that of the LARWQCB’s SUSMP. This SUSMP was predominantly upheld by the SWRCB in Order WQ 2000-11. The SWRCB has found that the LARWQCB SUSMP requirements collectively constitute MEP for urban runoff from new development and significant redevelopment. Therefore, the SWRCB has found that requirements to control increases in peak flow rates and velocities resulting from new development and significant redevelopment are an appropriate provision of MEP for MS4 discharges. Moreover, the SWRCB has instructed that subsequent municipal storm water permits “must be consistent with the principles set forth [in Order WQ 2000-11].” In order to be consistent with this SWRCB guidance, the SDRWQCB has included in the Permit regulation of urban runoff peak flow rates and velocities resulting from new development and significant redevelopment.

Petitioners specifically argue that increased urban runoff peak flow rates and velocities resulting from new development and significant redevelopment are not regulable under an NPDES permit because urban runoff flow does not meet the CWA definition of pollutant (CWA section 502(a)). In fact, the opposite is true. The CWA definition of pollutant includes “municipal waste.” As discussed above in section E, the increased volumes and flows of urban runoff resulting from new development and significant redevelopment meet the definition of a municipal waste. New development and redevelopment, as approved by municipalities, generate increased urban runoff peak flow rates and velocities through the construction of impervious surfaces. Municipalities then collect this increased urban runoff and discharge it to receiving waters by use of their MS4s. This generation, collection, and disposal of urban runoff by municipalities reflects urban runoff’s condition as a municipal waste.

Nor is the CWA definition of pollutant as limiting as Petitioners assert. The list of substances included in the CWA definition of pollutant cannot be construed to be exclusive. For example, the definition lists rock and sand as pollutants, but makes no mention of clay or silt (e.g., suspended solids). Surely suspended solids such as clay or silt can be found to be pollutants, even though they are not specifically designated as such in the CWA definition of pollutant. Indeed, they commonly are found to be pollutants. In a similar manner, simply because urban runoff increased flow rates and velocities are not specifically listed in the CWA definition of pollutant, they are not limited from being regulated as such in an NPDES permit.

Furthermore, the Permit’s regulation of increased urban runoff peak flow rates and velocities resulting from new development and significant redevelopment is a direct attempt to control the discharge of conventional pollutants in urban runoff to the MEP. Typical BMPs which control urban runoff peak flow rates and velocities (such as detention basins and grass swales) can greatly reduce the amount of pollutants (suspended solids, nutrients, and metals) in urban runoff. Control of these pollutants in such a manner is certainly within the purview of the NPDES program. USEPA supports this approach, stating “in many cases, consideration of the increased flow rate, velocity and energy of storm water discharges following development unavoidably must be taken into consideration in order to reduce the discharge of pollutants.”

In addition, the downstream erosion caused by increased urban runoff peak flow rates and velocities constitutes a discharge of pollutants to receiving waters which needs to be reduced to the MEP. The increased volume, flow rate, velocity, and duration of runoff resulting from new development and redevelopment can increase sediment transport, stream bed scouring, shoreline erosion, stream bank widening, and changes in stream morphology. All of these impacts can negatively impact water quality through their discharge of sediment into receiving waters. Unnaturally elevated levels of sediment suspension and transport can cause extended violations of water quality objectives for turbidity, total suspended solids, color, and floating material. Moreover, since sediment is often a transport mechanism for other pollutants, discharge of such sediment can lead to introduction of pollutants into the water column, further impacting receiving water quality. Due to the increased discharge of pollutants to receiving waters resulting from the increased peak flow rate and velocity of MS4 urban runoff discharges, regulation of urban runoff peak flow rate and velocity is applicable for an NPDES permit. It constitutes reduction to the MEP of pollutant discharges to receiving waters.

It is also worth noting that Petitioners’ exclusion of the NPDES program from the regulation of peak flow rates and velocities defeats the intent of the Clean Water Act. The NPDES storm water program for MS4 discharges is designed to implement the Clean Water Act, which has the primary purpose to “restore and maintain the chemical, physical, and biological integrity of the Nation’s waters” (33 U.S.C. section 1251(a)). As exhibited in the administrative record, increased urban runoff peak flow rates and velocities resulting from new development and significant redevelopment can greatly impact receiving water quality. As such, in order for the NPDES storm water program to adequately protect the chemical, physical, and biological integrity of receiving waters, as it was intended, it must address

increased urban runoff peak flow rates and velocities resulting from new development and significant redevelopment.

Finally, control of runoff to prevent downstream erosion has previously been included in many NPDES storm water permits, both within the State of California and nationwide. For example, the SWRCB's Statewide General Construction Storm Water Permit (Order No. 99-08-DWQ) directly requires control of runoff velocity to prevent downstream erosion when it states "the outflow of a sediment basin that discharges into a natural drainage **shall be provided with outlet protection to prevent erosion and scour of the embankment and channel**" (emphasis added) (section A.8, pg. 15). The LARWQCB has also included requirements to control flow for erosion prevention in its SUSMP for the cities of Los Angeles County, as well as in its municipal storm water permit for Ventura County (Order No. 00-108). Moreover, states such as Washington and Maryland have similar NPDES storm water permit requirements.

2. MS4 Discharges with Increased Urban Runoff Peak Flow Rates and Velocities Resulting from New Development and Significant Redevelopment are Regulable Under the California Water Code

While the Clean Water Act is not explicit regarding the regulation of peak flow rates and velocities, the CWC clearly provides the SDRWQCB discretion to regulate flow in order to protect beneficial uses. In fact, such regulation is not only allowed by the CWC, it is required. CWC section 13377 provides that the SDRWQCB issue waste discharge requirements as required by the Clean Water Act, "together with any more stringent effluent standards or limitations necessary to implement water quality control plans, or for the protection of beneficial uses, or to prevent nuisance."

Findings 4 and 9 discuss the impacts of MS4 discharges on beneficial uses resulting from altered flow regimes caused by new development and significant redevelopment. As discussed in section L.1 above, increased urban runoff peak flow rates and velocities resulting from new development and significant redevelopment can cause elevated levels of sediment in receiving waters through downstream erosion. This sediment can also introduce other pollutants into receiving waters as a transport mechanism. In order to protect beneficial uses against these water quality impacts resulting from downstream erosion caused by altered flow regimes, the Permit regulates urban runoff peak flow rates and velocities from new development and significant redevelopment, as required by CWC section 13377.

Since the Permit is a set of waste discharge requirements issued under the California Water Code (which happens to implement the NPDES program), the NPDES program is only a set of minimum standards for the Permit. The NPDES program requirements are not a limitation on the contents of the Permit, as it is a set of waste discharge requirements under the California Water Code. Nor do the NPDES storm water regulations set a maximum limit on States' individual implementation of the NPDES program. As such, the State of California can include specific requirements in an NPDES permit which need not be specifically addressed in the NPDES storm water regulations. However, to the extent that inclusion of such requirements is meant to implement and clarify the NPDES storm water program to protect the region's receiving waters, such requirements do not exceed the NPDES program.

If the appeal results in an order to change portions of the San Diego Permit (Order 2001-01) that are applicable to the proposed Orange County Permit (Tentative Order 2001-193), then appropriate changes would be made.

Finally, it should be noted that in its draft Order on the petition by the Building Industry Association and Western States Petroleum Association for the review of Order No. 2001-01, in which the issue was prominently raised, the SWRCB has upheld the SDRWQCB's position stating "While this

argument was not specifically addressed in our prior Order (Order 2000-11), it is obvious that the most serious concern with runoff from construction is the potential for increased erosion. It is absurd to contend that the permit should have ignored this impact from urban runoff." Furthermore, in its discussion of urban runoff as a waste in the draft resolution, the SWRCB referred to "Other early Attorney General Opinions determined that 'waste' includes drainage and erosion from logging operations and drainage water from construction sites." The direct SWRCB response to the issue of regulating flow as well as its silence on other aspects of the issue can be interpreted as support for the SDRWQCB position that it has the authority to regulate increased urban runoff peak flow rates and velocities as written in the Order No. 2001-01 and the Tentative Order.

Section F Subsection F.1.b.2

Comment: The current new development/significant redevelopment program, which has been in place for 4 years, focuses in on all development regardless of size, and includes an inspection/verification component which is actually more comprehensive than what is suggested in the permit. Why would the staff not want to look at revising the current program to see if there might be an alternative solution? (*County of Orange*)

Response: The new development and redevelopment section of the proposed DAMP does not include many of the important provisions of the Tentative Order as indicated in Appendix 5 of the Draft Fact Sheet/Technical Report. Examples include the lack of a comprehensive list of structural BMPs and numeric design criteria for these BMPs to meet. The Tentative Order provides minimum requirements for new development and significant redevelopment (including SUSMPs) that must be met and a framework for the Copermittees to work within. However, the Tentative Order does not preclude the Copermittees from using their DAMP to develop programs that meet or exceed these requirements.

Section F Subsection F.1.b.2

Comment: The Tentative Order would require the municipalities to develop a model SUSMP. In the proposed DAMP the Permittees committed to overhauling their new development program based upon a variety of approaches including SUSMPs, Start at the Source Planning, etc. and have already started that process. Since the Permittees would have this new model program by the end of next year, why would the Board staff not consider an approach that may be more comprehensive than the one suggested in the Tentative Order? (*County of Orange*)

Response: The new development and redevelopment section of the proposed DAMP does not include many of the important provisions of the Tentative Order as indicated in Appendix 5 of the Draft Fact Sheet/Technical Report. The Tentative Order provides minimum requirements for new development and significant redevelopment (including SUSMPs) that must be met and a framework for the Copermittees to work within. However, the Tentative Order does not preclude the Copermittees from using their DAMP to develop a program that meets or exceed these requirements.

Section: F.1

Comment: The definition of infeasibility for which a waiver of a structural BMPs could be granted is unclear. The provisions in the Tentative Order make it almost impossible to obtain a waiver. (*County of Orange, Laguna Hills, Construction Industry Coalition on Water Quality*)

Response: What constitutes infeasibility and whether to include the waiver provision in their SUSMPs is at the discretion of the Copermittees. However, since the structural BMP implementation has been shown to less than 1% of the total project costs, infeasibility cannot be based on costs. It is anticipated that the list of structural BMPs that the Copermittees will develop will be complete and wide ranging. The list is not designed to exclude the use of any applicable BMPs, it should be adequate to assess the feasibility of BMP implementation at a site. Requiring projects proponents to show infeasibility of all BMPs in existence may be impractical. Examples of situations for infeasibility could include extreme limitations of space and unfavorable/unstable soil conditions. It up to the discretion of Copermittees to set up and administer a storm water mitigation fund to transfer costs savings generated by the waivers.

Section: F.1

Comment: The Regional Board has no authority to direct municipalities on matters of land use authority and cannot dictate the contents of the Copermittees General Plan. The Tentative Order requires each municipality to revise its General Plan in order to meet the requirements being imposed by the Regional Board. This requirement hamstrings the Copermittees' ability to control land use decisions on a day-to-day basis and represents an unlawful infringement of the local land use authority that is reserved for municipalities under the CWA, the California Constitution and state law. (*Laguna Niguel, County of Orange, Laguna Hills, Dana Point, Lake Forest, Laguna Woods, Construction Industry Coalition on Water Quality*)

Response: The SDRWQCB has the legal authority to require the Copermittees General Plans to include considerations of the water quality impacts caused by urban runoff. Under Federal NRDES regulation 40 CFR 122.26(d)(2)(iv)(A)(2) provides that Copermittees develop and implement a proposed management program which is to include "a description of planning procedures including a comprehensive master plan to develop, implement, and enforce controls to reduce the discharge of pollutants from municipal separate storm sewers which receive discharges from areas of new development and significant redevelopment. Such plan shall address controls to reduce pollutants in discharges from municipal separate storm sewers after construction in completed." USEPA finds that the Copermittees "must thoroughly describe how the municipality's comprehensive plan is compatible with the storm water regulations". To achieve this, the Copermittee shall incorporate water quality and watershed protection principles and policies into its General Plan (or equivalent plan). USEPA also supports addressing urban runoff problems in General Plans (or equivalent) when it states "Runoff problems can be addressed efficiently with sound planning procedures. Master Plans, Comprehensive Plans, and zoning ordinances can promote improved water quality by guiding the growth of a community away from sensitive areas and by restricting certain types of growth (industrial, for example) to areas that can support it without compromising water quality". While the SDRWQCB has the legal authority to require the Copermittees' General Plans to include considerations of the water quality impacts caused by urban runoff, the Tentative Order gives the Copermittees discretion in determining the contents of their General Plans. The Tentative Order includes only examples of principles and policies to be considered and not specific requirements. The Copermittees will be allowed to develop their own work plan and time schedule for any changes to their General Plans they find necessary.

Finally, it should be noted that in it's draft Order on the petition by the Building Industry Association and Western States Petroleum Association for the review of Order No. 2001-01, in which this issue was prominently raised, the SWRCB has thus far declined to respond to this issue.

Section F.1

Comment: Application of the SUSMPs to Non-Discretionary Approvals Could Create Practical Problems. The Board Staff may not appreciate the practical difficulties presented by what appears to be a well intentioned attempt to apply the development approval process not only to projects subject to local discretionary approvals (“discretionary projects”), but also apparently to projects that have been processed to the point that they have already obtained all locally-required discretionary approvals (“non-discretionary projects”). Ordinarily, the authority of an official such as a Building Official, who issues building permits, would not extend to land use design decisions already approved by a planning commission or a city council. Therefore, it would appear that matters such as imposing a requirement to “minimize impervious cover” would not be within the authority of a building official at the building permit stage. Generally, developers pull building permits only after all other approvals have been received, and only for the lots they are going to build upon immediately. If the Regional Board intends the SUSMPs to apply to the issuance of building permits, after all other approvals have been received, this would put the local jurisdiction in the position of having to alter its development standards after development has been approved, for projects that had already achieved all required discretionary approvals when the SUSMPs were adopted, by requiring an official such as a building official to refer an application for building permits back to a planning commission or city council. The Cities suggest that it is entirely possible that a court might regard this last minute referral back to the start, or at least the middle, of the approval process as a compensable temporary taking based on needless bureaucratic re-referrals.

The Cities submit that the takings issues presented by the SUSMP have not been examined in prior SUSMP proceedings, and respectfully request that the Board carefully reconsider the SUSMPs, and that the matter be referred to Board Counsel.

Recommendation: Convert the SUSMP provisions into an option to be considered by Copermitees in the exercise of their discretion over land use matters, but do not make the adoption of SUSMPs mandatory. Focus the Permit on conditions which require the Co-permittees to reduce the discharge of pollutants to the maximum extent practicable. (*Lake Forest & Laguna Woods*)

Response: The SUSMP requirements apply only to discretionary and non-discretionary projects falling under the priority project categories after the adoption of the Tentative Order. A project's designation as a non-discretionary project does not ensure that it will not be a significant source of pollutants in urban runoff. The Copermitees are required to use the 18-month SUSMP implementation period to ensure that projects undergoing approval processes include application of the SUSMP requirements. However, if the Copermitees determine that lawful prior approval of a project exists, whereby the SUSMP requirements are not feasible, then the requirements need not apply.

In addition, the requirements to minimize impervious surfaces for all development projects (including SUSMPs) are where feasible as determined by the Copermitees.

Section: F.1

Comment: The proof of mechanism requirement to ensure long term structural BMP maintenance should be removed and is a unreasonable burden on project proponents since they have no control over the property once it is sold. (*Laguna Niguel, Construction Industry Coalition on Water Quality*)

Response: Proof of a mechanism for ongoing long term BMP maintenance can provided by either the project proponent or the Copermittee. If a Copermittee finds that it shall have difficulty ensuring maintenance, it can require proof of a mechanism of BMP maintenance from the project proponent. This does not mean that the project proponent must be responsible for the BMP maintenance in perpetuity, but rather will be responsible for providing a mechanism which will ensure BMP mainatance in perpetuity. Example from the LARWQCB SUSMP states in part:

"The Permittee shall require that the applicant provide verification of mainatance provisions through such means as may be appropriate, including, but not limited to legal agreements, covenents, CEQA mitigation requirements and/or Conditional Use Permits....."

Section F.1

Comment: Watershed Planning Appears to be Subordinate to the Project-Oriented SUSMP Requirements. The subordinate role ascribed to watershed planning seems to be inconsistent with the emphasis in the State NPS Plan on community-based watershed planning within the framework of the three-tiered approach to water quality defined in the State NPS. If watershed planning is not recognized as a co-equal alternative to SUSMP BMP principles, it will not be possible to further the goal of changing the stormwater approach from the conventional conveyance approach to a more natural approach that is articulated in Finding 33 of the Regional Board's Tentative Order. (*Rancho Mission Viejo*)

Response: The Tentative Order is not inconsistent with the Plan for California's Nonpoint Source Pollution Control Program. Watershed planning is supported in section J.2.g of the Tentative Order. The SUSMP requirements are applicable to new development and significant redevelopment, both of which present opportunities for new approaches such as watershed based planning. Watershed based planning and the SUSMP requirements of the Tentative Order are not mutually exclusive. Moreover, the SUSMP requirements are consistent with Finding 33 and watershed planning in that the intent of these requirements is to preserve and restore the natural hydrologic cycle. This is a departure from the conventional conveyance approach and can be fully supported by watershed level planning. It should be noted that because the development of the Model SUSMP and Watershed Urban Runoff Management Program proceed within approximately the same time frame, the Copermittees have the opportunity and flexibility to coordinate the two activities and maximize the watershed level effectiveness of both.

Section F.1

Comment: Consistent with your requirements to assess and amend, as necessary, General Plans to include water quality provisions, we suggest requiring permittees to revise, if applicable, their Local Coastal Programs to include such water quality language, provisions, and watershed protection principles. (*California Coastal Commission*)

Response: The requirements in the Tentative Order to assess their General Plan, also gives the Copermittees the discretion and flexibility to assess their Local Coastal Programs as needed to include water quality protection principles.

Section F.1

Comment: Will the issue of water damage to downstream resources be addressed? I.e., erosion damage to non-renewable resources such as archaeology sites and endangered species habitats? (*County of Orange*)

Response: The Tentative Order requires that Copermitees ensure that discharges from priortiy devleopment and significant redevelopment catagories maintain or reduce pre-development downstream erosion and protect stream habitat.

Section F.1

Comment: Item F.1 of the Tentative Order requires the Permittees to take appropriate action “to reduce discharges of pollutants and runoff flows” from all phases of urban development to the maximum extent practicable. First, the Tentative Order should not apply standards and limitations applicable to discharges from MS4s to runoff from urban development that flows into the MS4s. See supra General Comments § VII; Comments on Finding No. 10. Second, it is not clear on what basis staff is purporting to have the Regional Board regulate “flows.” There does not appear to be any authority for application of the MEP standard to the reduction of “runoff flows.”

None of the authorities cited in the Technical Report appear to support such regulation. Further in this regard, the Regional Board staff has not provided any discussion of or support for its implicit contention that reducing such flows effectively reduces pollutants. Nor does it address the potential adverse impacts of reducing flows on the aquatic habitats supported by urban runoff and other storm water flows. Item F.1 therefore should be revised to delete the words “and runoff flows” from its text. (*County of Orange*)

Response: The appropriateness for regulating discharges into the MS4 is discussed elsewhere in this document.

Based on analyses conducted in the region by the copermitees as part of the Aliso Creek Watershed 205(j) study and the U.S. Army Corps of Engineers in Reconnaissance Reports for the Aliso and San Juan Creek Watersheds, a change in flow regime resulting from urban development has contributed to the degradation of aquatic and riparian habitat.

The SDRWQCB has the legal authority to regulate flows from new development. The SWRCB has upheld this legal authority in adopting its Order WQ 2000-11. The Final LARWQCB SUSMP, upheld by SWRCB Order WQ 2000-11, states “Post-development peak storm water runoff discharge rates shall not exceed the estimated pre-development rate for developments where the increased peak storm water discharge rate will result in increased potential for downstream erosion.”

The legal authority to regulate flows from new development is further explained in Issue 3 of Section V (Common Municipal Storm Water Permit Issues) of the Draft Fact Sheet/Technical Report for the Tentative Order, which states:

Federal NPDES regulation 40 CFR 122.44(d)(1) requires municipal storm water permits to include any requirements necessary to “[a]cheive water quality standards established under section 303 of the CWA, including State narrative criteria for water quality.” The term “water quality standards” in this context refers to a water body’s beneficial uses and the water quality objectives necessary to protect those beneficial uses. The negative impact of urban runoff flow on the beneficial uses of receiving waters has been widely documented. Increases in flows from impervious surfaces associated with

urbanization can result in (1) increases in the number of bankfull events and increased peak flow rates; (2) sedimentation and increased sediment transport; (3) frequent flooding; (4) stream bed scouring and habitat degradation; (5) shoreline erosion and stream bank widening; (6) decreased baseflow; (7) loss of fish populations and loss of sensitive aquatic species; (8) aesthetic degradation; and (9) changes in stream morphology (USEPA, 1999a). USEPA finds that the level of imperviousness resulting from urbanization is strongly correlated with the water quality impairment of nearby receiving waters (USEPA, 1999b). USEPA further attributes much of this water quality impairment to changes in flow conditions from urbanization, stating “[I]n many cases, the impacts on receiving streams due to high storm water flow rates or volumes can be more significant than those attributable to the contaminants found in storm water discharges” (USEPA, 1999a). Therefore, in order to protect the beneficial uses and water quality objectives of waters receiving urban runoff flows (as required by 40 CFR 122.44(d)(1)), the SDRWQCB has under certain circumstances placed limits on urban runoff flows in the tentative permit.

In addition, the authority of states to regulate flow in order to protect water quality standards has been addressed by the U.S. Supreme Court in *PUD No. 1 v. Washington Department of Ecology*, 511 U.S. 700 (1994). In this case the U.S. Supreme Court found that the Clean Water Act applies to water quantity as well as water quality, stating “[p]etitioners also assert more generally that the Clean Water Act is only concerned with water ‘quality’ and does not allow the regulation of water ‘quantity.’ This is an artificial distinction. In many cases, water quantity is closely related to water quality.” The U.S. Supreme court goes on to refer to the Clean Water Act’s definition of pollution (“the man-made or man induced alteration of the chemical, physical, biological, and radiological integrity of water” 33 U.S.C. 1362(19)) and states “[t]his broad conception of pollution – one which expressly evinces Congress’ concern with the physical and biological integrity of water – refutes petitioners’ assertion that the Act draws a sharp distinction between the regulation of water ‘quantity’ and water ‘quality.’” In this context, the U.S. Supreme Court held that the state’s regulation of flow was “a limitation necessary to enforce the designated use of the River as a fish habitat.” Finally, it was held that the state’s regulation of flow was “a proper application of the state and federal antidegradation regulations, as it ensures that an ‘existing instream water use’ will be ‘maintained and protected.’ 40 CFR 131.12(a)(1) (1992).

Section: F.1

Comment: What if the groundwater protection policies in the Tentative Order are not appropriate for some developments and situations? Infiltration and groundwater protection is beyond the authority and control of the co-permittees and is an inappropriate Order requirement. The use of infiltration structural treatment BMPs to meet the requirements of the SUSMP are made in a good faith effort to remove contaminants from surface runoff and prevent ground water contamination, however there can be no guarantees that the use of these infiltration BMPs will not lead to an exceedance of groundwater water quality objectives. (*San Juan Capistrano, County of Orange, Laguna Hills, Rancho Mission Viejo, Construction Industry Coalition on Water*)

Response: Focusing large amounts of water into a small area has the potential to impact groundwater and the restrictions for structural BMPs used to infiltrate runoff were based on USEPA guidance. The Tentative Order allows the Copermittees the discretion to develop alternatives to these restrictions as the Copermittees find appropriate. However, if the Copermittees find that use of a infiltration structural BMP will cause an exceedance of groundwater quality objectives, then the BMP should not be used.

Section F.1 Subsection F.1.A

Comment: F.1.a. Assess General Plan: Requirements #5 and 8 are duplicative, as one would have to calculate pollutant loading in order to determine whether a water quality objective is exceeded. Delete requirement #5. (*Rancho Mission Viejo*)

Response: Items 1-8 in Provision F.1.a are examples of water quality and watershed protection principles and policies to be considered by each copermitttee when reviewing and updating its General Plan. Each copermitttee has discretion on using the specified examples.

Section F.1 Subsection F.1.A

Comment: Item 8 is an example of a water quality based effluent limit (WQBEL) requirement and is without legal standing and merit (see General Issues section (page 31) for detailed analysis). (*Construction Industry Coalition on Water Quality*)

Response: The copermitttees have discretion on determining the contents of their General Plans. The noted item is an example of something that the Copermitttees should consider when reviewing and updating General Plans.

Section F.1 Subsection F.1.A

Comment: Item 7 attempts to regulate traffic resulting from development. This is another example of the regional board's attempt to supercede local land use control. Traffic considerations, as well as water quality and environmental concerns are already addressed through the CEQA process and are unnecessary, and in fact illegal, in this Permit. (*Construction Industry Coalition on Water Quality*)

Response: The Copermitttees have discretion on determining the contents of their General Plans. This sections contains examples which the Copermitttees may implement at their discretion. In reviewing and updating a General Plan, each copermitttee could consider the potential water quality impacts caused by vehicle pollutants by new development or redevelopment and amend the plan if reasonable considering all factors that go into a General Plan. Proximity of residences to job sites or availability of rapid transit are examples of how General Plan decisions could reduce pollutants caused by increased traffic resulting from new development.

Section F.1 Subsection F.1.A

Comment: F.1.a. Assess General Plan: The logic behind requirement #7 appears to be "less vehicles on the road equals less pollution." Please explain how a copermitttee would implement requirement #7 and document its effect on pollutant loads. (*Rancho Mission Viejo*)

Response: Items 1-8 in Provision F.1.a are examples of water quality and watershed protection principles and policies to be considered by each copermitttee when reviewing and updating its General Plan. Each copermitttee has discretion on using the specified examples.

In reviewing and updating a General Plan, it is suggested that each copermitttee consider the potential water quality impacts caused by vehicle pollutants by new development or redevelopment and amend the plan if reasonable considering all factors that go into a General Plan. Proximity of residences to

job sites or availability of rapid transit are examples of how General Plan decisions could reduce pollutants caused by increased traffic resulting from new development.

Section F.1 Subsection F.1.a.1

Comment: What is the actual amount of impervious surface that would be acceptable under the suggested general plan language to minimize impervious surfaces and direct connections? These General Plan polices would need to be implemented through the water quality ordinance or other specific zoning development standards. There is no threshold for maximum impervious surface in the Permit. The amount of impervious surface is typically related to the amount of open space or landscaping and varies between zoning districts and type of development. (*Laguna Niguel*)

Response: This item is an example of a watershed protection principle and policy to be considered for inclusion in the Copermittees General Plan. It is the left to the discretion of the Copermittee on whether to include the item and define the appropriate level of impervious.

Section F.1 Subsection F.1.a.6

Comment: What is meant by “Avoid development of areas that are particularly susceptible to erosion or sediment loss...”? As a General Plan policy, it seems that one would want to reduce the amount of area susceptible to erosion or sediment loss by making improvements, landscaping or developing consistent with BMPs. Otherwise the erosion and sediment continues to go unchecked. (*Laguna Niguel*)

Response: This item is an example of a watershed protection principle and policy to be considered for inclusion in the Copermittees General Plan. It is the left to the discretion of the Copermittee on whether to include the item and define what areas are susceptible to erosion or sediment loss.

Section F.1 Subsection F.1.a.7

Comment: How does the Copermittee have authority through its General Plan to reduce pollutants associated with vehicles? This seems to be within the jurisdiction of other state and federal agencies. In addition, the Congestion Management Plan does not focus on traffic reduction and is not an appropriate reference. The CMP focuses on mitigating traffic impact of new development by requiring detailed traffic studies and street and roadway improvements to accommodate existing and proposed traffic. (*Laguna Niguel*)

Response: This item is an example of a watershed protection principle and policy to be considered for inclusion in the Copermittees General Plan. While this problem can be partially addressed at the state level, through inspections and vehicle registration requirements, the Copermittees have the discretion to address this source of pollutants in the JURMP.

Section F.1 Subsection F.1.b

Comment: Item F.1.b requires the Permittees to ensure that all development will be in compliance with “all other applicable ordinances and requirements.” An NPDES permit cannot and should not be used as a vehicle to enforce legal obligations that are unrelated to the Copermittee’s storm water management program. Presumably, this is not what the Regional Board staff intended. Item F.1.b

should be revised to delete the reference to “all other applicable ordinances and requirements.”
(*County of Orange*)

Response: As discussed in Finding 18, incorporating post-construction BMPs into new development and redevelopment during project planning and approval is an effective means for controlling pollutants in urban runoff. US EPA finds review of development plans during the project approval process necessary, stating: “Proposed storm water management programs should include planning procedures for both during and after construction to implement control measures to ensure that pollution is reduced to the maximum extent practicable in areas of new development and redevelopment. Design criteria and performance standards may be used to assist in meeting this objective. Further, storm water management program goals should be reviewed during planning processes that guide development to appropriate locations and steer intensive land uses away from sensitive environmental areas. [...] A municipality should describe how it plans to implement the proposed standards (e.g., through an ordinance requiring approval of storm water management programs, a review and approval process, and adequate enforcement.

Furthermore, in its Phase II Final Rule, US EPA requires small municipalities to “Use an ordinance or other regulatory mechanism to address post-construction runoff from new development and redevelopment projects [...]” (1999). Due to the greater water quality concerns generally experienced by larger municipalities, Phase II Final Rule requirements for small municipalities are also applicable to larger municipalities such as the Copermittees.

Section F.1 Subsection F.1.b

Comment: Pages 14 - 17 Modify Development Project Approval Processes It appears that the provisions of this Permit apply to all development projects. This includes the issuance of everything including simple building permits for room additions and accessory structures, such as swimming pools and patios. What type (criteria - size, land use, etc..) of project approval and issuance of local permits is included under this requirement to add conditions of approval for BMP? Cities issue all types of project approvals and issuance of permits. Example - would these requirements be applicable to the project approval of a Variance/Coastal Development Permit for a custom single-family home on a flat pre-graded lot. If so, does the simple fact that a project requires a discretionary permit (variance request) versus ministerial permit (building permit for a custom single-family home) justify applying a different level of review and standard? Does a Copermittee have a discretion under the permit to decide which projects to apply these requirements? (*Laguna Niguel*)

Response: The requirements of this section are basic requirements which should be met by all development projects. However, these requirements are broad and flexible to give discretion to the Copermittees. An example is that source control BMPs are required for all "applicable" projects as determined by the Copermittees.

Section F.1 Subsection F.1.b

Comment: Worse, they might require developers to create places that would serve as breeding grounds for vectors, including mosquitoes carrying the West Nile and other viruses. I am sure that you would agree, it is important in working to solve one environmental problem that we not create new ones. (*Lake Forest*)

Response: The implementation of certain structural BMPs or other urban runoff treatment systems can result in significant vector problems in the form of increased breeding or harborage habitat for mosquitoes, rodents or other potentially disease transmitting organisms. The implementation of BMPs that retain water may provide breeding habitat for a variety of mosquito species, some of which have the potential to transmit diseases such as Western Equine Encephalitis, St. Louis Encephalomyelitis, and malaria. Recent BMP implementation studies by CALTRANS in District 7 and District 11 have demonstrated mosquito breeding associated with some types of BMPs. The CALTRANS BMP Retrofit Pilot study cited lack of maintenance and improper design as factors contributing to mosquito production. However, a Watershed Protection Techniques article describes management techniques to select, design and maintain structural treatment BMPs for urban runoff to minimize mosquito production. State and local urban runoff management programs that include structural BMPs with the potential to retain water have been implemented in Florida and the Chesapeake Bay region without resulting in significant public health threats from mosquitoes or other vectors. The finding identifies the potential vector issues related to BMP implementation and the role of collaborative program development between municipalities and vector control agencies in addressing and minimizing vector production in the implementation of the Jurisdictional Urban Runoff Management Program.

Section F.1 Subsection F.1.b

Comment: May we modify the priority development project categories to match our priorities? (*Mission Viejo*)

Response: The Tentative Order allows Copermittees to add project categories to meet their priorities. The 10 priority project categories listed in the Tentative Order could not be removed.

Section F.1 Subsection F.1.b

Comment: Eric Becker said permit partially based on State Board WQ 2000-11. Do you mean the order or the Dec. 26, 2000 Craig Wilson memo? (*Richard Watson and Associates*)

Response: Both SWRCB WQ 2000-11 and the December 26, 2000 memorandum from Craig Wilson were considered during the development of the Tentative Order.

Section F.1 Subsection F.1.b.1

Comment: Item F.1.b(1) requires each Copermittee to include development project requirements in local permits to ensure that "receiving water quality objectives are not violated throughout the life of the project." Here again, the Tentative Order would impose limitations applicable to discharges from the MS4 to runoff from development projects into the MS4. The RWLs should be set forth in Item C of the Tentative Order and not repeated in other sections relevant to Permittee programs which are designed to meet the Item C RWLs.

JURMP Item F.1.b.(1) also requires the Permittees to ensure that all development will be in compliance with Copermittee storm water ordinances, local permits, all other applicable ordinances and requirements, and this Tentative Order." It is not clear how the Permittees can require "all development" to be in compliance with "this Tentative Order." Private developers are not dischargers

subject to the terms and conditions of “this Tentative Order.” Item F.1.b(1) of Tentative Order should be revised to delete the reference to “this Tentative Order.” (*County of Orange*)

Response: The Findings in the Tentative Order provide a clear link between runoff from development and the exceedence of receiving water quality objectives. The Tentative Order requires the Copermittees ensure that all development projects (not just priority development projects) reduce pollutant discharges and runoff flows to MEP.

Section F.1 Subsection F.1.b.1

Comment: The Provisions of F.I.b.(1)(b), page 14, Requiring Developers to “minimize impervious land coverage for all development projects” could be Argued to Violate the “Takings Clause” of the U.S. Constitution. (*Dana Point, Lake Forest, Laguna Woods*)

Response: The Regional Board has authority to require municipalities to exercise local planning and permitting authority in a manner that will reduce discharges of pollutants in MS4 to MEP in a manner consistent with state and regional water quality control plans and policies. Discharges of pollutants from development and other activities pursuant to municipalities' planning and subject to local permitting constitute a significant source of pollutants discharged to MS4. It is practicable for municipalities to exercise their authority over development projects and other regulated activities in a manner that will implement BMPs to control urabn runoff that does not represent a "Takings". In addition, the provision only requires the site design/landscape characteristics where it is feasible. If the Copermittees determines that such measures are not feasible, they need not require them.

Section F.1 Subsection F.1.b.1

Comment: Section F.I.b.(l) identities six (6) specific requirements that each Copermittee shall include in development project approvals. The imposition of development conditions is a discretionary act of city and county Planning Commissions and governing boards. The Regional Board has no regulatory authority over the content of development permits issued by municipalities, and may not prescribe the process by which development projects are approved. Sections F.I .b.(l)(a) through (f) should be eliminated, or offered only as examples for consideration by the Copermittees. (*Laguna Niguel*)

Response: The SDRWQCB has the authority to require Section F.1.b.1 of the Tentative Order under the broad and specific authority cited in the draft Fact Sheet/Techncial Report. The requirements in the section are broad and flexible to provide discretion to the Copermittees

Section F.1 Subsection F.1.b.1.c

Comment: Section F.I.b(l)(c) refers to “lighting restrictions” related to buffer zones. Please explain what lighting restrictions have to do with water quality. This reference should be eliminated. (*Laguna Niguel*)

Response: The reference in the project approval requirements to lighting restrictions in areas where buffer zones are infeasible is included because lighting infrastructure requires maintenance, roads, related equipment, easements, etc that may have associated water quality impacts.

Section F.1 Subsection F.1.b.2

Comment: Environmentally Sensitive Areas should be removed as a priority development category from the Tentative Order for the reasons it was overturned by SWRCB Order No. 2000-11 on appeal of the LA SUSMP. (*San Juan Capistrano, Richard Watson and Associates, Aliso Viejo, Laguna Hills, Construction Industry Coalition on Water Quality*)

Response: The SWRCB removed the Environmentally Sensitive Areas (ESAs) category from the LA SUSMP due to its poor definition, lack of a size threshold, extensively regulated, and is a location category, not a development category. However, SWRCB allowed for this category to be considered in future permits. In the Tentative Order, the ESA category is clearly defined as development which has the potential to impact ESAs and given specific size thresholds. The category only applies to development within or adjacent to the four specific types identified in the Tentative Order and gives the Copermittees discretion to define additional ESAs. The Tentative Order has been revised to include only areas that are designated as preserves or equivalent in the Natural Community Conservation Planning Program. Although ESA may be regulated by other agencies, this regulation does not necessary relate to water quality and urban runoff. This development category was included in the SD Municipal Permit No. 2001-01 that received extensive public comments.

Section F.1 Subsection F.1.b.2

Comment: Section F.1.b(2)(a), Item ix, page 16: This item should be clarified to indicate that only those roadways within the Copermittee's jurisdiction are subject to the SUSMP requirement of this Order, For example, on a CALTRANS highway project within the City's limits, the City cannot impose this SUSMP requirement because it has no jurisdiction over CALTRANS activities within CALTR4NS right-of-way. (*San Clemente*)

Response: The streets, roads, highways, and freeways category of priority development category only applies to projects for which the Copermittees have approval authority. It is implied in the Tentative Order that Copermittees do not have to require SUSMP requirements on state highway and freeways that are regulated by a seperate stormwater permit. However, the Copermittees cannot passively receive pollutants from urban runoff from projects outside their control that have not been reduced to MEP. The Fact Sheet will be amended to clarify this issue.

Section F.1 Subsection F.1.b.2

Comment: Section F.1.b.2.a.viii lists "Parking lots 5000 square feet or more with 15 or more parking spaces and potentially exposed to urban runoff" as a category of concern. It is unclear why the San Diego RWQCB staff chose to decrease the threshold of 25 parking spaces used in the LA SUSMP to 15 parking spaces in this Permit. There is no justification given for lowering this threshold, therefore it should be changed to 25 parking spaces. (*Construction Industry Coalition on Water Quality*)

Response: The change to 15 parking spaces was based on public comments during adoption of the San Diego Municipal Stormwater Permit. The comments indicated that a 5,000 square feet parking lot corresponds more closely to 15 parking spaces than 25 spaces.

Section F.1 Subsection F.1.b.2

Comment: Would the Regional Board please clarify that the "streets, roads, highways, and freeways" priority development project category does not include state highways and freeways that are regulated under a separate NPDES permit issued by the State Board. (*San Juan Capistrano*)

Response: The streets, roads, highways, and freeways category of priority development category only applies to projects for which the Copermittees have approval authority. It is implied in the Tentative Order that Copermittees do not have to require SUSMP requirements on state highway and freeways that are regulated by a separate stormwater permit. However, the Copermittees cannot passively receive pollutants from urban runoff from projects outside their control that have not been reduced to MEP. The Fact Sheet will be amended to clarify this issue.

Section F.1 Subsection F.1.b.2

Comment: The Application of Standard Urban Storm Water Mitigation Plans ("SUSMPs") to non-discretionary, or ministerial, approvals could be said to violate the "Takings Clause." Not only are the SUSMPs (Part F.1.b.(2)., p. 15), to be applied to the copermittees discretionary land use decisions, apparently the Tentative Order contemplates that the copermittees will apply the SUSMPs to non-discretionary, or ministerial decisions [footnote 4: Finding on page 13, in the last sentence provides, "For water quality purposes, the Regional Board considers that all new development and significant redevelopment activity in specified categories that receive approval or a permit from a local government are subject to storm water mitigation measures.]

Consider another example: a property owner already has satisfied all requirements for discretionary approvals for construction of homes in a 100-home subdivision, through the approval of a "vesting tentative map" [footnote 5: A vesting tentative map, if granted, will confer a vested right to proceed with the development in accordance with ordinances, policies, and standards in effect at the time the application for approval of the vesting tentative map is complete. California Gov't Code § 66498.1; see *Kaufman & Broad Central Valley, Inc. v. City of Modesto*, 25 Cal.App.4th 1577 (1994)] and now seeks to pull building permits for construction of a last phase of 10 homes on contiguous lots. Absent the SUSMP, a City, typically through its Building Official, would be required to issue the building permits if the Building Official determines that the permit application meets fixed, defined requirements, e.g., single family residences on lots zoned for single family. Imposition of a new requirement, to "minimize impervious cover" for the last ten single family homes in the development, conceivably by leaving nine lots undisturbed, and placing all ten homes on one one-acre lot, could be argued to be a "taking" of private property (the nine lots which now must be left undisturbed), for public use without just compensation. It is one thing to condition the issuance of a building permit on adherence to a new building code requirement. It is another thing altogether to require a landowner to leave nine out of ten lots undisturbed, in order to 'minimize impervious cover.'" (*Lake Forest & Laguna Woods*)

Response: The SUSMP requirements apply only to discretionary and non-discretionary projects falling under the priority project categories after the adoption of the Tentative Order. The Copermittees are required to use the 18-month SUSMP implementation period to ensure that projects undergoing approval processes include application of the SUSMP requirements. However, if the Copermittees determine that lawful prior approval of a project exists, whereby the SUSMP requirements are not feasible, then the requirements need not apply.

In addition, the requirements to minimize impervious surfaces for all development projects (including SUSMPs) are where feasible as determined by the Copermittees.

Section F.1 Subsection F.1.b.2

Comment: Even assuming one percent is the correct amount, the actual, absolute value of the investment incurred before the SUSMP has the potential to result in any meaningful water quality improvement is likely to be very high. Estimates for the San Diego region, assuming 20 years of SUSMP-type construction adding a one percent increment to each new development, were on the order of one to two billion dollars. (*Construction Industry Coalition on Water Quality*)

Response: The intent of SUSMP requirements is to implement developmental control on new development and significant redevelopment to ensure that urban runoff problem does not get worse. USEPA states in the preamble to the Phase II regulations, that "minimum measures identified for small MS4s should significantly reduce pollutants in urban storm water compared to existing levels in a cost effective manner". Since the smaller communities covered the Phase II regulations will realize these benefits, it is reasonable to assume that these same benefits will be realized by the larger communities covered by Phase I regulations and the Tentative Order. In addition, SWRCB found in Order No. 2000-11 that a one percent of total development costs was reasonable especially considering the costs of impairment (e.g. beach closure).

Section F.1 Subsection F.1.b.2

Comment: How is the phrase "or increases the area of imperviousness of a proposed project site to 10% or more of its naturally occurring conditions" to be interpreted for redevelopment of a previously developed site? (*San Juan Capistrano*)

Response: If the redevelopment project results in the increase of impervious area of a project site to 10% or more of the naturally occurring conditions (predevelopment), then SUSMP requirements apply. If the existing previously developed site has more than 10% impervious area, then the 2,500 square foot criteria applies.

Section F.1 Subsection F.1.b.2

Comment: The Regional Board Should Not Impose The Standard Urban Storm Water Mitigation Plan Designed By And For The Los Angeles County Permittees. Item F.1.b(2) of the Tentative Order requires the Permittees to collectively develop a model Standard Urban Storm Water Mitigation Plan ("SUSMP") for new development and significant redevelopment, and then to each adopt their own local SUSMP. The SUSMP provision, comprising six full pages of the Tentative Order, includes prescriptive, detailed requirements for BMPs, numeric sizing criteria, infiltration and groundwater protection, and downstream erosion. Moreover, the SUSMP requirements were not developed with regional considerations in mind. Rather, they were taken almost verbatim from the SUSMP developed for the Los Angeles County MS4 permit ("LA County Permit"). Thus, contrary to the guidance provided by Congress and EPA, the SUSMP requirements in the Tentative Order are not flexible nor are they site-specific.

Furthermore, contrary to staff's apparent understanding, the State Board has not mandated SUSMPs in MS4 permits. In Order WQ 2000-11, the State Board concluded that the SUSMPs contained in the LA County Permit, as revised by the Order, were consistent with MEP (Order, p. 15) and that the "Final SUSMPs reflect a reasonable interpretation of development controls that achieve reduction of pollutants in storm water discharges to the maximum extent practicable." (Order, p. 28.) As noted above, the CWA requires MS4 permit applicants to propose certain management programs. These

include “[a] description of planning procedures including a comprehensive master plan to develop, implement and enforce controls to reduce the discharge of pollutants from [MS4s], which receive discharges from areas of new development and significant redevelopment. 40 C.F.R. §122.26(d)(2)(iv)(A)(2). The State Board in WQ 2000-11 merely determined that the SUSMP included in the LA County Permit (as proposed by the permittees and modified by the Regional Board and the State Board) met this requirement for the Los Angeles MS4 permittees.

However, the State Board did not say that this was the only way to satisfy such requirements. In other words, while the LA County SUSMP meets the MEP standard, it is not the only way to meet the MEP standard. “EPA has intentionally not provided a precise definition of MEP to allow maximum flexibility in MS4 permitting. MS4s need the flexibility to optimize reductions in storm water pollutants on a location-by-location basis.” 64 Fed. Reg. 68722 (Dec. 8, 1999). Thus, consistent with the need for flexibility in municipal storm water permitting, MS4 permittees should have the flexibility to develop programs for new development and significant redevelopment that are designed to meet the needs of their own jurisdictions. Moreover, there is no reason to believe that the SUSMP requirements proposed in the Tentative Order will be any more effective in reducing the discharge of pollutants from new development and significant redevelopment than the current approach reflected in the 2000 DAMP. In fact, SUSMPs may be less effective in protecting overall water quality. Section 7.0 and Appendix G of the 2000 DAMP set forth the Permittees’ current approach for reducing the discharge of pollutants from new development and significant redevelopment. The general approach requires implementation of routine structural and non-structural BMPs at all new private development and significant redevelopment. “Special” structural BMPs are required at new developments and significant redevelopments to address specific water quality problems identified through the water quality monitoring program and water quality planning process. In other words, all development and significant redevelopment is subject to BMPs to reduce the discharge of pollutants; “priority” sites that present specific water quality problems are addressed with additional structural BMPs. Thus each site would be subject to appropriate BMPs. The SUSMP approach would require the Permittees to focus solely on priority sites, to the exclusion of all other sites that may be contributing to water quality impairment. The Permittees should, accordingly, be allowed to continue addressing discharges from new development and significant redevelopment through implementation of the 2000 DAMP rather than SUSMPs. (*County of Orange*)

Response: The SUSMPs requirements are necessary, reasonable, will be effective in improving water quality, and will prevent the current situation from getting worse. This is a third term permit and the Copermittees are expected to build upon and improve on the requirements of the first and second term. This in line with USEPA guidance that states that BMPs should be expanded and better tailored in subsequent permits to attain water quality standards. The proposed DAMP represents the status quo and contains essentially the same requirements for new development/significant redevelopment that were developed during the first term. The program proposed in the DAMP could be modified to comply with Tentative Order including development of a comprehensive structural BMP list and numeric sizing criteria for these BMPs. The new development and redevelopment section of the proposed DAMP does not include many measures as noted in Appendix 5 of the Draft Fact Sheet/Technical Report.

Section F.1 Subsection F.1.b.2

Comment: The Definition of "Redevelopment" in the Tentative Order is Inconsistent with the Controlling EPA Definition of "Redevelopment." In PART F. 1 .b.(2)(a). on page 15, "Significant redevelopment" is defined to mean "the creation or addition of at least 5,000 square feet of impervious surfaces area on an already developed site." The definition further provides that "Significant redevelopment" includes exterior remodeling. These aspects of the definition of "Redevelopment"

conflict with the EPA's definition of the term. In promulgating the Phase II final rules, EPA stated EPA intends the term "redevelopment" to refer to alterations of a property that change the "footprint" of a site or building in such a way that results in the disturbance of equal to or greater than 1 acre of land. The term is not intended to include such activities as exterior remodeling, which would not be expected to cause adverse storm water quality impacts and offer no new opportunity for storm water controls.64 Fed.Reg. 68760,

December 8, 1999. The Cities are aware of no evidence to support the use of a 5,000 square foot, rather than EPA's one acre, threshold, or to apply the re-development requirements to remodeling. Similarly, the Cities are aware of no authority for the proposition that the EPA's one acre threshold, or exemption for remodeling, are not binding for purposes of this Order.

Recommendation: The definition of "Significant redevelopment" should be changed to alterations of a property that change the "footprint" of a site or building in such a way that results in the disturbance of equal to or greater than 1 acre of land. The term is not intended to include such activities as exterior remodeling, which would not be expected to cause adverse storm water quality impacts and offer no new opportunity for storm water controls. (*Lake Forest & Laguna Woods*)

Response: The SDRWQCB does have the authority to include more specific requirements than those stated in the federal NPDES regulations. When relating specifically to storm water, Clean Water Act section 402(p)(3)(B)(iii) clearly provides states with wide-ranging discretion, stating that municipal storm water permits "[s]hall require controls to reduce the discharge of pollutants to the maximum extent practicable, including management practices, control techniques and system, design and engineering methods, and such other provisions as the Administrator or the State determines appropriate for the control of such pollutants." Please refer to item 4 in section V of the Fact Sheet/Technical Report (Common Municipal Storm Water Permit Issues) for a further discussion of whether the SDRWQCB can include in the Tentative Order more specific requirements than those stated in the federal NPDES regulations. The 5,000 square feet requirement for redevelopment was developed during the LA municipal storm water permit process. This threshold was upheld on appeal by SWRCB Order No. 2000-11 and SWRCB defined redevelopment subject to SUSMP requirements if it results in the creation or addition of 5,000 square feet of impervious surfaces. If a redevelopment project involves exterior remodeling that adds 5,000 square feet of impervious surface, then SUSMP apply to the remodeling. If the remodel results in an increase in more than fifty percent of the impervious surface of the existing development, then SUSMP apply to the whole development.

Section F.1 Subsection F.1.b.2

Comment: Priority project categories that fall under SUSMP: a project that could impact environmentally sensitive areas and which increases the area of imperviousness of a proposed project site to 10% or more of it naturally occurring condition. Where in the permit is "naturally occurring condition" defined? (*Aliso Viejo*)

Response: Naturally occurring condition is defined as predevelopment condition.

Section F.1 Subsection F.1.b.2

Comment: Item F.1.b(2), with minor changes, the Regional Board staff has essentially cut and pasted the SUSMP developed pursuant to the Los Angeles County NPDES permit into the Tentative Order for the County, thereby imposing a storm water management program designed for new development in Los Angeles County on new development in Orange County. The Tentative Order

would ignore the unique circumstances of the County and its municipalities. As discussed in detail above, this cut and paste approach to municipal storm water permitting is inconsistent with policies established by Congress and EPA in the CWA and its implementing regulations which emphasize flexibility and site specific, case-by-case determinations for each permit. See supra General Comments § V. Even the Los Angeles Regional Board, where the SUSMP originated, has now recognized that the SUSMP may not be appropriate for everyone. The current draft of the LA County MS4 permit allows a Permittee or Permittee group to substitute a regional or sub-regional storm water mitigation program for the SUSMP. See Los Angeles Regional Water Quality Control Board, Order No. 01-XXX (NPDES No. CAS001001) (Second Draft, June 29, 2001), Part 4, Section D.10. The Tentative Order should, accordingly, be revised to delete the mandatory SUSMP requirements and, instead, build on the new development programs included in the 2000 DAMP. See supra General Comments § IV. (*County of Orange*)

Response: The new development and redevelopment section of the proposed DAMP does not include many of the important provisions of the Tentative Order as indicated in Appendix 5 of the Draft Fact Sheet/Technical Report. The Tentative Order provides minimum requirements for new development and significant redevelopment (including SUSMPs) that must be met and a framework for the Copermittees to work within. However, the Tentative Order does not preclude the Copermittees from using their DAMP to develop a program that meets or exceed these requirements.

Section F.1 Subsection F.1.b.2

Comment: Section F. 1 .b.(2): The Tentative Order defines environmentally sensitive areas as including “areas in the Natural Community Conservation Planning Program.” The Southern Subregion NCCP includes the communities of Mission Viejo, San Juan Capistrano, Rancho Santa Margarita, Coto de Caza and others. According to the definition, all urban and non-urban land uses with the subregion would be “environmentally sensitive areas”, when significant portions of the subregion are plainly not environmentally sensitive. A more appropriate definition of environmentally sensitive areas in an NCCP context would be the areas designated as reserves. This would also be consistent with the San Diego County permit. (*Rancho Mission Viejo*)

Response: The section F.1.b.2.a.vii of the Tentative Order has been changed to include only areas designated as preserves or equivalent under the NCCP Program.

Section F.1 Subsection F.1.b.2

Comment: The requirement in the new permit is to require post development to maintain predevelopment flow discharges and velocities. What storm event is this referring to? Is it 2yr, 5yr or other? (*County of Orange*)

Response: The Tentative Order does not specify a predevelopment storm event, but instead leaves establishment of such an event standard to the discretion of the Copermittees.

Section F.1 Subsection F.1.b.2

Comment: Section F.1.b(2)(a), Items i and ii, page 15: These two items together effectively require home subdivisions of 10 or more units to be subject to SUSMP requirements. Is there a specific reason that the “home subdivisions” category has been subdivided, or can these two items be combined? (*San Clemente*)

Response: Please see latest Tentative Order. The two categories will be combined into one.

Section F.1 Subsection F.1.b.2

Comment: Section F. 1 .b.(2): The Tentative Order defines the applicability of the SUSMP requirements as applying to “all priority projects or phases of priority projects that have not yet begun grading or construction activities.” RMV is currently constructing the planned community of Ladera Ranch. The entire site has been graded and residents are living in the first phase. RMV therefore views Ladera Ranch as vested under the language cited above. (*Rancho Mission Viejo*)

Response: Comment noted.

Section F.1 Subsection F.1.b.2

Comment: This Section requires that a SUSMP be implemented for the listed categories of development. We object to the Permit’s “one size fits all” approach to implementation of the SUSMP. Lumping all of these development categories into the same regulatory program ignores obvious thresholds that would result in development and regulatory savings without compromising the efficacy of the program. Although it might be appropriate to focus on certain categories of development for addressing water quality concerns, the selection of these categories should be based on tangible scientific data that determines these categories to be of higher concern or requiring additional attention than other development categories. It is not clear why residential development is even included as a priority development category when the water quality data collected to date has not shown residential land use to be of a high concern. Furthermore, even if residential development is included as a priority development, there is no reason why it should have a lower threshold (10 housing units) than industrial/commercial development (100,000 square feet) when the water quality data (Los Angeles County Flood Control District 1994-2000 Integrated Receiving Water Impacts Report) has not shown residential land use to be of higher concern. Also, the inclusion of residential development, as a category in the SUSMP, with a threshold of 10 housing units, is helping to prevent “smart growth” by creating a disincentive to high density, infill development that is needed to responsibly increase housing supply and affordability in urban, job rich areas. With the existing housing and affordability crisis, low or moderate-income housing should be exempt from these requirements anyway. (*Construction Industry Coalition on Water Quality*)

Response: The Tentative Order including SUSMPs provides a minimum framework for Copermittees to work within, but gives them broad discretion in determining what BMPs are appropriate at all developments (not only SUSMP). The priority development categories included in the Tentative Order will result in either a large increase in impervious area or are potential significant sources of pollutants and therefore are subject to SUSMP requirements. All of the categories were included in the SD Municipal Storm Water Permit Order No. 2001-01 and no information provided supports their removal from the Orange County permit. In contrast to comment, the Tentative Order does include specific thresholds for application of SUSMPs to prevent insignificant projects from having these requirements. The fact that a project is low or moderate income does not mean that it is less of a water quality threat than a similar more expensive project.

Section F.1 Subsection F.1.b.2

Comment: The Waste Discharge Requirements are a great step towards the mitigation of nonpoint source pollution and urban runoff, and towards the eventual restoration of the ecological integrity of our coastal waters. The inclusion of retail gasoline outlets, environmentally sensitive areas, and roads and highways to the development projects necessitating permits is critically important. Moreover, we support the incorporation of both flow-based and volume-based calculations of storm events. (*California Coastal Commission*)

Response: Comment noted.

Section F.1 Subsection F.1.b.2

Comment: We encourage the San Diego Regional Water Quality Control Board to continue to look for ways to mitigate runoff from all development projects, including those that are exempt in this review. Just as we believe all developments, no matter how small, may contribute to urban runoff and nonpoint source pollution, we also believe there are common sense, simple means of reducing runoff from small developments, such as the development projects of fewer than ten unit homes, less than 100,000 square feet industrial/commercial development, and parking lots of less than 5,000 square feet or 25 parking spaces. Moreover, the Coastal Commission would encourage you to periodically assess the cumulative impact of development not currently covered under the permit. (*California Coastal Commission*)

Response: Comment noted. The assessment of the cumulative impact resulting from discharges from development not currently covered under the permit is implicitly required throughout the Jurisdictional Urban Runoff Management Program (JURMP) and the assessment of effectiveness component of the JURMP Annual Reports.

Section F.1 Subsection F.1.b.2

Comment: In light of these issues, we suggest that the 10-99 housing units and the 100 housing units or more categories be combined with the commercial category to read, "A commercial or residential development with 100,000 or more square feet of directly connected impervious area which is not considered low or moderate income housing." Directly connected impervious area can be defined as follows: "the area covered by a building, impermeable pavement, and/or other impervious surfaces, which drains directly into the storm drain without first flowing across permeable land area (e.g. lawns)." It is clear throughout this Proposed Permit that the Regional Board is trying to promote natural drainage and less impervious area. This proposed category definition provides the incentive to help promote this approach. (*Construction Industry Coalition on Water Quality*)

Response: Sections F.1.b.2.a.i and F.1.b.2.a.ii will be combined into one home subdivision category and will remain separate from the criteria for commercial developments. Please see changes in Tentative Order.

Section F.1 Subsection F.1.b.2

Comment: Why doesn't the Regional Board specify the 80th percentile runoff event in the numeric sizing criteria since the 80th percentile runoff event is now considered by municipalities in the semi-arid southwest "as cost effective for stormwater quality management and is viewed as the design

event that achieves MEP..." (WEF Manual of Practices No. 23, page 174)? (*Richard Watson and Associates*)

Response: The 80th percentile reference is what size storm event the City of Denver has chosen to capture. This is not considered appropriate for the San Diego Region because using the 80th percentile storm event would ignore the point of diminishing returns. The 85th percentile storm event required in the Tentative Order represent the knee of the precipitation probability curve from which it is no longer cost effective to treat runoff. In addition, SWRCB Order No. WQ-2000-11 states that the 85th percentile storm event constitutes MEP.

Section F.1 Subsection F.1.b.2

Comment: The blanket application of the San Diego SUSMP requirements is inappropriate and poses some technical and regulatory difficulties for new development...We also submit that the permit should reflect the efforts taken to date and provide flexibility for the County to address the SUSMP requirements. With that in mind we recommend replacing the San Diego provision F. 1 .b.2 in its entirety and replacing it with the following [see letter for suggested replacements]. (*County of Orange*)

Response: The Tentative Order contains the framework of minimum requirements (Including SUSMPs) for the Copermittees to develop and implement urban runoff management programs. Within that framework, the Copermittees have significant discretion and flexibility with regard to the programs and the specific BMPs that are developed and implemented. The SUSMP requirements have been upheld by SWRCB in Order No. 2000-11. These requirements have also been adopted by the SDRWQCB in San Diego Municipal Storm Water Permit No. 2001-01 and represent what the Board considers MEP for the Region.

Section F.1 Subsection F.1.b.2.

Comment: The hillside development category should be deleted, as there have been no studies to justify its inclusion as a priority development category requiring SUSMP compliance. The pollutant loading from hillside developments are minimal when compared to other development categories. It is our belief that this category was originally placed as a priority planning category in the current Los Angeles Municipal Storm Water Permit due to the confusion between post-construction and construction phase. This development category is obviously of high concern during the construction phase due to the high potential for slope erosion, however the post-construction pollutant loading from these hillside developments is minimal when compared to other development categories due to slope stabilization being required in the State General Construction Permit prior to obtaining a Notice of Termination. It could also be structurally dangerous to divert roof runoff and surface flow to vegetated areas before discharge. One has to ask, "What are the benefits of implementing these requirements in comparison to the cost and potential risks involved?" Especially considering that a single-family hillside residence has not been shown to contribute substantially to water quality impairments. What is the purpose of this requirement, if it is not to address potential water quality impairment? Could it be to stop hillside development? (*Construction Industry Coalition on Water Quality*)

Response: The hillside development SUSMP priority category is necessary due to the high potential for erosion both on-site and downstream resulting from changes in the flow regime caused by this type of development. On-site and downstream erosion can be a significant source of pollutants and need structural treatment BMPs to prevent. The 5,000 square foot size threshold was

used in the Tentative Order is based on SWRCB guidance in Order 2000-11 and the SDRWQCB Order No. 2001-01.

Section F.1 Subsection F.1.b.2.a

Comment: Sub-paragraph “F. 1 .B. (2)” “Standard Urban Storm Water Mitigation Plan (SUSMPs)” in sub-paragraph (a). is overly prescriptive as to the application of these plans. In particular, sub-paragraph V regarding restaurants is so small in area that no restaurant facility could be created without the use of a SUSMP regardless of the location or type of facility being proposed. The restaurant limitation should be revised to where the land development is at least 20,000 sq. ft. (*Laguna Hills*)

Response: The 5,000 size threshold for restaurants that are subject to SUSMP requirements was defined in the LARWQCB SUSMP and upheld in SWRCB Order WQ 2000-11. In addition, this threshold was adopted in SDRWQCB Order No. 2001-01.

Section F.1 Subsection F.1.b.2.a

Comment: [Section F.1.B.2] Sub-paragraph VIII regarding parking lots is much too restrictive and inappropriate as there is not direct scientific linkage to the 5,000 square feet of a parking lot and adverse urban runoff. A parking lot of one acre or more in size should be the maximum criteria as being a reasonable size development that should be burdened with a SUSMP. Similarly, sub-paragraph IX inappropriately defines any road surface as having to comply with an SUSMP and is overly restrictive at 5,000 square feet. This requirement should be revised to match construction site limitations of 5 acres or more. (*Laguna Hills*)

Response: The 5,000 square foot size threshold was used in the Tentative Order is based on SWRCB guidance in Order 2000-11 and the SDRWQCB Order No. 2001-01. Streets, roads, highways, freeways, and parking lots are SUSMP priority development catagoreis due to their potential significant source of pollutants in urban runoff.

Section F.1 Subsection F.1.b.2.a

Comment: Section F.1.b.(2)(a) identifies ten (10) priority development project categories for new development and significant redevelopment. These specific project categories are not specifically found in the Clean Water Act, the applicable Federal Regulations, the Porter-Cologne Act, or EPA guidance documents. The Draft Fact Sheet/Technical Report provides no specific rationale for the selection of the priority project categories. Please provide additional information (i.e. scientific, empirical, other) for each of the priority project categories. Why is each project category a threat to water quality? What are the specific pollutants of concern associated with each project category? Why is there no category for new industrial uses? (*Laguna Niguel*)

Response: The SDRWQCB has the authority to include the priority development project categories Section F.1.b.2.a of the Tentative Order under the broad and specific authority cited in the draft fact sheet/technical report. As indicated in the draft fact sheet/technical report, the 10 priority development project categories either result in a large increase of impervious surfaces or are potential significant sources of pollutants. The inclusion of SUSMP priority development categories was upheld in SWRCB Order No. WQ 2000-11 and were included in the San Diego Municipal Storm Water Permit . All ten categories in the SDRWQCB Order No. 2001-01 are included in the Tentative Order and are

projects that will likely occur in Orange County. The Tentative Order requires the Copermittees to develop a procedure to identify the pollutants or conditions of concern for each development and significant project falling under the 10 priority categories. If a new industrial development or significant redevelopment projects falls under one of the 10 catagories listed in the Tentative Order, the SUSMP requirements apply.

Section F.1 Subsection F.1.b.2.a

Comment: Sections F.1.b.(2)(a)i and ii should be combined into one category to read as follows: ‘Home subdivisions of 10 housing units or more’. (*Laguna Niguel*)

Response: Sections F.1.b.2.a.i and F.1.b.2.a.ii of the Tentative Order will combined to be one priority development project category. Please see changes to Tentative Order.

Section F.1 Subsection F.1.b.2.a

Comment: [Section F.1.B.2] Sub-paragraph VI limiting hillside development to anything greater than 5,000 sq. ft. is an overly broad restriction and will create unnecessary development of a SUSMP for such facilities as an out building or barn and not a significant development. The size limitation should be revised to all hillside development greater than one acre in size. (*Laguna Hills*)

Response: The hillside development SUSMP priority category is necessary due to the high potential for erosion both on-site and downstream resulting from changes in the flow regime caused by this type of development. On-site and downstream erosion can be a significant source of pollutants and need structural treatment BMPs to prevent. The 5,000 square foot size threshold was used in the Tentative Order is based on SWRCB guidance in Order 2000-11 and the SDRWQCB Order No. 2001-01.

Section F.1 Subsection F.1.b.2.a

Comment: Retail establishments, including gasoline outlets, are not covered by the CWA MS4 regulations. Parts F.1.b.(2)(a).v and x on page 16 of the Tentative Order, would require each Co-permittee to apply the SUSMPs to commercial developments, including restaurants and Retail Gasoline Outlets. However, in the preamble to the promulgation of the Phase I regulations, the U.S. EPA stated that “EPA views gas stations as retail commercial facilities not covered by this regulation. It should be noted that SIC classifies gas stations as retail.” 55 Fed.Reg. 48013-14, Nov. 16,1990.

Recommendation: In view of EPA’s statement that gas stations, as they are retail facilities, are not covered by the Phase I regulations, Parts F.1.b.(2)(a).v. and x, on page 16 of the Tentative Order, should be revised to cite specific authority for the proposition that gas stations and restaurants may be covered by the Tentative Order, or Parts F.1.b..(2)(a).v. and x, on page 16 of the Tentative Order, should be deleted. (*Lake Forest & Laguna Woods*)

Response: In compliance with the Phase I section referred to by the comment, the Regional Board does not regulate retail gasoline outlets(RGOs) as industrial facilities that require separate industrial storm water permits. The Tentative Order considers RGOs to be commercial and are included in the SUSMP requirements due to their potential as a significant source of pollutants in urban runoff.

Section F.1 Subsection F.1.b.2.a

Comment: Section F.1.b.(2)(a)viii and rjr lists parking lots (5,000 sq. ft. or 15 spaces), streets and roads (5,000 sq. t?.) as high priority development that are subject to SUSMPs requirements. Listing the number of units in a residential project or the size of a commercial project site as a threshold for SUSMP requirements while at the same time listing the sizes and types of impermeable surfaces (parking lots and roads) as another threshold, is confusing. For example; is a 5-unit single-family residential development with a new private cul-de-sac street (larger than 5,000 sq. ft.) subject to SUSMP requirements? If the answer is yes, what is the criteria for sizing the BMP? Is the BMP sized to treat the runoff from the street or from both the street and the 5 residential lots? The same confusion results under Subsection iii. for commercial development. A viable new commercial development, no matter its site acreage (plus or minus 2.5 acres), is going to have a parking lot of at least 15 parking spaces; therefore, is Subsection viii. intended to apply to isolated fi-eestanding parking lots or roads/streets that are not directly associated with a new residential or commercial development project? (*Laguna Niguel*)

Response: SUSMP requirements would only apply to the project or portion of a project that falls within the priority development catagories listed in the Tentative Order. However, a road or parking lot would also be included in the total size of the project. For example, a 15,000 square foot parking lot for a 90,000 square foot commercial development would trigger SUSMP requiremnts for both the lot and development.

Section F.1 Subsection F.1.b.2.a.x

Comment: Section F.1.b.(2)(a)x refers to retail gasoline outlets. Does the 5,000 sq. ft. criteria for a gasoline outlet refer to the size of the building/canopy, impervious surface or land area? (*Laguna Niguel*)

Response: The 5,000 square feet criteria refers to impervious area.

Section F.1 Subsection F.1.b.2.b

Comment: Section F.1.b.(2)(b) requires all new development and significant redevelopment projects to implement a combination of BMPs including at least one (1) source control BMP and two (2) structural treatment BMPs. These minimum standards are arbitrary and inappropriate. The appropriate BMPs will vary from project to project. In some cases, the implementation of one (1) source control or structural treatment BMP may be sufficient to mitigate all water quality impacts of a project. The imposition of development conditions is a discretionary act of city and county Planning Commissions and governing boards. Please eliminate this part of Section F.1.b.(2)(b). (*Laguna Niguel*)

Response: The BMP requirements in the section apply only to SUSMP project catagories and which BMPs that are to be implemented is left to the discretion of the Copermittees. The intent of the criteria is to define what minimum performance standards that the selected BMPs must meet. The SUSMP provision requiring source control BMPs and structural BMPs has been upheld in SWRCB Order No. WQ 2000-11 and was included in the SDRWQCB Order No. 2001-01.

Section F.1 Subsection F.1.b.2.b

Comment: Second, in consecutive minimum requirements, the Permit directs permittees to “minimize storm water pollutants of concern in urban runoff,” as well as, “remove pollutants of concern from urban runoff.” Regardless of which standard is actually controlling, neither considers feasibility, costs, or any other factor used to define MEP. A literal reading of this requirement orders permittees to produce pristine drinking water from its MS4. (*Construction Industry Coalition on Water Quality*)

Response: Controlling the discharge of pollutants to the MEP is a basic standard of the Tentative Order and not repeated in every line. Both requirements, minimizing storm water pollutants of concern and removing pollutants of concern, are to this MEP standard. However, neither of these requirements require the removal of all pollutants of concern.

Section F.1 Subsection F.1.b.2.b

Comment: Section F.1.b.(2)(b)(i. through xiv.) also lists fourteen (14) specific areas which must be addressed by BMPs. These items should be eliminated as requirements, and offered only as examples for consideration by the Copermittees. (*Laguna Niguel*)

Response: The BMP requirements in the section apply only to SUSMP project categories and which BMPs that are to be implemented is left to the discretion of the Copermittees. The intent of the criteria is to define what minimum performance standards that the selected BMPs must meet. The SUSMP provision requiring source control BMPs and structural BMPs has been upheld in SWRCB Order No. WQ 2000-11 and was included in the SDRWQCB Order No. 2001-01. Many of the criteria are listed in the section as where feasible to give the Copermittee flexibility.

Section F.1 Subsection F.1.b.2.b

Comment: Section F.2.B.2.B - The Regional Board has made no showing that any of these unqualified directives are consistent with MEP. Thus, these unqualified, absolute directives should be stricken from the Permit or somehow made to conform with the MEP standard. (*Construction Industry Coalition on Water Quality*)

Response: Section F.2.B.2.B contains criteria for the Copermittees to apply in developing their recommended source control and structural treatment BMPs. Items ii,iii, v, vii, viii, ix, xi, xii, xiii, xiv are qualified measures. Items i, iv, and vi are objectives of BMPs and Items vii and x are common sense measures. Using this criteria, Copermittees will be able to develop recommended source control and structural treatment BMPs that do not exceed the MEP standard.

Section F.1 Subsection F.1.b.2.b

Comment: Section F. 1 .b.(2): The first BMP offered requires the “control of post development peak storm water runoff discharge rates and velocities to maintain or reduce pre-development downstream erosion, and to protect stream habitat.” Requiring peak flow control for smaller storms can actually lead to more damage in streams and open channels from physical impacts than doing nothing (e.g. reducing post -development peaks to be equal with pre-development one or two year peaks will result in the stream flowing at a near bank-full rate for extended time periods, instead of letting some of the flows and energy go over bank, hence the steam will down-cut faster, depending of course on the channel bed and side materials). The approach should be to minimize the increase in

flows and volumes by use of BMPs that retain waters on-site and then work with the receiving waters to ensure that they can adapt to changing hydrology (e.g., stream stabilization measures) that occurs with development.

Such flow requirements (peak control) for smaller storms only make sense from a physical habitat perspective when discharging to receiving waters that are potentially sensitive to such changes in runoff. For example, a concrete lined channel that discharges directly to the ocean should not have issues with in-stream instability. Reducing volumes, however, would reduce pollutant loads. (*Rancho Mission Viejo*)

Response: It is the intent of the requirement to control peak flow rates and velocities as necessary to maintain downstream erosion and protect stream habitat. Where there is not a potential for increased downstream erosion, then this requirement need not apply.

Section F.1 Subsection F.1.b.2.b.1

Comment: First, permittees are directed to “control the post development peak storm water runoff discharge rates and velocities to maintain or reduce pre-development downstream erosion and to protect stream habitat.” In other words, if a development project places concrete where grass once grew, permittees must somehow use concrete that has the same runoff discharge rate and velocity as “grassland,” or otherwise trick Nature into producing the same response to a storm as existed in the natural state. Of course, the Regional Board does not lend any suggestions as to how this impossible feat could actually be achieved (much less, achieved in a reasonably cost-effective manner). (*Construction Industry Coalition on Water Quality*)

Response: The Tentative Order does not require that concrete have the same runoff rates and velocities as grass. By replacing grass with impervious surfaces, the assimilative capacity of the ground is lost and there is an increase in both runoff rates and velocities. The Tentative Order simply requires that appropriate BMPs are implemented at SUSMP projects to control these increases and prevent additional downstream erosion and to maintain stream habitat. Urban impoundments, parking lot storage, rooftop runoff disposal, cistern storage, infiltration pits and trenches, concrete grid and modular pavement, porous asphalt pavement, grassed waterways, filter strips and seepage areas are some examples of BMPs for stormwater runoff detention/retention.

Section F.1 Subsection F.1.b.2.b.6

Comment: The Permit directs permittees to “protect slopes and channels from eroding.” Once again, the Permit prescribes an unqualified mandate in violation of MEP. As the Regional Board is well aware, it is a simple fact of nature that many slopes and channels do erode over time. This is a natural phenomenon that occurs with or without the presence of urban development and MS4s. A literal reading of this requirement actually requires permittees to alter the Earth’s natural cycle of erosion. As such, it should be qualified. (*Construction Industry Coalition on Water Quality*)

Response: BMPs are required to protect slopes and channels from erosion due to new development and significant redevelopment. Copermitees are not required to prevent erosion from naturally occurring conditions.

Section F.1 Subsection F.1.b.2.c

Comment: These requirements are inconsistent with the MEP standard because they are inflexible and bear no relationship to actual pollutant reduction and realized water quality benefits. Permittees are directed to treat an arbitrary amount of site runoff, regardless of its contents, and regardless of the treatment's effects on receiving water quality. This mandate is unfounded because, in many cases, treating 85% of site runoff may not result in significant water quality benefits over that which would be achieved by treating a much lesser percentage.[17] The amount of money needed to meet these requirements is clearly unreasonable, if the same water quality benefits could be achieved by BMPs that cost significantly less. The Regional Board has not made any showing that forcing specific permittees and developers to treat 85% of all site runoff is in fact reasonable, taking into consideration the relative costs and relative water quality benefits to be achieved.

These numeric sizing criteria run afoul of MEP because they are not applied in a site-specific and flexible manner. To comply with MEP, the Regional Board must consider the many variables that may change with respect to each new development site, as well as each permittee.

This inflexible standard leaves no room for these site-by-site determinations; developers and permittees will not have the needed flexibility to concentrate resources where they are most needed. In effect, this standard ties the hands of local government and discourages innovative and regionalized watershed solutions.

MEP (as well as the SWRCB's enforcement policy and due process and equal protection considerations)" requires the Regional Board to promulgate standards that can be applied in a fair and consistent manner. The Regional Board's one-size-fits-all standard will undoubtedly create unfair results. Many developers and permittees may unjustly be forced to comply with an "85% volume-based treatment standard" that produces no significant water quality benefits over a less expensive option. Control measures adopted in the storm water program should not create such disparate results." For the foregoing reasons, the flow and volume based BMP requirements are inconsistent with MEP and should be stricken. (*Construction Industry Coalition on Water Quality*)

Response: SWRCB Order No. 2000-11 finds that SUSMPs (including Numeric Sizing Criteria) that require the mitigation of 85% of runoff from new development and significant reflects a reasonable interpretation of developmental controls that achieve reduction of pollutants to the MEP. The Numeric Sizing Criteria included the Tentative Order were based on staff review of the LA Municipal permit, SWRCB Order. 2000-11, public comments, and the San Diego Municipal permit to determine applicability to the Tentative Order. In particular, the San Diego Municipal permit (including Numeric Sizing Criteria requirements) represents the Board's interpretation of what meets MEP within the San Diego Region. The sizing criteria is based on the point where it is no longer cost effective to treat urban runoff.

Section F.1 Subsection F.1.b.2.c

Comment: Many of the proposed requirements in the draft permit would be administratively and operationally overwhelming to implement. We are concerned in particular that the permit: Specifies numeric design criteria for post-construction BMPs that are more stringent than the criteria in the San Diego permit (BMPs designed to mitigate [infiltrate, filter, or treat] the runoff produced by a 0.8-inch rain event rather than a 0.6 inch rain event in San Diego). (*Mission Viejo*)

Response: The 24-hour 85th percentile storm event of 0.8 inch was calculated using County of Orange historical rainfall data and represents an average for the area covered by the Tentative Order.

The 0.6 inch event in the San Diego permit was calculated using historical rainfall data from San Diego County.

Section F.1 Subsection F.1.b.2.c

Comment: May we have copies of the calculations used to determine that the average 24-hour 85th percentile storm for Orange County is 0.8 inch? (*Richard Watson and Associates*)

Response: The calculations are listed in Attachment C of the Draft Staff Report for SUSMPs and Numeric Sizing Criteria for Best Management Practices.

Section F.1 Subsection F.1.b.2.e

Comment: Many of the proposed requirements in the draft permit would be administratively and operationally overwhelming to implement and would be an attempt to expand Regional Board control over City policies and procedures. We are concerned in particular that the permit requires post-development runoff into a Clean Water Act 303(d) water body containing any pollutants (for which the water body is already impaired) does not contain the same pollutants in levels exceeding pre-development levels. (*Lake Forest*)

Response: The requirements of the Tentative Order are based on the federal regulations and USEPA and SWRCB guidance and are practicable for the Copermittees to implement. The Tentative Order is a third term permit rather than a first or second term permit and is intended to build upon the programs developed during the first two permits. With respect to post-development runoff into impaired water bodies, the SDRWQCB has legal authority to require additional controls for 303(d) water bodies and ESAs under the Clean Water Act and the California Water Code. The CWA requires in section 402(p)(3)(B)(iii) that permits for discharges from municipal storm sewers “shall require controls to reduce the discharge of pollutants to the maximum extent practicable, including management practices, control techniques and system, design and engineering methods, and such other provisions as the Administrator or the State determines appropriate for the control of such pollutants.” California Water Code section 13377 provides that “Notwithstanding any other provision of this division, the state board or the regional boards shall, as required or authorized by the Federal Water Pollution Control Act (Clean Water Act), as amended, issue waste discharge requirements and dredged or fill material permits which apply and ensure compliance with all applicable provisions of the act and acts amendatory thereof or supplementary, thereto, together with anymore stringent effluent standards or limitation necessary to implement water quality control plans, or for the protection of beneficial uses, or to prevent nuisance.”

The requirement for additional controls for these areas is a necessary layer of protection for these valuable resources. Each 303(d) water body or environmentally sensitive area (ESA) is either a valuable receiving water resource that should be protected from the impacts of urban runoff, or a degraded receiving water resource that should be protected from additional impacts. A sensitive habitat has a much lower capacity to withstand pollutant shocks than might be acceptable in the general circumstance, and so deserves attention. In essence, a project that is ordinarily insignificant in its impact on the environment may in a particularly sensitive environment be significant (LARWQCB, 2000). USEPA, in discussing storm water controls, notes: “Sensitive area protection is an important element of conservation design [...] These areas are particularly susceptible to degradation by storm water runoff” (USEPA, 1999a). Finally, the Office of Chief Counsel for State Water Resources Control Board noted in its October 14, 1999 discussion of the *Defenders v. Browner*

decision that "...because most MS4 discharges enter impaired water bodies, there is a real need for permits to include stringent requirements to protect those water bodies."

The requirements of the Tentative Order are based on the federal regulations and USEPA and SWRCB guidance and are practicable for the Copermittees to implement.

Section F.1 Subsection F.1.b.2.j

Comment: The County is experiencing the loss of mature riparian oak woodland within regional parks from stream downcutting resulting from sediment removal by various BMPs. Is this impact addressed? (*County of Orange*)

Response: Staff is not aware of damage to riparian vegetation from urban runoff BMPs, but has received reports of severe channel downcutting in southern Orange County watersheds. It is unlikely that BMPs have had much impact on the stream downcutting and loss resiliency of the riparian zone because BMPs were largely non-existent during the urbanization of the watersheds. The U.S. Army Corps of Engineers in a Reconnaissance Study of the San Juan and Aliso Creek watersheds attributed loss of riparian habitat primarily to channel degradation problems which have manifested during the past two decades. Channel degradation and the lack of recovery by riparian vegetation following large storm events corresponds to the large scale urbanization of the watersheds. For instance, the Corps found that degradation of lower Aliso Creek began as the upstream developments of Lake Forest, Leisure World (now mostly Laguna Woods), and Laguna Hills were built. Additionally they note that with intense development of the watersheds beginning in the 1980's there has been accelerated and dramatic stream channel bed degradation. The Tentative Order seeks to eliminate the practices of urbanization that have led to major modifications of the flow regime, and in turn should result in a decrease of further downcutting.

Section F.1 Subsection F.1.c

Comment: This section requires the Copermittees to revise their current environmental review processes to include requirements for evaluation of water quality effects and identification of appropriate mitigation measures. The provision sets forth eleven (11) questions that Copermittees should consider in addressing increased pollutants and flows from proposed projects. The State Legislature has enacted the California Environmental Quality Act and the State Office of Planning and Research has developed an environmental check list for use by local planning agencies. Item F.1.c. of the Tentative Order is preemptive, unnecessary, and should be eliminated. (*Laguna Niguel*)

Response: The section is included so the Copermittes ensure that their environmental review process addresses not only CEQA guidelines, but also the more specific requirements of the Tentative Order as it relates to urban runoff.

Section: F.2

Comment: F.2.b requires each Copermittee to review and update its grading ordinances. The section identifies nine (9) specific BMPs to be implemented during all construction grading activities. The imposition of grading permit conditions is a discretionary act of city and county building and planning officials. Appropriate conditions will vary from project to project. These items should be eliminated as requirements, and offered only as examples for consideration by the Copermittees. Section F.2.c.(1) lists eleven (11) requirements that shall be included in local grading and construction

permits. The imposition of grading permit conditions is a discretionary act of city and county building and planning officials. Appropriate conditions will vary from project to project. These items should be eliminated as requirements, and offered only as examples for consideration by the Copermittees.
(Laguna Niguel)

Response: Copermittees must reduce pollutant discharges in storm water from construction sites to the maximum extent practicable. In order to achieve this level of pollution reduction, BMPs must be implemented. An effective means for ensuring BMP implementation at construction sites is through the development and implementation of grading ordinances and grading permit approval processes which require pollution prevention, source control, and structural treatment BMPs. Updated grading ordinances and grading permit approval processes that adequately address water quality considerations will provide Copermittees with the necessary tools to require effective BMPs at construction sites.

The US EPA suggests that local ordinance be used to require implementation of BMPs, stating that “A description of the local erosion and sediment control law or ordinance is needed to satisfy this requirement [i.e., Federal NPDES regulation 40 CFR 122.26(d)(2)(iv)(D)(2)]” (1992). Regarding Copermittee approval of construction activities, the US EPA further states that “applicants must propose site review and approval procedures that address sediment and erosion controls, storm water management, and other appropriate measures. Approvals should be clearly tied to commitments to implement structural and nonstructural BMPs during the construction process” (1992)

During approval and issuance of grading and construction permits, each Copermittee must review construction and grading plans to ensure that the conditions of approval are met. US EPA states that to determine if a construction site is in compliance with construction and grading ordinances and permits, the “MS4 operator should review the site plans submitted by the construction site operator before ground is broken” (2000). Furthermore, in its Phase II Final Rule, US EPA requires small municipalities to develop and implement for construction sites “Procedures for site plan review which incorporate consideration of potential water quality impacts” (1999). Due to the greater water quality concerns generally experienced by larger municipalities, Phase II Final Rule requirements for small municipalities are also applicable to larger municipalities such as the Copermittees.

Section F.2.b & F.2.c of the Tentative Order allows the Copermittees the discretion to develop their own equivalent BMPs and measures in the update of their grading ordinances and approval processes, which will be reviewed by the Regional Board for their adequacy upon their submittal as part of the Copermittees JURMP. The requirements set forth in these sections provide the minimum requirements necessary to reduce pollutant discharges in storm water from construction sites to the maximum extent practicable, and therefore do not need to be removed from the language of the Tentative Order.

Section F.2

Comment: Part F-2, the "Construction Component," Would Be Enhanced if it Were Revised to Recognize the ISTEA Exemption. Section 1068(c) of the Intermodal Surface Transportation and Efficiency Act of 1991 ("ISTEA") granted an exception for certain facilities, (e.g., power plants, uncontrolled sanitary landfills) that are owned or operated by a municipality with a population under 100,000, an exception extended by the EPA when it promulgated the Phase II final rules. 64 Fed.Reg. 68780, December 8, 1999.

Recommendation: Revise Part F.2, the "Construction Component," to add the following, in substance "except that, pursuant to § 1068(c) of the Intermodal Surface Transportation and Efficiency Act of

1991, until March 10, 2003, storm water discharges associated with industrial activity, including construction, that are owned or operated by a municipality with a population under 100,000 are exempt from the need to apply for or obtain a storm water discharge permit. See 40 C.F.R. 1262.26(e)(1)(ii), 64 Fed.Reg. 68780, December 8, 1999." (*Lake Forest & Laguna Woods*)

Response: The Tentative Order does not continue the coverage of municipal construction sites greater than 5 acres. For municipal construction sites greater than 5 acres, the Copermittees will be expected to file a Notice of Intent (NOI) and comply with the requirements of the latest version of the State's General Construction Activity Storm Water Permit.

The Copermittees have been under a Phase I Storm Water Permit since 1990 and do not qualify for the Phase II exemption for small municipalities with populations less than 100,000. This finding was based on the Federal Regulations identification of physically interconnected MS4s in which small municipalities with populations less than 100,000 own or operate MS4s that substantially contribute to the pollutant loadings of a physically interconnected MS4s of larger Phase I communities regulated under the NPDES program for storm water discharges. Municipalities incorporated since the First and Second Term Permits were adopted assumed the responsibilities for the discharge of urban runoff from their MS4s.

Under Order No. 96-03, the second term permit, the Copermittees were required to comply with all "terms and conditions of the latest version of the State's General Construction Activity Storm Water Permit that are applicable" except filing a NOI. This including preparing and implementing a Storm Water Pollution Prevention Plan (SWPPP) and a monitoring program consistent with the State's General Construction Activity Storm Water Permit. Under the Tentative Order, the Copermittees will continue to comply with the State's General Construction Activity Storm Water Permit by filing the NOI and preparing and implementing a monitoring program and SWPPP. Furthermore, as stated on page 137 of the Fact Sheet/Technical Report, the municipalities should set a good example for all non-municipal personnel and the public in the conduct of municipal level programs and activities.

Section F.2

Comment: Provision number 19 of Order No. 96-03 currently covers municipal construction permits over 5 acres. This provision eliminates the requirement to submit annual fees for coverage under the state's general construction permit. We are however required to comply with all general construction permit requirements. The proposed permit does not have language to cover municipal construction permits 5 acres and more. Is it the regional board's intent to require that we now have to pay the annual fee? (*County of Orange*)

Response: The Tentative Order does not continue the coverage of municipal construction sites greater than 5 acres. For municipal construction sites greater than 5 acres, the Copermittees are required to file a Notice of Intent (NOI) and comply with the requirements of the latest version of the State's General Construction Activity Storm Water Permit.

The Copermittees have been under a Phase I Storm Water Permit since 1990 and do not qualify for the Phase II exemption for small municipalities with populations less than 100,000. This finding was based on the Federal Regulations identification of physically interconnected MS4s in which small municipalities with populations less than 100,000 own or operate MS4s that substantially contribute to the pollutant loadings of a physically interconnected MS4s of larger Phase I communities regulated under the NPDES program for storm water discharges. Municipalities incorporated since the First and Second Term Permits were adopted assumed the responsibilities for the discharge of urban runoff from their MS4s.

Under Order No. 96-03, the second term permit, the Copermitees were required to comply with all "terms and conditions of the latest version of the State's General Construction Activity Storm Water Permit that are applicable" except filing a NOI. This including preparing and implementing a Storm Water Pollution Prevention Plan (SWPPP) and a monitoring program consistent with the State's General Construction Activity Storm Water Permit. Under the Tentative Order, the Copermitees will continue to comply with the State's General Construction Activity Storm Water Permit by filing the NOI and preparing and implementing a monitoring program and SWPPP. Furthermore, as stated on page 137 of the Fact Sheet/Technical Report, the municipalities should set a good example for all non-municipal personnel and the public in the conduct of municipal level programs and activities.

Section F.2 Subsection F.2.c

Comment: The Grading Requirements are Unduly Restrictive. Part F.2.c.(1)(b), on page 22, imposing severe limitations on grading during the wet season, are unduly restrictive, especially as applied to construction sites smaller than five acres, and in light o the EPA Phase II regulations.

Recommendation: Delete Part F.2.c.(1)(b), page 22. (*Lake Forest & Laguna Woods*)

Response: Section F.2.c requires project proponents to minimize the extent of grading activities during the rainy season to the extent feasible, thus greatly reducing the potential for erosion on-site. This is a basic principle of site planning for erosion and sediment control as discussed for example in "San Diego County, Best Management Practices for Erosion and Sediment Control & Storm Water Detention/Retention". Grading activities should be undertaken during the dry months whenever possible. When grading is necessary during the rainy season, additional BMPs will be needed by construction sites no matter the size to prevent erosion and discharge of pollutants to the MS4.

Section F.2 Subsection F.2.c.1.a

Comment: Item F.2.c.(1)(a) implies that all construction projects, regardless of size, type or threat to water quality need to prepare a plan to manage storm water and non-storm water discharges. This requirement is overly burdensome due to the economic impact of smaller, low-priority sites needing to prepare a storm water management plan. The need for these plans should be based on threat to water quality, not just a blanket requirement for all sites. Also, what does it mean to manage discharges? Does this mean to prevent, treat, reduce? As a matter of fact, non-storm water discharges are already required to be eliminated, so does this mean that storm water discharges must also be eliminated. If this were the case, then this prohibition would make no allowance for naturally occurring baseline discharges from the site. Natural, undisturbed open space will cause a certain amount of sediment to be discharged to receiving waters under natural conditions. In addition, this prohibition would actually have the unintended consequence of upsetting the natural sediment allowance needed for a healthy environment. The prohibition would also ignore the fact that 100% removal of all sediment may actually be detrimental to downstream habitats by increasing the flow rate of the water entering the streams and, among other things, increasing downstream scouring and erosion. Sediment in receiving waters actually has been shown to slow down the flow rate of water moving downstream. Thus the Permit may actually mandate in some instances what it generally tries to prevent, i.e., downstream erosion. There is nothing practicable or even logical about such a mandate. (*Construction Industry Coalition on Water Quality*)

Response: The form of the channel network is a function of the hydrology and sediment supply from the land surface. Excessive erosion and sedimentation from the construction phase of

development deteriorates both water quality and the physical aquatic habitat. Wet weather flows are not prohibited, but municipalities must ensure that discharges, including those that carry sediment, are treated to MEP. The cumulative impact of smaller projects can cause an impact to water quality in receiving waters. The cost of developing a storm water management plan should be related to the size of the project, thus managers of smaller construction sites should not be excessively burdened.

Section F.2 Subsection F.2.c.1.b

Comment: {Section F.2.C.1.B} - How will this be enforced anyway?

Although there may be a higher potential of sediment runoff from grading construction sites during the rainy season, it should not be assumed that these sites would automatically result in water quality violations. These sites should require the implementation of BMPs necessary to keep sediments on site, but should not be restricted from grading during the rainy season. If grading were disallowed during the rainy season, it would have a major impact to the building and construction industries. (*Construction Industry Coalition on Water Quality*)

Response: Section F.2.c.(1)(b) requires that local construction and grading permit requirements include a provision to minimize to the extent feasible grading during the wet season and require additional BMPs for rain events if grading does occur during the wet season. Thus, grading is not prohibited during the wet season, but the Tentative Order seeks to minimize the threat of pollutant discharges from such events. Enforcement of local construction and grading permit requirements is the responsibility of the copermittees, most, if not all, of which have authorized construction site inspectors. In addition, each copermittee has reported to the Regional Board that code enforcement officers for stormwater ordinances have been established.

Section F.2 Subsection F.2.d

Comment: JURMP Item F.2.d. requires each Copermittee to prepare an annual inventory of all construction sites within its jurisdiction. However, the Permittees may not be aware of sites that are operating without permits, whether lawfully or unlawfully. Given this, the Permittees should only be required to prepare an inventory of sites for which grading permits or building permits have been issued. JURMP Item F.2.d should be revised accordingly. (*County of Orange*)

Response: Copermittees are required to enforce their local ordinances, including those that mandate permits. Using grading and/or building permit applications may be a reasonable approach to developing the initial inventory, and other means, such as attempts to locate non-filers, may also be necessary to develop a reasonably complete inventory.

Section F.2 Subsection F.2.e

Comment: Threat to Water Quality Prioritization (Construction). This section requires each Copermittee to inventory construction sites and classify each site as a high, medium, or low threat to water quality. Please provide a practical example(s) of how a Copermittee might classify a construction site as a high threat to water quality. (*Laguna Niguel*)

Response: Construction sites are high risk areas for pollutant discharges to storm water. By assessing information provided in the watershed based inventory of construction sites required (such as site topography and site proximity to receiving waters), sites can be prioritized by threat to water

quality. Those sites that pose the greatest threat can then be targeted for inspection and monitoring. This will allow for limited inspection and monitoring time to be most effective.

Section F.2.e of the Tentative Order provides the minimum criteria a Copermitttee shall use to define whether a construction site poses a high threat to water quality. This framework provides the Copermitttees the discretion to further define their own prioritization criteria. The Copermitttees are allowed discretion in determining the criteria for medium and low threat sites.

A practical example of classifying a construction site as a high threat to water quality would be any site that met the minimum criteria established by the Tentative Order No. 2001-193 :

- (a) The site is 50 acres or more and grading will occur during the wet season; OR
- (b) The site is (1) 5 acres or more and (2) tributary to a Clean Water Act section 303(d) water body impaired for sediment or is within or directly adjacent to or discharging directly to a receiving water within an environmentally sensitive area (as defined in section F.1.b.(2)(a)vii of this Order).

Section F.2 Subsection F.2.f

Comment: Do I understand correctly that all new construction, regardless of size, will require some BMPs? (*Laguna Beach*)

Response: Yes, under the Tentative Order, the copermitttees are required to enforce implementation of minimum BMPs at all construction sites to ensure pollutants and runoff will be reduced to MEP.

Section F.2 Subsection F.2.f.3

Comment: JURMP Item F.2.f(3) would require implementation of construction site BMPs “year round.” This is an unnecessary burden for those construction site operators who will not be operating during any part of the rainy season and should be revised to distinguish between dry and wet weather BMPs. (*County of Orange*)

Response: BMP implementation requirements can vary based on wet and dry seasons. BMPs must be implemented at construction sites year round to reduce the discharge of pollutants in storm water to the maximum extent practicable. Construction sites that have been graded in the dry season, but at which no operations would occur during the wet season, for instance, may pose threats to water quality if BMPs are not in place for exposed areas.

Section F.2 Subsection F.2.g

Comment: Item F.2.g is an example of the overly prescriptive requirements that characterize this permit. The Regional Board staff specifies in great detail how and how often the Permittees must inspect construction sites to determine whether they pose a threat to water quality. This approach hamstring the Permittees’ ability to determine which sites require the most attention and, in turn, will result in an unnecessary expenditure of resources at sites that do not pose a threat to water quality. Subparagraph (2) beginning with “During the wet season. . .” therefore should be deleted in its entirety. (*County of Orange*)

Response: The Tentative Order, under section F.2.e, allows the copermittees to prioritize construction sites based on the threat posed to water quality. Construction site inspection frequencies are to be based on threat to water quality prioritization. This will allow for limited inspection and monitoring time to be most effective. Inspections provide a necessary means by which Copermittees can evaluate compliance with their municipal ordinances. Inspections are especially important at high-risk areas for pollutant discharges, such as construction sites. The minimum wet season inspection frequencies in the Tentative Order are necessary to ensure compliance with local ordinances and implementation of BMPs.

Section F.2 Subsection F.2.g

Comment: Section F.2.g establishes minimum inspection frequencies for high priority construction sites. Establishing the level of municipal services is a discretionary action of city and county governing boards. Section F.2.g.(2) of the Tentative Order should be eliminated. (*Laguna Niguel*)

Response: Federal NPDES regulation 40 CFR 122.26(d)(2)(iv)(D)(3) provides that the proposed management program include "A description of procedures for identifying priorities for inspecting sites and enforcing control measures which consider the nature of the construction activity, topography, and the characteristics of soils and receiving water quality." Thus, construction site inspection frequencies are to be based on threat to water quality prioritization. This will allow for limited inspection and monitoring time to be most effective. Weekly to monthly inspection of high threat sites is necessary due to the dynamic nature of construction activities. Medium and low threat construction sites can be inspected less frequently, due to their reduced risk of negatively impacting receiving waters. Review of SWPPPs can be one effective tool for determining frequency of site inspections. Construction sites which effectively implement the measures of a comprehensive SWPPP may not need to be inspected as frequently as less diligent sites.

Section F.2 Subsection F.2.g.2

Comment: The definition of "Environmentally Sensitive Areas" includes all Clean Water Act Section 303(d) impaired water bodies. So for example, the entire Aliso Creek Watershed would be so labeled. In that case any construction site of five acres or more falls into the high priority construction site category so the Board is essentially requiring the cities in the watershed to do weekly monitoring of all the board's general construction permit sites for them. (*Aliso Viejo*)

Response: Section F.2.g (Inspection of Construction Sites) of the Tentative Order describes conditions under which high priority construction sites may qualify for monthly monitoring. Weekly inspections of high priority sites during the wet season until such time that the site provides the necessary erosion and sediment control measures is reasonable.

Section F.2 Subsection F.2.i

Comment: This question is on Immediate Reporting of Non-Compliant Construction Sites. It seems to be a waste of effort for each copermittee to develop and submit criteria by which to evaluate events of non-compliance to determine whether they pose a threat to human or environmental health. Why should this criteria be different from copermittee to copermittee? It should be defined in the permit.

Item F.2.i requires the Permittees to make certain oral notifications to the Regional Board regarding any non-compliant sites that “are determined to pose a threat to human and environmental health.” This section further requires that the Permittees submit written reports to the Regional Board concerning such non-compliant sites within five days after they have been discovered by the Permittees. However, the requirement for submittal of written reports appears to apply to any non-compliant site, even those that do not pose a threat to human health or the environment. This is an unnecessary requirement that forces the Permittees to generate needless paperwork. As with the oral notification requirement, the requirement to submit written reports should apply only to those sites that are determined to pose a threat to human health and the environmental. (*Aliso Viejo, County of Orange*)

Response: The requirement within the Tentative Order that the Copermittees shall report events of non-compliance is a standard reporting requirement of the NPDES program. Reporting of these events is necessary and an effective tool to ensure compliance with the Tentative Order. In order to provide the maximum degree of flexibility, the Copermittees have been given the discretion to define the criteria by which to evaluate events of non-compliance that constitute a threat to human or environmental health. There is no requirement in the Tentative Order that these criteria be different from Copermittee to Copermittee. These criteria shall be submitted in the Copermittees Jurisdictional Urban Runoff Management Program Documents and Annual Reports.

Section F.2 Subsection F.2.j

Comment: Since San Diego has had a storm water permit for a few months, are there model JURMPs, local ordinances for implementation and an educational training program that have been approved by the Regional Board and can be used as a sample for communities to use as a good example or sample model to be tailored to meet a local municipality requirement? If not available yet, when is their deadline? (*MJF Consulting*)

Response: The San Diego Copermittees (under Order 2001-01) have until February 2002 to implement their JURMPs. Model components are currently being developed, and some of these may be available from the County of San Diego's web site. Additionally, when the San Diego Copermittees submit to the Regional Board their JURMPs, these will be available for public review from our office.

Section: F.3

Comment: Public education and voluntary compliance should be the primary emphasis of the permit. While the Tentative Order includes an Education Component that provides helpful guidance on target communities and educational program content, the Order tends to emphasize prohibition, legal authority, and enforcement. Even the placement of the Education Finding (No. 23 of 43 Findings) diminishes its significance. The hiring of water police, threats of citations and prosecution will not materially improve water quality. The mere specter of such programs causes most reasonable people to simply shake their heads and question the governmental agencies and officials responsible for such decisions. Enforcement should be used as a last resort after all reasonable attempts at voluntary compliance have failed, and then only be used for the most egregious and/or deliberate violations. The Tentative Order should be modified to clearly embrace this philosophy.

We agree, wholeheartedly, that the public education program is the single-most important element of eventually eliminating the sources of most of the components of urban runoff pollution, and the City of Dana Point, as a Co-permittee, intends to continue, ad infinitum, with its education programs, or, at

least, until the health of our local beaches and the ocean is restored (*Laguna Niguel, Dana Point, County of Orange*)

Response: The SDRWQCB considers public education a vital to the preservation and enhancement of water quality, and the Tentative Order places a high priority on education. The breadth of topics outlined in section F.4. (Education Component) of the Tentative Order underscores the need for public education and its value. Enforcement of local urban runoff related ordinances, permits, and plans, however, is an essential component of every urban runoff management plan and is specifically required in the federal storm water regulations and this Order. For instance, 40 CFR 122.26(d)(2)(iv)(B)(1) requires the copermittees to include in their proposed management program, "A description of a program, including inspections, to implement and enforce an ordinance, orders or similar means to prevent illicit discharges to the municipal separate storm sewer system..."

The Phase II guidance documents are targeted at municipalities primarily without existing stormwater management programs. Tentative Order 2001-193 is a third-term permit that assumes the copermittees have been conducting educational efforts for 10 years, and thus, places an appropriate emphasis on management and enforcement.

Assessments for compliance with ordinances, permits, and plans are essential for a municipality to ensure that third parties are not causing the municipality to be in violation of its municipal storm water permit. When conditions of non-compliance are determined, enforcement is necessary to ensure that violations of municipality ordinances and permits are corrected. Enforcement increases the probability of correction of a violation. Without enforcement, third parties do not have incentive to correct violations. US EPA (1992) supports inspections and enforcement by municipalities when it states "Effective inspection and enforcement requires [...] penalties to deter infractions and intervention by the municipal authority to correct violations. Enforcement mechanisms [...] also must be described."

Section F.3

Comment: Must cities (or other copermittees) implement grease interceptor monitoring, permitting, and inspection programs? (*Irvine Ranch Water District*)

Response: The Tentative Permit allows each Copermittee to designate BMPs for High Priority commercial activities.

Section F.3

Comment: Laguna Niguel is 99% developed. Source control and prevention will take a long time to be effective. Structural BMPs at the end of the pipe can achieve much faster water quality improvements to the receiving waters. Is this strategy acceptable for the City's JURMP along with source control? (*Laguna Niguel*)

Response: The Regional Board has repeatedly raised concerns about the use of short-term end-of-pipe treatment systems, such as end of pipe diversions into sanitary sewers, that are effective only for dry weather flows. Additionally, it is important to note that in 2000, Governor Davis opposed increasing funding for regional diversion BMPs. In his veto message of a \$6.9 million bill that would have funneled money to Orange County to help curb urban runoff and clean beaches, Davis said the legislation "focuses on a temporary, seasonal fix and does not provide for identification and elimination of the sources of contamination."

In addition, there is no need to control or treat pollutants that are not initially generated. Furthermore, pollution prevention BMPs are generally more cost effective than removal of pollutants by treatment facilities or cleanup of contaminated media. In the Pollution Prevention Act of 1990, Congress established a national policy that emphasizes pollution prevention over control and treatment. Since pollution prevention is an effective and efficient means for reducing pollutant loads in storm water runoff, pollution prevention methods are an important aspect of BMPs to be included in the residential existing development component of the Jurisdictional URMP.

While onsite BMPs provide many benefits, there may be cases where offsite structural BMPs, implemented on a "neighborhood" or "sub-watershed" basis, may be more feasible. This is particularly the case for existing development, where opportunities for innovative site design do not exist.

As a result, structural BMPs at the end of the pipe that are proposed in a jurisdictional urban runoff management program will be reviewed for their context within the overall program to reduce pollutants to the maximum extent practicable. Among other factors, such a review may assess the proposed role of receiving waters and associated impacts, viability of the technique in wet weather, justification for relying on end or pipe measures for short term results, and commitments to implement and encourage source control to the maximum extent reasonable.

Section F.3

Comment: We extend our enthusiastic support of the sections requiring existing development to minimize the short and long-term impacts of stormwater runoff on receiving water quality, and we applaud your proactive efforts to mitigate runoff from the entire watershed. (*California Coastal Commission*)

Response: Comment noted.

Section F.3 Subsection F.3.a

Comment: If the Regional Board is suggesting that existing development and certain non-storm water discharges are highly pollutant, doesn't this require that NPDES permit be obtained by the discharger instead of the municipality? Since section 402 does not allow the discharge of pollutants into waters of the U.S. (*County of Orange*)

Response: Federal NPDES regulation 40 CFR 122.26(d)(2)(iv)(B)(1) provides that the Copermittees shall prevent all types of illicit discharges into the MS4 except for the non-storm water discharges listed in Prohibition item B.2., provided that these discharges are not found to be a significant source of pollutants. Pursuant to 40 CFR 122.26(d)(2)(iv)(B)(1), those categories of non-storm water discharges need to be prohibited from entering an MS4 if such categories of discharges are identified by the Copermittee as a significant source of pollutants to waters of the United States. The intent of EPA, therefore, was not to require separate NPDES permits for dischargers of the listed activities, but rather for municipalities to address such discharges through the Municipal Storm Water Permit, where necessary.

Section F.3 Subsection F.3.A

Comment: The requirement in the Tentative Order to apply BMPs to municipal waste facilities such as POTWs, landfill and HW facilities is redundant with pre-existing, highly restrictive regulatory schemes. Part F.3.a.(4), on page 26, the Tentative Order would require each co-permittee to designate a set of BMPs for, inter alia, Publicly Owned Treatment Works, Solid Waste Transfer Facilities, Sanitary Landfills, sites for disposing of sewage sludge, and hazardous waste treatment, disposal and recovery facilities. Each of these operations is already subject to rigorous regulatory schemes. Any BMPs for such facilities would be redundant with the regulatory schemes which already govern those facilities.

Recommendation: In Part F.3.a.(3)(b)iv, on page 26, delete the items regarding Publicly Owned Treatment Works, Solid Waste Transfer Facilities, Sanitary Landfills, sites for disposing of sewage sludge, and hazardous waste treatment, disposal and recovery facilities. (*Lake Forest & Laguna Woods*)

Response: The requirements for Copermittees to establish priorities for oversight municipal areas and activities by threat to water quality and to implement BMPs is supported by the federal NPDES regulations, as well as USEPA guidance. With respect to the high priority municipal areas and activities cited in the comment:

Federal NPDES regulation 40 CFR 122.26(d)(2)(iv)(A)(5) provides that the proposed management program include "A description of a program to monitor pollutants in runoff from operating or closed municipal landfills or other treatment, storage or disposal facilities for municipal waste, which shall identify priorities and procedures for inspections and establishing and implementing control measures for such discharges."

Identification of high priority municipal pollutant areas and activities allows for limited pollution reduction resources to be most effective. Targeting high priority municipal areas and activities for BMP implementation, inspection, and monitoring provides the greatest reduction in risk of degrading receiving waters per expenditure.

Item (iv) in section F.3.a.3.b of the Tentative Order above is considered to be high priority sources since these areas and activities are specifically addressed in Federal NPDES regulations 40 CFR 122.26(d)(2)(iv)(A)(3-5). Regarding municipal waste facilities, the USEPA states "Applicants must describe programs that identify measures to monitor and reduce pollutants in storm water discharges from facilities that handle municipal waste, including sewage sludge. [...] The types of facilities that should be included are: active or closed municipal waste landfills; publicly owned treatment works, including water and wastewater treatment plants; incinerators; municipal solid waste transfer facilities; land application sites; uncontrolled sanitary landfills; maintenance and storage yards for waste transportation fleets and equipment; sites for disposing or treating sludge from municipal treatment works; and other treatment, storage, or disposal facilities for municipal waste" (USEPA, 1992).

Section F.3 Subsection F.3.a.4.b.I

Comment: The last word in item F.3.a.(4)(b)i (BMP Implementation Municipal) should be revised from "needed" to "feasible" to read: "Each Copermittee shall evaluate feasibility of retrofitting existing structural flood control devices and retrofit where feasible." (*Laguna Niguel*)

Response: In the phrase "where needed," SDRWQCB is giving the Permittees the opportunity to develop a schedule based on their needs. Determination of necessity of retrofitting is left to the discretion of the Copermittees. Problem areas need to be both identified and evaluated for how they might be retrofitted. The provision does require an evaluation, and the process of retrofitting is the responsibility of the Copermittees.

Section F.3 Subsection F.3.a.5

Comment: Sub-section F.3.a(5) "Maintenance of Municipal Separate Storm Sewer System (Municipal)" establishes an unrealistic and unnecessary burden of inspections and storm drain cleaning activities. Evidence has shown that the frequency of inspections required by the permit is entirely unnecessary and inappropriate as storm drain systems are not a large accumulator of waste. This section should be eliminated in favor of an annual inspection and cleaning of inlets or catch basins to storm drain systems only. (*Laguna Hills*)

Response: The minimum frequency of MS4 maintenance called for in section F.3.a.(5) includes inspection and waste removal once between May 1 and September 30 each year and additional cleaning as necessary during the rest of the year. This is not an unnecessary burden. Maintenance of municipal facilities, control structures, and the MS4 is considered so essential by US EPA that the requirement to conduct a maintenance program is specifically directed in both the Phase I and Phase II storm water regulations. In addition, documentation provided by the copermittees demonstrates that the MS4 does accumulate debris and can be a source of pollutants, including fecal coliform, for which several waterbodies in the region are listed as 303(d) impaired. For example, the copermittees to Cleanup and Abatement Order 99-211 (regarding the J03P02 MS4 outfall) have identified "accumulated organic debris in the surface and subsurface storm drain system" as one of six probable contributors of fecal coliform in the J03P02 drainage area. In the November 2000 NPDES Annual Progress Report, the copermittees report cleaning 1960 cubic yards of debris, including soil, vegetation, paper, plastic, and other during drainage facility maintenance. In addition, the County of Orange reported removing over 22,000 tons of debris from its drainage facilities, although the volume attributable to the region covered by the Tentative Order was not provided.

Section F.3 Subsection F.3.a.5

Comment: Item F.3.a.(5) requires that each Copermittee shall, at a minimum, inspect and remove accumulated waste from MS4s between May 1" and September 30" of each year. The establishment of municipal service levels and maintenance schedules is a discretionary decision of city and county governing boards. Section F.3.a.(5)(c) should be eliminated from the Tentative Order. (*Laguna Niguel*)

Response: Federal NPDES regulation 40 CFR 122.26(d)(2)(iv)(A)(1) provides that the proposed management program include "A description of maintenance activities and a maintenance schedule for structural controls to reduce pollutants (including floatables) in discharges from municipal separate storm sewers." EPA (1992) finds that in cases where scheduled maintenance is not appropriate, maintenance should be based on inspections of the control structure or frequency of storm events.

The Tentative Order does not establish the maintenance level for the copermittees, but does call for each copermittee to establish a maintenance schedule. The Tentative Order, in section F.3.a.(5) calls for the frequency of maintenance activities to be based on both frequency of storm events (cleaning prior to October 1) and inspections (additional cleaning as necessary between October 1 and April 30).

Section F.3 Subsection F.3.a.7

Comment: Item F.3.a.(7) requires the Copermittees to inspect high priority municipal areas and activities annually. Please provide a practical example(s) the type of inspection activity(s) that might be appropriate for roads, streets, highways and parking facilities. (*Laguna Niguel*)

Response: Determination of the most appropriate inspection activities should be made by the copermittee based on site-specific knowledge and expectations based on monitoring activities and other information sources for the roads, streets, highways and parking facilities of concern. One type of inspection activity that may be appropriate based on local conditions for roads, streets, highways, and parking facilities is a visual inspection of the conveyances that carry urban runoff and stormwater to the MS4, the best management practices that have been implemented to reduce pollutant discharges, and surrounding land use activity for signs of changes or conditions that may impact the ability of those BMPs to function properly.

Section F.3 Subsection F.3.b

Comment: Will the Regional Board be sharing the revenue generated from industrial permits with the Copermittees to help defray the costs associated with this mandate? (*Mission Viejo*)

Response: State law would need to be amended to allow the Regional Board to share permit fees.

Section F.3 Subsection F.3.b

Comment: The Board needs to provide a definition or lists of industrial categories and commercial categories to clarify what constitutes an industrial site and what constitutes a commercial site (see F.3.c.) The Standard Industrial Classification Manual published by the Office of Management and Budget includes Retail and Service categories in their industrial categorization, while the EPA definition of "storm water associated with industrial activity" is written to describe those facilities that must obtain an industrial storm water permit. (*Aliso Viejo*)

Response: Facilities that discharge storm water associated with industrial activity requiring a General Permit are listed by category in 40 Code of Federal Regulations (CFR) Section 122.26(b)(14) (Federal Register, Volume 55 on Pages 48065-66) and in Attachment 1 of the Statewide General Industrial Permit. A list of regulated Standard Industrial Classification Codes for the statewide Industrial NPDES program is available on-line at <http://www.swrcb.ca.gov/stormwtr/sicnum.html>. If any commercial site/source listed in section F.3.c of the Tentative Order as a high priority commercial activity is also inventoried as an industrial site as required under section F.3.b.(2) of the Tentative Order, it is not necessary to also inventory it as a commercial site/source.

Section F.3 Subsection F.3.b

Comment: Inspecting industrial sites is a responsibility of the State's industrial permitting program. Why is the Regional Board placing this burden on the municipalities? The permit specifies in detail both the content of and schedule for inspections of industrial sites to determine whether they pose a threat to water quality. This approach is overly prescriptive, hamstringing the Permittees' ability to determine those sites that require the most attention, and would result in the expenditure of resources at sites that are not a high priority. The requirements pertaining to inspection frequency set forth in Item F.3.b(6) should be deleted.

In 1988 EPA proposed to require municipalities to enforce and inspect industrial sites as part of the storm water management plan. When the final regulations were issued in 1990, this requirement was omitted. In assessing the change, EPA noted that this would be a tremendous burden that would overwhelm municipalities and is deemed prudent that this component not be required. (*County of Orange*)

Response: Federal NPDES regulation 40 CFR 122.26(d)(2)(i)(A) provides that each Copermitee must demonstrate that it can control “through ordinance, permit, contract, order or similar means, the contribution of pollutants to the municipal storm sewer by storm water discharges associated with industrial activity and the quality of storm water discharged from site of industrial activity.” These ordinances must be applied at all industrial sites to ensure that pollutant discharges to the MS4 are reduced to the maximum extent practicable and permit requirements are met. Furthermore, 40 CFR 122.26(d)(2)(iv)(C)(1) requires that municipalities “identify priorities and procedures for inspections and establishing and implementing control measures...” for discharges from industrial sites that the municipality determines are contributing a substantial pollutant loading to the MS4. Regarding enforcement at industrial sites, the US EPA further states “The municipality, as a permittee, is responsible for compliance with its permit and must have authority to implement the conditions in its permit. To comply with its permit, a municipality must have the authority to hold dischargers accountable for their contributions to separate storm sewers” (1992).

Section F.3 Subsection F.3.b

Comment: There also is no support for imposing obligations on the Permittees to reduce pollutants in runoff from all industrial sites within their jurisdictions. Under the programmatic requirements of the CWA, the Permittees are only required to monitor and control pollutants in storm water discharges from those industrial facilities: (1) that “are subject to section 313 of title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA)” or (2) which a municipal permittee “determines are contributing a substantial pollutant loading to the municipal storm sewer system.” 40 C.F.R. § 122.26(d)(2)(iv)(C) (emphasis added). The requirements of SARA Title III, in turn, are applicable only to facilities that fall within Standard Industrial Classification (“SIC”) codes 20 through 39, and which manufacture certain toxic chemicals in excess threshold amounts (generally, 10,000 pounds for facilities using one or more Section 313 toxic chemicals and 25,000 pounds for facilities manufacturing one or more Section 313 toxic chemicals). See 42 U.S.C. § 11023. The CWA clearly does not require the Permittees to reduce pollutants in runoff from all industrial sites located within their jurisdictions. (*County of Orange*)

Response: The cited federal NPDES regulation 40 CFR 122.26 (d)(2)(iv) requires the development of a management program to “...reduce the discharge of pollutants to the maximum extent practicable, using management practices, control techniques and system, design and engineering methods, and such other provisions which are appropriate.” Land used for industrial activities is clearly identified in the federal regulations as one of several high priority land uses from which pollutants in urban runoff discharges must be reduced, and 40 CFR 122.26(d)(2)(iv)(C) describes the minimum standard that must be addressed in the management program by the municipalities with respect to industrial sites and activities. The SDRWQCB does have the authority to include more specific requirements than those stated in the federal NPDES regulations. When relating specifically to storm water, Clean Water Act section 402(p)(3)(B)(iii) clearly provides states with wide-ranging discretion, stating that municipal storm water permits “[s]hall require controls to reduce the discharge of pollutants to the maximum extent practicable, including management practices, control techniques and system, design and engineering methods, and such other provisions as the Administrator or the State determines appropriate for the control of such pollutants.” Please refer to item 4 in section V of the Fact

Sheet/Technical Report (Common Municipal Storm Water Permit Issues) for a further discussion of whether the SDRWQCB can include in the Tentative Order more specific requirements than those stated in the federal NPDES regulations.

Section F.3 Subsection F.3.b and F.3.c

Comment: Commercial and Industrial programs in the URMP should be combined as they are virtually identical and there is no clear definition to distinguish the two categories of sites. This will reduce the effort associated with establishing and maintaining separate inventories for these categories and the added effort of attempting to distinguish between these categories. Decisions about required BMPs can then be based on the type of activities conducted at the sites and whether these activities occur in exposure to storm water. (*Aliso Viejo*)

Response: The Copermitees have the discretion to implement the requirements of the Tentative Order in a manner that they determine to be the most effective. However, the Tentative Order specifically addresses construction and industrial activities separately from other land uses in order to facilitate the effective dual regulation of these activities by both the Copermitees and the SDRWQCB. The format of the Jurisdictional Urban Runoff Management Program was intended to enable the management and reporting of these activities in a manner that will to facilitate cooperation and coordination between the Copermitees and SDRWQCB at these sites. The structure of the Tentative Order was also intended to ensure fair and consistent municipal audits and uniform implementation and enforcement of the Tentative Order throughout the region.

Section F.3 Subsection F.3.b.2

Comment: Item F.3.b.(2) requires each Copermitee to develop and annually update an inventory of all industrial sites within its jurisdiction. The inventory shall include minimum information for each industrial site including name, address, and a narrative description including SIC codes which best reflect the principal products or services provided by each facility. Please define "industrial site". Please provide us the above-referenced minimum information for all businesses within the City of Laguna Niguel that are subject to the California Statewide General NPDES Permit for Storm Water Discharges Associated with Industrial Activities. Most of the Copermitees do not have business license or registration programs. Therefore, the information requested in this section is not readily available to most Copermitees. Please consider an alternative for the development of the industrial site inventory. (*Laguna Niguel*)

Response: Facilities that discharge storm water associated with industrial activity requiring a General Permit are listed by category in 40 Code of Federal Regulations (CFR) Section 122.26(b)(14) (Federal Register, Volume 55 on Pages 48065-66) and in Attachment 1 of the Statewide General Industrial Permit. The facilities can be publicly or privately owned. A general description of these categories are: Facilities subject to storm water effluent limitations guidelines, new source performance standards, or toxic pollutant effluent standards (40 CFR Subchapter N); Manufacturing facilities; Mining/oil and gas facilities; Hazardous waste treatment, storage, or disposal facilities; Landfills, land application sites, and open dumps that receive industrial waste; Recycling facilities such as metal scrap yards, battery reclaimers, salvage yards, automobile yards; Steam electric generating facilities; Transportation facilities that conduct any type of vehicle maintenance such as fueling, cleaning, repairing, etc.; Sewage treatment plants; Certain facilities (often referred to as "light industry") where industrial materials, equipment, or activities are exposed to storm water.

A list of regulated Standard Industrial Classification Codes for the statewide Industrial NPDES program is available on-line at <http://www.swrcb.ca.gov/stormwtr/sicnum.html>. The requirements in Section F.3.b refer to all industrial sites regardless of whether the industrial site is subject to the California statewide General NPDES Permit for Storm Water Discharges Associated With Industrial Activities Except Construction or other individual NPDES permit. The Tentative Order requires the Copermittees to include in their inventories the minimum information for each site including SIC codes that best reflect the principal products or services offered by each facility.

The SDRWQCB will provide your city with information about the industrial NPDES permitted facilities in your jurisdiction. During the first term Permit, the copermittees reported distributing flyers to more than 10,000 industrial businesses in Orange County, though numbers are not available for the region subject to this Tentative Order. This action demonstrates the ability of the copermittees to identify potential industrial dischargers.

Section F.3 Subsection F.3.b.2

Comment: JURMP Item F.3.b.2 would require each Permittee to develop and maintain an annual inventory of all industrial sites within its jurisdiction regardless of whether these sites are within the scope of 40 C.F.R. § 122.26d(2)(iv)(C). The Permittees should not be required to address industrial sites that are not subject to CWA programmatic requirements for MS4s. Such sites are not significant sources of pollutants and preparation of an inventory for all sites is an unnecessary burden on the Permittees. Moreover, most of the Permittees do not have any database listing all of the industrial sites within their jurisdictions. Thus, it would be impracticable to develop an inventory of industrial sites and maintain that inventory on a current basis. (*County of Orange*)

Response: The SDRWQCB does have the authority to include more specific requirements than those stated in the federal NPDES regulations, and has determined an annual inventory of all industrial sites is appropriate for the control of pollutants delivered via the MS4. The copermittees must have the ability to identify potential industrial dischargers, and during the first term Permit, the copermittees reported distributing flyers to over 10,000 potential industrial dischargers, although numbers were not reported separately for the region subject to the Tentative Order. The SDRWQCB will provide your city with information about the industrial NPDES permitted facilities in your jurisdiction.

Section F.3 Subsection F.3.b.3.a

Comment: Item F.3.b.(3)(a) requires the Copermittees to prioritize industrial sites by threat to water quality. Each industrial site shall be classified as high, medium, or low threat to water quality. Please provide a practical example(s) of how a Copermittee might classify an industrial site as a high threat to water quality. (*Laguna Niguel*)

Response: Copermittees should use the criteria in section F.3.b.(3) of the Tentative Order to prioritize the threat of industrial activities to water quality. As discussed in the Fact Sheet to the Tentative Order, EPA suggests that copermittees should at a minimum consider the type of industrial activity (SIC codes can help characterize the type of industrial activity); the use and management of chemicals or raw products at the facility and the likelihood that storm water discharge from the site will be contaminated; and the size and location of the facility in relation to sensitive watersheds”

Section F.3 Subsection F.3.b.3.b

Comment: BMP Implementation (Industrial): Is there a list of businesses that currently have the various federal and state permits and approvals referenced in section F.3.b.(4)? How can this information be obtained? The Copermittee does not have records of businesses subject to these permits and programs. (*Laguna Niguel*)

Response: The Regional Board maintains a database of industrial storm water permit holders in the region, which is accessible over the internet at <http://www.swrcb.ca.gov/stormwtr/indpmt.html> or from the Regional Board office. The 303(d) list of impaired waterbodies is also available on-line at http://www.swrcb.ca.gov/tmdl/303d_lists.html or from the SDRWQCB office.

Section F.3 Subsection F.3.b.5.b

Comment: Item F.3.b(5) (b) requires a monitoring program from two storm events per year by high threat to water quality industrial sites. The monitoring program shall provide quantitative data on various constituents. One constituent is any pollutant listed in effluent guideline subcategories. What are "effluent guidelines subcategories?" Another constituent is any pollutant for which an effluent limit has been established in an existing NPDES permit for the facility. Where does a Copermittee obtain information regarding pollutants for which effluent limits have been established in an existing NPDES permit? If the Board has this information for Laguna Niguel businesses, please provide it.

Please provide additional information (i.e. scientific, empirical, other) regarding each of the constituents in F.3.b.(5)a. Why is each constituent a threat to water quality? What types of industrial activities/processes are normally associated with the presence of these constituents in storm water? What is a "Conditional No Exposure Exclusion for Industrial Activity"? (*Laguna Niguel*)

Response: The constituents listed in the Tentative Order for monitoring at industrial sites is taken from the Federal regulations. Federal NPDES regulation 40 CFR 122.26(d)(2)(iv)(C)(2) provides that the proposed management program shall "Describe a monitoring program for storm water discharges associated with the industrial facilities identified in paragraph (d)(2)(iv)(C) of this section, to be implemented during the term of the permit, including the submission of quantitative data on the following constituents: any pollutants limited in effluent guidelines subcategories, where applicable; any pollutant listed in an existing NPDES permit for a facility; oil and grease, COD, pH, BOD5, TSS, total phosphorus, total Kjeldhal nitrogen, nitrate plus nitrite nitrogen, and any information on discharges required under 40 CFR 122.21(g)(7)(iii) and (iv)."

Effluent guideline subcategories refer to conditions under which effluents from a facility is subject. To the extent that such constituents may be reasonable expected to be exposed to storm water, they would need to be monitored.

Information concerning pollutants for which effluent limits have been set in an existing NPDES permit is available from the Regional Board office. The copermittees may be able to obtain this monitoring information some industrial sites by requesting submittal of the Annual Reports required under the General Industrial Storm Water Permit.

Under the conditional no exposure exclusion, operators of industrial facilities in any of the 11 categories of "storm water discharges associated with industrial activity," (except construction activities, which are addressed under the construction component of the NPDES Storm Water Program) have the opportunity to certify to a condition of "no exposure" if their industrial materials and operations are not exposed to storm water. As long as the condition of "no exposure" exists at a certified facility, the operator is excluded from NPDES industrial storm water permit requirements. The

conditional no exposure exclusion replaces the no exposure exemption described under the Phase I Storm Water Program. The certification form used by the State of California, which includes a checklist of criteria, is available on-line at <http://www.swrcb.ca.gov/stormwtr/industrial.html>.

Section F.3 Subsection F.3.b.7

Comment: What does "necessary to maintain compliance with this order" mean? Municipalities do not have the same power that the Regional Board has with respect to industrial sites. (*San Juan Capistrano*)

Response: Federal NPDES regulation 40 CFR 122.26(d)(2)(i)(A) provides that each Copermittee must demonstrate that it can control "through ordinance, permit, contract, order or similar means, the contribution of pollutants to the municipal storm sewer by storm water discharges associated with industrial activity and the quality of storm water discharged from site of industrial activity." These ordinances must be applied at all industrial sites to ensure that pollutant discharges to the MS4 are reduced to the maximum extent practicable and permit requirements are met. To this effect, the US EPA "recommends that municipal applicants incorporate a provision in the proposed management program that allows the municipality to require priority industrial facilities to implement the controls necessary for the municipality to meet its permit responsibilities" (1992). Regarding enforcement at industrial sites, the US EPA further states "The municipality, as a permittee, is responsible for compliance with its permit and must have authority to implement the conditions in its permit. To comply with its permit, a municipality must have the authority to hold dischargers accountable for their contributions to separate storm sewers"

Section F.3 Subsection F.3.c

Comment: F.3.c. "Commercial (Existing Development)" is an inappropriate transfer of responsibility from the Board to the co-permittee. Further, no mechanism exists within the jurisdictions of south Orange County to identify the commercial uses on an annual basis to the extent required by this section. Typically, there is no business license or registration requirement in cities of south Orange County for commercial operations. No staffing exists to perform such an inventory and cannot be complied with within the one-year requirement of the Order. (*Laguna Hills*)

Response: The requirements of the Tentative Order for Copermittees to implement a Commercial (Existing Development) Component of the Jurisdictional Urban Runoff Management Program to reduce pollutants in runoff from commercial activities is not an inappropriate transfer of responsibility from the SDRWQCB to the Copermittees. As discussed in the Fact Sheet/Technical Report, CWA sections 402(p)(3)(B)(ii-iii) require each Copermittee to prohibit non-storm water discharges into its MS4 and to reduce the discharge of pollutants to the maximum extent practicable for all urban land uses. The purpose of these two broad requirements is to minimize the short and long-term impacts of urban runoff on receiving water quality. Land used for commercial activities is clearly identified in the federal regulations as one of several high priority land uses that have the potential to be a significant source of pollutants and from which pollutants in urban runoff discharges must be reduced to the maximum extent practicable by each Copermittee.

Federal NPDES regulation 40 CFR 122.26(d)(2)(iv) requires the development of a proposed management program to reduce the discharge of pollutants in storm water to the maximum extent practicable. Federal NPDES regulation 40 CFR 122.26(d)(2)(iv)(A) requires that this program include a component which addresses commercial sites and sources. To reduce the discharge of pollutants in urban runoff from commercial sites to the maximum extent practicable, BMPs must be

implemented. As discussed in Finding 12, BMPs effectively reduce pollutants in urban runoff by emphasizing pollution prevention and source controls, followed by treatment controls. The commercial existing development component will provide a program for the development and implementation of BMPs to address pollutants in storm water discharges from commercial sites and activities.

In order to prohibit non-storm water discharges, reduce commercial pollutant sources to the maximum extent practicable, and ensure that adequate BMPs are implemented, Copermittees must first identify all high priority threat to water quality commercial pollutant sources. Based on the number of complaints received by the SDRWQCB and the Copermittees, the types of commercial sites and activities listed in item F.3.c.(2) are potential high risk areas for pollutant discharges to storm water. The sites and activities are identified as such due to their frequent use of substances often found to be present as pollutants in urban runoff, combined with frequent mismanagement of runoff from the sites and activities. Therefore, development of an inventory of these commercial sites within a watershed will help identify the location of potential sources of pollutants in storm water. Pollutants found to be present in receiving waters can then be traced to the sites that frequently use such substances. In this manner an inventory of commercial sites can help in targeting commercial sites for inspection, monitoring, and potential enforcement. This will allow for limited inspection, monitoring, and enforcement time to be most effective. Also, the existing permit Order No. 96-03 requires that the Copermittees conduct and coordinate with the Principle Permittee any surveys and characterizations needed to identify the pollutant sources and drainage areas. Furthermore, the existing Order clearly identified commercial activities as a target of the education and outreach effort. Given that the Tentative Order is a third term permit, the requirement to identify and inventory commercial activities and to implement a BMP program to address discharges from these activities is reasonable and justified. To the extent that the Copermittees do not presently have mechanisms or resources to implement the programs required by the Tentative Order for the commercial activities within their jurisdiction (e.g. business license or registration requirement), the Copermittees will be required to adopt the authority and implement the programs necessary to comply with the requirements of the Tentative Order.

The SDRWQCB has discretion to require Jurisdictional Urban Runoff Program item F.3.c. in Order No. 2001-193 under the broad legal authority cited in the Fact Sheet/Technical Report

Section F.3 Subsection F.3.d

Comment: Could the residential programs, other than pollution prevention, be deferred until the next permitting cycle so municipalities could focus their efforts on higher priority water quality issues? (*San Juan Capistrano*)

Response: Residential activities currently discharge pollutants to the MS4 and receiving waters in southern Orange County, and they will need to be addressed during this permit cycle.

Section F.3 Subsection F.3.d.2

Comment: Item F.3.d.(2), Threat to Water Quality Prioritization (Residential): In section B.2 automobile washing may be exempted, but in this section it is a high priority. In fact, all of the City's residential areas would be high priority if the listed items are the standard. For most of the items listed, an education program will prove beneficial, while others have a high probability of not being controllable from a municipality's standpoint. (*Dana Point*)

Response: The residential areas and activities are identified in the Tentative Order as high priority threats to water quality due to their wide distribution, their association with pollutants of concern in urban runoff, and their historical mismanagement of associated urban runoff. Identification of high priority residential areas and activities will help focus BMP implementation efforts on these areas and activities. This list represents the minimum requirement by which residential areas and activities shall be prioritized. By focusing efforts on high priority areas and activities, the greatest potential for water quality improvements will result. Therefore, limited Copermittee staff time will be focused where it can be most effective. With respect to automobile washing, the exemption refers only to the exemption of this discharge from prohibition by the Copermittees unless it is found to be a significant source of pollutants. The exemption does not include an exemption from implementing BMPs to reduce pollutants to the MEP for this or other exempted non-storm water discharges. In fact, because these discharges are exempted and very common in residential areas, it is all the more important that the Copermittees address these discharges as a high priority for the implementation of BMPs such as public education. By limiting the generation of pollutants, less pollutants are available to be washed from residential areas and activities, resulting in reduced pollutant loads in storm water discharges from these areas and activities. In addition, there is no need to control or treat pollutants that are not initially generated.

The SDRWQCB has discretion to require Jurisdictional Urban Runoff Program item F.3.d.(2) in Order No. 2001-193 under the broad legal authority cited in the Fact Sheet/Technical Report.

Section F.3 Subsection F.3.d.2

Comment: It is unclear what constitutes a “residential area “. Please clarify. (*Laguna Niguel*)

Response: Residential areas can be broadly categorized as those where local governments have permitted dwelling units. Please refer to section F.3.d.(2) of the Tentative Order for a description of the minimum areas and activities that must be identified as high priority. This list should assist the copermittees in identifying additional residential activities.

Section F.4

Comment: What if any competency requirements will be established for co-permittee staff that are trained on stormwater issues? Are similar requirements, i.e. certifications, being considered for the trainers? (*Clayton Group Services*)

Response: The copermittees are responsible for proper training of staff to address and implement the municipal storm water programs. Particular requirements for any local government position is at the discretion of the jurisdiction. Previously, the copermittees have expressed a desire for consistent storm water enforcement actions across the jurisdictions, and as a result have considered establishing baseline goals for municipal authorized inspectors.

Section F.4

Comment: The State Water Quality Control Board or the Regional Board should coordinate the development of K-12 curricula with the California Integrated Waste Management Board as the CIWMB already provides such curricula for municipalities to use for outreach. A single curriculum

could easily cover both storm water and waste reduction topics as they are interrelated and it would greatly reduce duplication of effort and waste. The permittees could then offer the curricula in the actual outreach to educational institutions. *(Aliso Viejo)*

Response: Regional Board staff has contacted the CIWMB regarding storm water. An integrated program is planned for the future that would incorporate all of the issues under CAL EPA. In the meantime, the CIWMB is happy to work with any/all of the copermitees to provide the waste management curriculum. The current waste management curricula does deal with some storm water issues that pertain to CIWMB activities, such as proper disposal of used oil, and related ground and waters pollution prevention. The CIWMB curricula can highlight such lessons for the copermitees while providing workshops.

The copermitees are also encouraged to work together, perhaps through the public education committee, to incorporate storm water issues into any existing curriculum model. Another resource that may be helpful is a storm water curriculum for Junior High School students developed by the Fresno Metropolitan Flood Control District (For information contact Environmental Resources Manager, 5469 E. Olive Avenue; Fresno, CA 93727; Tel: 559-456-3292; Email: fmfdmm@gte.net).

Section F.4 Subsection F.4.B

Comment: The Board should provide educational materials and training courses regarding Statewide General NPDES Permits for Industrial and Commercial sites. It is appropriate for the copermitees to distribute these materials or provide notice of opportunities for training courses, but it should not be the responsibility of the copermitees to develop and conduct the training courses and materials for the Board's General Permits. *(Aliso Viejo)*

Response: Both the Regional Board and State Board offer educational material and periodic training courses regarding Statewide General NPDES permits for Industrial and Commercial sites. Some of this material can be found on line at <http://www.swrcb.ca.gov> and are available from the Regional Board office. In addition, Regional Board staff is available to participate in educational and training efforts initiated by the copermitees.

Section: F.5

Comment: Section F.5. "Illicit Discharge Detection and Elimination Component". All illicit discharge detection and elimination efforts were previously complied with under the existing permit and no illicit discharges were identified within the co-permittee area. To initiate a new investigation would be a waste of resources. Specifically, Section F.5.a. requires each co-permittee to implement a program to actively seek and eliminate illicit discharges and connections into its MS4. This matter has already been addressed and concluded and should not be reinforced within this Order. The Co-permittees have already investigated all drainage systems for illicit connections and discharges. These action and compliance with prior permits should be acknowledged by the Order and no further work on this should be required. *(Laguna Hills)*

Response: Federal NPDES regulation 40 CFR 122.26(d)(2)(iv)(B)(1) provides that the Copermitee include in its proposed management program "a program, including inspections, to implement and enforce an ordinance, orders or similar means to prevent illicit discharges to the municipal storm sewer system."

The DAMP defines an illicit connection as “an undocumented and/or unpermitted physical connection from a facility to the storm drain system.” The commentors, and the proposed revised DAMP, report that all illicit physical connections were identified and eliminated by 1997. Section F.5 of the Tentative Order, however, does not refer solely to illicit physical connections, but also targets other illicit discharges. In addition, there have been numerous new developments and redevelopments, and opportunities for illicit physical connections, in the region since 1997. In certain cases of detected illegal discharges, therefore, illicit connections should be considered as a potential source.

The Tentative Order does not require the type of reconnaissance of the storm drain system that was completed in 1997, but rather calls for investigation, inspection, and follow-up when appropriate information indicates a reasonable potential for illicit discharges, illicit connections, or other sources of non-storm water

Section F.5.a of the Tentative Order reads “Each Copermittee shall implement a program to actively seek and eliminate illicit discharges and connections into its MS4. The program shall address all types of illicit discharges and connections excluding those non-storm water discharges not prohibited by the Copermittee in accordance with Section B. of this Order.” Any program to reduce pollution from urban runoff through the MS4 would be ineffective without a component for identifying illicit discharges. The program outlined in the Tentative Order calls for use of several tools to detect illicit discharges, including those resulting from illicit connections. These tools, found in sections F.5.a through F.5.i, include dry weather monitoring, investigations, enforcement of ordinances, pollution prevention, and others.

Section: F.5

Comment: Section F.5.d requires that each Copermittee shall immediately eliminate all detected illicit discharges, discharge sources, and connections. We would agree that illicit connections (as of sewer pipes) and identifiable point sources (like gas station washdown effluent) should be eliminated immediately upon detection. However, we question the feasibility of eliminating "all detected illicit discharges" on the "immediate" timeframe, given the very broad meaning (i.e., all non-stormwater discharges) that the RWQCB is attaching to the "illicit discharge" phrase. Although it is possible for to immediately eliminate specific illicit connections and point-source discharges, this is not so for non-point sources, especially on an “immediate” basis. As worded, this section could place the City into immediate noncompliance and subject them to noncompliance enforcement actions or litigation. This section should be revised to distinguish between immediately eliminating illicit connections and point source discharges versus controlling non-point sources over a longer period of time. This clause should be revised to read "eliminate all detected illicit connections immediately, and all other illicit discharges and sources to MEP as quickly as feasible."

Section F.5.e requires that each Copermittee implement and enforce ordinances, orders, and other legal authority to prevent and eliminate illicit discharges and connections. Relative to the enforcement of ordinances, the Copermittees would have to provide due process to any potential violators. The provision of due process may be contrary to requiring the immediate elimination of a discharge. How can these concepts, “provision of due process to violators” and “immediate elimination,” be reconciled? (*Laguna Niguel, San Clemente*)

Response: The Copermittees are required under CWA section 402(p)(3)(B)(ii) and Water Quality Control Plan for the San Diego Basin Waste Discharge Prohibition 8 to prohibit non-storm water discharges. By definition, illicit discharges and connections are non-storm water discharges. Federal NPDES regulation 40 CFR 122.26(d)(2)(iv)(B) also requires illicit discharges and connections to be detected and removed. Therefore, any detected illicit discharges or connections must be eliminated.

USEPA supports elimination of detected illicit discharges and connections when it states "Once the source is identified, the offending discharger should be notified and directed to correct the problem. Education efforts and working with the discharger can be effective in resolving the problem before taking legal action." To prevent and eliminate illicit discharges and connections, the Copermittee must implement and enforce its ordinance, orders, or other legal authority over illicit discharges and connections. The USEPA states that this "proposed management program component should describe how the prohibition on illicit discharges will be implemented and enforced. The description could include a schedule and allocation of staff and resources. A direct linkage should exist between this program component and the adequate legal authority requirements for the ordinances and orders to effectively implement the prohibition of illicit discharges" (1992). Moreover, in the preamble to the Phase II Federal Storm Water Regulations, the USEPA emphasizes the need for enforcement actions when it states "...that enforcement and compliance at the local level is both necessary and preferable." The requirement for Copermittees to eliminate illicit discharges immediately does not preclude the application of due process for potential violators. To the extent that a Copermittee discovers an illicit discharge or illegal connection, the Copermittee is required to immediately take such actions that are necessary to eliminate the illicit discharge or illegal connection.

The Copermittees are required to effectively prohibit the non-storm water discharges not specifically exempted and, to the extent that the Copermittee becomes aware of specific illicit discharges, the Copermittee must take all necessary steps to eliminate the discharge. Through the implementation of the requirements of the Tentative Order to prevent, identify, and eliminate sources of illicit discharges and reduce pollutants to the MEP, the Copermittees can avoid the condition of non-compliance described for non-point sources.

The SDRWQCB has discretion to require Jurisdictional Urban Runoff Management Program item F.5 in Order No. 2001-193 under the broad and specific legal authority cited in the Fact Sheet/Technical Report.

Section: F.5

Comment: The permit prohibits sewer spills, including private laterals to reach the storm drain system. If a sewer spill occurs which enters the storm drain, will both the City and water district be considered in violation of permits and therefore subject to fines or enforcement actions? What about Copermittees that do not own/operate sewers? The Permittees should not be held liable for systems that they do not have any jurisdiction over. Shouldn't this be the responsibility of the respective sewer agency under their NPDES permit? If so, what are the performance expectations of such Copermittees?

As it stands, the requirement for copermittees to "prevent" spills from private laterals could mean that copermittees must now require routine maintenance of private laterals. Please clarify the language to indicate that "prevent" as used means preventing spills from entering the MS4. Copermittees cannot prevent sewage spills from private laterals - they can use their police powers to put in place standards that are designed to prevent spills and notification requirements in the event of spills from private laterals so that response teams can act to prevent discharge of the spill into the MS4. How is it possible to detect leaking sewer laterals? If the leak is minor, even video taping of the lateral will not detect the leak. If the leak is major, the connected property will be effected and the leaking sewer lateral be repaired without the City ever knowing about the leak or the repair, unless the repair involves cutting open the street. This section also requires Cities to prevent sewer leaks from mains and laterals. How is that possible? Please provide information as to how Copermittees can prevent such leaks. *(SOCWA, Mission Viejo, County of Orange, San Clemente, Laguna Niguel)*

Response: Federal NPDES regulations 40 CFR 122.26(d)(2)(iv)(B)(4) requires a description of a program to prevent, contain, and respond to spills that may discharge into the municipal storm sewer. As used in F.5.f of the Tentative Order, the phrase "shall prevent...all sewage and other spills that may discharge into its MS4..." requires the copermittees to implement reasonable pollution prevention actions that seek to prevent the occurrences of such spills because these spills have been found to frequently enter the MS4 and be discharged to receiving waters. Assessment of copermittee compliance would involve a determination of whether the copermittee had taken appropriate pollution prevention measures and whether the response to the spill met the conditions of the Tentative Order.

As noted in the comment, the Copermittees are directed to implement a program in which they are notified of all such spills. As mentioned in the Fact Sheet/Technical Report, one mechanism to achieve compliance with this requirement is to update business licenses or permits of plumbers or other potential responders (e.g. apartment management agencies, homeowners associations, etc) to these spills to require them to report them to the Copermittee in whose jurisdiction the spill occurred.

Sewer agencies are subject to NPDES permits that are enforced by the SDRWQCB. The Tentative Order requires each copermittee to coordinate spill prevention, containment and response activities throughout all appropriate departments, programs and agencies.

Section F.5

Comment: Section F.5 (Illicit Discharge Detection and Elimination Component) requires that Copermittees implement a program of "illicit discharge detection and elimination "to prevent unauthorized discharges into MS4s. The Regional Board does not have the jurisdiction to dictate the manner in which municipalities regulate discharges into their MS4s. (*Laguna Niguel*)

Response: The detection and elimination of illicit discharges and connections is also clearly identified in the federal regulations as a high priority (40 CFR 122.26(d)(2)(iv)(B) and 122.26(d)(2)(iv)(B)(1)). As guidance for detecting and eliminating illicit discharges and connections, the US EPA (1992) states that "The proposed management program must include a description of inspection procedures, orders, ordinances, and other legal authorities necessary to prevent illicit discharges to the MS4".

California Water Code (CWC) section 13377 provides that the Regional Boards shall issue waste discharge requirements which apply and ensure compliance with all applicable provisions of the Federal Water Pollution Control Act (33 U.S.C. §1251 et seq.), as amended, also known as the federal Clean Water Act (CWA). Section 402(p)(3)(B)(iii) of the CWA requires municipalities to implement "controls to reduce the discharge of pollutants to the maximum extent practicable, including management practices, control techniques and system, design and engineering methods, and such other provisions as the Administrator or the State determines appropriate for the control of such pollutants." The SDRWQCB's responsibility is to translate this section of the CWA into the form of waste discharge requirements. Therefore the SDRWQCB has the authority to require specified programs to be implemented by the municipalities in order to carry out CWA requirements. Furthermore, illicit discharges are specifically addressed at 40 CFR 122.26(d)(2)(iv)(B).

Section F.5 Subsection F.5.e

Comment: Section F.5.e should be revised to read "Each Copermittee shall enforce its storm water ordinance for all detected illicit discharges, discharge sources and connection as necessary to

maintain compliance with this Order. Copermittee ordinances or other regulatory mechanisms shall include sanctions to ensure compliance. Sanctions shall include the following or their equivalent: Non-monetary penalties, fines, bonding requirements, and/or permit denials for non-compliance.” This is the same language that is provided in Item F.3.b(7) re industrial sites. (*Laguna Niguel*)

Response: The language is cited does not apply to section F.5.e. Section F.5.e implements the Phase I Federal Regulations by requiring the Copermittees to both prevent (i.e. effectively prohibit) and eliminate illicit discharges and illegal connections to their MS4s through the implementation and enforcement of their ordinances, orders, or other legal authority. The language of section F.3.b.7 refers to industrial facilities that are regulated by both the SDRWQCB under the Statewide General Industrial Storm Water Permit and by the Copermittees under their municipal storm water ordinances. Because these industrial facilities are permitted under the NPDES program, the Copermittees are not required to prohibit these discharges, but are required to implement and enforce its storm water ordinance as necessary to maintain compliance with the Tentative Order. In implementing and enforcing its ordinances at these facilities, the Copermittees are directed to identify the sanctions that will ensure compliance. These are specified in the section cited in the comment. With respect to illicit discharges and illegal connections, the Copermittees must effectively prohibit these discharges and take the actions, including education or imposing enforcement with sanctions, necessary to eliminate the sources.

Section F.5 Subsection F.5.I

Comment: Section F.5.i “Limit Infiltration for Sanitary Sewer” is not appropriate for this copermittee as we have no authority over the sewer system within the community. (*Laguna Hills*)

Response: To the extent that a Copermittee operates both a MS4 and a sanitary sewer, the Copermittee is directed to coordinate the thorough, routine preventive maintenance of both systems. In cases where the Copermittee does not operate the sanitary sewer, the Copermittee is implicitly encouraged to coordinate the maintenance of the MS4 and sanitary sewer with the operator of the sanitary sewer, but must at a minimum ensure the thorough, routine preventive maintenance of the MS4 system.

Section: F.6

Comment: Why were the HOA and Common Interest Area requirements included in the Draft Orange County NPDES Permit when they were not included in the San Diego Permit? The Copermittees have no jurisdiction over HOAs and Common Interest Areas and cannot require these entities comply with the Tentative Order. It is inappropriate to require the Copermittees to be responsible for storm water discharges from these entities and maintenance of private storm drains. The Tentative Order should be changed to directly address the HOAs and Common Interest Areas. (*Aliso Viejo, Lake Forest, Laguna Niguel, Dana Point, Rancho Santa Margarita, Mission Viejo, Laguna Hills, Laguna Woods, County of Orange*)

Response: Prior to drafting the Tentative Order, staff visited with most of the Copermittees' storm water managers and learned that significant portions of the jurisdictions are within common interest developments and many of these have storm water outfalls that discharge directly to receiving waters. To address this situation, explicit requirements were included in the Tentative Order. The Tentative Order interprets common interest areas as property subject to the codes and ordinance and enforcement mechanisms of the city or county in which it resides and, therefore, holds the local government responsible for the discharge of wastes from private storm water conveyance systems.

In most, if not all, common interest developments, siting of sections of the storm water conveyance system, including roads, catch basins, and outfalls were approved by the municipality governing land use, and therefore, the conveyance system became a component of the overall municipal separate storm sewer system to manage urban runoff. The Tentative Order does not require municipalities to perform maintenance on storm water conveyance systems that are owned by common interest developments, but that is one option that can be used to ensure that discharges do not cause or contribute to water quality impairments. Other options, including ones based on education and incentives, can be developed based on the local circumstances. Regional Board staff will be available to discuss the development of options with the copermittees during development of jurisdictional plans.

Section F.7

Comment: What is the purpose of the public participation in the preparation of the JURMP? The requirements as presented in this Order appear black and white and there is no room for discretion, flexibility, negotiation, or discussion. The bottom line is that unless the particular discharge is one of the few items listed in Section B.2 that might be excluded, it can not be discharged. The public participation process should be occurring at this stage as the Board determines the contents of the Permit. After the determination by Board, the Copermittee role is mandated to educate, implement, and enforce. (*Laguna Niguel*)

Response: The public has the right to comment on all discretionary activities considered by the Copermittees. The federal NPDES regulations clearly require the Copermittees to include public participation in the development of their urban runoff management programs. 40 CFR 122.26(d)(2)(iv) requires management programs to "include a comprehensive planning process which involves public participation [...]". Public participation can be an important tool for strengthening an urban runoff management program. Also, public participation represents an educational opportunity for the Copermittees. As discussed in the Fact Sheet/Technical Report, USEPA strongly supports public participation when it states "An active and involved community is crucial to the success of a storm water management program because it allows for:

Broader public support since citizens who participate in the development and decision making process are partially responsible for the program and, therefore, may be less likely to raise legal challenges to the program and more likely to take an active role in its implementation;

Shorter implementation schedules due to fewer obstacles in the form of public and legal challenges and increased sources in the form of citizen volunteers;

A broader base of expertise and economic benefits since the community can be a valuable, and free, intellectual resource; and

A conduit to other programs as citizens involved in the storm water program development process provide important cross-connections and relationships with other community and government programs. This benefit is particularly valuable when trying to implement a storm water program on a watershed basis, as encouraged by EPA" (2000).

Consequently, the Tentative Order requires public participation on the part of the Copermittees in the development and implementation of Jurisdictional and Watershed Urban Runoff Management Plans. Some requirements, such as the prohibition on illicit discharges, are non-discretionary, but the implementation of many of the Tentative Order program requirements provides the Copermittees with

flexibility and discretion. How the public participation component is implemented is left to the discretion of the Copermittees in the Tentative Order.

The SDRWQCB has the discretion to require the Jurisdictional Urban Runoff Management Program item F.7 in Order No. 2001-193 under the broad and specific legal authority cited in the Fact Sheet/Technical Report.

Section F.8

Comment: With respect to the requirements in section F.8 (Assessment of Jurisdictional URMP Effectiveness), it would be virtually impossible for the City of Dana Point to measure and assess the impact of its water quality efforts on receiving waters such as San Juan Creek and the Pacific Ocean since our City's contribution as a part of the overall watershed is so miniscule and is accomplished through a great number of small drain outlets or via direct surface runoff. It would be more appropriate to make that specific task a part of the Watershed URMP. Any measurable changes to large receiving water bodies could not specifically identify a single source of that change unless that source were relatively large. The language of this provision does not work very well for small coastal cities such as ours. (*Dana Point*)

Response: Section F.8 of the Tentative Order refers to the assessment of effectiveness for the entire Jurisdictional Urban Runoff Management Program, only part of which includes an assessment of the impact of the JURMP on the discharge of urban runoff from its jurisdiction to the receiving waters. This requirement is also included as a central part of the Watershed Urban Runoff Management Program. These requirements are mandated by Federal NPDES regulation 40 CFR 122.26(d)(2)(v) which provides that the Copermittees must include "Estimated reductions in loadings of pollutants from discharges of municipal storm sewer constituents from municipal storm sewer systems expected as the result of the municipal storm water quality management program. The assessment shall also identify known impacts of storm water controls on ground water." Under Federal NPDES regulation 40 CFR 122.42(c) applicants must provide annual reports on the progress of their storm water management programs. Furthermore, the General Accounting Office recently released a report "Better Data and Evaluation of Urban Runoff Programs Needed to Assess Effectiveness (GAO-01-679) which included the recommendations to determine the extent to which activities conducted under the NPDES Storm Water Program are reducing pollutants in urban runoff and improving water quality and the costs of this program to local governments. The Copermittees are directed to identify and utilize both direct and indirect measurements to track the long term progress of the JURMPs towards achieving improvements in water quality. Some of the methods that can be used to accomplish this include surveys and water quality monitoring (e.g. the dry weather monitoring required in section F.5 of the Tentative Order). The requirement of section F.8 to assess the effectiveness of the JURMP supports these recommendations and is a necessary and fundamental part of the JURMP.

Section F.9

Comment: Item F.9, Fiscal Analysis Component: The City receives input and regulations in a variety of areas (affordable housing, air quality, building regulations, infrastructure maintenance, etc.), all of which require the City to allocate a portion of its budget for that function. This portion of the Tentative Order seems to imply that the budget associated with water quality is bottomless, and funds must be secured. This is inconsistent with the definition of MEP, which states that an MEP must be technically feasible and not cost prohibitive. The City has the responsibility of selecting the BMP's to be employed and the Regional Board will be the final determinant as to whether the City has met its

obligation to employ the proper BMP's. The language in the this section needs to be revised to better describe the fiscal responsibilities within the definition of MEP. (*Dana Point*)

Response: The definition of MEP refers to the implementation of BMPs and BMP programs to reduce pollutants not to the budget limitations of a Copermittee. BMPs must be implemented to MEP that are technically feasible and not cost prohibitive. The Tentative Order does not imply that the budget for addressing water quality is bottomless, but does recognize that significantly greater steps must be taken to satisfy the SDRWQCB's interpretation of MEP. The commenter is correct that the SDRWQCB as the permitting agency will determine whether the Copermittee has met its obligation to employ the proper BMP's that meet the MEP standard. The language in section F.9 is appropriate and does not require revision to better describe the fiscal responsibilities within the definition of MEP.

Section F.9

Comment: Section F.9 provides that "each Copermittee shall secure the resources necessary to meet the requirements of this Order." The Regional Board has no authority to impose this requirement. By what legal authority does the Regional Board believe it can impose this requirement? (*Laguna Niguel*)

Response: Federal NPDES regulation 40 CFR 122.26(d)(2)(vi) provides that "[The Copermittee must submit] for each fiscal year to be covered by the permit, a fiscal analysis of the necessary capital and operation and maintenance expenditures necessary to accomplish the activities of the programs under paragraphs (d)(2)(iii) and (iv) of this section. Such analysis shall include a description of the source of funds that are proposed to meet the necessary expenditures, including legal restrictions on the use of such funds

Section F.9

Comment: Item F.9, Fiscal Analysis Component: Since this is a mandated program, what reimbursement funds are available pursuant to State law for implementation of State mandated programs? (*Laguna Niguel*)

Response: The SDRWQCB will not be providing reimbursement funding for the development and implementation of urban runoff management programs as the requirement falls within the purview of the NPDES Program created by the Clean Water Act. The State of California has simply been delegated to administer this federally mandated program.

Please note, however, that certain State assistance programs, including storm water pollution prevention grants and loans, may be available to assist the copermittees in implementation of certain components of jurisdictional programs. An updated description of the State's water quality financial assistance programs can be found on-line at <http://www.swrcb.ca.gov/funding/index.html>.

Section G

Comment: This section states that "each Copermittee shall have completed full implementation of all requirements of the JURMP no later than 365 days after adoption of the Order." In the case of the Aliso Creek watershed, "full implementation" would include retrofitting BMPs to entire existing

communities and street systems in response to the data recently generated showing ubiquitous non-compliant fecal coliform concentrations. It seems probable that this will be the case with many, if not most, Copermittees throughout the Region as soon as fecal coliform monitoring is instituted. This "full implementation" is physically, financially and administratively impossible with respect to the procedural and physical improvements required to implement structural treatment retrofits to every existing development and street. Is it good public policy to deliberately place non-feasible requirements on Copermittees, opening them to third-part litigation on Day 366? The section needs to be rephrased to clearly explain that Copermittees have a year to develop the JURMP, which should include an implementation schedule for prioritized BMPs retrofitting over the 5-year life of the Permit. (*Laguna Niguel*)

Response: Municipalities in the Aliso Creek watershed are developing action plans for addressing elevated fecal coliform levels. Actions taken to date include visual inspections of the MS4 and contributing drainage areas for illicit discharges and other sources of fecal coliform. Provision C.2 of the Tentative Order describes procedures that the Copermittees in the Aliso Creek watershed shall implement if implementation of the URMP and other requirements of the Order do not prevent discharges from MS4s from causing or contributing to a violation of water quality standards. The Tentative Order does not require retrofitting BMPs where it is not necessary or infeasible. The Regional Board in Finding No. 14 of the Tentative Order recognizes that an iterative process of BMP development, implementation, monitoring, and assessment is necessary to assure that an URMP is sufficiently comprehensive and effective to achieve compliance with receiving water objectives.

Section G

Comment: Item G requires each Copermittee to complete "full implementation" of the Jurisdictional URMP within 365 days after adoption of the Order. Please define "full implementation". Section Q (Pages 48-50) identifies twenty (20) separate and complex tasks that must be completed within 365 days after adoption of the Order. This schedule appears unrealistic and inconsistent with illustrative timetables found in the EPA Storm Water Phase II Final Rule Fact Sheet Series and Compliance Assistance Guide. Please provide the opportunity for the Co-Permittees to reasonably "phase" the implementation of required tasks over the term of the new permit. (*Laguna Niguel*)

Response: The Copermittees are expected to implement their JURMPs within 365 days. Schedules for the implementation of the requirements of the Tentative Order should be adequate. Please note the JURMPs are based on requirements largely derived from Order 90-38, Order 96-03 and the NPDES regulations which have been in place for many years. Thus, unlike Phase II communities, the copermittees have been implementing storm water management programs for 10 years. While phased implementation of required tasks will not be allowed, please note that prioritization of threats to water quality (see section F.3) is an effective means for focusing efforts during the implementation phase.

Section H

Comment: The City of Aliso Viejo asks that the Board consider a more streamlined, albeit innovative, approach to submittals and reporting that focuses on the development of implementation tools such as checklists and decision trees and less on lengthy plans and policy statements. Let the Permittee's submittals to the Board be the functional elements of a Jurisdictional Urban Runoff Management Program that form the basis of a living, useful program rather than an untested Plan.

Ultimately this will place us farther along the path toward water quality improvements and will effectively achieve the same level of technical compliance with URMP requirements at the 24-month point as would have been theoretically accomplished under the Tentative Order as currently written.

The City of Aliso Viejo asks that the Board consider a more streamlined, albeit innovative, approach to submittals and reporting that focuses on the development of implementation tools such as checklists and decision trees and less on lengthy plans and policy statements. Let the Permittee's submittals to the Board be the functional elements of a Jurisdictional Urban Runoff Management Program that form the basis of a living, useful program rather than an untested Plan. Ultimately this will place us farther along the path toward water quality improvements and will effectively achieve the same level of technical compliance with URMP requirements at the 24-month point as would have been theoretically accomplished under the Tentative Order as currently written. (*Aliso Viejo*)

Response: Federal NPDES regulations 40 CFR 122.26(d)(2)(iv) require each Copermittee to develop and implement an urban runoff management program. The SDRWQCB must assess the urban runoff management program to ensure that it is adequate to prohibit non-storm water discharges and reduce pollutant discharges to and from the MS4 to the maximum extent practicable. In order for the SDRWQCB to assess and enforce the urban runoff management program in a fair and consistent manner, each Copermittee must submit to the SDRWQCB a description of their program. The description must detail all activities the Copermittee is undertaking to implement the requirements of each component of the Jurisdictional URMP section of Order No. 2001-193.

The submittal schedule of 365 days for Jurisdictional URMP documents is designed to provide each Copermittee some time to develop its Jurisdictional URMP. However, this time is limited since the Jurisdictional URMP requirements are based on NPDES regulations and existing programs implemented under the previous permits that have been in place for many years. The vast majority of the requirements in the Jurisdictional URMP should already be implemented by each Copermittee. Therefore, the provided submittal schedule should be more than adequate for each Copermittee to rework and tailor its programs to meet the Jurisdictional URMP requirements of Order No. 2001-193.

Section H Subsection H.3

Comment: Section H.3, page 4 1: Regarding the requirement for a "signed certified statement" in the Jurisdictional URMP, is the signature of a City staff person sufficient to meet this requirement? (*San Clemente*)

Response: Signatory requirements are addressed in the Tentative Order in Attachment C, section B.9.

Section H Subsection H.7.j

Comment: There are several sections of the Order which state that the City is supposed to develop controls and measures to limit infiltration of seepage from sanitary sewers into the MS4. These sections seem to say that the MS4s must be watertight. Making MS4s watertight is a very expensive proposition. The only real way to do this is to insert a plastic liner at several hundred dollars per linear foot. Also, some portions of the MS4, like canyon drains, use perforated pipe to help collect ground water to help stabilize the hillsides above. Given the fact that detecting leaking sewer laterals is next to impossible, is it cost effective to spend millions on lining the MS4 system,

as opposed to spending money on programs and treatment systems that prevent or clean-up pollutants before they reach the receiving waters? (*Laguna Niguel*)

Response: Federal NPDES regulations 40 CFR 122.26(d)(2)(iv)(B)(4) provides that the Copermittee include in its proposed management program “a description of procedures to prevent, contain, and respond to spills that may discharge into the municipal separate storm sewer.” In addition, federal NPDES regulations also require that the copermittees prevent all types of illicit discharges into the MS4, except for the non-storm water discharges listed in item B.2. The Tentative Order does not require specific BMPs to be used by each copermittee to meet the requirements. With respect to spills and seepage from the sewer system to the MS4, the Tentative Order in item F.5.i requires the copermittees to implement controls and measures to limit infiltration to the MS4 through routine preventative maintenance of the MS4. Where copermittees operate both the MS4 and the sewer system, they must routinely maintain both. Similarly, section F.5.f of the Tentative Order requires each copermittee to prevent, respond to, contain and cleanup all sewage and other spills that may discharge into the MS4. The Tentative Order relies heavily on pollution prevention measures, which is supported by both the federal EPA and the State of California. Effective, routine pollution prevention measures should limit the need for more costly alternatives, such as lining the sewers.

Section I

Comment: As the Tentative Order is currently written, the Board will require that the permittees submit the first JURMP Annual Report at the same time (January 2003) that the JURMP Document is submitted (365 days after the order). For the permittees to spend the first year developing the JURMP document and simultaneously to submit an annual report documenting the accomplishments of a program that they have only just finished developing and have not yet implemented for any significant period of time seems to result in reporting just for the sake of reporting and will be a drain on copermittee staff time and resources. Again we suggest that the Board find some way to streamline all reporting requirements under this Order. (*Aliso Viejo*)

Response: The Tentative Order does not require the submittal of the first Jurisdictional Urban Runoff Management Program (JURMP) Annual Report on the same date as the JURMP Document. The Tentative Order requires the first JURMP Annual Report to be submitted by the Copermittees on January 31, 2003. The JURMP Document shall be submitted 365 days following adoption. The requirement to submit a specific JURMP Document is necessary since this document will report on all aspects of the JURMP and will be used to assess the Copermittees' compliance with the Tentative Order. Section F of the Tentative Order requires the Copermittees to continue the implementation of the programs executed under Order No. 96-03 during the first year of the Tentative Order while the JURMP is being developed. The JURMP Annual Report submitted on January 31, 2003 will describe the implementation of these programs and the activities, including preparation of the JURMP Document, conducted under the first year of the Tentative Order.

Section J

Comment: Flexibility Needs to be Provided to Undertake Watershed Planning at the Sub-Watershed level. There is a need to provide flexibility in carrying out large-scale watershed planning. The proposed Watershed URMP appears to indicate that all jurisdictions in a watershed must work together at the same time in order to undertake watershed approaches. Given the widely differing conditions and jurisdictional relationships in the San Juan and San Mateo Creek watersheds, the Regional Board should specifically provide an option for watershed planning at the sub-watershed

level so long as the planning units are coherent from a hydrologic and geomorphological perspective.
(*Rancho Mission Viejo*)

Response: The Tentative Order does not preclude watershed planning at a sub-watershed level. The Tentative Order does require that each Copermittiee in the San Juan Creek Watershed Management Area within Orange County collaborate to develop a Watershed Urban Runoff Management Plan to identify, address, and mitigate the highest priority water quality issues. As noted by the commenter, such planning must be based on an assessment of watershed conditions including water quality of receiving waters. Watershed planning must also be based on the characterization of MS4 discharges, prioritization of major water quality problems in the watershed, existing and planned land uses, and the short term and long term strategy to assess and track the short term and long term progress of the Watershed URMP towards achieving improvements in receiving water quality impacted by urban runoff discharges.

Section J

Comment: The August 23 revision to the Tentative Order lists the “Arroyo Salada Creek” as a tributary to San Juan Creek. What is the Arroyo Salada Creek? Where is it located? Why is it considered to be a major receiving water? (*Laguna Niguel*)

Response: Arroyo Salada is identified in the San Diego Region Basin Plan as a tributary to Salt Creek (Hydrologic Unit Basin Number 1.14). It is the tributary which flows into Salt Creek at the coast. It is considered a major receiving water for the Dana Point area in that one of only a few receiving water bodies in the that area.

Section J Subsection Table 4

Comment: Aliso Viejo needs to be added as a Copermittiee for Orange County Coastal Steams - Laguna. A small section of AV drains to Laguna Canyon. (*Surfrider Foundation*)

Response: Aliso Viejo will be added as a Copermittiee for Orange County Coastal Streams - Laguna.

Section O Subsection O.3

Comment: Must the principal permittee be the same entity for purposes of the Unified Jurisdictional URMP and the Watershed URMPs? It may be too much of a burden for Orange County PFRD to have to manage and coordinate five different Watershed URMPs and annual reports. (*Aliso Viejo*)

Response: The Tentative Order does not define a Principal Permittee for the Watershed URMPs.

Section P

Comment: How will the Receiving Waters Monitoring Program data tie into the new Statewide General Permit for Construction Activities monitoring standards applicable to general permittees? (*Clayton Group Services*)

Response: The monitoring that will be conducted by entities permitted under the General Statewide Construction Storm Water Permit is site specific. The Receiving Waters Monitoring Program that will be implemented under the Tentative Order will assess the impact of urban runoff, which may include runoff from construction sites, on receiving waters. The Copermittees may individually or collectively review and consider any data generated from water quality monitoring of construction site discharges in the implementation of their programs.

Section: Q

Comment: The proposed permit has numerous new components/programs that must be developed and implemented (some within 180 or 365 days). Some of these programs will require municipalities to establish new funding sources and hire additional staff, which will be extremely difficult within the prescribed timelines. Is it possible to extend the completion dates of items required within the first 12 months by an additional 12 months?

The Board's timeline for preparation of the Urban Runoff Management Plan, and the Watershed Urban Runoff Management Plan and implementation of the Watershed URMP is aggressive. The financial burden of the copermittees to comply with these requirements will be onerous and the copermittees will most likely seek assistance from state and federal grant and loan programs. However, the timeline for applying for and receiving monies under these grant and loan programs is much longer than the compliance time period allowed by the Regional Board. Will the Board allow extensions on the due dates set forth in the Order if the co-permittees can show that applications have been made in a reasonable period of time and that every effort to comply with the Order is being made? (*Mission Viejo*)

Response: The Tentative implements the requirements of the 1990 Federal NPDES regulations and California Water Code regulations. The programs and BMPS required under the Tentative Order are intended to build upon those already developed and implemented by the Copermittees during the previous two permits. The timeline appears aggressive since the Tentative Order is a third term permit rather than a first or second term permit. The development and implementation of the Tentative Order are realistic and achievable. Most of the requirements of the proposed permit are also required by the existing permit and have been in place for almost five years. In addition, most of the funding sources and staff should already be in place. For these reasons, additional time for implementation of the requirements of the Tentative Order is not considered necessary.

Section Q

Comment: We recommend that fines and penalties pertaining to meeting deadlines, implementation requirements and regulations stated within this permit should be more clearly delineated. (*Surfrider Foundation*)

Response: Enforcement action is dependent on a number factors and must be handled on a case by case basis. Nonetheless, Attachment C of the Tentative Order defines the Standard Provisions, Reporting Requirements, and Notifications that apply to violations of the laws and regulations implemented and enforced under the Tentative Order.

Section Q

Comment: Section Q, Task No. 1: This task is inconsistent with the permit Section B.3. The language in this task description should be clarified according to Comment 4: following text change is recommended:

“For each discharge category not prohibited, the Copermittee shall submit the following information to the SDRWQCB within 60 days of determining that the discharge category is a significant source of pollutants to waters of the United States” (*San Clemente*)

Response: The completion date requirement and tasks specified in section B.3.c and Table 5 is appropriate. The requirement refers to non-prohibited, non-storm water discharge categories that the Copermittee has determined to be a significant source of pollutants. Since the Tentative Order is a third term permit, the Copermittees may have individually or collectively determined that one or more of these discharge categories may be a significant source(s) of pollutants. In that event, the Copermittees may prohibit the discharge category or not prohibit the discharge category and implement or require the implementation of BMP(s) to prevent or reduce pollutants to the MEP.

Section: Attachment B

Comment: The Tentative Order’s monitoring requirements reflect poor public policy and are contrary to the California Water Code. The Permittees have performed, and continue to perform, extensive monitoring of water quality within their jurisdictions that is described in Section 11.0 and Appendix K of the 2000 DAMP (Water Quality Monitoring Program). Yet, the Tentative Order would effectively throw out the years of work and millions of dollars spent on this effort by the Permittees in order to implement a new monitoring program – a program developed for San Diego County, a county without the Permittees’ historic water quality monitoring program. Not only is this poor public policy, representing an extremely ineffective use of public funds, but it is also contrary to the Water Code. Rather than imposing an entirely new monitoring program, the Tentative Order should allow for the Permittees to build upon the existing program, so that none of the valuable historical data or sampling frequencies necessary for calculating long term trends is lost. Tentative Order also should recognize and incorporate collaborative research and monitoring opportunities to aid the Permittees in determining the chemical, physical and biological impacts to receiving waters resulting from urban runoff.

Furthermore, to the extent that Permittees’ monitoring program could be made more effective, the Permittees should be allowed to review and revise their current program within the time frame established in the DAMP, thereby avoiding the massive revision (and resulting costs) that the Tentative Order would otherwise require now. Finally, to further maximize public resources, water quality monitoring reporting should coincide with the annual status report and an individual Permittee should be allowed to perform (by way of a consultant or the Permittee’s own staff) monitoring for an entire region.

In addition to the public policy reasons for not throwing out the Permittees’ existing monitoring program, there are also legal reasons that prohibit the Regional Board from doing so. In imposing the new monitoring requirements (see Tentative Order, Items F.5.b & P, and Appendices B & E), the Regional Board staff have provided no justification for the need within the County for a new monitoring program. Without such justification, the monitoring requirement violates Water Code sections 13267(b)(1) and 13224(c), both of which require that the cost of water monitoring required by a regional board “bear a reasonable relationship to the need for [such monitoring] and the benefits to be obtained [therefrom].” Without knowing why the monitoring is required, there is no way to tell whether the cost of the monitoring bears any relationship to the need for, or benefits from the monitoring. With no apparent reason for implementing a new monitoring program (other than to make it consistent with

the program imposed on San Diego County), and therefore no justification for the significant costs it would impose on the Permittees, the Tentative Order's monitoring program is contrary to the Water Code and is poor public policy. The Permittees should, accordingly, be allowed to continue implementing their existing Water Quality Monitoring Program. (*County of Orange*)

Response: The Monitoring and Reporting requirements of the Tentative Order, including the requirement to conduct a Receiving Waters Monitoring Program, are based on and strongly supported by the Federal NPDES regulations and the California Water Code. The Copermittees must conduct a comprehensive monitoring program as required under Federal NPDES regulations 40 CFR 122.26(d)(2)(iii). Standard provisions, reporting requirements, and notifications included in Attachment C are consistent to all NPDES permits and are generally found in Federal NPDES regulation 40 CFR 122.41 (Federal NPDES regulation citations are provided in the Attachment). The CWC sections 13377, 13267, and 13225 support the monitoring requirements contained in the Tentative Order. As the largest discharge of waste in Orange County, the costs to implement the monitoring requirements and reporting requirements for urban runoff in Attachment B of the Tentative Order are necessary and bear a reasonable relationship to the need for the report and the benefits to be obtained from the reports. The argument that "without knowing why the monitoring is required, there is no way to tell whether the cost of the monitoring bears any relationship to the need for, or benefits from the monitoring" is specious since to a great extent the Copermittees have the discretion, within the framework provided in Attachment B, to determine what monitoring will be performed, the frequency and location of monitoring, and how the monitoring activities will be conducted. Furthermore, both the Tentative Order and the Fact Sheet/Technical Report provide ample justification, rationale, and discussion of each of the Receiving Waters Monitoring Program requirements contained in Attachment B of the Tentative Order. Moreover, many of the objectives of the Tentative Order are represented in the Orange County Water Quality Monitoring Program (99-04) currently being implemented by the Copermittees.

Contrary to the comments above, the Tentative Order does not require the Copermittees to "effectively throw out the years of work and millions of dollars spent on this effort by the Permittees in order to implement a new monitoring program – a program developed for San Diego County, a county without the Permittees' historic water quality monitoring program." Rather the section B.2 of Attachment B of the Tentative Order specifically requires the Copermittees to submit a Receiving Waters Monitoring Program Document that includes:

- 1) A Previous Monitoring and Future Recommendations Technical Report
- 2) Receiving Waters Monitoring Program

Neither the requirement to review previous monitoring work, including the 99-04 Plan, nor the requirement to specifically define the Receiving Waters Monitoring Program to be implemented under the Tentative Order constitute "effectively throwing out" the current monitoring program. The Copermittees are specifically directed in Attachment B section B.2.b to "collaborate to review and revise the existing 99-04 Plan utilizing the findings of the Previous Monitoring and Future Recommendations Technical Report." It is difficult to see how utilizing their own review of their own previous monitoring efforts, including the 99-04 Plan, would result in the Copermittees revising the 99-04 Plan in such a manner as to "...throw out years of work and millions of dollars..." If the previous work performed cannot sustain review and revision, the considerable effort described above may, in fact, have been of questionable value. However, it is reasonable to expect that the previous monitoring work performed will easily be able to sustain any review and revision and will prove to be of great value. It is equally reasonable to expect that the findings resulting from the review of the monitoring work performed under the 99-04 Plan will be incorporated in the Receiving Waters Monitoring Program to be conducted by the Copermittees under Tentative Order 2001-193.

Moreover, the Copermittees are provided the maximum degree of latitude, flexibility and discretion to revise the 99-04 Plan. This does not constitute, as claimed by the commenter, an imposition of a new monitoring program. The SDRWQCB has the authority to require receiving waters monitoring and reporting in which the costs bear a reasonable relationship to the need for the report and the benefits to be obtained from the reports. The SDRWQCB has determined that the structure and format of the Receiving Waters Monitoring and Reporting Program is necessary in the San Diego Region and that the costs bear a reasonable relationship to the need for the reports and the benefits to be obtained.

The Tentative Order does not require that the 99-04 Plan be discontinued, but that it be reviewed and revised to include specific monitoring requirements considered necessary by the SDRWQCB for the assessment of compliance, measuring the effectiveness of Urban Runoff Management Plans, assessing the chemical, physical, and biological impacts to receiving waters resulting from the discharge of urban runoff, and assessing the overall health and evaluating the long-term trends in receiving water quality. While the 99-04 Plan includes some of these objectives in its three program elements (described in Appendix K of the Proposed DAMP), it does not include assessment of compliance with the Order and it does not require or provide for the monitoring and assessment of all parameters included in Attachment B. The 99-04 Plan, furthermore, does not adequately address all of the receiving waters of the San Juan Creek Watershed Management Area in Orange County. The 99-04 Plan was developed to assess urban runoff in Orange County as a whole, but a very strong emphasis was placed on the northern parts of the County outside of the San Diego Region covered under this Order. The Copermittees have committed to a revision of the 99-04 Plan by 2003; the requirements of the Tentative Order simply require that this revision be performed one year earlier and include the additional monitoring program requirements in Attachment B. Thus the Receiving Waters Monitoring and Reporting Program does, in fact, build upon the previous monitoring programs.

Finally, the SDRWQCB is not precluded from including Receiving Waters Monitoring Program requirements in the Tentative Order that are similar to those required in Order No. 2001-01 for the San Diego Municipal Storm Water Permit. Moreover, there is ample justification for consistency in Monitoring and Reporting Programs under NPDES permits and Waste Discharge Requirements within a region.

In response to the comment that the Tentative Order should recognize and incorporate collaborative research and monitoring opportunities, the Tentative Order Receiving Waters Monitoring and Reporting Program does not preclude and in fact encourages and incorporates collaborative research and monitoring opportunities that the Copermittees. The Copermittees have the discretion to determine how they may use these approaches to assess compliance with the Order and determine the chemical, physical and biological impacts to receiving waters resulting from urban runoff.

With respect to the comments regarding the maximization of public resources, the submittal of the Receiving Waters Monitoring and Report does in fact coincide with the submittal of the Annual Reports. The Receiving Waters Monitoring Program Document shall be submitted 180 days following adoption of the Tentative Order, but the submittal of the Receiving Waters Monitoring Annual Reports coincides with the January 31st submittal of the Jurisdictional and Watershed Annual Reports. The Tentative Order does not preclude an individual Copermittee performing (by way of a consultant or the Copermittee's own staff) monitoring for an entire region, but does require that all of the Copermittees collaborate in the effort to review, revise and implement the Receiving Waters Monitoring and Reporting Program. The capacity and degree of participation is at the discretion of the individual Copermittees. The Tentative Order does not prohibit the Copermittees from utilizing their staff to perform the work required in the Receiving Waters Monitoring and Reporting Program provided that any necessary certification or training requirements that may apply with respect to Standard Monitoring Requirements of Attachment B are satisfied.

For the reasons described above, the requirements of Receiving Waters Monitoring Program in Attachment B of the Tentative Order are not poor public policy and are not contrary to either the California Water Code or the Federal NPDES Regulations. The SDRWQCB has discretion to require Receiving Waters Monitoring and Reporting Program item P and Attachment B in the Tentative Order No. 2001-193 under the broad and specific legal authority cited in the Fact Sheet/Technical Report.

Section Attachment B

Comment: What is the status of State's proposed new Ambient Water Monitoring Program? How will it relate to municipal permit monitoring requirements? (*Richard Watson and Associates*)

Response: The SDRWQCB is currently developing its Surface Water Ambient Monitoring Program (SWAMP) workplan and selecting sampling sites in the San Juan Creek Watershed Management Area, Carlsbad Hydrologic Unit, Los Penasquitos Hydrologic Unit, and the Otay River Watershed. Sampling is expected to begin in 2002 and will use an integrative, rotating watershed approach to assessing the physical, chemical, and biological condition of surface waters in the San Diego Region.

Section Attachment B

Comment: Sampling can be misleading if taken at a time of day and site that shows low readings. Who selects sites and time of sampling? (*South Orange County Watershed Conservancy*)

Response: The Copermittees proposed specific monitoring methods, criteria and rationale for the selection of monitoring parameters, sampling sites, times, and frequencies. These will be reviewed by the Copermittees in the Previous Monitoring and Future Recommendations Technical Report and proposed in the Receiving Waters Monitoring Program required in Attachment B of the Tentative Order, which are subject to review, comment, and modification by the SDRWQCB.

Section Attachment B

Comment: The permittees are being required to conduct Urban Stream Bioassessment Monitoring as Part of the Receiving Waters Monitoring Program to assess the insitu survival of aquatic life in receiving waters, why impose toxicity testing which is a laboratory assessment and less representative and costly? (*Aliso Viejo*)

Response: Bioassessment monitoring provides a direct measurement of the impact of cumulative, sub-lethal doses of pollutants or contaminants that may be below reasonable water chemistry detection limits, but that are not without biological affect. Bioassessment not only identifies that an impact has occurred, but also measures the affect of the impact and tracks recovery when control or restoration measures (e.g. implementation of BMPs) have been taken. Bioassessment does not, however, identify the sources or causative agents of the impact. The toxicity testing requirement is necessary to identify the sources or causative agents of impact to the benthic macroinvertebrate community to enable the Copermittees to adequately address these sources in their programs.

As discussed in the another comment on bioassessment and toxicity testing, the Monitoring and Reporting Requirements of the Tentative Order include a requirement for the Copermittees to develop a program for standardized toxicity and Toxicity Identification Evaluation (TIE) analyses to be performed at urban stream bioassessment stations where the bioassessment data indicates significant impairment. In this context, toxicity testing and TIE analysis are follow-up tools to identify

potential sources and causative factors for an observed impact on the benthic community. However, toxicity testing and TIE analysis is also an appropriate means for identifying the impact of the discharge of urban runoff in and of itself, which is the focus of Finding 26. The Tentative Order properly includes toxicity and TIE analysis as a primary assessment procedure as well as a follow-up procedure for stations in which benthic bioassessment data that indicate an impact has occurred.

Section Attachment B Subsection B.2

Comment: Why is the reporting period for the receiving waters monitoring program different than the reporting period for the rest of our reports? We currently submit one annual status report a year that includes all of our information including the water quality monitoring program. If the two reports reflect different reporting periods and schedules it adds significantly to the confusion and difficulty in evaluating the effectiveness of the programs. (*County of Orange*)

Response: As outlined in Section Q, Table 6 "Submittal Summary," the annual reporting period for both the annual receiving waters monitoring program and the Jurisdictional Annual Report is concurrent, with both due on January 31, beginning in 2003. The Tentative Order does require within 180 days of Permit adoption a technical report that contains previous monitoring findings, provides recommendations for future monitoring, and describes a revised receiving waters monitoring program that reflects the requirements of the Order. The purpose of this report is to document the rationale for previous and future monitoring activities.

Section Attachment C

Comment: The "Bypass" and "Upset" Provisions are Inappropriate in an MS4 Permit. The standard provisions for "Bypass" and "Upset" in Attachment C, at A8 and 9, seem inappropriate in a MS4 permit, as they pertain only to POTWs. Recommendation: Delete the POTW standard provisions in Attachment C, at A.8 and A.9. (*Lake Forest & Laguna Woods*)

Response: These are conditions for NPDES permits set out in 40 CFR 122.41 and 122.42. The SDRWQCB does not have discretion to omit these standard conditions from the permit.

Section Attachment D

Comment: The Board defines non-storm water as "all discharges to and from a storm water conveyance system that do not originate from precipitation events..." while the USEPA defines storm water as "storm water runoff, snow melt runoff, and surface runoff drainage." Thus the federal definition of storm water seems to include surface runoff and drainage which may not be the result of precipitation while the Board does not. This may be the source of some fundamental problems in this order. (*Aliso Viejo*)

Response: Comment noted. The Tentative Order regulates the discharge of urban runoff. The Board's definition of urban runoff is consistent with USEPA's definition of storm water.

Section Attachment D

Comment: "Biomagnication" - is not the appropriate term biomagnification? (*Aliso Viejo*)

Response: Yes, biomagnification is the correct term, the change will be made in the final draft.

Section Attachment E

Comment: Please define a "major drainage area" as referenced within Attachment E section 4, B.2. (*Irvine Ranch Water District*)

Response: The Tentative Order was drafted to provide each Copermittee with the discretion to define what will constitute a major drainage area within their jurisdictions, based on the geographic extent of its jurisdiction, land use activities, etc. This definition and a description of the dry weather monitoring program will be included by each Copermittee in their Jurisdictional Urban Runoff Management Program Document, which is subject to SDRWQCB review and comment.

Section: Attachment E

Comment: Why is the Receiving Water Monitoring element (Attachment B) to be reported on as a separate report and the Dry Weather Monitoring element (Attachment E) to be reported on within the annual status report? All monitoring should be reported in one annual status report section so that data is kept together and analyzed holistically. Opportunities for more through analysis may be lost if the data are reported in two different reports. The Permittees opted to revise this program element and tie it directly into the water pollution database in order to find illegal discharges. If they so choose the Copermittees should be able to pool their resources in order to collectively benefit from a larger program by updating their current 99-04 plan to include some additional components.

The above referenced section states that the Permittees need to submit two separate monitoring reports. Since this basis of this information has already been submitted in two previous Reports of Waste Discharge and annually for the past nine years, why is this information needed again? The Permittees have already completed an extensive program to eliminate illicit connections and are now in a maintenance mode whereby the connections are dealt with when found through the channel maintenance program. In fact, very few illicit connections are found and most of them are pool drains. Wouldn't it be appropriate to revise the next monitoring annual status monitoring report to include some additional items?

Many of the proposed requirements in the draft permit would be administratively and operationally overwhelming to implement. The staff proposal to expand dry weather monitoring by applying the field screen criteria from the original Part I application requirements to on-going monitoring will have tremendous financial implications. The use of a 1/4-mile grid system was designed for initial field screening during the very expensive Part I application process. We are long past that process, and in Orange County we are now preparing to enter our third permitting cycle. Further, 40 CFR 122.26(d)(2)(iii)(A) requires between five and ten outfalls or field screening points as representative of the commercial, residential and industrial land use activities of the drainage area contributing to the system. No justification appears to warrant this requirement and it is clearly an unfunded mandate.

These sections identify eighteen (18) specific constituents for Dry Weather Analytical Monitoring. Please identify the reasons for including each of the constituents, the water quality issues or problems associated with each, and the typical construction, industrial, municipal, commercial and/or residential

operations or practices that may cause such constituents to be found in urban runoff. (*County of Orange, Lake Forest, Mission Viejo, Laguna Niguel,*)

Response: The Dry Weather Monitoring Program is a jurisdictional level program requirement that is based on Federal NPDES Regulations found at 40 CFR 122.26(d)(2)(iv)(B) and 40 CFR 122.26(d)(2)(iv)(B)(1). Federal NPDES Regulation 40 CFR 122.26(d)(2)(iv)(B)(2) provides that the Copermittee shall include in its proposed management program “a description of the procedures to conduct on going field screening activities during the life of the permit, including areas or locations that will be evaluated by each field screens.” The Dry Weather Monitoring requirement is a central component of each Copermittee’s jurisdictional level programs and activities to identify and eliminate illicit discharges and illegal connections. Furthermore, each Copermittee is expected to develop a Dry Weather Monitoring Program tailored to the conditions, land use activities, and urban runoff management issues specific to its jurisdiction. The Copermittees in the three counties in the San Diego Region have implemented this requirement with varying degrees of success since 1990 and have generally not found it to be administratively and operationally overwhelming to implement. A review of recently submitted enforcement letters and monitoring reports from San Diego Region municipal storm water Copermittees indicate that suspected small illicit discharges are in fact being identified at a jurisdictional level through frequent inspections or monitoring by the Copermittees. The identification and elimination of actual sources, however, has not been as successful and the Dry Weather Monitoring Program requirements of the Tentative Order were drafted to address this problem regionwide.

The program to detect and eliminate illicit connections and illegal discharges should be an on-going and flexible program that will ensure future problems are identified and addressed. As land use activities change, the potential for illicit discharges and illegal connections also change. The Dry Weather Monitoring Program should be flexible and specific to the needs of each jurisdiction and should not be constrained by the more rigid requirements of Receiving Waters Monitoring Program. In order to facilitate a more comprehensive monitoring of the MS4s to detect illicit discharges and illegal connections, each Copermittee is directed to develop and implement a flexible, responsive dry weather monitoring program designed to detect the highly episodic, short term illicit discharges that might escape detection in a monitoring program that is conducted by a second party at a countywide level. Furthermore, it is essential that the Dry Weather Monitoring Program be fully integrated with the other municipal programs and activities in its Jurisdictional Urban Runoff Management Program (JURMP), especially the programs implemented under section F.5 of the Tentative Order. Thus, because the permit is issued to each Copermittee, it is necessary for each Copermittee to conduct its Dry Weather Monitoring Program and report on the findings and follow-up activities initiated as a result of the findings in its JURMP Annual Report. Nonetheless, the Tentative Order does not preclude the Copermittees from collaborating and coordinating the monitoring activities. Significant advantages and economies can be realized through the coordinated effort of multiple Copermittees, particularly on a watershed scale (e.g. the Aliso Creek watershed). Such coordinated monitoring, however, should not be conducted without consideration of individual Copermittee flexibility and integration of the monitoring requirements with the source identification, elimination, and enforcement follow-up requirements specified in section F.5 of the Tentative Order.

While Dry Weather Monitoring will be conducted by each Copermittee as part of its JURMP, the Receiving Waters Monitoring Program will be conducted collectively by the Copermittees (i.e. the Principal Permittee) and addresses the impact of the discharge of urban runoff on receiving waters. Consequently, the reporting requirements for the two programs are different. The Tentative Order does not preclude collective evaluation of both sets of data by any or all of the Copermittees. The Copermittees have the discretion to collate the data and analyze it holistically. This approach is supported by the requirement that each Copermittee shall submit their Dry Weather Monitoring data annually to the Principle Permittee. It is important to note that the program management structure of

developed by the Copermittees should ensure that data collected by each Copermittee would be available to the Principal Permittee and each of the Copermittees for these types of analyses. With respect to Orange County Water Quality Monitoring Program (99-04 Plan), the Copermittees have the discretion to revise and implement the 99-04 Plan jointly as described above.

Under previous permits, a Report on Illicit/Illegal Discharges was required, but this report did not terminate the requirement for dry weather monitoring to detect and eliminate illicit discharges and illegal connections. The responsibility for each Copermittee to identify and eliminate illicit discharges is an ongoing requirement. The requirement does not go away because the permit is in its third renewal. Moreover, the detection and elimination of illicit discharges and illegal connections is not a process that the Copermittees as continuous dischargers of urban runoff can be considered to be "long past." As an ongoing requirement, it is essential that each Copermittee report annually on its activities and programs implemented to satisfy the requirements of section F.5 and Attachment E of the Tentative Order.

In regards to the use of a 1/4-mile grid system, this approach is not required in the Tentative Order. Moreover, the Copermittees have been provided with the maximum degree of latitude to determine the number, location and frequency of sampling in the Dry Weather Monitoring Program and to revise them annually.

With respect to the water quality constituents designated as the minimum monitoring requirements for the Dry Weather Monitoring Program, the constituents were selected from the Federal NPDES Regulations, and UESPA guidance documents cited in the Fact Sheet/Technical Report. Many of these constituents have been included in Dry Weather Monitoring Programs by San Diego Region municipal storm water Copermittees since 1990.

Section Fact Sheet

Comment: On page 17 of the draft fact sheet / technical report it states that there was a general lack of action by the Permittees... On what basis was this statement made? (*County of Orange*)

Response: The statement on page 17 of the Fact Sheet/Technical Report was based on ten years of staff review of Copermittees reports, enforcement actions, and studies. In particular, while some Copermittees reported enforcement action, many did not. Furthermore, in some cases where significant exceedances of receiving water quality objectives were reported by the Copermittees, source identification and elimination efforts were often ineffective or incomplete. Also, the extent of industrial and construction site inspection and enforcement actions performed by the Copermittees has not been adequate to fully address discharges from these facilities into the MS4.

Section Fact Sheet

Comment: On page 10 of the draft fact sheet/technical report it states that the Aliso Creek 205(j) study suggested several possible sources of aquatic toxicity, all of which are derived from urban runoff. Since the 205(j) study merely tested for the presence/absence of toxicity and did not conduct any actual TIE studies, it would be premature to assume that all of the possible sources would be derived from urban runoff. (*County of Orange*)

Response: Comment noted. The possible sources of toxicity suggested in the Aliso Creek 205(j) study include trace metals, polynuclear aromatic hydrocarbons (PAHs), pesticides (especially organophosphates), herbicides, polychlorinated biphenyls (PCBs), and ammonia. The Receiving

Waters Monitoring Program of the Tentative Order (Attachment B) will provide an measurement of the effectiveness of the Urban Runoff Management Plans. The monitoring program requires the copermitttees to design and implement a program to conduct standardized toxicity testing at urban stream bioassessment stations where bioassessment data indicated significant impairment. When findings indicate the presence of toxicity, a Toxicity Identification Evaluation (TIE) shall be conducted to determine the cause(s) of the toxicity.

Section Fact Sheet

Comment: On page 6 of the draft fact sheet/technical report it states that preliminary resultsof the SDRWQCBs ambient bioassessment monitoring program indicates that the benthic macroinvertebrate communities of Aliso and San Juan Creeks may be adversely impacted. By what constituents? Did this monitoring take into account other habitat stressors such as water temperature, shading? How many stations were monitored? (*County of Orange*)

Response: The SDRWQCB Ambient Bioassessment Monitoring Program included two sites on Aliso Creek and a single site each on Arroyo Trabuco and San Juan Creek. In the 1998 and 1999 sampling, the ranking scores for the Aliso Creek and San Juan Creek sites were typically below the mean Benthic Macroinvertebrate Ranking for the San Diego Region. Arroyo Trabuco was generally at or above the mean BMI Ranking for the San Diego Region. These scores are derived from multiple metrics, which are attributes that are empirically shown to change predictably in value across a gradient of human influence. These metrics include taxa richness, percent pollution tolerant, biotic index, and functional feeding guild measures. This type of monitoring integrates the affects of multiple stressors, including habitat both spatially and temporally. Physical conditions and habitat are also assessed to ensure that sites being compared are comparable. Over 70 stations have been monitored in the four year Ambient Bioassessment Monitoring Program. These results are preliminary and additional data from samples collected in 2001and the final report are still forthcoming from the California Department of Fish and Game Aquatic Bioassessment Laboratory. A more definitive assessment of the biological and physical condition of the creeks can be made when this information is available. Because aquatic bioassessment is a highly robust assessment that integrates multiple stressors, including sub-lethal doses of contaminants, it is a high monitoring priority for the SDRWQCB and is being included in Monitoring and Reporting Programs for NPDES permits and Waste Discharge Requirements including Tentative Order 2001-193. The Receiving Waters Monitoring Program in Attachment B of the Tentative Order expands this preliminary effort to include 15 bioassessment stations sampled biannually in the San Juan Creek Watershed Management Area within Orange County.

Section Fact Sheet

Comment: We request that Draft Fact Sheet/Technical Report language be updated at the same time as the Revised Order language is prepared. (*Laguna Niguel*)

Response: To the extent feasible, the Fact Sheet/Technical Report is updated to reflect changes in the Tentative Order. Some original material was retained following revisions to the Tentative Order when staff concluded that the material was still relevant to the Tentative Order as a whole.

ATTACHMENT 40

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
SAN DIEGO REGION

ADDENDUM NO. 2 TO ORDER NO. 90-38
NPDES PERMIT NO. CA0108740

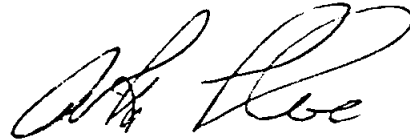
AN ADDENDUM MODIFYING RESPONSIBILITY FOR
ORDER NO. 90-38 TO INCLUDE THE CITY OF LAGUNA HILLS
AS AN INCORPORATED CITY OF ORANGE COUNTY
WITHIN THE SAN DIEGO REGION

The California Regional Water Quality Control Board, San Diego Region (hereinafter Regional Board), finds that:

1. On July 16, 1990, this Regional Board adopted Order No. 90-38 (NPDES Permit No. CA0108740), Waste Discharge Requirements for Stormwater and Urban Runoff from the County of Orange, the Orange County Flood Control District, and the Incorporated Cities of Orange County within the San Diego Region. Order No. 90-38 prescribes requirements for the control of pollutants in stormwater/urban runoff from all incorporated cities and the unincorporated urban areas in Orange County within the jurisdiction of the Regional Board.
2. By letter dated July 23, 1992, (received May 5, 1993) Robert F. Wingard, Director of Regulation, Environmental Management Agency, County of Orange, notified the Regional Board that the City of Laguna Hills is now one of the incorporated cities of Orange County within the San Diego Region.
3. The Regional Board has notified all known interested parties of its intent to modify Order No. 90-38 to reflect the addition of the City of Laguna Hills as one of the parties responsible for complying with Order No. 90-38.
4. The Regional Board in a public hearing heard and considered all comments pertaining to the modification of Order No. 90-38.

IT IS HEREBY ORDERED THAT Order No. 90-38 is modified to reflect that the City of Laguna Hills is one of the incorporated cities of Orange County within the San Diego Region. As such, the City of Laguna Hills is one of the parties responsible for compliance with Order No. 90-38.

I, Arthur L. Coe, Executive Officer, do hereby certify the foregoing is a full, true, and correct copy of an Addendum adopted by the California Regional Water Quality Control Board, San Diego Region, on May 17, 1993.

A handwritten signature in cursive script, appearing to read 'Arthur L. Coe', is written above a horizontal line.

Arthur L. Coe
Executive Officer

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
SAN DIEGO REGION

ADDENDUM NO. 1 TO ORDER NO. 90-38
NPDES PERMIT NO. CA0108740

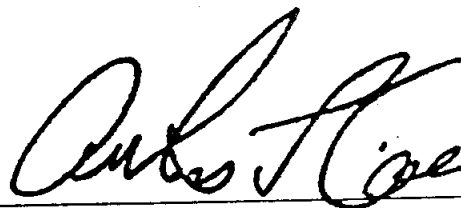
AN ADDENDUM MODIFYING RESPONSIBILITY FOR
ORDER NO. 90-38 TO INCLUDE THE CITY OF LAKE FOREST
AS AN INCORPORATED CITY OF ORANGE COUNTY
WITHIN THE SAN DIEGO REGION

The California Regional Water Quality Control Board, San Diego Region (hereinafter Regional Board), finds that:

1. On July 16, 1990, this Regional Board adopted Order No. 90-38 (NPDES Permit No. CA0108740), Waste Discharge Requirements for Stormwater and Urban Runoff from the County of Orange, the Orange County Flood Control District, and the Incorporated Cities of Orange County within the San Diego Region. Order No. 90-38 prescribes requirements for the control of pollutants resulting from stormwater/urban runoff from all incorporated cities and the unincorporated urban areas in Orange County within the jurisdiction of the Regional Board.
2. By letter dated May 7, 1992, Robert F. Wingard, Director of Regulation, Environmental Management Agency, County of Orange, notified the Regional Board that the City of Lake Forest is now one of the incorporated cities of Orange County within the San Diego Region.
3. The Regional Board has notified all known interested parties of its intent to modify Order No. 90-38 to reflect the addition of the City of Lake Forest as one of the parties responsible for complying with Order No. 90-38.
4. The Regional Board in a public hearing heard and considered all comments pertaining to the modification of Order No. 90-38.

IT IS HEREBY ORDERED THAT Order No. 90-38 is modified to reflect that the City of Lake Forest is one of the incorporated cities of Orange County within the San Diego Region. As such, the City of Lake Forest is one of the parties responsible for compliance with Order No. 90-38.

I, Arthur L. Coe, Executive Officer, do hereby certify the foregoing is a full, true, and correct copy of an Addendum adopted by the California Regional Water Quality Control Board, San Diego Region, on September 21, 1992.



Arthur L. Coe
Executive Officer

California Regional Water Quality Control Board
San Diego Region

ORDER NO. 90-38
NPDES No. CA 0108740
Waste Discharge Requirements
for
Stormwater and Urban Runoff
from the
County of Orange
the
Orange County Flood Control District
and the

Incorporated Cities of Orange County Within the San Diego Region

The California Regional Water Quality Control Board, San Diego Region (hereinafter Regional Board), finds that:

1. On March 15, 1990, the County of Orange and the Orange County Flood Control District, anticipating cooperation from the incorporated cities of Dana Point, Laguna Beach, Laguna Niguel, Mission Viejo, San Clemente, and San Juan Capistrano, submitted a letter in application for a National Pollutant Discharge Elimination System (NPDES) permit for stormwater and urban runoff discharges to waters within the jurisdiction of the San Diego Regional Board. Shortly thereafter, the aforementioned cities submitted letters notifying the Regional Board of the cities' intent to become co-applicants and subsequently co-permittees subject to the terms and conditions of this Order.
2. Section 405 of the Water Quality Act (WQA) of 1987 added Section 402(p) to the Clean Water Act (CWA). Pursuant to Section 402(p)(4) of the CWA, the EPA is required to promulgate regulations for NPDES permit applications for stormwater discharges associated municipal separate stormwater conveyance systems serving a population of 100,000 or more. Section 402 (p)(4) of the CWA also requires dischargers of stormwater associated with industrial activities and municipal separate stormwater conveyance systems serving a population of 250,000 or more to file stormwater permit applications by February 4, 1990.
3. On December 7, 1988, the EPA published its proposed regulations in the Federal Register to solicit public comments. Final regulations are tentatively scheduled to be promulgated on July 20, 1990. In the absence of final stormwater regulations, this Order governing municipal stormwater discharges meets both the statutory requirements of Section 402 (p)(3)(B) and all requirements applicable to an NPDES permit issued under this Regional Board's discretionary authority.

4. Water quality studies in many urban areas have shown that urban runoff typically contains significant quantities of pollutants. Water quality may be adversely impacted by stormwater discharges and urban runoff. A comprehensive stormwater and urban runoff management and regulation program is essential for the protection of water resources. The County of Orange/Orange County Flood Control District and the incorporated cities in Orange County are developing a comprehensive stormwater/urban runoff management program. This Order requires the County of Orange/Orange County Flood Control District and the incorporated cities to submit documentation on existing runoff pollution control programs and specifies additional requirements towards achieving the water quality objectives for surface waters in Orange County. The intent of this permit is to improve water quality of receiving waters under the jurisdiction of the Regional Board.
5. The discharges consist of surface runoff generated from various land uses and activities in all the hydrologic drainage areas which discharge into receiving waters in Orange County within the area of jurisdiction of the Regional Board. The quality of these discharges varies considerably and is affected by land use, basin hydrology and geology, season, the frequency and duration of storm events, the presence of illicit connections and discharges, and waste management and disposal practices. The parameters and pollutants of potential concern and significance in these discharges may include, but are not limited to, pH, fecal coliform, fecal streptococcus, enterococcus, volatile organic carbon (VOC), surfactants (MBAS), oil and grease, petroleum hydrocarbons, total suspended and settleable solids, total organic carbon, biochemical oxygen demand (BOD), chemical oxygen demand (COD), lead, copper, chromium, cadmium, silver, nickel, zinc, cyanides, phenols, nutrients (e.g., nitrogen, nitrate, phosphate, etc.), and biocides. Since stormwater and urban runoff contains "waste", as defined in California Water Code (CWC) Section 13050, stormwater and urban runoff discharges constitute discharges of waste. Consequently such discharges are subject to CWC Section 13260 et seq., as well as Section 402 of the Clean Water Act, as amended.
6. The County of Orange has jurisdiction over a large portion of the flood control facilities and has agreed to be the major responsible party in implementing the provisions of this Order. The incorporated cities within the county have also agreed to cooperate with the County of Orange in controlling and improving the quality of

urban runoff from their respective areas. This Order names the County of Orange the "principal permittee" and the Orange County Flood Control District and incorporated cities as the "co-permittees". Collectively the principal permittee and co-permittees are referred to as "permittees." Attachment A lists the permittees and their 1990 estimated populations.

7. The County of Orange obtains its authority to control pollutants in stormwater discharges, prohibit illegal discharges and control spills, and require compliance and carry out inspections of the drainage facilities in Orange County from the Orange County Flood Control Act (Act 5682) and various county ordinances which address industrial wastes and waste discharges within the unincorporated areas of Orange County and contract cities. "Co-permittees" have various forms of legal authority in place, such as charters, State Code provisions for General Law cities, city ordinances and applicable portions of Municipal Codes and the State Water Code, to regulate stormwater/urban runoff discharges.
8. The County of Orange, as the "principal permittee", will obtain the cooperation of all entities in implementing the provisions of this Order. The permittees have tentatively agreed upon the responsibilities as outlined in a draft Implementation Agreement submitted to the Regional Board. In general, the "principal permittee", will be responsible for preparing operating budgets, preparing and monitoring the implementation programs, and coordinating and submitting reports to the Regional Board. The "co-permittees" will develop site-specific compliance requirements, perform compliance monitoring and inspections, submit storm drain maps and compliance reports to the County of Orange, and demonstrate and exercise enforcement authority for achieving compliance with the terms and conditions of this Order.
9. This Order requires the permittees to develop and implement programs to ensure that entities discharging stormwater/urban runoff into stormwater conveyance systems take steps to control/reduce discharges of pollutants to waters of the United States. The Regional Board has the discretion and authority to require non-cooperating entities to participate in this area-wide permit or obtain individual waste discharge requirements if it is determined that discharges from such entities cause or contribute to a violation of a water quality standard or are significant contributors of pollutants to waters of the United States.

10. The total area of Orange County is approximately 786 square miles. Water quality in 252 square miles of Orange County is under the jurisdiction of this Regional Board. The Santa Ana Regional Water Quality Control Board has jurisdiction over the remaining area. Stormwater and urban runoff discharges in areas under the jurisdiction of the Santa Ana Regional Water Quality Control Board are regulated under Santa Ana Regional Board Order No. 90-71 (NPDES No. CA 8000180), Waste Discharge Requirements for the County of Orange and the Orange County Flood Control District and the Incorporated Cities of Orange County Within the Santa Ana Region, Area-wide Urban Stormwater Runoff, Orange County. The requirements contained in this Order are patterned after Order No. 90-71 to ensure consistent regulation, pollution control practices, and monitoring and reporting requirements throughout Orange County.

11. Stormwater discharges in the Orange County portion of the San Diego region are tributary to various receiving waters. Receiving waters identified in the permittees' application are as follows:

Inland Surface Streams

- a. San Juan Creek
- b. Aliso Creek
- c. Sulphur Creek
- d. Trabuco Creek
- e. Oso Creek
- f. Segundo Descheca Creek

Bays

- a. Dana Point Harbor

Ocean Waters

- a. The Pacific Ocean between the boundary of the San Diego and Santa Ana Regional Water Quality Control Boards to the north, and the San Diego/Orange County boundary to the south.

12. The County of Orange has an active surface water quality monitoring program. Runoff samples obtained during dry weather are analyzed for nutrients and selected trace metals (chromium, copper, lead, and zinc). When water quality sampling stations exhibit higher than average watershed pollution concentrations, sediment samples are also collected and analyzed for constituents of concern

(those which were higher than average in the water column).

The monitoring program is composed of 7 water quality monitoring stations, 5 flow monitoring stations, and 8 precipitation stations. Most of the water quality monitoring stations are located in drainage areas in which land uses and activities have been identified which may significantly impact beneficial uses of receiving waters. These areas have been characterized as agricultural, commercial, residential, and areas of discharge from publicly owned treatment works.

13. The State Water Resources Control Board (hereinafter State Board) adopted a Water Quality Control Policy for Enclosed Bays and Estuaries of California (Bays and Estuaries Policy) on May 16, 1974. The policy established water quality principles, guidelines, effluent quality requirements and prohibitions to govern the disposal of wastes in the enclosed bays and estuaries of California. Dana Point Harbor is, by the definition contained in the Bays and Estuaries Policy, an enclosed bay. The Bays and Estuaries Policy contains the following prohibition specific to land runoff to Dana Point Harbor:

"The direct or indirect discharge of silt, sand, soil, clay, or other earthen materials from onshore operations including mining, construction, agriculture, and lumbering, in quantities which unreasonably affect or threaten to affect beneficial uses shall be prohibited."

14. The State Water Resources Control Board adopted a revised Water Quality Control Plan for Ocean Waters of California (Ocean Plan) on March 22, 1990. The Ocean Plan identifies the following beneficial uses of state ocean waters to be protected:
 - a. Industrial water supply;
 - b. Navigation;
 - c. Aesthetic enjoyment;
 - d. Water contact recreation;
 - e. Non-contact water recreation;
 - f. Ocean commercial and sport fishing;
 - g. Mariculture;
 - h. Preservation and enhancement of areas of special biological significance;
 - i. Preservation and enhancement of rare and endangered species;
 - j. Marine habitat;

- k. Fish migration;
- l. Fish spawning; and
- m. Shellfish harvesting.

In order to protect the above beneficial uses, the Ocean Plan established water quality objectives (for bacteriological, physical, chemical, and biological characteristics, and for radioactivity), general requirements for management of waste discharged to the ocean, quality requirements for waste discharges, discharge prohibitions, and general provisions.

- 15. The Comprehensive Water Quality Control Plan Report, San Diego Basin (9), (Basin Plan) was adopted by this Regional Board on March 17, 1975 and subsequently approved by the State Water Resources Control Board (State Board). Subsequent revisions to the Basin Plan have also been adopted by the Regional Board and approved by the State Board.
- 16. The Basin Plan identifies the following beneficial uses of inland surface waters in Orange County:
 - a. Industrial service supply;
 - b. Agriculture supply;
 - c. Water contact recreation;
 - d. Non-contact water recreation;
 - e. Warm fresh-water habitat;
 - f. Preservation of rare and endangered species; and
 - g. Wildlife habitat.
- 17. The Basin Plan contains the following prohibitions, applicable to discharges, for inland surface waters:

"Discharge of treated or untreated sewage or industrial wastes to a natural watercourse upstream of surface storage or diversion facilities used for municipal supply is prohibited."

"Discharge of treated or untreated sewage or industrial wastewater, exclusive of cooling water or other waters which are chemically unchanged, to a watercourse, is prohibited except in cases where the quality of said discharge complies with the receiving body's water quality objectives."

"The dumping or deposition of oil, garbage, trash, or other solid municipal, industrial, or agricultural waste directly into inland waters or watercourses or adjacent to the water courses in

any manner which may permit its being washed into the watercourse is prohibited."

"Land grading and similar operations causing soil disturbance which do not contain provisions to minimize soil erosion and limit suspended matter in area runoff are prohibited."

18. The Basin Plan identifies the following beneficial uses of state ocean waters to be protected:
- a. Industrial service supply;
 - b. Navigation;
 - c. Water contact recreation;
 - d. Noncontact water recreation;
 - e. Ocean commercial and sport fishing;
 - f. Preservation of Areas of Special Biological Significance;
 - g. Preservation of rare and endangered species;
 - h. Marine habitat;
 - i. Fish migration; and
 - j. Shellfish harvesting.

The Basin Plan relies primarily on requirements of the Ocean Plan for protection of those beneficial uses. However, the Basin Plan establishes additional water quality objectives for dissolved oxygen and pH.

19. Although the Basin Plan relies primarily on the Ocean Plan for the protection of marine waters, the Basin Plan contains the following prohibitions, applicable to discharges, for waters subject to tidal action:

" The dumping or deposition from shore or from vessels of oil, garbage, trash or other solid municipal, industrial or agricultural waste directly into waters subject to tidal action or adjacent to waters subject to tidal action in any manner which may permit it to be washed into the waters subject to tidal action is prohibited."

" Discharge of industrial wastewaters exclusive of cooling water, clear brine or other waters which are essentially chemically unchanged, into waters subject to tidal action is prohibited."

" The dumping or deposition of chemical wastes, chemical agents or explosives

into waters subject to tidal action is prohibited."

20. The requirements contained in this Order are necessary to implement the objectives of the Ocean Plan, Bays and Estuaries Policy, and the Basin Plan for receiving waters within the region.
21. Numerical and narrative water quality standards exist for the receiving waters in the region. Due to the enormous variability in stormwater quality and quantity and the complexity of urban runoff, this Order does not contain numerical limitations for any constituents. The impact of stormwater and urban runoff discharges on water quality of receiving waters has not been fully determined. Extensive water quality monitoring and analysis of the data are essential to make that determination. This Order requires the permittees to continue to monitor the discharges and to analyze the data. This Order also requires the development and implementation of best management practices (BMPs). "BMPs" are defined in 40 CFR 122.2 as "schedules of activities, prohibitions of practices, maintenance procedures, and other management practices to prevent or reduce the pollution of waters of the United States. BMPs also include treatment requirements, operating procedures, and practices to control plant site runoff, spillage or leaks, sludge or waste disposal, or drainage from raw material storage." For purposes of this Order, BMPs for the control of pollutants in stormwater and urban runoff may include the use of non-structural (e.g. public education, regulatory powers, urban planning, etc.) and structural (e.g. detention basins, grass swales, runoff infiltration devices, etc.) controls which may be applied to a particular site or throughout a region (e.g., a city or throughout an area served by a stormwater conveyance system).
22. Pursuant to 40 CFR 131.12 and State Board Resolution No. 68-16, Statement of Policy with Respect to Maintaining High Quality of Waters in California (collectively "antidegradation policies"), the Regional Board shall ensure that any increase in pollutant loading to a receiving water meets the requirements stated in the foregoing policies. At a minimum, permitting actions shall be consistent with the following:
 - a. Existing instream water uses and the level of water quality necessary to protect existing beneficial uses shall be maintained and protected;

- b. Where the quality of the waters exceed levels necessary to support propagation of fish, shellfish, and wildlife and recreation in and on the water, the quality shall be maintained and protected unless the State finds, after full satisfaction of the intergovernmental coordination and public participation provisions of the State's continuing planning process, that allowing lower water quality is necessary to accommodate important economic or social development in the area in which the waters are located;
 - c. Where high quality waters constitute an outstanding national resource, such as waters of National and State parks and wildlife refuges and waters of exceptional recreational or ecological significance, that water quality shall be maintained and protected; and
 - d. In those cases where potential water quality impairment associated with a thermal discharge is involved, the antidegradation policy and implementing method shall be consistent with Section 316 of the Clean Water Act.
23. The Regional Board, in establishing the requirements contained herein, has taken into consideration the requirements of the State and Federal "antidegradation" policies and has determined that:
- a. The conditions and requirements established in this order for discharges of stormwater/urban runoff to waters of the United States ensure that the existing beneficial uses and quality of receiving waters will be protected and improved through the implementation of best management practices for the control of pollutants in stormwater and urban runoff;
 - b. Discharges of urban runoff to waters of the United States will continue regardless of the issuance of this Order. The issuance of this Order is necessary to ensure achievement and maintenance of the goals and objectives of the water quality control plans adopted by the State and will result in improvement in water quality through implementation of stormwater management programs for the control of pollutants in urban runoff;
 - c. No receiving waters covered under the terms and conditions of this Order have been designated an

outstanding national resource water. However, Heisler Park Ecological Reserve, located in coastal waters near the City of Laguna Beach, has been designated an Area of Special Biological Significance (ASBS) by the State Water Resources Control Board. The City of Laguna Beach and the surrounding areas are subject to the terms and conditions of this Order. Implementation of BMPs for the control of pollutants in stormwater and urban runoff from the Laguna Beach area will further protect and improve water quality in this ASBS; and

- d. Thermal discharges potentially impairing water quality are not authorized under the terms and conditions of this Order, thus, Section 316 of the Clean Water Act is not applicable.
24. Pursuant to Section 402 of the CWA, and amendments thereto, and pursuant to Section 13260, et seq. of the California Water Code, this Order shall serve as an NPDES permit and waste discharge requirements for the discharge of stormwater and urban runoff to surface waters of Orange County in the area under the jurisdiction of the Regional Board.
 25. The Regional Board, in establishing the requirements contained herein, considered factors including, but not limited to, the following:
 - a. Beneficial uses to be protected and the water quality objectives reasonably required for that purpose;
 - b. Other waste discharges;
 - c. The need to prevent nuisance;
 - d. Past, present, and probable future beneficial uses of the waters under consideration;
 - e. Environmental characteristics of the waters under consideration;
 - f. Water quality conditions that could reasonably be achieved through the coordinated control of all factors which affect water quality in the area;
 - g. Economic considerations; and
 - h. The need for developing housing within the region.

26. The issuance of this permit for the discharge of stormwater runoff and urban runoff is exempt from the requirement for preparation of environmental documents under the California Environmental Quality Act (Public Resources Code, Division 13, Chapter 3, Section 21000 et seq.) in accordance with the California Water Code, Section 13389.
27. The Regional Board has considered all water resource related environmental factors associated with the discharge of stormwater and urban runoff.
28. The Regional Board has notified all known interested parties of its intent to issue an NPDES permit for the discharge of stormwater and urban runoff.
29. The Regional Board has, at a public meeting, heard and considered all comments pertaining to the discharge of stormwater and urban runoff.

IT IS HEREBY ORDERED that the permittees, in order to meet the provisions contained in Division 7 of the California Water Code and regulations adopted thereunder, and the provisions of the Clean Water Act as amended and regulations and guidelines adopted thereunder, shall comply with the following:

I. RESPONSIBILITIES OF PRINCIPAL PERMITTEE

- A. The principal permittee (the County of Orange) shall be responsible for the overall program management, including the following:
 1. Administer the Orange County Water Pollution Ordinance.
 2. Conduct water quality and hydrographic monitoring of the stormwater conveyance systems as agreed upon by the Executive Officer.
 3. Develop uniform criteria for stormwater conveyance system inspections.
 4. Conduct inspections of the stormwater conveyance systems within its jurisdiction.
 5. Prepare and submit to the Regional Board all the reports, plans, and programs as required in this Order.
 6. Monitor the implementation of the plans and programs and determine their effectiveness in attaining water quality objectives.
 7. Coordinate all the activities with the Regional Board.
 8. Enact legislation and ordinances as necessary to establish legal authority.

9. Solicit, and respond to, public input¹ for proposed monitoring, reconnaissance, management, and implementation plans.
10. Pursue enforcement actions as necessary to ensure compliance with stormwater management programs and implementation plans.
11. Ensure adequate response to emergency situations such as accidental spills, leaks, illicit discharges, etc.
12. Abide by the terms of the Implementation Agreement.

II. RESPONSIBILITIES OF THE CO-PERMITTEES

- A. The co-permittees (the Orange County Flood Control District and the incorporated cities within Orange County) shall be responsible for the management of stormwater conveyance systems within their jurisdictions, including the following:
 1. Conduct stormwater conveyance system inspections in accordance with the uniform criteria developed by the principal permittee.
 2. Conduct and coordinate with the principal permittee any surveys and characterizations needed to identify the pollutant sources and drainage areas.
 3. Review and approve management programs, monitoring programs, and implementation plans.
 4. Implement management programs, monitoring programs, and implementation plans as required by this Order.
 5. Submit stormwater conveyance system maps with periodic revisions as necessary.
 6. Prepare and submit all reports to the principal permittee in a timely manner.
 7. Enact legislation and ordinances as necessary to ensure compliance with the stormwater management programs and the implementation plans.
 8. Pursue enforcement actions as necessary to ensure compliance with the stormwater management programs and the implementation plans.
 9. Ensure adequate response to emergency situations such as accidental spills, leaks, illicit discharges, etc.
 10. Abide by the terms of the Implementation Agreement.

¹ Solicitation, and response to, public input may be demonstrated by: (1) disseminating the notice of availability of plans for review and comment to the public at large, environmental groups, federal, state and local agencies and other interested parties; and, (2) addressing concerns expressed by the public.

III. GENERAL REQUIREMENTS

- A. The permittees shall prohibit illicit/illegal discharges from entering into stormwater conveyance systems. Discharges conditionally allowed to enter stormwater conveyance systems are specified in Item V. C.
- B. The permittees shall develop and implement best management practices (BMPs), including management practices, control techniques, and system design and engineering methods, and such other provisions as the Executive Officer determines appropriate for the control of pollutants, to control/reduce the discharge of pollutants to waters of the United States to the maximum extent practicable. The BMPs so developed, along with a time schedule for implementation, shall be submitted for the approval and/or modification by the Executive Officer of the Regional Board. In developing the best management practices, the permittees shall consider the water quality objectives of all the receiving water bodies.
- C. The permittees shall ensure that BMPs are implemented for entities discharging stormwater and urban runoff to stormwater conveyance systems within their area of jurisdiction.

IV. COMPILATION AND SUBMITTAL OF EXISTING DATA

- A. Runoff Quality/Quantity
 1. The permittees shall collectively submit all quantitative information, generated since 1980, on stormwater discharges to the stormwater conveyance systems. Historical averages and extremes of the collected data shall also be submitted. This information will be used to facilitate the identification of sources of pollutants present in the stormwater discharges and to develop an effective discharge monitoring program for this Order. Information to be submitted shall include the following:
 - a. Analytical and flow data for stormwater samples collected from the stormwater conveyance system outfalls, and within any waters of the United States;
 - b. Precipitation data from the precipitation stations and the duration of the storm events (if available);

- c. Discharge data from the stormwater conveyance systems as determined from the gauging stations;
- d. Analysis of the data and the major pollutants identified in the stormwater discharges from each drainage area to each receiving water and a determination whether the identified pollutants came from non-point source or point-source discharges.

B. System/Drainage Area Characterization

- 1. The permittees shall submit information to the Regional Board for identification and characterization of the sources of pollutants in the stormwater discharges. Descriptive information, such as land use in Orange County, and an overall map of the drainage system showing major features shall be submitted. In addition, the following information shall be provided:
 - a. Identification of the drainage areas more than 50 acres in size, that discharge stormwater and urban runoff to the stormwater conveyance systems and of those drainage areas that discharge to stormwater conveyance systems with pipe diameters greater than 36 inches;
 - b. The sizes of these drainage areas (acreage) and the sizes (pipe diameters or approximate dimensions of the stormwater conveyance systems) and physical characteristics of the stormwater conveyance systems. These physical characteristics shall include, but not be limited to, whether the stormwater conveyance system is lined or unlined and whether it has intermittent or continuous flow;
 - c. The names, locations, and Standard Industrial Codes (SIC) of specific industrial sources and principal land use activities in each drainage area, identified in IV B.1.a. above, discharging to the stormwater conveyance systems. An estimate of the runoff coefficient for these drainage areas shall also be provided;
 - d. The locations of present stormwater conveyance systems discharging to waters of the United States. The name of each receiving water shall be reported and the location of each

outfall shall be indicated on a map; and

- e. The locations of major structural controls for stormwater discharge (e.g. retention basins, detention basins, etc).

C. Illegal Connections

1. The permittees shall provide a list of dischargers (permitted and unpermitted) known to exist currently who discharge process or non-process wastewater to the stormwater conveyance systems and any existing information pertaining to illegal dumping of pollutants in stormwater conveyance systems. The permittees shall also provide any existing procedures used for detecting illegal connections to the stormwater conveyance systems, the rationale for the procedures, and the drainage areas (or cities) in which these programs are practiced; and
2. A description of the present and historical use of ordinances or other controls to prohibit and/or limit the non-stormwater discharges to stormwater conveyance systems.

D. Stormwater Management Program

1. A description of existing stormwater/urban runoff management programs and structural and non-structural BMPs implemented by the permittees.

E. Stormwater/Urban Runoff Monitoring Program

1. A description of the existing monitoring programs and the rationale for their selection.

F. Pollutant Information

1. The permittees shall provide information regarding the discharge of any pollutant required under 40 CFR 122.21(g)(7)(iii) and (iv).

G. Other Pertinent Existing Information

1. The permittees shall provide to the Regional Board any other existing information that is pertinent to this permit.

V. RECONNAISSANCE SURVEY

A. The permittees shall submit information from a reconnaissance survey to be conducted at the stormwater conveyance systems. The purpose of the survey is to identify illegal/illicit non-stormwater discharges to the stormwater conveyance system, illicit disposal practices, or other practices which impair water quality as a result of stormwater/urban runoff discharges to receiving waters. The reconnaissance survey field manual and implementation plan developed for prosecuting violators and eliminating illegal discharges, along with time schedules for implementation, shall be submitted for the approval of the Executive Officer of the Regional Board. The information shall include, but need not be limited to, the following:

1. By January 31, 1991, a proposed reconnaissance survey field manual;
2. By July 31, 1991, the permittees shall submit a progress report towards compliance with the implementation of a reconnaissance survey in accordance with the field manual;
3. By January 31, 1992, the following information shall be submitted:
 - a. Results of the reconnaissance survey including an analysis of the results;
 - b. Additional information that would lead to isolating and identifying sources of illegal connections and discharges to the stormwater conveyance systems. Such information should include, but is not limited to, visual observations (e.g. color, turbidity, odor, etc), major land use activities in the surrounding drainage areas; seasonal change of flow, the surrounding hydrogeologic formation, etc.;
 - c. A listing of any identified or suspected illegal non-stormwater dischargers including the names, locations, and types of the facilities and the names of the stormwater conveyance systems and receiving waters the illegal non-stormwater discharges are discharged to;

- d. A listing of large industrial facilities (with more than 100 employees) where hazardous/toxic substances are stored and/or used, landfills, hazardous waste disposal, treatment, and/or recovery facilities, and any known spills, leaks or other problems in the area;
 - e. A proposed implementation plan, including a tentative time schedule, to prosecute violators and eliminate such discharges to the stormwater conveyance systems; and
 - f. Legal authorities cited to prosecute violators and eliminate or control illicit disposal practices and illegal discharges to the stormwater conveyance system.
- B. By January 31 of every year, the permittees shall submit a progress report showing evidence of plan implementation to detect and eliminate illegal discharges to the stormwater conveyance systems and the resulting reduction in loadings of pollutants to waters of the United States. The first progress report is due January 31, 1993.
- C. The permittees shall effectively eliminate all identified illegal/illicit discharges in the shortest time practicable, and in no case later July 16, 1995. Those identified after July 16, 1995 shall be eliminated in the shortest time practicable. The following discharges shall not be considered illegal/illicit discharges provided the discharges do not cause or contribute to violations of water quality standards and are not significant contributors of pollutants to waters of the United States: discharges composed entirely of stormwater, discharges covered under an NPDES permit, discharges to storm water conveyance systems from potable water line flushing, fire fighting, landscape irrigation, diverted stream flows, rising groundwaters (not including active dewatering systems), groundwater infiltration as defined at 40 CFR 35.2005(20), discharges from potable water sources, passive foundation drains (not including active groundwater dewatering), air conditioning condensation, irrigation water, water from crawl space pumps, passive footing drains (not including active groundwater dewatering systems), lawn watering, individual residential vehicle washing, flows from riparian habitats and wetlands, dechlorinated swimming pool discharges, street wash

waters related to cleaning and maintenance by permittees, or waters not otherwise containing wastes as defined in California Water Code Section 13050(d). If it is determined that any of the preceding discharges cause or contribute to violations of water quality standards or are significant contributors of pollutants to waters of the United States, the discharges shall be prohibited from entering stormwater conveyance systems.

VI. DRAINAGE AREA MANAGEMENT PROGRAM

A. The permittees shall develop and implement best management practices (BMPs) to control the discharge of pollutants to waters of the United States. The permittees shall submit information pertaining to the proposed management programs for control of pollutants in stormwater and urban runoff discharges. The information shall include, but not be limited to, the following:

1. A brief description of the existing BMPs and stormwater management programs;
2. Proposed modifications to the existing BMPs and stormwater/urban runoff management programs to reduce pollutants in stormwater and urban runoff discharges from industrial, commercial, and residential properties to the maximum extent practicable. At a minimum, the following should be considered in developing the BMPs:

Structural Controls

- a. Structural controls such as first flush diversion, detention/retention basins, infiltration trenches/basins, porous pavement, oil/grease separators, grass swales, etc. Engineering and design modification of the existing structures should also be considered.

Non-structural Controls

- a. Education programs to educate the public on proper disposal of hazardous/toxic wastes. These may include public workshops, meetings, notifications by mail, collection programs for household hazardous wastes, etc.;

- b. Management practices such as street sweeping, proper maintenance of streambanks, erosion control structures, etc.;
 - c. Regulatory approaches such as county and local ordinances, permitting of construction sites, etc.;
 - d. An enforcement program, established by the county and cities, responses to both emergency incidents and field inspections; and
 - e. The ongoing program required in Item No. V. above for the detection and elimination of illicit connections and controlling/eliminating illegal dumping of pollutants into storm drain systems.
3. Implementation plans for site-specific BMPs which are required to reduce pollutants in the stormwater discharges from residential, commercial and industrial areas, and construction sites;

a. New Construction Sites

A full range of structural and non-structural BMPs shall be required at new construction sites. All industrial/commercial construction operations that result in a disturbance of one acre or more of total land area (or a smaller parcel of land which is a part of a larger common development) and residential construction sites that result in a disturbance of five acres or more of total land area (or a smaller parcel of land which is a part of a larger common development) shall be required to develop and implement BMPs to control erosion/siltation and contaminated runoff from the construction site.

b. Residential and Commercial/Industrial Sites

To prevent the increase of pollutants in the stormwater discharge, all new developments and existing facilities with significant redevelopment, after the construction is completed, are required to develop individual long-term comprehensive stormwater management plans.

- 4. A description of the legal authorities for implementing the programs, and a proposed time schedule for obtaining such legal authorities, if necessary;
- 5. A description of staff, equipment, and funds available to implement the programs;
- B. By July 31, 1991, the BMPs so developed, along with a time schedule for implementation, shall be submitted for the approval of and modification by the Executive Officer of the Regional Board;
- C. By July 31 of every year, the permittees shall submit a progress report assessing the reduction of pollutants discharged to waters of the United States and to evaluate the effectiveness of the BMPs developed for stormwater and urban runoff discharges. The permittees shall also include recommended BMPs modifications, with a time schedule for implementation, to achieve compliance with any water quality objective not attained. The first progress report is due July 31, 1992.

VII. STORMWATER RUNOFF MONITORING PROGRAM

The permittees shall develop and implement (after approval of the plan by the Executive Officer) a stormwater/urban runoff monitoring program. Proposed monitoring programs and time schedules for their implementation shall be subject to the approval of the Executive Officer. Proposed monitoring programs, time schedules, and implementation reports shall be submitted to the principal permittee in sufficient time to submit a collated report to the Regional Board as follows:

<u>TASK</u>	<u>STORMWATER/RUNOFF MONITORING</u>	<u>REPORT DATE</u>
Submittal of Proposed Stormwater Monitoring Programs and Implementation Time Schedules		11/30/90
Progress Report on the Implementation of the Stormwater Monitoring Programs		11/30/91*

* and annually thereafter

VIII. RECEIVING WATER MONITORING PROGRAM

The permittees shall develop and implement (after approval of the plan by the Executive Officer) a receiving water monitoring program. Proposed monitoring programs and time

schedules for their implementation shall be subject to the approval of the Executive Officer. Proposed monitoring programs, time schedules, and implementation reports shall be submitted to the principal permittee in sufficient time to submit a collated report to the Regional Board as follows:

<u>TASK</u>	<u>RECEIVING WATER MONITORING</u>	<u>REPORT DATE</u>
Submittal of Proposed Receiving Water Monitoring Programs and Implementation Time Schedules		7/31/92
Progress Report on the Implementation of the Receiving Water Monitoring Programs		7/31/93*

* and annually thereafter

IX. FISCAL ANALYSIS

A. By July 31 of each year, a fiscal analysis of the capital and operation and maintenance expenditures necessary to accomplish the activities of the proposed plans and programs shall be performed and submitted to the Executive Officer of the Regional Board.

X. DATA ANALYSIS

The results of the chemical analysis and quantitative data (such as flow, precipitation, and water level data) shall be compiled for each sampling of any drainage area, storm event, and for different times during the same storm event. The mass loading rates for the pollutants of concern shall be calculated and any impact of the stormwater/urban runoff discharge on the receiving waters shall be discussed, starting with the most significantly impacted receiving waters.

XI. PROGRAM ANALYSIS

Every year, starting from January 1991, the principal permittee shall conduct an analysis of the effectiveness of the overall stormwater management program. If the water quality objectives of the receiving waters are violated as a result of stormwater/urban runoff discharges, the principal permittee shall identify proposed programs which will result in the attainment of the water quality objectives, and a time schedule to implement the new programs.

XII. IMPLEMENTATION AGREEMENT

A signed copy of the Implementation Agreement between the County of Orange and the cities shall be submitted by January 31, 1991. Any revisions to the Implementation Agreement shall be forwarded to the Executive Officer within 30 days of approval by all the permittees.

XIII. REPORTING AND SCHEDULE

- A. A summary of tasks to be completed and reports submitted is as follows:

(continued on the next page)

<u>TASK</u>		<u>COMPLIANCE REPORT DUE</u>
VII.	Stormwater Monitoring Program Plan	11/30/90
XII.	Implementation Agreement	01/31/91
IV.	Existing reports and programs	01/31/91
V.A.1	Proposed Reconnaissance Survey Field Manual	01/31/91
V.A.2	Reconnaissance Progress Report	07/31/91
VI.A&B	Management Programs (BMPs) and Implementation Plan	07/31/91
V.A.3	Results of the Reconnaissance Survey	01/31/92
VIII.	Receiving Water Monitoring Program Plan ----- Progress Reports after Plan Implementation -----	07/31/92
V.B	Reconnaissance Survey Progress Report	01/31 of every year ²
VI.C	Management Programs Progress Report	07/31 of every year ³
VII.	Stormwater Monitoring Progress Report	11/30 of every year ⁴
VIII.	Receiving Water Monitoring Program Progress Report	07/31 of every year ⁵
IX.	Fiscal Analysis	07/31 of every year ⁶
X. & XI.	Data/Program Analysis	01/31 of every year ⁷

² The first progress report is due by January 31, 1993.

³ The first progress report is due by July 31, 1992.

⁴ The first progress report is due by November 30, 1991.

⁵ The first progress report is due by July 31, 1993.

⁶ The first annual fiscal analysis is due by July 31, 1991.

⁷ The first data/program analysis is due by January 31, 1991.

- B. All reports and information required herein shall be submitted to the Executive Officer of the Regional Board and the Regional Director of the Environmental Protection Agency, Region IX, at the following addresses:

Executive Officer
California Regional Water Quality Control Board
San Diego Region
9771 Clairemont Mesa Blvd., Ste. B
San Diego, California 92124-1331

Environmental Protection Agency
Region IX
Permits and Compliance Branch
1235 Mission Street (Mail Code W-5)
San Francisco, California 94103

XIV. ANALYTICAL METHODS/RECORD KEEPING

- A. Samples and measurements taken as required herein shall be representative of the volume and nature of the monitored discharge. Once established, monitoring points shall not be changed without notification to and the approval of the Executive Officer.
- B. Monitoring must be conducted according to United States Environmental Protection Agency test procedures approved under Title 40, Code of Federal Regulations (CFR), Part 136, "Guidelines Establishing Test Procedures for Analysis of Pollutants Under the Clean Water Act" as amended, unless other test procedures have been specified by this Order or the Executive Officer.
- C. All analyses shall be performed in a laboratory certified to perform such analyses by the California Department of Health Services or a laboratory approved by the Executive Officer.
- D. Monitoring results must be reported on discharge monitoring report forms or in a format approved by the Executive Officer.
- E. If a permittee monitors any pollutant more frequently than required by this Order, using test procedures approved under 40 CFR, Part 136, or as specified in this Order, the results of this monitoring shall be included in the calculation and reporting of the data submitted in the permittee's monitoring report. The increased frequency of monitoring shall also be reported.

- F. Permittees shall retain records of all monitoring information, including all calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentation, copies of all reports required by this Order, and records of all data used to complete the application for this Order. Records shall be maintained for a minimum of five years from the date of the sample, measurement, report, or application. This period may be extended during the course of any unresolved litigation regarding this discharge or when requested by the Regional Board Executive Officer.
- G. Records of monitoring information shall include:
1. The date, exact place, and time of sampling or measurements;
 2. The individual(s) who performed the sampling or measurements;
 3. The date(s) analyses were performed;
 4. The individual(s) who performed analyses;
 5. The analytical techniques or method used; and
 6. The results of such analyses.
- H. Calculations for all limitations which require averaging of measurements shall utilize an arithmetic mean unless otherwise specified by the Executive Officer or in this Order.
- I. All monitoring instruments and devices used by a permittee to fulfill the prescribed monitoring program shall be properly maintained and calibrated as necessary to ensure their continued accuracy.
- J. Permittees shall report all instances of noncompliance not reported under Standard Reporting Requirement XVI. E. of this Order at the time monitoring reports are submitted. The reports shall contain the information listed in Standard Reporting Requirement XVI. E.
- K. The monitoring reports shall be signed by an authorized person as required by Standard Reporting Requirement L.
- L. A composite sample is defined as a combination of at least 8 sample aliquots of at least 100 milliliters each, collected at periodic intervals during the operating hours of a facility over a 24-hour period. For volatile pollutants, aliquots must be combined in the laboratory immediately before analysis. The composite must be flow proportional; either the time interval between each aliquot or the volume of each

aliquot must be proportional to either the stream flow at the time of sampling or the total stream flow since the collection of the previous aliquot. Aliquots may be collected manually or automatically.

- M. A grab sample is an individual sample of at least 100 milliliters collected at a randomly selected time over a period not exceeding 15 minutes.

XV. PROVISIONS

- A. Neither the treatment nor the discharge of pollutants shall create a pollution, contamination, or nuisance as defined by Section 13050 of the California Water Code.
- B. The permittees must comply with all conditions of this Order. Any permit noncompliance constitutes a violation of the Clean Water Act and the California Water Code and is grounds for enforcement action; for permit termination, revocation and reissuance, or modification; the issuance of an individual permit; or for denial of a renewal application.
- C. The permittees shall take all reasonable steps to minimize or correct any adverse impact on the environment resulting from noncompliance with this Order, including such accelerated or additional monitoring as may be necessary to determine the nature and impact of the noncomplying discharge.
- D. This Order may be modified, revoked and reissued, or terminated for cause including, but not limited to, the following:
1. Violation of any terms or conditions of this Order;
 2. Obtaining this Order by misrepresentation or failure to disclose fully all relevant facts; or
 3. A change in any condition that requires either a temporary or permanent reduction or elimination of the discharge.

The filing of a request by a permittee for modification, revocation and reissuance, or termination of this Order or a notification of planned change in or anticipated noncompliance with this Order does not stay any condition of this Order.

- E. In addition to any other grounds specified herein, this Order shall be modified or revoked at any time if, on

the basis of any new data, the Executive Officer determines that continued discharges may cause unreasonable degradation of the aquatic environment.

- F. This Order is not transferable to any person except after notice to the Executive Officer of this Regional Board. The Regional Board may require a new report of waste discharge to change the name of a permittee and incorporate such other requirements as may be necessary under the California Water Code and the Clean Water Act. A permittee shall submit notice of any transfer of this Order's responsibility and coverage to a new permittee as described under Standard Reporting Requirement XVI.C.
- G. This Order does not convey any property rights of any sort or any exclusive privileges. The requirements prescribed herein do not authorize the commission of any act causing injury to persons or property of another, including property damage caused as a result of the discharge, nor protect the permittee from liability under federal, state, or local laws, nor create a vested right for the permittee to continue the discharge.
- H. Permittees shall allow the Regional Board, or an authorized representative or any representative of the United States Environmental Protection Agency upon the presentation of credentials and other documents as may be required by law, to:
1. Enter upon the permittee's premises where a regulated facility or activity is located or conducted, or where records must be kept under the conditions of this Order;
 2. Have access to and copy, at reasonable times, any records that must be kept under the conditions of this Order;
 3. Inspect at reasonable times any facilities, equipment (including monitoring and control equipment), practices or operation regulated or required under this Order; and
 4. Sample or monitor at reasonable times, for the purposes of assuring compliance with this Order or as otherwise authorized by the Clean Water Act or California Water Code, any substances or parameters at any location.
- I. Permittees shall, at all times, properly operate and maintain all facilities and systems of treatment and

control (and related appurtenances) which are installed or used by a permittee to achieve compliance with the conditions of this Order. Proper operation and maintenance includes effective performance, adequate funding, adequate operator staffing and training, and adequate laboratory and process controls including appropriate quality assurance procedures. This provision requires the operation of backup or auxiliary facilities or similar systems only when necessary to achieve compliance with the conditions of this Order.

J. In an enforcement action, it shall not be a defense for a permittee that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with this Order. Upon reduction, loss, or failure of the treatment facility, the permittee shall, to the extent necessary to maintain compliance with this Order, control production or all discharges, or both, until the facility is restored or an alternative method of treatment is provided. This provision applies, for example, when the primary source of power of the treatment facility fails, is reduced or is lost.

K. The provisions of this Order are severable, and if any provision of this Order, or the application of any provision of this Order to any circumstances, is held invalid, the application of such provision to other circumstances, and the remainder of this Order, shall not be affected thereby.

L. Bypass of Treatment Facilities

1. Definitions

(a) "Bypass" means the intentional diversion of waste streams from any portion of the treatment facility.

(b) "Severe property damage" means substantial physical damage to property, damage to the treatment facilities which cause them to become inoperable, or substantial and permanent loss of natural resources which can reasonably be expected to occur in the absence of a bypass. Severe property damage does not mean economic loss caused by delays in production.

2. Bypass Not Exceeding Effluent Limitations

A permittee may allow any bypass to occur which does not cause effluent limitations to be exceeded, but only if it also is for essential maintenance to

assure efficient operations. These bypasses are not subject to the provisions of paragraphs (3) and (4) of this section.

3. Notice of Anticipated Bypass and Unanticipated Bypass

(a) Anticipated bypass. If a permittee knows in advance of the need for a bypass, they shall submit prior notice, if possible, at least ten days before the date of the bypass.

(b) Unanticipated bypass. A permittee shall submit notice of an unanticipated bypass as described under Standard Reporting Requirement XVI. E.

4. Prohibition of Bypass

(a) Bypass is prohibited and the Regional Board may take enforcement action against a permittee for bypass, unless:

(1) Bypass was unavoidable to prevent loss of life, personal injury, or severe property damage;

(2) There were no feasible alternatives to the bypass, such as the use of auxiliary treatment facilities, retention of untreated waste, or maintenance during normal periods of equipment downtime. This condition is not satisfied if the permittee could have installed adequate backup equipment to prevent a bypass which occurred during normal periods of equipment downtime or preventive maintenance; and

(3) The permittee submitted notices as required under paragraph (3) of this section.

(b) The Executive Officer may approve an anticipated bypass, after considering its adverse effect, if the Executive Officer determines that it will meet the three conditions listed above in paragraph (1) of this section.

M. Upset Conditions

1. Definitions

"Upset" means an exceptional incident in which there is unintentional and temporary noncompliance with technology-based effluent limitations because of factors beyond the reasonable control of a permittee. An upset does not include noncompliance to the extent caused by operational error, improperly designed treatment facilities, inadequate treatment facilities, lack of preventive maintenance, or careless or improper operation.

2. Effect of an Upset

An upset constitutes an affirmative defense to an action brought for noncompliance with such technology-based permit effluent limitations if the requirements of paragraph (3) of this section are met. No determination made during administrative review of claims that noncompliance was caused by upset, and before an action for noncompliance, is final administrative action subject to judicial review.

3. Conditions Necessary for a Demonstration of Upset

A permittee who wishes to establish the affirmative defense of upset shall demonstrate, through properly signed, contemporaneous operating logs, or other relevant evidence that:

- (a) An upset occurred and that the permittee can identify the specific cause(s) of the upset;
- (b) The permitted facility was at the time being properly operated; and
- (c) The permittee submitted notice of the upset as required in Standard Reporting Requirement XVI. E.

4. Burden of Proof

In any enforcement proceeding, a permittee seeking to establish the occurrence of an upset has the

burden of proof.

XVI. STANDARD REPORTING REQUIREMENTS

- A. A new Report of Waste Discharge shall be filed with the Regional Board not less than 180 days prior to the following:
1. Significant change in disposal method (e.g., change in the method of treatment which would significantly alter the nature of the waste).
 2. Significant change in disposal area (e.g., moving the discharge to a disposal area significantly removed from the original area, potentially causing different water quality or nuisance problems).
 3. Other circumstances which result in a material change in character, amount, or location of the waste discharge.
- B. A permittee shall give advance notice to the Executive Officer of any planned changes in a permitted facility or activity which may result in noncompliance with the requirements of this Order.
- C. A permittee must notify the Executive Officer, in writing, at least 30 days in advance of any proposed transfer of this Order's responsibility and coverage to a new permittee. The notice must include a written agreement between the existing and new permittee containing a specific date for the transfer of this Order's responsibility and coverage between the current permittee and the new permittee. This agreement shall include an acknowledgement that the existing permittee is liable for violations up to the transfer date and that the new permittee is liable from the transfer date on.
- D. The permittees shall comply with any monitoring and reporting requirements contained in this Order and any additional monitoring requirements specified by the Executive Officer.
- E. A permittee shall report any noncompliance which may endanger health or the environment. Any information shall be provided orally to the Executive Officer within 24 hours from the time the permittee becomes aware of the circumstances. A written submission shall contain a description of the noncompliance and its cause; the period of noncompliance, including exact dates and

times, and if the noncompliance has not been corrected, the anticipated time it is expected to continue; and steps taken or planned to reduce, eliminate, and prevent recurrence of the noncompliance. The Executive Officer, or an authorized representative may waive the written report on a case-by-case basis if the oral report has been received within 24 hours.

- F. A permittee shall notify the Executive Officer as soon as it is known or there is reason to believe:
1. That any activity has occurred or which will occur which would result in the discharge of any toxic pollutant which is not limited in this Order, if that discharge will exceed the highest of the following "notification levels":
 - a. One hundred micrograms per liter (100 ug/L);
 - b. Two hundred micrograms per liter (200 ug/L) for acrolein and acrylonitrile; five hundred micrograms per liter (500 ug/L) for 2,4-dinitrophenol and for 2-methyl-4, 6-dinitrophenol; and one milligram per liter (1 mg/L) for antimony.
- G. A permittee shall furnish to the Executive Officer, within a reasonable time, any information which the Executive Officer may request to determine whether cause exists for modifying, revoking and reissuing, or terminating this Order or to determine compliance with this Order or other requirements established by the Executive Officer. A permittee shall also furnish to the Executive Officer, upon request, copies of records required to be kept by this Order.
- H. A permittee shall provide adequate notice to the Executive Officer of the following:
1. Any new introduction of pollutants to the discharge.
 2. Any substantial change in the volume or character of pollutants being introduced into the discharge.
 3. For the purpose of this provision, adequate notice shall include information on (a) the quality and quantity of waste introduced into the discharge, and (2) any anticipated impact of the change on the quantity or quality of runoff to be discharged to surface waters.

- I. Where a permittee becomes aware that he failed to submit any relevant facts in a Report of Waste Discharge, or submitted incorrect information in a Report of Waste Discharge, or in any report to the Regional Board, he shall promptly submit such facts or information.
- J. If a need for a discharge bypass is known in advance, the permittee shall submit prior notice and, if at all possible, such notice shall be submitted at least ten days prior to the date of the bypass.
- K. This Order expires on July 16, 1995. The permittees must jointly file a Report of Waste Discharge in accordance with Title 23, Chapter 3, Subchapter 9 of the California Code of Regulations not later than 180 days in advance of such expiration date as application for issuance of new waste discharge requirements. This report of waste discharge shall include as a minimum, the following:
 1. Summary of the results of the monitoring program.
 2. Summary of BMPs implemented and evaluations of their effectiveness.
 3. Summary of procedures implemented to detect illegal discharges and illicit disposal practices and an evaluation of their effectiveness.
 4. Summary of measures implemented to control pollutants in surface runoff from construction sites and an evaluation of their effectiveness.
 5. Evaluation of the need for additional BMPs, source control, and/or structural control measures.
 6. Proposed plan of stormwater/urban runoff quality management activities that will be undertaken during the term of the next permit.
- L. All applications, reports, or information submitted to the Executive Officer of this Regional Board shall be signed and certified.
 1. The Report of Waste Discharge shall be signed as follows:
 - a. **For a corporation** - by a principal executive officer of at least the level of vice-president.

- b. For a partnership or sole proprietorship - by a general partner or the proprietor, respectively.
 - c. For a municipality, state, federal or other public agency - by either a principal executive officer or ranking elected official.
2. All other reports required by this Order and other information requested by the Executive Officer shall be signed by a person designated in paragraph (1) of this provision, or by a duly authorized representative of that person. An individual is a duly authorized representative only if:
- a. The authorization is made in writing by a person described in paragraph (1) of this provision;
 - b. The authorization specified either an individual or a position having responsibility for the overall operation of the regulated facility or activity, such as the position of plant manager, operator of a well or well field, superintendent, or position of equivalent responsibility (a duly authorized representative may thus be either a named individual or any individual occupying a named position); and
 - c. The written authorization is submitted to the Executive Officer.
3. Any person signing a document under this Section shall make the following certification:

"I certify under penalty of law that I have personally examined and am familiar with the information submitted in this document and all attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment."

- M. Except for data determined to be confidential under Title 40, Code of Federal Regulations Part (40 CFR Part

2), all reports prepared in accordance with the terms of this Order shall be available for public inspection at the offices of the California Regional Water Quality Control Board, San Diego Region and the United States Environmental Protection Agency, Region 9. As required by the Clean Water Act, Reports of Waste Discharge, this Order, and effluent data shall not be considered confidential.

XVII. NOTIFICATIONS

- A. California Water Code Section 13263(g) states:

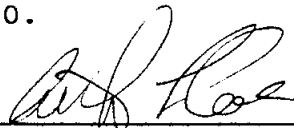
"No discharge of waste into the waters of the state, whether or not such discharge is made pursuant to waste discharge requirements, shall create a vested right to continue such discharge. All discharges of waste into waters of the state are privileges, not rights."

- B. The Clean Water Act provides that any person who violates a condition of this Order implementing Sections 301, 302, 306, 307, 308, 318 or 405 of the Clean Water Act is subject to a civil penalty not to exceed \$10,000 per day of such violations. Any person who willfully or negligently violates conditions of this Order implementing Section 301, 302, 306, 307 or 308 of the Clean Water Act is subject to a fine of not less than \$2,500 nor more than \$25,000 per day of violation, or by imprisonment for not more than one year, or both.
- C. The Clean Water Act provides that any person who knowingly makes any false statement, representation, or certification in any record or other document submitted or required to be maintained under this Order, including monitoring reports or reports of compliance or noncompliance shall, upon conviction, be punished by a fine of not more than \$10,000 per violation, or by imprisonment for not more than six months per violation, or by both.
- D. Nothing in this Order shall be construed to relieve a permittee from civil or criminal penalties for noncompliance.
- E. Nothing in this Order shall be construed to preclude the institution of any legal action or relieve a permittee from any responsibilities, liabilities, or penalties to which a permittee is or may be subject to under Section 311 of the Clean Water Act.

- F. Nothing in this Order shall be construed to preclude institution of any legal action or relieve a permittee from any responsibilities, liabilities, or penalties established pursuant to any applicable State law or regulation under authority preserved by Section 510 of the Clean Water Act.

- G. This Order shall become effective ten days after the date of its adoption, provided the Regional Administrator or Director, United States Environmental Protection Agency, has no objection. If the Regional Administrator objects to its issuance, this Order shall not become effective until such objection is withdrawn.

I, Arthur L. Coe, Executive Officer, do hereby certify the foregoing is a full, true, and correct copy of an Order adopted by the California Regional Water Quality Control Board, San Diego Region, on July 16, 1990.



ARTHUR L. COE
Executive Officer

ATTACHMENT A TO ORDER NO. 90-38

PERMITTEES IN THE ORANGE COUNTY AREA OF THE SAN DIEGO REGION AND
THEIR 1990 POPULATION ESTIMATES

Dana Point	29,691
Laguna Beach	24,406
Laguna Niguel	36,787
Mission Viejo	80,791
San Clemente	38,635
San Juan Capistrano	26,429
Unincorporated Area (County of Orange)	<u>100,145</u>
	total 336,884

California Regional Water Quality Control Board
San Diego Region
9771 Clairemont Mesa Boulevard, Suite B
San Diego, California 92124-1331

FACT SHEET
for
Waste Discharge Requirements
for
Stormwater and Urban Runoff
from the
County of Orange
the
Orange County Flood Control District
and the
Incorporated Cities of Orange County Within the San Diego Region

PROJECT

Order No. 90-38, NPDES No. CA0108740, prescribes requirements for the control of pollutants resulting from stormwater/urban runoff from the cities and the unincorporated areas in Orange County within the jurisdiction of the San Diego Regional Board. On March 15, 1990, the County of Orange, in cooperation with the cities of Dana Point, Laguna Beach, Laguna Niguel, Mission Viejo, San Clemente, and San Juan Capistrano (hereinafter dischargers), submitted an NPDES application for an areawide stormwater discharge permit under the National Pollutant Discharge Elimination System (NPDES). As part of the permit application, a topographic map, a flood control facility map, listings of cities and entities participating in this program, and copies of ordinances relevant to the urban stormwater runoff of various cities were submitted.

PROJECT AREA

The permitted area is delineated by the San Diego Regional Water Quality Control Board-Santa Ana Regional Water Quality Control Board boundary line on the north, the Riverside County-Orange County boundary line on the east, the Orange County line on the south, and the Pacific Ocean on the west.

CLEAN WATER ACT REQUIREMENTS

The Federal Clean Water Act (CWA) allows the U. S. Environmental Protection Agency (EPA) to delegate its NPDES permitting authority to states with an approved environmental regulatory program. The State of California is one of the delegated states. The Porter-Cologne Act (California Water Code) authorizes the State Board, through its Regional Boards, to regulate and control the discharge of pollutants into waters of the state and tributaries thereto.

Section 405 of the Water Quality Act (WQA) of 1987 added Section 402(p) to the CWA. Pursuant to Section 402(p)(4) of the CWA, the EPA is required to promulgate regulations for stormwater permit applications for stormwater discharges associated with industrial

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NPDES No. CA 0008740

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activities and municipal separate storm sewer systems serving a population of 100,000 or more. Section 402 (p)(4) of the CWA also requires dischargers of stormwater associated with industrial activities and municipal separate storm sewer systems serving a population of 250,000 or more to file stormwater permit applications by February 4, 1990.

On December 7, 1988, EPA published its proposed regulations in the Federal Register to solicit public comments. Final regulations are tentatively scheduled to be promulgated on July 20, 1990. In the absence of final stormwater regulations, a permit governing municipal stormwater discharges should meet both the statutory requirements of Section 402 (p)(3)(B) and all requirements applicable to an NPDES general permit issued under the issuing authority's discretionary authority in accordance with Section 402 (a)(1)(B) of the CWA.

AREAWIDE STORMWATER PERMIT

To regulate and control stormwater/urban runoff discharges from urban areas to runoff conveyance systems and receiving waters, an areawide approach is essential. The entire flood control facility is not controlled by a single entity; several cities and the Orange County Flood Control District manage the system. In addition to the cities and the county, there are a number of other potentially significant contributors of stormwater/urban runoff to runoff conveyance systems. These include: large institutions such as the California State University system, schools, hospitals etc.; state agencies such as Caltrans; public utilities such as Orange County Water District, Metropolitan Water District etc.; National Forest Service; and state parks. The management and control of the runoff conveyance system cannot be effectively carried out without the cooperation and efforts of all these entities. Also, it would not be meaningful to issue a separate stormwater permit to each of the entities within the permitted area whose land/facilities drain into conveyance systems under the control of other agencies. The Regional Board, the incorporated cities, and the County of Orange have concluded that the best management option for the area is to issue an areawide stormwater permit.

COORDINATION WITH OTHER REGIONAL AGENCIES

In developing best management practices and monitoring programs, consultation/coordination with other flood control districts and other regional boards are essential. A major portion of the urbanized areas of Orange County drains into water bodies within the Santa Ana Regional Water Quality Control Board's jurisdiction. Stormwater discharges from these urbanized areas consist mainly of surface runoff from various land use activities such as residential, commercial, industrial, and agricultural and are regulated under Santa Ana Regional Board Order No. 90-71 (NPDES No. CA 8000180) Waste Discharge Requirements for the County of Orange

and the Incorporated Cities of Orange County Within the San Ana Region, Stormwater Runoff Management Program, Orange County. Santa Ana Regional Water Quality Control Board staff will coordinate the stormwater/urban runoff control program with San Diego Regional Water Quality Control Board staff and flood control districts/cities on an "as needed" basis.

EXISTING FACILITIES AND PROGRAMS

Within the San Diego Regional Water Quality Control Board's area of jurisdiction, the Orange County Flood Control District, operated by the Orange County Environmental Management Agency, and various incorporated cities, serves a population of approximately 337,000 and an area of approximately 252 square miles. Stormwater discharges from these urbanized areas consist mainly of surface runoff from various land use activities such as residential, commercial, industrial, and agricultural. The quality of these discharges varies considerably and is affected by land use activities, basin hydrology and geology, season, the frequency and duration of storm events, and the potential presence of illicit connections and discharges. The parameters and pollutants of potential concern and significance in these discharges may include pH, fecal coliform, fecal streptococcus, enterococcus, volatile organic carbon (VOC), surfactants (MBAS), oil and grease, petroleum hydrocarbons, total suspended and settleable solids, total organic carbon, biochemical oxygen demand (BOD), chemical oxygen demand (COD), lead, copper, chromium, cadmium, silver, nickel, zinc, cyanides, phenols, nutrients (e.g., nitrogen, nitrate, phosphate, etc.), and biocides.

The County of Orange has an active surface water quality monitoring program in the permit area. Runoff samples obtained during dry weather are analyzed for nutrient and selected trace metals (chromium, copper, lead, and zinc). When water quality sampling stations exhibit higher than average watershed pollution concentrations, sediment samples are also collected and analyzed for constituents of concern (those which were higher than average in the water column). Most of the water quality monitoring stations are located at flood control facilities associated with drainage areas in which land use activities have been identified. These drainage areas have been characterized as agricultural, commercial, residential and industrial. To protect the beneficial uses of waters of the state, the pollutants from all sources need to be controlled. Recognizing this, and the fact that stormwater discharges may contain significant amounts of pollutants, the County of Orange, the incorporated cities of Orange County, and the Regional Board have all agreed that an areawide stormwater permit is the most effective way to develop and implement a comprehensive stormwater management program. This areawide stormwater permit will contain requirements with time schedules that will allow the County of Orange and the cities to address current water quality problems caused by stormwater runoff and to develop and implement management

programs to reduce pollutants in stormwater discharges and improve the water quality of the receiving waters.

PERMIT REQUIREMENTS

In accordance with Section 402(p)(3), as part of a program to reduce the pollutants in stormwater discharges to the maximum extent practicable, the dischargers are required to submit existing management plans and programs being implemented in the localities, and information that could lead to successful identification of illegal discharges and connections, and other sources of pollutants in stormwater discharges. In addition, the dischargers will be required to adopt and implement best management practices programs and control measures in accordance with a time schedule approved by the Executive Officer of the Regional Board.

If ongoing management programs are not effective in controlling pollutant loading and achieving the water quality objectives of the receiving waters, additional programs shall be developed and implemented.

The Order requires the development of a new water quality monitoring program to analyze the impact of pollutants associated with runoff and to assess the benefit of best management practices.

EFFLUENT LIMITATIONS

The permit requires development and implementation of management programs (best management practices) during the life of the permit to protect existing beneficial uses, improve the quality of stormwater/urban runoff discharging to surface waters, and ultimately improve the water quality of receiving waters. It is anticipated that established water quality objectives will be met through the implementation of best management practices, including the termination of non-stormwater discharges to conveyance systems.

BENEFICIAL USES

Stormwater/urban runoff flows are discharged to conveyance systems which are tributary to various water bodies (inland surface streams, Dana Point Harbor, and the Pacific Ocean) of the State. The beneficial uses of these water bodies include:

BENEFICIAL USES OF OCEAN WATERS;

- a. Industrial water supply;
- b. Navigation;
- c. Aesthetic enjoyment;
- d. Water contact recreation;
- e. Non-contact water recreation;
- f. Ocean commercial and sport fishing;
- g. Mariculture;

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- h. Preservation and enhancement of areas of special biological significance;
- i. Preservation and enhancement of rare and endangered species;
- j. Marine habitat;
- k. Fish migration;
- l. Fish spawning; and
- m. Shellfish harvesting.

BENEFICIAL USES OF INLAND SURFACE WATERS;

- a. Industrial service supply;
- b. Agriculture supply;
- c. Water contact recreation;
- d. Non-contact water recreation;
- e. Warm fresh-water habitat;
- f. Preservation of rare and endangered species; and
- g. Wildlife habitat.

The ultimate goal of the stormwater management program is to protect the above beneficial uses of the receiving waters.

ANTIDegradation ANALYSIS

The Regional Board has considered whether a complete antidegradation analysis, pursuant to 40 CFR 131.12 and State Board Resolution No. 68-16, is required for the stormwater discharges. The pollutant loading rates to the receiving waters will be reduced with the implementation of the requirements in this order. As a result, the quality of the stormwater discharges and receiving waters will be improved, thereby protecting the beneficial uses of waters of the United States. The stormwater discharges are consistent with the federal and state antidegradation requirements and a complete antidegradation analysis is not necessary.

WORKSHOP

The San Diego Regional Water Quality Control Board recognizes the significance of Orange County's stormwater/urban runoff management program and conducted a workshop to provide involvement and participation in the development and implementation of the tentative waste discharge requirements. The purpose of the workshop was to solicit comments and distribute information. The workshop was held during the June 4, 1990 Regional Board Meeting at the Rancho California Water District, located at 28061 Diaz Road, Temecula, California, at 9:30 a.m. The Santa Ana Regional Water Quality Control Board also held a workshop for its tentative NPDES permit which will regulate the discharge of stormwater/urban runoff to areas within its jurisdiction. The Santa Ana Regional Water Quality Control Board's workshop was held on Friday, June 8, 1990, at 9:30 a.m. at Hofert Hall, 39707 Big Bear Boulevard in Big Bear Lake. Comments received at the workshop and during the

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comment period were reviewed, and where appropriate, incorporated into the proposed waste discharge requirements.

PUBLIC HEARING

The San Diego Regional Water Quality Control Board will consider the adoption of tentative Order No. 90-38 at its July 16, 1990 Regional Board meeting which will be held at the Encinitas City Council Chamber, 535 Encinitas Boulevard, Suite 100, Encinitas, California at 9:00 a.m. The meeting is open to the public.

Further information regarding the conduct and nature of the public hearing and these waste discharge requirements may be obtained by calling Mr. Chris Sandall at (619) 265-5114 between 8:00 a.m. and 4:00 p.m. or writing the San Diego Regional Water Quality Control Board office, located at the address listed below.

WRITTEN COMMENTS

Interested persons are invited to submit written comments on the proposed waste discharge requirements. To ensure an adequate review period, written comments should be submitted by July 3, 1990, either in person or by mail to:

Mr. Arthur L. Coe, Acting Executive Officer
California Regional Water Quality Control Board
San Diego Region
9771 Clairemont Mesa Blvd., Ste. B
San Diego, California 92124-1331

ATTACHMENT 41

**California Regional Water Quality Control Board
San Diego Region**

**ORDER NO. 96-03
NPDES No. CAS0108740**

**Waste Discharge Requirements for Storm Water and Urban Runoff
from the County of Orange, the Orange County Flood Control District,
and the Incorporated Cities of Orange County Within the San Diego Region**

The California Regional Water Quality Control Board, San Diego Region (hereinafter Regional Board), finds that:

1. On December 30, 1994, the County of Orange and the Orange County Flood Control District (OCFCD), in cooperation with the cities of Dana Point, Laguna Beach, Laguna Hills, Laguna Niguel, Lake Forest, Mission Viejo, San Clemente and San Juan Capistrano, (hereinafter collectively referred to as permittees or co-permittees), submitted National Pollutant Discharge Elimination System (NPDES) Application No. CAS0108740 and a Report of Waste Discharge for reissuance of their areawide municipal storm water NPDES permit.
2. Section 402(p) of the federal Clean Water Act (CWA), as amended by the Water Quality Act of 1987, requires NPDES permits for storm water discharges from separate municipal storm drain systems, storm water discharges associated with industrial activity (including construction activities), and designated storm water discharges which are considered significant contributors of pollutants to waters of the United States (U.S.). On November 16, 1990, the United States Environmental Protection Agency (hereinafter USEPA) published regulations (40 CFR Parts 122, 123 and 124) which describe permit application requirements for storm water discharges pursuant to Section 402(p) of the CWA. Prior to USEPA's promulgation of the final storm water regulations, the County of Orange and the incorporated cities within the jurisdiction of the San Diego Region requested an areawide NPDES permit for urban storm water run-off.
3. On July 16, 1990, the Regional Board adopted Order No. 90-38 for urban storm water run-off from urban areas in Orange County within the San Diego Region. The County of Orange was named as the principal permittee and the Orange County Flood Control District (OCFCD) and the incorporated cities were named as the co-permittees. In order to more effectively carry out the requirements of this Order, the permittees have agreed that the County of Orange will continue as principal permittee and the OCFCD and the incorporated cities will continue as co-permittees.

4. Order No. 90-38 required the permittees to develop and implement a drainage area management plan (DAMP) and a storm water and receiving water monitoring plan, to eliminate illegal and illicit discharges to the storm drain systems and to enact the necessary legal authority to effectively prohibit such discharges. The overall goal of these requirements was to reduce pollutant loadings to surface waters from urban run-off to the maximum extent practicable (MEP)¹.
5. This Order outlines the next step toward an effective program and specifies requirements to protect the beneficial uses of the waters of the U. S. The intent of this permit is to regulate pollutant discharges, identify and focus on those areas which threaten the beneficial uses and improve water quality in the Region in a timely manner. This Order regulates urban storm water run-off² from areas under the jurisdiction of the permittees.
6. The Report of Waste Discharge (the permit renewal application) included the following major components:
 - a. Summary of status of current Storm Water Management Program
 - b. Proposed Plan of Storm Water Quality Management Activities for 1995-2000
 - c. The Drainage Area Management Plan
 - d. A Model Water Quality Ordinance
 - e. An Enforcement Consistency Guide
 - f. A Reconnaissance Survey Field Inspection and Documentation Manual
7. The permittees serve a population of approximately 481,000, occupying an area of approximately 243 square miles (including both unincorporated areas and the limits of 8 cities). The permittees have jurisdiction over and /or maintenance responsibility for storm water conveyance systems within Orange County. The County's systems include an estimated 400 miles of storm drain systems. A portion of the urbanized areas of Orange County drains into water bodies within this Regional Board's jurisdiction. The permitted area is shown on Attachment A. The major storm drain systems and drainage areas in Orange County which are within this Region are shown on Attachment B. A major portion of the Orange County drainage area is within the jurisdiction of the Santa Ana Regional Board and is currently regulated under an order issued by that Board.
8. The permittees may lack legal jurisdiction over storm water discharges into their systems

¹ Maximum Extent Practicable (MEP) means to the maximum extent possible, taking into account equitable considerations of synergistic, additive, and competing factors, including but not limited to, gravity of the problem, fiscal feasibility, public health risks, societal concerns, and social benefits.

² Urban storm water run-off includes those discharges from residential, commercial, industrial and construction areas within the permitted area and excludes discharges from feedlots, dairies and farms.

from some of the State and federal facilities, utilities and special districts, Native American tribal lands, waste water management agencies and other point and non-point source discharges otherwise permitted by the Regional Board. The Regional Board recognizes that the permittees should not be held responsible for such facilities and/or discharges.

9. Storm water discharges consist of surface run-off generated from various land uses in all the hydrologic drainage areas which discharge into the water bodies of the U. S. The quality of these discharges varies considerably and is affected by land use activities, basin hydrology and geology, season, the frequency and duration of storm events, and the presence of illegal disposal practices/illicit connections. Nationwide studies in urban areas have shown that urban run-off typically contains significant quantities of pollutants. Preliminary results from urban storm water monitoring programs within the permitted area indicate that the major pollutants of concern are certain heavy metals, sediment, chemical oxygen demand (COD), pesticides, herbicides, and nutrients.

The 1992, 1994, and 1996 Water Quality Assessments by the Regional Board identified impairment of a number of water bodies within the permitted area. The beneficial uses of these water bodies have been found to be threatened or impaired due to point and non-point source discharges.

10. Certain activities that generate pollutants present in storm water runoff are beyond the ability of the permittees to eliminate. Examples of these include operation of internal combustion engines, atmospheric deposition, brake pad wear, tire wear and leaching of naturally-occurring minerals from local geology.
11. Storm water discharges to the storm drain systems in Orange County are tributary to various water bodies of the Region. The surface water bodies in Orange County include:

Inland Surface Streams

- a. Aliso Creek
- b. Salt Creek
- c. Oso Creek
- d. Sulphur Creek
- e. San Juan Creek
- f. Trabuco Creek
- g. Segunda Descheca Creek

h. Laguna Canyon

Bays, Estuaries, and Tidal Prisms

i. Dana Point Harbor

Ocean Waters

k. Pacific Ocean

The beneficial uses of these water bodies include: agricultural supply, industrial service supply, navigation, water contact recreation, non-contact water recreation, commercial and sportfishing, warm freshwater habitat, cold freshwater habitat, preservation of biological habitats of special significance, wildlife habitat, preservation of rare, threatened or endangered species, marine habitat, shellfish harvesting, and spawning, reproduction and development of aquatic habitats. The ultimate goal of this storm water management program is to protect the beneficial uses of the receiving waters.

12. Studies conducted by the USEPA, the states, flood control districts and other entities indicate the following major sources for urban storm water pollution nationwide:
 - a. Industrial sites where appropriate pollution control and best management practices (BMPs)³ are not implemented;
 - b. Construction sites where erosion and siltation controls and BMPs are not implemented; and
 - c. Urban run-off where the drainage area is not properly managed.

13. To address the industrial and construction sites, the State Board issued two statewide general NPDES permits: one for storm water run-off from industrial sites (NPDES No. CAS000001, General Industrial Activities Storm Water Permit) and the second one for storm water run-off from construction sites (NPDES No. CAS000002, General Construction Activity Storm Water Permit).

³ Best Management Practices (BMPs) are defined in 40 CFR 122.2 as schedules of activities, prohibitions of practices, maintenance procedures, and other management practices to prevent or reduce the pollution of waters of the United States. BMPs also include treatment requirements, operating procedures and practices to control plant site runoff, spillage or leaks, sludge or waste disposal, or drainage from raw material storage.

14. One of the major components of these statewide permits is the development and implementation of a storm water pollution prevention plan (SWPPP).
15. Most industrial activities (some light industrial activities are exempt) and construction sites on five acres or more are required to get coverage under these statewide general permits.
16. The Regional Board administers compliance with the State's General Industrial Activities Storm Water Permit and the General Construction Activity Storm Water Permit. However, in most cases, the industries and construction sites discharge into storm drains and/or flood control facilities owned and operated by the permittees. These industries and developers are also regulated under local laws and regulations. Therefore, a coordinated effort of the permittees and the Regional Board staff is critical to avoid duplicative and overlapping storm water regulatory activities. A memorandum of understanding between the permittees and the Regional Board may be appropriate to efficiently implement the storm water regulations for industries and construction sites at the local level.
17. The permittees have agreed to continue to notify Regional Board staff when conditions are observed during their routine activities which result in a threat or potential threat to water quality. This also includes failure to obtain coverage under the general storm water permits.
18. The permittees have developed project conditions of approval for new developments to be implemented at the time of grading or building permit issuance for individual sites on five acres or more, with the intent to comply with the General Construction Activity Storm Water Permit.
19. The permittees own/operate facilities where industrial or related activities take place that may have an impact on storm water quality. Some of the permittees also enter into contracts with outside parties to carry out municipal related activities that may also have an impact on storm water quality. These facilities and related activities include, but are not limited to, street sweeping, catch basin cleaning, maintenance yards, vehicle and equipment maintenance areas, waste transfer stations, corporation and storage yards, parks and recreational facilities, landscape and swimming pool maintenance activities, storm drain system maintenance activities and the application of herbicides, algaecides and pesticides. As part of this Order, the permittees will prepare an environmental performance report for appropriate public facilities under their jurisdiction, and develop and implement best management practices for those activities found to require pollution prevention measures. Non-storm water discharges from these facilities and/or activities could also affect water quality. This Order prohibits non-storm water discharges from public facilities unless the discharges are exempt under Section III, Discharge Limitations, 3 & 5 of this Order or are permitted by the Regional Board under an individual NPDES permit.
20. Successful implementation of the provisions and limitations in this Order will require the cooperation of all the public agency organizations within Orange County having

programs/activities that have an impact on storm water quality. A list of these organizations is included in Attachment C. As such, these organizations are expected to actively participate in implementing the Orange County NPDES Storm Water Program. The Regional Board has the discretion and authority to require non-cooperating entities to participate in this areawide permit or obtain individual storm water discharge permits, pursuant to 40 CFR 122.26(a).

21. The major focus of storm water pollution prevention is the development and implementation of an appropriate drainage area management plan (DAMP) including best management practices (BMPs). The ultimate goal of the urban storm water management program is to support attainment of water quality consistent with the water quality objectives for the receiving waters in order to protect beneficial uses through the implementation of the DAMP. The permittees developed and submitted a DAMP for approval, which was approved on April 9, 1996.
22. The DAMP is a dynamic document and the permittees have implemented, or are in the process of implementing, the various elements of the DAMP. This Order requires the permittees to continue to implement the BMPs listed in the DAMP and to effectively prohibit illegal and illicit discharges to the storm drain system.
23. Urban run-off contains pollutants from privately owned and operated facilities such as residences, businesses, private and/or public institutions, and commercial establishments. Therefore, a successful storm water management plan should include the participation and cooperation of the public, businesses, the permittees and the regulators. The DAMP has a strong emphasis on public education.
24. The Orange County DAMP defined a management structure for the permittees' compliance effort, a formal agreement to underpin cooperation, and detailed municipal efforts to develop, implement, and evaluate various BMPs or control programs in the areas of public agency activities, public information, new development and construction, public works construction, industrial discharger identification, and illicit discharger/connection identification and elimination. The DAMP also defined an extensive surface water quality and sediment monitoring program.
25. In order to characterize storm water discharges, to identify problem areas, to determine the impact of urban run-off on receiving waters, and to determine the effectiveness of the various BMPs, an effective monitoring program is critical. From 1990 through 1995, the principal permittee administered the monitoring program for the permittees which included storm water monitoring, receiving water monitoring, dry weather monitoring and sediment monitoring. The permit application included a summary of monitoring data collected during 1991-1994. The monitoring program did not identify any specific pollutant sources which could be targeted for special pollutant control programs. The monitoring data indicated spatial differences in water quality between Orange County's major watersheds. Some of the

monitoring data collected to date may be used to develop baseline water quality data for future evaluation of program effectiveness.

26. The Strategic Plan and Initiatives (June 22, 1995) for the State Water Resources Control Board and the Regional Water Quality Control Boards recognizes the importance of an integrated watershed management approach. The Regional Board also recognizes that a watershed management program should integrate all related programs, including the storm water programs. Consistent with this approach, an integrated monitoring program could be developed with the cooperation of all stakeholders, including the permittees in other counties and Regional Boards.
27. Any illegal dumping and illicit/illegal connections and discharges⁴ to the storm drains could contribute to storm water and other surface water contamination. A reconnaissance survey of the municipal storm drain systems (open channels and underground storm drains) is being conducted by the permittees. The permittees are required to detect, identify and eliminate illicit/illegal discharges. Additionally, the permittees are also required to develop a program to prohibit illegal/illicit connections to their storm drains and flood control facilities.
28. The County of Orange obtains its authority to control pollutants in storm water discharges, to prohibit illegal discharges/illicit connections, to control spills, and to require compliance and carry out inspections of the storm drain systems in the County of Orange from the Orange County Flood Control Act, Orange County Water Pollution Ordinance, and various county ordinances which address industrial wastes and waste discharges within the unincorporated areas of Orange County and contract cities. The permittees have various forms of legal authority in place, such as charters, State Code provisions for General Law cities, city ordinances, and applicable portions of municipal codes and the State Water Code, to regulate storm water/urban run-off discharges.

In order to insure countywide consistency and to provide a legal underpinning to the entire Orange County Storm Water Program, a model water quality ordinance was completed on August 15, 1994 and is available to the permittees for adoption.

29. Early identification of potential storm water impacts and mitigation measures can significantly reduce storm water pollution problems. The permittees should consider these impacts and appropriate mitigation measures in the planning procedures and in the California Environmental Quality Act (CEQA) review process for specific projects, Master Plans, etc. The County of Orange already requires a Water Quality Management Plan which addresses permanent post-construction BMPs, in addition to the SWPPP required by the statewide

⁴ Illegal discharge means any discharge (or seepage) to the municipal separate storm water conveyance system that is not composed entirely of storm water except for the authorized discharges listed in Section III of this permit. Illegal discharges include the improper disposal of wastes into the storm sewer system.

general permit for construction activity.

30. Successful implementation of the provisions and limitations in this Order will require the cooperation of all the public agency organizations within Orange County having programs/activities that have an impact on storm water quality (e.g., Fire Department, Building and Safety, Code enforcement, etc.). As such, these organizations are expected to actively participate in implementing this areawide storm water program.
31. In accordance with the Clean Water Act and its implementing regulations, this Order requires the permittees to develop and implement programs and policies necessary to control the discharge of pollutants in urban run-off to waters of the U. S. to the maximum extent practicable.
32. The legislative history and the preamble to the federal storm water regulations indicate that the Congress and the USEPA were aware of the difficulties in regulating urban storm water run-off solely through traditional end-of-pipe treatment. However, it is the Regional Board's intent that this Order shall achieve attainment of water quality objectives and protection of the beneficial uses of receiving waters. This Order, therefore, includes Receiving Water Limitations required to implement water quality objectives and to prevent nuisance and water quality impairment in receiving waters. In accordance with Section 402 (p) of the Clean Water Act, this Order requires the permittees to implement control measures in accordance with the previously approved DAMP that will reduce pollutants in storm water discharges to the maximum extent practicable. The Receiving Water Limitations require the implementation of control measures that are technically and economically feasible as necessary to protect beneficial uses and attain water quality objectives of the receiving waters.
33. The Regional Board finds that the unique aspects of the regulation of storm water discharges through municipal storm sewer systems, including intermittent discharges, difficulties in monitoring and limited physical control over the discharge, will require adequate time to implement and evaluate the effectiveness of best management practices and to determine whether they will adequately protect receiving waters. Therefore, this Order includes a procedure for determining whether storm water discharges are causing continuing and recurring exceedances of receiving water limitations and for evaluating whether the DAMP must be revised. A permittee will be in compliance with the Receiving Water Limitations so long as it complies with that procedure.
34. A revised Water Quality Control Plan (Basin Plan) was adopted by the Regional Board on September 4, 1994. The Basin Plan contains water quality objectives and beneficial uses for water bodies in the San Diego Region. The Basin Plan also incorporates by reference all State Board water quality control plans and policies including the 1990 Water Quality Control Plan for Ocean Waters of California (Ocean Plan) and the 1974 Water Quality Control Policy for Enclosed Bays and Estuaries of California (Enclosed Bays and Estuaries

Plan).

35. The requirements contained in this Order are necessary to implement the plans and policies described in Finding 34, above. These plans and policies contain numeric and narrative water quality standards for the water bodies in this Region. This Order does not contain numeric effluent limitations for any constituents because the impact of the storm water discharges on the water quality of the receiving waters has not yet been fully determined. Continuation of water quality/biota monitoring and analysis of the data are essential to make that determination.
36. The permittees may petition the Regional Board to issue a separate NPDES permit to any discharger of non-storm water into storm drain systems that they own or operate.
37. The permittees have developed a Storm Water Implementation Agreement between the County, its cities and the Orange County Flood Control District as required under Order No. 90-38.
38. The storm water regulations require public participation in the storm water management program development and implementation. As such the permittees are required to solicit and consider all comments received from the public and submit copies of the comments to the Executive Officer of the Regional Board. In considering the public comments, the permittees may modify reports, plans, or schedules prior to submittal to the Executive Officer.
39. In accordance with California Water Code Section 13389, the issuance of waste discharge requirements for this discharge is exempt from those provisions of the California Environmental Quality Act contained in Chapter 3 (commencing with Section 21100), Division 13 of the Public Resources Code.
40. The Regional Board has considered antidegradation requirements, pursuant to 40 CFR 131.12 and State Board Resolution 68-16, for this discharge. The Regional Board finds that this Order is consistent with the federal and state anti-degradation requirements and a complete antidegradation analysis is not necessary.
41. The Regional Board has notified the permittees and interested parties of its intent to issue waste discharge requirements for this discharge and has provided them with an opportunity to submit their written views and recommendations.
42. The Regional Board, in a public hearing, heard and considered all comments pertaining to the discharge and to the tentative requirements.

IT IS HEREBY ORDERED that the permittees, in order to meet the provisions contained in Division 7 of the California Water Code and regulations adopted thereunder, and the provisions of

the Clean Water Act, as amended, and regulations and guidelines adopted thereunder, shall comply with the following:

I. RESPONSIBILITIES OF PRINCIPAL PERMITTEE

The principal permittee shall be responsible for the overall program management and shall:

1. Conduct chemical and biological water quality monitoring of the storm drain system outfalls as agreed upon by the Executive Officer of the Regional Board.
2. Develop criteria for inspections of the municipal separate storm drain systems.
3. Conduct inspections of the storm drain systems within its jurisdiction.
4. Implement management programs (within its jurisdiction), monitoring programs, and related plans as required by this Order.
5. Enact and revise policies/ordinances necessary to establish legal authority as required by the Federal Storm Water Regulations.
6. Respond and arrange for responding to emergency situations such as accidental spills, leaks, illegal discharges/illicit connections, etc. to prevent or reduce the discharge of pollutants to storm drain systems and waters of the United States.
7. Prepare and submit to the Executive Officer of the Regional Board unified reports, plans, and programs as required by this Order.

The activities of the principal permittee should include, but not be limited to, the following:

8. Coordinate permit activities and participate in any subcommittees formed as necessary, to coordinate compliance activities with this Order.
9. Provide technical and administrative support and inform the co-permittees of the progress of other pertinent municipal programs, pilot projects, research studies, etc..
10. Coordinate the implementation of areawide storm water quality management activities such as public education, pollution prevention, household hazardous waste collection, etc..
11. Develop and implement mechanisms, performance standards, etc., to promote uniform and consistent implementation of BMPs among the permittees.
12. Pursue enforcement actions as necessary within its jurisdiction to ensure compliance with

storm water management programs, ordinances and implementation plans including physical elimination of undocumented connections and illicit discharges.

13. In conjunction with the other permittees, implement the BMPs listed in the previously approved DAMP.
14. Monitor the implementation of the plans and programs required by this Order and determine their effectiveness in protecting beneficial uses.
15. Coordinate all the activities with the Regional Board including the submittal of all reports, plans, and programs as required under this Order.
16. Obtain public input for any proposed management and implementation plans where applicable.
17. Cooperate in watershed management programs and regional and/or statewide monitoring programs.

II. RESPONSIBILITIES OF THE CO-PERMITTEES

The co-permittees shall be responsible for the management of storm drain systems within their jurisdictions and shall:

1. Implement management programs, monitoring programs, implementation plans and all BMPs outlined in the DAMP within each respective jurisdiction as required by this Order.
2. Adopt the Orange County Water Quality Ordinance or the equivalent legislation necessary to establish and maintain adequate legal authority as required by the Federal Storm Water Regulations.
3. Conduct storm drain system inspections in accordance with the criteria developed by the principal permittee.

The co-permittees' activities should include, but not be limited to, the following:

4. Participate in committees or subcommittees formed by the principal permittee to address storm water related issues to comply with this Order.
5. Review, approve, implement, and comment on all plans, strategies, management programs, and monitoring programs, as developed by the principal permittee or any subcommittee to comply with this Order.

6. Pursue enforcement actions as necessary to ensure compliance with the storm water management programs, ordinances and the implementation plans including physical elimination of undocumented connections and illicit discharges.
7. Conduct and coordinate with the principal permittee any surveys and characterizations needed to identify the pollutant sources and drainage areas.
8. Submit storm drain system maps with periodic revisions as necessary.
9. Respond to emergency situations such as accidental spills, leaks, illegal discharges/illicit connections, etc. to prevent or reduce the discharge of pollutants to storm drain systems and waters of the United States.
10. Prepare and submit all reports to the principal permittee in a timely manner.

III. DISCHARGE LIMITATIONS

1. The permittees shall prohibit illicit/illegal discharges from entering into the municipal separate storm sewer systems (municipal storm drain systems) and require controls to reduce the discharge of pollutants to the maximum extent practicable.
2. The discharge of storm water from permittees' municipal storm drain systems to waters of the United States containing pollutants which have not been reduced to the maximum extent practicable is prohibited.
3. The following discharges need not be prohibited by the permittees unless identified by the permittees as a source of pollutants to the receiving waters.
 - a. discharges composed entirely of storm water,
 - b. discharges covered by NPDES permits or written clearances issued by the Regional or State Board,
 - c. discharges from potable water line flushing and other potable water sources,
 - d. fire hydrant testing and flushing,
 - e. air conditioning condensation,
 - f. landscape irrigation, lawn garden watering and other irrigation waters,
 - g. passive foundation drains,
 - h. passive footing drains,
 - i. water from crawl space pumps,
 - j. dechlorinated swimming pool discharges,
 - k. non-commercial vehicle washing,
 - l. diverted stream flows,
 - m. rising ground waters and natural springs,

- n. ground water infiltration as defined in 40 CFR 35.2005 (20) and uncontaminated pumped groundwater,
- o. flows from riparian habitats and wetlands,
- p. street wash water and run-off from fire fighting (program descriptions shall address discharges or flows from fire fighting only where such discharges are identified as significant sources of pollutants to waters of the United States),
- q. waters not otherwise containing wastes as defined in California Water Code Section 13050 (d), and
- r. other types of discharges identified and recommended by the permittees and approved by the Regional Board.

For purposes of this Order, a discharge may include storm water and other types of discharges as indicated above.

- 4. If it is determined by the permittees that any of the preceding discharges cause violations of water quality standards or are significant contributors of pollutants to waters of the U.S., the permittees shall prohibit these discharges from entering the storm drain system.
- 5. Non-storm water discharges from public agency activities into waters of the U.S. are prohibited unless the non-storm water discharges are permitted by an NPDES permit or are included in Item 3., above. If permitting or immediate elimination of the non-storm water discharges is impractical, the permittees shall include in the Environmental Performance Report, required under Section V., Provision 18., of this Order, a proposed plan to eliminate the non-storm water discharges in a timely manner.
- 6. The permittees shall reduce the discharge of pollutants to the storm water conveyance systems to the maximum extent practicable.

IV. RECEIVING WATER LIMITATIONS

- 1. Receiving water limitations have been established based on beneficial uses, water quality objectives, and water quality standards contained in the Basin Plan, and amendments thereto, and on ambient water quality. They are intended to protect the beneficial uses and attain the water quality objectives contained in the Basin Plan. The discharge of urban storm water, or non-storm water, from a municipal storm water conveyance system for which the permittees are responsible under the terms of this Order shall not cause continuing or recurring impairment of beneficial uses or exceedances of water quality objectives. The permittees will not be in violation of this provision so long as they are in compliance with the requirements set forth in 1.a.
 - a. If the Executive Officer determines that a continuing or recurring impairment of beneficial uses or exceedances of water quality objectives has been caused by urban

storm water discharges from the municipal storm water conveyance system, the following steps shall be taken:

- i. The Executive Officer will evaluate the adequacy of the permittees' implementation of the previously approved DAMP based on the permittees' submitted reports and other relevant information. The Executive Officer will determine if implementation of the previously approved DAMP has a reasonable likelihood of preventing future continuing or recurring impairment of beneficial uses or exceedances of water quality objectives resulting from urban storm water discharges. If the Executive Officer makes this determination, the permittees are required to continue implementing the approved DAMP.
- ii. If the Executive Officer determines that implementation of the previously approved DAMP will not have a reasonable likelihood of preventing future impairment of beneficial uses or exceedances of water quality objectives, the permittees shall, upon notice from the Executive Officer, do the following:
 - A. Submit a report that includes an evaluation of the relative contribution of the urban storm water discharges to the impairment of beneficial uses or the exceedances of water quality objectives. The report shall address the persistence, the significance, and to the extent feasible, the causes of the impairment or exceedance, and the technical and economic feasibility of control actions available to the permittees to reduce or eliminate the impairment or exceedance.
 - B. Submit a report reviewing the previously approved DAMP to determine whether it should be revised so that there will be a reasonable likelihood of preventing future continuing or recurring beneficial use impairment or exceedances of water quality objectives, or whether revisions to achieve protection of beneficial uses or attainment of water quality objectives are technically or economically infeasible. If the report recommends revision of the previously approved DAMP, the report shall include a work plan to revise the DAMP so that it will have a reasonable likelihood of preventing future continuing or recurring beneficial use impairment or exceedances of water quality objectives. If the report concludes that no revisions are necessary to achieve protection of beneficial uses or attainment of water quality objectives, the report shall explain how implementation of the previously approved DAMP will achieve compliance. If the report determines that revisions to achieve protection of beneficial uses or attainment of water quality objectives are technically or economically infeasible, the permittees shall

continue to comply with the DAMP, shall fully document this determination and shall make recommendations for actions to achieve compliance.

- C. The permittees shall implement the work plan and the revised DAMP.
2. The Executive Officer shall review the reports required under Receiving Water Limitation 1. The reports required under Receiving Water Limitation 1. may be submitted as part of the next Annual Report, or at some other time designated by the Executive Officer. So long as the permittees have complied with the procedures set forth in Receiving Water Limitation 1., they do not have to repeat the procedure for continuing or recurring exceedances of the same receiving water limitations. As appropriate, any determinations under this part or revisions to the previously approved DAMP may be considered by the Regional Board in a public meeting.

V. PROVISIONS

GENERAL

1. Permittees shall demonstrate compliance with all the requirements in this Order and specifically with Section III. Discharge Limitations and Section IV. Receiving Water Limitations, through timely implementation of their approved Drainage Area Management Plan (DAMP) and any modifications, revisions, or amendments developed pursuant to this Order. The previously approved DAMP, as included in the Report of Waste Discharge, including any amendments thereto, is hereby made an enforceable component of this Order.
2. The permittees shall implement all elements of the previously approved DAMP. Where the dates are different than those in this Order, the dates in this Order shall prevail. Any proposed revisions to the DAMP shall be submitted with the Annual Report to the Executive Officer of the Regional Board for review. All revisions to the DAMP shall be implemented in a timely manner.
3. The permittees shall comply with Monitoring and Reporting Program No. 96-03 which is hereby made a part of this Order and any revisions thereto. The Executive Officer is authorized to revise the Monitoring and Reporting Program and also to allow the permittees to participate in regional, statewide, national or other monitoring programs in lieu of Monitoring and Reporting Program No. 96-03.
4. All plans, reports and subsequent amendments submitted in compliance with this Order shall be implemented immediately and shall be an enforceable part of this Order. All submittals by the permittees must be adequate to implement the requirements of this Order.

5. The permittees shall report to the Executive Officer of the Regional Board:
 - a. Any enforcement actions and discharges of storm or wastewaters, known to the permittees, which may have an impact on human health or the environment,
 - b. Any suspected or reported activities on federal, state, or other entity's land or facilities, where the permittees do not have any jurisdiction, and where the suspected or reported activities may be contributing pollutants to waters of the United States.
6. The permittees shall not issue any grading permit for construction activities which will disturb five acres or more (or less than five acres, if it is part of a larger common plan of development or sale which is five acres or more) until proof of coverage with the State's General Construction Activity Storm Water Permit is verified. The proof of coverage may include a letter from the Regional Board office, a copy of the Notice of Intent, Waste Discharger Identification number, etc.
7. The permittees shall identify all illicit connections by February 1, 1997 and submit a report of the findings by February 28, 1997 including a schedule for elimination of any identified illicit connection and for periodic inspections of the storm drain facilities.
8. Permit application and special NPDES program requirements contained in 40 CFR 122.21 (a), (b), (d)(2), (f), (p); 122.41 (a), (b), (c), (d), (e), (f), (g), (h), (i), (j), (k), (l); and 122.42 (c) are incorporated into this Order by reference.

IMPLEMENTATION AGREEMENT

9. No later than October 31, 1996, the permittees shall submit to the Executive Officer of the Regional Board a copy of the existing Storm Water Program Implementation Agreement with authorized signatures of each of the permittees. Any further revisions to the implementation agreement shall be forwarded to the Executive Officer of the Regional Board within 30 days of approval by the permittees.

LEGAL AUTHORITY

10. The permittees shall adopt the proposed Water Quality Ordinance, or its equivalent. The permittees shall review their existing grading and erosion control ordinances and determine the need for any revision. Upon adoption of the ordinances, but no later than July 31, 1997, each permittee shall certify to the Regional Board that it has adequate legal authority to control the discharges of pollutants into the municipal storm drain system and that it has satisfied the requirements of 40 CFR Section 122.26(d)(2)(i)(A-F). The certification may be submitted jointly by all permittees.

ENFORCEMENT/COMPLIANCE STRATEGY

11. The Permittees shall implement the Enforcement Consistency Guide, dated 8/15/94, or an equivalent enforcement strategy, in order to enforce the Water Quality Ordinance. Upon implementation, but no later than July 31, 1997, each permittee shall certify to the Regional Board that the guide or similar policies are in place for their enforcement staff. This guide or its equivalent must include the following:
 - a. A mechanism to determine compliance of industrial facilities, commercial facilities, and construction sites with storm water ordinances and concerns;
 - b. A program to monitor and control the pollutants in storm water discharges from industrial facilities to the municipal system that the permittees determine are contributing to substantial pollutant loading to the municipal storm drain system. The program shall identify priorities and procedures for inspections and for establishing and implementing control measures.
12. The permittees shall develop a training program and offer it to the staff of existing industrial and construction inspection programs, to increase compliance with storm water requirements.
13. The permittees will continue to provide notification to the Regional Board regarding storm water related information gathered during site inspections of industrial and construction sites regulated by the Statewide General Storm Water Permits.

PUBLIC EDUCATION AND OUTREACH

14. The permittees will continue to implement the public education efforts already underway and shall implement all of the proposed efforts contained in the permit application. Any proposed changes shall be reported in the Annual Report.
15. When feasible, the permittees shall participate in joint outreach with other programs including, but not limited to, other municipal storm water programs to ensure that a consistent message on storm water pollution prevention is brought to the public.
16. The permittees shall develop public education materials to encourage the public to report illegal dumping from residential, industrial, construction and commercial sites into public streets, storm drains and other water bodies.
17. The permittees shall develop BMP guidance for the control of those potentially polluting activities not otherwise regulated by any agency.

MUNICIPAL FACILITIES

18. The permittees shall prepare an Environmental Performance Report, as stated in the amended DAMP, to address public agency facilities and activities not currently required to obtain coverage under the State's general storm water permits. This report may include a pollution prevention strategy to ensure that the public agency facilities and/or activities that are currently not required to obtain coverage under the State's general storm water permits are not sources of pollutants into the waters of the United States. A report shall be submitted to the Executive Officer of the Regional Board by July 31, 1997, identifying the extent of the investigation and all findings of the Environmental Performance Report as it pertains to storm water quality. Thereafter, the permittees shall include in the annual report for each year the actions taken by the permittees to eliminate discharges of pollutants to waters of the United States, identified by the permittees, at public agency facilities.

MUNICIPAL CONSTRUCTION PROJECTS/ACTIVITIES

19. This Order authorizes the discharge of storm water run-off from construction projects that may result in land disturbance of five (5) acres or more (or less than five acres, if it is part of a larger common plan of development or sale which is five acres or more) that are under ownership and/or direct responsibility of any of the permittees.
20. Prior to commencement of construction activities, the permittees shall notify the Executive Officer of the Regional Board of the proposed construction project. Upon completion of the construction project, the Executive Officer shall be notified of the completion of the project.
21. The permittees shall develop and implement a storm water pollution prevention plan (SWPPP) and a monitoring program that is specific for the construction project prior to the commencement of any of the construction activities. The SWPPP shall be kept at the construction site and released to the public and/or Regional Board staff upon request.
22. The SWPPP and the monitoring program for the construction projects shall be consistent with the requirements of the latest version of the State's General Construction Activity Storm Water Permit.
23. The permittees shall give advance notice to the Executive Officer of the Regional Board of any planned changes in the construction activity which may result in non-compliance with the latest version of the State's General Construction Activity Storm Water Permit.
24. All other terms and conditions of the latest version of the State's General Construction Activity Storm Water Permit shall be applicable.

NEW DEVELOPMENT (INCLUDING RE-DEVELOPMENT)

25. Within 90 days of the issuance of this Order, the permittees shall begin implementation of the new development BMPs (DAMP, Appendix G, dated September 1993) and BMPs for public works construction (DAMP, Appendix H) that were developed under Order 90-38.

Each permittee shall certify to the Regional Board by April 15, 1997, that these guidelines or the equivalent are being implemented and enforced.

26. Within 120 days of the issuance of this Order, the permittees shall review their planning procedures and CEQA document preparation processes to insure that storm water-related issues are properly considered. If necessary, these processes shall be revised to include storm water requirements for evaluation of appropriate mitigation measures.
27. The permittees shall, through conditions of approval, insure proper maintenance and operation of any permanent flood control structures installed in new developments. The parties responsible for the maintenance and operation of the facilities shall be identified.

FISCAL RESOURCES

28. The permittees shall prepare and submit a unified fiscal analyses to the Executive Officer of the Regional Board. The fiscal analysis shall be submitted with the Annual Report document no later than November 15th of each year and shall, at a minimum, include the following:
 - a. Each permittee's expenditures for the previous fiscal year,
 - b. Each permittee's budget for the current fiscal year,
 - c. A description of the source of funds, and
 - d. Each permittee's estimated budget for the next fiscal year.

PERMIT EXPIRATION AND RENEWAL

29. This Order expires on August 8, 2001 and the permittees must file a Report of Waste Discharge (permit application) no later than 180 days in advance of such expiration date as application for issuance of new waste discharge requirements. The Report of Waste Discharge shall, at a minimum, include the following:
 - a. Any revisions to the Drainage Area Management Plan including, but not limited to, all the activities the permittees propose to undertake during the next permit term, goals and objectives of such activities, an evaluation of the need for additional source control and/or structural BMPs, any proposed pilot studies, etc.;
 - b. Changes in land use and/or population including map updates;
 - c. Any significant changes to the storm drain systems, outfalls, detention or retention basins or dams, and other controls including map updates of the storm drain systems; and
 - d. New or revised program elements and compliance schedule(s) necessary to comply with Section IV of this Order.

30. This Order may be modified, revoked or reissued prior to its expiration date for the following reasons:
- a. To address significant changes in conditions identified in the technical reports required by the Regional Board which were unknown at the time of the issuance of this Order;
 - b. To incorporate applicable requirements of statewide water quality control plans adopted by the State Water Resources Control Board or any amendments to the Basin Plan approved by the Regional Board, the State Board, and, if necessary, by the Office of Administrative Law; or
 - c. To comply with any applicable requirements, guidelines, or regulations issued or approved under the Clean Water Act, if the requirements, guidelines, or regulations contain different conditions or additional requirements than those included in this Order.
31. This Order shall serve as a National Pollutant Discharge Elimination System (NPDES) Permit pursuant to Section 402 (p) of the Clean Water Act, or amendments thereto, and shall become effective ten days after the date of its adoption provided the Regional Administrator of the USEPA has no objections. If the Regional Administrator objects to its issuance, the permit shall not become effective until such objection is withdrawn.
32. Order No. 90-38 is hereby rescinded.

I, John H. Robertus, Executive Officer, do hereby certify that the foregoing is a full, true, and correct copy of an Order adopted by the California Regional Water Quality Control Board, San Diego Region, on August 8, 1996.

John H. Robertus
Executive Officer

Order No. 96-03
Attachment "A" -- Permitted Area

Order No. 96-03

Attachment "B"

Major Drainage Areas

- 1. Laguna Canyon**
- 2. Aliso Creek**
- 3. San Juan Creek**
- 4. Prima Deshecha/Prima Segunda**

Order No. 96-03
Attachment "C"

**LIST OF OTHER ENTITIES WITH THE POTENTIAL TO DISCHARGE POLLUTANTS
TO THE ORANGE COUNTY STORM WATER SYSTEM**

California Department of Transportation (Caltrans), District 12
Southern Pacific Railroad
Atchison, Topeka & Santa Fe Railway Company
National Forest Service
San Diego Gas and Electric
Southern California Edison
Southern California Gas Company
Rancho Mission Viejo C/O Santa Margarita Company

Universities and Colleges

Saddleback College

School Districts

Capistrano Valley Unified School District
Laguna Beach Unified School District
Newport-Mesa Unified School District
Saddleback Valley Unified School District

Hospitals

Laguna Hills Hospital
South Coast Medical Center
Mission Hospital - Regional Medical Center
Saddleback Memorial Medical Center
Capistrano By The Sea Hospital
Capistrano Surgicenter
Charter Hospital of Mission Viejo
Childrens Hospital at Mission
Samaritan Medical Center
Mission Ambulatory Surgicenter
Mission Regional Pain Center
Mission Viejo Surgicenter
Saddleback Valley Outpatient Surgery
California Department of Transportation (Caltrans), District 12
Southern Pacific Railroad
Atchison, Topeka & Santa Fe Railway Company
National Forest Service

Water/Wastewater Agencies

Irvine Ranch Water District
Los Alisos Water District
El Toro Water District
County Sanitation Districts of Orange County
Orange County Water District
Metropolitan Water District
Capistrano Valley Water District
Coastal Municipal Water District
Laguna Beach County Water District
Moulten Niguel Water District
Santa Margarita Water District
South Coast Water District
Trabuco Canyon Water District
Capistrano Beach Water District
Southeast Regional Reclamation Authority (SERRA)
Aliso Water Management Agency

**California Regional Water Quality Control Board
San Diego Region**

**Monitoring and Reporting Program No. 96-03
NPDES No. CAS0108740**

**for
the County of Orange, Orange County Flood Control District,
and
Incorporated Cities of Orange County Within the San Diego Region**

I. GENERAL

1. Revisions of the Monitoring and Reporting Program are appropriate to ensure that the permittees are in compliance with requirements and provisions contained in this Order. Revisions may be made under the direction of the Executive Officer at any time during the term, and may include a reduction or increase in the number of parameters to be monitored, the frequency of monitoring, or the number and size of samples collected.
2. The Executive Officer is authorized to allow the permittees to participate in statewide, national, or other monitoring programs in lieu of this monitoring program.
3. All sample collection, handling, storage, and analysis shall be in accordance with 40 CFR Part 136 or other methods approved by the Executive Officer.
4. The permittees are authorized to complement their monitoring data with other monitoring sources provided the monitoring conditions and sources are similar to those in the south Orange County watersheds within the San Diego Region.
5. The permittees shall implement the Orange County Water Quality Monitoring Program (submitted as part of the permit application) until development and implementation of other acceptable monitoring programs.

II. OBJECTIVES

The overall goal of this monitoring program is to develop and support an effective watershed management program. The following are the major objectives:

1. To develop and support an effective municipal non-point source control program.
2. To define water quality status, trends, and pollutants of concern associated with municipal storm water discharges.
3. To characterize pollutants associated with municipal storm water discharges and to assess the influence of urban land uses on water quality and the beneficial uses of receiving waters.

4. To identify significant water quality problems related to urban storm water discharges.
5. To identify other sources of pollutants in storm water run-off to the maximum extent possible (e.g., atmospheric deposition, contaminated sediments, other non-point sources, etc.).
6. To identify and prohibit illicit discharges.
7. To identify those waters, which without additional action to control pollution from urban storm water discharges cannot reasonably be expected to attain or maintain applicable water quality standards required to sustain the beneficial uses in the Basin Plan.
8. To evaluate the effectiveness of existing municipal storm water quality management programs, including an estimate of pollutant reductions achieved by the structural and nonstructural BMPs implemented by the permittees.
9. To evaluate costs and benefits of proposed municipal storm water quality control programs to the stakeholders including the public.

The Regional Board recognizes that these objectives may not be attainable during this permit period and authorizes the Executive Officer to evaluate and to determine adequate progress toward meeting each objective.

III. MONITORING PROGRAM REQUIREMENTS

The permittees shall develop and submit for approval of the Executive Officer an integrated watershed monitoring program geared towards achieving the above stated goals. This program may be developed in cooperation with the permittees from other counties. The proposed monitoring program shall be submitted by July 31, 1997. The permittees may participate in existing watershed programs or programs developed under the Regional Board's "Watershed Management Approach" (March 4, 1996). The Executive Officer or his/her designated representative(s) shall facilitate the coordination meetings or subcommittees formed to achieve this goal. The development and implementation of the monitoring program shall be in accordance with the time schedules prescribed by the Executive Officer. At a minimum, the program shall include the following:

1. Uniform guidelines for quality control, quality assurance, data collection and data analysis.
2. A mechanism for the collection, analysis and interpretation of existing data from local, regional or national monitoring programs. These data sources may be utilized to characterize different storm water sources; to determine pollutant generation, transport and fate; to develop a relationship between land use, development size, storm size and the event mean concentration of pollutants; to determine spatial and temporal variances in storm water quality and seasonal and other bias in the collected data; and to identify any

unique features of the Orange County watersheds within the San Diego Region. The permittees are encouraged to use data from similar studies, if available.

3. A description of the monitoring program including:
 - a. The number of monitoring stations;
 - b. Monitoring locations within flood control channels, bays and estuaries, coastal areas, major outfalls, and other receiving waters;
 - c. Environmental indicators (e.g., ecosystem, biological, habitat, chemical, sediment, stream health, etc.) chosen for monitoring;
 - d. Parameters selected for field screening and for laboratory work; and
 - e. Total number of samples to be collected from each station, frequency of sampling during wet and dry weather, short duration or long duration storm events, type of samples (grab, 24-hour composite, etc.), and the type of sampling equipment.
4. A mechanism for analyzing the collected data and interpreting the results including an evaluation of the effectiveness of the management practices, and need for any refinement of the management practices.
5. A description of the responsibilities of all the participants in this program including cost sharing.

IV. REPORTING

1. All progress reports and proposed strategies and plans required by this Order shall be signed by the principal permittee and copies shall be submitted to the Executive Officer of the Regional Board under penalty of perjury.
2. The permittees shall submit an **ANNUAL PROGRESS REPORT** to the Executive Officer of the Regional Board and to the Regional Administrator of the USEPA, Region 9, no later than November 15th, of each year. This progress report may be submitted in a mutually agreeable electronic format. At a minimum, the Annual Progress Report shall include the following:
 - a. A review of the status of program implementation and compliance (or non-compliance) with the schedules contained in this Order;
 - b. An assessment of the effectiveness of control measures established under the illicit discharge elimination program and the Drainage Area Management Plan. The effectiveness may be measured in terms of how successful the program has been in eliminating illicit/illegal discharges and reducing pollutant loads in storm water discharges;
 - c. An assessment of any storm water management program modifications made to

- comply with Clean Water Act requirements to reduce the discharge of pollutants to the maximum extent practicable;
- d. A summary and analysis of monitoring results from the previous year and any changes to the monitoring program for the following year;
 - e. A fiscal analysis progress report as described in Section V., Provisions, No. 28., of this Order;
 - f. A draft workplan which describes the proposed implementation of the DAMP for next fiscal year. The workplan shall include clearly defined tasks, responsibilities, and schedules for implementation of the storm water program and each permittee's actions for the next fiscal year; and
 - g. Major changes in any previously submitted plan/policies.
3. The permittees shall be responsible for the submittal of all required information/materials needed to comply with this Order in a timely manner to the principal permittee. All such submittals shall be signed by a duly authorized representative of the permittee under penalty of perjury.

V. REPORTING SCHEDULE

All reports required by this Order shall be submitted to the Executive Officer of the Regional Board in accordance with the following schedule:

ITEM	DUE DATE
Report on Illicit/Illegal Discharges	February 28, 1997
Storm Water Program Implementation Agreement	October 31, 1996
Legal Authority & Enforcement Strategy Certification	July 31, 1997
Environmental Performance Report	July 31, 1997
New Development BMP Certification	April 15, 1997
Proposed Monitoring Program	July 31, 1997
Annual Report/Fiscal Analysis	November 15th of each year

Ordered by _____

John H. Robertus
Executive Officer
August 8, 1996

ATTACHMENT 42

**CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
SAN DIEGO REGION
ORDER NO. R9-2007-0001
NPDES NO. CAS0108758
WASTE DISCHARGE REQUIREMENTS
FOR DISCHARGES OF URBAN RUNOFF FROM
THE MUNICIPAL SEPARATE STORM SEWER SYSTEMS (MS4s)
DRAINING THE WATERSHEDS OF THE COUNTY OF SAN DIEGO,
THE INCORPORATED CITIES OF SAN DIEGO COUNTY,
THE SAN DIEGO UNIFIED PORT DISTRICT,
AND THE SAN DIEGO COUNTY REGIONAL AIRPORT AUTHORITY**

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RECEIVING WATERS AND URBAN RUNOFF MONITORING AND REPORTING
PROGRAM NO. R9-2007-0001

The California Regional Water Quality Control Board, San Diego Region (hereinafter Regional Board), finds that:

A. BASIS FOR THE ORDER

1. This Order is based on the federal Clean Water Act (CWA), the Porter-Cologne Water Quality Control Act (Division 7 of the Water Code, commencing with Section 13000), applicable state and federal regulations, all applicable provisions of statewide Water Quality Control Plans and Policies adopted by the State Water Resources Control Board (SWRCB), the Water Quality Control Plan for the San Diego Basin adopted by the Regional Board, the California Toxics Rule, and the California Toxics Rule Implementation Plan.
2. This Order renews National Pollutant Discharge Elimination System (NPDES) Permit No. CAS0108758, which was first issued on July 16, 1990 (Order No. 90-42), and then renewed on February 21, 2001 (Order No. 2001-01). On August 25, 2005, in accordance with Order No. 2001-01, the County of San Diego, as the Principal Permittee, submitted a Report of Waste Discharge (ROWD) for renewal of their MS4 Permit.

B. REGULATED PARTIES

1. Each of the persons in Table 1 below, hereinafter called Copermittees or dischargers, owns or operates a municipal separate storm sewer system (MS4), through which it discharges urban runoff into waters of the United States within the San Diego Region. These MS4s fall into one or more of the following categories: (1) a medium or large MS4 that services a population of greater than 100,000 or 250,000 respectively; or (2) a small MS4 that is “interrelated” to a medium or large MS4; or (3) an MS4 which contributes to a violation of a water quality standard; or (4) an MS4 which is a significant contributor of pollutants to waters of the United States.

Table 1. Municipal Copermittees

1. City of Carlsbad	12. City of Oceanside
2. City of Chula Vista	13. City of Poway
3. City of Coronado	14. City of San Diego
4. City of Del Mar	15. City of San Marcos
5. City of El Cajon	16. City of Santee
6. City of Encinitas	17. City of Solana Beach
7. City of Escondido	18. City of Vista
8. City of Imperial Beach	19. County of San Diego
9. City of La Mesa	20. San Diego Unified Port District
10. City of Lemon Grove	21. San Diego County Regional
11. City of National City	Airport Authority

C. DISCHARGE CHARACTERISTICS

1. Urban runoff contains waste, as defined in the California Water Code (CWC), and pollutants that adversely affect the quality of the waters of the State. The discharge of urban runoff from an MS4 is a “discharge of pollutants from a point source” into waters of the U.S. as defined in the CWA.
2. The most common categories of pollutants in urban runoff include total suspended solids, sediment (due to anthropogenic activities); pathogens (e.g., bacteria, viruses, protozoa);

heavy metals (e.g., copper, lead, zinc and cadmium); petroleum products and polynuclear aromatic hydrocarbons; synthetic organics (e.g., pesticides, herbicides, and PCBs); nutrients (e.g., nitrogen and phosphorus fertilizers), oxygen-demanding substances (decaying vegetation, animal waste), and trash.

3. The discharge of pollutants and/or increased flows from MS4s may cause or threaten to cause the concentration of pollutants to exceed applicable receiving water quality objectives and impair or threaten to impair designated beneficial uses resulting in a condition of pollution (i.e., unreasonable impairment of water quality for designated beneficial uses), contamination, or nuisance.
4. Pollutants in urban runoff can threaten human health. Human illnesses have been clearly linked to recreating near storm drains flowing to coastal waters. Also, urban runoff pollutants in receiving waters can bioaccumulate in the tissues of invertebrates and fish, which may be eventually consumed by humans.
5. Urban runoff discharges from MS4s often contain pollutants that cause toxicity to aquatic organisms (i.e., adverse responses of organisms to chemicals or physical agents ranging from mortality to physiological responses such as impaired reproduction or growth anomalies). Toxic pollutants impact the overall quality of aquatic systems and beneficial uses of receiving waters.
6. The Copermittees discharge urban runoff into lakes, drinking water reservoirs, rivers, streams, creeks, bays, estuaries, coastal lagoons, the Pacific Ocean, and tributaries thereto within ten of the eleven hydrologic units (watersheds) comprising the San Diego Region as shown in Table 2 below. Some of the receiving water bodies have been designated as impaired by the Regional Board and the United States Environmental Protection Agency (USEPA) in 2002 pursuant to CWA section 303(d). Also shown below are the watershed management areas (WMAs) as defined in the Regional Board report, Watershed Management Approach, January 2002.

Table 2. Common Watersheds and CWA Section 303(d) Impaired Waters

REGIONAL BOARD WATERSHED MANAGEMENT AREA (WMA)	HYDROLOGIC UNIT(S)	MAJOR SURFACE WATER BODIES	303(d) POLLUTANT(S) OF CONCERN OR WATER QUALITY EFFECT ¹	COPERMITTEES
Santa Margarita River	Santa Margarita (902.00)	Santa Margarita River and Estuary, Pacific Ocean	1. Eutrophic 2. Nitrogen 3. Phosphorus 4. Total Dissolved Solids	1. County of San Diego
San Luis Rey River	San Luis Rey (903.00)	San Luis Rey River and Estuary, Pacific Ocean	1. Bacterial Indicators 2. Eutrophic 3. Chloride 4. Total Dissolved Solids	1. City of Escondido 2. City of Oceanside 3. City of Vista 4. County of San Diego
Carlsbad	Carlsbad (904.00)	Batiquitos Lagoon San Elijo Lagoon Agua Hedionda Lagoon Buena Vista Lagoon And Tributary Streams Pacific Ocean	1. Bacterial Indicators 2. Eutrophic 3. Sedimentation/Siltation 4. Nutrients 5. Total Dissolved Solids	1. City of Carlsbad 2. City of Encinitas 3. City of Escondido 4. City of Oceanside 5. City of San Marcos 6. City of Solana Beach 7. City of Vista 8. County of San Diego

¹ The listed 303(d) pollutant(s) of concern do not necessarily reflect impairment of the entire corresponding WMA or all corresponding major surface water bodies. The specific impaired portions of each WMA are listed in the State Water Resources Control Board's 2002 Section 303(d) List of Water Quality Limited Segments.

REGIONAL BOARD WATERSHED MANAGEMENT AREA (WMA)	HYDROLOGIC UNIT(S)	MAJOR SURFACE WATER BODIES	303(d) POLLUTANT(S) OF CONCERN OR WATER QUALITY EFFECT ¹	COPERMITTEES
San Dieguito River	San Dieguito (905.00)	San Dieguito River and Estuary, Pacific Ocean	1. Bacterial Indicators 2. Sulfate 3. Color 4. Nitrogen 5. Phosphorus 6. Total Dissolved Solids	1. City of Del Mar 2. City of Escondido 3. City of Poway 4. City of San Diego 5. City of Solana Beach 6. County of San Diego
Mission Bay	Peñasquitos (906.00)	Los Peñasquitos Lagoon Mission Bay, Pacific Ocean	1. Bacterial Indicators 2. Metals 3. Eutrophic 4. Sedimentation/Siltation 5. Toxicity	1. City of Del Mar 2. City of Poway 3. City of San Diego 4. County of San Diego
San Diego River	San Diego (907.00)	San Diego River, Pacific Ocean	1. Bacterial Indicators 2. Eutrophic 3. pH 4. Total Dissolved Solids 5. Oxygen (Dissolved)	1. City of El Cajon 2. City of La Mesa 3. City of Poway 4. City of San Diego 5. City of Santee 6. County of San Diego
San Diego Bay	Pueblo San Diego (908.00) Sweetwater (909.00) Otay (910.00)	San Diego Bay Sweetwater River Otay River Pacific Ocean	1. Bacterial Indicators 2. Metals 3. Sediment Toxicity 4. Benthic Community Degradation 5. Diazinon 6. Chlordane 7. Lindane 8. PAHs 9. PCBs	1. City of Chula Vista 2. City of Coronado 3. City of Imperial Beach 4. City of La Mesa 5. City of Lemon Grove 6. City of National City 7. City of San Diego 8. County of San Diego 9. San Diego Unified Port District 10. San Diego County Regional Airport Authority
Tijuana River	Tijuana (911.00)	Tijuana River and Estuary Pacific Ocean	1. Bacterial Indicators 2. Low Dissolved Oxygen 3. Metals 4. Eutrophic 5. Pesticides 6. Synthetic Organics 7. Trace Elements 8. Trash 9. Solids	1. City of Imperial Beach 2. City of San Diego 3. County of San Diego

7. The Copermittees' water quality monitoring data submitted to date documents persistent exceedances of Basin Plan water quality objectives for various urban runoff-related pollutants (diazinon, fecal coliform bacteria, total suspended solids, turbidity, metals, etc.) at various watershed monitoring stations. At some monitoring stations, such as Agua Hedionda, statistically significant upward trends in pollutant concentrations have been observed. Persistent toxicity has also been observed at some watershed monitoring stations. In addition, bioassessment data indicates that the majority of watersheds have Poor to Very Poor Index of Biotic Integrity ratings. In sum, the above findings indicate that urban runoff discharges are causing or contributing to water quality impairments, and are a leading cause of such impairments in San Diego County.
8. When natural vegetated pervious ground cover is converted to impervious surfaces such as paved highways, streets, rooftops, and parking lots, the natural absorption and infiltration abilities of the land are lost. Therefore, runoff leaving a developed urban area is significantly greater in runoff volume, velocity, and peak flow rate than pre-development runoff from the same area. Runoff durations can also increase as a result of flood control and other efforts to control peak flow rates. Increased volume, velocity, rate, and duration of runoff greatly accelerate the erosion of downstream natural channels. Significant declines in the biological integrity and physical habitat of streams and other receiving waters have been found to occur

with as little as a 10% conversion from natural to impervious surfaces. The increased runoff characteristics from new development must be controlled to protect against increased erosion of channel beds and banks, sediment pollutant generation, or other impacts to beneficial uses and stream habitat due to increased erosive force.

9. Urban development creates new pollution sources as human population density increases and brings with it proportionately higher levels of car emissions, car maintenance wastes, municipal sewage, pesticides, household hazardous wastes, pet wastes, trash, etc. which can either be washed or directly dumped into the MS4. As a result, the runoff leaving the developed urban area is significantly greater in pollutant load than the pre-development runoff from the same area. These increased pollutant loads must be controlled to protect downstream receiving water quality.
10. Development and urbanization especially threaten environmentally sensitive areas (ESAs), such as water bodies designated as supporting a RARE beneficial use (supporting rare, threatened or endangered species) and CWA 303(d) impaired water bodies. Such areas have a much lower capacity to withstand pollutant shocks than might be acceptable in the general circumstance. In essence, development that is ordinarily insignificant in its impact on the environment may become significant in a particular sensitive environment. Therefore, additional control to reduce pollutants from new and existing development may be necessary for areas adjacent to or discharging directly to an ESA.
11. Although dependent on several factors, the risks typically associated with properly managed infiltration of runoff (especially from residential land use areas) are not significant. The risks associated with infiltration can be managed by many techniques, including (1) designing landscape drainage features that promote infiltration of runoff, but do not “inject” runoff (injection bypasses the natural processes of filtering and transformation that occur in the soil); (2) taking reasonable steps to prevent the illegal disposal of wastes; (3) protecting footings and foundations; and (4) ensuring that each drainage feature is adequately maintained in perpetuity.

D. URBAN RUNOFF MANAGEMENT PROGRAMS

1. General

- a. This Order specifies requirements necessary for the Copermittees to reduce the discharge of pollutants in urban runoff to the maximum extent practicable (MEP). However, since MEP is a dynamic performance standard which evolves over time as urban runoff management knowledge increases, the Copermittees’ urban runoff management programs must continually be assessed and modified to incorporate improved programs, control measures, best management practices (BMPs), etc. in order to achieve the evolving MEP standard. Absent evidence to the contrary, this continual assessment, revision, and improvement of urban runoff management program implementation is expected to ultimately achieve compliance with water quality standards.
- b. Although the Copermittees have generally been implementing the jurisdictional urban runoff management programs required pursuant to Order No. 2001-01 since February 21, 2002, urban runoff discharges continue to cause or contribute to violations of water quality standards. This Order contains new or modified requirements that are necessary to improve Copermittees’ efforts to reduce the discharge of pollutants in urban runoff to the MEP and achieve water quality

standards. Some of the new or modified requirements, such as the expanded Watershed Urban Runoff Management Program section, are designed to specifically address these high priority water quality problems. Other new or modified requirements address program deficiencies that have been noted during audits, report reviews, and other Regional Board compliance assessment activities.

- c. Updated Jurisdictional Urban Runoff Management Plans (JURMPs) and Watershed Urban Runoff Management Plans (WURMPs), and a new Regional Urban Runoff Management Plan (RURMP), which describe the Copermittees' urban runoff management programs in their entirety, are needed to guide the Copermittees' urban runoff management efforts and aid the Copermittees in tracking urban runoff management program implementation. It is practicable for the Copermittees to update the JURMPs and WURMPs, and create the RURMP, within one year, since significant efforts to develop these programs have already occurred.
- d. Pollutants can be effectively reduced in urban runoff by the application of a combination of pollution prevention, source control, and treatment control BMPs. Pollution prevention is the reduction or elimination of pollutant generation at its source and is the best "first line of defense". Source control BMPs (both structural and non-structural) minimize the contact between pollutants and flows (e.g., rerouting run-on around pollutant sources or keeping pollutants on-site and out of receiving waters). Treatment control BMPs remove pollutants from urban runoff.
- e. Urban runoff needs to be addressed during the three major phases of development (planning, construction, and use) in order to reduce the discharge of pollutants to the MEP and protect receiving waters. Development which is not guided by water quality planning policies and principles can unnecessarily result in increased pollutant load discharges, flow rates, and flow durations which can impact receiving water beneficial uses. Construction sites without adequate BMP implementation result in sediment runoff rates which greatly exceed natural erosion rates of undisturbed lands, causing siltation and impairment of receiving waters. Existing development generates substantial pollutant loads which are discharged in urban runoff to receiving waters.
- f. Annual reporting requirements included in this Order are necessary to meet federal requirements and to evaluate the effectiveness and compliance of the Copermittees' programs.

2. Development Planning

- a. The Standard Urban Storm Water Mitigation Plan (SUSMP) requirements contained in this Order are consistent with Order WQ-2000-11 adopted by the SWRCB on October 5, 2000. In the precedential order, the SWRCB found that the design standards, which essentially require that urban runoff generated by 85 percent of storm events from specific development categories be infiltrated or treated, reflect the MEP standard. The order also found that the SUSMP requirements are appropriately applied to the majority of the Priority Development Project categories contained in Section D.1 of this Order. The SWRCB also gave Regional Water Quality Control Boards the discretion to include additional categories and locations, such as retail gasoline outlets (RGOs), in future SUSMPs.

- b. Controlling urban runoff pollution by using a combination of onsite source control and Low Impact Development (LID) BMPs augmented with treatment control BMPs before the runoff enters the MS4 is important for the following reasons: (1) Many end-of-pipe BMPs (such as diversion to the sanitary sewer) are typically ineffective during significant storm events. Whereas, onsite source control BMPs can be applied during all runoff conditions; (2) End-of-pipe BMPs are often incapable of capturing and treating the wide range of pollutants which can be generated on a sub-watershed scale; (3) End-of-pipe BMPs are more effective when used as polishing BMPs, rather than the sole BMP to be implemented; (4) End-of-pipe BMPs do not protect the quality or beneficial uses of receiving waters between the source and the BMP; and (5) Offsite end-of-pipe BMPs do not aid in the effort to educate the public regarding sources of pollution and their prevention.
- c. Use of LID BMPs at new development projects can be an effective means for minimizing the impact of urban runoff discharges from the development projects on receiving waters. LID BMPs help preserve and restore the natural hydrologic cycle of the site, allowing for filtration and infiltration which can greatly reduce the volume, peak flow rate, velocity, and pollutant loads of urban runoff.
- d. Retail Gasoline Outlets (RGOs) are significant sources of pollutants in urban runoff. RGOs are points of convergence for motor vehicles for automotive related services such as repair, refueling, tire inflation, and radiator fill-up and consequently produce significantly higher loadings of hydrocarbons and trace metals (including copper and zinc) than other urban areas. To meet MEP, LID, source control, and treatment control BMPs are needed at RGOs that meet the following criteria: (a) 5,000 square feet or more, or (b) a projected Average Daily Traffic (ADT) of 100 or more vehicles per day. These are appropriate thresholds since vehicular development size and volume of traffic are good indicators of potential impacts of urban runoff from RGOs on receiving waters.
- e. Sites of heavy industry are significant sources of pollutants in urban runoff. Pollutant concentrations and loads in runoff from industrial sites are similar or exceed pollutant concentrations and loads in runoff from other land uses, such as commercial or residential land uses. As with other land uses, LID, source control, and treatment control BMPs are needed at sites of heavy industry in order to meet the MEP standard. These BMPs are necessary where the site of heavy industry is larger than one acre. The one acre threshold is appropriate, since it is consistent with requirements in the Phase II NPDES storm water regulations.
- f. If not properly designed or maintained, certain BMPs implemented or required by municipalities for urban runoff management may create a habitat for vectors (e.g. mosquitoes and rodents). However, proper BMP design and maintenance can prevent the creation of vector habitat. Nuisances and public health impacts resulting from vector breeding can be prevented with close collaboration and cooperative effort between municipalities and local vector control agencies and the State Department of Health Services during the development and implementation of urban runoff management programs.

3. Construction and Existing Development

- a. In accordance with federal NPDES regulations and to ensure the most effective oversight of industrial and construction site discharges, discharges of runoff from

industrial and construction sites are subject to dual (state and local) storm water regulation. Under this dual system, the Regional Board is responsible for enforcing the General Construction Activities Storm Water Permit, SWRCB Order 99-08 DWQ, NPDES No. CAS000002 (General Construction Permit) and the General Industrial Activities Storm Water Permit, SWRCB Order 97-03 DWQ, NPDES No. CAS000001 (General Industrial Permit), and each municipal Copermittee is responsible for enforcing its local permits, plans, and ordinances, which may require the implementation of additional BMPs than required under the statewide general permits.

- b. Identification of sources of pollutants in urban runoff (such as municipal areas and activities, industrial and commercial sites/sources, construction sites, and residential areas), development and implementation of BMPs to address those sources, and updating ordinances and approval processes are necessary for the Copermittees to ensure that discharges of pollutants into and from its MS4 are reduced to the MEP. Inspections and other compliance verification methods are needed to ensure minimum BMPs are implemented. Inspections are especially important at high risk areas for pollutant discharges.
- c. Historic and current development makes use of natural drainage patterns and features as conveyances for urban runoff. Urban streams used in this manner are part of the municipalities MS4 regardless of whether they are natural, man-made, or partially modified features. In these cases, the urban stream is both an MS4 and a receiving water.
- d. As operators of the MS4s, the Copermittees cannot passively receive and discharge pollutants from third parties. By providing free and open access to an MS4 that conveys discharges to waters of the U.S., the operator essentially accepts responsibility for discharges into the MS4 that it does not prohibit or control. These discharges may cause or contribute to a condition of contamination or a violation of water quality standards.
- e. Waste and pollutants which are deposited and accumulate in MS4 drainage structures will be discharged from these structures to waters of the U.S. unless they are removed or treated. These discharges may cause or contribute to, or threaten to cause or contribute to, a condition of pollution in receiving waters. For this reason, pollutant discharges into MS4s must be reduced to the MEP unless treatment within the MS4 occurs.
- f. Enforcement of local urban runoff related ordinances, permits, and plans is an essential component of every urban runoff management program and is specifically required in the federal storm water regulations and this Order. Each Copermittee is individually responsible for adoption and enforcement of ordinances and/or policies, implementation of identified control measures/BMPs needed to prevent or reduce pollutants in storm water runoff, and for the allocation of funds for the capital, operation and maintenance, administrative, and enforcement expenditures necessary to implement and enforce such control measures/BMPs under its jurisdiction.
- g. Education is an important aspect of every effective urban runoff management program and the basis for changes in behavior at a societal level. Education of municipal planning, inspection, and maintenance department staffs is especially critical to ensure that in-house staffs understand how their activities impact water

quality, how to accomplish their jobs while protecting water quality, and their specific roles and responsibilities for compliance with this Order. Public education, designed to target various urban land users and other audiences, is also essential to inform the public of how individual actions impact receiving water quality and how these impacts can be minimized.

- h. Public participation during the development of urban runoff management programs is necessary to ensure that all stakeholder interests and a variety of creative solutions are considered.

4. Watershed and Regional Urban Runoff Management

- a. Since urban runoff does not recognize political boundaries, watershed-based urban runoff management can greatly enhance the protection of receiving waters within a watershed. Such management provides a means to focus on the most important water quality problems in each watershed. By focusing on the most important water quality problems, watershed efforts can maximize protection of beneficial use in an efficient manner. Effective watershed-based urban runoff management actively reduces pollutant discharges and abates pollutant sources causing or contributing to watershed water quality problems; watershed-based urban runoff management that does not actively reduce pollutant discharges and abate pollutant sources causing or contributing to watershed water quality problems can necessitate implementation of the iterative process outlined in section A.3 of the Order. Watershed management of urban runoff does not require Copermittees to expend resources outside of their jurisdictions. Watershed management requires the Copermittees within a watershed to develop a watershed-based management strategy, which can then be implemented on a jurisdictional basis.
- b. Some urban runoff issues, such as residential education, can be effectively addressed on a regional basis. Regional approaches to urban runoff management can improve program consistency and promote sharing of resources, which can result in implementation of more efficient programs.
- c. Both regionally and on a watershed basis, it is important for the Copermittees to coordinate their water quality protection and land use planning activities to achieve the greatest protection of receiving water bodies. Copermittee coordination with other watershed stakeholders, especially Caltrans, the Department of Defense, and Native American Tribes, is also important. Establishment of a management structure, within which the Copermittees subject to this Order will fund and coordinate those aspects of their joint obligations, will help promote implementation of urban runoff management programs on a watershed and regional basis in a most cost effective manner.

E. STATUTE AND REGULATORY CONSIDERATIONS

1. The Receiving Water Limitations (RWL) language specified in this Order is consistent with language recommended by the USEPA and established in SWRCB Water Quality Order 99-05, adopted by the SWRCB on June 17, 1999. The RWL in this Order require compliance with water quality standards, which is to be achieved through an iterative approach requiring the implementation of improved and better-tailored BMPs over time. Compliance with receiving water limits based on applicable water quality standards is necessary to ensure that MS4 discharges will not cause or contribute to violations of water quality standards and the

creation of conditions of pollution.

2. The Water Quality Control Plan for the San Diego Basin (Basin Plan), identifies the following beneficial uses for surface waters in San Diego County: Municipal and Domestic Supply (MUN), Agricultural Supply (AGR), Industrial Process Supply (PROC), Industrial Service Supply (IND), Ground Water Recharge (GWR), Contact Water Recreation (REC1) Non-contact Water Recreation (REC2), Warm Freshwater Habitat (WARM), Cold Freshwater Habitat (COLD), Wildlife Habitat (WILD), Rare, Threatened, or Endangered Species (RARE), Freshwater Replenishment (FRSH), Hydropower Generation (POW), and Preservation of Biological Habitats of Special Significance (BIOL). The following additional beneficial uses are identified for coastal waters of San Diego County: Navigation (NAV), Commercial and Sport Fishing (COMM), Estuarine Habitat (EST), Marine Habitat (MAR), Aquaculture (AQUA), Migration of Aquatic Organisms (MIGR), Spawning, Reproduction, and/or Early Development (SPWN), and Shellfish Harvesting (SHELL).
3. This Order is in conformance with SWRCB Resolution No. 68-16 and the federal Antidegradation Policy described in 40 CFR 131.12.
4. Section 6217(g) of the Coastal Zone Act Reauthorization Amendments of 1990 (CZARA) requires coastal states with approved coastal zone management programs to address non-point pollution impacting or threatening coastal water quality. CZARA addresses five sources of non-point pollution: agriculture, silviculture, urban, marinas, and hydromodification. This NPDES permit addresses the management measures required for the urban category, with the exception of septic systems. The adoption and implementation of this NPDES permit relieves the Permittee from developing a non-point source plan, for the urban category, under CZARA. The Regional Board addresses septic systems through the administration of other programs.
5. Section 303(d)(1)(A) of the CWA requires that "Each state shall identify those waters within its boundaries for which the effluent limitations...are not stringent enough to implement any water quality standard (WQS) applicable to such waters." The CWA also requires states to establish a priority ranking of impaired waterbodies known as Water Quality Limited Segments and to establish Total Maximum Daily Loads (TMDLs) for such waters. This priority list of impaired waterbodies is called the Section 303(d) List. The current Section 303(d) List was approved by the SWRCB on February 4, 2003 and on July 25, 2003 by USEPA.
6. This Order fulfills a component of the TMDL Implementation Plan adopted by this Regional Board on August 14, 2002 for diazinon in Chollas Creek by establishing Water Quality Based Effluent Limits (WQBELs) for the Cities of San Diego, Lemon Grove, and La Mesa, the County of San Diego, and the San Diego Unified Port District; and by requiring: 1) legal authority, 2) implementation of a diazinon toxicity control plan and a diazinon public outreach/ education program, 3) achievement of the Compliance Schedule, and 4) a monitoring program. The establishment of WQBELs expressed as iterative BMPs to achieve the Waste Load Allocation (WLA) compliance schedule is appropriate and is expected to be sufficient to achieve the WLAs specified in the TMDL.
7. This Order fulfills a component of the TMDL Implementation Plan adopted by this Regional Board on February 9, 2005 for dissolved copper in Shelter Island Yacht Basin (SIYB) by establishing WQBELs expressed as BMPs to achieve the WLA of 30 kg copper / year for the City of San Diego and the San Diego Unified Port District. The establishment of WQBELs expressed as BMPs is appropriate and is expected to be sufficient to achieve the WLA

specified in the TMDL.

8. This Order establishes WQBELs and conditions consistent with the requirements and assumptions of the WLAs in the TMDLs as required by 40 CFR 122.44(d)(1)(vii)(B).
9. Requirements in this Order that are more explicit than the federal storm water regulations in 40 CFR 122.26 are prescribed in accordance with the CWA section 402(p)(3)(B)(iii) and are necessary to meet the MEP standard.
10. Urban runoff treatment and/or mitigation must occur prior to the discharge of urban runoff into a receiving water. Federal regulations at 40 CFR 131.10(a) state that in no case shall a state adopt waste transport or waste assimilation as a designated use for any waters of the U.S. Authorizing the construction of an urban runoff treatment facility within a water of the U.S., or using the water body itself as a treatment system or for conveyance to a treatment system, would be tantamount to accepting waste assimilation as an appropriate use for that water body. Furthermore, the construction, operation, and maintenance of a pollution control facility in a water body can negatively impact the physical, chemical, and biological integrity, as well as the beneficial uses, of the water body. This is consistent with USEPA guidance to avoid locating structural controls in natural wetlands.
11. The issuance of waste discharge requirements and an NPDES permit for the discharge of urban runoff from MS4s to waters of the U.S. is exempt from the requirement for preparation of environmental documents under the California Environmental Quality Act (CEQA) (Public Resources Code, Division 13, Chapter 3, section 21000 et seq.) in accordance with the CWC section 13389.

F. PUBLIC PROCESS

1. The Regional Board has notified the Copermittees, all known interested parties, and the public of its intent to consider adoption of an Order prescribing waste discharge requirements that would serve to renew an NPDES permit for the existing discharge of urban runoff.
2. The Regional Board has, at public meetings on (date), held public hearings and heard and considered all comments pertaining to the terms and conditions of this Order.

IT IS HEREBY ORDERED that the Copermittees, in order to meet the provisions contained in Division 7 of the California Water Code (CWC) and regulations adopted thereunder, and the provisions of the Clean Water Act (CWA) and regulations adopted thereunder, shall each comply with the following:

A. PROHIBITIONS AND RECEIVING WATER LIMITATIONS

1. Discharges into and from municipal separate storm sewer systems (MS4s) in a manner causing, or threatening to cause, a condition of pollution, contamination, or nuisance (as defined in CWC section 13050), in waters of the state are prohibited.
2. Discharges from MS4s containing pollutants which have not been reduced to the maximum extent practicable (MEP) are prohibited.²

² This prohibition does not apply to MS4 discharges which receive subsequent treatment to reduce pollutants to the MEP prior to entering receiving waters (e.g., low flow diversions to the sanitary sewer).

3. Discharges from MS4s that cause or contribute to the violation of water quality standards (designated beneficial uses and water quality objectives developed to protect beneficial uses) are prohibited.
 - a. Each Copermittee shall comply with section A.3 and section A.4 as it applies to Prohibition 5 in Attachment A of this Order through timely implementation of control measures and other actions to reduce pollutants in urban runoff discharges in accordance with the Jurisdictional Urban Runoff Management Program and other requirements of this Order including any modifications. The Jurisdictional Urban Runoff Management Program shall be designed to achieve compliance with section A.3 and section A.4 as it applies to Prohibition 5 in Attachment A of this Order. If exceedance(s) of water quality standards persist notwithstanding implementation of the Jurisdictional Urban Runoff Management Program and other requirements of this Order, the Copermittee shall assure compliance with section A.3 and section A.4 as it applies to Prohibition 5 in Attachment A of this Order by complying with the following procedure:
 - (1) Upon a determination by either the Copermittee or the Regional Board that MS4 discharges are causing or contributing to an exceedance of an applicable water quality standard, the Copermittee shall promptly notify and thereafter submit a report to the Regional Board that describes best management practices (BMPs) that are currently being implemented and additional BMPs that will be implemented to prevent or reduce any pollutants that are causing or contributing to the exceedance of water quality standards. The report may be incorporated in the annual update to the Jurisdictional Urban Runoff Management Program unless the Regional Board directs an earlier submittal. The report shall include an implementation schedule. The Regional Board may require modifications to the report;
 - (2) Submit any modifications to the report required by the Regional Board within 30 days of notification;
 - (3) Within 30 days following approval of the report described above by the Regional Board, the Copermittee shall revise its Jurisdictional Urban Runoff Management Program and monitoring program to incorporate the approved modified BMPs that have been and will be implemented, the implementation schedule, and any additional monitoring required;
 - (4) Implement the revised Jurisdictional Urban Runoff Management Program and monitoring program in accordance with the approved schedule.
 - b. So long as the Copermittee has complied with the procedures set forth above and is implementing the revised Jurisdictional Urban Runoff Management Program, the Copermittee does not have to repeat the same procedure for continuing or recurring exceedances of the same receiving water limitations unless directed by the Regional Board to do so.
 - c. Nothing in section A.3 shall prevent the Regional Board from enforcing any provision of this Order while the Copermittee prepares and implements the above report.

4. In addition to the above prohibitions, discharges from MS4s are subject to all Basin Plan prohibitions cited in Attachment A to this Order.

B. NON-STORM WATER DISCHARGES

1. Each Copermittee shall effectively prohibit all types of non-storm water discharges into its MS4 unless such discharges are either authorized by a separate National Pollutant Discharge Elimination System (NPDES) permit; or not prohibited in accordance with sections B.2 and B.3 below.
2. The following categories of non-storm water discharges are not prohibited unless a Copermittee or the Regional Board identifies the discharge category as a significant source of pollutants to waters of the U.S. For such a discharge category, the Copermittee shall either prohibit the discharge category or develop and implement appropriate control measures to reduce the discharge of pollutants to the MEP and report to the Regional Board pursuant to section J.
 - a. Diverted stream flows;
 - b. Rising ground waters;
 - c. Uncontaminated ground water infiltration [as defined at 40 CFR 35.2005(20)] to MS4s;
 - d. Uncontaminated pumped ground water;
 - e. Foundation drains;
 - f. Springs;
 - g. Water from crawl space pumps;
 - h. Footing drains;
 - i. Air conditioning condensation;
 - j. Flows from riparian habitats and wetlands;
 - k. Water line flushing;
 - l. Landscape irrigation;
 - m. Discharges from potable water sources not subject to NPDES Permit No. CAG679001, other than water main breaks;
 - n. Irrigation water;
 - o. Lawn watering;
 - p. Individual residential car washing; and
 - q. Dechlorinated swimming pool discharges.
3. Emergency fire fighting flows (i.e., flows necessary for the protection of life or property) do not require BMPs and need not be prohibited. As part of the Jurisdictional Urban Runoff Management Plan (JURMP), each Copermittee shall develop and implement a program to reduce pollutants from non-emergency fire fighting flows (i.e., flows from controlled or practice blazes and maintenance activities) identified by the Copermittee to be significant sources of pollutants to waters of the United States.
4. Each Copermittee shall examine all dry weather field screening and analytical monitoring results collected in accordance with section D.4 of this Order and Receiving Waters Monitoring and Reporting Program No. R9-2007-0001 to identify water quality problems which may be the result of any non-prohibited discharge category(ies) identified above in section B.2. Follow-up investigations shall be conducted as necessary to identify and control any non-prohibited discharge category(ies) listed above.

C. LEGAL AUTHORITY

1. Each Copermittee shall establish, maintain, and enforce adequate legal authority to control pollutant discharges into and from its MS4 through ordinance, statute, permit, contract or similar means. This legal authority must, at a minimum, authorize the Copermittee to:
 - a. Control the contribution of pollutants in discharges of runoff associated with industrial and construction activity to its MS4 and control the quality of runoff from industrial and construction sites. This requirement applies both to industrial and construction sites which have coverage under the statewide general industrial or construction storm water permits, as well as to those sites which do not. Grading ordinances shall be upgraded and enforced as necessary to comply with this Order.
 - b. Prohibit all identified illicit discharges not otherwise allowed pursuant to section B.2 including but not limited to:
 - (1) Sewage;
 - (2) Discharges of wash water resulting from the hosing or cleaning of gas stations, auto repair garages, or other types of automotive services facilities;
 - (3) Discharges resulting from the cleaning, repair, or maintenance of any type of equipment, machinery, or facility including motor vehicles, cement-related equipment, and port-a-potty servicing, etc.;
 - (4) Discharges of wash water from mobile operations such as mobile automobile washing, steam cleaning, power washing, and carpet cleaning, etc.;
 - (5) Discharges of wash water from the cleaning or hosing of impervious surfaces in municipal, industrial, commercial, and residential areas including parking lots, streets, sidewalks, driveways, patios, plazas, work yards and outdoor eating or drinking areas, etc.;
 - (6) Discharges of runoff from material storage areas containing chemicals, fuels, grease, oil, or other hazardous materials;
 - (7) Discharges of pool or fountain water containing chlorine, biocides, or other chemicals; discharges of pool or fountain filter backwash water;
 - (8) Discharges of sediment, pet waste, vegetation clippings, or other landscape or construction-related wastes; and
 - (9) Discharges of food-related wastes (e.g., grease, fish processing, and restaurant kitchen mat and trash bin wash water, etc.).
 - c. Prohibit and eliminate illicit connections to the MS4;
 - d. Control the discharge of spills, dumping, or disposal of materials other than storm water to its MS4;
 - e. Require compliance with conditions in Copermittee ordinances, permits, contracts or orders (i.e., hold dischargers to its MS4 accountable for their contributions of pollutants and flows);
 - f. Utilize enforcement mechanisms to require compliance with Copermittee storm water ordinances, permits, contracts, or orders;
 - g. Control the contribution of pollutants from one portion of the shared MS4 to another portion of the MS4 through interagency agreements among Copermittees. Control of

the contribution of pollutants from one portion of the shared MS4 to another portion of the MS4 through interagency agreements with other owners of the MS4 such as Caltrans, the Department of Defense, or Native American Tribes is encouraged;

- h. Carry out all inspections, surveillance, and monitoring necessary to determine compliance and noncompliance with local ordinances and permits and with this Order, including the prohibition on illicit discharges to the MS4. This means the Copermittee must have authority to enter, monitor, inspect, take measurements, review and copy records, and require regular reports from industrial facilities discharging into its MS4, including construction sites;
 - i. Require the use of BMPs to prevent or reduce the discharge of pollutants into MS4s to the MEP; and
 - j. Require documentation on the effectiveness of BMPs implemented to reduce the discharge of pollutants to the MS4 to the MEP.
2. Each Permittee shall include as part of its JURMP a statement certified by its chief legal counsel that the Copermittee has taken the necessary steps to obtain and maintain full legal authority to implement and enforce each of the requirements contained in 40 CFR 122.26(d)(2)(i)(A-F) and this Order. This statement shall include:
- a. Identification of all departments within the jurisdiction that conduct urban runoff related activities, and their roles and responsibilities under this Order. Include an up to date organizational chart specifying these departments and key personnel.
 - b. Citation of urban runoff related ordinances and the reasons they are enforceable;
 - c. Identification of the local administrative and legal procedures available to mandate compliance with urban runoff related ordinances and therefore with the conditions of this Order;
 - d. A description of how urban runoff related ordinances are implemented and appealed; and
 - e. Description of whether the municipality can issue administrative orders and injunctions or if it must go through the court system for enforcement actions.

D. JURISDICTIONAL URBAN RUNOFF MANAGEMENT PROGRAM

Each Copermittee shall implement all requirements of section D of this Order no later than 365 days after adoption of the Order, unless otherwise specified in this Order. Prior to 365 days after adoption of the Order, each Copermittee shall at a minimum implement its Jurisdictional URMP document, as the document was developed and amended to comply with the requirements of Order No. 2001-01.

Each Copermittee shall develop and implement an updated Jurisdictional Urban Runoff Management Program for its jurisdiction. Each updated Jurisdictional Urban Runoff Management Program shall meet the requirements of section D of this Order, reduce the discharge of pollutants from the MS4 to the MEP, and prevent urban runoff discharges from the MS4 from causing or contributing to a violation of water quality standards.

1. Development Planning Component

Each Copermittee shall implement a program which meets the requirements of this section and (1) reduces Development Project discharges of pollutants from the MS4 to the MEP, (2) prevents Development Project discharges from the MS4 from causing or contributing to a violation of water quality standards, and (3) manages increases in runoff discharge rates and durations from Development Projects that are likely to cause increased erosion of stream beds and banks, silt pollutant generation, or other impacts to beneficial uses and stream habitat due to increased erosive force.

a. GENERAL PLAN

Each Copermittee shall revise as needed its General Plan or equivalent plan (e.g., Comprehensive, Master, or Community Plan) for the purpose of providing effective water quality and watershed protection principles and policies that direct land-use decisions and require implementation of consistent water quality protection measures for Development Projects.

b. ENVIRONMENTAL REVIEW PROCESS

Each Copermittee shall revise as needed their current environmental review processes to accurately evaluate water quality impacts and cumulative impacts and identify appropriate measures to avoid, minimize and mitigate those impacts for all Development Projects.

c. APPROVAL PROCESS CRITERIA AND REQUIREMENTS FOR ALL DEVELOPMENT PROJECTS

For all proposed Development Projects, each Copermittee during the planning process and prior to project approval and issuance of local permits shall prescribe the necessary requirements so that Development Project discharges of pollutants from the MS4 will be reduced to the MEP, will not cause or contribute to a violation of water quality standards, and will comply with Copermittee's ordinances, permits, plans, and requirements, and with this Order. The requirements shall include, but not be limited to, implementation by the project proponent of the following:

- (1) Source control BMPs that reduce storm water pollutants of concern in urban runoff, including storm drain system stenciling and signage, properly designed outdoor material storage areas, properly designed trash storage areas, and implementation of efficient irrigation systems;
- (2) LID BMPs where feasible which maximize infiltration, provide retention, slow runoff, minimize impervious footprint, direct runoff from impervious areas into landscaping, and construct impervious surfaces to minimum widths necessary;
- (3) Buffer zones for natural water bodies, where feasible. Where buffer zones are infeasible, require project proponent to implement other buffers such as trees, access restrictions, etc., where feasible;
- (4) Measures necessary so that grading or other construction activities meet the provisions specified in section D.2 of this Order; and
- (5) Submittal of proof of a mechanism under which ongoing long-term maintenance of all structural post-construction BMPs will be conducted.

d. STANDARD URBAN STORM WATER MITIGATION PLANS (SUSMPs) – APPROVAL PROCESS CRITERIA AND REQUIREMENTS FOR PRIORITY DEVELOPMENT PROJECTS

Each Copermittee shall implement an updated local SUSMP which meets the requirements of section D.1.d of this Order and (1) reduces Priority Development Project discharges of pollutants from the MS4 to the MEP, (2) prevents Priority Development Project runoff discharges from the MS4 from causing or contributing to a violation of water quality standards, and (3) manages increases in runoff discharge rates and durations from Priority Development Projects that are likely to cause increased erosion of stream beds and banks, silt pollutant generation, or other impacts to beneficial uses and stream habitat due to increased erosive force.³

(1) Definition of Priority Development Project

- (a) Priority Development Projects are: a) all new Development Projects that fall under the project categories or locations listed in section D.1.d.(2), and b) those redevelopment projects that create, add or replace at least 5,000 square feet of impervious surfaces on an already developed site that falls under the project categories or locations listed in section D.1.d.(2). Where redevelopment results in an increase of less than fifty percent of the impervious surfaces of a previously existing development, and the existing development was not subject to SUSMP requirements, the numeric sizing criteria discussed in section D.1.d.(6)(c) applies only to the addition, and not to the entire development. Where redevelopment results in an increase of more than fifty percent of the impervious surfaces of a previously existing development, the numeric sizing criteria applies to the entire development. Where a new Development Project feature, such as a parking lot, falls into a Priority Development Project Category, the entire project footprint is subject to SUSMP requirements.
- (b) In addition to the Priority Development Project Categories identified in section D.1.d.(2), within three years of adoption of this Order Priority Development Projects shall also include all other pollutant generating Development Projects that result in the disturbance of one acre or more of land.⁴ As an alternative to this one acre threshold, the Copermittees may collectively identify a different threshold, provided the Copermittees' threshold is at least as inclusive of Development Projects as the one acre threshold.

³ Updated SUSMP and hydromodification requirements shall apply to all priority projects or phases of priority projects which have not yet begun grading or construction activities at the time any updated SUSMP or hydromodification requirement commences. If a Copermittee determines that lawful prior approval of a project exists, whereby application of an updated SUSMP or hydromodification requirement to the project is infeasible, the updated SUSMP or hydromodification requirement need not apply to the project. Where feasible, the Copermittees shall utilize the SUSMP and hydromodification update periods to ensure that projects undergoing approval processes include application of the updated SUSMP and hydromodification requirements in their plans.

⁴ Pollutant generating Development Projects are those projects that generate pollutants at levels greater than background levels.

(2) Priority Development Project Categories

- (a) Housing subdivisions of 10 or more dwelling units. This category includes single-family homes, multi-family homes, condominiums, and apartments.
- (b) Commercial developments greater than one acre. This category is defined as any development on private land that is not for heavy industrial or residential uses where the land area for development is greater than one acre. The category includes, but is not limited to: hospitals; laboratories and other medical facilities; educational institutions; recreational facilities; municipal facilities; commercial nurseries; multi-apartment buildings; car wash facilities; mini-malls and other business complexes; shopping malls; hotels; office buildings; public warehouses; automotive dealerships; airfields; and other light industrial facilities.
- (c) Developments of heavy industry greater than one acre. This category includes, but is not limited to, manufacturing plants, food processing plants, metal working facilities, printing plants, and fleet storage areas (bus, truck, etc.).
- (d) Automotive repair shops. This category is defined as a facility that is categorized in any one of the following Standard Industrial Classification (SIC) codes: 5013, 5014, 5541, 7532-7534, or 7536-7539.
- (e) Restaurants. This category is defined as a facility that sells prepared foods and drinks for consumption, including stationary lunch counters and refreshment stands selling prepared foods and drinks for immediate consumption (SIC code 5812), where the land area for development is greater than 5,000 square feet. Restaurants where land development is less than 5,000 square feet shall meet all SUSMP requirements except for structural treatment BMP and numeric sizing criteria requirement D.1.d.(6)(c) and hydromodification requirement D.1.g.
- (f) All hillside development greater than 5,000 square feet. This category is defined as any development which creates 5,000 square feet of impervious surface which is located in an area with known erosive soil conditions, where the development will grade on any natural slope that is twenty-five percent or greater.
- (g) Environmentally Sensitive Areas (ESAs). All development located within or directly adjacent to or discharging directly to an ESA (where discharges from the development or redevelopment will enter receiving waters within the ESA), which either creates 2,500 square feet of impervious surface on a proposed project site or increases the area of imperviousness of a proposed project site to 10% or more of its naturally occurring condition. "Directly adjacent" means situated within 200 feet of the ESA. "Discharging directly to" means outflow from a drainage conveyance system that is composed entirely of flows from the subject development or redevelopment site, and not commingled with flows from adjacent lands.
- (h) Parking lots 5,000 square feet or more or with 15 or more parking spaces and potentially exposed to urban runoff. Parking lot is defined as a land area or facility for the temporary parking or storage of motor vehicles used personally, for business, or for commerce.
- (i) Street, roads, highways, and freeways. This category includes any paved surface that is 5,000 square feet or greater used for the transportation of automobiles, trucks, motorcycles, and other vehicles.
- (j) Retail Gasoline Outlets (RGOs). This category includes RGOs that meet the following criteria: (a) 5,000 square feet or more or (b) a projected Average

Daily Traffic (ADT) of 100 or more vehicles per day.

(3) Pollutants of Concern

As part of its local SUSMP, each Copermittee shall develop and implement a procedure for pollutants of concern to be identified for each Priority Development Project. The procedure shall address, at a minimum: (1) Receiving water quality (including pollutants for which receiving waters are listed as impaired under CWA section 303(d)); (2) Land use type of the Development Project and pollutants associated with that land use type; and (3) Pollutants expected to be present on site.

(4) Low Impact Development (LID) BMP Requirements

Each Copermittee shall require each Priority Development Project to implement LID BMPs which will collectively minimize directly connected impervious areas and promote infiltration at Priority Development Projects:

- (a) The following LID site design BMPs shall be implemented at all Priority Development Projects as required below:
- i. For Priority Development Projects with landscaped or other pervious areas, drain a portion of impervious areas (rooftops, parking lots, sidewalks, walkways, patios, etc) into pervious areas prior to discharge to the MS4. The amount of runoff from impervious areas that is to drain to pervious areas shall correspond with the total capacity of the project's pervious areas to infiltrate or treat runoff, taking into consideration the pervious areas' soil conditions, slope, and other pertinent factors.
 - ii. For Priority Development Projects with landscaped or other pervious areas, properly design and construct the pervious areas to effectively receive and infiltrate or treat runoff from impervious areas, taking into consideration the pervious areas' soil conditions, slope, and other pertinent factors.
 - iii. For Priority Development Projects with low traffic areas and appropriate soil conditions, construct a portion of walkways, trails, overflow parking lots, alleys, or other low-traffic areas with permeable surfaces, such as pervious concrete, porous asphalt, unit pavers, and granular materials.
- (b) The following LID BMPs listed below shall be implemented at all Priority Development Projects where applicable and feasible.
- i. Conserve natural areas, including existing trees, other vegetation, and soils.
 - ii. Construct streets, sidewalks, or parking lot aisles to the minimum widths necessary, provided that public safety and a walkable environment for pedestrians are not compromised.
 - iii. Minimize the impervious footprint of the project.
 - iv. Minimize soil compaction.
 - v. Minimize disturbances to natural drainages (e.g., natural swales, topographic depressions, etc.)

(5) Source Control BMP Requirements

Each Copermittee shall require each Priority Development Project to implement source control BMPs. The source control BMPs to be required shall:

- (a) Minimize storm water pollutants of concern in urban runoff.
- (b) Include storm drain system stenciling or signage.
- (c) Include properly designed outdoor material storage areas.
- (d) Include properly designed trash storage areas.
- (e) Include efficient irrigation systems.
- (f) Include water quality requirements applicable to individual priority project categories.

(6) Treatment Control BMP Requirements⁵

Each Copermittee shall require each Priority Development Project to implement treatment control BMPs which meet the following treatment control BMP requirements:

- (a) Treatment control BMPs for all Priority Development Projects shall mitigate (infiltrate, filter, or treat) the required volume or flow of runoff (identified in section D.1.d.(6)(c)) from all developed portions of the project, including landscaped areas.
- (b) All treatment control BMPs shall be located so as to infiltrate, filter, or treat the required runoff volume or flow prior to its discharge to any waters of the U.S. Multiple Priority Development Projects may use shared treatment control BMPs as long as construction of any shared treatment control BMP is completed prior to the use or occupation of any Priority Development Project from which the treatment control BMP will receive runoff.
- (c) All treatment control BMPs for a single Priority Development Project shall collectively be sized to comply with the following numeric sizing criteria:
 - i. Volume-based treatment control BMPs shall be designed to mitigate (infiltrate, filter, or treat) the volume of runoff produced from a 24-hour 85th percentile storm event, as determined from the County of San Diego's 85th Percentile Precipitation Isopluvial Map; or
 - ii. Flow-based treatment control BMPs shall be designed to mitigate (infiltrate, filter, or treat) either: a) the maximum flow rate of runoff produced from a rainfall intensity of 0.2 inch of rainfall per hour, for each hour of a storm event; or b) the maximum flow rate of runoff produced by the 85th percentile hourly rainfall intensity (for each hour of a storm event), as determined from the local historical rainfall record, multiplied by a factor of two.

⁵ LID BMPs that are correctly designed to effectively infiltrate, filter, or treat runoff can be considered treatment control BMPs.

- (d) All treatment control BMPs for Priority Development Projects shall, at a minimum:
- i. Be ranked with a high or medium pollutant removal efficiency for the project's most significant pollutants of concern, as the pollutant removal efficiencies are identified in the Copermittees' Model SUSMP and the most current updates thereto. Treatment control BMPs with a low removal efficiency ranking shall only be approved by a Copermittee when a feasibility analysis has been conducted which exhibits that implementation of treatment control BMPs with high or medium removal efficiency rankings are infeasible for a Priority Development Project or portion of a Priority Development Project.
 - ii. Be correctly sized and designed so as to remove pollutants to the MEP.
 - iii. Target removal of pollutants of concern from urban runoff.
 - iv. Be implemented close to pollutant sources (where shared BMPs are not proposed), and prior to discharging into waters of the U.S.
 - v. Not be constructed within a receiving water.
 - vi. Include proof of a mechanism, to be provided by the project proponent or Copermittee, under which ongoing long-term maintenance will be conducted.

(7) Update of SUSMP BMP Requirements

The Copermittees shall collectively review and update the BMP requirements that are listed in their local SUSMPs. At a minimum, the update shall include removal of obsolete or ineffective BMPs, addition of LID and source control BMP requirements that meet or exceed the requirements of sections D.1.d.(4) and D.1.d.(5), and addition of LID BMPs that can be used for treatment, such as bioretention cells, bioretention swales, etc. The update shall also add appropriate LID BMPs to any tables or discussions in the local SUSMPs addressing pollutant removal efficiencies of treatment control BMPs. In addition, the update shall include review, and revision where necessary, of treatment control BMP pollutant removal efficiencies.

(8) Update of SUSMPs to Incorporate LID and Other BMP Requirements

- (a) In addition to the implementation of the BMP requirements of sections D.1.d.(4-7) within one year of adoption of this Order, the Copermittees shall also develop and submit an updated Model SUSMP that defines minimum LID and other BMP requirements to be incorporated into the Copermittees' local SUSMPs for application to Priority Development Projects. The purpose of the updated Model SUSMP shall be to establish minimum standards to maximize the use of LID practices and principles in local Copermittee programs as a means of reducing stormwater runoff. It shall meet the following minimum requirements:
- i. Establishment of LID BMP requirements that meet or exceed the minimum requirements listed in section D.1.d.(4) above.
 - ii. Establishment of source control BMP requirements that meet or exceed the minimum requirements listed in section D.1.d.(5) above.
 - iii. Establishment of treatment control BMP requirements that meet or exceed the minimum requirements listed in section D.1.d.(6) above.

- iv. Establishment of siting, design, and maintenance criteria for each LID and treatment control BMP listed in the Model SUSMP, so that implemented LID and treatment control BMPs are constructed correctly and are effective at pollutant removal and/or runoff control. LID techniques, such as soil amendments, shall be incorporated into the criteria for appropriate treatment control BMPs.
 - v. Establishment of criteria to aid in determining Priority Development Project conditions where implementation of each LID BMP listed in section D.1.d.(4)(b) is applicable and feasible.
 - vi. Establishment of a requirement for Priority Development Projects with low traffic areas and appropriate or amendable soil conditions to construct a portion of walkways, trails, overflow parking lots, alleys, or other low-traffic areas with permeable surfaces, such as pervious concrete, porous asphalt, unit pavers, and granular materials.
 - vii. Establishment of restrictions on infiltration of runoff from Priority Development Project categories or Priority Development Project areas that generate high levels of pollutants, if necessary.
- (b) The updated Model SUSMP shall be submitted within 18 months of adoption of this Order. If, within 60 days of submittal of the updated Model SUSMP, the Copermittees have not received in writing from the Regional Board either (1) a finding of adequacy of the updated Model SUSMP or (2) a modified schedule for its review and revision, the updated Model SUSMP shall be deemed adequate, and the Copermittees shall implement its provisions in accordance with section D.1.d.(8)(c) below.
- (c) Within 365 days of Regional Board acceptance of the updated Model SUSMP, each Copermittee shall update its local SUSMP to implement the requirements established pursuant to section D.1.d.(8)(a). In addition to the requirements of section D.1.d.(8)(a), each Copermittee's updated local SUSMP shall include the following:
- i. A requirement that each Priority Development Project use the criteria established pursuant to section D.1.d.(8)(a)v to demonstrate applicability and feasibility, or lack thereof, of implementation of the LID BMPs listed in section D.1.d.(4)(b).
 - ii. A review process which verifies that all BMPs to be implemented will meet the designated siting, design, and maintenance criteria, and that each Priority Development Project is in compliance with all applicable SUSMP requirements.

(9) Implementation Process

As part of its local SUSMP, each Copermittee shall implement a process to verify compliance with SUSMP requirements. The process shall identify at what point in the planning process Priority Development Projects will be required to meet SUSMP requirements. The process shall also include identification of the roles and responsibilities of various municipal departments in implementing the SUSMP requirements, as well as any other measures necessary for the implementation of SUSMP requirements.

(10) Downstream Erosion

As part of its local SUSMP, each Copermittee shall develop and apply criteria to Priority Development Projects so that runoff discharge rates, durations, and velocities from Priority Development Projects are controlled to maintain or reduce downstream erosion conditions and protect stream habitat. Upon adoption of the Hydromodification Management Plan (HMP) by the Regional Board (section D.1.g), individual Copermittee criteria for control of downstream erosion shall be superseded by criteria identified in the HMP.

(11) Waiver Provision

(a) A Copermittee may provide for a project to be waived from the requirement of meeting numeric sizing criteria (sections D.1.d.(6)(c) or D.1.d.(8)(a)iii) if infeasibility can be established. A waiver of infeasibility shall only be granted by a Copermittee when all available BMPs have been considered and rejected as infeasible. Copermittees shall notify the Regional Board within 5 days of each waiver issued and shall include the following information in the notification:

- i. Name of the person granting each waiver;
- ii. Name of developer receiving the waiver;
- iii. Site location;
- iv. Reason for waiver; and
- v. Description of BMPs required.

(b) The Copermittees may collectively or individually develop a program to require project proponents who have received waivers to transfer the savings in cost, as determined by the Copermittee(s), to a storm water mitigation fund. This program may be implemented by all Copermittees that issue waivers. Funds may be used on projects to improve urban runoff quality within the watershed of the waived project. The waiver mitigation program should, at a minimum, identify:

- i. The entity or entities that will manage the storm water mitigation fund (i.e., assume full responsibility for);
- ii. The range and types of acceptable projects for which mitigation funds may be expended;
- iii. The entity or entities that will assume full responsibility for each mitigation project including its successful completion; and
- iv. How the dollar amount of fund contributions will be determined.

(12) Infiltration and Groundwater Protection

To protect groundwater quality, each Copermittee shall apply restrictions to the use of treatment control BMPs that are designed to primarily function as centralized infiltration devices (such as large infiltration trenches and infiltration basins). Such restrictions shall be designed so that the use of such infiltration treatment control BMPs shall not cause or contribute to an exceedance of groundwater quality objectives. At a minimum, each treatment control BMP designed to primarily function as a centralized infiltration device shall meet the restrictions below, unless it is demonstrated that a restriction is not necessary to

protect groundwater quality. The Copermittees may collectively or individually develop alternative restrictions on the use of treatment control BMPs which are designed to primarily function as centralized infiltration devices. Alternative restrictions developed by the Copermittees can partially or wholly replace the restrictions listed below. The restrictions are not intended to be applied to small infiltration systems dispersed throughout a development project.

- (a) Urban runoff shall undergo pretreatment such as sedimentation or filtration prior to infiltration;
- (b) All dry weather flows containing significant pollutant loads shall be diverted from infiltration devices;
- (c) Pollution prevention and source control BMPs shall be implemented at a level appropriate to protect groundwater quality at sites where infiltration treatment control BMPs are to be used;
- (d) Infiltration treatment control BMPs shall be adequately maintained so that they remove pollutants to the MEP;
- (e) The vertical distance from the base of any infiltration treatment control BMP to the seasonal high groundwater mark shall be at least 10 feet. Where groundwater basins do not support beneficial uses, this vertical distance criteria may be reduced, provided groundwater quality is maintained;
- (f) The soil through which infiltration is to occur shall have physical and chemical characteristics (such as appropriate cation exchange capacity, organic content, clay content, and infiltration rate) which are adequate for proper infiltration durations and treatment of urban runoff for the protection of groundwater beneficial uses;
- (g) Infiltration treatment control BMPs shall not be used for areas of industrial or light industrial activity; areas subject to high vehicular traffic (25,000 or greater average daily traffic on main roadway or 15,000 or more average daily traffic on any intersecting roadway); automotive repair shops; car washes; fleet storage areas (bus, truck, etc.); nurseries⁶; and other high threat to water quality land uses and activities as designated by each Permittee; and
- (h) Infiltration treatment control BMPs shall be located a minimum of 100 feet horizontally from any water supply wells.

e. TREATMENT CONTROL BMP MAINTENANCE TRACKING

- (1) Each Copermittee shall develop and utilize a watershed-based database to track and inventory approved treatment control BMPs and treatment control BMP maintenance within its jurisdiction. At a minimum, the database shall include information on treatment control BMP type, location, watershed, date of construction, party responsible for maintenance, maintenance certifications or verifications, inspections, inspection findings, and corrective actions.
- (2) Each Copermittee shall develop and implement a program to verify that approved treatment control BMPs are operating effectively and have been adequately maintained. At a minimum, the program shall include the following:
 - (a) An annual inventory of all approved treatment control BMPs within the Copermittee's jurisdiction. The inventory shall also include all treatment control BMPs approved during the previous permit cycle.

⁶ Except with regard to treated nursery runoff or clean storm water runoff.

- (b) The prioritization of all projects with approved treatment control BMPs into high, medium, and low priority categories. At a minimum, projects with drainage insert treatment control BMPs shall be designated as at least a medium priority. Prioritization of other projects with treatment control BMPs shall include consideration of treatment control BMP size, recommended maintenance frequency, likelihood of operational and maintenance issues, location, receiving water quality, and other pertinent factors.
 - (c) 100% of projects with treatment control BMPs that are high priority shall be inspected by the Copermittee annually. 50% of projects with drainage insert treatment control BMPs shall be inspected by the Copermittee annually. Treatment control BMPs that are low priority shall be inspected as needed. All inspections shall verify effective operation and maintenance of the treatment control BMPs, as well as compliance with all ordinances, permits, and this Order. A minimum of 20% of the total number of projects with approved treatment control BMPs, and a maximum of 200% of the average number of projects with treatment control BMPs approved per year, shall be inspected annually.
 - (d) Requirement of annual verification of effective operation and maintenance of each approved treatment control BMP by the party responsible for the treatment control BMP maintenance.
- (3) Operation and maintenance verifications shall be required prior to each rainy season.
- (4) Inspections of high priority treatment control BMPs shall be conducted prior to each rainy season.

f. **BMP VERIFICATION**

Prior to occupancy of each Priority Development Project subject to SUSMP requirements, each Copermittee shall inspect the constructed LID, source control, and treatment control BMPs to verify that they have been constructed in compliance with all specifications, plans, permits, ordinances, and this Order. This initial BMP verification inspection does not constitute an operation and maintenance inspection, as required above in section D.1.e.(2)(c).

g. **HYDROMODIFICATION - LIMITATIONS ON INCREASES OF RUNOFF DISCHARGE RATES AND DURATIONS⁷**

Each Copermittee shall collaborate with the other Copermittees to develop and implement a Hydromodification Management Plan (HMP) to manage increases in runoff discharge rates and durations from all Priority Development Projects, where such increased rates and durations are likely to cause increased erosion of channel

⁷ Updated SUSMP and hydromodification requirements shall apply to all priority projects or phases of priority projects which have not yet begun grading or construction activities at the time any updated SUSMP or hydromodification requirement commences. If a Copermittee determines that lawful prior approval of a project exists, whereby application of an updated SUSMP or hydromodification requirement to the project is infeasible, the updated SUSMP or hydromodification requirement need not apply to the project. Where feasible, the Copermittees shall utilize the SUSMP and hydromodification update periods to ensure that projects undergoing approval processes include application of the updated SUSMP and hydromodification requirements in their plans.

beds and banks, sediment pollutant generation, or other impacts to beneficial uses and stream habitat due to increased erosive force. The HMP, once approved by the Regional Board, shall be incorporated into the local SUSMP and implemented by each Copermittee so that post-project runoff discharge rates and durations shall not exceed estimated pre-project discharge rates and durations where the increased discharge rates and durations will result in increased potential for erosion or other significant adverse impacts to beneficial uses, attributable to changes in the discharge rates and durations.

(1) The HMP shall:

- (a) Identify a standard for channel segments which receive urban runoff discharges from Priority Development Projects. The channel standard shall maintain the pre-project erosion and deposition characteristics of channel segments receiving urban runoff discharges from Priority Development Projects as necessary to maintain or improve the channel segments' stability conditions.
- (b) Utilize continuous simulation of the entire rainfall record to identify a range of runoff flows⁸ for which Priority Development Project post-project runoff flow rates and durations shall not exceed pre-project runoff flow rates and durations, where the increased flow rates and durations will result in increased potential for erosion or other significant adverse impacts to beneficial uses, attributable to changes in the flow rates and durations. The lower boundary of the range of runoff flows identified shall correspond with the critical channel flow that produces the critical shear stress that initiates channel bed movement or that erodes the toe of channel banks. The identified range of runoff flows may be different for specific watersheds, channels, or channel reaches.
- (c) Require Priority Development Projects to implement hydrologic control measures so that Priority Development Projects' post-project runoff flow rates and durations (1) do not exceed pre-project runoff flow rates and durations for the range of runoff flows identified under section D.1.g.(1)(b), where the increased flow rates and durations will result in increased potential for erosion or other significant adverse impacts to beneficial uses, attributable to changes in the flow rates and durations, and (2) do not result in channel conditions which do not meet the channel standard developed under section D.1.g.(1)(a) for channel segments downstream of Priority Development Project discharge points.
- (d) Include other performance criteria (numeric or otherwise) for Priority Development Projects as necessary to prevent urban runoff from the projects from increasing erosion of channel beds and banks, silt pollutant generation, or other impacts to beneficial uses and stream habitat due to increased erosive force.
- (e) Include a review of pertinent literature.
- (f) Include a protocol to evaluate potential hydrograph change impacts to downstream watercourses from Priority Development Projects.
- (g) Include a description of how the Copermittees will incorporate the HMP requirements into their local approval processes.

⁸ The identified range of runoff flows to be controlled should be expressed in terms of peak flow rates of rainfall events, such as "10% of the pre-project 2-year peak flow up to the pre-project 10-year peak flow."

- (h) Include criteria on selection and design of management practices and measures (such as detention, retention, and infiltration) to control flow rates and durations and address potential hydromodification impacts.
 - (i) Include technical information supporting any standards and criteria proposed.
 - (j) Include a description of inspections and maintenance to be conducted for management practices and measures to control flow rates and durations and address potential hydromodification impacts.
 - (k) Include a description of pre- and post-project monitoring and other program evaluations to be conducted to assess the effectiveness of implementation of the HMP.
 - (l) Include mechanisms for addressing cumulative impacts within a watershed on channel morphology.
 - (m) Include information on evaluation of channel form and condition, including slope, discharge, vegetation, underlying geology, and other information, as appropriate.
- (2) The HMP may include implementation of planning measures (e.g., buffers and restoration activities, including revegetation, use of less-impacting facilities at the point(s) of discharge, etc.) to allow expected changes in stream channel cross sections, vegetation, and discharge rates, velocities, and/or durations without adverse impacts to channel beneficial uses. Such measures shall not include utilization of non-naturally occurring hardscape materials such as concrete, riprap, gabions, etc.
- (3) Section D.1.g.(1)(c) does not apply to Development Projects where the project discharges stormwater runoff into channels or storm drains where the pre-existing channel or storm drain conditions result in minimal potential for erosion or other impacts to beneficial uses. Such situations may include discharges into channels that are concrete-lined or significantly hardened (e.g., with rip-rap, sackrete, etc.) downstream to their outfall in bays or the ocean; underground storm drains discharging to bays or the ocean; and construction of projects where the sub-watersheds below the projects' discharge points are highly impervious (e.g., >70%) and the potential for single-project and/or cumulative impacts is minimal. Specific criteria for identification of such situations shall be included as a part of the HMP. However, plans to restore a channel reach may re-introduce the applicability of HMP controls, and would need to be addressed in the HMP.

(4) HMP Reporting

The Copermittees shall collaborate to report on HMP development as required in section J.2.a of this Order.

(5) HMP Implementation

180 days after approval of the HMP by the Regional Board, each Copermittee shall incorporate into its local SUSMP and implement the HMP for all applicable Priority Development Projects. Prior to approval of the HMP by the Regional Board, the early implementation of measures likely to be included in the HMP shall be encouraged by the Copermittees.

(6) Interim Hydromodification Criteria for Projects Disturbing 50 Acres or More

Within 365 days of adoption of this Order, the Copermittees shall collectively identify an interim range of runoff flow rates for which Priority Development Project post-project runoff flow rates and durations shall not exceed pre-project runoff flow rates and durations (Interim Hydromodification Criteria), where the increased discharge flow rates and durations will result in increased potential for erosion or other significant adverse impacts to beneficial uses, attributable to changes in flow rates and durations. Development of the Interim Hydromodification Criteria shall include identification of methods to be used by Priority Development Projects to exhibit compliance with the criteria, including continuous simulation of the entire rainfall record. Starting 365 days after adoption of this Order and until the final Hydromodification Management Plan standard and criteria are implemented, each Copermittee shall require Priority Development Projects disturbing 50 acres or more to implement hydrologic controls to manage post-project runoff flow rates and durations as required by the Interim Hydromodification Criteria. Development Projects disturbing 50 acres or more are exempt from this requirement when:

- (a) The project would discharge into channels that are concrete-lined or significantly hardened (e.g., with rip-rap, sackcrete, etc.) downstream to their outfall in bays or the ocean;
- (b) The project would discharge into underground storm drains discharging directly to bays or the ocean; or
- (c) The project would discharge to a channel where the watershed areas below the project's discharge points are highly impervious (e.g. >70%).

h. ENFORCEMENT OF DEVELOPMENT SITES

Each Copermittee shall enforce its storm water ordinance for all Development Projects and at all development sites as necessary to maintain compliance with this Order. Copermittee ordinances or other regulatory mechanisms shall include appropriate sanctions to achieve compliance. Sanctions shall include the following or their equivalent: Non-monetary penalties, fines, bonding requirements, and/or permit or occupancy denials for non-compliance.

2. Construction Component

Each Copermittee shall implement a construction program which meets the requirements of this section, reduces construction site discharges of pollutants from the MS4 to the MEP, and prevents construction site discharges from the MS4 from causing or contributing to a violation of water quality standards.

a. ORDINANCE UPDATE AND APPROVAL PROCESS

- (1) Within 365 days of adoption of this Order, each Copermittee shall review and update its grading ordinances and other ordinances as necessary to achieve full compliance with this Order, including requirements for the implementation of all designated BMPs and other measures.
- (2) Prior to approval and issuance of local construction and grading permits, each Copermittee shall:

- (a) Require all individual proposed construction sites to implement designated BMPs and other measures so that pollutants discharged from the site will be reduced to the maximum extent practicable and will not cause or contribute to a violation of water quality standards.
- (b) Prior to permit issuance, require and review the project proponent's storm water management plan to verify compliance with their grading ordinance, other ordinances, and this Order.
- (c) Verify that project proponents subject to California's statewide General NPDES Permit for Storm Water Discharges Associated With Construction Activities, (hereinafter General Construction Permit), have existing coverage under the General Construction Permit.

b. SOURCE IDENTIFICATION

Each Copermittee shall maintain and update monthly a watershed based inventory of all construction sites within its jurisdiction. The use of an automated database system, such as Geographical Information System (GIS) is highly recommended.

c. BMP IMPLEMENTATION

- (1) Each Copermittee shall designate a minimum set of BMPs and other measures to be implemented at construction sites. The designated minimum set of BMPs shall include, at a minimum:

(a) General Site Management

- i. Pollution prevention, where appropriate.
- ii. Development and implementation of a storm water management plan.
- iii. Minimization of areas that are cleared and graded to only the portion of the site that is necessary for construction;
- iv. Minimization of exposure time of disturbed soil areas;
- v. Minimization of grading during the wet season and correlation of grading with seasonal dry weather periods to the extent feasible.
- vi. Limitation of grading to a maximum disturbed area as determined by each Copermittee before either temporary or permanent erosion controls are implemented to prevent storm water pollution. The Copermittee has the option of temporarily increasing the size of disturbed soil areas by a set amount beyond the maximum, if the individual site is in compliance with applicable storm water regulations and the site has adequate control practices implemented to prevent storm water pollution.
- vii. Temporary stabilization and reseeded of disturbed soil areas as rapidly as feasible;
- viii. Preservation of natural hydrologic features where feasible;
- ix. Preservation of riparian buffers and corridors where feasible;
- x. Maintenance of all BMPs, until removed; and
- xi. Retention, reduction, and proper management of all pollutant discharges on site to the MEP standard.

(b) Erosion and Sediment Controls

- i. Erosion prevention, to be used as the most important measure for keeping sediment on site during construction, but never as the single method;
- ii. Sediment controls, to be used as a supplement to erosion prevention for keeping sediment on-site during construction;
- iii. Slope stabilization on all inactive slopes during the rainy season and during rain events in the dry season;
- iv. Slope stabilization on all active slopes during rain events regardless of the season; and
- v. Permanent revegetation or landscaping as early as feasible.

(2) Each Copermittee shall require implementation of advanced treatment for sediment at construction sites that are determined by the Copermittee to be an exceptional threat to water quality. In evaluating the threat to water quality, the following factors shall be considered by the Copermittee:

- (a) Soil erosion potential or soil type;
- (b) The site's slopes;
- (c) Project size and type;
- (d) Sensitivity of receiving water bodies;
- (e) Proximity to receiving water bodies;
- (f) Non-storm water discharges;
- (g) Ineffectiveness of other BMPs; and
- (h) Any other relevant factors.

(3) Each Copermittee shall implement, or require the implementation of, the designated minimum BMPs and any additional measures necessary to comply with this Order at each construction site within its jurisdiction year round. However, BMP implementation requirements can vary based on wet and dry seasons. Dry season BMP implementation must plan for and address rain events that may occur during the dry season.

(4) Each Copermittee shall implement, or require implementation of, additional controls for construction sites tributary to CWA section 303(d) water body segments impaired for sediment as necessary to comply with this Order. Each Copermittee shall implement, or require implementation of, additional controls for construction sites within or adjacent to or discharging directly to coastal lagoons or other receiving waters within environmentally sensitive areas (as defined in section Attachment C of this Order) as necessary to comply with this Order.

d. INSPECTION OF CONSTRUCTION SITES

Each Copermittee shall conduct construction site inspections for compliance with its local ordinances (grading, storm water, etc.), permits (construction, grading, etc.), and this Order.

(1) During the wet season, each Copermittee shall inspect at least biweekly (every two weeks), all construction sites within its jurisdiction meeting the following

criteria:

- (a) All sites 50 acres or more in size and grading will occur during the wet season;
 - (b) All sites 1 acre or more, and tributary to a CWA section 303(d) water body segment impaired for sediment or within or directly adjacent to or discharging directly to a receiving water within an ESA; and
 - (c) Other sites determined by the Copermittees or the Regional Board as a significant threat to water quality. In evaluating threat to water quality, the following factors shall be considered:
 - i. soil erosion potential;
 - ii. site slope;
 - iii. project size and type;
 - iv. sensitivity of receiving water bodies;
 - v. proximity to receiving water bodies;
 - vi. non-storm water discharges;
 - vii. past record of non-compliance by the operators of the construction site; and
 - viii. any other relevant factors.
- (2) During the wet season, each Copermittee shall inspect at least monthly, all construction sites with one acre or more of soil disturbance not meeting the criteria specified above in section D.2.c.(1).
 - (3) During the wet season, each Copermittee shall inspect as needed, construction sites less than 1 acre in size.
 - (4) Each Copermittee shall inspect all construction sites as needed during the dry season.
 - (5) Based upon site inspection findings, each Copermittee shall implement all follow-up actions (i.e., reinspection, enforcement) necessary to comply with this Order.
 - (6) Inspections of construction sites shall include, but not be limited to:
 - (a) Check for coverage under the General Construction Permit (Notice of Intent (NOI) and/or Waste Discharge Identification No.) during initial inspections;
 - (b) Assessment of compliance with Permittee ordinances and permits related to urban runoff, including the implementation and maintenance of designated minimum BMPs;
 - (c) Assessment of BMP effectiveness;
 - (d) Visual observations for non-storm water discharges, potential illicit connections, and potential discharge of pollutants in storm water runoff;
 - (e) Education and outreach on storm water pollution prevention, as needed; and
 - (f) Creation of a written or electronic inspection report.
 - (7) The Copermittees shall track the number of inspections for the inventoried construction sites throughout the reporting period to verify that the sites are inspected at the minimum frequencies required.

e. ENFORCEMENT OF CONSTRUCTION SITES

Each Copermittee shall develop and implement an escalating enforcement process that achieves prompt corrective actions at construction sites for violations of the Copermittee's water quality protection permit requirements and ordinances. This enforcement process shall include authorizing the Copermittee's construction site inspectors to take immediate enforcement actions when appropriate and necessary. The enforcement process shall include appropriate sanctions such as stop work orders, non-monetary penalties, fines, bonding requirements, and/or permit denials for non-compliance.

f. REPORTING OF NON-COMPLIANT SITES

In addition to the notification requirements in section 5(e) of Attachment B, each Copermittee shall notify the Regional Board when the Copermittee issues a stop work order or other high level enforcement to a construction site in their jurisdiction as a result of storm water violations.

3. Existing Development Component

a. MUNICIPAL

Each Copermittee shall implement a municipal program which meets the requirements of this section, reduces municipal discharges of pollutants from the MS4 to the MEP, and prevents municipal discharges from the MS4 from causing or contributing to a violation of water quality standards.

(1) Source Identification

Each Copermittee shall annually update a watershed based inventory of municipal areas and activities. The inventory shall include the name, address (if applicable), and a description of the area/activity, which pollutants are potentially generated by the area/activity, and identification of whether the area/activity is tributary to a CWA section 303(d) water body segment and generates pollutants for which the water body segment is impaired. The use of an automated database system, such as Geographical Information System (GIS) is highly recommended when applicable, but not required.

(2) BMP Implementation

- (a) Each Copermittee shall implement pollution prevention methods in its municipal program and shall require their use by appropriate municipal departments and personnel, where appropriate.
- (b) Each Copermittee shall designate a minimum set of BMPs for all municipal areas and activities. The designated minimum BMPs for municipal areas and activities shall be area or activity specific as appropriate.
- (c) Each Copermittee shall implement, or require the implementation of, the designated minimum BMPs and any additional measures necessary to comply with this Order for each municipal area or activity within its

jurisdiction.

- (d) Each Copermittee shall evaluate existing flood control devices to determine if retrofitting the device to provide additional pollutant removal from urban runoff is feasible. When conducting flood control device retrofit projects, each Copermittee shall incorporate permanent pollutant removal measures into the projects, where feasible.
- (e) Each Copermittee shall implement, or require implementation of, any additional controls for municipal areas and activities tributary to CWA section 303(d) impaired water body segments (where an area or activity generates pollutants for which the water body segment is impaired) as necessary to comply with this Order. Each Copermittee shall implement, or require implementation of, additional controls for municipal areas and activities within or directly adjacent to or discharging directly to coastal lagoons or other receiving waters within environmentally sensitive areas (as defined in Attachment C of this Order) as necessary to comply with this Order.
- (f) Each Copermittee shall implement, or require implementation of, additional controls for special events within their jurisdiction that are expected to generate significant trash and litter. Controls to consider shall include:
 - i. Temporary screens on catch basins and storm drain inlets;
 - ii. Temporary fencing to prevent windblown trash from entering adjacent water bodies and MS4 channels;
 - iii. Proper management of trash and litter;
 - iv. Catch basin cleaning following the special event and prior to an anticipated rain event;
 - v. Street sweeping of roads, streets, highways and parking facilities following the special event; and
 - vi. Other equivalent controls.

(3) Operation and Maintenance of Municipal Separate Storm Sewer System and Structural Controls

- (a) Each Copermittee shall implement a schedule of inspection and maintenance activities to verify proper operation of all municipal structural treatment controls designed to reduce pollutant discharges to or from its MS4s and related drainage structures.
- (b) Each Copermittee shall implement a schedule of maintenance activities for the MS4 and MS4 facilities (catch basins, storm drain inlets, open channels, etc). The maintenance activities shall, at a minimum, include:
 - i. Inspection at least once a year between May 1 and September 30 of each year for all MS4 facilities that receive or collect high volumes of trash and debris. All other MS4 facilities shall be inspected at least annually throughout the year.
 - ii. Following two years of inspections, any MS4 facility that requires inspection and cleaning less than annually may be inspected as needed, but not less than every other year.

- iii. Any catch basin or storm drain inlet that has accumulated trash and debris greater than 33% of design capacity shall be cleaned in a timely manner. Any MS4 facility that is designed to be self cleaning shall be cleaned of any accumulated trash and debris immediately. Open channels shall be cleaned of observed anthropogenic litter in a timely manner.
- iv. Record keeping of the maintenance and cleaning activities including the overall quantity of waste removed.
- v. Proper disposal of waste removed pursuant to applicable laws.
- vi. Measures to eliminate waste discharges during MS4 maintenance and cleaning activities.

(4) Management of Pesticides, Herbicides, and Fertilizers

The Copermittees shall implement BMPs to reduce the contribution of pollutants associated with the application, storage, and disposal of pesticides, herbicides and fertilizers from municipal areas and activities to MS4s. Important municipal areas and activities include municipal facilities, public rights-of-way, parks, recreational facilities, golf courses, cemeteries, botanical or zoological gardens and exhibits, landscaped areas, etc.

Such BMPs shall include, at a minimum: (1) educational activities, permits, certifications and other measures for municipal applicators and distributors; (2) integrated pest management measures that rely on non-chemical solutions; (3) the use of native vegetation; (4) schedules for irrigation and chemical application; and (5) the collection and proper disposal of unused pesticides, herbicides, and fertilizers.

(5) Sweeping of Municipal Areas

Each Copermittee shall implement a program to sweep improved (possessing a curb and gutter) municipal roads, streets, highways, and parking facilities. The program shall include the following measures:

- (a) Roads, streets, highways, and parking facilities identified as consistently generating the highest volumes of trash and/or debris shall be swept at least two times per month.
- (b) Roads, streets, highways, and parking facilities identified as consistently generating moderate volumes of trash and/or debris shall be swept at least monthly.
- (c) Roads, streets, highways, and parking facilities identified as generating low volumes of trash and/or debris shall be swept as necessary, but no less than once per year.

(6) Infiltration From Sanitary Sewer to MS4/Provide Preventive Maintenance of Both

Each Copermittee shall implement controls and measures to prevent and eliminate infiltration of seepage from municipal sanitary sewers to MS4s through thorough, routine preventive maintenance of the MS4. Each Copermittee that

operates both a municipal sanitary sewer system and a MS4 shall implement controls and measures to prevent and eliminate infiltration of seepage from the municipal sanitary sewers to the MS4s that shall include overall sanitary sewer and MS4 surveys and thorough, routine preventive maintenance of both.

(7) Inspection of Municipal Areas and Activities

- (a) At a minimum, each Copermittee shall inspect the following high priority municipal areas and activities annually:
- i. Roads, Streets, Highways, and Parking Facilities.
 - ii. Flood Management Projects and Flood Control Devices.
 - iii. Areas and activities tributary to a C WA section 303(d) impaired water body segment, where an area or activity generates pollutants for which the water body segment is impaired. Areas and activities within or adjacent to or discharging directly to coastal lagoons or other receiving waters within environmentally sensitive areas (as defined in Attachment C of this Order).
 - iv. Municipal Facilities.
 - [1] Active or closed municipal landfills;
 - [2] Publicly owned treatment works (including water and wastewater treatment plants) and sanitary sewage collection systems;
 - [3] Solid waste transfer facilities;
 - [4] Land application sites;
 - [5] Corporate yards including maintenance and storage yards for materials, waste, equipment and vehicles; and
 - [6] Household hazardous waste collection facilities.
 - v. Municipal airfields.
 - vi. Parks and recreation facilities.
 - vii. Special event venues following special events (festivals, sporting events, etc.)
 - viii. Power washing.
 - ix. Other municipal areas and activities that the Copermittee determines may contribute a significant pollutant load to the MS4.
- (b) Other municipal areas and activities shall be inspected as needed.
- (c) Based upon site inspection findings, each Copermittee shall implement all follow-up actions necessary to comply with this Order.

(8) Enforcement of Municipal Areas and Activities

Each Copermittee shall enforce its storm water ordinance for all municipal areas and activities as necessary to maintain compliance with this Order.

b. INDUSTRIAL AND COMMERCIAL

Each Copermittee shall implement an industrial and commercial program which meets the requirements of this section, reduces industrial and commercial discharges of pollutants from the MS4 to the MEP, and prevents industrial and commercial discharges from the MS4 from causing or contributing to a violation of water quality standards.

(1) Source Identification

Each Copermittee shall annually update a watershed-based inventory of all industrial and commercial sites/sources within its jurisdiction (regardless of ownership) that could contribute a significant pollutant load to the MS4. The inventory shall include the following minimum information for each industrial and commercial site/source: name; address; pollutants potentially generated by the site/source (and identification of whether the site/source is tributary to a Clean Water Act section 303(d) water body segment and generates pollutants for which the water body segment is impaired); and a narrative description including SIC codes which best reflects the principal products or services provided by each facility. The use of an automated database system, such as Geographical Information System (GIS) is highly recommended.

At a minimum, the following sites/sources shall be included in the inventory:

(a) Commercial Sites/Sources:

- i. Automobile repair, maintenance, fueling, or cleaning;
- ii. Airplane repair, maintenance, fueling, or cleaning;
- iii. Boat repair, maintenance, fueling, or cleaning;
- iv. Equipment repair, maintenance, fueling, or cleaning;
- v. Automobile and other vehicle body repair or painting;
- vi. Mobile automobile or other vehicle washing;
- vii. Automobile (or other vehicle) parking lots and storage facilities;
- viii. Retail or wholesale fueling;
- ix. Pest control services;
- x. Eating or drinking establishments, including food markets;
- xi. Mobile carpet, drape or furniture cleaning;
- xii. Cement mixing or cutting;
- xiii. Masonry;
- xiv. Painting and coating;
- xv. Botanical or zoological gardens and exhibits;
- xvi. Landscaping;
- xvii. Nurseries and greenhouses;
- xviii. Golf courses, parks and other recreational areas/facilities;
- xix. Cemeteries;
- xx. Pool and fountain cleaning;
- xxi. Marinas;
- xxii. Portable sanitary services;
- xxiii. Building material retailers and storage;
- xxiv. Animal facilities; and
- xxv. Power washing services.

(b) Industrial Sites/Sources:

- i. Industrial Facilities, as defined at 40 CFR § 122.26(b)(14), including those subject to the General Industrial Permit or other individual NPDES permit;
- ii. Operating and closed landfills;
- iii. Facilities subject to SARA Title III; and

iv. Hazardous waste treatment, disposal, storage and recovery facilities.

- (c) All other commercial or industrial sites/sources tributary to a CWA Section 303(d) impaired water body segment, where the site/source generates pollutants for which the water body segment is impaired. All other commercial or industrial sites/sources within or directly adjacent to or discharging directly to coastal lagoons or other receiving waters within environmentally sensitive areas (as defined in Attachment C of this Order).
- (d) All other commercial or industrial sites/sources that the Copermittee determines may contribute a significant pollutant load to the MS4.

(2) BMP Implementation

- (a) Each Copermittee shall require the use of pollution prevention methods by industrial and commercial sites/sources, where appropriate.
- (b) Each Copermittee shall designate a minimum set of BMPs for all industrial and commercial sites/sources. The designated minimum BMPs shall be specific to facility types and pollutant generating activities, as appropriate.
- (c) Within the first three years of implementation of the updated Jurisdictional Urban Runoff Management Program, each Copermittee shall notify the owner/operator of each inventoried industrial and commercial site/source of the BMP requirements applicable to the site/source.
- (d) Each Copermittee shall implement, or require the implementation of, the designated minimum BMPs and any additional measures necessary to comply with this Order at each industrial and commercial site/source within its jurisdiction.
- (e) Each Copermittee shall implement, or require implementation of, additional controls for industrial and commercial sites/sources tributary to CWA section 303(d) impaired water body segments (where a site/source generates pollutants for which the water body segment is impaired) as necessary to comply with this Order. Each Copermittee shall implement, or require implementation of, additional controls for industrial and commercial sites/sources within or directly adjacent to or discharging directly to coastal lagoons or other receiving waters within environmentally sensitive areas (as defined in Attachment C of this Order) as necessary to comply with this Order.

(3) Inspection of Industrial and Commercial Sites/Sources

- (a) Each Copermittee shall conduct industrial and commercial site inspections for compliance with its ordinances, permits, and this Order. Inspections shall include but not be limited to:
 - i. Review of BMP implementation plans, if the site uses or is required to use such a plan;
 - ii. Review of facility monitoring data, if the site monitors its runoff;

- iii. Check for coverage under the General Industrial Permit (Notice of Intent (NOI) and/or Waste Discharge Identification No.), if applicable;
 - iv. Assessment of compliance with Copermittee ordinances and permits related to urban runoff;
 - v. Assessment of BMP implementation, maintenance and effectiveness;
 - vi. Visual observations for non-storm water discharges, potential illicit connections, and potential discharge of pollutants in storm water runoff; and
 - vii. Education and training on storm water pollution prevention, as conditions warrant.
- (b) At a minimum, 50% of all sites (excluding mobile sources) determined to pose a high threat to water quality shall be inspected in the first year of implementation of the updated Jurisdictional Urban Runoff Management Program, regardless of whether this exceeds the number of inspections required in section D.3.b.(3)(c). This requirement shall increase to 100% of the sites in the second year, and 100% annually thereafter. In any year that the total number of required inspection per section D.3.b.(3)(c) exceeds the number of high threat to water quality sites, all high threat to water quality sites shall be inspected. In evaluating threat to water quality, each Copermittee shall address, at a minimum, the following:
- i. Type of activity (SIC code);
 - ii. Materials used at the facility;
 - iii. Wastes generated;
 - iv. Pollutant discharge potential;
 - v. Non-storm water discharges;
 - vi. Size of facility;
 - vii. Proximity to receiving water bodies;
 - viii. Sensitivity of receiving water bodies;
 - ix. Whether the facility is subject to the General Industrial Permit or an individual NPDES permit;
 - x. Whether the facility has filed a No Exposure Certification/Notice of Non-Applicability;
 - xi. Facility design;
 - xii. Total area of the site, area of the site where industrial or commercial activities occur, and area of the site exposed to rainfall and runoff;
 - xiii. The facility's compliance history; and
 - xiv. Any other relevant factors.
- (c) At a minimum, 20% of the sites inventoried as required in section D.3.b.(1) above (excluding mobile sources) shall be inspected in the first year of implementation of the updated Jurisdictional Urban Runoff Management Program. This requirement shall increase to 25% of the sites in the second year, and 25% annually thereafter.
- (d) Each Copermittee may develop and implement a third party inspection program for verifying industrial and commercial site/source compliance with its ordinances, permits, and this Order. The third party inspections can satisfy up to 30% of the inspection requirements in section D.3.b(3)(c), with the Copermittee having to fulfill the remaining required inspections. To the extent that third party inspections are conducted to fulfill the requirements of

section D.3.b(3)(c), the Copermittee will be responsible for the inspection of an additional site for every three sites inspected by a third party. The additional inspections may be conducted by the Copermittee or a third party inspector. The Copermittees third party inspection program must include the following:

- i. A description of facility types proposed to be inspected by third parties, including SIC codes;
- ii. A third party inspector certification program;
- iii. The inspection requirements described in section D.3.b.(3)(a);
- iv. Inspection form templates for third party inspector use;
- v. Photo documentation of potential storm water violations identified during the third party inspection;
- vi. An annual Copermittee audit of random, representative sites that were inspected by a third party;
- vii. An annual Copermittee audit of random, representative third party inspectors;
- viii. Reporting to the Copermittee of identified significant potential violations within 24 hours of the third party inspection;
- ix. Reporting to the Copermittee of all inspection findings within one week of the inspection being conducted; and
- x. Copermittee follow-up and/or enforcement actions for identified potential storm water violations within 2 business days of the inspection or potential violation report receipt.

- (e) Based upon site inspection findings, each Copermittee shall implement all follow-up actions and enforcement necessary to comply with this Order.
- (f) To the extent that the Regional Board has conducted an inspection of an industrial site during a particular year, the requirement for the responsible Copermittee to inspect this facility during the same year will be satisfied.
- (g) The Copermittees shall track the number of inspections for the inventoried industrial and commercial sites/sources throughout the reporting period to verify that the sites/sources are inspected at the minimum frequencies listed in sections D.3.b.(3)(b) and D.3.b.(3)(c).

(4) Regulation of Mobile Businesses

- (a) Each Copermittee shall develop and implement a program to reduce the discharge of pollutants from mobile businesses to the MEP. Each Copermittee shall keep as part of their inventory (section D.3.b.(1) above), a listing of mobile businesses known to operate within its jurisdiction. The program shall include:
 - i. Development and implementation of minimum standards and BMPs to be required for each of the various types of mobile businesses.
 - ii. Development and implementation of an enforcement strategy which specifically addresses the unique characteristics of mobile businesses.
 - iii. Notification of those mobile businesses known to operate within the Copermittee's jurisdiction of the minimum standards and BMP requirements and local ordinances.

- iv. Development and implementation of an outreach and education strategy.
- v. Inspection of mobile businesses as needed.

- (b) If they choose to, the Copermittees may cooperate in developing and implementing their programs for mobile businesses, including sharing of mobile business inventories, BMP requirements, enforcement action information, and education.

(5) Enforcement of Industrial and Commercial Sites/Sources

Each Copermittee shall enforce its storm water ordinance for all industrial and commercial sites/sources as necessary to maintain compliance with this Order. Copermittee ordinances or other regulatory mechanisms shall include appropriate sanctions to achieve compliance. Sanctions shall include the following or their equivalent: Non-monetary penalties, fines, bonding requirements, and/or permit denials for non-compliance.

(6) Reporting of Industrial Non-Filers

As part of each Annual Report, each Copermittee shall report a list of industrial sites, including the name, address, and SIC code, that may require coverage under the General Industrial Permit for which a NOI has not been filed.

c. RESIDENTIAL

Each Copermittee shall implement a residential program which meets the requirements of this section, reduces residential discharges of pollutants from the MS4 to the MEP, and prevents residential discharges from the MS4 from causing or contributing to a violation of water quality standards.

(1) Threat to Water Quality Prioritization

Each Copermittee shall identify high threat to water quality residential areas and activities. At a minimum, these shall include:

- (a) Automobile repair, maintenance, washing, and parking;
- (b) Home and garden care activities and product use (pesticides, herbicides, and fertilizers);
- (c) Disposal of trash, pet waste, green waste, and household hazardous waste (e.g., paints, cleaning products);
- (d) Any other residential source that the Copermittee determines may contribute a significant pollutant load to the MS4;
- (e) Any residential areas tributary to a CWA section 303(d) impaired water body, where the residence generates pollutants for which the water body is impaired; and
- (f) Any residential areas within or directly adjacent to or discharging directly to a coastal lagoon or other receiving waters within an environmentally sensitive area (as defined in Attachment C of this Order).

(2) BMP Implementation

- (a) Each Copermittee shall designate minimum BMPs for high threat to water quality residential areas and activities. The designated minimum BMPs for high threat to water quality municipal areas and activities shall be area or activity specific.
- (b) Each Copermittee shall encourage the use of pollution prevention methods by residents, where appropriate.
- (c) Each Copermittee shall facilitate the proper management and disposal of used oil, toxic materials, and other household hazardous wastes. Such facilitation shall include educational activities, public information activities, and establishment of collection sites operated by the Copermittee or a private entity. Curbside collection of household hazardous wastes is encouraged.
- (d) Each Copermittee shall implement, or require implementation of, the designated minimum BMPs and any additional measures necessary to comply with this Order for high threat to water quality residential areas and activities.
- (e) Each Copermittee shall implement, or require implementation of, BMPs for residential areas and activities that have not been designated a high threat to water quality, as necessary.
- (f) Each Copermittee shall implement, or require implementation of, any additional controls for residential areas and activities tributary to CWA section 303(d) impaired water body segments (where a residential area or activity generates pollutants for which the water body segment is impaired) as necessary to comply with this Order. Each Copermittee shall implement, or require implementation of, additional controls for residential areas within or directly adjacent to or discharging directly to coastal lagoons or other receiving waters within environmentally sensitive areas (as defined in section Attachment C of this Order) as necessary to comply with this Order.

(3) Enforcement of Residential Areas and Activities

Each Copermittee shall enforce its storm water ordinance for all residential areas and activities as necessary to maintain compliance with this Order.

(4) Evaluation of Oversight of Residential Areas and Activities

The Copermittees are encouraged to individually or collectively evaluate their methods used for oversight of residential areas and activities, including assessment of inspections of residential areas and activities. The evaluation should consider various oversight and inspection approaches to identify an effective and appropriate oversight and inspection approach for residential areas and activities.

(5) Regional Residential Education Program

Each Copermittee shall collaborate with the other Copermittees to develop and implement the Regional Residential Education Program required in section F.1 of this Order.

4. Illicit Discharge Detection and Elimination Component

Each Copermittee shall implement an Illicit Discharge Detection and Elimination program which meets the requirements of this section and actively seeks and eliminates illicit discharges and connections.

a. ILLICIT DISCHARGES AND CONNECTIONS

Each Copermittee shall implement a program to actively seek and eliminate illicit discharges and connections into its MS4. The program shall include utilization of appropriate municipal personnel to assist in identifying illicit discharges and connections during their daily activities. The program shall address all types of illicit discharges and connections excluding those non-storm water discharges not prohibited by the Copermittee in accordance with section B of this Order.

b. DEVELOP/MAINTAIN MS4 MAP

Each Copermittee shall develop and/or update its labeled map of its entire MS4 and the corresponding drainage areas within its jurisdiction. The use of a GIS is highly recommended. The accuracy of the MS4 map shall be confirmed during dry weather field screening and analytical monitoring and shall be updated at least annually.

c. DRY WEATHER FIELD SCREENING AND ANALYTICAL MONITORING

Each Copermittee shall conduct dry weather field screening and analytical monitoring of MS4 outfalls and other portions of its MS4 within its jurisdiction to detect illicit discharges and connections in accordance with Receiving Waters and Urban Runoff Monitoring and Reporting Program No. R9-2007-0001.

d. INVESTIGATION/INSPECTION AND FOLLOW-UP

(1) Each Copermittee shall investigate and inspect any portion of the MS4 that, based on visual observations, dry weather field screening and analytical monitoring results, or other appropriate information, indicates a reasonable potential for illicit discharges, illicit connections, or other sources of non-storm water (including non-prohibited discharge(s) identified in section B of this Order). Each Copermittee shall develop/update and utilize numeric criteria action levels (or other actions level criteria where appropriate) to determine when follow-up investigations will be performed.

(2) Within two business days of receiving dry weather field screening results that exceed action levels, the Copermittees shall either conduct an investigation to identify the source of the discharge or provide the rationale for why the discharge does not pose a threat to water quality and does not need further investigation. Within two business days, where applicable, of receiving analytical laboratory results that exceed action levels, the Copermittees shall either conduct an investigation to identify the source of the discharge or provide the rationale for why the discharge does not pose a threat to water quality and does not need further investigation. Obvious illicit discharges (i.e. color, odor, or significant exceedances of action levels) shall be investigated immediately.

e. ELIMINATION OF ILLICIT DISCHARGES AND CONNECTIONS

Each Copermittee shall take immediate action to eliminate all detected illicit discharges, illicit discharge sources, and illicit connections as soon as possible after detection. Elimination measures may include an escalating series of enforcement actions for those illicit discharges that are not a serious threat to public health or the environment. Illicit discharges that pose a serious threat to the public's health or the environment must be eliminated immediately.

f. ENFORCE ORDINANCES

Each Copermittee shall implement and enforce its ordinances, orders, or other legal authority to prevent illicit discharges and connections to its MS4. Each Copermittee shall also implement and enforce its ordinance, orders, or other legal authority to eliminate detected illicit discharges and connections to it MS4.

g. PREVENT AND RESPOND TO SEWAGE SPILLS (INCLUDING FROM PRIVATE LATERALS AND FAILING SEPTIC SYSTEMS) AND OTHER SPILLS

Each Copermittee shall prevent, respond to, contain and clean up all sewage and other spills that may discharge into its MS4 from any source (including private laterals and failing septic systems). Spill response teams shall prevent entry of spills into the MS4 and contamination of surface water, ground water and soil to the maximum extent practicable. Each Copermittee shall coordinate spill prevention, containment and response activities throughout all appropriate departments, programs and agencies so that maximum water quality protection is available at all times.

Each Copermittee shall develop and implement a mechanism whereby it is notified of all sewage spills from private laterals and failing septic systems into its MS4. Each Copermittee shall prevent, respond to, contain and clean up sewage from any such notification.

h. FACILITATE PUBLIC REPORTING OF ILLICIT DISCHARGES AND CONNECTIONS - PUBLIC HOTLINE

Each Copermittee shall promote, publicize and facilitate public reporting of illicit discharges or water quality impacts associated with discharges into or from MS4s. Each Copermittee shall facilitate public reporting through development and operation of a public hotline. Public hotlines can be Copermittee-specific or shared by Copermittees. All storm water hotlines shall be capable of receiving reports in both English and Spanish 24 hours per day / seven days per week. Copermittees shall respond to and resolve each reported incident in a timely manner. All reported incidents, and how each was resolved, shall be summarized in each Copermittee's individual JURMP Annual Report.

5. Education Component

Each Copermittee shall implement an education program using all media as appropriate to (1) measurably increase the knowledge of the target communities regarding MS4s, impacts of urban runoff on receiving waters, and potential BMP solutions for the target audience; and (2) to measurably change the behavior of target communities and thereby reduce pollutant releases to MS4s and the environment. At a minimum, the education

program shall meet the requirements of this section and address the following target communities:

- Municipal Departments and Personnel
- Construction Site Owners and Developers
- Industrial Owners and Operators
- Commercial Owners and Operators
- Residential Community, General Public, and School Children

a. GENERAL REQUIREMENTS

(1) Each Copermittee shall educate each target community on the following topics where appropriate:

Table 3. Education

Laws, Regulations, Permits, & Requirements	Best Management Practices
<ul style="list-style-type: none"> • Federal, state, and local water quality laws and regulations • Statewide General NPDES Permit for Storm Water Discharges Associated with Industrial Activities (Except Construction). • Statewide General NPDES Permit for Storm Water Discharges Associated with Construction Activities • Regional Board’s General NPDES Permit for Ground Water Dewatering • Regional Board’s 401 Water Quality Certification Program • Statewide General NPDES Utility Vault Permit • Requirements of local municipal permits and ordinances (e.g., storm water and grading ordinances and permits) 	<ul style="list-style-type: none"> • Pollution prevention and safe alternatives • Good housekeeping (e.g., sweeping impervious surfaces instead of hosing) • Proper waste disposal (e.g., garbage, pet/animal waste, green waste, household hazardous materials, appliances, tires, furniture, vehicles, boat/recreational vehicle waste, catch basin/ MS4 cleanout waste) • Non-storm water disposal alternatives (e.g., all wash waters) • Methods to minimized the impact of land development and construction • Erosion prevention • Methods to reduce the impact of residential and charity car-washing • Preventive Maintenance • Equipment/vehicle maintenance and repair • Spill response, containment, and recovery • Recycling • BMP maintenance
General Urban Runoff Concepts	Other Topics
<ul style="list-style-type: none"> • Impacts of urban runoff on receiving waters • Distinction between MS4s and sanitary sewers • BMP types: facility or activity specific, LID, source control, and treatment control • Short- and long-term water quality impacts associated with urbanization (e.g., land-use decisions, development, construction) • Non-storm water discharge prohibitions • How to conduct a storm water inspections 	<ul style="list-style-type: none"> • Public reporting mechanisms • Water quality awareness for Emergency/ First Responders • Illicit Discharge Detection and Elimination observations and follow-up during daily work activities • Potable water discharges to the MS4 • Dechlorination techniques • Hydrostatic testing • Integrated pest management • Benefits of native vegetation • Water conservation

	<ul style="list-style-type: none"> • Alternative materials and designs to maintain peak runoff values • Traffic reduction, alternative fuel use
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- (2) Copermittee educational programs shall emphasize underserved target audiences, high-risk behaviors, and “allowable” behaviors and discharges, including various ethnic and socioeconomic groups and mobile sources.

b. SPECIFIC REQUIREMENTS

(1) Municipal Departments and Personnel Education

- (a) Municipal Development Planning – Each Copermittee shall implement an education program so that its planning and development review staffs (and Planning Boards and Elected Officials, if applicable) have an understanding of:
- i. Federal, state, and local water quality laws and regulations applicable to Development Projects;
 - ii. The connection between land use decisions and short and long-term water quality impacts (i.e., impacts from land development and urbanization);
 - iii. How to integrate LID BMP requirements into the local regulatory program(s) and requirements; and
 - iv. Methods of minimizing impacts to receiving water quality resulting from development, including:
 - [1] Storm water management plan development and review;
 - [2] Methods to control downstream erosion impacts;
 - [3] Identification of pollutants of concern;
 - [4] LID BMP techniques;
 - [5] Source control BMPs; and
 - [6] Selection of the most effective treatment control BMPs for the pollutants of concern.
- (b) Municipal Construction Activities – Each Copermittee shall implement an education program that includes annual training prior to the rainy season so that its construction, building, code enforcement, and grading review staffs, inspectors, and other responsible construction staff have, at a minimum, an understanding of the following topics, as appropriate for the target audience:
- i. Federal, state, and local water quality laws and regulations applicable to construction and grading activities.
 - ii. The connection between construction activities and water quality impacts (i.e., impacts from land development and urbanization and impacts from construction material such as sediment).
 - iii. Proper implementation of erosion and sediment control and other BMPs to minimize the impacts to receiving water quality resulting from construction activities.
 - iv. The Copermittee’s inspection, plan review, and enforcement policies and procedures to verify consistent application.
 - v. Current advancements in BMP technologies.

vi. SUSMP Requirements including treatment options, LID BMPs, source control, and applicable tracking mechanisms.

(c) Municipal Industrial/Commercial Activities - Each Copermittee shall train staff responsible for conducting storm water compliance inspections and enforcement of industrial and commercial facilities at least once a year. Training shall cover inspection and enforcement procedures, BMP implementation, and reviewing monitoring data.

(d) Municipal Other Activities – Each Copermittee shall implement an education program so that municipal personnel and contractors performing activities which generate pollutants have an understanding of the activity specific BMPs for each activity to be performed.

(2) New Development and Construction Education

As early in the planning and development process as possible and all through the permitting and construction process, each Copermittee shall implement a program to educate project applicants, developers, contractors, property owners, community planning groups, and other responsible parties. The education program shall provide an understanding of the topics listed in Sections D.5.b.(1)(a) and D.5.b.(1)(b) above, as appropriate for the audience being educated. The education program shall also educate project applicants, developers, contractors, property owners, and other responsible parties on the importance of educating all construction workers in the field about stormwater issues and BMPs through formal or informal training.

(3) Residential, General Public, and School Children Education

Each Copermittee shall collaboratively conduct or participate in development and implementation of a plan to educate residential, general public, and school children target communities. The plan shall evaluate use of mass media, mailers, door hangers, booths at public events, classroom education, field trips, hands-on experiences, or other educational methods.

6. Public Participation Component

Each Copermittee shall incorporate a mechanism for public participation in the updating, development, and implementation of the Jurisdictional Urban Runoff Management Program.

E. WATERSHED URBAN RUNOFF MANAGEMENT PROGRAM

1. Each Copermittee shall implement all requirements of section E of this Order no later than 365 days after adoption of this Order, unless otherwise specified in this Order. Prior to 365 days after adoption of this Order, each Copermittee shall collaborate with the other Copermittees within its Watershed Management Area(s) (WMA) to at a minimum implement its Watershed URMP document, as the document was developed and amended to comply with the requirements of Order No. 2001-01.
2. Each Copermittee shall collaborate with other Copermittees within its WMA(s) as shown in Table 4 below to develop and implement an updated Watershed Urban Runoff

Management Program for each watershed. Each updated Watershed Urban Runoff Management Program shall meet the requirements of section E of this Order, reduce the discharge of pollutants from the MS4 to the MEP, and prevent urban runoff discharges from the MS4 from causing or contributing to a violation of water quality standards. At a minimum, each Watershed Urban Runoff Management Program shall include the elements described below:

a. Lead Watershed Permittee Identification

Watershed Copermittees shall identify the Lead Watershed Permittee for their WMA. In the event that a Lead Watershed Permittee is not selected and identified by the Watershed Copermittees, by default the Copermittee identified in Table 4 as the Lead Watershed Permittee for that WMA shall be responsible for implementing the requirements of the Lead Watershed Permittee in that WMA. The Lead Watershed Copermittees shall serve as liaisons between the Copermittees and Regional Board, where appropriate.

b. Watershed Map

Watershed Copermittees shall develop and periodically update a map of the WMA to facilitate planning, assessment, and collaborative decision-making. As determined appropriate, the map shall include features such as receiving waters (including the Pacific Ocean); Clean Water Act section 303(d) impaired receiving waters; land uses, MS4s; major highways; jurisdictional boundaries; and inventoried commercial, industrial, and municipal sites.

c. Watershed Water Quality Assessment

Watershed Copermittees shall annually assess the water quality of receiving waters in their WMA. This assessment shall use applicable water quality data, reports, and analysis generated in accordance with the requirements of the Receiving Waters Monitoring and Reporting Program, as well as applicable information available from other public and private organizations.

The assessment and analysis shall annually identify the WMA's water quality problems that are partially or fully attributable to MS4 discharges. Identified water quality problems shall include CWA section 303(d) listings, persistent violations of water quality standards, toxicity, impacts to beneficial uses, and other pertinent conditions. From the list of water quality problems, the high priority water quality problems of the WMA shall be identified, which shall include those water quality problems which most significantly exceed or impact water quality standards (water quality objectives and beneficial uses).

The assessment shall include annual identification of the likely sources of the WMA's high priority water quality problems.

d. Watershed-based Land Use Planning

The Watershed Copermittees shall develop, implement, and modify, as necessary, a program for encouraging collaborative, watershed-based, land use planning in their jurisdictional planning departments.

e. Watershed Strategy

Watershed Copermittees shall develop and implement a collective watershed strategy to abate the sources and reduce the discharge of pollutants causing the high priority water quality problems of the WMA. The strategy shall guide Watershed Copermittee selection and implementation of Watershed Activities, so that the Watershed Activities selected and implemented are appropriate for each Watershed Copermittee's contribution to the WMA's high priority water quality problems.

f. Watershed Activities

- (1) The Watershed Copermittees shall identify and implement Watershed Activities that address the high priority water quality problems in the WMA. Watershed Activities shall include both Watershed Water Quality Activities and Watershed Education Activities. These activities may be implemented individually or collectively, and may be implemented at the regional, watershed, or jurisdictional level.
 - (a) Watershed Water Quality Activities are activities other than education that address the high priority water quality problems in the WMA. A Watershed Water Quality Activity implemented on a jurisdictional basis must be organized and implemented to target a watershed's high priority water quality problems or must exceed the baseline jurisdictional requirements of section D of this Order.
 - (b) Watershed Education Activities are outreach and training activities that address high priority water quality problems in the WMA.
- (2) A Watershed Activities List shall be submitted with each updated WURMP and updated annually thereafter. The Watershed Activities List shall include both Watershed Water Quality Activities and Watershed Education Activities, along with a description of how each activity was selected, and how all of the activities on the list will collectively abate sources and reduce pollutant discharges causing the identified high priority water quality problems in the WMA.
- (3) Each activity on the Watershed Activities List shall include the following information:
 - (a) A description of the activity;
 - (b) A time schedule for implementation of the activity, including key milestones;
 - (c) An identification of the specific responsibilities of Watershed Copermittees in completing the activity;
 - (d) A description of how the activity will address the identified high priority water quality problem(s) of the watershed;
 - (e) A description of how the activity is consistent with the collective watershed strategy;
 - (f) A description of the expected benefits of implementing the activity; and
 - (g) A description of how implementation effectiveness will be measured.
- (4) Each Watershed Copermittee shall implement identified Watershed Activities pursuant to established schedules. For each Permit year, no less than two Watershed Water Quality Activities and two Watershed Education Activities shall be in an active implementation phase. A Watershed Water Quality Activity

is in an active implementation phase when significant pollutant load reductions, source abatement, or other quantifiable benefits to discharge or receiving water quality can reasonably be established in relation to the watershed’s high priority water quality problem(s). Watershed Water Quality Activities that are capital projects are in active implementation for the first year of implementation only. A Watershed Education Activity is in an active implementation phase when changes in attitudes, knowledge, awareness, or behavior can reasonably be established in target audiences.

g. Copermittee Collaboration

Watershed Copermittees shall collaborate to develop and implement the Watershed Urban Runoff Management Programs. Watershed Copermittee collaboration shall include frequent regularly scheduled meetings.

h. Public Participation

Watershed Copermittees shall implement a watershed-specific public participation mechanism within each watershed. The mechanism shall encourage participation from other organizations within the watershed (such as the Department of Defense, Caltrans, lagoon foundations, etc.)

i. WURMP Review and Updates

Each WURMP shall be reviewed annually to identify needed modifications and improvements. Pursuant to the requirements of Section I.2.b of this Order the Watershed Copermittees shall develop and implement a plan and schedule to address the identified modifications and improvements. All updates to the WURMP shall be documented in the Watershed Urban Runoff Management Program Annual Reports. Individual Watershed Copermittees shall also review and modify their jurisdictional activities and JURMPs as necessary so that they are consistent with the requirements of the WURMP.

Table 4. Watershed Management Areas and Watershed Copermittees

RESPONSIBLE WATERSHED COPERMITTEE(S)	WATERSHED MANAGEMENT AREA	HYDROLOGIC UNIT OR AREA	MAJOR RECEIVING WATER BODIES
1. County of San Diego	Santa Margarita River	Santa Margarita HU (902.00)	Santa Margarita River and Estuary, Pacific Ocean
2. City of Oceanside 3. City of Vista 4. County of San Diego	San Luis Rey River	San Luis Rey HU (903.00)	San Luis Rey River and Estuary, Pacific Ocean
1. City of Carlsbad 2. City of Encinitas 3. City of Escondido 4. City of Oceanside 5. City of San Marcos 6. City of Solana Beach 7. City of Vista 8. County of San Diego	Carlsbad	Carlsbad HU (904.00)	Batiquitos Lagoon San Elijo Lagoon Agua Hedionda Lagoon Buena Vista Lagoon and Tributary Streams Pacific Ocean
1. City of Del Mar 2. City of Escondido 3. City of Poway 4. City of San Diego 5. City of Solana Beach 6. County of San Diego	San Dieguito River	San Dieguito HU (905.00)	San Dieguito River and Estuary Pacific Ocean

RESPONSIBLE WATERSHED COPERMITTEE(S)	WATERSHED MANAGEMENT AREA	HYDROLOGIC UNIT OR AREA	MAJOR RECEIVING WATER BODIES
1. City of Del Mar 2. City of Poway 3. City of San Diego 4. County of San Diego	Peñasquitos	Miramar Reservoir HA (906.10) Poway HA (906.20)	Los Peñasquitos Creek Los Peñasquitos Lagoon Pacific Ocean
1. City of San Diego	Mission Bay	Scripps HA (906.30) Miramar HA(906.40) Tecolote HA (906.50)	Mission Bay Pacific Ocean
1. City of El Cajon 2. City of La Mesa 3. City of San Diego 4. City of Santee 5. County of San Diego	San Diego River	San Diego HU (907.00)	San Diego River Pacific Ocean
1. City of Chula Vista 2. City of Coronado 3. City of Imperial Beach 4. City of La Mesa 5. City of Lemon Grove 6. City of National City 7. City of San Diego 8. County of San Diego 9. San Diego Unified Port District 10. San Diego County Regional Airport Authority	San Diego Bay	Pueblo San Diego HU (908.00) Sweetwater HU (909.00) Otay HU (910.00)	San Diego Bay Sweetwater River Otay River Pacific Ocean
1. City of Imperial Beach 2. City of San Diego 3. County of San Diego	Tijuana River	Tijuana (911.00)	Tijuana River and Estuary Pacific Ocean

- The Lead Watershed Permittee for each watershed is highlighted

F. REGIONAL URBAN RUNOFF MANAGEMENT PROGRAM

The Copermittees shall implement all requirements of section F of this Order no later than 365 days after adoption of this Order, unless otherwise specified in this Order.

Each Copermittee shall collaborate with the other Copermittees to develop, implement, and update as necessary a Regional Urban Runoff Management Program. The Regional Urban Runoff Management Program shall meet the requirements of section F of this Order, reduce the discharge of pollutants from the MS4 to the MEP, and prevent urban runoff discharges from the MS4 from causing or contributing to a violation of water quality standards. The Regional Urban Runoff Management Program shall, at a minimum:

1. Develop and implement a Regional Residential Education Program. The program shall include:
 - a. Pollutant specific education which focuses educational efforts on bacteria, nutrients, sediment, pesticides, and trash. If a different pollutant is determined to be more critical for the education program, the pollutant can be substituted for one of these pollutants.
 - b. Education efforts focused on the specific residential sources of the pollutants listed in section F.1.a.
2. Develop the standardized fiscal analysis method required in section G of this Order.
3. Facilitate the assessment of the effectiveness of jurisdictional, watershed, and regional programs.

As options, the Regional Urban Runoff Management Program may:

1. Develop and implement urban runoff management activities on a regional level, as determined to be necessary by the Copermittees.

2. Develop and implement a strategy to integrate management, implementation, and reporting of jurisdictional, watershed, and regional activities, as determined to be necessary by the Copermittees. Any such integration shall assure compliance with the jurisdictional requirements of section D and the watershed requirements of section E.
3. Facilitate TMDL management and implementation, as determined to be necessary by the Copermittees.
4. Facilitate development of strategies for implementation of activities on a watershed level, as determined to be necessary by the Copermittees.

G. FISCAL ANALYSIS

1. Each Copermittee shall secure the resources necessary to meet all requirements of this Order.
2. As part of the Regional Urban Runoff Management Program, the Copermittees shall collectively develop a standardized method and format for annually conducting and reporting fiscal analyses of their urban runoff management programs in their entirety (including jurisdictional, watershed, and regional activities). This standardized method shall:
 - a. Identify the various categories of expenditures attributable to the urban runoff management programs, including a description of the specific items to be accounted for in each category of expenditures.
 - b. Identify expenditures that contribute to multiple programs or were in existence prior to implementation of the urban runoff management program.
 - c. Identify a metric or metrics to be used to report program component and total program expenditures.
3. Each Copermittee shall conduct an annual fiscal analysis. Starting January 31, 2010, the annual fiscal analysis shall be conducted consistent with the standardized fiscal analysis method included in the January 31, 2009 Regional Urban Runoff Management Program Annual Report. The annual fiscal analysis shall be conducted and reported on as part of each Copermittee's Jurisdictional Urban Runoff Management Program Annual Reports. For convenience, the fiscal analysis included in the Jurisdictional Urban Runoff Management Program Annual Reports shall address the Copermittee's urban runoff management programs in their entirety, including jurisdictional, watershed, and regional activities. The fiscal analysis shall provide the Copermittee's urban runoff management program budget for the current reporting period. The fiscal analysis shall include a description of the source(s) of the funds that are proposed to be used to meet the necessary expenditures, including legal restrictions on the use of such funds.

H. TOTAL MAXIMUM DAILY LOADS

1. **Chollas Creek Diazinon TMDL Water Quality Based Effluent Limits (WQBELs)**
 - a. The Copermittees in the Chollas Creek watershed shall implement BMPs capable of achieving the interim and final diazinon Waste Load Allocation (WLA) concentration in the storm water discharge in Chollas Creek listed in Table 5.

Table 5. Chollas Creek Diazinon Schedule

Calendar Year	Year	Waste Load Allocation	Interim TMDL Numeric Target	% Reduction
2004	1	0.460 µg/L	0.5 µg/L	0
2005	2	0.460 µg/L	0.5 µg/L	0
2006	3	0.460 µg/L	0.5 µg/L	0
2007	4	0.414 µg/L	0.45 µg/L	10
2008	5	0.322 µg/L	0.35 µg/L	20
2009	6	0.184 µg/L	0.20 µg/L	30
2010	7	0.045 µg/L	0.05 µg/L	30

- b. The Copermitees in the Chollas Creek watershed shall not cause or contribute to the violation of the Interim TMDL Numeric Targets in Chollas Creek as listed in Table 5. If the Interim TMDL Numeric Target is violated in Chollas Creek in more than one sample in any three consecutive years, the Copermitees shall submit a report that either 1) documents compliance with the WLA through additional sampling of the urban runoff discharge or 2) demonstrates, using modeling or other technical or scientific basis, the effectiveness of additional BMPs that will be implemented to achieve the WLA. The report may be incorporated into the Watershed Urban Runoff Management Program Annual Report unless the Regional Board directs an earlier submittal. The report shall include an implementation schedule.
- c. The Copermitees in the Chollas Creek watershed shall implement the Diazinon Toxicity Control Plan and Diazinon Public Outreach/Education Program as described in the report titled, "Technical Report for Total Maximum Daily Load for Diazinon in Chollas Creek Watershed, San Diego County, August 14, 2002," including subsequent modifications, in order to achieve the WLA listed in Table 5.

2. Shelter Island Yacht Basin WQBELs

- a. The Copermitees in the Shelter Island Yacht Basin watershed shall implement BMPs to maintain a total annual copper discharge load of less than or equal to 30 kg copper / year.
- b. The Copermitees in the Shelter Island Yacht Basin watershed shall implement, at a minimum, the BMPs included in the Copermitees' Jurisdictional Urban Runoff Management Plan, including subsequent modifications, which address the discharge of copper to achieve the annual copper load in Section H.2.a above.

I. PROGRAM EFFECTIVENESS ASSESSMENT

1. Jurisdictional

- a. As part of its Jurisdictional Urban Runoff Management Program, each Copermitee shall annually assess the effectiveness of its Jurisdictional Urban Runoff Management Program implementation. At a minimum, the annual effectiveness assessment shall:

- (1) Specifically assess the effectiveness of each of the following:

- (a) Each significant jurisdictional activity/BMP or type of jurisdictional activity/BMP implemented;
 - (b) Implementation of each major component of the Jurisdictional Urban Runoff Management Program (Development Planning, Construction, Municipal, Industrial/Commercial, Residential, Illicit Discharge Detection and Elimination, and Education); and
 - (c) Implementation of the Jurisdictional Urban Runoff Management Program as a whole.
- (2) Identify and utilize measurable targeted outcomes, assessment measures, and assessment methods for each of the items listed in section I.1.a.(1) above.
 - (3) Utilize outcome levels 1-6⁹ to assess the effectiveness of each of the items listed in section I.1.a.(1) above, where applicable and feasible.
 - (4) Utilize monitoring data and analysis from the Receiving Waters Monitoring Program to assess the effectiveness each of the items listed in section I.1.a.(1) above, where applicable and feasible.
 - (5) Utilize Implementation Assessment, Water Quality Assessment, and Integrated Assessment, where applicable and feasible.¹⁰
- b. Based on the results of the effectiveness assessment, each Copermittee shall annually review its jurisdictional activities or BMPs to identify modifications and improvements needed to maximize Jurisdictional Urban Runoff Management Program effectiveness, as necessary to achieve compliance with section A of this Order. The Copermittees shall develop and implement a plan and schedule to address the identified modifications and improvements. Jurisdictional activities/BMPs that are ineffective or less effective than other comparable jurisdictional activities/BMPs shall be replaced or improved upon by implementation of more effective jurisdictional activities/BMPs. Where monitoring data exhibits persistent water quality problems that are caused or contributed to by MS4 discharges, jurisdictional activities or BMPs applicable to the water quality problems shall be modified and improved to correct the water quality problems.
 - c. As part of its Jurisdictional Urban Runoff Management Program Annual Reports, each Copermittee shall report on its Jurisdictional Urban Runoff Management Program effectiveness assessment as implemented under each of the requirements of sections I.1.a and I.1.b above.

2. Watershed

- a. As part of its Watershed Urban Runoff Management Program, each watershed group of Copermittees (as identified in Table 4) shall annually assess the effectiveness of its Watershed Urban Runoff Management Program implementation. At a minimum, the annual effectiveness assessment shall:
 - (1) Specifically assess the effectiveness of each of the following:

⁹ Effectiveness assessment outcome levels are defined in Attachment C of this Order.

¹⁰ Implementation Assessment, Water Quality Assessment, and Integrated Assessment are defined in Attachment C of this Order.

- (a) Each Watershed Water Quality Activity implemented;
 - (b) Each Watershed Education Activity implemented; and
 - (c) Implementation of the Watershed Urban Runoff Management Program as a whole.
 - (2) Identify and utilize measurable targeted outcomes, assessment measures, and assessment methods for each of the items listed in section I.2.a.(1) above.
 - (3) Utilize outcome levels 1-6 to assess the effectiveness of each of the items listed in sections I.2.a.(1)(a) and I.2.a.(1)(b) above, where applicable and feasible.
 - (4) Utilize outcome levels 1-4 to assess the effectiveness of implementation of the Watershed Urban Runoff Management Program as a whole, where applicable and feasible.
 - (5) Utilize outcome levels 5 and 6 to qualitatively assess the effectiveness of implementation of the Watershed Urban Runoff Management Program as a whole, focusing on the high priority water quality problem(s) of the watershed. These assessments shall attempt to exhibit the impact of Watershed Urban Runoff Management Program implementation on the high priority water quality problem(s) within the watershed.
 - (6) Utilize monitoring data and analysis from the Receiving Waters Monitoring Program to assess the effectiveness each of the items listed in section I.2.a.(1) above, where applicable and feasible.
 - (7) Utilize Implementation Assessment, Water Quality Assessment, and Integrated Assessment, where applicable and feasible.
- b. Based on the results of the effectiveness assessment, the watershed Copermittees shall annually review their Watershed Water Quality Activities, Watershed Education Activities, and other aspects of the Watershed Urban Runoff Management Program to identify modifications and improvements needed to maximize Watershed Urban Runoff Management Program effectiveness, as necessary to achieve compliance with section A of this Order. The Copermittees shall develop and implement a plan and schedule to address the identified modifications and improvements. Watershed Water Quality Activities/Watershed Education Activities that are ineffective or less effective than other comparable Watershed Water Quality Activities/Watershed Education Activities shall be replaced or improved upon by implementation of more effective Watershed Water Quality Activities/Watershed Education Activities. Where monitoring data exhibits persistent water quality problems that are caused or contributed to by MS4 discharges, Watershed Water Quality Activities and Watershed Education Activities applicable to the water quality problems shall be modified and improved to correct the water quality problems.
- c. As part of its Watershed Urban Runoff Management Program Annual Reports, each watershed group of Copermittees (as identified in Table 4) shall report on its Watershed Urban Runoff Management Program effectiveness assessment as implemented under each of the requirements of section I.2.a and I.2.b above.

3. Regional

- a. As part of the Regional Urban Runoff Management Program, the Copermittees shall annually assess the effectiveness of Regional Urban Runoff Management Program implementation. At a minimum, the annual effectiveness assessment shall:
 - (1) Specifically assess the effectiveness of each of the following:
 - (a) Each regional activity/BMP or type of regional activity/BMP implemented, including regional residential education activities; and
 - (b) The Regional Urban Runoff Management Program as a whole.
 - (2) Identify and utilize measurable targeted outcomes, assessment measures, and assessment methods for each of the items listed in section I.3.a.(1) above.
 - (3) Utilize outcome levels 1-6 to assess the effectiveness of each of the items listed in sections I.3.a.(1) above, where applicable and feasible.
 - (4) Utilize monitoring data and analysis from the Receiving Waters Monitoring Program to assess the effectiveness each of the items listed in section I.3.a.(1) above, where applicable and feasible.
 - (5) Utilize Implementation Assessment, Water Quality Assessment, and Integrated Assessment, where applicable and feasible.
 - (6) Include evaluation of whether the Copermittees' jurisdictional, watershed, and regional effectiveness assessments are meeting the following objectives:
 - (a) Assessment of watershed health and identification of water quality issues and concerns.
 - (b) Evaluation of the degree to which existing source management priorities are properly targeted to, and effective in addressing, water quality issues and concerns.
 - (c) Evaluation of the need to address additional pollutant sources not already included in Copermittee programs.
 - (d) Assessment of progress in implementing Copermittee programs and activities.
 - (e) Assessment of the effectiveness of Copermittee activities in addressing priority constituents and sources.
 - (f) Assessment of changes in discharge and receiving water quality.
 - (g) Assessment of the relationship of program implementation to changes in pollutant loading, discharge quality, and receiving water quality.
 - (h) Identification of changes necessary to improve Copermittee programs, activities, and effectiveness assessment methods and strategies.
- b. Based on the results of the effectiveness assessment, the Copermittees shall annually review their regional activities and other aspects of the Regional Urban Runoff Management Program to identify modifications and improvements needed maximize Regional Urban Runoff Management Program effectiveness, as necessary to achieve compliance with section A of this Order. The Copermittees shall develop and implement a plan and schedule to address the identified modifications and improvements. Regional activities that are ineffective or less effective than other

comparable regional activities shall be replaced or improved upon by implementation of more effective regional activities. Where monitoring data exhibits persistent water quality problems that are caused or contributed to by MS4 discharges, regional activities applicable to the water quality problems shall be modified and improved to correct the water quality problems.

- c. Based on the results of the Copermittees' evaluation of their effectiveness assessments, the Copermittees shall modify their effectiveness assessment methods to improve their ability to accurately assess the effectiveness of their urban runoff management programs.
- d. As part of its Regional Urban Runoff Management Program Annual Reports, the Copermittees shall report on its Regional Urban Runoff Management Program effectiveness assessment as implemented under each of the requirements of sections I.3.a, I.3.b, and I.3.c above.

4. TMDL BMP Implementation Plan

- a. For each TMDL in a watershed, the Copermittees subject to the TMDL within the watershed shall annually assess the effectiveness of its TMDL BMP Implementation Plan or equivalent plan.¹¹ At a minimum, the annual effectiveness assessment shall:
 - (1) Specifically assess the effectiveness of each of the following:
 - (a) Each activity/BMP or type of activity/BMP implemented; and
 - (b) Implementation of the TMDL BMP Implementation Plan or equivalent plan as a whole.
 - (2) Identify and utilize measurable targeted outcomes, assessment measures, and assessment methods for each of the items listed in sections I.4.a.(1) above.
 - (3) Utilize outcome levels 1-6 to assess the effectiveness of each of the items listed in section I.4.a.(1)(a) above, where applicable and feasible.
 - (4) Utilize outcome levels 1-4 to assess the effectiveness of implementation of the TMDL BMP Implementation Plan or equivalent plan as a whole, where applicable and feasible.
 - (5) Utilize outcome levels 5 and 6 to qualitatively assess the effectiveness of the TMDL BMP Implementation Plan or equivalent plan as a whole. These assessments shall attempt to exhibit the effects of the TMDL BMP Implementation Plan or equivalent plan on the impairment that is targeted.
- b. Based on the results of the effectiveness assessment, the Copermittees subject to the TMDL shall modify their BMPs and other aspects of the TMDL BMP Implementation Plan or equivalent plan in order to maximize TMDL BMP Implementation Plan or equivalent plan effectiveness. BMPs that are ineffective or less effective than other comparable BMPs shall be replaced or improved upon by implementation of more effective BMPs. Where monitoring data exhibits persistent

¹¹ This requirement applies to those TMDLs where a TMDL BMP Implementation Plan or equivalent plan has been developed and submitted to the Regional Board.

water quality problems that are caused or contributed to by MS4 discharges, BMPs applicable to the water quality problems shall be modified and improved to correct the water quality problems.

- c. As part of its Watershed Urban Runoff Management Program Annual Reports, each group of Copermittees subject to a TMDL shall report on any TMDL BMP Implementation Plan or equivalent plan effectiveness assessments as implemented under each of the requirements of sections I.4.a and I.4.b above.

5. Long-term Effectiveness Assessment

- a. Each Copermittee shall collaborate with the other Copermittees to develop a Long-term Effectiveness Assessment (LTEA), which shall build on the results of the Copermittees' August 2005 Baseline LTEA. The LTEA shall be submitted by the Principal Permittee to the Regional Board no later than 210 days in advance of the expiration of this Order.
- b. The LTEA shall be designed to address each of the objectives listed in section I.3.a.(6) of this Order, and to serve as a basis for the Copermittees' Report of Waste Discharge for the next permit cycle.
- c. The LTEA shall address outcome levels 1-6, and shall specifically include an evaluation of program implementation to changes in water quality (outcome levels 5 and 6).
- d. The LTEA shall assess the effectiveness of the Receiving Waters Monitoring Program in meeting its objectives and its ability to answer the five core management questions. This shall include assessment of the frequency of monitoring conducted through the use of power analysis and other pertinent statistical methods. The power analysis shall identify the frequency and intensity of sampling needed to identify a 10% reduction in the concentration of constituents causing the high priority water quality problems within each watershed over the next permit term with 80% confidence.
- e. The LTEA shall address the jurisdictional, watershed, and regional programs, with an emphasis on watershed assessment.

J. REPORTING

1. Urban Runoff Management Plans

- a. JURISDICTIONAL URBAN RUNOFF MANAGEMENT PLANS
 - (1) Copermittees - The written account of the overall program to be conducted by each Copermittee to meet the jurisdictional requirements of section D of this Order is referred to as the Jurisdictional Urban Runoff Management Plan (JURMP). Each Copermittee shall revise and update its JURMP so that it describes all activities the Copermittee will undertake to implement the requirements of each component of Jurisdictional Urban Runoff Management Program section D of this Order. Each Copermittee shall submit its updated and revised JURMP to the Principal Permittee by the date specified by the Principal

Permittee.

- (2) Principal Permittee –The Principal Permittee shall be responsible for collecting and assembling the individual JURMPs which cover the activities conducted by each individual Copermittee. The Principal Permittee shall submit the JURMPs to the Regional Board 365 days after adoption of this Order.
- (3) At a minimum, each Copermittee’s JURMP shall be updated and revised to contain the following information:
 - (a) Non-Storm Water Discharges
 - i. Identification of non-storm water discharge categories identified as a source of pollutants to waters of the U.S.
 - ii. A description of whether non-storm water discharge categories identified under section (a)i above will be prohibited or required to implement appropriate control measures to reduce the discharge of pollutants to the MEP.
 - iii. Identification of any control measures to be required and implemented for non-storm water discharge categories identified under section (a)i above.
 - iv. A description of a program to reduce pollutants from non-emergency fire fighting flows identified by the Copermittee to be significant sources of pollutants.
 - (b) Administrative and Legal Procedures
 - i. Certified statement by the chief legal counsel that the Copermittee has adequate legal authority to implement and enforce each of the requirements contained in 40 CFR 122.26(d)(2)(i)(A-F) and this Order.
 - ii. Identification of all departments within the jurisdiction that conduct urban runoff related activities, and their roles and responsibilities under the Order. Include an up-to-date organizational chart specifying these departments and key personnel.
 - iii. Updated urban runoff related ordinances, with explanations of how they are enforceable.
 - iv. Identification of the local administrative and legal procedures available to mandate compliance with urban runoff related ordinances and therefore with the conditions of the Order.
 - v. Description of how urban runoff related ordinances are implemented and appealed.
 - vi. Description of whether the municipality can issue administrative orders and injunctions or if it must go through the court system for enforcement actions.
 - (c) Development Planning
 - i. A description of the water quality and watershed protection principles that have been or will be included in the Copermittee’s General Plan, and a time schedule for when modifications are planned, if applicable.
 - ii. A description of the Copermittee’s current environmental review process and how it addresses impacts to water quality and appropriate mitigation measures. If the Copermittee plans to modify the process during the permit term, a time schedule for modifications shall be included.

- iii. A description of the development project approval process and requirements.
 - iv. An updated SUSMP document that meets the applicable requirements specified in sections D.1.d and D.1.g(6), including a description of LID BMP requirements to be used prior to the Model SUSMP update. The updated SUSMP may be submitted under separate cover as an attachment to the JURMP.
 - v. A description of the database to be used to track and inventory approved treatment control BMPs and treatment control BMP maintenance.
 - vi. A completed watershed-based inventory of approved treatment control BMPs.
 - vii. A description of the program to be implemented to verify approved treatment control BMPs are operating effectively and have been adequately maintained, including information on treatment control BMP inventory, prioritization, inspection, and annual verification.
 - viii. A description of inspections that will be conducted to verify BMPs have been constructed according to requirements.
 - ix. A description of collaboration efforts to be conducted to develop the HMP.
 - x. A description of enforcement mechanisms and how they will be used.
- (d) Construction
- i. Updated grading and other applicable ordinances.
 - ii. A description of the construction and grading approval processes.
 - iii. Updated construction and grading project requirements.
 - iv. A completed watershed-based inventory of all construction sites.
 - v. A description of steps that will be taken to maintain and update monthly a watershed-based inventory of all construction sites.
 - vi. A list and description of the minimum BMPs that will be implemented, or required to be implemented, including pollution prevention.
 - vii. A description of the maximum disturbed area allowed for grading before either temporary or permanent erosion controls are implemented.
 - viii. A description of construction site conditions where advanced treatment will be required.
 - ix. A description of the steps that will be taken to require and verify the implementation of the designated BMPs at all construction sites.
 - x. A description of planned inspection frequencies.
 - xi. A description of inspection procedures.
 - xii. A description of steps that will be taken to track construction site inspections to verify that all construction sites are inspected at the minimum frequencies required.
 - xiii. A description of available enforcement mechanisms, under what conditions each will be used, and how they will escalate.
 - xiv. A description of notification procedures for non-compliant sites.
- (e) Municipal
- i. A completed inventory of all municipal facilities and activities.
 - ii. A description of which BMPs will be implemented, or required to be implemented, for municipal facilities and activities, including pollution prevention.
 - iii. A description of which BMPs will be implemented, or required to be implemented, for special events.

- iv. A description of steps that will be taken to require and verify the implementation of designated BMPs at municipal facilities and activities.
 - v. A description of MS4 and MS4 facility inspection and maintenance activities and schedules.
 - vi. A description of the management strategy and BMPs to be implemented for pesticides, herbicides, and fertilizer use.
 - vii. A description of street and parking facility sweeping activities and schedules.
 - viii. A description of controls and measures to be implemented to prevent and eliminate infiltration of seepage from sanitary sewers to MS4s.
 - ix. A description of inspection frequencies and procedures.
 - x. A description of enforcement mechanisms and how they will be used.
- (f) Industrial and Commercial
- i. A completed and prioritized inventory of all industrial and commercial sites/sources that could contribute a significant pollutant load to the MS4.
 - ii. A list of minimum BMPs that will be implemented, or required to be implemented, for each facility type or pollutant-generating activity, including pollution prevention.
 - iii. A description of the steps that will be taken to require and verify the implementation of designated BMPs, including notification efforts.
 - iv. Identification of high priority sites/sources and sites/sources to be inspected during the first year of implementation.
 - v. A description of the steps taken to identify sites/sources to be inspected during the first year of implementation, including rationale for their selection.
 - vi. A description of steps that will be taken to identify sites/sources to be inspected in subsequent years.
 - vii. A description of inspection procedures.
 - viii. A description of any third party inspection program to be implemented.
 - ix. A description of the program to be implemented to regulate mobile businesses, including notification of BMP requirements and local ordinances.
 - x. A description of enforcement mechanisms and how they will be used.
 - xi. A description of steps that will be taken to identify non-filers and notify the Regional Board of non-filers.
- (g) Residential
- i. A list of residential areas and activities that have been identified as high priority.
 - ii. A list of minimum BMPs that will be implemented, or required to be implemented, for high priority residential activities.
 - iii. A description of which pollution prevention methods will be encouraged for implementation, and the steps that will be taken to encourage implementation.
 - iv. A description of the steps that will be taken to require and verify the implementation of prescribed BMPs for high priority residential activities.
 - v. A description of efforts to facilitate proper disposal of used oil and other toxic materials.

- vi. A description of efforts to evaluate methods used for oversight of residential areas and activities.
 - vii. A description of enforcement mechanisms and how they will be used.
- (h) Illicit Discharge Detection and Elimination
- i. A description of the program to actively seek and eliminate illicit discharges and illicit connections.
 - ii. An updated MS4 map, including locations of the MS4, dry weather field screening and analytical monitoring sites, and watersheds.
 - iii. A description of dry weather field screening and analytical monitoring to be conducted (including procedures) which addresses all requirements included in sections B.1-4 of Receiving Waters Monitoring and Reporting Program No. R9-2006-0011.
 - iv. A description of investigation and inspection procedures to follow up on dry weather monitoring results or other information which indicate potential for illicit discharges and illicit connections.
 - v. A description of procedures to eliminate detected illicit discharges and illicit connections.
 - vi. A description of enforcement mechanisms and how they will be used.
 - vii. A description of the mechanism to receive notification of spills.
 - viii. A description of measures to prevent, respond to, contain, and clean up all sewage and other spills.
 - ix. A description of efforts to facilitate public reporting of illicit discharges and connections, including a public hotline.
- (i) Education
- i. A description of the content, form, and frequency of education efforts for each target community.
 - ii. A description of steps to be taken to educate underserved target audiences, high-risk behaviors, and “allowable” behaviors and discharges, including various ethnic and socioeconomic groups and mobile sources.
 - iii. A description of the content, form, and frequency of education efforts targeting municipal staff working on development planning, construction, municipal, industrial/commercial, and other aspects of the Jurisdictional Urban Runoff Management Program.
 - iv. A description of the content, form, and frequency of education efforts targeting new development and construction target communities.
 - v. A description of the content, form, and frequency of jurisdictional education efforts for the residential, general public, and school children target communities.
- (j) Public Participation
- i. A description of the steps that will be taken to include public participation in the development and implementation of each Copermittee’s Jurisdictional Urban Runoff Management Program.
- (k) Fiscal Analysis
- i. A description of the fiscal analysis to be conducted annually, as required by section G of this Order.

- (l) Program Effectiveness Assessment
 - i. A description of steps that will be taken to annually conduct program effectiveness assessments in compliance with section I.1 of the Order.
 - ii. Identify measurable targeted outcomes, assessment measures, and assessment methods to be used to assess the effectiveness of: (1) Each significant jurisdictional activity or BMP to be implemented; (2) Implementation of each major component of the Jurisdictional Urban Runoff Management Program; and (3) Implementation of the Jurisdictional Urban Runoff Management Program as a whole.
 - iii. Identify which of the outcome levels 1-6 will be utilized to assess the effectiveness of each of the items listed in sections J.1.a.(3)(l)ii(1-3). Where an outcome level is determined to not be applicable or feasible for an item listed in sections J.1.a.(3)(l)ii(1-3), the Copermittee shall provide a discussion exhibiting inapplicability or infeasibility.
 - iv. A description of the steps that will be taken to utilize monitoring data to assess the effectiveness of each of the items listed in sections J.1.a.(3)(l)ii(1-3).
 - v. A description of the steps that will be taken to improve the Copermittee's ability to assess program effectiveness using measurable targeted outcomes, assessment measures, assessment methods, and outcome levels 1-6. Include a time schedule for when improvement will occur.
 - vi. A description of the steps that will be taken to identify aspects of the Copermittee's Jurisdictional Urban Runoff Management Program that will be changed, based on the results of the effectiveness assessment.
 - (m) JURMP Modification
 - i. Identification of the location in the JURMP of any changes made to the JURMP in order to meet the requirements of Order No. R9-2007-0001.
- b. WATERSHED URBAN RUNOFF MANAGEMENT PLANS
- (1) Copermittees - The written account of the program conducted by each watershed group of Copermittees is referred to as the Watershed Urban Runoff Management Plan (WURMP). The Copermittees within each watershed shall be responsible for updating and revising each WURMP, as specified in Table 4 above. Each WURMP shall be updated and revised to describe all activities the watershed Copermittees will undertake to implement the Watershed Urban Runoff Management Program requirements of section E of this Order.
 - (2) Lead Watershed Permittee - Each Lead Watershed Permittee shall be responsible for producing its respective WURMP, as well as for coordination and meetings amongst all member watershed Copermittees. Each Lead Watershed Permittee is further responsible for the submittal of the WURMP to the Principal Permittee by the date specified by the Principal Permittee.
 - (3) Principal Permittee – The Principal Permittee shall assemble and submit the WURMPs to the Regional Board 365 days after adoption of this Order.
 - (4) Each WURMP shall include:
 - (a) Identification of the Lead Watershed Permittee for the watershed.
 - (b) An updated watershed map.

- (c) Identification and description of all applicable water quality data, reports, analyses, and other information to be used to assess receiving water quality.
- (d) Assessment and analysis of the watershed's water quality data, reports, analyses, and other information, including identification and prioritization of the watershed's water quality problems. Water quality problems and high priority water quality problems shall be identified.
- (e) Identification of the likely sources, pollutant discharges, and/or other factors causing the high priority water quality problems within the watershed.
- (f) A description of the program to be implemented to encourage collaborative, watershed-based, land-use planning.
- (g) A description of the strategy to be used to guide Copermittee implementation of Watershed Water Quality Activities and Watershed Education Activities, including criteria for evaluating and identifying effective activities.
- (h) A list of potential Watershed Water Quality Activities, including a description of each activity and its location(s).
- (i) Identification and description of the Watershed Water Quality Activities to be implemented by each Copermittee for the first year of implementation, including justification for why the activities were chosen and a description of how the activities are expected to reduce discharged pollutant loads, abate pollutant sources, or result in other quantifiable benefits to discharge or receiving water quality, in relation to the watershed's high priority water quality problem(s). Plans for activity implementation beyond the first year of implementation should also be provided.
- (j) A list of potential Watershed Education Activities.
- (k) Identification and description of the Watershed Education Activities to be implemented by each Copermittee for the first year of implementation, including justification for why the activities were chosen and a description of how the activities are expected to directly target the sources and discharges of pollutants causing the watershed's high priority water quality problems. Plans for activity implementation beyond the first year of implementation should also be provided.
- (l) A description of the public participation mechanisms to be used and the parties anticipated to be involved.
- (m) A description of Copermittee collaboration to occur, including a schedule for WURMP meetings.
- (n) A description of any TMDL BMP Implementation Plan or equivalent plan to be implemented under section H of this Order.¹²
- (o) A detailed description of the effectiveness assessment to be conducted for the WURMP, including a description how each of the requirements in section I.2 of this Order will be met.

c. REGIONAL URBAN RUNOFF MANAGEMENT PLAN

- (1) Copermittees - The written account of the regional program to be conducted is referred to as the Regional Urban Runoff Management Plan (RURMP). Each Copermittee shall collaborate with the other Copermittees to develop the RURMP. The RURMP shall describe all activities the Copermittees will undertake to implement the requirements of each component of Regional Urban

¹² For TMDLs not yet approved by the Office of Administrative Law at the time of adoption of this Order, TMDL BMP Implementation Plans shall be submitted separately 365 days following approval of the TMDL.

Runoff Management Program section F of this Order. At a minimum, the RURMP shall contain the following information:

- (a) A common activities section that describes the urban runoff management activities to be implemented on a regional level. For regional activities which are to be implemented in compliance with any jurisdictional requirements of section D or watershed requirements of section E, it shall be described how the regional activities achieve compliance with the subject jurisdictional and/or watershed requirements.
 - (b) A description of steps that will be taken to facilitate assessment of the effectiveness of jurisdictional, watershed, and regional programs.
 - (c) A description of the regional residential education program to be implemented.
 - (d) A description of the strategy for development of the standardized fiscal analysis method required by section G of this Order.
 - (e) A detailed description of the effectiveness assessment to be conducted for the Regional Urban Runoff Management Program, including a description how each of the requirements in section I.3 of this Order will be met.
- (2) The Principal Permittee shall be responsible for creating and submitting the RURMP. The Principal Permittee shall submit the RURMP to the Regional Board 365 days after adoption of this Order.

2. Other Required Reports and Plans

a. HYDROMODIFICATION MANAGEMENT PLAN

- (1) Copermittees - Each Copermittee shall collaborate with the other Copermittees to develop the HMP. The HMP shall be submitted for approval by the Regional Board.
- (2) Principal Permittee - The Principal Permittee shall be responsible for producing and submitting each document according to the schedule below.
 - (a) Within 180 days of adoption of the Order: Submit a detailed workplan and schedule for completion of the literature review, development of a protocol to identify an appropriate channel standard and limiting range of flow rates, development of guidance materials, and other required information;
 - (b) Within 18 months of adoption of the Order: Submit progress report on completion of requirements of the HMP;
 - (c) Within 2 years of adoption of the Order: Submit a draft HMP, including the analysis that identifies the appropriate limiting range of flow rates;
 - (d) Within 180 days of receiving comments from the Regional Board: Submit the HMP for Regional Board approval.

b. SUSMP UPDATES

Each Copermittee shall collaborate with the other Copermittees to update the Model SUSMP. The Principal Permittee shall be responsible for producing and submitting the updated Model SUSMP in accordance with the requirements of section D.1.d.(8)(b). Each Copermittee shall submit its updated local SUSMP, consistent

with the updated Model SUSMP, in accordance with the requirements of section D.1.d.(8)(c).

c. LONG-TERM EFFECTIVENESS ASSESSMENT

In accordance with section I.5 of this Order, the Principal Permittee shall submit the LTEA to the Regional Board no later than 210 days in advance of the expiration of this Order.

d. REPORT OF WASTE DISCHARGE

The Principal Permittee shall submit to the Regional Board, no later than 210 days in advance of the expiration date of this Order, a Report of Waste Discharge (ROWD) as an application for issuance of new waste discharge requirements. At a minimum, the ROWD shall include the following: (1) Proposed changes to the Copermittees' urban runoff management programs; (2) Proposed changes to monitoring programs; (3) Justification for proposed changes; (4) Name and mailing addresses of the Copermittees; (5) Names and titles of primary contacts of the Copermittees; and (6) Any other information necessary for the reissuance of this Order.

3. Annual Reports

a. JURISDICTIONAL URBAN RUNOFF MANAGEMENT PROGRAM ANNUAL REPORTS

Each Jurisdictional Urban Runoff Management Program Annual Report shall contain a comprehensive description of all activities conducted by the Copermittee to meet all requirements of section D. The reporting period for these annual reports shall be the previous fiscal year. For example, the report submitted September 30, 2008 shall cover the reporting period July 1, 2007 to June 30, 2008.

(1) Copermittees – Each Copermittee shall generate individual Jurisdictional Urban Runoff Management Program Annual Reports which cover implementation of its jurisdictional activities during the past annual reporting period. Each Copermittee shall submit to the Principal Permittee its individual Jurisdictional Urban Runoff Management Program Annual Report by the date specified by the Principal Permittee. Each individual Jurisdictional Urban Runoff Management Program Annual Report shall be a comprehensive description of all activities conducted by the Copermittees to meet all requirements of each component of section D of this Order.

(2) Principal Permittee – The Principal Permittee shall submit Unified Jurisdictional Urban Runoff Management Program Annual Reports to the Regional Board by September 30 of each year, beginning on September 30, 2008. The Unified Jurisdictional Urban Runoff Management Program Annual Report shall contain the twenty-one individual Jurisdictional Urban Runoff Management Program Annual Reports.

The Principal Permittee shall also be responsible for collecting and assembling each Copermittees' individual Jurisdictional Urban Runoff Management Program Annual Report.

- (3) At a minimum, each Jurisdictional Urban Runoff Management Program Annual Report shall contain the following information:
- (a) Development Planning
- i. A description of any amendments to the General Plan, the environmental review process, development project approval processes, or development project requirements.
 - ii. Confirmation that all development projects were required to undergo the Copermittee's urban runoff approval process and meet the applicable project requirements, including a description of how this information was tracked.
 - iii. A listing of the development projects to which SUSMP requirements were applied.
 - iv. Confirmation that all applicable SUSMP BMP requirements were applied to all priority development projects, including a description of how this information was tracked.
 - v. At least one example of a priority development project that was conditioned to meet SUSMP requirements and a description of the required BMPs.
 - vi. A listing of the priority development projects which were allowed to implement treatment control BMPs with low removal efficiency rankings, including the feasibility analyses which were conducted to exhibit that more effective BMPs were infeasible.
 - vii. An updated treatment control BMP inventory.
 - viii. The number of treatment control BMPs inspected, including a summary of inspection results and findings.
 - ix. A description of the annual verification of operation and maintenance of treatment control BMPs, including a summary of verification results and findings.
 - x. Confirmation that BMP verification was conducted for all priority development projects prior to occupancy, including a description of how this information was tracked.
 - xi. A listing of any projects which received a SUSMP waiver.
 - xii. A description of implementation of any SUSMP waiver mitigation program.
 - xiii. A description of Hydromodification Management Plan (HMP) development collaboration and participation.
 - xiv. A listing of development projects required to meet HMP requirements, including a description of hydrologic control measures implemented.
 - xv. A listing of priority development projects not required to meet HMP requirements, including a description of why the projects were found to be exempt from the requirements.
 - xvi. A listing of development projects disturbing 50 acres or more, including information on whether Interim Hydromodification Criteria were met by each of the projects, together with a description of hydrologic control measures implemented for each applicable project.
 - xvii. The number of violations and enforcement actions (including types) taken for development projects, including information on any necessary follow-up actions taken. The discussion should exhibit that compliance has been achieved, or describe actions that are being taken to achieve compliance.

- xviii. A description of notable activities conducted to manage urban runoff from development projects.
- (b) Construction
- i. Confirmation that all construction sites were required to undergo the Copermittee's construction urban runoff approval process and meet the applicable construction requirements, including a description of how this information was tracked.
 - ii. Confirmation that a regularly updated construction site inventory was maintained, including a description of how the inventory was managed.
 - iii. A description of modifications made to the construction and grading ordinances and approval processes.
 - iv. Confirmation that the designated BMPs were implemented, or required to be implemented, for all construction sites.
 - v. Confirmation that a maximum disturbed area for grading was applied to all applicable construction sites.
 - vi. A listing of all construction sites with conditions requiring advanced treatment, together with confirmation that advanced treatment was required at such construction sites.
 - vii. For each construction site within each priority category (high, medium, and low), identification of the period of time (weeks) the site was active within the rainy season, the number of inspections conducted during the rainy season, and the number of inspections conducted during the dry season, and the total number of inspections conducted for all sites.
 - viii. A description of the general results of the inspections.
 - ix. Confirmation that the inspections conducted addressed all the required inspection steps to determine full compliance.
 - x. The number of violations and enforcement actions (including types) taken for construction sites, including information on any necessary follow-up actions taken. The discussion should exhibit that compliance has been achieved, or describe actions that are being taken to achieve compliance.
 - xi. A description of notable activities conducted to manage urban runoff from construction sites.
- (c) Municipal
- i. Any updates to the municipal inventory and prioritization.
 - ii. Confirmation that the designated BMPs were implemented, or required to be implemented, for municipal areas and activities, as well as special events.
 - iii. A description of inspections and maintenance conducted for municipal treatment controls.
 - iv. Identification of the total number of catch basins and inlets, the number of catch basins and inlets inspected, the number of catch basins and inlets found with accumulated waste exceeding cleaning criteria, and the number of catch basins and inlets cleaned.
 - v. Identification of the total distance (miles) of the MS4, the distance of the MS4 inspected, the distance of the MS4 found with accumulated waste exceeding cleaning criteria, and the distance of the MS4 cleaned.
 - vi. Identification of the total distance (miles) of open channels, the distance of open channels inspected, the distance of open channels found with anthropogenic litter, and the distance of open channels cleaned.

- vii. Amount of waste and litter (tons) removed from catch basins, inlets, the MS4, and open channels, by category.
 - viii. Identification of any MS4 facility found to require inspection less than annually following two years of inspection, including justification for the finding.
 - ix. Confirmation that the designated BMPs for pesticides, herbicides, and fertilizers were implemented, or required to be implemented, for municipal areas and activities.
 - x. Identification of the total distance of curb-miles of improved roads, streets, and highways identified as consistently generating the highest volumes of trash and/or debris, as well as the frequency of sweeping conducted for such roads, streets, and highways.
 - xi. Identification of the total distance of curb-miles of improved roads, streets, and highways identified as consistently generating moderate volumes of trash and/or debris, as well as the frequency of sweeping conducted for such roads, streets, and highways.
 - xii. Identification of the total distance of curb-miles of improved roads, streets, and highways identified as consistently generating low volumes of trash and/or debris, as well as the frequency of sweeping conducted for such roads, streets, and highways.
 - xiii. Identification of the total distance of curb-miles swept.
 - xiv. Identification of the number of municipal parking lots, the number of municipal parking lots swept, and the frequency of sweeping.
 - xv. Amount of material (tons) collected from street and parking lot sweeping.
 - xvi. A description of efforts implemented to prevent and eliminate infiltration from the sanitary sewer to the MS4
 - xvii. Identification of the number of sites requiring inspections, the number of sites inspected, and the frequency of the inspections.
 - xviii. A description of the general results of the inspections.
 - xix. Confirmation that the inspections conducted addressed all the required inspection steps to determine full compliance.
 - xx. The number of violations and enforcement actions (including types) taken for municipal areas and activities, including information on any necessary follow-up actions taken. The discussion should exhibit that compliance has been achieved, or describe actions that are being taken to achieve compliance.
 - xxi. A description of notable activities conducted to manage urban runoff from municipal areas and activities.
- (d) Industrial and Commercial
- i. Any updates to the industrial and commercial inventory.
 - ii. Confirmation that the designated BMPs were implemented, or required to be implemented, for industrial and commercial sites/sources.
 - iii. A description of efforts taken to notify owners/operators of industrial and commercial sites/sources of BMP requirements, including mobile businesses.
 - iv. Identification of the total number of industrial and commercial sites/sources inventoried and the total number inspected.
 - v. Justification and rationale for why the industrial and commercial sites/sources inspected were chosen for inspection.

- vi. Confirmation that all inspections conducted addressed all the required inspection steps to determine full compliance.
 - vii. Identification of the number of third party inspections conducted.
 - viii. Identification of efforts conducted to verify third party inspection effectiveness.
 - ix. A description of efforts implemented to address mobile businesses.
 - x. The number of violations and enforcement actions (including types) taken for industrial and commercial sites/sources, including information on any necessary follow-up actions taken. The discussion should exhibit that compliance has been achieved, or describe actions that are being taken to achieve compliance.
 - xi. A description of steps taken to identify non-filers and a list of non-filers (under the General Industrial Permit) identified by the Copermittees.
 - xii. A description of notable activities conducted to manage urban runoff from industrial and commercial sites/sources.
- (e) Residential
- i. Identification of the high threat to water quality residential areas and activities that were focused on.
 - ii. Confirmation that the designated BMPs were implemented, or required to be implemented, for residential areas and activities.
 - iii. A description of efforts implemented to facilitate proper management and disposal of used oil and other household hazardous materials.
 - iv. Types and amounts of household hazardous wastes collected, if applicable.
 - v. A description of any evaluation of methods used for oversight of residential areas and activities, as well as any findings of the evaluation.
 - vi. The number of violations and enforcement actions (including types) taken for residential areas and activities, including information on any necessary follow-up actions taken. The discussion should exhibit that compliance has been achieved, or describe actions that are being taken to achieve compliance.
 - vii. A description of collaboration efforts taken to develop and implement the Regional Residential Education Program.
 - viii. A description of notable activities conducted to manage urban runoff from residential areas and activities.
- (f) Illicit Discharge Detection and Elimination
- i. Correction of any inaccuracies in either the MS4 map or the Dry Weather Field Screening and Analytical Stations Map.
 - ii. Reporting of all dry weather field screening and analytical monitoring results. The data should be presented in tabular and graphical form. The reporting shall include station locations, all dry weather field screening and analytical monitoring results, identification of sites where results exceeded action levels, follow-up and elimination activities for potential illicit discharges and connections, the rationale for why follow-up investigations were not conducted at sites where action levels were exceeded, any Copermittee or consultant program recommendations/changes resulting from the monitoring, and documentation that these recommendations/changes have been implemented. Dry weather field screening and analytical monitoring reporting shall comply with all monitoring and standard reporting

- requirements in Attachment B of Order No. R9-2007-0001 and Receiving Waters Monitoring and Reporting Program No. R9-2007-0001.
- iii. Any dry weather field screening and analytical monitoring consultant reports generated, to be provided as an attachment to the annual report.
 - iv. A brief description of any other investigations and follow-up activities for illicit discharges and connections.
 - v. The number and brief description of illicit discharges and connections identified.
 - vi. The number of illicit discharges and connections eliminated.
 - vii. Identification and description of all spills to the MS4 and response to the spills.
 - viii. A description of activities implemented to prevent sewage and other spills from entering the MS4.
 - ix. A description of the mechanism whereby notification of sewage spills from private laterals and septic systems is received.
 - x. Number of times the hotline was called, as compared to previous reporting periods, and a summary of the calls.
 - xi. A description of efforts to publicize and facilitate public reporting of illicit discharges.
 - xii. The number of violations and enforcement actions (including types) taken for illicit discharges and connections, including information on any necessary follow-up actions taken. The discussion should exhibit that compliance has been achieved, or describe actions that are being taken to achieve compliance.
 - xiii. A description of notable activities conducted to manage illicit discharges and connections.
- (g) Education
- i. A description of education efforts conducted for each target community.
 - ii. A description of how education efforts targeted underserved target audiences, high-risk behaviors, and “allowable” behaviors and discharges.
 - iii. A description of education efforts conducted for municipal departments and personnel.
 - iv. A description of education efforts conducted for the new development and construction communities.
 - v. A description of jurisdictional education efforts conducted for residents, the general public, and school children.
- (h) Public Participation
- i. A description of public participation efforts conducted.
- (i) Program Effectiveness Assessment
- i. An assessment of the effectiveness of the Jurisdictional Urban Runoff Management Program which meets all requirements of section I.1 of this Order.
- (j) Fiscal Analysis
- i. A fiscal analysis of the Copermittee’s urban runoff management programs which meets all requirements of section G of this Order.

- (k) Special Investigations
 - i. A description of any special investigations conducted.
 - (l) Non-Emergency Fire Fighting
 - i. A description of any efforts conducted to reduce pollutant discharges from non-emergency fire fighting flows.
 - (m) JURMP Revisions
 - i. A description of any proposed revisions to the JURMP.
- b. WATERSHED URBAN RUNOFF MANAGEMENT PROGRAM ANNUAL REPORTS
- (1) Lead Watershed Permittee - Each Lead Watershed Permittee shall generate watershed specific Watershed Urban Runoff Management Program Annual Reports for their respective watershed(s), as they are outlined in Table 4 of Order No. R9-2007-0001. Copermittees within each watershed shall collaborate with the Lead Watershed Permittee to generate the Watershed Urban Runoff Management Program Annual Reports.
 - (2) Each Watershed Urban Runoff Management Program Annual Report shall be a comprehensive documentation of all activities conducted by the watershed Copermittees during the previous annual reporting period to meet all requirements of section E of Order No. R9-2007-0001. Each Watershed Urban Runoff Management Program Annual Report shall also serve as an update to the WURMP.¹³ Each Watershed Urban Runoff Management Program Annual Report shall, at a minimum, contain the following for its reporting period:
 - (a) A comprehensive description of all activities conducted by the watershed Copermittees to meet all requirements of section E of Order No. R9-2007-0001.
 - (b) Any updates to the watershed map.
 - (c) An updated assessment and analysis of the watershed's current and past applicable water quality data, reports, analyses, and other information, including identification of the watershed's water quality problems and high priority water quality problem(s) during the reporting period. The annual report shall clearly state if the watershed's high priority water quality problem(s) changed from the previous reporting period, and provide justification for the change(s).
 - (d) Identification of the likely sources, pollutant discharges, and/or other factors causing the high priority water quality problems within the watershed. The annual report shall clearly describe any changes to the identified sources, pollutant discharges, and/or other factors that have occurred since the previous reporting period, and provide justification for the changes.

¹³ The first annual report to be submitted is not anticipated to be an update to the WURMP, since it will cover the reporting period which begins immediately after WURMP submittal.

- (e) An updated list of potential Watershed Water Quality Activities. The annual report shall clearly describe any changes to the list of Watershed Water Quality Activities that have occurred since the previous reporting period, and provide justification for the changes.
- (f) Identification and description of the Watershed Water Quality Activities implemented by each Copermittee during the reporting period, including information on the activities' location(s), as well as information exhibiting that the activities in active implementation phase reduced discharged pollutant loads, abated pollutant sources, or resulted in other quantifiable benefits to discharge or receiving water quality, in relation to the watershed's high priority water quality problem(s). The annual report shall clearly describe any changes to Watershed Water Quality Activities implementation that have occurred since the previous reporting period, and provide justification for the changes.
- (g) An updated list of potential Watershed Education Activities. The annual report shall clearly describe any changes to the list of Watershed Education Activities that have occurred since the previous reporting period, and provide justification for the changes.
- (h) Identification and description of the Watershed Education Activities implemented by each Copermittee for the reporting period, including information exhibiting that the activities directly targeted the sources and discharges of pollutants causing the watershed's high priority water quality problems, and that activities in active implementation phase changed target audience attitudes, knowledge, awareness, or behavior. The annual report shall clearly describe any changes to Watershed Education Activities implementation that have occurred since the previous reporting period, and provide justification for the changes.
- (i) A description of the public participation mechanisms used during the reporting period and the parties that were involved.
- (j) A description of Copermittee collaboration efforts.
- (k) A description of efforts implemented to encourage collaborative, watershed-based, land-use planning.
- (l) A description of all TMDL activities implemented (including BMP Implementation Plan or equivalent plan activities) for each approved TMDL in the watershed. The description shall include:
 - i. Any additional source identification information;
 - ii. The number, type, location, and other relevant information about BMP implementation, including any expanded or better tailored BMPs necessary to meet the WLAs;
 - iii. Updates in the BMP implementation prioritization and schedule;
 - iv. An assessment of the effectiveness of the BMP Implementation Plan, which meets the requirements of section I.4 Order No. R9-2007-0001; and

- v. A discussion of the progress to date in meeting the TMDL Numeric Targets and WLAs, which incorporates the results of the effectiveness assessment, compliance monitoring, and an evaluation of additional efforts needed to date.
 - (m) An assessment of the effectiveness of the WURMP, which meets the requirements of section I.2 of Order No. R9-2007-0001. The effectiveness assessment shall attempt to qualitatively or quantitatively exhibit the impact that implementation of the Watershed Water Quality Activities and the Watershed Education Activities had on the high priority water quality problem(s) within the watershed. This information shall document changes in pollutant load discharges, urban runoff and discharge quality, and receiving water quality, where applicable and feasible.
 - (3) Principal Permittee – The Unified Watershed Urban Runoff Management Program Annual Report shall contain the nine separate Watershed Urban Runoff Management Program Annual Reports. Each Lead Watershed Copermittee shall submit to the Principal Permittee a Watershed Urban Runoff Management Program Annual Report by the date specified by the Principal Permittee. The Principal Permittee shall assemble and submit the Unified Watershed Urban Runoff Management Program Annual Report to the Regional Board by January 31, 2009 and every January 31 thereafter. The reporting period for these annual reports shall be the previous fiscal year. For example, the report submitted January 31, 2009 shall cover the reporting period July 1, 2007 to June 30, 2008.
- c. REGIONAL URBAN RUNOFF MANAGEMENT PROGRAM ANNUAL REPORTS

The Principal Permittee shall generate the Regional Urban Runoff Management Program Annual Reports. All Copermittees shall collaborate with the Principal Permittee to generate the Regional Urban Runoff Management Program Annual Reports. Each Regional Urban Runoff Management Program Annual Report shall be a comprehensive documentation of all regional activities conducted by the Copermittees during the previous annual reporting period to meet all requirements of section F of Order No. R9-2007-0001.

The Principal Permittee shall submit the Regional Urban Runoff Management Program Annual Report to the Regional Board by January 31, 2009 and every January 31 thereafter. The reporting period for these annual reports shall be the previous fiscal year. For example, the report submitted January 31, 2009 shall cover the reporting period July 1, 2007 to June 30, 2008.

Each Regional Urban Runoff Management Program Annual Report shall, at a minimum, contain the following:

- (1) A common activities section that describes the urban runoff management activities or BMPs implemented on a regional level, including information on how the activities complied with jurisdictional or watershed requirements, if applicable.
- (2) A description of steps taken to facilitate assessment of the effectiveness of jurisdictional, watershed, and regional programs.

- (3) A description of the regional residential education activities implemented as part of the regional residential education program.
- (4) A description of steps taken to develop and implement the standardized fiscal analysis method.
- (5) An assessment of the effectiveness of the Regional Urban Runoff Management Program which meets the requirements of section I.3 of Order No. R9-2007-0001.

4. Interim Reporting Requirements - For the July 2006–June 2007 reporting period, Jurisdictional URMP and Watershed URMP Annual Reports shall be submitted on January 31, 2008. Each Jurisdictional URMP and Watershed URMP Annual Report submitted for this reporting period shall at a minimum be comprehensive descriptions of all activities conducted to fully implement the Copermittees' Jurisdictional URMP and Watershed URMP documents, as those documents were developed to comply with the requirements of Order No. 2001-01. The Principal Permittee shall be responsible for submitting these documents in a unified manner, consistent with the unified reporting requirements of Order No. 2001-01.

5. Annual Report Integration

- a. The Copermittees are encouraged to submit, for Regional Board review and approval, an annual reporting format which integrates the information submitted in the JURMP, WURMP, and RURMP Annual Reports and Monitoring Reports. This document shall be called the "Integrated Annual Report Format." The Integrated Annual Report Format should:
 - (1) Exhibit compliance with all requirements of JURMP, WURMP, and RURMP sections D, E, and F of Order No. R9-2007-0001.
 - (2) Report all information required in section J.3 of Order No. R9-2007-0001.
 - (3) Report all information required in the Monitoring and Reporting program.
 - (4) Provide consistent and comparable reporting of jurisdictional and watershed information by all Copermittees and watershed groups.
 - (5) Specifically identify all types of information that will be reported (e.g., amount of debris collected during street sweeping), including reporting criteria for each type of information (e.g., reported in tons).
 - (6) Describe quality assurance/quality control methods to be used to assess accuracy of jurisdictional and watershed information conveyed.
 - (7) Describe each Copermittee's reporting responsibilities under the format.
 - (8) Improve the Copermittees' ability to assess JURMP and WURMP effectiveness in terms of water quality.
 - (9) Include a separate section for reporting on each Copermittee's activities.
 - (10) Include a separate section for reporting on each watershed's activities.
- b. Upon approval of the Integrated Annual Report Format by the Regional Board, an Integrated Annual Report shall be submitted annually, which may substitute for the JURMP Annual Reports, WURMP Annual Reports, RURMP Annual Report, and/or Monitoring Reports, as approved by the Regional Board. The Principal Permittee shall be responsible for the generation and submittal of the Integrated Annual Reports. Each Copermittee shall be responsible for the information in the Integrated Annual Report pertaining to its jurisdictional, watershed, regional, and monitoring responsibilities. The Integrated Annual Report shall be submitted the first January 31 following approval of the reporting format by the Regional Board, and every January

31 thereafter. The reporting period for Integrated Annual Reports shall be the previous fiscal year. For example, a report submitted January 31, 2010 shall cover the reporting period July 1, 2008 to June 30, 2009.

- c. The format and information provided in Integrated Annual Reports shall match and be consistent with the format and information described in the Integrated Annual Report Format.

6. Universal Reporting Requirements

All submittals shall include an executive summary, introduction, conclusion, recommendations, and signed certified statement. Each Copermittee shall submit a signed certified statement covering its responsibilities for each applicable submittal. The Principal Permittee shall submit a signed certified statement covering its responsibilities for each applicable submittal and the sections of the submittals for which it is responsible.

K. MODIFICATION OF PROGRAMS

Modifications of Jurisdictional Urban Runoff Management Programs, Watershed Urban Runoff Management Programs, and/or the Regional Urban Runoff Management Program may be initiated by the Executive Officer or by the Copermittees. Requests by Copermittees shall be made to the Executive Officer, and shall be submitted during the annual review process. Requests for modifications should be incorporated, as appropriate, into the Annual Reports or other deliverables required or allowed under this Order.

1. Minor Modifications – Minor modifications to Jurisdictional Urban Runoff Management Programs, Watershed Urban Runoff Management Programs, and/or the Regional Urban Runoff Management Program may be accepted by the Executive Officer where the Executive Officer finds the proposed modification complies with all discharge prohibitions, receiving water limitations, and other requirements of this Order.
2. Modifications Requiring an Amendment to this Order – Proposed modifications that are not minor shall require amendment of this Order in accordance with this Order's rules, policies, and procedures.

L. ALL COPERMITTEE COLLABORATION

1. Each Copermittee collaborate with all other Copermittees regulated under this Order to address common issues, promote consistency among Jurisdictional Urban Runoff Management Programs and Watershed Urban Runoff Management Programs, and to plan and coordinate activities required under this Order.
 - a. Management Structure - All Copermittees shall jointly execute and submit to the Regional Board no later than 180 days after adoption of this Order, a Memorandum of Understanding, Joint Powers Authority, or other instrument of formal agreement which at a minimum:
 - (1) Identifies and defines the responsibilities of the Principal Permittee and Lead Watershed Permittees;
 - (2) Identifies Copermittees and defines their individual and joint responsibilities, including watershed responsibilities;

- (3) Establishes a management structure to promote consistency and develop and implement regional activities;
- (4) Establishes standards for conducting meetings, decision-making, and cost-sharing;
- (5) Provides guidelines for committee and workgroup structure and responsibilities;
- (6) Lays out a process for addressing Copermittee non-compliance with the formal agreement; and
- (7) Includes any and all other collaborative arrangements for compliance with this Order.

M. PRINCIPAL PERMITTEE RESPONSIBILITIES

Within 180 days of adoption of this Order, the Copermittees shall designate the Principal Permittee and notify the Regional Board of the name of the Principal Permittee. The Principal Permittee shall, at a minimum:

1. Serve as liaison between the Copermittees and the Regional Board on general permit issues, and when necessary and appropriate, represent the Copermittees before the Regional Board.
2. Coordinate permit activities among the Copermittees and facilitate collaboration on the development and implementation of programs required under this Order.
3. Integrate individual Copermittee documents and reports into single unified documents and reports for submittal to the Regional Board as required under this Order.
4. Produce and submit documents and reports as required by section J of this Order and Receiving Waters and Urban Runoff Monitoring and Reporting Program No. R9-2007-0001.
5. Submit to the Regional Board, within 180 days of adoption of this Order, a formal agreement between the Copermittees which provides a management structure for meeting the requirements of this Order (as described in section L).
6. Coordinate joint development by all of the Copermittees of standardized format(s) for all documents and reports required under this Order (e.g., JURMPs, WURMPs, annual reports, monitoring reports, etc.). The standardized reporting format(s) shall be used by all Copermittees. The Principal Permittee shall submit the standardized format(s) to the Regional Board for review no later than 180 days after adoption of this Order.

N. RECEIVING WATERS MONITORING AND REPORTING PROGRAM

Pursuant to CWC section 13267, the Copermittees shall comply with all the requirements contained in Receiving Waters and Urban Runoff Monitoring and Reporting Program No. R9-2007-0001.

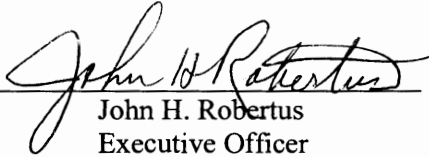
O. STANDARD PROVISIONS, REPORTING REQUIREMENTS, AND NOTIFICATIONS

1. Each Copermittee shall comply with Standard Provisions, Reporting Requirements, and Notifications contained in Attachment B of this Order. This includes 24 hour/5day reporting requirements for any instance of non-compliance with this Order as described

in section 5.e of Attachment B.

2. All plans, reports and subsequent amendments submitted in compliance with this Order shall be implemented immediately (or as otherwise specified). All submittals by Copermittees must be adequate to implement the requirements of this Order.

I, John H. Robertus, Executive Officer, do hereby certify the foregoing is a full, true, and correct copy of an Order adopted by the California Regional Water Quality Control Board, San Diego Region, on January 24, 2007.


John H. Robertus
Executive Officer

ATTACHMENT A**BASIN PLAN PROHIBITIONS**

California Water Code Section 13243 provides that a Regional Board, in a water quality control plan, may specify certain conditions or areas where the discharge of waste, or certain types of waste is not permitted. The following discharge prohibitions are applicable to any person, as defined by Section 13050(c) of the California Water Code, who is a citizen, domiciliary, or political agency or entity of California whose activities in California could affect the quality of waters of the state within the boundaries of the San Diego Region.

1. The discharge of waste to waters of the state in a manner causing, or threatening to cause a condition of pollution, contamination or nuisance as defined in California Water Code Section 13050, is prohibited.
2. The discharge of waste to land, except as authorized by waste discharge requirements or the terms described in California Water Code Section 13264 is prohibited.
3. The discharge of pollutants or dredged or fill material to waters of the United States except as authorized by a NPDES permit or a dredged or fill material permit (subject to the exemption described in California Water Code Section 13376) is prohibited.
4. Discharges of recycled water to lakes or reservoirs used for municipal water supply or to inland surface water tributaries thereto are prohibited, unless this Regional Board issues a NPDES permit authorizing such a discharge; the proposed discharge has been approved by the State Department of Health Services and the operating agency of the impacted reservoir; and the discharger has an approved fail-safe long-term disposal alternative.
5. The discharge of waste to inland surface waters, except in cases where the quality of the discharge complies with applicable receiving water quality objectives, is prohibited. Allowances for dilution may be made at the discretion of the Regional Board. Consideration would include streamflow data, the degree of treatment provided and safety measures to ensure reliability of facility performance. As an example, discharge of secondary effluent would probably be permitted if streamflow provided 100:1 dilution capability.
6. The discharge of waste in a manner causing flow, ponding, or surfacing on lands not owned or under the control of the discharger is prohibited, unless the discharge is authorized by the Regional Board.
7. The dumping, deposition, or discharge of waste directly into waters of the state, or adjacent to such waters in any manner which may permit its being transported into the waters, is prohibited unless authorized by the Regional Board.
8. Any discharge to a storm water conveyance system that is not composed entirely of "storm water" is prohibited unless authorized by the Regional Board. [The federal regulations, 40 CFR 122.26(b)(13), define storm water as storm water runoff, snow melt runoff, and surface runoff and drainage. 40 CFR 122.26(b)(2) defines an illicit discharge as any discharge to a storm water conveyance system that is not composed entirely of storm water except discharges pursuant to a NPDES permit and discharges resulting from

fire fighting activities. [§122.26 amended at 56 FR 56553, November 5, 1991; 57 FR 11412, April 2, 1992].

9. The unauthorized discharge of treated or untreated sewage to waters of the state or to a storm water conveyance system is prohibited.
10. The discharge of industrial wastes to conventional septic tank/subsurface disposal systems, except as authorized by the terms described in California Water Code Section 13264, is prohibited.
11. The discharge of radioactive wastes amenable to alternative methods of disposal into the waters of the state is prohibited.
12. The discharge of any radiological, chemical, or biological warfare agent into waters of the state is prohibited.
13. The discharge of waste into a natural or excavated site below historic water levels is prohibited unless the discharge is authorized by the Regional Board.
14. The discharge of sand, silt, clay, or other earthen materials from any activity, including land grading and construction, in quantities which cause deleterious bottom deposits, turbidity or discoloration in waters of the state or which unreasonably affect, or threaten to affect, beneficial uses of such waters is prohibited.
15. The discharge of treated or untreated sewage from vessels to Mission Bay, Oceanside Harbor, Dana Point Harbor, or other small boat harbors is prohibited.
16. The discharge of untreated sewage from vessels to San Diego Bay is prohibited.
17. The discharge of treated sewage from vessels to portions of San Diego Bay that are less than 30 feet deep at mean lower low water (MLLW) is prohibited.
18. The discharge of treated sewage from vessels, which do not have a properly functioning US Coast Guard certified Type I or Type II marine sanitation device, to portions of San Diego Bay that are greater than 30 feet deep at mean lower low water (MLLW) is prohibited.

ATTACHMENT B**STANDARD PROVISIONS, REPORTING REQUIREMENTS, AND NOTIFICATIONS****1. STANDARD PROVISIONS – PERMIT COMPLIANCE [40 CFR 122.41]**

- (a) *Duty to comply* [40 CFR 122.41(a)].
- (1) The Copermitttee must comply with all of the conditions of this Order. Any noncompliance constitutes a violation of the Clean Water Act (CWA) and the California Water Code (CWC) and is grounds for enforcement action, for permit termination, revocation and reissuance, or modification; or denial of a permit renewal application.
 - (2) The Copermitttee shall comply with effluent standards or prohibitions established under section 307(a) of the CWA toxic pollutants and with standards for sewage sludge use or disposal established under section 405(d) of the CWA within the time provided in the regulations that establish these standards or prohibitions or standards for sewage sludge use or disposal, even if the Order has not yet been modified to incorporate the requirement.
- (b) *Need to halt or reduce activity not a defense* [40 CFR 122.41(c)]. It shall not be a defense for the Copermitttee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this Order.
- (c) *Duty to mitigate* [40 CFR 122.41(d)]. The Copermitttee shall take all reasonable steps to minimize or prevent any discharge or prevent any discharge or sludge use or disposal in violation of this Order that has a reasonable likelihood of adversely affecting human health or the environment.
- (d) *Proper operation and maintenance* [40 CFR 122.41(e)]. The Copermitttee shall at all times properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) which are installed or used by the Copermitttee to achieve compliance with the conditions of this Order. Proper operation and maintenance also includes adequate laboratory controls and appropriate quality assurance procedures. This provision requires the operation of back-up or auxiliary facilities or similar systems that are installed by the Copermitttee only when necessary to achieve compliance with the conditions of this Order.
- (e) *Property rights* [40 CFR 122.41(g)].
- (1) This Order does not convey any property rights of any sort or any exclusive privilege.
 - (2) The issuance of this Order does not authorize any injury to persons or property or invasion of other private rights, or any infringement of State or local law or regulations.
- (f) *Inspection and entry* [40 CFR 122.41(i)]. The Copermitttee shall allow the Regional Water Quality Control Board, San Diego Region (Regional Board), State Water Resources Control Board (SWRCB), United States Environmental Protection Agency (USEPA), and/or their authorized representatives (including an authorized contractor acting as their representative), upon presentation of credentials and other documents as may be required by law, to:

- (1) Enter upon the Copermittee's premises where a regulated facility or activity is located or conducted, or where records must be kept under the conditions of this Order;
- (2) Have access to and copy, at reasonable times, any records that must be kept under the conditions of this Order;
- (3) Inspect and photograph, at reasonable times, any facilities, equipment (including monitoring and control equipment), practices, or operations regulated or required under this Order; and
- (4) Sample or monitor, at reasonable times, for the purpose of assuring Order compliance or as otherwise authorized by the CWA or the CWC, any substances or parameters at any location.

(g) *Bypass* [40 CFR 122.41(m)]

(1) Definitions:

- i) "Bypass" means the intentional diversion of waste streams from any portion of a treatment facility.
- ii) "Severe property damage" means substantial physical damage to property, damage to the treatment facilities, which causes them to become inoperable, or substantial and permanent loss of natural resources that can reasonably be expected to occur in the absence of a bypass. Severe property damage does not mean economic loss caused by delays in production.

(2) Bypass not exceeding limitations - The Copermittee may allow any bypass to occur which does not cause exceedances of effluent limitations, but only if it also is for essential maintenance to assure efficient operation. These bypasses are not subject to the provisions listed in Standard Provisions – Permit Compliance (g)(3), (g)(4) and (g)(5) below.

(3) Prohibition of Bypass - Bypass is prohibited, and the Regional Board may take enforcement action against a Copermittee for bypass, unless:

- i) Bypass was unavoidable to prevent loss of life, personal injury, or severe property damage;
- ii) There were no feasible alternatives to the bypass, such as the use of auxiliary treatment facilities, retention of untreated wastes, or maintenance during normal periods of equipment downtime. This condition is not satisfied if adequate back-up equipment should have been installed in the exercise of reasonable engineering judgment to prevent a bypass which occurred during normal periods of equipment downtime or preventive maintenance; and
- iii) The Copermittee submitted notice as required under Standard Provisions – Permit Compliance (g)(3) above.

(4) Notice

- i) Anticipated bypass. If the Copermittee knows in advance of the need for a bypass, it shall submit a notice, if possible at least ten days before the date of the bypass.
- ii) Unanticipated bypass. The Copermittee shall submit notice of an unanticipated bypass as required in Standard Provisions 5(e) below (24-hour notice).

- (h) *Upset* [40 CFR 122.41(n)] Upset means an exceptional incident in which there is unintentional and temporary noncompliance with technology based effluent limitations because of factors beyond the reasonable control of the Copermittee. An upset does not include noncompliance to the extent caused by operational error, improperly designed treatment facilities, inadequate treatment facilities, lack of preventive maintenance, or careless or improper operation.
- (1) Effect of an upset. An upset constitutes an affirmative defense to an action brought for noncompliance with such technology based permit effluent limitations if the requirements of Standard Provisions – Permit Compliance (h)(2) below are met. No determination made during administrative review of claims that noncompliance was caused by upset, and before an action for noncompliance, is final administrative action subject to judicial review.
- (2) Conditions necessary for a demonstration of upset. A Copermittee who wishes to establish the affirmative defense of upset shall demonstrate, through properly signed, contemporaneous operating logs, or other relevant evidence that:
- i) An upset occurred and that the Copermittee can identify the cause(s) of the upset;
 - ii) The permitted facility was at the time being properly operated;
 - iii) The Copermittee submitted notice of the upset as required in Standard Provisions – Permit Compliance (5)(e)(ii)(B) below (24-hour notice); and
 - iv) The Copermittee complied with any remedial measures required under Standard Provisions – Permit Compliance 1(c) above.
- (3) Burden of Proof. In any enforcement proceeding, the Copermittee seeking to establish the occurrence of an upset has the burden of proof.

2. STANDARD PROVISIONS – PERMIT ACTION

- (a) *General* [40 CFR 122.41(f)] This Order may be modified, revoked and reissued, or terminated for cause. The filing of a request by the Copermittee for modification, revocation and reissuance, or termination, or a notification of planned changes or anticipated noncompliance does not stay any Order condition.
- (b) *Duty to reapply* [40 CFR 122.41(b)]. If the Copermittee wishes to continue an activity regulated by this Order after the expiration date of this Order, the Copermittee must apply for and obtain new permit.
- (c) *Transfers*. This Order is not transferable to any person except after notice to the Regional Board. The Regional Board may require modification or revocation and reissuance of the Order to change the name of the Copermittee and incorporate such other requirements as may be necessary under the CWA and the CWC.

3. STANDARD PROVISIONS – MONITORING

- (a) Samples and measurements taken for the purpose of monitoring shall be representative of the monitored activity. [40 CFR Section 122.41 (j) (1)]
- (b) Monitoring results must be conducted according to test procedures under 40 CFR Part 136, or in the case of sludge use or disposal, approved under 40 CFR Part 136 unless otherwise

specified in 40 CFR Part 503 unless other test procedures have been specified in this Order [40 CFR Section 122.41(j)(4)][40 CFR Section 122.44(i)(1)(iv)].

4. STANDARD PROVISIONS – RECORDS

- (a) Except for records of monitoring information required by this Order related to the Copermittee's sewage sludge use and disposal activities, which shall be retained for a period of at least five years (or longer as required by 40 CFR Part 503), the Copermittee shall retain records of all monitoring information, including all calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentation, copies of all reports required by this Order, and records of all data used to complete the application for this Order, for a period of at least three (3) years from the date of the sample, measurement, report or application. This period may be extended by request of the Regional Water Board Executive Officer at any time [40 CFR Section 122.41(j)(2)].
- (b) *Records of monitoring information* [40 CFR 122.41(j) (3)] shall include:
- (1) The date, exact place, and time of sampling or measurements;
 - (2) The individual(s) who performed the sampling or measurements;
 - (3) The date(s) analyses were performed;
 - (4) The individual(s) who performed the analyses;
 - (5) The analytical techniques or methods used; and
 - (6) The results of such analyses.
- (c) *Claims of confidentiality* [40 CFR Section 122.7(b)] of the following information will be denied:
- (1) The name and address of any permit applicant or Copermittee; and
 - (2) Permit applications and attachments, permits and effluent data.

5. STANDARD PROVISIONS – REPORTING

- (a) *Duty to provide information* [40 CFR 122.41(h)]. The Copermittee shall furnish to the Regional Board, SWRCB, or USEPA within a reasonable time, any information which the Regional Board, SWRCB, or USEPA may request to determine whether cause exists for modifying, revoking and reissuing, or terminating this Order or to determine compliance with this Order. Upon request, the Copermittee shall also furnish to the Regional Board, SWRCB, or USEPA, copies of records required to be kept by this Order.
- (b) *Signatory and Certification Requirements* [40 CFR 122.41(k)]
- (1) All applications, reports, or information submitted to the Regional Board, SWRCB, or USEPA shall be signed and certified in accordance with Standard Provisions – Reporting 5(b)ii), 5(b)iii), 5(b)iv), and 5(b) (see 40 CFR 122.22)
 - (2) *Applications* [40 CFR 122.22(a)(3)] All permit applications shall be signed by either a principal executive officer or ranking elected official.
 - (3) *Reports* [40 CFR 122.22(b)]. All reports required by this Order, and other information requested by the Regional Board, SWRCB, or USEPA shall be signed by a person described in Standard Provisions – Reporting 5(b)(2) above, or by a duly authorized

representative of that person. A person is a duly authorized representative only if:

- i) The authorization is made in writing by a person described in Standard Provisions-Reporting 5(b)(2) above;
 - ii) The authorization specifies either an individual or a position having responsibility for the overall operation of the regulated facility or activity, such as the position of plant manager, operator of a well or a well field, superintendent, position of equivalent responsibility, or an individual or position having overall responsibility for environmental matters for the company. (A duly authorized representative may thus be either a named individual or any individual occupying a named position.); and,
 - iii) The written authorization is submitted to the Regional Water Board and State Water Board.
- (4) *Changes to authorization* [40 CFR Section 122.22(c)] If an authorization under Standard Provisions – Reporting 5(b)(3) of this reporting requirement is no longer accurate because a different individual or position has responsibility for the overall operation of the facility, a new authorization satisfying the requirements of Standard Provisions – Reporting 5(b)(3) above must be submitted to the Regional Water Board and State Water Board prior to or together with any reports, information, or applications to be signed by an authorized representative.
- (5) *Certification* [40 CFR Section 122.22(d)] Any person signing a document under Standard Provisions – Reporting 5(b)(2), or 5(b)(3) above shall make the following certification:

”I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.”

(c) *Monitoring reports.* [40 CFR 122.41(l)(4)]

- (1) Monitoring results shall be reported at the intervals specified in the Receiving Waters and Urban Runoff Monitoring and Reporting Program No. R9-2007-0001.
- (2) Monitoring results must be reported on a Discharge Monitoring Report (DMR) form or forms provided or specified by the Regional Board or SWRCB for reporting results of mentoring of sludge use or disposal practices.
- (3) If the Copermitee monitors any pollutant more frequently than required by this Order using test procedures approved under 40 CFR Part 136 or, in the case of sludge use or disposal, approved under 40 CFR Part 136 unless otherwise specified in 40 CFR Part 503, or as specified in this Order, the results of this monitoring shall be included in the calculation and reporting of the data submitted in the DMR or sludge reporting form specified by the Regional Board.

- (4) Calculations for all limitations, which require averaging of measurements, shall utilize an arithmetic mean unless otherwise specified in this Order.
- (d) *Compliance schedules.* [40 CFR Section 122.41(l)(5)] Reports of compliance or noncompliance with, or any progress reports on, interim and final requirements contained in any compliance schedule of this Order shall be submitted no later than 14 days following each schedule date.
- (e) *Twenty-four hour reporting* [40 CFR Section 122.41(l)(6)]
- (1) The Copermittee shall report any noncompliance that may endanger health or the environment. Any information shall be provided orally within 24 hours from the time the Copermittee becomes aware of the circumstances. A written submission shall also be provided within five (5) days of the time the Copermittee becomes aware of the circumstances. The written submission shall contain a description of the noncompliance and its cause; the period of noncompliance, including exact dates and times, and if the noncompliance has not been corrected, the anticipated time it is expected to continue; and steps taken or planned to reduce, eliminate, and prevent reoccurrence of the noncompliance.
 - (2) The following shall be included as information, which must be reported within 24 hours under this paragraph:
 - i) Any unanticipated bypass that exceeds any effluent limitation in the Order (See 40 CFR 122.41(g)).
 - ii) Any upset which exceeds any effluent limitation in this Order.
 - (3) The Regional Board may waive the above-required written report under this provision on a case-by-case basis if the oral report has been received within 24 hours.
- (f) *Planned changes.* [40 CFR Section 122.41(l)(1)] The Copermittee shall give notice to the Regional Board as soon as possible of any planned physical alterations or additions to the permitted facility. Notice is required under this provision only when:
- (1) The alteration or addition to a permitted facility may meet one of the criteria for determining whether a facility is a new source in 40 CFR 122.29(b); or
 - (2) The alteration or addition could significantly change the nature or increase the quantity of pollutants discharged. This notification applies to pollutants, which are not subject to effluent limitations in this Order.
 - (3) The alteration or addition results in a significant change in the Copermittee's sludge use or disposal practices, and such alteration, addition, or change may justify the application of permit conditions that are different from or absent in the existing Order, including notification of additional use or disposal sites not reported during the permit application process or not reported pursuant to an approved land application plan.
- (g) *Anticipated noncompliance.* [40 CFR Section 122.41(l)(7)] The Copermittee shall give advance notice to the Regional Board or SWRCB of any planned changes in the permitted facility or activity, which may result in noncompliance with Order requirements.

- (h) *Other noncompliance* [40 CFR Section 122.41(1) 7)] The Copermittee shall report all instances of noncompliance not reported under Standard Provisions 5(c), 5(d), and 5(e) above, at the time monitoring reports are submitted. The reports shall contain the information listed in Standard Provision – Reporting 5(e) above.
- (i) *Other information* [40 CFR Section 122.41(1)(8)] When the Copermittee becomes aware that it failed to submit any relevant facts in a permit application, or submitted incorrect information in a permit application or in any report to the Regional Board, SWRCB, or USEPA, the Copermittee shall promptly submit such facts or information.

6. STANDARD PROVISIONS – ENFORCEMENT

- (a) The Regional Board is authorized to enforce the terms of this permit under several provisions of the CWC, including, but not limited to, Sections 13385, 13386, and 13387.

7. ADDITIONAL STANDARD PROVISIONS

- (a) *Municipal separate storm sewer systems* [40 CFR 122.42(c)]. The operator of a large or medium municipal separate storm sewer system or a municipal separate storm sewer that has been designated by the Director under 40 CFR 122.26(a)(1)(v) must submit an annual report by the anniversary of the date of the issuance of the permit for such system. The report shall include:
 - (1) The status of implementing the components of the storm water management program that are established as permit conditions;
 - (2) Proposed changes to the storm water management programs that are established as permit conditions. Such proposed changes shall be consistent with 40 CFR 122.26(d)(2)(iii); and
 - (3) Revisions, if necessary, to the assessment of controls and the fiscal analysis reported in the permit application under 40 CFR 122.26(d)(2)(iv) and 40 CFR 122.26(d)(2)(v);
 - (4) A summary of data, including monitoring data, that is accumulated throughout the reporting year;
 - (5) Annual expenditures and budget for year following each annual report;
 - (6) A summary describing the number and nature of enforcement actions, inspections, and public education programs; and
 - (7) Identification of water quality improvements or degradation.
- (b) *Storm water discharges* [40 CFR 122.42(d)]. The initial permits for discharges composed entirely of storm water issued pursuant to 40 CFR 122.26(e)(7) shall require compliance with the conditions of the permit as expeditiously as practicable, but in no event later than three years after the date of issuance of the permit.
- (c) *Other Effluent Limitations and Standards* [40 CFR 122.44(b)(1)]. If any toxic effluent standard or prohibition (including any schedule of compliance specified in such effluent standard or prohibition) is promulgated under Section 307(a) of the CWA for a toxic pollutant which is present in the discharge and that standard or prohibition is more stringent than any limitation on the pollutant in this Order, the Regional Board may institute

proceedings under these regulations to modify or revoke and reissue the Order to conform to the toxic effluent standard or prohibition.

- (d) *Discharge is a privilege* [CWC section 13263(g)]. No discharge of waste into the waters of the State, whether or not such discharge is made pursuant to waste discharge requirements, shall create a vested right to continue such discharge. All discharges of waste into waters of the State are privileges, not rights.
- (e) *Review and revision of Order* [CWC section 13263(e)]. Upon application by any affected person, or on its own motion, the Regional Board may review and revise this permit.
- (f) *Termination or modification of Order* [CWC section 13381]. This permit may be terminated or modified for causes, including, but not limited to, all of the following:
 - (1) Violation of any condition contained in this Order;
 - (2) Obtaining this Order by misrepresentation, or failure to disclose fully all relevant facts.
 - (3) A change in any condition that requires either a temporary or permanent reduction or elimination of the permitted discharge.
- (g) *Transfers*. When this Order is transferred to a new owner or operator, such requirements as may be necessary under the CWC may be incorporated into this Order.
- (h) *Conditions not stayed*. The filing of a request by the Copermittee for modification, revocation and reissuance, or termination of this Order, or a notification of planned change in or anticipated noncompliance with this Order does not stay any condition of this Order.
- (i) *Availability*. A copy of this Order shall be kept at a readily accessible location and shall be available to on-site personnel at all times.
- (j) *Duty to minimize or correct adverse impacts*. The Copermittees shall take all reasonable steps to minimize or correct any adverse impact on the environment resulting from noncompliance with this Order, including such accelerated or additional monitoring as may be necessary to determine the nature and impact of the noncompliance.
- (k) *Interim Effluent Limitations*. The Copermittee shall comply with any interim effluent limitations as established by addendum, enforcement action, or revised waste discharge requirements which have been, or may be, adopted by this Regional Board.
- (l) *Responsibilities, liabilities, legal action, penalties* [CWC sections 13385 and 13387]. The Porter-Cologne Water Quality Control Act provides for civil and criminal penalties comparable to, and in some cases greater than, those provided for under the CWA.

Nothing in this Order shall be construed to protect the Copermittee from its liabilities under federal, state, or local laws.

Except as provided for in 40CFR 122.41(m) and (n), nothing in this Order shall be construed to relieve the Copermittee from civil or criminal penalties for noncompliance.

Nothing in this Order shall be construed to preclude the institution of any legal action or relieve the Copermittee from any responsibilities, liabilities, or penalties to which the Copermittee is or may be subject to under Section 311 of the CWA.

Nothing in this Order shall be construed to preclude institution of any legal action or relieve the Copermittee from any responsibilities, liabilities, or penalties established pursuant to any applicable state law or regulation under authoring preserved by Section 510 of the CWA.

- (m) *Noncompliance.* Any noncompliance with this Order constitutes violation of the CWC and is grounds for denial of an application for modification of the Order (also see 40 CFR 122.41(a)).
- (n) *Director.* For purposes of this Order, the term “Director” used in parts of 40 CFR incorporated into this Order by reference and/or applicable to this Order shall have the same meaning as the term “Regional Board” used elsewhere in this Order, except that in 40 CFR 122.41(h) and (I), “Director” shall mean “Regional Board, SWRCB, and USEPA.”
- (o) The Regional Board has, in prior years, issued a limited number of individual NPDES permits for non-storm water discharges to MS4s. The Regional Board or SWRCB may in the future, upon prior notice to the Copermittee(s), issue an NPDES permit for any non-storm water discharge (or class of non-storm water discharges) to a MS4. Copermittees may prohibit any non-storm water discharge (or class of non-storm water discharges) to a MS4 that is authorized under such separate NPDES permits.
- (p) *Effective date.* This Order shall become effective on the date of its adoption provided the USEPA has no objection. If the USEPA objects to its issuance, this Order shall not become effective until such objection is withdrawn. This Order supersedes Order No. 2001-01 upon the effective date of this Order.
- (q) *Expiration.* This Order expires five years after adoption.
- (r) *Continuation of expired order* [23 CCR 2235.4]. After this Order expires, the terms and conditions of this Order are automatically continued pending issuance of a new permit if all requirements of the federal NPDES regulations on the continuation of expired permits (40 CFR 122.6) are complied with.
- (s) *Applications.* Any application submitted by a Copermittee for reissuance or modification of this Order shall satisfy all applicable requirements specified in federal regulations as well as any additional requirements for submittal of a Report of Waste Discharge specified in the CWC and the California Code of Regulations.
- (t) *Confidentiality.* Except as provided for in 40 CFR 122.7, no information or documents submitted in accordance with or in application for this Order will be considered confidential, and all such information and documents shall be available for review by the public at the Regional Board office.
- (u) *Severability.* The provisions of this Order are severable, and if any provision of this Order, or the application of any provisions of this Order to any circumstance, is held invalid, the application of such provision to other circumstances and the remainder of this Order shall not be affected thereby.
- (v) *Report submittal.* The Copermittee shall submit reports and provide notifications as required by this Order to the following:

SOUTHERN WATERSHED PROTECTION UNIT
CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
SAN DIEGO REGION
9174 SKY PARK COURT, SUITE 100
SAN DIEGO CA 92123-4340
Telephone: (858) 467-2952 Fax: (858) 571-6972

EUGENE BROMLEY
US ENVIRONMENTAL PROTECTION AGENCY
REGION IX
PERMITS ISSUANCE SECTION (W-5-1)
75 HAWTHORNE STREET
SAN FRANCISCO CA 94105

Unless otherwise directed, the Copermitee shall submit one hard copy for the official record and one electronic copy of each report required under this Order to the Regional Board and one electronic copy to the EPA.

ATTACHMENT C

DEFINITIONS

Advanced Treatment- Using mechanical or chemical means to flocculate and remove suspended sediment from runoff from construction sites prior to discharge.

Anthropogenic Litter – Trash generated from human activities, not including sediment.

Basin Plan – Water Quality Control Plan, San Diego Basin, Region 9, and amendments, developed by the Regional Board.

Beneficial Uses - The uses of water necessary for the survival or well being of man, plants, and wildlife. These uses of water serve to promote tangible and intangible economic, social, and environmental goals. “Beneficial Uses” of the waters of the State that may be protected include, but are not limited to, domestic, municipal, agricultural and industrial supply; power generation; recreation; aesthetic enjoyment; navigation; and preservation and enhancement of fish, wildlife, and other aquatic resources or preserves. Existing beneficial uses are uses that were attained in the surface or ground water on or after November 28, 1975; and potential beneficial uses are uses that would probably develop in future years through the implementation of various control measures. “Beneficial Uses” are equivalent to “Designated Uses” under federal law. [California Water Code Section 13050(f)].

Best Management Practices (BMPs) - Defined in 40 CFR 122.2 as schedules of activities, prohibitions of practices, maintenance procedures, and other management practices to prevent or reduce the pollution of waters of the United States. BMPs also include treatment requirements, operating procedures and practices to control plant site runoff, spillage or leaks, sludge or waste disposal, or drainage from raw material storage. In the case of municipal storm water permits, BMPs are typically used in place of numeric effluent limits.

Bioassessment - The use of biological community information to evaluate the biological integrity of a water body and its watershed. With respect to aquatic ecosystems, bioassessment is the collection and analysis of samples of the benthic macroinvertebrate community together with physical/habitat quality measurements associated with the sampling site and the watershed to evaluate the biological condition (i.e. biological integrity) of a water body.

Biocriteria - Under the CWA, numerical values or narrative expressions that define a desired biological condition for a water body that are legally enforceable. The USEPA defines biocriteria as: “numerical values or narrative expressions that describe the reference biological integrity of aquatic communities inhabiting waters of a given designated aquatic life use...(that)...describe the characteristics of water body segments least impaired by human activities.”

Biological Integrity - Defined in Karr J.R. and D.R. Dudley. 1981. Ecological perspective on water quality goals. Environmental Management 5:55-68 as: “A balanced, integrated, adaptive community of organisms having a species composition, diversity, and functional organization comparable to that of natural habitat of the region.” Also referred to as ecosystem health.

Clean Water Act Section 402(p) [33 USC 1342(p)] - The federal statute requiring municipal and industrial dischargers to obtain NPDES permits for their discharges of storm water.

Clean Water Act Section 303(d) Water Body - An impaired water body in which water quality does not meet applicable water quality standards and/or is not expected to meet water quality standards, even after the application of technology based pollution controls required by the CWA. The discharge of urban runoff to these water bodies by the Copermitttees is significant because these discharges can cause or contribute to violations of applicable water quality standards.

Construction Site – Any project, including projects requiring coverage under the General Construction Permit, that involves soil disturbing activities including, but not limited to, clearing, grading, disturbances to ground such as stockpiling, and excavation.

Contamination - As defined in the Porter-Cologne Water Quality Control Act, contamination is “an impairment of the quality of waters of the State by waste to a degree which creates a hazard to the public health through poisoning or through the spread of disease. ‘Contamination’ includes any equivalent effect resulting from the disposal of waste whether or not waters of the State are affected.”

Critical Channel Flow (Qc) – The channel flow that produces the critical shear stress that initiates bed movement or that erodes the toe of channel banks. When measuring Qc, it should be based on the weakest boundary material – either bed or bank.

CWA – Federal Clean Water Act

CWC – California Water Code

Development Projects - New development or redevelopment with land disturbing activities; structural development, including construction or installation of a building or structure, the creation of impervious surfaces, public agency projects, and land subdivision.

Dry Season – May 1 through September 30 of each year.

Effectiveness Assessment Outcome Level 1 - Compliance with Activity-based Permit Requirements – Level 1 outcomes are those directly related to the implementation of specific activities prescribed by this Order or established pursuant to it.

Effectiveness Assessment Outcome Level 2 - Changes in Attitudes, Knowledge, and Awareness – Level 2 outcomes are measured as increases in knowledge and awareness among target audiences such as residents, businesses, and municipal employees.

Effectiveness Assessment Outcome Level 3 - Behavioral Change and BMP Implementation – Level 3 outcomes measure the effectiveness of activities in affecting behavioral change and BMP implementation.

Effectiveness Assessment Outcome Level 4 - Load Reductions – Level 4 outcomes measure load reductions which quantify changes in the amounts of pollutants associated with specific sources before and after a BMP or other control measure is employed.

Effectiveness Assessment Outcome Level 5 - Changes in Urban Runoff and Discharge Quality – Level 5 outcomes are measured as changes in one or more specific constituents or stressors in discharges into or from MS4s.

Effectiveness Assessment Outcome Level 6 - Changes in Receiving Water Quality – Level 6 outcomes measure changes to receiving water quality resulting from discharges into and from MS4s, and may be expressed through a variety of means such as compliance with water quality objectives or other regulatory benchmarks, protection of biological integrity, or beneficial use attainment.

Effluent Limitations – Any restriction imposed on quantities, discharge rates, and concentrations of pollutants, which are discharged from point sources into waters of the State. The limitations are designed to ensure that the discharge does not cause water quality objectives to be exceeded in the receiving water and does not adversely affect beneficial uses. Effluent limits are typically numeric (e.g., 10 mg/l), but can also be narrative (e.g., no toxics in toxic amounts).

Erosion – When land is diminished or worn away due to wind, water, or glacial ice. Often the eroded debris (silt or sediment) becomes a pollutant via storm water runoff. Erosion occurs naturally but can be intensified by land clearing activities such as farming, development, road building, and timber harvesting.

Environmentally Sensitive Areas (ESAs) - Areas that include but are not limited to all Clean Water Act Section 303(d) impaired water bodies; areas designated as Areas of Special Biological Significance by the State Water Resources Control Board (Water Quality Control Plan for the San Diego Basin (1994) and amendments); water bodies designated with the RARE beneficial use by the State Water Resources Control Board (Water Quality Control Plan for the San Diego Basin (1994) and amendments); areas designated as preserves or their equivalent under the Multi Species Conservation Program within the Cities and County of San Diego; and any other equivalent environmentally sensitive areas which have been identified by the Copermittees.

Feasibility Analysis – Detailed description of the selection process for the treatment control BMPs for a Priority Development Project, including justification of why one BMP is selected over another. For a Priority Development Project where a treatment control BMP with a low removal efficiency ranking (as identified by the Model SUSMP) is proposed, the analysis shall include a detailed and adequate justification exhibiting the reasons implementation of a treatment control BMP with a higher removal efficiency is infeasible for the Priority Development Project or portion of the Priority Development Project.

Flow Duration – The long-term period of time that flows occur above a threshold that causes significant sediment transport and may cause excessive erosion damage to creeks and streams (not a single storm event duration). The simplest way to visualize this is to consider a histogram of pre- and post-project flows using long-term records of hourly data. To maintain pre-project flow duration means that the total number of hours (counts) within each range of flows in a flow-duration histogram cannot increase between the pre- and post-project condition. Flow duration within the range of geomorphologically significant flows is important for managing erosion.

GIS – Geographic Information System

Grading - The cutting and/or filling of the land surface to a desired slope or elevation.

Hazardous Material – Any substance that poses a threat to human health or the environment due to its toxicity, corrosiveness, ignitability, explosive nature or chemical reactivity. These also include materials named by the USEPA in 40 CFR 116 to be reported if a designated quantity of the material is spilled into the waters of the U.S. or emitted into the environment.

Hazardous Waste - Hazardous waste is defined as “any waste which, under Section 600 of Title 22 of this code, is required to be managed according to Chapter 30 of Division 4.5 of Title 22 of this code” [CCR Title 22, Division 4.5, Chapter 11, Article 1].

Household Hazardous Waste – Paints, cleaning products, and other wastes generated during home improvement or maintenance activities.

Hydromodification – The change in the natural watershed hydrologic processes and runoff characteristics (i.e., interception, infiltration, overland flow, interflow and groundwater flow) caused by urbanization or other land use changes that result in increased stream flows and sediment transport. In addition, alteration of stream and river channels, installation of dams and water impoundments, and excessive streambank and shoreline erosion are also considered hydromodification, due to their disruption of natural watershed hydrologic processes.

Illicit Connection – Any connection to the MS4 that conveys an illicit discharge.

Illicit Discharge - Any discharge to the MS4 that is not composed entirely of storm water except discharges pursuant to a NPDES permit and discharges resulting from fire fighting activities [40 CFR 122.26(b)(2)].

Implementation Assessment – Assessment conducted to determine the effectiveness of Copermittee programs and activities in achieving measurable targeted outcomes, and in determining whether priority sources of water quality problems are being effectively addressed.

Inactive Slopes – Slopes on which no grading or other soil disturbing activities are conducted for 10 or more days.

Integrated Assessment – Assessment to be conducted to evaluate whether program implementation is properly targeted to and resulting in the protection and improvement of water quality.

Jurisdictional Urban Runoff Management Plan (JURMP) – A written description of the specific jurisdictional urban runoff management measures and programs that each Copermittee will implement to comply with this Order and ensure that pollutant discharges in urban runoff are reduced to the MEP and do not cause or contribute to a violation of water quality standards.

Low Impact Development (LID) – A storm water management and land development strategy that emphasizes conservation and the use of on-site natural features integrated with engineered, small-scale hydrologic controls to more closely reflect pre-development hydrologic functions.

Maximum Extent Practicable (MEP) – The technology-based standard established by Congress in CWA section 402(p)(3)(B)(iii) that operators of MS4s must meet. Technology-based standards establish the level of pollutant reductions that dischargers must achieve, typically by treatment or by a combination of source control and treatment control BMPs. MEP generally emphasizes pollution prevention and source control BMPs primarily (as the first line of defense) in combination with treatment methods serving as a backup (additional line of defense). MEP considers economics and is generally, but not necessarily, less stringent than BAT. A definition for MEP is not provided either in the statute or in the regulations. Instead the definition of MEP is dynamic and will be defined by the following process over time: municipalities propose their definition of MEP by way of their urban runoff management programs. Their total collective and individual activities conducted pursuant to the urban runoff management programs becomes their

proposal for MEP as it applies both to their overall effort, as well as to specific activities (e.g., MEP for street sweeping, or MEP for MS4 maintenance). In the absence of a proposal acceptable to the Regional Board, the Regional Board defines MEP.

In a memo dated February 11, 1993, entitled "Definition of Maximum Extent Practicable," Elizabeth Jennings, Senior Staff Counsel, SWRCB addressed the achievement of the MEP standard as follows:

“To achieve the MEP standard, municipalities must employ whatever Best Management Practices (BMPs) are technically feasible (i.e., are likely to be effective) and are not cost prohibitive. The major emphasis is on technical feasibility. Reducing pollutants to the MEP means choosing effective BMPs, and rejecting applicable BMPs only where other effective BMPs will serve the same purpose, or the BMPs would not be technically feasible, or the cost would be prohibitive. In selecting BMPs to achieve the MEP standard, the following factors may be useful to consider:

- a. Effectiveness: Will the BMPs address a pollutant (or pollutant source) of concern?*
- b. Regulatory Compliance: Is the BMP in compliance with storm water regulations as well as other environmental regulations?*
- c. Public Acceptance: Does the BMP have public support?*
- d. Cost: Will the cost of implementing the BMP have a reasonable relationship to the pollution control benefits to be achieved?*
- e. Technical Feasibility: Is the BMP technically feasible considering soils, geography, water resources, etc?*

The final determination regarding whether a municipality has reduced pollutants to the maximum extent practicable can only be made by the Regional or State Water Boards, and not by the municipal discharger. If a municipality reviews a lengthy menu of BMPs and chooses to select only a few of the least expensive, it is likely that MEP has not been met. On the other hand, if a municipal discharger employs all applicable BMPs except those where it can show that they are not technically feasible in the locality, or whose cost would exceed any benefit derived, it would have met the standard. Where a choice may be made between two BMPs that should provide generally comparable effectiveness, the discharger may choose the least expensive alternative and exclude the more expensive BMP. However, it would not be acceptable either to reject all BMPs that would address a pollutant source, or to pick a BMP base solely on cost, which would be clearly less effective. In selecting BMPs the municipality must make a serious attempt to comply and practical solutions may not be lightly rejected. In any case, the burden would be on the municipal discharger to show compliance with its permit. After selecting a menu of BMPs, it is the responsibility of the discharger to ensure that all BMPs are implemented.”

Municipal Separate Storm Sewer System (MS4) – A conveyance or system of conveyances (including roads with drainage systems, municipal streets, catch basins, curbs, gutters, ditches, man-made channels, or storm drains): (i) Owned or operated by a State, city town, borough, county, parish, district, association, or other public body (created by or pursuant to State law) having jurisdiction over disposal of sewage, industrial wastes, storm water, or other wastes, including special districts under State law such as a sewer district, flood control district or drainage district, or similar entity, or an Indian tribe or an authorized Indian tribal organization, or designated and approved management agency under section 208 of the CWA that discharges to

waters of the United States; (ii) Designated or used for collecting or conveying storm water; (iii) Which is not a combined sewer; (iv) Which is not part of the Publicly Owned Treatment Works (POTW) as defined at 40 CFR 122.26.

National Pollutant Discharge Elimination System (NPDES) - The national program for issuing, modifying, revoking and reissuing, terminating, monitoring and enforcing permits, and imposing and enforcing pretreatment requirements, under Sections 307, 318, 402, and 405 of the CWA.

NOI – Notice of Intent

Non-Storm Water - All discharges to and from a MS4 that do not originate from precipitation events (i.e., all discharges from a MS4 other than storm water). Non-storm water includes illicit discharges, non-prohibited discharges, and NPDES permitted discharges.

Nuisance - As defined in the Porter-Cologne Water Quality Control Act a nuisance is “anything which meets all of the following requirements: 1) Is injurious to health, or is indecent, or offensive to the senses, or an obstruction to the free use of property, so as to interfere with the comfortable enjoyment of life or property. 2) Affects at the same time an entire community or neighborhood, or any considerable number of persons, although the extent of the annoyance or damage inflicted upon individuals may be unequal. 3) Occurs during, or as a result of, the treatment or disposal of wastes.”

Order – Order No. R9-2007-0001 (NPDES No. CAS0108758)

Person - A person is defined as an individual, association, partnership, corporation, municipality, State or Federal agency, or an agent or employee thereof [40 CFR 122.2].

Point Source - Any discernible, confined, and discrete conveyance, including, but not limited to, any pipe, ditch, channel, tunnel, conduit, well, discrete fissure, container, rolling stock, concentrated animal feeding operations, landfill leachate collection systems, vessel, or other floating craft from which pollutants are or may be discharged. This term does not include return flows from irrigated agriculture or agricultural storm water runoff.

Pollutant - Any agent that may cause or contribute to the degradation of water quality such that a condition of pollution or contamination is created or aggravated.

Pollution - As defined in the Porter-Cologne Water Quality Control Act: “the alteration of the quality of the waters of the State by waste, to a degree that unreasonably affects the either of the following: 1) The waters for beneficial uses; or 2) Facilities that serve these beneficial uses.” Pollution may include contamination.

Pollutants of Concern – Pollutants for which water bodies are listed as impaired under CWA section 303(d), pollutants associated with the land use type of a development, and/or pollutants commonly associated with urban runoff. Pollutants commonly associated with urban runoff include total suspended solids; sediment; pathogens (e.g., bacteria, viruses, protozoa); heavy metals (e.g., copper, lead, zinc, and cadmium); petroleum products and polynuclear aromatic hydrocarbons; synthetic organics (e.g., pesticides, herbicides, and PCBs); nutrients (e.g., nitrogen and phosphorus fertilizers); oxygen-demanding substances (decaying vegetation, animal waste, and anthropogenic litter).

Pollution Prevention - Pollution prevention is defined as practices and processes that reduce or eliminate the generation of pollutants, in contrast to source control BMPs, treatment control BMPs, or disposal.

Post-Construction BMPs - A subset of BMPs including structural and non-structural controls which detain, retain, filter, or educate to prevent the release of pollutants to surface waters during the final functional life of developments.

Pre-Project or Pre-Development Runoff Conditions (Discharge Rates, Durations, Etc.) – Runoff conditions that exist onsite immediately before the planned development activities occur. This definition is not intended to be interpreted as that period before any human-induced land activities occurred. This definition pertains to redevelopment as well as initial development.

Principal Permittee – County of San Diego

Priority Development Projects - New development and redevelopment project categories listed in Section D.1.d(2) of Order No. R9-2007-0001.

Receiving Waters – Waters of the U.S.

Receiving Water Limitations (RWLs) - Waste discharge requirements issued by the Regional Board typically include both: (1) “Effluent Limitations” (or “Discharge Limitations”) that specify the technology-based or water-quality-based effluent limitations; and (2) “Receiving Water Limitations” that specify the water quality objectives in the Basin Plan as well as any other limitations necessary to attain those objectives. In summary, the “Receiving Water Limitations” provision is the provision used to implement the requirement of CWA section 301(b)(1)(C) that NPDES permits must include any more stringent limitations necessary to meet water quality standards.

Redevelopment - The creation, addition, and or replacement of impervious surface on an already developed site. Examples include the expansion of a building footprint, road widening, the addition to or replacement of a structure, and creation or addition of impervious surfaces. Replacement of impervious surfaces includes any activity that is not part of a routine maintenance activity where impervious material(s) are removed, exposing underlying soil during construction. Redevelopment does not include trenching and resurfacing associated with utility work; resurfacing and reconfiguring surface parking lots and existing roadways; new sidewalk construction, pedestrian ramps, or bikelane on existing roads; and routine replacement of damaged pavement, such as pothole repair.

Regional Urban Runoff Management Plan (RURMP) – A written description of the specific regional urban runoff management measures and programs that the Copermitttees will collectively implement to comply with this Order and ensure that pollutant discharges in urban runoff are reduced to the MEP and do not cause or contribute to a violation of water quality standards.

Sediment - Soil, sand, and minerals washed from land into water. Sediment resulting from anthropogenic sources (i.e. human induced land disturbance activities) is considered a pollutant. This Order regulates only the discharges of sediment from anthropogenic sources and does not regulate naturally occurring sources of sediment. Sediment can destroy fish-nesting areas, clog animal habitats, and cloud waters so that sunlight does not reach aquatic plants.

Shared Treatment Control BMP - BMPs used by multiple developments to infiltrate, filter, or treat the required volume or flow prior to discharge to a receiving water. This could include, for example, a treatment BMP at the end of an enclosed storm drain that collects runoff from several commercial developments.

Source Control BMP – Land use or site planning practices, or structural or nonstructural measures that aim to prevent urban runoff pollution by reducing the potential for contamination at the source of pollution. Source control BMPs minimize the contact between pollutants and urban runoff.

Storm Water – Per 40 CFR 122.26(b)(13), means storm water runoff, snowmelt runoff and surface runoff and drainage.

Standard Urban Storm Water Mitigation Plan (SUSMP) – A plan developed to mitigate the impacts of urban runoff from Priority Development Projects.

Third Party Inspectors - Industrial and commercial facility inspectors who are not contracted or employed by a regulatory agency or group of regulatory agencies, such as the Regional Board or Copermittees. The third party inspector is not a regular facility employee self-inspecting their own facility. The third party inspector could be a contractor or consultant employed by a facility or group of businesses to conduct inspections.

Total Maximum Daily Load (TMDL) - The maximum amount of a pollutant that can be discharged into a water body from all sources (point and non-point) and still maintain water quality standards. Under CWA section 303(d), TMDLs must be developed for all water bodies that do not meet water quality standards after application of technology-based controls.

Toxicity - Adverse responses of organisms to chemicals or physical agents ranging from mortality to physiological responses such as impaired reproduction or growth anomalies). The water quality objectives for toxicity provided in the Water Quality Control Plan, San Diego Basin, Region 9, (Basin Plan), state in part...“All waters shall be free of toxic substances in concentrations that are toxic to, or that produce detrimental physiological responses in human, plant, animal, or aquatic life....The survival of aquatic life in surface waters subjected to a waste discharge or other controllable water quality factors, shall not be less than that for the same water body in areas unaffected by the waste discharge”.

Treatment Control BMP – Any engineered system designed to remove pollutants by simple gravity settling of particulate pollutants, filtration, biological uptake, media absorption or any other physical, biological, or chemical process.

Urban Runoff - All flows in a storm water conveyance system and consists of the following components: (1) storm water (wet weather flows) and (2) non-storm water illicit discharges (dry weather flows).

Waste - As defined in CWC Section 13050(d), “waste includes sewage and any and all other waste substances, liquid, solid, gaseous, or radioactive, associated with human habitation, or of human or animal origin, or from any producing, manufacturing, or processing operation, including waste placed within containers of whatever nature prior to, and for purposes of, disposal.”

Article 2 of CCR Title 23, Chapter 15 (Chapter 15) contains a waste classification system that applies to solid and semi-solid waste, which cannot be discharged directly or indirectly to water of the state and which therefore must be discharged to land for treatment, storage, or disposal in accordance with Chapter 15. There are four classifications of waste (listed in order of highest to lowest threat to water quality): hazardous waste, designated waste, non-hazardous solid waste, and inert waste.

Water Quality Assessment – Assessment conducted to evaluate the condition of non-storm water and storm water discharges, and the water bodies which receive these discharges.

Water Quality Objective - Numerical or narrative limits on constituents or characteristics of water designated to protect designated beneficial uses of the water. [California Water Code Section 13050 (h)]. California's water quality objectives are established by the State and Regional Water Boards in the Water Quality Control Plans.

Numeric or narrative limits for pollutants or characteristics of water designed to protect the beneficial uses of the water. In other words, a water quality objective is the maximum concentration of a pollutant that can exist in a receiving water and still generally ensure that the beneficial uses of the receiving water remain protected (i.e., not impaired). Since water quality objectives are designed specifically to protect the beneficial uses, when the objectives are violated the beneficial uses are, by definition, no longer protected and become impaired. This is a fundamental concept under the Porter Cologne Act. Equally fundamental is Porter Cologne's definition of pollution. A condition of pollution exists when the water quality needed to support designated beneficial uses has become unreasonably affected or impaired; in other words, when the water quality objectives have been violated. These underlying definitions (regarding beneficial use protection) are the reason why all waste discharge requirements implementing the federal NPDES regulations require compliance with water quality objectives. (Water quality objectives are also called water quality criteria in the CWA.)

Water Quality Standards - The beneficial uses (e.g., swimming, fishing, municipal drinking water supply, etc.) of water and the water quality objectives necessary to protect those uses.

Waters of the State - Any water, surface or underground, including saline waters within the boundaries of the State [CWC section 13050 (e)]. The definition of the Waters of the State is broader than that for the Waters of the United States in that all water in the State is considered to be a Waters of the State regardless of circumstances or condition. Under this definition, a MS4 is always considered to be a Waters of the State.

Waters of the United States - As defined in the 40 CFR 122.2, the Waters of the U.S. are defined as: "(a) All waters, which are currently used, were used in the past, or may be susceptible to use in interstate or foreign commerce, including all waters which are subject to the ebb and flow of the tide; (b) All interstate waters, including interstate "wetlands;" (c) All other waters such as intrastate lakes, rivers, streams (including intermittent streams), mudflats, sandflats, "wetlands," sloughs, prairie potholes, wet meadows, playa lakes, or natural ponds the use, degradation or destruction of which would affect or could affect interstate or foreign commerce including any such waters: (1) Which are or could be used by interstate or foreign travelers for recreational or other purposes; (2) From which fish or shellfish are or could be taken and sold in interstate or foreign commerce; or (3) Which are used or could be used for industrial purposes by industries in interstate commerce; (d) All impoundments of waters otherwise defined as waters of the United States under this definition: (e) Tributaries of waters identified in paragraphs (a) through (d) of this definition; (f) The territorial seas; and (g) "Wetlands" adjacent to waters (other

than waters that are themselves wetlands) identified in paragraphs (a) through (f) of this definition. Waters of the United States do not include prior converted cropland. Notwithstanding the determination of an area's status as prior converted cropland by any other federal agency, for the purposes of the Clean Water Act, the final authority regarding Clean Water Act jurisdiction remains with the EPA.”

Watershed - That geographical area which drains to a specified point on a water course, usually a confluence of streams or rivers (also known as drainage area, catchment, or river basin).

Watershed Urban Runoff Management Plan (WURMP) – A written description of the specific watershed urban runoff management measures and programs that each watershed group of Copermittees will implement to comply with this Order and ensure that pollutant discharges in urban runoff are reduced to the MEP and do not cause or contribute to a violation of water quality standards.

WDRs – Waste Discharge Requirements

Wet Season – October 1 through April 30 of each year.

ATTACHMENT D**SCHEDULED SUBMITTALS SUMMARY**

Submittal	Permit Section	Completion Date	Frequency
Submit identification of discharges not to be prohibited and BMPs required for treatment of discharges not prohibited	B.2	365 days after adoption of the Order	One Time
Submit Certified Statement of Adequate Legal Authority	C.2	365 days after adoption of the Order	One Time
Long-Term Effectiveness Assessment	I.5 and J.2.b	210 days prior to Order expiration	One Time
Submit to Principal Permittee(s) individual JURMPs	J.1.a.(1)	Prior to 365 days after adoption of the Order (Principal Permittee specifies date of submittal)	One Time
Principal Permittee submits JURMPs to Regional Board	J.1.a.(2)	365 days after adoption of the Order	One Time
Lead Watershed Permittees submit WURMPs to Principal Permittee	J..1.b.(2)	Prior to 365 days after adoption of the Order (Principal Permittee specifies date of submittal)	One Time
Principal Permittee submits WURMPs to Regional Board	J.1.b.(3)	365 days after adoption of the Order	One Time
Principal Permittee submits RURMP to Regional Board	J.1.c.(2)	365 days after adoption of the Order	One Time
Principal Permittee submits Hydromodification Management Plan workplan	J.2.a.(2)(a)	180 days after adoption of the Order	One Time
Principal Permittee submits Hydromodification Management Plan progress report	J.2.a.(2)(b)	18 months after adoption of the Order	One Time
Principal Permittee submits draft Hydromodification Management Plan	J.2.a.(2)(c)	2 years after adoption of the Order	One Time
Principal Permittee submits final Hydromodification Management Plan	J.2.a.(2)(d)	180 days after receiving comments from Regional Board	One Time
Principal Permittee submits Model SUSMP update	J.2.b	18 months after adoption of the Order	One Time
Copermittees submit local SUSMP updates	J.2.b	365 days after acceptance of updated Model SUSMP	One Time
Principal Permittee submits Report of Waste Discharge and Long-Term Effectiveness Assessment	J.2.c-d	210 days prior to Order expiration	One Time
Principal Permittee submits Notification of Principal Permittee	M	180 days after adoption of the Order	One Time
Principal Permittee submits formal agreement between Copermittees which provides management structure for meeting Order requirements	M.5	180 days after adoption of Order	One Time
Submit to Principal Permittee individual Jurisdictional Urban Runoff Management Program Annual Reports	J.3.a.(1)	Prior to September 30, 2008, and annually thereafter (Principal Permittee specifies date of submittal)	Annually
Principal Permittee submits unified Jurisdictional Urban Runoff Management Program Annual Report to Regional Board	J.3.a.(2)	September 30, 2008, and annually thereafter	Annually
Lead Watershed Permittees submit to Principal Permittee Watershed Urban Runoff Management Program Annual Reports	J.3.b.(3)	Prior to January 31, 2009 and annually thereafter (Principal Permittee specifies date of submittal)	Annually
Principal Permittee submits unified Watershed Urban Runoff Management Program Annual Report to Regional Board	J.3.b.(3)	January 31, 2009 and annually thereafter	Annually
Principal Permittee submits Regional Urban Runoff	J.3.c	January 31, 2009 and	Annually

Submittal	Permit Section	Completion Date	Frequency
Management Program Annual Report to Regional Board		annually thereafter	
Principal Permittee submits description of Receiving Waters Monitoring Program	Monitoring and Reporting Program, III.A.1	September 1, 2007 and annually thereafter	Annually
Principal Permittee submits description of various monitoring program components	Monitoring and Reporting Program, III.A.3	July 1, 2007 and July 1, 2008	Twice
Principal Permittee submits Receiving Waters Monitoring Program Annual Report	Monitoring and Reporting Program, III.A.2	January 31, 2009 and annually thereafter	Annually
Principal Permittee submits interim Receiving Waters Monitoring Program Annual Report	Monitoring and Reporting Program, III.B	January 31, 2007 and January 31, 2008	Twice
Principal Permittee submits unified interim Jurisdictional URMP and Watershed URMP Annual Reports	J.4	January 31, 2007 and January 31, 2008	Twice
Principal Permittee(s) shall submit standardized formats for all reports required under this Order	M.6	180 days after adoption of Order	One Time

**RECEIVING WATERS AND URBAN RUNOFF MONITORING AND REPORTING
PROGRAM NO. R9-2007-0001**

I. PURPOSE

- A. This Receiving Waters and Urban Runoff Monitoring and Reporting Program is intended to meet the following goals:
1. Assess compliance with Order No. R9-2007-0001;
 2. Measure and improve the effectiveness of the Copermittees' urban runoff management programs;
 3. Assess the chemical, physical, and biological impacts to receiving waters resulting from urban runoff discharges;
 4. Characterize urban runoff discharges;
 5. Identify sources of specific pollutants;
 6. Prioritize drainage and sub-drainage areas that need management actions;
 7. Detect and eliminate illicit discharges and illicit connections to the MS4; and
 8. Assess the overall health of receiving waters.
- B. In addition, this Receiving Waters and Urban Runoff Monitoring and Reporting Program is designed to answer the following core management questions:
1. Are conditions in receiving waters protective, or likely to be protective, of beneficial uses?
 2. What is the extent and magnitude of the current or potential receiving water problems?
 3. What is the relative urban runoff contribution to the receiving water problem(s)?
 4. What are the sources of urban runoff that contribute to receiving water problem(s)?
 5. Are conditions in receiving waters getting better or worse?

II. MONITORING PROGRAM

A. Receiving Waters Monitoring Program

Each Copermittee shall collaborate with the other Copermittees to develop, conduct, and report on a year round watershed based Receiving Waters Monitoring Program. The monitoring program design, implementation, analysis, assessment, and reporting shall be conducted on a watershed basis for each of the hydrologic units. The monitoring program shall be designed to meet the goals and answer the questions listed in section I above. The monitoring program shall include the following components:

1. MASS LOADING STATION (MLS) MONITORING
 - a. The following existing mass loading stations shall continue to be monitored: Santa Margarita River,¹ San Luis Rey River, Agua Hedionda Creek, Escondido Creek, San Dieguito River, Penasquitos, Tecolote Creek, San Diego River,

¹ For the Santa Margarita River mass loading station, if Camp Pendleton will not conduct the required monitoring or prevents access for the Copermittees to conduct the required monitoring, the mass loading station location shall be moved to where the County of San Diego has land-use jurisdiction.

Chollas Creek, Sweetwater River, and Tijuana River. The mass loading stations shall be monitored at the frequency identified in Table 1.

Table 1. Monitoring Rotation and Number of Stations in Watersheds

Watershed Management Area	Watershed	Permit Year 1 2007-2008				Permit Year 2 2008-2009				Permit Year 3 2009-2010				Permit Year 4 2010-2011				Permit Year 5 2011-2012									
		MLS	TWAS	ABLM	BA	MLS	TWAS	ABLM	BA	MLS	TWAS	ABLM	BA	MLS	TWAS	ABLM	BA	MLS	TWAS	ABLM	BA						
Santa Margarita	Santa Margarita River	1			4	1							1				4										
San Luis Rey	San Luis Rey River	1	2		3	1							1	2			3										
Carlsbad	Buena Vista Creek		1		1									1			1										
	Agua Hedionda Creek	1	1		2	1							1	1			2										
	Escondido Creek	1	1		2	1							1	1			2										
San Dieguito	San Dieguito River	1	2	Implement refined program based on assessment	3	1	Bight '08			Implement refined program based on assessment			1	2	Implement refined program based on assessment	3			Implement refined program based on assessment								
Penasquitos	Penasquitos	1	2		3	1					1	2	3														
Mission Bay	Rose Creek										1	1														1	
	Tecolote Creek					1					1	1					2									1	2
San Diego River	San Diego River					1					1	3				4										4	
San Diego Bay	Chollas Creek	1				1		1				1				1	1					1	1				1
	Sweetwater River							1				1	1			2							1	1			2
	Otay River												1			1								1			1
Tijuana	Tijuana River							1				1	2			3								1	1		2

- b. Each mass loading station to be monitored in a given year shall be monitored twice during wet weather events and twice during dry weather flow events. The exception is the 2008-2009 monitoring year, which shall include monitoring of all mass loading stations for one wet weather flow event only if the Copermittees participate in Bight '08.

- c. Each mass loading station shall be monitored for the first wet weather event of the season which meets the USEPA's criteria as described in 40 CFR 122.21(g)(7). Monitoring of the second wet weather event shall be conducted after February 1. Dry weather mass loading monitoring events shall be sampled in September or October prior to the start of the wet weather season and in May or June after the end of the wet weather season. If flows are not evident in September or October, then sampling shall be conducted during non-rain events in the wet weather season.
- d. Mass loading sampling and analysis protocols shall be consistent with 40 CFR 122.21(g)(7)(ii) and with the USEPA Storm Water Sampling Guidance Document (EPA 833-B-92-001). If practicable, the protocols for mass loading sampling and analysis should be SWAMP comparable. If the mass loading sampling and analysis are determined to be impracticable with the SWAMP standards, the Copermittees should provide explanation and discussion to this effect in the Receiving Waters and Urban Runoff Monitoring Annual Report. Wet weather samples shall be flow-weighted composites, collected for the duration of the entire runoff event, where practical. Where such monitoring is not practical, such as for large watersheds with significant groundwater recharge flows, composites shall be collected at a minimum during the first 3 hours of flow. Dry weather event samples shall be flow-weighted composites, collected for a time duration adequate to be representative of changes in pollutant concentrations and runoff flows which may occur over a typical 24 hour period. A minimum of 3 sample aliquots, separated by a minimum of 15 minutes, shall be taken for each hour of monitoring, unless the Regional Board Executive Officer approves an alternate protocol. Automatic samplers shall be used to collect samples from mass loading stations. Grab samples shall be taken for temperature, pH, specific conductance, biochemical oxygen demand, oil and grease, total coliform, fecal coliform, and enterococcus.
- e. Copermittees shall measure or estimate flow rates and volumes for each mass loading station sampling event in order to determine mass loadings of pollutants. Data from nearby USGS gauging stations may be utilized, or flow rates may be estimated in accordance with the USEPA Storm Water Sampling Guidance Document (EPA-833-B-92-001), Section 3.2.1.
- f. In the event that the required number of events are not sampled during one monitoring year at any given station, the Copermittees shall submit, with the subsequent Receiving Waters Monitoring Annual Report, a written explanation for a lack of sampling data, including streamflow data from the nearest USGS gauging station.
- g. The following constituents shall be analyzed for each monitoring event at each station:

Table 2. Analytical Testing for Mass Loading and Temporary Watershed Assessment Stations

Conventional, Nutrients, Hydrocarbons	Pesticides	Metals (Total and Dissolved)	Bacteriological
Total Dissolved Solids Total Suspended Solids Turbidity Total Hardness pH Specific Conductance Temperature Dissolved Phosphorus Nitrite Nitrate Total Kjeldahl Nitrogen Ammonia Biological Oxygen Demand, 5-day Chemical Oxygen Demand Total Organic Carbon Dissolved Organic Carbon Methylene Blue Active Substances Oil and Grease	Diazinon Chlorpyrifos Malathion	Antimony Arsenic Cadmium Chromium Copper Lead Nickel Selenium Zinc	Total Coliform Fecal Coliform Enterococcus

- h. In addition to the constituents listed in Table 2 above, monitoring stations in the Chollas Creek watershed shall also analyze samples for polychlorinated biphenyls (PCBs), Chlordane, and polycyclic aromatic hydrocarbons (PAHs) for each monitoring event.
 - i. The following toxicity testing shall be conducted for each monitoring event at each station as follows:
 - (1) 7-day chronic test with the cladoceran *Ceriodaphnia dubia* (USEPA protocol EPA-821-R-02-013).
 - (2) Chronic test with the freshwater algae *Selenastrum capricornutum* (USEPA protocol EPA-821-R-02-013).
 - (3) Acute survival test with amphipod *Hyaella azteca* (USEPA protocol EPA-821-R-02-012).
 - j. The presence of acute toxicity shall be determined in accordance with USEPA protocol (EPA-821-R-02-012). The presence of chronic toxicity shall be determined in accordance with USEPA protocol (EPA-821-R-02-013).
 - k. The Copermittees shall collaborate to develop and implement a program to assess the presence of trash (anthropogenic litter) in receiving waters. The program shall collect and evaluate trash data in conjunction with collection and evaluation of analytical data. This monitoring program shall be implemented within each watershed and shall begin no later than the 2007-2008 monitoring year.
2. TEMPORARY WATERSHED ASSESSMENT STATION (TWAS) MONITORING
- a. The minimum number of temporary watershed assessment stations to be monitored in a given monitoring year is identified in Table 1. The number of stations located within each watershed may change from the number identified in Table 1, provided the total number of stations monitored in a given year is not reduced below the minimum number of stations identified in Table 1. The

temporary watershed assessment stations shall be monitored and located according to a systematic plan which:

- (1) Ensures that the Copermittees' Receiving Waters Monitoring Program most effectively answers questions 1-5 of section I.B above.
- (2) Provides statistically useful information.
- (3) Identifies the extent and magnitude of receiving water problems within each watershed.
- (4) Provides spatial coverage of each watershed.
- (5) Monitors previously un-assessed sub-watershed areas.
- (6) Focuses on specific areas of concern and high priority areas.
- (7) Provides adequate information to assess the effectiveness of implemented programs and control measures in reducing discharged pollutant loads and improving urban runoff and receiving water quality.

- b. For each temporary watershed assessment station identified to be monitored in a given year, the station shall be monitored twice during wet weather events and twice during dry weather flow events.
- c. Temporary watershed assessment stations shall be monitored in the same manner as the mass loading stations in accordance with the monitoring protocols and requirements outlined in sections II.A.1.c-k above.

3. BIOASSESSMENT (BA) MONITORING

- a. The minimum number of bioassessment stations to be monitored in each watershed in a given monitoring year is identified in Table 1. Bioassessment stations shall include an adequate number of reference stations, with locations of reference stations identified according to protocols outlined in "A Quantitative Tool for Assessing the Integrity of Southern Coastal California Streams," by Ode, et al. 2005.²
- b. Bioassessment stations shall be collocated with both mass loading stations and temporary watershed assessment stations where feasible.
- c. Bioassessment stations to be monitored in a given monitoring year shall be monitored in May or June (to represent the influence of wet weather on the communities) and September or October (to represent the influence of dry weather flows on the communities). The timing of monitoring of bioassessment stations shall coincide with dry weather monitoring of mass loading and temporary watershed assessment stations.
- d. Monitoring of bioassessment stations shall utilize the targeted riffle composite approach, as specified in the Surface Water Ambient Monitoring Program (SWAMP) Quality Assurance Management Plan (QAMP), as amended.

² Ode, et al. 2005. "A Quantitative Tool for Assessing the Integrity of Southern Coastal California Streams." Environmental Management. Vol. 35, No. 1, pp. 1-13.

- e. Monitoring of bioassessment stations shall incorporate assessment of periphyton in addition to macroinvertebrates, using the USEPA's 1999 Rapid Bioassessment Protocols for Use in Wadeable Streams and Rivers.³
 - f. Bioassessment analysis procedures shall include calculation of the Index of Biotic Integrity (IBI) for benthic macroinvertebrates for all bioassessment stations, as outlined in "A Quantitative Tool for Assessing the Integrity of Southern Coastal California Streams," by Ode, et al. 2005.
 - g. A professional environmental laboratory shall perform all sampling, laboratory, quality assurance, and analytical procedures.
4. FOLLOW-UP ANALYSIS AND ACTIONS

When results from the chemistry, toxicity, and bioassessment monitoring described above indicate urban runoff-induced degradation at a mass loading or temporary watershed assessment station, Copermittees within the watershed shall evaluate the extent and causes of urban runoff pollution in receiving waters and prioritize and implement management actions to eliminate or reduce sources. Toxicity Identification Evaluations (TIEs) shall be conducted to determine the cause of toxicity as outlined in Table 3 below. Other follow-up activities which shall be conducted by the Copermittees are also identified in Table 3. Once the cause of toxicity has been identified by a TIE, the Copermittees shall perform source identification projects as needed and implement the measures necessary to reduce the pollutant discharges and abate the sources causing the toxicity.

Table 3. Triad Approach to Determining Follow-Up Actions

	Chemistry⁴	Toxicity⁵	Bioassessment⁶	Action
1.	Persistent exceedance of water quality objectives (high frequency constituent of concern identified)	Evidence of persistent toxicity	Indications of alteration	Conduct TIE to identify contaminants of concern, based on TIE metric. Address upstream sources as a high priority.
2.	No persistent exceedances of water quality objectives	No evidence of persistent toxicity	No indications of alteration	No action necessary.

³ USEPA, 1999. Rapid Bioassessment Protocols for Use in Wadeable Streams and Rivers. EPA-841-B-99-002.

⁴ Persistent exceedance shall mean exceedances of established water quality objectives, benchmarks, or action levels by a pollutant known to cause toxicity for two wet weather and/or two dry weather samples in a given year.

⁵ Toxicity shall mean when the Lowest Observed Effect Concentration (LOEC) (for chronic toxicity tests) or median lethal concentration (LC₅₀) (for acute toxicity tests) for any given species is less than or equal to 100% of the test sample and observed effects are significantly different from the control. Evidence of persistent toxicity shall mean toxicity to a specific test organism in more than 50% of the samples taken for a given location during a given monitoring year. When a monitoring event has the potential to indicate evidence of persistent toxicity (e.g. the third event of four monitoring events), sufficient samples shall be collected in order to conduct any TIEs that may be required. When a sample collected in order to conduct a TIE does not result in mortality or exhibit a toxic effect in at least 50% of the applicable test organisms in the 100% storm water sample, the TIE may be conducted with a sample collected during the next monitoring event.

⁶ Indications of alteration shall mean an IBI score of Poor or Very Poor.

	Chemistry⁴	Toxicity⁵	Bioassessment⁶	Action
3.	Persistent exceedance of water quality objectives (high frequency constituent of concern identified)	No evidence of persistent toxicity	No indications of alteration	Address upstream sources as a low priority.
4.	No persistent exceedances of water quality objectives	Evidence of persistent toxicity	No indications of alteration	Conduct TIE to identify contaminants of concern, based on TIE metric. Address upstream sources as medium priority.
5.	No persistent exceedances of water quality objectives	No evidence of persistent toxicity	Indications of alteration	No action necessary to address toxic chemicals. Address potential role of urban runoff in causing physical habitat disturbance.
6.	Persistent exceedance of water quality objective (high frequency constituent of concern identified)	Evidence of persistent toxicity	No indications of alteration	If chemical and toxicity tests indicate persistent degradation, conduct TIE to identify contaminants of concern, based on TIE metric and address upstream source as a medium priority.
7.	No persistent exceedances of water quality objectives	Evidence of persistent toxicity	Indications of alteration	Conduct TIE to identify contaminants of concern, based on TIE metric. Address upstream sources as a high priority. Address potential role of urban runoff causing physical habitat disturbance.
8.	Persistent exceedance of water quality objectives objective (high frequency constituent of concern identified)	No evidence of persistent toxicity	Indications of alteration	Address upstream source as a high priority.

5. AMBIENT BAY AND LAGOON MONITORING (ABLM)

- a. Ambient Bay and Lagoon Monitoring shall be conducted according to the schedule identified in Table 1.
- b. If results of the Ambient Bay and Lagoon Monitoring assessment indicate a general relationship and/or linkage between conditions in bays/lagoons/estuaries with conditions at mass loading stations, then monitoring shall be conducted at the following locations: Santa Margarita River Estuary, Oceanside Harbor, San Luis Rey Estuary, Buena Vista Lagoon, Agua Hedionda Lagoon, Batiquitos Lagoon, San Elijo Lagoon, San Dieguito Lagoon, Los Penasquitos Lagoon, Mission Bay, Sweetwater River Estuary, and Tijuana River Estuary. This monitoring shall be designed to most effectively answer each of questions 1-5 of section I.B above as they pertain to bays/lagoons/estuaries.

- c. If results of the Ambient Bay and Lagoon Monitoring assessment do not indicate a relationship and/or linkage between conditions in bays/lagoons/estuaries with conditions at mass loading stations, then monitoring shall be conducted for special investigations of the bays/lagoons/estuaries. These special investigations shall be designed to most effectively answer each of questions 1-5 of section I.B above as they pertain to bays/lagoons/estuaries, with an emphasis on answering question 4.
 - d. Ambient Bay and Lagoon Monitoring shall utilize the triad approach, analyzing chemistry, toxicity, and benthic infauna data.
 - e. Ambient Bay and Lagoon Monitoring shall include a water column monitoring component as necessary to supply information needed for the development, implementation, and assessment of Total Maximum Daily Loads (TMDLs).
6. COASTAL STORM DRAIN MONITORING

The Copermittees shall collaborate to develop and implement a coastal storm drain monitoring program. The monitoring program shall include:

- a. Identification of coastal storm drains which discharge to coastal waters.
- b. Monthly sampling of all flowing coastal storm drains identified in section II.A.6.a for total coliform, fecal coliform, and enterococcus.⁷ Where flowing coastal storm drains are discharging to coastal waters, paired samples from the storm drain discharge and coastal water (25 yards down current of the discharge) shall be collected. If flowing coastal storm drains are not discharging to coastal waters, only the storm drain discharge needs to be sampled.
 - (1) Frequency of sampling of coastal storm drains may be reduced to every other month if the paired coastal storm drain data:
 - (a) Exhibits three consecutive storm drain samples with all bacterial indicators below the Copermittees' sampling frequency reduction criteria, as the sampling frequency reduction criteria was developed under Order No. 2001-01.
 - (b) Exhibits that the three consecutive samples discussed in (a) above are paired with receiving water samples that do not exceed Assembly Bill (AB) 411 or Basin Plan standards.
 - (c) Exhibits that less than 20% of the storm drain samples were above any of the sampling frequency reduction criteria during the previous year.
 - (2) The Copermittees shall notify the Regional Board of any coastal storm drains eligible for sampling frequency reduction prior to October 1 of each year. Sampling frequency reduction shall not occur prior to Regional Board

⁷ Coastal storm drains where sampler safety, habitat impacts from sampling, or inaccessibility are issues need not be sampled. Such coastal storm drains shall be added to the Copermittee's dry weather field screening and analytical monitoring program where feasible.

notification.

- (3) Re-sampling shall be implemented within one business day of receipt of analytical results for coastal storm drains where:
 - (a) Both storm drain and receiving water samples exceed AB 411 or Basin Plan standards for any bacterial indicator.
 - (b) The storm drain sample exceeds 95th percentile observations of the previous year's data for any bacterial indicator.
- (4) If re-sampling conducted under section (3) above exhibits continued exceedances of a AB 411 or Basin Plan standards in either the storm drain or receiving water, investigations of sources of bacterial contamination shall commence within one business day of receipt of analytical results.
- (5) Investigations of sources of bacterial contamination shall occur immediately if evidence of abnormally high flows, sewage releases, restaurant discharges, and/or similar evidence is observed during sampling.
- (6) Exceedances of public health standards for bacterial indicators shall be reported to the County Department of Environmental Health as soon as possible.

7. PYRETHROIDS MONITORING

The Copermittees shall collaborate to develop and implement a monitoring program to measure and assess the presence of pyrethroids in receiving waters. This monitoring program shall be implemented within each watershed and shall begin no later than the 2007-2008 monitoring year.

B. Urban Runoff Monitoring

Each Copermittee shall collaborate with the other Copermittees to develop, conduct, and report on a year round watershed based Urban Runoff Monitoring Program. The monitoring program design, implementation, analysis, assessment, and reporting shall be conducted on a watershed basis for each of the hydrologic units. The monitoring program shall be designed to meet the goals and answer the questions listed in section I above. The monitoring program shall include the following components

1. MS4 OUTFALL MONITORING

The Copermittees shall collaborate to develop and implement a monitoring program to characterize pollutant discharges from MS4 outfalls in each watershed during wet and dry weather. The program shall include rationale and criteria for selection of outfalls to be monitored. The program shall at a minimum include collection of samples for those pollutants causing or contributing to violations of water quality standards within the watershed. This monitoring program shall be implemented within each watershed and shall begin within the 2007-2008 monitoring year.

2. SOURCE IDENTIFICATION MONITORING

The Copermittees shall collaborate to develop and implement a monitoring program to identify sources of discharges of pollutants causing the priority water quality problems within each watershed. The monitoring program shall include focused monitoring which moves upstream into each watershed as necessary to identify sources. The monitoring program shall use source inventories and "Threat to Water Quality" analysis to guide monitoring efforts. This monitoring program shall be implemented within each watershed and shall begin no later than the 2008-2009 monitoring year.

3. DRY WEATHER FIELD SCREENING AND ANALYTICAL MONITORING

As part of its Jurisdictional Urban Runoff Management Program, each Copermittee shall update as necessary its dry weather field screening and analytical monitoring program to meet or exceed the requirements of this section. Dry weather analytical and field screening monitoring consists of (1) field observations; (2) field screening monitoring; and (3) analytical monitoring at selected stations. The Dry Weather Field Screening and Analytical Monitoring program is not required to be SWAMP comparable. Each Copermittee's program shall be designed to detect and eliminate illicit connections and illegal discharges to the MS4 using frequent, geographically widespread dry weather discharge monitoring and follow-up investigations. Each Copermittee shall conduct the following dry weather field screening and analytical monitoring tasks:

a. Select Dry Weather Field Screening and Analytical Monitoring Stations

Based upon a review of its past Dry Weather Monitoring Program, each Copermittee shall select dry weather field screening and analytical monitoring stations within its jurisdiction. No more than 500 dry weather field screening and analytical monitoring stations (excluding alternate stations) need to be selected by any individual Copermittee for any given year. Stations shall be selected according to one of the following methods:

- (1) Stations shall be either major outfalls or other outfall points (or any other point of access such as manholes) randomly located throughout the MS4 by placing a grid over a drainage system map and identifying those cells of the grid which contain a segment of the MS4 or major outfall. This random selection has to use the following guidelines and criteria:
 - (a) A grid system consisting of perpendicular north-south and east-west lines spaced $\frac{1}{4}$ mile apart shall be overlaid on a map of the MS4, creating a series of cells;
 - (b) All cells that contain a segment of the MS4 shall be identified and one dry weather analytical monitoring station shall be selected in each cell.
 - (c) Each Copermittee shall determine alternate stations to be sampled in place of selected stations that do not have flow.
- (2) Stations may be selected non-randomly provided adequate coverage of the entire MS4 system is ensured and that the selection of stations meets,

exceeds, or provides equivalent coverage to the requirements given above. The dry weather analytical and field screening monitoring stations shall be established using the following guidelines and criteria:

- (a) Stations should be located downstream of any sources of suspected illegal or illicit activity;
- (b) Stations shall be located to the degree practicable at the farthest manhole or other accessible location downstream in the system within each cell;
- (c) Hydrological conditions, total drainage area of the site, traffic density, age of the structures or buildings in the area, history of the area, and land use types shall be considered in locating stations;
- (d) Each Copermittee shall determine alternate stations to be sampled in place of selected stations that do not have flow.

b. Complete MS4 Map

Each Copermittee shall clearly identify each dry weather field screening and analytical monitoring station on its MS4 Map as either a separate GIS layer or a map overlay hereafter referred to as a Dry Weather Field Screening and Analytical Stations Map. Each Copermittee shall confirm that each drainage area within its jurisdiction contains at least one station.

c. Develop Dry Weather Field Screening and Analytical Monitoring Procedures

Each Copermittee shall develop and/or update written procedures for dry weather field screening and analytical monitoring (for analytical monitoring only, these procedures must be consistent with 40 CFR part 136), including field observations, monitoring, and analyses to be conducted. At a minimum, the procedures must meet the following guidelines and criteria:

- (1) Determining Sampling Frequency: Dry weather field screening and analytical monitoring shall be conducted at each identified station at least once between May 1st and September 30th of each year or as often as the Copermittee determines is necessary to comply with the requirements of section D.4 of Order No. R9-2007-0001.
- (2) If flow or ponded runoff is observed at a dry weather field screening or analytical monitoring station and there has been at least seventy-two (72) hours of dry weather, make observations and collect at least one (1) grab sample. Record general information such as time since last rain, quantity of last rain, site descriptions (i.e., conveyance type, dominant watershed land uses), flow estimation (i.e., width of water surface, approximate depth of water, approximate flow velocity, flow rate), and visual observations (i.e., odor, color, clarity, floatables, deposits/stains, vegetation condition, structural condition, and biology).
- (3) At a minimum, collect samples for analytical laboratory analysis of the following constituents for at least twenty five percent (25%) of the dry weather monitoring stations where water is present:

- (a) Total Hardness
 - (b) Oil and Grease
 - (c) Diazinon and Chlorpyrifos
 - (d) Cadmium (Dissolved)
 - (e) Lead (Dissolved)
 - (f) Zinc (Dissolved)
 - (g) Copper (Dissolved)
 - (h) Enterococcus bacteria⁸
 - (i) Total Coliform bacteria⁸
 - (j) Fecal Coliform bacteria⁸
- (4) At a minimum, conduct field screening analysis of the following constituents at all dry weather monitoring stations where water is present:
- (a) Specific conductance (calculate estimated Total Dissolved Solids).
 - (b) Turbidity
 - (c) pH
 - (d) Reactive Phosphorous
 - (e) Nitrate Nitrogen
 - (f) Ammonia Nitrogen
 - (g) Surfactants (MBAS)
- (5) If the station is dry (no flowing or ponded runoff), make and record all applicable observations and select another station from the list of alternate stations for monitoring.
- (6) Develop and/or update criteria for dry weather field screening and analytical monitoring results whereby exceedance of the criteria will require follow-up investigations to be conducted to identify and eliminate the source causing the exceedance of the criteria.
- (7) Assess the presence of trash in receiving waters and urban runoff at each dry weather field screening or analytical monitoring station. Assessments of trash shall provide information on the spatial extent and amount of trash present, as well as the nature of the types of trash present.
- (8) Dry weather field screening and analytical monitoring stations identified to exceed dry weather monitoring criteria for any constituents shall continue to be screened in subsequent years.
- (9) Develop and/or update procedures for source identification follow up investigations in the event of exceedance of dry weather field screening and analytical monitoring result criteria. These procedures shall be consistent with procedures required in section D.4.d of Order No. R9-2007-0001.
- (10) Develop and/or update procedures to eliminate detected illicit discharges and connections. These procedures shall be consistent with each Copermittes

⁸ Colilert and Enterolert may be used as alternative methods with Fecal Coliform determined by calculations.

Illicit Discharge and Elimination component of its Jurisdictional Urban Runoff Management Plan as discussed in section D.4 of Order No. R9-2007-0001.

d. Conduct Dry Weather Field Screening and Analytical Monitoring

The Copermittees shall commence implementation of dry weather field screening and analytical monitoring under the requirements of this Order by May 1, 2008. Each Copermittee shall conduct dry weather analytical and field screening monitoring in accordance with its storm water conveyance system map and dry weather analytical and field screening monitoring procedures as described in section II.B.3 above. If monitoring indicates an illicit connection or illegal discharge, conduct the follow-up investigation and elimination activities as described in submitted dry weather field screening and analytical monitoring procedures and sections D.4.d and D.4.e of Order No. R9-2007-0001. Until the dry weather field screening and analytical monitoring program is implemented under the requirements of this Order, each Copermittee shall continue to implement dry weather field screening and analytical monitoring as it was most recently implemented pursuant to Order No. 2001-01.

C. Regional Monitoring Program

1. The Copermittees shall participate and coordinate with federal, state, and local agencies and other dischargers in development and implementation of a regional watershed monitoring program as directed by the Executive Officer.
2. Bight '08
 - a. During the 2008-2009 monitoring year (Permit Year 2), the Copermittees may participate in the Bight '08 study. The Copermittees shall ensure that such participation results in collection and analysis of data useful in addressing the goals and management questions of the Receiving Waters Monitoring Program. Any participation shall include the contribution of all funds not otherwise spent on full implementation of mass loading station, temporary watershed assessment station, ambient bay and lagoon, and bioassessment monitoring. All other monitoring shall continue during the 2008-2009 monitoring year (Permit Year 2) as required.
 - b. If the Copermittees do not participate in Bight '08, mass loading station, temporary watershed assessment station, ambient bay an lagoon, and bioassessment monitoring shall be conducted as follows:
 - (1) Permit Year 3 (2009-2010) monitoring shall be conducted in Permit Year 2 (2008-2009) (see Table 1).
 - (2) Permit Year 4 (2010-2011) monitoring shall be conducted in Permit Year 3 (2009-2010) (see Table 1).
 - (3) Permit Year 5 (2011-2012) monitoring shall be conducted in Permit Year 4 (2010-2011).

(4) Permit Year 1 (2007-2008) monitoring shall be conducted in Permit Year 5 (2011-2012).

- c. If the Copermittees partially participate in Bight '08, monitoring shall be conducted as described in section II.C.2.b above, with the exception of any monitoring offset by the contribution of funds to Bight '08.

D. Special Studies

1. TMDL MONITORING

- a. All monitoring shall be conducted as required in Investigation Order No. R9-2004-0277 for Chollas Creek.

2. REGIONAL HARBOR MONITORING

- a. The Copermittees which discharge to harbors shall participate in the development and implementation of the Regional Harbor Monitoring Program.

3. The Copermittees shall conduct special studies, including any monitoring required for TMDL development and implementation, as directed by the Executive Officer.

E. Monitoring Provisions

All monitoring activities shall meet the following requirements:

1. Where procedures are not otherwise specified in this Receiving Waters Monitoring and Reporting Program (e.g., Dry Weather Field Screening and Analytical Monitoring), sampling, analysis and quality assurance/quality control must be conducted in accordance with the Quality Assurance Management Plan (QAMP) for the State of California's Surface Water Ambient Monitoring Program (SWAMP), adopted by the State Water Resources Control Board (SWRCB).
2. Samples and measurements taken for the purpose of monitoring shall be representative of the monitored activity [40 CFR 122.41(j)(1)].
3. The Copermittees shall retain records of all monitoring information, including all calibration and maintenance of monitoring instrumentation, copies of all reports required by this Order, and records of all data used to complete the Report of Waste Discharge and application for this Order, for a period of at least five (5) years from the date of the sample, measurement, report, or application. This period may be extended by request of the Regional Board or USEPA at any time and shall be extended during the course of any unresolved litigation regarding this discharge. [40 CFR 122.41(j)(2), CWC section 13383(a)]
4. Records of monitoring information shall include [40 CFR 122.41(j)(3)]:
 - a. The date, exact place, and time of sampling or measurements;
 - b. The individual(s) who performed the sampling or measurements;
 - c. The date(s) analyses were performed;

- d. The individual(s) who performed the analyses;
 - e. The analytical techniques or methods used; and
 - f. The results of such analyses.
5. All sampling, sample preservation, and analyses must be conducted according to test procedures approved under 40 CFR part 136, unless other test procedures have been specified in this Receiving Waters Monitoring and Reporting Program or approved by the Executive Officer [40 CFR 122.41(j)(4)].
 6. The CWA provides that any person who falsifies, tampers with, or knowingly renders inaccurate any monitoring device or method required to be maintained under this Order shall, upon conviction, be punished by a fine of not more than \$10,000, or by imprisonment for not more than two years, or both. If a conviction of a person is for a violation committed after a first conviction of such person under this paragraph, punishment is a fine of not more than \$20,000 per day of violation, or by imprisonment of not more than four years, or both. [40 CFR 122.41(j)(5)]
 7. Calculations for all limitations which require averaging of measurements shall utilize an arithmetic mean unless otherwise specified in this Receiving Waters Monitoring and Reporting Program. [40 CFR 122.41(l)(4)(iii)]
 8. All chemical, bacteriological, and toxicity analyses shall be conducted at a laboratory certified for such analyses by the California Department of Health Services or a laboratory approved by the Executive Officer.
 9. For priority toxic pollutants that are identified in the California Toxics Rule (CTR) (65 Fed. Reg. 31682), the Copermittees shall instruct its laboratories to establish calibration standards that are equivalent to or lower than the Minimum Levels (MLs) published in Appendix 4 of the Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California (SIP). If a Copermittee can demonstrate that a particular ML is not attainable, in accordance with procedures set forth in 40 CFR 136, the lowest quantifiable concentration of the lowest calibration standard analyzed by a specific analytical procedure (assuming that all the method specified sample weights, volumes, and processing steps have been followed) may be used instead of the ML listed in Appendix 4 of the SIP. The Copermittee must submit documentation from the laboratory to the Regional Board for approval prior to raising the ML for any priority toxic pollutant.
 10. The Regional Board Executive Officer or the Regional Board may make revisions to this Receiving Waters and Urban Runoff Monitoring and Reporting Program at any time during the term of Order No. R9-2007-0001, and may include a reduction or increase in the number of parameters to be monitored, locations monitored, the frequency of monitoring, or the number and size of samples collected.
 11. The Clean Water Act provides that any person who knowingly makes any false statement, representation, or certification in any record or other document submitted or required to be maintained under this permit, including monitoring reports or reports of compliance or non-compliance shall, upon conviction, be punished by a fine of not more than \$10,000 per violation, or by imprisonment for not more than six

months per violation, or by both. [40 CFR 122.41(k)(2)]

12. Monitoring shall be conducted according the USEPA test procedures approved under 40 CFR 136, "Guidelines Establishing Test Procedures for Analysis of Pollutants under the Clean Water Act" as amended, unless other test procedures have been specified in this Receiving Waters and Urban Runoff Monitoring and Reporting Program, in Order No. R9-2007-0001, or by the Executive Officer.
13. If the discharger monitors any pollutant more frequently than required by the permit using test procedures approved under 40 CFR part 136, unless otherwise specified in the Order, the results of this monitoring shall be included in the calculation and reporting of the data submitted in the reports requested by the Regional Board. [40 CFR 122.41(l)(4)(ii)]

III. REPORTING PROGRAM

A. Monitoring Reporting

1. The Principal Permittee shall submit a description of the Receiving Waters and Urban Runoff Monitoring Program to be implemented for every monitoring year. The submittals shall begin on September 1, 2007, and continue every year thereafter. The submittals shall describe all monitoring to be conducted during the upcoming monitoring year. For example, the September 1, 2007 submittal shall describe the monitoring to be conducted from October 1, 2007 through September 30, 2008.

If the Copermittees participate in Bight '08, their submittal for the 2008-2009 monitoring year shall describe the monitoring to be conducted for Bight '08 and exhibit how the monitoring will result in collection and analysis of data useful in addressing the goals and management questions of the Receiving Waters and Urban Runoff Monitoring Program.

2. The Principal Permittee shall submit the Receiving Waters and Urban Runoff Monitoring Annual Report to the Regional Board on January 31 of each year, beginning on January 31, 2009. Receiving Waters and Urban Runoff Monitoring Annual Reports shall meet the following requirements:
 - a. Annual monitoring reports shall include the data/results, methods of evaluating the data, graphical summaries of the data, and an explanation/discussion of the data for each monitoring program component.
 - b. Annual monitoring reports shall include a watershed-based analysis of the findings of each monitoring program component. Each watershed-based analysis shall include:
 - (1) Identification and prioritization of water quality problems within each watershed.
 - (2) Identification and description of the nature and magnitude of potential sources of the water quality problems within each watershed.
 - (3) Exhibition of pollutant load and concentration increases or decreases at each mass loading and temporary watershed assessment station.

- (4) Evaluation of pollutant loads and concentrations at mass loading and temporary watershed assessment stations with respect to land use, population, sources, and other characteristics of watersheds using tools such as multiple linear regression, factor analysis, and cluster analysis.
 - (5) Identification of links between source activities/conditions and observed receiving water impacts.
 - (6) Identification of recommended future monitoring to identify and address sources of water quality problems.
 - (7) Results and discussion of any TIE conducted, together with actions that will be implemented to reduce the discharge of pollutants and abate the sources causing the toxicity.
- c. Annual monitoring reports shall include a detailed description of all monitoring conducted under Investigation Order No. R9-2004-0277 for Chollas Creek. Annual monitoring reports shall also include all information required by Investigation Order No. R9-2004-0277.
 - d. Annual monitoring reports shall include discussions for each watershed which answer each of the management questions listed in section I.B of this Receiving Waters Monitoring and Reporting Program.
 - e. Annual monitoring reports shall identify how each of the goals listed in section I.A of this Receiving Waters Monitoring and Reporting Program has been addressed by the Copermittees' monitoring.
 - f. Annual monitoring reports shall include identification and analysis of any long-term trends in storm water or receiving water quality. Trend analysis shall use nonparametric approaches, such as the Mann-Kendall test, including exogenous variables in a multiple regression model, and/or using a seasonal nonparametric trend model, where applicable.
 - g. Annual monitoring reports shall provide an estimation of total pollutant loads (wet weather loads plus dry weather loads) due to urban runoff for each of the watersheds specified in Table 4 of Order No. R9-2007-0001.
 - h. Annual monitoring reports shall for each monitoring program component listed above, include an assessment of compliance with applicable water quality standards.
 - i. Annual monitoring reports shall describe monitoring station locations by latitude and longitude coordinates, frequency of sampling, quality assurance/quality control procedures, and sampling and analysis protocols.
 - j. Annual monitoring reports shall use a standard report format and shall include the following:
 - (1) A stand alone comprehensive executive summary addressing all sections of the monitoring report;
 - (2) Comprehensive interpretations and conclusions; and

- (3) Recommendations for future actions.
- k. All monitoring reports submitted to the Principal Permittee or the Regional Board shall contain the certified perjury statement described in Attachment B of Order No. R9-2007-0001.
 - l. Annual monitoring reports shall be reviewed prior to submittal to the Regional Board by a committee (consisting of no less than three members). All review comments shall also be submitted to the Regional Board.
 - m. Annual monitoring reports shall be submitted in both electronic and paper formats.
- 3. The Principal Permittee shall submit by July 1, 2007 a detailed description of the monitoring programs to be implemented under requirements II.A.1.k, II.A.7, and II.B.3.c.(7) of Receiving Waters and Urban Runoff Monitoring and Reporting Program No. R9-2007-0001. The Principal Permittee shall submit by July 1, 2008, a detailed description of the monitoring programs to be implemented under requirement II.B.1 and II.B.2 of Receiving Waters and Urban Runoff Monitoring and Reporting Program No. R9-2007-0001. The description shall identify and provide the rationale for the constituents monitored, locations of monitoring, frequency of monitoring, and analyses to be conducted with the data generated.
 - 4. By January 31, 2010, the City of San Diego shall submit a report which evaluates the data and assumptions used to estimate the WLA to Shelter Island Yacht Basin of 30 kg Cu/year. The report shall evaluate if any changes have occurred in the watershed which could cause or contribute to a higher copper urban runoff discharge and any actions necessary to address these changes. The report shall be an attachment to the Watershed Urban Runoff Management Program Annual Report for the San Diego Bay watershed.
 - 5. Monitoring programs and reports shall comply with section II.E of Receiving Waters and Urban Runoff Monitoring and Reporting Program No. R9-2007-0001 and Attachment B of Order No. R9-2007-0001.
 - 6. Following completion of an annual cycle of monitoring in October, the Copermittees shall make the monitoring data and results available to the Regional Board at the Regional Board's request.

B. Interim Reporting Requirements

For the October 2005-October 2006 and October 2006-October 2007 monitoring periods, the Principal Permittee shall submit the Receiving Waters Monitoring Annual Reports on January 31, 2007 and January 31, 2008, respectively. The Receiving Waters Monitoring Annual Report shall address the monitoring conducted to comply with the requirements of Order No. 2001-01.

FACT SHEET/TECHNICAL REPORT

FOR

ORDER NO. R9-2007-0001

NPDES NO. CAS0108758

WASTE DISCHARGE REQUIREMENTS

FOR

DISCHARGES OF URBAN RUNOFF FROM

THE MUNICIPAL SEPARATE STORM SEWER SYSTEMS (MS4s)

DRAINING THE WATERSHEDS OF THE COUNTY OF SAN DIEGO,

THE INCORPORATED CITIES OF SAN DIEGO COUNTY,

THE SAN DIEGO UNIFIED PORT DISTRICT, AND THE SAN DIEGO COUNTY

REGIONAL AIRPORT AUTHORITY

JANUARY 24, 2007

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Attachment A – Revised Tentative Order No. R9-2006-0011 dated August 30, 2006

Attachment B – Responses to Comments dated August 30, 2006

Attachment C – Revised Tentative Order No. R9-2006-0011 dated December 13, 2006

Attachment D – Responses to Comments II dated December 13, 2006

Attachment E – Revised Tentative Order No. R9-2007-0001 dated January 24, 2007
Attachment F – Responses to Comments III dated January 24, 2007

I. LIST OF ACRONYMS AND ABBREVIATIONS

ADT - Average Daily Traffic
BAT - Best Available Technology
BIA - Building Industry Association of San Diego County
BMP - Best Management Practice
Basin Plan - Water Quality Control Plan for the San Diego Basin
CASQA - California Stormwater Quality Association
CCC - California Coastal Commission
CDFG - California Department of Fish and Game
CEQA - California Environmental Quality Act
CFR - Code of Federal Regulations
Copermittees - County of San Diego, the 18 incorporated cities within the County of San Diego, the San Diego Unified Port District, and the San Diego County Regional Airport Authority
CWA - Clean Water Act
CWC - California Water Code
CZARA - Coastal Zone Act Reauthorization Amendments of 1990
ESAs - Environmentally Sensitive Areas
FR - Federal Register
GIS - Geographic Information System
IC/ID - Illicit Connections and Illicit Discharges
JURMP - Jurisdictional Urban Runoff Management Plan
LARWQCB - Los Angeles Regional Water Quality Control Board
MEP - Maximum Extent Practicable
MRP - Receiving Waters Monitoring and Reporting Program
MS4 - Municipal Separate Storm Sewer System
NOI - Notice of Intent
NPDES - National Pollutant Discharge Elimination System
NRDC - Natural Resources Defense Council
NURP - Nationwide Urban Runoff Program
Regional Board - San Diego Regional Water Quality Control Board
RGOs - Retail Gasoline Outlets
ROWD - San Diego County Copermittees' Report of Waste Discharge
RURMP - Regional Urban Runoff Management Plan
RWLs - Receiving Water Limitations
SANDAG - San Diego Association of Governments
SIC - Standard Industrial Classification Code
SUSMP - Standard Urban Storm Water Mitigation Plan
SWMP - Storm Water Management Plan
SWRCB - State Water Resources Control Board
SWPPP - Storm Water Pollution Prevention Plan
TAC - State Water Resources Control Board Urban Runoff Technical Advisory Committee
TIE - Toxicity Identification Evaluation
TMDL - Total Maximum Daily Load
USEPA - United States Environmental Protection Agency
WDRs - Waste Discharge Requirements
WLAs - Waste Load Allocation
WQC - Water Quality Criteria

WQBELs - Water Quality Based Effluent Limits
WSPA - Western States Petroleum Association
WURMP - Watershed Urban Runoff Management Plan

II. FACT SHEET FORMAT

This Fact Sheet briefly sets forth the principle facts and the significant factual, legal, methodological, and policy questions that the California Regional Water Quality Control Board, San Diego Region (Regional Board) considered in preparing Order No. R9-2007-0001. In accordance with the Code of Federal Regulations (CFR) title 40 parts 124.8 and 124.56, this Fact Sheet includes, but is not limited to, the following information:

- Contact information
- Public process and notification procedures
- Background information
- Permitting approach discussion
- Economic issues discussion
- Legal authority discussion
- Findings discussions
- Directives discussions

The main body of the Fact Sheet (sections IX and X) reflects the findings and requirements of the Order as they were originally proposed in Tentative Order No. R9-2006-0011, dated March 10, 2006. Through the subsequent public participation process, the findings and requirements of the Tentative Order evolved and were modified in response to comments received. These modifications, as well as discussions providing the rationale for the modifications, are provided in the Attachments to the Fact Sheet.

The Regional Board's files applicable to the issuance of Order No. R9-2007-0001 are incorporated into the administrative record in support of the findings and requirements of Order No. R9-2007-0001.

III. CONTACT INFORMATION

Regional Board

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Phil Hammer, Environmental Scientist C
9174 Sky Park Court, Suite 100
San Diego, CA 92123
858-627-3988
858-571-6972 (fax)
email: phammer@waterboards.ca.gov

The Order and other related documents can be downloaded from the Regional Board website at:
http://www.waterboards.ca.gov/sandiego/programs/sd_stormwater.html

All documents referenced in this Fact Sheet and in Order No. R9-2007-0001 are available for public review at the Regional Board office, located at the address listed above. Public records are available for inspection during regular business hours, from 8:00 am to 5:00 pm Monday through

Friday. To schedule an appointment to inspect public records, contact Sylvia Wellnitz at 858-637-5593, or DiAnne Broussard at 858-492-1763.

Copermittees

County of San Diego Department of Public Works Jon Van Rhyn 9325 Hazard Way San Diego, CA 92123 (858) 495-5133	City of El Cajon John Phillips 200 East Main St., Floor 4 El Cajon, CA 92020 (619) 441-5580	City of Oceanside Water Utilities Department Mo Lahsaie 300 N. Coast Highway Oceanside, CA 92057 (760) 435-5803
Unified Port of San Diego Karen Helyer P.O. Box 120488 San Diego, CA 92112-0488 (619) 725-6073	City of Encinitas Kathy Weldon 505 S. Vulcan Avenue Encinitas, CA 92024 (760) 633-2632	City of Poway Development Services Danis Bechter P.O. Box 789 Poway, CA 92074 (858) 668-4630
San Diego County Regional Airport Authority Paul Manasjan P.O. Box 82776 San Diego, CA 92138-2776 (619) 400-2783	City of Escondido Patrick Thomas 201 N. Broadway Escondido, CA 92025 (760) 839-6315	City of San Diego Stormwater Pollution Prevention Program Chris Zirkle 1970 B Street San Diego, CA 92101 (619) 525-8647
City of Carlsbad Elaine Lukey 1635 Faraday Avenue Carlsbad, CA 92008 (760) 602-7580	City of Imperial Beach Hank Levien 825 Imperial Beach Blvd. Imperial Beach, CA 91932 (619) 628-1370	City of San Marcos Public Works Jasen Boyens 201 Mata Way San Marcos, CA 92069 (760) 752-7550X3333
City of Chula Vista Khosro Aminpour 1800 Maxwell Road Chula Vista, CA 91911 (619) 397-6111	City of La Mesa Malik Tamimi 8130 Allison Avenue La Mesa, CA 91941 (619) 667-1153	City of Santee Cary Stewart 10601 Magnolia Avenue Santee, CA 92071 (619) 258-4100
City of Coronado Public Services Scott Huth 101 B Avenue Coronado, CA 92118 (619) 522-7312	City of Lemon Grove Cora Long 3232 Main Street Lemon Grove, CA 91945 (619) 825-3800X3925	City Of Solana Beach Danny King 635 South Highway 101 Solana Beach, CA 92075 (858) 720-2477
City of Del Mar Rosanna Lacarra 9275 Sky Park Court, Suite 200 San Diego, CA 92123 (858) 874-1810	City of National City Din Daneshfar 1243 National City Blvd. National City, CA 91950 (619) 336-4387	City of Vista Engineering Linda Isakson 1165 East Taylor Street Vista, Ca 92084 (760) 726-1340

IV. PUBLIC PROCESS AND NOTIFICATION PROCEDURES

The Regional Board followed the schedule listed below for the preparation of Order No. R9-2007-0001:

- In July 2004, the Regional Board issued the San Diego County Municipal Storm Water Permit Reissuance Analysis Summary, which considered various permitting options such as watershed-based permits and identified the Regional Board’s preferred permitting approach for this permit cycle. The Regional Board solicited and received public comments on the document.

- From October 2004 to July 2005, the Regional Board met with the County of San Diego, the 18 incorporated cities within the County of San Diego, and the San Diego Unified Port District (hereinafter Copermittees) representatives on six occasions to discuss the Copermittees' Report of Waste Discharge (ROWD) and potential changes to the permit.
- The Regional Board received the ROWD on August 25, 2005.
- On September 14, 2005, the Regional Board held a public workshop to inform Regional Board members of the principal issues facing permit re-issuance and allow interested parties to address the Regional Board on permit issues.
- On December 14, 2005, the Regional Board held a workshop on the requirements for fiscal assurances in municipal separate storm sewer system (MS4) permits in the San Diego Region.
- On March 10, 2006, the Regional Board released the Tentative Order and supporting Fact Sheet, beginning the public comment period.
- On April 26, 2006, the Regional Board held a workshop on the requirements of the Tentative Order.
- On May 24, 2006, the Regional Board held a workshop on the requirements of the Tentative Order.
- On June 21, 2006, the Regional Board held a public hearing on the requirements of the Tentative Order.
- On August 30, 2006, the Regional Board released a revised Tentative Order and supporting Fact Sheet, as well as a Responses to Comments document.
- Until October 30, 2006, the Regional Board accepted written comments on the revised Tentative Order.
- On December 4, 2006, the Regional Board released a second revised Tentative Order and supporting Fact Sheet, as well as a Responses to Comments II document (all dated December 13, 2006). Starting December 15, 2006, the Regional Board accepted comments on revisions made in the second revised Tentative Order.
- On January 15, 2007, the Regional Board released a third revised Tentative Order and supporting Fact Sheet, as well as a Responses to Comments III document (all dated January 24, 2007).
- On January 24, 2007, the Regional Board accepted oral comments on all revisions made to the Tentative Order following the June 21, 2006 public hearing.
- On January 24, 2007, the Regional Board adopted Order No. R9-2007-0001.

V. BACKGROUND

The federal Clean Water Act (CWA) was amended in 1987 to address urban runoff. One requirement of the amendment was that many municipalities throughout the United States were obligated for the first time to obtain National Pollutant Discharge Elimination System (NPDES) permits for discharges of urban runoff from their MS4s. In response to the CWA amendment (and the pending federal NPDES regulations which would implement the amendment), the Regional Board issued a municipal storm water permit, Order No. 90-42, in July 1990 to the Copermittees for their urban runoff discharges.¹

Five years after adoption, Order No. 90-42 was due for renewal in July 1995, but was administratively extended pursuant to federal law because of limited Regional Board resources. Two formal drafts of the renewal permit were released to the public (in 1995 and 1998

¹ The San Diego County Regional Airport Authority was not added as a Copermittee until 2003, at the time when it separated from the San Diego Unified Port District.

respectively) and substantial written public comments on the drafts were considered by the Regional Board. In addition, the Regional Board convened a working group of Copermittees and stakeholders in 1997 and 1998 to advise the Regional Board on permit renewal issues. Despite the efforts by the public, the stakeholder group, and Regional Board, and in part due to the concurrent issuance and appeal of three other municipal storm water permits, Order No. 90-42 was not reissued by the Regional Board until February 21, 2001 as Order No. 2001-01.

The regulatory approach incorporated into Order No. 2001-01 was a significant departure from the regulatory approach of Order No. 90-42. Where Order No. 90-42 included broad nonspecific requirements in order to provide the Copermittees with the maximum amount of flexibility in implementing their programs, Order No. 2001-01 utilized detailed specific requirements which outlined the minimum level of implementation required for the Copermittees' programs. The shift in permitting approaches from Order No. 90-42 to Order No. 2001-01 resulted from the Regional Board's conclusion that the lack of specificity in Order No. 90-42 resulted in frequently unenforceable permit requirements, which in turn allowed some Copermittees to only make limited progress in implementing their programs.

Partially due to this shift in regulatory approaches, as well as new categories of permit requirements, the adoption process for Order No. 2001-01 generated extensive interest. Over 1,500 public comments were received on the Order, though many were duplicative. In addition, five public workshops were held covering various aspects of the Order. Following this extensive public participation process, the Regional Board adopted Order No. 2001-01 on February 21, 2001.

Subsequently, Order No. 2001-01 was administratively appealed to the State Water Resources Control Board (SWRCB) in March 2001 by the Building Industry Association of San Diego County (BIA) and the Western States Petroleum Association (WSPA). BIA utilized an across-the-board approach to its appeal, challenging a wide range of requirements included in the Order, while WSPA challenged the Order's legality in requiring treatment of runoff from retail gasoline outlets. In Order No. 2001-15, the SWRCB upheld the vast majority of the Order's requirements challenged by BIA, making insignificant alterations for clarification purposes to three of the Order's requirements. The SWRCB ruled in favor of WSPA, however, determining that the Regional Board had not adequately supported its position regarding retail gasoline outlets in the order's findings and fact sheet.

BIA continued its challenge of the Order in the Superior Court of the State of California, San Diego County in 2002. At that time, BIA was joined by several building industry and other groups, as well as the City of Santee and the City of San Marcos. The Court ruled in favor of the Regional Board on all counts, with all requirements of the Order being upheld. In particular, the Court found that the Order's requirements had not been shown to be impracticable or unreasonable, including provisions requiring compliance with receiving water quality standards. The Court also found that the Regional Board is exempt from California Environmental Quality Act (CEQA) review when adopting municipal storm water permits.

Following the Superior Court decision, BIA, several building industry and other groups, and the City of San Marcos appealed to the State of California Court of Appeal, Fourth Appellate District. Again the Order was upheld on all counts, with the court making the primary finding that the Regional Board has the authority to require compliance with state water quality standards in storm water permits. BIA's final appeal was to the State of California Supreme Court, which declined to hear the issue in March 2005.

Since adoption of Order No. 2001-01, and despite the subsequent legal actions, the Copermittees' storm water programs have expanded dramatically. Audits of the Copermittees' programs exhibit that the Copermittees' jurisdictional programs are largely in compliance with the Order. Some of the efforts currently being conducted on a regular basis by the Copermittees, which were not conducted on a widespread basis prior to adoption of Order No. 2001-01, include: construction site storm water inspections, industrial and commercial facility storm water inspections, municipal facility storm water inspections, management of storm water quality from new development, development of best management practice requirements for existing development, and assessment of storm water program effectiveness.

However, when viewed relative to the magnitude of the urban runoff problem, enormous challenges remain, particularly regarding the management of urban runoff on a watershed level. Today, urban runoff continues to be the leading cause of water quality impairment in the San Diego Region. The Copermittees' monitoring data exhibits persistent exceedances of water quality objectives in most watersheds. Many watersheds also have urban runoff conditions that are frequently toxic to aquatic life. Bioassessment data from the watersheds further reflects these conditions, finding that macroinvertebrate communities in creeks have widespread Poor to Very Poor Index of Biotic Integrity ratings. Finally, the now too familiar "health advisory or beach closure" signs, which often result from high levels of bacteria in urban runoff, exhibit the continued threat to public health by urban runoff.

VI. PERMITTING APPROACH (PROGRAM INTEGRATION, FLEXIBILITY, AND DETAIL)

The Order contains an increased emphasis on urban runoff management on a watershed basis. This shift towards increased watershed urban runoff management is consistent with earlier planning efforts conducted by the Regional Board regarding reissuance of Order No. 2001-01.² It is also consistent with the Copermittees' ROWD.³ There are several reasons for this shift in emphasis. First, it has been found that the Copermittees are generally doing an effective job at implementing their jurisdictional programs, while on the other hand, it has been found that the Copermittees' watershed programs need improvement. In addition, an emphasis on watersheds is necessary to shift the focus of the Copermittees from program implementation to water quality results. After over 15 years of Copermittee program implementation, it is critical that the Copermittees link their efforts with positive impacts on water quality. Addressing urban runoff management on a watershed scale focuses on water quality results by emphasizing the receiving waters within the watershed. The conditions of the receiving waters drive management actions, which in turn focus on the water quality problems of the receiving waters in each watershed.

Focusing on watershed implementation does not mean that the Copermittees must expend funds outside of their jurisdictions, however. Rather, the Copermittees within each watershed are expected to collaborate to develop a watershed strategy to address the high priority water quality problems within each watershed. They then have the option of implementing the strategy in the manner they find to be most effective. Each Copermittee can implement the strategy individually within its jurisdiction, or the Copermittees can group together to implement the strategy throughout the watershed as a group.

While the Order includes a new emphasis on addressing urban runoff on a watershed basis, the Order includes recognition of the importance of continued program implementation on

² Regional Board, 2004. San Diego County Municipal Storm Water Permit Reissuance Summary. P. 7.

³ San Diego County Copermittees, 2005. Report of Waste Discharge. P. C-12.

jurisdictional and regional levels. The Order also acknowledges that jurisdictional, watershed, and regional efforts are not always mutually exclusive. For this reason, an attempt has been made to allow for the Copermittees' jurisdictional, watershed, and regional programs to integrate. In the Order, the watershed requirements serve as the mechanism for this program integration. Since jurisdictional and regional activities can also serve watershed purposes, such activities can be integrated into the Copermittees' watershed programs, provided the activities meet certain criteria. In this manner, the Copermittees' activities do not always need to distinguish between jurisdictional, watershed, and regional levels of implementation. Instead, they can be integrated on multiple levels.

Such opportunities for program integration inherently provide flexibility to the Copermittees in implementing their programs. Program integration can be expanded or minimized as the Copermittees see fit. For example, there is flexibility provided in determining the activities to be integrated and implemented in the watershed programs – watershed-based efforts, regional efforts, enhanced jurisdictional efforts, or a mixture of the three. Significant flexibility is also provided throughout other portions of the Order. Copermittees can choose the best management practices (BMPs) to be implemented, or required to be implemented, for development, construction, and existing development areas. Flexibility to determine which industrial or commercial sites are to be inspected is also provided to the Copermittees. Educational approaches are also to be determined by the Copermittees under the Order. Implementation of efforts on a regional basis is largely optional for the Copermittees as well. Significant leeway is also provided to the Copermittees in utilizing methods to assess the effectiveness of their various urban runoff management programs. This flexibility is further extended to the monitoring program requirements, which allow the Copermittees to develop monitoring approaches to several aspects of the monitoring program.

The challenge in drafting the Order is to provide the flexibility described above while ensuring that the Order is still enforceable. To achieve this, the Order frequently prescribes minimum measurable outcomes, while providing the Copermittees with flexibility in the approaches they use to meet those outcomes. Enforceability has been found to be a critical aspect of the Order. For example, the watershed requirements of Order No. 2001-01 were some of the most flexible requirements found in that Order. This lack of specificity in the watershed requirements resulted in disagreement about the adequacy of the Copermittees' watershed compliance efforts. On one hand, the Regional Board considered the Copermittees' watershed efforts to be inadequate because they would not result in a significant reduction in pollutant discharges. On the other hand, the Copermittees contended their watershed programs were adequate and in compliance with Order No. 2001-01, even after being notified by the Regional Board of needed improvements on multiple occasions spanning several years. This situation reflects a common outcome of flexible permit language. Such language can be unclear and unenforceable, and lead to implementation of inadequate programs.

To avoid these types of situations, a balance between flexibility and enforceability has been crafted into the Order. Minimum measurable outcomes are utilized to ensure the Order is enforceable, while the Copermittees are provided flexibility in deciding how they will implement their programs to meet the minimum measurable outcomes.

VII. ECONOMIC ISSUES

Economic discussions of urban runoff management programs tend to focus on costs incurred by municipalities in developing and implementing the programs. Understandably so, since these costs are significant. However, when considering the cost of implementing the urban runoff

programs, it is also important to consider the alternative costs incurred by not fully implementing the programs, as well as the benefits which result from program implementation.

It is very difficult to ascertain the true cost of implementation of the Copermittees' urban runoff management programs because of inconsistencies in reporting by the Copermittees. Reported costs of compliance for the same program element can vary widely from city to city, often by a very wide margin that is not easily explained.⁴ Despite these problems, efforts have been made to identify urban runoff management program costs, which can be helpful in understanding the costs of program implementation.

In 1999, United States Environmental Protection Agency (USEPA) reported on multiple studies it conducted to determine the cost of urban runoff management programs. A study of Phase II municipalities determined that the annual cost of the Phase II program was expected to be \$9.16 per household. USEPA also studied 35 Phase I municipalities, finding costs to be similar to those anticipated for Phase II municipalities, at \$9.08 per household annually.⁵ The USEPA cost estimate for Phase I municipalities is valuable because it considers municipalities (including Orange County and cities) that are implementing programs similar to those required in San Diego.

A study on program cost was also conducted by the Los Angeles Regional Water Quality Control Board (LARWQCB), where program costs reported in the municipalities' annual reports were assessed. The LARWQCB estimated that average per household cost to implement the MS4 program in Los Angeles County was \$12.50. Since the Los Angeles County permit is very similar to Order No. 2001-01, this estimate is useful in assessing general program costs in San Diego County.

The SWRCB also recently commissioned a study by the California State University, Sacramento to assess costs of the Phase I MS4 program. This study is current and includes an assessment of costs incurred by the City of Encinitas in implementing their program. Annual cost per household in the study ranged from \$18-46, with the City of Encinitas representing the upper end of the range.⁶ The cost of the City of Encinitas' program is understandable, given the city's coastal location, reliance on tourism, and consent decree with environmental groups regarding its program. For these reasons, as well as the general recognition the City of Encinitas receives for implementing a superior program, the city's program cost can be considered as the high end of the spectrum for Copermittee urban runoff management program costs.

It is important to note that reported program costs are not all attributable to compliance with MS4 permits. Many program components, and their associated costs, existed before any MS4 permits were ever issued. For example, street sweeping and trash collection costs cannot be solely or even principally attributable to MS4 permit compliance, since these practices have long been implemented by municipalities. Therefore, true program cost resulting from MS4 permit requirements is some fraction of reported costs. The California State University, Sacramento study found that only 38% of program costs are new costs fully attributable to MS4 permits. The remainder of the program costs were either pre-existing or resulted from enhancement of pre-existing programs.⁷ The County of Orange found that even lesser amounts of program costs are solely attributable to MS4 permit compliance, reporting that the amount attributable to implement

⁴ LARWQCB, 2003. Review and Analysis of Budget Data Submitted by the Permittees for Fiscal Years 2000-2003. P. 2.

⁵ Federal Register / Vol. 64, No. 235 / Wednesday, December 8, 1999 / Rules and Regulations. P. 68791-68792.

⁶ SWRCB, 2005. NPDES Stormwater Cost Survey. P. ii.

⁷ Ibid. P. 58.

the Drainage Area Management Plan, which is similar to the Jurisdictional Urban Runoff Management Program in the San Diego County MS4 permit, is less than 20% of the total budget. The remaining 80% is attributable to pre-existing programs.⁸

It is also important to acknowledge that the vast majority of costs that will be incurred as a result of implementing Order No. R9-2007-0001 are not new. Urban runoff management programs have been in place in San Diego County for over 15 years. Any increase in cost to the Copermittees will be incremental in nature. Moreover, since Order No. R9-2007-0001 “fine tunes” the requirements of Order No. 2001-01, these cost increases are expected to be modest.

Urban runoff management programs cannot be considered in terms of their costs only. The programs must also be viewed in terms of their value to the public. For example, household willingness to pay for improvements in fresh water quality for fishing and boating has been estimated by USEPA to be \$158-210.⁹ This estimate can be considered conservative, since it does not include important considerations such as marine waters benefits, wildlife benefits, or flood control benefits. The California State University, Sacramento study corroborates USEPA’s estimates, reporting annual household willingness to pay for statewide clean water to be \$180.¹⁰ When viewed in comparison to household costs of existing urban runoff management programs, these household willingness to pay estimates exhibit that per household costs incurred by Copermittees to implement their urban runoff management programs remain reasonable.

Another important way to consider urban runoff management program costs is to consider the implementation cost in terms of costs incurred by not improving the programs. Urban runoff in southern California has been found to cause illness in people bathing near storm drains.¹¹ A study of south Huntington Beach and north Newport Beach found that an illness rate of about 0.8% among bathers at those beaches resulted in about \$3 million annually in health-related expenses.¹² Extrapolation of such numbers to the wide range of beaches of San Diego County could result in huge expenses to the public.

Urban runoff and its impact on receiving waters also places a cost on tourism. In past years, San Diego was featured in the national press for its water quality problems.¹³ Such news can have a negative impact on San Diego tourism, since polluted beaches are generally not attractive to tourists. According to a 1996 San Diego Association of Governments (SANDAG) Memorandum, the California Division of Tourism has estimated that each out-of-state visitor spends \$101.00 a day. The memo goes on to state that based on projections from the California Department of Boating and Waterways, nearly \$1.2 billion in direct revenue and \$1.2 billion in indirect revenue is pumped into the San Diego area economy each year by out-of-state visitors.¹⁴ The experience of Huntington Beach provides an example of the potential economic impact of poor water quality. Approximately 8 miles of Huntington Beach were closed for two months in the middle of summer of 1999, impacting beach visitation and the local economy.

⁸ County of Orange, 2000. A NPDES Annual Progress Report. P. 60. More current data from the County of Orange is not used in this discussion because the County of Orange no longer reports such information.

⁹ Federal Register / Vol. 64, No. 235 / Wednesday, December 8, 1999 / Rules and Regulations. P. 68793.

¹⁰ SWRCB, 2005. NPDES Stormwater Cost Survey. P. iv.

¹¹ Haile, R.W., et al, 1996. An Epidemiological Study of Possible Adverse Health Effects of Swimming in Santa Monica Bay. Santa Monica Bay Restoration Project.

¹² Los Angeles Times, May 2, 2005. Here’s What Ocean Germs Cost You: A UC Irvine Study Tallies the Cost of Treatment and Lost Wages for Beachgoers Who Get Sick.

¹³ Regional Board, 2001. Fact Sheet/Technical Report for SDRWQCB Order No. 2001-01. P. 8.

¹⁴ San Diego Association of Governments, 1996. Memorandum: California Department of Boating and Waterways: Unpublished Survey Information Regarding Beach Use. Written to the Shoreline Erosion Committee.

Finally, it is important to consider the benefits of urban runoff management programs in conjunction with their costs. A recent study conducted by USC/UCLA assessed the costs and benefits of implementing various approaches for achieving compliance with the MS4 permits in the Los Angeles Region. The study found that non-structural systems would cost \$2.8 billion but provide \$5.6 billion in benefit. If structural systems were determined to be needed, the study found that total costs would be \$5.7 to \$7.4 billion, while benefits could reach \$18 billion.¹⁵ Costs are anticipated to be borne over many years – probably ten years at least. As can be seen, the benefits of the programs are expected to considerably exceed their costs. Such findings are corroborated by USEPA, which found that the benefits of implementation of its Phase II storm water rule would also outweigh the costs.¹⁶

Additional discussion of economic issues can be found at section 3 of the Fact Sheet/Technical Report for SDRWQCB Order No. 2001-01, available at:

http://www.waterboards.ca.gov/sandiego/programs/sd_stormwater.html.

VIII. LEGAL AUTHORITY

The following statutes, regulations, and Water Quality Control Plans provide the basis for the requirements of Order No. R9-2007-0001: CWA, California Water Code (CWC), 40 CFR Parts 122, 123, 124 (National Pollutant Discharge Elimination System Permit Application Regulations for Storm Water Discharges, Final Rule), Part II of 40 CFR Parts 9, 122, 123, and 124 (National Pollutant Discharge Elimination System – Regulations for Revision of the Water Pollution Control Program Addressing Storm Water Discharges; Final Rule), Water Quality Control Plan – Ocean Waters of California (California Ocean Plan), Water Quality Control Plan for the San Diego Basin (Basin Plan), 40 CFR 131 Water Quality Standards; Establishment of Numeric Criteria for Priority Toxic Pollutants for the State of California; Rule (California Toxics Rule), and the California Toxics Rule Implementation Plan.

The legal authority citations below generally apply to directives in Order No. R9-2007-0001, and provide the Regional Board with ample underlying authority to require each of the directives of Order No. R9-2007-0001. Legal authority citations are also provided with each permit section discussion in section X of this Fact Sheet/Technical Report.

CWA 402(p)(3)(B)(ii) – The CWA requires in section 402(p)(3)(B)(ii) that permits for discharges from municipal storm sewers “shall include a requirement to effectively prohibit non-stormwater discharges into the storm sewers.”

CWA 402(p)(3)(B)(iii) – The CWA requires in section 402(p)(3)(B)(iii) that permits for discharges from municipal storm sewers “shall require controls to reduce the discharge of pollutants to the maximum extent practicable, including management practices, control techniques and system, design and engineering methods, and such other provisions as the Administrator or the State determines appropriate for the control of such pollutants.”

40 CFR 122.26(d)(2)(i)(B,C,E, and F) – Federal NPDES regulations 40 CFR 122.26(d)(2)(i)(B,C,E, and F) provide that each Copermittee’s permit application “shall consist of: (i) Adequate legal authority. A demonstration that the applicant can operate pursuant to legal authority established by statute, ordinance or series of contracts which authorizes or enables the

¹⁵ LARWQCB, 2004. Alternative Approaches to Stormwater Control.

¹⁶ Federal Register / Vol. 64, No. 235 / Wednesday, December 8, 1999 / Rules and Regulations. P. 68791.

applicant at a minimum to: [...] (B) Prohibit through ordinance, order or similar means, illicit discharges to the municipal separate storm sewer; (C) Control through ordinance, order or similar means the discharge to a municipal separate storm sewer of spills, dumping or disposal of materials other than storm water; [...] (E) Require compliance with condition in ordinances, permits, contracts or orders; and (F) Carry out all inspection, surveillance and monitoring procedures necessary to determine compliance and noncompliance with permit conditions including the prohibition on illicit discharges to the municipal separate storm sewer.”

40 CFR 122.26(d)(2)(iv) – Federal NPDES regulation 40 CFR 122.26(d)(2)(iv) provides that the Copermittee shall develop and implement a proposed management program which “shall include a comprehensive planning process which involves public participation and where necessary intergovernmental coordination, to reduce the discharge of pollutants to the maximum extent practicable using management practices, control techniques and system, design and engineering methods, and such other provisions which are appropriate. The program shall also include a description of staff and equipment available to implement the program. [...] Proposed programs may impose controls on a system wide basis, a watershed basis, a jurisdiction basis, or on individual outfalls. [...] Proposed management programs shall describe priorities for implementing controls.”

40 CFR 122.26(d)(2)(iv)(A - D) – Federal NPDES regulations 40 CFR 122.26(d)(2)(iv)(A - D) require municipalities to implement controls to reduce pollutants in urban runoff from new development and significant redevelopment, construction, and commercial, residential, industrial, and municipal land uses or activities. Control of illicit discharges is also required.

CWC 13377 – CWC section 13377 provides that “Notwithstanding any other provision of this division, the state board or the regional boards shall, as required or authorized by the CWA, as amended, issue waste discharge requirements and dredged or fill material permits which apply and ensure compliance with all applicable provisions of the act and acts amendatory thereof or supplementary, thereto, together with anymore stringent effluent standards or limitation necessary to implement water quality control plans, or for the protection of beneficial uses, or to prevent nuisance.”

Order No. R9-2007-0001 is an essential mechanism for achieving the water quality objectives that have been established for protecting the beneficial uses of the water resources in the San Diego Region portion of San Diego County. Federal NPDES regulation 40 CFR 122.44(d)(1) requires MS4 permits to include any requirements necessary to “achieve water quality standards established under CWA section 303, including State narrative criteria for water quality.” The term “water quality standards” in this context refers to a water body’s beneficial uses and the water quality objectives necessary to protect those beneficial uses, as established in the Basin Plan.

IX. FINDINGS DISCUSSION

The findings of the Order have been modified to reduce repetition in their discussions and address new requirements. Each finding of the Order is provided and discussed below. Additional discussion relative to the findings can be found in section X of the Fact Sheet, which provides discussions of the Order’s directives.

A. Basis For The Order

Finding A.1: This Order is based on the federal CWA, the Porter-Cologne Water Quality Control Act (Division 7 of the CWC, commencing with Section 13000), applicable state and federal regulations, all applicable provisions of statewide Water Quality Control Plans and Policies adopted by the SWRCB, the Basin Plan, the California Toxics Rule, and the California Toxics Rule Implementation Plan.

Discussion: In 1987, Congress established CWA Amendments to create requirements for storm water discharges under the NPDES program, which provides for permit systems to regulate the discharge of pollutants. Under the Porter-Cologne Water Quality Control Act, the SWRCB and Regional Water Quality Control Boards (Regional Boards) have primary responsibility for the coordination and control of water quality, including the authority to implement the CWA. Porter-Cologne (section 13240) directs the Regional Boards to set water quality objectives via adoption of Basin Plans that conform to all state policies for water quality control. As a means for achieving those water quality objectives, Porter-Cologne (section 13243) further authorizes the Regional Boards to establish waste discharge requirements (WDRs) to prohibit waste discharges in certain conditions or areas. Since 1990, the Regional Board has issued area-wide MS4 NPDES permits. The Order will renew Order No. 2001-01 to comply with the CWA and attain water quality objectives in the Basin Plan by limiting the contributions of pollutants conveyed by urban runoff. Further discussions of the legal authority associated with the prohibitions and directives of the Order are provided in section VIII this document.

Finding A.2: This Order renews NPDES Permit No. CAS0108758, which was first issued on July 16, 1990 (Order No. 90-42), and then renewed on February 21, 2001 (Order No. 2001-01). On August 25, 2005, in accordance with Order No. 2001-01, the County of San Diego, as the Principal Permittee, submitted a ROWD for renewal of their MS4 Permit.

Discussion: Supporting information discussing the topic of this finding can be found in section V of this document.

B. Regulated Parties

Finding No. B.1: Each of the Copermittees listed in Table 1 of the Order owns or operates a MS4, through which it discharges urban runoff into waters of the United States within the San Diego Region. These MS4s fall into one or more of the following categories: (1) a medium or large MS4 that services a population of greater than 100,000 or 250,000 respectively; or (2) a small MS4 that is “interrelated” to a medium or large MS4; or (3) an MS4 which contributes to a violation of a water quality standard; or (4) an MS4 which is a significant contributor of pollutants to waters of the United States.

Discussion: Section 402 of the CWA prohibits the discharge of any pollutant to waters of the United States from a point source, unless that discharge is authorized by a NPDES permit. Though urban runoff comes from a diffuse source, it is discharged through MS4s, which are point sources under the CWA. Federal NPDES regulation 40 CFR 122.26(a) (iii) and (iv) provide that discharges from MS4s, which service medium or large populations greater than 100,000 or 250,000 respectively, shall be required to obtain a NPDES permit. Federal NPDES regulation 40 CFR 122.26(a)(v) also provides that a NPDES permit is required for “A [storm water] discharge which the Director, or in States with approved NPDES programs, either the Director or the USEPA Regional Administrator, determines to contribute to a violation of a water quality standard or is a significant contributor of pollutants to waters of the United States.” Such sources

are then designated into the program. Please see Attachment 1 of the Fact Sheet/Technical Report for Regional Board Order No. 2001-01 for an explanation on NPDES municipal storm water permit coverage for each municipality.¹⁷ The San Diego County Regional Airport Authority, designated a Copermittee in 2003, was previously a part of the San Diego Unified Port District and has an MS4 interrelated to other Copermittee MS4s.

Other small MS4s, such as those serving universities and military installations, also exist within the watersheds of San Diego County. While these MS4s are not subject to this Order, they are subject to the Phase II NPDES storm water regulations. Over time, these MS4s will be designated for coverage under the SWRCB's statewide general storm water permit for small MS4s.

C. Discharge Characteristics

Finding No. C.1: Urban runoff contains waste, as defined in the CWC, and pollutants that adversely affect the quality of waters of the State. The discharge of urban runoff from an MS4 is a "discharge of pollutants from a point source" into waters of the United States as defined in the CWA.

Discussion: Section 13050(d) of the CWC defines "waste" as "sewage and any and all other waste substances, liquid, solid, gaseous, or radioactive, associated with human habitation, or of human or animal origin, or from any producing, manufacturing, or processing operation, including waste placed within containers of whatever nature prior to, and for purposes of, disposal." 40 CFR 122.2 defines "point source" as "any discernable, confined, and discrete conveyance, including but not limited to, any pipe, ditch, channel, tunnel, conduit, well, discrete fissure, container, rolling stock, concentrated animal feeding operation, landfill leachate collection system, vessel or other floating craft from which pollutants are or may be discharged. This term does not include return flows from irrigated agriculture or agricultural storm water runoff." 40 CFR 122.2 defines "discharge of a pollutant" as "Any addition of any pollutant or combination of pollutants to waters of the U.S. from any point source." Also, the justification for control of pollution into waters of the state can be found at CWC section 13260(a)(1). SWRCB Order WQ 2001-15 verifies that urban runoff contains waste.¹⁸

Finding C.2: The most common categories of pollutants in urban runoff include total suspended solids, sediment (due to anthropogenic activities); pathogens (e.g., bacteria, viruses, protozoa); heavy metals (e.g., copper, lead, zinc and cadmium); petroleum products and polynuclear aromatic hydrocarbons; synthetic organics (e.g., pesticides, herbicides, and PCBs); nutrients (e.g., nitrogen and phosphorus fertilizers), oxygen-demanding substances (decaying vegetation, animal waste), and trash.

Discussion: The National Urban Runoff Program (NURP) study showed that heavy metals, organics, coliform bacteria, nutrients, oxygen demanding substances (e.g., decaying vegetation), and total suspended solids are found at relatively high levels in urban runoff.¹⁹ It also found that MS4 discharges draining residential, commercial, and light industrial areas contain significant loadings of total suspended solids and other pollutants. The Basin Plan goes on to identify urban

¹⁷ Regional Board, 2001. Fact Sheet/Technical Report for SDRWQCB Order No. 2001-01. Attachment 1.

¹⁸ SWRCB, 2001. Order WQ 2001-15. In the Matter of Petitions of Building Industry Association of San Diego County and Western States Petroleum Association: For Review of Waster Discharge Requirements Order No. 2001-01 for Urban Runoff from San Diego County [NPDES No. CAS0108758] Issued by the Regional Board.

¹⁹ Ibid.

runoff pollutants to include lawn and garden chemicals, household and automotive care products dumped or drained on streets, and sediment that erodes from construction sites.²⁰ In addition, the SWRCB Urban Runoff Technical Advisory Committee (TAC) finds that urban runoff pollutants include sediments, nutrients, oxygen-demanding substances, heavy metals, petroleum hydrocarbons, pathogenic bacteria, viruses, and pesticides.²¹ Runoff that flows over streets, parking lots, construction sites, and industrial, commercial, residential, and municipal areas carries these untreated pollutants through storm drain networks directly to the receiving waters of the San Diego Region.

Finding No. C.3: The discharge of pollutants and/or increased flows from MS4s may cause or threaten to cause the concentration of pollutants to exceed applicable receiving water quality objectives and impair or threaten to impair designated beneficial uses resulting in a condition of pollution (i.e., unreasonable impairment of water quality for designated beneficial uses), contamination, or nuisance.

Discussion: The 1992, 1994, and 1996 National Water Quality Inventory Reports to Congress prepared by USEPA showed a trend of impairment in the nation's waters from contaminated storm water and urban runoff.²² The 1998 National Water Quality Inventory Report showed that urban runoff discharges affect 11% of rivers, 12% of lakes, and 28% of estuaries. The report states that ocean shoreline impairment due to urban runoff increased from 55% in 1996 to 63% in 1998. The report notes that urban runoff discharges are the leading source of pollution and the main factor in the degradation of surface water quality in California's coastal waters, rivers, and streams. Furthermore, the NURP study found that pollutant levels from illicit discharges were high enough to significantly degrade receiving water quality, and threaten aquatic life, wildlife, and human health.²³

In addition, the Region's CWA section 303(d) list, which identifies water bodies with impaired beneficial uses within the region, also indicates that the impacts of urban runoff on receiving waters are significant. Many of the impaired water bodies on the 303(d) list are impaired by constituents which have been found at high levels within urban runoff by the regional storm water monitoring program.²⁴ Examples of constituents frequently responsible for beneficial use impairment include total and fecal coliform, heavy metals, and sediment; these constituents have been found at high levels in urban runoff both regionally and nationwide.^{25,26}

Finding No. C.4: Pollutants in urban runoff can threaten human health. Human illnesses have been clearly linked to recreating near storm drains flowing to coastal waters. Also, urban runoff pollutants in receiving waters can bioaccumulate in the tissues of invertebrates and fish, which may be eventually consumed by humans.

Discussion: A landmark study, conducted by the Santa Monica Bay Restoration Project, found that there was an increased occurrence of illness in people that swam in proximity to a flowing

²⁰ Regional Board, 1994. Water Quality Control Plan, San Diego Basin, Region 9. San Diego.

²¹ SWRCB, 1994. Urban Runoff Technical Advisory Committee Report and Recommendations. Nonpoint Source Management Program.

²² USEPA, 2000. Quality of Our Nation's Waters: Summary of the National Water Quality Inventory 1998 Report to Congress – USEPA 841-S-00-001; Water Quality Conditions in the United States: Profile from the 1998 National Water Quality Inventory Report to Congress – USEPA 841-F-00-006.

²³ USEPA, 1993. Results of the Nationwide Urban Runoff Program, Volume 1 – Final Report.

²⁴ County of San Diego, 2005. San Diego County Municipal Copermittees 2004-2005 Urban Runoff Monitoring.

²⁵ Ibid.

²⁶ USEPA, 1983. Results of the Nationwide Urban Runoff Program, Volume 1 – Final Report.

storm drain.²⁷ Furthermore, urban runoff pollutants in receiving waters can bioaccumulate in the tissues of invertebrates and fish, which may eventually be consumed by humans. Pollutants such as heavy metals and pesticides, which are commonly found in urban runoff, have been found to bioaccumulate and biomagnify in long-lived organisms at the higher trophic levels.²⁸ Since many aquatic species are utilized for human consumption, toxic substances accumulated in species' tissues can pose a significant threat to public health. USEPA supports this finding when it states, "As runoff flows over areas altered by development, it picks up harmful sediment and chemicals such as oil and grease, pesticides, heavy metals, and nutrients (e.g., nitrogen and phosphorus). These pollutants often become suspended in runoff and are carried to receiving waters, such as lakes, ponds, and streams. Once deposited, these pollutants can enter the food chain through small aquatic life, eventually entering the tissues of fish and humans."²⁹

Finding No. C.5: Urban runoff discharges from MS4s often contain pollutants that cause toxicity to aquatic organisms (i.e., adverse responses of organisms to chemicals or physical agents ranging from mortality to physiological responses such as impaired reproduction or growth anomalies). Toxic pollutants impact the overall quality of aquatic systems and beneficial uses of receiving waters.

Discussion: The Copermittees' monitoring data exhibits frequent toxic conditions in urban runoff during storm events. For example, persistent toxicity has been observed at the Chollas Creek mass loading station and the Tijuana River mass loading station. The Chollas Creek and Sweetwater River mass loading stations were also identified as potential Toxicity Identification Evaluation (TIE) candidate sites based on toxicity to *Hyalella* and *Selenastrum*, respectively.³⁰ Moreover, a study of urban runoff samples from Chollas Creek, revealed toxic concentrations of organophosphate pesticides and metals.³¹ Also, a water quality data assessment conducted in Aliso Creek in Orange County showed that storm events caused varying degrees of mortality to test organisms.³²

Finding No. C.6: The Copermittees discharge urban runoff into lakes, drinking water reservoirs, rivers, streams, creeks, bays, estuaries, coastal lagoons, the Pacific Ocean, and tributaries thereto within ten of the eleven hydrologic units (watersheds) comprising the San Diego Region. Some of the receiving water bodies have been designated as impaired by the Regional Board and the USEPA in 2002 pursuant to CWA section 303(d).

Discussion: This finding identifies the Copermittees responsible for MS4 discharges in each watershed management area. The list is identical to Order No. 2001-01, with the addition of the San Diego County Regional Airport Authority added to the San Diego Bay Watershed Management Area.

The CWA Section 303(d) List of Impaired Waters, 2002 Update has been approved by the Regional Board, SWRCB, and USEPA. This 303(d) list identifies waters that do not meet water quality standards after applying certain required technology-based effluent limits ("impaired" water bodies). As part of this listing process, states are required to prioritize waters/watersheds

²⁷ Haile, R.W., et al., 1996. An Epidemiological Study of Possible Adverse Health Effects of Swimming in Santa Monica Bay. Santa Monica Bay Restoration Project.

²⁸ Abel, P.D, 1996. Water Pollution Biology.

²⁹ USEPA, 2000. Storm Water Phase II Compliance Assistance Guide. Washington D.C. EPA 833-R-00-002.

³⁰ Ibid., P. ES-16.

³¹ Bay, Steven M., et al., 2001. Characterization of Stormwater Toxicants from an Urban Watershed to Freshwater and Marine Organisms. Southern California Coastal Water Research Project. Annual Report 1999-2000.

³² Regional Board, 2002. Fact Sheet/Technical Report for Regional Board Order No. R9-2002-0001.

for future development of Total Maximum Daily Loads (TMDLs). The 303(d) Pollutants of Concern or Water Quality Effect in Table 2 of the Order have been summarized from the 2002 303(d) list which can be found in full on our website at:

<http://www.waterboards.ca.gov/sandiego/programs/303dlist.html>.

Finding No. C.7: The Copermittees' water quality monitoring data submitted to date documents persistent exceedances of Basin Plan water quality objectives for various urban runoff-related pollutants (diazinon, fecal coliform bacteria, total suspended solids, turbidity, metals, etc.) at various watershed monitoring stations. At some monitoring stations, such as Agua Hedionda, statistically significant upward trends in pollutant concentrations have been observed. Persistent toxicity has also been observed at some watershed monitoring stations. In addition, bioassessment data indicates that the majority of watersheds have Poor to Very Poor Index of Biotic Integrity ratings. In sum, the above findings indicate that urban runoff discharges are causing or contributing to water quality impairments, and are a leading cause of such impairments in San Diego County.

Discussion: The Copermittees have submitted information indicating persistent wet weather constituents of concern in various waterbodies of fecal coliform, total suspended solids, turbidity, total dissolved solids, diazinon, copper, zinc, toxicity, ammonia, biochemical oxygen demand, chemical oxygen demand, phosphorus, chlorpyrifos, and malathion.³³ The Agua Hedionda mass loading station shows statistically significant trends of increasing chemical oxygen demand, total kjeldahl nitrogen, total phosphorus, total suspended solids, and turbidity.³⁴ Statistically significant increasing trends have also been observed in Tecolote Creek (arsenic) and Chollas Creek (nitrate and lead).³⁵ Persistent toxicity has been observed at the Chollas Creek mass loading station and the Tijuana River mass loading station. The Chollas Creek and Sweetwater River mass loading stations were identified as potential Toxicity Identification Evaluation (TIE) candidate sites based on toxicity to *Hyalella* and *Selenastrum*, respectively.³⁶ However, the toxicity was not consistent among events and relatively slight. Bioassessment data collected during the 2004-2005 year indicates that the majority of the watersheds have Poor to Very Poor Index of Biotic Integrity ratings.³⁷ The three sites that received Good and Very Good ratings were at reference sites in the Santa Margarita Watershed³⁸ and San Luis Rey Watershed.³⁹ In most of these watersheds, there are no other NPDES permits discharging to the creeks. The few NPDES permits in the watersheds are mainly for recycled water which only discharges occasionally during the rainy season. Because the water quality monitoring indicates exceedances of water quality standards and urban runoff is the main source of pollutants in the watersheds, it can be inferred that the urban runoff discharges are causing or contributing to water quality impairments, and are a leading cause of such impairments in San Diego County.

Finding No. C.8: When natural vegetated pervious ground cover is converted to impervious surfaces such as paved highways, streets, rooftops, and parking lots, the natural absorption and

³³ San Diego County Copermittees, 2005. Baseline Long-Term Effectiveness Assessment, San Diego Copermittees Jurisdictional Urban Runoff Management Program, Final Report. P. 2-24, Table 2-5.

³⁴ Ibid.

³⁵ Ibid.

³⁶ County of San Diego, 2005. San Diego County Municipal Copermittees 2004-2005 Urban Runoff Monitoring. P. ES-16.

³⁷ Ibid., P. ES-4 – ES-19.

³⁸ Ibid., P. 4-11.

³⁹ Ibid., P. ES-7.

infiltration abilities of the land are lost. Therefore, runoff leaving a developed urban area is significantly greater in runoff volume, velocity, peak flow rate, and duration than pre-development runoff from the same area. The increased volume, velocity, rate, and duration of runoff greatly accelerate the erosion of downstream natural channels. Significant declines in the biological integrity and physical habitat of streams and other receiving waters have been found to occur with as little as a 10% conversion from natural to impervious surfaces. The increased runoff characteristics from new development must be controlled to protect against increased erosion of channel beds and banks, sediment pollutant generation, or other impacts to beneficial uses and stream habitat due to increased erosive force.

Finding No. C.9: Urban development creates new pollution sources as human population density increases and brings with it proportionately higher levels of car emissions, car maintenance wastes, municipal sewage, pesticides, household hazardous wastes, pet wastes, trash, etc. which can either be washed or directly dumped into the MS4. As a result, the runoff leaving the developed urban area is significantly greater in pollutant load than the pre-development runoff from the same area. These increased pollutant loads must be controlled to protect downstream receiving water quality.

Discussion (C.8 and C.9): The Natural Resources Defense Council (NRDC) 1999 Report, “Stormwater Strategies, Community Responses to Runoff Pollution” identifies two main causes of the storm water pollution problem in urban areas. Both causes are directly related to development in urban and urbanizing areas:

1. Increased volume and velocity of surface runoff. There are three types of human-made impervious covers that increase the volume and velocity of runoff: (i) rooftop, (ii) transportation imperviousness, and (iii) non-porous (impervious) surfaces. As these impervious surfaces increase, infiltration will decrease, forcing more water to run off the surface, picking up speed and pollutants.
2. The concentration of pollutants in the runoff. Certain industrial, commercial, residential and construction activities are large contributors of pollutant concentrations in urban runoff. As human population density increases, it brings with it proportionately higher levels of car emissions, car maintenance wastes, municipal sewage, pesticides, household hazardous wastes, pet wastes, trash, etc.

As a result of these two causes, runoff leaving developed urban areas is significantly greater in volume, velocity, and pollutant load than pre-development runoff from the same area.

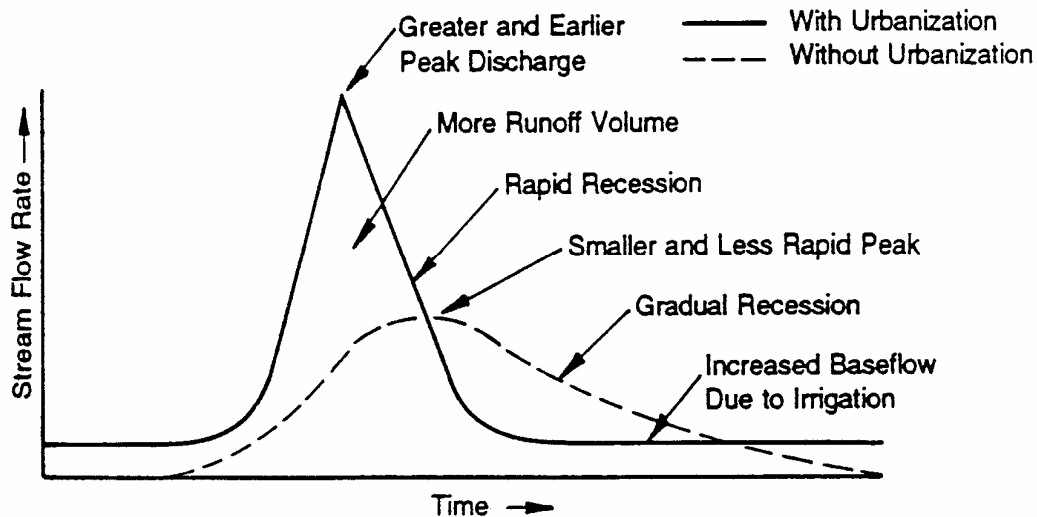
Studies have shown that the level of imperviousness in an area strongly correlates with the quality of nearby receiving waters.⁴⁰ One comprehensive study, which looked at numerous areas, variables, and methods, revealed that stream degradation occurs at levels of imperviousness as low as 10 – 20%.⁴¹ Stream degradation is a decline in the biological integrity and physical habitat conditions that are necessary to support natural biological diversity. For instance, few urban streams can support diverse benthic communities with imperviousness greater than or equal to

⁴⁰ USEPA, 1999. Part II. 40 CFR Parts 9, 122, 123, and 124. National Pollutant Discharge Elimination System – Regulations for Revision of the Water Pollution Control Program Addressing Storm Water Discharges; Final Rule. Federal Register.

⁴¹ Ibid.

25%.⁴² To provide some perspective, a medium density, single-family home area can be from 25% to 60% impervious (variation due to street and parking design).⁴³

To demonstrate the principle of increased volume and velocity of runoff from urbanization, the following figure shows the flow rate of an urban vs. a natural stream. What the figure demonstrates is that urban stream flows have greater peaks and volumes, as well as shorter retention times than natural stream flows. The greater peak flows and volumes result in stream degradation through increased erosion of stream banks and damage to aquatic habitat. The shorter retention times result in less time for sediments and other pollutants to settle before being carried out to the ocean. This sediment, and the associated pollutants it carries, can be a significant cause of water quality degradation.



Source: Adapted from Schueler, 1997⁴⁴

Increased volume and velocity of runoff adversely impacts receiving waters and their beneficial uses in many ways. According to the TAC report,⁴⁵ increases in population density and imperviousness result in changes to stream hydrology including:

1. Increased peak discharges compared to pre-development levels;
 2. Increased volume of storm water runoff with each storm compared to pre-development levels;
 3. Decreased travel time to reach receiving water; increased frequency and severity of floods;
 4. Reduced stream flow during prolonged periods of dry weather due to reduced levels of infiltration;
 5. Increased runoff velocity during storms due to a combination of effects of higher discharge peaks, rapid time of concentration, and smoother hydraulic surfaces from channelization;
- and

⁴² Ibid.

⁴³ Schueler, T.R., 1994. The Importance of Imperviousness. Watershed Protection Techniques. As cited in 64 Fed. Reg. 68725.

⁴⁴ Schueler, T.R., 1987. Controlling Urban Runoff: A Practical Manual for Planning and Designing Urban BMPs. Metropolitan Washington Council of Governments.

⁴⁵ SWRCB, 1994. Urban Runoff Technical Advisory Committee Report and Recommendations. Nonpoint Source Management Program.

6. Decreased infiltration and diminished ground water recharge.

Even though the rainfall depths in arid watersheds are lower, watershed development can greatly increase peak discharge rates during rare flood events.⁴⁶ A study conducted in arid watersheds around Riverside, CA showed that, over two decades, impervious cover increased from 9% to 22%, which resulted in an increase of more than 100% in the peak flow rate for the two-year storm event. The study also showed that the average annual storm water runoff volume had increased by 115% to 130% over the same time span.⁴⁷

Regarding the impact of urban development on urban runoff pollutant loads, the Regional Board's Basin Plan states:

Nonpoint source pollution is primarily the result of man's uses of land such as urbanization, roads and highways, vehicles, agriculture, construction, industry, mineral extraction, physical habitat alteration (dredging/filling), hydromodification (diversion, impoundment, channelization), silviculture (logging), and other activities which disturb land.⁴⁸ As a result, when rain falls on and drains through urban freeways, industries, construction sites, and neighborhoods it picks up a multitude of pollutants. The pollutants can be dissolved in the runoff and quickly transported by gravity flow through a vast network of concrete channels and underground pipes referred to as storm water conveyance systems. Such systems ultimately discharge the polluted runoff, without treatment, into the nation's creeks, rivers, estuaries, bays, and oceans.⁴⁹

According to the Center for Watershed Protection, the quality of both surface and ground water in urbanizing areas of arid and semi-arid regions of the southwest is strongly shaped by urbanization. Since rain events are so rare, pollutants have more time to build up on impervious surfaces compared to humid regions. Therefore, the pollutant concentrations of storm water runoff from arid watersheds tends to be higher than that of humid watersheds.⁵⁰

Finding No. C.10: Development and urbanization especially threaten environmentally sensitive areas (ESAs), such as water bodies designated as supporting a RARE beneficial use (supporting rare, threatened or endangered species) and CWA 303(d) impaired water bodies. Such areas have a much lower capacity to withstand pollutant shocks than might be acceptable in the general circumstance. In essence, development that is ordinarily insignificant in its impact on the environment may become significant in a particular sensitive environment. Therefore, additional control to reduce pollutants from new and existing development may be necessary for areas adjacent to or discharging directly to an ESA.

Discussion: ESAs are defined in the Order as "Areas that include but are not limited to all CWA Section 303(d) impaired water bodies; areas designated as Areas of Special Biological Significance by the Basin Plan ; water bodies designated with the RARE beneficial use by the Basin Plan; areas designated as preserves or their equivalent under the Multi Species Conservation Program within the Cities and County of San Diego; and any other equivalent environmentally sensitive areas which have been identified by the Copermittees." Areas that

⁴⁶ Schueler and Holland, 2000. Storm Water Strategies for Arid and Semi-Arid Watersheds (Article 66). The Practice of Watershed Protection. P. 695-706.

⁴⁷ Ibid.

⁴⁸ Regional Board, 1994. Water Quality Control Plan for the San Diego Basin. P. 4-66.

⁴⁹ Ibid. P. 4-69 - 4-70.

⁵⁰ Schueler and Holland, 2000. Storm Water Strategies for Arid and Semi-Arid Watersheds (Article 66). The Practice of Watershed Protection. P. 695-706.

meet this definition are inherently sensitive habitats containing unique, rare, threatened, or endangered species, or are not achieving their designated beneficial uses. As discussed above, urban runoff is known to contain a wide range of pollutants and have demonstrated toxicity to plants and animals. Therefore, it is necessary to apply additional controls for developments within, adjacent to, or directly discharging to ESAs. This need for additional controls is addressed within each component of the Order. USEPA supports the requirement for additional controls, stating “For construction sites that discharge to receiving waters that do not support their designated use or other waters of special concern, additional construction site controls are probably warranted and should be strongly considered.”⁵¹ Further support for requiring additional controls to reduce pollutants in discharges to ESAs can be found in *Mitigation of Storm Water Impacts From New Developments in Environmentally Sensitive Areas*, a technical report written by the LARWQCB.⁵²

Finding No. C.11: Although dependent on several factors, the risks typically associated with properly managed infiltration of runoff (especially from residential land use areas) are not significant. The risks associated with infiltration can be managed by many techniques, including (1) designing landscape drainage features that promote infiltration of runoff, but do not “inject” runoff (injection bypasses the natural processes of filtering and transformation that occur in the soil); (2) taking reasonable steps to prevent the illegal disposal of wastes; (3) protecting footings and foundations; and (4) ensuring that each drainage feature is adequately maintained in perpetuity.

Discussion: Infiltration is an effective means for managing urban runoff. However, measures must be taken to protect groundwater quality when infiltration of urban runoff is implemented. USEPA supports urban runoff infiltration and provides guidance for protection of groundwater: “With a reasonable degree of site-specific design considerations to compensate for soil characteristics, infiltration may be very effective in controlling both urban runoff quality and quantity problems. This strategy encourages infiltration of urban runoff to replace the natural infiltration capacity lost through urbanization and to use the natural filtering and sorption capacity of soils to remove pollutants; however, the potential for some types of urban runoff to contaminate groundwater through infiltration requires some restrictions.”⁵³ The restrictions placed on urban runoff infiltration in this Order are based on recommendations provided by the USEPA Risk Reduction Engineering Laboratory. The SWRCB found in Order WQ 2000-11 on the appeal of the LARWQCB’s Standard Urban Storm Water Mitigation Plan (SUSMP) requirements that the guidance provided in the above referenced document by the USEPA Risk Reduction Engineering Laboratory is sufficient for the protection of groundwater quality from urban runoff infiltration. To further protect groundwater quality, the Order also includes guidance from the LARWQCB,⁵⁴ the State of Washington,⁵⁵ and the State of Maryland.⁵⁶

⁵¹ USEPA, 1992. Guidance Manual for the Preparation of Part II of the NPDES Permit Applications for Discharges from Municipal Separate Storm Sewer Systems. Washington D.C. EPA/833-B-92-002.

⁵² LARWQCB, 2001. *Mitigation of Storm Water Impacts From New Developments In Environmentally Sensitive Areas*.

⁵³ USEPA, 1994. *Potential Groundwater Contamination from Intentional and Nonintentional Stormwater Infiltration*. EPA 600 SR-94 051.

⁵⁴ LARWQCB, 2000. *Standard Urban Storm Water Mitigation Plan for Los Angeles County and Cities in Los Angeles County*.

⁵⁵ Washington State Department of Ecology, 1999. *Draft Stormwater Management in Washington State. Volume V – Runoff Treatment BMPs*. Pub. No. 99-15.

⁵⁶ Maryland Department of the Environment, 1999. *2000 Maryland Stormwater Design Manual. Volume I*.

D. Urban Runoff Management Programs

Finding D.1.a: This Order specifies requirements necessary for the Copermittees to reduce the discharge of pollutants in urban runoff to the maximum extent practicable (MEP). However, since MEP is a dynamic performance standard which evolves over time as urban runoff management knowledge increases, the Copermittees' urban runoff management programs must continually be assessed and modified to incorporate improved programs, control measures, best management practices, etc. Absent evidence to the contrary, this continual assessment, revision, and improvement of urban runoff management program implementation is expected to ultimately achieve compliance with water quality standards.

Discussion: Under CWA section 402(p), municipalities are required to reduce the discharge of pollutants from their MS4s to the maximum extent practicable (MEP). MEP is the critical technology-based performance standard that municipalities must attain. The MEP standard is an ever-evolving, flexible, and advancing concept, which considers technical and economic feasibility. As knowledge about controlling urban runoff continues to evolve, so does that which constitutes MEP. Reducing the discharge of storm water pollutants to the MEP requires Copermittees to assess each program component and revise activities, control measures, best management practices (BMPs), and measurable goals, as necessary to meet MEP.

To achieve the MEP standard, municipalities must employ whatever BMPs are technically feasible (i.e., are likely to be effective) and are not cost prohibitive. The major emphasis is on technical feasibility. Reducing pollutants to the MEP means choosing effective BMPs, and rejecting applicable BMPs only where other effective BMPs will serve the same purpose, or the BMPs would not be technically feasible, or the cost would be prohibitive. In selecting BMPs to achieve the MEP standard, the following factors may be useful to consider:

1. Effectiveness: Will the BMPs address a pollutant (or pollutant source) of concern?
2. Regulatory Compliance: Is the BMP in compliance with storm water regulations as well as other environmental regulations?
3. Public Acceptance: Does the BMP have public support?
4. Cost: Will the cost of implementing the BMP have a reasonable relationship to the pollution control benefits to be achieved?
5. Technical Feasibility: Is the BMP technically feasible considering soils, geography, water resources, etc?

If a municipality reviews a lengthy menu of BMPs and chooses to select only a few of the least expensive BMPs, it is likely that MEP has not been met. On the other hand, if a municipal discharger employs all applicable BMPs except those where it can show that they are not technically feasible in the locality, or whose cost is prohibitive, it would have met the standard. Where a choice may be made between two BMPs that should provide generally comparable effectiveness, the discharger may choose the least expensive alternative and exclude the more expensive BMP. However, it would not be acceptable either to reject all BMPs that would address a pollutant source, or to pick a BMP base solely on cost, which would be clearly less effective. In selecting BMPs the municipality must make a serious attempt to comply and practical solutions may not be lightly rejected. In any case, the burden would be on the municipal discharger to show compliance with its permit. After selecting a menu of BMPs, it is the responsibility of the discharger to ensure that all BMPs are implemented.⁵⁷

⁵⁷ SWRCB, 1993. Memo Entitled Definition of Maximum Extent Practicable.

A definition of MEP is not provided in either the federal statute or in the federal regulations. The final determination regarding whether a municipality has reduced pollutants to the MEP can only be made by the Regional Board or the SWRCB, and not by the municipal discharger. While the Regional Board or the SWRCB ultimately define MEP, it is the responsibility of the Copermittees to initially propose actions that implement BMPs to reduce pollution to the MEP. In other words, the Copermittees' urban runoff management programs to be developed under the Order are the Copermittees' proposals of MEP. Their total collective and individual activities conducted pursuant to their urban runoff management programs become their proposal for MEP as it applies both to their overall effort, as well as to specific activities. The Order provides a minimum framework to guide the Copermittees in meeting the MEP standard.

It is the Regional Board's responsibility to evaluate the proposed programs and specific BMPs to determine what constitutes MEP, using the above guidance and the court's 1994 decision in *NRDC v. California Department of Transportation*, Federal District Court, Central District of California. The federal court stated that a Copermittee must evaluate and implement BMPs except where (1) other effective BMPs will achieve greater or substantially similar pollution control benefits; (2) the BMP is not technically feasible; or (3) the cost of BMP implementation greatly outweighs the pollution control benefits. In the absence of a proposal acceptable to the Regional Board, the Regional Board will define MEP by requiring implementation of additional measures by the Copermittees.

The Copermittees' continual evolution in meeting the MEP standard is expected to achieve compliance with water quality standards. USEPA has consistently supported this expectation. In its Interim Permitting Approach for Water Quality-Based Effluent Limitations (WQBELs) in Storm Water Permits, USEPA states "the interim permitting approach uses best management practices (BMPs) in first-round storm water permits, and expanded or better-tailored BMPs in subsequent permits, where necessary, to provide for attainment of water quality standards."⁵⁸ USEPA reiterated its position in 1999, when it stated regarding the Phase II municipal storm water regulations that "successive iterations of the mix of BMPs and measurable goals will be driven by the objective of assuring maintenance of water quality standards" and "EPA anticipates that a permit for a regulated small MS4 operator implementing BMPs to satisfy the six minimum control measures will be sufficiently stringent to protect water quality, including water quality standards [...]."⁵⁹

Finding D.1.b: Although the Copermittees have generally been implementing the jurisdictional urban runoff management programs required pursuant to Order No. 2001-01 since February 21, 2002, urban runoff discharges continue to cause or contribute to violations of water quality standards. This Order contains new or modified requirements that are necessary to improve Copermittees' efforts to reduce the discharge of pollutants in urban runoff to the MEP and achieve water quality standards. Some of the new or modified requirements, such as the expanded Watershed Urban Runoff Management Program section, are designed to specifically address these high priority water quality problems. Other new or modified requirements address program deficiencies that have been noted during audits, report reviews, and other Regional Board compliance assessment activities.

Discussion: The Copermittees are required to update and expand their urban runoff management programs on jurisdictional, watershed, and regional levels in order to improve their efforts to reduce the contribution of pollutants in urban runoff to the MEP and meet water quality

⁵⁸ Federal Register / Vol. 61, No. 166 / August 26, 1996 / P. 43761.

⁵⁹ Federal Register / Vol. 64, No. 235 / Wednesday, December 8, 1999 / Rules and Regulations. P. 68753-68754.

standards. Changes to Order No. 2001-01's requirements have been made to help ensure these two standards are achieved by the Copermittees.

The jurisdictional requirements of the Order have been changed based on findings by the Regional Board during typical compliance assurance activities. The Regional Board performed full jurisdictional program audits of 20 of the 21 Copermittees during the Order No. 2001-01 permit term; it also performed detailed audits on 10 of the Copermittees' SUSMP programs. Where the audits found common implementation problems, requirements have been altered to better ensure compliance. In addition, the Regional Board conducted detailed reviews of every jurisdictional annual report submitted by the Copermittees, including provision of specific comments to the Copermittees where improvements were found to be needed. Again, where common reporting issues were found, the Order's requirements have been changed to rectify the issues. Other changes to jurisdictional requirements were based on Regional Board inspection findings or receipt of complaints.⁶⁰

To better focus on attainment of water quality standards, the Order's watershed requirements have been improved. Addressing urban runoff management on a watershed scale focuses on water quality results by emphasizing the receiving waters within the watershed. The conditions of the receiving waters drive management actions, which in turn focus on the water quality problems of the receiving waters each watershed. Improvements to watershed requirements were also made to facilitate better understanding of the requirements between the Regional Board and Copermittees.

Finally, many of the required updates to the Copermittees' programs are based on recommendations found in the Copermittees' ROWD.⁶¹

Finding D.1.c: Updated Jurisdictional Urban Runoff Management Plans (JURMPs) and Watershed Urban Runoff Management Plans (WURMPs), and a new Regional Urban Runoff Management Plan (RURMP), which describe the Copermittees' urban runoff management programs in their entirety, are needed to guide the Copermittees' urban runoff management efforts and aid the Copermittees in tracking urban runoff management program implementation. It is practicable for the Copermittees to update the JURMPs and WURMPs, and create the RURMP, within one year, since significant efforts to develop these programs have already occurred.

Discussion: While development and submittal of urban runoff management plans are not necessary to ensure compliance of the Copermittees' urban runoff management programs with the Order, the plans do serve as useful correspondence between the Copermittees and the Regional Board. The plans help organize the Copermittees' programs and guide their implementation, while also providing the Regional Board with a means to track Copermittee implementation.

Urban runoff management plans are not necessary for ensuring compliance with the Order because the Order itself contains sufficient detailed requirements to ensure that compliance with discharge prohibitions, receiving water limits, and the narrative standard of MEP are achieved. Implementation by the Copermittees of programs in compliance with the Order's requirements, prohibitions, and receiving water limits is the pertinent compliance standard to be used under the

⁶⁰ Audit reports, report reviews, and inspection reports are available for review at the Regional Board office.

⁶¹ All significant changes made to the Order's requirements are described and explained in detail in Fact Sheet section X.

Order, as opposed to assessing compliance by reviewing the Copermittees' implementation of their plans alone.

Rather than being substantive components of the Order itself, the Copermittees' urban runoff management plans are simply descriptions of their urban runoff management programs required under the Order. These plans serve as procedural correspondence which guides program implementation and aids the Copermittees and Regional Board in tracking implementation of the programs. In this manner, the plans are not functional equivalents of the Order. For these reasons, the Copermittees' urban runoff management plans need not be an enforceable part of the Order.

The Copermittees' plans and programs can be updated within one year because much of their plans and programs are already in existence. In fact, many parts of their plans and programs have been in place for 15 years.⁶² Moreover, the adoption of Order No. 2001-01 required a larger scale reorganization of the Copermittees' programs than Order No. R9-2007-0001, but also allowed one year for program updates. The Copermittees were able to meet the time schedule required under Order No. 2001-01.

Finding D.1.d: Pollutants can be effectively reduced in urban runoff by the application of a combination of pollution prevention, source control, and treatment control BMPs. Pollution prevention is the reduction or elimination of pollutant generation at its source and is the best "first line of defense". Source control BMPs (both structural and non-structural) minimize the contact between pollutants and flows (e.g., rerouting run-on around pollutant sources or keeping pollutants on-site and out of receiving waters). Treatment control BMPs remove pollutants from urban runoff.

Discussion: The SWRCB finds in its Order WQ 98-01 that BMPs are effective in reducing pollutants in urban runoff, stating that "implementation of BMPs [is] generally the most appropriate form of effluent limitations when designed to satisfy technology requirements, including reduction of pollutants to the maximum extent practicable." A SWRCB TAC further supports this finding by recommending "that nonpoint source pollution control can be accomplished most effectively by giving priority to [BMPs] in the following order:

1. Pollution Prevention – implementation of practices that use or promote pollution free alternatives;
2. Source Control – implementation of control measures that focus on preventing or minimizing urban runoff from contacting pollution sources;
3. Treatment Control – implementation of practices that require treatment of polluted runoff either onsite or offsite."⁶³

Pollution prevention, the reduction or elimination of pollutant generation at its source, is an essential aspect of BMP implementation. By limiting the generation of pollutants by urban activities, less pollutants are available to be washed from urban areas, resulting in reduced pollutant loads in storm water discharges from these areas. In addition, there is no need to control or treat pollutants that are not initially generated. Furthermore, pollution prevention BMPs are

⁶² Regional Board, 2000. Comparison Between the Requirements of Tentative Order 2001-01, the Federal NPDES Storm Water Regulations, the Existing San Diego Municipal Storm Water Permit (Order 90-42), and Previous Drafts of the San Diego Municipal Storm Water Permit.

⁶³ SWRCB, 1994. Urban Runoff Technical Advisory Committee Report and Recommendations. Nonpoint Source Management Program.

generally more cost effective than removal of pollutants by treatment facilities or cleanup of contaminated media.⁶⁴

In the Pollution Prevention Act of 1990, Congress established a national policy that emphasizes pollution prevention over control and treatment. CWC section 13263.3(a) also supports pollution prevention, stating “The Legislature finds and declares that pollution prevention should be the first step in a hierarchy for reducing pollution and managing wastes, and to achieve environmental stewardship for society. The Legislature also finds and declares that pollution prevention is necessary to support the federal goal of zero discharge of pollutants into navigable waters.” Finally, the Basin Plan also supports this finding by stating “To eliminate pollutants in storm water, one can either clean it up by removing pollutants or prevent it from becoming polluted in the first place. Because of the overwhelming volume of storm water and the enormous costs associated with pollutant removal, pollution prevention is the only approach that makes sense.”⁶⁵

USEPA also supports the utilization of a combination of BMPs to address pollutants in urban runoff. For example, USEPA has found there has been success in addressing illicit discharge related problems through BMP initiatives like storm drain stenciling and recycling programs, including household hazardous waste special collection days.⁶⁶ Structural BMP performance data has also been compiled and summarized by USEPA.⁶⁷ This data indicates that structural BMPs can be effective in reducing pollutants in urban runoff discharges. The summary provides the performance ranges of various types of structural BMPs for removing suspended solids, nutrients, pathogens, and metals from storm water flows. These pollutants are in general pollutants of concern in storm water in the San Diego Region. For suspended solids, the least effective structural BMP type was found to remove 30-65% of the pollutant load, while the most effective was found to remove 65-100% of the pollutant load. For nutrients, the least effective structural BMP type was found to remove 15-45% of the pollutant load, while the most effective was found to remove 65-100% of the pollutant load. For pathogens, the least effective structural BMP type was found to remove <30% of the pollutant load, while the most effective was found to remove 65-100% of the pollutant load. For metals, the least effective structural BMP type was found to remove 15-45% of the pollutant load, while the most effective was found to remove 65-100% of the pollutant load.

Finding D.1.e: Urban runoff needs to be addressed during the three major phases of development (planning, construction, and use) in order to reduce the discharge of pollutants to the MEP and protect receiving waters. Development which is not guided by water quality planning policies and principles can unnecessarily result in increased pollutant load discharges, flow rates, and flow durations which can impact receiving water beneficial uses. Construction sites without adequate BMP implementation result in sediment runoff rates which greatly exceed natural erosion rates of undisturbed lands, causing siltation and impairment of receiving waters. Existing development generates substantial pollutant loads which are discharged in urban runoff to receiving waters.

Discussion: MS4 permits are issued to municipalities because of their land use authority. The ultimate responsibility for the pollutant discharges, increased runoff, and inevitable long-term

⁶⁴ Schueler, T.R., 2000. Center for Watershed Protection. Assessing the Potential for Urban Watershed Restoration, Article 142.

⁶⁵ Regional Board, 1994. Water Quality Control Plan, San Diego Basin, Region 9.

⁶⁶ USEPA, 1999. 40 CFR Parts 9, 122, 123, and 124 National Pollutant Discharge Elimination System-Regulations for Revision of the Water Pollution Control Program Addressing Storm Water Discharges. 64 FR 68728.

⁶⁷ USEPA, 1999. Preliminary Data Summary of Urban Storm Water Best Management Practices. EPA 821-R-99-012.

water quality degradation that results from urbanization lies with local governments. This responsibility is based on the fact that it is the local governments that have authorized the urbanization (i.e., conversion of natural pervious ground cover to impervious urban surfaces) and the land uses that generate the pollutants and runoff. Furthermore, the MS4 through which the pollutants and increased flows are conveyed, and ultimately discharged into natural receiving waters, are owned and operated by the same local governments. In summary, the Copermittees under the Order are responsible for discharges into and out of their MS4s because (1) they own and operate the MS4; and (2) they have the legal authority that authorizes the very development and land uses with generate the pollutants and increased flows in the first place.

For example, since grading cannot commence prior to the issuance of a local grading permit, the Copermittees have a built-in mechanism to ensure that all grading activities are protective of receiving water quality. The Copermittee has the authority to withhold issuance of the grading permit until the project proponent has demonstrated to the satisfaction of the Copermittee that the project will not violate their ordinances or cause the Copermittee to be in violation of its MS4 permit. Since the Copermittee will ultimately be held responsible for any discharges from the grading project by the Regional Board, the Copermittee will want to use its own permitting authority to ensure that whatever measures the Copermittee deems necessary to protect discharges into its MS4 are in fact taken by the project proponent.

The Order holds the local government accountable for this direct link between its land use decisions and water quality degradation. The Order recognizes that each of the three major stages in the urbanization process (development planning, construction, and the use or operational stage) are controlled by and must be authorized by the local government. Accordingly, this permit requires the local government to implement, or require others to implement, appropriate best management practices to reduce pollutant discharges and increased flow during each of the three stages of urbanization.

Including plans for BMP implementation during the design phase of new development and redevelopment offers the most cost effective strategy to reduce urban runoff pollutant loads to surface waters.⁶⁸ The Phase II regulations for small municipalities reflect the necessity of addressing urban runoff during the early planning phase. Due to the greater water quality concerns generally experienced by larger municipalities, Phase II requirements for small municipalities are also applicable to larger municipalities such as the Copermittees. The Phase II regulations direct municipalities to develop, implement, and enforce a program to address storm water runoff from new development and redevelopment projects that disturb greater than or equal to one acre, including projects less than one acre that are part of a larger common plan of development or sale. The program must ensure that controls are in place that would prevent or minimize water quality impacts. This includes developing and implementing strategies which include a combination of structural and/or non-structural BMPs appropriate to the locality. The program must also ensure the adequate long-term operation and maintenance of BMPs.⁶⁹ USEPA expands on the Phase II regulations for urban development when it recommends that Copermittees:

“Adopt a planning process that identifies the municipality’s program goals (e.g., minimize water quality impacts resulting from post-construction runoff from new development and redevelopment), implementation strategies (e.g., adopt a combination of structural and/or non-structural BMPs), operation and maintenance policies and procedures, and enforcement

⁶⁸ USEPA, 2000. Storm Water Phase II Compliance Assistance Guide. EPA 833-R-00-002.

⁶⁹ USEPA, 1999. 40 CFR Parts 9, 122, 123, and 124 National Pollutant Discharge Elimination System-Regulations for Revision of the Water Pollution Control Program Addressing Storm Water Discharges; Final Rule. 64 FR 68845.

procedures. In developing your program, you should consider assessing existing ordinances, policies, programs and studies that address storm water runoff quality.”

Management of urban runoff during the construction phase is also essential. USEPA explains in the preamble to the Phase II regulations that storm water discharges generated during construction activities can cause an array of physical, chemical, and biological water quality impacts. Specifically, the biological, chemical and physical integrity of the waters may become severely compromised due to runoff from construction sites. Fine sediment from construction sites can adversely affect aquatic ecosystems by reducing light penetration, impeding sight-feeding, smothering benthic organisms, abrading gills and other sensitive structures, reducing habitat by clogging interstitial spaces within the streambed, and reducing intergravel dissolved oxygen by reducing the permeability of the bed material. Water quality impairment also results, in part, because a number of pollutants are preferentially absorbed onto mineral or organic particles found in fine sediment. The interconnected process of erosion (detachment of the soil particles), sediment transport, and delivery is the primary pathway for introducing key pollutants, such as nutrients, metals, and organic compounds into aquatic systems.⁷⁰

Finally, urban runoff from existing development must be addressed. The Copermittees’ monitoring data exhibits that significant water quality problems exist in receiving waters which receive urban runoff from areas with extensive existing development, such as Chollas Creek.⁷¹ Source identification, BMP requirements, inspections, and enforcement are all important measures which can be implemented to address urban runoff from existing development. USEPA supports inspections and enforcement by municipalities when it states “Effective inspection and enforcement requires [...] penalties to deter infractions and intervention by the municipal authority to correct violations. Enforcement mechanisms [...] also must be described.”⁷²

Finding D.1.f: Annual reporting requirements included in this Order are necessary to meet federal requirements and to evaluate the effectiveness and compliance of the Copermittees’ programs.

Discussion: The annual reporting requirements are consistent with federal NPDES regulation 40 CFR 122.41, which states:

“The operator of a large or medium municipal separate storm sewer system of a municipal separate storm sewer system that has been designated by the Director under section 122.26(a)(1)(v) of this part must submit an annual report by the anniversary of the date of the issuance of the permit for such a system. The report shall include: (1) The status of implementing the components of the storm water management program that are established as permit conditions; (2) Proposed changes to the storm water management program that are established as permit condition, Such proposed changes shall be consistent with § 122.26(d)(2)iii) of this part; (3) Revisions, if necessary, to the assessment of controls and the fiscal analysis reported in the permit application under § 122.26(d)(2)iv) and (d)(2)(v) of this part; (4) A summary of data, including monitoring data, that is accumulated throughout the reporting year; (5) Annual expenditures and budget for year following each annual report; (6) A summary describing the number and nature of enforcement actions,. Inspections, and

⁷⁰ Ibid., 64 FR 68728.

⁷¹ County of San Diego, 2005. San Diego County Municipal Copermittees 2004-2005 Urban Runoff Monitoring. Table 11-7.

⁷² USEPA, 1992. Guidance Manual for the Preparation of Part II of the NPDES Permit Applications for Discharges from Municipal Separate Storm Sewer Systems. EPA 833-B-92-002.

public education programs; and (7) Identification of water quality improvements or degradation.”

CWC section 13267 provides that “the regional board may require that any person who has discharged [...] shall furnish, under penalty of perjury, technical or monitoring reports which the regional board requires.”

The Regional Board must assess the reports to ensure that the Copermittees’ programs are adequate to assess and address water quality. The reporting requirements can also be useful tools for the Copermittees to review, update, or revise their programs. Areas or issues which have received insufficient efforts can also be identified and improved upon.

Finding D.2.a: The SUSMP requirements contained in this Order are consistent with Order WQ-2000-11 adopted by the SWRCB on October 5, 2000. In the precedential order, the SWRCB found that the design standards, which essentially require that urban runoff generated by 85 percent of storm events from specific development categories be infiltrated or treated, reflect the MEP standard. The order also found that the SUSMP requirements are appropriately applied to the majority of the Priority Development Project categories contained in Section D.1 of this Order. The SWRCB also gave Regional Water Quality Control Boards the discretion to include additional categories and locations, such as retail gasoline outlets (RGOs), in future SUSMPs.

Discussion: The post-construction requirements and design standards contained in the SUSMP section of Order No. R9-2007-0001 constitute MEP and are consistent SWRCB guidance, court decisions, and Regional Board requirements. The SWRCB and Regional Boards have made several recent decisions in regards to inclusion of SUSMP requirements in MS4 permits. In a precedential decision, SWRCB WQ Order No. 2000-11, the SWRCB found that the SUSMP provisions constitute MEP for addressing pollutant discharges resulting from Priority Development Projects. The provisions of the SUSMP section of the Order are also consistent with those previously issued by the Regional Board for Orange County (Order No. R9-2002-0001) and San Diego County (Order No. 2001-01), as well as requirements in the Los Angeles County MS4 permit (Order No. R4-2001-182). In SWRCB Order WQ 2001-15, the SWRCB reaffirmed that SUSMP requirements constitute MEP. Moreover, the SUSMP requirements of the San Diego County MS4 permit (Order No. 2001-01) were upheld when the California State Supreme Court declined to hear the matter on appeal.

Finding D.2.b: Controlling urban runoff pollution before it enters the MS4 through the use of a combination of onsite source control BMPs augmented with treatment control BMPs is important for the following reasons: (1) Many end-of-pipe BMPs (such as diversion to the sanitary sewer) are typically ineffective during significant storm events. Whereas, onsite source control BMPs can be applied during all runoff conditions; (2) End-of-pipe BMPs are often incapable of capturing and treating the wide range of pollutants which can be generated on a sub-watershed scale; (3) End-of-pipe BMPs are more effective when used as polishing BMPs, rather than the sole BMP to be implemented; (4) End-of-pipe BMPs do not protect the quality or beneficial uses of receiving waters between the source and the BMP; and (5) Offsite end-of-pipe BMPs do not aid in the effort to educate the public regarding sources of pollution and their prevention.

Discussion: Many end-of-pipe BMPs are designed for low flow conditions because their end-of-pipe location prevents them from being designed for large storm events. This results in the end-of-pipe BMPs being overwhelmed, bypassed, or ineffective during larger storm events more frequently than onsite BMPs designed for larger storms. BMPs are also frequently most effective for a particular type of pollutant (such as sediment). Such BMPs may be appropriate for small

sites with a limited suite of pollutants generated; however, end-of-pipe BMPs must typically be able to address a wide range of pollutants generated by a sub-watershed, limiting their effectiveness. Moreover, the location of some end-of-pipe BMPs allow for untreated pollutants to be discharged to and degrade receiving waters prior to their reaching the BMPs. This fails to protect receiving waters, which is the purpose of BMP implementation. Moreover, opportunities to educate the public regarding urban runoff pollution can be lost when end-of-pipe BMPs are located away from pollutant sources and out of sight. Onsite BMPs can lead to a better understanding of urban runoff issues since they demonstrate urban runoff processes.

Finding D.2.c: Use of site design BMPs at new development projects can be an effective means for minimizing the impact of urban runoff discharges from the development projects on receiving waters. Site design BMPs help preserve and restore the natural hydrologic cycle of the site, allowing for filtration and infiltration which can greatly reduce the volume, peak flow rate, velocity, and pollutant loads of urban runoff.

Discussion: The use of site design BMPs helps reduce the amount of impervious area associated with urbanization and allows storm water to infiltrate into the soil. Natural vegetation and soil filters urban runoff and reduces the volume and pollutant loads of storm water. Studies have revealed that the level of imperviousness resulting from urbanization is strongly correlated with the water quality impairment of nearby receiving waters.⁷³ In many cases the impacts on receiving waters due to changes in hydrology can be more significant than those attributable to the contaminants found in storm water discharges.⁷⁴ These impacts include stream bank erosion (increased sediment load and subsequent deposition), benthic habitat degradation, and decreased diversity of macroinvertebrates.

The Order include requirements for developments to include site design BMPs that mimic or replicate the natural hydrologic cycle. Open space designs which maximize pervious surfaces and retention of “natural” drainages have been found to reduce both the costs of development and pollutant export.⁷⁵ Moreover, USEPA finds including plans for a “natural” site design and BMP implementation during the design phase of new development and redevelopment offers the most cost effective strategy to reduce pollutant loads to surface waters.⁷⁶ In a review of the Copermittees’ SUSMP programs, Tetra Tech found that many SUSMP projects were not including this effective BMP in their plans.⁷⁷

Finding D.2.d: RGOs are significant sources of pollutants in urban runoff. RGOs are points of convergence for motor vehicles for automotive related services such as repair, refueling, tire inflation, and radiator fill-up and consequently produce significantly higher loadings of hydrocarbons and trace metals (including copper and zinc) than other urban areas. To meet MEP, source control and treatment control BMPs are needed at RGOs that meet the following criteria: (a) 5,000 square feet or more, or (b) a projected Average Daily Traffic (ADT) of 100 or more vehicles per day. These are appropriate thresholds since vehicular development size and volume of traffic are good indicators of potential impacts of urban runoff from RGOs on receiving waters.

⁷³ USEPA, 1999. 40 CFR Parts 9, 122, 123, and 124 National Pollutant Discharge Elimination System – Regulations for Revision of the Water Pollution Control Program Addressing Storm Water Discharges; Final Rule.

⁷⁴ Ibid.

⁷⁵ Center for Watershed Protection, 2000. “The Benefits of Better Site Design in Residential Subdivisions.” Watershed Protection Techniques. Vol. 3. No. 2.

⁷⁶ USEPA, 1999. 40 CFR Parts 9, 122, 123, and 124 National Pollutant Discharge Elimination System – Regulations for Revision of the Water Pollution Control Program Addressing Storm Water Discharges; Final Rule.

⁷⁷ Tetra Tech, 2005. San Diego Urban Storm Water Mitigation Plan Program Evaluation Report. Pages 4-5.

Discussion: RGOs are included in the Order as a Priority Development Project category because RGOs are points of confluence for motor vehicles for automotive related services such as repair, refueling, tire inflation, and radiator fill-up. RGOs consequently produce significantly greater loadings of hydrocarbons and trace metals (including copper and zinc) than other urban areas. To meet MEP, source control and structural treatment BMPs are needed at RGOs that meet the following criteria: (a) 5,000 square feet or more or (b) a ADT of 100 or more vehicles per day. These are appropriate thresholds since vehicular development size and volume of traffic are good indicators of potential impacts of urban runoff from RGOs on receiving waters.

This finding has been added to satisfy SWRCB WQ Order No. 2000-11's requirements for including RGOs as a Priority Development Category. Order No. 2000-11 acknowledged that a threshold (size, average daily traffic, etc.) appropriate to trigger SUSMP requirements should be developed for RGOs and that specific findings regarding RGOs should be included in MS4 permits to justify the requirement.⁷⁸ Additional detail to support the inclusion of RGOs can be found in Fact Sheet Section VIII.F.

Finding D.2.f: If not properly designed or maintained, certain BMPs implemented or required by municipalities for urban runoff management may create a habitat for vectors (e.g. mosquitoes and rodents). However, proper BMP design which avoids standing water can prevent the creation of vector habitat. Nuisances and public health impacts resulting from vector breeding can be prevented with close collaboration and cooperative effort between municipalities, local vector control agencies, and the State Department of Health Services during the development and implementation of urban runoff management programs.

Discussion: The implementation of certain structural BMPs or other urban runoff treatment systems can result in significant vector problems in the form of increased breeding or harborage habitat for mosquitoes, rodents or other potentially disease transmitting organisms. The implementation of BMPs that retain water may provide breeding habitat for a variety of mosquito species, some of which have the potential to transmit diseases such as Western Equine Encephalitis, St. Louis Encephalomyelitis, and malaria. Recent BMP implementation studies by Caltrans⁷⁹ in District 7 and District 11 have demonstrated mosquito breeding associated with some types of BMPs. The Caltrans BMP Retrofit Pilot study cited lack of maintenance and improper design as factors contributing to mosquito production. However, a Watershed Protection Techniques article⁸⁰ describes management techniques for selecting, designing, and maintaining structural treatment BMPs to minimize mosquito production. State and local urban runoff management programs that include structural BMPs with the potential to retain water have been implemented in Florida and the Chesapeake Bay region without resulting in significant public health threats from mosquitoes or other vectors.⁸¹

Finding D.3.a: In accordance with federal NPDES regulations, and to ensure the most effective oversight of industrial and construction site discharges, discharges of runoff from industrial and construction sites are subject to dual (state and local) storm water regulation. Under this dual system, the Regional Board is responsible for enforcing the General Construction Activities Storm Water Permit, SWRCB Order 97-03 DWQ, NPDES No. CAS000001 (General Construction Permit) and the General Industrial Activities Storm Water Permit, SWRCB Order

⁷⁸ SWRCB, 2000. Order WQ 2000-11.

⁷⁹ Caltrans, 2000. BMP Retrofit Pilot Studies: A Preliminary Assessment of Vector Production.

⁸⁰ Watershed Protection Techniques, 1995. Mosquitoes in Constructed Wetlands: A Management Bugaboo? 1(4):203-207.

⁸¹ Shaver, E. and R. Baldwin, 1995. Sand Filter Design for Water Quality Treatment in Herricks, E., Ed. Stormwater Runoff and Receiving Systems: Impact, Monitoring, and Assessment, CRC Lewis Publishers, New York, NY.

99-08 DWQ, NPDES No. CAS000002 (General Industrial Permit), and each municipal Copermittee is responsible for enforcing its local permits, plans, and ordinances, which may require the implementation of additional BMPs than required under the statewide general permits.

Discussion: USEPA finds the control of pollutant discharges from industry and construction so important to receiving water quality that it has established a double system of regulation over industrial and construction sites. This double system of regulation consists of two parallel regulatory systems with the same common objective: to keep pollutants from industrial and construction sites out of the MS4. In this double system of regulation for runoff from industrial and construction sites, local governments must enforce their legal authorities (i.e., local ordinances and permits) while the Regional Board must enforce its legal authority (i.e., statewide general industrial and construction storm water permits). These two regulatory systems are designed to complement and support each other. Municipalities are not required to enforce Regional Board and SWRCB permits; however, they are required to enforce their ordinances and permits. The Federal regulations are clear that municipalities have responsibility to address runoff from industrial and construction sites which enters their MS4s.

Municipalities have this responsibility because they have the authority to issue land use and development permits. Since municipalities are the lead permitting authority for industrial land use and construction activities, they are also the lead for enforcement regarding runoff discharges from these sites. For sites where the municipality is the lead permitting authority, the Regional Board will work with the municipality and provide support where needed. The Regional Board will assist municipalities in enforcement against non-compliant sites after the municipality has exhibited a good faith effort to bring the site into compliance.

According to USEPA, the storm water regulations envision that NPDES permitting authorities and municipal operators will cooperate to develop programs to monitor and control pollutants in storm water discharges from industrial facilities.⁸² USEPA discusses the “dual regulation” of construction sites in its Storm Water Phase II Compliance Assistance Guide,⁸³ which states “Even though all construction sites that disturb more than one acre are covered nationally by an NPDES storm water permit, the construction site runoff control minimum measure [...] is needed to induce more localized site regulation and enforcement efforts, and to enable operators [...] to more effectively control construction site discharges into their MS4s.” While the Storm Water Phase II Compliance Assistance Guide applies to small municipalities, it is applicable to the Copermittees, because they are similar in size and have the potential to discharge similar pollutant types as Phase II municipalities.

Finding D.3.b: Identification of sources of pollutants in urban runoff (such as municipal areas and activities, industrial and commercial sites/sources, construction sites, and residential areas), development and implementation of BMPs to address those sources, and updating ordinances and approval processes are necessary for the Copermittees to ensure that discharges of pollutants into and from its MS4 are reduced to the MEP. Inspections and other compliance verification methods are needed to ensure minimum BMPs are implemented. Inspections are especially important at high risk areas for pollutant discharges.

Discussion: Source identification is necessary to characterize the nature and extent of pollutants in discharges and to develop appropriate BMPs. It is the first step in a targeted approach to urban

⁸² USEPA, 1992. Guidance Manual for the Preparation of Part II of the NPDES Permit Applications for Discharges from Municipal Separate Storm Sewer Systems. EPA 833-B-92-002.

⁸³ USEPA, 2000. Storm Water Phase II Compliance Assistance Guide. EPA 833-R-00-002.

runoff management. Source identification helps identify the location of potential sources of pollutants in urban runoff. Pollutants found to be present in receiving waters can then be traced to the sites which frequently generate such pollutants. In this manner an inventories of sources can help in targeting inspections, monitoring, and potential enforcement. This allows for limited inspection, monitoring, and enforcement time to be most effective. USEPA supports source identification as a concept when it recommends construction, municipal, and industrial source identification in guidance and the federal regulations.⁸⁴⁸⁵

The development of BMPs for identified sources will help ensure that appropriate, consistent controls are implemented at all types of urban development and areas. Copermittees must reduce the discharge of pollutants in urban runoff to the maximum extent practicable. To achieve this level of pollutant reduction, BMPs must be implemented. Designation of minimum BMPs helps ensure that appropriate BMPs are implemented for various sources. These minimum BMPs also serve as guidance as to the level of water quality protection required. USEPA requires development and implementation of BMPs for construction, municipal, commercial, industrial, and residential sources at 40 CFR 122.26(d)(2)(iv)(A-D).

Updating ordinances and approval processes is necessary in order for the Copermittees to control discharges to their MS4s. USEPA supports updating ordinances and approval processes when it states “A crucial requirement of the NPDES storm water regulation is that a municipality must demonstrate that it has adequate legal authority to control the contribution of pollutants in storm water discharged to its MS4. [...] In order to have an effective municipal storm water management program, a municipality must have adequate legal authority to control the contribution of pollutants to the MS4. [...] ‘Control,’ in this context, means not only to require disclosure of information, but also to limit, discourage, or terminate a storm water discharge to the MS4.”⁸⁶

Inspections provide a necessary means for the Copermittees to evaluate compliance of pollutant sources with their municipal ordinances and minimum BMP requirements. USEPA supports inspections when it recommends inspections of construction, municipal, and industrial sources.⁸⁷ Inspection of high risk sources are especially important because of the ability of frequent inspections to help ensure compliance, thereby reducing the risk associated with such sources. USEPA suggests that inspections can improve compliance when it states “Effective inspection and enforcement requires [...] penalties to deter infractions and intervention by the municipal authority to correct violations.”⁸⁸

Finding D.3.c: Historic and current development makes use of natural drainage patterns and features as conveyances for urban runoff. Urban streams used in this manner are part of the municipalities MS4 regardless of whether they are natural, man-made, or partially modified features. In these cases, the urban stream is both an MS4 and receiving water.

Discussion: A MS4 is defined in the federal regulations as a conveyance or system of conveyances (including roads with drainage systems, municipal streets, catch basins, curbs,

⁸⁴ USEPA, 1992. Guidance Manual for the Preparation of Part II of the NPDES Permit Applications for Discharges from Municipal Separate Storm Sewer Systems. EPA 833-B-92-002.

⁸⁵ 40 CFR 122.26(d)(2)(ii)

⁸⁶ USEPA, 1992. Guidance Manual for the Preparation of Part II of the NPDES Permit Applications for Discharges from Municipal Separate Storm Sewer Systems. EPA 833-B-92-002.

⁸⁷ Ibid.

⁸⁸ USEPA, 1992. Guidance Manual for the Preparation of Part II of the NPDES Permit Applications for Discharges from Municipal Separate Storm Sewer Systems. EPA 833-B-92-002.

gutters, ditches, man-made channels, or storm drains), owned or operated by a Copermittee, and designed or used for collecting or conveying urban runoff.⁸⁹ Natural drainage patterns and urban streams are frequently used by municipalities to collect and convey urban runoff away from development within their jurisdiction. Therefore, the Regional Board considers natural drainages that are used for conveyances of urban runoff, regardless of whether or not they've been altered by the municipality, as both part of the MS4s and as receiving waters. To clarify, an unaltered natural drainage, which receives runoff from a point source (channeled by a Copermittee to drain an area within their jurisdiction), which then conveys the runoff to an altered natural drainage or a man-made MS4, is both an MS4 and a receiving water.⁹⁰

Finding D.3.d: As operators of the MS4s, the Copermittees cannot passively receive and discharge pollutants from third parties. By providing free and open access to an MS4 that conveys discharges to waters of the U.S., the operator essentially accepts responsibility for discharges into the MS4 that it does not prohibit or control. These discharges may cause or contribute to a condition of contamination or a violation of water quality standards.

Discussion: CWA section 402(p) requires operators of MS4s to prohibit non-storm water discharges into their MS4s. This is necessary because pollutants which enter the MS4 generally are conveyed through the MS4 to be eventually discharged into receiving waters. If a municipality does not prohibit non-storm water discharges, it is providing the pathway (its MS4) which enables pollutants to reach receiving waters. Since the municipality's storm water management service can result in pollutant discharges to receiving waters, the municipality must accept responsibility for the water quality consequences resulting from this service. Furthermore, third party discharges can cause a municipality to be out of compliance with its permit. Since pollutants from third parties which enter the MS4 will eventually be discharged from the MS4 to receiving waters, the third party discharges can result in a situation of municipality non-compliance if the discharges lead to an exceedance of water quality standards. For these reasons, each Copermittee must prohibit and/or control discharges from third parties to its MS4. USEPA supports this concept when it states "the operators of regulated small MS4s cannot passively receive and discharge pollutants from third parties" and "the operator of a small MS4 that does not prohibit and/or control discharges into its system essentially accepts 'title' for those discharges. At a minimum, by providing free and open access to the MS4s that convey discharges to the waters of the United States, the municipal storm sewer system enables water quality impairment by third parties."⁹¹

Finding D.3.e: Waste and pollutants which are deposited and accumulate in the MS4 drainage structures will be discharged from these structures to waters of the U.S. unless they are removed or treated. These discharges may cause or contribute to, or threaten to cause or contribute to, a condition of pollution in receiving waters. For this reason, pollutant discharges into the MS4s must be reduced to the MEP unless treatment within the MS4 occurs.

Discussion: When rain falls and drains urban freeways, industries, construction sites, and neighborhoods it picks up a multitude of pollutants. Gravity flow transports the pollutants to the MS4. Illicit discharges and connections also contribute a significant amount of pollutants to MS4s. MS4s are commonly designed to convey their contents as quickly as possible. Due to the

⁸⁹ USEPA, 2000. EPA Administered Permit Programs: The National Pollutant Discharge Elimination System. Code of Federal Regulations, Vol. 40, Part 122.

⁹⁰ Regional Board, 2001. Response in Opposition to Petitions for Review of California Regional Water Quality Control Board San Diego Region Order No. 2001-01 – NPDES Permit No. CAS0108758 (San Diego Municipal Storm Water Permit).

⁹¹ Federal Register / Vol. 64, No. 235 / Wednesday, December 8, 1999 / Rules and Regulations. P. 68765-68766.

resulting typically high flow rates within the concrete conveyance systems of MS4s, pollutants which enter or are deposited in the MS4 and not removed are generally flushed unimpeded through the MS4 to waters of the United States. Since treatment generally does not occur within the MS4, in such cases reduction of pollutants to the MEP must occur prior to discharges entering the MS4.

The importance of this concept is supported by the tons of wastes/pollutants that have been removed from the Copermittees' MS4s as reported in their ROWD.⁹² Moreover, these pollutants will be discharged into receiving waters unless an effective MS4 and structural treatment BMP maintenance program is implemented by the Copermittees. The requirement for Copermittees to conduct a MS4 maintenance program is specifically directed in both the Phase I and Phase II storm water regulations. Regarding MS4 cleaning, USEPA states "The removal of sediment, decaying debris, and highly polluted water from catch basins has aesthetic and water quality benefits, including reducing foul odors, reducing suspended solids, and reducing the load of oxygen-demanding substances that reach receiving waters."⁹³ It goes on to say, "Catch basin cleaning is an efficient and cost-effective method for preventing the transport of sediment and pollutants to receiving water bodies." USEPA also finds that "Lack of maintenance often limits the effectiveness of storm water structural controls such as detention/retention basins and infiltration devices. [...] The proposed program should provide for maintenance logs and identify specific maintenance activities for each class of control, such as removing sediment from retention ponds every five years, cleaning catch basins annually, and removing litter from channels twice a year."⁹⁴

Finding D.3.f: Enforcement of local urban runoff related ordinances, permits, and plans is an essential component of every urban runoff management program and is specifically required in the federal storm water regulations and this Order. Each Copermittee is individually responsible for adoption and enforcement of ordinances and/or policies, implementation of identified control measures/BMPs needed to prevent or reduce pollutants in storm water runoff, and for the allocation of funds for the capital, operation and maintenance, administrative, and enforcement expenditures necessary to implement and enforce such control measures/BMPs under its jurisdiction.

Discussion: The Federal NPDES regulations 40 CFR 122.26(d)(2)(iv)(A – D) are clear in placing responsibility on municipalities for control of urban runoff from third party activities and land uses to their MS4.⁹⁵ In order for municipalities to assume this responsibility, they must implement ordinances, permits, and plans addressing urban runoff from third parties. Assessments for compliance with their ordinances, permits, and plans are essential for a municipality to ensure that third parties are not causing the municipality to be in violation of its municipal storm water permit. When conditions of non-compliance are determined, enforcement is necessary to ensure that violations of municipality ordinances and permits are corrected. When the Copermittees determine a violation of its storm water ordinance, it must pursue correction of the violation. Without enforcement, third parties do not have incentive to correct violations. USEPA supports enforcement by municipalities when it states "Effective inspection and

⁹² San Diego County Copermittees, 2005. Report of Waste Discharge. Pages 32-33.

⁹³ USEPA, 1999. Storm Water O&M Fact Sheet, Catch Basin Cleaning. EPA 832-F-99-011.

⁹⁴ USEPA, 1992. Guidance Manual for the Preparation of Part II of the NPDES Permit Applications for Discharges from Municipal Separate Storm Sewer Systems. EPA 833-B-92-002.

⁹⁵ USEPA, 2000. EPA Administered Permit Programs: The National Pollutant Discharge Elimination System. Code of Federal Regulations, Vol. 40, Part 122.

enforcement requires [...] penalties to deter infractions and intervention by the municipal authority to correct violations. Enforcement mechanisms [...] also must be described.”⁹⁶

Finding D.3.g: Education is an important aspect of every effective urban runoff management program and the basis for changes in behavior at a societal level. Education of municipal planning, inspection, and maintenance department staffs is especially critical to ensure that in-house staffs understand how their activities impact water quality, how to accomplish their jobs while protecting water quality, and their specific roles and responsibilities for compliance with this Order. Public education, designed to target various urban land users and other audiences, is also essential to inform the public of how individual actions impact receiving water quality and how these impacts can be minimized.

Discussion: Education is a critical BMP and an important aspect of the urban runoff management programs. USEPA finds that “An informed and knowledgeable community is critical to the success of a storm water management program since it helps ensure the following: Greater support for the program as the public gains a greater understanding of the reasons why it is necessary and important [and] greater compliance with the program as the public becomes aware of the personal responsibilities expected of them and others in the community, including the individual actions they can take to protect or improve the quality of area waters.”⁹⁷

Regarding target audiences, USEPA also states “The public education program should use a mix of appropriate local strategies to address the viewpoints and concerns of a variety of audiences and communities, including minority and disadvantaged communities, as well as children.”

Finding D.3.h: Public participation during the development of urban runoff management programs is necessary to ensure that all stakeholder interests and a variety of creative solutions are considered.

Discussion: This finding is supported by the Phase II Storm Water Regulations, which state “early and frequent public involvement can shorten implementation schedules and broaden public support for a program.” USEPA goes on to explain, “public participation is likely to ensure a more successful storm water program by providing valuable expertise and a conduit to other programs and governments.”⁹⁸

Finding D.4.a: Since urban runoff does not recognize political boundaries, watershed-based urban runoff management can greatly enhance the protection of receiving waters within a watershed. Such management provides a means to focus on the most important water quality problems in each watershed. By focusing on the most important water quality problems, watershed efforts can maximize protection of beneficial use in an efficient manner. Watershed management of urban runoff does not require Copermittees to expend resources outside of their jurisdictions. Watershed management requires the Copermittees within a watershed to develop a watershed-based management strategy, which can then be implemented on a jurisdictional basis.

Discussion: In recent years, addressing water quality issues from a watershed perspective has increasingly gained attention. Regarding watershed-based permitting, the USEPA *Watershed-Based NPDES Permitting Policy Statement* issued on Jan. 7, 2004 states the following:

⁹⁶ USEPA, 1992. Guidance Manual for the Preparation of Part II of the NPDES Permit Applications for Discharges from Municipal Separate Storm Sewer Systems. EPA/833-B-92-002.

⁹⁷ USEPA, 2000. Storm Water Phase II Compliance Assistance Guide. EPA 833-R-00-002.

⁹⁸ Federal Register / Vol. 64, No. 235 / Wednesday, December 8, 1999 / Rules and Regulations. P. 68755.

USEPA continues to support a holistic watershed approach to water quality management. The process for developing and issuing NPDES permits on a watershed basis is an important tool in water quality management. USEPA believes that developing and issuing NPDES permits on a watershed basis can benefit all watershed stakeholders, from the NPDES permitting authority to local community members. A watershed-based approach to point source permitting under the NPDES program may serve as one innovative tool for achieving new efficiencies and environmental results. USEPA believes that watershed-based permitting can:

- lead to more environmentally effective results;
- emphasize measuring the effectiveness of targeted actions on improvements in water quality;
- provide greater opportunities for trading and other market based approaches;
- reduce the cost of improving the quality of the nation's waters;
- foster more effective implementation of watershed plans, including total maximum daily loads (TMDLs); and
- realize other ancillary benefits beyond those that have been achieved under the CWA (e.g., facilitate program integration including integration of Clean Water Act and Safe Drinking Water Act programs).

Watershed-based permitting is a process that ultimately produces NPDES permits that are issued to point sources on a geographic or watershed basis. In establishing point source controls in a watershed-based permit, the permitting authority may focus on watershed goals, and consider multiple pollutant sources and stressors, including the level of nonpoint source control that is practicable. In general, there are numerous permitting mechanisms that may be used to develop and issue permits within a watershed approach.

This USEPA guidance is in line with SWRCB and Regional Board watershed management goals. For example, the SWRCB's TAC recommends watershed-based water quality protection, stating "Municipal permits should have watershed specific components." The TAC further recommends that "All NPDES permits and Waste Discharge Requirements should be considered for reissuance on a watershed basis."

In addition, the Basin Plan states that "public agencies and private organizations concerned with water resources have come to recognize that a comprehensive evaluation of pollutant contributions on a watershed scale is the only way to realistically assess cumulative impacts and formulate workable strategies to truly protect our water resources. Both water pollution and habitat degradation problems can best be solved by following a basin-wide approach."

In light of USEPA's policy statement and the SWRCB's and Regional Board's watershed management goals, the Regional Board seeks to expand watershed management in the regulation of urban runoff. Watershed-based MS4 permits can provide for more effective receiving water quality protection by focusing on specific water quality problems. The entire watershed for the receiving water can be assessed, allowing for critical areas and practices to be targeted for corrective actions. Known sources of pollutants of concern can be investigated for potential water quality impacts. Problem areas can then be addressed, leading to eventual improvements in receiving water quality. Management of urban runoff on a watershed basis allows for specific water quality problems to be targeted so that efforts result in maximized water quality improvements.⁹⁹

⁹⁹ Regional Board, 2004. San Diego County Municipal Storm Water Permit Reissuance Analysis Summary. P. 1.

Finding D.4.b: Some urban runoff issues, such as residential education, can be effectively addressed on a regional basis. Regional approaches to urban runoff management can improve program consistency and promote sharing of resources, which can result in implementation of more efficient programs.

Discussion: Regional activities are generally directed at developing consistency between watershed and jurisdictional programs (e.g., through standards development), and collaborating on program activities such as education and monitoring to ease implementation and make the most of economies of scale. The Copermittees report having come to an understanding that jurisdictional, watershed, and regional programs cannot be effectively developed and implemented in isolation. In addition, the Copermittees, through WURMP implementation efforts, have learned that many watershed activities can be more effectively implemented (e.g., achieve more water quality benefits) at the regional level due to economies of scale and agree watershed protection should be increasingly emphasized as a focal point of Copermittee efforts under the re-issued Permit.¹⁰⁰

Finding D.4.c: Both regionally and on a watershed basis, it is important for the Copermittees to coordinate their water quality protection and land use planning activities to achieve the greatest protection of receiving water bodies. Copermittee coordination with other watershed stakeholders, especially Caltrans, the Department of Defense, and Native American Tribes, is also important. Establishment of a management structure, within which the Copermittees subject to this Order will fund and coordinate those aspects of their joint obligations, will help promote implementation of urban runoff management programs on a watershed and regional basis in a most cost effective manner.

Discussion: Conventional planning and zoning can be limited in their ability to protect the environmental quality of creeks, rivers, and other waterbodies. Watershed-based planning is often ignored, despite the fact that receiving waters unite land by collecting runoff from throughout the watershed. Since watersheds unite land, they can be used as an effective basis for planning. Watershed-based planning enables local and regional areas to realize economic, social, and other benefits associated with growth, while conserving the resources needed to sustain such growth, including water quality. This type of planning can involve four steps: (1) Identify the watersheds shared by the participating jurisdictions; (2) Identify, assess, and prioritize the natural, social, and other resources in the watersheds; (3) Prioritize areas for growth, protection, and conservation, based on prioritized resources; and (4) Develop plans and regulations to guide growth and protect resources. Local governments have started with simple, yet effective, steps toward watershed planning, such as adopting a watershed-based planning approach, articulating the basic strategy in their General Plans, and beginning to pursue the basic strategy in collaboration with neighboring local governments who share the watersheds. Examples of new mechanisms created to facilitate watershed-based planning and zoning include the San Francisquito Creek Watershed Coordinated Resource Management Process and the Santa Clara Basin Watershed Management Initiative.¹⁰¹

E. Statute and Regulatory Considerations

Finding E.1: The Receiving Water Limitations (RWL) language specified in this Order is consistent with language recommended by USEPA and established in SWRCB Water Quality Order 99-05, adopted by the SWRCB on June 17, 1999. The RWL in this Order require

¹⁰⁰ San Diego County Copermittees, 2005. Report Of Waste Discharge. P. C.14.

¹⁰¹ BASMAA, 1999. Start at the Source. Forbes Custom Publishing.

compliance with water quality standards through an iterative approach requiring the implementation of improved and better-tailored BMPs over time. Compliance with receiving water limits based on applicable water quality standards is necessary to ensure that MS4 discharges will not cause or contribute to violations of water quality standards and the creation of conditions of pollution.

Discussion: The RWLs in the Order require compliance with water quality standards through an iterative approach for implementing improved and better-tailored BMPs over time. The iterative BMP process requires the implementation of increasingly stringent BMPs until receiving water standards are achieved. This is necessary because implementation of BMPs alone cannot ensure attainment of receiving water quality standards. For example, a BMP that is effective in one situation may not be applicable in another. An iterative process of BMP development, implementation, and assessment is needed to promote consistent compliance with receiving water quality objectives. If assessment of a given BMP confirms that the BMP is ineffective, the iterative process should be restarted, with redevelopment of a new BMP that is anticipated to result in compliance with receiving water quality objectives.

The issue of whether storm water discharges from MS4s must meet water quality standards has been intensely debated in past years. The argument arises because CWA section 402(p) fails to clearly state that municipal dischargers of storm water must meet water quality standards. On the issue of industrial discharges of storm water, the statute clearly indicates that industrial dischargers must meet both (1) the technology-based standard of “best available technology economically achievable (BAT)” and (2) applicable water quality standards. On the issue of municipal discharges however, the statute states that municipal dischargers must meet (1) the technology-based standard of MEP” and (2) “such other provisions that the Administrator or the State determines appropriate for the control of such pollutants.” The statute fails, however, to specifically state that municipal dischargers must meet water quality standards.

As a result, the municipal storm water dischargers have argued that they do not have to meet water quality standards; and that they only are required to meet MEP. Environmental interest groups maintain that not only do MS4 discharges have to meet water quality standards, but that MS4 permits must also comply with numeric effluent limitations for the purpose of meeting water quality standards. On the issue of water quality standards, USEPA, the SWRCB, and the Regional Board have consistently maintained that MS4s must indeed comply with water quality standards. On the issue of whether water quality standards must be met by numeric effluent limits, USEPA, the SWRCB (in Orders WQ 91-03 and WQ 91-04), and the Regional Board have maintained that MS4 permits can, at this time, contain narrative requirements for the implementation of BMPs in place of numeric effluent limits.

In addition to relying on USEPA’s legal opinion concluding that MS4s must meet MEP and water quality standards, the SWRCB also relied on the CWA’s explicit authority for States to require “such other provisions that the Administrator or the State determines appropriate for the control of such pollutants” in addition to the technology-based standard of MEP. To further support its conclusions that MS4 permit dischargers must meet water quality standards, the SWRCB relied on provisions of the CWC that specify that all waste discharge requirements must implement applicable Basin Plans and take into consideration the appropriate water quality objectives for the protection of beneficial uses.

The SWRCB first formally concluded that permits for MS4s must contain effluent limitations based on water quality standards in its Order WQ 91-03. In that Order, the SWRCB also concluded that it was appropriate for Regional Boards to achieve this result by requiring best

management practices, rather than by inserting numeric effluent limitations into MS4 permits. Later, in Order WQ 98-01, the SWRCB prescribed specific precedent setting Receiving Water Limitations language to be included in all future MS4 permits. This language specifically requires that MS4 dischargers meet water quality standards and allows for the use of narrative BMPs (increasing in stringency and implemented in an iterative process) as the mechanism by which water quality standards can be met.

In Order WQ 99-05, the SWRCB modified its receiving water limitations language in Order WQ 98-01 to meet specific objections by USEPA (the modifications resulted in stricter compliance with water quality standards). SWRCB Order WQ 99-05 states:

“In Order WQ 98-01, the SWRCB ordered that certain receiving water limitation language be included in future municipal storm water permits. Following inclusion of that language in permits issued by the San Francisco Bay and San Diego Regional Boards for Vallejo and Riverside respectively, the USEPA objected to the permits. The USEPA objection was based on the receiving water limitation language. The USEPA has now issued those permits itself and has included receiving water limitation language it deems appropriate.

In light of USEPA’s objection to the receiving water limitation language in Order WQ 98-01 and its adoption of alternative language, the SWRCB is revising its instructions regarding receiving water limitation language for municipal storm water permits. It is hereby ordered that Order WQ 98-01 will be amended to remove the receiving water limitation language contained therein and to substitute the USEPA language. Based on the reasons stated here, and as a precedent decision, the following receiving water limitation language shall be included in future municipal storm water permits.”

In 1999 case involving MS4 permits issued by USEPA to several Arizona cities (*Defenders of Wildlife v. Browner*, 1999, 197 F. 3d 1035), the United States Court of Appeals for the Ninth Circuit upheld USEPA’s requirement for MS4 dischargers to meet water quality standards, but it did so on the basis of USEPA’s discretion rather than on the basis of strict compliance with the Clean Water Act. In other words, while holding that the Clean Water Act does not require all MS4 discharges to comply strictly with state water quality standards, the Court also held that USEPA has the authority to determine that ensuring strict compliance with state water quality standards is necessary to control pollutants. On the question of whether MS4 permits must contain numeric effluent limitations, the court upheld USEPA’s use of iterative BMPs in place of numeric effluent limits.

On October 14, 1999, the SWRCB issued a legal opinion on the federal appellate decision and provided advice to the Regional Boards on how to proceed in the future. In the memorandum, the SWRCB concludes that the recent Ninth Circuit opinion upholds the discretion of USEPA and the State to (continue to) issue permits to MS4s that require compliance with water quality standards through iterative BMPs. Moreover, the memorandum states that “[...] because most MS4 discharges enter impaired water bodies, there is a real need for permits to include stringent requirements to protect those water bodies. As TMDLs are developed, it is likely that MS4s will have to participate in pollutant load reductions, and the MS4 permits are the most effective vehicles for those reductions.” In summary, the SWRCB found that the Regional Boards should continue to include the RWL established in SWRCB Order WQ 99-05 in all future permits.

The issue of the RWLs language was also central to BIA’s (and others’) appeal of Order No. 2001-01 (Order No. R9-2007-0001 serves as the reissuance of Order No. 2001-01). BIA contended that the MEP standard was a ceiling on what could be required of the Copermittees in implementing their urban runoff management programs, and that Order No. 2001-01’s receiving

water limitations requirements exceeded that ceiling. In other words, BIA argued that the Copermitees could not be required to comply with receiving water limitations if they necessitated efforts which went beyond the MEP standard. Again, the courts upheld the Regional Board's discretion to require compliance with water quality standards in municipal storm water permits, without limitation. The Court of Appeal, Fourth Appellate District found that the Regional Board has "the authority to include a permit provision requiring compliance with water quality standards."¹⁰² On further appeal by BIA, the California State Supreme Court declined to hear the matter.

While implementation of the iterative BMP process is a means to achieve compliance with water quality objectives, it does not shield the discharger from enforcement actions for continued non-compliance with water quality standards. Consistent with USEPA guidance,¹⁰³ regardless of whether or not an iterative process is being implemented, discharges that cause or contribute to a violation of water quality standards are in violation of Order No. R9-2007-0001.

Finding E.2: The Basin Plan identifies the following beneficial uses for water bodies in the Santa Diego County watersheds: Municipal and Domestic Supply (MUN), Agricultural Supply (AGR), Industrial Process Supply (PROC), Industrial Service Supply (IND), Ground Water Recharge (GWR), Contact Water Recreation (REC1) Non-contact Water Recreation (REC2), Warm Freshwater Habitat (WARM), Cold Freshwater Habitat (COLD), Wildlife Habitat (WILD), Rare, Threatened, or Endangered Species (RARE), Freshwater Replenishment (FRSH), Hydropower Generation (POW), and Preservation of Biological Habitats of Special Significance (BIOL). The following additional beneficial uses are identified for coastal waters of San Diego County: Navigation (NAV), Commercial and Sport Fishing (COMM), Estuarine Habitat (EST), Marine Habitat (MAR), Aquaculture (AQUA), Migration of Aquatic Organisms (MIGR), Spawning, Reproduction, and/or Early Development (SPWN), and Shellfish Harvesting (SHELL).

Discussion: The San Diego County watersheds include all of Carlsbad, San Dieguito, Penasquitos, San Diego, Pueblo, Sweetwater, and Otay watersheds, and portions of Santa Margarita, San Luis Rey, and Tijuana watersheds. Major Rivers include the Santa Margarita River, the San Luis Rey River, San Dieguito River, San Diego River, Sweetwater River, Otay River and the Tijuana River. Major coastal waterbodies include Buena Vista Lagoon, Agua Hedionda Lagoon, Batiquitos Lagoon, San Elijo Lagoon, San Dieguito Lagoon, Los Penasquitos Lagoon, Mission Bay, San Diego Bay, Tijuana River estuary, and the Pacific Ocean. Major inland waterbodies include Lake Henshaw, Lake Wohlford, Lake Hodges, Sutherland Reservoir, Miramar Reservoir, San Vicente Reservoir, El Capitan Reservoir, Cuyamaca Reservoir, Sweetwater Reservoir, Loveland Reservoir, Otay Lakes, Barrett Lake and Morena Reservoir.

The San Diego County watersheds are approximately 2820 square miles and includes unincorporated portions of San Diego County, the Cities of Carlsbad, Chula Vista, Coronado, Del Mar, El Cajon, Encinitas, Escondido, Imperial Beach, La Mesa, Lemon Grove, National City, Oceanside, Poway, San Diego, San Marcos, Santee, Solana Beach, Vista, as well as the San Diego Unified Port District and the San Diego County Regional Airport Authority, portions of the Cleveland National Forests, and the several Indian Reservations. Approximately 2.8 million people reside within the permitted area. Approximately 442 thousand people reside in the unincorporated area while the rest reside within the cities.

¹⁰² Building Industry Association et al., v. State Water Resources Control Board, et al. 2004.

¹⁰³ USEPA, 1998. Jan. 21, 1998 correspondence, "SWRCB/OCC File A-1041 for Orange County," from Alexis Strauss to Walt Petit, and March 17, 1998 correspondence from Alexis Strauss to Walt Petit.

Finding E.3: This Order is in conformance with SWRCB Resolution No. 68-16 and the federal Antidegradation Policy described in 40 CFR 131.12.

Discussion: Urban runoff management programs are required to be designed to reduce pollutants in urban runoff to the maximum extent practicable and achieve compliance with water quality standards. Therefore, implementation of urban runoff management programs, which satisfy the requirements of Order No. R9-2007-0001, will prevent violations of receiving water quality standards. The Basin Plan states that “Water quality objectives must [...] conform to US EPA regulations covering antidegradation (40 CFR 131.12) and State Board Resolution 68-16, Statement of Policy with Respect to Maintaining High Quality of Waters in California.” As a result, when water quality standards are met through the implementation of urban runoff management programs, USEPA and SWRCB antidegradation policy requirements are also met.

Finding E.4: Section 6217(g) of the Coastal Zone Act Reauthorization Amendments of 1990 (CZARA) requires coastal states with approved coastal zone management programs to address non-point pollution impacting or threatening coastal water quality. CZARA addresses five sources of non-point pollution: agriculture, silviculture, urban, marinas, and hydromodification. This NPDES permit addresses the management measures required for the urban category, with the exception of septic systems. The adoption and implementation of this NPDES permit relieves the Permittee from developing a non-point source plan, for the urban category, under CZARA. The Regional Board addresses septic systems through the administration of other programs.

Discussion: Coastal states are required to develop programs to protect coastal waters from nonpoint source pollution, as mandated by the federal CZARA. CZARA Section 6217 identifies polluted runoff as a significant factor in coastal water degradation, and requires implementation of management measures and enforceable policies to restore and protect coastal waters. In lieu of developing a separate NPS program for the coastal zone, California’s NPS Pollution Control Program was updated in 2000 to address the requirements of both the CWA section 319 and the CZARA section 6217 on a statewide basis. The California Coastal Commission (CCC), the SWRCB, and the nine Regional Water Quality Control Boards are the lead State agencies for upgrading the program, although 20 other State agencies also participate. Pursuant to the CZARA (6217(g) Guidance Document the development of urban runoff management programs pursuant to this NPDES permit fulfills the need for coastal cities to develop an urban runoff non-point source plan identified in the State’s Non-point Source Program Strategy and Implementation Plan.¹⁰⁴

Finding E.5: Section 303(d)(1)(A) of the CWA requires that “Each state shall identify those waters within its boundaries for which the effluent limitations...are not stringent enough to implement any water quality standard (WQS) applicable to such waters.” The CWA also requires states to establish a priority ranking of impaired waterbodies known as Water Quality Limited Segments and to establish TMDLs for such waters. This priority list of impaired waterbodies is called the Section 303(d) List. The current Section 303(d) List was approved by the State Water Resources Control Board on February 4, 2003 and on July 25, 2003 by USEPA.

Discussion: Section 303(d) of the federal CWA (CWA, 33 USC 1250, et seq., at 1313(d)), requires States to identify waters that do not meet water quality standards after applying certain required technology-based effluent limits (“impaired” water bodies). States are required to compile this information in a list and submit the list to USEPA for review and approval. This list

¹⁰⁴ SWRCB/CCC, 2000. Nonpoint Source Program Strategy And Implementation Plan, 1998-2013 (PROSIP).

is known as the Section 303(d) list of impaired waters. As part of this listing process, States are required to prioritize waters/watersheds for future development of TMDL. The SWRCB and Regional Boards have ongoing efforts to monitor and assess water quality, to prepare the Section 303(d) list, and to subsequently develop TMDLs. The 2002 California 303(d) List identifies impaired receiving water bodies and their watersheds within the State of California. Urban runoff that is discharged from the Copermittee's MS4s is a leading cause of receiving water quality impairment in the San Diego Region.

Finding E.6: This Order fulfills a component of the TMDL Implementation Plan adopted by this Regional Board on August 14, 2002 for diazinon in Chollas Creek by establishing WQBELs for the Cities of San Diego, Lemon Grove, and La Mesa, the County of San Diego, and the San Diego Unified Port District; and by requiring: 1) legal authority, 2) implementation of a diazinon toxicity control plan and a diazinon public outreach/ education program, 3) achievement of the Compliance Schedule, and 4) a monitoring program. The establishment of WQBELs expressed as iterative BMPs to achieve the WLA compliance schedule is appropriate and is expected to be sufficient to achieve the WLA specified in the TMDL.

Discussion: On August 14, 2002, the Regional Board adopted the TMDL Implementation Plan¹⁰⁵ for diazinon in Chollas Creek by establishing WQBELs for the Cities of San Diego, Lemon Grove, and La Mesa, the County of San Diego, and the San Diego Unified Port District. The adopted Implementation Plan states:

“The Regional Board will revise existing waste discharge requirements / NPDES permits to incorporate effluent limitations in conformance with the Waste Load Allocations for diazinon as specified above. Modifications to the MS4 Permit can occur when the permit is reopened or during scheduled permit reissuance. Compliance with numeric limitations for diazinon will be required in accordance with a phased schedule of compliance. The compliance schedule will be jointly developed by the Regional Board and the Chollas Creek stakeholders and will be finalized no later than one year following adoption of this TMDL by the Regional Board. The phased compliance schedule will apply only to attainment of numeric limitations for diazinon. All other requirements of this TMDL will be immediately effective upon incorporation into applicable NPDES permits.”

On September 30, 2004, the compliance schedule was developed. The Order incorporates the compliance schedule. The TMDL Implementation Plan requires 1) Legal authority, 2) Implementation of a diazinon toxicity control plan and a diazinon public outreach / education program, 3) Achievement of the Compliance Schedule, and 4) Monitoring program. These requirements have been incorporated in the Order. The Implementation Plan states:

“The municipal Copermittees in the Chollas Creek watershed shall implement the requirements of the MS4 Permit.” And

“The Regional Board will use its enforcement authority as necessary to ensure compliance with applicable waste discharge requirements and Basin Plan waste discharge prohibitions.”

Finding E.7: This Order fulfills a component of the TMDL Implementation Plan adopted by this Regional Board on February 9, 2005 for dissolved copper in Shelter Island Yacht Basin (SIYB) by establishing WQBELs expressed as BMPs to achieve the WLA of 30 kg copper / year for the

¹⁰⁵ Regional Board, 2002. Basin Plan Amendment, Attachment A to Resolution No. R9-2002-0123, Chollas Creek Diazinon Total Maximum Daily Load. P. 6-8.

City of San Diego and the San Diego Unified Port District. The establishment of WQBELs expressed as BMPs is appropriate and is expected to be sufficient to achieve the WLA specified in the TMDL.

Discussion: On February 9, 2005, the Regional Board adopted the TMDL Implementation Plan¹⁰⁶ for dissolved copper in the SIYB by establishing WQBELs expressed as BMPs to achieve the WLAs for the San Diego Unified Port District and to a much lesser extent the City of San Diego. The TMDL Implementation Plan states:

“The Regional Board will regulate discharges of copper to SIYB through the issuance of WDRs, Waivers of WDRs (waivers), or adoption of Waste Discharge prohibitions.” And

“The Regional Board will amend Order No. 2001-01, “Waste Discharge Requirements for Discharges of Urban Runoff from the Municipal Separate Storm / Sewer Systems” to require that discharges of copper into SIYB waters via the City’s municipal separate storm sewer system not exceed a 30 mg/kg wasteload for copper.”

The Order is a WDR, therefore the discharge of copper to SIYB is regulated as required in the TMDL Implementation Plan. As stated in Finding A.2, the Order renews Order No. 2001-01, therefore the TMDL Implementation Plan requirements are included in this Order. The establishment of WQBELs expressed as BMPs is appropriate and is expected to be sufficient to achieve the WLAs specified in the TMDL.

Finding E.8: This Order establishes WQBELs and conditions consistent with the requirements and assumptions of the WLAs in the TMDLs as required by 40 CFR 122.44(d)(1)(vii)(B).

Discussion: The establishment of WQBELs expressed as iterative BMPs to achieve the WLA compliance schedule is appropriate and is expected to be sufficient to achieve the WLAs specified in the TMDL.

Finding E.9: Requirements in this Order that are more explicit than the federal storm water regulations in 40 CFR 122.26 are prescribed in accordance with the CWA section 402(p)(3)(iii) and are necessary to meet the MEP standard.

Discussion: The CWA explicitly preserves independent state authority to enact and implement its own standards and requirements, provided that such standards and requirements are at least as stringent as those that would be mandated by the CWA and the federal regulations. For example, as one general overriding principle, CWA section 510 states “nothing in this chapter shall (1) preclude or deny the right of any State or political subdivision thereof or interstate agency to adopt or enforce (A) any standard or limitation respecting discharges of pollutants, or (B) any requirement respecting control or abatement of pollution [...]” When relating specifically to storm water, CWA section 402(p)(3)(B)(iii) clearly provides states with wide-ranging discretion, stating that municipal storm water permits “[s]hall require controls to reduce the discharge of pollutants to the maximum extent practicable, including management practices, control techniques and system, design and engineering methods, and such other provisions as the Administrator or the State determines appropriate for the control of such pollutants”

¹⁰⁶ Regional Board, 2005. Basin Plan Amendment, Attachment A to Resolution No. R9-2005-0019, Amendment to the Water Quality Control Plan for the San Diego Region to Incorporate a Total Maximum Daily Load for Dissolved Copper in Shelter Island Yacht Basin, San Diego Bay. P. 5.

Therefore, where the Order contains requirements more specific than those included in the federal NPDES regulations 40 CFR 122.26(d), it is seeking to meet the above CWA requirements, as well as other particular federal NPDES regulations such as 40 CFR 122.44(d)(1)(i). This federal NPDES regulation requires NPDES permits to include limitations to “control all pollutants or pollutant parameters (either conventional, nonconventional, or toxic pollutants) which the Director determines are or may be discharged at a level which will cause, have the reasonable potential to cause, or contribute to an excursion above any State water quality standard, including State narrative criteria for water quality.” Given the continued impact of urban runoff on receiving waters within the San Diego region, increased specificity in municipal storm water permits is necessary to meet the above CWA and federal regulation requirements.

In a 1992 decision, the U.S. Court of Appeals for the Ninth Circuit (NRDC v. USEPA, 966 F.2d 1292) interpreted the language in Clean Water Act section 402(p)(3)(B)(iii) as providing the State with substantial discretion and authority: “[t]he language in (iii), above, requires the Administrator or the State to design controls. Congress did not mandate a minimum standards approach or specify that USEPA develop minimal performance requirements [...] we must defer to USEPA on matters such as this, where USEPA has supplied a reasoned explanation of its choices.” The decision in essence holds that USEPA and the States are authorized to require implementation of storm water control programs that, upon “reasoned explanation,” accomplish the goals of CWA section 402(p). The Ninth Circuit Court of Appeals further reinforced the State’s authority in this area more recently in 1999. In Defenders of Wildlife v. Browner (1999) Case No. 98-71080, the Court cited the language of CWA section 402(p)(3)(B)(iii) and stated “[t]hat provision gives the USEPA discretion to determine what pollution controls are appropriate. As this court stated in NRDC v. USEPA, ‘Congress gave the administrator discretion to determine what controls are necessary [...].’”

Furthermore, the increased specificity included in the Order is in line with USEPA guidance included in its *Guidance Manual for the Preparation of Part 2 of the NPDES Permit Applications for Discharges from Municipal Separate Storm Sewer Systems*¹⁰⁷ and its *Interim Permitting Approach for Water Quality-Based Effluent Limitations in Storm Water Permits*.¹⁰⁸ Where the permit is more specific than the federal regulations, it is frequently based on the recommendations of the Guidance Manual. The Interim Permitting Approach also supports increased specificity in storm water permits, recommending that municipal storm water permits use BMPs in first-round storm water permits, and expanded or better-tailored BMPs in subsequent permits, where necessary, to provide for the attainment of water quality standards. In cases where adequate information exists to develop more specific conditions or limitations to meet water quality standards, these conditions or limitations are to be incorporated into storm water permits, as necessary and appropriate.” It is important to note that the SWRCB cited USEPA’s Interim Permitting Approach as support for its decision which upheld the increased specificity of numeric sizing criteria requirements for post-construction BMPs as appropriate requirements in municipal storm water permits.

Finding E.10: Urban runoff treatment and/or mitigation must occur prior to the discharge of urban runoff into a receiving water. Federal regulations at 40 CFR 131.10(a) state that in no case shall a state adopt waste transport or waste assimilation as a designated use for any waters of the

¹⁰⁷ USEPA, 1992. *Guidance Manual for the Preparation of Part II of the NPDES Permit Applications for Discharges from Municipal Separate Storm Sewer Systems*. EPA 833-B-92-002.

¹⁰⁸ USEPA, 1996. *Interim Permitting Approach for Water Quality-Based Effluent Limitations in Storm Water Permits*. 61 FR 43761.

U.S. Authorizing the construction of an urban runoff treatment facility within a water of the U.S., or using the water body itself as a treatment system or for conveyance to a treatment system, would be tantamount to accepting waste assimilation as an appropriate use for that water body. Furthermore, the construction, operation, and maintenance of a pollution control facility in a water body can negatively impact the physical, chemical, and biological integrity, as well as the beneficial uses, of the water body. This is consistent with USEPA guidance to avoid locating structural controls in natural wetlands.

Discussion: Urban runoff treatment and/or mitigation in accordance with any of the requirements in the Order must occur prior to the discharge of storm water or urban runoff into receiving waters. Allowing polluted runoff to enter receiving waters prior to treatment to the MEP will result in degradation of the water body and potential exceedances of water quality standards, from the discharge point to the point of dissipation, infiltration, or treatment. Furthermore, the construction, operation, and maintenance of a pollution control facility in a water body can negatively impact the physical, chemical, and biological integrity, as well as the beneficial uses, of the water body. This requirement is supported by federal regulation 40 CFR 131.10(a) and USEPA guidance. According to USEPA,¹⁰⁹ “To the extent possible, municipalities should avoid locating structural controls in natural wetlands. Before considering siting of controls in a natural wetland, the municipality should demonstrate that it is not possible or practicable to construct them in sites that do not contain natural wetlands... Practices should be used that settle solids, regulate flow, and remove contaminants prior to discharging storm water into a wetland.”

Finding E.11: Urban runoff is a significant contributor to the creation and persistence of Toxic Hot Spots in San Diego Bay. CWC section 13395 requires regional boards to reevaluate WDRs associated with toxic hot spots. The SWRCB adopted the Consolidated Toxic Hot Spot Cleanup Plan in June 1999. The Plan states: “The reevaluation [of WDRs associated with toxic hot spots] shall consist of (1) an assessment of the WDRs that may influence the creation or further pollution of the known toxic hot spot, (2) an assessment of which WDRs need to be modified to improve environmental conditions at the known toxic hot spot, and (3) a schedule for completion of any WDR modifications deemed appropriate.”

Discussion: Toxic hot spots are those areas in enclosed bays, estuaries, or any adjacent waters in the “contiguous zone” or the “ocean”, where pollution or contamination affects the interests of the state, and where hazardous substances have accumulated to levels which: 1) may pose a substantial present or potential hazard to aquatic life, wildlife, fisheries, or human health, or 2) may adversely affect the beneficial uses of the bay, estuary, or ocean waters, or 3) exceeds adopted water quality or sediment quality objectives. San Diego Bay contains several toxic hot spots. In a National Oceanic and Atmospheric Administration (NOAA) study which compared EMAP-type sediment toxicity data from various bays, San Diego Bay ranked second with 56 percent of the area of the Bay considered toxic. In addition to chemical and physical impacts, urban runoff often contains pollutants that cause toxicity to aquatic organisms (i.e., adverse responses of organisms to chemicals or physical agents ranging from mortality to physiological responses such as impaired reproduction or growth anomalies). Toxic pollutants impact the overall quality of aquatic systems and beneficial uses of receiving waters. A study of urban runoff samples from Chollas Creek in San Diego County, revealed toxic concentrations of

¹⁰⁹ USEPA, 1992. Guidance Manual for the Preparation of Part II of the NPDES Permit Applications for Discharges from Municipal Separate Storm Sewer Systems. EPA 833-B-92-002.

organophosphate pesticides and metals.¹¹⁰ In Los Angeles County, storm water samples were found to be toxic to various aquatic organisms in the Los Angeles River, the San Gabriel River, Ballona Creek, and the Santa Monica Bay.¹¹¹ Also, a water quality data assessment conducted in Aliso Creek in Orange County showed that storm events caused varying degrees of mortality to test organisms.¹¹² For these reasons, the Order includes directives to prevent urban runoff from contributing to the further degradation of toxic hot spots.

Finding E.12: The issuance of waste discharge requirements and an NPDES permit for the discharge of urban runoff from MS4s to waters of the U.S. is exempt from the requirement for preparation of environmental documents under the California Environmental Quality Act (CEQA) (Public Resources Code, Division 13, Chapter 3, section 21000 et seq.) in accordance with the CWC section 13389.

Discussion: CWC Section 13389 exempts the adoption of waste discharge requirements (such as NPDES permits) from CEQA requirements: “Neither the state board nor the regional boards shall be required to comply with the provisions of Chapter 3 (commencing with section 21100) of Division 13 of the Public Resources Code prior to the adoption of any waste discharge requirement, except requirements for new sources as defined in the Federal Water Pollution Control Act or acts amendatory thereof or supplementary thereto.”

This CEQA exemption was challenged during BIA’s (and others’) appeal of Order No. 2001-01 (Order No. R9-2007-0001 serves as the reissuance of Order No. 2001-01). BIA contended that the CEQA exemption did not apply to permit requirements where the Regional Board utilized its discretion to craft permit requirements which were more prescriptive than required by federal law. The Court of Appeal, Fourth Appellate District disagreed with this argument, stating “we also reject Building Industry’s argument to the extent it contends the statutory CEQA exemption in Water Code section 13389 is inapplicable to a particular NPDES permit provision that is discretionary, rather than mandatory, under the CWA.”¹¹³ On further appeal by BIA, the California State Supreme Court declined to hear the matter.

In a recent decision, the Court of Appeal of the State of California, Second Appellate District, upheld the CEQA exemption for municipal storm water NPDES permits (County of Los Angeles, et al. v. California State Water Resources Control Board, et al.).

F. Public Process

Finding F.1: The Regional Board has notified the Copermittees, all known interested parties, and the public of its intent to consider adoption of an Order prescribing waste discharge requirements that would serve to renew an NPDES permit for the existing discharge of urban runoff.

Discussion: Public notification of development of a draft permit is required under Federal regulation 40 CFR 124.10(a)(1)(ii). This regulation states “(a) Scope. (1) The Director shall give public notice that the following actions have occurred: (ii) A draft permit has been prepared

¹¹⁰ Bay, et al., 2001. Characterization of Stormwater Toxicants from an Urban Watershed to Freshwater and Marine Organisms. Southern California Coastal Water Research Project. Annual Report 1999-2000.

¹¹¹ LARWQCB, 2001. The Role of Municipal Operators In Controlling the Discharge of Pollutants in Storm Water from Industrial/Commercial Facilities: A Case for Inspection Activities in the Large and Medium Municipal Separate Storm Sewer Permits.

¹¹² Regional Board, 2002. Fact Sheet/Technical Report for Regional Board Order No. R9-2002-0001.

¹¹³ Building Industry Association et al., v. State Water Resources Control Board, et al. 2004.

under Sec. 124.6(d).” Public notifications “shall allow at least 30 days for public comment,” as required under Federal regulation 40 CFR 124.10(b)(1).

Finding F.2: The Regional Board has, at public meetings on (date), held public hearings and heard and considered all comments pertaining to the terms and conditions of this Order.

Discussion: Public hearings are required under CWC Section 13378, which states “Waste discharge requirements and dredged or fill material permits shall be adopted only after notice and any necessary hearing.” Federal regulation 40 CFR 124.12(a)(1) also requires public hearings for draft permits, stating “The Director shall hold a public hearing whenever he or she finds, on the basis or requests, a significant degree of public interest in a draft permit(s).” Regarding public notice of a public hearing, Federal regulation 40 CFR 124.10(b)(2) states that “Public notice of a public hearing shall be given at least 30 days before the hearing.”

X. DIRECTIVES DISCUSSION

This section discusses significant changes which have been made to the requirements of the Order from the requirements which were previously included in Order No. 2001-01. For each section of the Order than has been changed there is a discussion which describes the change that was made and provides the rationale for the change. In addition, comments on the Copermittees’ ROWD recommendations, as they pertain to each changed requirement of the Order, are provided.

Requirements of the Order that are not discussed in this section have not been significantly changed from those requirements previously included in Order No. 2001-01. For such requirements, discussions and rationale for the requirements can be found in section VII of the Fact Sheet/Technical Report for Regional Board Order No. 2001-01, dated November 6, 2001. Section VII also provides additional background information for those requirements that have undergone significant change which are described in detail in this report. The Fact Sheet/Technical Report is available for download at:

http://www.waterboards.ca.gov/sandiego/programs/sd_stormwater.html

Legal authority citations are provided for each major section of the Order. These citations apply to all applicable requirements within the section for which they are provided.

A. Prohibitions and Receiving Water Limitations

The following legal authority applies to section A:

Broad Legal Authority: CWA sections 402(p)(3)(B)(ii-iii), CWC section 13377, and Federal NPDES regulations 40 CFR 122.26(d)(2)(i)(B, C, E, and F) and 40 CFR 122.26(d)(2)(iv).

Specific Legal Authority: The Regional Board Water Quality Control Plan for the San Diego Basin (Basin Plan) contains the following waste discharge prohibition: “The discharge of waste to waters of the state in a manner causing, or threatening to cause a condition of pollution, contamination, or nuisance as defined in California Water Code Section 13050, is prohibited.”

California Water Code section 13050(l) states “(1) ‘Pollution’ means an alteration of the quality of waters of the state by waste to a degree which unreasonably affects either of the following: (A) The water for beneficial uses. (B) Facilities which serve beneficial uses. (2) ‘Pollution’ may include “contamination.”

California Water Code section 13050(k) states “‘Contamination’ means an impairment of the quality of waters of the state by waste to a degree which creates a hazard to public health through poisoning or through the spread of disease. ‘Contamination’ includes any equivalent effect resulting from the disposal of waste, whether or not waters of the state are affected.”

California Water Code section 13050(m) states “‘Nuisance’ means anything which meets all of the following requirements: (1) Is injurious to health, or is indecent or offensive to the senses, or an obstruction to the free use of property, so as to interfere with the comfortable enjoyment of life or property. (2) Affects at the same time an entire community or neighborhood, or any considerable number of persons, although the extent of the annoyance or damage inflicted upon individuals may be unequal. (3) Occurs during, or as a result of, the treatment or disposal of wastes.”

California Water Code section 13241 requires each regional board to “establish such water quality objectives in water quality control plans as in its judgment will ensure the reasonable protection of beneficial uses and the prevention of nuisance [...]”

California Water Code Section 13243 provides that “A regional board, in a water quality control plan or in waste discharge requirements, may specify certain conditions or areas where the discharge of waste, or certain types of waste, will not be permitted.”

California Water Code Section 13263(a) provides that waste discharge requirements prescribed by the Regional Board implement the Basin Plan.

Federal NPDES regulations 40 CFR 122.26(d)(2)(iv)(A - D) require municipalities to implement controls to reduce pollutants in urban runoff from commercial, residential, industrial, and construction land uses or activities.

Federal NPDES regulations 40 CFR 122.26(d)(2)(i)(A - D) require municipalities to have legal authority to control various discharges to their MS4.

Federal NPDES regulation 40 CFR 122.44(d)(1) requires municipal storm water permits to include any requirements necessary to “[a]chieve water quality standards established under section 303 of the CWA, including State narrative criteria for water quality.”

Federal NPDES regulation 40 CFR 122.44(d)(1)(i) requires NPDES permits to include limitations to “control all pollutants or pollutant parameters (either conventional, nonconventional, or toxic pollutants) which the Director determines are or may be discharged at a level which will cause, have reasonable potential to cause, or contribute to an excursion above any State water quality standard, including State narrative criteria for water quality.”

Section A of the Order combines two previously distinct requirement sections – Prohibitions and RWLs. These sections have been combined into one section for organization purposes and to reduce redundancy, since both sections address the same issue. In addition, the prohibition specifically addressing post-development runoff has been removed from the Order since it reiterated other more broad prohibitions, making it redundant. These changes have no net effect on the implementation and enforcement of the Order.

B. Non-Storm Water Discharges

The following legal authority applies to section B:

Broad Legal Authority: CWA sections 402(p)(3)(B)(ii-iii), CWC section 13377, and Federal NPDES regulations 40 CFR 122.26(d)(2)(i)(B, C, E, and F) and 40 CFR 122.26(d)(2)(iv).

Specific Legal Authority: Federal NPDES regulation 40 CFR 122.26(d)(2)(iv)(B) requires MS4 operators “to detect and remove (or require the discharger to the municipal separate storm sewer to obtain a separate NPDES permit for) illicit discharges and improper disposal into the storm sewer.”

Federal NPDES regulation 40 CFR 122.26(d)(2)(iv)(B)(1) provides that the Copermittees shall prevent all types of illicit discharges into the MS4 except for certain non-storm water discharges.

Section B of the Order has been reworded to simplify and clarify the requirements for addressing non-storm water discharges that are not prohibited. This rewording has no net effect on the implementation and enforcement of the Order.

In their ROWD, the Copermittees recommend expanding the BMP exemption for emergency fire fighting flows so that it would apply to all emergency water flows. However, the Copermittees provide no information regarding what types of urban runoff are considered “emergency water flows.” In addition, the level of pollutants in such flows is not discussed. Due to the lack of such information, the requirement regarding emergency fire fighting flows has not been changed.

C. Legal Authority

The following legal authority applies to section C:

Broad Legal Authority: CWA sections 402(p)(3)(B)(ii-iii), CWC section 13377, and Federal NPDES regulations 40 CFR 122.26(d)(2)(i)(B, C, E, and F) and 40 CFR 122.26(d)(2)(iv).

Specific Legal Authority: Federal NPDES regulation 40 CFR 122.26(d)(2)(i)(A) provides that the Copermittees shall develop and implement legal authority to “Control through ordinance, order or similar means, the contribution of pollutants to the municipal storm sewer by storm water discharges associated with industrial activity and the quality of storm water discharged from sites of industrial activity.”

Federal NPDES regulation 40 CFR 122.26(d)(2)(i)(D) provides that the Copermittees shall develop and implement legal authority to “Control through interagency agreements among coapplicants the contribution of pollutants from one portion of the municipal system to another portion of the municipal system.”

Illicit discharge is defined under Federal NPDES regulation 40 CFR 122.26(b)(2) as “any discharge to a municipal separate storm sewer system that is not composed entirely of storm water except discharges pursuant to a NPDES permit (other than the NPDES permit for discharges from the municipal separate storm sewer) and discharges resulting from fire fighting activities.”

Federal NPDES regulations 40 CFR 122.26(d)(2)(iv)(A - D) require municipalities to implement controls to reduce pollutants in urban runoff from commercial, residential, industrial, and construction land uses or activities.

Federal NPDES regulation 40 CFR 122.26(d)(1)(ii) requires from the Copermittee “A description of existing legal authority to control discharges to the municipal separate storm sewer system.”

Section C.1.j has been added to the Order to ensure that BMPs implemented by third parties are effective. Since the Copermittees cannot passively receive and discharge pollutants from third parties, the Copermittees must ensure discharges of pollutants to the MS4 are reduced to the MEP. In order to achieve this, the Copermittees must be able to ensure that effective BMPs are being implemented by requiring the third parties to document BMP effectiveness. Regarding the Copermittees’ ability to require documentation and reporting from third parties, USEPA states “municipalities should provide documentation of their authority to enter, sample, inspect, review, and copy records, etc., as well as demonstrate their authority to require regular reports.”¹¹⁴

Section C.2.d has been added to the Order to ensure that the Copermittees’ enforcement tools are effective enough to ensure compliance with the Order. USEPA supports the need for the adequate Copermittee enforcement when it states that the Copermittees’ general counsels “should state that the applicant has the legal authority to apply and enforce the requirements of 40 CFR 122.26(d)(2)(i)(A-F).”¹¹⁵

D. Jurisdictional Urban Runoff Management Program

D.1. Development Planning

The following legal authority applies to section D.1:

Broad Legal Authority: CWA sections 402(p)(3)(B)(ii-iii), CWA section 402(a), CWC section 13377, and Federal NPDES regulations 40 CFR 122.26(d)(2)(i)(B, C, E, and F), 40 CFR 131.12, and 40 CFR 122.26(d)(2)(iv).

Specific Legal Authority: Federal NPDES regulation 40 CFR 122.26(d)(2)(iv)(A)(2) provides that Copermittees develop and implement a proposed management program which is to include “A description of planning procedures including a comprehensive master plan to develop, implement and enforce controls to reduce the discharge of pollutants from municipal separate storm sewers which receive discharges from areas of new development and significant redevelopment. Such plan shall address controls to reduce pollutants in discharges from municipal separate storm sewers after construction is completed.”

Federal NPDES regulation 40 CFR 122.44(d)(1) requires municipal storm water permits to include any requirements necessary to “[a]chieve water quality standards established under section 303 of the CWA, including State narrative criteria for water quality.”

Sections D.1.a and D.1.b (General Plan and Environmental Review Process) require the Copermittees to update and revise their General Plan (or equivalent plan) and environmental review processes to ensure water quality and watershed protection principles are included. The Copermittees are required to detail any changes to the General Plan or environmental review process in their Jurisdictional Urban Runoff Management Program Annual Reports.

¹¹⁴ USEPA, 1992. Guidance Manual for the Preparation of Part 2 of the NPDES Permit Applications for Discharges from Municipal Separate Storm Sewer Systems. EPA 833-B-92-002.

¹¹⁵ Ibid.

The change made to these sections, which requires updating the General Plan and Environmental Review Process on an as needed basis, is supported by information provided in the Copermittees' ROWD. The ROWD states that all Copermittees have either updated, are in the process of updating, or have assessed their General Plan to ensure the General Plans include the required principles and are in compliance with Order No. 2001-01. The ROWD also states that all the Copermittees have updated their environmental review processes.

Section D.1.c (Approval Process Criteria and Requirements) requires that all development projects (regardless of size) implement BMPs to reduce pollutant discharges to the MEP. Source control and site design BMP requirements were not clearly described in this section of Order No. 2001-01. Additional detail has been added to this section to better describe the source control and site design BMPs needed for implementation. This additional detail is consistent with the requirements of the Model SUSMP. However, only source control and site design BMPs that apply to all types of development projects are required (i.e., properly designed trash storage areas).

In addition, Order No. 2001-01's requirement that applicants must provide evidence of coverage under the General Industrial Permit has been removed. This requirement was difficult to implement since industrial tenants for a development project are usually not known during the planning stage.

Sections D.1.d and D.1.d.(1) (Standard Urban Storm Water Mitigation Plans) require the Copermittees to review and update their local SUSMPs for compliance with the Order. The sections also require all Priority Development Projects falling under certain categories to meet SUSMP requirements. The update is necessary to ensure that the Copermittees' local SUSMPs are consistent with the changes that have been made to the Order's SUSMP requirements. The requirement for the development/adoption of a Model SUSMP has been removed since a model was completed and adopted in 2002.

Section D.1.d.(2) (Priority Development Project Categories) has been changed to simplify and clarify the Priority Development Project categories. The two housing development categories were combined into one category that includes 10 or more housing units. In addition, requirements which specifically apply to restaurants have been combined in this section. The section has been modified to clarify that restaurants with less than 5,000 square feet of development are subject to SUSMP requirements, except for the treatment control BMP and hydromodification control requirements. This is consistent with Order No. 2001-01's approach for applying SUSMP requirements to restaurants.

Section D.1.d.(2)(i) includes Retail Gasoline Outlets (RGOs) as a Priority Development Project category because RGOs are points of confluence for motor vehicles for automotive related services such as repair, refueling, tire inflation, and radiator fill-up. RGOs consequently produce significantly greater pollutant loadings of hydrocarbons and trace metals (including copper and zinc) than other urban areas. To meet MEP, source control and structural treatment BMPs are needed at RGOs that meet the following criteria: (a) 5,000 square feet or more of developed area, or (b) a projected ADT of 100 or more vehicles per day. These are appropriate thresholds since development size and volume of traffic are good indicators of potential impacts of urban runoff from RGOs on receiving waters.

In SWRCB WQ Order No. 2000-11, the SWRCB removed RGOs as a SUSMP category because the SWRCB found that RGOs were already heavily regulated and limited on their ability to construct infiltration devices or perform treatment. Order No. 2000-11 also acknowledged that a

threshold (size, average daily traffic, etc.) appropriate to trigger SUSMP requirements should be developed, and that specific findings regarding RGOs should be included in MS4 permits to justify the requirement.¹¹⁶ The SWRCB also removed the RGO category from the San Diego County MS4 permit (Order No. 2001-01) because the Regional Board did not specifically address the issues raised in WQ Order No. 2000-11.

As discussed further below, the LARWQCB and the Regional Board have adequately addressed these issues. RGOs have been included as a SUSMP category in the Los Angeles County MS4 permit (Order No. R4-01-182), the statewide general Phase II MS4 permit (WQ Order No. 2003-0005-DWQ), and the Regional Board Southern Riverside County MS4 permit (Order No. R9-2004-001). The SWRCB also addressed the inclusion of RGOs through the appeals of MS4 permits issued by the Los Angeles and San Francisco Bay Area Regional Boards. The SWRCB held a workshop addressing RGOs and identified RGOs as significant sources of pollutants. The SWRCB then dismissed the petitions for removal of RGOs from the SUSMP requirements in the Los Angeles and San Francisco Bay Area MS4 permits.

The following issues regarding RGOs have been addressed:

Heavily Regulated - The heavily regulated distinction does not remove RGOs as significant source of pollutants in urban runoff and therefore should not be a basis for exempting them from SUSMP requirements. Other regulation of RGOs is separate from regulation under the CWA and does not necessarily relate to water quality and urban runoff. Moreover, other municipalities already require that RGOs implement structural BMPs, even though RGOs are regulated under other programs.

Treatment Limitations - Inexpensive and effective structural treatment BMPs which reduce pollutants and control peak flow rates and velocities are available for use at RGOs. Studies have shown that some catch basin inserts can remove hydrocarbons and heavy metals, which are typical pollutants of concern at RGOs. Sand or media filters have also been found to be effective and available for use at RGOs. Cisterns are examples of established BMPs to control flow, but RGOs could also use site design measures such as small weirs, baffles, and redirecting roof runoff to pervious areas.

Safety - No evidence has been provided to indicate that use of these structural BMPs at RGOs will pose a safety risk. In fact, filter BMPs have been installed at RGOs in other municipalities without apparent adverse safety effects. In addition, similar BMPs such as oil/water separators have been used for years by RGOs without safety problems.

Threshold - Studies indicate that runoff from RGOs contains similar pollutants to runoff from commercial parking lots. In precedential WQ Order 2000-11, the SWRCB determined that parking lots with a size threshold of 5,000 square feet or more is an appropriate SUSMP category. Based in part on the similarity of pollutants, the 5,000 square feet size threshold was also included for RGOs in the Order. In addition, other municipalities currently use similar size thresholds for RGOs when requiring design standards to mitigate storm water runoff. To provide additional flexibility for the Copermittees, another threshold of 100 or more motor vehicles ADT has been added to the Order. This threshold is based on requirements used in Washington and Oregon for what are considered "high use" sites. This is an appropriate threshold since vehicular traffic is a good indicator of the amount of pollutants generated at a site.

¹¹⁶ SWRCB, 2000. Order WQ 2000-11.

The Regional Board followed the SWRCB's direction regarding RGOs by including the above discussion in this Fact Sheet, as well as a specific finding that justifies the regulation of urban runoff from RGOs that meet certain criteria. Considering all of the supporting documentation discussed above, it is appropriate to include RGOs as a Priority Development Project category.

Additional detailed supporting information can be found in the 2001 technical report titled *Retail Gasoline Outlets: New Development Design Standards for Mitigation of Storm Water Impacts* by the LARWQCB and the Regional Board.

Section D.1.d.(4) (Site Design BMP Requirements) requires the Copermittees to place site design requirements on new development within their jurisdictions. The site design BMP options listed in these sections are consistent with the site design BMPs currently required by the Copermittees in the Model SUSMP. However, the Model SUSMP employs an open-ended approach to requirements for site design BMPs, requiring implementation of site design BMPs "where determined applicable and feasible by the Copermittee." Unfortunately, this approach has proven to be ineffective in integrating site design BMPs in project designs. Audits of ten of the Copermittees' SUSMP programs exhibited that "many of the SUSMP plans reviewed for this program evaluation did not adequately address site design."¹¹⁷ Moreover, the auditor identified site design as one of three principal areas where further program oversight was necessary.¹¹⁸

For these reasons, the Order directs the Copermittees to require new development projects to employ at least one site design BMP from each of the two lists of site design BMP options provided in this section of the Order. Two lists of site design BMP options are provided to represent different categories of site design BMPs available for implementation. The first list includes site design BMPs that are less frequently utilized, though they are effective and achievable. The second list includes site design BMPs which are commonly cited in project proponents' SUSMP reports as the site design BMPs that have been incorporated into Priority Development Projects. Implementation of one site design BMP from each list is required to improve site design implementation at Priority Development Projects, while providing a reasonable and achievable minimum measure for site design BMP implementation. Through its process of conditioning development projects under the CWA section 401 Water Quality Certification program, the Regional Board finds that this level of site design BMP implementation is feasible for all projects. This site design BMP requirement will help ensure that site design BMPs are implemented for new development projects. Site design BMPs are a critical component of urban runoff management at new development projects, since the BMPs provide multiple benefits including preservation of hydrologic conditions, reduction of pollutant discharges, cost effectiveness, and green space.

The Order continues to provide the Copermittees with flexibility in implementing site design BMP requirements by providing lists from which site design BMP approaches can be chosen. Moreover, flexibility is inherently included in the site design options listed - each option provides the opportunity for numerous implementation approaches that can be used to achieve compliance.

In its October 29, 2004 letter to the Copermittees, as well as in subsequent meetings, the Regional Board notified Copermittees of the need for improvement in site design BMP implementation at development projects. In addition, at its May 5, 2005 meeting with the Copermittees, the

¹¹⁷ Tetra Tech, Inc., 2005. Program Evaluation Report –San Diego Standard Urban Storm Water Mitigation Plan (SUSMP) Evaluation. P. 4.

¹¹⁸ Tetra Tech, Inc., 2005. Program Evaluation Report –San Diego Standard Urban Storm Water Mitigation Plan (SUSMP) Evaluation. P. 3.

Regional Board suggested that the Copermittees propose specific methods in their ROWD that would improve site design BMP implementation. In response, the Copermittees recommended that the Order “include an option for Copermittees to develop a low-impact design credit program.” However, such a requirement would be unenforceable, due to its vague nature. Moreover, if such a credit program were to take years to develop, lack of implementation of site design BMPs would continue unabated. To address this issue, the Order includes minimum requirements for site design BMP implementation, while also providing the Copermittees with their requested option to develop a site design credit program.¹¹⁹ This provides assurance that site design BMPs will be implemented in a timely manner, while also providing the Copermittees with flexibility for site design credit program development.

The site design BMP options listed do not need to be costly. Some design options, such as concave vegetated surfaces or routing rooftop or walkway runoff to landscaped areas, are cost neutral.¹²⁰ Other site design BMPs, such as minimizing parking stall widths or use of efficient irrigation devices, are oftentimes already required. In addition, use of these site design BMPs reduces runoff quantity, allowing for treatment control BMPs on site to be smaller, therefore savings costs. Routing runoff through landscaped areas can also reduce the cost of irrigation.

Section D.1.d.(5) (Source Control BMP Requirements) requires that Priority Development Projects implement minimum source control BMPs. This section has been added to provide more detail and clarify the Order’s requirements for source control BMPs. The minimum source control BMPs listed in the section are consistent with the Model SUSMP.

Section D.1.d.(6) (Treatment Control BMP Requirements) clarifies that treatment control BMPs are not required to be designed to treat runoff from preservation areas, or other areas not being disturbed at a priority development project. This is a clarification of the requirements of Order No. 2001-01.

Section D.1.d.(6)(c)(i) ensures that priority development project proponents utilize the most accurate information to determine the volume or flow of runoff which must be treated. Using detailed local rainfall data, the County of San Diego has developed the 85th Percentile Precipitation Isopluvial Map, which exhibits the size of the 85th percentile storm event throughout San Diego County. Since this map uses detailed local rainfall data, it is more accurate for calculating the 85th percentile storm event than other methods which were included in Order No. 2001-01. The other methods found in Order No. 2001-01 were included as options to be used in the event that detailed accurate rainfall data did not exist for various locations within San Diego County. The County of San Diego’s development of the 85th Percentile Precipitation Isopluvial Map makes these other less accurate methods superfluous. Therefore, these other methods for calculating the 85th percentile storm event have been removed from the current Order.

Section D.1.d.(6)(d)(i) (Treatment Control BMPs) requires that treatment control BMPs selected for implementation at Priority Development Projects have a removal efficiency rating that is higher than the “low removal efficiency,” as presented in the Model SUSMP. The requirement allows exceptions for those projects that, with a feasibility analysis, can justify the use of a treatment control BMP with a low removal efficiency for a Priority Development Project. This requirement is needed because to date, the Copermittees have generally approved low removal efficiency treatment control BMPs without justification or evidence that use of higher efficiency treatment BMPs was considered and found to be infeasible. Specifically, it has been found

¹¹⁹ See section discussion for section D.1.d.(7) on the site design BMP credit program.

¹²⁰ BASMAA, 1999. Start at the Source. P. 149.

during audits of the Copermittees' SUSMP programs that many SUSMP reports do not adequately describe the selection of treatment control BMPs. Moreover, USEPA's contractor Tetra Tech, Inc. recommends that "project proponents should begin with the treatment control that is most effective at removing the pollutants of concern [...] and provide justification if that treatment control BMP is not selected."¹²¹

In the ROWD, the Copermittees acknowledge the need for further attention to the selection and implementation of effective treatment BMPs. They propose to work with the Regional Board to come to a "common understanding" without a fixed permit requirement. However, due to this widespread deficiency regarding treatment control BMP selection in the Copermittees' SUSMP programs, the treatment control BMP feasibility requirement is needed in the Order. The requirement is needed to provide clarification that selection of low efficiency treatment control BMPs over high efficiency BMPs without justification does not meet permit requirements and is not in compliance with the MEP standard.

Section D.1.d.(7) (Site Design BMP Substitution Program) has provisions for the site design BMP credit program which largely mirror components of the program suggested by the Copermittees in their ROWD. In their ROWD, the Copermittees requested the option to develop a site design BMP credit program, under which projects that implement a high level of site design BMPs could receive credit towards compliance with treatment control BMP requirements. The program would provide the opportunity for development projects to avoid partial or full treatment control BMP implementation in exchange for implementation of a high level of site design BMPs. The Regional Board agrees that such a program could be beneficial. As the ROWD notes, the program could achieve equal or greater water quality benefits while also (1) providing greater assurance of adequate operation and maintenance; (2) improved review processes of site design BMP proposals; (3) increased acceptance of site design BMPs; and (4) greater usage of site design BMPs. For this reason, the Regional Board has added to the Order an option for the Copermittees to develop such a program.

In addition to the Copermittees' proposals, the provisions require (1) that runoff originating from pollutant generating exposed impervious areas must be routed through pervious areas prior to entering the MS4, and (2) that development project categories, such as automotive repair shops or streets, roads, highways, or freeways, which have a high potential to generate high levels of pollutants, not be covered under the program. Runoff from pollutant generating impervious areas must be routed through pervious areas in order to ensure that some level of treatment is provided for the protection of water quality. Without such a provision, the program could result in the direct discharge of significant levels of pollutants to the MS4 without treatment. In addition, development projects which frequently generate high levels of pollutants, such as automotive repair shops and streets, roads, highways, and freeways, should not be included in the program due to the need for treatment control BMPs at such development projects. When high levels of pollutants are present at a development project, site design BMPs alone are unlikely to adequately reduce pollutant discharges; treatment BMPs are also needed to polish urban runoff and serve as a last line of defense.

In precedent setting Order No. 2000-11, the State Board determined that implementation of treatment control BMPs is appropriate for development projects falling under the priority development project categories. Therefore, any program which allows development projects to forgo treatment control BMP implementation must include provisions which will achieve similar

¹²¹ Tetra Tech, Inc., 2005. Program Evaluation Report –San Diego Standard Urban Storm Water Mitigation Plan (SUSMP) Evaluation. P. 5.

water quality benefits. To ensure that this is the case for the site design BMP credit program, minimum provisions for the program have been added to the Order. Due to the addition of the minimum provisions in the Order, the program will not need to undergo a lengthy Regional Board approval process at a later date.

Section D. 1.d.(8) (Treatment Control BMP Design Standards) addresses a need for the Copermittees to develop and apply consistent criteria for the design and maintenance of structural treatment BMPs. Correct BMP design is critical to ensure that BMPs are effective and perform as intended. Without design criteria, there is no assurance that this will occur, since there is no standard for design or review. This issue was noted during audits of the Copermittees' SUSMP programs, where it was found that "some SUSMP reports did not clearly describe how treatment control BMPs were designed."¹²² Based upon these findings, it was recommended that the Copermittees "require developers to use standard forms to document the design of treatment control BMPs. As an example, Ventura County has developed a BMP manual that includes standard design procedure forms for BMPs. Ventura County's *Technical Guidance Manual for Storm Water Quality Control Measures* is available at <http://www.vcstormwater.org/publications.htm>."¹²³ California Stormwater Quality Association (CASQA) also confirms the necessity of design criteria when it includes such criteria in its New Development and Redevelopment BMP Handbook.¹²⁴

Section D.1.d.(11) (Waiver Provision) allows Copermittees to waive treatment BMPs when all available BMPs have been considered and rejected as infeasible. The requirement also allows the Copermittees to develop a program to require projects that receive waivers, to transfer the cost savings to a fund. The intent of the requirements is to allow Copermittees the necessary flexibility to waive treatment BMPs when it can be established that the implementation of treatment BMPs that meet numeric sizing criteria is not feasible at a given site. This provision also allows Copermittees discretion to transfer the cost savings from such a waiver to a fund for water quality projects within the watershed.

Section D.1.e (Treatment Control BMP Maintenance Tracking) requires steps to be taken by the Copermittees to ensure that approved treatment control BMPs are correctly constructed and maintained, including development of a database. This is critical to ensure that the treatment control BMPs are effective in removing pollutants from urban runoff leaving new development and significant redevelopment projects. Treatment control BMP maintenance has been identified as a critical aspect of addressing urban runoff from new development and significant redevelopment by many prominent urban runoff authorities, including the CASQA which states that "long-term performance of BMPs hinges on ongoing and proper maintenance."¹²⁵ USEPA also stresses the importance of BMP maintenance, stating: "Lack of maintenance often limits the effectiveness of storm water structural controls such as detention/retention basins and infiltration devices."¹²⁶

¹²² Tetra Tech, Inc., 2005. Program Evaluation Report –San Diego Standard Urban Storm Water Mitigation Plan (SUSMP) Evaluation. P. 5.

¹²³ Ibid.

¹²⁴ California Stormwater Quality Association, 2003. Stormwater Best Management Practice Handbook – New Development and Redevelopment.

¹²⁵ California Stormwater Quality Association, 2003. Stormwater Best Management Practice Handbook – New Development and Redevelopment. P. 6-1.

¹²⁶ USEPA, 1992. Guidance Manual for the Preparation of Part II of the NPDES Permit Applications for Discharges from Municipal Separate Storm Sewer Systems. EPA 833-B-92-002.

This permit section is needed due to findings that treatment control BMPs and treatment control BMP maintenance have predominantly not been tracked by the Copermittees. Following audits of SUSMP implementation of ten Copermittees, each of the Copermittees were recommended to develop a tracking system for treatment control BMPs and treatment control BMP maintenance. It has been found that “source and treatment control BMPs should be tracked in order to assess the number of BMPs installed, for reporting purposes, and to create an inventory for verifying maintenance in the future.”¹²⁷ Moreover, during the SUSMP audits, two of the ten Copermittees audited were found to have inadequately maintained treatment BMPs within their jurisdiction.¹²⁸ Again, it was recommended that Copermittees “should periodically inspect selected SUSMP projects to verify if BMPs are being properly maintained.”¹²⁹ USEPA also recommends “post-construction inspection and maintenance of BMPs” in the Phase II storm water regulations.¹³⁰

At its May 5, 2005 meeting with the Copermittees, the Regional Board requested that the Copermittees propose a program for addressing treatment control BMP tracking and inspection in their ROWD. In response, the Copermittees’ ROWD did not propose a program but instead recommended that the Order include “an option for the Copermittees to develop a Model Program for Permanent BMP Operation and Maintenance Verification.”¹³¹ This proposal lacks sufficient detail to be included in the Order, since it would result in an unenforceable permit requirement. As a result, the Order has been crafted to allow the Copermittees to develop their proposed program, but with minimum measurable outcomes to ensure that the program is adequate and effective.

These minimum measurable outcomes largely incorporate suggestions from the Copermittees’ ROWD, though some contain more detailed requirements than what was proposed by the Copermittees. In particular, while the Copermittees are free to prioritize most projects with treatment control BMPs, those projects with drainage insert treatment control BMPs must be categorized as at least a medium priority. This will ensure that such projects will be inspected every other year. Tracking of these projects in this manner is necessary because of the frequent maintenance that drainage inserts require, as well as the sensitivity of drainage insert performance to adequate maintenance. Drainage inserts fill relatively rapidly, causing plugging and bypass, rendering them ineffective. For example, CASQA recommends “frequent maintenance, on the order of several times per year.”¹³²

Another significant measurable outcome requirement is that all projects with treatment control BMPs must be inspected for operation and maintenance at least once during the permit cycle. This is reasonable, since treatment control BMPs are typically recommended to be maintained semi-annually or annually. An activity which needs to be conducted semi-annually or annually should be spot-checked at least once every five years. Twenty percent of the projects within a jurisdiction with approved treatment BMPs are required to be inspected annually in order to ensure that treatment control BMP operation and maintenance oversight is consistent during the permit cycle.

¹²⁷ Tetra Tech, Inc., 2005. Program Evaluation Report –San Diego Standard Urban Storm Water Mitigation Plan (SUSMP) Evaluation. P. 6.

¹²⁸ Ibid. P. 25, 38.

¹²⁹ Ibid.

¹³⁰ Federal Register / Vol. 64, No. 235 / Wednesday, December 8, 1999 / Rules and Regulations. P. 68845.

¹³¹ San Diego County Copermittees, 2005. Report of Waste Discharge. P. D-16.

¹³² California Stormwater Quality Association, 2003. Stormwater Best Management Practice Handbook – New Development and Redevelopment. P. M-52.

Section D.1.f (BMP Verification) helps ensure that BMPs constructed at new development sites are consistent with proposed and approved design plans. Correct construction of BMPs is necessary to ensure that the BMPs are effective and that pollutants discharged from new development projects are reduced to the maximum extent practicable and do not cause or contribute to violations of water quality standards. This permit section is needed because it has been found that BMPs frequently are not constructed in the field as they were proposed by applicants and/or approved by Copermittees. Four of the ten Copermittees audited during the SUSMP audits were found to have projects within their jurisdictions with incorrectly constructed BMPs. It was recommended that Copermittees ensure “that the SUSMP BMPs are properly installed in the field. This includes verifying factors such as the location, sizing, and type of BMPs installed.”¹³³ Also recommended is that “Copermittees should ensure that the BMP design details in SUSMP reports are translated to the engineering plan sheets used in the field.”¹³⁴ In addition, USEPA recommends such practices in the Phase II storm water regulations, promoting “inspections during construction to verify BMPs are built as designed.”¹³⁵

Section D.1.g (Hydromodification) addresses the changes in a watershed’s runoff characteristics resulting from development, together with associated morphological changes to channels receiving the runoff. These changes are termed hydromodification. As the total area of impervious surfaces increases in previously undeveloped areas, infiltration of rainfall decreases, causing more water to run off the surface at a higher rate. Runoff from developed areas can produce erosive flows in channels under rainfall conditions where previously they did not exist. Moreover, runoff from developed areas increases the duration of time that channels are exposed to erosive flows. The increase in the volume of runoff and the length of time that erosive flows occur ultimately intensify sediment transport, causing changes in sediment transport characteristics and the hydraulic geometry (width, depth, slope) of channels.¹³⁶

These types of changes have been documented in southern California. It has been reported that researchers studying flood frequencies in Riverside County have found that increases in watershed imperviousness of only 9-22% can result in increases in peak flow rates for the two-year storm event of up to 100%.¹³⁷ Such changes in runoff have significant impacts on channel morphology. It has recently been found that ephemeral/intermittent channels in southern California appear to be more sensitive to changes in imperviousness than channels in other areas. Morphology of small channels in southern California was found to change with only 2-3% watershed imperviousness, as opposed to 7-10% watershed imperviousness in other parts of the nation.¹³⁸

Stream channels typically respond to increased runoff rates and durations by increasing their cross-sectional area to accommodate the higher flows. This is done through widening of the channel banks, down-cutting of the channel bed, or both. This channel instability results in streambank erosion and habitat degradation, which is a significant impact to beneficial uses. Channel instability causes impacts to beneficial uses through sedimentation, loss of overhead

¹³³ Tetra Tech, Inc., 2005. Program Evaluation Report –San Diego Standard Urban Storm Water Mitigation Plan (SUSMP) Evaluation. P. 6.

¹³⁴ Ibid.

¹³⁵ Federal Register / Vol. 64, No. 235 / Wednesday, December 8, 1999 / Rules and Regulations. P. 68845.

¹³⁶ Santa Clara Valley Urban Runoff Pollution Prevention Program, 2005. Hydromodification Management Plan. P. 1-1.

¹³⁷ Schueler and Holland, 2000. Storm Water Strategies for Arid and Semi-Arid Watersheds (Article 66). The Practice of Watershed Protection.

¹³⁸ Coleman, et. al., 2005. Effect of Increases in Peak Flows and Imperviousness on the Morphology of Southern California Streams. P. iv.

cover, and loss of instream habitat structures, such as the loss of pool and riffle sequences.¹³⁹ Numerous studies have exhibited the link between urbanization, poor habitat quality, and impaired beneficial uses such as reduced insect and fish diversity.¹⁴⁰ These findings are also supported by the Copermittees' bioassessment data, which typically exhibits Poor to Very Poor Index of Biotic Integrity ratings for San Diego County channels, even though toxicity is frequently not found to be persistent.¹⁴¹

This section of the Order expands the requirements for control of hydromodification caused by changes in runoff resulting from development and urbanization. Expansion of these requirements is needed due to the current lack of a clear standard for controlling hydromodification resulting from development. While the Model SUSMP developed by the Copermittees requires project proponents to control hydromodification, it provides no standard or performance criteria for how this is to be achieved. Without any kind of clear standard or criteria, what must be done to prevent hydromodification is not known by project proponents and plan reviewers. As a result, project proponents do not know what to propose (if anything) and Copermittee review staff do not know what to require. Ultimately, Priority Development Projects implement few measures which can be expected to adequately control hydromodification. In any event, it is clear that Priority Development Projects in San Diego County are not implementing the type of measures which have been identified and required in other parts of California as necessary to prevent hydromodification.

To address this situation, this section of the Order requires the development and implementation of a Hydromodification Management Plan and outlines a process for the development and implementation of a standard and criteria to limit hydromodification of downstream channels. The required process is based on processes currently being developed and/or used in the San Francisco Bay Area and Los Angeles and Ventura Counties.¹⁴² It also corresponds with the planned second phase of the Southern California Stormwater Monitoring Coalition's Hydromodification Control Study, which is expected to develop a regional stream classification system, a numerical model to predict the hydrological changes resulting from development, and to identify effective mitigation strategies.

A detailed example of a process that can be used to develop a standard and criteria for control of hydromodification resulting from new development can be found in the Santa Clara Valley Urban Runoff Pollution Prevention Hydromodification Management Plan.¹⁴³ It involves developing ratios of work done on representative channel segments by runoff, where work done to a channel segment under pre-urban conditions is compared to work done under existing conditions. The calculated ratio is called the Erosion Potential (Ep) of the channel segment.¹⁴⁴ The Ep ratios for particular channel segments are then compared to field classified erosion conditions (such as stable/low or medium/high level of erosion). This comparison is used to identify an Ep ratio that has a low risk of resulting in an unstable channel or a channel with a medium/high level of

¹³⁹ Schueler and Holland, 2000. The Importance of Imperviousness (Article 1). The Practice of Watershed Protection.

¹⁴⁰ Ibid.

¹⁴¹ County of San Diego, 2005. San Diego County Municipal Copermittees 2003-2004 Urban Runoff Monitoring Final Report. By MEC Analytical Systems – Weston Solutions, Inc. Index of Biotic Integrity ratings give an absolute value to the benthic community quality based on the range of reference conditions in the region. The Index of Biotic Integrity ratings can be used to evaluate community conditions over time to monitor the effects of habitat degradation or the success of restoration efforts.

¹⁴² See <http://www.cccleanwater.org/construction/nd.php> or <http://www.scvurppp.org/> under "C.3 Submittals" for examples of a Hydromodification Management Plans.

¹⁴³ Santa Clara Valley Urban Runoff Pollution Prevention Program, 2005. Hydromodification Management Plan. P. 3-1 – 3-20.

¹⁴⁴ Ep is discussed in detail in the definitions section of the Permit.

erosion. Generally, an Ep of approximately 1, where work done hydraulically on a channel matches a baseline condition, will have a low risk of causing stream instability.

Once an Ep ratio that will result in stable channels is determined, it is used as a standard upon which to base development of runoff flow rate and duration criteria. Stream channel erosion is caused by increases in runoff flow rates and durations for the small and moderate magnitude runoff flows above the threshold for sediment transport and channel bank erosion.¹⁴⁵ Runoff flow rate and duration criteria identify the range of storms for which flow rates and durations must be controlled to pre-project conditions in order to meet the Ep standard. This involves identifying the critical flow that produces the critical shear stress that initiates bed movement or that erodes the toe of channel banks, and then relating the critical flow to a percentage of the 2-year peak flow, which serves as the lower bound of the range of storm events which must be controlled. The upper bound of the range of storm events is based on the storm event where significant post-project increases in the total work done on the channel do not occur.

Due to the ongoing high level of development in San Diego County, this section of the Order also contains an interim hydromodification standard for large Priority Development Projects. Without an interim hydromodification standard, major Priority Development Projects will be developed without hydromodification controls, resulting in impacts to relatively stable streams with good habitat quality. Examples of areas that can be expected to be developed in the near future include the Otay Valley Hydrologic Area and the Bonsall Hydrologic Subarea.

Priority Development Projects over 50 acres in size are required to meet the interim criteria because large projects have a greater potential to impact streams through hydromodification. Larger projects create more impervious surface, increasing runoff flow rates and durations to a greater extent, resulting in greater potential for hydromodification of receiving channels. The 50 acre size limit was chosen based on high priority status placed on construction sites larger than 50 acres. Applying an interim criteria to projects over 50 acres in size is manageable for Copermittees because of the relative infrequency of development projects larger than 50 acres. Approximately 88% of the construction sites with coverage under the statewide General Construction Storm Water Permit are smaller than 50 acres in size. Moreover, since larger Priority Development Projects typically have greater resources, they have the capability to conduct the necessary analyses and implement measures to maintain the morphology of receiving channels. For example, such analysis (together with proposed implementation of flow rate and duration controls) has been conducted for the Rancho Mission Viejo project in southern Orange County.¹⁴⁶

The Copermittees' ROWD essentially proposes a continuation of the current process for addressing hydromodification. As with the existing process, it is proposed that the project proponent will somehow demonstrate that the Priority Development Project will not impact downstream erosion or stream habitat. However, as discussed above, without a standard or specific criteria for how this will be done, neither the project proponent or a Copermittee's project review staff will know what needs to be implemented. Without specific standards or criteria, effective measures cannot be expected to be implemented to control hydromodification. For this reason, this section contains requirements that specific standards and criteria to control hydromodification be developed.

¹⁴⁵ Santa Clara Valley Urban Runoff Pollution Prevention Program, 2005. Hydromodification Management Plan. P. 5-1.

¹⁴⁶ County of Orange, 2004. The Ranch Plan Draft Environmental Impact No. 589. Section 4.5.

Section D.1.h (Enforcement of Development Sites) ensures that the Copermittees will use enforcement to pursue corrections of noted violations at development sites. The section is being added to the Development Planning to complement the requirements for inspections of post-construction BMPs and BMP maintenance. Where ineffective BMP implementation or inadequate BMP maintenance is noted during inspections, Copermittees must take effective enforcement actions that ensure violations are corrected and pollutants are reduced to the maximum extent practicable. USEPA recommends the development of ordinances and the use of enforcement procedures to address post-construction storm water management issues in the Phase II storm water regulations.¹⁴⁷

D. 2. Construction

The following legal authority applies to section D.2:

Broad Legal Authority: CWA sections 402(p)(3)(B)(ii-iii), CWC section 13377, and Federal NPDES regulations 40 CFR 122.26(d)(2)(i)(B, C, E, and F) and 40 CFR 122.26(d)(2)(iv).

Specific Legal Authority: Federal NPDES regulation 40 CFR 122.26(d)(2)(iv)(D) provides that the proposed management program include “A description of a program to implement and maintain structural and non-structural best management practices to reduce pollutants in storm water runoff from construction sites to the municipal storm sewer system.”

Federal NPDES regulation 40 CFR 122.26(d)(2)(iv)(D)(1) provides that the proposed management program include “A description of procedures for site planning which incorporate consideration of potential water quality impacts.”

Federal NPDES regulation 40 CFR 122.26(d)(2)(iv)(D)(2) provides that the proposed management program include “A description of requirements for nonstructural and structural best management practices.”

Federal NPDES regulation 40 CFR 122.26(d)(2)(iv)(D)(3) provides that the proposed management program include “A description of procedures for identifying priorities for inspecting sites and enforcing control measures which consider the nature of the construction activity, topography, and the characteristics of soils and receiving water quality.”

Federal NPDES regulation 40 CFR 122.26(d)(2)(iv)(D)(4) provides that the proposed management program include “A description of appropriate educational and training measures for construction site operators.”

Federal NPDES regulation 40 CFR 122.26(d)(2)(i)(A) provides that each Copermittee must demonstrate that it can control “through ordinance, permit, contract, order or similar means, the contribution of pollutants to the municipal storm sewer by storm water discharges associated with industrial activity and the quality of storm water discharged from site of industrial activity.”

Federal NPDES regulation 40 CFR 122.26(b)(14) provides that “The following categories of facilities are considered to be engaging in ‘industrial activity’ for the purposes of this subsection: [...] (x) Construction activity including cleaning, grading and excavation activities [...]”

¹⁴⁷ Federal Register / Vol. 64, No. 235 / Wednesday, December 8, 1999 / Rules and Regulations. P. 68845.

Federal NPDES regulation 40 CFR 122.44(d)(1)(i) requires NPDES permits to include limitations to “control all pollutants or pollutant parameters (either conventional, nonconventional, or toxic pollutants) which the Director determines are or may be discharged at a level which will cause, have reasonable potential to cause, or contribute to an excursion above any State water quality standard, including State narrative criteria for water quality.”

Section D.2.a (Ordinance Update and Approval Process) requires each Copermittee to review and update its grading and storm water ordinances as necessary to comply with the MS4 permit. By updating the grading and storm water ordinances, the Copermittees will have the necessary legal authority to require construction sites to implement effective BMPs that will reduce pollutant discharges to the maximum extent practicable. The Order allows the Copermittees 365 days to review and update their ordinances. The 365 days should be more than adequate to allow for the relatively minor changes that might be needed since their ordinances were last updated under Order No. 2001-01.

This section now requires the Copermittees to review project proponents’ storm water management plans for compliance with local regulations, policies, and procedures. USEPA recommends that it is often easier and more effective to incorporate storm water quality controls during the site plan review process or earlier.¹⁴⁸ In the Phase I storm water regulations, USEPA states that a primary control technique is good site planning.¹⁴⁹ USEPA goes on to say that the most efficient controls result when a comprehensive storm water management system is in place.¹⁵⁰ To determine if a construction site is in compliance with construction and grading ordinances and permits, USEPA states that the “MS4 operator should review the site plans submitted by the construction site operator before ground is broken.”¹⁵¹ Site plan review aids in compliance and enforcement efforts since it alerts the “MS4 operator early in the process to the planned use or non-use of proper BMPs and provides a way to track new construction activities.”¹⁵² During audits of San Diego Copermittee storm water programs, it was found on two separate occasions that site plan and SWPPP review were inadequate and inconsistent.¹⁵³

Section D.2.b (Source Identification) requires the Copermittees to develop and update a watershed based inventory of all construction sites regardless of size or ownership. This section has been modified to require at least monthly updates of construction site inventories to ensure the Copermittees have a more accurate inventory of construction sites within their jurisdiction. A regularly updated inventory of active construction sites will assist the Copermittees in ensuring that all sites are inspected per Order requirements. In the ROWD, the Copermittees provide support for more regular updates by stating “Any inventory...is likely to change significantly within weeks or even days.”¹⁵⁴ Reporting of the inventory to the Regional Board would remain on an annual basis in the Jurisdictional Urban Runoff Management Program Annual Report.

Section D.2.c (BMP Implementation) includes modifications to the requirements for each Copermittee to designate and ensure implementation of a set of minimum BMPs at construction sites. These modifications are based on Regional Board findings and experience during implementation of Order No. 2001-01. During audits of the Copermittees’ storm water programs,

¹⁴⁸ USEPA, 1992. Guidance 833-8-92-002. Section 6.3.2.1.

¹⁴⁹ Federal Register / Vol. 55, No. 222 / Friday, November 16, 1990 / Rules and Regulations. P. 48034.

¹⁵⁰ Ibid.

¹⁵¹ USEPA, 2000. Guidance 833-R-00-002. Section 4.6.2.4, P. 4-30.

¹⁵² Ibid., P. 4-31.

¹⁵³ Tetra Tech, Inc., 2002. Program Evaluation Report – San Diego Area Storm Water Programs – El Cajon. P. 15; and Tetra Tech, 2005. Program Evaluation Report – San Diego Area Storm Water Programs – Port of San Diego. P. 15.

¹⁵⁴ San Diego County Copermittees, 2005. Report of Waste Discharge. P. D-23.

BMP implementation at construction sites was found to be second only to education in the number of deficiencies and potential permit violations. Eleven cities had deficiencies or potential permit violations, with the most common being that BMPs were not adequately implemented at construction sites and that the Copermittees' standards were not up to date. Both private and public construction sites were found to have inadequately implemented BMPs.¹⁵⁵ In addition, the only civil liability assessed on a municipality for violations of an MS4 permit under the previous municipal permit, Order No. 2001-01, was based in part on a Copermittee's failure to adequately implement or require implementation of BMPs at a construction site.¹⁵⁶

This section describes the types of BMPs that are required to be implemented at construction sites. Many of these BMPs are found in Order No. 2001-01.¹⁵⁷ Differences in the BMP requirements from Order No. 2001-01 include: Removal of site priority specific BMP designations; removal of seasonal restrictions on grading; more specificity on slope stabilization; more specificity on phased grading; and the addition of advanced treatment requirements. Since pollution prevention methods are considered a BMP, the pollution prevention requirements have been moved to the BMP implementation section.

Unlike Order No. 2001-01, this Order does not require the Copermittee to designate a set of minimum BMPs for high, medium, and low threat to water quality construction sites. This change was made in recognition of most Copermittees' application of one consistent set of BMPs throughout their jurisdictions.

The Order's requirements for seasonal restrictions on grading have been changed. Seasonal restrictions on grading for storm water are difficult to implement due to the conflict between seasonal grading restrictions and endangered bird's breeding seasons; therefore the seasonal grading restrictions have not been included with the other BMPs in the Order. Found in southern California, the Least Bell's Vireo and the Coastal California Gnatcatcher are listed as federally endangered and threatened, respectively.¹⁵⁸ Permits issued by the California Department of Fish and Game (CDFG) restrict grading during these birds' breeding seasons, which is from April 10 to August 31 for the Least Bell's Vireo¹⁵⁹ and from February 15 to August 31 for the Coastal California Gnatcatcher.¹⁶⁰ Ideally storm water restrictions on grading would be during the wet season from October 1 through April 30.¹⁶¹ Combined these restrictions would limit construction grading to be during the month of September, which is infeasible. Section D.2.c of the Order still requires "project proponents to minimize grading during the wet season and coincide grading with seasonal dry weather periods to the extent feasible. If grading does occur during the wet season, require project proponent to implement additional BMPs for any rain events which may occur."

Sections D.2.c.(1)(e-f) of the Order require slope stabilization on all active and inactive slopes during rain events regardless of the season, except in areas implementing advanced treatment. Slope stabilization is also required on inactive slopes throughout the rainy season. These

¹⁵⁵ Tetra Tech, Inc., various. Program Evaluation Reports San Diego Area Storm Water Programs.

¹⁵⁶ Regional Board, 2005. Order No. R9-2005-0237. Administrative Assessment of Civil Liability against JRMC Realty, Inc. and the City of Escondido. P. 3.

¹⁵⁷ Regional Board, 2001. Order No. 2001-01, San Diego County MS4 Permit. P. 22.

¹⁵⁸ State of California, Department of Fish and Game, 2005. State and Federally Listed Endangered and Threatened Animals of California.

¹⁵⁹ United States Department of the Interior, Fish and Wildlife Service, 2001. Least Bell's Vireo Survey Guidelines.

¹⁶⁰ United States Department of the Interior, Fish and Wildlife Service, 1997. Coastal California Gnatcatcher (*Poliptila californica californica*) Presence/Absence Survey Guidelines.

¹⁶¹ Regional Board, 2001. Order No. 2001-01, San Diego County MS4 Permit. Directive F.2.g.(2).

requirements are needed because un-stabilized slopes at construction sites are significant sources of erosion and sediment discharges during rainstorms. “Steep slopes are the most highly erodible surface of a construction site, and require special attention.”¹⁶² USEPA exhibits the importance of slope stabilization when it states that “slope length and steepness are key influences on both the volume and velocity of surface runoff. Long slopes deliver more runoff to the base of slopes and steep slopes increase runoff velocity; both conditions enhance the potential for erosion to occur.”¹⁶³ In lieu of vegetation preservation or replanting, soil stabilization is the most effective measure in preventing erosion on slopes. Research has shown that effective soil stabilization can reduce sediment discharge concentrations up to six times, as compared to soils without stabilization.¹⁶⁴ In their ROWD,¹⁶⁵ the Copermittees propose that standardized requirements for slope stabilization be developed after Permit adoption, due to the unique differences between the Copermittees’ programs and the “need to develop consensus.” However, slope stabilization at construction sites is already the consensus among the regulatory community and is found throughout construction BMP manuals and permits. For these reasons, slope stabilization requirements have been added to the Order, while providing sufficient flexibility for each Copermittee’s unique storm water program.

Sections D.2.c.(1)(g-j) of the Order provide more specificity regarding phased grading requirements, prescribing that phased grading be implemented utilizing a maximum disturbed area, as determined by the Copermittees. This specificity has been added to the Order because of the importance of phased grading in controlling sediment from leaving construction sites. Phased grading minimizes the disturbed area and the time that the soil is exposed to erosive conditions.¹⁶⁶ USEPA provides guidance stating “construction should be planned to occur in phases in order to minimize the amount of disturbed land exposed at any one time, thus limiting the overall erosion potential of the site.”¹⁶⁷ It is important to note that phased grading does not limit the overall development of a project. Moreover, phased grading should not be confused with seasonal restrictions on grading that were addressed above.

The Copermittees are required to designate a maximum disturbed area to be open at any one time. The Order prescribes that construction projects within the Copermittees’ jurisdiction are not allowed to expose more soil than the maximum disturbed area, unless authorized to do so in writing by the Copermittee. Prior to the Copermittee’s authorization to exceed the maximum disturbed area, the construction site must be in compliance with applicable storm water regulations and have adequate control practices implemented to prevent storm water pollution. The Copermittee’s authorization gives the construction industry the flexibility needed to conduct business while continuing to protect water quality. This permit requirement is not unprecedented. The Caltrans construction standard specifications states that no more than 17 acres be exposed unless otherwise approved by their engineer in writing.¹⁶⁸ If needed, local Caltrans districts can

¹⁶² Schueler, T. and Holland, H., 2000. “Muddy Water In – Muddy Water Out?” The Practice of Watershed Protection. P. 6.

¹⁶³ USEPA, 1990. “Sediment and Erosion Control: An Inventory of Current Practices.” P. II-1.

¹⁶⁴ Schueler, T. and Holland, H., 2000. “Muddy Water In – Muddy Water Out?” The Practice of Watershed Protection. P. 5.

¹⁶⁵ San Diego County Copermittees, 2005. Report of Waste Discharge. P. D-27.

¹⁶⁶ Schueler, T. and Holland, H., 2000. “Muddy Water In – Muddy Water Out?” The Practice of Watershed Protection. P. 5.

¹⁶⁷ USEPA, 1990. “Sediment and Erosion Control: An Inventory of Current Practices.” P. III-1.

¹⁶⁸ State of California, Department of Transportation, 2002. “Standard Specifications for Construction of Local Streets and Roads.” Section 7-1.01G; P. 52.

decrease the maximum disturbed soil area to 5 acres during the rainy season.¹⁶⁹ In the Order, the Copermittee determines the maximum disturbed acreage size.

In the ROWD,¹⁷⁰ the Copermittees report that because their programs are unique, more time is needed on phased grading to develop consensus and to further dialogue. They speculate that the phased grading requirements will need consultation with the construction community, California Department of Fish and Game, United States Fish and Wildlife Service, and the Army Corps of Engineers. The Copermittees propose that they develop phased grading requirements after adoption of the Order. However, phased grading was a requirement in Order No. 2001-01.¹⁷¹ In the five years since the adoption of Order No. 2001-01, the Copermittees did not develop a consensus on phased grading requirements. Even though previously required, the Regional Board inspectors have never observed phased grading implemented within the jurisdictions of the Copermittees. The lack of Copermittee action on phased grading during the past Permit cycles has necessitated the adoption of more specific enforceable requirements on phased grading. Caltrans and its private contractors from the construction community have implemented phased grading on construction projects since 2000 with no issues raised by the construction community or resource agencies. The ability of the Copermittee to increase the size of the maximum disturbed area for a given site will enable the construction site to feasibly grade while maintaining compliance with other environmental permits.

Section D.2.c.(1)(k) of the Order requires the implementation of advanced treatment for sediment at construction sites that the Copermittees or the Regional Board determines to be a significant threat to water quality. In evaluating the threat to water quality, the following factors shall be considered: (1) soil erosion potential; (2) the site's slopes; (3) project size and type; (4) sensitivity of receiving water bodies; (5) proximity to receiving water bodies; (6) non-storm water discharges; and (7) any other relevant factors. Advanced treatment is defined in the Order as "using mechanical or chemical means to flocculate and remove suspended sediment from runoff from construction sites prior to discharge." Advanced treatment consists of a three part treatment train of coagulation, sedimentation, and polishing filtration.

Advanced treatment has been effectively implemented extensively in the other states and in the Central Valley Region of California.¹⁷² In addition, the Regional Board's inspectors have observed advanced treatment being effectively implemented at large sites greater than 100 acres and at small, 5 acre, infill sites. Advanced treatment is often necessary for Copermittees to ensure that discharges from construction sites are not causing or contributing to a violation of water quality standards. For example, the Basin Plan lists the water quality objective for turbidity as 20 NTU for all hydrologic areas and subareas except for the Coronado HA (10.10) and the Tijuana Valley (11.10). For certain construction sites with large slopes and exposed areas, the only technology that is likely to meet 20 NTU is advanced treatment combined with erosion and sediment controls. To ensure the MEP standard and water quality standards are met, the requirement for implementation of advanced treatment at high threat construction sites has been added to the Order, while still providing sufficient flexibility for each Copermittee's unique program.

Sections D.2.c.(1)(l-m) of the Order require the revegetation of a construction site as early as feasible. The Order includes revegetation requirements in the BMP implementation section,

¹⁶⁹ Caltrans Storm Water Quality Handbooks, 2000. "Construction Site Best Management Practices Manual." Section 2.2.4.1.

¹⁷⁰ San Diego County Copermittees, 2005. Report of Waste Discharge. P. D-27.

¹⁷¹ Regional Board, 2001. Order No. 2001-01, San Diego County MS4 Permit. Directive F.2.b.(4); P. 22.

¹⁷² SWRCB, 2004. Conference on Advanced Treatment at Construction Sites.

while Order No. 2001-01 required revegetation as part of the grading ordinance update. Implementation of revegetation reduces the threat of polluted storm water discharges from construction sites. For example, it has been found that construction sites should permanently stabilize disturbed soils with vegetation at the conclusion of each phase of construction.¹⁷³ A survey of grading and clearing programs found one-third of the programs without a time limit for permanent revegetation, “thereby increasing the chances for soil erosion to occur.”¹⁷⁴ USEPA states “the establishment and maintenance of vegetation are the most important factors to minimizing erosion during development.”¹⁷⁵ With the construction site being responsible for revegetation, the Copermittee will be more likely to enforce revegetation requirements during oversight of construction site requirements.

Section D.2.c.(2) of the Order requires that dry season BMP implementation must include planning for and addressing rain events that may occur during the dry season. This requirements was added to the Order to emphasize that, although rare, thunderstorms do occur in inland areas of the San Diego Region during the dry season.

Section D.2.d (Inspection of Construction Sites) prescribes a minimum inspection frequency for construction sites. Where Order No. 2001-01 required weekly inspections of high priority sites and monthly inspections of medium and low priority sites during the wet season, this Order prescribes biweekly inspections during the wet season of high priority sites, monthly inspections for medium priority sites, and as needed inspections for low priority sites. High priority sites are identified as all sites greater than 50 acres, or greater than 1 acre and tributary to a CWA Section 303(d) water body impaired for sediment or discharging directly to a ESA. Medium priority sites are all sites causing soil disturbance of one acre or more that are not a high priority. The proposed changes to the Order allow the Copermittees to concentrate more effort on sites that are less than 50 acres, but still have significant disturbed areas. The reduction in inspection frequency for sites greater than 50 acres is justified because the sites have generally improved their erosion and sediment control measures since adoption of Order No. 2001-01. Biweekly inspections of these sites in the future should be sufficient to ensure compliance at these sites.

The Order omits Order No. 2001-01’s provision allowing a Copermittee to decrease the inspection frequency for high priority sites if the Copermittee certifies in writing to the Regional Board that they have recorded the site’s Waste Discharge Identification Number, reviewed the site’s Storm Water Pollution Prevention Plan (SWPPP), assured the site’s SWPPP is in compliance, and assured the SWPPP is properly implemented at the site. Under Order No. 2001-01, the Regional Board never received from any of the Copermittees a certification to decrease the inspection frequency at high priority sites. Since the certification process was never used, the language has been deleted from the Order.

In their ROWD,¹⁷⁶ the Copermittees recommend that the use of weather triggered action plans be used in place of minimum inspection frequencies at construction sites during the month of October. The Copermittees’ proposal is not to be confused with using weather triggered action plans to implement BMPs; rather the plan would be used during October by Copermittees to conduct inspections. The Order does not include this measure because historical rainfall data shows that San Diego received significant rainfall during October in 2005, 2004, and 2000.¹⁷⁷

¹⁷³ Schueler, T. and Holland, H., 2000. “Muddy Water In – Muddy Water Out?” The Practice of Watershed Protection. P. 5.

¹⁷⁴ Ibid.; P.11.

¹⁷⁵ USEPA, 1990. “Sediment and Erosion Control: An Inventory of Current Practices”, P. II-1

¹⁷⁶ San Diego County Copermittees, 2005. Report of Waste Discharge. P. D-27.

¹⁷⁷ National Weather Service, Surface Observations at Lindbergh field; www.wrh.noaa.gov/sgx/obs/rtp/linber.html

Moreover, based upon Regional Board inspections, construction sites rarely have been found to have fully implemented their SWPPP by October 1 in anticipation of the rainy season. During those years that rainfall does not occur during October, Copermittees' biweekly inspections during October can ensure that construction sites are implementing and preparing for the eventual rains. Like dry weather inspections, these inspections can also identify sources of non-storm water pollution and discharges.

This section also requires the Copermittees to track the number of inspections for each inventoried construction site. This requirement has been added to ensure that the Copermittees can demonstrate that construction sites are inspected at the minimum frequencies.

Section D.2.e (Enforcement of Construction Sites) requires each Copermittee to develop and implement an escalating enforcement process that achieves prompt and effective corrective actions at all construction sites for violations of the Copermittee's requirements and ordinances. Each Copermittee develops their own unique enforcement procedure tailored for their specific jurisdiction. This requirement is similar to Order No. 2001-01, except that enforcement procedures are required to be escalating and enforcement sanctions are required to be implemented in a prompt and effective manner.

Under Order No. 2001-01, inspections conducted by the Regional Board noted deficiencies in the Copermittees' enforcement procedures and implementation. The most common issues found were that enforcement was not firm and appropriate to correct the violation, and that repeat violations did not result in escalated enforcement procedures. Moreover, in the municipal audit reports, deficiencies and potential permit violations were found in Copermittee's enforcement programs.¹⁷⁸ USEPA supports enforcement of ordinances and permits at construction sites stating "Effective inspection and enforcement requires [...] penalties to deter infractions and intervention by the municipal authority to correct violations."¹⁷⁹ In addition, USEPA expects permits issued to municipalities to address "weak inspection and enforcement."¹⁸⁰ For these reasons, the enforcement requirements in this section have been modified, while providing sufficient flexibility for each Copermittee's unique storm water program.

In their ROWD, the Copermittees strongly oppose "the revision of Permit requirements for the purpose of standardizing processes that are necessarily unique to individual jurisdictions."¹⁸¹ However, the Order does not require that Copermittees standardize enforcement procedures to be the same among all the Copermittees, but requires that each Copermittee will consistently implement their unique enforcement procedures at construction sites within their jurisdiction.

The Order requires that inspectors have the authority to conduct immediate enforcement actions when appropriate. Inspectors conducting immediate enforcement will quickly implement corrections to violations, thereby minimizing and preventing threats to water quality. When inspectors are unable to conduct immediate enforcement actions, the threat to water quality continues until an enforcement incentive is issued to correct the violation. In the municipal audits, storm water inspectors for several municipalities were found to lack the necessary

¹⁷⁸ Tetra Tech, Inc., 2002-05, Program Evaluation Reports – San Diego Area Storm Water Programs – July 23, 2002, Chula Vista P. 11, El Cajon P. 15; April 8, 2003, Oceanside P. 16; December 17, 2003, San Marcos P.20, Vista P.26; June 11, 2004, Poway P. 12, Santee, P. 15; January 31, 2005, Del Mar P.9, Solana Beach, P.12.

¹⁷⁹ USEPA, 1992. Guidance 833-8-92-002. Section 6.3.2.3.

¹⁸⁰ Federal Register / Vol. 55, No. 222 / Friday, November 16, 1990 / Rules and Regulations. P. 48058

¹⁸¹ San Diego County Copermittees, 2005. Report of Waste Discharge. P. D-28.

enforcement authority.¹⁸² In its Phase II Compliance Assistance Guidance, USEPA says that “Inspections give the MS4 operator an opportunity to provide additional guidance and education, issue warnings, or assess penalties.”¹⁸³ In order to issue warnings and assess penalties during inspections, inspectors need to have the legal authority to conduct enforcement.

D.3. Existing Development

D.3.a Municipal

The following legal authority applies to section D.3.a:

Broad Legal Authority: CWA sections 402(p)(3)(B)(ii-iii), CWC section 13377, and Federal NPDES regulations 40 CFR 122.26(d)(2)(i)(B, C, E, and F) and 40 CFR 122.26(d)(2)(iv).

Specific Legal Authority: Federal NPDES regulation 40 CFR 122.26(d)(2)(iv)(A)(1) provides that the proposed management program include “A description of maintenance activities and a maintenance schedule for structural controls to reduce pollutants (including floatables) in discharges from municipal separate storm sewers.”

Federal NPDES regulation 40 CFR 122.26(d)(2)(iv)(A)(3) provides that the proposed management program include “A description for operating and maintaining public streets, roads and highways and procedures for reducing the impact on receiving waters of discharges from municipal storm sewer systems, including pollutants discharged as a result of deicing activities.”

Federal NPDES regulation 40 CFR 122.26(d)(2)(iv)(A)(4) provides that the proposed management program include “A description of procedures to assure that flood management projects assess the impacts on the water quality of receiving water bodies and that existing structural flood control devices have been evaluated to determine if retrofitting the device to provide additional pollutant removal from storm water is feasible.”

Federal NPDES regulation 40 CFR 122.26(d)(2)(iv)(A)(5) provides that the proposed management program include “A description of a program to monitor pollutants in runoff from operating or closed municipal landfills or other treatment, storage or disposal facilities for municipal waste, which shall identify priorities and procedures for inspections and establishing and implementing control measures for such discharges.”

Federal NPDES regulation 40 CFR 122.26(d)(2)(iv)(A)(6) provides that the proposed management program include “A description of a program to reduce to the maximum extent practicable, pollutants in discharges from municipal separate storm sewers associated with the application of pesticides, herbicides, and fertilizer which will include, as appropriate, controls such as educational activities, permits, certifications, and other measures for commercial applicators and distributors, and controls for application in public right-of-ways and at municipal facilities.”

Federal NPDES regulation 40 CFR 122.44(d)(1)(i) requires NPDES permits to include limitations to “control all pollutants or pollutant parameters (either conventional, nonconventional, or toxic pollutants) which the Director determines are or may be discharged at a

¹⁸² Tetra Tech, Inc., 2003-05. Program Evaluation Reports – San Diego Area Storm Water Programs –April 8, 2003, Oceanside P. 16; June 11, 2004, Poway P. 12, Santee, P. 15; January 31, 2005, Solana Beach, P.12.

¹⁸³ USEPA, 2000. 833-R-00-002, Storm Water Phase II Compliance Assistance Guide, P.4-31

level which will cause, have reasonable potential to cause, or contribute to an excursion above any State water quality standard, including State narrative criteria for water quality.”

Section D.3.a.(2) (BMP Implementation) requires the Copermittees to designate minimum BMPs for all municipal areas and activities, regardless of their threat to water quality. The requirement that different types of BMPs be designated for different threat to water quality categories of municipal areas and activities has been removed from the Order to help simplify and clarify the Order’s requirements. BMPs required to be implemented at a site can now be based on the sources or activities present at the site. This more closely matches the approach taken by the Copermittees in their JURMPs. Threat to water quality is used to determine inspection frequencies in section D.3.a.(7).

Section D.3.a.(3) (Operation and Maintenance of MS4 and Structural Controls) requires the Copermittees to inspect and remove waste from their MS4s prior to the rainy season. Additional wording has been added to clarify the intent of the requirements. The Copermittees will be required to inspect all storm drain inlets and catch basins. This change will assist the Copermittees in determining which basins/inlets need to be cleaned and at what priority. Removal of trash has been identified by the Copermittees as a priority issue in their long-term effectiveness assessment. To address this issue, wording has been added to require the Copermittees, at a minimum, inspect and remove trash from all their open channels at least once a year.

Section D.3.a.(5) (Sweeping of Municipal Areas) requires the Copermittees to implement a program to sweep all municipal roads, streets, highways, and parking facilities. This section has been added to ensure that the Copermittees are implementing this effective BMP at all appropriate areas. The reporting requirements of the Order have also be modified to ensure that the Copermittees consistently report their sweeping and pollutant removal activities.

Section D.3.a.(6) (Limit Infiltration From Sanitary Sewer to MS4/Provide Preventive Maintenance of Both) requires the Copermittees to implement controls and measures to limit infiltration of seepage from municipal sanitary sewers to MS4s through thorough, routine preventive maintenance of the MS4. In their ROWD, the Copermittees requested this section be removed form the Illicit Discharge Detection and Elimination Component and added to the Municipal Component since it is a municipal activity. We agree and have moved the section to the municipal component of the Order.

Section D.3.a.(7) (Inspection of Municipal Areas and Activities) establishes a minimum set of municipal areas and activities for oversight and inspection by the Copermittees. In their ROWD, the Copermittees stated that some high priority areas on the list are not present in San Diego County. In response to this comment, incinerators, uncontrolled sanitary landfills, sites for disposing and treating sewage sludge, and hazardous waste treatment, disposal, and recovery facilities have been removed as high priority municipal areas. Household hazardous waste collection facilities and parks/recreation facilities have been identified by the Copermittees as municipal areas in their JURMPs and therefore have been added to the high priority list.

D.3.b. Industrial and Commercial

The following legal authority applies to section D.3.b:

Broad Legal Authority: CWA sections 402(p)(3)(B)(ii-iii), CWC section 13377, and Federal NPDES regulations 40 CFR 122.26(d)(2)(i)(B, C, E, and F) and 40 CFR 122.26(d)(2)(iv).

Specific Legal Authority: Federal NPDES regulation 40 CFR 122.26(d)(2)(iv)(C) provides that the proposed management program include “A description of a program to monitor and control pollutants in storm water discharges to municipal systems from municipal landfills, hazardous waste treatment, disposal and recovery facilities, industrial facilities that are subject to section 313 of title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA), and industrial facilities that the municipal permit applicant determines are contributing a substantial pollutant loading to the municipal storm sewer system.”

Federal NPDES regulation 40 CFR 122.26(d)(2)(iv)(C)(1) provides that the Copermittee must “identify priorities and procedures for inspections and establishing and implementing control measures for such discharges.”

Federal NPDES regulation 40 CFR 122.26(d)(2)(iv)(C)(2) provides that the proposed management program shall “Describe a monitoring program for storm water discharges associated with the industrial facilities identified in paragraph (d)(2)(iv)(C) of this section, to be implemented during the term of the permit, including the submission of quantitative data on the following constituents: any pollutants limited in effluent guidelines subcategories, where applicable; any pollutant listed in an existing NPDES permit for a facility; oil and grease, COD, pH, BOD5 , TSS, total phosphorus, total Kjeldhal nitrogen, nitrate plus nitrite nitrogen, and any information on discharges required under 40 CFR 122.21(g)(7)(iii) and (iv).”

Federal NPDES regulation 40 CFR 122.26(d)(2)(ii) provides that the Copermittee “Provide an inventory, organized by watershed of the name and address, and a description (such as SIC codes) which best reflects the principal products or services provided by each facility which may discharge, to the municipal separate storm sewer, storm water associated with industrial activity.”

Federal NPDES regulation 40 CFR 122.44(d)(1)(i) requires NPDES permits to include limitations to “control all pollutants or pollutant parameters (either conventional, nonconventional, or toxic pollutants) which the Director determines are or may be discharged at a level which will cause, have reasonable potential to cause, or contribute to an excursion above any State water quality standard, including State narrative criteria for water quality.”

Federal NPDES regulation 40 CFR 122.26(d)(2)(i)(A) provides that each Copermittee must demonstrate that it can control “through ordinance, permit, contract, order or similar means, the contribution of pollutants to the municipal storm sewer by storm water discharges associated with industrial activity and the quality of storm water discharged from site of industrial activity.”

Federal NPDES regulation 40 CFR 122.26(d)(2)(iv)(A) provides that the Copermittee develop a proposed management program which includes “A description of structural and source control measures to reduce pollutants from runoff from commercial and residential areas that are discharged from the municipal storm sewer system that are to be implemented during the life of the permit, accompanied with an estimate of the expected reduction of pollutant loads and a proposed schedule for implementing such controls.”

Section D.3.b requires the Copermittees to implement an industrial and commercial program to reduce pollutants in runoff from all industrial and commercial sites/sources. The industrial and commercial sections of Order No. 2001-01 have been combined into one section in this Order. This change will streamline and simplify the Order, without negatively impacting water quality. This change is not unprecedented because industrial and commercial facilities are commonly

addressed together. For example, the Southern Riverside County MS4 Permit¹⁸⁴ combined industrial and commercial programs into one section. In addition, in their ROWD,¹⁸⁵ the Copermittees jointly addressed industrial and commercial components. USEPA contractor Tetra Tech also evaluated and reported on the industrial and commercial programs jointly during their program evaluations.¹⁸⁶

Section D.3.b.(1)(a) (Commercial Sites/Sources) requires that building material retailers and storage, animal facilities, and power washing services be included in the Copermittee's inventory of commercial sites/sources. In their ROWD, the Copermittees state "Two sources that were not identified in the Permit [Order No. 2001-01] as high priorities (animal facilities and pressure washers) were determined to justify close attention due their significant number and their potential to discharge pollutants." The Regional Board agrees with the Copermittees statement in the ROWD; therefore, animal facilities and pressure washers are included in the source identification section. Building material retailers and storage facilities are included because they are potential sources of pollutants to urban runoff. These facilities typically store and vend building materials in the outdoors exposed to storm water without implementing BMPs.

The Order has revised requirements for identifying industrial sites/sources. The revised requirements are identical to those found in the Southern Riverside County MS4 permit.¹⁸⁷ USEPA requires the same identification: "Measures to reduce pollutants in storm water discharges to municipal separate storm sewers from municipal landfills, hazardous waste treatment, disposal and recovery facilities, industrial facilities that are subject to section 313 of title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA)."¹⁸⁸ USEPA "also requires the municipal storm sewer permittee to describe a program to address industrial dischargers that are covered under the municipal storm sewer permit."¹⁸⁹ In order to more closely follow USEPA's guidance, this Order also includes operating and closed landfills, and hazardous waste treatment, disposal, storage and recovery facilities.

The Order continues to require the Copermittees to identify industrial sites and sources subject to the General Industrial Permit or other individual NPDES permit. This requirement is despite the Copermittees' recommendation, "The Permit should be amended to eliminate the requirement to include sites with coverage under the General Industrial Permit, or other permits with storm water requirements, on the list of minimum high priority industrial facilities."¹⁹⁰ USEPA supports the municipalities regulating industrial sites and sources that are already covered by a NPDES permit:

"Municipal operators of large and medium municipal separate storm sewer systems are responsible for obtaining system-wide or area permits for their system's discharges. These permits are expected to require that controls be placed on storm water discharges associated with industrial activity which discharge through the municipal system. It is anticipated that general or individual permits covering industrial storm water discharges to these municipal

¹⁸⁴ Regional Board, 2004. Order No. R9-2004-001; Riverside County MS4 Permit. Section H.2; P. 24.

¹⁸⁵ San Diego County Copermittees, 2005. Report of Waste Discharge. Section D.5.1, P. D-37.

¹⁸⁶ Tetra Tech, Inc., 2002-05. Program Evaluation Reports – San Diego Area Storm Water Programs; July 23, 2002; December 13, 2002; December 26, 2002; April 8, 2003; December 17, 2003; June 11, 2004; January 31, 2005.

¹⁸⁷ Regional Board, 2004. Order No. R9-2004-001; Riverside County MS4 Permit. Section H.2.b)(2); P. 25.

¹⁸⁸ Federal Register / Vol. 55, No. 222 / Friday, November 16, 1990 / Rules and Regulations. P. 48056.

¹⁸⁹ Ibid.

¹⁹⁰ San Diego County Copermittees, 2005. Report of Waste Discharge. Section D.5.6, P. D-43

separate storm sewer systems will require industries to comply with the terms of the permit issued to the municipality, as well as other terms specific to the permittee.”¹⁹¹

And:

“Although today’s rule will require industrial discharges through municipal storm sewers to be covered by separate permit, USEPA still believes that municipal operators of large and medium municipal systems have an important role in source identification and the development of pollutant controls for industries that discharge storm water through municipal separate storm sewer systems is appropriate. Under the CWA, large and medium municipalities are responsible for reducing pollutants in discharges from municipal separate storm sewers to the maximum extent practicable. Because storm water from industrial facilities may be a major contributor of pollutants to municipal separate storm sewer systems, municipalities are obligated to develop controls for storm water discharges associated with industrial activity through their system in their storm water management program.”¹⁹²

The Order’s requirement to inventory those sites subject to the General Industrial Permit is identical to the requirements found in the Southern Riverside County MS4 Permit, Order No. R9-2004-001.¹⁹³ USEPA supports the list of industrial facilities in the Order when it states the following:

“The issue of industrial inspections also arose for the Los Angeles County MS4 permit. The State Board, in a memo dated November 9, 2001, from Michael Lauffer of the State board to Dennis Dickerson, Executive Officer of the Los Angeles Regional Board, noted that under Section 402 (p)(3)(B)(iii) of the CWA, the Board has broad authority to require ‘such other provisions...as the State determines appropriate...’ and that this would provide a basis for requirements that go beyond specific provisions of the EPA regulations. We would agree with the State Board on this matter, and that the Regional Board would have the authority to require inspections of all the industrial facilities listed in the permit [Order], notwithstanding the specific provisions of the EPA regulations.”¹⁹⁴

Section D.3.b.(2) (BMP Implementation) adds a pollution prevention requirement, since pollution prevention methods are considered a BMP. Moving this requirement will streamline the Order, without causing a detrimental effect on water quality.

Section D.3.b.(3) (Inspection of Industrial and Commercial Sites/Sources) includes requirements for inspections of industrial and commercial sites/sources. The Order is similar to the Southern Riverside County MS4 permit¹⁹⁵ in requiring that inspections check for coverage under the General Industrial Permit; assessment of compliance with Copermittee ordinances and permits related to urban runoff; assessment of BMP implementation, maintenance, and effectiveness; visual observations for non-storm water discharges, potential illicit connections, and potential discharge of pollutants in storm water runoff; and education and outreach on storm water pollution prevention. The Order also requires that inspections include review of BMP implementation plans if the site uses or is required to use such a plan, and the review of facility monitoring data if the site monitors its runoff. These changes are necessitated by the results of

¹⁹¹ Federal Register / Vol. 55, No. 222 / Friday, November 16, 1990 / Rules and Regulations. P. 48006.

¹⁹² Ibid. P. 48000

¹⁹³ Regional Board, 2004. Order No. R9-2004-001; Riverside County MS4 Permit. Section H.2.b)(2); P. 25.

¹⁹⁴ Letter dated March 5, 2004 from Doug Eberhardt, EPA Manager to John Robertus, Executive Officer of Regional Board containing comments on Order No. R9-2004-001.

¹⁹⁵ Regional Board, 2004. Order No. R9-2004-001; Riverside County MS4 Permit. Section H.2.d)(3); P. 26.

storm water program evaluations.¹⁹⁶ It was observed that 12 Copermittees had deficiencies or potential permit violations in their industrial and commercial component. The inspection section received twice as many comments than any other requirement in the industrial/commercial program evaluation reports section. These changes in the Order mimic USEPA's guidance: "Site inspections should include (1) an evaluation of the pollution prevention plan and any other pertinent documents, and (2) an onsite visual inspection of the facility to evaluate the potential for discharges of contaminated storm water from the site and to assess the effectiveness of the pollution prevention plan."¹⁹⁷ In 1999, USEPA "recognized visual inspection as a baseline BMP for over 10 years," and "visual inspections are an effective way to identify a variety of problems. Correcting these problems can improve the water quality of the receiving water."¹⁹⁸

Section D.3.b.(3)(c) of the Order requires that at a minimum, 40% of the sites inventoried shall be inspected each year, including all sites determined to pose a high threat to water quality. This requirement maintains inspection frequencies and rates while allowing more flexibility for the Copermittees to decide where to conduct inspections. In the ROWD,¹⁹⁹ the Copermittees reported 18,017 industrial and commercial sources. In fiscal year 2002-2003, the Copermittees conducted 10,133 inspections, giving an inspection rate of 56%. In fiscal year 2003-2004, the Copermittees conducted 8,546 inspections giving an inspection rate of 47%. USEPA guidance²⁰⁰ says, "management programs should address minimum frequency for routine inspections." The USEPA Fact Sheet – Visual Inspection²⁰¹ says, "To be effective, inspections must be carried out routinely. This requires a corporate commitment to implementing them."

In their ROWD,²⁰² the Copermittees recommend, "The Permit should allow revision of mandated inspection requirements in accordance with demonstrated needs." The Copermittees "strongly discourage Permit requirements that seek to establish minimum levels of inspection activity." The Order includes the minimum level of inspection activity because without minimum levels, the Regional Board has no assurance that inspections of commercial and industrial sites will be conducted. Without inspections, the Copermittees would be unable to adequately verify that industrial and commercial sites are in compliance with their local storm water ordinances and regulations. Even though minimum inspection levels have been included, the Order allows enough flexibility to maximize the effectiveness of inspections by concentrating resources on industrial and commercial sites that are higher threats to water quality without neglecting other industrial and commercial sites. Further flexibility is provided in prioritizing inspections, as discussed next.

The Order no longer includes a section titled "Threat to Water Quality Prioritization." Rather, threat to water quality prioritization is incorporated within the inspection section. The Order requires several criteria to determine if a site is a high threat to water quality that needs an annual inspection. This change is identical to the requirements in the Southern Riverside County MS4 permit,²⁰³ except for the addition of a few criteria recommended in the Copermittees' ROWD.²⁰⁴ The Copermittees recommended criteria that are included in the Order are No Exposure

¹⁹⁶ Tetra Tech, Inc., 2002-05. Program Evaluation Reports – San Diego Area Storm Water Programs; July 23, 2002; December 13, 2002; December 26, 2002; April 8, 2003; December 17, 2003; June 11, 2004; January 31, 2005.

¹⁹⁷ USEPA, 1992. Guidance 833-8-92-002, section 6.3.3.4 "Inspection and Monitoring".

¹⁹⁸ USEPA, 1999. 832-F-99-046, "Storm Water Management Fact Sheet – Visual Inspection".

¹⁹⁹ San Diego County Copermittees, 2005. Report of Waste Discharge. Section D.5.

²⁰⁰ USEPA, 1992. Guidance 833-8-92-002, section 6.3.3.4 "Inspection and Monitoring".

²⁰¹ USEPA, 1999. 832-F-99-046, "Storm Water Management Fact Sheet – Visual Inspection".

²⁰² San Diego County Copermittees, 2005. Report of Waste Discharge. Section D.5.3.

²⁰³ Regional Board, 2004. Order No. R9-2004-001; Riverside County MS4 Permit. Section H.2.d)(1); P. 26.

²⁰⁴ San Diego County Copermittees, 2005. Report of Waste Discharge. Section D.5.1.

Certification / Notice of Non-Applicability, Compliance History, and Facility Design. “Existing Regulatory Oversight” is already included as a criterion in the Order as “Whether the site is subject to the Statewide Industrial Permit.” Self-certification status and Green Business Certification are not included in the Order because these certifications do not ensure that storm water is addressed. In the ROWD,²⁰⁵ the Copermittees recommend, “The Permit should allow re-prioritization of currently mandated minimum high priority industrial and commercial sources.” The Order has been modified to increase flexibility and allow the Copermittees to reprioritize sites as more information is learned about the sites’ potential threat to water quality.

In their ROWD²⁰⁶, the Copermittees recommend, “The Permit should allow and encourage alternatives to current inspection requirements.” They suggest utilizing non-inspection methods including self-certification, certified submission of monitoring results demonstrating that benchmarks have been met, third-party inspections, facility- or industry-specific surveys, and/or phone interviews. The proposed alternatives do not provide the same level of compliance oversight as inspections provide; therefore the Order includes such a section not as an alternative to inspections but in addition to inspections. The Order allows the use of these alternatives if they are determined to be necessary by the Copermittee.

Section D.3.b.(4) (Regulation of Mobile Businesses) is a new section. Mobile businesses are service industries that travel to the customer to perform the service rather than the customer traveling to the business to receive the service. Examples of mobile businesses are power washing, mobile vehicle washers, carpet cleaners, port-a-potty servicing, pool and fountain cleaning, mobile pet groomers, and landscapers. These mobile services produce waste streams that could potentially impact water quality if appropriate BMPs are not implemented. Mobile businesses present a unique difficulty in storm water regulation. Due to the transient nature of the business, the regular, effective practice of unannounced inspections is difficult to implement. Also, tracking these mobile businesses is difficult because they are often not permitted or licensed and their services cross Copermittee jurisdictions. The Order takes into account the difficulties in regulating mobile businesses. Only those mobile businesses that are known to operate within their jurisdiction are required to be inventoried and notified. The inventory shall be updated as additional mobile businesses are identified.

The Order requires that mobile businesses shall be inspected as needed. Inspections can be accomplished in response to complaints. Inspections can be scheduled through contacting the business. Impromptu inspections can be conducted if a Copermittee’s inspector observes a mobile business operating in the course of the inspector’s normal travels throughout their jurisdiction. In their ROWD,²⁰⁷ the Copermittees recommend, “Copermittees should increase their collaboration on the regulation of mobile businesses”. The Order allows but does not require collaboration among the Copermittees. Due to the Copermittee’s differences in watersheds, culture, ethnicity, ordinances, regulations, policies and procedures, Copermittee collaboration on regulating mobile businesses is left up to the Copermittees as they see fit.

Section D.3.b.(5) (Enforcement of Industrial and Commercial Sites/Sources) requires that inspectors have authority to conduct immediate enforcement actions when appropriate. Inspectors conducting immediate enforcement will quickly correct violations, thereby minimizing and preventing threats to water quality. When inspectors are unable to conduct immediate enforcement actions, the threat to water quality continues until an enforcement incentive is issued

²⁰⁵ Ibid. Section D.5.2.

²⁰⁶ Ibid. Section D.5.4

²⁰⁷ Ibid. Section D.5.5.

to correct the violation. In the municipal audits, Tetra Tech reported deficiencies where several Copermittees needed to ensure that their storm water inspectors have enforcement authority.²⁰⁸ In its Phase II Compliance Assistance Guidance, USEPA says that “Inspections give the MS4 operator an opportunity to additional guidance and education, issue warnings, or assess penalties.”²⁰⁹ In order to issue warnings and assess penalties during inspections, inspectors need to have the legal authority to conduct enforcement.

D.3.c. Residential

The following legal authority applies to section D.3.c:

Broad Legal Authority: CWA sections 402(p)(3)(B)(ii-iii), CWC section 13377, and Federal NPDES regulations 40 CFR 122.26(d)(2)(i)(B, C, E, and F) and 40 CFR 122.26(d)(2)(iv).

Specific Legal Authority: Federal NPDES regulation 40 CFR 122.26(d)(2)(iv)(A) provides that the Copermittee develop a proposed management program which includes “A description of structural and source control measures to reduce pollutants from runoff from commercial and residential areas that are discharged from the municipal storm sewer system that are to be implemented during the life of the permit, accompanied with an estimate of the expected reduction of pollutant loads and a proposed schedule for implementing such controls.”

Federal NPDES regulation 40 CFR 122.44(d)(1)(i) requires NPDES permits to include limitations to “control all pollutants or pollutant parameters (either conventional, nonconventional, or toxic pollutants) which the Director determines are or may be discharged at a level which will cause, have reasonable potential to cause, or contribute to an excursion above any State water quality standard, including State narrative criteria for water quality.”

Section D.3.c.(2)(b) of the Order moves the residential pollution prevention requirements together with the other BMP requirements in order to improve the organization of the Order. This change has no net effect on the implementation and enforcement of the Order.

Section D.3.c.(2)(c) of the Order moves the requirement for proper management of used oil, toxic materials, and other household hazardous wastes to the residential section of the Order, since this requirement generally applies to residents. This change improves the organization of the Order, and has no net effect on its implementation and enforcement.

Section D.3.c.(4) (Regional Residential Education Program) of the Order requires each Copermittee to participate in a Regional Residential Education Program. An education program specifically targeting residential sources is needed due to the fact that residential housing units encompass the largest category of specific sources in San Diego County and have been identified by the Copermittees as a regional priority source. Moreover, the Copermittees recommend in their ROWD that such a program be developed. Section F.7 of the Order, which is referenced in section D.3.c.(4), expands on the Regional Residential Education Program requirements by requiring that the program focus on bacteria, nutrients, sediment, pesticides, and trash. This is appropriate for a regional education program, since the Copermittees have identified these constituents as regional priorities.

²⁰⁸ Tetra Tech, Inc., 2002-05. Program Evaluation Reports – San Diego Area Storm Water Programs.

²⁰⁹ USEPA, 2000. Storm Water Phase II Compliance Assistance Guide. 833-R-00-002. P. 4-31.

D.4. Illicit Discharge Detection and Elimination

The following legal authority applies to section D.4:

Broad Legal Authority: CWA sections 402(p)(3)(B)(ii-iii), CWC section 13377, and Federal NPDES regulations 40 CFR 122.26(d)(2)(i)(B, C, E, and F) and 40 CFR 122.26(d)(2)(iv).

Specific Legal Authority: Federal NPDES regulations 40 CFR 122.26(d)(2)(iv)(B) provides that the proposed management program “shall be based on a description of a program, including a schedule, to detect and remove (or require the discharger to the municipal storm sewer to obtain a separate NPDES permit for) illicit discharges and improper disposal into the storm sewer.”

Federal NPDES regulation 40 CFR 122.26(d)(2)(iv)(B)(1) provides that the Copermittee include in its proposed management program “a program, including inspections, to implement and enforce an ordinance, orders or similar means to prevent illicit discharges to the municipal storm sewer system.”

Federal NPDES regulation 40 CFR 122.26(d)(2)(iv)(B)(2) provides that the Copermittee include in its proposed management program “a description of procedures to conduct on-going field screening activities during the life of the permit, including areas or locations that will be evaluated by such field screens.”

Federal NPDES regulation 40 CFR 122.26(d)(2)(iv)(B)(3) provides that the Copermittee include in its proposed management program “procedures to be followed to investigate portions of the separate storm sewer system that, based on the results of the field screen, or other appropriate information, indicate a reasonable potential of containing illicit discharges or other sources of non-storm water.”

Federal NPDES regulations 40 CFR 122.26(d)(2)(iv)(B)(4) provides that the Copermittee include in its proposed management program “a description of procedures to prevent, contain, and respond to spills that may discharge into the municipal separate storm sewer.”

Federal NPDES regulations 40 CFR 122.26(d)(2)(iv)(B)(5) provides that the Copermittee include in its proposed management program “a description of a program to promote, publicize, and facilitate public reporting of the presence of illicit discharges or water quality impacts associated with discharges from municipal separate storm sewers.”

Federal NPDES regulations 40 CFR 122.26(d)(2)(iv)(B)(6) provides that the Copermittee include in its proposed management program “a description of educational activities, public information activities, and other appropriate activities to facilitate the proper management and disposal of used oil and toxic materials.”

Federal NPDES regulations 40 CFR 122.26(d)(2)(iv)(B)(7) provides that the Copermittee include in its proposed management program “a description of controls to limit infiltration of seepage from municipal sanitary sewers to municipal separate storm sewer systems where necessary.”

Section D.4.a (Illicit Discharges and Connections) requires the Copermittees to implement a program to actively seek and eliminate illicit connections and discharges (IC/ID). Additional wording has been added to this section to clarify and ensure that all appropriate (i.e., field personnel) municipal personnel are utilized in the program to observe and report these illicit discharges and connections.

Section D.4.b (Develop/Maintain MS4 Map) requires the Copermittees to develop or obtain a map of their entire MS4 system and drainages within their jurisdictions. To provide clarification to the Order, this requirement has been moved to the IC/ID component of the Order from the Dry Weather Field Screening and Analytical Monitoring Specifications (Attachment E in previous Order No. 2001-01).

Section D.4.d (Investigation/Inspection and Follow-Up) requires the Copermittees to conduct follow up investigations and inspect portions of the MS4 for illicit discharges and connections, based on dry weather field screening and analytical monitoring results. The section also requires the Copermittees to establish criteria for triggering follow up investigations. Additional language has been added to this section to clarify the minimum level of effort and timeframes for follow up investigations when dry weather action levels (developed by the Copermittees) are exceeded. Timely investigation and follow up when action levels are exceeded is necessary to identify sources of illicit discharges, especially since many of the discharges are transitory. The requirements for a 48-hour minimum response time when action levels are exceeded and for immediate response to obvious illicit discharges is necessary to ensure timely response by the Copermittees.

In its October 29, 2004 letter to the Copermittees, as well as in subsequent meetings, the Regional Board notified Copermittees that standardized procedures were necessary to ensure timely IC/ID investigations. In the ROWD, the Copermittees state that procedures for dry weather programs should not be standardized and that a minimum response timeframe would hamper their efforts to prioritize and respond to IC/IDs. However, the purpose of the dry weather action levels is to help the Copermittees prioritize and investigate the most likely IC/IDs. Sampling locations that exceed these action levels warrant timely investigation/response, and the minimum time frames in the requirements are reasonable. The Copermittees may also determine that the exceedances do not pose a threat to water quality and therefore do not warrant further investigation. The rationale for no further action for dry weather sampling stations that exceed action levels would be reported in the Jurisdictional Urban Runoff Management Program Annual Report.

D.5. Education Component

The following legal authority applies to section D.5:

Broad Legal Authority: CWA sections 402(p)(3)(B)(ii-iii), CWC section 13377, and Federal NPDES regulations 40 CFR 122.26(d)(2)(i)(B, C, E, and F) and 40 CFR 122.26(d)(2)(iv).

Specific Legal Authority: Federal NPDES regulation 40 CFR 122.26(d)(2)(iv)(A)(6) provides that the proposed management program include "A description of a program to reduce to the maximum extent practicable, pollutants in discharges from municipal separate storm sewers associated with the application of pesticides, herbicides, and fertilizer which will include, as appropriate, controls such as educational activities, permits, certifications, and other measures for commercial applicators and distributors, and controls for application in public right-of-ways and at municipal facilities."

Federal NPDES regulation 40 CFR 122.26(d)(2)(iv)(B)(6) provides that the proposed management program include "A description of educational activities, public information activities, and other appropriate activities to facilitate the proper management and disposal of used oil and toxic materials."

Federal NPDES regulation 40 CFR 122.26(d)(2)(iv)(D)(4) provides that the proposed management program include “A description of appropriate educational and training measures for construction site operators.”

Section D.5 includes an introductory paragraph that is the same as in Order No. 2001-01, except for the removal of Quasi-Governmental Agencies/ Districts. The Copermittees’ ROWD recommends elimination of the requirement to educate quasi-governmental entities.²¹⁰

Section D.5.a (General Requirements) includes education topics from the existing permit with some minor wording and formatting changes. The Copermittees’ ROWD recommends that the Copermittees should focus educational efforts on the most important constituents and not on a list of topics.²¹¹ The Regional Board agrees with the focused efforts, but a list of topics is needed to provide a goal of basic storm water knowledge. The Copermittees can choose how and to what degree to address these topics. Copermittees may decide to focus on some topics and not on others. Some topics may be more important for certain target communities or watersheds.

The Regional Board has incorporated the following recommendation from the Copermittees’ ROWD into the permit: “Copermittee educational programs should emphasize underserved target audiences, high-risk behaviors, and “allowable” behaviors and discharges.”²¹² In conducting audits of the Copermittees’ storm water program, Tetra Tech found that several of the Copermittees could improve education of specific target audiences with pollutant-specific educational campaigns, messages, or technical guidance.²¹³

Section D.5.b (Specific Requirements) requires the Copermittees to educate their own departments and personnel. The new development and redevelopment as well as the municipal construction education requirements were taken from Order No. 2001-01 with some minor wording changes. Additional clarification was added regarding storm water management plans and SUSMP requirements due to deficiencies found during the SUSMP audits. The Regional Board considers it vital for the Copermittees’ planning and development staff, who have a broad authority and influence over new and redevelopment projects, to thoroughly understand storm water management plan development and SUSMP requirements. Municipal construction staff also need a thorough understanding of SUSMP requirements to adequately oversee active construction projects which are implementing SUSMPs.

A new requirement has also been added for education of activity specific BMPs for municipal personnel and contractors performing activities that generate pollutants. Education is required at all levels of municipal staff and contractors. Education is especially important for the staff in the field performing activities which might result in discharges of pollutants if proper BMPs are not used. The CASQA Municipal Handbook states that successful implementation of BMPs is dependent on “Effective training of municipal and contract employees working in both fixed facilities and field programs.”²¹⁴ This training can be conducted in either a formal or an informal tail-gate format.

Section D.5.b.(2) (New Development and Construction Education) requires the Copermittees to educate all project applicants, developers, contractors, property owners, community planning

²¹⁰ San Diego County Copermittees, 2005. Report of Waste Discharge. P. D-57.

²¹¹ Ibid. P. D-52.

²¹² Ibid. P. D-53.

²¹³ Tetra Tech, Inc., 2002-03. Program Evaluation Reports -- San Diego Area Stormwater Program.

²¹⁴ California Stormwater Quality Association, 2003. Stormwater Best Management Practices Handbook, Municipal. P. 5-1

groups, and other responsible parties about stormwater issues and BMPs, including annual training before the rainy season. The first requirement is taken from the existing permit sections on new development and construction, with some minor wording changes and an additional topic at the end to recognize the importance of training for field level construction workers. Different levels of training will be needed for planning groups, owners, developers, contractors, and construction workers, but everyone should get a general education of stormwater requirements. Education of all construction workers can prevent unintentional discharges, such as discharges by workers who are not aware that they are not allowed to wash things down the storm drains. Training for BMP installation workers is imperative because the BMPs will fail if not properly installed and maintained.²¹⁵ Training for field level workers can be formal or informal tail-gate format.

Section D.5.b.(3) (Residential, General Public, and School Children Education) requires the Copermittees to collaboratively develop and implement a plan to educate residential, general public, and school children through use of mass media, mailers, door hangers, booths at public events, classroom education, field trips, hands-on experiences, or other educational methods. USEPA supports education of the general community when it states: “An informed and knowledgeable community is critical to the success of a storm water management program since it helps ensure the following:

Greater support for the program as the public gains a greater understanding of the reasons why it is necessary and important. [...]

Greater compliance with the program as the public becomes aware of the personal responsibilities expected of them and others in the community, including the individual actions they can take to protect or improve the quality of area waters.”²¹⁶

Regarding target audiences, USEPA also finds that “The public education program should use a mix of appropriate local strategies to address the viewpoints and concerns of a variety of audiences and communities, including minority and disadvantaged communities, as well as children.”²¹⁷ The SWRCB TAC also supports education of schoolchildren, stating:

“Target Audiences should include:

1. Government: Educate government agencies and officials to achieve better communication, consistency, collaboration, and coordination at the federal, state and local levels.
2. K-12/Youth Groups: Establish statewide education programs, including curricula, on watershed awareness and nonpoint source pollution problems and solutions, based on a state lead role building upon and coordinating with existing local programs.
3. Development Community: Educate the development community, including developers, contractors, architects, and local government planners, engineers, and inspectors, on nonpoint source pollution problems associated with development and redevelopment and construction activities and involve them in problem definitions and solutions.
4. Business and Industrial Groups.”²¹⁸

²¹⁵ Ibid P.2-6.

²¹⁶ USEPA, 2000. Storm Water Phase II Compliance Assistance guide. EPA 833-R-00-002.

²¹⁷ Ibid.

²¹⁸ SWRCB, 1994. Urban Runoff Technical Advisory Committee Report and Recommendations. Nonpoint Source Management Program.

D.6 Public Participation

The following legal authority applies to section D.6:

Broad Legal Authority: CWA sections 402(p)(3)(B)(ii-iii), CWC section 13377, and Federal NPDES regulations 40 CFR 122.26(d)(2)(i)(B, C, E, and F) and 40 CFR 122.26(d)(2)(iv).

No significant changes have been made to this section of the Order.

E. Watershed Urban Runoff Management Program

The following legal authority applies to section E:

Broad Legal Authority: CWA sections 402(p)(3)(B)(ii-iii), CWC section 13377, and Federal NPDES regulations 40 CFR 122.26(d)(2)(i)(B, C, E, and F) and 40 CFR 122.26(d)(2)(iv).

Specific Legal Authority: Federal NPDES regulation 40 CFR 122.26(a)(3)(ii) states: “The Director may [...] issue distinct permits for appropriate categories of discharges [...] including, but not limited to [...] all discharges within a system that discharge to the same watershed [...]”

Federal NPDES regulations 40 CFR 122.26(a)(3)(v) states: “Permits for all or a portion of all discharges from large or medium municipal separate storm sewer systems that are issued on a system-wide, jurisdiction-wide, watershed, or other basis may specify different conditions relating to different discharges covered by the permit, including different management programs for different drainage areas [watersheds] which contribute storm water to the system.”

Federal NPDES regulation 40 CFR 122.26(a)(5) states: “The Director may issue permits for municipal separate storm sewers that are designated under paragraph (a)91(v) of this section on a system-wide basis, a jurisdiction-wide basis, watershed basis, or other appropriate basis.”

Federal NPDES regulation 40 CFR 122.26(d)(2)(iv) states: “Proposed programs may impose controls on a systemwide basis, a watershed basis, a jurisdiction basis, or on individual outfalls.”

Section E.2.b of the Order requires the Copermittees to develop a watershed map. The section has been slightly modified from Order No. 2001-01 in that it no longer requires mapping of inventoried construction sites. The reason for this change is the temporary nature of construction sites. The location of construction sites is constantly changing, making the mapping of construction sites not useful.

Section E.2.c of the Order requires identification and description of available water quality data for each watershed. The minimum types of water quality data the Copermittees must consider are listed. For the most part, the listed types of water quality data match the types of data already used by the Copermittees for watershed management. Additional types of monitoring to be considered have been added, such as toxic hot spot and TMDL monitoring, because of their potential to provide useful information during identification and prioritization of watershed water quality problems. The listing of data types is necessary because the Copermittees have previously not used all available watershed water quality data while assessing watershed conditions. For example, in a March 10, 2003 letter, the Regional Board directed the Copermittees to utilize additional available data during WURMP implementation because initial Copermittee data use was limited.

Sections E.2.d and E.2.e of the Order require assessment and analysis of water quality data to prioritize each watershed's water quality problems, together with identification of the sources of the high priority water quality problems. These requirements are essentially the same as the requirements of Order No. 2001-01; they have simply been reorganized to more clearly convey the process required.

Section E.2.f of the Order requires the Copermittees to develop a list of Watershed Water Quality Activities for potential implementation. This requirement developed over time while working with the Copermittees on their WURMP implementation under Order No. 2001-01. In October 2004 letters, the Regional Board recommended the Copermittees develop a list of Watershed Water Quality Activities for potential implementation. Following receipt of the Regional Board letters, the Copermittees created Watershed Water Quality Activity lists. Although the Copermittees' lists needed improvement, the Regional Board found the lists to be useful planning tools that can be evaluated to identify effective and efficient Watershed Water Quality Activities. Because the lists are useful and have become a part of the WURMP implementation process, a requirement for their development has been written into the Order.

The goal of the WURMPs is to abate sources and reduce pollutant discharges causing the high priority water quality problems within a watershed. For this reason, it is required that the Watershed Water Quality Activity list describes how each Watershed Water Quality Activity will meet this goal.

Section E.2.g of the Order requires the Copermittees within a watershed to develop a strategy for implementation of Watershed Water Quality Activities and Watershed Education activities. The requirement for development of an implementation strategy is necessary because it should guide effective implementation of watershed activities. Moreover, it has been found that many of the Copermittees' current Watershed Water Quality Activities have no clear connection to the high priority water quality problems within the watersheds where they are being implemented. For example, when reviewing the 2003-2004 Watershed Urban Runoff Management Program Annual Report for the San Diego River, the Regional Board found that for several of the Watershed Water Quality Activities being implemented, it is "unclear what the connection is between this project and the identified high priority water quality problems in the watershed."²¹⁹ Similar findings were also noted during Regional Board review of the 2002-2003 Watershed Urban Runoff Management Program Annual Reports and issuance of corresponding comment letters.

Section E.2.h of the Order requires the Copermittees to evaluate the effectiveness of proposed activities. This will help the Copermittees choose the most effective activities for implementation. Implementation of effective activities is critical to ensure an effective Watershed Urban Runoff Management Program.

Section E.2.i of the Order requires each Copermittee to implement a certain number of Watershed Water Quality Activities annually. In crafting this section of the Order and the Watershed Water Quality Activity definition, the Regional Board sought to obtain a balance between the enforceability of the Order and Copermittee flexibility in implementing the Order.

So that the section is enforceable, it requires each Copermittee to implement a minimum number of Watershed Water Quality Activities which will directly and significantly abate sources and reduce pollutant discharges causing the high priority water quality problems within a watershed.

²¹⁹ Regional Board, 2005. Review of Notices of Violation Issued to the San Diego County Copermittees for Watershed Urban Runoff Management Program Implementation.

This requirement provides measurable outcomes for WURMP implementation. WURMP measurable outcomes are needed in the Order because the Regional Board previously found that Copermittee implementation of Watershed Water Quality Activities was inadequate over the course of several years, despite several Regional Board efforts to precipitate improvement. The Regional Board issued comment letters in March 2003, California Water Code section 13267 information request letters in October 2004, and Notices of Violation in June 2005, all in an attempt to improve the Copermittees' implementation of Watershed Water Quality Activities that would effectively reduce discharges of pollutants causing the watersheds' high priority water quality problems. In addition, in a detailed review of the Copermittees' 2003-2004 Watershed Urban Runoff Management Program Annual Reports, the Regional Board found that for most watersheds, the Copermittees' reported "water quality activities" would not result in any significant reduction of pollutant discharges.²²⁰

Despite these efforts and findings by the Regional Board, the majority of the Copermittees contended as a group that their WURMP implementation was adequate and that they were in compliance with Order No. 2001-01's WURMP requirements. The Copermittees' position exhibits the lack of clarity and unenforceability of Order No. 2001-01's language regarding implementation of Watershed Water Quality Activities. To rectify this situation and ensure that WURMP implementation actually results in pollutant discharge reductions, a requirement for measurable outcomes has been added to the Order in the form of a minimum number of Watershed Water Quality Activities to be implemented which must reduce the discharge of pollutants and abate pollutant sources.

While section J.1.h specifically requires implementation of a measurable number of Watershed Water Quality Activities, the section and the Watershed Water Quality Activity definition also provide significant flexibility to the Copermittees regarding what constitutes a Watershed Water Quality Activity. The bottom line requirements for Watershed Water Quality Activity is that they reduce pollutant discharges causing high priority water quality problems within a watershed and exceed the baseline jurisdictional requirements. Beyond these bottom line requirements, the Copermittees have ample implementation flexibility. For example, both jurisdictional and regional activities in some circumstances can be considered Watershed Water Quality Activities. The same is true for TMDL activities. In addition, Copermittees can implement Watershed Water Quality Activities within their jurisdictions or outside of their jurisdictions; whichever they prefer. Moreover, Copermittees within a watershed can implement different Watershed Water Quality Activities, provided they are part of the watershed Copermittees' larger watershed strategy.

Details regarding what constitutes a Watershed Water Quality Activity are included in the definition section of the Order. The definition was written to clarify the following points:

- A Watershed Water Quality Activity must abate the sources and/or reduce the discharge of pollutants causing high priority water quality problems in the watershed. Activities that do not specifically abate sources and/or reduce pollutant discharges causing high priority water quality problems in a watershed are not Watershed Water Quality Activities.
- Watershed Water Quality Activities must implement an overall watershed strategy collaboratively developed by the Copermittees within a watershed.

²²⁰ Regional Board, 2005. Supplemental Report for Review of Notices of Violation Issued to the San Diego County Copermittees for Watershed Urban Runoff Management Program Implementation. P. 5-14.

- Jurisdictional activities which exceed the baseline jurisdictional requirements may constitute Watershed Water Quality Activities, if they are more protective of water quality than baseline jurisdictional activities. Such activities must specifically abate sources and/or reduce the discharge of pollutants causing high priority water quality problems within a watershed. The jurisdictional activities must be organized and implemented as part of a larger watershed strategy.
- Specific Watershed Water Quality Activities do not need to be implemented watershed-wide, but all Copermittees within a watershed must implement well-coordinated Watershed Water Quality Activities.
- Watershed Water Quality Activities must be new activities; activities that have been conducted for many years without regard for watershed concerns are not Watershed Water Quality Activities. Moreover, as high priority water quality problems within watersheds continue, efforts to implement new and more effective activities are needed.
- Education, public participation, and planning efforts are not Watershed Water Quality Activities.
- Activities that only consist of monitoring are not Watershed Water Quality Activities. There must also be an element of the monitoring program that directly results in the abatement of sources and/or reduction of pollutant discharges causing high priority water quality problems.

This section of the Order also splits the implementation of Watershed Water Quality Activities into two categories. The first category requires implementation on an annual basis. This helps ensure meaningful and consistent implementation and allows for the use of measurable outcomes. The second category recognizes that not all Watershed Water Quality Activities lend themselves to annual implementation. The Copermittees are provided significant flexibility in taking the steps necessary to implement long-term Watershed Water Quality Activities, since no time frame for implementation is dictated.

Sections E.2.j and E.2.k of the Order require development of a list of potential Watershed Education Activities and implementation of a portion of those activities. Specific implementation of Watershed Education Activities in each jurisdiction within a watershed is being required due to the Regional Board's findings that previous Copermittee reporting often has not exhibited implementation of watershed and pollutant specific education activities. Moreover, the Regional Board has found from the Copermittees' reporting that regional education efforts are not always implemented in all watersheds. These findings have been documented in the Regional Board's Watershed Urban Runoff Management Program Annual Report review letters, which were issued in March 2003 and October 2004.

Implementation of Watershed Education Activities has been split into two categories, in order to represent two types of education pertaining to watershed management of urban runoff. During the previous permit cycle, the Copermittees primarily focused on watershed concept-based education activities. These efforts should proceed, but as high priority water quality problems and impairments within watersheds continue, source and pollutant discharge-based education efforts are also needed. The two categories of Watershed Education Activities provided in the Order ensure that both types of watershed education are conducted.

Section E.2.l of the Order includes minor alterations from Order No. 2001-01 which encourage the Copermittees to seek participation in the WURMP process from other potential interested parties. Increased participation in the WURMP process by interested parties can improve support for WURMP implementation, increasing the probability of implementation of effective programs.

Section E.2.m of the Order requires Copermittee collaboration, including frequent regularly scheduled meetings. The requirement for regularly scheduled meetings has been added based on Regional Board findings that watershed groups which hold regularly scheduled meetings (such as for San Diego Bay) typically produced better programs and work products than watershed groups that went for extended periods of time without scheduled meetings (such as San Dieguito and Los Penasquitos). For example, in their 2002-2003 Annual Reports, the San Dieguito and Los Penasquitos watersheds listed implementation of the same watershed activities, despite the fact that the two watersheds have different high priority water quality problems.

F. Regional Urban Runoff Management Program

The following legal authority applies to section F:

Broad Legal Authority: CWA sections 402(p)(3)(B)(ii-iii), CWC section 13377, and Federal NPDES regulations 40 CFR 122.26(d)(2)(i)(B, C, E, and F) and 40 CFR 122.26(d)(2)(iv).

Specific Legal Authority: Federal NPDES regulation 40 CFR 122.26(d)(2)(i)(D) provides that “[The Copermittee must demonstrate that it can control] through interagency agreements among coapplicants the contribution of pollutants from one portion of the municipal system to another portion of the municipal system.”

Federal NPDES regulations 40 CFR 122.26(a)(3)(v) states: “Permits for all or a portion of all discharges from large or medium municipal separate storm sewer systems that are issued on a system-wide, jurisdiction-wide, watershed, or other basis may specify different conditions relating to different discharges covered by the permit, including different management programs for different drainage areas [watersheds] which contribute storm water to the system.”

Federal NPDES regulation 40 CFR 122.26(a)(5) states: “The Director may issue permits for municipal separate storm sewers that are designated under paragraph (a)91)(v) of this section on a system-wide basis, a jurisdiction-wide basis, watershed basis, or other appropriate basis.”

Federal NPDES regulation 40 CFR 122.26(d)(2)(iv) states: “Proposed programs may impose controls on a systemwide basis, a watershed basis, a jurisdiction basis, or on individual outfalls.”

Section F of the Order requires the Copermittees to develop a Regional Urban Runoff Management Program to facilitate Copermittee implementation of urban runoff management activities on a regional level. The requirement has been included in the Order because of the recognition that some aspects of urban runoff management can be effectively addressed at a regional level. Residential education and implementation of TMDLs covering multiple watersheds are examples of urban runoff issues which can be addressed regionally, since the scope of these issues are not limited to particular jurisdictions or watersheds. Such regional implementation provides opportunities for improved efficiency and utilization of economies of scale.

The Copermittees' ROWD identifies regional urban runoff management as an important aspect of their programs.²²¹ This requirement for the development of a regional urban runoff management program provides organization and structure for both the Copermittees and Regional Board to track regional efforts. The requirements include continuation of existing regional efforts and identify additional areas for regional implementation. However, significant flexibility has been provided to the Copermittees for new regional requirements. Typically, implementation of such regional requirements is required only where it is determined to be necessary by the Copermittees.

G. Fiscal Analysis

The following legal authority applies to section G:

Broad Legal Authority: CWA sections 402(p)(3)(B)(ii-iii), CWC section 13377, and Federal NPDES regulations 40 CFR 122.26(d)(2)(i)(B, C, E, and F) and 40 CFR 122.26(d)(2)(iv).

Specific Legal Authority: Federal NPDES regulation 40 CFR 122.26(d)(2)(vi) provides that “[The Copermittee submit] for each fiscal year to be covered by the permit, a fiscal analysis of the necessary capital and operation and maintenance expenditures necessary to accomplish the activities of the programs under paragraphs (d)(2)(iii) and (iv) of this section. Such analysis shall include a description of the source of funds that are proposed to meet the necessary expenditures, including legal restrictions on the use of such funds.”

Section G has been expanded to achieve better consistency between the Copermittees in reporting budget and expenditure information. The section also requires clarification regarding which expenditures are solely attributable to the urban runoff program, as opposed to those expenditures which are also partially attributable to other programs (such as trash collection and street sweeping). Consistency and clarification of fiscal information are valuable for assessing program effectiveness and adapting programs to help ensure that they are efficient and effective, which is one important purpose of the fiscal analysis.

This section also requires the Copermittees to develop and use a metric for fiscal analysis reporting. This provides standardization of reporting so that figures between Copermittees are comparable, which is one of many types of information which can be used by the Regional Board to better understand Copermittee program implementation. Standardization and comparison of fiscal analysis reporting is supported by the State Board funded NPDES Stormwater Cost Survey, which finds that “standards for reporting costs and stormwater activities are needed to allow accurate cost comparisons to be made between stormwater activities.”²²² This document also provides guidance regarding categorization of expenditures for tracking and reporting.

H. Total Maximum Daily Loads

The following legal authority applies to section H:

Broad Legal Authority: CWA sections 402(p)(3)(B)(ii-iii), CWC section 13377, and Federal NPDES regulations 40 CFR 122.26(d)(2)(i)(B, C, E, and F) and 40 CFR 122.26(d)(2)(iv).

²²¹ San Diego County Copermittees, 2005. Report of Waste Discharge. P. C-12.

²²² Currier, et al., 2005. NPDES Storm Water Cost Survey Final Report. Prepared for California State Water Resources Control Board by Office of Water Programs, California State University, Sacramento. P. 63.

Specific Legal Authority: Federal NPDES regulation 40 CFR 122.44(d)(1) requires municipal storm water permits to include any requirements necessary to “[a]chieve water quality standards established under section 303 of the CWA, including State narrative criteria for water quality.”

Federal NPDES regulation 40 CFR 122.44(d)(1)(i) requires NPDES permits to include limitations to “control all pollutants or pollutant parameters (either conventional, nonconventional, or toxic pollutants) which the Director determines are or may be discharged at a level which will cause, have reasonable potential to cause, or contribute to an excursion above any State water quality standard, including State narrative criteria for water quality.”

Section H of the Order incorporates the two TMDLs that have been fully approved and are effective for the Copermittees. These TMDLs are for diazinon in Chollas Creek and for dissolved copper in SIYB.

Where a TMDL has been approved, NPDES permits must contain effluent limitations and conditions consistent with the requirements and assumptions in the TMDL.²²³ Effluent limitations are generally expressed in numerical form. However, USEPA recommends that for NPDES-regulated municipal and small construction storm water discharges, effluent limitations should be expressed as best management practices or other similar requirements rather than as numeric effluent limitations.²²⁴ Consistent with USEPA’s recommendation, this section implements WQBELs expressed as an iterative BMP approach capable of meeting the WLAs in accordance with the associated compliance schedule. The Order’s WQBELs include the numeric WLA as a performance standard and not as an effluent limitation. The WLA can be used to assess if additional BMPs are needed to achieve the TMDL Numeric Target in the waterbody.

Section H.1.a requires the Copermittees to implement BMPs capable of achieving the WLAs for diazinon in the storm drains in accordance with the Compliance Schedule. This requirement is consistent with the USEPA memorandum dated November 22, 2002, which states that NPDES permit conditions must be consistent with the assumptions and requirements of available WLAs.²²⁵

Section H.1.b requires that the Copermittees not cause or contribute to violations of the Interim TMDL Numeric Targets for diazinon in Chollas Creek. This requirement is necessary to ensure the effectiveness of the BMPs. The BMPs for diazinon control consist primarily of a phase out of the legal uses of diazinon and education and public outreach. Due to the difficulty in measuring the effectiveness of these BMPs directly, an indirect assessment method is necessary in the form of a receiving water limit.

Section H.1.c requires the Copermittees to implement the Diazinon Toxicity Control Plan and Diazinon Public Outreach / Education Program as described in the report titled, *Technical Report for Total Maximum Daily Load for Diazinon in Chollas Creek Watershed, San Diego County*, August 14, 2002, to achieve the WLA. These BMPs are expected to be effective based on the current monitoring in Chollas Creek which shows dramatically decreasing levels of diazinon in the water column.²²⁶

²²³ 40 CFR 122.44(d)(1)(vii)(B)

²²⁴ USEPA, 2002. Establishing Total Maximum Daily Load (TMDL) Wasteload Allocations (WLAs) for Storm Water Sources and NPDES Permit Requirements Based on Those WLAs. P. 4.

²²⁵ Ibid.

²²⁶ Chollas Creek Copermittees, 2006. Response to Monitoring in Chollas Creek, Investigation Order No. R9-2004-0277, Proposition 13, PRISM Grant Agreement No. 04-17-559-0, San Diego Region, Integrated Pest Management

Compliance with Section H.1.a and c will be assessed with the WURMP annual reports, which will include a description of all TMDL activities implemented in the watershed and an effectiveness assessment of those activities. Compliance with Section H.1.b will be assessed using the monitoring data collected pursuant to the existing Investigation Order No. R9-2004-0277, *California Department of Transportation and San Diego Municipal Separate Storm Sewer System Copermittees Responsible for the discharge of Diazinon in the Chollas Creek Watershed, San Diego, California* (Investigation Order). This Investigation Order requires water column samples to be collected at two locations and analyzed for diazinon during three storms annually. Water column samples will also be analyzed for total and dissolved copper, lead, and zinc, and hardness. Acute and chronic toxicity tests will be conducted using the water flea for samples from each of these storm events at these two locations. Concentrations of diazinon in sediment at three locations will also be evaluated.

The diazinon water column values obtained from the Investigation Order R9-2004-0277 sampling will be compared with the Interim TMDL Numeric Target adjusted for the time schedule as shown below:

Calendar Year	Year	Waste Load Allocation	Interim TMDL Numeric Target	% Reduction
2004	1	0.460 µg/L	0.5 µg/L	0
2005	2	0.460 µg/L	0.5 µg/L	0
2006	3	0.460 µg/L	0.5 µg/L	0
2007	4	0.414 µg/L	0.45 µg/L	10
2008	5	0.322 µg/L	0.35 µg/L	20
2009	6	0.184 µg/L	0.20 µg/L	30
2010	7	0.045 µg/L	0.05 µg/L	30

Chollas Creek Diazinon TMDL - Background

Chollas Creek was placed on the CWA section 303(d) List of Water Quality Limited Segments (303(d) List) in 1996 for toxicity. The pesticide diazinon was found to be causing the toxicity. The Regional Board has established a TMDL for diazinon to address the toxicity as required by the CWA for water quality limited segments at the August 14, 2002 Regional Board meeting. The State Water Resources Control Board approved the TMDL on July 16, 2003. The Office of Administrative Law approved the TMDL on September 11, 2003. USEPA approved the TMDL on November 3, 2003. Documentation for the Chollas Creek Diazinon TMDL is in the report titled, "Technical Report for Total Maximum Daily Load for Diazinon in Chollas Creek Watershed, San Diego County, August 14, 2002."

The Chollas Creek diazinon TMDL is a concentration based TMDL determined from the CDFG's Water Quality Criteria (WQC) for the protection of freshwater aquatic organisms from diazinon. Using a margin of safety (MOS) of 10%, the TMDL is equal the WLA plus the MOS. The TMDL Numeric Targets and WLA derived from the CDFG WQC are shown in the table below.

TMDL Numeric Targets and Waste Load Allocation for Diazinon Acute and Chronic Conditions

Exposure Duration	TMDL Numeric Targets	Margin of Safety	Waste Load and Load Allocations
Acute	0.08 µg/L	0.008 µg/L	0.072 µg/L
Chronic	0.05 µg/L	0.005 µg/L	0.045 µg/L

A compliance schedule for achieving the WLAs was established by the Regional Board Executive Officer on September 30, 2004. This compliance schedule uses an exponential approach to reduction that involves an increasing percent reduction over a 7-year period to meet the objectives. This percent reduction established for WLA in the September 2004 compliance schedule was used to calculate the Interim TMDL Numeric Targets shown in the table below:

Compliance Schedule for Diazinon TMDL Implementation

Calendar Year	Year	Waste Load Allocation	Interim TMDL Numeric Target	% Reduction
2004	1	0.460 µg/L	0.5 µg/L	0
2005	2	0.460 µg/L	0.5 µg/L	0
2006	3	0.460 µg/L	0.5 µg/L	0
2007	4	0.414 µg/L	0.45 µg/L	10
2008	5	0.322 µg/L	0.35 µg/L	20
2009	6	0.184 µg/L	0.20 µg/L	30
2010	7	0.045 µg/L	0.05 µg/L	30

The WLAs shall not be exceeded more than 1 time in any 3-year period. Season and flow conditions will not be a consideration.

Section H.2.a requires the Copermittees in the SIYB watershed to implement BMPs to maintain a total annual copper load of less than or equal to 30 kg copper/year.

Section H.2.b requires the Copermittees in the SIYB watershed to implement, at a minimum, the BMPs contained in the Copermittees' JURMP which address the discharge of copper to achieve the total annual copper load in Section H.2.a above. The WLA was established to maintain the current discharge level of 30 kg copper/year which leads to the conclusion that the current BMPs being implemented in the Copermittees' JURMP will be effective in maintaining this discharge level. Compliance with these requirements will be assessed by re-evaluating the data and assumptions used to estimate the WLA to SIYB of 30 kg copper/year. The Copermittees will be required to evaluate if any changes have occurred in the watershed which could cause or contribute to a higher copper urban runoff discharge and any actions necessary to address these changes. Because the original WLA for municipalities in SIYB was calculated using land use data, drainage area size, event mean concentration and modeling with no actual water quality samples, it is appropriate to use the same or similar method to assess compliance.

SIYB Copper TMDL - Background

SIYB is a popular recreational marina located at the north end of San Diego Bay. It is a semi-enclosed marina that supports a high density of recreational vessels in an area of low tidal flushing. The SIYB watershed is within the City of San Diego. SIYB was placed on the CWA Section 303(d) List of Water Quality Limited Segments (303(d) List) in 1996 due to high concentrations of dissolved copper. The Regional Board has established a TMDL for dissolved copper in SIYB as required by the CWA at the February 9, 2005 Regional Board meeting. The SWRCB approved resolution R9-2005-0019 on September 22, 2005. The Office of Administrative Law approved the TMDL on December 2, 2006 and Resolution R9-2005-0019

has been forwarded to USEPA for final review and approval. Documentation for the SIYB Copper TMDL is included in the report titled, "Total Maximum Daily Load for Dissolved Copper in Shelter Island Yacht Basin, San Diego Bay, Technical Report, February 9, 2005."

The existing dissolved copper load from urban runoff to SIYB was estimated to be roughly 30 kg copper/year or 1% of total loading. Due to the relatively insignificant magnitude of the contribution of dissolved copper from urban runoff, no reductions were assigned to urban runoff and the WLA was assigned the existing 30 kg copper/year. The Basin Plan has been amended to include the following "The Regional Board will amend Order No. 2001-01, *Waste Discharge Requirements for Discharges of Urban Runoff from the Municipal Separate Storm /Sewer Systems* to require that discharges of copper into Shelter Island Yacht Basin waters via the City of San Diego's MS4 not exceed a 30 kg/year wasteload for copper."²²⁷

The WLA for urban runoff was estimated using land use data, drainage area size, event mean concentration for copper in residential areas. This information and assumptions such as wet weather copper concentrations equal dry weather concentrations were used to estimate the WLA of 30 kg copper/year. Once during the permit cycle, the Copermittees will evaluate the data and assumptions used in estimating the WLA to ensure that nothing has changed which could result in a higher copper discharge.

I. Program Effectiveness Assessment

The following legal authority applies to section I:

Broad Legal Authority: CWA sections 402(p)(3)(B)(ii-iii), CWC section 13377, and Federal NPDES regulations 40 CFR 122.26(d)(2)(i)(B, C, E, and F) and 40 CFR 122.26(d)(2)(iv).

Specific Legal Authority: Federal NPDES regulation 40 CFR 122.26(d)(2)(v) provides that the Copermittees must include "Estimated reductions in loadings of pollutants from discharges of municipal storm sewer constituents from municipal storm sewer systems expected as the result of the municipal storm water quality management program. The assessment shall also identify known impacts of storm water controls on ground water." Under Federal NPDES regulation 40 CFR 122.42(c) applicants must provide annual reports on the progress of their storm water management programs.

Section I.1.a of the Order requires the Copermittees to assess the effectiveness of the implementation of their jurisdictional programs and activities. The section requires both specific activities and broader programs to be assessed since the effectiveness of jurisdictional efforts may be evident only when considered at different scales. The effectiveness assessment requirements incorporate the approaches developed by the Copermittees in their October 16, 2003 "Framework for Assessing the Effectiveness of Jurisdictional Urban Runoff Management Programs," including use of "outcome levels" and "major effectiveness assessment elements."

In their ROWD, the Copermittees request that use of particular outcome levels not be required for assessing the effectiveness of specific activities implemented by the Copermittees. Because many of the techniques for using the various outcome levels are still in development, the conditions under which each outcome level must be used is not specified in the Order. However,

²²⁷Regional Board, 2005. Attachment A to Resolution No. R9-2005-0019, Amendment to the Water Quality Control Plan for the San Diego Region to Incorporate a Total Maximum Daily Load for Dissolved Copper in Shelter Island Yacht Basin, San Diego Bay. P. 5.

during review of the Copermittees' annual reports, the Regional Board has frequently needed to request that the Copermittees improve their effectiveness assessments and utilize the various assessment methods that are available. Moreover, half of the Copermittees audited were found to have inadequate effectiveness assessments which frequently lacked use of measurable goals. For these reasons, the Order contains language requiring the Copermittees to utilize the various outcome levels "where applicable and feasible." This will help ensure that the Copermittees vigorously use outcome levels, while also providing the Copermittees with flexibility to develop techniques to use outcome levels where such techniques do not currently exist.

The Copermittees also request in their ROWD that they not be responsible for assessment of the impact of their jurisdictional programs on pollutant load reductions, urban runoff water quality, and receiving water quality (outcome levels 4-6). This request slights the overall goal of the Copermittees' jurisdictional programs, which is to reduce discharged pollutants loads and improve water quality. A link between the Copermittees' jurisdictional programs and improved urban runoff and receiving water conditions must be made whenever adequate information exists. This can help validate current efforts, which is essential for maintaining program support, while also guiding future efforts.

Assessments of jurisdictional programs on water quality have been conducted by Copermittees in the past and have been useful. For example, the City of Encinitas reports decreasing bacteria levels in commercial areas following increased inspections of commercial facilities. The City also reports similar results in residential areas following increased residential education efforts.²²⁸ Such information provides very useful feedback to the Copermittees, since the results are specific and localized. The results provide direct evidence of program impact which may otherwise be missed by assessments conducted at a watershed level. Program assessment capable of linking jurisdictional programs and water quality improvements is an important tool that can exhibit to program managers, decision makers, and the public that jurisdictional urban runoff management program efforts are worthwhile and should continue. For these reasons, the Order requires the Copermittees to assess the impact of their jurisdictional program on pollutant load reductions and water quality, where applicable and feasible.

Section I.1.b of the Order requires the Copermittees improve jurisdictional activities or BMPs when they are found to be ineffective or when water quality impairments are continuing. This requirement fulfills the purpose of conducting effectiveness assessments – to improve and refine the Copermittees' programs. The requirement is consistent with USEPA's Phase II regulations, which state: "If the permittee determines that its original combination of BMPs are not adequate to achieve the objectives of the municipal program, the MS4 should revise its program to implement BMPs that are adequate [...]."²²⁹

Section I.2.a of the Order requires the Copermittees to assess the effectiveness of the implementation of their watershed programs and activities. The section requires both specific activities and broader programs to be assessed since the effectiveness of watershed efforts may be evident only when considered at different scales. The effectiveness assessment requirements incorporate the approaches developed by the Copermittees in their October 16, 2003 "Framework for Assessing the Effectiveness of Jurisdictional Urban Runoff Management Programs," including use of "outcome levels" and major effectiveness assessment elements.

²²⁸ City of Encinitas, 2006. Jurisdictional Urban Runoff Management Program Annual Report FY 2004-2005. P. 11-9.

²²⁹ Federal Register / Vol. 64, No. 235 / Wednesday, December 8, 1999 / Rules and Regulations. P. 68762.

As with the jurisdictional assessments discussed for section I.1.a, the Order contains language requiring the Copermittees to utilize outcome levels 1-4 for assessment “where applicable and feasible.” This will help ensure that the Copermittees vigorously use the outcome levels, while also providing the Copermittees with flexibility to develop techniques to use outcome levels where such techniques do not currently exist. The section also places particular focus on the Copermittees’ utilization of outcome levels 5 and 6, which address urban runoff and receiving water quality. Since the entire thrust of the watershed urban runoff management programs is to improve the high priority water quality problems within the various watersheds, use of outcome levels 5 and 6 is needed to assess the effectiveness of the watershed urban runoff management programs. After 15 years of implementation of the storm water program in San Diego County, impact of the program on water quality must be assessed. Without such assessments, it will not be known whether the watershed urban runoff management programs are achieving their purpose. The Copermittees’ receiving waters monitoring program, which is watershed-based, is expected to provide the Copermittees with information to conduct these assessments.

Section I.2.b of the Order includes requirements for modification of watershed activities similar to those for modification of jurisdictional activities discussed in section I.1.b. Please see the section I.1.b discussion for further information.

Section I.3.a of the Order requires the Copermittees to assess the effectiveness of their regional activities and programs in a manner similar to the assessment requirements discussed for section I.1.a and I.2.a. Please see the discussions for these sections for further information. Section I.3.a also requires the Copermittees to evaluate their progress in implementing measures on a regional basis. These evaluations are needed to track the Copermittees’ progress towards meeting their goals and objectives for regional urban runoff management.

Section I.4 (TMDL BMP Implementation Plan) requires the Copermittees to assess the effectiveness of their TMDL BMP Implementation Plans or equivalent plans in a manner similar to the assessment of the effectiveness of the watershed urban runoff management programs. This is appropriate, since implementation of TMDL BMP Implementation Plans is similar to implementation of watershed urban runoff management programs.

Section I.5 (Long-Term Effectiveness Assessment) requires the Copermittees to conduct a Long-Term Effectiveness Assessment prior to their submittal of an application for reissuance of the Order. The Long-Term Effectiveness Assessment is necessary to provide support for the Copermittees’ proposed changes to their programs in their ROWD. It can also serve as the basis for changes to the Order’s requirements. The Copermittees recommend that the Order include a requirement for development of a Long-Term Effectiveness Assessment in their ROWD.²³⁰

J. Reporting

The following legal authority applies to section J:

Broad Legal Authority: CWA sections 402(p)(3)(B)(ii-iii), CWC section 13377, and Federal NPDES regulations 40 CFR 122.26(d)(2)(i)(B, C, E, and F) and 40 CFR 122.26(d)(2)(iv).

Specific Legal Authority: Federal NPDES regulation 40 CFR 122.42(c) requires that “The operator of a large or medium municipal separate storm sewer system or a municipal separate storm sewer system that has been designated by the director under § 122.26(a)(1)(v) of this part

²³⁰ San Diego County Copermittees, 2005. Report of Waste Discharge. P. D-82.

must submit an annual report by the anniversary of the date of the issuance of the permit for such system. The report shall include: (1) The status of implementing the components of the storm water management program that are established as permit conditions; (2) Proposed changes to the storm water management program that are established as permit condition. Such proposed changes shall be consistent with § 122.26(d)(2)(iii) of this part; (3) Revisions, if necessary, to the assessment of controls and the fiscal analysis reported in the permit application under § 122.26(d)(2)(iv) and (d)(2)(v) of this part; (4) A summary of data, including monitoring data, that is accumulated throughout the reporting year; (5) Annual expenditures and budget for year following each annual report; (6) A summary describing the number and nature of enforcement actions, inspections, and public education programs; (7) Identification of water quality improvements or degradation.”

California Water Code section 13267 provides that “the regional board may require than any person who has discharged [...] shall furnish, under penalty of perjury, technical or monitoring reports which the regional board requires.”

Section J.1 (Jurisdictional Urban Runoff Management Plans) outlines the information to be included in the Copermittees’ JURMPs. It utilizes an approach similar to the approach used in Order No. 2001-01. The information to be included in the JURMP is listed in detail in Attachment D. Significant detail is included in the Order regarding what information should be in the JURMPs in order to provide certainty to the Copermittees when they develop and submit their JURMPs. By providing detail for what information should be included in the JURMP, time spent by the Copermittees and Regional Board on JURMP reporting, review, comment, and response is expected to be reduced.

It is important to note that in many cases, the requirements of the Order should not necessitate a complete rewrite of the JURMPs. Only sections of the Order which are new or have been significantly changed should warrant rewriting of JURMP sections. The Regional Board plans to work with the Copermittees and provide guidance regarding where JURMPs must be updated in accordance with the Order. This will help ensure that rewriting, reporting, and review efforts are minimized.

Sections J.2 and J.3 (Watershed and Regional Urban Runoff Management Plans) include requirements for information to be included in the WURMPs and RURMP that are similar in scope to the requirements for information to be included in the JURMPs (section J.1). Please see the discussion for section J.1 for further information.

Section J.4 (Hydromodification Plan) requires various submittals during the development of the HMP. These submittals are necessary to provide both the Copermittees and the Regional Board the opportunity to review progress being made on the HMP. Frequent review of the HMP as it develops is needed due to the complex nature of the issues the HMP will address. The HMP submittal process included in the Order is based on a successful HMP submittal process previously implemented in the San Francisco Bay Area.

The final HMP requires approval by the Regional Board. Final approval by the Regional Board is necessary because the HMP requirements are new and relatively complex. Full vetting of the HMP before the Regional Board will provide all interested parties the opportunity to participate on HMP development and help ensure a workable end product for the interested parties.

Section J.6 (Report of Waste Discharge) requires submittal of a ROWD prior to the expiration of the Order. The section identifies the minimum information to be included in the ROWD, based

on USEPA's May 17, 1996 guidance "Interpretive Policy Memorandum on Reapplication Requirements for Municipal Separate Storm Sewer Systems."

K. Modifications of Programs

The following legal authority applies to section K:

Broad Legal Authority: CWA sections 402(p)(3)(B)(ii-iii), CWC section 13377, and Federal NPDES regulations 40 CFR 122.26(d)(2)(i)(B, C, E, and F) and 40 CFR 122.26(d)(2)(iv).

Section K of the Order provides a process for the Copermittees to modify their urban runoff management programs. This process will be useful so that the Copermittees can continue to refine and improve their programs based on the findings of their annual program effectiveness assessments. The process allows for minor modifications to the Copermittees' programs where the Copermittees can exhibit that the modifications meet or exceed existing legal requirements under the Order. Such a process avoids lengthy and time consuming formal approvals of proposed modifications before the Regional Board, while still ensuring compliance with applicable legal standards and the Order. The Copermittees requested inclusion of a process in the Order to allow for minor modifications to their urban runoff management programs in their ROWD.²³¹ The process included in the Order is based on a process utilized by the San Francisco Bay Area Regional Water Quality Control Board in their MS4 permit for Alameda County.²³²

L. All Copermittee Collaboration

The following legal authority applies to section L:

Broad Legal Authority: CWA sections 402(p)(3)(B)(ii-iii), CWC section 13377, and Federal NPDES regulations 40 CFR 122.26(d)(2)(i)(B, C, E, and F) and 40 CFR 122.26(d)(2)(iv).

Specific Legal Authority: Federal NPDES regulation 40 CFR 122.26(d)(2)(i)(D) provides that "[The Copermittee must demonstrate that it can control] through interagency agreements among coapplicants the contribution of pollutants from one portion of the municipal system to another portion of the municipal system."

No significant changes were made to this section.

M. Principal Permittee Responsibilities

The following legal authority applies to section M:

Broad Legal Authority: CWA sections 402(p)(3)(B)(ii-iii), CWC section 13377, and Federal NPDES regulations 40 CFR 122.26(d)(2)(i)(B, C, E, and F) and 40 CFR 122.26(d)(2)(iv).

Specific Legal Authority: Federal NPDES regulation 40 CFR 122.26(a)(3)(iii)(C) provides that "A regional authority may be responsible for submitting a permit application."

Federal NPDES regulation 40 CFR 122.26(d)(2)(i)(D) provides that "[The Copermittee must demonstrate that it can control] through interagency agreements among coapplicants the

²³¹ San Diego County Copermittees, 2005. Report of Waste Discharge. P. C-10.

²³² San Francisco Bay Area Regional Water Quality Control Board, 2003. Order No. R2-2003-0021. P. 45.

contribution of pollutants from one portion of the municipal system to another portion of the municipal system."

No significant changes were made to this section.

N. Receiving Waters Monitoring and Reporting Program

The following legal authority applies to section N:

Broad Legal Authority: CWA sections 402(p)(3)(B)(ii-iii), CWC section 13377, and Federal NPDES regulations 40 CFR 122.26(d)(2)(i)(B, C, E, and F) and 40 CFR 122.26(d)(2)(iv).

Specific Legal Authority: Copermittees must conduct a comprehensive monitoring program as required under Federal NPDES regulations 40 CFR 122.26(d)(2)(iii).

See section V of this Fact Sheet/Technical Report for a discussion of changes to the Receiving Waters Monitoring and Reporting Program.

O. Standard Provisions, Reporting Requirements, and Notifications

The following legal authority applies to section O:

Broad Legal Authority: CWA sections 402(p)(3)(B)(ii-iii), CWC section 13377, and Federal NPDES regulations 40 CFR 122.26(d)(2)(i)(B, C, E, and F) and 40 CFR 122.26(d)(2)(iv).

Specific Legal Authority: Standard provisions, reporting requirements, and notifications are consistent to all NPDES permits and are generally found in Federal NPDES regulation 40 CFR 122.41.

Section O.2 of the Order has been changed to remove the statement that all plans and reports submitted in compliance with the Order are an enforceable part of the Order. This statement has been removed because it is unnecessary. The Order itself contains sufficient detailed requirements to ensure that compliance with discharge prohibitions, receiving water limits, and the narrative standard of MEP are achieved. Implementation by the Copermittees of programs in compliance with the Order's requirements, prohibitions, and receiving water limits is the pertinent compliance standard to be used under the Order, as opposed to assessing compliance by reviewing the Copermittees' implementation of their plans alone.

Rather than being substantive components of the Order itself, the Copermittees' urban runoff management plans are simply descriptions of their urban runoff management programs required under the Order. These plans serve as procedural correspondence which guides program implementation and aids the Copermittees and Regional Board in tracking implementation of the programs. In this manner, the plans are not functional equivalents of the Order. For these reasons, the Copermittees' urban runoff management plans need not be an enforceable part of the Order.

P. Attachment A

The following legal authority applies to Attachment A:

Broad Legal Authority: CWA sections 402(p)(3)(B)(ii-iii), CWC section 13377, and Federal NPDES regulations 40 CFR 122.26(d)(2)(i)(B, C, E, and F) and 40 CFR 122.26(d)(2)(iv).

Specific Legal Authority: California Water Code Section 13243 provides that “A regional board, in a water quality control plan or in waste discharge requirements, may specify certain conditions or areas where the discharge of waste, or certain types of waste, will not be permitted.”

California Water Code Section 13263(a) provides that waste discharge requirements prescribed by the SDRWQCB implement the Basin Plan.

No significant changes were made to this attachment.

Q. Attachment B

The following legal authority applies to Attachment B:

Broad Legal Authority: CWA sections 402(p)(3)(B)(ii-iii), CWC section 13377, and Federal NPDES regulations 40 CFR 122.26(d)(2)(i)(B, C, E, and F) and 40 CFR 122.26(d)(2)(iv).

Specific Legal Authority: Standard provisions, reporting requirements, and notifications are consistent to all NPDES permits and are generally found in Federal NPDES regulation 40 CFR 122.41.

Attachment B includes Standard Provisions which have been developed by the SWRCB. These Standard Provisions ensure that NPDES permits are consistent and compatible with USEPA’s federal regulations. Some Standard Provisions sections specific to publicly owned sewage treatment works are not included in Attachment B.

R. Attachment C

The following legal authority applies to Attachment C:

Broad Legal Authority: CWA sections 402(p)(3)(B)(ii-iii), CWC section 13377, and Federal NPDES regulations 40 CFR 122.26(d)(2)(i)(B, C, E, and F) and 40 CFR 122.26(d)(2)(iv).

Attachment C contains definitions for new terms found in the Order. In addition, definitions for terms previously defined in Order No. 2001-01 Attachment D, but which are not found in the current Order, have been deleted.

S. Attachment D

The following legal authority applies to Attachment D:

Broad Legal Authority: CWA sections 402(p)(3)(B)(ii-iii), CWC section 13377, and Federal NPDES regulations 40 CFR 122.26(d)(2)(i)(B, C, E, and F) and 40 CFR 122.26(d)(2)(iv).

Specific Legal Authority: California Water Code section 13267 provides that “the regional board may require than any person who has discharged [...] shall furnish, under penalty of perjury, technical or monitoring reports which the regional board requires.”

Please see the discussion for section J.1 for further information.

T. Attachment E

The following legal authority applies to Attachment E:

Broad Legal Authority: CWA sections 402(p)(3)(B)(ii-iii), CWC section 13377, and Federal NPDES regulations 40 CFR 122.26(d)(2)(i)(B, C, E, and F) and 40 CFR 122.26(d)(2)(iv).

Specific Legal Authority: Federal NPDES regulation 40 CFR 122.42(c) requires that “The operator of a large or medium municipal separate storm sewer system or a municipal separate storm sewer system that has been designated by the director under § 122.26(a)(1)(v) of this part must submit an annual report by the anniversary of the date of the issuance of the permit for such system. The report shall include: (1) The status of implementing the components of the storm water management program that are established as permit conditions; (2) Proposed changes to the storm water management program that are established as permit condition. Such proposed changes shall be consistent with § 122.26(d)(2)(iii) of this part; (3) Revisions, if necessary, to the assessment of controls and the fiscal analysis reported in the permit application under § 122.26(d)(2)(iv) and (d)(2)(v) of this part; (4) A summary of data, including monitoring data, that is accumulated throughout the reporting year; (5) Annual expenditures and budget for year following each annual report; (6) A summary describing the number and nature of enforcement actions, inspections, and public education programs; (7) Identification of water quality improvements or degradation.”

California Water Code section 13267 provides that “the regional board may require than any person who has discharged [...] shall furnish, under penalty of perjury, technical or monitoring reports which the regional board requires.”

Attachment E to the Order outlines the information to be included in the Copermittees’ Jurisdictional Urban Runoff Management Program Annual Reports. Significant detail is included in the attachment regarding what information should be in the annual reports in order to provide certainty to the Copermittees when they develop and submit their annual reports. By providing detail for what information should be included in the annual reports, time spent by the Copermittees and Regional Board to generate, review, and comment on annual reports should be reduced.

U. Attachment F

The following legal authority applies to Attachment F:

Broad Legal Authority: CWA sections 402(p)(3)(B)(ii-iii), CWC section 13377, and Federal NPDES regulations 40 CFR 122.26(d)(2)(i)(B, C, E, and F) and 40 CFR 122.26(d)(2)(iv).

Specific Legal Authority: Federal NPDES regulation 40 CFR 122.42(c) requires that “The operator of a large or medium municipal separate storm sewer system or a municipal separate storm sewer system that has been designated by the director under § 122.26(a)(1)(v) of this part must submit an annual report by the anniversary of the date of the issuance of the permit for such system. The report shall include: (1) The status of implementing the components of the storm water management program that are established as permit conditions; (2) Proposed changes to the storm water management program that are established as permit condition. Such proposed changes shall be consistent with § 122.26(d)(2)(iii) of this part; (3) Revisions, if necessary, to the assessment of controls and the fiscal analysis reported in the permit application under §

122.26(d)(2)(iv) and (d)(2)(v) of this part; (4) A summary of data, including monitoring data, that is accumulated throughout the reporting year; (5) Annual expenditures and budget for year following each annual report; (6) A summary describing the number and nature of enforcement actions, inspections, and public education programs; (7) Identification of water quality improvements or degradation.”

California Water Code section 13267 provides that “the regional board may require than any person who has discharged [...] shall furnish, under penalty of perjury, technical or monitoring reports which the regional board requires.”

Attachment F to the Order provides a table summary of scheduled submittals required by the Order. Unscheduled submittals are no longer added to the table, since there is no proper due date for such submittals. A task summary has not been created for the Order, since the previous task summary was found to be redundant, repeating information found in the submittal summary and elsewhere in the Order.

V. Receiving Waters Monitoring and Urban Runoff Reporting Program

The following legal authority applies to the Receiving Waters Monitoring and Urban Runoff Reporting Program:

Broad Legal Authority: CWA sections 402(p)(3)(B)(ii-iii), CWC section 13377, and Federal NPDES regulations 40 CFR 122.26(d)(2)(i)(B, C, E, and F) and 40 CFR 122.26(d)(2)(iv).

Specific Legal Authority: Copermittees must conduct a comprehensive monitoring program as required under Federal NPDES regulations 40 CFR 122.26(d)(2)(iii).

Federal NPDES regulation 40 CFR 122.42(c) requires that “The operator of a large or medium municipal separate storm sewer system or a municipal separate storm sewer system that has been designated by the director under § 122.26(a)(1)(v) of this part must submit an annual report by the anniversary of the date of the issuance of the permit for such system. The report shall include: (1) The status of implementing the components of the storm water management program that are established as permit conditions; (2) Proposed changes to the storm water management program that are established as permit condition. Such proposed changes shall be consistent with § 122.26(d)(2)(iii) of this part; (3) Revisions, if necessary, to the assessment of controls and the fiscal analysis reported in the permit application under § 122.26(d)(2)(iv) and (d)(2)(v) of this part; (4) A summary of data, including monitoring data, that is accumulated throughout the reporting year; (5) Annual expenditures and budget for year following each annual report; (6) A summary describing the number and nature of enforcement actions, inspections, and public education programs; (7) Identification of water quality improvements or degradation.”

California Water Code section 13267 provides that “the regional board may require than any person who has discharged [...] shall furnish, under penalty of perjury, technical or monitoring reports which the regional board requires.”

1. Purpose

According to USEPA, the benefits of sampling data include, but are not limited to:

1. Providing a means for evaluating the environmental risk of storm water discharges by identifying types and amounts of pollutants present;

2. Determining the relative potential for storm water discharges to contribute to water quality impacts or water quality standard violations;
3. Identifying potential sources of pollutants; and
4. Eliminating or controlling identified sources more specifically through permit conditions.²³³

Equally important, monitoring programs are an essential link in the improvement of urban runoff management efforts. Data collected from monitoring programs can be assessed to determine the effectiveness of management programs and practices, which is vital for the success of the iterative approach used to meet the MEP standard. Specifically, when data indicates that a particular BMP or program component is not effective, improved efforts can be selected and implemented. Also, when water quality data indicate that water quality standards or objectives are being exceeded, particular pollutants, sources, and drainage areas can be identified and targeted for specific urban runoff management efforts.

Considering the benefits described above, the Receiving Waters Monitoring and Reporting Program (MRP) has been designed to determine impacts to receiving water quality and beneficial uses from urban runoff and to use the results to refine the Copermittees' urban runoff management programs for the reduction of pollutant loadings to the MEP. The primary goals of the MRP include:

1. Assess compliance with Order No. R9-2007-0001;
2. Measure and improve the effectiveness of the Copermittees' urban runoff management programs;
3. Assess the chemical, physical, and biological impacts of receiving waters from urban runoff;
4. Characterize urban runoff discharges;
5. Identify sources of specific pollutants;
6. Prioritize drainage and sub-drainage areas that need management actions;
7. Detect and eliminate illicit discharges and illicit connections to the MS4; and
8. Assess the overall health of receiving waters.

Each of the components of the MRP is necessary to meet the objectives listed above. In addition, the MRP has been designed in accordance with the guidance provided by the Southern California Stormwater Monitoring Coalition's Model Monitoring Technical Committee in its August 2004 "Model Monitoring Program for Municipal Separate Storm Sewer Systems in Southern California." This guidance document was developed in response to Senate Bill 72 (Kuehl), which addressed the standardization of sampling and analysis protocols in municipal stormwater monitoring programs. The technical committee which developed the guidance included representatives from Southern California Regional Water Quality Control Boards (including San Diego), municipal storm water permittees (including the County of San Diego), Heal the Bay, and the Southern California Coastal Water Research Project.

As its title suggests, the guidance essentially developed a model municipal storm water monitoring program for use in Southern California. The model program is structured around five fundamental management questions, outlined below. The MRP is designed as an iterative step towards ensuring that the Copermittees' monitoring program can fully answer each of the five management questions.

²³³ USEPA, 1992. NPDES Storm Water Sampling Guidance Document. EPA/833-B-92-001.

1. Are conditions in receiving waters protective, or likely to be protective, of beneficial uses?
2. What is the extent and magnitude of the current or potential receiving water problems?
3. What is the relative urban runoff contribution to the receiving water problem(s)?
4. What are the sources of urban runoff that contribute to receiving water problem(s)?
5. Are conditions in receiving waters getting better or worse?

The justifications for each component of the monitoring program are discussed below.

2. Monitoring Program

Summary of Order No. 2001-01 Monitoring Program and Results

The Copermittees' monitoring under Order No. 2001-01 includes several components: (a) wet weather mass loading station monitoring (including toxicity monitoring); (b) bioassessment monitoring; (c) dry weather field screening and analytical monitoring; (d) coastal storm drain monitoring; and (e) ambient bay and lagoon monitoring. Each of these is briefly summarized below with recent results briefly discussed. The Copermittees' most recent monitoring report is available at:

http://www.projectcleanwater.org/html/wg_monitoring_04-05report.html.

Wet Weather Mass Loading Station Monitoring

The Copermittees' wet weather mass loading station monitoring consists of water quality monitoring during three storm events annually within the main drainage at the base of each major watershed in San Diego County. There are currently 11 wet weather mass loading stations throughout San Diego County, where various constituents of concern, bacterial indicators, and toxicological impacts are measured. Using data collected from the wet weather mass loading stations, persistent wet weather constituents of concern have been identified by the Copermittees in their Baseline Long-Term Effectiveness Assessment document. Persistent wet weather constituents of concern are generally those constituents which have concentrations which persistently exceed water quality objectives. Increasing and decreasing trends in constituent concentrations have also been identified by the Copermittees.

Mass Loading Station Persistent Wet Weather Constituents and Trends²³⁴

Mass Loading Stations	Persistent Wet Weather Constituents of Concern	Significant Trends Observed
Santa Margarita	Fecal Coliform Total Suspended Solids Turbidity	
San Luis Rey	Total Dissolved Solids	
Agua Hedionda	Fecal Coliform Total Dissolved Solids Total Suspended Solids Turbidity	Increasing chemical oxygen demand Increasing total kjeldahl nitrogen Increasing total phosphorus Increasing total suspended solids Increasing turbidity
Escondido Creek	Fecal Coliform Total Dissolved Solids Turbidity	

²³⁴ San Diego County Copermittees, 2005. Baseline Long-Term Effectiveness Assessment.

San Dieguito River	Total Dissolved Solids	
Penasquitos River	Total Dissolved Solids	
Tecolote Creek	Fecal Coliform Turbidity Diazinon	Increasing arsenic (still below water quality objective) Decreasing total suspended solids Decreasing total zinc
San Diego River	Fecal Coliform	
Chollas Creek	Fecal Coliform Total Suspended Solids Turbidity Diazinon Copper Zinc Toxicity (Ceriodaphnia and Hyalella)	Increasing nitrate Increasing lead Decreasing total suspended solids Decreasing total dissolved solids Decreasing nickel
Sweetwater River	Total Dissolved Solids Fecal Coliform Diazinon	
Tijuana River	Fecal Coliform Ammonia Biochemical Oxygen Demand Chemical Oxygen Demand Total Phosphorus Total Suspended Solids Turbidity Chlorpyrifos Diazinon Malathion Toxicity (Ceriodaphnia)	

Bioassessment Monitoring

Bioassessment monitoring is conducted to provide site-specific information about the health and diversity of freshwater benthic communities within a specific reach of a creek. It consists of collecting samples of the benthic communities during dry weather and conducting a taxonomic identification to measure community abundance and diversity. Benthic community abundance and diversity is then compared to a reference creek to assess benthic community health. Under Order No. 2001-01, the Copermittees are required to conduct bioassessment monitoring on 23 stream reaches. The results from the Copermittees' bioassessment monitoring demonstrate that the beneficial uses of urban streams are being adversely impacted by urban runoff. The San Luis Rey, Carlsbad, San Dieguito, Penasquitos, Mission Bay, San Diego River, San Diego Bay, and Tijuana River watersheds all had Poor to Very Poor Index of Biotic Integrity ratings.²³⁵

Dry Weather Field Screening and Analytical Monitoring

The Copermittees conduct dry weather field screening and analytical monitoring throughout their jurisdictions at various locations within their MS4s. While a principal purpose of the dry weather field screening and analytical monitoring is to identify illicit discharges and/or connections to the MS4, the data gathered also provides useful information regarding water quality within the Copermittees' MS4s during dry weather conditions. Data from dry weather field screening and

²³⁵ San Diego County Municipal Copermittees, 2005. 2004-2005 Urban Runoff Monitoring Final Report. Executive Summary.

analytical monitoring is often used effectively to identify and abate illicit discharges, but it also indicates high levels of pollutants in the Copermittees' MS4s. The number of exceedances of water quality criteria for various constituents at dry weather field screening and analytical monitoring sites frequently exceeds the number monitoring site visits conducted.²³⁶

Coastal Storm Drain Monitoring

Coastal storm drain monitoring involves monitoring discharges from coastal storm drains and nearby receiving waters for bacterial indicators. Approximately 59 coastal storm drains are monitored year round on a weekly or monthly basis, depending on the season. For samples collected in receiving waters, total coliform, fecal coliform, and Enterococcus water quality standards were exceeded at a rate of 2.0%, 1.7%, and 4.4% respectively in 2003-2004. Counts of bacterial indicators in samples collected from coastal storm drain discharges greatly exceeded those of samples collected in receiving waters, but were not reported in relation to water quality standards.²³⁷

Ambient Bay and Lagoon Monitoring

To monitor ambient bay and lagoon conditions, the Copermittees focus on assessing bay and lagoon sediments where contaminants are most likely to be found. Monitoring is conducted in twelve coastal embayments for various constituents, toxicity, and benthic infauna. Most of the embayments monitored were found to contain toxic elements in their sediment. However, this monitoring did occur in embayment areas targeted because of their likelihood to contain contaminated sediment, essentially representing worst-case scenarios.²³⁸

Mass Loading Station Monitoring

Section II.A.1 of the MRP requires mass loading and toxicity monitoring at monitoring stations located at the bottom of major watersheds within San Diego County. The mass loading monitoring will provide data representing event mean concentrations of pollutants, total pollutant loadings, and toxicity conditions from specific drainage areas. Mass loading monitoring stations are recommended by the Model Monitoring Technical Committee in order to answer management questions 1, 2, and 5.²³⁹ The stations are also expected to contribute towards meeting MRP goals 1, 2, 3, 4, 6, and 8. The mass loading station monitoring included in the MRP is the same as the mass loading station monitoring proposed by the Copermittees in their ROWD.²⁴⁰

Sections II.A.1.a and II.A.1.b of the MRP identify the location of the mass loading stations and the frequency of the monitoring to be conducted at the mass loading stations. The locations of the stations are identical to the locations utilized under Order No. 2001-01, and match the locations proposed by the Copermittees in their ROWD.²⁴¹ These locations provide substantial coverage of the major watersheds within the San Diego Region portion of San Diego County.

The frequency of monitoring at the mass loading stations has been changed from monitoring each station for three wet weather events every year to monitoring each station for two wet weather

²³⁶ Ibid. Sections 4-12.

²³⁷ Ibid. Attachment A.

²³⁸ Ibid. Executive Summary.

²³⁹ Model Monitoring Technical Committee, 2004. Model Monitoring Program for Municipal Separate Storm Sewer Systems in Southern California. Chapter 5.

²⁴⁰ San Diego County Copermittees, 2005. Report of Waste Discharge. Attachment 3, p. 9.

²⁴¹ Ibid. Attachment 3, p. 9.

and two dry weather monitoring events every other year. While this is an overall reduced frequency of monitoring at the mass loading stations, it is replaced by the addition of new monitoring stations to be located in the upper watersheds (called temporary watershed assessment stations). The new information generated from the temporary watershed assessment stations, as well as from new monitoring of dry weather events, offsets the reduced amount of information gathered at mass loading stations resulting from the monitoring of fewer wet weather events.

In their ROWD, the Copermittees statistically compared the Order No. 2001-01 monitoring program with the proposed program in order to determine any loss in the ability to observe trends resulting from the reduced wet weather monitoring frequency. The Copermittees' statistical assessments utilized empirical data from the existing monitoring program and used existing trends to predict or model the future data sets to estimate when water quality objectives would be reached assuming that current trends continue. The Copermittees found that "depending upon the current rate of decrease in observed concentration and variability of constituents, the ability to observe trends will not change significantly with the recommended program."²⁴² Using an example worst case scenario of a data exhibiting a non-significant downward trend (copper in Tecolote Creek), it was estimated that the frequency of monitoring conducted under Order No. 2001-01 would not exhibit concentrations below the water quality objective with 95% confidence for 18 years. Using the frequency of monitoring included in the MRP, however, it would take 22 years to see the same results - a relatively modest increase. The Copermittees further considered the ability to identify statistically significant differences between watersheds or between years when data from only two wet weather events is collected, as opposed to three events. Again, the Copermittees found that results are similar whether two wet weather events or three are monitored.²⁴³

While the reduction in the frequency of monitoring of wet weather events will certainly impact the ability to observe statistically significant trends and differences to some extent, the new MRP will advance the understanding of conditions in San Diego County watersheds. Segmenting the watershed and adding new temporary watershed assessment stations will provide additional watershed information relative to magnitude and extent, as well as increased spatial coverage to focus management efforts. Moreover, the MRP provides a more comprehensive temporal view of the watershed with the addition of dry weather monitoring, which will improve the Copermittees' ability to complete the pollutant loading picture.²⁴⁴

Sections II.A.1.c-f of the MRP include requirements that standard sampling and analysis protocols are followed by the Copermittees during monitoring. These are generally the same requirements included in Order No. 2001-01.

Section II.A.1.g of the MRP lists the constituents to be monitored at mass loading stations and temporary watershed assessment stations. These constituents have not changed from the constituents monitored under Order No. 2001-01.

Section II.A.1.h of the MRP requires the analysis of several additional constituents at stations in the Chollas Creek watershed. These constituents are required for analysis to assess the contribution of urban runoff to the Toxic Hot Spot at the mouth of Chollas Creek. The requirement for this analysis is consistent with the SWRCB's June 1999 Consolidated Toxic Hot Spot Cleanup Plan.

²⁴² Ibid. Attachment 3, p. 14.

²⁴³ San Diego County Copermittees, 2005. Report of Waste Discharge. Attachment 3, Appendix A, p. 2-5.

²⁴⁴ Ibid. Attachment 3, p. 18.

Sections II.A.1.i-j of the MRP identify the toxicity testing to be implemented and require that standard toxicity testing procedures be followed during the testing. These toxicity testing requirements have not changed for the toxicity testing requirements of Order No. 2001-01.

Temporary Watershed Assessment Station Monitoring

Section II.A.2.a of the MRP identifies the number of temporary watershed assessment stations to be monitored in a given year for each watershed. Temporary watershed assessment stations will serve to segment watersheds, providing information on sub-watersheds which have previously not been monitored extensively. This will aid in the identification of water quality problem areas and help identify sources. Temporary watershed assessment stations are recommended by the Model Monitoring Technical Committee in order to answer management questions 1, 2, 3, and 5.²⁴⁵ The stations are also expected to contribute towards meeting MRP goals 1, 2, 3, 4, 5, 6, and 8.

The section allows for the number of stations within a watershed to change, as long as the total number of stations monitored is not reduced. The number and watershed location of the stations and the frequency that they are to be monitored matches the Copermittees' proposal in their ROWD.²⁴⁶ However, the location of the stations within each watershed is critical in terms of determining the monitoring program's effectiveness. If correctly sited, the stations are expected to be very useful in answering the program's management questions and meeting the program's goals. For this reason, the MRP includes requirements to guide where the stations are located. This will help maximize the utility of the stations, while also providing the Copermittees with adequate flexibility to ultimately choose the locations of the stations. The requirements for locating the stations is based on recommendations made by USEPA's contractor Tetra Tech during its review of the Copermittees' monitoring program proposal.²⁴⁷

Section II.A.2.b of the MRP identifies the required frequency of monitoring of temporary watershed assessment stations in a given year. The stations will be monitored with the same frequency as the mass loading stations. This frequency was proposed by the Copermittees in their ROWD.²⁴⁸ The frequency of monitoring is appropriate for the same reasons it is appropriate at the mass loading stations (see the discussion for sections II.A.1.a and II.A.1.b).

Section II.A.2.c of the MRP requires temporary watershed assessment stations to be monitored in the same manner as mass loading stations, in terms of procedures, protocols, analysis, etc.

Bioassessment Monitoring

Section II.A.3 of the MRP requires the Copermittees to conduct bioassessment monitoring. Bioassessment monitoring is a cost-effective tool that measures the effects of water quality over time.²⁴⁹ It is an important indicator of stream health and impacts from urban runoff. It can detect impacts that chemical and toxicity monitoring cannot. USEPA encourages permitting authorities to consider requiring biological monitoring methods to fully characterize the nature and extent of

²⁴⁵ Model Monitoring Technical Committee, 2004. Model Monitoring Program for Municipal Separate Storm Sewer Systems in Southern California. Chapter 5.

²⁴⁶ San Diego County Copermittees, 2005. Report of Waste Discharge. Attachment 3, p. 12.

²⁴⁷ Tetra Tech, Inc., 2006. Review of San Diego County MS4 Monitoring Program. P. 13.

²⁴⁸ San Diego County Copermittees, 2005. Report of Waste Discharge. Attachment 3, p. 12.

²⁴⁹ California Department of Fish and Game, 2002. California Regional Water Quality Control Board, San Diego Region 2002 Biological Assessment Report: Results of May 2001 Reference Site Study and Preliminary Index of Biotic Integrity.

impacts from urban runoff.²⁵⁰ Therefore, the Regional Board commonly requires bioassessment monitoring in MS4 and other types of discharge permits.

Bioassessment is the direct measurement of the biological condition, physical condition, and attainment of beneficial uses of receiving waters (typically using benthic macroinvertebrates, periphyton, and fish). Bioassessment monitoring integrates the effects of both water chemistry and physical habitat impacts (e.g., sedimentation or erosion) of various discharges on the biological community native to the receiving waters. Moreover, bioassessment is a direct measurement of the impact of cumulative, sub-lethal doses of pollutants that may be below reasonable water chemistry detection limits, but that still have biological affects.

Because bioassessment focuses on communities of living organisms as integrators of cumulative impacts resulting from water quality or habitat degradation, it defines the ecological risks resulting from urban runoff. Bioassessment not only identifies that an impact has occurred, but also measures the effect of the impact and tracks recovery when control or restoration measures have been taken. These features make bioassessment a powerful tool to assess compliance, evaluate the effectiveness of BMPs, and to track both short and long-term trends (MRP goals 1,2,3, and 8). Bioassessment can also help answer management questions 1, 2, and 5.

Section II.A.3.a of the MRP specifies the number of bioassessment stations to be monitored and their watershed location. This specification is consistent with Order No. 2001-01's bioassessment requirements and the Copermittees' ROWD.²⁵¹ This section also identifies the most current established protocol to be used in identifying bioassessment reference stations. The protocol referenced in the Order is specified because it provides a qualitative and repeatable method for identifying reference sites. Moreover, the protocol is well established, since it has been peer reviewed and published.

Section II.A.3.b of the MRP requires bioassessment stations to be collocated with mass loading and temporary watershed assessment stations. This improves the accuracy of the conclusions of the triad approach for a particular area, since all data will be collected from one location within a watershed, instead of several areas. This approach is recommended by the Copermittees in their ROWD.²⁵²

Section II.A.3.c of the MRP requires bioassessment monitoring to be conducted in May and October, which is a continuation of the standard practice conducted under Order No. 2001-01. Timing of bioassessment monitoring is also required to coincide with dry weather monitoring at mass loading and temporary watershed assessment stations. This improves the accuracy of the conclusions of the triad approach for particular time periods, since all data will be collected at specific times within a watershed, instead of at different times. This approach is recommended by the Copermittees in their ROWD.²⁵³

Section II.A.3.d of the MRP requires bioassessment monitoring to utilize the targeted riffle composite approach, which is consistent with the SWRCB's Surface Water Ambient Monitoring Program (SWAMP) Quality Assurance Management Plan (QAMP), as amended. Through SWAMP, various bioassessment methods were evaluated and it was found that the targeted riffle

²⁵⁰ USEPA, 1999. Rapid Bioassessment Protocols for Use in Wadeable Streams and Rivers. EPA 841-B-99-002. P. 2-5.

²⁵¹ San Diego County Copermittees, 2005. Report of Waste Discharge. Attachment 3, p. 12.

²⁵² Ibid. Attachment 3, p. 10.

²⁵³ Ibid. Attachment 3, p. 10.

composite approach was a particularly efficient method, providing accurate data in a cost efficient manner.

Section II.A.3.e of the MRP requires bioassessment monitoring to include assessment of periphyton (algae). Advantages of bioassessment using periphyton include: (1) they have rapid reproduction rates and very short life cycles, making them valuable indicators of short-term impacts; (2) as primary producers, they are most directly affected by physical and chemical factors; (3) sampling is easy and inexpensive; and (4) algal assemblages are sensitive to some pollutants which may not visibly affect other aquatic assemblages.²⁵⁴

Section II.A.3.f of the MRP specifies an approach for calculation of an Index of Biotic Integrity for all bioassessment stations. The specified approach is consistent with USEPA's procedures for developing an Index of Biotic Integrity. The approach is also specified because it is highly repeatable and robust. In addition, the specified approach has previously been utilized by the Copermittees under Order No. 2001-01's requirements.

Section II.A.3.g of the MRP includes a standard requirement for a professional laboratory to perform the bioassessment procedures.

Follow-Up Analysis and Actions

Section II.A.4 of the MRP requires the Copermittees to use the results of the chemistry, toxicity, and bioassessment monitoring to determine if impacts from urban runoff are occurring and when follow-up actions are necessary. The triad approach allows a wide range of measurements to be combined to more efficiently identify pollutants, their sources, and appropriate follow-up actions. Results from the three types of monitoring shall be assessed to evaluate the extent and causes of pollution in receiving waters and to prioritize management actions to eliminate or reduce the sources. The framework provided in Table 3 is to be used to determine conclusions from the data and appropriate follow-up actions. The framework in Table 3 was derived from the Model Monitoring Program for Municipal Separate Storm Sewer Systems in Southern California.²⁵⁵ These follow-up actions are expected to primarily help answer management questions 2 and 4, as well as address MRP goals 2, 4, 5, 6 and 7.

When, based on the framework in Table 3, data indicates the presence of toxic pollutants in runoff, the Copermittees are required to conduct a Toxicity Identification Evaluation (TIE). A TIE is a set of procedures used to identify the specific chemical(s) responsible for toxicity to aquatic organisms. When discharges are toxic to a test organism, a TIE must be conducted to confirm potential constituents of concern and rule out others, therefore allowing Copermittees to determine and prioritize appropriate management actions. If a sample is toxic to more than one species, it is necessary to determine the toxicant(s) affecting each species. If the type and source of pollutants can be identified based on the data alone and an analysis of potential sources in the drainage area, a TIE is not necessary.

When a TIE identifies a pollutant associated with urban runoff as a cause of toxicity, it is then necessary to conduct follow-up actions to identify the causative agents of toxicity, isolate the sources of toxicity, evaluate the effectiveness of toxicity control options, and then confirm the reduction in toxicity. Follow-up actions should analyze all potential source(s) causing toxicity,

²⁵⁴ USEPA, 1999. Rapid Bioassessment Protocols for Use in Wadeable Streams and Rivers. EPA 841-B-99-002. P. 3-3.

²⁵⁵ Model Monitoring Technical Committee, 2004. Model Monitoring Program for Municipal Separate Storm Sewer Systems in Southern California. P. 5-61.

potential BMPs to eliminate or reduce the pollutants causing toxicity, and suggested monitoring to demonstrate that toxicity has been removed.

Ambient Bay and Lagoon Monitoring

Sections II.A.5.a-c of the MRP requires the Copermittees to conduct monitoring of the ambient conditions of bays, lagoons, and similar waters. Focused monitoring on these resources is needed because of their uniqueness and the high value of their beneficial uses. Such monitoring is recommended by the Stormwater Monitoring Coalition's Model Monitoring Technical Committee.²⁵⁶

The MRP requires the Copermittees to assess the data collected for the bays and lagoons over the last three years and refocus the monitoring program based on the assessment conducted. If links between bay and lagoon conditions and mass loading stations are observed, monitoring is to be conducted in all bays and lagoons in order to gain a better understanding of this relationship. If such a linkage is not observed, special studies shall be conducted specific to the various bays and lagoons and the issues they face. The approach outlined in the MRP for the ambient bay and lagoon monitoring program is based on the proposal found in the Copermittees' ROWD.²⁵⁷ It is expected to help answer management questions 1, 2, and 5, as well as address MRP goals 1, 2, 3, 6, and 8, with regards to bays and lagoons.

Section II.A.5.d of the MRP requires that ambient bay and lagoon monitoring utilize the triad approach for assessment of data. The triad approach links chemistry, toxicity, and bioassessment data to better identify and understand the causes of impacts to beneficial uses. This approach has previously been used by the Copermittees in their ambient bay and lagoon monitoring.²⁵⁸

Section II.A.5.e of the MRP requires monitoring of the water column in bays and lagoons as necessary to supply information needed for TMDLs. This requirement has been added to the MRP to better ensure that storm water and TMDL monitoring complement each other where possible. This is expected to improve the efficiency with which monitoring resources are used. The Copermittees support complementary storm water and TMDL efforts in their ROWD.²⁵⁹

Coastal Storm Drain Monitoring

Section II.A.6 of the MRP continues the Copermittees' coastal storm drain monitoring program in the same manner as it was conducted under Order No. 2001-01's receiving waters monitoring program. The coastal storm drain monitoring program outlined in the MRP is consistent with the Copermittees' proposal in their ROWD.²⁶⁰ Coastal storm drain monitoring is critical because one of the primary impacts to coastal receiving waters is the loss of recreational beneficial uses resulting from high levels of bacteria in urban runoff. The coastal storm drain monitoring program is expected to help answer management questions 1, 2, 3, 4 and 5, as well as address MRP goals 1, 2, 3, 4, 5, 6, 7, and 8.

Sections II.A.6.a and II.A.6.b.(1) of the MRP require the Copermittees to identify all coastal storm drains and sample those that are flowing on a monthly basis. All coastal storm drains are

²⁵⁶ Ibid. P. 5-38.

²⁵⁷ San Diego County Copermittees, 2005. Report of Waste Discharge. Attachment 3, p. 10-12.

²⁵⁸ San Diego County Copermittees, 2005. San Diego County Copermittees 2004-2005 Urban Runoff Monitoring Final Report. P. ES-2.

²⁵⁹ San Diego County Copermittees, 2005. Report of Waste Discharge. P. D-10.

²⁶⁰ Ibid. Attachment 4.

required to be part of the program; skipping certain storm drains simply because they are near other storm drains is inappropriate, since each storm drain can have significantly different conditions within its drainage area. One purpose of coastal storm drain monitoring is to identify and abate sources of bacterial contamination. Since the sources of bacterial contamination at a storm drain are generally not known, the potential for a flowing coastal storm drain to be discharging urban runoff with high levels of bacteria cannot be known unless the storm drain is monitored.

The requirement that all coastal storm drains be part of the program is offset by the reduction in sampling frequency to a monthly basis year round, instead of weekly in the summer and monthly in the winter. Moreover, the MRP allows sampling frequency to be further reduced when monitoring results indicate bacteria levels are consistently below an identified criteria. These reductions in sampling frequency are allowed because the Copermittees have found monthly monitoring to typically be representative of storm drain conditions. Also, the Copermittees have identified some storm drains which consistently have low levels of bacteria and do not cause exceedances of standards in receiving waters. Reduction in monitoring frequency provides the Copermittees with more time and resources to investigate problem storm drains, as required in MRP sections II.A.6.b.3-5. The monitoring frequencies in the MRP are recommended by the Copermittees in their ROWD.²⁶¹

Section II.A.6.b.(2) of the MRP requires the Copermittees to notify the Regional Board if they are going to reduce the monitoring frequency of a coastal storm drain. This will allow the Regional Board the opportunity to review the proposed reduction prior to the reduction being enacted by the Copermittee.

Sections II.A.6.b.(3-5) of the MRP identifies when follow-up investigations must be conducted based on results of coastal storm drain monitoring. Criteria to trigger investigations is needed to ensure that problem storm drains are investigated. Without criteria triggering investigations, there is the potential that sources causing high bacteria levels in storms drains and coastal receiving waters could go uninvestigated.

Section II.A.6.b.(6) of the MRP requires the Copermittees to provide notification of exceedances of public health standards so that proper action can be taken by public health agencies.

Toxic Hot Spot Monitoring

Section II.A.7 of the MRP requires the Copermittees to develop and implement a monitoring program for Toxic Hot Spots in San Diego Bay. This requirement is identical to the requirement included in the receiving waters monitoring and reporting program for Order No. 2001-01, and is necessary to ensure the Order is consistent with the SWRCB's June 1999 Consolidated Toxic Hot Spot Cleanup Plan.

Pyrethroids Monitoring

Section II.A.8 of the MRP requires the Copermittees to develop and implement a monitoring program which addresses pyrethroids. A program to monitor pyrethroids is needed because they are the leading insecticides sold to homeowners and have been found at toxic levels in suburban

²⁶¹ San Diego County Copermittees, 2005. Report of Waste Discharge. Attachment 4.

stream sediments in California when investigated.²⁶² Moreover, their use is likely to increase as diazinon use decreases. Monitoring of pyrethroids will help guide efforts to ensure that the gains achieved by the phasing out of diazinon are not nullified by increased use of pyrethroids.

Since a monitoring program for pyrethroids is new, the Copermittees are provided significant leeway in the development and implementation of the program. The Copermittees can utilize the flexibility incorporated into the MRP to develop a program that is workable for them while providing the necessary information. Moreover, the MRP provides the Copermittees with over a year to develop the program.

Trash Monitoring

Section II.A.9 of the MRP requires the Copermittees to develop and implement a monitoring program which addresses trash. A program to monitor trash is needed because trash conditions impacting beneficial uses have frequently been observed within the Copermittees' jurisdictions. For example, the Regional Board directed the Copermittees within the watersheds of Chollas and Paleta Creeks to implement the "iterative process" to address violations of water quality standards due to trash conditions within the creeks.²⁶³ The Regional Board also issued a Notice of Violation to the City of Escondido for trash conditions in Escondido Creek.²⁶⁴ Moreover, the Copermittees have identified trash as a regional priority.²⁶⁵

Since a monitoring program for trash is new, the Copermittees are provided significant leeway in the development and implementation of the program. The Copermittees can utilize the flexibility incorporated into the MRP to develop program that is workable for them while providing the necessary information. Moreover, the MRP provides the Copermittees with over a year to develop the program.

MS4 Discharge Monitoring

Section II.A.10 of the MRP requires the Copermittees to develop and implement a program to monitor and characterize pollutant discharges from MS4 outfalls. After over 15 years of program implementation, most Copermittees have not monitored their MS4 discharges significantly and still do not know the quality of those discharges during various conditions. Such monitoring is critical, since it will provide for prioritization of areas for increased management efforts. It will also provide the Copermittees the ability to better assess and improve their jurisdictional programs and BMPs. For example, the Copermittees' assessment framework calls for assessing changes in load reductions and MS4 discharge quality.²⁶⁶ Monitoring of MS4 discharges will enable the Copermittees to meet these program assessment goals. Without monitoring of MS4 discharges, it is unclear how these program assessment goals will be met. This type of monitoring is recommended for high priority outfalls by the Stormwater Monitoring Coalitions' Model Monitoring Technical Committee.²⁶⁷ It is expected to help answer management questions

²⁶² Science News Online, 2006. A Little Less Green? Studies Challenge the Benign Image of Pyrethroid Insecticides. www.sciencenews.org/articles/20060204/bob9/asp.

²⁶³ Regional Board, 2001. California Water Code Section 13267 Directives Issued to the City of San Diego, City of La Mesa, City of Lemon Grove, and City of National City.

²⁶⁴ Regional Board, 2000. Notice of Violation No. 2000-181.

²⁶⁵ San Diego County Copermittees, 2005. Report of Waste Discharge. P. C-3.

²⁶⁶ San Diego Municipal Stormwater Copermittees, 2003. A Framework for Assessing the Effectiveness of Jurisdictional Urban Runoff Management Programs. P. 14.

²⁶⁷ Model Monitoring Technical Committee, 2004. Model Monitoring Program for Municipal Separate Storm Sewer Systems in Southern California. P. 5-55.

3 and 4, which is consistent with Tetra Tech's review of the Copermittees' monitoring proposal, which stated "give substantially more attention of questions 3 and 4."²⁶⁸ It will also address MRP goals 1, 2, 4, 5, 6, and 7.

Since a monitoring program for MS4 discharges is new, the Copermittees are provided significant leeway in the development and implementation of the program. The Copermittees can utilize the flexibility incorporated into the MRP to develop program that is workable for them while providing the necessary information. Moreover, the MRP provides the Copermittees with over a year to develop the program.

Source Identification Studies

Section II.A.11 of the MRP requires the Copermittees to develop and implement a program to identify sources of discharges of pollutants causing the high priority water quality problems within each watershed. Identification of sources causing high priority water quality problems is a central purpose of urban runoff management programs. Monitoring which enables the Copermittees to identify sources of water quality problems aids the Copermittees in focusing their management efforts and improving their programs. In turn, the Copermittees' programs can abate identified sources, which will improve the quality of urban runoff discharges and receiving waters. This monitoring is needed to address management question 4 (What are the sources to urban runoff that contribute to receiving water problems?). Source identification monitoring is a key component of the Model Monitoring Program, which states "once it has been determined [...] that urban runoff is, or is likely to be, a significant source of one or more receiving water problems, then more intensive source identification efforts are called for."²⁶⁹ Moreover, in its review of the Copermittees' monitoring proposal, Tetra Tech finds that "after some years of assessment monitoring, it is time to look more systematically at determining the relative urban contributions and the sources of urban runoff that contribute to identified receiving water problems."²⁷⁰

Since a monitoring program for source identification is mostly new, the Copermittees are provided significant leeway in the development and implementation of the program. The Copermittees can utilize the flexibility incorporated into the MRP to develop program that is workable for them while providing the necessary information. Moreover, the MRP provides the Copermittees with over a year to develop the program.

TMDL Monitoring

Section II.A.12 of the MRP requires the Copermittees to continue to monitor for TMDLs in Chollas Creek as required in the Regional Board's Investigation Order No. R9-2004-0277.

Regional Monitoring Program

Section II.B.1 of the MRP requires the Copermittees to conduct regional monitoring if directed by the Executive Officer. Such investigations may be required under CWC sections 13267 and 13383.

²⁶⁸ Tetra Tech Inc., 2006. Review of San Diego County MS4 Monitoring Program. P. 15.

²⁶⁹ Model Monitoring Technical Committee, 2004. Model Monitoring Program for Municipal Separate Storm Sewer Systems in Southern California. P. 4-17.

²⁷⁰ Tetra Tech Inc., 2006. Review of San Diego County MS4 Monitoring Program. P. 15.

Section II.B.2 of the MRP allows the Copermittees to participate in Bight '08. This will provide the Copermittees and Regional Board with insight on the impact of urban runoff on a regional level in the Southern California Bight. Participation in Bight '08 was recommended by the Copermittees in their ROWD.²⁷¹ Since participation in Bight '08 is optional for the Copermittees, this section outlines the monitoring which must be conducted if the Copermittees do not participate in the study. The monitoring the Copermittees are to conduct if they do not participate in Bight '08 is consistent with the monitoring they are required to conduct in other years.

Special Studies

Section II.C of the MRP requires the Copermittees to conduct special investigations if directed by the Executive Officer. Such investigations may be required under California Water Code sections 13267 and 13383.

Dry Weather Field Screening and Analytical Monitoring

Section II.D of the MRP requires the Copermittees to conduct dry weather field screening and analytical monitoring. In general, the Order's requirements are the same as the dry weather monitoring requirements of Order No. 2001-01. Significant changes in the requirements are discussed below.

Section II.D.1 of the MRP requires the Copermittees to select dry weather monitoring stations to cover the entire MS4 system, as well as be in compliance with minimum guidelines/criteria. These criteria require a minimum number of stations per square mile. Additional language has been added to provide the Copermittees flexibility in providing equivalent coverage of the MS4 with fewer stations.

In its October 29, 2004 letter to the Copermittees, as well as in subsequent meetings, the Regional Board notified the Copermittees that a process should be developed for determining the minimum number of dry weather sampling stations that should be required in each jurisdiction. The process was needed due to the apparent disparity in the number of sampling stations among the Copermittees. The Copermittees formed a subcommittee to address this issue, but were unable to develop a consensus process. As a result, the Copermittees have requested that a standardized method for determining number of dry monitoring stations not be included in the Order. In response, the Regional Board has relied on Order No. 2001-01's requirements and some additional clarifying language. This continues Order No. 2001-01's process for identifying the number of stations, while allowing the Regional Board to evaluate the adequacy of the each Copermittee's number of dry weather stations.

Order No. 2001-01's requirement for a monitoring map (Task 5) has been moved to the Illicit Discharge Detection and Elimination Component of Order No. R9-2007-0001. This has been done for clarification purposes, since map development is not expressly a monitoring effort.

Section II.D.3 of the MRP requires the Copermittees to collect and analyze dry weather samples using laboratory or field screening methods. Language to has been added to this section to reflect that the Copermittees must collect samples for analytical laboratory analysis for at least 25% of dry weather monitoring stations.

²⁷¹ San Diego County Copermittees, 2005. Report of Waste Discharge. Attachment 3, p. 12.

In the ROWD, the Copermittees requested field screening be allowed for surfactants and dissolved copper constituents. The Copermittees also requested that Colilert and Enterolert methods should be allowed for bacteria sampling. The Regional Board agrees with the Copermittees' proposed changes since they will expedite the turnaround time for sampling results for these constituents and assist the Copermittees in their IC/ID investigations. In response the Copermittees' request, surfactants and dissolved copper have been added to the list of field screening constituents. A footnote has also been added allowing for use of Colilert and Enterolert methods for bacteria.

Monitoring Provisions

Section II.E of the MRP includes monitoring provisions which are standard requirements for all municipal storm water permits.

3. Reporting Program

Section III.1 of the MRP discusses submittal of the Jurisdictional Urban Runoff Management Program Annual Reports. The section continues the approach utilized under the requirements of Order No. 2001-01, where Copermittees submit their reports to the Principal Permittee to be unified into one document. The section moves forward the due date for these annual reports from January 31 to September 30. This requires jurisdictional annual reports to be submitted closer to the end of the reporting period they address, which will result in earlier review by the Regional Board. Submittal will also be staggered with submittal of the watershed and regional annual reports, spreading out Regional Board review of annual reports, leading to faster review. Earlier and faster review is useful, because Regional Board comments can be received and responded to quicker by the Copermittees. In this manner, Copermittee programs can be modified and benefit from the jurisdictional annual report review, comment, response process at an earlier date, leading to more effective program over the long-term. In their ROWD, the Copermittees agree that separating due dates for jurisdictional and watershed annual reports would be helpful in spreading out the workload associated with their preparation.²⁷²

Sections III.2.a and III.2.c of the MRP continues the reporting approach utilized under the requirements of Order No. 2001-01, where Lead Permittees for each watershed submit their annual reports to the Principal Permittee to be unified into one document.

Section III.2.b of the MRP outlines the information to be included in the Copermittees' Watershed Urban Runoff Management Program Annual Reports. Significant detail is included regarding what information should be in the annual reports in order to provide certainty to the Copermittees when they develop and submit their annual reports. By providing detail for what information should be included in the annual reports, time spent by the Copermittees and Regional Board to generate, review, and comment on annual reports should be reduced.

Section III.3 of the MRP outlines the information to be included in the Copermittees' RURMP Annual Reports. Significant detail is included regarding what information should be in the annual reports in order to provide certainty to the Copermittees when they develop and submit their annual reports. By providing detail for what information should be included in the annual reports, time spent by the Copermittees and Regional Board to generate, review, and comment on annual reports should be reduced.

²⁷² San Diego County Copermittees, 2005. Report of Waste Discharge. P. D-81.

Section III.4.a of the MRP requires the Copermittees to annually submit a description of the monitoring that will be conducted prior to the start of each monitoring year. This is needed because of the changes the monitoring program frequently undergoes each year. For example, as monitoring programs develop, some monitoring components of the programs are added or dropped. In addition, requirements for conducting monitoring efforts such as TIEs may be applicable. A description of the monitoring to be conducted each year will aid the Regional Board and Copermittees in tracking monitoring activities and compliance with the MRP.

Section III.4.b of the MRP outlines the information to be included in the Copermittees' Receiving Waters Monitoring Annual Reports. The information required to be included in the reports is needed to meet the goals of the MRP and answer the MRP's management questions. The reporting requirements emphasize identifying and assessing the impact of urban runoff on receiving water quality, as well as the impact of the Copermittees' programs on urban runoff quality. Significant detail is included regarding what information should be in the annual reports in order to provide certainty to the Copermittees when they develop and submit their annual reports. By providing detail for what information should be included in the annual reports, time spent by the Copermittees and Regional Board to generate, review, and comment on annual reports should be reduced.

Section III.4.c of the MRP requires the Copermittees to submit a description of the new monitoring programs to be developed under the MRP. Submittal of such a document is necessary in order to identify the monitoring that will be conducted and provide the Regional Board the opportunity to review the monitoring programs.

Section III.4.d of the MRP requires the City of San Diego to report on the Shelter Island Yacht Basin TMDL in order to exhibit that the WLA can be expected to continue to be met. This report is necessary, since MS4 discharge monitoring is not required by the TMDL.

Section III.4.e of the MRP requires that monitoring programs comply with standard provisions, notifications, and reporting requirements.

Section III.4.f of the MRP requires that the Copermittees make data available to the Regional Board during report preparation, if requested. This is a necessary option since monitoring annual reports are not submitted for many months after much of the monitoring data is collected.

Section III.5 of the MRP allows for the Copermittees to develop and submit a reporting format for annual report integration. In their ROWD, the Copermittees requested a requirement that annual reporting ultimately be integrated.²⁷³ Rather than including annual report integration as a requirement in the Order, it is included as an option for the Copermittees to utilize. Annual report integration is left as an option because information addressing what such integration would encompass is largely unknown. Annual reporting is an important tool for the Regional Board for compliance assessment. Where the outcomes regarding compliance assessment are uncertain, it is more appropriate to incorporate such concepts into the Order as options, instead of requirements. However, nothing in the Order prevents the Copermittees from developing an annual report integration format for Regional Board review and approval. To clarify Regional Board expectations for an annual report integration format, minimum standards for the format are provided in the Order.

²⁷³ San Diego County Copermittees, 2005. Report of Waste Discharge. P. D-77.

Section III.6 of the MRP includes universal reporting requirements, which have not changed from the requirements of Order No. 2001-01.

Section III.7 of the MRP clarifies that reporting should continue as it is conducted under Order No. 2001-01 until reporting requirements under Order No. R9-2007-0001 begin.

ATTACHMENT 43

**CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
SAN DIEGO REGION**

**ORDER NO. R9-2013-0001,
AS AMENDED BY ORDER NOS. R9-2015-0001 AND R9-2015-0100
NPDES NO. CAS0109266**

**NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) PERMIT
AND WASTE DISCHARGE REQUIREMENTS FOR
DISCHARGES FROM THE MUNICIPAL SEPARATE STORM SEWER SYSTEMS (MS4s)
DRAINING THE WATERSHEDS WITHIN THE SAN DIEGO REGION**

The San Diego County Copermittees in Table 1a are subject to waste discharge requirements set forth in this Order.

Table 1a. San Diego County Copermittees

City of Carlsbad	City of Oceanside
City of Chula Vista	City of Poway
City of Coronado	City of San Diego
City of Del Mar	City of San Marcos
City of El Cajon	City of Santee
City of Encinitas	City of Solana Beach
City of Escondido	City of Vista
City of Imperial Beach	County of San Diego
City of La Mesa	San Diego County Regional Airport Authority
City of Lemon Grove	San Diego Unified Port District
City of National City	

The Orange County Copermittees in Table 1b are subject to waste discharge requirements set forth in this Order.

Table 1b. Orange County Copermittees¹

City of Aliso Viejo	City of Rancho Santa Margarita
City of Dana Point	City of San Clemente
City of Laguna Beach	City of San Juan Capistrano
City of Laguna Hills	City of Laguna Woods
City of Laguna Niguel	County of Orange
City of Mission Viejo	Orange County Flood Control District

¹ While not listed in Table 1b., the City of Lake Forest remains a Copermittee under this Order until the later effective date of this Order or the effective date of Santa Ana Water Board Tentative Order No. R8-2015-0001. Thereafter, the City of Lake Forest will no longer be considered a Copermittee under this Order because its Phase I MS4 discharges will be regulated by the Santa Ana Water Board pursuant to Water Code section 13228 designation. The requirements of this Order that apply to the City of Lake Forest for the duration of this Order, however, are described in Finding 29 and Footnote 2 to Table B-1.

The Riverside County Copermittees in Table 1c are subject to waste discharge requirements set forth in this Order.

Table 1c. Riverside County Copermittees

City of Murrieta	County of Riverside
City of Temecula	Riverside County Flood Control and Water Conservation District
City of Wildomar	

The term Copermittee in this Order refers to any San Diego County, Orange County, or Riverside County Copermittee covered under this Order, unless specified otherwise.

This Order provides permit coverage for the Copermittee discharges described in Table 2.

Table 2. Discharge Locations and Receiving Waters

Discharge Points	Locations throughout San Diego Region
Discharge Description	Municipal Separate Storm Sewer System (MS4) Discharges
Receiving Waters	Inland Surface Waters, Enclosed Bays and Estuaries, and Coastal Ocean Waters of the San Diego Region

Table 3. Administrative Information

This Order was adopted by the San Diego Water Board on:	May 8, 2013
Order No. R9-2013-0001 became effective on:	June 27, 2013
This Order as amended by R9-2015-0001 became effective on:	April 1, 2015
This Order as amended by R9-2015-0100 became effective on:	January 7, 2016
This Order will expire on:	June 27, 2018
The Copermittees must file a Report of Waste Discharge in accordance with Title 23, California Code of Regulations, as application for issuance of new waste discharge requirements no later than 180 days in advance of the Order expiration date.	

I, David W. Gibson, Executive Officer, do hereby certify that this Order with all attachments is a full, true, and correct copy of an Order adopted by the California Regional Water Quality Control Board, San Diego Region, on May 8, 2013, as amended by adoption of Order No. R9-2015-0001 on February 11, 2015, and as amended by adoption of Order No. R9-2015-0100 on November 18, 2015.



David W. Gibson
 Executive Officer

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I. FINDINGS

The California Regional Water Quality Control Board, San Diego Region (San Diego Water Board), finds that:

JURISDICTION

- 1. MS4 Ownership or Operation.** Each of the Copermitees owns or operates an MS4, through which it discharges storm water and non-storm water into waters of the U.S. within the San Diego Region. These MS4s fall into one or more of the following categories: (1) a medium or large MS4 that services a population of greater than 100,000 or 250,000 respectively; or (2) a small MS4 that is "interrelated" to a medium or large MS4; or (3) an MS4 which contributes to a violation of a water quality standard; or (4) an MS4 which is a significant contributor of pollutants to waters of the U.S.
- 2. Legal and Regulatory Authority.** This Order is issued pursuant to section 402 of the federal Clean Water Act (CWA) and implementing regulations (Code of Federal Regulations [CFR] Title 40, Part 122 [40 CFR 122]) adopted by the United States Environmental Protection Agency (USEPA), and chapter 5.5, division 7 of the California Water Code (CWC) (commencing with section 13370). This Order serves as an NPDES permit for discharges from MS4s to surface waters. This Order also serves as waste discharge requirements (WDRs) pursuant to article 4, chapter 4, division 7 of the CWC (commencing with section 13260).

The San Diego Water Board has the legal authority to issue a regional MS4 permit pursuant to its authority under CWA section 402(p)(3)(B) and 40 CFR 122.26(a)(1)(v). The USEPA also made it clear that the permitting authority, in this case the San Diego Water Board, has the flexibility to establish system- or region-wide permits (55 Federal Register [FR] 47990, 48039-48042). The regional nature of this Order will ensure consistency of regulation within watersheds and is expected to result in overall cost savings for the Copermitees and San Diego Water Board.

The federal regulations make it clear that the Copermitees need only comply with permit conditions relating to discharges from the MS4s for which they are operators (40 CFR 122.26(a)(3)(vi)). This Order does not require the Copermitees to manage storm water outside of their jurisdictional boundaries, but rather to work collectively to improve storm water management within watersheds.

- 3. CWA NPDES Permit Conditions.** Pursuant to CWA section 402(p)(3)(B), NPDES permits for storm water discharges from MS4s must include requirements to effectively prohibit non-storm water discharges into MS4s, and require controls to reduce the discharge of pollutants in storm water to the maximum extent practicable (MEP), and to require other provisions as the San Diego Water Board determines are appropriate to control such pollutants. This Order prescribes conditions to assure compliance with the CWA requirements for owners and operators of MS4s to effectively prohibit non-storm water discharges into the MS4s, and require controls to reduce the discharge of pollutants in storm water from the MS4s to the MEP.

4. CWA and CWC Monitoring Requirements. CWA section 308(a) and 40 CFR 122.41(h),(j)-(l) and 122.48 require that NPDES permits must specify monitoring and reporting requirements. Federal regulations applicable to large and medium MS4s also specify additional monitoring and reporting requirements in 40 CFR 122.26(d)(1)(iv)(D), 122.26(d)(1)(v)(B), 122.26(d)(2)(i)(F), 122.26(d)(2)(iii)(D), 122.26(d)(2)(iv)(B)(2) and 122.42(c). CWC section 13383 authorizes the San Diego Water Board to establish monitoring, inspection, entry, reporting and recordkeeping requirements. This Order establishes monitoring and reporting requirements to implement federal and State requirements. This Order also includes requirements for the Orange County Copermittees to participate in, and together with South Orange County Wastewater Authority and Orange County Health Care Agency, share responsibility for implementing the unified approach to beach water quality monitoring and assessment program set forth in the October 2014 report, *Workgroup Recommendation for a Unified Beach Water Quality Monitoring and Assessment Program in South Orange County*, issued pursuant to CWC section 13383 in the San Diego Water Board December 5, 2014 Letter Directive.

5. Total Maximum Daily Loads. CWA section 303(d)(1)(A) requires that “[e]ach state shall identify those waters within its boundaries for which the effluent limitations are not stringent enough to implement any water quality standard applicable to such waters.” The CWA also requires states to establish a priority ranking of impaired water bodies known as Water Quality Limited Segments and to establish Total Maximum Daily Loads (TMDLs) for such waters. This priority list of impaired water bodies is called the Clean Water Act Section 303(d) List of Water Quality Limited Segments, commonly referred to as the 303(d) List. The CWA requires the 303(d) List to be updated every two years.

TMDLs are numerical calculations of the maximum amount of a pollutant that a water body can assimilate and still meet water quality standards. A TMDL is the sum of the allowable loads of a single pollutant from all contributing point sources (waste load allocations or WLAs) and non-point sources (load allocations or LAs), background contribution, plus a margin of safety. Discharges from MS4s are point source discharges. The federal regulations (40 CFR 122.44(d)(1)(vii)(B)) require that NPDES permits incorporate water quality based effluent limitations (WQBELs) developed to protect a narrative water quality criterion, a numeric water quality criterion, or both, consistent with the assumptions and requirements of any available WLA for the discharge. Requirements of this Order implement the TMDLs established by the San Diego Water Board or USEPA as of the date this Order was amended in 2015. This Order establishes WQBELs consistent with the assumptions and requirements of all available TMDL WLAs assigned to discharges from the Copermittees’ MS4s.

6. Non-Storm Water Discharges. Pursuant to CWA section 402(p)(3)(B)(ii), this Order requires each Copermittee to effectively prohibit discharges of non-storm water into its MS4. Nevertheless, non-storm water discharges into and from the

MS4s continue to be reported to the San Diego Water Board by the Copermittees and other persons. Monitoring conducted by the Copermittees, as well as the 303(d) List, have identified dry weather, non-storm water discharges from the MS4s as a source of pollutants causing or contributing to receiving water quality impairments in the San Diego Region. The federal regulations (40 CFR 122.26(d)(2)(iv)(B)(1)) require the Copermittees to have a program to prevent illicit discharges to the MS4. The federal regulations, however, allow for specific categories of non-storm water discharges or flows to be addressed as illicit discharges only where such discharges are identified as sources of pollutants to waters of the U.S.

- 7. In-Stream Treatment Systems.** Pursuant to federal regulations (40 CFR 131.10(a)), in no case shall a state adopt waste transport or waste assimilation as a designated use for any waters of the U.S. Authorizing the construction of a runoff treatment facility within a water of the U.S., or using the water body itself as a treatment system or for conveyance to a treatment system, would be tantamount to accepting waste assimilation as an appropriate use for that water body. Runoff treatment must occur prior to the discharge of runoff into receiving waters. Treatment control best management practices (BMPs) must not be constructed in waters of the U.S. Construction, operation, and maintenance of a pollution control facility in a water body can negatively impact the physical, chemical, and biological integrity, as well as the beneficial uses, of the water body.

DISCHARGE CHARACTERISTICS AND RUNOFF MANAGEMENT

- 8. Point Source Discharges of Pollutants.** Discharges from the MS4s contain waste, as defined in the CWC, and pollutants that adversely affect the quality of the waters of the state. A discharge from an MS4 is a “discharge of pollutants from a point source” into waters of the U.S. as defined in the CWA. Storm water and non-storm water discharges from the MS4s contain pollutants that cause or threaten to cause a violation of surface water quality standards, as outlined in the Water Quality Control Plan for the San Diego Basin (Basin Plan). Storm water and non-storm water discharges from the MS4s are subject to the conditions and requirements established in the Basin Plan for point source discharges.
- 9. Potential Beneficial Use Impairment.** The discharge of pollutants and/or increased flows from MS4s may cause or threaten to cause the concentration of pollutants to exceed applicable receiving water quality objectives and impair or threaten to impair designated beneficial uses resulting in a condition of pollution, contamination, or nuisance.
- 10. Pollutants Generated by Land Development.** Land development has created and continues to create new sources of non-storm water discharges and pollutants in storm water discharges as human population density increases. This brings higher levels of car emissions, car maintenance wastes, municipal sewage, pesticides, household hazardous wastes, pet wastes, and trash. Pollutants from these sources are dumped or washed off the surface by non-storm water or storm water flows into

and from the MS4s. When development converts natural vegetated pervious ground cover to impervious surfaces such as paved highways, streets, rooftops, and parking lots, the natural absorption and infiltration abilities of the land are lost. Therefore, runoff leaving a developed area without BMPs that can maintain pre-development runoff conditions will contain greater pollutant loads and have significantly greater runoff volume, velocity, and peak flow rate than pre-development runoff conditions from the same area.

11. Runoff Discharges to Receiving Waters. The MS4s discharge runoff into lakes, drinking water reservoirs, rivers, streams, creeks, bays, estuaries, coastal lagoons, the Pacific Ocean, and tributaries thereto within the eleven hydrologic units comprising the San Diego Region. Historic and current development makes use of natural drainage patterns and features as conveyances for runoff. Rivers, streams and creeks in developed areas used in this manner are part of the Copermittees' MS4s regardless of whether they are natural, anthropogenic, or partially modified features. In these cases, the rivers, streams and creeks in the developed areas of the Copermittees' jurisdictions are both an MS4 and receiving water. Numerous receiving water bodies and water body segments have been designated as impaired by the San Diego Water Board pursuant to CWA section 303(d).

12. Pollutants in Runoff. The most common pollutants in runoff discharged from the MS4s include total suspended solids, sediment, pathogens (e.g., bacteria, viruses, protozoa), heavy metals (e.g., cadmium, copper, lead, and zinc), petroleum products and polynuclear aromatic hydrocarbons, synthetic organics (e.g., pesticides, herbicides, and PCBs), nutrients (e.g., nitrogen and phosphorus), oxygen-demanding substances (e.g., decaying vegetation, animal waste), detergents, and trash. As operators of the MS4s, the Copermittees cannot passively receive and discharge pollutants from third parties. By providing free and open access to an MS4 that conveys discharges to waters of the U.S., the operator essentially accepts responsibility for discharges into the MS4 that it does not prohibit or otherwise control. These discharges may cause or contribute to a condition of pollution or a violation of water quality standards.

13. Human Health and Aquatic Life Impairment. Pollutants in runoff discharged from the MS4s can threaten and adversely affect human health and aquatic organisms. Adverse responses of organisms to chemicals or physical agents in runoff range from physiological responses such as impaired reproduction or growth anomalies to mortality. Increased volume, velocity, rate, and duration of storm water runoff greatly accelerate the erosion of downstream natural channels. This alters stream channels and habitats and can adversely affect aquatic and terrestrial organisms.

14. Water Quality Effects. The Copermittees' water quality monitoring data submitted to date documents persistent exceedances of Basin Plan water quality objectives for runoff-related pollutants at various watershed monitoring stations. Persistent toxicity has also been observed at several watershed monitoring stations. In addition, bioassessment data indicate that the majority of the monitored receiving waters have

Poor to Very Poor Index of Biological Integrity (IBI) ratings. These findings indicate that runoff discharges are causing or contributing to water quality impairments, and are a leading cause of such impairments in the San Diego Region. Non-storm water discharges from the MS4s have been shown to contribute significant levels of pollutants and flow in arid, developed Southern California watersheds, and contribute significantly to exceedances of applicable receiving water quality objectives.

15. Non-Storm Water and Storm Water Discharges. Non-storm water discharges from the MS4s are not considered storm water discharges and therefore are not subject to the MEP standard of CWA section 402(p)(3)(B)(iii), which is explicitly for “Municipal ... *Stormwater Discharges* (emphasis added)” from the MS4s. Pursuant to CWA 402(p)(3)(B)(ii), non-storm water discharges into the MS4s must be effectively prohibited.

16. Best Management Practices. Waste and pollutants which are deposited and accumulate in MS4 drainage structures will be discharged from these structures to waters of the U.S. unless they are removed. These discharges may cause or contribute to, or threaten to cause or contribute to, a condition of pollution in receiving waters. For this reason, pollutants in storm water discharges from the MS4s can be and must be effectively reduced in runoff by the application of a combination of pollution prevention, source control, and treatment control BMPs. Pollution prevention is the reduction or elimination of pollutant generation at its source and is the best “first line of defense.” Source control BMPs (both structural and non-structural) minimize the contact between pollutants and runoff, therefore keeping pollutants onsite and out of receiving waters. Treatment control BMPs remove pollutants that have been mobilized by storm water or non-storm water flows.

17. BMP Implementation. Runoff needs to be addressed during the three major phases of development (planning, construction, and use) in order to reduce the discharge of storm water pollutants to the MEP, effectively prohibit non-storm water discharges, and protect receiving waters. Development which is not guided by water quality planning policies and principles can result in increased pollutant load discharges, flow rates, and flow durations which can negatively affect receiving water beneficial uses. Construction sites without adequate BMP implementation result in sediment runoff rates which greatly exceed natural erosion rates of undisturbed lands, causing siltation and impairment of receiving waters. Existing development can generate substantial pollutant loads which are discharged in runoff to receiving waters. Retrofitting areas of existing development with storm water pollutant control and hydromodification management BMPs is necessary to address storm water discharges from existing development that may cause or contribute to a condition of pollution or a violation of water quality standards.

18. Water Quality Improvements. Since 1990, the Copermittees have been developing and implementing programs and BMPs intended to effectively prohibit non-storm water discharges to the MS4s and control pollutants in storm water

discharges from the MS4s to receiving waters. As a result, several water body / pollutant combinations have been de-listed from the CWA Section 303(d) List, beach closures have been significantly reduced, and public awareness of water quality issues has increased. The Copermitttees have been able to achieve improvements in water quality in some respects, but significant improvements to the quality of receiving waters and discharges from the MS4s are still necessary to meet the requirements and objectives of the CWA.

19. Long Term Planning and Implementation. Federal regulations require municipal storm water permits to expire 5 years from adoption, after which the permit must be renewed and reissued. The San Diego Water Board recognizes that the degradation of water quality and impacts to beneficial uses of the waters in the San Diego Region occurred over several decades. The San Diego Water Board further recognizes that a decade or more may be necessary to realize demonstrable improvement to the quality of waters in the San Diego Region. This Order includes a long term planning and implementation approach that will require more than a single permit term to complete.

WATER QUALITY STANDARDS

20. Basin Plan. The San Diego Water Board adopted the Water Quality Control Plan for the San Diego Basin (Basin Plan) on September 8, 1994, that designates beneficial uses, establishes water quality objectives, and contains implementation programs and policies to achieve those objectives for receiving waters addressed through the plan. The Basin Plan was subsequently approved by the State Water Resources Control Board (State Water Board) on December 13, 1994. Subsequent revisions to the Basin Plan have also been adopted by the San Diego Water Board and approved by the State Water Board. Requirements of this Order implement the Basin Plan.

The Basin Plan identifies the following existing and potential beneficial uses for inland surface waters in the San Diego Region: Municipal and Domestic Supply (MUN), Agricultural Supply (AGR), Industrial Process Supply (PROC), Industrial Service Supply (IND), Ground Water Recharge (GWR), Contact Water Recreation (REC1), Non-contact Water Recreation (REC2), Warm Freshwater Habitat (WARM), Cold Freshwater Habitat (COLD), Wildlife Habitat (WILD), Rare, Threatened, or Endangered Species (RARE), Freshwater Replenishment (FRSH), Hydropower Generation (POW), and Preservation of Biological Habitats of Special Significance (BIOL). The following additional existing and potential beneficial uses are identified for coastal waters of the San Diego Region: Navigation (NAV), Commercial and Sport Fishing (COMM), Estuarine Habitat (EST), Marine Habitat (MAR), Aquaculture (AQUA), Migration of Aquatic Organisms (MIGR), Spawning, Reproduction, and/or Early Development (SPWN), and Shellfish Harvesting (SHELL).

21. Ocean Plan. The State Water Board adopted the Water Quality Control Plan for Ocean Waters of California, California Ocean Plan (Ocean Plan) in 1972 and amended it in 1978, 1983, 1988, 1990, 1997, 2000, and 2005. The State Water Board adopted the latest amendment on October 16, 2012 and it became effective on August 19, 2013. The Ocean Plan is applicable, in its entirety, to point source discharges to the ocean. Requirements of this Order implement the Ocean Plan.

The Ocean Plan identifies the following beneficial uses of ocean waters of the state to be protected: Industrial water supply; water contact and non-contact recreation, including aesthetic enjoyment; navigation; commercial and sport fishing; mariculture; preservation and enhancement of designated Areas of Special Biological Significance; rare and endangered species; marine habitat; fish spawning and shellfish harvesting.

22. Sediment Quality Control Plan. On September 16, 2008, the State Water Board adopted the Water Quality Control Plan for Enclosed Bays and Estuaries – Part 1 Sediment Quality (Sediment Quality Control Plan). The Sediment Quality Control Plan became effective on August 25, 2009. The Sediment Quality Control Plan establishes: 1) narrative sediment quality objectives for benthic community protection from exposure to contaminants in sediment and to protect human health, and 2) a program of implementation using a multiple lines of evidence approach to interpret the narrative sediment quality objectives. Requirements of this Order implement the Sediment Quality Control Plan.

23. National Toxics Rule and California Toxics Rule. USEPA adopted the National Toxics Rule (NTR) on December 22, 1992, and later amended it on May 4, 1995 and November 9, 1999. About forty criteria in the NTR applied in California. On May 18, 2000, USEPA adopted the California Toxics Rule (CTR). The CTR promulgated new toxics criteria for California and, in addition, incorporated the previously adopted NTR criteria that were applicable in the state. The CTR was amended on February 13, 2001. These rules contain water quality criteria for priority pollutants.

24. Antidegradation Policy. This Order is in conformance with the federal Antidegradation Policy described in 40 CFR 131.12, and State Water Board Resolution No. 68-16, *Statement of Policy with Respect to Maintaining High Quality Waters in California*. Federal regulations at 40 CFR 131.12 require that the State water quality standards include an antidegradation policy consistent with the federal policy. The State Water Board established California's antidegradation policy in State Water Board Resolution No. 68-16. State Water Board Resolution No. 68-16 incorporates the federal antidegradation policy where the federal policy applies under federal law. State Water Board Resolution No. 68-16 requires that existing quality of waters be maintained unless degradation is justified based on specific findings. The Basin Plan implements, and incorporates by reference, both the State and federal antidegradation policies. The Fact Sheet of this Order contains additional discussion about antidegradation.

25. Anti-Backsliding Requirements. Section 402(o)(2) of the CWA and federal regulations at 40 CFR 122.44(l) prohibit backsliding in NPDES permits. These anti-backsliding provisions require effluent limitations in a reissued permit to be as stringent as those in the previous permit, with some exceptions where limitations may be relaxed. All effluent limitations in this Order are at least as stringent as effluent limitations in the previous permits. The Fact Sheet of this Order contains additional discussion about anti-backsliding.

CONSIDERATIONS UNDER FEDERAL AND STATE LAW

26. Coastal Zone Act Reauthorization Amendments. Section 6217(g) of the Coastal Zone Act Reauthorization Amendments of 1990 (CZARA) requires coastal states with approved coastal zone management programs to address non-point source pollution impacting or threatening coastal water quality. CZARA addresses five sources of non-point source pollution: agriculture, silviculture, urban, marinas, and hydromodification. This Order addresses the management measures required for the urban category, with the exception of septic systems. The runoff management programs developed pursuant to this Order fulfill the need for coastal cities to develop a runoff non-point source plan identified in the Non-Point Source Program Strategy and Implementation Plan. The San Diego Water Board addresses septic systems through the administration of other programs.

27. Endangered Species Act. This Order does not authorize any act that results in the taking of a threatened or endangered species or any act that is now prohibited, or becomes prohibited in the future, under either the California Endangered Species Act (Fish and Game Code sections 2050 to 2097) or the Federal Endangered Species Act (16 USC sections 1531 to 1544). This Order requires compliance with receiving water limits, and other requirements to protect the beneficial uses of waters of the State. The Copermittees are responsible for meeting all requirements of the applicable Endangered Species Act.

28. Report of Waste Discharge Process. The waste discharge requirements set forth in this Order are based upon the Report of Waste Discharge submitted by the San Diego County Copermittees prior to the expiration of Order No. R9-2007-0001 (NPDES No. CAS0109266), the Report of Waste Discharge submitted by the Orange County Copermittees prior to the expiration of Order No. R9-2009-0002 (CAS0108740), and the Report of Waste Discharge submitted by the Riverside County Copermittees prior to the expiration of Order No. R9-2010-0016 (CAS0108766).

The federal regulations (40 CFR 122.21(d)(2)) and CWC section 13376 impose a duty on the Copermittees to reapply for continued coverage through submittal of a Report of Waste Discharge no later than 180 days prior to expiration of a currently effective permit. The expiration date of this Order as shown in Table 3, and requirement to file a Report of Waste Discharge no later than 180 days prior to the

expiration date of the Order, applies jointly to the San Diego County, Orange County, and Riverside County Copermittees.

29. Regional Water Board Designation. The Cities of Laguna Hills, Laguna Woods, Lake Forest, Menifee, Murrieta, and Wildomar are located partially within the jurisdictions of the California Regional Water Quality Control Board, Santa Ana Region (Santa Ana Water Board) and the San Diego Water Board and their discharges are subject to regulation by both Regional Water Boards. CWC section 13228 provides a way to streamline the regulation of entities whose jurisdictions straddle the border of two or more Regions. CWC section 13228 is implemented in this Order at the request of these six cities and to ease the regulatory burden of municipalities that lie in both the San Diego Water Board's and the adjacent Santa Ana Water Board's jurisdiction. MS4 discharges from these municipalities are regulated by the San Diego Water Board and Santa Ana Water Board as follows:

- a. Pursuant to CWC section 13228, the Cities of Laguna Hills, Laguna Woods, and Lake Forest submitted written requests that one Regional Water Board be designated to regulate Phase I MS4 discharges for each of the Cities. The Santa Ana Water Board and the San Diego Water Board have entered into an agreement dated February 10, 2015, whereby the Cities of Laguna Woods and Laguna Hills are largely regulated by the San Diego Water Board under this Order, including those portions of the Cities of Laguna Woods and Laguna Hills not within the San Diego Water Board's jurisdiction, upon the effective date of this Order or Santa Ana Water Board Order No. R8-2015-0001, whichever is later. Similarly, the City of Lake Forest, including those portions of the City of Lake Forest within the San Diego Water Board's jurisdiction, is largely regulated by the Santa Ana Water Board under Order No. R8-2015-0001 (NPDES No. CAS618030) upon the later effective date of this Order or Order No. R8-2015-0001. The agreement provides that the City of Lake Forest is required to retain, and continue implementation of, its over-irrigation discharge prohibition in Title 15, Chapter 14.030, List (b) of the City Municipal Code for regulating storm water quality throughout its jurisdiction. The agreement also requires the City of Lake Forest to actively participate during development and implementation of the Aliso Creek Watershed Management Area Water Quality Improvement Plan required pursuant to this Order. Each Regional Water Board retains the authority to enforce provisions of its Phase I MS4 permits issued to each city but compliance will be determined based upon the Phase I MS4 permit in which a particular city is regulated as a Copermittee under the terms of the agreement (Water Code section 13228 (b)). Under the terms of the agreement, any TMDL and associated MS4 permit requirements issued by the San Diego Water Board or the Santa Ana Water Board which include the Cities of Laguna Woods, Laguna Hills or Lake Forest as a responsible party, will be incorporated into the appropriate Phase I MS4 permit by reference. Enforcement of the applicable TMDL will remain with the Regional Water Board which has jurisdiction over the targeted impaired water body. Applicable TMDLs subject to the terms of the agreement include, but are not limited to, the Santa Ana Water Board's San

Diego Creek/Newport Bay TMDL and the San Diego Water Board's Indicator Bacteria Project I Beaches and Creeks TMDL. The San Diego Water Board will periodically review the effectiveness of the agreement during each MS4 permit reissuance. Based on this periodic review the San Diego Water Board may terminate the agreement with Santa Ana Water Board or otherwise modify the agreement subject to the approval of the Santa Ana Water Board.

- b. Pursuant to CWC section 13228, the Cities of Murrieta, Wildomar, and Menifee submitted written requests that one Regional Water Board be designated to regulate Phase I MS4 discharges for each of the Cities. The Santa Ana Water Board and the San Diego Water Board have entered into an agreement dated October 26, 2015, whereby the Cities of Murrieta and Wildomar are largely regulated by the San Diego Water Board under this Order, including those portions of the Cities of Murrieta and Wildomar not within the San Diego Water Board's jurisdiction, upon the effective date of this Order. Similarly, the City of Menifee is largely regulated by the Santa Ana Water Board under Order No. R8-2010-0033 as it may be amended or reissued, including those portions of the City of Menifee within the San Diego Water Board's jurisdiction, upon the effective date of this Order. The agreement also requires the City of Menifee to actively participate during development and implementation of the Santa Margarita River Watershed Management Area Water Quality Improvement Plan required pursuant to this Order. Each Regional Water Board retains the authority to enforce provisions of its Phase I MS4 permits issued to each city but compliance will be determined based upon the Phase I MS4 permit in which a particular city is regulated as a Copermittee under the terms of the agreement (Water Code section 13228 (b)). Under the terms of the agreement, any TMDL and associated MS4 permit requirements issued by the San Diego Water Board or the Santa Ana Water Board which include the Cities of Menifee, Murrieta, or Wildomar as a responsible party, will be incorporated into the appropriate Phase I MS4 permit by reference. Enforcement of the applicable TMDL will remain with the Regional Water Board which has jurisdiction over the targeted impaired water body. Applicable TMDLs subject to the terms of the agreement include, but are not limited to, the Santa Ana Water Board's Lake Elsinore/Canyon Lake Nutrient TMDLs. The San Diego Water Board will periodically review the effectiveness of the agreement during each MS4 permit reissuance. Based on this periodic review the San Diego Water Board may terminate the agreement with Santa Ana Water Board or otherwise modify the agreement subject to the approval of the Santa Ana Water Board.

30. Integrated Report and Clean Water Act Section 303(d) List. The San Diego Water Board and State Water Board submit an Integrated Report to USEPA to comply with the reporting requirements of CWA sections 303(d), 305(b) and 314, which lists the attainment status of water quality standards for water bodies in the San Diego Region. USEPA issued its *Guidance for 2006 Assessment, Listing and Reporting Requirements Pursuant to Sections 303(d), 305(b) and 314 of the Clean Water Act* on July 29, 2005, which advocates the use of a five category approach for

classifying the attainment status of water quality standards for water bodies in the Integrated Report. Water bodies included in Category 5 in the Integrated Report indicate at least one beneficial use is not being supported or is threatened, and a TMDL is required. Water bodies included in Category 5 in the Integrated Report are placed on the 303(d) List.

Water bodies with available data and/or information that indicate at least one beneficial use is not being supported or is threatened, but a TMDL is not required, are included in Category 4 in the Integrated Report. Impaired surface water bodies may be included in Category 4 if a TMDL has been adopted and approved (Category 4a); if other pollution control requirements required by a local, state or federal authority are stringent enough to implement applicable water quality standards within a reasonable period of time (Category 4b); or, if the failure to meet an applicable water quality standard is not caused by a pollutant, but caused by other types of pollution (Category 4c).

Implementation of the requirements of this Order may allow the San Diego Water Board to include surface waters impaired by discharges from the Copermittees' MS4s in Category 4 in the Integrated Report for consideration during the next 303(d) List submittal by the State to USEPA.

31. Economic Considerations. The California Supreme Court has ruled that although CWC section 13263 requires the State and Regional Water Boards (collectively Water Boards) to consider factors set forth in CWC section 13241 when issuing an NPDES permit, the Water Board may not consider the factors to justify imposing pollutant restrictions that are less stringent than the applicable federal regulations require. (*City of Burbank v. State Water Resources Control Bd.* (2005) 35 Cal.4th 613, 618, 626-627.) However, when pollutant restrictions in an NPDES permit are more stringent than federal law requires, CWC section 13263 requires that the Water Boards consider the factors described in CWC section 13241 as they apply to those specific restrictions.

As noted in the following finding, the San Diego Water Board finds that the requirements in this Order are not more stringent than the minimum federal requirements. Therefore, a CWC section 13241 analysis is not required for permit requirements that implement the effective prohibition on the discharge of non-storm water into the MS4 or for controls to reduce the discharge of pollutants in storm water to the MEP, or other provisions that the San Diego Water Board has determined appropriate to control such pollutants, as those requirements are mandated by federal law. Notwithstanding the above, the San Diego Water Board has developed an economic analysis of the requirements in this Order. The economic analysis is provided in the Fact Sheet.

32. Unfunded Mandates. This Order does not constitute an unfunded local government mandate subject to subvention under Article XIII B, Section (6) of the California Constitution for several reasons, including, but not limited to, the following:

- a. This Order implements federally mandated requirements under CWA section 402 (33 USC section 1342(p)(3)(B)).
- b. The local agency Copermittees' obligations under this Order are similar to, and in many respects less stringent than, the obligations of non-governmental and new dischargers who are issued NPDES permits for storm water and non-storm water discharges.
- c. The local agency Copermittees have the authority to levy service charges, fees, or assessments sufficient to pay for compliance with this Order.
- d. The Copermittees have requested permit coverage in lieu of compliance with the complete prohibition against the discharge of pollutants contained in CWA section 301(a) (33 USC section 1311(a)) and in lieu of numeric restrictions on their MS4 discharges (i.e. effluent limitations).
- e. The local agencies' responsibility for preventing discharges of waste that can create conditions of pollution or nuisance from conveyances that are within their ownership or control under State law predates the enactment of Article XIII B, Section (6) of the California Constitution.
- f. The provisions of this Order to implement TMDLs are federal mandates. The CWA requires TMDLs to be developed for water bodies that do not meet federal water quality standards (33 USC section 1313(d)). Once the USEPA or a state develops a TMDL, federal law requires that permits must contain water quality based effluent limitations consistent with the assumptions and requirements of any applicable wasteload allocation (40 CFR 122.44(d)(1)(vii)(B)).

See the Fact Sheet for further discussion of unfunded mandates.

33. California Environmental Quality Act. The issuance of waste discharge requirements and an NPDES permit for the discharge of runoff from MS4s to waters of the U.S. is exempt from the requirement for preparation of environmental documents under the California Environmental Quality Act (CEQA) (Public Resources Code, Division 13, Chapter 3, section 21000 et seq.) in accordance with CWC section 13389.

STATE WATER BOARD DECISIONS

34. Compliance with Prohibitions and Limitations. The receiving water limitation language specified in this Order is consistent with language recommended by the USEPA and established in State Water Board Order WQ 99-05, *Own Motion Review of the Petition of Environmental Health Coalition to Review Waste Discharge Requirements Order No. 96-03, NPDES Permit No. CAS0108740*, adopted by the State Water Board on June 17, 1999. The receiving water limitation language in this Order requires storm water discharges from MS4s to not cause or contribute to a violation of water quality standards, which is to be achieved through an iterative approach requiring the implementation of improved and better-tailored BMPs over time. Implementation of the iterative approach to comply with receiving water

limitations based on applicable water quality standards is necessary to ensure that storm water discharges from the MS4 will not ultimately cause or contribute to violations of water quality standards and will not create conditions of pollution, contamination, or nuisance.

The San Diego, Orange County, and Riverside County Copermittees have asserted that the prohibitions and limitations may result in many years of noncompliance because years of technical efforts may ultimately be required to achieve compliance with the prohibitions and limitations, especially for wet weather discharges. To address this concern, this Order includes an option that allows a Copermittee to be deemed in compliance with the prohibitions and limitations where more than one permit term may be necessary to achieve full compliance with the prohibitions and limitations. One or more Copermittees within a Watershed Management Area can choose to implement this option.

An alternative compliance pathway option has been included in this Order consistent with the approach described in Order WQ 2015-0075, *In the Matter of Review of Order No. R4-2012-0175, NPDES Permit No. CAS004001, Waste Discharge Requirements for Municipal Separate Storm Sewer System (MS4) Discharges within the Coastal Watersheds of Los Angeles County, Except Those Discharges Originating from the City of Long Beach MS4*, adopted by the State Water Board on June 16, 2015. State Water Board Order WQ 2015-0075 directs the Regional Water Boards to consider a watershed-based planning and implementation approach to compliance with receiving water limitations when issuing Phase I MS4 permits going forward. Order WQ 2015-0075 included seven principles that the Regional Water Boards are expected to follow when incorporating an alternative compliance pathway into an MS4 permit. The Fact Sheet discusses the incorporation of the seven principles stipulated in State Water Board Order WQ 2015-0075 into the alternative compliance pathway option in this Order.

35. Special Conditions for Areas of Special Biological Significance. On March 20, 2012, the State Water Board approved Resolution No. 2012-0012 approving a general exception to the Ocean Plan prohibition against discharges to Areas of Special Biological Significance (ASBS) for certain nonpoint source discharges and NPDES permitted municipal storm water discharges (General Exception). On June 19, 2012, the State Water Board adopted Order No. 2012-0031, amending the General Exception to require pollutant reductions to be achieved within six years in accordance with ASBS Compliance Plans and ASBS Pollution Prevention Plans. The General Exception requires monitoring and testing of marine aquatic life and water quality in several ASBS to protect California's coastline during storms when rain water overflows into coastal waters. Specific terms, prohibitions, and special conditions were adopted to provide special protections for marine aquatic life and natural water quality in ASBS. The City of San Diego's municipal storm water discharges to the San Diego Marine Life Refuge in La Jolla, and the City of Laguna Beach's municipal storm water discharges to the Heisler Park ASBS are subject to the terms and conditions of the General Exception as amended. The Special Protections contained in Attachment B to the General Exception as amended are

applicable to these discharges, and are hereby incorporated into Attachment A of this Order.

ADMINISTRATIVE FINDINGS

- 36. Executive Officer Delegation of Authority.** The San Diego Water Board by prior resolution has delegated all matters that may legally be delegated to its Executive Officer to act on its behalf pursuant to CWC section 13223. Therefore, the Executive Officer is authorized to act on the San Diego Water Board's behalf on any matter within this Order unless such delegation is unlawful under CWC section 13223 or this Order explicitly states otherwise.
- 37. Standard Provisions.** Standard Provisions, which apply to all NPDES permits in accordance with 40 CFR 122.41, and additional conditions applicable to specified categories of permits in accordance with 40 CFR 122.42, are provided in Attachment B to this Order.
- 38. Fact Sheet.** The Fact Sheet for this Order contains background information, regulatory and legal citations, references and additional explanatory information and data in support of the requirements of this Order. The Fact Sheet is hereby incorporated into this Order and constitutes part of the Findings of this Order.
- 39. Public Notice.** In accordance with State and federal laws and regulations, the San Diego Water Board notified the Copermittees, and interested agencies and persons of its intent to prescribe waste discharge requirements for the control of discharges into and from the MS4s to waters of the U.S. and has provided them with an opportunity to submit their written comments and recommendations. Details of notification are provided in the Fact Sheet.
- 40. Public Hearings.** The San Diego Water Board held a public hearing on April 10 and 11, 2013, that was continued to May 8, 2013 and heard and considered all comments pertaining to the terms and conditions of this Order. The San Diego Water Board also held a public workshop on October 8, 2015, and a public hearing on February 11, 2015, and heard and considered all comments pertaining to the amendment of this Order through Order No. R9-2015-0001. The San Diego Water Board also held a public hearing on November 18, 2015, and heard and considered all comments pertaining to the amendment of this Order through Order No. R9-2015-0100. Details of these public hearings are provided in the Fact Sheet.
- 41. Effective Date.** This Order serves as an NPDES permit pursuant to CWA section 402 or amendments thereto, and as to the San Diego County Copermittees listed in Table 1a, became effective fifty (50) days after the date of its adoption, and as to the Orange County Copermittees listed in Table 1b, became effective on April 1, 2015, after Order No. R9-2015-0001 was adopted, and as to the Riverside County Copermittees listed in Table 1c, became effective on January 7, 2016, after Order No. R9-2015-0100 was adopted, provided that the Regional Administrator, USEPA, Region IX, does not object to this Order.

42. Review by the State Water Board. Any person aggrieved by this action of the San Diego Water Board may petition the State Water Board to review the action in accordance with CWC section 13320 and California Code of Regulations, title 23, sections 2050, and following. The State Water Board must receive the petition by 5:00 p.m., 30 days after the date of this Order, except that if the thirtieth day following the date of this Order falls on a Saturday, Sunday or State holiday, the petition must be received by the State Water Board by 5:00 p.m. on the next business day. Copies of the law and regulations applicable to filing petitions may be found on the Internet at: http://www.waterboards.ca.gov/public_notices/petitions/water_quality or will be provided upon request.

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THEREFORE, IT IS HEREBY ORDERED that the Copermitees, in order to meet the provisions contained in division 7 of the CWC (commencing with section 13000) and regulations adopted thereunder, and the provisions of the CWA and regulations adopted thereunder, must each comply with the requirements of this Order. This action in no way prevents the San Diego Water Board from taking enforcement action for past violations of the previous Order applicable to the Copermitees. If any part of this Order is subject to a temporary stay of enforcement, unless otherwise specified, the Copermitees must comply with the analogous portions of the previous Order, which will remain in effect for all purposes during the pendency of the stay.

II. PROVISIONS

A. PROHIBITIONS AND LIMITATIONS

The purpose of this provision is to describe the conditions under which storm water and non-storm water discharges into and from MS4s are prohibited or limited. The goal of the prohibitions and limitations is to protect the water quality and designated beneficial uses of waters of the state from adverse impacts caused or contributed to by MS4 discharges. This goal will be accomplished through the implementation of water quality improvement strategies and runoff management programs that effectively prohibit non-storm water discharges into the Copermitees' MS4s, and reduce pollutants in storm water discharges from the Copermitees' MS4s to the MEP.

1. Discharge Prohibitions

- a.** Discharges from MS4s in a manner causing, or threatening to cause, a condition of pollution, contamination, or nuisance in receiving waters of the state are prohibited.
- b.** Non-storm water discharges into MS4s are to be effectively prohibited, through the implementation of Provision E.2, unless such discharges are authorized by a separate NPDES permit.
- c.** Discharges from MS4s are subject to all waste discharge prohibitions in the Basin Plan, included in Attachment A to this Order.
- d.** Storm water discharges from the City of San Diego's MS4 to the San Diego Marine Life Refuge in La Jolla, and the City of Laguna Beach's MS4 to the Heisler Park ASBS are authorized under this Order subject to the Special Protections contained in Attachment B to State Water Board Resolution No. 2012-0012, as amended by State Water Board Resolution No. 2012-0031, applicable to these discharges, included in Attachment A to this Order. All other discharges from the Copermitees' MS4s to ASBS are prohibited.

2. Receiving Water Limitations

- a. Discharges from MS4s must not cause or contribute to the violation of water quality standards in any receiving waters, including but not limited to all applicable provisions contained in:
- (1) The San Diego Water Board's Basin Plan, including beneficial uses, water quality objectives, and implementation plans;
 - (2) State Water Board plans for water quality control including the following:
 - (a) Water Quality Control Plan for Control of Temperature in the Coastal and Interstate Waters and Enclosed Bays and Estuaries (Thermal Plan), and
 - (b) The Ocean Plan, including beneficial uses, water quality objectives, and implementation plans;
 - (3) State Water Board policies for water and sediment quality control including the following:
 - (a) Water Quality Control Policy for the Enclosed Bays and Estuaries of California,
 - (b) Sediment Quality Control Plan which includes the following narrative objectives for bays and estuaries:
 - (i) Pollutants in sediments shall not be present in quantities that, alone or in combination, are toxic to benthic communities, and
 - (ii) Pollutants shall not be present in sediments at levels that will bioaccumulate in aquatic life to levels that are harmful to human health,
 - (c) The Statement of Policy with Respect to Maintaining High Quality of Waters in California;²
 - (4) Priority pollutant criteria promulgated by the USEPA through the following:
 - (a) National Toxics Rule (NTR)³ (promulgated on December 22, 1992 and amended on May 4, 1995), and
 - (b) California Toxics Rule (CTR).^{4,5}
- b. Discharges from MS4s composed of storm water runoff must not alter natural ocean water quality in an ASBS.

² State Water Board Resolution No. 68-16

³ 40 CFR 131.36

⁴ 65 Federal Register 31682-31719 (May 18, 2000), adding Section 131.38 to 40 CFR

⁵ If a water quality objective and a CTR criterion are in effect for the same priority pollutant, the more stringent of the two applies.

3. Effluent Limitations

a. TECHNOLOGY BASED EFFLUENT LIMITATIONS

Pollutants in storm water discharges from MS4s must be reduced to the MEP.⁶

b. WATER QUALITY BASED EFFLUENT LIMITATIONS

Each Copermittee must comply with applicable WQBELs established for the TMDLs in Attachment E to this Order, pursuant to the applicable TMDL compliance schedules.

4. Compliance with Discharge Prohibitions and Receiving Water Limitations

Each Copermittee must achieve compliance with Provisions A.1.a, A.1.c and A.2.a of this Order through timely implementation of control measures and other actions as specified in Provisions B and E of this Order, including any modifications. The Water Quality Improvement Plans required under Provision B must be designed and adapted to ultimately achieve compliance with Provisions A.1.a, A.1.c and A.2.a.

a. If exceedance(s) of water quality standards persist in receiving waters notwithstanding implementation of this Order, the Copermittees must comply with the following procedures:

(1) For exceedance(s) of a water quality standard in the process of being addressed by the Water Quality Improvement Plan, the Copermittee(s) must implement the Water Quality Improvement Plan as accepted by the San Diego Water Board, and update the Water Quality Improvement Plan, as necessary, pursuant to Provision F.2.c;

(2) Upon a determination by either the Copermittees or the San Diego Water Board that discharges from the MS4 are causing or contributing to a new exceedance of an applicable water quality standard not addressed by the Water Quality Improvement Plan, the Copermittees must submit the following updates to the Water Quality Improvement Plan pursuant to Provision F.2.c or as part of the Water Quality Improvement Plan Annual Report required under Provision F.3.b, unless the San Diego Water Board directs an earlier submittal:

(a) The water quality improvement strategies being implemented that are effective and will continue to be implemented,

⁶ This does not apply to MS4 discharges which receive subsequent treatment to reduce pollutants in storm water discharges to the MEP prior to entering receiving waters (e.g., low flow diversions to the sanitary sewer). Runoff treatment must occur prior to the discharge of runoff into receiving waters per Finding 7.

- (b) Water quality improvement strategies (i.e. BMPs, retrofitting projects, stream and/or habitat rehabilitation projects, adjustments to jurisdictional runoff management programs, etc.) that will be implemented to reduce or eliminate any pollutants or conditions that are causing or contributing to the exceedance of water quality standards,
 - (c) Updates to the schedule for implementation of the existing and additional water quality improvement strategies, and
 - (d) Updates to the monitoring and assessment program to track progress toward achieving compliance with Provisions A.1.a, A.1.c and A.2.a of this Order;
- (3) The San Diego Water Board may require the incorporation of additional modifications to the Water Quality Improvement Plan required under Provision B. The applicable Copermittees must submit any modifications to the update to the Water Quality Improvement Plan within 90 days of notification that additional modifications are required by the San Diego Water Board, or as otherwise directed;
- (4) Within 90 days of the San Diego Water Board determination that the modifications to the Water Quality Improvement Plan required under Provision A.4.a.(3) meet the requirements of this Order, the applicable Copermittees must revise the jurisdictional runoff management program documents to incorporate the modified water quality improvement strategies that have been and will be implemented, the implementation schedule, and any additional monitoring required; and
- (5) Each Copermittee must implement the updated Water Quality Improvement Plan.
- b.** The procedure set forth above to achieve compliance with Provisions A.1.a, A.1.c and A.2.a of this Order do not have to be repeated for continuing or recurring exceedances of the same water quality standard(s) following implementation of scheduled actions unless directed to do otherwise by the San Diego Water Board.
 - c.** Nothing in Provisions A.4.a and A.4.b prevents the San Diego Water Board from enforcing any provision of this Order while the applicable Copermittees prepare and implement the above update to the Water Quality Improvement Plan and jurisdictional runoff management programs.

B. WATER QUALITY IMPROVEMENT PLANS

The purpose of this provision is to develop Water Quality Improvement Plans that guide the Copermittees' jurisdictional runoff management programs towards achieving the outcome of improved water quality in MS4 discharges and receiving waters. The goal of the Water Quality Improvement Plans is to further the Clean Water Act's objective to protect, preserve, enhance, and restore the water quality and designated beneficial uses of waters of the state. This goal will be accomplished through an adaptive planning and management process that identifies the highest priority water quality conditions within a watershed and implements strategies through the jurisdictional runoff management programs to achieve improvements in the quality of discharges from the MS4s and receiving waters.

1. Watershed Management Areas

The Copermittees must develop a Water Quality Improvement Plan for each of the Watershed Management Areas in Table B-1. A total of ten Water Quality Improvement Plans must be developed for the San Diego Region.

Table B-1. Watershed Management Areas

Hydrologic Unit(s)	Watershed Management Area	Major Surface Water Bodies	Responsible Copermittees
San Juan (901.00)	South Orange County	<ul style="list-style-type: none"> - Aliso Creek - San Juan Creek - San Mateo Creek - Pacific Ocean - Heisler Park ASBS 	<ul style="list-style-type: none"> - City of Aliso Viejo - City of Dana Point - City of Laguna Beach - City of Laguna Hills¹ - City of Laguna Niguel - City of Laguna Woods¹ - City of Lake Forest² - City of Mission Viejo - City of Rancho Santa Margarita - City of San Clemente - City of San Juan Capistrano - County of Orange - Orange County Flood Control District
Santa Margarita (902.00)	Santa Margarita River	<ul style="list-style-type: none"> - Murrieta Creek - Temecula Creek - Santa Margarita River - Santa Margarita Lagoon - Pacific Ocean 	<ul style="list-style-type: none"> - City of Menifee³ - City of Murrieta⁴ - City of Temecula - City of Wildomar⁴ - County of Riverside - County of San Diego - Riverside County Flood Control and Water Conservation District
San Luis Rey (903.00)	San Luis Rey River	<ul style="list-style-type: none"> - San Luis Rey River - San Luis Rey Estuary - Pacific Ocean 	<ul style="list-style-type: none"> - City of Oceanside - City of Vista - County of San Diego

Table B-1. Watershed Management Areas

Hydrologic Unit(s)	Watershed Management Area	Major Surface Water Bodies	Responsible Copermittees
Carlsbad (904.00)	Carlsbad	- Loma Alta Slough - Buena Vista Lagoon - Agua Hedionda Lagoon - Batiquitos Lagoon - San Elijo Lagoon - Pacific Ocean	- City of Carlsbad - City of Encinitas - City of Escondido - City of Oceanside - City of San Marcos - City of Solana Beach - City of Vista - County of San Diego
San Dieguito (905.00)	San Dieguito River	- San Dieguito River - San Dieguito Lagoon - Pacific Ocean	- City of Del Mar - City of Escondido - City of Poway - City of San Diego - City of Solana Beach - County of San Diego
Penasquitos (906.00)	Penasquitos	- Los Penasquitos Lagoon - Pacific Ocean	- City of Del Mar - City of Poway - City of San Diego - County of San Diego
	Mission Bay	- Mission Bay - Pacific Ocean - San Diego Marine Life Refuge ASBS	- City of San Diego
San Diego (907.00)	San Diego River	- San Diego River - Pacific Ocean	- City of El Cajon - City of La Mesa - City of San Diego - City of Santee - County of San Diego
Pueblo San Diego (908.00) Sweetwater (909.00) Otay (910.00)	San Diego Bay	- Sweetwater River - Otay River - San Diego Bay - Pacific Ocean	- City of Chula Vista - City of Coronado - City of Imperial Beach - City of La Mesa - City of Lemon Grove - City of National City - City of San Diego - County of San Diego - San Diego County Regional Airport Authority - San Diego Unified Port District
Tijuana (911.00)	Tijuana River	- Tijuana River - Tijuana Estuary - Pacific Ocean	- City of Imperial Beach - City of San Diego - County of San Diego

Notes:

1. By agreement dated February 10, 2015, pursuant to Water Code section 13228, the Phase I MS4 discharges within the jurisdiction of the City of Laguna Hills and the City of Laguna Woods located in the Santa Ana Region are regulated by San Diego Water Board Order No. R9-2013-0001 as amended by Order No. R9-2015-0001, upon the later effective date of Order No. R9-2015-0001 or Santa Ana Water Board Tentative Order No. R8-2015-0001. The City of Laguna Hills and Laguna Woods must also comply with the requirements of the San Diego Creek/Newport Bay TMDL in section XVIII of Santa Ana Water Board Order No. R8-2015-0001.
2. By agreement dated February 10, 2015, pursuant to Water Code section 13228, Phase I MS4 discharges within the City of Lake Forest located within the San Diego Water Board Region are regulated by the Santa Ana Water Board Order No. R8-2015-0001 (NPDES No. CAS618030) upon the later effective date of this Order or Santa Ana Water Board Tentative Order No. R8-2015-0001. In accordance with the terms of the agreement between the San Diego Water Board and the Santa Ana Water Board, the City of Lake Forest must implement the requirements of the Bacteria TMDL in Attachment E of this Order, participate in preparation and implementation of the Water Quality Improvement Plan for the Aliso Creek Watershed Management Area as described in Provision B of this Order and continue implementation of its over-irrigation discharge prohibition in its City Ordinance, Title 15, Chapter 15, section 14.030, List (b).
3. By agreement dated October 26, 2015, pursuant to Water Code section 13228, Phase I MS4 discharges within the City of Menifee located within the San Diego Water Board Region are regulated by the Santa Ana Water Board Order No. R8-2010-0033 as it may be amended or reissued (NPDES No. CAS618033) upon the later effective date of this Order. In accordance with the terms of the agreement between the San Diego Water Board and the Santa Ana Water Board, the City of Menifee must participate in preparation and implementation of the Water Quality Improvement Plan for the Santa Margarita River Watershed Management Area as described in Provision B of this Order.
4. By agreement dated October 26, 2015, pursuant to Water Code section 13228, the Phase I MS4 discharges within the jurisdiction of the City of Murrieta and the City of Wildomar located in the Santa Ana Region are regulated by San Diego Water Board Order No. R9-2013-0001 as amended by Orders No. R9-2015-0001 and R9-2015-0100. The City of Murrieta and City of Wildomar must also comply with the requirements of the Lake Elsinore/Canyon Lake Nutrient TMDLs in section VI.D.2 of Santa Ana Water Board Order No. R8-2010-0033, or corresponding section as it may be amended or reissued.

2. Priority Water Quality Conditions

The Copermittees must identify the water quality priorities within each Watershed Management Area that will be addressed by the Water Quality Improvement Plan. Where appropriate, Watershed Management Areas may be separated into subwatersheds to focus water quality prioritization and jurisdictional runoff management program implementation efforts by receiving water.

a. ASSESSMENT OF RECEIVING WATER CONDITIONS

The Copermittees must consider the following, at a minimum, to identify water quality priorities based on impacts of MS4 discharges on receiving water beneficial uses:

- (1) Receiving waters listed as impaired on the CWA Section 303(d) List of Water Quality Limited Segments (303(d) List);
- (2) TMDLs adopted and under development by the San Diego Water Board;
- (3) Receiving waters recognized as sensitive or highly valued by the Copermittees, including estuaries designated under the National Estuary Program under CWA section 320, marine protected areas, wetlands defined by the State or U.S. Fish and Wildlife Service's National Wetlands Inventory as wetlands, waters having the Preservation of Biological Habitats of Special Significance (BIOL) beneficial use designation, and receiving waters identified as ASBS subject to the provisions of Attachment B to State Water Board Resolution No. 2012-0012 (see Attachment A);
- (4) The receiving water limitations of Provision A.2;
- (5) Known historical versus current physical, chemical, and biological water quality conditions;
- (6) Available, relevant, and appropriately collected and analyzed physical, chemical, and biological receiving water monitoring data, including, but not limited to, data describing:
 - (a) Chemical constituents,
 - (b) Water quality parameters (i.e. pH, temperature, conductivity, etc.),
 - (c) Toxicity Identification Evaluations for both receiving water column and sediment,
 - (d) Trash impacts,

- (e) Bioassessments, and
- (f) Physical habitat;
- (7) Available evidence of erosional impacts in receiving waters due to accelerated flows (i.e. hydromodification);
- (8) Available evidence of adverse impacts to the chemical, physical, and biological integrity of receiving waters; and
- (9) The potential improvements in the overall condition of the Watershed Management Area that can be achieved.

b. ASSESSMENT OF IMPACTS FROM MS4 DISCHARGES

The Copermittees must consider the following, at a minimum, to identify the potential impacts to receiving waters that may be caused or contributed to by discharges from the Copermittees' MS4s:

- (1) The discharge prohibitions of Provision A.1 and effluent limitations of Provision A.3; and
- (2) Available, relevant, and appropriately collected and analyzed storm water and non-storm water monitoring data from the Copermittees' MS4 outfalls;
- (3) Locations of each Copermittee's MS4 outfalls that discharge to receiving waters;
- (4) Locations of MS4 outfalls that are known to persistently discharge non-storm water to receiving waters likely causing or contributing to impacts on receiving water beneficial uses;
- (5) Locations of MS4 outfalls that are known to discharge pollutants in storm water causing or contributing to impacts on receiving water beneficial uses; and
- (6) The potential improvements in the quality of discharges from the MS4 that can be achieved.

c. IDENTIFICATION OF PRIORITY WATER QUALITY CONDITIONS

- (1) The Copermittees must use the information gathered for Provisions B.2.a and B.2.b to develop a list of priority water quality conditions as pollutants, stressors and/or receiving water conditions that are the highest threat to receiving water quality or that most adversely affect the quality of receiving waters. The list must include the following information for each priority water quality condition:

- (a) The beneficial use(s) associated with the priority water quality condition;
 - (b) The geographic extent of the priority water quality condition within the Watershed Management Area, if known;
 - (c) The temporal extent of the priority water quality condition (e.g., dry weather and/or wet weather);
 - (d) The Copermittees with MS4s discharges that may cause or contribute to the priority water quality condition; and
 - (e) An assessment of the adequacy of and data gaps in the monitoring data to characterize the conditions causing or contributing to the priority water quality condition, including a consideration of spatial and temporal variation.
- (2) The Copermittees must identify the highest priority water quality conditions to be addressed by the Water Quality Improvement Plan, and provide a rationale for selecting a subset of the water quality conditions identified pursuant to Provision B.2.c.(1) as the highest priorities.

d. IDENTIFICATION OF MS4 SOURCES OF POLLUTANTS AND/OR STRESSORS

The Copermittees must identify and prioritize known and suspected sources of storm water and non-storm water pollutants and/or other stressors associated with MS4 discharges that cause or contribute to the highest priority water quality conditions identified under Provision B.2.c. The identification of known and suspected sources of pollutants and/or stressors that cause or contribute to the highest priority water quality conditions as identified for Provision B.2.c must consider the following:

- (1) Pollutant generating facilities, areas, and/or activities within the Watershed Management Area, including:
 - (a) Each Copermittee's inventory of construction sites, commercial facilities or areas, industrial facilities, municipal facilities, and residential areas,
 - (b) Publicly owned parks and/or recreational areas,
 - (c) Open space areas,
 - (d) All currently operating or closed municipal landfills or other treatment, storage or disposal facilities for municipal waste, and

- (e) Areas not within the Copermittees' jurisdictions (e.g., Phase II MS4s, tribal lands, state lands, federal lands) that are known or suspected to be discharging to the Copermittees' MS4s;
- (2) Locations of the Copermittees' MS4s, including the following:
- (a) All MS4 outfalls that discharge to receiving waters, and
 - (b) Locations of major structural controls for storm water and non-storm water (e.g., retention basins, detention basins, major infiltration devices, etc.);
- (3) Other known and suspected sources of non-storm water or pollutants in storm water discharges to receiving waters within the Watershed Management Area, including the following:
- (a) Other MS4 outfalls (e.g., Phase II Municipal and Caltrans),
 - (b) Other NPDES permitted discharges,
 - (c) Any other discharges that may be considered point sources (e.g., private outfalls), and
 - (d) Any other discharges that may be considered non-point sources (e.g., agriculture, wildlife or other natural sources);
- (4) Review of available data, including but not limited to:
- (a) Findings from the Copermittees' illicit discharge detection and elimination programs,
 - (b) Findings from the Copermittees' MS4 outfall discharge monitoring,
 - (c) Findings from the Copermittees' receiving water monitoring,
 - (d) Findings from the Copermittees' MS4 outfall discharge and receiving water assessments, and
 - (e) Other available, relevant, and appropriately collected data, information, or studies related to pollutant sources and/or stressors that contribute to the highest priority water quality conditions as identified for Provision B.2.c.
- (5) The adequacy of the available data to identify and prioritize sources and/or stressors associated with MS4 discharges that cause or contribute to the highest priority water quality conditions identified under Provision B.2.c.

e. IDENTIFICATION OF POTENTIAL WATER QUALITY IMPROVEMENT STRATEGIES

The Copermittees must evaluate the findings identified under Provisions B.2.a-d, and identify potential strategies that can result in improvements to water quality in MS4 discharges and/or receiving waters within the Watershed Management Area. Potential water quality improvement strategies that may be implemented within the Watershed Management Area must include the following:

- (1) Structural BMPs, non-structural BMPs, incentives, or programs that can potentially be implemented to address the highest priority water quality conditions identified under Provision B.2.c, or MS4 sources of pollutants or stressors identified under Provision B.2.d,
- (2) Retrofitting projects in areas of existing development within the Watershed Management Area that can potentially be implemented to reduce MS4 sources of pollutants or stressors identified under Provision B.2.d causing or contributing to the highest priority water quality conditions identified under Provision B.2.c, and
- (3) Stream, channel, and/or habitat rehabilitation projects within the Watershed Management Area that can potentially be implemented to protect and/or improve conditions in receiving waters from MS4 pollutants and/or stressors identified under Provision B.2.d causing or contributing to the highest priority water quality conditions identified under Provision B.2.c.

3. Water Quality Improvement Goals, Strategies and Schedules

The Copermittees must identify and develop specific water quality improvement goals and strategies to address the highest priority water quality conditions identified within a Watershed Management Area. The water quality improvement goals and strategies must address the highest priority water quality conditions by effectively prohibiting non-storm water discharges to the MS4, reducing pollutants in storm water discharges from the MS4 to the MEP, and protecting the water quality standards of receiving waters.

a. WATER QUALITY IMPROVEMENT GOALS AND SCHEDULES

(1) Numeric Goals

The Copermittees must develop and incorporate numeric goals⁷ into the Water Quality Improvement Plan. Numeric goals must be used to support

⁷ Interim and final numeric goals may take a variety of forms such as TMDL established WQBELs, action levels, pollutant concentration, load reductions, number of impaired water bodies delisted from the List of Water Quality Impaired Segments, Index of Biotic Integrity (IBI) scores, or other appropriate metrics. Interim and final numeric goals are not necessarily limited to one criterion or indicator, but may include multiple criteria and/or indicators. Except for TMDL established WQBELs, interim and final numeric goals and corresponding schedules may be revised through the adaptive management process under Provision B.5.

Water Quality Improvement Plan implementation and measure reasonable progress towards addressing the highest priority water quality conditions identified under Provision B.2.c. The Copermittees must establish and incorporate the following numeric goals in the Water Quality Improvement Plan:

- (a) Final numeric goals must be based on measureable criteria or indicators capable of demonstrating one or more of the following:
 - (i) Discharges from the Copermittees' MS4s will not cause or contribute to exceedances of water quality standards in receiving waters, AND/OR
 - (ii) The conditions of receiving waters and associated habitat are protected from MS4 discharges, AND/OR
 - (iii) Beneficial uses of receiving waters are protected from MS4 discharges and will be supported.

- (b) Interim numeric goals must be based on measureable criteria or indicators capable of demonstrating reasonable incremental progress toward achieving the final numeric goals in the receiving waters and/or MS4 discharges as follows:
 - (i) One or more interim numeric goals may be established to demonstrate progress toward achieving each final numeric goal,
 - (ii) For each final numeric goal, at least one interim numeric goal must be expressed as a reasonable increment toward achievement of the final numeric goal,
 - (iii) For each final numeric goal, reasonable interim numeric goals must be established to be accomplished during each 5 year period between the acceptance of the Water Quality Improvement Plan and the achievement of the final numeric goals.

(2) Schedules for Achieving Numeric Goals

The Copermittees must develop and incorporate schedules for achieving the numeric goals into the Water Quality Improvement Plan. The schedules must demonstrate reasonable progress toward achieving the final numeric goals required for Provision B.3.a.(1). The Copermittees must incorporate the schedules for achieving the numeric goals into the Water Quality Improvement Plan based on the following considerations:

- (a) Final dates for achieving all final numeric goals must be established considering the following:

- (i) Final compliance dates for any applicable TMDLs in Attachment E to this Order;
 - (ii) Compliance schedules for any ASBS subject to the provisions of Attachment B to State Water Board Resolution No. 2012-0012 (see Attachment A);
 - (iii) Achievement of the final numeric goals for the highest water quality priorities must be as soon as possible;
 - (iv) Final dates for achieving the final numeric goals must reflect a realistic assessment of the shortest practicable time required based on the temporal and spatial extent and factors associated with the highest priority water quality conditions identified under Provision B.2.c, and taking into account the time reasonably required to implement the water quality improvement strategies required pursuant to Provision B.3.b.
- (b) Interim dates for achieving all interim numeric goals must be established considering the following:
- (i) Interim compliance dates for any applicable TMDLs in Attachment E to this Order;
 - (ii) Compliance schedules for any ASBS subject to the provisions of Attachment B to State Water Board Resolution No. 2012-0012 (see Attachment A);
 - (iii) Interim dates for achieving the interim numeric goals must reflect a realistic assessment of the shortest practicable time reasonably required, taking into account the time needed to implement new or significantly expanded programs and securing financing, if necessary; and
 - (iv) For each final numeric goal, at least one interim numeric goal must be established that the Copermittees will work toward achieving within the term of this Order.

b. WATER QUALITY IMPROVEMENT STRATEGIES AND SCHEDULES

Based on the likely effectiveness and efficiency of the potential water quality improvement strategies identified under Provision B.2.e to effectively prohibit non-storm water discharges to the MS4, reduce pollutants in storm water discharges from the MS4 to the MEP, protect the beneficial uses of receiving waters from MS4 discharges, and/or achieve the interim and final numeric goals identified under Provision B.3.a, the Copermittees must identify the strategies that will be implemented in each Watershed Management Area as follows:

(1) Jurisdictional Strategies

- (a) Each Copermittee in the Watershed Management Area must identify the strategies that will be implemented within its jurisdiction as part of its jurisdictional runoff management program requirements under Provisions E.2 through E.7, including descriptions of the following:
- (i) For each of the inventories developed for its jurisdiction, as required under Provisions D.2.a.(1), E.3.e.(2), E.4.b, and E.5.a, each Copermittee must identify the known and suspected areas or sources causing or contributing to the highest priority water quality conditions in the Watershed Management Area that the Copermittee will focus on in its efforts to effectively prohibit non-storm water discharges to its MS4, reduce pollutants in storm water discharges from its MS4 to the MEP, and achieve the interim and final numeric goals identified under Provision B.3.a;
 - (ii) BMPs that each Copermittee will implement, or require to be implemented, as applicable, for those areas or sources within its jurisdiction;
 - (iii) Education programs that each Copermittee will implement, as applicable, for those areas or sources within its jurisdiction;
 - (iv) Frequencies that each Copermittee will conduct inspections on those areas or sources within its jurisdiction;
 - (v) Incentive and enforcement programs that each Copermittee will implement, as applicable, for those areas or sources within its jurisdiction; and
 - (vi) Any other BMPs, incentives, or programs that each Copermittee will implement for those areas or sources within its jurisdiction.
- (b) Identify the optional jurisdictional strategies that each Copermittee will implement within its jurisdiction, as necessary, to effectively prohibit non-storm water discharges to its MS4, reduce pollutants in storm water discharges from its MS4 to the MEP, protect the beneficial uses of receiving waters from MS4 discharges, and/or achieve the interim and final numeric goals identified under Provision B.3.a. Descriptions of the optional jurisdictional strategies must include:
- (i) BMPs, incentives, or programs that may be implemented by the Copermittee within its jurisdiction in addition to the requirements of Provisions B.3.b.(1)(a);
 - (ii) Incentives or programs that may be implemented by the Copermittee to encourage or implement projects to retrofit areas of existing development within its jurisdiction;

- (iii) Incentives or programs that may be implemented by the Copermittee to encourage or implement projects that will rehabilitate the conditions of channels or habitats within its jurisdiction;
 - (iv) The funds and/or resources that must be secured by the Copermittee to implement the optional strategies described for Provisions B.3.b.(1)(b)(i)-(iii) within its jurisdiction; and
 - (v) The circumstances necessary to trigger implementation of the optional jurisdictional strategies, in addition to the requirements of Provision B.3.b.(1)(a), to achieve the interim and final numeric goals within the schedules established under Provision B.3.a.
- (c) Identify the strategies that will be implemented by the Copermittee in coordination with or with the cooperation of other agencies (e.g. Caltrans, water districts, school districts) and/or entities (e.g. non-governmental organizations) within its jurisdiction.

(2) Watershed Management Area Strategies

The Copermittees must identify the optional regional or multi-jurisdictional strategies that will be implemented in the Watershed Management Area, as necessary, to effectively prohibit non-storm water discharges to the MS4, reduce pollutants in storm water discharges from the MS4 to the MEP, protect the beneficial uses of receiving waters from MS4 discharges, and/or achieve the interim and final numeric goals identified under Provision B.3.a. Descriptions of the optional regional or multi-jurisdictional strategies must include:

- (a) Regional or multi-jurisdictional BMPs, incentives, or programs that may be implemented by the Copermittees in the Watershed Management Area;
- (b) Incentives or programs that may be implemented by the Copermittees in the Watershed Management Area to encourage or implement regional or multi-jurisdictional projects to retrofit areas of existing development;
- (c) Incentives or programs that may be implemented by the Copermittees to encourage or implement regional or multi-jurisdictional projects that will rehabilitate the conditions of channels, streams, or habitats within the Watershed Management Area;
- (d) The funds and/or resources that must be secured by the Copermittees to implement the optional strategies described for Provisions B.3.b.(2)(a)-(c) within the Watershed Management Area; and

- (e) The circumstances necessary to trigger implementation of the optional regional or multi-jurisdictional strategies to achieve the interim and final numeric goals within the schedules established under Provision B.3.a.

(3) Schedules for Implementing Strategies

The Copermittees must develop reasonable schedules for implementing the water quality improvement strategies identified under Provisions B.3.b.(1) and B.3.b.(2) to achieve the interim and final numeric goals identified and schedules established under Provision B.3.a. The Copermittees must incorporate the schedules to implement the water quality improvement strategies into the Water Quality Improvement Plan as follows:

- (a) Each Copermittee must develop schedules for the jurisdictional strategies identified pursuant to Provisions B.3.b.(1)(a)-(b). Each schedule must specify:
 - (i) If each jurisdictional strategy identified pursuant to Provision B.3.b.(1)(a) will or will not be initiated upon acceptance of the Water Quality Improvement Plan;
 - (ii) For each jurisdictional strategy identified pursuant to Provision B.3.b.(1)(a) that will not be initiated upon acceptance of the Water Quality Improvement Plan, the shortest practicable time in which each jurisdictional strategy will be initiated after acceptance of the Water Quality Improvement Plan;
 - (iii) For each optional jurisdictional strategy identified pursuant to Provision B.3.b.(1)(b), a realistic assessment of the shortest practicable time required to:
 - [a] Secure the resources needed to fund the optional jurisdictional strategy, and
 - [b] Procure the resources, materials, labor, and applicable permits necessary to initiate implementation of the optional jurisdictional strategy;
 - (iv) If each jurisdictional strategy identified pursuant to Provisions B.3.b.(1)(a)-(b) is expected to be continuously implemented (e.g. inspections) or completed within a schedule (e.g. construction of structural BMP); and
 - (v) If a jurisdictional strategy identified pursuant to Provisions B.3.b.(1)(a)-(b) is expected to be completed within a schedule, the anticipated time to complete based on a realistic assessment of the shortest practicable time required.

- (b) The Copermittees in the Watershed Management Area must develop schedules for the regional or multi-jurisdictional strategies identified pursuant to Provision B.3.b.(2). Each schedule must specify:
- (i) A realistic assessment of the shortest practicable time to:
 - [a] Secure the resources needed to fund the optional regional or multi-jurisdictional strategy, and
 - [b] Procure the resources, materials, labor, and permits necessary to initiate the implementation of the optional regional or multi-jurisdictional strategy;
 - (ii) If each regional or multi-jurisdictional strategy identified pursuant to Provision B.3.b.(2) is expected to be continuously implemented (e.g. inspections) or completed within a schedule (e.g. construction of structural BMP); and
 - (iii) If a regional or multi-jurisdictional strategy and/or activity identified pursuant to Provisions B.3.b.(2) is expected to be completed within a schedule, the anticipated time to complete based on a realistic assessment of the shortest practicable time required.

(4) Optional Watershed Management Area Analysis

- (a) For each Watershed Management Area, the Copermittees have the option to perform a Watershed Management Area Analysis for the purpose of developing watershed-specific requirements for structural BMP implementation, as described in Provision E.3.c.(3). The Watershed Management Area Analysis must include GIS layers (maps) as output. The analysis must include the following information, to the extent it is available, in order to characterize the Watershed Management Areas:
- (i) A description of dominant hydrologic processes, such as areas where infiltration or overland flow likely dominates;
 - (ii) A description of existing streams in the watershed, including bed material and composition, and if they are perennial or ephemeral;
 - (iii) Current and anticipated future land uses;
 - (iv) Potential coarse sediment yield areas; and
 - (v) Locations of existing flood control structures and channel structures, such as stream armoring, constrictions, grade control structures, and hydromodification or flood management basins.
- (b) The Copermittees must use the results of the Watershed Management Area Analysis performed pursuant to Provision B.3.b.(4)(a) to identify and compile a list of candidate projects that could potentially be used as

alternative compliance options for Priority Development Projects, to be implemented in lieu of onsite structural BMP performance requirements described in Provisions E.3.c.(1) and E.3.c.(2)(a). Specifically, the Copermitees must identify opportunities to be included in the list of candidate projects in each Watershed Management Area, such as:

- (i) Stream or riparian area rehabilitation;
 - (ii) Retrofitting existing infrastructure to incorporate storm water retention or treatment;
 - (iii) Regional BMPs;
 - (iv) Groundwater recharge projects;
 - (v) Water supply augmentation projects; and
 - (vi) Land purchases to preserve floodplain functions.
- (c) The Copermitees must use the results of the Watershed Management Area Analysis performed pursuant to Provision B.3.b.(4)(a) to identify areas within the Watershed Management Area where it is appropriate to allow Priority Development Projects to be exempt from the hydromodification management BMP performance requirements described in Provision E.3.c.(2), including supporting rationale.

C. PROHIBITIONS AND LIMITATIONS COMPLIANCE OPTION

Each Copermitee has the option to utilize the implementation of the Water Quality Improvement Plan to demonstrate compliance with the requirements of Provisions A.1.a, A.1.c, A.1.d, A.2, and A.3.b within a Watershed Management Area subject to the following conditions:

- (1) A Copermitee is eligible to be deemed in compliance with Provisions A.1.a, A.1.c, A.1.d, A.2, and A.3.b within a Watershed Management Area when the Water Quality Improvement Plan for a Watershed Management Area incorporates the following:
- (a) Numeric goals, water quality improvement strategies, and schedules developed pursuant to Provisions B.3.a and B.3.b that include the following:
 - (i) Interim and final WQBELs established by the TMDLs in Attachment E to this Order applicable to the Copermitee's jurisdiction within the Watershed Management Area; AND
 - (ii) Interim and final numeric goals for any ASBS subject to the provisions of Attachment B to State Water Board Resolution No. 2012-0012

(included as Attachment A to this Order) applicable to the Copermittee's jurisdiction within the Watershed Management Area; AND

- (iii) Interim and final numeric goals applicable to the Copermittee's MS4 discharges within the Watershed Management Area expressed as numeric concentration-based or load-based goals for all pollutants and conditions listed on the Clean Water Act Section 303(d) List of Water Quality Impaired Segments⁸ for the receiving waters in the Watershed Management Area that do not have a TMDL incorporated into Attachment E to this Order; AND/OR
- (iv) Interim and final numeric goals for pollutants and conditions identified as receiving water priorities in the Water Quality Improvement Plan that will result in chemical, physical, and biological conditions protective of the beneficial uses of the receiving waters impacted by the Copermittee's MS4 discharges within the Watershed Management Area; AND
- (v) The Copermittee has the option to include interim and final numeric goals applicable to the Copermittee's MS4 discharges and/or receiving waters within the Watershed Management Area for any pollutants or conditions in addition to those described in Provisions B.3.c.(1)(a)(i)-(iv); AND
- (vi) Schedules for achieving each final numeric goal that reflect a realistic assessment of the shortest practicable time needed for achievement; AND
- (vii) For each final numeric goal developed pursuant to Provisions B.3.a and B.3.c.(1)(a)(i)-(v), annual milestones⁹ and the dates for their achievement must be included within each of the next five (5) Water Quality Improvement Plan Annual Report reporting periods, or until the final numeric goal is achieved. Annual milestones and the dates for their achievement for the 5 Water Quality Improvement Plan Annual Report reporting periods of the next permit term, or until the final numeric goal is achieved, must be provided as part of the Report of Waste Discharge required pursuant to Provision F.5.

(b) An analysis that meets all of the following conditions:

- (i) The analysis, with clearly stated assumptions included in the analysis, must quantitatively demonstrate that the implementation of

⁸ 2010 and subsequent 303(d) Lists

⁹ Annual milestones for each final numeric goal must be clearly and directly linked to, or demonstrate progress is being made toward the achievement of the final numeric goal. The annual milestones may consist of water quality improvement strategy implementation phases, interim numeric goals, and other acceptable metrics. The annual milestones may address multiple numeric goals and/or multiple water bodies, as applicable and appropriate.

- the water quality improvement strategies required under Provision B.3.b will achieve the final numeric goals within the schedules developed pursuant to Provisions B.3.a and B.3.c.(1)(a).
- (ii) The development of the analysis must include a public participation process which allows the public to review and provide comments on the analysis methodology utilized and the assumptions included in the analysis. Public comments and responses must be included as part of the analysis documentation included in the Water Quality Improvement Plan.
 - (iii) The analysis may be performed by an individual Copermittee or jointly by two or more Copermittees choosing to utilize this compliance option for their jurisdictions within the Watershed Management Area.
 - (iv) The analysis must be updated as part of the iterative approach and adaptive management process required under Provisions B.5.a-b.
- (c) Specific monitoring and assessments required pursuant to Provision B.4.a that will be performed by the Copermittee capable of 1) demonstrating whether the implementation of the water quality improvement strategies are making progress toward achieving the numeric goals in accordance with the established schedules developed pursuant to Provisions B.3.a and B.3.c.(1)(a), and 2) determining whether interim and final numeric goals have been achieved. The specific monitoring and assessments must be updated as part of the iterative approach and adaptive management process required under Provision B.5.c.
- (d) Documentation showing that the numeric goals, schedules, and annual milestones proposed pursuant to Provision B.3.c.(1)(a), the analysis performed pursuant to Provision B.3.c.(1)(b), and the specific monitoring and assessments proposed pursuant to Provision B.3.c.(1)(c) have been reviewed by the Water Quality Improvement Consultation Panel (see Provision F.1.a.(1)(b)). Updates must be reviewed by the Water Quality Improvement Consultation Panel for any recommendations.
- (2) Each Copermittee that voluntarily completes the requirements of Provision B.3.c.(1) is deemed in compliance with Provisions A.1.a, A.1.c, A.1.d, A.2, and A.3.b for the pollutants and conditions for which numeric goals are developed when the Water Quality Improvement Plan, incorporating the requirements of Provision B.3.c.(1), is accepted by the San Diego Water Board pursuant to Provision F.1.b or F.2.c. The Copermittee is deemed in compliance during the term of this Order as long as:
- (a) The Copermittee is implementing the water quality improvement strategies within its jurisdiction developed pursuant to Provision B.3.b.(1) and in

compliance with the schedules for implementing the strategies established pursuant to Provisions B.3.b.(3)(a) and B.3.c.(1)(a)(vii); AND

- (b) The Copermittee is performing the monitoring and assessments developed pursuant to Provision B.3.c.(1)(c); AND
- (c) The Copermittee's assessments in the Water Quality Improvement Plan Annual Report submitted pursuant to Provision F.3.b.(3) support a conclusion that: 1) the Copermittee is in compliance with the annual milestones and dates for achievement developed pursuant to Provision B.3.c.(1)(a)(vii), OR 2) the Copermittee has provided acceptable rationale and recommends appropriate modifications to the interim numeric goals, and/or water quality improvement strategies, and/or schedules to improve the rate of progress toward achieving the final numeric goals developed pursuant to Provisions B.3.a and B.3.c.(1)(a)(i)-(vi); AND
- (d) Any proposed modifications to the numeric goals, strategies, schedules, and/or annual milestones are accepted by the San Diego Water Board as part of subsequent updates to the Water Quality Improvement Plan pursuant to Provision F.2.c;¹⁰ AND
- (e) The Copermittee is implementing the requirements of Provision A.4.a.

4. Water Quality Improvement Monitoring and Assessment Program

- a. The Copermittees in each Watershed Management Area must develop and incorporate an integrated monitoring and assessment program into the Water Quality Improvement Plan that assesses: 1) the progress toward achieving the numeric goals and schedules, 2) the progress toward addressing the highest priority water quality conditions for each Watershed Management Area, and 3) each Copermittee's overall efforts to implement the Water Quality Improvement Plan.
- b. The monitoring and assessment program must incorporate the monitoring and assessment requirements of Provision D, which may allow the Copermittees to modify the program to be consistent with and focus on the highest priority water quality conditions for each Watershed Management Area.
- c. For Watershed Management Areas with applicable TMDLs, the monitoring and assessment program must incorporate the specific monitoring and assessment requirements of Attachment E.

¹⁰ A request for proposed changes to the Water Quality Improvement Plan does not stay any permit condition.

- d. For Watershed Management Areas with any ASBS, the water quality monitoring and assessment program must incorporate the monitoring requirements of Attachment B to State Water Board Resolution No. 2012-0012 (see Attachment A).

5. Iterative Approach and Adaptive Management Process

The Copermittees in each Watershed Management Area must implement the iterative approach pursuant to Provision A.4 to adapt the Water Quality Improvement Plan, monitoring and assessment program, and jurisdictional runoff management programs to become more effective toward achieving compliance with Provisions A.1.a, A.1.c and A.2.a, and must include the following:

a. RE-EVALUATION OF PRIORITY WATER QUALITY CONDITIONS

The priority water quality conditions and potential water quality improvement strategies included in the Water Quality Improvement Plan pursuant to Provisions B.2.c and B.2.e may be re-evaluated by the Copermittees as needed during the term of this Order as part of the Water Quality Improvement Plan Annual Report. Re-evaluation and recommendations for modifications to the priority water quality conditions and potential water quality improvement strategies must be provided in the Report of Waste Discharge, and must consider the following:

- (1) Achieving the outcome of improved water quality in MS4 discharges and receiving waters through implementation of the water quality improvement strategies identified in the Water Quality Improvement Plan;
- (2) New information developed when the requirements of Provisions B.2.a-c have been re-evaluated;
- (3) Spatial and temporal accuracy of monitoring data collected to inform prioritization of water quality conditions and implementation strategies to address the highest priority water quality conditions;
- (4) Availability of new information and data from sources other than the jurisdictional runoff management programs within the Watershed Management Area that informs the effectiveness of the actions implemented by the Copermittees;
- (5) San Diego Water Board recommendations; and
- (6) Recommendations for modifications solicited through a public participation process.

b. ADAPTATION OF GOALS, STRATEGIES AND SCHEDULES

The water quality improvement goals, strategies and schedules, included in the Water Quality Improvement Plan pursuant to Provisions B.3, must be re-evaluated and adapted as new information becomes available to result in more effective and efficient measures to address the highest priority water quality conditions identified pursuant to Provision B.2.c. Re-evaluation of and modifications to the water quality improvement goals, strategies and schedules must be provided in the Water Quality Improvement Plan Annual Report, and must consider the following:

- (1) Modifications to the priority water quality conditions based on Provision B.5.a;
- (2) Progress toward achieving interim and final numeric goals in receiving waters and MS4 discharges for the highest priority water quality conditions in the Watershed Management Area,
- (3) Progress toward achieving outcomes according to established schedules;
- (4) New policies or regulations that may affect identified numeric goals;
- (5) Measurable or demonstrable reductions of non-storm water discharges to and from each Copermittee's MS4;
- (6) Measurable or demonstrable reductions of pollutants in storm water discharges from each Copermittee's MS4 to the MEP;
- (7) New information developed when the requirements of Provisions B.2.b and B.2.d have been re-evaluated;
- (8) Efficiency in implementing the Water Quality Improvement Plan;
- (9) San Diego Water Board recommendations; and
- (10) Recommendations for modifications solicited through a public participation process.

c. ADAPTATION OF MONITORING AND ASSESSMENT PROGRAM

The water quality improvement monitoring and assessment program, included in the Water Quality Improvement Plan pursuant to Provision B.4, must be re-evaluated and adapted when new information becomes available. Re-evaluation and recommendations for modifications to the monitoring and assessment program, pursuant to the requirements of Provision D, may be provided in the Water Quality Improvement Plan Annual Report, but must be provided in the Report of Waste Discharge.

d. ADAPTATION OF PROHIBITIONS AND LIMITATIONS COMPLIANCE OPTION

If a Copermittee has implemented the Prohibitions and Limitations Compliance Option allowed to be included in the Water Quality Improvement Plan pursuant to Provision B.3.c, the Copermittee must re-evaluate and adapt the numeric goals, water quality improvement strategies, schedules, and annual milestones required under Provision B.3.c.(1) when significant new information becomes available, or with the Report of Waste Discharge required pursuant to Provision F.5. Significant changes in the numeric goals, water quality improvement strategies, schedules, or annual milestones requires an update to the analysis required under Provision B.3.c.(2).

6. Water Quality Improvement Plan Submittal, Updates, and Implementation

- a. The Copermittees must submit and commence implementation of the Water Quality Improvement Plans in accordance with the requirements of Provision F.1.
- b. The Copermittees must submit proposed updates to the Water Quality Improvement Plan for acceptance by the San Diego Water Board Executive Officer in accordance with the requirements of Provision F.2.c.

C. ACTION LEVELS

The purpose of this provision is for the Copermittees to incorporate numeric action levels in the Water Quality Improvement Plans. The goal of the action levels is to guide Water Quality Improvement Plan implementation efforts and measure progress towards the protection of water quality and designated beneficial uses of waters of the state from adverse impacts caused or contributed to by MS4 discharges. This goal will be accomplished through monitoring and assessing the quality of the MS4 discharges during the implementation of the Water Quality Improvement Plans.

1. Non-Storm Water Action Levels¹¹

The Copermittees must develop and incorporate numeric non-storm water action levels (NALs) into the Water Quality Improvement Plan to: 1) support the development and prioritization of water quality improvement strategies for effectively prohibiting non-storm water discharges to the MS4s, 2) assess the effectiveness of the water quality improvement strategies toward addressing MS4 non-storm water discharges, required pursuant to Provision D.4.b.(1), and 3) support the detection and elimination of non-storm water and illicit discharges to the MS4, required pursuant to Provision E.2.¹²

a. The following NALs must be incorporated:

(1) Non-Storm Water Discharges from MS4s to Ocean Surf Zone

Table C-1. Non-Storm Water Action Levels for Discharges from MS4s to Ocean Surf Zone

Parameter	Units	AMAL	MDAL	Instantaneous Maximum	Basis
Total Coliform	MPN/100 ml	1,000	-	10,000/1,000 ¹	OP
Fecal Coliform	MPN/100 ml	200 ²	-	400	OP
<i>Enterococci</i>	MPN/100 ml	35	-	104 ³	OP

Abbreviations/Acronyms

AMAL – average monthly action level
 OP – Ocean Plan water quality objective

MDAL – maximum daily action level
 MPN/100 ml – most probable number per 100 milliliters

Notes:

- Total coliform density NAL is 1,000 MPN/100 ml when the fecal/total coliform ratio exceeds 0.1.
- Fecal coliform density NAL is 200 MPN per 100 ml during any 30 day period.
- This value has been set to the Basin Plan water quality objective for saltwater “designated beach areas.”

¹¹ NALs incorporated into the Water Quality Improvement Plans are not considered by the San Diego Water Board to be enforceable effluent limitations, unless the NAL is based on a WQBEL expressed as an interim or final effluent limitation for a TMDL in Attachment E and the interim or final compliance date has passed.

¹² The Copermittees may utilize NALs or other benchmarks currently established by the Copermittees as interim NALs until the Water Quality Improvement Plans are accepted by the San Diego Water Board Executive Officer.

(2) Non-Storm Water Discharges from MS4s to Bays, Harbors, and Lagoons/Estuaries

Table C-2. Non-Storm Water Action Levels for Discharges from MS4s to Bays, Harbors, and Lagoons/Estuaries

Parameter	Units	AMAL	MDAL	Instantaneous Maximum	Basis
Turbidity	NTU	75	-	225	OP
pH	Units	Within limit of 6.0 to 9.0 at all times			OP
Fecal Coliform	MPN/100 ml	200 ¹	-	400 ²	BP
<i>Enterococci</i>	MPN/100 ml	35	-	104 ³	BP
Priority Pollutants	µg/L	See Table C-3			

Abbreviations/Acronyms:

AMAL – average monthly action level
 OP – Ocean Plan water quality objective
 NTU – Nephelometric Turbidity Units
 µg/L – micrograms per liter

MDAL – maximum daily action level
 BP – Basin Plan water quality objective
 MPN/100 ml – most probable number per 100 milliliters

Notes:

1. Based on a minimum of not less than five samples for any 30-day period.
2. The NAL is reached if more than 10 percent of total samples exceed 400 MPN per 100 ml during any 30 day period.
3. This value has been set to the Basin Plan water quality objective for saltwater “designated beach areas” and is not applicable to water bodies that are not designated with the water contact recreation (REC-1) beneficial use.

Table C-3. Non-Storm Water Action Levels for Priority Pollutants

Parameter	Units	Freshwater (CTR)		Saltwater (CTR)	
		MDAL	AMAL	MDAL	AMAL
Cadmium	µg/L	**	**	16	8
Copper	µg/L	*	*	5.8	2.9
Chromium III	µg/L	**	**	-	-
Chromium VI	µg/L	16	8.1	83	41
Lead	µg/L	*	*	14	2.9
Nickel	µg/L	**	**	14	6.8
Silver	µg/L	*	*	2.2	1.1
Zinc	µg/L	*	*	95	47

Abbreviations/Acronyms:

CTR – California Toxic Rule
 AMAL – average monthly action level
 µg/L – micrograms per liter
 MDAL – maximum daily action level

Notes:

- * Action levels developed on a case-by-case basis (see below)
- ** Action levels developed on a case-by-case basis (see below), but calculated criteria are not to exceed Maximum Contaminant Levels (MCLs) under the California Code of Regulations, Title 22, Division 4, Chapter 15, Article 4, Section 64431

The Cadmium, Copper, Chromium (III), Lead, Nickel, Silver and Zinc NALs for MS4 discharges to freshwater receiving waters will be developed on a case-by-case basis based on site-specific water quality data (receiving water hardness). For these priority pollutants, refer to 40 CFR 131.38(b)(2).

(3) Non-Storm Water Discharges from MS4s to Inland Surface Waters

Table C-4. Non-Storm Water Action Levels for Discharges from MS4s to Inland Surface Waters

Parameter	Units	AMAL	MDAL	Instantaneous Maximum	Basis
Dissolved Oxygen	mg/L	Not less than 5.0 in WARM waters and not less than 6.0 in COLD waters			BP
Turbidity	NTU	-	20	See MDAL	BP
pH	Units	Within limit of 6.5 to 8.5 at all times			BP
Fecal Coliform	MPN/100 ml	200 ¹	-	400 ²	BP
<i>Enterococci</i>	MPN/100 ml	33	-	61 ³	BP
Total Nitrogen	mg/L	-	1.0	See MDAL	BP
Total Phosphorus	mg/L	-	0.1	See MDAL	BP
MBAS	mg/L	-	0.5	See MDAL	BP
Iron	mg/L	-	0.3	See MDAL	BP
Manganese	mg/L	-	0.05	See MDAL	BP
Priority Pollutants	µg/L	See Table C-3			

Abbreviations/Acronyms:

AMAL – average monthly action level	MDAL – maximum daily action level
BP – Basin Plan water quality objective	WARM – warm freshwater habitat beneficial use
COLD – cold freshwater habitat beneficial use	MBAS – Methylene Blue Active Substances
NTU – Nephelometric Turbidity Units	MPN/100 ml – most probable number per 100 milliliters
mg/L – milligrams per liter	µg/L – micrograms per liter

Notes:

1. Based on a minimum of not less than five samples for any 30-day period.
2. The NAL is reached if more than 10 percent of total samples exceed 400 MPN per 100 ml during any 30 day period.
3. This value has been set to the Basin Plan water quality objective for freshwater “designated beach areas” and is not applicable to water bodies that are not designated with the water contact recreation (REC-1) beneficial use.

b. If not identified in Provision C.1.a, NALs must be identified, developed and incorporated in the Water Quality Improvement Plan for any pollutants or waste constituents that cause or contribute, or are threatening to cause or contribute to a condition of pollution or nuisance in receiving waters associated with the highest priority water quality conditions related to non-storm water discharges from the MS4s. NALs must be based on:

- (1) Applicable water quality standards which may be dependent upon site-specific or receiving water-specific conditions or assumptions to be identified by the Copermitees; or
- (2) Applicable numeric WQBELs required to meet the WLAs established for the TMDLs in Attachment E to this Order.

c. For the NALs incorporated into the Water Quality Improvement Plan, the Copermitees may develop and incorporate secondary NALs specific to the Watershed Management Area at levels greater than the NALs required by Provisions C.1.a and C.1.b which can be utilized to further refine the prioritization and assessment of water quality improvement strategies for effectively prohibiting non-storm water discharges to the MS4s, as well as the detection and

elimination of non-storm water and illicit discharges to and from the MS4. The secondary NALs may be developed using an approach acceptable to the San Diego Water Board.

- d. Dry weather monitoring data from MS4 outfalls collected in accordance with Provision D.2.b may be utilized to develop or revise NALs based on watershed-specific data, subject to San Diego Water Board Executive Officer approval.

2. Storm Water Action Levels¹³

The Copermittees must develop and incorporate numeric storm water action levels (SALs) in the Water Quality Improvement Plans to: 1) support the development and prioritization of water quality improvement strategies for reducing pollutants in storm water discharges from the MS4s, and 2) assess the effectiveness of the water quality improvement strategies toward reducing pollutants in storm water discharges, required pursuant to Provision D.4.b.(2).¹⁴

- a. The following SALs for discharges of storm water from the MS4 must be incorporated:

Table C-5. Storm Water Action Levels for Discharges from MS4s to Receiving Waters

Parameter	Units	Action Level
Turbidity	NTU	126
Nitrate & Nitrite (Total)	mg/L	2.6
Phosphorus (Total P)	mg/L	1.46
Cadmium (Total Cd)*	µg/L	3.0
Copper (Total Cu)*	µg/L	127
Lead (Total Pb)*	µg/L	250
Zinc (Total Zn)*	µg/L	976

Abbreviations/Acronyms:

NTU – Nephelometric Turbidity Units
mg/L – milligrams per liter
µg/L – micrograms per liter

Notes:

* The sampling must include a measure of receiving water hardness at each MS4 outfall. If a total metal concentration exceeds the corresponding metals SAL in Table C-5, that concentration must be compared to the California Toxics Rule criteria and the USEPA 1-hour maximum concentration for the detected level of receiving water hardness associated with that sample. If it is determined that the sample's total metal concentration for that specific metal exceeds that SAL, but does not exceed the applicable USEPA 1-hour maximum concentration criterion for the measured level of hardness, then the sample result will not be considered above the SAL for that measurement.

¹³ SALs incorporated into the Water Quality Improvement Plans are not considered by the San Diego Water Board to be enforceable effluent limitations, unless the SAL is based on a WQBEL expressed as an interim or final effluent limitation for a TMDL in Attachment E and the interim or final compliance date has passed.

¹⁴ The Copermittees may utilize SALs or other benchmarks currently established by the Copermittees as interim SALs until the Water Quality Improvement Plans are accepted by the San Diego Water Board Executive Officer.

- b.** If not identified in Provision C.2.a, SALs must be identified, developed and incorporated in the Water Quality Improvement Plan for pollutants or waste constituents that cause or contribute, or are threatening to cause or contribute to a condition of pollution or nuisance in receiving waters associated with the highest priority water quality conditions related to storm water discharges from the MS4s. SALs must be based on:
- (1) Federal and State water quality guidance and/or water quality standards; and
 - (2) Site-specific or receiving water-specific conditions; or
 - (3) Applicable numeric WQBELs required to meet the WLAs established for the TMDLs in Attachment E to this Order.
- c.** For the SALs incorporated into the Water Quality Improvement Plan, the Copermittees may develop and incorporate secondary SALs specific to the Watershed Management Area at levels greater than the SALs required by Provisions C.2.a and C.2.b which can be utilized to further refine the prioritization and assessment of water quality improvement strategies for reducing pollutants in storm water discharges from the MS4s. The secondary SALs may be developed based on the approaches recommended by the State Water Board's Storm Water Panel¹⁵ or using an approach acceptable to the San Diego Water Board.
- d.** Wet weather monitoring data from MS4 outfalls collected in accordance with Provision D.2.c may be used to develop or revise SALs based upon watershed-specific data, subject to San Diego Water Board Executive Officer approval.

¹⁵ Storm Water Panel Recommendations to the California State Water Resources Control Board: The Feasibility of Numeric Effluent Limits Applicable to Discharges of Storm Water Associated with Municipal, Industrial and Construction Activities (June 2006)

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D. MONITORING AND ASSESSMENT PROGRAM REQUIREMENTS

The purpose of this provision is for the Copermittees to monitor and assess the impact on the conditions of receiving waters caused by discharges from the Copermittees' MS4s under wet weather and dry weather conditions. The goal of the monitoring and assessment program is to inform the Copermittees about the nexus between the health of receiving waters and the water quality condition of the discharges from their MS4s. This goal will be accomplished through monitoring and assessing the conditions of the receiving waters, discharges from the MS4s, pollutant sources and/or stressors, and effectiveness of the water quality improvement strategies implemented as part of the Water Quality Improvement Plans.

1. Receiving Water Monitoring Requirements

The Copermittees must develop and conduct a program to monitor the condition of the receiving waters in each Watershed Management Area during dry weather and wet weather. Following San Diego Water Board acceptance of the Water Quality Improvement Plans for each Watershed Management Area, the Copermittees must conduct long-term receiving water monitoring during implementation of the Water Quality Improvement Plan to assess the long term trends and determine if conditions in receiving waters are improving. Any available monitoring data not collected specifically for this Order that meet the quality assurance criteria of the Copermittees and the monitoring requirements of this Order may be utilized by the Copermittees. The Copermittees must conduct the following receiving water monitoring procedures:

a. TRANSITIONAL RECEIVING WATER MONITORING

Until the monitoring requirements and schedules of Provisions D.1.b-e are incorporated into a Water Quality Improvement Plan that is accepted by the San Diego Water Board pursuant to Provision F.1.b, the Copermittees must conduct the following receiving water monitoring in the Watershed Management Area:

- (1) Continue the receiving water monitoring programs required in Order Nos. R9-2007-0001 (Monitoring and Reporting Program No. R9-2007-0001 Sections II.A.1-A.5), R9-2009-0002, and R9-2010-0016, unless the Executive Officer provides conditional approval for Copermittees to proceed with implementation of the proposed monitoring and assessment program developed in accordance with Provision B.4;
- (2) Continue the monitoring in the Hydromodification Management Plans approved by the San Diego Water Board;
- (3) Participate in the following regional receiving water monitoring programs, as applicable to the Watershed Management Area:

- (a) Storm Water Monitoring Coalition Regional Monitoring,
 - (b) Southern California Bight Regional Monitoring, and
 - (c) Sediment Quality Monitoring;
- (4) Implement the monitoring programs developed as part of any implementation plans or load reduction plans (e.g. Bacteria Load Reduction Plans, Comprehensive Load Reduction Plans) for the TMDLs in Attachment E to this Order; and
- (5) For Watershed Management Areas with ASBS, implement the monitoring requirements of Attachment B to State Water Board Resolution No. 2012-0012, included in Attachment A to this Order.

b. LONG-TERM RECEIVING WATER MONITORING STATIONS

The Copermittees must select at least one long-term receiving water monitoring station from among the existing mass loading stations, temporary watershed assessment stations, bioassessment stations, and stream assessment stations previously established by the Copermittees to be representative of the receiving water quality in the Watershed Management Area. Additional long-term receiving water monitoring stations must be selected where necessary to support the implementation and adaptation of the Water Quality Improvement Plan.

c. DRY WEATHER RECEIVING WATER MONITORING

During the term of the Order, the Copermittees must perform monitoring during at least three dry weather monitoring events at each of the long-term receiving water monitoring stations. At least one monitoring event must be conducted during the dry season (May 1 – September 30) and at least one monitoring event must be conducted during a dry weather period during the wet season (October 1 – April 30), after the first wet weather event of the season, with an antecedent dry period of at least 72 hours following a storm event producing measureable rainfall of greater than 0.1 inch.

(1) Dry Weather Receiving Water Field Observations

For each dry weather monitoring event, the Copermittees must record field observations consistent with Table D-1 at each long-term receiving water monitoring station.

Table D-1. Field Observations for Receiving Water Monitoring Stations

Field Observations
<ul style="list-style-type: none">• Station identification and location• Presence of flow, or pooled or ponded water• If flow is present:<ul style="list-style-type: none">- Flow estimation (i.e. width of water surface, approximate depth of water, approximate flow velocity, flow rate)- Flow characteristics (i.e. presence of floatables, surface scum, sheens, odor, color)• If pooled or ponded water is present:<ul style="list-style-type: none">- Characteristics of pooled or ponded water (i.e. presence of floatables, surface scum, sheens, odor, color)• Station description (i.e. deposits or stains, vegetation condition, structural condition, and observable biology)• Presence and assessment of trash in and around station

(2) Dry Weather Receiving Water Field Monitoring

For each dry weather monitoring event, if conditions allow the collection of the data, the Copermittees must monitor and record the parameters in Table D-2 at each long-term receiving water monitoring station.

Table D-2. Field Monitoring Parameters for Receiving Water Monitoring Stations

Parameters
<ul style="list-style-type: none">• pH• Temperature• Specific conductivity• Dissolved oxygen• Turbidity

(3) Dry Weather Receiving Water Analytical Monitoring

For each dry weather monitoring event, the Copermittees must collect and analyze samples from each long-term receiving water monitoring station as follows:

- (a) Analytes that are field measured are not required to be analyzed by a laboratory;
- (b) The Copermittees must implement consistent sample collection methods for regional comparability of data, unless site-specific conditions indicate the need for alternate methods;
- (c) Grab samples may be collected for pH, temperature, specific conductivity, dissolved oxygen, turbidity, hardness, and indicator bacteria;

- (d) For all other constituents, composite samples must be collected for a duration adequate to be representative of changes in pollutant concentrations and runoff flows using one of the following techniques:
- (i) Time-weighted composites composed of 24 discrete hourly samples, which may be collected through the use of automated equipment, or
 - (ii) Flow-weighted composites collected over a typical 24-hour period, which may be collected through the use of automated equipment;
- (e) Only one analysis of the composite of aliquots is required;
- (f) Analysis for the following constituents is required:
- (i) Constituents contributing to the highest priority water quality conditions identified in the Water Quality Improvement Plan,
 - (ii) Constituents listed as a cause for impairment of receiving waters in the Watershed Management Area listed on the CWA section 303(d) List,
 - (iii) Constituents for implementation plans or load reduction plans (e.g. Bacteria Load Reduction Plans, Comprehensive Load Reduction Plans) developed for watersheds where the Copermitttees are listed responsible parties under the TMDLs in Attachment E to this Order,
 - (iv) Applicable NAL constituents, and
 - (v) Constituents listed in Table D-3.

Table D-3. Analytical Monitoring Constituents for Receiving Water Monitoring Stations

Conventionals, Nutrients	Metals (Total and Dissolved)	Pesticides	Indicator Bacteria
<ul style="list-style-type: none"> • Total Dissolved Solids • Total Suspended Solids • Turbidity • Total Hardness • Total Organic Carbon • Dissolved Organic Carbon • Sulfate • Methylene Blue Active Substances (MBAS) • Total Phosphorus • Orthophosphate • Nitrite¹ • Nitrate¹ • Total Kjeldhal Nitrogen • Ammonia 	<ul style="list-style-type: none"> • Arsenic • Cadmium • Chromium • Copper • Iron • Lead • Mercury • Nickel • Selenium • Thallium • Zinc 	<ul style="list-style-type: none"> • Organophosphate Pesticides • Pyrethroid Pesticides 	<ul style="list-style-type: none"> • Total Coliform • Fecal Coliform² • <i>Enterococcus</i>

Notes:
 1. Nitrite and nitrate may be combined and reported as nitrite+nitrate.
 2. *E. Coli* may be substituted for Fecal Coliform.

(4) Dry Weather Receiving Water Toxicity Monitoring

For each dry weather monitoring event, the Copermittees must collect grab or composite samples from each long-term receiving water monitoring station to be analyzed for aquatic toxicity in accordance with Table D-4. When the State Water Board’s Policy for Toxicity Assessment and Control (Toxicity Policy) is approved and in effect, the San Diego Water Board Executive Officer may direct the Copermittees to replace current toxicity program elements with standardized procedures in the Toxicity Policy.

Table D-4. Dry Weather Chronic¹ Toxicity Testing for Receiving Water Monitoring Stations

Organism	Units	Test	USEPA Protocol
Freshwater			
<i>Pimephales promelas</i> (Fathead Minnow)	Pass / Fail	Larval Survival and Growth	EPA-821-R-02-013
<i>Ceriodaphnia dubia</i> (Daphnid)	Pass / Fail	Survival and Production	EPA-821-R-02-013
<i>Selenastrum capricornutum</i> (Green Algae)	Pass / Fail	Growth	EPA-821-R-02-013
Marine and Estuarine			
<i>Strongylocentrotus purpuratus</i> (Purple Sea Urchin)	Pass / Fail	Embryo-Larval Development	EPA-600-R-95-136

Notes:

1. Chronic toxicity testing is not required at receiving water monitoring stations located at mass loading stations if the channel flows are diverted year-round during dry weather conditions to the sanitary sewer for treatment.

(a) **Freshwater Test Species and Methods:** If samples are collected in receiving waters with salinity less than 1 ppt, the Copermittees must follow the methods for chronic toxicity tests as established in 40 CFR 136.3 using a single-concentration test design for routine monitoring, or a five-concentration test design for additional toxicity testing if the limitation is exceeded. The Copermittees must estimate the critical life stage chronic toxicity on undiluted samples in accordance with species and short term test methods in Short-term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Freshwater Organisms (EPA-821-R-02-013; Table IA, 40 CFR 136). Additional test species may be used by the Copermittees if approved by the San Diego Water Board Executive Officer. The Copermittees must conduct:

- (i) A static renewal toxicity test with the fathead minnow, *Pimephales promelas* (Larval Survival and Growth Test Method 1000.0);
- (ii) A static renewal toxicity test with the daphnid, *Ceriodaphnia dubia* (Survival and Reproduction Test Method 1002.0); and
- (iii) A static renewal toxicity test with the green alga, *Selenastrum capricornutum* (also named *Raphidocelis subcapitata*) (Growth Test Method 1003.0).

- (b) Marine and Estuarine Test Species and Methods: If samples are collected in receiving waters with salinity greater or equal to 1 ppt, the Copermittees must follow the methods for chronic toxicity tests as established in 40 CFR 136.3 using a single-concentration test design for routine monitoring, or a five-concentration test design for additional toxicity testing if the limitation is exceeded. The Copermittees must conduct the following critical life state chronic toxicity tests on undiluted samples in accordance with species and short term test methods in Short-term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to West Coast Marine and Estuarine Organisms (EPA-600-R-95-136; 1995). Artificial sea salts must be used to increase sample salinity. The Copermittees must conduct a static non-renewal toxicity test with the purple sea urchin, *Strongylocentrotus purpuratus* (Embryo-larval Development Test Method). Additional species may be used by the Copermittees if approved by the San Diego Water Board Executive Officer.
- (c) Holding Times: All toxicity tests must be conducted as soon as possible following sample collection. The 36-hour sample holding time for test initiation shall be targeted. However, no more than 72 hours shall elapse before the conclusion of sample collection and test initiation.
- (d) Test Species Sensitivity Screening: To determine the most sensitive test species for freshwater, the Copermittees must screen 2 wet weather and 2 dry weather toxicity tests with a vertebrate, an invertebrate, and a plant species. After this screening period, subsequent monitoring must be conducted using the most sensitive test species. Alternatively, if a sensitive test species has already been determined, or if there is prior knowledge of potential toxicant(s) and a test species is sensitive to such toxicant(s), then monitoring must be conducted using only that test species. Sensitive test species determinations must also consider the most sensitive test species used for proximal receiving water monitoring. Rescreening must occur once each permit term.
- (e) Chronic toxicity test biological endpoint data must be analyzed using the Test of Significant Toxicity t-test approach specified in *National Pollutant Discharge Elimination System Test of Significant Toxicity Implementation Document* (USEPA, Office of Wastewater Management, Washington, D.C., EPA-833-R-10-003, 2010). For this monitoring program, the critical chronic instream waste concentration (IWC) is set at 100 percent receiving water (i.e. no dilution) for receiving water samples. A 100 percent receiving water and a control must be tested.
- (f) Toxicity Identification Evaluation (TIE) / Toxicity Reduction Evaluation (TRE): If chronic toxicity is detected in receiving waters, the Copermittees must discuss the need for conducting a TIE/TRE in the assessments

required under Provision D.4.a.(2), and develop a plan for implementing the TIE/TRE to be incorporated in the Water Quality Improvement Plan.

(5) Dry Weather Receiving Water Bioassessment Monitoring

Bioassessment monitoring for each long-term receiving water monitoring station is required at least once during the term of this Order. The Copermitees must conduct bioassessment monitoring during at least one dry weather monitoring event at each long-term receiving water monitoring station as follows:

- (a) The following bioassessment samples and measurements must be collected:
- (i) Macroinvertebrate samples must be collected in accordance with the “Reachwide Benthos (Multihabitat) Procedure” in the most current Surface Water Ambient Monitoring Program (SWAMP) Bioassessment Standard Operating Procedures (SOP), and amendments, as applicable;¹⁶
 - (ii) The “Full” suite of physical habitat characterization measurements must be collected in accordance with the most current SWAMP Bioassessment SOP, and as summarized in the SWAMP Stream Habitat Characterization Form – Full Version;¹⁷ and
 - (iii) Freshwater algae samples must be collected in accordance with the SWAMP Standard Operating Procedures for Collecting Algae Samples.¹⁸ Analysis of samples must include algal taxonomic composition (diatoms and soft algae) and algal biomass.
- (b) The bioassessment samples, measurements, and appropriate water chemistry data must be used to calculate the following:
- (i) An Index of Biological Integrity (IBI) for macroinvertebrates for each monitoring station where bioassessment monitoring was conducted, based on the most current calculation method;¹⁹ and

¹⁶ Ode, P.R.. 2007. Standard operating procedures for collecting macroinvertebrate samples and associated physical and chemical data for ambient bioassessments in California. California State Water Resources Control Board Surface Water Ambient Monitoring Program (SWAMP) Bioassessment SOP 001. http://www.swrcb.ca.gov/water_issues/programs/swamp/tools.shtml#monitoring

¹⁷ Available at:

http://www.waterboards.ca.gov/water_issues/programs/swamp/docs/reports/fieldforms_fullversion052908.pdf

¹⁸ Fetscher et al. 2009. Standard Operating Procedures for Collecting Stream Algae Samples and Associated Physical Habitat and Chemical Data for Ambient Bioassessments in California.

¹⁹ The most current calculation method at the time the Order was adopted is outlined in “A Quantitative Tool for Assessing the Integrity of Southern California Coastal Streams” (Ode, et al. 2005. Environmental Management. Vol. 35, No. 1, pp. 1-13). If an updated or new calculation method is developed, either both

(ii) An IBI for algae for each monitoring station where bioassessment monitoring was conducted, when a calculation method is developed.²⁰

(c) In lieu of the requirements of Provision D.1.c.(5)(a), the Copermittees may conduct the bioassessment monitoring in accordance with the “Triad” assessment approach²¹ to calculate the IBIs required for Provision D.1.c.(5)(b). The Copermittees must conduct sampling, analysis, and reporting of specified in-stream biological and habitat data according to the protocols specified in the SCCWRP Technical Report No. 539, or subsequent protocols, if developed.

(6) Dry Weather Receiving Water Hydromodification Monitoring

In addition to the hydromodification monitoring conducted as part of the Copermittees’ Hydromodification Management Plans, hydromodification monitoring for each long-term receiving water monitoring station is required at least once during the term of this Order. The Copermittees must collect the following hydromodification monitoring observations and measurements within an appropriate domain of analysis during at least one dry weather monitoring event for each long-term receiving water monitoring station:

(a) Channel conditions, including:

- (i) Channel dimensions,
- (ii) Hydrologic and geomorphic conditions, and
- (iii) Presence and condition of vegetation and habitat;

(b) Location of discharge points;

(c) Habitat integrity;

(d) Photo documentation of existing erosion and habitat impacts, with location (i.e. latitude and longitude coordinates) where photos were taken;

(e) Measurement or estimate of dimensions of any existing channel bed or bank eroded areas, including length, width, and depth of any incisions; and

(i.e. current and updated/new) methods must be used, or historical IBIs must be recalculated with the updated or new calculation method.

²⁰ When a calculation method is developed, IBIs must be calculated for all available and appropriate historical data.

²¹ Stormwater Monitoring Coalition Model Monitoring Technical Committee, 2004. Model Monitoring Program for Municipal Separate Storm Sewer Systems in Southern California. Technical Report #419. August 2004.

- (f) Known or suspected cause(s) of existing downstream erosion or habitat impact, including flow, soil, slope, and vegetation conditions, as well as upstream land uses and contributing new and existing development.

d. WET WEATHER RECEIVING WATER MONITORING

During the term of the Order, the Copermittees must perform monitoring during at least three wet weather monitoring events at each long-term receiving water monitoring station. At least one wet weather monitoring event must be conducted during the first wet weather event of the wet season (October 1 – April 30), and at least one wet weather monitoring event during a wet weather event that occurs after February 1.

(1) Wet Weather Receiving Water Field Observations

For each wet weather monitoring event, the following narrative descriptions and observations must be recorded at each long-term receiving water monitoring station:

- (a) A narrative description of the station that includes the location, date and duration of the storm event(s) sampled, rainfall estimates of the storm event, and the duration between the storm event sampled and the end of the previous measurable (greater than 0.1 inch rainfall) storm event;
- (b) The flow rates and volumes measured or estimated (data from nearby USGS gauging stations may be utilized, or flow rates may be measured or estimated in accordance with the USEPA Storm Water Sampling Guidance Document (EPA-833-B-92-001), section 3.2.1, or other method proposed by the Copermittees that is acceptable to the San Diego Water Board);
- (c) Station condition (i.e. deposits or stains, vegetation condition, structural condition, observable biology); and
- (d) Presence and assessment of trash in and around station.

(2) Wet Weather Receiving Water Field Monitoring

For each wet weather monitoring event, the Copermittees must monitor and record the parameters in Table D-2 at each long-term receiving water monitoring station.

(3) Wet Weather Receiving Water Analytical Monitoring

For each wet weather monitoring event, the Copermittees must collect and analyze samples from each long-term receiving water monitoring station as follows:

- (a) Analytes that are field measured are not required to be analyzed by a laboratory;
- (b) The Copermittees must implement consistent sample collection methods for regional comparability of data, unless site-specific conditions indicate the need for alternate methods;
- (c) Grab samples may be collected for pH, temperature, specific conductivity, dissolved oxygen, turbidity, hardness, and indicator bacteria;
- (d) For all other constituents, composite samples must be collected for a duration adequate to be representative of changes in pollutant concentrations and runoff flows using one of the following techniques:
 - (i) Time-weighted composites composed of 24 discrete hourly samples, which may be collected through the use of automated equipment, or
 - (ii) Flow-weighted composites collected over the length of the storm event or a typical 24-hour period, which may be collected through the use of automated equipment;
- (e) Only one analysis of the composite of aliquots is required;
- (f) Analysis for the following constituents is required:
 - (i) Constituents contributing to the highest priority water quality conditions identified in the Water Quality Improvement Plan,
 - (ii) Constituents listed as a cause for impairment of receiving waters in the Watershed Management Area listed on the CWA section 303(d) List,
 - (iii) Constituents for implementation plans or load reduction plans (e.g. Bacteria Load Reduction Plans, Comprehensive Load Reduction Plans) developed for watersheds where the Copermittees are listed responsible parties under the TMDLs in Attachment E to this Order,
 - (iv) Applicable SAL constituents, and
 - (v) Constituents listed in Table D-3.

(4) Wet Weather Receiving Water Toxicity Monitoring

For each wet weather monitoring event, the Copermittees must collect grab or composite samples from each long-term receiving water monitoring station to be analyzed for chronic aquatic toxicity in accordance with Provisions D.1.c.(4)(a)-(f).

e. OTHER RECEIVING WATER MONITORING REQUIREMENTS

(1) Regional Monitoring

The Copermittees must participate in the following regional receiving waters monitoring programs, as applicable to the Watershed Management Area:

(a) Storm Water Monitoring Coalition Regional Monitoring; and

(b) Southern California Bight Regional Monitoring and

(c) Unified Beach Water Quality Monitoring and Assessment Program.
The Orange County Copermittees shall participate in and, together with South Orange County Wastewater Authority and Orange County Health Care Agency, shall share responsibility for implementation of a unified regional beach water quality monitoring and assessment program in south Orange County, as set forth in the October 2014 report, *Workgroup Recommendation for a Unified Beach Water Quality Monitoring and Assessment Program in South Orange County*, issued pursuant to CWC section 13383 and subject to future revision in the San Diego Water Board December 5, 2014 Letter Directive.

(2) Sediment Quality Monitoring

The Copermittees must perform sediment monitoring to assess compliance with sediment quality receiving water limits applicable to MS4 discharges to enclosed bays and estuaries. The monitoring may be performed either by individual or multiple Copermittees to assess compliance with receiving water limits, or through participation in a water body monitoring coalition. A Sediment Monitoring Plan which satisfies the requirements of the State Water Board's Water Quality Control Plan for Enclosed Bays and Estuaries of California – Part 1 Sediment Quality (Sediment Control Plan) must be submitted as part of the monitoring and assessment program in the Water Quality Improvement Plan.

(a) The Sediment Monitoring Plan design must include the following:

- (i) The elements required under Section VII.D (Receiving Water Limits Monitoring Frequency) and Section VII.E (Sediment Monitoring) of the Sediment Control Plan;
- (ii) A Quality Assurance Project Plan (QAPP) describing the project objectives and organization, functional activities, and quality assurance/quality control protocols for the water and sediment monitoring; and
- (iii) A schedule for completion of all sample collection and analysis activities and submission of Sediment Monitoring Reports.

- (b) The Copermitees must implement the Sediment Monitoring Plan in accordance with the schedule contained in the Sediment Monitoring Plan, unless otherwise directed in writing by the San Diego Water Board Executive Officer.
- (c) The Copermitees must incorporate a Sediment Monitoring Report as part of the Water Quality Improvement Plan Annual Report in accordance with the schedule contained in the Sediment Monitoring Plan, unless otherwise directed in writing by the San Diego Water Board Executive Officer. The Sediment Monitoring Report must contain the following information:
 - (i) Analysis: An evaluation, interpretation and tabulation of the water and sediment monitoring data, including interpretations and conclusions as to whether applicable Receiving Water Limitations in this Order have been attained at each sample station;
 - (ii) Sample Location Map: The locations, type, and number of samples must be identified and shown on a site map; and
 - (iii) California Environmental Data Exchange Network: A statement certifying that the monitoring data and results have been uploaded into the California Environmental Data Exchange Network (CEDEN).
- (d) Based on the Sediment Monitoring Report conclusions the San Diego Water Board may require a human health risk assessment to determine if the human health objective contained in Receiving Water Limitations in Provision A.2.a.(3)(b)(ii) has been attained at each sample station. In conducting a risk assessment, the Copermitees must consider any applicable and relevant information, including California Environmental Protection Agency's (Cal/EPA) Office of Environmental Health Hazard Assessment (OEHHA) policies for fish consumption and risk assessment, Cal/EPA's Department of Toxic Substances Control (DTSC) Risk Assessment, and USEPA Human Health Risk Assessment policies.

(3) ASBS Monitoring

For Watershed Management Areas with ASBS, the Copermitees must implement the monitoring requirements of Attachment B to State Water Board Resolution No. 2012-0012, included in Attachment A to this Order.

f. ALTERNATIVE WATERSHED MONITORING REQUIREMENTS

The San Diego Water Board may direct the Copermitees to participate in an effort to develop alternative watershed monitoring with other regulated entities, other interested parties, and the San Diego Water Board to refine, coordinate, and implement regional monitoring and assessment programs to determine the status and trends of water quality conditions in 1) coastal waters, 2) enclosed bays, harbors, estuaries, and lagoons, and 3) streams.

2. MS4 Outfall Discharge Monitoring Requirements

The Copermittees must develop and conduct a program to monitor the discharges from the MS4 outfalls in each Watershed Management Area during dry weather and wet weather. Following San Diego Water Board acceptance of the Water Quality Improvement Plans for each Watershed Management Area, the Copermittees must conduct MS4 outfall discharge monitoring during implementation of the Water Quality Improvement Plan to assess the effectiveness of their jurisdictional runoff management programs toward effectively prohibiting non-storm water discharges into the MS4 and reducing pollutants in storm water discharges from their MS4s to the MEP. Any available monitoring data not collected specifically for this Order that meet the quality assurance criteria of the Copermittees and the monitoring requirements of this Order may be utilized by the Copermittees. The Copermittees must conduct the following MS4 outfall monitoring procedures:

a. TRANSITIONAL MS4 OUTFALL DISCHARGE MONITORING

Until the monitoring requirements and schedules of Provisions D.2.b-c are incorporated into a Water Quality Improvement Plan that is accepted by the San Diego Water Board pursuant to Provision F.1.b, the Copermittees must conduct the following MS4 outfall discharge monitoring in the Watershed Management Area:

(1) MS4 Outfall Discharge Monitoring Station Inventory

Each Copermittee must identify all major MS4 outfalls that discharge directly to receiving waters within its jurisdiction and geo-locate those outfalls on a map of the MS4 pursuant to Provision E.2.b.(1). This information must be compiled into a MS4 outfall discharge monitoring station inventory, and must include the following information:

- (a) Latitude and longitude of MS4 outfall point of discharge;
- (b) Watershed Management Area;
- (c) Hydrologic subarea;
- (d) Outlet size;
- (e) Accessibility (i.e. safety and without disturbance of critical habitat);
- (f) Approximate drainage area; and

- (g) Classification of whether the MS4 outfall is known to have persistent dry weather flows, transient dry weather flows, no dry weather flows, or unknown dry weather flows.

(2) Transitional Dry Weather MS4 Outfall Discharge Field Screening Monitoring

Until the monitoring requirements and schedules of Provision D.2.b are incorporated into a Water Quality Improvement Plan that is accepted by the San Diego Water Board pursuant to Provision F.1.b, each Copermittee must perform dry weather MS4 outfall field screening monitoring to identify non-storm water and illicit discharges within its jurisdiction in accordance with Provision E.2.c, to determine which discharges are transient flows and which are persistent flows, and prioritize the dry weather MS4 discharges that will be investigated and eliminated in accordance with Provision E.2.d.

(a) Transitional Dry Weather MS4 Outfall Discharge Field Screening Monitoring Frequency

Each Copermittee must field screen the MS4 outfalls in its inventory developed pursuant to Provision D.2.a.(1) as follows:

- (i) For Copermittees with less than 125 major MS4 outfalls that discharge to receiving waters within a Watershed Management Area, at least 80 percent of the outfalls must be visually inspected two times per year during dry weather conditions. For any Copermittee with portions of its jurisdiction in more than one Watershed Management Area and more than 500 major outfalls, see Provision D.2.a.(2)(a)(iv).
- (ii) For Copermittees with 125 major MS4 outfalls or more, but less than or equal to 500 that discharge to receiving waters within a Watershed Management Area, all the outfalls must be visually inspected at least annually during dry weather conditions. For any Copermittee with portions of its jurisdiction in more than one Watershed Management Area and more than 500 major outfalls, see Provision D.2.a.(2)(a)(iv).
- (iii) For Copermittees with more than 500 major MS4 outfalls that discharge to receiving waters within a Watershed Management Area, at least 500 outfalls must be visually inspected at least annually during dry weather conditions. For any Copermittee with portions of its jurisdiction in more than one Watershed Management Area and more than 500 major outfalls, see Provision D.2.a.(2)(a)(iv). Copermittees with more than 500 major MS4 outfalls within a Watershed Management Area must identify and prioritize at least 500 outfalls to be inspected considering the following:

- [a] Assessment of connectivity of the discharge to a flowing receiving water;
 - [b] Reported exceedances of NALs in water quality monitoring data;
 - [c] Surrounding land uses;
 - [d] Presence of constituents listed as a cause for impairment of receiving waters in the Watershed Management Area listed on the CWA section 303(d) List; and
 - [e] Flow rate.
- (iv) For any Copermittee with portions of its jurisdiction in more than one Watershed Management Area and more than 500 major MS4 outfalls within its jurisdiction, at least 500 major MS4 outfalls within its inventory must be visually inspected at least annually during dry weather conditions. Copermittees with more than 500 major MS4 outfalls in more than one Watershed Management Area must identify and prioritize at least 500 outfalls to be inspected considering the following:
- [a] Assessment of connectivity of the discharge to a flowing receiving water;
 - [b] Reported exceedances of NALs in water quality monitoring data;
 - [c] Surrounding land uses;
 - [d] Presence of constituents listed as a cause for impairment of receiving waters in the Watershed Management Area listed on the CWA section 303(d) List; and
 - [e] Flow rate.
- (v) Inspections of major MS4 outfalls conducted in response to public reports and staff or contractor reports and notifications may count toward the required visual inspections of MS4 outfall discharge monitoring stations.
- (b) Transitional Dry Weather MS4 Outfall Discharge Field Screening Visual Observations
- (i) An antecedent dry period of at least 72 hours following any storm event producing measurable rainfall greater than 0.1 inch is required prior to conducting field screening visual observations during a field screening monitoring event.
 - (ii) During the field screening monitoring event, each Copermittee must record visual observations consistent with Table D-5 at each MS4 outfall discharge monitoring station inspected.

Table D-5. Field Screening Visual Observations for MS4 Outfall Discharge Monitoring Stations

Field Observations
<ul style="list-style-type: none">• Station identification and location• Presence of flow, or pooled or ponded water• If flow is present:<ul style="list-style-type: none">- Flow estimation (i.e. width of water surface, approximate depth of water, approximate flow velocity, flow rate)- Flow characteristics (i.e. presence of floatables, surface scum, sheens, odor, color)- Flow source(s) suspected or identified from non-storm water source investigation- Flow source(s) eliminated during non-storm water source identification• If pooled or ponded water is present:<ul style="list-style-type: none">- Characteristics of pooled or ponded water (i.e. presence of floatables, surface scum, sheens, odor, color)- Known or suspected source(s) of pooled or ponded water• Station description (i.e. deposits or stains, vegetation condition, structural condition, observable biology)• Presence and assessment of trash in and around station• Evidence or signs of illicit connections or illegal dumping

- (iii) Each Copermittee must implement the requirements of Provisions E.2.d.(2)(c)-(e) based on the field observations required pursuant to Provision D.2.a.(2)(b)(ii).
- (iv) Each Copermittee must evaluate field observations together with existing information available from prior reports, inspections and monitoring results to determine whether any observed flowing, pooled, or ponded waters are likely to be transient or persistent flow.²²

(c) **Transitional Dry Weather MS4 Outfall Discharge Field Screening Monitoring Records**

Based upon the results of the transitional dry weather MS4 outfall discharge field screening monitoring conducted pursuant to Provisions D.2.a.(2)(a)-(b), each Copermittee must update its MS4 outfall discharge monitoring station inventory, compiled pursuant to Provision D.2.a.(1), with any new information on the classification of whether the MS4 outfall produces persistent flow, transient flow, or no dry weather flow.

(3) **Transitional Wet Weather MS4 Outfall Discharge Monitoring**

Until the monitoring requirements and schedules of Provision D.2.c are incorporated into a Water Quality Improvement Plan that is accepted by the

²² Persistent flow is defined as the presence of flowing, pooled, or ponded water more than 72 hours after a measureable rainfall event of 0.1 inch or greater during three consecutive monitoring and/or inspection events. All other flowing, pooled, or ponded water is considered transient.

San Diego Water Board pursuant to Provision F.1.b, the Copermittees must conduct the following wet weather MS4 outfall discharge monitoring within the Watershed Management Area:

(a) Transitional Wet Weather MS4 Outfall Discharge Monitoring Stations

The Copermittees must select wet weather MS4 outfall discharge monitoring stations from the inventories developed pursuant to Provision D.2.a.(1) for each Watershed Management Area as follows:

- (i) At least five wet weather MS4 outfall discharge monitoring stations that are representative of storm water discharges from areas consisting primarily of residential, commercial, industrial, and typical mixed-use land uses present within the Watershed Management Area;
- (ii) At least one wet weather MS4 outfall discharge monitoring station for each Copermittee within the Watershed Management Area; and
- (iii) The County of San Diego may select at least two (2) wet weather MS4 outfall discharge monitoring stations for the portion of the Santa Margarita River Watershed Management Area within its jurisdiction to be monitored during the transitional period until the Riverside County Copermittees are notified of coverage under this Order. After the Riverside County Copermittees are notified of coverage under this Order, the Copermittees in the Watershed Management Area must select wet weather MS4 outfall discharge monitoring stations consistent with the requirements above.

(b) Transitional Wet Weather MS4 Outfall Discharge Monitoring Frequency

Each wet weather MS4 outfall discharge monitoring station selected pursuant to Provision D.2.a.(3)(a) must be monitored once during the wet season (October 1 – April 30). The wet weather monitoring events must be selected to be representative of the range of hydrological conditions experienced in the region. At least 10 percent of samples must be conducted during the first wet weather event of the wet season, to include at least one such sample in each Watershed Management Area..

(c) Transitional Wet Weather MS4 Outfall Discharge Field Observations

For each wet weather monitoring event, the following narrative descriptions and observations must be recorded at each wet weather MS4 outfall discharge monitoring station:

- (i) A narrative description of the station that includes the location, date and duration of the storm event(s) sampled, rainfall estimates of the storm event, and the duration between the storm event sampled and the end of the previous measurable (greater than 0.1 inch rainfall) storm event; and
 - (ii) The flow rates and volumes measured or estimated from the MS4 outfall (data from nearby USGS gauging stations may be utilized, or flow rates may be measured or estimated in accordance with the USEPA Storm Water Sampling Guidance Document (EPA-833-B-92-001), section 3.2.1, or other method proposed by the Copermittees that is acceptable to the San Diego Water Board);
- (d) Transitional Wet Weather MS4 Outfall Discharge Field Monitoring

For each wet weather monitoring event, the Copermittees must monitor and record the parameters in Table D-2 at each wet weather MS4 outfall discharge monitoring station.

(e) Transitional Wet Weather MS4 Outfall Discharge Analytical Monitoring

For each wet weather monitoring event, the Copermittees must collect and analyze samples from each wet weather MS4 outfall discharge monitoring station as follows:

- (i) Analytes that are field measured are not required to be analyzed by a laboratory;
- (ii) The Copermittees must implement consistent sample collection methods for regional comparability of data, unless site-specific conditions indicate the need for alternate methods;
- (iii) Grab samples may be collected for pH, temperature, specific conductivity, dissolved oxygen, turbidity, and indicator bacteria;
- (iv) For all other constituents, composite samples must be collected for a duration adequate to be representative of changes in pollutant concentrations and runoff flows using one of the following techniques:
 - [a] Time-weighted composites collected over the length of the storm event or the first 24 hour period whichever is shorter, composed of discrete samples, which may be collected through the use of automated equipment, or
 - [b] Flow-weighted composites collected over the length of the storm event or a typical 24 hour period, whichever is shorter, which may be collected through the use of automated equipment, or
 - [c] If automated compositing is not feasible, a composite sample may be collected using a minimum of 4 grab samples, collected during

the first 24 hours of the storm water discharge, or for the entire storm water discharge if the storm event is less than 24 hours;

- (v) Only one analysis of the composite of aliquots is required;
- (vi) The samples must be analyzed for the following constituents:
 - [a] Constituents listed as a cause for impairment of receiving waters in the Watershed Management Area listed on the CWA section 303(d) List,
 - [b] Constituents for implementation plans or load reduction plans (e.g. Bacteria Load Reduction Plans, Comprehensive Load Reduction Plans) developed for watersheds where the Copermittees are listed responsible parties under the TMDLs in Attachment E to this Order, and
 - [c] Constituents listed in Table D-6.

Table D-6. Analytical Monitoring Constituents for Wet Weather MS4 Outfall Discharge Monitoring Stations

Conventionals, Nutrients	Metals (Total and Dissolved)	Indicator Bacteria
<ul style="list-style-type: none"> • Total Dissolved Solids • Total Suspended Solids • Turbidity • Total Hardness • Total Organic Carbon • Dissolved Organic Carbon • Sulfate • Methylene Blue Active Substances (MBAS) • Total Phosphorus • Orthophosphate • Nitrite¹ • Nitrate¹ • Total Kjeldhal Nitrogen • Ammonia 	<ul style="list-style-type: none"> • Arsenic • Cadmium • Chromium • Copper • Iron • Lead • Nickel • Selenium • Thallium • Zinc 	<ul style="list-style-type: none"> • Total Coliform • Fecal Coliform² • <i>Enterococcus</i>

Notes:

- 1. Nitrite and nitrate may be combined and reported as nitrite+nitrate.
- 2. *E. Coli* may be substituted for Fecal Coliform.

(f) Other Transitional Wet Weather MS4 Outfall Discharge Monitoring

The San Diego County Copermittees must continue the wet weather MS4 outfall monitoring program developed under Order No. R9-2007-0001, as approved by the San Diego Water Board, through its planned completion.

b. DRY WEATHER MS4 OUTFALL DISCHARGE MONITORING

Each Copermittee must perform dry weather MS4 outfall monitoring to identify non-storm water and illicit discharges within its jurisdiction pursuant to Provision

E.2.c, and to prioritize the dry weather MS4 discharges that will be investigated and eliminated pursuant to Provision E.2.d. Each Copermittee must conduct the following dry weather MS4 outfall discharge monitoring within its jurisdiction:

(1) Dry Weather MS4 Outfall Discharge Field Screening Monitoring

Each Copermittee must continue to perform the dry weather MS4 outfall discharge field screening monitoring in accordance with the requirements of Provision D.2.a.(2). The Copermittee may adjust the field screening monitoring frequencies and locations for the MS4 outfalls in its inventory, as needed, to identify and eliminate sources of persistent flow non-storm water discharges in accordance with the highest priority water quality conditions identified in the Water Quality Improvement Plan, provided the number of visual inspections performed is equivalent to the number of visual inspections required under Provision D.2.a.(2)(a).

(2) Non-Storm Water Persistent Flow MS4 Outfall Discharge Monitoring

Each Copermittee must perform non-storm water persistent flow MS4 outfall discharge monitoring to determine which persistent non-storm water discharges contain concentrations of pollutants below NALs, and which persistent non-storm water discharges impact receiving water quality during dry weather. Each Copermittee must conduct the following non-storm water persistent flow MS4 outfall discharge monitoring within its jurisdiction:

(a) Prioritization of Non-Storm Water Persistent Flow MS4 Outfalls

Based upon the dry weather MS4 outfall discharge field screening monitoring records developed pursuant to Provision D.2.a.(2)(c), each Copermittee must identify and prioritize the MS4 outfalls with persistent flows based on the highest priority water quality conditions identified in the Water Quality Improvement Plan and any additional criteria developed by the Copermittee, which may include historical data and data from sources other than what the Copermittee collects.

(b) Non-Storm Water Persistent Flow MS4 Outfall Discharge Monitoring Frequency

- (i) Based on the prioritization of major MS4 outfalls developed under Provision D.2.b.(2)(a), each Copermittee must identify, at a minimum, the 5 highest priority major MS4 outfalls with non-storm water persistent flows that the Copermittee will monitor within its jurisdiction in each Watershed Management Area. For Responsible Copermittees identified by a TMDL in Attachment E to this Order, if the 5 chosen outfall locations are not sufficient to determine compliance with the TMDL(s), then each Responsible Copermittee

must identify additional MS4 outfall monitoring locations within its jurisdiction sufficient to address compliance with the TMDL(s). If a Copermitttee has less than 5 major outfalls within a Watershed Management Area, then the Copermitttee must monitor all of its major MS4 outfalls with persistent flows within each Watershed Management Area. The location of the highest priority non-storm water persistent flow MS4 outfall monitoring stations must be identified on the map required pursuant to Provision E.2.b.(1). The map must specify which MS4 outfalls are being monitored for compliance with a TMDL.

- (ii) Each of the highest priority non-storm water persistent flow MS4 outfall monitoring stations identified pursuant to Provision D.2.b.(2)(b)(i) must be monitored under dry weather conditions at least semi-annually until one of the following occurs:
 - [a] The non-storm water discharges have been effectively eliminated (i.e. no flowing, pooled, or ponded water) for three consecutive dry weather monitoring events; or
 - [b] The source(s) of the persistent flows has been identified as a category of non-storm water discharges that does not require an NPDES permit and does not have to be addressed as an illicit discharge because it was not identified as a source of pollutants (i.e. constituents in non-storm water discharge do not exceed NALs), and the persistent flow can be re-prioritized to a lower priority; or
 - [c] The constituents in the persistent flow non-storm water discharge do not exceed NALs, and the persistent flow can be re-prioritized to a lower priority; or
 - [d] The source(s) of the persistent flows has been identified as a non-storm water discharge authorized by a separate NPDES permit.
- (iii) Where the criteria under Provision D.2.b.(2)(b)(ii) are not met, but the threat to water quality has been reduced by the Copermitttee, the highest priority persistent flow MS4 outfall monitoring stations may be reprioritized accordingly for continued dry weather MS4 outfall discharge field screening monitoring required pursuant to Provision D.2.b.(1).
- (iv) Each Copermitttee must document removal or re-prioritization of the highest priority persistent flow MS4 outfall monitoring stations identified under Provision D.2.b.(2)(a) in the Water Quality Improvement Plan Annual Report. Persistent flow MS4 outfall monitoring stations that have been removed must be replaced with the next highest prioritized major MS4 outfall in the Watershed Management Area within its jurisdiction, unless there are no remaining qualifying major MS4 outfalls within the Copermitttee's jurisdiction in the Watershed Management Area.

(c) Non-Storm Water Persistent Flow MS4 Outfall Discharge Field Observations

During each semi-annual monitoring event, each Copermittee must record field observations consistent with Table D-5 at each of the highest priority persistent flow MS4 outfall monitoring stations within its jurisdiction.

(d) Non-Storm Water Persistent Flow MS4 Outfall Discharge Field Monitoring

During each semi-annual monitoring event, if conditions allow the collection of the data, each Copermittee must monitor and record the parameters in Table D-2 at each of the highest priority persistent flow MS4 outfall monitoring stations within its jurisdiction.

(e) Non-Storm Water Persistent Flow MS4 Outfall Discharge Analytical Monitoring

During each semi-annual monitoring event in which measurable flow is present, each Copermittee must collect and analyze samples from each of the highest priority persistent flow MS4 outfall monitoring stations within its jurisdiction as follows:

- (i) Analytes that are field measured are not required to be analyzed by a laboratory;
- (ii) The Copermittees must implement consistent sample collection methods for regional comparability of data, unless site-specific conditions indicate the need for alternate methods;
- (iii) Collect grab or composite samples to be analyzed at a qualified laboratory for the following constituents:
 - [a] Constituents contributing to the highest priority water quality conditions identified in the Water Quality Improvement Plan,
 - [b] Constituents listed as a cause for impairment of receiving waters in the Watershed Management Area listed on the CWA section 303(d) List,
 - [c] Constituents for implementation plans or load reduction plans (e.g. Bacteria Load Reduction Plans, Comprehensive Load Reduction Plans) developed for watersheds where the Copermittees are listed responsible parties under the TMDLs in Attachment E to this Order,
 - [d] Applicable NAL constituents, and
 - [e] Constituents listed in Table D-7. The Copermittees may adjust the list of constituents for the Watershed Management Area if historical data or supporting information can be provided that demonstrates or justifies the analysis of a constituent is not necessary.

Table D-7. Analytical Monitoring Constituents for Persistent Flow MS4 Outfall Discharge Monitoring Stations

Conventional, Nutrients	Metals (Total and Dissolved)	Indicator Bacteria
<ul style="list-style-type: none"> • Total Dissolved Solids • Total Suspended Solids • Total Hardness • Total Phosphorus • Orthophosphate • Nitrite¹ • Nitrate¹ • Total Kjeldhal Nitrogen • Ammonia 	<ul style="list-style-type: none"> • Cadmium • Copper • Lead • Zinc 	<ul style="list-style-type: none"> • Total Coliform • Fecal Coliform² • <i>Enterococcus</i>

Notes:
 1. Nitrite and nitrate may be combined and reported as nitrite+nitrate.
 2. *E. Coli* may be substituted for Fecal Coliform.

- (iv) If the Copermittee identifies and eliminates the source of the persistent flow non-storm water discharge, analysis of the sample is not required.

C. WET WEATHER MS4 OUTFALL DISCHARGE MONITORING

The Copermittees must perform wet weather MS4 outfall monitoring to identify pollutants in storm water discharges from the MS4s, to guide pollutant source identification efforts, and to determine compliance with the WQBELs associated with the applicable TMDLs in Attachment E to this Order. The Copermittees must conduct the following wet weather MS4 outfall discharge monitoring within the Watershed Management Area:

(1) Wet Weather MS4 Outfall Discharge Monitoring Stations

The Copermittees may adjust the wet weather MS4 outfall discharge monitoring locations in the Watershed Management Area, as needed, to identify pollutants in storm water discharges from MS4s, to guide pollutant source identification efforts, and to determine compliance with the WQBELs associated with the applicable TMDLs in Attachment E to this Order in accordance with the highest priority water quality conditions identified in the Water Quality Improvement Plan, provided the number of stations is at least equivalent to the number of stations required under Provision D.2.a.(3)(a). Additional outfall monitoring locations, above the minimum per jurisdiction, may be required to demonstrate compliance with the WQBELs associated with the applicable TMDLs in Attachment E.

(2) Wet Weather MS4 Outfall Discharge Monitoring Frequency

The Copermitees must monitor the wet weather MS4 outfall discharge monitoring stations in the Watershed Management Area at least once (1) per year. The Copermitees may need to increase the frequency of monitoring in order to identify pollutants in storm water discharges from the MS4s causing or contributing to the highest priority water quality conditions, to guide pollutant source identification efforts, or to determine compliance with the WQBELs associated with the applicable TMDLs in Attachment E to this Order.

(3) Wet Weather MS4 Outfall Discharge Field Observations

For each wet weather monitoring event, the following narrative descriptions and observations must be recorded at each wet weather MS4 outfall discharge monitoring station:

- (a) A narrative description of the station that includes the location, date and duration of the storm event(s) sampled, rainfall estimates of the storm event, and the duration between the storm event sampled and the end of the previous measurable (greater than 0.1 inch rainfall) storm event; and
- (b) The flow rates and volumes measured or estimated (data from nearby USGS gauging stations may be utilized, or flow rates may be measured or estimated in accordance with the USEPA Storm Water Sampling Guidance Document (EPA-833-B-92-001), section 3.2.1, or other method proposed by the Copermitees that is acceptable to the San Diego Water Board);

(4) Wet Weather MS4 Outfall Discharge Field Monitoring

For each wet weather monitoring event, the Copermitees must monitor and record the parameters in Table D-2 at each wet weather MS4 outfall discharge monitoring station.

(5) Wet Weather MS4 Outfall Discharge Analytical Monitoring

For each wet weather monitoring event, the Copermitees must collect and analyze samples from each wet weather MS4 outfall discharge monitoring station as follows:

- (a) Analytes that are field measured are not required to be analyzed by a laboratory;

- (b) The Copermittees must implement consistent sample collection methods for regional comparability of data, unless site-specific conditions indicate the need for alternate methods;
- (c) Grab samples may be collected for pH, temperature, specific conductivity, dissolved oxygen, turbidity, hardness, and indicator bacteria;
- (d) For all other constituents, composite samples must be collected for a duration adequate to be representative of changes in pollutant concentrations and runoff flows using one of the following techniques:
 - (i) Time-weighted composites collected over the length of the storm event or the first 24 hour period, whichever is shorter, composed of discrete samples, which may be collected through the use of automated equipment, or
 - (ii) Flow-weighted composites collected over the length of the storm event or a typical 24 hour period, whichever is shorter, which may be collected through the use of automated equipment, or
 - (iii) If automated compositing is not feasible, a composite sample may be collected using a minimum of 4 grab samples, collected during the first 24 hours of the storm water discharge, or for the entire storm water discharge if the storm event is less than 24 hours.
- (e) Only one analysis of the composite of aliquots is required;
- (f) Analysis for the following constituents is required:
 - (i) Constituents contributing to the highest priority water quality conditions identified in the Water Quality Improvement Plan,
 - (ii) Constituents listed as a cause for impairment of receiving waters in the Watershed Management Area listed on the CWA section 303(d) List,
 - (iii) Constituents for implementation plans or load reduction plans (e.g. Bacteria Load Reduction Plans, Comprehensive Load Reduction Plans) developed for watersheds where the Copermittees are listed responsible parties under the TMDLs in Attachment E to this Order,
 - (iv) Applicable SAL constituents, and
 - (v) The Copermittees may adjust the analytical monitoring required for the Watershed Management Area, if the Copermittees have historical data or supporting information that can demonstrate or provide justification that the analysis of a constituent is not necessary.

3. Special Studies

- a. Within the term of this Order, the Copermittees must initiate the following special studies:
 - (1) At least two special studies in each Watershed Management Area to address pollutant and/or stressor data gaps and/or develop information necessary to more effectively address the pollutants and/or stressors that cause or contribute to highest priority water quality conditions identified in the Water Quality Improvement Plan.
 - (2) At least one special study for the San Diego Region to address pollutant and/or stressor data gaps and/or develop information necessary to more effectively address the pollutants and/or stressors that are impacting receiving waters on a regional basis in the San Diego Region.
 - (3) One of the two special studies in each Watershed Management Area required pursuant to Provision D.3.a.(1) may be replaced by a special study implemented pursuant to Provision D.3.a.(2).
- b. The special studies must, at a minimum, be in conformance with the following criteria:
 - (1) The special studies must be related to the highest priority water quality conditions identified by the Copermittees in the Watershed Management Area and/or for the entire San Diego Region;
 - (2) The special studies developed pursuant to Provision D.3.a.(1) must:
 - (a) Be implemented within the applicable Watershed Management Area, and
 - (b) Require some form of participation by all the Copermittees within the Watershed Management Area;
 - (3) The special studies developed pursuant to Provision D.3.a.(2) must:
 - (a) Be implemented within the San Diego Region, and
 - (b) Require some form of participation by all Copermittees covered under the requirements of this Order.
 - (4) The Copermittees are encouraged to partner with environmental groups or third parties knowledgeable of watershed conditions to complete the required special studies.

- c.** Special studies developed to identify sources of pollutants and/or stressors should be pollutant and/or stressor specific and based on historical monitoring data and monitoring performed pursuant to Provisions D.1 and D.2. Development of source identification special studies should include the following:
- (1) A compilation of known information on the specific pollutant and/or stressor, including data on potential sources and movement of the pollutant and/or stressor within the watershed. Data generated by the Copermittees and others, as well as information available from a literature research on the pollutant and/or stressor should be compiled and analyzed as appropriate.
 - (2) An identification of data gaps, based on the compiled information generated on the specific pollutant and/or stressor identified in Provision D.3.c.(1). Source identification special studies should be developed to fill identified data gaps.
 - (3) A monitoring plan that will collect and provide data the Copermittees can utilize to do the following:
 - (a) Quantify the relative loading or impact of a pollutant and/or stressor from a particular source or pollutant generating activity;
 - (b) Improve understanding of the fate of a pollutant and/or stressor in the environment;
 - (c) Develop an inventory of known and suspected sources of a pollutant and/or stressor in the Watershed Management Area; and/or
 - (d) Prioritize known and suspected sources of a pollutant and/or stressor based on relative magnitude in discharges, geographical distribution (i.e., regional or localized), frequency of occurrence in discharges, human health risk, and controllability.
- d.** Special studies initiated prior to the effective date of this Order that meet the requirements of Provision D.3.b and are implemented during the term of this Order as part of the Water Quality Improvement Plan may be utilized to fulfill the special study requirements of Provision D.3.a. Special studies completed before the effective date of this Order cannot be utilized to fulfill the special study requirements of Provision D.3.a.
- e.** The Copermittees must submit the monitoring plans for the special studies in the Water Quality Improvement Plans required pursuant to Provision F.1.

- f. The Copermittees are encouraged to share the results of the special studies regionally among the Copermittees to provide information useful in improving and adapting the management of non-storm water and storm water runoff through the implementation of the Water Quality Improvement Plans.

4. Assessment Requirements

Each Copermittee must evaluate the data collected pursuant to Provisions D.1, D.2 and D.3, and information collected during the implementation of the jurisdictional runoff management programs required pursuant to Provision E, to assess the progress of the water quality improvement strategies in the Water Quality Improvement Plan toward achieving compliance with Provisions A.1.a, A.1.c and A.2.a. Assessments must be performed as described in the following provisions:

a. RECEIVING WATERS ASSESSMENTS

- (1) The Copermittees must assess and report the conditions of the receiving waters in the Watershed Management Area as follows:
 - (a) Based on data collected pursuant to Provision D.1.a, the assessments under Provision D.4.a.(2) must be included in the Transitional Monitoring and Assessment Program Annual Reports required pursuant to Provision F.3.b.(2).
 - (b) Based on the data collected pursuant to Provisions D.1.a-e, the assessments required under Provision D.4.a.(2) must be included in the Report of Waste Discharge required pursuant to Provision F.5.b.
- (2) The Copermittees must assess the status and trends of receiving water quality conditions in 1) coastal waters, 2) enclosed bays, harbors, estuaries, and lagoons, and 3) streams under dry weather and wet weather conditions. For each of the three types of receiving waters in each Watershed Management Area the Copermittees must:
 - (a) Determine whether or not the conditions of the receiving waters are meeting the numeric goals established pursuant to Provision B.3.a;
 - (b) Identify the most critical beneficial uses that must be protected to ensure overall health of the receiving water;
 - (c) Determine whether or not those critical beneficial uses are being protected;
 - (d) Identify short-term and/or long-term improvements or degradation of those critical beneficial uses;

- (e) Determine whether or not the strategies established in the Water Quality Improvement Plan contribute towards progress in achieving the interim and final numeric goals of the Water Quality Improvement Plan; and
- (f) Identify data gaps in the monitoring data necessary to assess Provisions D.4.a.(2)(a)-(e).

b. MS4 OUTFALL DISCHARGES ASSESSMENTS

(1) Non-Storm Water Discharges Reduction Assessments

- (a) Each Copermittee must assess and report the progress of its illicit discharge detection and elimination program, required to be implemented pursuant to Provision E.2, toward effectively prohibiting non-storm water and illicit discharges into the MS4 within its jurisdiction as follows:
 - (i) Based on data collected pursuant to Provisions D.2.a.(2), the assessments under Provision D.4.b.(1)(b) must be included in the Transitional Monitoring and Assessment Program Annual Reports required pursuant to Provision F.3.b.(2).
 - (ii) Based on the data collected pursuant to Provisions D.2.b, the assessments required under Provision D.4.b.(1)(c) must be included in the Water Quality Improvement Plan Annual Reports required pursuant to Provision F.3.b.(3).
 - (iii) Based on the data collected pursuant to Provisions D.2.b, the assessment required under Provision D.4.b.(1)(c) must be included in the Report of Waste Discharge required pursuant to F.5.b.
- (b) Based on the transitional dry weather MS4 outfall discharge field screening monitoring required pursuant to Provision D.2.a.(2), each Copermittee must assess and report the following:
 - (i) Identify the known and suspected controllable sources (e.g. facilities, areas, land uses, pollutant generating activities) of transient and persistent flows within the Copermittee's jurisdiction in the Watershed Management Area;
 - (ii) Identify sources of transient and persistent flows within the Copermittee's jurisdiction in the Watershed Management Area that have been reduced or eliminated; and
 - (iii) Identify modifications to the field screening monitoring locations and frequencies for the MS4 outfalls in its inventory necessary to identify and eliminate sources of persistent flow non-storm water discharges pursuant to Provision D.2.b.

- (c) Based on the dry weather MS4 outfall discharge field screening monitoring required pursuant to Provision D.2.b.(1), each Copermittee must assess and report the following:
- (i) The assessments required pursuant to Provision D.4.b.(1)(b);
 - (ii) Based on the data collected and applicable NALs in the Water Quality Improvement Plan, rank the MS4 outfalls in the Copermittee's jurisdiction according to potential threat to receiving water quality, and produce a prioritized list of major MS4 outfalls for follow-up action to update the Water Quality Improvement Plan, with the goal of eliminating persistent flow non-storm water discharges and/or pollutant loads in order of the ranked priority list through targeted programmatic actions and source investigations;
 - (iii) For the highest priority major MS4 outfalls with persistent flows that are in exceedance of NALs, identify the known and suspected sources within the Copermittee's jurisdiction in the Watershed Management Area that may cause or contribute to the NAL exceedances;
 - (iv) Each Copermittee must analyze the data collected pursuant to Provision D.2.b, and utilize a model or other method, to calculate or estimate the non-storm water volumes and pollutant loads collectively discharged from all the major MS4s outfalls in its jurisdiction identified as having persistent dry weather flows during the monitoring year. These calculations or estimates must be updated annually.
 - [a] Each Copermittee must calculate or estimate the annual non-storm water volumes and pollutant loads collectively discharged from the Copermittee's major MS4 outfalls to receiving waters within the Copermittee's jurisdiction, with an estimate of the percent contribution from each known source for each MS4 outfall;
 - [b] Each Copermittee must annually identify and quantify (i.e. volume and pollutant loads) sources of non-storm water not subject to the Copermittee's legal authority that are discharged from the Copermittee's major MS4 outfalls to downstream receiving waters.
 - (v) Each Copermittee must review the data collected pursuant to Provision D.2.b and findings from the assessments required pursuant to Provision D.4.b.(1)(c)(i)-(iv) at least once during the term of this Order to:

- [a] Identify reductions and progress in achieving reductions in non-storm water and illicit discharges to the Copermittee's MS4 in the Watershed Management Area;
 - [b] Assess the effectiveness of water quality improvement strategies being implemented by the Copermittees within the Watershed Management Area toward reducing or eliminating non-storm water and pollutant loads discharging from the MS4 to receiving waters within its jurisdiction, with an estimate, if possible, of the non-storm water volume and/or pollutant load reductions attributable to specific water quality strategies implemented by the Copermittee; and
 - [c] Identify modifications necessary to increase the effectiveness of the water quality improvement strategies implemented by the Copermittee in the Watershed Management Area toward reducing or eliminating non-storm water and pollutant loads discharging from the MS4 to receiving waters within its jurisdiction.
- (vi) Identify data gaps in the monitoring data necessary to assess Provisions D.4.b.(1)(c)(i)-(v).

(2) Storm Water Pollutant Discharges Reduction Assessments

- (a) The Copermittees must assess and report the progress of the water quality improvement strategies, required to be implemented pursuant to Provisions B and E, toward reducing pollutants in storm water discharges from the MS4s within the Watershed Management Area as follows:
- (i) Based on data collected pursuant to Provisions D.2.a.(3), the assessments under Provision D.4.b.(2)(b) must be included in the Transitional Monitoring and Assessment Program Annual Reports required pursuant to Provision F.3.b.(2).
 - (ii) Based on the data collected pursuant to Provisions D.2.c, the assessments required under Provision D.4.b.(2)(c) must be included in the Water Quality Improvement Plan Annual Reports required pursuant to Provision F.3.b.(3).
 - (iii) Based on the data collected pursuant to Provisions D.2.c, the assessment required under Provisions D.4.b.(2)(c)-(d) must be included in the Report of Waste Discharge required pursuant to F.5.b.
- (b) Based on the transitional wet weather MS4 outfall discharge monitoring required pursuant to Provision D.2.a.(3) the Copermittees must assess and report the following:

- (i) The Copermittees must analyze the monitoring data collected pursuant to Provision D.2.a.(3), and utilize a watershed model or other method, to calculate or estimate the following for each monitoring year:
 - [a] The average storm water runoff coefficient for each land use type within the Watershed Management Area;
 - [b] The volume of storm water and pollutant loads discharged from each of the Copermittee's monitored MS4 outfalls in its jurisdiction to receiving waters within the Watershed Management Area for each storm event with measurable rainfall greater than 0.1 inch;
 - [c] The total flow volume and pollutant loadings discharged from the Copermittee's jurisdiction within the Watershed Management Area over the course of the wet season, extrapolated from the data produced from the monitored MS4 outfalls; and
 - [d] The percent contribution of storm water volumes and pollutant loads discharged from each land use type within each hydrologic subarea with a major MS4 outfall to receiving waters or within each major MS4 outfall to receiving waters in the Copermittee's jurisdiction within the Watershed Management Area for each storm event with measurable rainfall greater than 0.1 inch.
 - (ii) Identify modifications to the wet weather MS4 outfall discharge monitoring locations and frequencies necessary to identify pollutants in storm water discharges from the MS4s in the Watershed Management Area pursuant to Provision D.2.c.(1).
- (c) Based on the wet weather MS4 outfall discharge monitoring required pursuant to Provision D.2.c the Copermittees must assess and report the following:
- (i) The assessments required pursuant to Provision D.4.b.(2)(b);
 - (ii) Based on the data collected and applicable SALs in the Water Quality Improvement Plan, analyze and compare the monitoring data to the analyses and assumptions used to develop the Water Quality Improvement Plans, including strategies developed pursuant to Provision B.3, and evaluate whether those analyses and assumptions should be updated as a component of the adaptive management efforts pursuant to Provision B.5 for follow-up action to update the Water Quality Improvement Plan;
 - (iii) The Copermittees must review the data collected pursuant to Provision D.2.c and findings from the assessments required pursuant to Provisions D.4.b.(2)(c)(i)-(ii) at least once during the term of this Order to:

- [a] Identify reductions or progress in achieving reductions in pollutant concentrations and/or pollutant loads from different land uses and/or drainage areas discharging from the Copermittees' MS4s in the Watershed Management Area;
- [b] Assess the effectiveness of water quality improvement strategies being implemented by the Copermittees within the Watershed Management Area toward reducing pollutants in storm water discharges from the MS4s to receiving waters within the Watershed Management Area to the MEP, with an estimate, if possible, of the pollutant load reductions attributable to specific water quality strategies implemented by the Copermittees; and
- [c] Identify modifications necessary to increase the effectiveness of the water quality improvement strategies implemented by the Copermittees in the Watershed Management Area toward reducing pollutants in storm water discharges from the MS4s to receiving waters in the Watershed Management Area to the MEP.

(iv) Identify data gaps in the monitoring data necessary to assess Provisions D.4.b.(2)(c)(i)-(iii).

(d) The Copermittees must evaluate all the data collected pursuant to Provision D.2.c, and incorporate new outfall monitoring data into time series plots for each long-term monitoring constituent for the Watershed Management Area, and perform statistical trends analysis on the cumulative long-term wet weather MS4 outfall discharge water quality data set.

c. SPECIAL STUDIES ASSESSMENTS

The Copermittees must annually evaluate the results and findings from the special studies developed and implemented pursuant to Provision D.3, and assess their relevance to the Copermittees' efforts to characterize receiving water conditions, understand sources of pollutants and/or stressors, and control and reduce the discharges of pollutants from the MS4 outfalls to receiving waters in the Watershed Management Area. The Copermittees must report the results of the special studies assessments applicable to the Watershed Management Area, and identify any necessary modifications or updates to the Water Quality Improvement Plan based on the results in the Water Quality Improvement Plan Annual Reports required pursuant to Provision F.3.b.(3).

d. INTEGRATED ASSESSMENT OF WATER QUALITY IMPROVEMENT PLAN

As part of the iterative approach and adaptive management process required for the Water Quality Improvement Plan pursuant to Provision B.5, the Copermittees in each Watershed Management Area must integrate the data collected pursuant to Provisions D.1-D.3, the findings from the assessments required pursuant to

Provisions D.4.a-c, and information collected during the implementation of the jurisdictional runoff management programs required pursuant to Provision E to assess the effectiveness of, and identify necessary modifications to, the Water Quality Improvement Plan as follows:

- (1) The Copermittees must re-evaluate the priority water quality conditions and numeric goals for the Watershed Management Area, as needed, during the term of this Order pursuant to Provision B.5.a. The re-evaluation and recommendations for modifications to the priority water quality conditions, and/or numeric goals and corresponding schedules may be provided in the Water Quality Improvement Plan Annual Reports required pursuant to Provision F.3.b.(3), but must at least be provided in the Report of Waste Discharge pursuant to Provision F.5.b. The priority water quality conditions and numeric goals for the Watershed Management Area must be re-evaluated as follows:
 - (a) Re-evaluate the receiving water conditions in the Watershed Management Area in accordance with Provision B.2.a;
 - (b) Re-evaluate the impacts on receiving waters in the Watershed Management Area from MS4 discharges in accordance with Provision B.2.b;
 - (c) Re-evaluate the identification of MS4 sources of pollutants and/or stressors in accordance with Provision B.2.d;
 - (d) Identify beneficial uses of the receiving waters that are protected in accordance with Provision D.4.a;
 - (e) Evaluate the progress toward achieving the interim and final numeric goals for protecting impacted beneficial uses in the receiving waters.
- (2) The Copermittees must re-evaluate the water quality improvement strategies for the Watershed Management Area during the term of this Order pursuant to Provision B.5.b. The re-evaluation and recommendations for modifications to the water quality improvement strategies and schedules may be provided in the Water Quality Improvement Plan Annual Reports required pursuant to Provision F.3.b.(3), but must at least be provided in the Report of Waste Discharge pursuant to Provision F.5.b. The water quality improvement strategies for the Watershed Management Area must be re-evaluated as follows:
 - (a) Identify the non-storm water and storm water pollutant loads from the Copermittees' MS4 outfalls in the Watershed Management Area, calculated or estimated pursuant to Provisions D.4.b;

- (b) Identify the non-storm water and storm water pollutant load reductions, or other improvements to receiving water or water quality conditions, that are necessary to attain the interim and final numeric goals identified in the Water Quality Improvement Plan for protecting beneficial uses in the receiving waters;
 - (c) Identify the non-storm water and storm water pollutant load reductions, or other improvements to the quality of MS4 discharges, that are necessary for the Copermittees to demonstrate that non-storm water and storm water discharges from their MS4s are not causing or contributing to exceedances of receiving water limitations;
 - (d) Evaluate the progress of the water quality improvement strategies toward achieving the interim and final numeric goals identified in the Water Quality Improvement Plan for protecting beneficial uses in the receiving waters.
- (3) The Copermittees must re-evaluate and adapt the water quality monitoring and assessment program for the Watershed Management Area when new information becomes available to improve the monitoring and assessment program pursuant to Provision B.5.c. The re-evaluation and recommendations for modifications to the monitoring and assessment program may be provided in the Water Quality Improvement Plan Annual Reports required pursuant to Provision F.3.b.(3), but must at least be provided in the Report of Waste Discharge pursuant to Provision F.5.b. Modifications to the water quality monitoring and assessment program must be consistent with the requirements of Provision D.1-D.3. The re-evaluation of the water quality monitoring and assessment program for the Watershed Management Area must consider the data gaps identified by the assessments required pursuant to Provisions D.4.a-b, and results of the special studies implemented pursuant to Provision D.4.c.

5. Monitoring Provisions

Each Copermittee must comply with all the monitoring, reporting, and recordkeeping provisions of the Standard Permit Provisions and General Provisions contained in Attachment B to this Order.

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E. JURISDICTIONAL RUNOFF MANAGEMENT PROGRAMS

The purpose of this provision is for each Copermittee to implement a program to control the contribution of pollutants to and the discharges from the MS4 within its jurisdiction. The goal of the jurisdictional runoff management programs is to implement strategies that effectively prohibit non-storm water discharges to the MS4 and reduce the discharge of pollutants in storm water to the MEP. This goal will be accomplished through implementing the jurisdictional runoff management programs in accordance with the strategies identified in the Water Quality Improvement Plans.

Each Copermittee must update its jurisdictional runoff management program document, in accordance with Provision F.2.a, to incorporate all the requirements of Provision E. Until the Copermittee has updated its jurisdictional runoff management program document with the requirements of Provision E, the Copermittee must continue implementing its current jurisdictional runoff management program.

1. Legal Authority Establishment and Enforcement

- a. Each Copermittee must establish, maintain, and enforce adequate legal authority within its jurisdiction to control pollutant discharges into and from its MS4 through statute, ordinance, permit, contract, order, or similar means. This legal authority must, at a minimum, authorize the Copermittee to:
 - (1) Prohibit and eliminate all illicit discharges and illicit connections to its MS4;
 - (2) Control the contribution of pollutants in discharges of runoff associated with industrial and construction activity to its MS4 and control the quality of runoff from industrial and construction sites, including industrial and construction sites which have coverage under the statewide General Permit for Discharges of Storm Water Associated with Industrial Activities (Industrial General Permit) or General Permit for Discharges of Storm Water Associated with Construction Activities (Construction General Permit), as well as to those sites which do not;
 - (3) Control the discharge of spills, dumping, or disposal of materials other than storm water into its MS4;
 - (4) Control through interagency agreements among Copermittees the contribution of pollutants from one portion of the MS4 to another portion of the MS4;
 - (5) Control, by coordinating and cooperating with other owners of the MS4 such as Caltrans, the U.S. federal government, or sovereign Native American Tribes through interagency agreements, where possible, the contribution of pollutants from their portion of the MS4 to the portion of the MS4 within the Copermittee's jurisdiction;

- (6) Require compliance with conditions in its statutes, ordinances, permits, contracts, orders, or similar means to hold dischargers to its MS4 accountable for their contributions of pollutants and flows;
 - (7) Require the use of BMPs to prevent or reduce the discharge of pollutants in storm water from its MS4 to the MEP;
 - (8) Require documentation on the effectiveness of BMPs implemented to prevent or reduce the discharge of pollutants in storm water from its MS4 to the MEP;
 - (9) Utilize enforcement mechanisms to require compliance with its statutes, ordinances, permits, contracts, orders, or similar means; and
 - (10) Carry out all inspections, surveillance, and monitoring procedures necessary to determine compliance and noncompliance with its statutes, ordinances, permits, contracts, orders, or similar means and with the requirements of this Order, including the prohibition of illicit discharges and connections to its MS4; the Copermittee must also have authority to enter, monitor, inspect, take measurements, review and copy records, and require regular reports from industrial facilities, including construction sites, discharging into its MS4.
- b. With the first Water Quality Improvement Plan Annual Report required pursuant to Provision F.3.b.(3), each Copermittee must submit a statement certified by its Principal Executive Officer, Ranking Elected Official, or Duly Authorized Representative that the Copermittee has taken the necessary steps to obtain and maintain full legal authority within its jurisdiction to implement and enforce each of the requirements contained in this Order.

2. Illicit Discharge Detection and Elimination

Each Copermittee must implement a program to actively detect and eliminate illicit discharges and improper disposal into the MS4, or otherwise require the discharger to apply for and obtain a separate NPDES permit. The illicit discharge detection and elimination program must be implemented in accordance with the strategies in the Water Quality Improvement Plan described pursuant to Provision B.3.b.(1) and include, at a minimum, the following requirements:

a. NON-STORM WATER DISCHARGES

Each Copermittee must address all non-storm water discharges as illicit discharges unless a non-storm water discharge is either identified as a discharge authorized by a separate NPDES permit, or identified as a category of non-storm water discharges or flows that must be addressed pursuant to the following requirements:

- PROVISION E: JURISDICTIONAL RUNOFF MANAGEMENT PROGRAMS
- E.1. Legal Authority Establishment and Enforcement
 - E.2. Illicit Discharge Detection and Elimination

- (1) Discharges of non-storm water to the MS4 from the following categories must be addressed as illicit discharges unless the discharge has coverage or meets the exception criteria under NPDES Permit No. CAG919003(Order No. R9-2015-0013, as it may be amended or reissued) for discharges to surface waters within the San Diego Region:
 - (1) Uncontaminated pumped ground water;
 - (2) Discharges from foundation drains;²³
 - (3) Water from crawl space pumps; and
 - (4) Water from footing drains.²⁰
- (2) Discharges of non-storm water from water line flushing and water main breaks to the MS4 must be addressed as illicit discharges unless the discharge has coverage under NPDES Permit No. CAG679001 (Order No. R9-2010-0003, as it may be amended or reissued) or NPDES General Permit No. CAG140001 (Order 2014-0194-DWQ, as it may be amended or reissued). This category includes water line flushing and water main break discharges from water purveyors issued a water supply permit by the California Department of Public Health or federal military installations. Discharges from recycled or reclaimed water lines to the MS4 must be addressed as illicit discharges, unless the discharges have coverage under a separate NPDES permit.
- (3) Discharges of non-storm water to the MS4 from the following categories must be addressed by the Copermittee as illicit discharges only if the Copermittee or the San Diego Water Board identifies the discharge as a source of pollutants to receiving waters:
 - (a) Diverted stream flows;
 - (b) Rising ground waters;
 - (c) Uncontaminated ground water infiltration to MS4s;
 - (d) Springs;
 - (e) Flows from riparian habitats and wetlands;
 - (f) Discharges from potable water sources;

²³ Provision E.2.a.(1) only applies to this category of non-storm water if the system is designed to be located at or below the groundwater table to actively or passively extract groundwater during any part of the year.

- (g) Discharges from foundation drains;²⁴ and
 - (h) Discharges from footing drains.²¹
- (4) Discharges of non-storm water to the MS4 from the following categories must be controlled by the requirements given below through statute, ordinance, permit, contract, order, or similar means. Discharges of non-storm water to the MS4 from the following categories not controlled by the requirements given below through statute, ordinance, permit, contract, order, or similar means must be addressed by the Copermittee as illicit discharges.
- (a) Air conditioning condensation
 - The discharge of air conditioning condensation should be directed to landscaped areas or other pervious surfaces, or to the sanitary sewer, where feasible.
 - (b) Individual residential vehicle washing
 - (i) The discharge of wash water should be directed to landscaped areas or other pervious surfaces where feasible; and
 - (ii) The minimization of water, washing detergent and other vehicle wash products used for residential vehicle washing, and the implementation of other practices or behaviors that will prevent the discharge of pollutants associated with individual residential vehicle washing from entering the MS4 must be encouraged.
 - (c) Dechlorinated swimming pool discharges
 - (i) Residual chlorine, algaecide, filter backwash, or other pollutants from swimming pools must be eliminated prior to discharging to the MS4; and
 - (ii) The discharge of saline swimming pool water must be directed to the sanitary sewer, landscaped areas, or other pervious surfaces that can accommodate the volume of water, unless the saline swimming pool water can be discharged via a pipe or concrete channel directly to a naturally saline water body (e.g. Pacific Ocean).
- (5) Firefighting discharges to the MS4 must be addressed by the Copermittee as illicit discharges only if the Copermittee or the San Diego Water Board identifies the discharge as a significant source of pollutants to receiving waters. Firefighting discharges to the MS4 not identified as a significant

²⁴ Provision E.2.a.(3) only applies to this category of non-storm water discharge if the system is designed to be located above the groundwater table at all times of the year, and the system is only expected to discharge non-storm water under unusual circumstances.

source of pollutants to receiving waters, must be addressed, at a minimum, as follows:

(a) Non-emergency firefighting discharges

- (i) Building fire suppression system maintenance discharges (e.g. sprinkler line flushing) to the MS4 must be addressed as illicit discharges unless BMPs are implemented to prevent pollutants associated with such discharges to the MS4.
- (ii) Non-emergency firefighting discharges (i.e., discharges from controlled or practice blazes, firefighting training, and maintenance activities not associated with building fire suppression systems) must be addressed by a program, to be developed and implemented by the Copermittee, to reduce or eliminate pollutants in such discharges from entering the MS4.

(b) Emergency firefighting discharges

Each Copermittee should develop and encourage implementation of BMPs to reduce or eliminate pollutants in emergency firefighting discharges to the MS4s and receiving waters within its jurisdiction. During emergency situations, priority of efforts should be directed toward life, property, and the environment (in descending order). BMPs should not interfere with immediate emergency response operations or impact public health and safety.

- (6) If the Copermittee or San Diego Water Board identifies any category of non-storm water discharges listed under Provisions E.2.a.(1)-(4) as a source of pollutants to receiving waters, the category must be prohibited through ordinance, order, or similar means and addressed as an illicit discharge. Alternatively, the Copermittee may propose controls to be implemented for the category of non-storm water discharges as part of the Water Quality Improvement Plan instead of prohibiting the category of non-storm water discharges, and implement the controls if accepted by the San Diego Water Board as part of the Water Quality Improvement Plan.
- (7) Each Copermittee must, where feasible and priorities and resources allow, reduce or eliminate non-storm water discharges listed under Provisions E.2.a.(1)-(4) into its MS4, unless a non-storm water discharge is identified as a discharge authorized by a separate NPDES permit.

b. PREVENT AND DETECT ILLICIT DISCHARGES AND CONNECTIONS

Each Copermittee must include the following measures within its program to prevent and detect illicit discharges to the MS4:

- (1) Each Copermittee must maintain an updated map of its entire MS4 and the

corresponding drainage areas. The accuracy of the MS4 map must be confirmed during the field screening required pursuant to Provision E.2.c. The MS4 map must be included as part of the jurisdictional runoff management program document. Any geographic information system (GIS) layers or files used by the Copermittee to maintain the MS4 map must be made available to the San Diego Water Board upon request. The MS4 map must identify the following:

- (a) All segments of the MS4 owned, operated, and maintained by the Copermittee;
 - (b) All known locations of inlets that discharge and/or collect runoff into the Copermittee's MS4;
 - (c) All known locations of connections with other MS4s not owned or operated by the Copermittee (e.g. Caltrans MS4s);
 - (d) All known locations of MS4 outfalls and private outfalls that discharge runoff collected from areas within the Copermittee's jurisdiction;
 - (e) All segments of receiving waters within the Copermittee's jurisdiction that receive and convey runoff discharged from the Copermittee's MS4 outfalls;
 - (f) Locations of the MS4 outfalls, identified pursuant to Provision D.2.a.(1), within its jurisdiction; and
 - (g) Locations of the non-storm water persistent flow MS4 outfall discharge monitoring stations, identified pursuant to Provision D.2.b.(2), within its jurisdiction.
- (2) Each Copermittee must use Copermittee personnel and contractors to assist in identifying and reporting illicit discharges and connections during their daily employment activities.
 - (3) Each Copermittee must promote, publicize, and facilitate public reporting of the presence of illicit discharges or water quality impacts associated with discharges to or from the MS4, including the following methods for public reporting:
 - (a) Operate a public hotline, which can be Copermittee-specific or shared by the Copermittees, and must be capable of receiving reports in both English and Spanish 24 hours per day and seven days per week; and
 - (b) Designate an e-mail address for receiving electronic reports from the public, which can be Copermittee-specific or shared by the Copermittees,

and must be prominently displayed on the Copermittee's webpage and the Regional Clearinghouse required pursuant to Provision F.4.

- (4) Each Copermittee must implement practices and procedures (including a notification mechanism) to prevent, respond to, contain, and clean up any spills that may discharge into the MS4 within its jurisdiction from any source. The Copermittee must coordinate, to the extent possible, with spill response teams to prevent entry of spills into the MS4, and prevent contamination of surface water, ground water, and soil. The Copermittee must coordinate spill prevention, containment, and response activities throughout all appropriate Copermittee departments, programs, and agencies.
- (5) Each Copermittee must implement practices and procedures to prevent and limit infiltration of seepage from sanitary sewers (including private laterals and failing septic systems) to the MS4.
- (6) Each Copermittee must coordinate, when necessary, with upstream Copermittees and/or entities to prevent illicit discharges from upstream sources into the MS4 within its jurisdiction.

c. FIELD SCREENING

Each Copermittee must conduct field screening (i.e. visual observations, field testing, and/or analytical testing) of MS4 outfalls and other portions of its MS4 within its jurisdiction to detect non-storm water and illicit discharges and connections to the MS4 in accordance with the dry weather MS4 outfall discharge monitoring requirements in Provisions D.2.a.(2) and D.2.b.(1).

d. INVESTIGATE AND ELIMINATE ILLICIT DISCHARGES AND CONNECTIONS

Each Copermittee must include the following measures within its program to investigate and eliminate illicit discharges to the MS4:

- (1) Each Copermittee must prioritize and determine when follow-up investigations will be performed in response to visual observations and/or water quality monitoring data collected during an investigation of a detected non-storm water or illicit discharge to or from the MS4. The criteria for prioritizing investigations must consider the following:
 - (a) Pollutants identified as causing or contributing to the highest water quality priorities identified in the Water Quality Improvement Plan;
 - (b) Pollutants identified as causing or contributing, or threatening to cause or contribute to impairments in water bodies on the 303(d) List and/or in environmentally sensitive areas (ESAs), located within its jurisdiction;
 - (c) Pollutants identified from sources or land uses known to exist within the

area, drainage basin, or watershed that discharges to the portion of the MS4 within its jurisdiction included in the investigation;

- (d) Pollutants identified as causing or contributing to an exceedance of a NAL in the Water Quality Improvement Plan; and
 - (e) Pollutants identified as a threat to human health or the environment.
- (2) Each Copermittee must implement procedures to investigate and inspect portions of its MS4 that, based on reports or notifications, field screening, or other appropriate information, indicate a reasonable potential of receiving, containing, or discharging pollutants due to illicit discharges, illicit connections, or other sources of non-storm water. The procedures must include the following:
- (a) Each Copermittee must develop criteria to:
 - (i) Assess the validity of each report or notification received; and
 - (ii) Prioritize the response to each report or notification received.
 - (b) Each Copermittee must prioritize and respond to each valid report or notification (e.g., public reports, staff or contractor reports and notifications, etc.) of an incident in a timely manner.
 - (c) In accordance with the requirements of Provision E.2.d.(1), each Copermittee must investigate and seek to identify the source(s) of discharges of non-storm water where flows are observed in and from the MS4 during the field screening required pursuant to Provision D.2.b.(1) as follows:
 - (i) Obvious illicit discharges must be immediately investigated to identify the source(s) of non-storm water discharges;
 - (ii) The investigation must include field investigations to identify sources or potential sources for the discharge, unless the source or potential source has already been identified during previous investigations; and
 - (iii) The investigation may include follow-up field investigations and/or reviewing Copermittee inventories and other land use data to identify potential sources of the discharge.
 - (d) Each Copermittee must maintain records and a database of the following information:
 - (i) Location of incident, including hydrologic subarea, portion of MS4

- receiving the non-storm water or illicit discharge, and point of discharge or potential discharge from MS4 to receiving water;
- (ii) Source of information initiating the investigation (e.g., public reports, staff or contractor reports and notifications, field screening, etc.);
 - (iii) Date the information used to initiate the investigation was received;
 - (iv) Date the investigation was initiated;
 - (v) Dates of follow-up investigations;
 - (vi) Identified or suspected source of the illicit discharge or connection, if determined;
 - (vii) Known or suspected related incidents, if any;
 - (viii) Result of the investigation; and
 - (ix) If a source cannot be identified and the investigation is not continued, document the response pursuant to the requirements of Provision E.2.d.(4).
- (e) Each Copermittee must maintain records and, in accordance with the priorities of the Water Quality Improvement Plan, seek to identify the source(s) of non-storm water discharges from the MS4 where there is evidence of non-storm water having been discharged into or from the MS4 (e.g., pooled water), in accordance with MS4 outfall discharge monitoring requirements in Provisions D.2.a.(2) and D.2.b.(1).
- (3) Each Copermittee must initiate the implementation of procedures, in a timely manner, to eliminate all detected and identified illicit discharges and connections within its jurisdiction. The procedures must include the following responses:
- (a) Each Copermittee must enforce its legal authority, as required under Provision E.1, to eliminate illicit discharges and connections to the MS4.
 - (b) If the Copermittee identifies the source as a controllable source of non-storm water or illicit discharge or connection, the Copermittee must implement its Enforcement Response Plan pursuant to Provision E.6 and enforce its legal authority to prohibit and eliminate illicit discharges and connections to its MS4.
 - (c) If the Copermittee identifies the source of the discharge as a category of non-storm water discharges in Provision E.2.a, and the discharge is in exceedance of NALs in the Water Quality Improvement Plan, then the Copermittee must determine if: (1) this is an isolated incident or set of circumstances that will be addressed through its Enforcement Response Plan pursuant to Provision E.6, or (2) the category of discharge must be

addressed through the prohibition of that category of discharge as an illicit discharge pursuant to Provision E.2.a.(6).

- (d) If the Copermittee suspects the source of the non-storm water discharge as natural in origin (i.e. non-anthropogenically influenced) and in conveyance into the MS4, then the Copermittee must document and provide the data and evidence necessary to demonstrate to the San Diego Water Board that it is natural in origin and does not require further investigation.
 - (e) If the Copermittee is unable to identify and document the source of a recurring non-storm water discharge to or from the MS4, then the Copermittee must address the discharge as an illicit discharge and update its jurisdictional runoff management program to address the common and suspected sources of the non-storm water discharge within its jurisdiction in accordance with the Copermittee's priorities.
- (4) Each Copermittee must submit a summary of the non-storm water discharges and illicit discharges and connections investigated and eliminated within its jurisdiction with each Water Quality Improvement Plan Annual Report required under Provision F.3.b.(3) of this Order.

3. Development Planning

Each Copermittee must use their land use and planning authorities to implement a development planning program in accordance with the strategies in the Water Quality Improvement Plan described pursuant to Provision B.3.b.(1) and includes, at a minimum, the following requirements:

a. BMP REQUIREMENTS FOR ALL DEVELOPMENT PROJECTS

Each Copermittee must prescribe the following BMP requirements during the planning process (i.e. prior to project approval and issuance of local permits) for all development projects (regardless of project type or size), where local permits are issued, including unpaved roads and flood management projects:

(1) General Requirements

- (a) Onsite BMPs must be located so as to remove pollutants from runoff prior to its discharge to any receiving waters, and as close to the source as possible;
- (b) Structural BMPs must not be constructed within waters of the U.S.
- (c) Onsite BMPs must be designed and implemented with measures to avoid the creation of nuisance or pollution associated with vectors (e.g.

mosquitos, rodents, or flies).

(2) Source Control BMP Requirements

The following source control BMPs must be implemented at all development projects where applicable and feasible:

- (a) Prevention of illicit discharges into the MS4;
- (b) Storm drain system stenciling or signage;
- (c) Protect outdoor material storage areas from rainfall, run-on, runoff, and wind dispersal;
- (d) Protect materials stored in outdoor work areas from rainfall, run-on, runoff, and wind dispersal;
- (e) Protect trash storage areas from rainfall, run-on, runoff, and wind dispersal; and
- (f) Any additional BMPs determined to be necessary by the Copermittee to minimize pollutant generation at each project.

(3) Low Impact Development (LID) BMP Requirements

The following LID BMPs must be implemented at all development projects where applicable and feasible:

- (a) Maintenance or restoration of natural storage reservoirs and drainage corridors (including topographic depressions, areas of permeable soils, natural swales, and ephemeral and intermittent streams);²⁵
- (b) Buffer zones for natural water bodies (where buffer zones are technically infeasible, require project applicant to include other buffers such as trees, access restrictions, etc.);
- (c) Conservation of natural areas within the project footprint including existing trees, other vegetation, and soils;
- (d) Construction of streets, sidewalks, or parking lot aisles to the minimum widths necessary, provided public safety is not compromised;
- (e) Minimization of the impervious footprint of the project;

²⁵ Development projects proposing to dredge or fill materials in waters of the U.S. must obtain a CWA Section 401 Water Quality Certification. Projects proposing to dredge or fill waters of the state must obtain waste discharge requirements.

- (f) Minimization of soil compaction to landscaped areas;
- (g) Disconnection of impervious surfaces through distributed pervious areas;
- (h) Landscaped or other pervious areas designed and constructed to effectively receive and infiltrate, retain and/or treat runoff from impervious areas, prior to discharging to the MS4;
- (i) Small collection strategies located at, or as close as possible to, the source (i.e. the point where storm water initially meets the ground) to minimize the transport of runoff and pollutants to the MS4 and receiving waters;
- (j) Use of permeable materials for projects with low traffic areas and appropriate soil conditions;
- (k) Landscaping with native or drought tolerant species; and
- (l) Harvesting and using precipitation.

b. PRIORITY DEVELOPMENT PROJECTS

Priority Development Projects are land development projects that fall under the planning and building authority of the Copermittee for which the Copermittee must impose specific requirements, in addition to those described in Provision E.3.a, including the implementation of structural BMPs to meet the performance requirements described in Provision E.3.c.

(1) Definition of Priority Development Project

Priority Development Projects include the following:

- (a) New development projects that create 10,000 square feet or more of impervious surfaces (collectively over the entire project site). This includes commercial, industrial, residential, mixed-use, and public development projects on public or private land.
- (b) Redevelopment projects that create and/or replace 5,000 square feet or more of impervious surface (collectively over the entire project site on an existing site of 10,000 square feet or more of impervious surfaces). This includes commercial, industrial, residential, mixed-use, and public development projects on public or private land.
- (c) New and redevelopment projects that create and/or replace 5,000 square feet or more of impervious surface (collectively over the entire project

site), and support one or more of the following uses:

- (i) Restaurants. This category is defined as a facility that sells prepared foods and drinks for consumption, including stationary lunch counters and refreshment stands selling prepared foods and drinks for immediate consumption (SIC code 5812).
 - (ii) Hillside development projects. This category includes development on any natural slope that is twenty-five percent or greater.
 - (iii) Parking lots. This category is defined as a land area or facility for the temporary parking or storage of motor vehicles used personally, for business, or for commerce.
 - (iv) Streets, roads, highways, freeways, and driveways. This category is defined as any paved impervious surface used for the transportation of automobiles, trucks, motorcycles, and other vehicles.
- (d) New or redevelopment projects that create and/or replace 2,500 square feet or more of impervious surface (collectively over the entire project site), and discharging directly to an Environmentally Sensitive Area (ESA). "Discharging directly to" includes flow that is conveyed overland a distance of 200 feet or less from the project to the ESA, or conveyed in a pipe or open channel any distance as an isolated flow from the project to the ESA (i.e. not commingled with flows from adjacent lands).
- (e) New development projects, or redevelopment projects that create and/or replace 5,000 square feet or more of impervious surface, that support one or more of the following uses:
- (i) Automotive repair shops. This category is defined as a facility that is categorized in any one of the following Standard Industrial Classification (SIC) codes: 5013, 5014, 5541, 7532-7534, or 7536-7539.
 - (ii) Retail gasoline outlets (RGOs). This category includes RGOs that meet the following criteria: (a) 5,000 square feet or more or (b) a projected Average Daily Traffic (ADT) of 100 or more vehicles per day.
- (f) New or redevelopment projects that result in the disturbance of one or more acres of land and are expected to generate pollutants post construction.

(2) Special Considerations for Redevelopment Projects

The structural BMP performance requirements of Provision E.3.c are applicable to redevelopment Priority Development Projects, as defined in E.3.b.(1), as follows:

- (a) Where redevelopment results in the creation or replacement of impervious surface in an amount of less than fifty percent of the surface area of the previously existing development, then the structural BMP performance requirements of Provision E.3.c apply only to the creation or replacement of impervious surface, and not the entire development; or
- (b) Where redevelopment results in the creation or replacement of impervious surface in an amount of more than fifty percent of the surface area of the previously existing development, then the structural BMP performance requirements of Provision E.3.c apply to the entire development.

(3) Priority Development Project Exemptions

Each Copermittee has the discretion to exempt the following projects from being defined as Priority Development Projects:

- (a) New or retrofit paved sidewalks, bicycle lanes, or trails that meet the following criteria:
 - (i) Designed and constructed to direct storm water runoff to adjacent vegetated areas, or other non-erodible permeable areas; OR
 - (ii) Designed and constructed to be hydraulically disconnected from paved streets or roads; OR
 - (iii) Designed and constructed with permeable pavements or surfaces in accordance with USEPA Green Streets guidance.²⁶
- (b) Retrofitting or redevelopment of existing paved alleys, streets or roads that are designed and constructed in accordance with the USEPA Green Streets guidance.²⁷

C. PRIORITY DEVELOPMENT PROJECT STRUCTURAL BMP PERFORMANCE REQUIREMENTS

In addition to the BMP requirements listed for all development projects under Provision E.3.a, Priority Development Projects must also implement structural BMPs that conform to performance requirements described below.

(1) Storm Water Pollutant Control BMP Requirements

Each Copermittee must require each Priority Development Project to implement onsite structural BMPs to control pollutants in storm water that may be discharged from a project as follows:

²⁶ See “Managing Wet Weather with Green Infrastructure – Municipal Handbook: Green Streets” (USEPA, 2008).

²⁷ Ibid.

- (a) Each Priority Development Project must be required to implement LID BMPs that are designed to retain (i.e. intercept, store, infiltrate, evaporate, and evapotranspire) onsite the pollutants contained in the volume of storm water runoff produced from a 24-hour 85th percentile storm event (design capture volume);²⁸
- (i) If a Copermittee determines that implementing BMPs to retain the full design capture volume onsite for a Priority Development Project is not technically feasible, then the Copermittee may allow the Priority Development Project to utilize biofiltration BMPs. Biofiltration BMPs must be designed to have an appropriate hydraulic loading rate to maximize storm water retention and pollutant removal, as well as to prevent erosion, scour, and channeling within the BMP,²⁹ and must be sized to:
- [a] Treat 1.5 times the design capture volume not reliably retained onsite, OR
- [b] Treat the design capture volume not reliably retained onsite with a flow-thru design that has a total volume, including pore spaces and pre-filter detention volume, sized to hold at least 0.75 times the portion of the design capture volume not reliably retained onsite.
- (ii) If a Copermittee determines that biofiltration is not technically feasible, then the Copermittee may allow the Priority Development Project to utilize flow-thru treatment control BMPs to treat runoff leaving the site, AND mitigate for the design capture volume not reliably retained onsite pursuant to Provision E.3.c.(1)(b). Flow thru treatment control BMPs must be sized and designed to:
- [a] Remove pollutants from storm water to the MEP;
- [b] Filter or treat either: 1) the maximum flow rate of runoff produced from a rainfall intensity of 0.2 inch of rainfall per hour, for each hour of a storm event, or 2) the maximum flow rate of runoff produced by the 85th percentile hourly rainfall intensity (for each hour of a storm event), as determined from the local historical rainfall record, multiplied by a factor of two;

²⁸ This volume is not a single volume to be applied to all areas covered by this Order. The size of the 85th percentile storm event is different for various parts of the San Diego Region. The Copermittees are encouraged to calculate the 85th percentile storm event for each of its jurisdictions using local rain data pertinent to its particular jurisdiction. In addition, isopluvial maps may be used to extrapolate rainfall data to areas where insufficient data exists in order to determine the volume of the local 85th percentile storm event in such areas. Where the Copermittees will use isopluvial maps to determine the 85th percentile storm event in areas lacking rain data, the Copermittees must describe their method for using isopluvial maps in its BMP Design Manuals.

²⁹ As part of the Copermittee's update to its BMP Design Manual, pursuant to Provision E.3.d, the Copermittee must provide guidance for hydraulic loading rates and other biofiltration design criteria necessary to maximize storm water retention and pollutant removal.

[c] Be ranked with high or medium pollutant removal efficiency for the Priority Development Project's most significant pollutants of concern. Flow-thru treatment control BMPs with a low removal efficiency ranking must only be approved by a Copermittee when a feasibility analysis has been conducted which exhibits that implementation of flow-thru treatment control BMPs with high or medium removal efficiency rankings are infeasible for a Priority Development Project or portion of a Priority Development Project.

(b) A Priority Development Project may be allowed to utilize alternative compliance under Provision E.3.c.(3) in lieu of complying with the storm water pollutant control BMP performance requirements of Provision E.3.c.(1)(a). The Priority Development Project must mitigate for the portion of the pollutant load in the design capture volume not retained onsite if Provision E.3.c.(3) is utilized. If a Priority Development Project is allowed to utilize alternative compliance, flow-thru treatment control BMPs must be implemented to treat the portion of the design capture volume that is not reliably retained onsite. Flow-thru treatment control BMPs must be sized and designed in accordance with Provisions E.3.c.(1)(a)(ii)[a]-[c].

(2) Hydromodification Management BMP Requirements

Each Copermittee must require each Priority Development Project to implement onsite BMPs to manage hydromodification that may be caused by storm water runoff discharged from a project as follows:

- (a) Post-project runoff conditions (flow rates and durations) must not exceed pre-development runoff conditions by more than 10 percent (for the range of flows that result in increased potential for erosion, or degraded instream habitat downstream of Priority Development Projects).
 - (i) In evaluating the range of flows that results in increased potential for erosion of natural (non-hardened) channels, the lower boundary must correspond with the critical channel flow that produces the critical shear stress that initiates channel bed movement or that erodes the toe of channel banks.
 - (ii) The Copermittees may use monitoring results collected pursuant to Provision D.1.a.(2) to re-define the range of flows resulting in increased potential for erosion, or degraded instream habitat conditions, as warranted by the data.
- (b) Each Priority Development Project must avoid critical sediment yield areas known to the Copermittee or identified by the optional Watershed Management Area Analysis pursuant to Provision B.3.b.(4), or implement measures that allow critical coarse sediment to be discharged to receiving waters, such that there is no net impact to the receiving water.

(c) A Priority Development Project may be allowed to utilize alternative compliance under Provision E.3.c.(3) in lieu of complying with the performance requirements of Provision E.3.c.(2)(a). The Priority Development Project must mitigate for the post-project runoff conditions not fully managed onsite if Provision E.3.c.(3) is utilized.

(d) Exemptions

Each Copermittee has the discretion to exempt a Priority Development Project from the hydromodification management BMP performance requirements of Provisions E.3.c.(2) where the project discharges storm water runoff to:

- (i) Existing underground storm drains discharging directly to water storage reservoirs, lakes, enclosed embayments, or the Pacific Ocean;
- (ii) Conveyance channels whose bed and bank are concrete lined all the way from the point of discharge to water storage reservoirs, lakes, enclosed embayments, or the Pacific Ocean; or
- (iii) An area identified by the Copermittees as appropriate for an exemption by the optional Watershed Management Area Analysis incorporated into the Water Quality Improvement Plan pursuant to Provision B.3.b.(4).

(e) Interim Timeframe Exemptions

Until the Copermittees have updated their BMP Design Manual in accordance with Provision F.2.b with the requirements of Provision E, the Copermittees have the discretion to exempt a Priority Development Project from the hydromodification management BMP performance requirements of Provision E.3.c.(2) where the project discharges storm water runoff directly to:

- (i) An engineered channel conveyance system with a capacity to convey peak flows generated by the 10-year storm event all the way from the point of discharge to water storage reservoirs, lakes, enclosed embayments, or the Pacific Ocean; and
- (ii) Large river reaches with a drainage area larger than 100 square miles and a 100-year flow capacity in excess of 20,000 cubic feet per second, provided that properly sized energy dissipation is included at all Priority Development Project discharge points.

(3) Alternative Compliance Program to Onsite Structural BMP Implementation

At the discretion of each Copermittee, Priority Development Projects may be allowed to participate in an alternative compliance program in lieu of implementing the onsite structural BMP performance requirements of Provisions E.3.c.(1) and E.3.c.(2)(a), provided that the Water Quality Improvement Plan includes the optional Watershed Management Area Analysis described in Provision B.3.b.(4), and Water Quality Equivalency calculations have been accepted by the San Diego Water Board's Executive Officer pursuant to Provision E.3.c.(3)(a). The alternative compliance program is available to a Priority Development Project only if the Priority Development Project applicant enters into a voluntary agreement with the Copermittee authorizing this arrangement. In addition to the voluntary agreement, relief from implementing structural BMPs onsite may be authorized by the Copermittee under the following conditions:

(a) Water Quality Equivalency

Copermittees must submit Water Quality Equivalency calculations for acceptance by the San Diego Water Board's Executive Officer prior to administering an alternative compliance program in order to establish a regional and technical basis for determining the water quality benefits associated with alternative compliance projects. Accepted Water Quality Equivalency calculations must be incorporated as part of any Copermittee's alternative compliance program necessary for evaluating Watershed Management Area Analysis candidate projects, project applicant-proposed alternative compliance projects, alternative compliance in lieu fee structures, and alternative compliance water quality credit systems as described in Provisions E.3.c.(3)(b)-(e).

(b) Watershed Management Area Analysis Candidate Projects

The Priority Development Project applicant agrees to fund, contribute funds to, or implement a candidate project identified by the Copermittees in the Watershed Management Area Analysis included in the Water Quality Improvement Plan, pursuant to Provisions B.3.b.(4) subject to the following conditions:

- (i) The Copermittee must determine that implementation of the candidate project will have a greater overall water quality benefit for the Watershed Management Area than fully complying with the performance requirements of Provisions E.3.c.(1) and E.3.c.(2)(a) onsite;
- (ii) If the Priority Development Project applicant chooses to fully or partially fund a candidate project, then the in-lieu fee structure described in Provision E.3.c.(3)(c) must be followed;

- (iii) If the Priority Development Project applicant chooses to fully or partially fund a candidate project, then the Copermittee must ensure that the funds to be obtained from the Priority Development Project applicant are sufficient to mitigate for impacts caused by not fully implementing structural BMPs onsite, pursuant to the performance requirements described in Provisions E.3.c.(1) and E.3.c.(2)(a);
 - (iv) If the Priority Development Project applicant chooses to implement a candidate project, then the Copermittee must ensure that pollutant control and/or hydromodification management within the candidate project are sufficient to mitigate for impacts caused by not implementing structural BMPs fully onsite, pursuant to the performance requirements described in Provisions E.3.c.(1) and E.3.c.(2)(a);
 - (v) The voluntary agreement to fund, partially fund, or implement a candidate project must include reliable sources of funding for operation and maintenance of the candidate project;
 - (vi) Design of the candidate project must be conducted under an appropriately qualified engineer, geologist, architect, landscape architect, or other professional, licenses where applicable, and competent and proficient in the fields pertinent to the candidate project design;
 - (vii) The candidate project must be constructed as soon as possible, but no later than 4 years after the certificate of occupancy is granted for the first Priority Development Project that contributed funds toward the construction of the candidate project, unless a longer period of time is authorized by the San Diego Water Board Executive Officer; and
 - (viii) If the candidate project is constructed after the Priority Development Project is constructed, the Copermittee must require temporal mitigation for pollutant loads and altered flows that are discharged from the Priority Development Project.
- (c) Project Applicant Proposed Alternative Compliance Projects

The Copermittee may allow a Priority Development Project applicant to propose and fund, contribute funds to, or implement an alternative compliance project not identified by the Watershed Management Area Analysis included in the Water Quality Improvement Plan pursuant to Provisions B.3.b.(4). This option is allowed provided the Copermittee determines that implementation of the alternative compliance project will have a greater overall water quality benefit for the Watershed Management Area than fully complying with the performance requirements of Provisions E.3.c.(1) and E.3.c.(2)(a) onsite, and is subject to the requirements described in Provisions E.3.c.(3)(a)(ii)-(viii).

(d) Alternative Compliance In-Lieu Fee Structure

If a Copermittee chooses to allow a Priority Development Project applicant to fund, or partially fund a candidate project or an alternative compliance project, then the Copermittee must develop and implement an in-lieu fee structure. This may be developed individually or with other Copermittees and/or entities, as a means for designing, developing, constructing, operating and maintaining offsite alternative compliance projects. The in-lieu fee must be transferred to the Copermittee (for public projects) or an escrow account (for private projects) prior to the construction of the Priority Development Project.

(e) Alternative Compliance Water Quality Credit System Option

The Copermittee may develop and implement an alternative compliance water quality credit system option, individually or with other Copermittees and/or entities, provided that such a credit system clearly exhibits that it will not allow discharges from Priority Development Projects to cause or contribute to a net impact over and above the impact caused by projects meeting the onsite structural BMP performance requirements of Provisions E.3.c.(1) and E.3.c.(2)(a). Any credit system that a Copermittee chooses to implement must be submitted to the San Diego Water Board Executive Officer for review and acceptance as part of the Water Quality Improvement Plan.

(4) Long-Term Structural BMP Maintenance

Each Copermittee must require the project applicant to submit proof of the mechanism under which ongoing long-term maintenance of all structural BMPs will be conducted.

(5) Infiltration and Groundwater Protection

(a) Structural BMPs designed to primarily function as large, centralized infiltration devices (such as large infiltration trenches and infiltration basins) must not cause or contribute to an exceedance of an applicable groundwater quality objective. At a minimum, such infiltration BMPs must be in conformance with the design criteria listed below, unless the development project applicant demonstrates to the Copermittee that one or more of the specific design criteria listed below are not necessary to protect groundwater quality. The design criteria listed below do not apply to small infiltration systems dispersed throughout a development project.

- (i) Runoff must undergo pretreatment such as sedimentation or filtration prior to infiltration;

- (ii) Pollution prevention and source control BMPs must be implemented at a level appropriate to protect groundwater quality at sites where infiltration BMPs are to be used;
 - (iii) Infiltration BMPs must be adequately maintained to remove pollutants in storm water to the MEP;
 - (iv) The vertical distance from the base of any infiltration BMP to the seasonal high groundwater mark must be at least 10 feet. Where groundwater basins do not support beneficial uses, this vertical distance criteria may be reduced, provided groundwater quality is maintained;
 - (v) The soil through which infiltration is to occur must have physical and chemical characteristics (e.g., appropriate cation exchange capacity, organic content, clay content, and infiltration rate) which are adequate for proper infiltration durations and treatment of runoff for the protection of groundwater beneficial uses;
 - (vi) Infiltration BMPs must not be used for areas of industrial or light industrial activity, and other high threat to water quality land uses and activities as designated by each Copermittee, unless source control BMPs to prevent exposure of high threat activities are implemented, or runoff from such activities is first treated or filtered to remove pollutants prior to infiltration; and
 - (vii) Infiltration BMPs must be located a minimum of 100 feet horizontally from any water supply wells.
- (b) The Copermittee may develop, individually or with other Copermittees, alternative mandatory design criteria to that listed above for infiltration BMPs which are designed to primarily function as centralized infiltration devices. Before implementing the alternative design criteria in the development planning process the Copermittee(s) must:
- (i) Notify the San Diego Water Board of the intent to implement the alternative design criteria submitted; and
 - (ii) Comply with any conditions set by the San Diego Water Board.

d. BMP DESIGN MANUAL UPDATE

Each Copermittee must update its BMP Design Manual³⁰ pursuant to Provision F.2.b. Until the Copermittee has updated its BMP Design Manual pursuant to Provision F.2.b.(1), the Copermittee must continue implementing its current BMP Design Manual. The Copermittee must implement the updated BMP Design Manual within 180 days following completion of the update pursuant to Provision

³⁰ The BMP Design Manual was formerly known as the Standard Storm Water Mitigation Plan under Order Nos. R9-2007-0001, R9-2009-0002, and R9-2010-0016.

F.2.b.(1), unless directed otherwise by the San Diego Water Board Executive Officer. The date the BMP Design Manual is implemented is the “effective date” of the BMP Design Manual. The update of the BMP Design Manual required pursuant to Provision F.2.b.(1) must include the following:

- (1) Updated procedures to determine the nature and extent of storm water requirements applicable to a potential development or redevelopment projects. These procedures must inform project applicants of the storm water management requirements applicable to their project including, but not limited to, general requirements for all development projects, structural BMP design procedures and requirements, hydromodification management requirements, requirements specific to phased projects, and procedures specific to private developments and public improvement projects;
- (2) Updated procedures to identify pollutants and conditions of concern for selecting the most appropriate structural BMPs that consider, at a minimum, the following:
 - (a) Receiving water quality (including pollutants for which receiving waters are listed as impaired under the CWA section 303(d) List);
 - (b) Pollutants, stressors, and/or receiving water conditions that cause or contribute to the highest priority water quality conditions identified in the Water Quality Improvement Plan;
 - (c) Land use type of the project and pollutants associated with that land use type; and
 - (d) Pollutants expected to be present onsite.
- (3) Updated procedures for designing structural BMPs, including any updated performance requirements to be consistent with the requirements of Provision E.3.c for all structural BMPs listed in the BMP Design Manual;
- (4) Long-term maintenance criteria for each structural BMP listed in the BMP Design Manual; and
- (5) Alternative compliance criteria, in accordance with the requirements under Provision E.3.c.(3), if the Copermittee elects to allow Priority Development Projects within its jurisdiction to utilize alternative compliance.

e. PRIORITY DEVELOPMENT PROJECT BMP IMPLEMENTATION AND OVERSIGHT

Each Copermittee must implement a program that requires and confirms structural BMPs on all Priority Development Projects are designed, constructed, and maintained to remove pollutants in storm water to the MEP.

(1) Structural BMP Approval and Verification Process

- (a) Each Copermittee must require and confirm that all Priority Development Projects implement the requirements of Provision E.3, except that the Copermittee may allow previous land development requirements to apply to a Priority Development Project if the conditions of Provision E.3.e.(1)(a)(i) or Provision E.3.e.(1)(a)(ii) are met:
- (i) The Copermittee has, prior to the effective date of the BMP Design Manual required to be developed pursuant to Provision E.3.d:
- [a] Approved³¹ a design that incorporates the storm water drainage system for the Priority Development Project in its entirety, including all applicable structural pollutant treatment control and hydromodification management BMPs consistent with the previous applicable MS4 permit requirements;³² AND
 - [b] Issued a private project permit or approval, or functional equivalent for public projects, that authorizes the Priority Development Project applicant to commence construction activities based on a design that incorporates the storm water drainage system approved in conformance with Provision E.3.e.(1)(a)(i)[a]; AND
 - [c] Confirmed that there have been construction activities on the Priority Development Project site within the 365 days prior to the effective date of the BMP Design Manual, *OR* the Copermittee confirms that construction activities have commenced on the Priority Development Project site within the 180 days after the effective date of the BMP Design Manual, where construction activities are undertaken in reliance on the permit or approval, or functional equivalent for public projects, issued by the Copermittee in conformance with Provision E.3.e.(1)(a)(i)[b]; AND
 - [d] Issued all subsequent private project permits or approvals, or functional equivalent for public projects, that are needed to implement the design initially approved in conformance with Provision E.3.e.(1)(a)(i)[a] within 5 years of the effective date of the BMP Design Manual. The storm water drainage system for the Priority Development Project in its entirety, including all applicable structural pollutant treatment control and hydromodification management BMPs must remain in substantial conformity with the design initially approved in conformance with Provision E.3.e.(1)(a)(i)[a].

³¹ For public projects, a design stamped by the City or County Engineer, or engineer of record for the project is considered an approved design.

³² Order Nos. R9-2007-0001, R9-2009-0002, and R9-2010-0016 for San Diego County, Orange County, and Riverside County Copermittees, respectively

- (ii) The Copermittee demonstrates it lacks the land use authority or legal authority to require a Priority Development Project to implement the requirements of Provision E.3.
- (b) Each Copermittee must identify the roles and responsibilities of its various municipal departments in implementing the structural BMP requirements, including each stage of a project from application review and approval through BMP maintenance and inspections.
- (c) Each Copermittee must require and confirm that appropriate easements and ownerships are properly recorded in public records and the information is conveyed to all appropriate parties when there is a change in project or site ownership.
- (d) Each Copermittee must require and confirm that prior to occupancy and/or intended use of any portion of the Priority Development Project, each structural BMP is inspected to verify that it has been constructed and is operating in compliance with all of its specifications, plans, permits, ordinances, and the requirements of this Order.

(2) Priority Development Project Inventory and Prioritization

- (a) Each Copermittee must develop, maintain, and update at least annually, a watershed-based database to track and inventory all Priority Development Projects and associated structural BMPs within its jurisdiction. Inventories must be accurate and complete beginning from December 2002 for the San Diego County Copermittees, February 2003 for the Orange County Copermittees, and July 2005 for the Riverside County Copermittees. The use of an automated database system, such as GIS, is highly recommended. The database must include, at a minimum, the following information:
 - (i) Priority Development Project location (address and hydrologic subarea);
 - (ii) Descriptions of structural BMP type(s);
 - (iii) Date(s) of construction;
 - (iv) Party responsible for structural BMP maintenance;
 - (v) Dates and findings of structural BMP maintenance verifications; and
 - (vi) Corrective actions and/or resolutions, when applicable.
- (b) Each Copermittee must prioritize the Priority Development Projects with structural BMPs within its jurisdiction. The designation of Priority Development Projects as high priority must consider the following:

- (i) The highest water quality priorities identified in the Water Quality Improvement Plan;
- (ii) Receiving water quality;
- (iii) Number and sizes of structural BMPs;
- (iv) Recommended maintenance frequency of structural BMPs;
- (v) Likelihood of operation and maintenance issues of structural BMPs;
- (vi) Land use and expected pollutants generated; and
- (vii) Compliance record.

(3) Structural BMP Maintenance Verifications and Inspections

Each Copermittee is required to verify that structural BMPs on each Priority Development Project are adequately maintained, and continue to operate effectively to remove pollutants in storm water to the MEP through inspections, self-certifications, surveys, or other equally effective approaches.

- (a) All (100 percent) of the structural BMPs at Priority Development Projects that are designated as high priority must be inspected directly by the Copermittee annually prior to each rainy season;
- (b) For verifications performed through a means other than direct Copermittee inspection, adequate documentation must be required by the Copermittee to provide assurance that the required maintenance of structural BMPs at each Priority Development Project has been completed; and
- (c) Appropriate follow-up measures (including re-inspections, enforcement, etc.) must be conducted to ensure that structural BMPs at each Priority Development Project continue to reduce pollutants in storm water to the MEP as originally designed.

f. DEVELOPMENT PROJECT ENFORCEMENT

Each Copermittee must enforce its legal authority established pursuant to Provision E.1 for all development projects, as necessary, to achieve compliance with the requirements of this Order, in accordance with its Enforcement Response Plan pursuant to Provision E.6.

4. Construction Management

Each Copermittee must implement a construction management program in accordance with the strategies in the Water Quality Improvement Plan described pursuant to Provision B.3.b.(1) and includes, at a minimum, the following requirements:

a. PROJECT APPROVAL PROCESS

Prior to issuance of any local permit(s) that allows the commencement of construction projects that involve ground disturbance or soil disturbing activities that can potentially generate pollutants in storm water runoff, each Copermittee must:

- (1) Require a pollution control plan, construction BMP plan, and/or an erosion and sediment control plan, to be submitted by the project applicant to the Copermittee;
- (2) Confirm the pollution control plan, construction BMP plan, and/or erosion and sediment control plan, complies with the local grading ordinance, other applicable local ordinances, and the requirements of this Order;
- (3) Confirm the pollution control, construction BMP, and/or erosion and sediment control plan, includes seasonally appropriate and effective BMPs and management measures described in Provision E.4.c, as applicable to the project; and
- (4) Verify that the project applicant has obtained coverage under the statewide Construction General Permit (Order 2009-0009-DWQ or subsequent Order), if applicable.

b. CONSTRUCTION SITE INVENTORY AND TRACKING

- (1) Each Copermittee must maintain and update, at least quarterly, a watershed-based inventory of all construction projects issued a local permit that allows ground disturbance or soil disturbing activities that can potentially generate pollutants in storm water runoff. The use of an automated database system, such as GIS, is highly recommended. The inventory must include:
 - (a) Relevant contact information for each site (e.g., name, address, phone, and email for the owner and contractor);
 - (b) The basic site information including location (address and hydrologic subarea), Waste Discharge Identification (WDID) number (if applicable), size of the site, and approximate area of disturbance;

- (c) Whether or not the site is considered a high threat to water quality, as defined in Provision E.4.b.(2) below;
 - (d) The project start and completion dates;
 - (e) The required inspection frequency, as defined in the Copermittee's jurisdictional runoff management program document;
 - (f) The date the Copermittee accepted or approved the pollution control plan, construction BMP plan, and/or erosion and sediment control plan; and
 - (g) Whether or not there are ongoing enforcement actions administered to the site.
- (2) Each Copermittee must identify all construction sites within its jurisdiction that represent a high threat to downstream surface water quality. The designation of construction sites as high threat to water quality must consider the following:
- (a) Sites located within a hydrologic subarea where sediment is known or suspected to contribute to the highest priority water quality conditions identified in the Water Quality Improvement Plan;
 - (b) Sites located within the same hydrologic subarea and tributary to a water body segment listed as impaired for sediment on the CWA section 303(d) List;
 - (c) Sites located within, directly adjacent to, or discharging directly to a receiving water within an ESA; and
 - (d) Other sites determined by the Copermittees or the San Diego Water Board as a high threat to water quality.

c. CONSTRUCTION SITE BMP IMPLEMENTATION

Each Copermittee must implement, or require the implementation of effective BMPs to reduce discharges of pollutants in storm water from construction sites to the MEP, and effectively prohibit non-storm water discharges from construction sites into the MS4. These BMPs must be site specific, seasonally appropriate, and construction phase appropriate. BMPs must be implemented at each construction site year round. Dry season BMP implementation must plan for and address unseasonal rain events that may occur during the dry season (May 1 through September 30). Copermittees must implement, or require the implementation of, BMPs in the following categories:

- (1) Project Planning;
- (2) Good Site Management “Housekeeping”, including waste management;
- (3) Non-storm Water Management;
- (4) Erosion Control;
- (5) Sediment Control;
- (6) Run-on and Run-off Control; and
- (7) Active/Passive Sediment Treatment Systems, where applicable.

d. CONSTRUCTION SITE INSPECTIONS

Each Copermittee must conduct construction site inspections to require and confirm compliance with its local permits and applicable local ordinances, and the requirements of this Order. Priority for site inspections must consider threat to water quality pursuant to Provision E.4.b as well as the nature of the construction activity, topography, and the characteristics of soils and receiving water quality.

(1) Inspection Frequency

- (a) Each Copermittee must conduct inspections at all inventoried sites, including high threat to water quality sites, at an appropriate frequency for each phase of construction to confirm the site reduces the discharge of pollutants in storm water from construction sites to the MEP, and effectively prohibits non-storm water discharges from entering the MS4.
- (b) Each Copermittee must establish appropriate inspection frequencies for high threat to water quality sites, and all other sites, for each phase of construction. Inspection frequencies appropriate for addressing the highest water quality priorities identified in the Water Quality Improvement Plan, and for complying with the requirements of this Order must be identified in each Copermittee’s jurisdictional runoff management program document.
- (c) Based upon inspection findings, each Copermittee must implement all follow-up actions (i.e., re-inspection, enforcement) necessary to require and confirm site compliance with its local permits and applicable local ordinances, and the requirements of this Order.

(2) Inspection Content

Inspections of construction sites by the Copermittee must include, at a minimum:

- (a) Verification of coverage under the Construction General Permit (Notice of Intent (NOI) and/or WDID number) during initial inspections, when applicable;
- (b) Assessment of compliance with its local permits and applicable local ordinances related to pollution prevention, including the implementation and maintenance of applicable BMPs;
- (c) Assessment of BMP adequacy and effectiveness;
- (d) Visual observations of actual non-storm water discharges;
- (e) Visual observations of actual or potential discharge of sediment and/or construction related materials from the site;
- (f) Visual observations of actual or potential illicit connections; and
- (g) If any violations are found and BMP corrections are needed, inspectors must take and document appropriate actions in accordance with the Enforcement Response Plan pursuant to Provision E.6.

(3) Inspection Tracking and Records

Each Copermittee must track all inspections and re-inspections at all inventoried construction sites. The Copermittee must retain all inspection records in an electronic database or tabular format, which must be made available to the San Diego Water Board upon request. Inspection records must include, at a minimum:

- (a) Site name, location (address and hydrologic subarea), and WDID number (if applicable);
- (b) Inspection date;
- (c) Approximate amount of rainfall since last inspection;
- (d) Description of problems observed with BMPs and indication of need for BMP addition/repair/replacement and any scheduled re-inspection, and date of re-inspection;
- (e) Descriptions of any other specific inspection comments which must, at a minimum, include rationales for longer compliance time;

- (f) Description of enforcement actions issued in accordance with the Enforcement Response Plan pursuant to Provision E.6; and
- (g) Resolution of problems noted and date problems fixed.

e. CONSTRUCTION SITE ENFORCEMENT

Each Copermittee must enforce its legal authority established pursuant to Provision E.1 for all its inventoried construction sites, as necessary, to achieve compliance with the requirements of this Order, in accordance with its Enforcement Response Plan pursuant to Provision E.6.

5. Existing Development Management

Each Copermittee must implement an existing development management program in accordance with the strategies in the Water Quality Improvement Plan described pursuant to Provision B.3.b.(1) and includes, at a minimum, the following requirements:

a. EXISTING DEVELOPMENT INVENTORY AND TRACKING

Each Copermittee must maintain, and update at least annually, a watershed-based inventory of the existing development within its jurisdiction that may discharge a pollutant load to and from the MS4. The use of an automated database system, such as GIS, is highly recommended. The inventory must, at a minimum, include:

- (1) Name, location (hydrological subarea and address, if applicable) of the following types of existing development with its jurisdiction:
 - (a) Commercial facilities or areas;
 - (b) Industrial facilities;
 - (c) Municipal facilities, including:
 - (i) MS4 and related structures,³³
 - (ii) Roads, streets, and highways;
 - (iii) Parking facilities;
 - (iv) Municipal airfields;
 - (v) Parks and recreation facilities;

³³ The inventory may refer to the MS4 map required to be maintained pursuant to Provision E.2.b.(1).

- (vi) Flood management facilities, flood control devices and structures;
 - (vii) Operating or closed municipal landfills;
 - (viii) Publicly owned treatment works (including water and wastewater treatment plants) and sanitary sewer collection systems;
 - (ix) Corporate yards, including maintenance and storage yards for materials, waste, equipment, and vehicles;
 - (x) Hazardous waste collection facilities;
 - (xi) Other treatment, storage or disposal facilities for municipal waste; and
 - (xii) Other municipal facilities that the Copermittee determines may contribute a significant pollutant load to the MS4.
- (d) Residential areas, which may be designated by one or more of the following:
- (i) Residential management area;
 - (ii) Drainage basin or area;
 - (iii) Land use (e.g., single family, multi-family, rural);
 - (iv) Neighborhood;
 - (v) Common Interest Area;
 - (vi) Home Owner Association;
 - (vii) Mobile home park; and/or
 - (viii) Other designations accepted by the San Diego Water Board Executive Officer.
- (2) A description of the facility or area, including the following information:
- (a) Classification as commercial, industrial, municipal, or residential;
 - (b) Status of facility or area as active or inactive;
 - (c) Identification if a business is a mobile business;
 - (d) SIC Code or NAICS Code, if applicable;
 - (e) Industrial General Permit NOI and/or WDID number, if applicable;
 - (f) Identification if a residential area is or includes a Common Interest Area / Home Owner Association, or mobile home park;

- (g) Identification of pollutants generated and potentially generated by the facility or area;
 - (h) Whether the facility or area is adjacent to an ESA;
 - (i) Whether the facility or area is tributary to and within the same hydrologic subarea as a water body segment listed as impaired on the CWA section 303(d) List and generates pollutants for which the water body segment is impaired; and
- (3) An annually updated map showing the location of inventoried existing development, watershed boundaries, and water bodies.

b. EXISTING DEVELOPMENT BMP IMPLEMENTATION AND MAINTENANCE

Each Copermittee must designate a minimum set of BMPs required for all inventoried existing development, including special event venues. The designated minimum BMPs must be specific to facility or area types and pollutant generating activities, as appropriate.

(1) Commercial, Industrial, and Municipal Facilities and Areas

(a) Pollution Prevention

Each Copermittee must require the use of pollution prevention methods by the commercial, industrial, and municipal facilities and areas in its inventoried existing development to address the priorities and strategies in the Water Quality Improvement Plan.

(b) BMP Implementation

Each Copermittee must require the implementation of designated BMPs at commercial facilities and areas, industrial facilities, and implement designated BMPs at municipal facilities in its inventoried existing development.

(c) BMP Operation and Maintenance

- (i) Each Copermittee must properly operate and maintain, or require the proper operation and maintenance of designated BMPs at commercial facilities and areas, industrial facilities, and municipal facilities in its inventoried existing development.
- (ii) Each Copermittee must implement a schedule of operation and maintenance activities for its MS4 and related structures (including

but not limited to catch basins, storm drain inlets, detention basins, etc.), and verify proper operation of all its municipal structural treatment controls designed to reduce pollutants (including floatables) in storm water discharges to or from its MS4s and related drainage structures. Operation and maintenance activities may include, but is not limited to, the following:

- [a] Inspections of the MS4 and related structures;
- [b] Cleaning of the MS4 and related structures; and
- [c] Proper disposal of materials removed from cleaning of the MS4 and related structures.

- (iii) Each Copermittee must implement a schedule of operation and maintenance for public streets, unpaved roads, paved roads, and paved highways within its jurisdiction to minimize pollutants that can be discharged in storm water.
- (iv) Each Copermittee must implement controls to prevent infiltration of sewage into the MS4 from leaking sanitary sewers. Copermittees that operate both a municipal sanitary sewer system and a MS4 must implement controls and measures to prevent and eliminate seeping sewage from infiltrating the MS4. Copermittees that do not operate both a municipal sanitary sewer system and a MS4 must coordinate with sewerage agencies to keep themselves informed of relevant and appropriate maintenance activities and sanitary sewage projects in their jurisdiction that may cause or contribute to seepage of sewage into the MS4.

(d) Pesticides, Herbicides, and Fertilizers BMPs

Each Copermittee must require the implementation of BMPs to reduce pollutants in storm water discharges to the MEP and effectively prohibit non-storm water discharges associated with the application, storage, and disposal of pesticides, herbicides and fertilizers from commercial facilities and areas and industrial facilities, and implement BMPs at municipal facilities in its inventoried existing development. Such BMPs must include, as appropriate, educational activities, permits, certifications and other measures for applicators and distributors.

(2) Residential Areas

(a) Pollution Prevention

Each Copermittee must promote and encourage the use of pollution prevention methods, where appropriate, by the residential areas in its inventoried existing development.

(b) BMP Implementation

Each Copermittee must promote and encourage the implementation of designated BMPs at residential areas in its inventoried existing development.

(c) BMP Operation and Maintenance

Each Copermittee must properly operate and maintain, or require the proper operation and maintenance of designated BMPs at residential areas in its inventoried existing development.

(d) Pesticides, Herbicides, and Fertilizers BMPs

Each Copermittee must promote and encourage the implementation of BMPs to reduce pollutants in storm water discharges to the MEP and effectively prohibit non-storm water discharges associated with the application, storage, and disposal of pesticides, herbicides and fertilizers from residential areas in its inventoried existing development.

c. EXISTING DEVELOPMENT INSPECTIONS

Each Copermittee must conduct inspections of inventoried existing development to ensure compliance with applicable local ordinances and permits, and the requirements of this Order.

(1) Inspection Frequency

- (a) Each Copermittee must establish appropriate inspection frequencies for inventoried existing development in accordance with the following requirements:
- (i) At a minimum, inventoried existing development must be inspected once every five years utilizing one or more of the following methods:
 - [a] Drive-by inspections by Copermittee municipal and contract staff;
 - [b] Onsite inspections by Copermittee municipal and contract staff; and/or
 - [c] Visual inspections of publicly accessible inventoried facilities or areas by volunteer monitoring or patrol programs that have been trained by the Copermittee;
 - (ii) The frequency of inspections must be appropriate to confirm that BMPs are being implemented to reduce the discharge of pollutants in storm water from the MS4 to the MEP and effectively prohibit non-storm water discharges to the MS4;

- (iii) The frequency of inspections must be based on the potential for a facility or area to discharge non-storm water and pollutants in storm water, and should reflect the priorities set forth in the Water Quality Improvement Plan;
 - (iv) Each Copermittee must annually perform onsite inspections of an equivalent of at least 20 percent of the commercial facilities and areas, industrial facilities, and municipal facilities in its inventoried existing development;³⁴ and
 - (v) Inventoried existing development must be inspected by the Copermittee, as needed, in response to valid public complaints.
- (b) Based upon inspection findings, each Copermittee must implement all follow-up actions (i.e. education and outreach, re-inspection, enforcement) necessary to require and confirm compliance with its applicable local ordinances and permits and the requirements of this Order, in accordance with its Enforcement Response Plan pursuant to Provision E.6.

(2) Inspection Content

- (a) Inspections of existing development must include, at a minimum:
- (i) Visual inspections for the presence of actual non-storm water discharges;
 - (ii) Visual inspections for the presence of actual or potential discharge of pollutants;
 - (iii) Visual inspections for the presence of actual or potential illicit connections; and
 - (iv) Verification that the description of the facility or area in the inventory, required pursuant to Provision E.5.a.(2), has not changed.
- (b) Onsite inspections of existing development by the Copermittee must include, at a minimum:
- (i) Assessment of compliance with its applicable local ordinances and permits related to non-storm water and storm water discharges and runoff;
 - (ii) Assessment of the implementation of the designated BMPs;
 - (iii) Verification of coverage under the Industrial General Permit, when applicable; and

³⁴ If any commercial, industrial, or municipal facilities or areas require multiple onsite inspections during any given year, those additional inspection may count toward the total annual inspection requirement. This requirement excludes linear municipal facilities (i.e., MS4 linear channels, sanitary sewer collection systems, streets, roads and highways).

- (iv) If any problems or violations are found, inspectors must take and document appropriate actions in accordance with the Enforcement Response Plan pursuant to Provision E.6.

(3) Inspection Tracking and Records

Each Copermittee must track all inspections and re-inspections at all inventoried existing development. The Copermittee must retain all inspection records in an electronic database or tabular format, which must be made available to the San Diego Water Board upon request. Inspection records must include, at a minimum:

- (a) Name and location of the facility or area (address and hydrologic subarea) consistent with the inventory name and location, pursuant to Provision E.5.a.(1);
- (b) Inspection and re-inspection date(s);
- (c) Inspection method(s) (i.e. drive-by, onsite);
- (d) Observations and findings from the inspection(s);
- (e) For onsite inspections of existing development by Copermittee municipal or contract staff, the records must also include, as applicable:
 - (i) Description of any problems or violations found during the inspection(s);
 - (ii) Description of enforcement actions issued in accordance with the Enforcement Response Plan pursuant to Provision E.6; and
 - (iii) The date problems or violations were resolved.

d. EXISTING DEVELOPMENT ENFORCEMENT

Each Copermittee must enforce its legal authority established pursuant to Provision E.1 for all its inventoried existing development, as necessary, to achieve compliance with the requirements of this Order, in accordance with its Enforcement Response Plan pursuant to Provision E.6.

e. RETROFITTING AND REHABILITATING AREAS OF EXISTING DEVELOPMENT

(1) Retrofitting Areas of Existing Development

Each Copermittee must describe in its jurisdictional runoff management program document, a program to retrofit areas of existing development within its jurisdiction to address identified sources of pollutants and/or stressors that

contribute to the highest priority water quality conditions in the Watershed Management Area. The program must be implemented as follows:

- (a) Each Copermittee must identify areas of existing development as candidates for retrofitting, focusing on areas where retrofitting will address pollutants and/or stressors that contribute to the highest priority water quality conditions identified in the Water Quality Improvement Plan;
- (b) Candidates for retrofitting projects may be utilized to reduce pollutants that may be discharged in storm water from areas of existing development, and/or address storm water runoff flows and durations from areas of existing development that cause or contribute to hydromodification in receiving waters;
- (c) Each Copermittee must develop a strategy to facilitate the implementation of retrofitting projects in areas of existing development identified as candidates;
- (d) Each Copermittee should identify areas of existing development where Priority Development Projects may be allowed or should be encouraged to implement or contribute toward the implementation of alternative compliance retrofitting projects; and
- (e) Where retrofitting projects within specific areas of existing development are determined to be infeasible to address the highest priority water quality conditions in the Water Quality Improvement Plan, the Copermittee should collaborate and cooperate with other Copermittees and/or entities in the Watershed Management Area to identify, develop, and implement regional retrofitting projects (i.e. projects that can receive and/or treat storm water from one or more areas of existing development and will result in a net benefit to water quality and the environment) adjacent to and/or downstream of the areas of existing development.

(2) Stream, Channel and/or Habitat Rehabilitation in Areas of Existing Development

Each Copermittee must describe in its jurisdictional runoff management program document, a program to rehabilitate streams, channels, and/or habitats in areas of existing development within its jurisdiction to address the highest priority water quality conditions in the Watershed Management Area. The program must be implemented as follows:

- (a) Each Copermittee must identify streams, channels, and/or habitats in areas of existing development as candidates for rehabilitation, focusing on areas where stream, channel, and/or habitat rehabilitation projects will address the highest priority water quality conditions identified in the Water Quality Improvement Plan;

- (b) Candidates for stream, channel, and/or habitat rehabilitation projects may be utilized to address storm water runoff flows and durations from areas of existing development that cause or contribute to hydromodification in receiving waters, rehabilitate channelized or hydromodified streams, restore wetland and riparian habitat, restore watershed functions, and/or restore beneficial uses of receiving waters;
- (c) Each Copermittee must develop a strategy to facilitate the implementation of stream, channel, and/or habitat rehabilitation projects in areas of existing development identified as candidates;
- (d) Each Copermittee should identify areas of existing development where Priority Development Projects may be allowed or should be encouraged to implement or contribute toward the implementation of alternative compliance stream, channel, and/or habitat rehabilitation projects; and
- (e) Where stream, channel, and/or habitat rehabilitation projects within specific areas of existing development are determined to be infeasible to address the highest priority water quality conditions in the Water Quality Improvement Plan, the Copermittee should collaborate and cooperate with other Copermittees and/or entities in the Watershed Management Area to identify, develop, and implement regional stream, channel, and/or habitat rehabilitation projects (i.e. projects that can receive storm water from one or more areas of existing development and will result in a net benefit to water quality and the environment).

6. Enforcement Response Plans

Each Copermittee must develop and implement an Enforcement Response Plan as part of its jurisdictional runoff management program document. The Enforcement Response Plan must describe the applicable approaches and options to enforce its legal authority established pursuant to Provision E.1, as necessary, to achieve compliance with the requirements of this Order. The Enforcement Response Plan must be in accordance with the strategies in the Water Quality Improvement Plan described pursuant to Provision B.3.b.(1) and include the following:

a. ENFORCEMENT RESPONSE PLAN COMPONENTS

The Enforcement Response Plan must include the following individual components:

- (1) Illicit Discharge Detection and Elimination Enforcement Component;
- (2) Development Planning Enforcement Component;
- (3) Construction Management Enforcement Component; and

PROVISION E: JURISDICTIONAL RUNOFF MANAGEMENT PROGRAMS
E.5. Existing Development Management
E.6. Enforcement Response Plans

(4) Existing Development Enforcement Component.

b. ENFORCEMENT RESPONSE APPROACHES AND OPTIONS

Each component of the Enforcement Response Plan must describe the enforcement response approaches that the Copermitttee will implement to compel compliance with its statutes, ordinances, permits, contracts, orders, or similar means, and the requirements of this Order. The description must include the protocols for implementing progressively stricter enforcement responses. The enforcement response approaches must include appropriate sanctions to compel compliance, including, at a minimum, the following tools or their equivalent:

- (1) Verbal and written notices of violation;
- (2) Cleanup requirements;
- (3) Fines;
- (4) Bonding requirements;
- (5) Administrative and criminal penalties;
- (6) Liens;
- (7) Stop work orders; and
- (8) Permit and occupancy denials.

c. CORRECTION OF VIOLATIONS

- (1) Violations must be corrected in a timely manner with the goal of correcting the violations within 30 calendar days after the violations are discovered, or prior to the next predicted rain event, whichever is sooner.
- (2) If more than 30 calendar days are required to achieve compliance, then a rationale must be recorded in the applicable electronic database or tabular system used to track violations.

d. ESCALATED ENFORCEMENT

- (1) The Enforcement Response Plan must include a definition of “escalated enforcement.” Escalated enforcement must include any enforcement scenario where a violation or other non-compliance is determined to cause or contribute to the highest priority water quality conditions identified in the Water Quality Improvement Plan. Escalated enforcement may be defined differently for development planning, construction sites, commercial facilities or areas, industrial facilities, municipal facilities, and residential areas.

- (2) Where the Copermittee determines escalated enforcement is not required, a rationale must be recorded in the applicable electronic database or tabular system used to track violations.
- (3) Escalated enforcement actions must continue to increase in severity, as necessary, to compel compliance as soon as possible.

e. REPORTING OF NON-COMPLIANT SITES

- (1) Each Copermittee must notify the San Diego Water Board in writing within five (5) calendar days of issuing escalated enforcement (as defined in the Copermittee's Enforcement Response Plan) to a construction site that poses a significant threat to water quality as a result of violations or other non-compliance with its permits and applicable local ordinances, and the requirements of this Order. Written notification may be provided electronically by email to the appropriate San Diego Water Board staff.
- (2) Each Copermittee must notify the San Diego Water Board of any persons required to obtain coverage under the statewide Industrial General Permit and Construction General Permit and failing to do so, within five (5) calendar days from the time the Copermittee become aware of the circumstances. Written notification may be provided electronically by email to RB9_Nonfilers@waterboards.ca.gov.

7. Public Education and Participation

Each Copermittee must implement, individually or with other Copermittees, a public education and participation program in accordance with the strategies identified in the Water Quality Improvement Plan to promote and encourage the development of programs, management practices, and behaviors that reduce the discharge of pollutants in storm water to the MEP, prevent controllable non-storm water discharges from entering the MS4, and protect water quality standards in receiving waters. The public education and participation program must be implemented in accordance with the strategies in the Water Quality Improvement Plan described pursuant to Provision B.3.b.(1) and include, at a minimum, the following requirements:

a. PUBLIC EDUCATION

The public education program component implemented within the Copermittee's jurisdiction must include, at a minimum, the following:

- (1) Educational activities, public information activities, and other appropriate outreach activities intended to reduce pollutants associated with the application of pesticides, herbicides and fertilizer and other pollutants of

- concern in storm water discharges to and from its MS4 to the MEP, as determined and prioritized by the Copermittee(s) by jurisdiction and/or watershed to address the highest priority water quality conditions identified in the Water Quality Improvement Plan;
- (2) Educational activities, public information activities, and other appropriate outreach activities to facilitate the proper management and disposal of used oil and toxic materials; and
 - (3) Appropriate education and training measures for specific target audiences, such as construction site operators, residents, underserved target audiences and school-aged children, as determined and prioritized by the Copermittee(s) by jurisdiction and/or watershed, based on high risk behaviors and pollutants of concern.

b. PUBLIC PARTICIPATION

The public participation program component implemented within the Copermittee's jurisdiction must include, at a minimum, the following:

- (1) A process for members of the public to participate in updating the highest priority water quality conditions, numeric goals, and water quality improvement strategies in the Water Quality Improvement Plan;
- (2) Opportunities for members of the public to participate in providing the Copermittee recommendations for improving the effectiveness of the water quality improvement strategies implemented within its jurisdiction; and
- (3) Opportunities for members of the public to participate in programs and/or activities that can result in the prevention or elimination of non-storm water discharges to the MS4, reduction of pollutants in storm water discharges from the MS4, and/or protection of the quality of receiving waters.

8. Fiscal Analysis

- a. Each Copermittee must secure the resources necessary to meet all the requirements of this Order.
- b. Each Copermittee must conduct an annual fiscal analysis of its jurisdictional runoff management program in its entirety. The fiscal analysis must include the following:
 - (1) Identification of the various categories of expenditures necessary to implement the requirements of this Order, including a description of the specific capital, operation and maintenance, and other expenditure items to be accounted for in each category of expenditures;

- (2) The staff resources needed and allocated to meet the requirements of this Order, including any development, implementation, and enforcement activities required;
 - (3) The estimated expenditures for Provisions E.8.b.(1) and E.8.b.(2) for the current fiscal year; and
 - (4) The source(s) of funds that are proposed to meet the necessary expenditures described in Provisions E.8.b.(1) and E.8.b.(2), including legal restrictions on the use of such funds, for the current fiscal year and next fiscal year.
- c. Each Copermittee must submit a summary of the annual fiscal analysis with each Water Quality Improvement Plan Annual Report required pursuant to Provision F.3.b.(3).
 - d. Each Copermittee must provide the documentation used to develop the summary of the annual fiscal analysis upon request by the San Diego Water Board.

F. REPORTING

The purpose of this provision is to determine and document compliance with the requirements set forth in this Order. The goal of reporting is to communicate to the San Diego Water Board and the people of the State of California the implementation status of each jurisdictional runoff management program and compliance with the requirements of this Order. This goal is to be accomplished through the submittal of specific deliverables to the San Diego Water Board by the Copermittees.

1. Water Quality Improvement Plans

The Copermittees for each Watershed Management Area must develop and submit the Water Quality Improvement Plan in accordance with the following requirements:

a. WATER QUALITY IMPROVEMENT PLAN DEVELOPMENT

Each Water Quality Improvement Plan must be developed in accordance with the following process:

(1) Public Participation Process

The Copermittees must implement a public participation process to solicit data, information, and recommendations to be utilized in the development of the Water Quality Improvement Plan. The public participation process must include the following:

- (a) The Copermittees must develop a publicly available and noticed schedule of the opportunities for the public to participate and provide comments during the development of the Water Quality Improvement Plan. The schedule may be adjusted as necessary by the Copermittees, provided the public is provided timely notification of the changes to the schedule.
- (b) The Copermittees must form a Water Quality Improvement Consultation Panel to provide recommendations during the development of the Water Quality Improvement Plan. The Water Quality Improvement Consultation Panel must consist of at least the following members:
 - (i) A representative of the San Diego Water Board;
 - (ii) A representative of the environmental community familiar with the water quality conditions of concern of the receiving waters in the Watershed Management Area, preferably from an environmental interest group associated with a water body within the Watershed Management Area; and
 - (iii) A representative of the development community familiar with the opportunities and constraints for implementing structural BMPs,

retrofitting projects, and stream, channel or habitat rehabilitation projects in the Watershed Management Area, preferably with relevant engineering, hydrology, and/or geomorphology experience in the Watershed Management Area.

- (c) The Copermittees must coordinate the schedules for the public participation process among the Watershed Management Areas to provide the public time and opportunity to participate during the development of the Water Quality Improvement Plans.

(2) Priority Water Quality Conditions

- (a) The Copermittees must solicit data, information and recommendations from the public to be utilized in the development and identification of the priority water quality conditions and potential water quality improvement strategies for the Watershed Management Area.
- (b) The Copermittees must review the priority water quality conditions the Copermittees plan on including in the Water Quality Improvement Plan with the Water Quality Improvement Consultation Panel to receive recommendations or concurrence.
- (c) The Copermittees must consider revisions to the priority water quality conditions based on recommendations from the Water Quality Improvement Consultation Panel.
- (d) The Copermittees must include all the potential water quality improvement strategies identified by the public and the Water Quality Improvement Consultation Panel with the submittal of the priority water quality conditions to the San Diego Water Board.
- (e) The Copermittees must submit the Water Quality Improvement Plan requirements of Provision B.2 to the San Diego Water Board as early as 6 months and no later than 12 months after the commencement of coverage under this Order. Upon receipt, the San Diego Water Board will issue a public notice and release the proposed priority water quality conditions and potential water quality improvement strategies for public review and comment for a minimum of 30 days.
- (f) The Copermittees must consider revisions to the priority water quality conditions and potential water quality improvement strategies developed pursuant to Provision B.2 based on public comments received by the close of the comment period.

(3) Water Quality Improvement Goals, Strategies and Schedules

- (a) The Copermittees must solicit recommendations from the public on potential numeric goals for the highest priority water quality conditions identified for the Watershed Management Area, and recommendations on the strategies that should be implemented to achieve the potential numeric goals.
- (b) The Copermittees must consult with the Water Quality Improvement Consultation Panel and consider revisions to the following items based on the Panel's recommendations:
 - (i) The numeric goals and schedules the Copermittees propose to include in the Water Quality Improvement Plan;
 - (ii) The water quality improvement strategies and schedules the Copermittees propose to implement in the Watershed Management Area and include in the Water Quality Improvement Plan; and
 - (iii) If the Copermittees choose to implement Provision B.3.b.(4), the results of the Watershed Management Area Analysis the Copermittees proposed to incorporate into the Water Quality Improvement Plan.
- (c) The Copermittees must submit the Water Quality Improvement Plan requirements of Provision B.3 to the San Diego Water Board as early as 9 months and no later than 18 months after the commencement of coverage under this Order. Upon receipt, the San Diego Water Board will issue a public notice and release the proposed water quality improvement goals, strategies and schedules for public review and comment for a minimum of 30 days.
- (d) The Copermittees must consider revisions to the water quality improvement goals, strategies and schedules developed pursuant to Provision B.3 based on public comments received by the close of the comment period.

b. WATER QUALITY IMPROVEMENT PLAN SUBMITTAL AND IMPLEMENTATION

- (1) Within 24 months after the commencement of coverage under this Order, the Copermittees for each Watershed Management Area must submit a complete Water Quality Improvement Plan in accordance with the requirements of Provision B of this Order to the San Diego Water Board. The San Diego Water Board will issue a public notice and release the Water Quality Improvement Plan for public review and comment for a minimum of 30 days.

- (2) The Copermittees must consider revisions to the Water Quality Improvement Plan based on written comments received by the close of the public comment period.
- (3) The Copermittees must promptly submit any revisions to the Water Quality Improvement Plan to the San Diego Water Board no later than 60 days after the close of the public comment period.
- (4) If issues concerning the Water Quality Improvement Plan are resolved informally through discussions among the Copermittees, the San Diego Water Board and interested parties, the San Diego Water Board Executive Officer may provide written notification of acceptance to the Copermittees that the Water Quality Improvement Plan meets the requirements of Provision B. However, if the Executive Officer determines that significant issues with the Water Quality Improvement Plan remain, the matter will be scheduled for San Diego Water Board consideration at a public meeting.
- (5) The Copermittees must commence with implementation of the Water Quality Improvement Plan, in accordance with the water quality improvement strategies and schedules therein, upon written notification of acceptance with the Water Quality Improvement Plan by the San Diego Water Board Executive Officer.
- (6) During implementation of the Water Quality Improvement Plan the Copermittees must correct any deficiencies in the Plan identified by the San Diego Water Board in the updates submitted with the Water Quality Improvement Plan Annual Report following a request by the Board to do so.
- (7) The Water Quality Improvement Plan must be made available on the Regional Clearinghouse required pursuant to Provision F.4 within 30 days of receiving notification of acceptance with the Water Quality Improvement Plan by the San Diego Water Board Executive Officer.

2. Updates

a. JURISDICTIONAL RUNOFF MANAGEMENT PROGRAM DOCUMENT UPDATES

Each Copermittee must update its jurisdictional runoff management program document in accordance with the following requirements:

- (1) Each Copermittee is encouraged to seek public and key stakeholder participation and comments, as early and often as possible during the process of developing updates to its jurisdictional runoff management program document;

- (2) Each Copermittee must update its jurisdictional runoff management program document to incorporate the requirements of Provision E concurrent with the submittal of the Water Quality Improvement Plan. Each Copermittee must correct any deficiencies in the jurisdictional runoff management program document based on comments received from the San Diego Water Board in the updates submitted with the Water Quality Improvement Plan Annual Report;
- (3) Each Copermittee must submit updates to its jurisdictional runoff management program, with the supporting rationale for the modifications, either in the Water Quality Improvement Plan Annual Report required pursuant to Provision F.3.b.(3), or as part of the Report of Waste Discharge required pursuant to Provision F.5.b;
- (4) The Copermittee must revise proposed modifications to its jurisdictional runoff management program as directed by the San Diego Water Board Executive Officer; and
- (5) Updated jurisdictional runoff management program documents must be made available on the Regional Clearinghouse required pursuant to Provision F.4 within 30 days of submitting the Water Quality Improvement Plan Annual Report.

b. BMP DESIGN MANUAL UPDATES

Each Copermittee must update its BMP Design Manual in accordance with the following requirements:

- (1) Each Copermittee must update its BMP Design Manual to incorporate the requirements of Provisions E.3.a-d concurrent with the submittal of the Water Quality Improvement Plan. Each Copermittee must correct any deficiencies in the BMP Design Manual based on comments received from the San Diego Water Board in the updates submitted with the Water Quality Improvement Plan Annual Report;
- (2) Any future updates to the BMP Design Manual made after its update pursuant to Provision F.2.b.(1) is completed must be consistent with the requirements of Provisions E.3.a-d and must be submitted as part of the Water Quality Improvement Plan Annual Reports required pursuant to Provision F.3.b.(3), or as part of the Report of Waste Discharge required pursuant to Provision F.5.b; and
- (3) BMP Design Manuals must be made available on the Regional Clearinghouse required pursuant to Provision F.4 within 30 days of completing the update.
- (4) If the San Diego Water Board amends Provisions E.3.a-d during the permit term but after the Copermittee has completed the update pursuant to Provision F.2.b.(1), the Copermittee must revise its BMP Design Manual to

incorporate the amended Provision E.3.a-d requirements as soon as possible but not later than 90 days after the date the San Diego Water Board adopts the amendments to Provisions E.3.a-d, unless otherwise directed by the San Diego Water Board Executive Officer. Under these circumstances, the effective date of the BMP Design Manual is no later than 90 days after the date the San Diego Water Board adopts the amendments to Provisions E.3.a-d, unless otherwise directed by the San Diego Water Board Executive Officer.

C. WATER QUALITY IMPROVEMENT PLAN UPDATES

- (1) The Water Quality Improvement Plans must be updated in accordance with the following process:
 - (a) The Copermittees must develop and implement a public participation process to obtain data, information and recommendations for updating the Water Quality Improvement Plan. The public participation process must provide for a publicly available and noticed schedule of opportunities for the public to participate and provide comments during the development of updates to the Water Quality Improvement Plan;
 - (b) The Copermittees must consult with the Water Quality Improvement Consultation Panel on proposed updates of the Water Quality Improvement Plan, and consider the Water Quality Improvement Consultation Panel's recommendations in finalizing the proposed updates;
 - (c) The Copermittees for each Watershed Management Area must submit 1) proposed updates to the Water Quality Improvement Plan and supporting rationale, and 2) recommendations received from the public and the Water Quality Improvement Consultation Panel and the rationale for the requested updates, either in the Water Quality Improvement Plan Annual Reports required pursuant to Provision F.3.b.(3), or as part of the Report of Waste Discharge required pursuant to Provision F.5.b. The updates submitted will be deemed accepted for inclusion in the Water Quality Improvement Plan ninety (90) days after submission unless otherwise directed in writing by the San Diego Water Board Executive Officer;
 - (d) The Copermittees must revise the requested updates as directed by the San Diego Water Board Executive Officer; and
 - (e) Updated Water Quality Improvement Plans must be made available on the Regional Clearinghouse required pursuant to Provision F.4 within 30 days of acceptance of the requested updates by the San Diego Water Board.
- (2) No later than six months following Office of Administrative Law and USEPA approval of any TMDL Basin Plan amendment with wasteload allocations (WLAs) assigned to the Copermittees during the term of this Order, the

Copermittees must initiate an update to the applicable Water Quality Improvement Plans in accordance with Provision F.1 or Provision F.2.c.(1) to incorporate the requirements of the TMDL WLAs.

3. Progress Reporting

a. PROGRESS REPORT PRESENTATIONS

The Copermittees for each Watershed Management Area must periodically appear before the San Diego Water Board, as requested by the Board, to provide progress reports on the implementation of the Water Quality Improvement Plan and jurisdictional runoff management programs.

b. ANNUAL REPORTS

(1) Transitional Jurisdictional Runoff Management Program Annual Reports

- (a) Each Copermittee must complete and submit a Jurisdictional Runoff Management Program Annual Report Form (contained in Attachment D to this Order or a revised form accepted by the San Diego Water Board) no later than October 31 of each year for each jurisdictional runoff management program reporting period (i.e. July 1 to June 30) during the transitional period, until the first Water Quality Improvement Plan Annual Reports are required to be submitted.
- (b) Each Copermittee must submit the information on the Jurisdictional Runoff Management Program Annual Report Form (contained in Attachment D to this Order or a revised form accepted by the San Diego Water Board) specific to the area within its jurisdiction in each Watershed Management Area.
- (c) In addition to submitting the Jurisdictional Runoff Management Program Annual Report Form during the transitional reporting period, each Copermittee may continue to utilize and submit the jurisdictional runoff management program annual reporting format of its previous NPDES permit until the first Water Quality Improvement Plan Annual Report is required to be submitted.

(2) Transitional Monitoring and Assessment Program Annual Reports

The Copermittees for each Watershed Management Area must submit a Transitional Monitoring and Assessment Program Annual Report no later than January 31 for each complete transitional monitoring and assessment program reporting period (i.e. October 1 to September 30) during the transitional period, until the first Water Quality Improvement Plan Annual Reports are required to be submitted under this Order. The Transitional

Monitoring and Assessment Program Annual Reports must include:

- (a) The receiving water and MS4 outfall discharge monitoring data collected pursuant to Provisions D.1.a and D.2.a, summarized and presented in tabular and graphical form; and
- (b) The findings from the assessments required pursuant to Provisions D.4.a.(1)(a), D.4.b.(1)(a)(i), D.4.b.(2)(a)(i).

(3) Water Quality Improvement Plan Annual Reports

The Copermittees for each Watershed Management Area must submit a Water Quality Improvement Plan Annual Report for each reporting period no later than January 31 of the following year. The annual reporting period consists of two different periods: 1) July 1 to June 30 of the following year for the jurisdictional runoff management programs, 2) October 1 to September 30 of the following year for the monitoring and assessment programs. The Water Quality Improvement Plan Annual Reports must be made available on the Regional Clearinghouse required pursuant to Provision F.4. Each Annual Report must include the following:

- (a) The receiving water and MS4 outfall discharge monitoring data collected pursuant to Provisions D.1 and D.2, summarized and presented in tabular and graphical form;
- (b) The progress of the special studies required pursuant to Provision D.3, and the findings, interpretations and conclusions of a special study, or each phase of a special study, upon its completion;
- (c) The findings, interpretations and conclusions from the assessments required pursuant to Provision D.4;
- (d) The progress of implementing the Water Quality Improvement Plan, including, but not limited to, the following:
 - (i) The progress toward achieving the interim and final numeric goals for the highest water quality priorities for the Watershed Management Area;
 - (ii) The water quality improvement strategies that were implemented and/or no longer implemented by each of the Copermittees during the reporting period and previous reporting periods;
 - (iii) The water quality improvement strategies planned for implementation during the next reporting period;
 - (iv) Proposed modifications to the water quality improvement strategies, the public comments received and the supporting rationale for the

proposed modifications;

- (v) Previous modifications or updates incorporated into the Water Quality Improvement Plan and/or each Copermittee's jurisdictional runoff management program document and implemented by the Copermittees in the Watershed Management Area; and
 - (vi) Proposed modifications or updates to the Water Quality Improvement Plan and/or each Copermittee's jurisdictional runoff management program document;
- (e) A completed Jurisdictional Runoff Management Program Annual Report Form (contained in Attachment D to this Order or a revised form accepted by the San Diego Water Board) for each Copermittee in the Watershed Management Area, certified by a Principal Executive Officer, Ranking Elected Official, or Duly Authorized Representative; and
- (f) Each Copermittee must provide any data or documentation utilized in developing the Water Quality Improvement Plan Annual Report upon request by the San Diego Water Board. Any Copermittee monitoring data utilized in developing the Water Quality Improvement Plan Annual Report must be uploaded to the California Environmental Data Exchange Network (CEDEN).³⁵ Any Copermittee monitoring and assessment data utilized in developing the Water Quality Improvement Plan Annual Report must be available for access on the Regional Clearinghouse required pursuant to Provision F.4.

C. REGIONAL MONITORING AND ASSESSMENT REPORT

- (1) The Copermittees must submit a Regional Monitoring and Assessment Report no later than 180 days prior to the expiration date of this Order. The Regional Monitoring and Assessment Report may be submitted as part of the Report of Waste Discharge required pursuant to Provision F.5.b. In preparing the report the Copermittees must consider the receiving water and MS4 outfall discharge monitoring data collected pursuant to Provisions D.1 and D.2, and the findings, interpretations, and conclusions from the assessments required pursuant to Provision D.4. Based on these considerations the report must assess the following:

³⁵ Data must be uploaded to CEDEN Southern California Regional Data Center (<http://www.sccwrp.org/Data/DataSubmission/SouthernCaliforniaRegionalDataCenter.aspx>) using the templates provided on the CEDEN website.

- (a) The beneficial uses of the receiving waters within the San Diego Region that are supported and not adversely affected by the Copermittees' MS4 discharges;
 - (b) The beneficial uses of the receiving waters within the San Diego Region that are adversely impacted by the Copermittees' MS4 discharges;
 - (c) The progress toward protecting the beneficial uses in the receiving waters within the San Diego Region from the Copermittees' discharges; and
 - (d) Pollutants or conditions of emerging concern that may impact beneficial uses in the receiving waters within the San Diego Region.
- (2) The Regional Monitoring and Assessment Report must include recommendations for improving the implementation and assessment of the Water Quality Improvement Plans and jurisdictional runoff management programs.
 - (3) Each Copermittee must provide any data or documentation utilized in developing the Regional Monitoring and Assessment Report upon request by the San Diego Water Board. Any Copermittee monitoring and assessment data utilized in developing the Regional Monitoring and Assessment Report must be available for access on the Regional Clearinghouse required pursuant to Provision F.4.

4. Regional Clearinghouse

The Copermittees must develop, update, and maintain an internet-based Regional Clearinghouse that is made available to the public no later than 18 months after the effective date of this Order.³⁶

- a. The Copermittees, through the Regional Clearinghouse, must make the following documents and data available for access, and organized by Watershed Management Area. The documents and data may be linked to other internet-based data portals and databases where the original documents are stored:
 - (1) Water Quality Improvement Plan for the Watershed Management Area, and all updated versions with date of update;
 - (2) Annual Reports for the Watershed Management Area;
 - (3) Jurisdictional Runoff Management Program document for each Copermittee within the Watershed Management Area, and all updated versions with date of update;

³⁶ The Copermittees may develop, update and maintain the clearinghouse(s) of other Copermittees or agencies.

- (4) BMP Design Manual for each Copermittee within the Watershed Management Area, and all updated versions with date of update;
 - (5) Reports from special studies (e.g. source identification, BMP effectiveness assessment) conducted in the Watershed Management Area;
 - (6) Monitoring data collected pursuant to Provision D for each Watershed Management Area must be uploaded to CEDEN,³⁷ with links to the uploaded data; and
 - (7) Available GIS data, layers, and/or shapefiles used to develop the maps generated and maintained by the Copermittees for the Water Quality Improvement Plans, Annual Reports, and jurisdictional runoff management program documents.
- b.** The Copermittees, through the Regional Clearinghouse, must make the following information and documents available for access:
- (1) Contact information (point of contact, phone number, email address, and mailing address) for each Copermittee;
 - (2) Public hotline number for reporting non-storm water and illicit discharges for each Copermittee;
 - (3) Email address for reporting non-storm water and illicit discharges for each Copermittee;
 - (4) Link to each Copermittee's website, if available, where the public may find additional information about the Copermittee's storm water management program and for requesting records for the implementation of its program;
 - (5) Information about opportunities for the public to participate in programs and/or activities that can result in the prevention or elimination of non-storm water discharges to the MS4, reduction of pollutants in storm water discharges from the MS4, and/or protection of the quality of receiving waters; and
 - (6) Reports from regional monitoring programs in which the Copermittees participate (e.g. Southern California Monitoring Coalition, Southern California Coastal Water Research Project Bight Monitoring);
 - (7) Regional Monitoring and Assessment Reports; and
 - (8) Any other information, data, and documents the Copermittees determine as appropriate for making available to the public.

³⁷ Data must be uploaded to CEDEN Southern California Regional Data Center (<http://www.sccwrp.org/Data/DataSubmission/SouthernCaliforniaRegionalDataCenter.aspx>) using the templates provided on the CEDEN website.

5. Report of Waste Discharge

The Copermittees subject to the requirements of this Order must submit to the San Diego Water Board a complete Report of Waste Discharge as an application for the re-issuance of this Order and NPDES permit. The Report of Waste Discharge must be submitted no later than 180 days in advance of the expiration date of this Order. The Report of Waste Discharge must contain the following minimum information:

- a. Names and addresses of the Copermittees;
- b. Names and titles of the primary contacts of the Copermittees;
- c. Proposed changes to the Copermittees' Water Quality Improvement Plans and the supporting justification;
- d. Proposed changes to the Copermittees' jurisdictional runoff management programs and the supporting justification;
- e. Any other information necessary for the re-issuance of this Order;
- f. Any information to be included as part of the Report of Waste Discharge pursuant to the requirements of this Order; and
- g. Any other information required by federal regulations for NPDES permit reissuance.

6. Reporting Provisions

Each Copermittee must comply with all the reporting and recordkeeping provisions of the Standard Permit Provisions and General Provisions contained in Attachment B to this Order.

G. PRINCIPAL WATERSHED COPERMITTEE RESPONSIBILITIES

- 1.** The Copermittees within each Watershed Management Area must designate a Principal Watershed Copermittee and notify the San Diego Water Board of the name of the Principal Watershed Copermittee. An individual Copermittee should not be designated a Principal Watershed Copermittee for more than two Watershed Management Areas. The notification may be submitted with the Water Quality Improvement Plan required pursuant to Provision F.1 of this Order.
- 2.** The Principal Watershed Copermittee is responsible for, at a minimum, the following:
 - a.** Serving as liaison between the Copermittees in the Watershed Management Area and the San Diego Water Board on general permit issues, and when necessary and appropriate, representing the Copermittees in the Watershed Management Area before the San Diego Water Board;
 - b.** Facilitating the development of the Water Quality Improvement Plan in accordance with the requirements of Provision B of this Order;
 - c.** Coordinating the submittal of the deliverables required by Provisions F.1, F.2, F.3.a, and F.3.b of this Order; and
 - d.** Coordinating and developing, with the other Principal Watershed Copermittees, the requirements of Provisions F.3.c, F.4, and F.5.b of this Order.
- 3.** The Principal Watershed Copermittee is not responsible for ensuring that the other Copermittees within the Watershed Management Area are in compliance with the requirements of this Order. Each Copermittee within the Watershed Management Area is responsible for complying with the requirements of this Order.

H. MODIFICATION OF ORDER

- 1.** Modifications of the Order may be initiated by the San Diego Water Board or by the Copermittees. Requests by Copermittees must be made to the San Diego Water Board.
- 2.** Minor modifications to the Order may be made by the San Diego Water Board where the proposed modification complies with all the prohibitions and limitations, and other requirements of this Order.
- 3.** This Order may also be re-opened and modified, revoked and, reissued or terminated in accordance with the provisions of 40 CFR 122.44, 122.62 to 122.64, and 124.5. Causes for taking such actions include, but are not limited to, failure to comply with any condition of this Order and permit, and endangerment to human health or the environment resulting from the permitted activity.
- 4.** This Order may be re-opened for modification for cause including but not limited to the following:
 - a.** Any of the TMDLs in Attachment E to this Order are amended in the Basin Plan by San Diego Water Board, and the amendment is approved by the State Water Board, Office of Administrative Law, and the USEPA;
 - b.** The Basin Plan is amended by the San Diego Water Board to incorporate a new TMDL, and the amendment is approved by the State Water Board, Office of Administrative Law, and the USEPA; or
 - c.** Updating or revising the monitoring and reporting requirements is determined to be necessary, at the discretion of the San Diego Water Board. Such modification(s) may include, but is (are) not limited to, revision(s) to: (i) implement recommendations from Southern California Coastal Water Research Project (SCCWRP), (ii) develop, refine, implement, and/or coordinate a regional monitoring program, (iii) develop and implement improved monitoring and assessment programs in keeping with San Diego Water Board Resolution No. R9-2012-0069, Resolution in Support of a Regional Monitoring Framework, and/or (iv) add provisions to require the Copermittees to evaluate and provide information on cost and values of the monitoring and reporting program.

I. STANDARD PERMIT PROVISIONS AND GENERAL PROVISIONS

Each Copermittee must comply with all the Standard Permit Provisions and General Provisions contained in Attachment B to this Order.

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ATTACHMENT A

DISCHARGE PROHIBITIONS AND SPECIAL PROTECTIONS

1. Basin Plan Waste Discharge Prohibitions

California Water Code Section 13243 provides that a Regional Water Board, in a water quality control plan, may specify certain conditions or areas where the discharge of waste or certain types of waste is not permitted. The following waste discharge prohibitions in the Water Quality Control Plan for the San Diego Basin (Basin Plan) are applicable to any person, as defined by Section 13050(c) of the California Water Code, who is a citizen, domiciliary, or political agency or entity of California whose activities in California could affect the quality of waters of the state within the boundaries of the San Diego Region.

1. The discharge of waste to waters of the state in a manner causing, or threatening to cause a condition of pollution, contamination or nuisance as defined in California Water Code Section 13050, is prohibited.
2. The discharge of waste to land, except as authorized by waste discharge requirements or the terms described in California Water Code Section 13264 is prohibited.
3. The discharge of pollutants or dredged or fill material to waters of the United States except as authorized by a National Pollutant Discharge Elimination System (NPDES) permit or a dredged or fill material permit (subject to the exemption described in California Water Code Section 13376) is prohibited.
4. Discharges of recycled water to lakes or reservoirs used for municipal water supply or to inland surface water tributaries thereto are prohibited, unless this San Diego Water Board issues a NPDES permit authorizing such a discharge; the proposed discharge has been approved by the State Department of Health Services (DHS) and the operating agency of the impacted reservoir; and the discharger has an approved fail-safe long-term disposal alternative.
5. The discharge of waste to inland surface waters, except in cases where the quality of the discharge complies with applicable receiving water quality objectives, is prohibited. Allowances for dilution may be made at the discretion of the San Diego Water Board. Consideration would include streamflow data, the degree of treatment provided and safety measures to ensure reliability of facility performance. As an example, discharge of secondary effluent would probably be permitted if streamflow provided 100:1 dilution capability.
6. The discharge of waste in a manner causing flow, ponding, or surfacing on lands not owned or under the control of the discharger is prohibited, unless the discharge is authorized by the San Diego Water Board.

7. The dumping, deposition, or discharge of waste directly into waters of the state, or adjacent to such waters in any manner which may permit its being transported into the waters, is prohibited unless authorized by the San Diego Water Board.
8. Any discharge to a storm water conveyance system that is not composed entirely of "*storm water*" is prohibited unless authorized by the San Diego Water Board. [The federal regulations, 40 CFR 122.26(b)(13), define storm water as storm water runoff, snow melt runoff, and surface runoff and drainage. 40 CFR 122.26(b)(2) defines an illicit discharge as any discharge to a storm water conveyance system that is not composed entirely of storm water except discharges pursuant to a NPDES permit and discharges resulting from firefighting activities.] [§122.26 amended at 56 FR 56553, November 5, 1991; 57 FR 11412, April 2, 1992].
9. The unauthorized discharge of treated or untreated sewage to waters of the state or to a storm water conveyance system is prohibited.
10. The discharge of industrial wastes to conventional septic tank/subsurface disposal systems, except as authorized by the terms described in California Water Code Section 13264, is prohibited.
11. The discharge of radioactive wastes amenable to alternative methods of disposal into the waters of the state is prohibited.
12. The discharge of any radiological, chemical, or biological warfare agent into waters of the state is prohibited.
13. The discharge of waste into a natural or excavated site below historic water levels is prohibited unless the discharge is authorized by the San Diego Water Board.
14. The discharge of sand, silt, clay, or other earthen materials from any activity, including land grading and construction, in quantities which cause deleterious bottom deposits, turbidity or discoloration in waters of the state or which unreasonably affect, or threaten to affect, beneficial uses of such waters is prohibited.
15. The discharge of treated or untreated sewage from vessels to Mission Bay, Oceanside Harbor, Dana Point Harbor, or other small boat harbors is prohibited.
16. The discharge of untreated sewage from vessels to San Diego Bay is prohibited.
17. The discharge of treated sewage from vessels to portions of San Diego Bay that are less than 30 feet deep at mean lower low water (MLLW) is prohibited.
18. The discharge of treated sewage from vessels, which do not have a properly functioning US Coast Guard certified Type I or Type II marine sanitation device, to portions of San Diego Bay that are greater than 30 feet deep at mean lower low water (MLLW) is prohibited.

2. Attachment B to State Water Board Resolution 2012-0012, as amended by State Water Board Resolution No. 2012-0031.

Special Protections for Areas of Special Biological Significance (ASBS), Governing Point Source Discharges of Storm Water and Nonpoint Source Waste Discharges

I. PROVISIONS FOR POINT SOURCE DISCHARGES OF STORM WATER AND NONPOINT SOURCE WASTE DISCHARGES

The following terms, prohibitions, and special conditions (hereafter collectively referred to as special conditions) are established as limitations on point source storm water and nonpoint source discharges. These special conditions provide Special Protections for marine aquatic life and natural water quality in Areas of Special Biological Significance (ASBS), as required for State Water Quality Protection Areas pursuant to California Public Resources Code Sections 36700(f) and 36710(f). These Special Protections are adopted by the State Water Board as part of the California Ocean Plan (Ocean Plan) General Exception.

The special conditions are organized by category of discharge. The State Water Resources Control Board (State Water Board) and Regional Water Quality Control Boards (Regional Water Boards) will determine categories and the means of regulation for those categories [e.g., Point Source Storm Water National Pollutant Discharge Elimination System (NPDES) or Nonpoint Source].

A. PERMITTED POINT SOURCE DISCHARGES OF STORM WATER

1. General Provisions for Permitted Point Source Discharges of Storm Water

- a. Existing storm water discharges into an ASBS are allowed only under the following conditions:
 - (1) The discharges are authorized by an NPDES permit issued by the State Water Board or Regional Water Board;
 - (2) The discharges comply with all of the applicable terms, prohibitions, and special conditions contained in these Special Protections; and
 - (3) The discharges:
 - (i) Are essential for flood control or slope stability, including roof, landscape, road, and parking lot drainage;
 - (ii) Are designed to prevent soil erosion;
 - (iii) Occur only during wet weather;
 - (iv) Are composed of only storm water runoff.
- b. Discharges composed of storm water runoff shall not alter natural ocean water quality in an ASBS.
- c. The discharge of trash is prohibited.

- d. Only discharges from existing storm water outfalls are allowed. Any proposed or new storm water runoff discharge shall be routed to existing storm water discharge outfalls and shall not result in any new contribution of waste to an ASBS (i.e., no additional pollutant loading). "Existing storm water outfalls" are those that were constructed or under construction prior to January 1, 2005. "New contribution of waste" is defined as any addition of waste beyond what would have occurred as of January 1, 2005. A change to an existing storm water outfall, in terms of re-location or alteration, in order to comply with these special conditions, is allowed and does not constitute a new discharge.
 - e. Non-storm water discharges are prohibited except as provided below:
 - (1) The term "non-storm water discharges" means any waste discharges from a municipal separate storm sewer system (MS4) or other NPDES permitted storm drain system to an ASBS that are not composed entirely of storm water.
 - (2) (i) The following non-storm water discharges are allowed, provided that the discharges are essential for emergency response purposes, structural stability, slope stability or occur naturally:
 - (a) Discharges associated with emergency fire fighting operations.
 - (b) Foundation and footing drains.
 - (c) Water from crawl space or basement pumps.
 - (d) Hillside dewatering.
 - (e) Naturally occurring groundwater seepage via a storm drain.
 - (f) Non-anthropogenic flows from a naturally occurring stream via a culvert or storm drain, as long as there are no contributions of anthropogenic runoff.
 - (ii) An NPDES permitting authority may authorize non-storm water discharges to an MS4 with a direct discharge to an ASBS only to the extent the NPDES permitting authority finds that the discharge does not alter natural ocean water quality in the ASBS.
 - (3) Authorized non-storm water discharges shall not cause or contribute to a violation of the water quality objectives in Chapter II of the Ocean Plan nor alter natural ocean water quality in an ASBS.
2. Compliance Plans for Inclusion in Storm Water Management Plans (SWMP) and Storm Water Pollution Prevention Plans (SWPPP).

The discharger shall specifically address the prohibition of non-storm water runoff and the requirement to maintain natural water quality for storm water discharges to an ASBS in an ASBS Compliance Plan to be included in its SWMP or a SWPPP, as appropriate to permit type. If a statewide permit includes a SWMP, then the discharger shall prepare a stand-alone compliance plan for ASBS discharges. The ASBS Compliance Plan is subject to approval by the Executive Director of the State Water Board (statewide permits) or Executive Officer of the Regional Water Board (for permits issued by Regional Water Boards).

- a. The Compliance Plan shall include a map of surface drainage of storm water runoff, showing areas of sheet runoff, prioritize discharges, and describe any structural Best Management Practices (BMPs) already employed and/or BMPs to be employed in the future. Priority discharges are those that pose the greatest water quality threat and which are identified to require installation of structural BMPs. The map shall also show the storm water conveyances in relation to other features such as service areas, sewage conveyances and treatment facilities, landslides, areas prone to erosion, and waste and hazardous material storage areas, if applicable. The SWMP or SWPPP shall also include a procedure for updating the map and plan when changes are made to the storm water conveyance facilities.
- b. The ASBS Compliance Plan shall describe the measures by which all non-authorized non-storm water runoff (e.g., dry weather flows) has been eliminated, how these measures will be maintained over time, and how these measures are monitored and documented.
- c. For Municipal Separate Storm Sewer System (MS4s), the ASBS Compliance Plan shall require minimum inspection frequencies as follows:
 - (1) The minimum inspection frequency for construction sites shall be weekly during rainy season;
 - (2) The minimum inspection frequency for industrial facilities shall be monthly during the rainy season;
 - (3) The minimum inspection frequency for commercial facilities (e.g., restaurants) shall be twice during the rainy season; and
 - (4) Storm water outfall drains equal to or greater than 18 inches (457 mm) in diameter or width shall be inspected once prior to the beginning of the rainy season and once during the rainy season and maintained to remove trash and other anthropogenic debris.
- d. The ASBS Compliance Plan shall address storm water discharges (wet weather flows) and, in particular, describe how pollutant reductions in storm water runoff, that are necessary to comply with these special conditions, will be achieved through BMPs. Structural BMPs need not be installed if the discharger can document to the satisfaction of the State Water Board Executive Director (statewide permits) or Regional Water Board Executive Officer (Regional Water Board permits) that such installation would pose a threat to health or safety. BMPs to control storm water runoff discharges (at the end-of-pipe) during a design storm shall be designed to achieve on average the following target levels:
 - (1) Table B Instantaneous Maximum Water Quality Objectives in Chapter II of the Ocean Plan; or
 - (2) A 90% reduction in pollutant loading during storm events, for the applicant's total discharges.

The baseline for these determinations is the effective date of the Exception, except for those structural BMPs installed between January 1, 2005 and adoption of these Special Protections, and the reductions must be achieved and documented within six (6) years of the effective date.

- e. The ASBS Compliance Plan shall address erosion control and the prevention of anthropogenic sedimentation in ASBS. The natural habitat conditions in the ASBS shall not be altered as a result of anthropogenic sedimentation.
- f. The ASBS Compliance Plan shall describe the non-structural BMPs currently employed and planned in the future (including those for construction activities), and include an implementation schedule. The ASBS Compliance Plan shall include non-structural BMPs that address public education and outreach. Education and outreach efforts must adequately inform the public that direct discharges of pollutants from private property not entering an MS4 are prohibited. The ASBS Compliance Plan shall also describe the structural BMPs, including any low impact development (LID) measures, currently employed and planned for higher threat discharges and include an implementation schedule. To control storm water runoff discharges (at the end-of-pipe) during a design storm, permittees must first consider, and use where feasible, LID practices to infiltrate, use, or evapotranspire storm water runoff on-site, if LID practices would be the most effective at reducing pollutants from entering the ASBS.
- g. The BMPs and implementation schedule shall be designed to ensure that natural water quality conditions in the receiving water are achieved and maintained by either reducing flows from impervious surfaces or reducing pollutant loading, or some combination thereof.
- h. If the results of the receiving water monitoring described in IV.B. of these special conditions indicate that the storm water runoff is causing or contributing to an alteration of natural ocean water quality in the ASBS, the discharger shall submit a report to the State Water Board and Regional Water Board within 30 days of receiving the results.
 - (1) The report shall identify the constituents in storm water runoff that alter natural ocean water quality and the sources of these constituents.
 - (2) The report shall describe BMPs that are currently being implemented, BMPs that are identified in the SWMP or SWPPP for future implementation, and any additional BMPs that may be added to the SWMP or SWPPP to address the alteration of natural water quality. The report shall include a new or modified implementation schedule for the BMPs.
 - (3) Within 30 days of the approval of the report by the State Water Board Executive Director (statewide permits) or Regional Water Board Executive Officer (Regional Water Board permits), the discharger shall revise its ASBS Compliance Plan to incorporate any new or modified BMPs that have been or will be implemented, the implementation schedule, and any additional monitoring required.
 - (4) As long as the discharger has complied with the procedures described above and is implementing the revised SWMP or SWPPP, the discharger does not have to repeat the same procedure for continuing or recurring exceedances of natural ocean water quality conditions due to the same constituent.

(5) The requirements of this section are in addition to the terms, prohibitions, and conditions contained in these Special Protections.

3. Compliance Schedule

- a. On the effective date of the Exception, all non-authorized non-storm water discharges (e.g., dry weather flow) are effectively prohibited.
- b. Within eighteen (18) months from the effective date of the Exception, the discharger shall submit a draft written ASBS Compliance Plan to the State Water Board Executive Director (statewide permits) or Regional Water Board Executive Officer (Regional Water Board permits) that describes its strategy to comply with these special conditions, including the requirement to maintain natural water quality in the affected ASBS. The ASBS Compliance Plan shall include a description of appropriate non-structural controls and a time schedule to implement structural controls (implementation schedule) to comply with these special conditions for inclusion in the discharger's SWMP or SWPPP, as appropriate to permit type. The final ASBS Compliance Plan, including a description and final schedule for structural controls based on the results of runoff and receiving water monitoring, must be submitted within thirty (30) months from the effective date of the Exception.
- c. Within 18 months of the effective date of the Exception, any non-structural controls that are necessary to comply with these special conditions shall be implemented.
- d. Within six (6) years of the effective date of the Exception, any structural controls identified in the ASBS Compliance Plan that are necessary to comply with these special conditions shall be operational.
- e. Within six (6) years of the effective date of the Exception, all dischargers must comply with the requirement that their discharges into the affected ASBS maintain natural ocean water quality. If the initial results of post-storm receiving water quality testing indicate levels higher than the 85th percentile threshold of reference water quality data and the pre-storm receiving water levels, then the discharger must re-sample the receiving water, pre- and post-storm. If after re-sampling the post-storm levels are still higher than the 85th percentile threshold of reference water quality data, and the pre-storm receiving water levels, for any constituent, then natural ocean water quality is exceeded. See attached Flowchart.
- f. The Executive Director of the State Water Board (statewide permits) or Executive Officer of the Regional Water Board (Regional Water Board permits) may only authorize additional time to comply with the special conditions d. and e., above if good cause exists to do so. Good cause means a physical impossibility or lack of funding.

If a discharger claims physical impossibility, it shall notify the Board in writing within thirty (30) days of the date that the discharger first knew of the event or circumstance that caused or would cause it to fail to meet the deadline in d. or e. The notice shall describe the reason for the noncompliance or anticipated noncompliance and specifically refer to this Section of this Exception. It shall describe the anticipated length of time the delay in compliance may persist, the cause or causes of the delay as well as measures to minimize the impact of the delay on water quality, the measures taken or to be taken by

the discharger to prevent or minimize the delay, the schedule by which the measures will be implemented, and the anticipated date of compliance. The discharger shall adopt all reasonable measures to avoid and minimize such delays and their impact on water quality.

The discharger may request an extension of time for compliance based on lack of funding. The request for an extension shall require:

1. for municipalities, a demonstration of significant hardship to discharger ratepayers, by showing the relationship of storm water fees to annual household income for residents within the discharger's jurisdictional area, and the discharger has made timely and complete applications for all available bond and grant funding, and either no bond or grant funding is available, or bond and/or grant funding is inadequate; or
2. for other governmental agencies, a demonstration and documentation of a good faith effort to acquire funding through that agency's budgetary process, and a demonstration that funding was unavailable or inadequate.

B. NONPOINT SOURCE DISCHARGES

1. General Provisions for Nonpoint Sources

a. Existing nonpoint source waste discharges are allowed into an ASBS only under the following conditions:

- (1) The discharges are authorized under waste discharge requirements, a conditional waiver of waste discharge requirements, or a conditional prohibition issued by the State Water Board or a Regional Water Board.
- (2) The discharges are in compliance with the applicable terms, prohibitions, and special conditions contained in these Special Protections.
- (3) The discharges:
 - (i) Are essential for flood control or slope stability, including roof, landscape, road, and parking lot drainage;
 - (ii) Are designed to prevent soil erosion;
 - (iii) Occur only during wet weather;
 - (iv) Are composed of only storm water runoff.

b. Discharges composed of storm water runoff shall not alter natural ocean water quality in an ASBS.

c. The discharge of trash is prohibited.

d. Only existing nonpoint source waste discharges are allowed. "Existing nonpoint source waste discharges" are discharges that were ongoing prior to January 1, 2005. "New nonpoint source discharges" are defined as those that commenced on or after January 1,

2005. A change to an existing nonpoint source discharge, in terms of relocation or alteration, in order to comply with these special conditions, is allowed and does not constitute a new discharge.

e. Non-storm water discharges from nonpoint sources (those not subject to an NPDES Permit) are prohibited except as provided below:

(1) The term “non-storm water discharges” means any waste discharges that are not composed entirely of storm water.

(2) The following non-storm water discharges are allowed, provided that the discharges are essential for emergency response purposes, structural stability, slope stability, or occur naturally:

(i) Discharges associated with emergency fire fighting operations.

(ii) Foundation and footing drains.

(iii) Water from crawl space or basement pumps.

(iv) Hillside dewatering.

(v) Naturally occurring groundwater seepage via a storm drain.

(vi) Non-anthropogenic flows from a naturally occurring stream via a culvert or storm drain, as long as there are no contributions of anthropogenic runoff.

(3) Authorized non-storm water discharges shall not cause or contribute to a violation of the water quality objectives in Chapter II of the Ocean Plan nor alter natural ocean water quality in an ASBS.

f. At the San Clemente Island ASBS, discharges incidental to military training and research, development, test, and evaluation operations are allowed. Discharges incidental to underwater demolition and other in-water explosions are not allowed in the two military closure areas in the vicinity of Wilson Cove and Castle Rock. Discharges must not result in a violation of the water quality objectives, including the protection of the marine aquatic life beneficial use, anywhere in the ASBS.

g. At the San Nicolas Island and Begg Rock ASBS, discharges incidental to military research, development, testing, and evaluation of, and training with, guided missile and other weapons systems, fleet training exercises, small-scale amphibious warfare training, and special warfare training are allowed. Discharges incidental to underwater demolition and other in-water explosions are not allowed. Discharges must not result in a violation of the water quality objectives, including the protection of the marine aquatic life beneficial use, anywhere in the ASBS.

h. All other nonpoint source discharges not specifically authorized above are prohibited.

2. Planning and Reporting

- a. The nonpoint source discharger shall develop an ASBS Pollution Prevention Plan, including an implementation schedule, to address storm water runoff and any other nonpoint source discharges from its facilities. The ASBS Pollution Prevention Plan must be equivalent in contents to an ASBS Compliance Plan as described in I (A)(2) in this document. The ASBS Pollution Prevention Plan is subject to approval by the Executive Director of the State Water Board (statewide waivers or waste discharge requirements) or Executive Officer of the Regional Water Board (Regional Water Board waivers or waste discharge requirements).
- b. The ASBS Pollution Prevention Plan shall address storm water discharges (wet weather flows) and, in particular, describe how pollutant reductions in storm water runoff that are necessary to comply with these special conditions, will be achieved through Management Measures and associated Management Practices (Management Measures/Practices). Structural BMPs need not be installed if the discharger can document to the satisfaction of the State Water Board Executive Director or Regional Water Board Executive Officer that such installation would pose a threat to health or safety. Management Measures to control storm water runoff during a design storm shall achieve on average the following target levels:
 - (1) Table B Instantaneous Maximum Water Quality Objectives in Chapter II of the Ocean Plan; or
 - (2) A 90% reduction in pollutant loading during storm events, for the applicant's total discharges.

The baseline for these determinations is the effective date of the Exception, except for those structural BMPs installed between January 1, 2005 and adoption of these Special Protections, and the reductions must be achieved and documented within six (6) years of the effective date.

- c. If the results of the receiving water monitoring described in IV.B. of these special conditions indicate that the storm water runoff or other nonpoint source pollution is causing or contributing to an alteration of natural ocean water quality in the ASBS, the discharger shall submit a report to the State Water Board and the Regional Water Board within 30 days of receiving the results.
 - (1) The report shall identify the constituents that alter natural water quality and the sources of these constituents.
 - (2) The report shall describe Management Measures/Practices that are currently being implemented, Management Measures/Practices that are identified in the ASBS Pollution Prevention Plan for future implementation, and any additional Management Measures/Practices that may be added to the Pollution Prevention Plan to address the alteration of natural water quality. The report shall include a new or modified implementation schedule for the Management Measures/Practices.
 - (3) Within 30 days of the approval of the report by the State Water Board Executive Director (statewide waivers or waste discharge requirements) or Executive Officer of the Regional Water Board (Regional Water Board waivers or waste discharge requirements), the discharger shall revise its ASBS Pollution Prevention Plan to incorporate any new or modified Management Measures/Practices that have been or

will be implemented, the implementation schedule, and any additional monitoring required.

(4) As long as the discharger has complied with the procedures described above and is implementing the revised ASBS Pollution Prevention Plan, the discharger does not have to repeat the same procedure for continuing or recurring exceedances of natural water quality conditions due to the same constituent.

(5) The requirements of this section are in addition to the terms, prohibitions, and conditions contained in these Special Protections.

3. Compliance Schedule

- a. On the effective date of the Exception, all non-authorized non-storm water discharges (e.g., dry weather flow) are effectively prohibited.
- b. Within eighteen (18) months from the effective date of the Exception, the dischargers shall submit a draft written ASBS Pollution Prevention Plan to the State Water Board Executive Director (statewide waivers or waste discharge requirements) or Executive Officer of the Regional Water Board (Regional Water Board waivers or waste discharge requirements) that describes its strategy to comply with these special conditions, including the requirement to maintain natural ocean water quality in the affected ASBS. The Pollution Prevention Plan shall include a description of appropriate non-structural controls and a time schedule to implement structural controls to comply with these special conditions for inclusion in the discharger's Pollution Prevention Plan. The final ASBS Pollution Prevention Plan, including a description and final schedule for structural controls based on the results of runoff and receiving water monitoring, must be submitted within thirty (30) months from the effective date of the Exception.
- c. Within 18 months of the effective date of the Exception, any non-structural controls that are necessary to comply with these Special Protections shall be implemented.
- d. Within six (6) years of the effective date of the Exception, any structural controls identified in the ASBS Pollution Prevention Plan that are necessary to comply with these special conditions shall be operational.
- e. Within six (6) years of the effective date of the Exception, all dischargers must comply with the requirement that their discharges into the affected ASBS maintain natural ocean water quality. If the initial results of post-storm receiving water quality testing indicate levels higher than the 85th percentile threshold of reference water quality data and the pre-storm receiving water levels, then the discharger must re-sample the receiving water pre- and post-storm. If after re-sampling the post-storm levels are still higher than the 85th percentile threshold of reference water quality data and the pre-storm receiving water levels, for any constituent, then natural ocean water quality is exceeded. See attached Flowchart.
- f. The Executive Director of the State Water Board (statewide waivers or waste discharge requirements) or Executive Officer of the Regional Water Board (Regional Water Board waivers or waste discharge requirements) may only authorize additional time to comply with the special conditions d. and e., above if good cause exists to do so. Good cause means a physical impossibility or lack of funding.

If a discharger claims physical impossibility, it shall notify the Board in writing within thirty (30) days of the date that the discharger first knew of the event or circumstance that caused or would cause it to fail to meet the deadline in (d.) or (e.). The notice shall describe the reason for the noncompliance or anticipated noncompliance and specifically refer to this Section of this Exception. It shall describe the anticipated length of time the delay in compliance may persist, the cause or causes of the delay as well as measures to minimize the impact of the delay on water quality, the measures taken or to be taken by the discharger to prevent or minimize the delay, the schedule by which the measures will be implemented, and the anticipated date of compliance. The discharger shall adopt all reasonable measures to avoid and minimize such delays and their impact on water quality.

The discharger may request an extension of time for compliance based on lack of funding. The request for an extension shall require:

1. a demonstration that the discharger has made timely and complete applications for all available bond and grant funding, and either no bond or grant funding is available, or bond and/or grant funding is inadequate; or
2. for governmental agencies, a demonstration and documentation of a good faith effort to acquire funding through that agency's budgetary process, and a demonstration that funding was unavailable or inadequate.

II. ADDITIONAL REQUIREMENTS FOR PARKS AND RECREATION FACILITIES

In addition to the provisions in Section I (A) or I (B), respectively, a discharger with parks and recreation facilities shall comply with the following:

- A. The discharger shall include a section in an ASBS Compliance Plan (for NPDES dischargers) or an ASBS Pollution Prevention Plan (for nonpoint source dischargers) to address storm water runoff from parks and recreation facilities.
 1. The plan shall identify all pollutant sources, including sediment sources, which may result in waste entering storm water runoff. Pollutant sources include, but are not limited to, roadside rest areas and vistas, picnic areas, campgrounds, trash receptacles, maintenance facilities, park personnel housing, portable toilets, leach fields, fuel tanks, roads, piers, and boat launch facilities.
 2. The plan shall describe BMPs or Management Measures/Practices that will be implemented to control soil erosion (both temporary and permanent erosion controls) and reduce or eliminate pollutants in storm water runoff in order to achieve and maintain natural water quality conditions in the affected ASBS. The plan shall include BMPs or Management Measures/Practices to ensure that trails and culverts are maintained to prevent erosion and minimize waste discharges to ASBS.
 3. The plan shall include BMPs or Management Measures/Practices to prevent the discharge of pesticides or other chemicals, including agricultural chemicals, in storm water runoff to the affected ASBS.

4. The plan shall include BMPs or Management Measures/Practices that address public education and outreach. The goal of these BMPs or Management Measures/Practices is to ensure that the public is adequately informed that waste discharges to the affected ASBS are prohibited or limited by special conditions in these Special Protections. The BMPs or Management Measures/Practices shall include signage at camping, picnicking, beach and roadside parking areas, and visitor centers, or other appropriate measures, which notify the public of any applicable requirements of these Special Protections and identify the ASBS boundaries.
 5. The plan shall include BMPs or Management Measures/Practices that address the prohibition against the discharge of trash to ASBS. The BMPs or Management Measures/Practices shall include measures to ensure that adequate trash receptacles are available for public use at visitor facilities, including parking areas, and that the receptacles are adequately maintained to prevent trash discharges into the ASBS. Appropriate measures include covering trash receptacles to prevent trash from being wind blown and periodically emptying the receptacles to prevent overflows.
 6. The plan shall include BMPs or Management Measures/Practices to address runoff from parking areas and other developed features to ensure that the runoff does not alter natural water quality in the affected ASBS. BMPs or Management Measures/Practices shall include measures to reduce pollutant loading in runoff to the ASBS through installation of natural area buffers (LID), treatment, or other appropriate measures.
- B. Maintenance and repair of park and recreation facilities must not result in waste discharges to the ASBS. The practice of road oiling must be minimized or eliminated, and must not result in waste discharges to the ASBS.

III. ADDITIONAL REQUIREMENTS – WATERFRONT AND MARINE OPERATIONS

In addition to the provisions in Section I (A) or I (B), respectively, a discharger with waterfront and marine operations shall comply with the following:

- A. For discharges related to waterfront and marine operations, the discharger shall develop a Waterfront and Marine Operations Management Plan (Waterfront Plan). This plan shall contain appropriate Management Measures/Practices to address nonpoint source pollutant discharges to the affected ASBS.
 1. The Waterfront Plan shall contain appropriate Management Measures/Practices for any waste discharges associated with the operation and maintenance of vessels, moorings, piers, launch ramps, and cleaning stations in order to ensure that beneficial uses are protected and natural water quality is maintained in the affected ASBS.
 2. For discharges from marinas and recreational boating activities, the Waterfront Plan shall include appropriate Management Measures, described in The Plan for California's Nonpoint Source Pollution Control Program, for marinas and recreational boating, or equivalent practices, to ensure that nonpoint source pollutant discharges do not alter natural water quality in the affected ASBS.
 3. The Waterfront Plan shall include Management Practices to address public education and outreach to ensure that the public is adequately informed that waste discharges to the affected ASBS are prohibited or limited by special conditions in these Special

Protections. The management practices shall include appropriate signage, or similar measures, to inform the public of the ASBS restrictions and to identify the ASBS boundaries.

4. The Waterfront Plan shall include Management Practices to address the prohibition against trash discharges to ASBS. The Management Practices shall include the provision of adequate trash receptacles for marine recreation areas, including parking areas, launch ramps, and docks. The plan shall also include appropriate Management Practices to ensure that the receptacles are adequately maintained and secured in order to prevent trash discharges into the ASBS. Appropriate Management Practices include covering the trash receptacles to prevent trash from being windblown, staking or securing the trash receptacles so they don't tip over, and periodically emptying the receptacles to prevent overflow.
 5. The discharger shall submit its Waterfront Plan to the by the State Water Board Executive Director (statewide waivers or waste discharge requirements) or Executive Officer of the Regional Water Board (Regional Water Board waivers or waste discharge requirements) within six months of the effective date of these special conditions. The Waterfront Plan is subject to approval by the State Water Board Executive Director or the Regional Water Board Executive Officer, as appropriate. The plan must be fully implemented within 18 months of the effective date of the Exception.
- B. The discharge of chlorine, soaps, petroleum, other chemical contaminants, trash, fish offal, or human sewage to ASBS is prohibited. Sinks and fish cleaning stations are point source discharges of wastes and are prohibited from discharging into ASBS. Anthropogenic accumulations of discarded fouling organisms on the sea floor must be minimized.
 - C. Limited-term activities, such as the repair, renovation, or maintenance of waterfront facilities, including, but not limited to, piers, docks, moorings, and breakwaters, are authorized only in accordance with Chapter III.E.2 of the Ocean Plan.
 - D. If the discharger anticipates that the discharger will fail to fully implement the approved Waterfront Plan within the 18 month deadline, the discharger shall submit a technical report as soon as practicable to the State Water Board Executive Director or the Regional Water Board Executive Officer, as appropriate. The technical report shall contain reasons for failing to meet the deadline and propose a revised schedule to fully implement the plan.
 - E. The State Water Board or the Regional Water Board may, for good cause, authorize additional time to comply with the Waterfront Plan. Good cause means a physical impossibility or lack of funding.

If a discharger claims physical impossibility, it shall notify the Board in writing within thirty (30) days of the date that the discharger first knew of the event or circumstance that caused or would cause it to fail to meet the deadline in Section III.A.5. The notice shall describe the reason for the noncompliance or anticipated noncompliance and specifically refer to this Section of this Exception. It shall describe the anticipated length of time the delay in compliance may persist, the cause or causes of the delay as well as measures to minimize the impact of the delay on water quality, the measures taken or to be taken by the

discharger to prevent or minimize the delay, the schedule by which the measures will be implemented, and the anticipated date of compliance. The discharger shall adopt all reasonable measures to avoid and minimize such delays and their impact on water quality. The discharger may request an extension of time for compliance based on lack of funding. The request for an extension shall require:

1. a demonstration of significant hardship by showing that the discharger has made timely and complete applications for all available bond and grant funding, and either no bond or grant funding is available, or bond and/or grant funding is inadequate.
2. for governmental agencies, a demonstration and documentation of a good faith effort to acquire funding through that agency's budgetary process, and a demonstration that funding was unavailable or inadequate.

IV. MONITORING REQUIREMENTS

Monitoring is mandatory for all dischargers to assure compliance with the Ocean Plan. Monitoring requirements include both: (A) core discharge monitoring, and (B) ocean receiving water monitoring. The State and Regional Water Boards must approve sampling site locations and any adjustments to the monitoring programs. All ocean receiving water and reference area monitoring must be comparable with the Water Boards' Surface Water Ambient Monitoring Program (SWAMP).

Safety concerns: Sample locations and sampling periods must be determined considering safety issues. Sampling may be postponed upon notification to the State and Regional Water Boards if hazardous conditions prevail.

Analytical Chemistry Methods: All constituents must be analyzed using the lowest minimum detection limits comparable to the Ocean Plan water quality objectives. For metal analysis, all samples, including storm water effluent, reference samples, and ocean receiving water samples, must be analyzed by the approved analytical method with the lowest minimum detection limits (currently Inductively Coupled Plasma/Mass Spectrometry) described in the Ocean Plan.

A. CORE DISCHARGE MONITORING PROGRAM

1. General sampling requirements for timing and storm size:

Runoff must be collected during a storm event that is greater than 0.1 inch and generates runoff, and at least 72 hours from the previously measurable storm event. Runoff samples shall be collected during the same storm and at approximately the same time when post-storm receiving water is sampled, and analyzed for the same constituents as receiving water and reference site samples (see section IV B) as described below.

2. Runoff flow measurements
 - a. For municipal/industrial storm water outfalls in existence as of December 31, 2007, 18 inches (457mm) or greater in diameter/width (including multiple outfall pipes in combination having a width of 18 inches, runoff flows must be measured or calculated, using a method acceptable to and approved by the State and Regional Water Boards.

b. This will be reported annually for each precipitation season to the State and Regional Water Boards.

3. Runoff samples – storm events

a. For outfalls equal to or greater than 18 inches (0.46m) in diameter or width:

(1) samples of storm water runoff shall be collected during the same storm as receiving water samples and analyzed for oil and grease, total suspended solids, and, within the range of the southern sea otter indicator bacteria or some other measure of fecal contamination; and

(2) samples of storm water runoff shall be collected and analyzed for critical life stage chronic toxicity (one invertebrate or algal species) at least once during each storm season when receiving water is sampled in the ASBS.

(3) If an applicant has no outfall greater than 36 inches, then storm water runoff from the applicant's largest outfall shall be further collected during the same storm as receiving water samples and analyzed for Ocean Plan Table B metals for protection of marine life, Ocean Plan polynuclear aromatic hydrocarbons (PAHs), current use pesticides (pyrethroids and OP pesticides), and nutrients (ammonia, nitrate and phosphates).

b. For outfalls equal to or greater than 36 inches (0.91m) in diameter or width:

(1) samples of storm water runoff shall be collected during the same storm as receiving water samples and analyzed for oil and grease, total suspended solids, and, within the range of the southern sea otter indicator bacteria or some other measure of fecal contamination; and

(2) samples of storm water runoff shall be further collected during the same storm as receiving water samples and analyzed for Ocean Plan Table B metals for protection of marine life, Ocean Plan polynuclear aromatic hydrocarbons (PAHs), current use pesticides (pyrethroids and OP pesticides), and nutrients (ammonia, nitrate and phosphates); and

(3) samples of storm water runoff shall be collected and analyzed for critical life stage chronic toxicity (one invertebrate or algal species) at least once during each storm season when receiving water is sampled in the ASBS.

c. For an applicant not participating in a regional monitoring program [see below in Section IV (B)] in addition to (a.) and (b.) above, a minimum of the two largest outfalls or 20 percent of the larger outfalls, whichever is greater, shall be sampled (flow weighted composite samples) at least three times annually during wet weather (storm event) and analyzed for all Ocean Plan Table A constituents, Table B constituents for marine aquatic life protection (except for toxicity, only chronic toxicity for three species shall be required), DDT, PCBs, Ocean Plan PAHs, OP pesticides, pyrethroids, nitrates, phosphates, and Ocean Plan indicator bacteria. For parties discharging to ASBS in

more than one Regional Water Board region, at a minimum, one (the largest) such discharge shall be sampled annually in each Region.

4. The Executive Director of the State Water Board (statewide permits) or Executive Officer of the Regional Water Board (Regional Water Board permits) may reduce or suspend core monitoring once the storm runoff is fully characterized. This determination may be made at any point after the discharge is fully characterized, but is best made after the monitoring results from the first permit cycle are assessed.

B. Ocean Receiving Water and Reference Area Monitoring Program

In addition to performing the Core Discharge Monitoring Program in Section II.A above, all applicants having authorized discharges must perform ocean receiving water monitoring. In order to fulfill the requirements for monitoring the physical, chemical, and biological characteristics of the ocean receiving waters within their ASBS, dischargers may choose either (1) an individual monitoring program, or (2) participation in a regional integrated monitoring program.

1. Individual Monitoring Program: The requirements listed below are for those dischargers who elect to perform an individual monitoring program to fulfill the requirements for monitoring the physical, chemical, and biological characteristics of the ocean receiving waters within the affected ASBS. In addition to Core Discharge Monitoring, the following additional monitoring requirements shall be met:
 - a. Three times annually, during wet weather (storm events), the receiving water at the point of discharge from the outfalls described in section (IV)(A)(3)(c) above shall be sampled and analyzed for Ocean Plan Table A constituents, Table B constituents for marine aquatic life, DDT, PCBs, Ocean Plan PAHs, OP pesticides, pyrethroids, nitrates, phosphates, salinity, chronic toxicity (three species), and Ocean Plan indicator bacteria.

The sample location for the ocean receiving water shall be in the surf zone at the point of discharges; this must be at the same location where storm water runoff is sampled. Receiving water shall be sampled prior to (pre-storm) and during (or immediately after) the same storm (post storm). Post storm sampling shall be during the same storm and at approximately the same time as when the runoff is sampled. Reference water quality shall also be sampled three times annually and analyzed for the same constituents pre-storm and post-storm, during the same storm seasons when receiving water is sampled. Reference stations will be determined by the State Water Board's Division of Water Quality and the applicable Regional Water Board(s).

- b. Sediment sampling shall occur at least three times during every five (5) year period. The subtidal sediment (sand or finer, if present) at the discharge shall be sampled and analyzed for Ocean Plan Table B constituents for marine aquatic life, DDT, PCBs, PAHs, pyrethroids, and OP pesticides. For sediment toxicity testing, only an acute toxicity test using the amphipod *Eohaustorius estuarius* must be performed.
 - c. A quantitative survey of intertidal benthic marine life shall be performed at the discharge and at a reference site. The survey shall be performed at least once every five (5) year period. The survey design is subject to approval by the Regional Water Board and the State Water Board's Division of Water Quality. The results of the survey shall be

completed and submitted to the State Water Board and Regional Water Board at least six months prior to the end of the permit cycle.

- d. Once during each five (5) year period, a bioaccumulation study shall be conducted to determine the concentrations of metals and synthetic organic pollutants at representative discharge sites and at representative reference sites. The study design is subject to approval by the Regional Water Board and the State Water Board's Division of Water Quality. The bioaccumulation study may include California mussels (*Mytilus californianus*) and/or sand crabs (*Emerita analoga* or *Blepharipoda occidentalis*). Based on the study results, the Regional Water Board and the State Water Board's Division of Water Quality, may adjust the study design in subsequent permits, or add or modify additional test organisms (such as shore crabs or fish), or modify the study design appropriate for the area and best available sensitive measures of contaminant exposure.
 - e. Marine Debris: Representative quantitative observations for trash by type and source shall be performed along the coast of the ASBS within the influence of the discharger's outfalls. The design, including locations and frequency, of the marine debris observations is subject to approval by the Regional Water Board and State Water Board's Division of Water Quality.
 - f. The monitoring requirements of the Individual Monitoring Program in this section are minimum requirements. After a minimum of one (1) year of continuous water quality monitoring of the discharges and ocean receiving waters, the Executive Director of the State Water Board (statewide permits) or Executive Officer of the Regional Water Board (Regional Water Board permits) may require additional monitoring, or adjust, reduce or suspend receiving water and reference station monitoring. This determination may be made at any point after the discharge and receiving water is fully characterized, but is best made after the monitoring results from the first permit cycle are assessed.
2. Regional Integrated Monitoring Program: Dischargers may elect to participate in a regional integrated monitoring program, in lieu of an individual monitoring program, to fulfill the requirements for monitoring the physical, chemical, and biological characteristics of the ocean receiving waters within their ASBS. This regional approach shall characterize natural water quality, pre- and post-storm, in ocean reference areas near the mouths of identified open space watersheds and the effects of the discharges on natural water quality (physical, chemical, and toxicity) in the ASBS receiving waters, and should include benthic marine aquatic life and bioaccumulation components. The design of the ASBS stratum of a regional integrated monitoring program may deviate from the otherwise prescribed individual monitoring approach (in Section IV.B.1) if approved by the State Water Board's Division of Water Quality and the Regional Water Boards.
 - a. Ocean reference areas shall be located at the drainages of flowing watersheds with minimal development (in no instance more than 10% development), and shall not be located in CWA Section 303(d) listed waterbodies or have tributaries that are 303(d) listed. Reference areas shall be free of wastewater discharges and anthropogenic non- storm water runoff. A minimum of low threat storm runoff discharges (e.g. stream highway overpasses and campgrounds) may be allowed on a case-by-case basis. Reference areas shall be located in the same region as the ASBS receiving water monitoring occurs. The reference areas for each Region are subject to approval by the participants in the regional monitoring program and the State Water

Board's Division of Water Quality and the applicable Regional Water Board(s). A minimum of three ocean reference water samples must be collected from each station, each from a separate storm during the same storm season that receiving water is sampled. A minimum of one reference location shall be sampled for each ASBS receiving water site sampled per responsible party. For parties discharging to ASBS in more than one Regional Water Board region, at a minimum, one reference station and one receiving water station shall be sampled in each region.

- b. ASBS ocean receiving water must be sampled in the surf zone at the location where the runoff makes contact with ocean water (i.e. at "point zero"). Ocean receiving water stations must be representative of worst-case discharge conditions (i.e. co-located at a large drain greater than 36 inches, or if drains greater than 36 inches are not present in the ASBS then the largest drain greater than 18 inches.) Ocean receiving water stations are subject to approval by the participants in the regional monitoring program and the State Water Board's Division of Water Quality and the applicable Regional Water Board(s). A minimum of three ocean receiving water samples must be collected during each storm season from each station, each from a separate storm. A minimum of one receiving water location shall be sampled in each ASBS per responsible party in that ASBS. For parties discharging to ASBS in more than one Regional Water Board region, at a minimum, one reference station and one receiving water station shall be sampled in each region.
 - c. Reference and receiving water sampling shall commence during the first full storm season following the adoption of these special conditions, and post-storm samples shall be collected during the same storm event when storm water runoff is sampled. Sampling shall occur in a minimum of two storm seasons. For those ASBS dischargers that have already participated in the Southern California Bight 2008 ASBS regional monitoring effort, sampling may be limited to only one storm season.
 - d. Receiving water and reference samples shall be analyzed for the same constituents as storm water runoff samples. At a minimum, constituents to be sampled and analyzed in reference and discharge receiving waters must include oil and grease, total suspended solids, Ocean Plan Table B metals for protection of marine life, Ocean Plan PAHs, pyrethroids, OP pesticides, ammonia, nitrate, phosphates, and critical life stage chronic toxicity for three species. In addition, within the range of the southern sea otter, indicator bacteria or some other measure of fecal contamination shall be analyzed.
3. Waterfront and Marine Operations: In addition to the above requirements for ocean receiving water monitoring, additional monitoring must be performed for marinas and boat launch and pier facilities:
- a. For all marina or mooring field operators, in mooring fields with 10 or more occupied moorings, the ocean receiving water must be sampled for Ocean Plan indicator bacteria, residual chlorine, copper, zinc, grease and oil, methylene blue active substances (MBAS), and ammonia nitrogen.
 - (1) For mooring field operators opting for an individual monitoring program (Section IV.B.1 above), this sampling must occur weekly (on the weekend) from May through October.

- (2) For mooring field operators opting to participate in a regional integrated monitoring program (Section IV.B.2 above), this sampling must occur monthly from May through October on a high use weekend in each month. The Water Boards may allow a reduction in the frequency of sampling, through the regional monitoring program, after the first year of monitoring.
- b. For all mooring field operators, the subtidal sediment (sand or finer, if present) within mooring fields and below piers shall be sampled and analyzed for Ocean Plan Table B metals (for marine aquatic life beneficial use), acute toxicity, PAHs, and tributyltin. For sediment toxicity testing, only an acute toxicity test using the amphipod *Eohaustorius estuarius* must be performed. This sampling shall occur at least three times during a five (5) year period. For mooring field operators opting to participate in a regional integrated monitoring program, the Water Boards may allow a reduction in the frequency of sampling after the first sampling effort's results are assessed.

Glossary

At the point of discharge(s) – Means in the surf zone immediately where runoff from an outfall meets the ocean water (a.k.a., at point zero).

Areas of Special Biological Significance (ASBS) – Those areas designated by the State Water Board as ocean areas requiring protection of species or biological communities to the extent that alteration of natural water quality is undesirable. All Areas of Special Biological Significance are also classified as a subset of State Water Quality Protection Areas.

Design storm – For purposes of these Special Protections, a design storm is defined as the volume of runoff produced from one inch of precipitation per day or, if this definition is inconsistent with the discharger's applicable storm water permit, then the design storm shall be the definition included in the discharger's applicable storm water permit.

Development – Relevant to reference monitoring sites, means urban, industrial, agricultural, grazing, mining, and timber harvesting land uses.

Higher threat discharges - Permitted storm drains discharging equal to or greater than 18 inches, industrial storm drains, agricultural runoff discharged through an MS4, discharges associated with waterfront and marina operations (e.g., piers, launch ramps, mooring fields, and associated vessel support activities, except for passive discharges defined below), and direct discharges associated with commercial or industrial activities to ASBS.

Low Impact Development (LID) – A sustainable practice that benefits water supply and contributes to water quality protection. Unlike traditional storm water management, which entails collecting and conveying storm water runoff through storm drains, pipes, or other conveyances to a centralized storm water facility, LID focuses on using site design and storm water management to maintain the site's pre-development runoff rates and volumes. The goal of LID is to mimic a site's predevelopment hydrology by using design techniques that infiltrate, filter, store, evaporate, and detain runoff close to the source of rainfall.

Marine Operations – Marinas or mooring fields that contain slips or mooring locations for 10 or more vessels.

Management Measure (MM) - Economically achievable measures for the control of the addition of pollutants from various classes of nonpoint sources of pollution, which reflect the greatest degree of pollutant reduction achievable through the application of the best available nonpoint pollution control practices, technologies, processes, siting criteria, operating methods, or other alternatives. For example, in the "marinas and recreational boating" land- use category specified in the Plan for California's Nonpoint Source Pollution Control Program (NPS Program Plan) (SWRCB, 1999), "boat cleaning and maintenance" is considered a MM or the source of a specific class or type of NPS pollution.

Management Practice (MP) - The practices (e.g., structural, non-structural, operational, or other alternatives) that can be used either individually or in combination to address a specific MM class or classes of NPS pollution. For example, for the “boat cleaning and maintenance” MM, specific MPs can include, but are not limited to, methods for the selection of environmentally sensitive hull paints or methods for cleaning/removal of hull copper anti-fouling paints.

Municipal Separate Storm Sewer System (MS4) – A municipally-owned storm sewer system regulated under the Phase I or Phase II storm water program implemented in compliance with Clean Water Act section 402(p). Note that an MS4 program’s boundaries are not necessarily congruent with the permittee’s political boundaries.

Natural Ocean Water Quality - The water quality (based on selected physical, chemical and biological characteristics) that is required to sustain marine ecosystems, and which is without apparent human influence, *i.e.*, an absence of significant amounts of: (a) man-made constituents (e.g., DDT); (b) other chemical (e.g., trace metals), physical (temperature/thermal pollution, sediment burial), and biological (e.g., bacteria) constituents at concentrations that have been elevated due to man’s activities above those resulting from the naturally occurring processes that affect the area in question; and (c) non-indigenous biota (e.g., invasive algal bloom species) that have been introduced either deliberately or accidentally by man. Discharges “*shall not alter natural ocean water quality*” as determined by a comparison to the range of constituent concentrations in reference areas agreed upon via the regional monitoring program(s). If monitoring information indicates that *natural ocean water quality* is not maintained, but there is sufficient evidence that a discharge is not contributing to the alteration of natural water quality, then the Regional Water Board may make that determination. In this case, sufficient information must include runoff sample data that has equal or lower concentrations for the range of constituents at the applicable reference area(s).

Nonpoint source – Nonpoint pollution sources generally are sources that do not meet the definition of a point source. Nonpoint source pollution typically results from land runoff, precipitation, atmospheric deposition, agricultural drainage, marine/boating operations or hydrologic modification. Nonpoint sources, for purposes of these Special Protections, include discharges that are not required to be regulated under an NPDES permit.

Non-storm water discharge – Any runoff that is not the result of a precipitation event. This is often referred to as “dry weather flow.”

Non-structural control – A Best Management Practice that involves operational, maintenance, regulatory (e.g., ordinances) or educational activities designed to reduce or eliminate pollutants in runoff, and that are not structural controls (*i.e.* there are no physical structures involved).

Physical impossibility - Means any act of God, war, fire, earthquake, windstorm, flood or natural catastrophe; unexpected and unintended accidents not caused by discharger or its employees’ negligence; civil disturbance, vandalism, sabotage or terrorism; restraint by court order or public authority or agency; or action or non-action by, or inability to

obtain the necessary authorizations or approvals from any governmental agency other than the permittee.

Representative sites and monitoring procedures – Are to be proposed by the discharger, with appropriate rationale, and subject to approval by Water Board staff.

Sheet-flow – Runoff that flows across land surfaces at a shallow depth relative to the cross-sectional width of the flow. These types of flow may or may not enter a storm drain system before discharge to receiving waters.

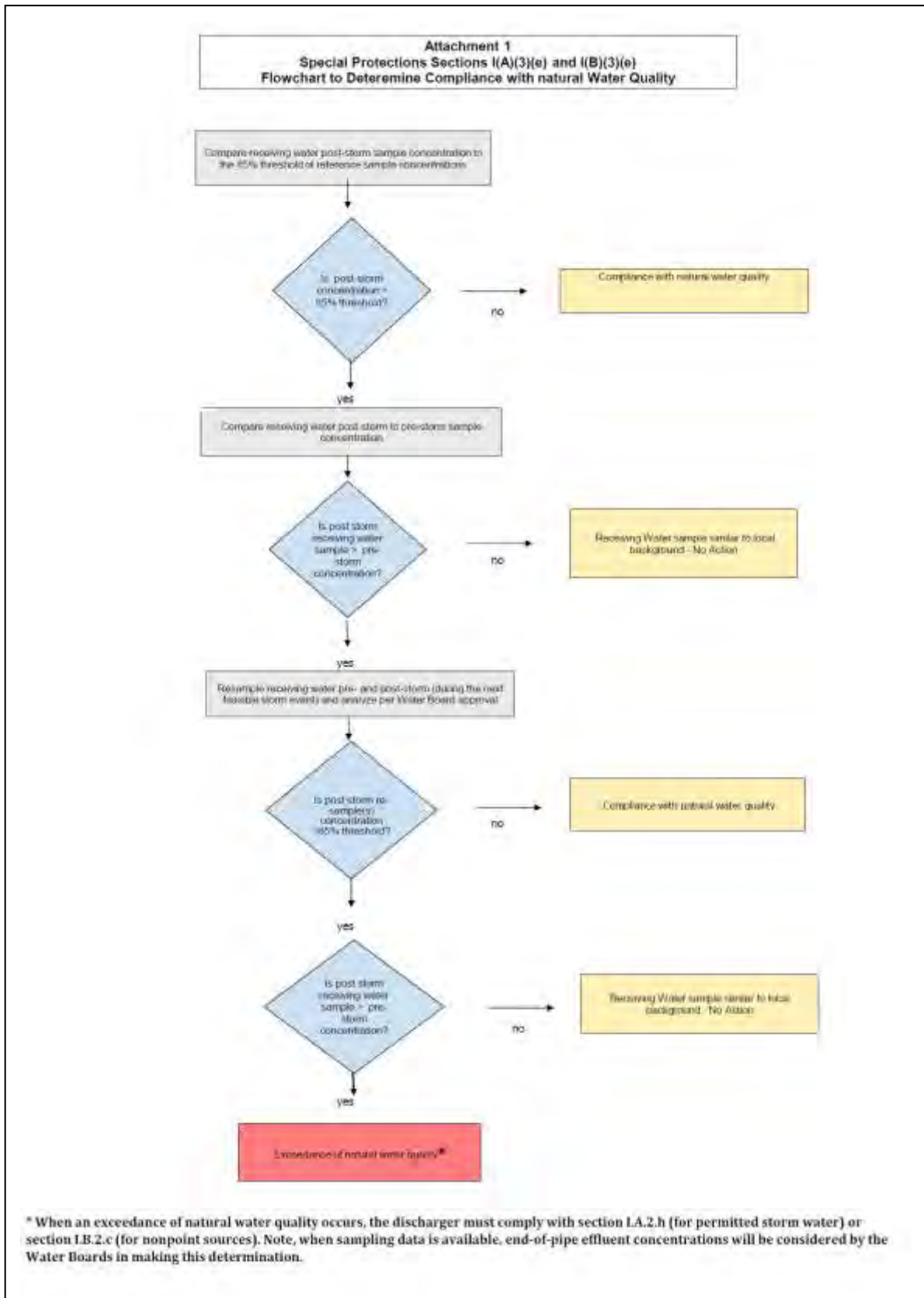
Storm Season – Also referred to as rainy season, means the months of the year from the onset of rainfall during autumn until the cessation of rainfall in the spring.

Structural control – A Best Management Practice that involves the installation of engineering solutions to the physical treatment or infiltration of runoff.

Surf Zone - The surf zone is defined as the submerged area between the breaking waves and the shoreline at any one time.

Surface Water Ambient Monitoring Program (SWAMP) comparable – Means that the monitoring program must 1) meet or exceed 2008 SWAMP Quality Assurance Program Management Plan (QAPP) Measurement Quality Objectives, or 2) have a Quality Assurance Project Plan that has been approved by SWAMP; in addition data must be formatted to match the database requirements of the SWAMP Information Management System. Adherence to the measurement quality objectives in the Southern California Bight 2008 ASBS Regional Monitoring Program QAPP and data base management comprises being SWAMP comparable.

Waterfront Operations - Piers, launch ramps, and cleaning stations in the water or on the adjacent shoreline.



ATTACHMENT B

STANDARD PERMIT PROVISIONS AND GENERAL PROVISIONS

1. Standard Permit Provisions

Code of Federal Regulations Title 40 Section 122.41 (40 CFR 122.41) includes conditions, or provisions, that apply to all National Pollutant Discharge Elimination System (NPDES) permits. Additional provisions applicable to NPDES permits are in 40 CFR 122.42. All applicable provisions in 40 CFR 122.41 and 40 CFR 122.42 must be incorporated into this Order and NPDES permit. The applicable 40 CFR 122.41 and 40 CFR 122.42 provisions are as follows:

a. DUTY TO COMPLY [40 CFR 122.41(a)]

The Copermittee must comply with all of the provisions of this permit. Any permit noncompliance constitutes a violation of the Clean Water Act (CWA) and is grounds for enforcement action; for permit termination, revocation and reissuance, or modification; or denial of a permit renewal application.

- (1) The Copermittee must comply with effluent standards or prohibitions established under Section 307(a) of the CWA for toxic pollutants and with standards for sewage sludge use or disposal established under Section 405(d) of the CWA within the time provided in the regulations that establish these standards or prohibitions or standards for sewage sludge use or disposal, even if the permit has not yet been modified to incorporate the requirement. [40 CFR 122.41(a)(1)]
- (2) The CWA provides that any person who violates Section 301, 302, 306, 307, 308, 318 or 405 of the CWA, or any permit condition or limitation implementing any such sections in a permit issued under Section 402, or any requirement imposed in a pretreatment program approved under Section 402(a)(3) or 402(b)(8) of the CWA, is subject to a civil penalty not to exceed \$25,000 per day for each violation. The CWA provides that any person who *negligently* violates Section 301, 302, 306, 307, 308, 318, or 405 of the CWA, or any condition or limitation implementing any of such sections in a permit issued under Section 402 of the CWA, or any requirement imposed in a pretreatment program approved under Section 402(a)(3) or 402(b)(8) of the CWA, is subject to criminal penalties of \$2,500 to \$25,000 per day of violation, or imprisonment of not more than 1 year, or both. In the case of a second or subsequent conviction for a negligent violation, a person shall be subject to criminal penalties of not more than \$50,000 per day of violation, or by imprisonment of not more than 2 years, or both. Any person who *knowingly* violates such sections, or such conditions or limitations is subject to criminal penalties of \$5,000 to \$50,000 per day of violation, or imprisonment for not more than 3 years, or both. In the case of a second or subsequent conviction for a knowing violation, a person shall be subject to criminal penalties of not more than \$100,000 per day of violation, or imprisonment of not more than 6 years, or both. Any person who knowingly violates Section 301, 302, 303, 306, 307, 308, 318 or 405 of the CWA, or any permit condition or limitation implementing any of such sections in a permit issued under Section 402 of the CWA, and who knows at that time that he thereby places another person in imminent

danger of death or serious bodily injury, shall, upon conviction, be subject to a fine of not more than \$250,000 or imprisonment of not more than 15 years, or both. In the case of a second or subsequent conviction for a knowing endangerment violation, a person shall be subject to a fine of not more than \$500,000 or by imprisonment of not more than 30 years, or both. An organization, as defined in Section 309(c)(3)(B)(iii) of the CWA, shall, upon conviction of violating the imminent danger provision, be subject to a fine of not more than \$1,000,000 and can be fined up to \$2,000,000 for second or subsequent convictions.

[40 CFR 122.41(a)(2)]

(3) Any person may be assessed an administrative penalty by the San Diego Regional Water Quality Control Board (San Diego Water Board), State Water Resources Control Board (State Water Board), or United States Environmental Protection Agency (USEPA) for violating Section 301, 302, 306, 307, 308, 318 or 405 of the CWA, or any permit condition or limitation implementing any of such sections in a permit issued under section 402 of this Act. Administrative penalties for Class I violations are not to exceed \$10,000 per violation, with the maximum amount of any Class I penalty assessed not to exceed \$25,000. Penalties for Class II violations are not to exceed \$10,000 per day for each day during which the violation continues, with the maximum amount of any Class II penalty not to exceed \$125,000.

[40 CFR 122.41(a)(3)]

b. DUTY TO REAPPLY [40 CFR 122.41(b)]

If a Copermittee wishes to continue an activity regulated by this permit after the expiration date of this permit, the Copermittee must apply for and obtain a new permit.

c. NEED TO HALT OR REDUCE ACTIVITY NOT A DEFENSE [40 CFR 122.41(c)]

It shall not be a defense for a Copermittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit.

d. DUTY TO MITIGATE [40 CFR 122.41(d)]

The Copermittee must take all reasonable steps to minimize or prevent any discharge or prevent any discharge or sludge use or disposal in violation of this permit that has a reasonable likelihood of adversely affecting human health or the environment.

e. PROPER OPERATION AND MAINTENANCE [40 CFR 122.41(e)]

The Copermittee must at all times properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) which are installed or used by the Copermittee to achieve compliance with the conditions of this permit. Proper operation and maintenance also includes adequate laboratory controls and appropriate quality assurance procedures. This provision requires the operation of back-up or auxiliary facilities or similar systems that are installed by a Copermittee only when the operation is necessary to achieve compliance with the conditions of this permit.

f. PERMIT ACTIONS [40 CFR 122.41(f)]

This permit may be modified, revoked and reissued, or terminated for cause. The filing of a request by the Copermittee for a permit modification, revocation and reissuance, or termination, or a notification of planned changes or anticipated noncompliance does not stay any permit condition.

g. PROPERTY RIGHTS [40 CFR 122.41(g)]

This permit does not convey any property rights of any sort, or any exclusive privilege.

h. DUTY TO PROVIDE INFORMATION [40 CFR 122.41(h)]

The Copermittee must furnish to the San Diego Water Board, State Water Board, or USEPA within a reasonable time, any information which the San Diego Water Board, State Water Board, or USPEA may request to determine whether cause exists for modifying, revoking and reissuing, or terminating this permit or to determine compliance with this permit. The Copermittee must also furnish to the San Diego Water Board, State Water Board, or USPEA upon request, copies of records required to be kept by this permit.

i. INSPECTION AND ENTRY [40 CFR 122.41(i)]

The Copermittee must allow the San Diego Water Board, State Water Board, USEPA, and/or their authorized representative (including an authorized contractor acting as their representative), upon presentation of credentials and other documents as may be required by law, to:

- (1) Enter upon the Copermittee's premises where a regulated facility or activity is located or conducted, or where records must be kept under the conditions of this permit; [40 CFR 122.41(i)(1)]
- (2) Have access to and copy, at reasonable times, any records that must be kept under the conditions of this permit; [40 CFR 122.41(i)(2)]
- (3) Inspect and photograph at reasonable times any facilities, equipment (including monitoring and control equipment), practices, or operations regulated or required under this permit; [40 CFR 122.41(i)(3)] and
- (4) Sample or monitor at reasonable times, for the purpose of assuring permit compliance or as otherwise authorized by the CWA, any substances or parameters at any location. [40 CFR 122.41(i)(4)]

j. MONITORING AND RECORDS [40 CFR 122.41(j)]

- (1) Samples and measurements taken for the purpose of monitoring must be representative of the monitored activity. [40 CFR 122.41(j)(1)]
- (2) Except for records of monitoring information required by this permit related to the Copermittee's sewage sludge use and disposal activities, which shall be retained for

a period of at least five (5) years (or longer as required by 40 CFR Part 503), the Copermittee must retain records of all monitoring information, including all calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentation, copies of all reports required by this permit, and records of all data used to complete the application for this permit, for a period of at least three (3) years from the date of the sample, measurement, report or application. This period may be extended by request of the San Diego Water Board at any time. [40 CFR 122.41(j)(2)]

(3) Records for monitoring information must include: [40 CFR 122.41(j)(3)]

- (a) The date, exact place, and time of sampling or measurements; [40 CFR 122.41(j)(3)(i)]
- (b) The individual(s) who performed the sampling or measurements; [40 CFR 122.41(j)(3)(ii)]
- (c) The date(s) analyses were performed; [40 CFR 122.41(j)(3)(iii)]
- (d) The individual(s) who performed the analyses; [40 CFR 122.41(j)(3)(iv)]
- (e) The analytical techniques or methods used; [40 CFR 122.41(j)(3)(v)] and
- (f) The results of such analyses. [40 CFR 122.41(j)(3)(vi)]

(4) Monitoring must be conducted according to test procedures under 40 CFR Part 136 unless another method is required under 40 CFR Subchapters N or O. [40 CFR 122.41(j)(4)]

In the case of pollutants for which there are no approved methods under 40 CFR Part 136 or otherwise required under 40 CFR Subchapters N and O, monitoring must be conducted according to a test procedure specified in the permit for such pollutants. [40 CFR 122.44(i)(1)(iv)]

(5) The CWA provides that any person who falsifies, tampers with, or knowingly renders inaccurate any monitoring device or method required to be maintained under this permit shall, upon conviction, be punished by a fine of not more than \$10,000, or by imprisonment for not more than 2 years, or both. If a conviction of a person is for a violation committed after a first conviction of such person under this paragraph, punishment is a fine of not more than \$20,000 per day of violation, or by imprisonment of not more than 4 years, or both. [40 CFR 122.41(j)(5)]

k. SIGNATORY REQUIREMENT [40 CFR 122.41(k)]

(1) All applications, reports, or information submitted to the San Diego Water Board, State Water Board, or USEPA must be signed and certified. (See 40 CFR 122.22) [40 CFR 122.41(k)(1)]

- (a) *For a municipality, State, Federal, or other public agency.* [All applications must be signed] by either a principal executive officer or ranking elected official. [40 CFR 122.22(a)(3)]
- (b) All reports required by permits, and other information requested by the San Diego Water Board, State Water Board, or USEPA must be signed by a person described in paragraph (a) of this section, or by a duly authorized

representative of that person. A person is a duly authorized representative only if: [40 CFR 122.22(b)]

- (i) The authorization is made in writing by a person described in paragraph (a) of this section; [40 CFR 122.22(b)(1)]
- (ii) The authorization specifies either an individual or a position having responsibility for the overall operation of the regulated facility or activity such as the position of plant manager, operator of a well or a well field, superintendent, position of equivalent responsibility, or an individual or position having overall responsibility for environmental matters for the company, (A duly authorized representative may thus be either a named individual or any individual occupying a named position.) [40 CFR 122.22(b)(2)] and,
- (iii) The written authorization is submitted to the San Diego Water Board and State Water Board. [40 CFR 122.22(b)(3)]

(c) *Changes to authorization.* If an authorization under paragraph (b) of this section is no longer accurate because a different individual or position has responsibility for the overall operation of the facility, a new authorization satisfying the requirements of paragraph (b) of this section must be submitted to the San Diego Water Board prior to or together with any reports, information, or applications to be signed by an authorized representative. [40 CFR 122.22(c)]

(d) *Certification.* Any person signing a document under paragraph (a) or (b) of this section shall make the following certification:

"I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations." [40 CFR 122.22(d)]

(2) The CWA provides that any person who knowingly makes any false statement, representation, or certification in any record or other document submitted or required to be maintained under this permit, including monitoring reports or reports of compliance or non-compliance shall, upon conviction, be punished by a fine of not more than \$10,000 per violation, or by imprisonment for not more than 6 months per violation, or by both. [40 CFR 122.41(k)(2)]

I. REPORTING REQUIREMENTS [40 CFR 122.41(l)]

(1) *Planned changes.* The Copermitttee must give notice to the San Diego Water Board as soon as possible of any planned physical alterations or additions to the permitted facility. Notice is required only when: [40 CFR 122.41(l)(1)]

- (a) The alteration or addition to a permitted facility may meet one of the criteria for determining whether a facility is a new source in 40 CFR 122.29(b); [40 CFR 122.41(l)(1)(i)] or

- (b) The alteration or addition could significantly change the nature or increase the quantity of pollutants discharged. This notification applies to pollutants which are subject neither to effluent limitations in the permit, nor to notification requirements under 40 CFR 122.42(a)(1).
[40 CFR 122.41(l)(1)(ii)]
 - (c) The alteration or addition results in a significant change in the Copermitttee's sludge use or disposal practices, and such alteration, addition, or change may justify the application of permit conditions that are different from or absent in the existing permit, including notification of additional use or disposal sites not reported during the permit application process or not reported pursuant to an approved land application plan. [40 CFR 122.41(l)(1)(iii)]
- (2) *Anticipated noncompliance.* The Copermitttee must give advance notice to the San Diego Water Board or State Water Board of any planned changes in the permitted facility or activity which may result in noncompliance with permit requirements.
[40 CFR 122.41(l)(2)]
- (3) *Transfers.* This permit is not transferable to any person except after notice to the San Diego Water Board. The San Diego Water Board may require modification or revocation and reissuance of the permit to change the name of the Copermitttee and incorporate such other requirements as may be necessary under the CWA.
[40 CFR 122.41(l)(3)]
- (4) *Monitoring reports.* Monitoring results must be reported at the intervals specified elsewhere in this permit. [40 CFR 122.41(l)(4)]
- (a) Monitoring results must be reported on a Discharge Monitoring Report (DMR) form or forms provided or specified by the San Diego Water Board or State Water Board for reporting results of monitoring of sludge use or disposal practices. [40 CFR 122.41(l)(4)(i)]
 - (b) If the Copermitttee monitors any pollutant more frequently than required by the permit using test procedures approved under 40 CFR Part 136 or another method required for an industry-specific waste stream under 40 CFR Subchapters N or O, the results of this monitoring must be included in the calculation and reporting of the data submitted in the DMR or sludge reporting form specified by the San Diego Water Board or State Water Board.
[40 CFR 122.41(l)(4)(ii)]
 - (c) Calculations for all limitations which require averaging of measurements must utilize an arithmetic mean unless otherwise specified in the permit.
[40 CFR 122.41(l)(4)(iii)]
- (5) *Compliance schedules.* Reports of compliance or noncompliance with, or any progress reports on, interim and final requirements contained in any compliance schedule of this permit must be submitted no later than 14 days following each schedule date. [40 CFR 122.41(l)(5)]

(6) *Twenty-four hour reporting.*

- (a) The Copermittee must report any noncompliance that may endanger health or the environment. Any information must be provided orally within 24 hours from the time the Copermittee becomes aware of the circumstances. A written submission must also be provided within five (5) days of the time the Copermittee becomes aware of the circumstances. The written submission must contain a description of the noncompliance and its cause; the period of noncompliance, including exact dates and times, and if the noncompliance has not been corrected, the anticipated time it is expected to continue; and steps taken or planned to reduce, eliminate, and prevent reoccurrence of the noncompliance. [40 CFR 122.41(l)(6)(i)]
- (b) The following must be included as information which must be reported within 24 hours under this paragraph: [40 CFR 122.41(l)(6)(ii)]
 - (i) Any unanticipated bypass that exceeds any effluent limitation in the permit (See 40 CFR 122.41(g)). [40 CFR 122.41(l)(6)(ii)(A)]
 - (ii) Any upset which exceeds any effluent limitation in the permit. [40 CFR 122.41(l)(6)(ii)(B)] and,
 - (iii) Violation of a maximum daily discharge limitation for any of the pollutants listed by the San Diego Water Board in the permit to be reported within 24 hours. (See 40 CFR 122.44(g)) [40 CFR 122.41(l)(6)(ii)(C)]
- (c) The San Diego Water Board may waive the above-required written report on a case-by-case basis if the oral report has been received within 24 hours. [40 CFR 122.41(l)(6)(iii)]

(7) *Other noncompliance.* The Copermittee must report all instances of noncompliance not reported in accordance with the standard provisions required under 40 CFR 122.41(l)(4), (5), and (6), at the time monitoring reports are submitted. The reports must contain the information listed in the standard provisions required under 40 CFR 122.41(l)(6). [40 CFR 122.41(l)(7)]

(8) *Other information.* When the Copermittee becomes aware that it failed to submit any relevant facts in a permit application, or submitted incorrect information in a permit application or in any report to the San Diego Water Board, State Water Board, or USEPA, the Copermittee must promptly submit such facts or information. [40 CFR 122.41(l)(8)]

m. BYPASS [40 CFR 122.41(m)]

(1) *Definitions.*

- (a) "Bypass" means the intentional diversion of waste streams from any portion of a treatment facility. [40 CFR 122.41(m)(1)(i)] or
- (b) "Severe property damage" means substantial physical damage to property, damage to the treatment facilities which causes them to become inoperable, or

substantial and permanent loss of natural resources which can reasonably be expected to occur in the absence of a bypass. Severe property damage does not mean economic loss caused by delays in production.

[40 CFR 122.41(m)(1)(ii)]

- (2) *Bypass not exceeding limitations.* The Copermittee may allow any bypass to occur which does not cause effluent limitations to be exceeded, but only if it also is for essential maintenance to assure efficient operation. These bypasses are not subject to the standard provisions required under 40 CFR 122.41(m)(3) and (4).

[40 CFR 122.41(m)(2)]

- (3) *Notice.*

- (a) *Anticipated bypass.* If the Copermittee knows in advance of the need for a bypass, it must submit a notice, if possible at least ten days before the date of the bypass. [40 CFR 122.41(m)(3)(i)] or

- (b) *Unanticipated bypass.* The Copermittee must submit notice of an unanticipated bypass in accordance with the standard provisions required under 40 CFR 122.41(l)(6) (24-hour notice).

[40 CFR 122.41(m)(3)(ii)]

- (4) *Prohibition of Bypass.*

- (a) Bypass is prohibited, and the San Diego Water Board may take enforcement action against a Copermittee for bypass, unless:

[40 CFR 122.41(m)(4)(i)]

- (i) Bypass was unavoidable to prevent loss of life, personal injury, or severe property damage; [40 CFR 122.41(m)(4)(i)(A)]

- (ii) There were no feasible alternatives to the bypass, such as the use of auxiliary treatment facilities, retention of untreated wastes, or maintenance during normal periods of equipment downtime. This condition is not satisfied if adequate back-up equipment should have been installed in the exercise of reasonable engineering judgment to prevent a bypass which occurred during normal periods of equipment downtime or preventive maintenance;

[40 CFR 122.41(m)(4)(i)(B)] and,

- (iii) The Copermittee submitted notice in accordance with the standard provisions required under 40 CFR 122.41(m)(3).

[40 CFR 122.41(m)(4)(i)(C)]

- (b) The San Diego Water Board may approve an anticipated bypass, after considering its adverse effects, if the San Diego Water Board determines that it will meet the three conditions listed above.

[40 CFR 122.41(m)(4)(ii)]

n. UPSET [40 CFR 122.41(n)]

- (1) *Definition.* "Upset" means an exceptional incident in which there is unintentional and temporary noncompliance with technology based permit effluent limitations because

of factors beyond the reasonable control of the Copermittee. An upset does not include noncompliance to the extent caused by operational error, improperly designed treatment facilities, inadequate treatment facilities, lack of preventive maintenance, or careless or improper operation. [40 CFR 122.41(n)(1)]

- (2) *Effect of an upset.* An upset constitutes an affirmative defense to an action brought for noncompliance with such technology based permit effluent limitations if the standard provisions required under 40 CFR 122.41(n)(3) are met. No determination made during administrative review of claims that noncompliance was caused by upset, and before an action for noncompliance, is final administrative action subject to judicial review. [40 CFR 122.41(n)(2)]
- (3) *Conditions necessary for a demonstration of upset.* A Copermittee who wishes to establish the affirmative defense of upset must demonstrate, through properly signed, contemporaneous operating logs, or other relevant evidence that:
[40 CFR 122.41(n)(3)]
- (a) An upset occurred and that the Copermittee can identify the cause(s) of the upset; [40 CFR 122.41(n)(3)(i)]
 - (b) The permitted facility was at the time being properly operated;
[40 CFR 122.41(n)(3)(ii)] and
 - (c) The Copermittee submitted notice of the upset in accordance with the standard provisions required under 40 CFR 122.41(l)(6)(ii)(B) (24-hour notice).
[40 CFR 122.41(n)(3)(iii)]
 - (d) The Copermittee complied with any remedial measures pursuant to the standard provisions required under 40 CFR 122.41(d).
[40 CFR 122.41(n)(3)(iii)]
- (4) *Burden of proof.* In any enforcement proceeding, the Copermittee seeking to establish the occurrence of an upset has the burden of proof.
[40 CFR 122.41(n)(4)]

o. STANDARD PERMIT PROVISIONS FOR MUNICIPAL SEPARATE STORM SEWER SYSTEMS
[40 CFR 122.42(c)]

The operator of a large or medium municipal separate storm sewer system or a municipal separate storm sewer that has been designated by the San Diego Water Board or State Water Board under 40 CFR 122.26(a)(1)(v) must submit an annual report by the anniversary of the date of the issuance of the permit for such system. The report must include:

- (1) The status of implementing the components of the storm water management program that are established as permit conditions; [40 CFR 122.42(c)(1)]
- (2) Proposed changes to the storm water management programs that are established as permit conditions. Such proposed changes must be consistent with 40 CFR 122.26(d)(2)(iii); [40 CFR 122.42(c)(2)] and
- (3) Revisions, if necessary, to the assessment of controls and the fiscal analysis reported in the permit application under 40 CFR 122.26(d)(2)(iv) and (v);
[40 CFR 122.42(c)(3)]

- (4) A summary of data, including monitoring data, that is accumulated throughout the reporting year; [40 CFR 122.42(c)(4)]
- (5) Annual expenditures and budget for year following each annual report; [40 CFR 122.42(c)(5)]
- (6) A summary describing the number and nature of enforcement actions, inspections, and public education programs; [40 CFR 122.42(c)(6)]
- (7) Identification of water quality improvements or degradation. [40 CFR 122.42(c)(7)]

p. STANDARD PERMIT PROVISIONS FOR STORM WATER DISCHARGES [40 CFR 122.42(d)]

The initial permits for discharges composed entirely of storm water issued pursuant to 40 CFR 122.26(e)(7) must require compliance with the conditions of the permit as expeditiously as practicable, but in no event later than three years after the date of issuance of the permit.

2. General Provisions

In addition to the standard provisions required to be incorporated into the Order and NPDES permit pursuant to 40 CFR 122.41 and 40 CFR 122.42, several other general provisions apply to this Order. The general provisions applicable to this Order and NPDES permit are as follows:

a. DISCHARGE OF WASTE IS A PRIVILEGE

No discharge of waste into the waters of the State, whether or not such discharge is made pursuant to waste discharge requirements, shall create a vested right to continue such discharge. All discharges of waste into waters of the State are privileges, not rights. [CWC Section 13263(g)]

b. DURATION OF ORDER AND NPDES PERMIT

- (1) *Effective date.* This Order supersedes Order No. R9-2007-0001 for the San Diego County Copermittees listed in Table 1a and became effective on June 27, 2013. This Order as amended by Order R9-2015-0001 supersedes Order No. R9-2009-0002 for the Orange County Copermittees listed in Table 1b and its amendments through Order No. R9-2015-0001 became effective April 1, 2015. This Order as amended by Order Nos. R9-2015-0001 and R9-2015-0100 supersedes Order No. R9-2010-0016 for the Riverside County Copermittees listed in Table 1c and its amendments through Order No. R9-2015-0100 became effective January 7, 2016.
- (2) *Expiration.* This Order and NPDES permit expires five years after June 27, 2013, its initial effective date. [40 CFR 122.46(a)]
- (3) *Continuation of expired order.* After this Order and NPDES permit expires, the terms and conditions of this Order and NPDES permit are automatically continued pending issuance of a new permit if all requirements of the federal NPDES regulations on the continuation of expired permits (40 CFR 122.6) are complied with.

ATTACHMENT B: STANDARD PERMIT PROVISIONS AND GENERAL PROVISIONS

1. Standard Permit Provisions
2. General Provisions

c. AVAILABILITY

A copy of this Order must be kept at a readily accessible location and must be available to on-site personnel at all times.

d. CONFIDENTIALITY OF INFORMATION

Except as provided for in 40 CFR 122.7, no information or documents submitted in accordance with or in application for this Order will be considered confidential, and all such information and documents shall be available for review by the public at the San Diego Water Board office.

Claims of confidentiality for the following information will be denied:
[40 CFR 122.7(b)]

- (1) The name and address of any permit applicant or Copermittee;
[40 CFR 122.7(b)(1)] and
- (2) Permit applications and attachments, permits, and effluent data.
[40 CFR 122.7(b)(2)]

e. EFFLUENT LIMITATIONS

- (1) *Interim effluent limitations.* The Copermittee must comply with any interim effluent limitations as established by addendum, enforcement action, or revised waste discharge requirements which have been, or may be, adopted by the San Diego Water Board.
- (2) *Other effluent limitations and standards.* If any applicable toxic effluent standard or prohibition (including any schedule of compliance specified in such effluent standard or prohibition) is promulgated under Section 307(a) of the CWA for a toxic pollutant and that standard or prohibition is more stringent than any limitation on the pollutant in the permit, the San Diego Water Board shall institute proceedings under these regulations to modify or revoke and reissue the permit to conform to the toxic effluent standard or prohibition. [40 CFR 122.44(b)(1)]

f. DUTY TO MINIMIZE OR CORRECT ADVERSE IMPACTS

The Copermittee must take all reasonable steps to minimize or correct any adverse impact on the environment resulting from noncompliance with this Order, including such accelerated or additional monitoring as may be necessary to determine the nature and impact of the noncompliance.

g. PERMIT ACTIONS

The filing of a request by the Copermittee for modification, revocation and reissuance, or termination of this Order, or a notification of planned change in or anticipated noncompliance with this Order does not stay any condition of this Order. (See 40 CFR 122.41(f)) In addition, the following provisions apply to this Order:

- (1) Upon application by any affected person, or on its own motion, the San Diego Water Board may review and revise the requirements in this Order. All requirements must be reviewed periodically. [CWC Section 13263(e)]
- (2) This Order may be terminated or modified for cause, including, but not limited to, all of the following: [CWC Section 13381]
 - (a) Violation of any condition contained in the requirements of this Order. [CWC Section 13381(a)]
 - (b) Obtaining the requirements in this Order by misrepresentation, or failure to disclose fully all relevant facts. [CWC Section 13381(b)]
 - (c) A change in any condition that requires either a temporary or permanent reduction or elimination of the permitted discharge. [CWC Section 13381(c)]
- (3) When this Order is transferred to a new owner or operator, such requirements as may be necessary under the CWC may be incorporated into this Order.

h. NPDES PERMITTED NON-STORM WATER DISCHARGES

The San Diego Water Board has, in prior years, issued a limited number of individual NPDES permits for non-storm water discharges to MS4s. The San Diego Water Board or State Water Board may in the future, upon prior notice to the Copermittee(s), issue an NPDES permit for any non-storm water discharge (or class of non-storm water discharges) to an MS4.

i. MONITORING

In addition to the standard provisions required under 40 CFR 122.41(j) and (l)(4), the following general monitoring provisions apply to this Order:

- (1) Where procedures are not otherwise specified in Order, sampling, analysis and quality assurance/quality control must be conducted in accordance with the Quality Assurance Management Plan (QAMP) for the State of California's Surface Water Ambient Monitoring Program (SWAMP), adopted by the State Water Resources Control Board (State Water Board).
- (2) Pursuant to 40 CFR 122.41(j)(2) and CWC Section 13383(a), each Copermittee must retain records of all monitoring information, including all calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentation, copies of all reports required by this permit, and records of all data used to complete the application for this permit, for a period of at least five (5) years from the date of the sample, measurement, report or application. This period may be extended by request of the San Diego Water Board at any time.
- (3) All chemical, bacteriological, and toxicity analyses must be conducted at a laboratory certified for such analyses by the California Department of Public Health or a laboratory approved by the San Diego Water Board.

- (4) For priority toxic pollutants that are identified in the California Toxics Rule (CTR) (65 Fed. Reg. 31682), the Copermittees must instruct their laboratories to establish calibration standards that are equivalent to or lower than the Minimum Levels (MLs) published in Appendix 4 of the Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California (SIP). If a Copermittee can demonstrate that a particular ML is not attainable, in accordance with procedures set forth in 40 CFR Part 136, the lowest quantifiable concentration of the lowest calibration standard analyzed by a specific analytical procedure (assuming that all the method specified sample weights, volumes, and processing steps have been followed) may be used instead of the ML listed in Appendix 4 of the SIP. The Copermittee must submit documentation from the laboratory to the San Diego Water Board for approval prior to raising the ML for any priority toxic pollutant.

j. ENFORCEMENT

- (1) The San Diego Water Board is authorized to enforce the terms of this Order under several provisions of the CWC, including, but not limited to, CWC Sections 13385, 13386, and 13387.
- (2) Nothing in this Order shall be construed to protect the Copermittee from its liabilities under federal, state, or local laws.
- (3) The CWC provides for civil and criminal penalties comparable to, and in some cases greater than, those provided for under the CWA.
- (4) Except as provided in the standard conditions required under 40 CFR 122.41(m) and (n), nothing in this Order shall be construed to relieve the Copermittee from civil or criminal penalties for noncompliance.
- (5) Nothing in this Order shall be construed to preclude the institution of any legal action or relieve the Copermittee from any responsibilities, liabilities, or penalties to which the Copermittee is or may be subject to under Section 311 of the CWA.
- (6) Nothing in this Order shall be construed to preclude institution of any legal action or relieve the Copermittee from any responsibilities, liabilities, or penalties established pursuant to any applicable state law or regulation under authoring preserved by Section 510 of the CWA.

k. SEVERABILITY

The provisions of this Order are severable, and if any provision of this Order, or the application of any provisions of this Order to any circumstance, is held invalid, the application of such provision to other circumstances and the remainder of this Order shall not be affected thereby.

l. APPLICATIONS

Any application submitted by a Copermittee for reissuance or modification of this Order must satisfy all applicable requirements specified in federal regulations as well as any additional requirements for submittal of a Report of Waste Discharge specified in the CWC and the California Code of Regulations.

m. IMPLEMENTATION

All plans, reports and subsequent amendments submitted in compliance with this Order must be implemented immediately (or as otherwise specified). All submittals by Copermittees must be adequate to implement the requirements of this Order.

n. REPORT SUBMITTALS

- (1) All report submittals must include an executive summary, introduction, conclusion, recommendations, and signed certified statement.
- (2) Each Copermittee must submit a signed certified statement covering its responsibilities for each applicable submittal.
- (3) The Principal Watershed Copermittee(s) must submit a signed certified statement covering its responsibilities for each applicable submittal and the sections of the submittals for which it is responsible.
- (4) Unless otherwise directed, the Copermittees must submit one electronic copy of each report required under this Order to the San Diego Water Board at SanDiego@waterboards.ca.gov.
- (5) When hard copies are requested or required, the Copermittees must submit reports and provide notifications as required by this Order to:

EXECUTIVE OFFICER
CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
SAN DIEGO REGION
2375 NORTHSIDE DRIVE, SUITE 100
SAN DIEGO CA 92108
Telephone: (619) 516-1990 Fax: (619) 516-1994

ATTACHMENT C

ACRONYMS AND ABBREVIATIONS

AMAL	Average Monthly Action Level
ASBS	Area(s) of Special Biological Significance
BMP	Best Management Practice
Basin Plan	Water Quality Control Plan for the San Diego Basin
CEQA	California Environmental Quality Act
CCR	California Code of Regulations
CFR	Code of Federal Regulations
CWA	Clean Water Act
CWC	California Water Code
CZARA	Coastal Zone Act Reauthorization Amendments of 1990
ESAs	Environmentally Sensitive Areas
GIS	Geographic Information System
IBI	Index of Biological Integrity
LID	Low Impact Development
MDAL	Maximum Daily Action Level
MEP	Maximum Extent Practicable
MS4	Municipal Separate Storm Sewer System
NAL	Non-Storm Water Action Level
NAICS	North American Industry Classification System
NOI	Notice of Intent
NPDES	National Pollutant Discharge Elimination System
ROWD	Report of Waste Discharge (application for NPDES reissuance)
SAL	Storm Water Action Level
San Diego Water Board	California Regional Water Quality Control Board, San Diego Region
SIC	Standard Industrial Classification Code
State Water Board	State Water Resources Control Board
TMDL	Total Maximum Daily Load
USEPA	United States Environmental Protection Agency
WDID	Waste Discharge Identification Number
WLA	Waste Load Allocation
WQBEL	Water Quality Based Effluent Limitation

DEFINITIONS

Active/Passive Sediment Treatment - Using mechanical, electrical or chemical means to flocculate or coagulate suspended sediment for removal from runoff from construction sites prior to discharge.

Anthropogenic Litter – Trash generated from human activities, not including sediment.

Average Monthly Action Level – The highest allowable average of daily discharges over a calendar month.

Beneficial Uses - The uses of water necessary for the survival or wellbeing of man, plants, and wildlife. These uses of water serve to promote tangible and intangible economic, social, and environmental goals. “Beneficial Uses” of the waters of the State that may be protected include, but are not limited to, domestic, municipal, agricultural and industrial supply; power generation; recreation; aesthetic enjoyment; navigation; and preservation and enhancement of fish, wildlife, and other aquatic resources or preserves. Existing beneficial uses are uses that were attained in the surface or ground water on or after November 28, 1975; and potential beneficial uses are uses that would probably develop in future years through the implementation of various control measures. “Beneficial Uses” are equivalent to “Designated Uses” under federal law. [California Water Code Section 13050(f)].

Best Management Practices (BMPs) - Defined in 40 CFR 122.2 as schedules of activities, prohibitions of practices, maintenance procedures, and other management practices to prevent or reduce the pollution of waters of the United States. BMPs also include treatment requirements, operating procedures and practices to control plant site runoff, spillage or leaks, sludge or waste disposal, or drainage from raw material storage.

Bioassessment - The use of biological community information to evaluate the biological integrity of a water body and its watershed. With respect to aquatic ecosystems, bioassessment is the collection and analysis of samples of the benthic macroinvertebrate community together with physical/habitat quality measurements associated with the sampling site and the watershed to evaluate the biological condition (i.e. biotic integrity) of a water body.

Biofiltration - Practices that use vegetation and amended soils to detain and treat runoff from impervious areas. Treatment is through filtration, infiltration, adsorption, ion exchange, and biological uptake of pollutants.

Biological Integrity - Defined in Karr J.R. and D.R. Dudley. 1981. Ecological perspective on water quality goals. *Environmental Management* 5:55-68 as: “A balanced, integrated, adaptive community of organisms having a species composition, diversity, and functional organization comparable to that of natural habitat of the region.” Also referred to as ecosystem health.

BMP Design Manual – A plan developed to eliminate, reduce, or mitigate the impacts of runoff from development projects, including Priority Development Projects.

Chronic Toxicity – A measurement of sublethal effect (e.g. reduced growth, reproduction) to experimental test organisms exposed to an effluent or receiving waters compared to that of the control organisms.

Clean Water Act Section 303(d) Water Body - An impaired water body in which water quality does not meet applicable water quality standards and/or is not expected to meet water quality standards, even after the application of technology based pollution controls required by the CWA. The discharge of runoff to these water bodies by the Copermittees is significant because these discharges can cause or contribute to violations of applicable water quality standards.

Construction Activities – Actions implemented during construction of development or redevelopment projects during the Preliminary Task (including rough grading and/or disking, clearing and grubbing operations, or any soil disturbance prior to mass grading), Grading or Land Development (including topography and slope reconfiguration, alluvium removals, canyon cleanouts, rock undercuts, keyway excavations, land form grading, and stockpiling of select material for capping operations), Streets and Utility Installation (including excavation and street paving, lot grading, curbs, gutters and sidewalks, public utilities, public water facilities including fire hydrants, public sanitary sewer systems, storm sewer systems and/or other drainage improvements), or Vertical Construction (including the build out of structures from foundations to roofing, including rough landscaping).

Construction Site – Any project, including projects requiring coverage under the Construction General Permit, that involves soil disturbing activities including, but not limited to, clearing, grading, disturbances to ground such as stockpiling, and excavation.

Contamination - As defined in the Porter-Cologne Water Quality Control Act, contamination is “an impairment of the quality of waters of the State by waste to a degree which creates a hazard to the public health through poisoning or through the spread of disease. ‘Contamination’ includes any equivalent effect resulting from the disposal of waste whether or not waters of the State are affected.”

Copermittee – A permittee to a NPDES permit that is only responsible for permit conditions relating to the discharge for which it is operator [40 CFR 122.26(b)(1)]. For the purposes of this Order, a Copermittee is one of the individual permittees identified in Tables 1a-1c of this Order.

Copermittees – All of the individual Copermittees, collectively.

Critical Channel Flow (Qc) – The channel flow that produces the critical shear stress that initiates bed movement or that erodes the toe of channel banks. When measuring Qc, it should be based on the weakest boundary material – either bed or bank.

Daily Discharge – Defined as either: (1) the total mass of the constituent discharged over the calendar day or any 24 hour period that reasonably represents a calendar day for purposes of sampling (as specified in the permit), for a constituent with limitations expressed in units of mass or; (2) the unweighted arithmetic mean measurement of the constituent over the day for a constituent with limitations expressed in other units of measurement (e.g. concentration.)

The Daily Discharge may be determined by the analytical results of a composite sample taken over the course of one day (a calendar day, or other 24 hour period other than a day), or by the arithmetic mean of analytical results from one or more grab samples taken over the course of a day.

Development Projects - Construction, rehabilitation, redevelopment, or reconstruction of any public or private projects.

Dry Season – May 1 to September 30.

Dry Weather – Weather is considered dry if the preceding 72 hours has been without measurable precipitation (>0.1 inch).

Enclosed Bays – Enclosed bays are indentations along the coast that enclose an area of oceanic water within distinct headlands or harbor works. Enclosed bays include all bays where the narrowest distance between the headlands or outermost bay works is less than 75 percent of the greatest dimension of the enclosed portion of the bay. Enclosed bays do not include inland surface waters or ocean waters.

Erosion – When land is diminished or worn away due to wind, water, or glacial ice. Often the eroded debris (silt or sediment) becomes a pollutant via storm water runoff. Erosion occurs naturally but can be intensified by land clearing activities such as farming, development, road building, and timber harvesting.

Environmentally Sensitive Areas (ESAs) - Areas that include but are not limited to all Clean Water Act Section 303(d) impaired water bodies; areas designated as Areas of Special Biological Significance by the State Water Board and San Diego Water Board; State Water Quality Protected Areas; water bodies designated with the RARE beneficial use by the State Water Board and San Diego Water Board; areas designated as preserves or their equivalent under the Natural Communities Conservation Program within the Cities and County of Orange; and any other equivalent environmentally sensitive areas which have been identified by the Copermitttees.

Estuaries – Waters, including coastal lagoons, located at the mouth of streams that serve as areas of mixing fresh and ocean waters. Coastal lagoons and mouths of streams that are temporarily separated from the ocean by sandbars shall be considered estuaries. Estuarine waters shall be considered to extend from a bay or the open ocean to a point upstream where there is no significant mixing of fresh water and ocean water. Estuaries do not include inland surface waters or ocean waters.

Existing Development – Any area that has been developed and exists for municipal, commercial, industrial, or residential purposes, uses, or activities. May include areas that are not actively used for its originally developed purpose, but may be re-purposed or redeveloped for another use or activity.

Flow Duration – The long-term period of time that flows occur above a threshold that causes significant sediment transport and may cause excessive erosion damage to creeks and streams (not a single storm event duration). The simplest way to visualize this is to consider a histogram of pre- and post-project flows using long-term records of hourly data. To maintain pre-development flow duration means that the total number of hours (counts) within each range of flows in a flow-duration histogram cannot increase between the pre- and post-development condition. Flow duration within the range of geomorphologically significant flows is important for managing erosion.

Grading - The cutting and/or filling of the land surface to a desired slope or elevation.

Groundwater – Subsurface water that occurs beneath the water table in soils and geologic formations that are fully saturated.

Hazardous Material – Any substance that poses a threat to human health or the environment due to its toxicity, corrosiveness, ignitability, explosive nature or chemical reactivity. These also include materials named by the USEPA in 40 CFR 116 to be reported if a designated quantity of the material is spilled into the waters of the U.S. or emitted into the environment.

Hazardous Waste - Hazardous waste is defined as “any waste which, under Section 600 of Title 22 of this code, is required to be managed according to Chapter 30 of Division 4.5 of Title 22 of this code” [CCR Title 22, Division 4.5, Chapter 11, Article 1].

Household Hazardous Waste – Paints, cleaning products, and other hazardous wastes generated during home improvement or maintenance activities.

Hydromodification – The change in the natural watershed hydrologic processes and runoff characteristics (i.e., interception, infiltration, overland flow, and groundwater flow) caused by urbanization or other land use changes that result in increased stream flows and sediment transport. In addition, alteration of stream and river channels, such as stream channelization, concrete lining, installation of dams and water impoundments, and excessive streambank and shoreline erosion are also considered hydromodification, due to their disruption of natural watershed hydrologic processes.

Illicit Connection – Any man-made conveyance or drainage system through which a non-storm water discharge to the storm water drainage system occurs or may occur. Any connection to the MS4 that conveys an illicit discharge.

Illicit Discharge - Any discharge to the MS4 that is not composed entirely of storm water except discharges pursuant to a NPDES permit and discharges resulting from firefighting activities [40 CFR 122.26(b)(2)].

Inactive Areas – Areas of construction activity that are not active and those that have been active and are not scheduled to be re-disturbed for at least 14 days.

Infiltration – In the context of low impact development, infiltration is defined as the percolation of water into the ground. Infiltration is often expressed as a rate (inches per hour), which is determined through an infiltration test. In the context of non-storm water, infiltration is water other than wastewater that enters a sewer system (including sewer service connections and foundation drains) from the ground through such means as defective pipes, pipe joints, connections, or manholes. Infiltration does not include, and is distinguished from, inflow [40 CFR 35.2005(20)].

Inland Surface Waters – Includes all surface waters of the State that do not include the ocean, enclosed bays, or estuaries.

Jurisdictional Runoff Management Program Document – A written description of the specific jurisdictional runoff management measures and programs that each Copermittee will implement to comply with this Order and ensure that storm water pollutant discharges in runoff are reduced to the MEP and do not cause or contribute to a violation of water quality standards.

Low Impact Development (LID) – A storm water management and land development strategy that emphasizes conservation and the use of on-site natural features integrated with engineered, small-scale hydrologic controls to more closely reflect pre-development hydrologic functions.

Low Impact Development Best Management Practices (LID BMPs) – LID BMPs include schedules of activities, prohibitions of practices, maintenance procedures, and other management practices to prevent or reduce the pollution of waters of the United States through storm water management and land development strategies that emphasize conservation and the use of on-site natural features integrated with engineered, small-scale hydrologic controls to more closely reflect pre-development hydrologic functions. LID BMPs include retention practices that do not allow runoff, such as infiltration, rain water harvesting and reuse, and evapotranspiration. LID BMPs also include flow-through practices such as biofiltration that may have some discharge of storm water following pollutant reduction.

Major Outfall – As defined in the Code of Federal Regulations, a major outfall is a MS4 outfall that discharges from a single pipe with an inside diameter of 36 inches or more or its equivalent (i.e. discharge from a single conveyance other than a circular pipe which is associated with a drainage area of more than 50 acres); or, for MS4s that receive storm water from lands zoned for industrial activity (based on comprehensive zoning plans or equivalent), a MS4 outfall that discharges from a single pipe with an inside diameter of 12 inches or more or from its equivalent (i.e. discharge from other than a circular pipe associated with a drainage area of 2 acres or more).

Maximum Daily Action Level (MDAL) –The highest allowable daily discharge of a pollutant, over a calendar day (or 24 hour period). For pollutants with action levels expressed in units of mass, the daily discharge is calculated as the total mass of the pollutant discharged over the day. For pollutants with action levels expressed in other units of measurement, the daily discharge is calculated as the arithmetic mean measurement of the pollutant over the day.

Maximum Extent Practicable (MEP) – The technology-based standard established by Congress in CWA section 402(p)(3)(B)(iii) for storm water that operators of MS4s must meet. Technology-based standards establish the level of pollutant reductions that dischargers must achieve, typically by treatment or by a combination of source control and treatment control BMPs. MEP generally emphasizes pollution prevention and source control BMPs primarily (as the first line of defense) in combination with treatment methods serving as a backup (additional line of defense). MEP considers economics and is generally, but not necessarily, less stringent than BAT. A definition for MEP is not provided either in the statute or in the regulations. Instead the definition of MEP is dynamic and will be defined by the following process over time: municipalities propose their definition of MEP by way of their runoff management programs. Their total collective and individual activities conducted pursuant to the runoff management programs becomes their proposal for MEP as it applies both to their overall effort, as well as to specific activities (e.g., MEP for street sweeping, or MEP for MS4 maintenance). In the absence of a proposal acceptable to the San Diego Water Board, the San Diego Water Board defines MEP.

In a memo dated February 11, 1993, entitled "Definition of Maximum Extent Practicable," Elizabeth Jennings, Senior Staff Counsel, SWRCB addressed the achievement of the MEP standard as follows:

“To achieve the MEP standard, municipalities must employ whatever Best Management Practices (BMPs) are technically feasible (i.e., are likely to be effective) and are not cost prohibitive. The major emphasis is on technical feasibility. Reducing pollutants to the MEP means choosing effective BMPs, and rejecting applicable BMPs only where other effective BMPs will serve the same purpose, or the BMPs would not be technically feasible, or the cost would be prohibitive. In selecting BMPs to achieve the MEP standard, the following factors may be useful to consider:

- a. Effectiveness: Will the BMPs address a pollutant (or pollutant source) of concern?*
- b. Regulatory Compliance: Is the BMP in compliance with storm water regulations as well as other environmental regulations?*
- c. Public Acceptance: Does the BMP have public support?*
- d. Cost: Will the cost of implementing the BMP have a reasonable relationship to the pollution control benefits to be achieved?*
- e. Technical Feasibility: Is the BMP technically feasible considering soils, geography, water resources, etc.?*

The final determination regarding whether a municipality has reduced pollutants to the maximum extent practicable can only be made by the Regional or State Water Boards, and not by the municipal discharger. If a municipality reviews a lengthy menu of BMPs and chooses to select only a few of the least expensive, it is likely that MEP has not been met. On the other hand, if a municipal discharger employs all applicable BMPs except those where it can show that they are not technically feasible in the locality, or whose cost would exceed any benefit derived, it would have met the standard. Where a choice may be made between two BMPs that should provide generally comparable effectiveness, the discharger may choose the least expensive alternative and exclude the more expensive BMP. However, it would not be acceptable either to reject all BMPs that would address a pollutant source, or to pick a BMP based solely on cost, which would be clearly less effective. In selecting BMPs the municipality must make a serious attempt to comply and practical solutions may not be lightly rejected. In any case, the burden would be on the municipal discharger to show compliance with its permit. After selecting a menu of BMPs, it is the responsibility of the discharger to ensure that all BMPs are implemented.”

Monitoring Year – October 1 to September 30

Municipal Separate Storm Sewer System (MS4) – A conveyance or system of conveyances (including roads with drainage systems, municipal streets, catch basins, curbs, gutters, ditches, man-made channels, or storm drains): (i) Owned or operated by a State, city, town, borough, county, parish, district, association, or other public body (created by or pursuant to State law) having jurisdiction over disposal of sewage, industrial wastes, storm water, or other wastes, including special districts under State law such as a sewer district, flood control district or drainage district, or similar entity, or an Indian tribe or an authorized Indian tribal organization, or designated and approved management agency under section 208 of the CWA that discharges to waters of the United States; (ii) Designated or used for collecting or conveying storm water; (iii) Which is not a combined sewer; (iv) Which is not part of the Publicly Owned Treatment Works (POTW) as defined at 40 CFR 122.26.

National Pollutant Discharge Elimination System (NPDES) - The national program for issuing, modifying, revoking and reissuing, terminating, monitoring and enforcing permits, and imposing and enforcing pretreatment requirements, under Sections 307, 318, 402, and 405 of the CWA.

Non-Storm Water - All discharges to and from a MS4 that do not originate from precipitation events (i.e., all discharges from a MS4 other than storm water). Non-storm water includes illicit discharges and NPDES permitted discharges.

Nuisance - As defined in the Porter-Cologne Water Quality Control Act, a nuisance is “anything which meets all of the following requirements: 1) Is injurious to health, or is indecent, or offensive to the senses, or an obstruction to the free use of property, so as to interfere with the comfortable enjoyment of life or property. 2) Affects at the same time an entire community or neighborhood, or any considerable number of persons, although the extent of the annoyance or damage inflicted upon individuals may be unequal. 3) Occurs during, or as a result of, the treatment or disposal of wastes.”

Ocean Waters – The territorial marine waters of the State as defined by California law to the extent these waters are outside of enclosed bays, estuaries, and coastal lagoons. Discharges to ocean waters are regulated in accordance with the State Board’s California Ocean Plan.

Order – Unless otherwise specified, refers to this Order, Order No. R9-2013-0001 (NPDES No. CAS0109266)

Outfall - Outfall means a point source as defined by 40 CFR 122.2 at the point where a municipal separate storm sewer discharges to waters of the US and does not include open conveyances connecting two municipal separate storm sewers, or pipes, tunnels or other conveyances which connect segments of the same stream or other waters of the US and are used to convey waters of the US.

Persistent Flow - Persistent flow is defined as the presence of flowing, pooled, or ponded water more than 72 hours after a measureable rainfall event of 0.1 inch or greater during three consecutive monitoring and/or inspection events. All other flowing, pooled, or ponded water is considered transient.

Person - A person is defined as an individual, association, partnership, corporation, municipality, State or Federal agency, or an agent or employee thereof [40 CFR 122.2].

Point Source - Any discernible, confined, and discrete conveyance, including, but not limited to, any pipe, ditch, channel, tunnel, conduit, well, discrete fissure, container, rolling stock, concentrated animal feeding operations, landfill leachate collection systems, vessel, or other floating craft from which pollutants are or may be discharged. This term does not include return flows from irrigated agriculture or agricultural storm water runoff.

Pollutant - Any agent that may cause or contribute to the degradation of water quality such that a condition of pollution or contamination is created or aggravated.

Pollution - As defined in the Porter-Cologne Water Quality Control Act, pollution is “the alteration of the quality of the waters of the State by waste, to a degree which unreasonably affects either of the following: 1) The waters for beneficial uses; or 2) Facilities that serve these beneficial uses.” Pollution may include contamination.

Pollution Prevention - Pollution prevention is defined as practices and processes that reduce or eliminate the generation of pollutants, in contrast to source control BMPs, treatment control BMPs, or disposal.

Pre-Development Runoff Conditions – Approximate flow rates and durations that exist or existed onsite before land development occurs. For new development projects, this equates to runoff conditions immediately before project construction. For redevelopment projects, this equates to runoff conditions from the project footprint assuming infiltration characteristics of the underlying soil, and existing grade. Runoff coefficients of concrete or asphalt must not be used. A redevelopment Priority Development Project must use available information pertaining to existing underlying soil type and onsite existing grade to estimate pre-development runoff conditions.

Priority Development Projects - New development and redevelopment projects defined under Provision E.3.b of Order No. R9-2013-0001, as amended by Order Nos. R9-2015-0001 and R9-2015-0100.

Rainy Season (aka Wet Season) –October 1 to April 30

Receiving Waters – Waters of the United States.

Receiving Water Limitations - Waste discharge requirements issued by the San Diego Water Board typically include both: (1) “Effluent Limitations” (or “Discharge Limitations”) that specify the technology-based or water-quality-based effluent limitations; and (2) “Receiving Water Limitations” that specify the water quality objectives in the Basin Plan as well as any other limitations necessary to attain those objectives. In summary, the “Receiving Water Limitations” provision is the provision used to implement the requirements of CWA section 402(p)(3)(B).

Redevelopment - The creation and/or replacement of impervious surface on an already developed site. Examples include the expansion of a building footprint, road widening, the addition to or replacement of a structure. Replacement of impervious surfaces includes any activity where impervious material(s) are removed, exposing underlying soil during construction. Redevelopment does not include routine maintenance activities, such as trenching and resurfacing associated with utility work; pavement grinding; resurfacing existing roadways, sidewalks, pedestrian ramps, or bike lanes on existing roads; and routine replacement of damaged pavement, such as pothole repair.

Regional Clearinghouse – A central location for the collection and distribution of information developed and maintained by the Copermittees including, but not limited to, plans, reports, manuals, data, contact information, and/or links to such documents and information.

Rehabilitation - Remedial measures or activities for the purpose of improving or restoring the beneficial uses of streams, channels or river systems. Techniques may vary from in-stream restoration techniques to off-line storm water management practices installed in the system corridor or upland areas, or a combination of in-stream and out of stream techniques. Rehabilitation techniques may include, but are not limited to the following: riparian zone restoration, constructed wetlands, channel modifications that improve habitat and stability, and daylighting of drainage systems.

Reporting Period – The period of information that is reported in the Water Quality Improvement Plan Annual Report. The reporting period consists of two components: 1) July 1 to June 30, consistent with the fiscal year, for the implementation of the jurisdictional runoff management programs, and 2) October 1 to September 30, consistent with the monitoring year for the monitoring and assessment programs. Together, these two time periods constitute the reporting year for the Water Quality Improvement Plan Annual Report due January 31 following the end of the monitoring year.

Retain – Keep or hold in a particular place, condition, or position without discharge to surface waters.

Retrofitting – Storm water management practice put into place after development has occurred in watersheds where the practices previously did not exist or are ineffective. Retrofitting of developed areas is intended to improve water quality, protect downstream channels, reduce flooding, or meet other specific objectives. Retrofitting developed areas may include, but is not limited to replacing roofs with green roofs, disconnecting downspouts or impervious surfaces to drain to pervious surfaces, replacing impervious surfaces with pervious surfaces, installing rain barrels, installing rain gardens, and trash area enclosures.

Runoff - All flows in a storm water conveyance system that consists of the following components: (1) storm water (wet weather flows) and (2) non-storm water including dry weather flows.

San Diego Water Board – As used in this document the term "San Diego Water Board" is synonymous with the term "Regional Board" as defined in Water Code section 13050(b) and is intended to refer to the California Regional Water Quality Control Board for the San Diego Region as specified in Water Code Section 13200.

Sediment - Soil, sand, and minerals washed from land into water. Sediment resulting from anthropogenic sources (i.e. human induced land disturbance activities) is considered a pollutant. This Order regulates only the discharges of sediment from anthropogenic sources and does not regulate naturally occurring sources of sediment. Sediment can destroy fish-nesting areas, clog animal habitats, and cloud waters so that sunlight does not reach aquatic plants.

Source Control BMP – Land use or site planning practices, or structural or nonstructural measures that aim to prevent runoff pollution by reducing the potential for contamination at the source of pollution. Source control BMPs minimize the contact between pollutants and runoff.

Storm Water – Per 40 CFR 122.26(b)(13), means storm water runoff, snowmelt runoff and surface runoff and drainage. Surface runoff and drainage pertains to runoff and drainage resulting from precipitation events.

Structural BMPs - A subset of BMPs which detains, retains, filters, removes, or prevents the release of pollutants to surface waters from development projects in perpetuity, after construction of a project is completed.

Test of Significant Toxicity (TST) - A statistical approach used to analyze toxicity test data. The TST incorporates a restated null hypothesis, Welch's t-test, and biological effect thresholds for chronic and acute toxicity.

Total Maximum Daily Load (TMDL) - The maximum amount of a pollutant that can be discharged into a water body from all sources (point and non-point) and still maintain water quality standards. Under CWA section 303(d), TMDLs must be developed for all water bodies that do not meet water quality standards after application of technology-based controls.

Toxicity - Adverse responses of organisms to chemicals or physical agents ranging from mortality to physiological responses such as impaired reproduction or growth anomalies. The water quality objectives for toxicity provided in the Basin Plan, state in part...“All waters shall be

free of toxic substances in concentrations that are toxic to, or that produce detrimental physiological responses in human, plant, animal, or aquatic life....The survival of aquatic life in surface waters subjected to a waste discharge or other controllable water quality factors, shall not be less than that for the same water body in areas unaffected by the waste discharge.”

Toxicity Identification Evaluation (TIE) - A set of procedures for identifying the specific chemical(s) responsible for toxicity. These procedures are performed in three phases (characterization, identification, and confirmation) using aquatic organism toxicity tests.

Toxicity Reduction Evaluation (TRE) - A study conducted in a step-wise process designed to identify the causative agents of effluent or ambient toxicity, isolate the sources of toxicity, evaluate the effectiveness of toxicity control options, and then confirm the reduction in toxicity. The first steps of the TRE consist of the collection of data relevant to the toxicity, including additional toxicity testing, and an evaluation of facility operations and maintenance practices, and best management practices. A Toxicity Identification Evaluation (TIE) may be required as part of the TRE, if appropriate.

Treatment Control BMP – Any engineered system designed to remove pollutants by simple gravity settling of particulate pollutants, filtration, biological uptake, media absorption or any other physical, biological, or chemical process.

Unpaved Road – Any long, narrow stretch without pavement used for traveling by motor passenger vehicles between two or more points. Unpaved roads are generally constructed of dirt, gravel, aggregate or macadam and may be improved or unimproved.

Waste - As defined in CWC Section 13050(d), “waste includes sewage and any and all other waste substances, liquid, solid, gaseous, or radioactive, associated with human habitation, or of human or animal origin, or from any producing, manufacturing, or processing operation, including waste placed within containers of whatever nature prior to, and for purposes of, disposal.”

Article 2 of CCR Title 23, Chapter 15 (Chapter 15) contains a waste classification system that applies to solid and semi-solid waste, which cannot be discharged directly or indirectly to water of the state and which therefore must be discharged to land for treatment, storage, or disposal in accordance with Chapter 15. There are four classifications of waste (listed in order of highest to lowest threat to water quality): hazardous waste, designated waste, non-hazardous solid waste, and inert waste.

Water Quality Objective - Numerical or narrative limits on constituents or characteristics of water designated to protect designated beneficial uses of the water. [California Water Code Section 13050 (h)]. California’s water quality objectives are established by the State and Regional Water Boards in the Water Quality Control Plans. Numeric or narrative limits for pollutants or characteristics of water designed to protect the beneficial uses of the water. In other words, a water quality objective is the maximum concentration of a pollutant that can exist in a receiving water and still generally ensure that the beneficial uses of the receiving water remain protected (i.e., not impaired). Since water quality objectives are designed specifically to protect the beneficial uses, when the objectives are violated the beneficial uses are, by definition, no longer protected and become impaired. This is a fundamental concept under the Porter Cologne Act. Equally fundamental is Porter Cologne’s definition of pollution. A condition of pollution exists when the water quality needed to support designated beneficial uses has

become unreasonably affected or impaired; in other words, when the water quality objectives have been violated. These underlying definitions (regarding beneficial use protection) are the reason why all waste discharge requirements implementing the federal NPDES regulations require compliance with water quality objectives. (Water quality objectives are also called water quality criteria in the CWA.)

Water Quality Standards - Water quality standards, as defined in Clean Water Act section 303(c) consist of the beneficial uses (e.g., swimming, fishing, municipal drinking water supply, etc.) of a water body and criteria (referred to as water quality objectives in the California Water Code) necessary to protect those uses. Under the Water Code, the water boards establish beneficial uses and water quality objectives in water quality control or basin plans. Together with an anti-degradation policy, these beneficial uses and water quality objectives serve as water quality standards under the Clean Water Act. In Clean Water Act parlance, state beneficial uses are called “designated uses” and state water quality objectives are called “criteria.” Throughout this Order, the relevant term is used depending on the statutory scheme.

Waters of the State - Any water, surface or underground, including saline waters within the boundaries of the State [CWC section 13050 (e)]. The definition of the Waters of the State is broader than that for the Waters of the United States in that all water in the State is considered to be a Waters of the State regardless of circumstances or condition.

Waters of the United States - As defined in the 40 CFR 122.2, the Waters of the U.S. are defined as: “(a) All waters, which are currently used, were used in the past, or may be susceptible to use in interstate or foreign commerce, including all waters which are subject to the ebb and flow of the tide; (b) All interstate waters, including interstate “wetlands;” (c) All other waters such as intrastate lakes, rivers, streams (including intermittent streams), mudflats, sandflats, “wetlands,” sloughs, prairie potholes, wet meadows, playa lakes, or natural ponds the use, degradation or destruction of which would affect or could affect interstate or foreign commerce including any such waters: (1) Which are or could be used by interstate or foreign travelers for recreational or other purposes; (2) From which fish or shellfish are or could be taken and sold in interstate or foreign commerce; or (3) Which are used or could be used for industrial purposes by industries in interstate commerce; (d) All impoundments of waters otherwise defined as waters of the United States under this definition; (e) Tributaries of waters identified in paragraphs (a) through (d) of this definition; (f) The territorial seas; and (g) “Wetlands” adjacent to waters (other than waters that are themselves wetlands) identified in paragraphs (a) through (f) of this definition. Waters of the United States do not include prior converted cropland. Notwithstanding the determination of an area’s status as prior converted cropland by any other federal agency, for the purposes of the Clean Water Act, the final authority regarding Clean Water Act jurisdiction remains with the EPA.”

Watershed - That geographical area which drains to a specified point on a water course, usually a confluence of streams or rivers (also known as drainage area, catchment, or river basin).

Wet Season (aka Rainy Season) – October 1 to April 30

Wet Weather – Weather is considered wet up to 72 hours after a storm event of 0.1 inches and greater, unless otherwise defined by another regulatory mechanism (e.g. a TMDL).

Order No. R9-2013-0001
As amended by Order No. R9-2015-0001
and Order No. R9-2015-0100

D-1

Amended February 11, 2015
Amended November 18, 2015

ATTACHMENT D

JURISDICTIONAL RUNOFF MANAGEMENT PROGRAM
ANNUAL REPORT FORM

Order No. R9-2013-0001
As amended by Order No. R9-2015-0001
and Order No. R9-2015-0100

D-2

Amended February 11, 2015
Amended November 18, 2015

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**JURISDICTIONAL RUNOFF MANAGEMENT PROGRAM
 ANNUAL REPORT FORM
 FY _____**

I. COPERMITTEE INFORMATION	
Copermittee Name:	
Copermittee Primary Contact Name:	
Copermittee Primary Contact Information:	
Address:	
City:	County:
State:	Zip:
Telephone:	Fax:
Email:	
II. LEGAL AUTHORITY	
Has the Copermittee established adequate legal authority within its jurisdiction to control pollutant discharges into and from its MS4 that complies with Order No. R9-2013-0001?	YES <input type="checkbox"/> NO <input type="checkbox"/>
A Principal Executive Officer, Ranking Elected Official, or Duly Authorized Representative has certified that the Copermittee obtained and maintains adequate legal authority?	YES <input type="checkbox"/> NO <input type="checkbox"/>
III. JURISDICTIONAL RUNOFF MANAGEMENT PROGRAM DOCUMENT UPDATE	
Was an update of the jurisdictional runoff management program document required or recommended by the San Diego Water Board?	YES <input type="checkbox"/> NO <input type="checkbox"/>
If YES to the question above, did the Copermittee update its jurisdictional runoff management program document and make it available on the Regional Clearinghouse?	YES <input type="checkbox"/> NO <input type="checkbox"/>
IV. ILLICIT DISCHARGE DETECTION AND ELIMINATION PROGRAM	
Has the Copermittee implemented a program to actively detect and eliminate illicit discharges and connections to its MS4 that complies with Order No. R9-2013-0001?	YES <input type="checkbox"/> NO <input type="checkbox"/>
Number of non-storm water discharges reported by the public	
Number of non-storm water discharges detected by Copermittee staff or contractors	
Number of non-storm water discharges investigated by the Copermittee	
Number of sources of non-storm water discharges identified	
Number of non-storm water discharges eliminated	
Number of sources of illicit discharges or connections identified	
Number of illicit discharges or connections eliminated	
Number of enforcement actions issued	
Number of escalated enforcement actions issued	
V. DEVELOPMENT PLANNING PROGRAM	
Has the Copermittee implemented a development planning program that complies with Order No. R9-2013-0001?	YES <input type="checkbox"/> NO <input type="checkbox"/>
Was an update to the BMP Design Manual required or recommended by the San Diego Water Board?	YES <input type="checkbox"/> NO <input type="checkbox"/>
If YES to the question above, did the Copermittee update its BMP Design Manual and make it available on the Regional Clearinghouse?	YES <input type="checkbox"/> NO <input type="checkbox"/>
Number of proposed development projects in review	
Number of Priority Development Projects in review	
Number of Priority Development Projects approved	
Number of approved Priority Development Projects exempt from any BMP requirements	
Number of approved Priority Development Projects allowed alternative compliance	
Number of Priority Development Projects granted occupancy	
Number of completed Priority Development Projects in inventory	
Number of high priority Priority Development Project structural BMP inspections	
Number of Priority Development Project structural BMP violations	
Number of enforcement actions issued	
Number of escalated enforcement actions issued	

**JURISDICTIONAL RUNOFF MANAGEMENT PROGRAM
 ANNUAL REPORT FORM**

FY _____

VI. CONSTRUCTION MANAGEMENT PROGRAM

Has the Copermittee implemented a construction management program that complies with Order No. R9-2013-0001?	YES	<input type="checkbox"/>
	NO	<input type="checkbox"/>
Number of construction sites in inventory		
Number of active construction sites in inventory		
Number of inactive construction sites in inventory		
Number of construction sites closed/completed during reporting period		
Number of construction site inspections		
Number of construction site violations		
Number of enforcement actions issued		
Number of escalated enforcement actions issued		

VII. EXISTING DEVELOPMENT MANAGEMENT PROGRAM

Has the Copermittee implemented an existing development management program that complies with Order No. R9-2013-0001?	YES	<input type="checkbox"/>		
	NO	<input type="checkbox"/>		
	Municipal	Commercial	Industrial	Residential
Number of facilities or areas in inventory				
Number of existing development inspections				
Number of follow-up inspections				
Number of violations				
Number of enforcement actions issued				
Number of escalated enforcement actions issued				

VIII. PUBLIC EDUCATION AND PARTICIPATION

Has the Copermittee implemented a public education program component that complies with Order No. R9-2013-0001?	YES	<input type="checkbox"/>
	NO	<input type="checkbox"/>
Has the Copermittee implemented a public participation program component that complies with Order No. R9-2013-0001?	YES	<input type="checkbox"/>
	NO	<input type="checkbox"/>

IX. FISCAL ANALYSIS

Has the Copermittee attached to this form a summary of its fiscal analysis that complies with Order No. R9-2013-0001?	YES	<input type="checkbox"/>
	NO	<input type="checkbox"/>

X. CERTIFICATION

I [Principal Executive Officer Ranking Elected Official Duly Authorized Representative] certify under penalty of law that I have personally examined and am familiar with the information submitted in this document and all attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.

Signature	Date
Print Name	Title
Telephone Number	Email

ATTACHMENT E

SPECIFIC PROVISIONS FOR TOTAL MAXIMUM DAILY LOADS APPLICABLE TO ORDER NO. R9-2013-0001, AS AMENDED BY ORDER NOS. R9-2015-0001 AND R9-2015-0100

These provisions implement load allocations (LAs) and wasteload allocations (WLAs) of the Total Maximum Daily Loads (TMDLs) established by the San Diego Water Board or USEPA under Clean Water Act section 303(c), applicable to discharges regulated under this Order. The provisions and schedules for implementation of the TMDLs described below must be incorporated into the Water Quality Improvement Plans, required pursuant to Provision B of this Order, for the specified Watershed Management Areas.

1. Total Maximum Daily Load for Diazinon in Chollas Creek Watershed
2. Total Maximum Daily Loads for Dissolved Copper in Shelter Island Yacht Basin
3. Total Maximum Daily Loads for Total Nitrogen and Total Phosphorus in Rainbow Creek Watershed
4. Total Maximum Daily Loads for Dissolved Copper, Lead, and Zinc in Chollas Creek
5. Total Maximum Daily Loads for Indicator Bacteria, Baby Beach in Dana Point Harbor and Shelter Island Shoreline Park in San Diego Bay
6. Revised Total Maximum Daily Loads for Indicator Bacteria, Project I – Twenty Beaches and Creeks in the San Diego Region (Including Tecolote Creek)
7. Total Maximum Daily Load for Sediment in Los Peñasquitos Lagoon

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1. Total Maximum Daily Load for Diazinon in Chollas Creek Watershed

a. APPLICABILITY

- (1) TMDL Basin Plan Amendment: Resolution No. R9-2002-0123
- (2) TMDL Adoption and Approval Dates:

San Diego Water Board Adoption Date:	August 14, 2002
State Water Board Approval Date:	July 16, 2003
Office of Administrative Law Approval Date:	September 11, 2003
US EPA Approval Date:	November 3, 2003
- (3) TMDL Effective Date: September 11, 2003
- (4) Watershed Management Area: San Diego Bay
- (5) Water Body: Chollas Creek
- (6) Responsible Copermittees: City of La Mesa, City of Lemon Grove, City of San Diego, County of San Diego, San Diego Unified Port District

b. FINAL TMDL COMPLIANCE REQUIREMENTS

The final diazinon TMDL compliance requirements for Chollas Creek consist of the following:

- (1) Final TMDL Compliance Date

The Responsible Copermittees must be in compliance with the final TMDL compliance requirements as of December 31, 2010.

- (2) Final Water Quality Based Effluent Limitations

- (a) Final Receiving Water Limitations

Discharges from the MS4s must not cause or contribute to the exceedance of the following receiving water limitations:

Table 1.1

Final Receiving Water Limitations Expressed as Concentrations in Chollas Creek

Constituent	Exposure Duration	Receiving Water Limitation	Averaging Period
Diazinon	Acute	0.08 µg/L	1 hour
	Chronic	0.05 µg/L	4 days

(b) Final Effluent Limitations

Discharges from the MS4s containing concentrations that do not exceed the following effluent limitations will not cause or contribute to exceedances of the receiving water limitations under Specific Provision 1.b.(2)(a):

Table 1.2

Final Effluent Limitations Expressed as Concentrations in MS4 Discharges to Chollas Creek

Constituent	Exposure Duration	Effluent Limitation	Averaging Period
Diazinon	Acute	0.072 µg/L	1 hour
	Chronic	0.045 µg/L	4 days

(c) Best Management Practices

The following BMPs for Chollas Creek must be incorporated into the Water Quality Improvement Plan for the San Diego Bay Watershed Management Area and implemented by the Responsible Copermittees:

- (i) The Responsible Copermittees must implement BMPs to achieve the receiving water limitations under Specific Provision 1.b.(2)(a) and/or the effluent limitations under Specific Provision 1.b.(2)(b) for Chollas Creek.
- (ii) The Responsible Copermittees must implement the Diazinon Toxicity Control Plan and Diazinon Public Outreach/Education Program as described in the report titled, *Technical Report for Total Maximum Daily Load for Diazinon in Chollas Creek Watershed, San Diego County*, dated August 14, 2002, including subsequent modifications, in order to achieve the receiving water limitations under Specific Provision 1.b.(2)(a) and/or the effluent limitations under Specific Provision 1.b.(2)(b).
- (iii) The Responsible Copermittees should coordinate any BMPs implemented to address this TMDL with Caltrans as possible.

(3) Final TMDL Compliance Determination

Compliance with the final WQBELs, on or after the final TMDL compliance date, may be demonstrated via one of the following methods:

- (a) There is no direct or indirect discharge from the Responsible Copermittee's MS4s to the receiving water; OR
- (b) There are no exceedances of the final receiving water limitations under Specific Provision 1.b.(2)(a) in the receiving water at, or downstream of the Responsible Copermittee's MS4 outfalls; OR

- (c) There are no exceedances of the final effluent limitations under Specific Provision 1.b.(2)(b) at the Responsible Copermittee's MS4 outfalls; OR
- (d) The Responsible Copermittees develop and implement the Water Quality Improvement Plan as follows:
 - (i) Incorporate the BMPs required under Specific Provision 1.b.(2)(c) as part of the Water Quality Improvement Plan,
 - (ii) Include an analysis in the Water Quality Improvement Plan, utilizing a watershed model or other watershed analytical tools, to demonstrate that the implementation of the BMPs required under Provision 1.b.(2)(c) achieves compliance with Specific Provisions 1.b.(3)(a), 1.b.(3)(b) and/or 1.b.(3)(c),
 - (iii) The results of the analysis must be accepted by the San Diego Water Board as part of the Water Quality Improvement Plan,
 - (iv) The Responsible Copermittees continue to implement the BMPs required under Specific Provision 1.b.(2)(c), AND
 - (v) The Responsible Copermittees continue to perform the specific monitoring and assessments specified in Specific Provision 1.d, to demonstrate compliance with Specific Provisions 1.b.(3)(a), 1.b.(3)(b) and/or 1.b.(3)(c).

c. INTERIM TMDL COMPLIANCE REQUIREMENTS

The Responsible Copermittees must be in compliance with the final diazinon TMDL compliance requirements as of December 31, 2010.

d. SPECIFIC MONITORING AND ASSESSMENT REQUIREMENTS

- (1) The Responsible Copermittees must implement the monitoring and assessment requirements issued under Investigation Order No. R9-2004-0277, *California Department of Transportation and San Diego Municipal Separate Storm Sewer System Copermittees Responsible for the Discharge of Diazinon into the Chollas Creek Watershed*. The monitoring reports required under Investigation Order No. R9-2004-0277 must be submitted as part of the Transitional Monitoring and Assessment Program and Water Quality Improvement Plan Annual Reports required under Provision F.3.b of this Order.
- (2) The Responsible Copermittees must monitor the effluent of the MS4 outfalls for diazinon within the Chollas Creek watershed, and calculate or estimate the annual diazinon loads, in accordance with the requirements of Provisions D.2, D.4.b.(1), and D.4.b.(2) of this Order. The monitoring and assessment results must be submitted as part of the Transitional Monitoring and Assessment

Program and Water Quality Improvement Plan Annual Reports required under Provision F.3.b of this Order.

- (3) For assessing and determining compliance with the concentration-based effluent limitations under Specific Provision 1.b.(2)(b), dry and wet weather discharge concentrations may be calculated based on a flow-weighted average across all major MS4 outfalls along a water body segment or within a jurisdiction if samples are collected within a similar time period.

2. Total Maximum Daily Loads for Dissolved Copper in Shelter Island Yacht Basin

a. APPLICABILITY

(1) TMDL Basin Plan Amendment: Resolution No. R9-2005-0019

(2) TMDL Adoption and Approval Dates:

San Diego Water Board Adoption Date:	February 9, 2005
State Water Board Approval Date:	September 22, 2005
Office of Administrative Law Approval Date:	December 2, 2005
US EPA Approval Date:	February 8, 2006

(3) TMDL Effective Date: December 2, 2005

(4) Watershed Management Area: San Diego Bay

(5) Water Body: Shelter Island Yacht Basin

(6) Responsible Copermittee: City of San Diego

b. FINAL TMDL COMPLIANCE REQUIREMENTS

The final dissolved copper TMDL compliance requirements for Shelter Island Yacht Basin consist of the following:

(1) Final TMDL Compliance Date

The Responsible Copermittee must be in compliance with the final TMDL compliance requirements as of December 2, 2005.

(2) Final Water Quality Based Effluent Water Limitations

(a) Final Receiving Water Limitations

Discharges from the MS4s must not cause or contribute to the exceedance of the following receiving water limitations:

Table 2.1

Final Receiving Water Limitations Expressed as Concentrations in Shelter Island Yacht Basin

Constituent	Exposure Duration	Receiving Water Limitation	Averaging Period
Dissolved Copper	Acute	4.8 µg/L x WER*	1 hour
	Chronic	3.1 µg/L x WER*	4 days

Notes:

* The Water Effect Ratio (WER) is assumed to be 1.0 unless there is a site-specific and chemical-specific WER provided in the Basin Plan.

(b) Final Effluent Limitations

Discharges from the MS4s containing pollutant loads that do not exceed the following effluent limitations will not cause or contribute to exceedances of the receiving water limitations under Specific Provision 2.b.(2)(a):

Table 2.2

Final Effluent Limitations as Expressed as Annual Loads in MS4 Discharges to Shelter Island Yacht Basin

Constituent	Effluent Limitation
Dissolved Copper	30 kg/yr*

* If the water quality objectives for dissolved copper in Shelter Island Yacht Basin are changed in the future, then the margin of safety (MOS), TMDL and allocations will be recalculated using the *Method for Recalculation of the Total Maximum Daily Load for Dissolved Copper in the Shelter Island Yacht Basin, San Diego Bay* in the Basin Plan (p. 7-14).

(c) Best Management Practices

The Responsible Copermittee must implement BMPs to achieve the receiving water limitations under Specific Provision 2.b.(2)(a) and/or the effluent limitations under Specific Provision 2.b.(2)(b) for Shelter Island Yacht Basin. The BMPs must be incorporated into the Water Quality Improvement Plan for the San Diego Bay Watershed Management Area.

(3) Final TMDL Compliance Determination

Compliance with the final WQBELs, on or after the final TMDL compliance date, may be demonstrated via one of the following methods:

- (a) There is no direct or indirect discharge from the Responsible Copermittee's MS4s to the receiving water; OR
- (b) There are no exceedances of the final receiving water limitations under Specific Provision 2.b.(2)(a) in the receiving water at, or downstream of the Responsible Copermittee's MS4 outfalls; OR
- (c) There are no exceedances of the final effluent limitations under Specific Provision 2.b.(2)(b) at the Responsible Copermittee's MS4 outfalls; OR
- (d) The Responsible Copermittee develops and implements the Water Quality Improvement Plan as follows:
 - (i) Incorporate the BMPs required under Specific Provision 2.b.(2)(c) as part of the Water Quality Improvement Plan,

- (ii) Include an analysis in the Water Quality Improvement Plan, utilizing a watershed model or other watershed analytical tools, to demonstrate that the implementation of the BMPs required under Provision 2.b.(2)(c) achieves compliance with Specific Provisions 2.b.(3)(a), 2.b.(3)(b) and/or 2.b.(3)(c),
- (iii) The results of the analysis must be accepted by the San Diego Water Board as part of the Water Quality Improvement Plan,
- (iv) The Responsible Copermittees continue to implement the BMPs required under Specific Provision 2.b.(2)(c), AND
- (v) The Responsible Copermittees continue to perform the specific monitoring and assessments specified in Specific Provision 2.d, to demonstrate compliance with Specific Provisions 2.b.(3)(a), 2.b.(3)(b) and/or 2.b.(3)(c).

c. INTERIM TMDL COMPLIANCE REQUIREMENTS

The Responsible Copermittees must be in compliance with the final dissolved copper TMDL compliance requirements as of December 2, 2005.

d. SPECIFIC MONITORING AND ASSESSMENT REQUIREMENTS

The Responsible Copermittee must monitor the effluent of its MS4 outfalls for dissolved copper, and calculate or estimate the monthly and annual dissolved copper loads, in accordance with the requirements of Provisions D.2, D.4.b.(1), and D.4.(b)(2) of this Order. The monitoring and assessment results must be submitted as part of the Transitional Monitoring and Assessment Program and Water Quality Improvement Plan Annual Reports required under Provision F.3.b of this Order.

3. Total Maximum Daily Loads for Total Nitrogen and Total Phosphorus in Rainbow Creek Watershed

a. APPLICABILITY

(1) TMDL Basin Plan Amendment: Resolution No. R9-2005-0036

(2) TMDL Adoption and Approval Dates:

San Diego Water Board Adoption Date:	February 9, 2005
State Water Board Approval Date:	November 16, 2005
Office of Administrative Law Approval Date:	February 1, 2006
US EPA Approval Date:	March 22, 2006

(3) TMDL Effective Date: February 1, 2006

(4) Watershed Management Area: Santa Margarita River

(5) Water Body: Rainbow Creek

(6) Responsible Copermittee: County of San Diego

b. FINAL TMDL COMPLIANCE REQUIREMENTS

The final total nitrogen and total phosphorus TMDL compliance requirements for Rainbow Creek consist of the following

(1) Final TMDL Compliance Date

The Responsible Copermittee must comply with final TMDL compliance requirements by December 31, 2021.

(2) Final Water Quality Based Effluent Water Limitations

(a) Final Receiving Water Limitations

Discharges from the MS4s must not cause or contribute to the exceedance of the following receiving water limitations by the compliance date under Specific Provision 3.b.(1):

Table 3.1

Final Receiving Water Limitations Expressed as Concentrations in Rainbow Creek

Constituent	Receiving Water Limitation
Nitrate (as N)	10 mg/L
Total Nitrogen	1 mg/L
Total Phosphorus	0.1 mg/L

(b) Final Effluent Limitations

- (i) Discharges from the MS4s containing concentrations that do not exceed the following effluent limitations by the compliance date under Specific Provision 3.b.(1) will not cause or contribute to exceedances of the receiving water limitations under Specific Provision 3.b.(2)(a):

Table 3.2
Final Effluent Limitations Expressed as Concentrations in MS4 Discharges to Rainbow Creek

Constituent	Effluent Limitation
Nitrate (as N)	10 mg/L
Total Nitrogen	1 mg/L
Total Phosphorus	0.1 mg/L

- (ii) Annual pollutant loads from given land uses discharging to and from the MS4s that do not exceed the following annual loads by the compliance date under Specific Provision 3.b.(1) will not cause or contribute to exceedances of the receiving water limitations under Specific Provision 3.b.(2)(a):

Table 3.3
Final Effluent Limitations Expressed as Annual Loads in MS4 Discharges to Rainbow Creek

Land Use	Total N	Total P
Commercial nurseries	116 kg/yr	3 kg/yr
Park	3 kg/yr	0.1 kg/yr
Residential areas	149 kg/yr	12 kg/yr
Urban areas	27 kg/yr	6 kg/yr

(c) Best Management Practices

- (i) The Responsible Copermitttee must implement BMPs to achieve the receiving water limitations under Specific Provision 3.b.(2)(a) and/or the effluent limitations under Specific Provision 3.b.(2)(b) for Rainbow Creek.
- (ii) The Responsible Copermitttee should coordinate any BMPs implemented to address this TMDL with Caltrans and other sources as possible.

(3) Final TMDL Compliance Determination

Compliance with the final WQBELs, on or after the final TMDL compliance date, may be demonstrated via one of the following methods:

- (a) There is no direct or indirect discharge from the Responsible Copermitttee's MS4s to the receiving water; OR

- (b) There are no exceedances of the final receiving water limitations under Specific Provision 3.b.(2)(a) in the receiving water at, or downstream of the Responsible Copermittee's MS4 outfalls; OR
- (c) There are no exceedances of the final effluent limitations under Specific Provision 3.b.(2)(b)(i) at the Responsible Copermittee's MS4 outfalls; OR
- (d) The annual pollutant loads from given land uses discharging to and from the MS4s do not exceed the final effluent limitations under Specific Provision 3.b.(2)(b)(ii); OR
- (e) The Responsible Copermittee develops and implements the Water Quality Improvement Plan as follows:
 - (i) Incorporate the BMPs required under Specific Provision 3.b.(2)(c) as part of the Water Quality Improvement Plan,
 - (ii) Include an analysis in the Water Quality Improvement Plan, utilizing a watershed model or other watershed analytical tools, to demonstrate that the implementation of the BMPs required under Specific Provision 3.b.(2)(c) achieves compliance with Specific Provisions 3.b.(3)(a), 3.b.(3)(b), 3.b.(3)(c) and/or 3.b.(3)(d),
 - (iii) The results of the analysis must be accepted by the San Diego Water Board as part of the Water Quality Improvement Plan,
 - (iv) The Responsible Copermittees continue to implement the BMPs required under Specific Provision 3.b.(2)(c), AND
 - (v) The Responsible Copermittees continue to perform the specific monitoring and assessments specified in Specific Provision 3.d, to demonstrate compliance with Specific Provisions 3.b.(3)(a), 3.b.(3)(b), 3.b.(3)(c) and/or 3.b.(3)(d).

C. INTERIM TMDL COMPLIANCE REQUIREMENTS

The interim total nitrogen and total phosphorus TMDL compliance requirements for Rainbow Creek consist of the following:

(1) Interim Compliance Dates and WQBELs

The Responsible Copermittee must comply with the interim WQBELs, expressed as annual loads, by December 31 of the interim compliance year given in Table 3.4.

Table 3.4
Interim Water Quality Based Effluent Limitations Expressed as Annual Loads in MS4 Discharges from Specific Land Uses to Rainbow Creek

Land Use	Total N Interim Effluent Limitations (kg/yr)			Total P Interim Effluent Limitations (kg/yr)		
	Interim Compliance Date			Interim Compliance Date		
	2009	2013	2017	2009	2013	2017
Commercial nurseries	390	299	196	20	16	10
Park	5	3	3	0.15	0.10	0.10
Residential areas	507	390	260	99	74	47
Urban areas	40	27	27	9	6	6

(2) Interim TMDL Compliance Determination

Compliance with interim WQBELs, on or after the interim TMDL compliance dates, may be demonstrated via one of the following methods:

- (a) There is no direct or indirect discharge from the Responsible Copermittee's MS4s to the receiving water; OR
- (b) There are no exceedances of the final receiving water limitations under Specific Provision 3.b.(2)(a) in the receiving water at, or downstream of the Responsible Copermittee's MS4 outfalls; OR
- (c) There are no exceedances of the final effluent limitations under Specific Provision 3.b.(2)(b)(i) at the Responsible Copermittee's MS4 outfalls; OR
- (d) The annual pollutant loads from given land uses discharging to and from the MS4s do not exceed the final effluent limitations under Specific Provision 3.b.(2)(b)(ii); OR
- (e) The annual pollutant loads from given land uses discharging to and from the MS4s do not exceed the interim effluent limitations under Specific Provision 3.c.(1); OR
- (f) The Responsible Copermittee has submitted and is fully implementing a Water Quality Improvement Plan, accepted by the San Diego Water Board, which provides reasonable assurance that the interim TMDL compliance requirements will be achieved by the interim compliance dates.

d. SPECIFIC MONITORING AND ASSESSMENT REQUIREMENTS

- (1) The Responsible Copermittee must incorporate into the Water Quality Improvement Plan and implement the Sampling and Analysis Plan for Rainbow Creek Nutrient Reduction TMDL Implementation Water Quality Monitoring, dated January 2010.

- (2) The results of any monitoring conducted during the reporting period, and assessment of whether the interim and final TMDL compliance requirements have been achieved must be submitted as part of the Transitional Monitoring and Assessment Program and Water Quality Improvement Plan Annual Reports required under Provision F.3.b of this Order.

- (3) For assessing and determining compliance with the concentration-based effluent limitations under Specific Provision 3.b.(2)(b)(i), dry and wet weather discharge concentrations may be calculated based on a flow-weighted average across all major MS4 outfalls along a water body segment or within a jurisdiction if samples are collected within a similar time period.

4. Total Maximum Daily Loads for Dissolved Copper, Lead, and Zinc in Chollas Creek

a. APPLICABILITY

(1) TMDL Basin Plan Amendment: Resolution No. R9-2007-0043

(2) TMDL Adoption and Approval Dates:

San Diego Water Board Adoption Date:	June 13, 2007
State Water Board Approval Date:	July 15, 2008
Office of Administrative Law Approval Date:	October 22, 2008
US EPA Approval Date:	December 18, 2008

(3) TMDL Effective Date: October 22, 2008

(4) Watershed Management Area: San Diego Bay

(5) Water Body: Chollas Creek

(6) Responsible Copermittees: City of La Mesa, City of Lemon Grove, City of San Diego, County of San Diego, San Diego Unified Port District

b. FINAL TMDL COMPLIANCE REQUIREMENTS

The final dissolved copper, lead, and zinc TMDL compliance requirements for Chollas Creek consist of the following:

(1) Final TMDL Compliance Date

The Responsible Copermittees must comply with the final TMDL compliance requirements by October 22, 2028.

(2) Final Water Quality Based Effluent Limitations

(a) Final Receiving Water Limitations

Discharges from the MS4s must not cause or contribute to the exceedance of the following receiving water limitations by the compliance date under Specific Provision 4.b.(1):

Table 4.1
Final Receiving Water Limitations Expressed as Concentrations in Chollas Creek

Constituent	Exposure Duration	Receiving Water Limitation (µg/L)	Averaging Period
Dissolved Copper	Acute	$(0.96) \times e^{[0.9422 \times \ln(\text{hardness}) - 1.700]} \times \text{WER}^*$	1 hour
	Chronic	$(0.96) \times e^{[0.8545 \times \ln(\text{hardness}) - 1.702]} \times \text{WER}^*$	4 days
Dissolved Lead	Acute	$[1.46203 - 0.145712 \times \ln(\text{hardness})] \times e^{[1.273 \times \ln(\text{hardness}) - 1.460]} \times \text{WER}^*$	1 hour
	Chronic	$[1.46203 - 0.145712 \times \ln(\text{hardness})] \times e^{[1.273 \times \ln(\text{hardness}) - 4.705]} \times \text{WER}^*$	4 days
Dissolved Zinc	Acute	$(0.978) \times e^{[0.8473 \times \ln(\text{hardness}) + 0.884]} \times \text{WER}^*$	1 hour
	Chronic	$(0.986) \times e^{[0.8473 \times \ln(\text{hardness}) + 0.884]} \times \text{WER}^*$	4 days

Notes:

* The Water Effect Ratio (WER) is assumed to be 1.0 unless there is a site-specific and chemical-specific WER provided in the Basin Plan.

(b) Final Effluent Limitations

Discharges from the MS4s containing pollutant loads that do not exceed the following effluent limitations by the compliance date under Specific Provision 4.b.(1) will not cause or contribute to exceedances of the receiving water limitations under Specific Provision 4.b.(2)(a):

Table 4.2
Final Effluent Limitations as Expressed Concentrations in MS4 Discharges to Chollas Creek

Constituent	Exposure Duration	Effluent Limitation (µg/L)	Averaging Period
Dissolved Copper	Acute	$90\% \times (0.96) \times e^{[0.9422 \times \ln(\text{hardness}) - 1.700]} \times \text{WER}^*$	1 hour
	Chronic	$90\% \times (0.96) \times e^{[0.8545 \times \ln(\text{hardness}) - 1.702]} \times \text{WER}^*$	4 days
Dissolved Lead	Acute	$90\% \times [1.46203 - 0.145712 \times \ln(\text{hardness})] \times e^{[1.273 \times \ln(\text{hardness}) - 1.460]} \times \text{WER}^*$	1 hour
	Chronic	$90\% \times [1.46203 - 0.145712 \times \ln(\text{hardness})] \times e^{[1.273 \times \ln(\text{hardness}) - 4.705]} \times \text{WER}^*$	4 days
Dissolved Zinc	Acute	$90\% \times (0.978) \times e^{[0.8473 \times \ln(\text{hardness}) + 0.884]} \times \text{WER}^*$	1 hour
	Chronic	$90\% \times (0.986) \times e^{[0.8473 \times \ln(\text{hardness}) + 0.884]} \times \text{WER}^*$	4 days

Notes:

* The Water Effect Ratio (WER) is assumed to be 1.0 unless there is a site-specific and chemical-specific WER provided in the Basin Plan.

(c) Best Management Practices

- (i) The Responsible Copermittees must implement BMPs to achieve the receiving water limitations under Specific Provision 4.b.(2)(a) and/or the effluent limitations under Specific Provision 4.b.(2)(b) for Chollas Creek.
- (ii) The Responsible Copermittees should coordinate any BMPs implemented to address this TMDL with Caltrans and the U.S. Navy as possible.

(3) Final TMDL Compliance Determination

Compliance with the final WQBELs, on or after the final TMDL compliance date, may be demonstrated via one of the following methods:

- (a) There is no direct or indirect discharge from the Responsible Copermittee's MS4s to the receiving water; OR
- (b) There are no exceedances of the final receiving water limitations under Specific Provision 4.b.(2)(a) in the receiving water at, or downstream of the Responsible Copermittee's MS4 outfalls; OR
- (c) There are no exceedances of the final effluent limitations under Specific Provision 4.b.(2)(b) at the Responsible Copermittee's MS4 outfalls; OR
- (d) The Responsible Copermittees develop and implement the Water Quality Improvement Plan as follows:
 - (i) Incorporate the BMPs required under Specific Provision 4.b.(2)(c) as part of the Water Quality Improvement Plan,
 - (ii) Include an analysis in the Water Quality Improvement Plan, utilizing a watershed model or other watershed analytical tools, to demonstrate that the implementation of the BMPs required under Provision 4.b.(2)(c) achieves compliance with Specific Provisions 4.b.(3)(a), 4.b.(3)(b) and/or 4.b.(3)(c),
 - (iii) The results of the analysis must be accepted by the San Diego Water Board as part of the Water Quality Improvement Plan,
 - (iv) The Responsible Copermittees continue to implement the BMPs required under Specific Provision 4.b.(2)(c), AND
 - (v) The Responsible Copermittees continue to perform the specific monitoring and assessments specified in Specific Provision 4.d, to demonstrate compliance with Specific Provisions 4.b.(3)(a), 4.b.(3)(b) and/or 4.b.(3)(c).

c. INTERIM TMDL COMPLIANCE REQUIREMENTS

The interim dissolved copper, lead, and zinc TMDL compliance requirements for Chollas Creek consist of the following:

(1) Interim Compliance Date and WQBELs

The Responsible Copermittee must comply with the interim WQBELs, expressed as concentrations, by the interim compliance date given in Table 4.3:

Table 4.3
Interim Water Quality Based Effluent Limitations Expressed as Concentrations in MS4 Discharges to Chollas Creek

Interim Compliance Date	Constituent	Exposure Duration	Effluent Limitation (µg/L)	Averaging Period
October 22, 2018	Dissolved Copper	Acute	$1.2 \times 90\% \times (0.96) \times e^{[0.9422 \times \ln(\text{hardness}) - 1.700]} \times \text{WER}^*$	1 hour
		Chronic	$1.2 \times 90\% \times (0.96) \times e^{[0.8545 \times \ln(\text{hardness}) - 1.702]} \times \text{WER}^*$	4 days
	Dissolved Lead	Acute	$1.2 \times 90\% \times [1.46203 - 0.145712 \times \ln(\text{hardness})] \times e^{[1.273 \times \ln(\text{hardness}) - 1.460]} \times \text{WER}^*$	1 hour
		Chronic	$1.2 \times 90\% \times [1.46203 - 0.145712 \times \ln(\text{hardness})] \times e^{[1.273 \times \ln(\text{hardness}) - 4.705]} \times \text{WER}^*$	4 days
	Dissolved Zinc	Acute	$1.2 \times 90\% \times (0.978) \times e^{[0.8473 \times \ln(\text{hardness}) + 0.884]} \times \text{WER}^*$	1 hour
		Chronic	$1.2 \times 90\% \times (0.986) \times e^{[0.8473 \times \ln(\text{hardness}) + 0.884]} \times \text{WER}^*$	4 days

Notes:
 * The Water Effect Ratio (WER) is assumed to be 1.0 unless there is a site-specific and chemical-specific WER provided in the Basin Plan.

(2) Interim TMDL Compliance Determination

Compliance with interim WQBELs, on or after the interim TMDL compliance date, may be demonstrated via one of the following methods:

- (a) There is no direct or indirect discharge from the Responsible Copermittee’s MS4s to the receiving water; OR
- (b) There are no exceedances of the applicable receiving water limitations under Specific Provision 4.b.(2)(a) in the receiving water at, or downstream of the Responsible Copermittee’s MS4 outfalls; OR
- (c) There are no exceedances of the final effluent limitations under Specific Provision 4.b.(2)(b) at the Responsible Copermittee’s MS4 outfalls; OR
- (d) There are no exceedances of the interim effluent limitations under Specific Provision 4.c.(1) at the Responsible Copermittee’s MS4 outfalls; OR

- (e) The Responsible Copermittees have submitted and is fully implementing a Water Quality Improvement Plan, accepted by the San Diego Water Board, which provides reasonable assurance that the interim TMDL compliance requirements will be achieved by the interim compliance date.

d. SPECIFIC MONITORING AND ASSESSMENT REQUIREMENTS

- (1) The Responsible Copermittees must implement the monitoring and assessment requirements issued under Investigation Order No. R9-2004-0277, *California Department of Transportation and San Diego Municipal Separate Storm Sewer System Copermittees Responsible for the Discharge of Diazinon into the Chollas Creek Watershed*, when it is amended to include monitoring requirements for the Total Maximum Daily Loads for Dissolved Copper, Lead, and Zinc in Chollas Creek. The monitoring reports required under Investigation Order No. R9-2004-0277 must be submitted as part of the Transitional Monitoring and Assessment Program and Water Quality Improvement Plan Annual Reports required under Provision F.3.b of this Order.
- (2) The Responsible Copermittees must monitor the effluent of the MS4 outfalls discharging to Chollas Creek for dissolved copper, lead, and zinc, and calculate or estimate the monthly and annual dissolved copper, lead, and zinc loads, in accordance with the requirements of Provisions D.2, D.4.b.(1), and D.4.b.(2) of this Order. The monitoring and assessment results must be submitted as part of the Transitional Monitoring and Assessment Program and Water Quality Improvement Plan Annual Reports required under Provision F.3.b of this Order.
- (3) For assessing and determining compliance with the concentration-based effluent limitations under Specific Provision 4.b.(2)(b) or 4.c.(1), dry and wet weather discharge concentrations may be calculated based on a flow-weighted average across all major MS4 outfalls along a water body segment or within a jurisdiction if samples are collected within a similar time period.

5. Total Maximum Daily Loads for Indicator Bacteria, Baby Beach in Dana Point Harbor and Shelter Island Shoreline Park in San Diego Bay

a. APPLICABILITY

(1) TMDL Basin Plan Amendment: Resolution No. R9-2008-0027

(2) TMDL Adoption and Approval Dates:

San Diego Water Board Adoption Date:	June 11, 2008
State Water Board Approval Date:	June 16, 2009
Office of Administrative Law Approval Date:	September 15, 2009
US EPA Approval Date:	October 26, 2009

(3) TMDL Effective Date: September 15, 2009

(4) Watershed Management Areas: See Table 5.0

(5) Water Bodies: See Table 5.0

(6) Responsible Copermittees: See Table 5.0

Table 5.0

*Applicability of Total Maximum Daily Loads for Indicator Bacteria
 Baby Beach in Dana Point Harbor and Shelter Island Shoreline Park in San Diego Bay*

Watershed Management Area	Water Body	Segment or Area	Responsible Copermittees
South Orange County	Dana Point Harbor	Baby Beach	-City of Dana Point -County of Orange
San Diego Bay	San Diego Bay	Shelter Island Shoreline Park	- San Diego Unified Port District

b. FINAL TMDL COMPLIANCE REQUIREMENTS

The final indicator bacteria TMDL compliance requirements for segments or areas of the water bodies listed in Table 5.0 consist of the following:

(1) Final TMDL Compliance Dates

(a) Baby Beach in Dana Point Harbor

The Responsible Copermittees for MS4 discharges to Baby Beach must be in compliance with the final TMDL compliance requirements according to the following compliance dates:

Table 5.1
*Compliance Dates to Achieve Final TMDL Compliance Requirements
 For Baby Beach in Dana Point Harbor*

Constituent	Dry Weather WLA Compliance Date	Wet Weather WLA Compliance Date
Total Coliform	September 15, 2014	September 15, 2009
Fecal Coliform		September 15, 2009
<i>Enterococcus</i>		September 15, 2019

(b) Shelter Island Shoreline Park in San Diego Bay

The Responsible Copermittee for MS4 discharges to Shelter Island Shoreline Park must be in compliance with the final TMDL compliance requirements as of December 31, 2012.

(2) Final Water Quality Based Effluent Water Limitations

(a) Final Receiving Water Limitations

Discharges from the MS4s must not cause or contribute to the exceedance of the following receiving water limitations by the compliance dates under Specific Provision 5.b.(1):

Table 5.2
*Final Receiving Water Limitations Expressed as Bacteria Densities in
 the Water Body*

Receiving Water Limitations		
Constituent	Single Sample Maximum^{1,2}	30-Day Geometric Mean²
Total Coliform	10,000 MPN/100mL	1,000 MPN/100mL
Fecal Coliform	400 MPN/100mL	200 MPN/100mL
<i>Enterococcus</i>	104 MPN/100mL	35 MPN/100mL

Notes:

1. During wet weather days, only the single sample maximum receiving water limitations are required to be achieved.
2. During dry weather days, the single sample maximum and 30-day geometric mean receiving water limitations are required to be achieved.

(b) Final Effluent Limitations

- (i) Discharges from the MS4s containing indicator bacteria densities that do not exceed the following effluent limitations by the compliance dates under Specific Provision 5.b.(1) will not cause or contribute to exceedances of the receiving water limitations under Specific Provision 5.b.(2)(a):

Table 5.3a

Final Effluent Limitations as Expressed as Bacteria Densities in MS4 Discharges to the Water Body

Effluent Limitations		
Constituent	Single Sample Maximum ^{1,2}	30-Day Geometric Mean ²
Total Coliform	10,000 MPN/100mL	1,000 MPN/100mL
Fecal Coliform	400 MPN/100mL	200 MPN/100mL
<i>Enterococcus</i>	104 MPN/100mL	35 MPN/100mL

Notes:

1. During wet weather days, only the single sample maximum effluent limitations are required to be achieved.
2. During dry weather days, the single sample maximum and 30-day geometric mean effluent limitations are required to be achieved.

- (ii) Discharges from the MS4s containing indicator bacteria loads that do not exceed the following effluent limitations by the compliance dates under Specific Provision 5.b.(1) will not cause or contribute to exceedances of the receiving water limitations under Specific Provision 5.b.(2)(a):

Table 5.4a

Final Effluent Limitations Expressed as Bacteria Loads in MS4 Discharges to the Baby Beach in Dana Point Harbor

Constituent	Dry Weather	Wet Weather
	Final Effluent Limitation	Final Effluent Limitation
Total Coliform	0.86x10 ⁹ MPN/day	3,254x10 ⁹ MPN/30days
Fecal Coliform	0.17x10 ⁹ MPN/day	112x10 ⁹ MPN/30days
<i>Enterococcus</i>	0.03x10 ⁹ MPN/day	114x10 ⁹ MPN/30days

Table 5.4b

Final Effluent Limitations Expressed as Bacteria Loads in MS4 Discharges to the Shelter Island Shoreline Park in San Diego Bay

Constituent	Dry Weather	Wet Weather
	Final Effluent Limitation	Final Effluent Limitation
Total Coliform	0 MPN/day	198x10 ⁹ MPN/30days
Fecal Coliform	0 MPN/day	8x10 ⁹ MPN/30days
<i>Enterococcus</i>	0 MPN/day	26x10 ⁹ MPN/30days

- (iii) Indicator bacteria percent load reductions from the Responsible Copermitees' MS4s that are greater than or equal to the following effluent limitations by the compliance dates under Specific Provision 5.b.(1) will not cause or contribute to exceedances of the receiving water limitations under Specific Provision 5.b.(2)(a):

Table 5.5a

Final Effluent Limitations Expressed as Percent Load Reductions in MS4 Discharges to Baby Beach in Dana Point Harbor*

Constituent	Dry Weather	Wet Weather
	Final Effluent Limitation	Final Effluent Limitation
Total Coliform	90.4%	0%
Fecal Coliform	82.7%	0%
<i>Enterococcus</i>	96.2%	62.2%

Notes:

* The percent load reductions are relative to data collected between 1996-2002. For pollutant load reductions of 0%, pollutant loads discharged from the Responsible Copermitees' MS4s must not exceed the loads in Table 5.4a, unless an updated model or analysis, accepted by the San Diego Water Board, identifies a different allowable pollutant load that can be discharged from the Responsible Copermitee's MS4s to the water body.

Table 5.5b

*Final Effluent Limitations Expressed as Percent Load Reductions** in MS4 Discharges to Shelter Island Shoreline Park in San Diego Bay*

Constituent	Dry Weather	Wet Weather
	Final Effluent Limitation	Final Effluent Limitation
Total Coliform	0%	0%
Fecal Coliform	0%	0%
<i>Enterococcus</i>	0%	0%

Notes:

* The percent load reductions are relative to data collected between 1999-2004. For pollutant load reductions of 0%, pollutant loads discharged from the Responsible Copermitee's MS4s must not exceed the loads in Table 5.4b, unless an updated model or analysis, accepted by the San Diego Water Board, identifies a different allowable pollutant load that can be discharged from the Responsible Copermitee's MS4s to the water body.

(c) Best Management Practices

- (i) The Water Quality Improvement Plans for the applicable Watershed Management Areas in Table 5.0 must incorporate the Bacteria Load Reduction Plan (BLRP) required to be developed pursuant to Resolution No. R9-2008-0027.
- (ii) The Responsible Copermitee must implement BMPs to achieve the receiving water limitations under Specific Provision 5.b.(2)(a) and/or the effluent limitations under Specific Provision 5.b.(2)(b) for the segments or areas of the water bodies listed in Table 5.0

(3) Final TMDL Compliance Determination

Compliance with the final WQBELs, on or after the final TMDL compliance dates, may be demonstrated via one of the following methods:

- (a) There is no direct or indirect discharge from the Responsible Copermittee's MS4s to the receiving water; OR
- (b) There are no exceedances of the final receiving water limitations under Specific Provision 5.b.(2)(a) in the receiving water at, or downstream of the Responsible Copermittee's MS4 outfalls; OR
- (c) There are no exceedances of the final effluent limitations under Specific Provision 5.b.(2)(b)(i) at the Responsible Copermittee's MS4 outfalls; OR
- (d) The pollutant loads discharging from the Responsible Copermittees' MS4 outfalls do not exceed the final effluent limitations under Specific Provision 5.b.(2)(b)(ii); OR
- (e) The pollutant load reductions for discharges from the Responsible Copermittees' MS4 outfalls are greater than or equal to the final effluent limitations under Specific Provision 5.b.(2)(b)(iii); OR
- (f) The Responsible Copermittees can demonstrate that exceedances of the final receiving water limitations under Specific Provision 5.b.(2)(a) in the receiving water are due to loads from natural sources, AND pollutant loads from the Copermittees' MS4s are not causing or contributing to the exceedances; OR
- (g) The Responsible Copermittees develop and implement the Water Quality Improvement Plan as follows:
 - (i) Incorporate the BMPs required under Specific Provision 5.b.(2)(c) as part of the Water Quality Improvement Plan,
 - (ii) Include an analysis in the Water Quality Improvement Plan, utilizing a watershed model or other watershed analytical tools, to demonstrate that the implementation of the BMPs required under Provision 5.b.(2)(c) achieves compliance with Specific Provisions 5.b.(3)(a), 5.b.(3)(b), 5.b.(3)(c), 5.b.(3)(d), 5.b.(3)(e) and/or 5.b.(3)(f),
 - (iii) The results of the analysis must be accepted by the San Diego Water Board as part of the Water Quality Improvement Plan,
 - (iv) The Responsible Copermittees continue to implement the BMPs required under Specific Provision 5.b.(2)(c), AND

- (v) The Responsible Copermittees continue to perform the specific monitoring and assessments specified in Specific Provision 5.d, to demonstrate compliance with Specific Provisions 5.b.(3)(a), 5.b.(3)(b), 5.b.(3)(c), 5.b.(3)(d), 5.b.(3)(e) and/or 5.b.(3)(f).

C. INTERIM TMDL COMPLIANCE REQUIREMENTS

The interim indicator bacteria TMDL compliance requirements for segments or areas of the water bodies listed in Table 5.0 consist of the following:

(1) Baby Beach in Dana Point Harbor

(a) Interim TMDL Compliance Dates and WQBELS

The Responsible Copermittees for MS4 discharges to Baby Beach must comply with the following interim WQBELS by the interim compliance dates given in Tables 5.6a and/or 5.6b:

Table 5.6a

Interim Water Quality Based Effluent Limitations Expressed as Bacteria Loads in MS4 Discharges to Baby Beach in Dana Point Harbor

Constituent	Interim Compliance Dates	Dry Weather	Wet Weather
		Interim Effluent Limitation	Interim Effluent Limitation
Total Coliform	September 15, 2012	4.93x10 ⁹ MPN/day	3,254x10 ⁹ MPN/30days*
Fecal Coliform	September 15, 2012	0.59x10 ⁹ MPN/day	112x10 ⁹ MPN/30days*
Enterococcus	September 15, 2012	0.42x10 ⁹ MPN/day	301x10 ⁹ MPN/30days
	September 15, 2016	0.03x10 ⁹ MPN/day *	207x10 ⁹ MPN/30days

Notes:

* Same as the final effluent limitations in Table 5.4a.

Table 5.6b

Interim Water Quality Based Effluent Limitations Expressed as Percent Load Reductions in MS4 Discharges to Baby Beach in Dana Point Harbor*

Constituent	Interim Compliance Dates	Dry Weather	Wet Weather
		Interim Effluent Limitation	Interim Effluent Limitation
Total Coliform	September 15, 2012	45.2%	0%**
Fecal Coliform	September 15, 2012	41.4%	0%**
Enterococcus	September 15, 2012	48.1%	0%
	September 15, 2016	96.2%**	31.1%

Notes:

* The percent load reductions are relative to data collected between 1996-2002. For pollutant load reductions of 0%, pollutant loads discharged from the Responsible Copermittees' MS4s must not exceed the loads in Table 5.6a, unless an updated model or analysis, accepted by the San Diego Water Board, identifies a different allowable pollutant load that can be discharged from the Responsible Copermittee's MS4s to the waterbody.

** Same as the final effluent limitations in Table 5.5a.

(b) Interim Compliance Determination

Compliance with interim WQBELs, on or after the interim TMDL compliance dates, may be demonstrated via one of the following methods:

- (i) There is no direct or indirect discharge from the Responsible Copermittee's MS4s to the receiving water; OR
- (ii) There are no exceedances of the final receiving water limitations under Specific Provision 5.b.(2)(a) in the receiving water at, or downstream of the Responsible Copermittee's MS4 outfalls; OR
- (iii) There are no exceedances of the final effluent limitations under Specific Provision 5.b.(2)(b)(i) at the Responsible Copermittee's MS4 outfalls; OR
- (iv) The pollutant loads discharging from the Responsible Copermittees' MS4 outfalls do not exceed the final effluent limitations under Specific Provision 5.b(2)(b)(ii); OR
- (v) The Responsible Copermittees can demonstrate that exceedances of the applicable receiving water limitations under Specific Provision 5.b.(2)(a) in the receiving water are due to loads from natural sources, AND pollutant loads from the Copermittees' MS4s are not causing or contributing to the exceedances; OR
- (vi) The pollutant loads discharging from the Responsible Copermittees' MS4 outfalls do not exceed the interim effluent limitations under Table 5.6a of Specific Provision 5.c.(1)(a); OR
- (vii) The pollutant load reductions for discharges from the Responsible Copermittees' MS4 outfalls are greater than or equal to the interim effluent limitations under Table 5.6b of Specific Provision 5.c.(1)(a); OR
- (viii) The Responsible Copermittees have submitted and are fully implementing a Water Quality Improvement Plan, accepted by the San Diego Water Board, which provides reasonable assurance that the interim TMDL compliance requirements will be achieved by the interim compliance dates.

(2) Shelter Island Shoreline Park in San Diego Bay

The Responsible Copermittee for MS4 discharges to Shelter Island Shoreline Park must be in compliance with the final indicator bacteria TMDL requirements as of December 31, 2012.

d. SPECIFIC MONITORING AND ASSESSMENT REQUIREMENTS

(1) Monitoring Stations

Monitoring locations should consist of, at a minimum, the same locations used to collect data required pursuant to Order Nos. R9-2007-0001 and R9-2009-0002, and beach monitoring for Health and Safety Code section 115880.³⁸ If discharges of bacteria from the MS4 exceed the applicable interim or final WQBELs, additional monitoring locations and/or other source identification methods must be implemented to identify the sources causing the exceedances. The additional monitoring locations must also be used to demonstrate that the bacteria loads from the identified anthropogenic sources have been addressed and are no longer causing exceedances in the receiving waters.

(2) Monitoring Procedures

- (a) The Responsible Copermittees must collect dry weather monitoring samples from the receiving water monitoring stations at least monthly. Dry weather samples collected from additional monitoring stations established to identify sources must be collected at an appropriate frequency to demonstrate bacteria loads from the identified anthropogenic sources have been addressed and are no longer causing exceedances in the receiving waters.
- (b) The Responsible Copermittees must collect wet weather monitoring samples within the first 24 hours of a storm event³⁹ of the rainy season (i.e. October 1 through April 30). Wet weather samples collected from receiving water stations and any additional monitoring stations established to identify sources must be collected at an appropriate frequency to demonstrate bacteria loads from the identified sources have been addressed and are no longer causing exceedances in the receiving waters.
- (c) Samples must be analyzed for total coliform, fecal coliform, and *Enterococcus* indicator bacteria.

³⁸ Commonly referred to as AB 411 monitoring

³⁹ Wet weather days are defined by the TMDL as storm events of 0.2 inches or greater and the following 72 hours. The Responsible Copermittees may choose to limit their wet weather sampling requirements to storm events of 0.2 inches or greater, or also include storm events of 0.1 inches or greater as defined by the federal regulations [40CFR122.26(d)(2)(iii)(A)(2)].

(3) Assessment and Reporting Requirements

- (a) The Responsible Copermittees must analyze the dry weather and wet weather monitoring data to assess whether the interim and final WQBELs have been achieved.
- (b) For assessing and determining compliance with the concentration-based effluent limitations under Specific Provision 5.b.(2)(b)(i), dry and wet weather discharge bacteria densities may be calculated based on a flow-weighted average across all major MS4 outfalls along a water body segment or within a jurisdiction if samples are collected within a similar time period.
- (c) The Responsible Copermittees must analyze the dry weather and wet weather monitoring data to correlate elevated bacteria levels with known or suspected sewage spills from wastewater collection systems and treatment plants or boats.
- (d) The monitoring and assessment results must be submitted as part of the Transitional Monitoring and Assessment Program and Water Quality Improvement Plan Annual Reports required under Provision F.3.b of this Order.

6. Revised Total Maximum Daily Loads for Indicator Bacteria, Project I – Twenty Beaches and Creeks in the San Diego Region (Including Tecolote Creek)

a. APPLICABILITY

(1) TMDL Basin Plan Amendment: Resolution No. R9-2010-0001

(2) TMDL Adoption and Approval Dates:

San Diego Water Board Adoption Date:	February 10, 2010
State Water Board Approval Date:	December 14, 2010
Office of Administrative Law Approval Date:	April 4, 2011
US EPA Approval Date:	June 22, 2011

(3) TMDL Effective Date: April 4, 2011

(4) Watershed Management Areas: See Table 6.0

(5) Water Bodies: See Table 6.0

(6) Responsible Copermittees: See Table 6.0

Table 6.0

Applicability of Total Maximum Daily Loads for Indicator Bacteria

Project I - Twenty Beaches and Creeks in the San Diego Region (including Tecolote Creek)

Watershed Management Area and Watershed	Water Body	Segment or Area	Responsible Copermittees
South Orange County San Joaquin Hills HSA (901.11) and Laguna Beach HSA (901.12)	Pacific Ocean Shoreline	Cameo Cove at Irvine Cove Drive – Riviera Way at Heisler Park - North	-City of Laguna Beach -County of Orange -Orange County Flood Control District
		at Main Laguna Beach	
	Pacific Ocean Shoreline	Laguna Beach at Ocean Avenue	-City of Aliso Viejo -City of Laguna Beach -City of Laguna Woods -County of Orange -Orange County Flood Control District
		Laguna Beach at Cleo Street	
		Arch Cove at Bluebird Canyon Road Laguna Beach at Dumond Drive	
South Orange County Aliso HSA (901.13)	Pacific Ocean Shoreline	Laguna Beach at Lagunita Place / Blue Lagoon Place at Aliso Beach	-City of Aliso Viejo -City of Laguna Beach -City of Laguna Hills -City of Laguna Niguel -City of Laguna Woods -City of Lake Forest -City of Mission Viejo -County of Orange -Orange County Flood Control District
	Aliso Creek	Entire reach (7.2 miles) and associated tributaries: - Aliso Hills Channel - English Canyon Creek - Dairy Fork Creek - Sulfur Creek - Wood Canyon Creek	
	Aliso Creek Mouth	at mouth	

Table 6.0 (Cont'd)
*Applicability of Total Maximum Daily Loads for Indicator Bacteria
 Project I - Twenty Beaches and Creeks in the San Diego Region (including Tecolote Creek)*

Watershed Management Area and Watershed	Water Body	Segment or Area	Responsible Copermittees
South Orange County Dana Point HSA (901.14)	Pacific Ocean Shoreline	Aliso Beach at West Street	-City of Dana Point -City of Laguna Beach -City of Laguna Niguel -County of Orange -Orange County Flood Control District
		Aliso Beach at Table Rock Drive	
		100 Steps Beach at Pacific Coast Hwy at hospital (9 th Avenue)	
		at Salt Creek (large outlet)	
		Salt Creek Beach at Salt Creek service road	
		Salt Creek Beach at Strand Road	
South Orange County Lower San Juan HSA (901.27)	Pacific Ocean Shoreline	at San Juan Creek	-City of Dana Point -City of Laguna Hills -City of Laguna Niguel -City of Mission Viejo -City of Rancho Santa Margarita -City of San Juan Capistrano -County of Orange -Orange County Flood Control District
	San Juan Creek	lower 1 mile	
	San Juan Creek Mouth	at mouth	
South Orange County San Clemente HA (901.30)	Pacific Ocean Shoreline	at Poche Beach	-City of Dana Point -City of San Clemente -County of Orange -Orange County Flood Control District
		Ole Hanson Beach Club Beach at Pico Drain	
		San Clemente City Beach at El Portal Street Stairs	
		San Clemente City Beach at Mariposa Street	
		San Clemente City Beach at Linda Lane	
		San Clemente City Beach at South Linda Lane	
		San Clemente City Beach at Lifeguard Headquarters	
		under San Clemente Municipal Pier	
		San Clemente City Beach at Trafalgar Canyon (Trafalgar Lane)	
		San Clemente State Beach at Riviera Beach	
		San Clemente State Beach at Cypress Shores	

Table 6.0 (Cont'd)
*Applicability of Total Maximum Daily Loads for Indicator Bacteria
 Project I - Twenty Beaches and Creeks in the San Diego Region (including Tecolote Creek)*

Watershed Management Area and Watershed	Water Body	Segment or Area	Responsible Copermittees
San Luis Rey River San Luis Rey HU (903.00)	Pacific Ocean Shoreline	at San Luis Rey River mouth	-City of Oceanside -City of Vista -County of San Diego
Carlsbad San Marcos HA (904.50)	Pacific Ocean Shoreline	at Moonlight State Beach	-City of Carlsbad -City of Encinitas -City of Escondido -City of San Marcos -County of San Diego
San Dieguito River San Dieguito HU (905.00)	Pacific Ocean Shoreline	at San Dieguito Lagoon mouth	-City of Del Mar -City of Escondido -City of Poway -City of San Diego -City of Solana Beach -County of San Diego
Penasquitos Miramar Reservoir HA (906.10)	Pacific Ocean Shoreline	Torrey Pines State Beach at Del Mar (Anderson Canyon)	-City of Del Mar -City of Poway -City of San Diego -County of San Diego
Mission Bay Scripps HA (906.30)	Pacific Ocean Shoreline	La Jolla Shores Beach at El Paseo Grande	-City of San Diego
		La Jolla Shores Beach at Caminito del Oro	
		La Jolla Shores Beach at Vallecitos	
		La Jolla Shores Beach at Avenida de la Playa	
		at Casa Beach, Children's Pool	
		South Casa Beach at Coast Boulevard	
		Whispering Sands Beach at Ravina Street	
		Windansea Beach at Vista de la Playa	
		Windansea Beach at Bonair Street	
		Windansea Beach at Playa del Norte	
		Windansea Beach at Palomar Avenue	
		at Tourmaline Surf Park	
Pacific Beach at Grand Avenue			
Mission Bay Tecolote HA (906.50)	Tecolote Creek	Entire reach and tributaries	

Table 6.0 (Cont'd)
Applicability of Total Maximum Daily Loads for Indicator Bacteria
Project I- Twenty Beaches and Creeks in the San Diego Region (including Tecolote Creek)

Watershed Management Area and Watershed	Water Body	Segment or Area	Responsible Copermittees
San Diego River	Forrester Creek	lower 1 mile	-City of El Cajon -City of Santee -County of San Diego
Mission San Diego HSA (907.11) and Santee HSA (907.12)	San Diego River	lower 6 miles	-City of El Cajon -City of La Mesa
	Pacific Ocean Shoreline	at San Diego River mouth at Dog Beach	-City of San Diego -City of Santee -County of San Diego
San Diego Bay Chollas HSA (908.22)	Chollas Creek	lower 1.2 miles	-City of La Mesa -City of Lemon Grove -City of San Diego -County of San Diego - San Diego Unified Port District

b. FINAL TMDL COMPLIANCE REQUIREMENTS

The final indicator bacteria TMDL compliance requirements for the water bodies listed in Table 6.0 consist of the following:

(1) Final TMDL Compliance Dates

The Responsible Copermittees for MS4 discharges to the water bodies listed in Table 6.0 must be in compliance with the final TMDL compliance requirements according to the following compliance dates:

Table 6.1
Compliance Dates to Achieve Final TMDL Compliance Requirements

Constituent	Dry Weather TMDL Compliance Date	Wet Weather TMDL Compliance Date*
Total Coliform	April 4, 2021	April 4, 2031 (April 4, 2021)
Fecal Coliform		
<i>Enterococcus</i>		

* The Wet Weather TMDL Compliance Date in parenthesis applies if the applicable Water Quality Improvement Plan does not include load reduction programs for other constituents (e.g. metals, pesticides, trash, nutrients, sediment, etc.) together with bacteria load reduction requirements of these TMDLs.

(2) Final Water Quality Based Effluent Limitations

(a) Final Receiving Water Limitations

Discharges from the MS4s must not cause or contribute to the exceedance of the following receiving water limitations by the compliance dates under Specific Provision 6.b.(1):

Table 6.2a

Final Receiving Water Limitations Expressed as Bacteria Densities and Allowable Exceedance Frequencies for Beaches

Constituent	Wet Weather Days		Dry Weather Days	
	Single Sample Maximum ^{a,b} (MPN/100mL)	Single Sample Maximum Allowable Exceedance Frequency ^c	30-Day Geometric Mean ^b (MPN/100mL)	30-Day Geometric Mean Allowable Exceedance Frequency
Total Coliform	10,000	22%	1,000	0%
Fecal Coliform	400	22%	200	0%
<i>Enterococcus</i>	104	22%	35	0%

Notes:

- During wet weather days, only the single sample maximum receiving water limitations are required to be achieved.
- During dry weather days, the single sample maximum and 30-day geometric mean receiving water limitations are required to be achieved.
- The 22% single sample maximum allowable exceedance frequency only applies to wet weather days. For dry weather days, the dry weather bacteria densities must be consistent with the single sample maximum REC-1 water quality objectives in the Ocean Plan.

Table 6.2b

Final Receiving Water Limitations Expressed as Bacteria Densities and Allowable Exceedance Frequencies for Creeks

Constituent	Wet Weather Days		Dry Weather Days	
	Single Sample Maximum ^{a,b} (MPN/100mL)	Single Sample Maximum Allowable Exceedance Frequency ^c	30-Day Geometric Mean ^b (MPN/100mL)	30-Day Geometric Mean Allowable Exceedance Frequency
Fecal Coliform	400	22%	200	0%
<i>Enterococcus</i>	61 (104)	22%	33	0%

Notes:

- During wet weather days, only the single sample maximum receiving water limitations are required to be achieved.
- During dry weather days, the single sample maximum and 30-day geometric mean receiving water limitations are required to be achieved.
- The 22% single sample maximum allowable exceedance frequency only applies to wet weather days. For dry weather days, the dry weather bacteria densities must be consistent with the single sample maximum REC-1 water quality objectives in the Basin Plan.
- A single sample maximum of 104 MPN/100ml for *Enterococcus* may be applied as a receiving water limitation for creeks, instead of 61 MPN/100mL, if one or more of the creeks addressed by these TMDLs (San Juan Creek, Aliso Creek, Tecolote Creek, Forrester Creek, San Diego River, and/or Chollas Creek) is designated with a "moderately to lightly used area" or less frequent usage frequency in the Basin Plan. Otherwise, the single sample maximum of 61 MPN/100mL for *Enterococcus* must be used to assess compliance with the allowable exceedance frequency.

(b) Final Effluent Limitations

- (i) Discharges from the MS4s containing indicator bacteria densities that do not exceed the following effluent limitations by the compliance dates under Specific Provision 6.c.(1) will not cause or contribute to exceedances of the receiving water limitations under Specific Provision 6.b.(2)(a):

Table 6.2c

Final Effluent Limitations Expressed as Bacteria Densities and Allowable Exceedance Frequencies in MS4 Discharges to the Water Body

Constituent	Concentration-Based Effluent Limitations			
	Single Sample Maximum ^{a,b} (MPN/100mL)	Single Sample Maximum Allowable Exceedance Frequency ^c	30-Day Geometric Mean ^b (MPN/100mL)	30-Day Geometric Mean Allowable Exceedance Frequency
Total Coliform ^d	10,000	22%	1,000	0%
Fecal Coliform	400	22%	200	0%
<i>Enterococcus</i>	104 ^e / 61 ^f	22%	35 ^e / 33 ^f	0%

Notes:

- a. During wet weather days, only the single sample maximum effluent limitations are required to be achieved.
- b. During dry weather days, the single sample maximum and 30-day geometric mean effluent limitations are required to be achieved.
- c. The 22% single sample maximum allowable exceedance frequency only applies to wet weather days. For dry weather days, the dry weather bacteria densities must be consistent with the single sample maximum REC-1 water quality objectives in the Ocean Plan for discharges to beaches, and the Basin Plan for discharges to creeks and creek mouths.
- d. Total coliform effluent limitations only apply to MS4 outfalls that discharge to the Pacific Ocean Shorelines and creek mouths listed in Table 6.0.
- e. This *Enterococcus* effluent limitation applies to MS4 discharges to segments of areas of Pacific Ocean Shoreline listed in Table 6.0.
- f. This *Enterococcus* effluent limitation applies to MS4 discharges to segments or areas of creeks or creek mouths listed in Table 6.0.

- (ii) Indicator bacteria percent load reductions from the Responsible Copermittees' MS4s that are greater than or equal to the following effluent limitations by the compliance dates under Specific Provision 6.b.(1) will not cause or contribute to exceedances of the receiving water limitations under Specific Provision 6.b.(2)(a):

Table 6.3
Final Effluent Limitations Expressed as Percent Load Reductions in MS4 Discharges to the Water Body*

Watershed Management Areas	Watershed and Water Bodies	Load-Based Effluent Limitations					
		Dry Weather			Wet Weather		
		Total Coliform	Fecal Coliform	Enterococcus	Total Coliform	Fecal Coliform	Enterococcus
South Orange County	San Joaquin Hills HSA (901.11) and Laguna Hills HSA (901.12) - Pacific Ocean Shoreline	91.78%	91.72%	98.28%	46.85%	52.07%	51.26%
	Aliso HSA (901.13) - Pacific Ocean Shoreline - Aliso Creek - Aliso Creek mouth	95.47%	95.58%	99.13%	25.29%	26.62%	27.52% (27.37%)**
	Dana Point HSA (901.14) - Pacific Ocean Shoreline	95.04%	95.03%	98.98%	13.15%	14.86%	15.16%
	Lower San Juan HSA (901.27) - Pacific Ocean Shoreline - San Juan Creek - San Juan Creek mouth	72.96%	74.21%	94.94%	19.21%	12.82%	27.12% (26.90%)**
	San Clemente HA (901.30) - Pacific Ocean Shoreline	94.28%	94.23%	98.83%	23.85%	24.58%	25.26%
San Luis Rey River	San Luis Rey HU (903.00) - Pacific Ocean Shoreline	38.13%	39.09%	87.38%	5.62%	3.12%	11.69%

Table 6.3 (Cont'd)
Final Effluent Limitations Expressed as Percent Load Reductions in
 MS4 Discharges to the Water Body*

Watershed Management Areas	Watershed and Water Bodies	Load-Based Effluent Limitations					
		Dry Weather			Wet Weather		
		Total Coliform	Fecal Coliform	Enterococcus	Total Coliform	Fecal Coliform	Enterococcus
Carlsbad	San Marcos HA (904.50)	82.82%	82.55%	96.03%	18.47%	18.98%	20.19%
	- Pacific Ocean Shoreline						
San Dieguito River	San Dieguito HU (905.00)	14.39%	20.72%	83.48%	4.29%	1.46%	7.72%
	- Pacific Ocean Shoreline						
Penasquitos	Miramar Reservoir HA (906.10)	96.50%	96.59%	99.42%	1.61%	1.99%	1.93%
	- Pacific Ocean Shoreline						
Mission Bay	Scripps HA (906.30)	96.44%	96.42%	99.25%	16.32%	21.14%	18.82%
	- Pacific Ocean Shoreline						
	Tecolote HA (906.50)	94.51%	94.59%	98.94%	16.51%	20.47%	18.15% (18.08%)**
	- Tecolote Creek						
San Diego River	Mission San Diego HSA (907.11) and Santee HSA (907.12)	74.03%	69.44%	93.96%	38.14%	53.22%	42.74% (42.47%)**
	- Pacific Ocean Shoreline						
	- Forrester Creek (lower 1 mile) - San Diego River (lower 6 miles)						
San Diego Bay	Chollas HSA (908.22)	92.06%	92.15%	98.46%	17.82%	24.84%	21.46% (21.36%)**
	- Chollas Creek						

Notes:

* The percent load reductions are based on reducing loads compared to pollutant loads from 2001 to 2002.

** The alternative *Enterococcus* percent load reduction was calculated based on a numeric target of 104 MPN/100mL instead of 61 MPN/100mL, protective of the REC-1 "moderately to lightly used area" usage frequency that is protective of freshwater creeks and downstream beaches. Acceptable evidence that impaired freshwater creeks can be considered "moderately to lightly used areas" must be provided before these alternative pollutant load reductions can be utilized.

(c) Best Management Practices

- (i) The Water Quality Improvement Plans for the applicable Watershed Management Areas in Table 6.0 must incorporate the Bacteria Load Reduction Plans (BLRPs) or Comprehensive Load Reduction Plans (CLRPs) required to be developed pursuant to Resolution No. R9-2010-0001.
- (ii) The Responsible Copermittee must implement BMPs to achieve the receiving water limitations under Specific Provision 6.b.(2)(a) and/or the effluent limitations under Specific Provision 6.b.(2)(b) for the segments or areas of the water bodies listed in Table 6.0.
- (iii) The Responsible Copermittees should coordinate any BMPs implemented to address this TMDL with Caltrans, owners/operators of small MS4s, and agricultural dischargers as possible.

(3) Final TMDL Compliance Determination

Compliance with the final WQBELs, on or after the final TMDL compliance dates, may be demonstrated via one of the following methods:

- (a) There is no direct or indirect discharge from the Responsible Copermittee's MS4s to the receiving water; OR
- (b) There are no exceedances of the final receiving water limitations under Specific Provision 6.b.(2)(a) in the receiving water at, or downstream of the Responsible Copermittee's MS4 outfalls; OR
- (c) There are no exceedances of the final effluent limitations under Specific Provision 6.b.(2)(b)(i) at the Responsible Copermittee's MS4 outfalls; OR
- (d) The pollutant load reductions for discharges from the Responsible Copermittees' MS4 outfalls are greater than or equal to the final effluent limitations under Specific Provision 6.b.(2)(b)(ii); OR
- (e) The Responsible Copermittees can demonstrate that exceedances of the final receiving water limitations under Specific Provision 6.b.(2)(a) in the receiving water are due to loads from natural sources, AND pollutant loads from the Copermittees' MS4s are not causing or contributing to the exceedances; OR
- (f) The Responsible Copermittees develop and implement the Water Quality Improvement Plan as follows:
 - (i) Incorporate the BMPs required under Specific Provision 6.b.(2)(c) as part of the Water Quality Improvement Plan,

- (ii) Include an analysis in the Water Quality Improvement Plan, utilizing a watershed model or other watershed analytical tools, to demonstrate that the implementation of the BMPs required under Provision 6.b.(2)(c) achieves compliance with Specific Provisions 6.b.(3)(a), 6.b.(3)(b), 6.b.(3)(c), 6.b.(3)(d), and/or 6.b.(3)(e),
- (iii) The results of the analysis must be accepted by the San Diego Water Board as part of the Water Quality Improvement Plan,
- (iv) The Responsible Copermittees continue to implement the BMPs required under Specific Provision 6.b.(2)(c), AND
- (v) The Responsible Copermittees continue to perform the specific monitoring and assessments specified in Specific Provision 6.d, to demonstrate compliance with Specific Provisions 6.b.(3)(a), 6.b.(3)(b), 6.b.(3)(c), 6.b.(3)(d), 6.b.(3)(e) and/or 6.b.(3)(f).

c. INTERIM TMDL COMPLIANCE REQUIREMENTS

The interim indicator bacteria TMDL compliance requirements for the water bodies listed in Table 6.0 consist of the following:

(1) Interim TMDL Compliance Dates

The Responsible Copermittees must achieve compliance with the interim TMDL compliance requirements, as determined in accordance with Specific Provision 6.c.(3), by the interim compliance dates given in Table 6.4, unless alternative interim compliance dates are accepted by the San Diego Water Board Executive Officer as part of the Water Quality Improvement Plan.

Table 6.4
Interim Compliance Dates to Achieve Interim TMDL Compliance Requirements

Watershed Management Area and Watershed	Water Body	Segment or Area	Interim Compliance Dates	
			Interim Dry Weather WQBELs	Interim Wet Weather WQBELs*
South Orange County San Joaquin Hills HSA (901.11) and Laguna Beach HSA (901.12)	Pacific Ocean Shoreline	Cameo Cove at Irvine Cove Drive – Riviera Way	April 4, 2016	April 4, 2021 (April 4, 2016)
		at Heisler Park - North		
	Pacific Ocean Shoreline	at Main Laguna Beach	April 4, 2016	April 4, 2021 (April 4, 2016)
		Laguna Beach at Ocean Avenue		
		Laguna Beach at Cleo Street		
Arch Cove at Bluebird Canyon Road				
Laguna Beach at Dumond Drive				
South Orange County Aliso HSA (901.13)	Pacific Ocean Shoreline	Laguna Beach at Laguna Place / Blue Lagoon Place at Aliso Beach	April 4, 2016	April 4, 2021 (April 4, 2016)
	Aliso Creek	Entire reach (7.2 miles) and associated tributaries: - Aliso Hills Channel - English Canyon Creek - Dairy Fork Creek - Sulfur Creek - Wood Canyon Creek	April 4, 2018	April 4, 2021 (April 4, 2018)
		Aliso Creek Mouth		
South Orange County Dana Point HSA (901.14)	Pacific Ocean Shoreline	Aliso Beach at West Street	April 4, 2016	April 4, 2021 (April 4, 2016)
		Aliso Beach at Table Rock Drive		
		100 Steps Beach at Pacific Coast Hwy at hospital (9 th Avenue)		
		at Salt Creek (large outlet)		
		Salt Creek Beach at Salt Creek service road	April 4, 2017	April 4, 2021 (April 4, 2017)
		Salt Creek Beach at Strand Road	April 4, 2017	April 4, 2021 (April 4, 2017)

Table 6.4 (Cont'd)
Interim Compliance Dates to Achieve Interim WQBELs

Watershed Management Area and Watershed	Water Body	Segment or Area	Interim Compliance Dates	
			Interim Dry Weather WQBELs	Interim Wet Weather WQBELs*
South Orange County Lower San Juan HSA (901.27)	Pacific Ocean Shoreline	at San Juan Creek	April 4, 2016	April 4, 2021 (April 4, 2016)
	San Juan Creek	lower 1 mile	April 4, 2018	April 4, 2021 (April 4, 2018)
	San Juan Creek Mouth	at mouth	April 4, 2016	April 4, 2021 (April 4, 2016)
South Orange County San Clemente HA (901.30)	Pacific Ocean Shoreline	at Poche Beach	April 4, 2016	April 4, 2021 (April 4, 2016)
		Ole Hanson Beach Club Beach at Pico Drain	April 4, 2016	April 4, 2021 (April 4, 2016)
		San Clemente City Beach at El Portal Street Stairs	April 4, 2017	April 4, 2021 (April 4, 2017)
		San Clemente City Beach at Mariposa Street		
		San Clemente City Beach at Linda Lane	April 4, 2016	April 4, 2021 (April 4, 2016)
		San Clemente City Beach at South Linda Lane	April 4, 2018	April 4, 2021 (April 4, 2018)
		San Clemente City Beach at Lifeguard Headquarters under San Clemente Municipal Pier	April 4, 2017	April 4, 2021 (April 4, 2017)
		San Clemente City Beach at Trafalgar Canyon (Trafalgar Lane)	April 4, 2018	April 4, 2021 (April 4, 2018)
		San Clemente State Beach at Riviera Beach	April 4, 2016	April 4, 2021 (April 4, 2016)
		San Clemente State Beach at Cypress Shores	April 4, 2017	April 4, 2021 (April 4, 2017)
		San Luis Rey River San Luis Rey HU (903.00)	Pacific Ocean Shoreline	at San Luis Rey River mouth
Carlsbad San Marcos HA (904.50)	Pacific Ocean Shoreline	at Moonlight State Beach	April 4, 2016	April 4, 2021 (April 4, 2016)
San Dieguito River San Dieguito HU (905.00)	Pacific Ocean Shoreline	at San Dieguito Lagoon mouth	April 4, 2016	April 4, 2021 (April 4, 2016)

Table 6.4 (Cont'd)
Interim Compliance Dates to Achieve Interim WQBELs

Watershed Management Area and Watershed			Interim Compliance Dates	
Water Body	Segment or Area	Interim Dry Weather WQBELs	Interim Wet Weather WQBELs*	
Penasquitos Miramar Reservoir HA (906.10)	Pacific Ocean Shoreline Torrey Pines State Beach at Del Mar (Anderson Canyon)	April 4, 2016	April 4, 2021 (April 4, 2016)	
Mission Bay Scripps HA (906.30)	Pacific Ocean Shoreline La Jolla Shores Beach at El Paseo Grande	April 4, 2016	April 4, 2021 (April 4, 2016)	
	La Jolla Shores Beach at Caminito del Oro			
	La Jolla Shores Beach at Vallecitos			
	La Jolla Shores Beach at Avenida de la Playa			
	at Casa Beach, Children's Pool			
	South Casa Beach at Coast Boulevard			
	Whispering Sands Beach at Ravina Street			
	Windansea Beach at Vista de la Playa			
	Windansea Beach at Bonair Street			
	Windansea Beach at Playa del Norte			
	Windansea Beach at Palomar Avenue			
	at Tourmaline Surf Park			
at Pacific Beach at Grand Avenue				
Mission Bay Tecolote HA (906.50)	Tecolote Creek Entire reach and tributaries			
San Diego River Mission San Diego HSA (907.11) and Santee HSA (907.12)	Forrester Creek lower 1 mile	April 4, 2018	April 4, 2021 (April 4, 2018)	
	San Diego River lower 6 miles			
	Pacific Ocean Shoreline at San Diego River mouth at Dog Beach			
San Diego Bay Chollas HSA (908.22)	Chollas Creek lower 1.2 miles	April 4, 2018	April 4, 2021 (April 4, 2018)	

* The Interim Compliance Dates to achieve the Interim Wet Weather WQBELs in parenthesis apply if the applicable Water Quality Improvement Plan does not include load reduction programs for other constituents (e.g. metals, pesticides, trash, nutrients, sediment, etc.) together with bacteria load reduction requirements of these TMDLs.

(2) Interim Water Quality Based Effluent Limitations

The Responsible Copermittees for discharges to the water bodies in Table 6.0 must comply with the following interim WQBELs by the interim compliance dates given in Specific Provision 6.c.(1):

(a) Interim Receiving Water Limitations

(i) *Interim Dry Weather Receiving Water Limitations*

The Responsible Copermittee must calculate the “existing” exceedance frequencies of the 30-day geometric mean water quality objectives for each of the indicator bacteria by analyzing the available monitoring data collected between January 1, 1996 and December 31, 2002. “Existing” exceedance frequencies may be calculated by water body and/or by Watershed Management Area listed in Table 6.0. Separate “existing” exceedance frequencies must be calculated for beaches and creeks/creek mouths.

The Responsible Copermittees must achieve a 50 percent reduction in the “existing” exceedance frequency of the 30-day geometric mean WQBELs for the water bodies listed in Table 6.0 by the interim compliance dates given in Table 6.4. A 50 percent reduction in the “existing” exceedance frequency is equivalent to half of the “existing” exceedance frequency of the 30-day geometric mean WQBELs.

The “existing” exceedance frequencies and the interim dry weather allowable exceedance frequencies (i.e. interim dry weather receiving water limitations) calculated by the Responsible Copermittees must be included in the Water Quality Improvement Plans for the applicable Watershed Management Areas.

(ii) *Interim Wet Weather Receiving Water Limitations*

The Responsible Copermitees must achieve the interim wet weather receiving water limitations in Table 6.5, expressed as interim wet weather allowable exceedance frequencies, by the interim compliance dates given in Table 6.4.

Table 6.5
Interim Wet Weather Receiving Water Limitations Expressed as Interim Wet Weather Allowable Exceedance Frequencies

Watershed Management Area and Watershed		Water Body	Segment or Area	Interim Wet Weather Allowable Exceedance Frequencies		
				Total Coliform	Fecal Coliform	Enterococcus
South Orange County	Pacific Ocean Shoreline	Cameo Cove at Irvine Cove Drive – Riviera Way at Heisler Park - North	38%	37%	39%	
						Pacific Ocean Shoreline
	Laguna Beach at Ocean Avenue					
	Laguna Beach at Cleo Street					
	Arch Cove at Bluebird Canyon Road					
	San Joaquin Hills HSA (901.11) and Laguna Beach HSA (901.12)	Laguna Beach at Dumond Drive				
South Orange County	Pacific Ocean Shoreline	Laguna Beach at Lagunita Place / Blue Lagoon Place at Aliso Beach	41%	41%	42%	
	Aliso HSA (901.13)	Aliso Creek	Entire reach (7.2 miles) and associated tributaries: - Aliso Hills Channel - English Canyon Creek - Dairy Fork Creek - Sulfur Creek - Wood Canyon Creek	41%	41%	42%
South Orange County	Pacific Ocean Shoreline	Aliso Beach at West Street	36%	36%	36%	
		Aliso Beach at Table Rock Drive				
		100 Steps Beach at Pacific Coast Hwy at hospital (9 th Avenue)				
		at Salt Creek (large outlet)				
		Salt Creek Beach at Salt Creek service road				
		Salt Creek Beach at Strand Road				
Dana Point HSA (901.14)						

Table 6.5 (Cont'd)
*Interim Wet Weather Receiving Water Limitations Expressed as
 Interim Wet Weather Allowable Exceedance Frequencies*

Watershed Management Area and Watershed	Water Body	Segment or Area	Interim Wet Weather Allowable Exceedance Frequencies		
			Total Coliform	Fecal Coliform	Enterococcus
South Orange County Lower San Juan HSA (901.27)	Pacific Ocean Shoreline	at San Juan Creek	44%	44%	48%
	San Juan Creek	lower 1 mile	44%	44%	47%
	San Juan Creek Mouth	at mouth	44%	44%	47%
South Orange County San Clemente HA (901.30)	Pacific Ocean Shoreline	at Poche Beach	35%	35%	36%
		Ole Hanson Beach Club Beach at Pico Drain			
		San Clemente City Beach at El Portal Street Stairs			
		San Clemente City Beach at Mariposa Street			
		San Clemente City Beach at Linda Lane			
		San Clemente City Beach at South Linda Lane			
		San Clemente City Beach at Lifeguard Headquarters			
		under San Clemente Municipal Pier			
		San Clemente City Beach at Trafalgar Canyon (Trafalgar Lane)			
		San Clemente State Beach at Riviera Beach			
		San Clemente State Beach at Cypress Shores			
San Luis Rey River San Luis Rey HU (903.00)	Pacific Ocean Shoreline	at San Luis Rey River mouth	45%	44%	47%
Carlsbad San Marcos HA (904.50)	Pacific Ocean Shoreline	at Moonlight State Beach	40%	40%	41%
San Dieguito River San Dieguito HU (905.00)	Pacific Ocean Shoreline	at San Dieguito Lagoon mouth	33%	33%	36%

Table 6.5 (Cont'd)
*Interim Wet Weather Receiving Water Limitations Expressed as
 Interim Wet Weather Allowable Exceedance Frequencies*

Watershed Management Area and Watershed		Water Body	Segment or Area	Interim Wet Weather Allowable Exceedance Frequencies		
				Total Coliform	Fecal Coliform	Enterococcus
Penasquitos						
Miramar Reservoir HA (906.10)	Pacific Ocean Shoreline	Torrey Pines State Beach at Del Mar (Anderson Canyon)		26%	26%	26%
Mission Bay Scripps HA (906.30)	Pacific Ocean Shoreline	La Jolla Shores Beach at El Paseo Grande	37%	37%	37%	
		La Jolla Shores Beach at Caminito del Oro				
		La Jolla Shores Beach at Vallecitos				
		La Jolla Shores Beach at Avenida de la Playa				
		at Casa Beach, Children's Pool				
		South Casa Beach at Coast Boulevard				
		Whispering Sands Beach at Ravina Street				
		Windansea Beach at Vista de la Playa				
		Windansea Beach at Bonair Street				
		Windansea Beach at Playa del Norte				
		Windansea Beach at Palomar Avenue				
		at Tourmaline Surf Park				
Pacific Beach at Grand Avenue						
Mission Bay Tecolote HA (906.50)	Tecolote Creek	Entire reach and tributaries	49%	49%	51%	
San Diego River	Forrester Creek	lower 1 mile	46%	43%	49%	
	San Diego River	lower 6 miles	46%	43%	49%	
Mission San Diego HSA (907.11) and Santee HSA (907.12)	Pacific Ocean Shoreline	at San Diego River mouth at Dog Beach	46%	43%	51%	
San Diego Bay Chollas HSA (908.22)	Chollas Creek	lower 1.2 miles	41%	41%	43%	

(b) Interim Effluent Limitations

Indicator bacteria percent load reductions from the Responsible Copermittees' MS4s that are greater than or equal to the following effluent limitations by the interim compliance dates under Specific Provision 6.c.(1) will not cause or contribute to exceedances of the receiving water limitations under Specific Provision 6.c.(2)(a):

Table 6.6
Interim Effluent Limitations Expressed as Percent Load Reductions in MS4 Discharges to the Water Body*

Watershed Management Areas	Watersheds and Water Bodies	Load-Based Effluent Limitations					
		Dry Weather			Wet Weather		
		Total Coliform	Fecal Coliform	Enterococcus	Total Coliform	Fecal Coliform	Enterococcus
South Orange County	San Joaquin Hills HSA (901.11) and Laguna Hills HSA (901.12) - Pacific Ocean Shoreline	45.89%	45.86%	49.14%	23.43%	26.04%	25.63%
	Aliso HSA (901.13) - Pacific Ocean Shoreline - Aliso Creek - Aliso Creek mouth	47.74%	47.79%	49.57%	12.65%	13.31%	13.76% (13.69%)**
	Dana Point HSA (901.14) - Pacific Ocean Shoreline	47.52%	47.52%	49.49%	6.58%	7.43%	7.58%
	Lower San Juan HSA (901.27) - Pacific Ocean Shoreline - San Juan Creek - San Juan Creek mouth	36.48%	37.11%	47.47%	9.61%	6.41%	13.56% (13.45%)**
	San Clemente HA (901.30) - Pacific Ocean Shoreline	47.14%	47.12%	49.42%	11.93%	12.29%	12.63%
San Luis Rey River	San Luis Rey HU (903.00) - Pacific Ocean Shoreline	19.07%	19.55%	43.69%	2.81%	1.56%	5.85%
Carlsbad	San Marcos HA (904.50) - Pacific Ocean Shoreline	41.41%	41.28%	48.02%	9.24%	9.49%	10.10%

Table 6.6 (Cont'd)
Interim Effluent Limitations Expressed as Percent Load Reductions in
 MS4 Discharges to the Water Body*

Watershed Management Areas	Watersheds and Water Bodies	Load-Based Effluent Limitations					
		Dry Weather			Wet Weather		
		Total Coliform	Fecal Coliform	Enterococcus	Total Coliform	Fecal Coliform	Enterococcus
San Dieguito River	San Dieguito HU (905.00) - Pacific Ocean Shoreline	7.20%	10.36%	41.74%	2.15%	0.73%	3.86%
	Miramar Reservoir HA (906.10) - Pacific Ocean Shoreline	48.25%	48.30%	49.71%	0.81%	1.00%	0.97%
Mission Bay	Scripps HA (906.30) - Pacific Ocean Shoreline	48.22%	48.21%	49.63%	8.16%	10.57%	9.41%
	Tecolote HA (906.50) - Tecolote Creek	47.26%	47.30%	49.47%	8.26%	10.24%	9.08% (9.04%)**
San Diego River	Mission San Diego HSA (907.11) and Santee HSA (907.12) - Pacific Ocean Shoreline - Forrester Creek (lower 1 mile) - San Diego River (lower 6 miles)	37.02%	34.72%	46.98%	19.07%	26.61%	21.37% (21.24%)**
San Diego Bay	Chollas HSA (908.22) - Chollas Creek	46.03%	46.08%	49.23%	8.91%	12.42%	10.73% (10.68%)**

Notes:

* The percent load reductions are based on reducing loads compared to pollutant loads from 2001 to 2002.

** The alternative *Enterococcus* percent load reduction was calculated based on a numeric target of 104 MPN/100mL instead of 61 MPN/100mL, protective of the REC-1 "moderately to lightly used area" usage frequency that is protective of freshwater creeks and downstream beaches. Acceptable evidence that impaired freshwater creeks can be considered "moderately to lightly used areas" must be provided before these alternative pollutant load reductions can be utilized.

(3) Interim TMDL Compliance Determination

Compliance with the interim WQBELs, on or after the interim TMDL compliance dates, may be demonstrated via one of the following methods:

- (a) There is no direct or indirect discharge from the Responsible Copermitttee's MS4s to the receiving water; OR

- (b) There are no exceedances of the final receiving water limitations under Specific Provision 6.b.(2)(a) in the receiving water at, or downstream of the Responsible Copermittee's MS4 outfalls; OR
- (c) There are no exceedances of the final effluent limitations under Specific Provision 6.b.(2)(b)(i) at the Responsible Copermittee's MS4 outfalls; OR
- (d) The pollutant load reductions for discharges from the Responsible Copermittees' MS4 outfalls are greater than or equal to the final effluent limitations under Specific Provision 6.b.(2)(b)(ii); OR
- (e) The Responsible Copermittees can demonstrate that exceedances of the final receiving water limitations under Specific Provision 6.b.(2)(a) in the receiving water are due to loads from natural sources, AND pollutant loads from the Copermittees' MS4s are not causing or contributing to the exceedances; OR
- (f) There are no exceedances of the interim receiving water limitations under Specific Provision 6.c.(2)(a) in the receiving water at, or downstream of the Responsible Copermittees' MS4 outfalls; OR
- (g) The pollutant load reductions for discharges from the Responsible Copermittees' MS4 outfalls are greater than or equal to the interim effluent limitations under Specific Provision 6.c.(2)(b); OR
- (h) The Responsible Copermittees have submitted and are fully implementing a Water Quality Improvement Plan, accepted by the San Diego Water Board, which provides reasonable assurance that the interim TMDL compliance requirements will be achieved by the interim compliance dates.

d. SPECIFIC MONITORING AND ASSESSMENT REQUIREMENTS

(1) Monitoring and Assessment Requirements for Beaches

(a) Monitoring Stations

For beaches addressed by the TMDL, monitoring locations should consist of, at a minimum, the same locations used to collect data required pursuant to Order Nos. R9-2007-0001 and R9-2009-0002, and beach monitoring for Health and Safety Code section 115880.⁴⁰ If exceedances of the applicable interim or final receiving water limitations are observed in the monitoring data, additional monitoring locations and/or other source

⁴⁰ Commonly referred to as AB 411 monitoring

identification methods must be implemented to identify the sources causing the exceedances. The additional monitoring locations must also be used to demonstrate that the bacteria loads from the identified anthropogenic sources have been addressed and are no longer causing exceedances in the receiving waters.

(b) Monitoring Procedures

- (i) The Responsible Copermittees must collect dry weather monitoring samples from the receiving water monitoring stations at least monthly. Dry weather samples collected from additional monitoring stations established to identify sources must be collected at an appropriate frequency to demonstrate bacteria loads from the identified sources have been addressed and are no longer causing exceedances in the receiving waters.
- (ii) The Responsible Copermittees must collect wet weather monitoring samples from the receiving water monitoring stations at least once within the first 24 hours of the end of a storm event⁴¹ during the rainy season (i.e. October 1 through April 30). Wet weather samples collected from receiving water stations and any additional monitoring stations established to identify sources must be collected at an appropriate frequency to demonstrate bacteria loads from the identified sources have been addressed and are no longer in exceedance of the allowable exceedance frequencies in the receiving waters.
- (iii) Samples must be analyzed for total coliform, fecal coliform, and *Enterococcus* indicator bacteria.
- (iv) For Pacific Ocean Shoreline segments or areas listed in Table 6.0 that have been de-listed from the Clean Water Act Section 303(d) List, the Responsible Copermittees may propose alternative monitoring procedures to demonstrate that the water bodies continue to remain in compliance with water quality standards under wet weather and dry weather conditions. The alternative monitoring procedures must be submitted as a part of the Water Quality Improvement Plans or any updates required under Provisions F.1 and F.2.c of the Order.

⁴¹ Wet weather days are defined by the TMDL as storm events of 0.2 inches or greater and the following 72 hours. The Responsible Copermittees may choose to limit their wet weather sampling requirements to storm events of 0.2 inches or greater, or also include storm events of 0.1 inches or greater as defined by the federal regulations [40CFR122.26(d)(2)(iii)(A)(2)].

(c) Assessment and Reporting Requirements

- (i) The Responsible Copermittees must analyze the dry weather and wet weather monitoring data to assess whether the interim and final WQBELs for the Pacific Ocean Shoreline segments or areas listed in Table 6.0 have been achieved.
- (ii) Dry weather exceedance frequencies must be calculated as follows:
 - [a] 30-day geometric means must be calculated from the results of any dry weather samples collected from the segments or areas for each water body listed in Table 6.0;
 - [b] The method and number of samples need for calculating the 30-day geometric means must be consistent with the number of samples required by the Ocean Plan;
 - [c] Where there are multiple segments or areas associated with a water body listed in Table 6.0, the Copermittees may calculate geometric means for each segment or area, or combine the dry weather monitoring data from all the segments or areas to calculate geometric means for the water body;
 - [d] The exceedance frequency must be calculated by dividing the number of geometric means that exceed the geometric mean receiving water limitations in Table 6.2 by the total number of geometric means calculated from samples collected during the dry season.
- (iii) Wet weather exceedance frequencies must be calculated as follows:
 - [a] If only one sample is collected for a storm event, the bacteria density for every wet weather day associated with that storm event must be assumed to be equal to the results from the one sample collected;
 - [b] If more than one sample is collected for a storm event, but not on a daily basis, the bacteria density for all wet weather days of the storm event not sampled must be assumed to be equal to the highest bacteria density result reported from the samples collected;
 - [c] If there are any storm events not sampled, the bacteria density for every wet weather day of those storm events must be assumed to be equal to the average of the highest bacteria densities reported from each storm event sampled; and
 - [d] The single sample maximum exceedance frequency must be calculated by dividing the number of wet weather days that exceed the single sample maximum receiving water limitations in Table 6.2 by the total number of wet weather days during the rainy season.
 - [e] The data collected for dry weather must be used in addition to the data collected for wet weather to calculate the wet weather 30-

day geometric means. The exceedance frequency of the wet weather 30-day geometric means must be calculated by dividing the number of geometric means that exceed the geometric mean receiving water limitations in Table 6.2 by the total number of geometric means calculated from samples collected during the wet season.

- (iv) For assessing and determining compliance with the concentration-based effluent limitations under Specific Provision 6.b.(2)(b)(i), dry and wet weather discharge bacteria densities may be calculated based on a flow-weighted average across all major MS4 outfalls along a water body segment or within a jurisdiction if samples are collected within a similar time period.
- (v) The monitoring and assessment results must be submitted as part of the Transitional Monitoring and Assessment Program and Water Quality Improvement Plan Annual Reports required under Provision F.3.b of this Order.

(2) Monitoring and Assessment Requirements for Creeks and Creek Mouths

(a) Monitoring Stations

For creeks addressed by the TMDL, monitoring locations should consist of, at a minimum, a location at or near the mouth of the creek (e.g. Mass Loading Station or Mass Emission Station) and one or more locations upstream of the mouth (e.g. Watershed Assessment Station). If exceedances of the applicable interim or final receiving water limitations are observed in the monitoring data, additional monitoring locations and/or other source identification methods must be implemented to identify the sources causing the exceedances. The additional monitoring locations must also be used to demonstrate that the bacteria loads from the identified sources have been addressed and are no longer causing exceedances in the receiving waters.

(b) Monitoring Procedures

- (i) The Responsible Copermittees must collect dry weather monitoring samples from the receiving water monitoring stations in accordance with the requirements of Provision D.
- (ii) The Responsible Copermittees must collect wet weather monitoring samples from the receiving water monitoring stations within the first 24 hours of the end of a storm event⁴² during the rainy season (i.e. October 1 through April 30).

⁴² Wet weather days are defined by the TMDL as storm events of 0.2 inches or greater and the following 72 hours. The Responsible Copermittees may choose to limit their wet weather sampling requirements to

ATTACHMENT E: SPECIFIC PROVISIONS FOR TOTAL MAXIMUM DAILY LOADS
6. Revised Total Maximum Daily Loads for Indicator Bacteria, Project I –
Twenty Beaches and Creeks in the San Diego Region (Including Tecolote Creek)

- (iii) Samples collected from receiving water monitoring stations must be analyzed for fecal coliform and *Enterococcus* indicator bacteria.
- (iv) For creeks or creek mouths listed in Table 6.0 that have been de-listed from the Clean Water Act Section 303(d) List, the Responsible Copermittees may propose alternative monitoring procedures to demonstrate that the water bodies continue to remain in compliance with water quality standards under wet weather and dry weather conditions. The alternative monitoring procedures must be submitted as a part of the Water Quality Improvement Plans or any updates required under Provisions F.1 and F.2.c of the Order.

(c) Assessment and Reporting Requirements

- (i) The Responsible Copermittees must analyze the receiving water monitoring data to assess whether the interim and final receiving water WQBELs for the creeks and creek mouths listed in Table 6.0 have been achieved.
- (ii) Dry weather exceedance frequencies must be calculated as follows:
 - [a] 30-day geometric means must be calculated from the results of any dry weather samples collected from the segment or area for each water body listed in Table 6.0;
 - [b] The method and number of samples need for calculating the 30-day geometric means must be consistent with the number of samples required by the Basin Plan;
 - [c] The exceedance frequency must be calculated by dividing the number of 30-day geometric means that exceed the 30-day geometric mean receiving water limitations in Table 6.2 by the total number of 30-day geometric means calculated from samples collected during the dry season.
- (iii) Wet weather exceedance frequencies must be calculated as follows:
 - [a] If only one sample is collected for a storm event, the bacteria density for every wet weather day associated with that storm event must be assumed to be equal to the results from the one sample collected;
 - [b] If more than one sample is collected for a storm event, but not on a daily basis, the bacteria density for all wet weather days of the storm event not sampled must be assumed to be equal to the highest bacteria density result reported from the samples collected;

storm events of 0.2 inches or greater, or also include storm events of 0.1 inches or greater as defined by the federal regulations [40CFR122.26(d)(2)(iii)(A)(2)].

- [c] If there are any storm events not sampled, the bacteria density for every wet weather day of those storm events must be assumed to be equal to the average of the highest bacteria densities reported from each of the storm events sampled; and
 - [d] The exceedance frequency must be calculated by dividing the number of wet weather days that exceed the single sample maximum receiving water limitations in Table 6.2 by the total number of wet weather days during the rainy season.
 - [e] The data collected for dry weather must be used in addition to the data collected for wet weather to calculate the wet weather 30-day geometric means. The exceedance frequency of the wet weather 30-day geometric means must be calculated by dividing the number of geometric means that exceed the geometric mean receiving water limitations in Table 6.2 by the total number of geometric means calculated from samples collected during the wet season.
- (iv) The Responsible Copermittee must identify and incorporate additional MS4 outfall and receiving water monitoring stations and/or adjust monitoring frequencies to identify sources causing exceedances of the receiving water WQBELs.
 - (v) For assessing and determining compliance with the concentration-based effluent limitations under Specific Provision 6.b.(2)(b)(i), dry and wet weather discharge bacteria densities may be calculated based on a flow-weighted average across all major MS4 outfalls along a water body segment or within a jurisdiction if samples are collected within a similar time period.
 - (vi) The monitoring and assessment results must be submitted as part of the Transitional Monitoring and Assessment Program and Water Quality Improvement Plan Annual Reports required under Provision F.3.b of this Order.

7. Total Maximum Daily Loads for Sediment in Los Peñasquitos Lagoon

a. APPLICABILITY

- (1) TMDL Basin Plan Amendment: Resolution No. R9-2012-0033
- (2) TMDL Adoption and Approval Dates:

San Diego Water Board Adoption Date:	June 13, 2012
State Water Board Approval Date:	January 21, 2014
Office of Administrative Law Approval Date:	July 14, 2014
US EPA Approval Date:	October 30, 2014
- (3) TMDL Effective Date: July 14, 2014
- (4) Watershed Management Area: Peñasquitos
- (5) Water Body: Los Peñasquitos Lagoon
- (6) Responsible Copermittees: County of San Diego, City of San Diego, City of Del Mar, and City of Poway

b. FINAL TMDL COMPLIANCE REQUIREMENTS

The final sediment TMDL compliance requirements for Los Peñasquitos Lagoon consist of the following:

- (1) Final TMDL Compliance Date

The Responsible Copermittees must be in compliance with the final TMDL compliance requirements by December 31, 2034.

- (2) Final Water Quality Based Effluent Limitations

- (a) Final Receiving Water Limitations

Discharges from the MS4s must not prohibit the sustainable restoration of tidal and non-tidal saltmarsh vegetation of at least 346 acres.

- (b) Final Effluent Limitations

Discharges from the MS4s containing pollutant loads that do not exceed the following effluent limitations by the compliance date under Provision 7.b(1) will not cause or contribute to a failure of the receiving water condition specified under Specific Provision 7.b.(2)(a):

Table 7.1
*Final Effluent Limitations as Expressed as Wet Season Loads in MS4 Discharges to Los Peñasquitos Lagoon**

Constituent	Effluent Limitation
Sediment	2,580 tons/wet season

* Final effluent limitations are to be achieved by the following Responsible Parties: County of San Diego, City of San Diego, City of Del Mar, City of Poway, Phase II MS4 permittees, Caltrans, general construction storm water NPDES permittees, and general industrial storm water NPDES permittees.

(c) **Best Management Practices**

- (i) The Water Quality Improvement Plan for the Los Peñasquitos Watershed Management Area must incorporate the Sediment Load Reduction Plan required to be developed pursuant to Resolution No. R9-2012-0033.
- (ii) The Responsible Copermittees must implement BMPs to achieve the receiving water limitations under Specific Provision 7.b.(2)(a) and/or the Copermittee's portion of the effluent limitations under Specific Provision 7.b.(2)(b) for Los Peñasquitos Lagoon.

(3) Final TMDL Compliance Determination

Compliance determination with the final WQBELs, on or after the final TMDL compliance date, may be demonstrated via one of the following methods:

- (a) Successful restoration of 80 percent of the 1973 acreage of tidal and non-tidal lagoon salt marsh (346 acres) as described in Attachment A of Resolution No. R9-2010-0033; OR
- (b) The Responsible Copermittees develop and implement the Water Quality Improvement Plan as follows:
 - (i) Incorporate the BMPs required under Specific Provision 7.b.(2)(c)(ii) and/or other implementation actions to achieve compliance with Specific Provision 7.b.(3)(a) as part of the Water Quality Improvement Plan,
 - (ii) Include an analysis in the Water Quality Improvement Plan, utilizing a watershed model or other watershed analytical tools, to demonstrate that the implementation of the BMPs required under Provision 7.b.(2)(c)(ii) or other implementation actions to achieve compliance with Specific Provision 7.b.(3)(a),
 - (iii) The results of the analysis must be accepted by the San Diego Water Board as part of the Water Quality Improvement Plan,

- (iv) The Responsible Copermittees continue to implement the BMPs required under Specific Provision 7.b.(2)(c)(ii) or other implementation actions, AND
- (v) The Responsible Copermittees continue to perform the specific monitoring and assessments specified in Specific Provision 7.d to demonstrate compliance with Specific Provision 7.b.(3)(a).

c. INTERIM TMDL COMPLIANCE REQUIREMENTS

The interim sediment TMDL compliance requirements for Los Peñasquitos Lagoon consist of the following:

(1) Interim Compliance Dates and WQBELs

The Responsible Copermittees must comply with the interim WQBELs, expressed as wet season loads, by December 31 of the interim compliance year set forth in Table 7.2.

Table 7.2
*Interim Water Quality Based Effluent Limitations Expressed as Wet Season Loads in MS4 Discharges**

Interim Compliance Date	Interim Effluent Limitations (tons/wet season)
December 31, 2019	6,691
December 31, 2023	5,663
December 31, 2027	4,636
December 31, 2029	3,608

* Interim effluent limitations are to be achieved by the following Responsible Parties: County of San Diego, City of San Diego, City of Del Mar, City of Poway, Phase II MS4 permittees, Caltrans, general construction storm water NPDES permittees, and general industrial storm water NPDES permittees.

(2) Interim TMDL Compliance Determination

Compliance with interim WQBELs, on or after the interim TMDL compliance dates, may be demonstrated via one of the following methods:

- (a) There is no direct or indirect discharge from the Responsible Copermittee's MS4s to the receiving water; OR
- (b) The final receiving water limitation under Specific Provision 7.b.(2)(a) is met; OR
- (c) There are no exceedances of the Copermittee's portion of interim effluent limitations under Table 7.2 at the Responsible Copermittee's MS4 outfalls; OR

- (d) The Responsible Copermittees have submitted and is fully implementing a Water Quality Improvement Plan, accepted by the San Diego Water Board, which provides reasonable assurance that the Copermittee's portion of the interim TMDL compliance requirements described in Attachment A of Resolution No. R9-2010-0033 will be achieved by the interim compliance date.

d. SPECIFIC MONITORING AND ASSESSMENT REQUIREMENTS

(1) Watershed Monitoring

The Responsible Copermittees must conduct suspended sediment, bed load, and flow monitoring to calculate total sediment loading to the Los Peñasquitos Lagoon for each wet season (October 1 thru April 30) as set forth below:

- (a) The Responsible Copermittees must monitor enough storm events throughout the season to quantify sediment loading over each wet season, and
- (b) The Responsible Copermittees must monitor at least 3 stations to quantify cumulative sediment loading into Los Peñasquitos Lagoon. Stations must be located within the Los Peñasquitos, Carroll Canyon, and Carmel Creek tributaries prior to discharging into Los Peñasquitos Lagoon.

(2) Lagoon Monitoring

The Responsible Copermittees must monitor Los Peñasquitos Lagoon each Fall for changes in the extent of the vegetation types as set forth below:

- (a) The Responsible Copermittees must acquire aerial photos of Los Peñasquitos Lagoon and digitize them at an approximate scale of 1:2,500,
- (b) The Responsible Copermittees must appropriately interpret the vegetation and classify the various types as saltmarsh, non-tidal saltmarsh, freshwater marsh, non-tidal saltmarsh –*Lolium perrene* infested, southern willow scrub/mulefat scrub, herbaceous wetland, or upland land cover.

(3) Assessment and Reporting Requirements

- (a) The Responsible Copermittees must analyze the monitoring data collected under Specific Provision 7.d(1) and 7.d(2) to assess whether the interim and final WQBELs have been achieved.
- (b) For assessing and determining compliance with the final receiving water limitations under Specific Provision 7.b.(2)(a), the Responsible Copermittees must use the data acquired under Specific Provision 7.d.(2) to estimate the acreage of tidal and non-tidal saltmarsh actually restored.

- (c) For assessing and determining compliance with the final effluent limitations under Specific Provision 7.b.(2)(b), the Responsible Copermittees must use the data acquired under Specific Provision 7.d.(1) to estimate sediment loading into Los Peñasquitos Lagoon. Sediment loading must be evaluated using a 3-year, weighted rolling average. The first reported average shall be calculated using data collected in the year, 2015-2016, 2016-2017, and 2017-2018 wet seasons.
- (d) The monitoring and assessment results must be submitted as part of the Water Quality Improvement Plan Annual Reports required under Provision F.3.b of this Order.

ATTACHMENT F

**CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
SAN DIEGO REGION**

FACT SHEET / TECHNICAL REPORT

FOR

**ORDER NO. R9-2013-0001
AS AMENDED BY ORDER NOS. R9-2015-0001 AND R9-2015-0100
NPDES NO. CAS0109266**

**NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) PERMIT
AND WASTE DISCHARGE REQUIREMENTS FOR
DISCHARGES FROM THE MUNICIPAL SEPARATE STORM SEWER SYSTEMS (MS4s)
DRAINING THE WATERSHEDS WITHIN THE SAN DIEGO REGION**

**May 8, 2013
Amended February 11, 2015
and November 18, 2015**

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I. FACT SHEET FORMAT

This Fact Sheet briefly sets forth the principal facts and the significant factual, legal, methodological, and policy questions that the California Regional Water Quality Control Board, San Diego Region (San Diego Water Board) considered in preparing Order No. R9-2013-0001 (Order), as amended by Order Nos. R9-2015-0001 and R9-2015-0100. In accordance with the Code of Federal Regulations (CFR) Title 40 Parts 124.8 and 124.56 (40 CFR 124.8 and 40 CFR 124.56), this Fact Sheet includes, but is not limited to, the following information:

1. Contact information
2. Public process and notification procedures
3. Background of municipal storm water permits
4. Regional MS4 Permit approach
5. Economic considerations
6. Applicable statutes, regulations, plans and policies
7. Discussion of the provisions in the Order

Tentative Order No. R9-2013-0001 was distributed for public review on October 31, 2012. The San Diego Water Board accepted written comments on Tentative Order No. R9-2013-0001 until January 11, 2013. A public hearing was subsequently held on April 10 and 11, 2013, that was continued to May 8, 2013 to receive oral comments from interested persons. The San Diego Water Board adopted Order No. R9-2013-0001 on May 8, 2013.

Tentative Order No. R9-2015-0001, an Order amending Order No. R9-2013-0001, was distributed for public review on September 19, 2014. The San Diego Water Board accepted written comments on Tentative Order No. R9-2015-0001 until November 19, 2014. A public hearing was held on February 11, 2015, to receive oral comments from Copermittees and interested persons. The San Diego Water Board adopted Order No. R9-2015-0001 amending Order No. R9-2013-0001 on February 11, 2015. Order No. R9-2015-0001 amended the findings and provisions of Order No. R9-2013-0001 to:

- a. Enroll the County of Orange, the Orange County Flood Control District and the south Orange County Cities of Aliso Viejo, Dana Point, Laguna Beach, Laguna Hills, Laguna Niguel, Laguna Woods, Mission Viejo, Rancho Santa Margarita, San Clemente, and San Juan Capistrano as Copermittees responsible for compliance with the terms and conditions of Order No. R9-2013-0001, as amended by Order No. R9-2015-0001;
- b. Designate the San Diego Water Board to regulate all Phase I MS4 discharges within the jurisdiction of the Cities of Laguna Woods and Laguna Hills and agree to the designation of the Santa Ana Water Board to regulate all Phase I MS4 discharges within the jurisdiction of the City of Lake Forest, subject to the

terms of the February 10, 2015 agreement between San Diego Water Board and the Santa Ana Water Board described in Finding 29 of this Order, upon the later effective date of Order No. R9-2015-0001 or Order No. R8-2015-0001 (superseding Order No. R8-2009-0030);

- c. Establish interim exceptions to land development requirements for those priority development projects that discharge to engineered channels and large river reaches as described in Provision E.3.c.(2)(e) of this Order;
- d. Incorporate the amended requirements of the State Water Resources Control Board's (State Water Board) General Exception to require that pollutant reductions be achieved within 6 years for storm water and nonpoint source discharges to ASBS within the Region;
- e. Incorporate applicable requirements of the Los Peñasquitos Lagoon Sediment TMDL; and
- f. Require the Orange County Copermittees to implement the "*Workgroup Recommendation for a Unified Beach Water Quality Monitoring and Assessment Program in South Orange County*," dated October 2014, made effective in the Monitoring and Reporting Program/Order issued pursuant to California Water Code section 13383 in the December 5, 2014 San Diego Water Board Letter Directive and subject to future revisions by the Executive Officer after appropriate public input.

Tentative Order No. R9-2015-0100, an Order amending Order No. R9-2013-0001 as amended by Order No. R9-2015-0001, was distributed for public review on July 31, 2015. The San Diego Water Board accepted written comments on Tentative Order No. R9-2015-0100 until September 14, 2015. A public hearing was held on November 18, 2015, to receive oral comments from Copermittees and interested persons. The San Diego Water Board adopted Order No. R9-2015-0100 amending Order No. R9-2013-0001 as amended by Order No. R9-2015-0001, on November 18, 2015. Order No. R9-2015-0100 amended the findings and provisions of Order No. R9-2013-0001 as amended by Order No. R9-2015-0001 to:

- a. Enroll the County of Riverside, the Cities of Murrieta, Temecula, and Wildomar, and the Riverside County Flood Control and Water Conservation District as Copermittees responsible for compliance with the terms and conditions of Order No. R9-2013-0001, as amended by Order Nos. R9-2015-0001 and R9-2015-0100;
- b. Continue designation of the San Diego Water Board to regulate Phase I MS4 discharges within the jurisdictions of the Cities of Murrieta and Wildomar, including areas within the Santa Ana Region; and, agree to continue designation of the Santa Ana Water Board to regulate all Phase I MS4 discharges within the jurisdiction of the City of Menifee, including areas within

the San Diego Region, subject to the terms of the October 26, 2015 agreement between San Diego Water Board and the Santa Ana Water Board described in Finding 29 of this Order;

- d. Incorporate Provision B.3.c, which provides an option that allows a Copermittee to utilize the watershed-based Water Quality Improvement Plan to be deemed in compliance with the prohibitions and limitations of Provisions A.1.a, A.1.c, A.1.d, A.2, and A.3.b;
- e. Incorporate minor revisions to Provisions E.2.a.(1) and E.2.a.(2) to include San Diego Water Board Order No. R9-2015-0013 and State Water Board Order 2014-0194-DWQ into the requirements for addressing non-storm water discharges to a Copermittee's MS4;
- e. Incorporate minor revisions to Provision E.3.b.(1) to correct inconsistencies in the definition of a Priority Development Project as compared to the definitions in Order No. R9-2009-0002 (Fourth Term Orange County MS4 Permit) and Order No. R9-2010-0016 (Fourth Term Riverside County MS4 Permit), and requirements for incorporating the corrected definitions into the BMP Design Manual;
- f. Incorporate revisions to Provision E.3.e.(1)(a) to provide additional clarity on when the structural BMP performance requirements of Provision E.3.c are applicable to Priority Development Projects;
- e. Incorporate minor revisions to the Revised TMDLs for Indicator Bacteria, Project I – Twenty Beaches and Creeks in the San Diego Region and the TMDLs for Sediment in Los Peñasquitos Lagoon in Attachment E to the Order to make the requirements consistent with the Basin Plan amendments adopted by the San Diego Water Board; and
- f. Remove provisions related to allowing the Riverside County Copermittees to apply for early coverage under the Regional MS4 Permit.

The San Diego Water Board files applicable to the issuance of Order No. R9-2013-0001 and amendments thereto are incorporated into the administrative record in support of the findings and requirements of the Order.

II. CONTACT INFORMATION

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The Order and other related documents can be downloaded from the San Diego Water Board website at

http://www.waterboards.ca.gov/sandiego/water_issues/programs/stormwater/index.shtml

The documents referenced in this Fact Sheet and in Order No. R9-2013-0001 and amendments thereto are available for public review at the San Diego Water Board office, located at the address listed above. Public records are available for inspection during regular business hours, from 8:00 am to 5:00 pm Monday through Friday. To schedule an appointment to inspect public records, contact the San Diego Water Board Records Management Officer at 619-516-1990.

COPERMITTEES

Orange County Copermittees

- County of Orange
 - City of Aliso Viejo
 - City of Dana Point
 - City of Laguna Beach
 - City of Laguna Hills
 - City of Laguna Niguel
 - City of Laguna Woods
 - City of Lake Forest *
 - City of Mission Viejo
 - City of Ranch Santa Margarita
 - City of San Clemente
 - City of San Juan Capistrano
 - Orange County Flood Control District

* While not listed in the above table, the City of Lake Forest remains a Copermittee under this Order until the later effective date of this Order or Santa Ana Water Board Tentative Order No. R8-2015-0001. Thereafter, the City of Lake Forest will no longer be considered a Copermittee under this Order because its Phase I MS4 discharges will be regulated by the Santa Ana Water Board pursuant to Water Code section 13328 designation. The requirements of this Order that apply to the City of Lake Forest for the duration of this Order, consistent with the Water Code section 13228 agreement dated February 10, 2015, are described in Finding 29 and Footnote 2 to Table B-1.

Riverside County Copermittees

- County of Riverside
 - City of Menifee**
 - City of Murrieta
 - City of Temecula
 - City of Wildomar
 - Riverside County Flood Control and Water Conservation District

** The City of Menifee is not regulated as a Copermittee under this Order because its Phase I MS4 discharges are regulated by Santa Ana Water Board Order No. R8-2010-0033 as it may be amended or issued pursuant to Water Code section 13228 designation. The requirements of this Order that apply to the City of Menifee for the duration of this Order, consistent with the Water Code section 13228 written agreement dated October 26, 2015, are described in Finding 29 and Footnote 3 to Table B-1.

San Diego County Copermittees

- County of San Diego
 - City of Carlsbad
 - City of Chula Vista
 - City of Coronado
 - City of Del Mar
 - City of El Cajon
 - City of Encinitas
 - City of Escondido
 - City of Imperial Beach
 - City of La Mesa
 - City of Lemon Grove
 - City of National City
 - City of Oceanside
 - City of Poway
 - City of San Diego
 - City of San Marcos
 - City of Santee
 - City of Solana Beach
 - City of Vista
 - San Diego County Regional Airport Authority
 - San Diego Unified Port District

III. PUBLIC PROCESS AND NOTIFICATION PROCEDURES

The San Diego Water Board followed the schedule listed below for the preparation of Order No. R9-2013-0001 and amendments thereto:

San Diego County Copermittee Permit Reissuance Process

1. On February 8, 2011, the San Diego Water Board met with the San Diego County Copermittees to discuss the Report of Waste Discharge required pursuant to Order No. R9-2007-0001.
2. Between February and May 2011, the San Diego Water Board met with select San Diego County, Orange County, and Riverside County Copermittees, as well as representatives of the environmental community to discuss concepts and receive recommendations for elements to be incorporated in a Regional Municipal Separate Storm Sewer System Permit (Regional MS4 Permit).
3. On June 27, 2011 the San Diego Water Board received the Report of Waste Discharge from the San Diego County Copermittees for the renewal of their NPDES permit, Order No. R9-2007-0001.
4. On April 9, 2012, the San Diego Water Board released an administrative draft of Tentative Order No. R9-2013-0001 for preliminary informal comments and feedback.
5. On April 25, 2012, the San Diego Water Board held an informal public workshop to present the administrative draft of Tentative Order No. R9-2013-0001 and receive verbal comments.
6. Between June and August 2012, the San Diego Water Board held four (4) focused meetings with representatives of the principal stakeholders (the Copermittees, the environmental community, the development/business community, and USEPA) to discuss and receive preliminary comments and feedback about specific elements in the administrative draft of Tentative Order No. R9-2013-0001.
7. On September 5, 2012, the San Diego Water Board held an informal public workshop to present the modifications that were expected to be incorporated into the Tentative Order based on the preliminary comments and feedback received during the focused meetings held between June and August 2012.
8. Informal written comments on the administrative draft of Tentative Order No. R9-2013-0001 were accepted until September 14, 2012.
9. On October 12, 2012, the San Diego Water Board released a revised administrative draft of Tentative Order No. R9-2013-0001.

10. On October 24, 2012, the San Diego Water Board held a focused meeting with representatives of the principal stakeholders (the Copermittees, the environmental community, the development/business community, and USEPA) to discuss modifications incorporated into the administrative draft of Tentative Order No. R9-2013-0001.
11. On October 31, 2012, the San Diego Water Board released Tentative Order No. R9-2013-0001 for formal public review and comment.
12. On November 13, 2012 and December 12, 2012, the San Diego Water Board held a formal public Board workshop to present the public draft of Tentative Order No. R9-2013-0001 and receive verbal comments.
13. Formal written comments on the public draft of Tentative Order No. R9-2013-0001 were accepted until January 11, 2013.
14. A public hearing of Tentative Order No. R9-2013-0001 was conducted on April 10 and 11, 2013, that was continued to May 8, 2013.

Orange County Copermittee Permit Reissuance Process

15. On May 20, 2014 the San Diego Water Board received the Report of Waste Discharge from the Orange County Copermittees for the renewal of their MS4 NPDES permit, Order No. R9-2009-0002.
16. On June 24, 2014, the San Diego Water Board met with the Orange County Copermittees to discuss the Report of Waste Discharge required pursuant to Order No. R9-2009-0002 and the process for enrollment as Copermittees under Regional MS4 Permit Order No. R9-2013-0001.
17. On July 1, 2014, the San Diego Water Board held a public meeting to discuss the Orange County Report of Waste Discharge and receive comments on potential modifications to Order No. R9-2013-0001. Based on comments received from the Orange County Copermittees and other interested persons at this meeting, the San Diego Water Board determined that additional public meetings were not needed prior to release of Tentative Order No. R9-2015-0001, amending Order No. R9-2013-0001 in redlined – strikeout format for public review and comment.
18. On September 19, 2014, the San Diego Water Board released Tentative Order No. R9-2015-0001 for a 60 day public review and comment period.
19. On October 8, 2014, the San Diego Water Board held a formal public workshop at a regular board meeting to receive information and discuss the proposed amendments to Order No. R9-2013-0001 described in Tentative Order No. R9-2015-0001.

20. In accordance with State and federal laws and regulations, the San Diego Water Board notified San Diego County, Orange County and Riverside County Copermittees, and all known interested agencies and persons of its intent to adopt Tentative Order No. R9-2015-0001 and provided them with an opportunity to submit their written comments and recommendations. Written comments and recommendations on Tentative Order No. R9-2015-0001 were accepted until November 19, 2014.
21. The San Diego Water Board held a public workshop on October 8, 2014, and a public hearing on February 11, 2015, and heard and considered all comments pertaining to the adoption of Tentative Order No. R9-2015-0001 on February 11, 2015.

Riverside County Copermittee Permit Reissuance Process

22. Between April and June 2015, the San Diego Water Board held three (3) public workshops with representatives of the principal stakeholders (the Copermittees, the environmental community, the development/business community) to discuss and receive comments and feedback about amending Order No. R9-2013-0001 to incorporate a definition of prior lawful approval for Priority Development Projects, and an alternative compliance pathway for prohibitions and limitations in Provision A of the Order. A San Diego Water Board member attended the April and May 2015 public workshops, but no actions or voting took place.
23. On April 15, 2015, the San Diego Water Board met with the Riverside County Copermittees to discuss the Report of Waste Discharge required pursuant to Order No. R9-2010-0016 and the process for enrollment as Copermittees under Order No. R9-2013-0001 (Regional MS4 Permit).
24. On May 8, 2015 the San Diego Water Board received a Report of Waste Discharge from the Riverside County Copermittees for the renewal of their MS4 NPDES permit, Order No. R9-2010-0016.
25. On July 31, 2015, the San Diego Water Board released Tentative Order No. R9-2015-0100 for a formal public review and comment period.
26. Formal written comments on the public draft of Tentative Order No. R9-2015-0100 were accepted until September 14, 2015, a formal public written comment period of 46 days.
27. A public hearing to receive oral comments on Tentative Order No. R9-2015-0100 was conducted on November 18, 2015.

IV. BACKGROUND OF THE SAN DIEGO REGION MUNICIPAL STORM WATER PERMITS

In developed and developing areas, storm water runoff is commonly transported through municipal separate storm sewer systems (MS4s) and discharged into local receiving water bodies. As the storm water runs off and flows over the land or impervious surfaces (e.g., paved streets, parking lots, and building rooftops), it accumulates debris, chemicals, sediment, and other pollutants that can adversely affect receiving water quality if discharged untreated. The United States Environmental Protection Agency (USEPA) recognizes wet weather flows from urban areas as the number one source of estuarine pollution in coastal communities,¹ such as those within the San Diego Region.

The federal Clean Water Act (CWA) was amended in 1987 to address and regulate discharges of storm water associated with industrial activities and from municipal storm sewers. With the amendments, many municipalities throughout the United States were obligated for the first time to obtain National Pollutant Discharge Elimination System (NPDES) permits for discharges of storm water from their MS4s.

In response to the CWA 1987 amendment, as well as the pending federal NPDES regulations which would implement the amendment, the San Diego Water Board issued “early” MS4 permits. The San Diego Water Board adopted and issued Order Nos. 90-38, 90-42, and 90-46 to regulate storm water discharges from the MS4s in Orange County, San Diego County, and Riverside County, respectively, within the San Diego Region on July 16, 1990.

The “early” MS4 permits, or First Term Permits, were issued prior to the November 1990 promulgation of the final federal NPDES storm water regulations. By issuing these First Term Permits before the federal regulations took effect, the San Diego Water Board was able to provide the Copermittees additional flexibility in addressing and managing storm water discharges. The First Term Permits contained the essentials of the 1990 regulations, and required the Copermittees to develop and implement runoff management programs, but provided little specificity about what was required to be included in or actually achieved by those programs.

The flexibility provided in the First Term Permits was generally continued through the Second Term Permits. The combination of the lack of specificity in the First and Second Term Permits, a general lack of meaningful action by the Copermittees and a general lack of corresponding reaction (i.e. enforcement) by the San Diego Water Board during the first ten years of the storm water program, resulted in few substantive steps towards achieving improvements in the quality of receiving waters or storm water discharges from the MS4s.

¹ US EPA. 1999. 40 CFR Parts 9, 122, 123, and 124. National Pollutant Discharge Elimination System – Regulations for Revision of the Water Pollution Control Program Addressing Storm Water Discharges; Final Rule. 64 FR 68727.

From 2001, the regulatory approach incorporated into Third Term Permits was a significant departure from the regulatory approach of the First and Second Term Permits. The Third Term Permits issued by the San Diego Water Board included more detailed requirements that outlined the minimum level of implementation required for the Copermittees' programs to meet the maximum extent practicable (MEP) standard for storm water. The Third Term Permits included more detail to emphasize and enhance the jurisdictional runoff management programs developed by the Copermittees and introduced requirements for developing and implementing watershed-based programs.

The Third Term Permits also incorporated two precedent setting decisions by the State Water Board. In Order WQ 99-05, the State Water Board established receiving water limitation language to be included in all MS4 permits. The State Water Board's precedential language clarified that municipal storm water permits must include provisions requiring discharges to be controlled to attain water quality standards in receiving waters. Unlike previously adopted versions of the receiving water limitation language in the First and Second Term Permits, the language no longer stated that "*violations of water quality standards are not violations of the municipal storm water permit under certain conditions.*" In addition, the receiving water limitation language no longer indicated that the "*implementation of best management practices is the 'functional equivalent' of meeting water quality standards.*" State Water Board Order WQ 99-05 specifically requires language in MS4 permits for the Copermittees to comply with water quality standards based discharge prohibitions and receiving water limitations through timely implementation of control measures and other actions to reduce pollutants in discharges. (See State Water Board Order WQ 99-05 (*Environmental Health Coalition*)).

In Order WQ 2000-11, also a precedential decision, the State Water Board addressed design standards for structural post-construction best management practices (BMPs) for new development and significant redevelopment. The State Water Board found that the design standards, which require that runoff generated by 85 percent of storm events from specific development categories be infiltrated or treated, reflect the MEP standard. State Water Board Order WQ 2000-11 also found that the post-construction BMP provisions, or Standard Storm Water Mitigation Plan (SSMP) provisions, constitute MEP for addressing storm water pollutant discharges resulting from specific development categories.

The Third Term San Diego County and Orange County Permits (Order Nos. 2001-01 and R9-2002-0001, respectively) were appealed to the State Water Board. Minor modifications were made by the State Water Board, but the requirements were largely upheld. In State Water Board Order WQ 2001-15, the State Water Board upheld the Third Term San Diego County Permit requirements with certain modifications. The State Water Board removed the prohibition of storm water discharges *into* the MS4 that cause or contribute to exceedances of water quality objectives. The revision allows for treatment of pollutants in storm water runoff after the pollutants have entered the MS4.

State Water Board Order WQ 2001-15 otherwise upheld all the other requirements of the permit.

In addition to the modification to the discharge prohibition in Order WQ 2001-15, the State Water Board refined Order WQ 99-05 by making clear that the Copermitees may use an iterative approach to achieving compliance with water quality standards that involves ongoing assessments and revisions. Thus, the language for the discharge prohibitions and receiving water limitations was revised to explicitly require the Copermitees to implement an iterative process of assessments and revisions to comply with the discharge prohibitions and receiving water limitations. The San Diego Water Board retained the authority to enforce receiving water limitations and discharge prohibitions even if the Copermitee is engaged in the iterative process.

The Third Term San Diego County Permit was subsequently challenged in the Superior Court of the State of California and the Court of Appeal, Fourth Appellate District. The Court of Appeal, Fourth Appellate District, found that the approach of the Third Term San Diego County Permit to regulating discharges into the MS4 was appropriate (*Building Industry Ass'n. v. State Water Resources Control Bd., et al.*, 124 Cal.App.4th 866 (2004)). The State of California Supreme Court denied review sought by the Building Industry Association in March 2005.

The Fourth Term Permits began with the adoption of Order No. R9-2007-0001 issued to the Copermitees of San Diego County in January 2007. Order Nos. R9-2009-0002 and R9-2010-0016 were subsequently issued to the Copermitees of Orange County and Riverside County. The Fourth Term Permits continued to include more detailed requirements to be implemented by each Copermitee's jurisdictional runoff management program. The Fourth Term Permits also included requirements to further emphasize a watershed management approach and for more coordination among jurisdictional runoff management programs. In addition, the Fourth Term Permits included more requirements for assessing the effectiveness of the runoff management programs being implemented by the Copermitees. The intent of the inclusion of additional requirements was to enhance and better define elements of the permit that were expected to be incorporated into the iterative process for managing runoff from each Copermitee's jurisdiction and within the watersheds of the San Diego Region.

The Fourth Term Permits included several new and emerging approaches for managing storm water runoff and discharges. Low impact development (LID) requirements are included for development and significant redevelopment to reduce pollutants in storm water runoff from sites through more natural processes such as infiltration and biofiltration closer to the source, rather than utilizing conventional mechanical end-of-pipe treatment systems. Hydrograph modification (hydromodification) management requirements also are included to mitigate the potential for increased erosion in receiving waters due to increased runoff rates and durations often caused by development and increased impervious surfaces. The Fourth Term Orange County and Riverside County Permits introduced requirements to identify areas of existing

development where retrofitting with LID projects would be feasible and could be implemented to reduce storm water runoff and pollutants in storm water discharges.

The Fourth Term Orange County and Riverside County Permits included a clearer distinction between storm water and non-storm water discharges. The term “urban runoff” was completely removed, and a distinction between storm water (wet weather) runoff and non-storm water (dry weather) runoff was emphasized. This clarification was made to prevent any potential misunderstanding that regulation under the MS4 permits is limited only to urbanized areas, and to prevent non-storm water runoff from being managed in the same manner as storm water runoff. The term “urban runoff” is not defined in the Code of Federal Regulations (CFR) or Federal Register (FR) in the regulation of MS4 discharges. According to the CWA 402(p)(3)(B)(ii), MS4 permits must include a requirement to effectively prohibit non-storm water discharges into the MS4s.

Finally, for the Fourth Term Orange County and Riverside County Permits the San Diego Water Board found that non-storm water discharges to the MS4 from over application of irrigation water are sources of pollutants. The San Diego Water Board found that non-storm water discharges resulting from over-irrigation must be prohibited from entering the MS4 in accordance with the requirements of the CWA and pursuant to 40 CFR 122.26(d)(2)(iv)(B)(1).

The requirements of the Fourth Term Permits issued to the Copermittees in each county within the San Diego Region now have substantively the same core requirements such as discharge prohibitions, receiving water limitations, jurisdictional runoff management program components, and monitoring program requirements. There are, however, several inconsistencies that exist among the three Fourth Term Permits which complicate oversight and implementation of the permits by the San Diego Water Board.

The Fourth Term San Diego County Permit expired in January 2012. The Fourth Term Orange County permit expired in December 2014 and the Fourth Term Riverside County Permit expired in November 2015. Issuing the Fifth Term Permits within five years for three counties under three different permits would have required the San Diego Water Board to expend significant time and resources for the issuance of the permits through three separate public proceedings, thereby greatly reducing the time and resources available to oversee implementation and compliance. Multiple permits also create confusion for determining compliance among regulated entities, especially for the land development community.

The San Diego Water Board acknowledged that issuing a single MS4 permit for all the Copermittees in the San Diego Region can and is expected to result in more consistent implementation, improve communication among agencies within watersheds crossing multiple jurisdictions, and minimize resources spent with each permit renewal process. Within the findings of the Fourth Term Riverside County Permit issued in November 2010, the San Diego Water Board notified the public of its intent to develop and issue a single Regional MS4 Permit.

V. REGIONAL MS4 PERMIT APPROACH

The Fifth Term Permit, or Regional MS4 Permit, shifts the focus of the permit requirements from a minimum level of actions to be implemented by the Copermitees to identifying outcomes to be achieved by those actions. Order No. R9-2013-0001 represents an important paradigm shift in the approach for MS4 permits within the San Diego Region.

Historical Permitting Approach

The First and Second Term Permits were very broad and provided little specificity about what was required to be developed and implemented by the Copermitees. The Third Term Permits began to become more specific about the minimum level of implementation required by the Copermitees. The Fourth Term Permits subsequently increased in specificity. The MS4 permits have progressively become more detailed and focused on specifying the minimum level of actions expected to be implemented by the Copermitees. As detailed and specific as the MS4 permits have become, however, they include very little detail about what the desired outcomes of the required actions are expected to achieve. Compliance with the permit requirements has essentially been tracking numbers of actions and reporting, not tracking progress or actual improvements in the quality of receiving waters or discharges from the MS4s. The result has been an increase in actions being implemented by the Copermitees with little or no ability or expectations to determine whether or not improvements in water quality are being achieved.

The Fourth Term Permits result in significant resource expenditure by the Copermitees to report permit compliance information to the San Diego Water Board in the form of annual jurisdictional runoff management program, watershed program, and monitoring program reports. The San Diego Water Board was required to expend much of its limited resources on reviewing more than 50 voluminous reports submitted annually by the Copermitees. The information reported by the Copermitees was of limited value when trying to measure progress toward achieving improvements in the quality of receiving waters or discharges from the MS4s. Oversight of the MS4 permits was further complicated by the inconsistencies among the requirements issued to the Orange County, San Diego County, and Riverside County Copermitees under three separate MS4 permits.

Under the Fourth Term Permits, the Copermitees were required to expend a significant portion of their limited resources collecting data of limited value, and putting together reports to submit that information to the San Diego Water Board. Likewise, the San Diego Water Board was required to expend most of its limited resources reviewing reports, and developing permits instead of working directly with the Copermitees to identify solutions to problems causing impacts to water quality. This was an unsustainable course that would have continued to demand more resources

from the Copermittees and the San Diego Water Board, and would have continued to result in unknown water quality benefits.

New Permitting Approach

The goal of the Regional MS4 Permit is twofold: 1) bring a consistent set of MS4 permit requirements to all of the Copermittees within the San Diego Region; and, 2) provide an MS4 permit with requirements that will allow the Copermittees to focus their efforts and resources on achieving goals and desired outcomes toward the improvement of water quality rather than completing specific actions.

The overall approach included in the Regional MS4 Permit with respect to the jurisdictional runoff management programs will not differ significantly from the current permits. The general requirements for the jurisdictional runoff management program components and compliance with those requirements will remain and be applied consistently throughout the San Diego Region under the Regional MS4 Permit.

The most significant difference in the new permitting approach is the specific manner of implementation for those jurisdictional runoff management programs. Implementation will be based on decisions made by the Copermittees in accordance with what they have identified as their highest priority water quality conditions. In other words, the Copermittees will have significant control in how to implement the jurisdictional runoff management programs to best utilize their available resources in addressing a specific set of priorities effectively, instead of trying to address all the water quality priorities ineffectively.

The Copermittees are given the responsibility of identifying their highest priority water quality conditions that they intend to address. The Copermittees will develop goals that can be used to measure and demonstrate progress or improvements toward addressing those priorities. In addition to the goals, the Copermittees will provide a schedule for achieving the goals for those highest priorities. The measurement of progress toward achieving the goals for those highest priorities requires a better defined and more focused program of monitoring and assessment than under the Fourth Term Permits.

The monitoring and assessment program must be designed to inform the Copermittees of their progress, and the need for modifications in their jurisdictional runoff management programs and schedules to achieve their goals to improve water quality. The monitoring and assessment program requirements will have a more central role in the Regional MS4 Permit than in earlier permits. The monitoring and assessment requirements must also be designed to enable the Copermittees to focus and direct their efforts in implementing their jurisdictional runoff management programs toward their stated desired outcomes to improve the quality of receiving waters and/or discharges from the MS4s.

By providing an MS4 permit that allows the Copermittees to make more decisions about how to utilize and focus their resources, along with a better defined monitoring and assessment program to inform their water quality management decisions, the Copermittees have the opportunity to:

- 1) *Plan strategically.* The Copermittees must have the ability to identify their available resources and develop and implement long term plans that can organize, collect, and use those resources in the most strategically advantageous and efficient manner possible. This ability to develop long term plans will allow the Copermittees to focus and utilize their resources in a more concerted way over the short term and long term to address specific water quality priorities through stated desired outcomes.
- 2) *Manage adaptively.* The Copermittees must be given the ability to modify their plans as additional information and data are collected from the monitoring and assessment programs. The Copermittees' plans may require modifications to the programs, priorities, goals, strategies, and/or schedules in order for the Copermittees to achieve a stated desired outcome.
- 3) *Identify synergies.* The Copermittees must be given more flexibility to identify efficiencies within and among their jurisdictional runoff management programs as the strategies are developed and implemented to increase the Copermittees' collective effectiveness. The Copermittees must also be able to identify and utilize resources available from other agencies and entities to further augment and enhance their jurisdictional runoff management programs and/or to collectively work with those other agencies and entities toward achieving a stated desired outcome.

The Regional MS4 Permit requirements provide the Copermittees the flexibility and responsibility to decide what actions will be necessary to achieve an outcome that is tailored and designed by the Copermittees to improve specific prioritized water quality conditions. The San Diego Water Board expects the approach of the Regional MS4 Permit to give the Copermittees a greater sense of ownership for restoring the quality of receiving waters in the San Diego Region by becoming an integral part of the decision making process in identifying water quality conditions to be addressed, as well as determining the best use of their resources.

VI. ECONOMIC CONSIDERATIONS

Statutory Considerations

California Water Code (CWC) section 13241 requires the San Diego Water Board to consider certain factors, including economic considerations, in the adoption of water quality objectives. CWC section 13263 requires the San Diego Water Board to take into consideration the provisions of CWC section 13241 in adopting waste discharge requirements.

In *City of Burbank v. State Water Resources Control Bd.* (2005) 35 Cal.4th 613, the California Supreme Court considered whether Regional Water Boards must comply with CWC section 13241 when issuing waste discharge requirements under CWC section 13263(a) by taking into account the costs a permittee will incur in complying with the permit requirements. The Court concluded that whether it is necessary to consider such cost information “*depends on whether those restrictions meet or exceed the requirements of the federal Clean Water Act.*” (*Id.* at p. 627.) The Court ruled that Regional Water Boards may not consider the factors in CWC section 13241, including economics, to justify imposing pollutant restrictions that are less stringent than applicable federal law requires. (*Id.* At pp. 618, 626-627 [“*[Water Code section 13377 specifies that [] discharge permits issued by California’s regional boards must meet the federal standards set by federal law. In effect, section 13377 forbids a regional board’s consideration of any economic hardship on the part of the permit holder if doing so would result in the dilution of the requirements set by Congress in the Clean Water Act...Because CWC section 13263 cannot authorize what federal law forbids, it cannot authorize a regional board, when issuing a [] discharge permit, to use compliance costs to justify pollutant restrictions that do not comply with federal clean water standards.*”]). However, when pollutant restrictions in an NPDES permit are more stringent than federal law requires, CWC section 13263 requires that the Regional Water Boards consider the factors described in CWC section 13241 as they apply to those specific restrictions.

As discussed in Section VII.F, Unfunded State Mandates, the San Diego Water Board finds that the requirements in this Order are not more stringent than the minimum federal requirements. Among other requirements, federal law requires MS4 permits to include requirements to effectively prohibit non-storm water discharges into the MS4s, in addition to requiring controls to reduce the discharge of pollutants in storm water to the MEP, and other provisions as USEPA or the State determines are appropriate for the control of pollutants in MS4 discharges.

The requirements in this Order may be more specific or detailed than those enumerated in federal regulations under 40 CFR 122.26 or in the USEPA guidance. However, the requirements have been designed to be consistent with and within the federal statutory mandates described in CWA section 402(p)(3)(B)(ii) and (iii) and the related federal regulations and guidance. Consistent with federal law, all of the

conditions in this Order could have been included in a permit adopted by USEPA in the absence of the in lieu authority of California to issue NPDES permits.

Moreover, the inclusion of numeric WQBELs in this Order does not cause this Order to be more stringent than federal law. Federal law authorizes both narrative and numeric effluent limitations to meet state water quality standards. The inclusion of WQBELs as discharge specifications in an NPDES permit in order to achieve compliance with water quality standards is not a more stringent requirement than the inclusion of BMP based permit limitations to achieve water quality standards (State Water Board Order No. WQ 2006-0012 (*Boeing*)). Therefore, consideration of the factors set forth in CWC section 13241 is not required for permit requirements to implement the effective prohibition on the discharge of non-storm water discharges into the MS4 or for controls to reduce the discharge of pollutants in storm water to the MEP, or other provisions that the San Diego Water Board has determine appropriate to control such pollutants, as those requirements are mandated by federal law.

Included in the provisions of the Order are monitoring and reporting requirements that are designed to demonstrate that the Copermittees are implementing programs to comply with the CWA municipal storm water requirements. CWA section 308(a) and 40 CFR 122.41(h), (j)-(l), 122.44(i) and 122.48 require that all NPDES permits specify monitoring and reporting requirements. Federal regulations applicable to large and medium MS4s (40 CFR 122.26(d)(1)(iv)(D), 122.26(d)(1)(v)(B), 122.26(d)(2)(i)(F), 122.26(d)(2)(iii)(D), 122.26(d)(2)(iv)(B)(2) and 122.42(c)) also specify additional monitoring and reporting requirements. In addition to the federal requirements of the CWA, the San Diego Water Board also has the authority in CWC 13383 to establish monitoring, reporting, and recordkeeping requirements that implement federal and state laws and regulations through NPDES permits.

The monitoring and assessment information that will be reported to the San Diego Water Board is necessary to determine if the Copermittees are making progress toward achieving compliance with the discharge prohibitions, receiving water limitations, and effluent limitations under Provision A of the Order. The monitoring and assessment information that will be reported is also expected to be key to the iterative approach and adaptive management process that is required to be implemented by the Copermittees if they cannot meet the discharge prohibitions and receiving water limitations under the present conditions, which is also part of the requirements under Provision A of the Order.

Notwithstanding the above, the San Diego Water Board has considered cost information in issuing this Order, as discussed below. The San Diego Water Board has also considered all of the evidence that has been presented to the San Diego Water Board regarding the CWC section 13241 factors in adopting this Order. The San Diego Water Board finds that the requirements in this Order are reasonably necessary to protect beneficial uses identified in the Basin Plan and the economic information related to costs of compliance and other CWC section 13241 factors are not sufficient to justify failing to protect those beneficial uses. Where appropriate, the

San Diego Water Board has provided or will consider providing the Copermittees with additional time to implement control measures to achieve final WQBELs and/or water quality standards.

Cost Information

Discussions of the financial and economic ramifications of municipal storm water management programs tend to focus on the significant costs incurred by municipalities in developing and implementing the programs. When considering the cost of implementing the programs, however, it is also important to consider the alternative costs that are incurred when programs are not fully implemented, as well as the economic benefits which result from effective program implementation.

The recent financial and economic conditions have amplified the concerns about the costs incurred by the municipalities in developing and implementing their programs. The reduction in resources resulting from the recent financial and economic conditions has been cited by many of the Copermittees as a justification for reducing the requirements that must be met by their programs. While the recent conditions are a cause for concern in the short term, these programs also have an opportunity to identify and implement improvements and efficiencies before the next period of growth and development, resulting in more effective and sustainable programs over the long term.

In addition, it is very difficult to ascertain the true cost of implementation of the Copermittees' management programs because of inconsistencies in reporting by the Copermittees. Reported costs of compliance for the same program element can vary widely from city to city, often by a very wide margin that is not easily explained.² Despite these problems, efforts have been made to identify management program costs, which can be helpful in understanding the costs of program implementation.

The San Diego Water Board recognizes that the Copermittees will incur costs in implementing this Order, potentially above and beyond the costs from the Copermittees' prior permits. The San Diego Water Board also recognizes that, due to California's current economic condition, many Copermittees currently have limited staff and resources to implement actions to address its MS4 discharges. Based on the economic considerations below, the San Diego Water Board has provided the Copermittees a significant amount of flexibility to choose how to implement the requirements of the Order.

The Order also allows the Copermittees to customize their plans, programs, and monitoring requirements. In the end, it is up to the Copermittees to determine the effective BMPs and measures necessary to comply with this Order. The Copermittees can choose to implement the least expensive measures that are effective in meeting

² Los Angeles Water Board, 2003. Review and Analysis of Budget Data Submitted by the Permittees for Fiscal Years 2000-2003. P. 2.

the requirements of this Order. This Order also does not require the Copermittees to fully implement all requirements within a single permit term. Where appropriate, the Board has provided the Copermittees with additional time outside of the permit term to implement control measures to achieve final WQBELs and/or water quality standards.

The San Diego Water Board has considered available cost information associated with compliance with this Order. It is not possible to predict accurately the cost impact of the requirements that involve an unknown level of implementation or that depend on environmental variables that are as yet undefined. Only general conclusions can be drawn from this information.

Estimated Municipal Storm Water Program Implementation Costs

The USEPA, the State Water Board, and the California Regional Water Quality Control Boards (Regional Water Boards) have attempted to evaluate the costs of implementing municipal storm water programs. The assessments have demonstrated that the true costs are difficult to ascertain and reported costs vary widely. In addition, reported fiscal analyses tend to neglect the costs incurred to municipalities when storm water and non-storm water runoff is not effectively managed, which are incurred as a result of pollution, contamination, nuisance, and damage to ecosystems, property, and human health. Nonetheless, they provide a useful context for considering the costs of requirements within Order No. R9-2013-0001.

In 1999, the USEPA reported on multiple studies it conducted to determine the cost of management programs. A study of Phase II municipalities determined that the annual cost of the Phase II program was expected to be \$9.16 per household. The USEPA also studied 35 Phase I municipalities, finding costs to be \$9.08 per household annually, similar to those anticipated for Phase II municipalities.³

The State Water Board commissioned a study by the California State University, Sacramento to assess costs of the Phase I MS4 program. This study includes an assessment of costs incurred by Phase I MS4s throughout the state to implement their programs. Annual cost per household in the study ranged from \$18 to \$46, with the Fresno-Clovis Metropolitan Area representing the lower end of the range, and the City of Encinitas (in San Diego County) representing the upper end of the range.⁴

A study on Phase I MS4 program costs was also conducted by the California Regional Water Quality Control Board, Los Angeles Region (Los Angeles Water Board), where program costs reported in the municipalities' annual reports were assessed. The Los

³ Federal Register / Vol. 64, No. 235 / Wednesday, December 8, 1999 / Rules and Regulations. P. 68791-68792.

⁴ State Water Board, 2005. NPDES Stormwater Cost Survey. P. ii.

Angeles Water Board estimated that average per household cost to implement the MS4 program in Los Angeles County was \$12.50.⁵

It is important to note that reported program costs are not all attributable to solely complying with MS4 permits. Many program components, and their associated costs, existed before any MS4 permits were ever issued. For example, street sweeping and trash collection costs cannot be solely or even principally attributable to MS4 permit compliance, since these practices have long been expected from and implemented by municipalities.

Therefore, true program cost resulting from MS4 permit requirements is some fraction of reported costs. The California State University, Sacramento study found that only 38 percent of program costs are new costs fully attributable to MS4 permits. The remainder of the program costs was either pre-existing or resulted from enhancement of pre-existing programs.⁶ In 2000, the County of Orange found that even lower amounts of program costs are solely attributable to MS4 permit compliance, reporting that the amount attributable to implement the County of Orange Drainage Area Management Plan (DAMP), was less than 20 percent of the total budget. The remaining 80 percent was attributable to pre-existing programs.⁷ More current data from the County of Orange is not used in this discussion because the County of Orange no longer reports such information.

Estimated Value of Healthy Water Quality

Economic considerations of municipal storm water management programs cannot be limited only to program costs. Evaluation of programs must also consider information on the benefits derived from environmental protection and improvement.⁸ Attention is often focused on municipal storm water management program costs, but the programs must also be viewed in terms of their value to the public.

Placing a value on healthy receiving waters is very difficult. Often the value of receiving waters with good water quality manifests in other forms, such as tourism, recreational opportunities, and/or increased property values. When surface water bodies are degraded, thereby degrading the habitat within and adjacent to the water bodies, the public loses the value and benefits associated with being able to use the area in and around the water bodies. Surface waters that are able to support the beneficial uses designated in the Basin Plan can sustain plants and wildlife that can attract visitors and residents, providing aesthetic, recreational, as well as monetary value to the public. At this time, however, there have been no studies for the San

⁵ Los Angeles Water Board, 2003. Review and Analysis of Budget Data Submitted by the Permittees for Fiscal Years 2000-2003. P. 2.

⁶ State Water Board, 2005. NPDES Stormwater Cost Survey. P. 58.

⁷ County of Orange, 2000. A NPDES Annual Progress Report. P. 60.

⁸ Ribaud M.O. and D. Heelerstein. 1992, *Estimating Water Quality Benefits: Theoretical and Methodological Issues*. U.S. Department of Agriculture. Technical Bulletin No. 1808.

Diego Region to quantify the added value that surface waters with healthy water quality can provide.

USEPA has estimated that household willingness to pay for improvements in fresh water quality for fishing and boating is approximately \$158-\$210.⁹ This estimate can be considered conservative, since it does not include important considerations such as marine waters benefits, wildlife benefits, or flood control benefits. Another study conducted by California State University, Sacramento reported that the annual household willingness to pay for statewide clean water is approximately \$180.¹⁰

A study conducted by the University of Southern California and University of California, Los Angeles assessed the costs and benefits of implementing various approaches for achieving compliance with the MS4 permits in the Los Angeles region. The study found that non-structural systems would cost \$2.8 billion but provide \$5.6 billion in benefit. If structural systems were determined to be needed, the study found that total costs would be \$5.7 to \$7.4 billion, while benefits could reach \$18 billion.¹¹ Costs are anticipated to be borne over many years, probably at least ten years.

As can be seen, the benefits of the municipal storm water management programs are expected to considerably exceed their costs. Such findings are corroborated by USEPA, which found that the benefits of implementation of its Phase II storm water rule would also outweigh the costs.¹²

⁹ Federal Register / Vol. 64, No. 235 / Wednesday, December 8, 1999 / Rules and Regulations. P. 68793.

¹⁰ State Water Board, 2005. NPDES Stormwater Cost Survey. P. iv.

¹¹ Los Angeles Water Board, 2004. Alternative Approaches to Stormwater Control.

¹² Federal Register / Vol. 64, No. 235 / Wednesday, December 8, 1999 / Rules and Regulations. P. 68791.

VII. APPLICABLE STATUTES, REGULATIONS, PLANS AND POLICIES

A. Legal Authorities – Federal Clean Water Act and California Water Code

This Order is issued pursuant to section 402 of the CWA and implementing regulations adopted by the USEPA and chapter 5.5, division 7 of the CWC (commencing with section 13370). This Order serves as an NPDES permit for point source discharges to surface waters. This Order also serves as waste discharge requirements pursuant to article 4, chapter 4, division 7 of the CWC (commencing with section 13260).

The objective of the CWA is “*to restore and maintain the chemical, physical, and biological integrity of the Nation’s waters.*” To carry out this objective, the CWA requires the implementation of permit programs to regulate the discharge of pollutants and dredged or fill material to the navigable waters of the U.S. and to regulate the use and disposal of sewage sludge. CWA section 402 provides the legal authority to issue a permit for the discharge of pollutants to waters of the U.S. under the NPDES. The CWA provides that NPDES permits may be issued by states which are authorized to implement the provisions of that act. California became authorized to implement the NPDES permit program on May 14, 1973.

The Porter-Cologne Water Quality Control Act (Division 7, commencing with CWC section 13000) established the State Water Resources Control Board (State Water Board) and nine Regional Water Quality Control Boards (Regional Water Boards) as the principal state agencies with primary responsibility for the coordination and control of water quality. CWC section 13200(f) established the San Diego Water Board, which has the primary responsibility for the coordination and control of water quality in the San Diego Region, which includes all the basins draining into the Pacific Ocean between the southern boundary of the Santa Ana Region and the California-Mexico boundary. The San Diego Water Board implements the CWA through Chapter 5.5 of the CWC, commencing with section 13370. CWC section 13377 provides the San Diego Water Board the legal authority to issue waste discharge requirements to ensure compliance with all applicable provisions of the CWA and acts amendatory thereof or supplementary, thereto, to implement water quality control plans, or for the protection of beneficial uses, or to prevent nuisance.

CWA section 402(p) requires the USEPA or authorized state to issue NPDES permits for storm water discharges from MS4s to waters of the U.S. CWA section 402(p)(3)(B)(ii) requires that NPDES permits for storm water discharges from MS4s “*effectively prohibit non-storm water discharges*” into the MS4s. CWA section 402(p)(3)(B)(iii) requires that NPDES permits for storm water discharges from MS4s to “*require controls to reduce the discharge of pollutants [in storm water] to the maximum extent practicable [MEP], including management practices, control techniques and system, design and engineering methods, and such other provisions as the Administrator or the State determines appropriate for the control of such pollutants.*”

The USEPA published implementing regulations (Code of Federal Regulations [CFR] Title 40, Part 122 [40 CFR 122]), which prescribe permit application requirements for storm water discharges from MS4s pursuant to CWA 402(p), on November 16, 1990. The USEPA published an Interpretive Policy Memorandum on Reapplication Requirements for Municipal Separate Storm Sewer Systems, which provided guidance on permit application requirements for regulated MS4s, on May 17, 1996. The federal regulations in 40 CFR 122 and guidance issued by USEPA serve as the foundation for the provisions of Order No. R9-2013-0001. The legal authorities provided by the above statutes and regulations are included as part of the discussions in Section VIII of this Fact Sheet.

B. Legal Authority for the Permit Issued on a Region-wide Basis

CWA section 402(p)(3)(B) provides the San Diego Water Board the legal authority to issue an NPDES permit for the San Diego Region as compared to separate MS4 permits based upon County- and partial County-wide boundaries as they existed within the San Diego Region. CWA section 402(p)(3)(B) states that “*Permits for discharges from municipal storm sewers- (i) may be issued on a system- or jurisdiction-wide basis ...*” The federal regulations in 40 CFR 122.26(a)(1)(v) also state that the San Diego Water Board “*may designate dischargers from municipal separate storm sewers on a system-wide or jurisdiction-wide basis. In making this determination, the [San Diego Water Board] may consider the following factors: (A) the location of the discharge with respect to waters of the United States; (B) the size of the discharge; (C) the quantity and nature of the pollutants discharged to waters of the United States; and (D) other relevant factors.*”

More specifically, the federal regulations provide that for large and medium MS4 systems, the San Diego Water Board may issue a regional permit. Specifically, the federal regulation in 40 CFR 122.26(a)(3) provide:

- "(ii) The Director may either issue one system-wide permit covering all discharges from municipal separate storm sewers within a large or medium municipal storm sewer system or issue distinct permits for appropriate categories of discharges within a large or municipal separate storm sewer system including, but not limited to: all discharges owned or operated by the same municipality; located within the same jurisdiction; all discharges within a system that discharge to the same watershed; discharges within a system that are similar in nature; or for individual discharges from municipal separate storm sewers within the system.*
- (iii) The operator of a discharge from a municipal separate storm sewer which is part of a large or medium municipal separate storm sewer system must either: (A) Participate in a permit application (to be a permittee or a co-permittee) with one or more other operator of discharges from the large or medium municipal storm sewer system which covers all, or a portion of all, discharges from the municipal separate storm sewer system; (B) Submit a distinct permit application which only covers discharges from the municipal separate storm sewers for*

which the operator is responsible; or (C) A regional authority may be responsible for submitting a permit application under the following guidelines...

- (iv) One permit application may be submitted for all or a portion of all municipal separate storm sewers within adjacent or interconnected large or medium municipal separate storm sewer systems. The Director may issue one systemwide permit covering all, or a portion of all municipal separate storm sewers in adjacent or interconnected large or medium municipal separate storm sewer systems.*
- (v) Permits for all or a portion of all discharges from large or medium municipal separate storm sewer systems that are issued on a system-wide, jurisdiction-wide, watershed or other basis may specify different conditions relating to different discharges covered by the permit, including different management programs for different drainage areas which contribute storm water to the system."*

Based on these regulations, the San Diego Water Board may issue a region-wide MS4 permit. The regulations also clarify that the permit may include different conditions for separate discharges covered by the permit. This allows the San Diego Water Board to ensure that suitable water quality conditions and provisions are identified for each watershed.

The USEPA's responses to comments in the Final Rule for the above-mentioned regulations also make it clear that the permitting authority, in this case the San Diego Water Board, has the flexibility to establish system- or region-wide, permits. In the Final Rule published in the Federal Register and containing the responses to comments, USEPA notes that 40 CFR 122.26(a)(3)(iv) would allow an entire system in a geographical region under the purview of a State agency to be designated under a permit.¹³ USEPA also states that many commenters wanted to allow the permitting authority broad discretion to establish system-wide permits, and that EPA believes that paragraphs 40 CFR 122.26 (a)(1)(v) and (a)(3)(ii) allow for such broad discretion.¹⁴

This Order creates watershed requirements that apply to multiple counties. The regional nature of this Order will ensure consistency of regulation within watersheds and is expected to result in overall cost savings for the Copermittees. Managing storm water on a regional and watershed basis is expected to result in improved water quality, as the Order focuses on monitoring and management practices necessary to improve each watershed rather than political boundaries. A single permit also allows the San Diego Water Board staff to expend fewer resources developing successive multiple permits and allows more resources to be devoted to working cooperatively with all three current groups of Copermittees to ensure implementation of this Order results in improved water quality.

¹³ 55 Federal Register 47990-01, 48042.

¹⁴ Ibid.

C. Federal and California Endangered Species Acts

This Order does not authorize any act that results in the taking of a threatened or endangered species or any act that is now prohibited, or becomes prohibited in the future, under either the California Endangered Species Act (Fish and Game Code sections 2050 to 2115.5) or the Federal Endangered Species Act (16 United States Code [USC] sections 1531 to 1544). This Order requires compliance with requirements to protect the beneficial uses of waters of the U.S. The Copermittees are responsible for meeting all requirements of the applicable Endangered Species Act.

D. California Environmental Quality Act

The action to adopt an NPDES Permit is exempt from the provisions of Chapter 3 of the California Environmental Quality Act (CEQA) (Public Resources Code section 21100, et seq.) pursuant to CWC section 13389. (*County of Los Angeles v. Cal. Water Boards* (2006) 143 Cal.App.4th 985.)

E. State and Federal Regulations, Plans and Policies

The legal authority provided by the following regulations, plans, and policies are also included as part of the discussions in Section VIII of this Fact Sheet.

Water Quality Control Plan for the San Diego Basin

The CWA requires the San Diego Water Board to establish water quality standards for each water body in its region. Water quality standards include beneficial uses, water quality objectives and criteria that are established at levels sufficient to protect beneficial uses, and an antidegradation policy to prevent degrading of waters. On September 8, 1994, the San Diego Water Board adopted the *Water Quality Control Plan for the San Diego Basin* (Basin Plan). The Basin Plan designates beneficial uses, establishes water quality objectives, and contains implementation programs and policies to achieve those objectives for all waters in the San Diego Region. The San Diego Water Board has amended the Basin Plan on multiple occasions since 1994. In addition, the Basin Plan implements State Water Board Resolution No. 88-63, which established state policy that all waters, with certain exceptions, should be considered suitable or potentially suitable for municipal or domestic supply. Beneficial uses applicable to the surface water bodies that receive discharges from the MS4s within the San Diego Region generally include those listed below:

The Basin Plan identifies the following existing and potential beneficial uses for inland surface waters in the San Diego Region:

- Municipal and Domestic Supply (MUN)
- Agricultural Supply (AGR)
- Industrial Process Supply (PROC)

- Industrial Service Supply (IND)
- Ground Water Recharge (GWR)
- Contact Water Recreation (REC1)
- Non-contact Water Recreation (REC2)
- Warm Freshwater Habitat (WARM)
- Cold Freshwater Habitat (COLD)
- Wildlife Habitat (WILD)
- Rare, Threatened, or Endangered Species (RARE)
- Freshwater Replenishment (FRSH)
- Hydropower Generation (POW)
- Preservation of Biological Habitats of Special Significance (BIOL)

The following additional existing and potential beneficial uses are identified for coastal waters of the San Diego Region:

- Navigation (NAV)
- Commercial and Sport Fishing (COMM)
- Estuarine Habitat (EST)
- Marine Habitat (MAR)
- Aquaculture (AQUA)
- Migration of Aquatic Organisms (MIGR)
- Spawning, Reproduction, and/or Early Development (SPWN)
- Shellfish Harvesting (SHELL)

Pursuant to Water Code sections 13263 and 13377, the requirements of this Order implement the Basin Plan.

Water Quality Control Plan for Ocean Waters of California, California Ocean Plan

In 1972, the State Water Board adopted the Water Quality Control Plan for Ocean Waters of California, California Ocean Plan (Ocean Plan). The State Water Board adopted the most recent amended Ocean Plan on October 16, 2012. The Office of Administrative Law approved it on July 3, 2013. The amended Ocean Plan became effective on August 19, 2013. The Ocean Plan is applicable, in its entirety, to ocean waters of the State. In order to protect beneficial uses, the Ocean Plan establishes water quality objectives and a program of implementation. Pursuant to Water Code sections 13263 and 13377, the requirements of this Order implement the Ocean Plan. The Ocean Plan identifies the beneficial uses of ocean waters of the State to be protected as summarized below:

- Industrial water supply
- Water contact and non-contact recreation, including aesthetic enjoyment; navigation
- Commercial and sport fishing

- Mariculture
- Preservation and enhancement of designated Areas of Special Biological Significance
- Rare and endangered species
- Marine habitat
- Fish spawning and shellfish harvesting

On March 20, 2012, the State Water Board approved Resolution No. 2012-0012 approving an exception to the Ocean Plan prohibition against discharges to Areas of Special Biological Significance (ASBS) for certain nonpoint source discharges and NPDES permitted municipal storm water discharges. On June 19, 2012, the State Water Board adopted Order No. 2012-0031, amending Order No. 2012-0012 to require pollutant load reductions to be achieved within six years for the ASBS Compliance Plans, section A.2.d(2) and ASBS Pollution Prevention Plans, section B.2.b(2). The State Water Board Resolution No. 2012-0012, as amended requires monitoring and testing of marine aquatic life and water quality in several ASBS to protect California's coastline during storms when rain water overflows into coastal waters. Specific terms, prohibitions, and special conditions were adopted to provide special protections for marine aquatic life and natural water quality in ASBS. The City of San Diego's municipal storm water discharges to the San Diego Marine Life Refuge in La Jolla, and the City of Laguna Beach's municipal storm water discharges to the Heisler Park ASBS are subject terms and conditions of State Water Board Resolution No. 2012-0012, as amended. The Special Protections contained in Attachment B to State Water Board Resolution No. 2012-0012, as amended, applicable to these discharges, are incorporated in Attachment A of this Order. Requirements of this Order implement the Ocean Plan.

Water Quality Control Plan for Enclosed Bays and Estuaries – Part 1 Sediment Quality

On September 16, 2008, the State Water Board adopted the Water Quality Control Plan for Enclosed Bays and Estuaries – Part 1 Sediment Quality (Sediment Quality Control Plan). The Sediment Quality Control Plan became effective on August 25, 2009. The Sediment Quality Control Plan establishes 1) narrative sediment quality objectives for benthic community protection from exposure to contaminants in sediment and to protect human health, and 2) a program of implementation using a multiple lines of evidence approach to interpret the narrative sediment quality objectives. Requirements of this Order implement the Sediment Quality Control Plan.

Antidegradation Policy

Federal regulations (40 CFR 131.12) require that the state water quality standards include an antidegradation policy consistent with the federal antidegradation policy. The State Water Board established California's antidegradation policy in State Water Board Resolution No. 68-16 ("Statement of Policy with Respect to Maintaining the Quality of the Waters of the State"). State Water Board Resolution No. 68-16 incorporates the

federal antidegradation policy where the federal policy applies under federal law.

The San Diego Water Board's Basin Plan implements and incorporates by reference both the State and federal antidegradation policies. State Water Board Resolution No. 68-16 and 40 CFR 131.12 require the San Diego Water Board to maintain high quality waters of the State unless degradation is justified based on specific findings. First, the Board must ensure that "existing instream uses and the level of water quality necessary to protect the existing uses" are maintained and protected. Second, if the baseline quality of a water body for a given constituent exceeds levels necessary to support propagation of fish, shellfish, and wildlife and recreation in and on the water, that quality shall be maintained and protected through the requirements of the Order unless the Board makes findings that (1) any lowering of the water quality is necessary to accommodate important economic or social development in the area in which the waters are located; (2) water quality adequate to protect existing uses fully is assured; and (3) the highest statutory and regulatory requirements for all new and existing point sources and all cost-effective and reasonable best management practices for nonpoint source control are achieved. The San Diego Water Board must also comply with any requirements of State Water Board Resolution No. 68-16 beyond those imposed through incorporation of the federal antidegradation policy. In particular, the Board must find that not only present, but also anticipated future uses of water are protected, and must ensure best practicable treatment or control of the discharges. The baseline quality considered in making the appropriate findings is the best quality of the water since 1968, the year of the adoption of Resolution No. 68-16, or a lower level if that lower level was allowed through a permitting action that was consistent with the federal and state antidegradation policies.

The discharges permitted in this Order are consistent with the antidegradation provisions of 40 CFR 131.12 and State Water Board Resolution No. 68-16 as set forth below:

1. Many of the waters within the area covered by this Order are impaired for multiple pollutants discharged through MS4s and are not high quality waters with regard to these pollutants. In most cases, there is insufficient data to determine whether these water bodies were impaired as early as 1968, but the limited available data shows impairment dating back for more than two decades. Many such water bodies are listed on the State's CWA Section 303(d) List and the San Diego Water Board has established TMDLs to address the impairments. This Order ensures that existing instream (beneficial) water uses and the level of water quality necessary to protect the existing uses is maintained and protected. This Order requires the Copermitees to comply with permit provisions to implement the WLAs set forth in the TMDLs in order to restore the beneficial uses of the impaired water bodies consistent with the assumptions and requirements of the TMDLs. This Order further requires compliance with receiving water limitations to meet water quality standards in the receiving water either by demonstrating compliance pursuant to Provision A and the Copermitees' monitoring and assessment program pursuant to Provision D of this Order, or by implementing Provision B.3.c with a schedule to achieve compliance

with receiving water limitations. This Order includes requirements to develop and implement storm water management programs, achieve WQBELs, and effectively prohibit non-storm water discharges into the MS4. The issuance of this Order does not authorize an increase in the amount of discharge of waste.

2. To the extent that water bodies within the area covered by this Order are high quality waters with regard to some constituents, this Order finds as follows:
 - a. Allowing limited degradation of high quality water bodies through MS4 discharges is necessary to accommodate important economic or social development in the area and is consistent with the maximum benefit to the people of the state. The discharge of storm water in certain circumstances is to the maximum benefit to the people of the state because it can assist with maintaining instream flows that support beneficial uses, may spur the development of multiple-benefit projects, and may be necessary for flood control, and public safety as well as to accommodate development in the area. The alternative – capturing all storm water from all storm events – would be an enormous opportunity cost that would preclude MS4 permittees from spending substantial funds on other important social needs. The Order ensures that any limited degradation does not affect existing and anticipated future uses of the water and does not result in water quality less than established standards. The Order requires compliance with receiving water limitations that act as a floor to any limited degradation.
 - b. The Order requires the highest statutory and regulatory requirements and requires that the Copermitees meet best practicable treatment or control. The Order prohibits all non-storm water discharges, with a few enumerated exceptions, through the MS4 to the receiving waters. As required by 40 CFR section 122.44(a), the Copermitees must comply with the “maximum extent practicable” technology-based standard set forth in CWA section 402(p), and implement extensive minimum control measures in a storm water management program. Recognizing that best practicable treatment or control may evolve over time, the Order includes new and more specific requirements as compared to the prior Phase I MS4 permits for the San Diego County, Orange County and Riverside County Copermitees. The Order incorporates options to implement Water Quality Improvement Plans that must specify detailed structural and non-structural storm water controls that must be implemented in accordance with an accepted proposed time schedule. The Order contains provisions to encourage, wherever feasible, retention of the storm water from the 85th percentile 24-hour storm event.

Anti-Backsliding Requirements

CWA sections 402(o) and 303(d)(4) and federal regulations at 40 CFR 122.44(l) prohibit backsliding in NPDES permits. These anti-backsliding provisions require effluent limitations in a reissued permit to be as stringent as those in the previous permit, with some exceptions where limitations or conditions may be relaxed. While this Order

allows implementation of an alternative compliance pathway option in Provision B.3.c to constitute compliance with receiving water limitations under certain circumstances, the availability of that alternative and the corresponding availability of additional time to come into compliance with receiving water limitations does not violate the anti-backsliding provisions. The receiving water limitations provisions of this Order are imposed under section 402(p)(3)(B) of the Clean Water Act rather than based on best professional judgment, or based on section 301(b)(1)(C) or sections 303(d) or (e), and are accordingly not subject to the anti-backsliding requirements of section 402(o). Although the non-applicability is less clear with respect to the regulatory anti-backsliding provisions in 40 CFR 122.44(l), the regulatory history suggests that USEPA's intent was to establish the anti-backsliding regulations with respect to evolving technology standards for traditional point sources. (See, e.g., 44 Fed.Reg. 32854, 32864 (Jun. 7, 1979)). It is unnecessary, however, to resolve the ultimate applicability of the regulatory anti-backsliding provisions, because the alternative compliance pathway option in Provision B.3.c qualifies for an exception to backsliding as based on new information.

The alternative compliance pathway option in Provision B.3.c of this Order was informed by new information available to the Board from experience and knowledge gained through storm water permitting at the Regional Water Boards in the last ten years. There has been a statewide paradigm shift in storm water management. State Water Board Order WQ 2015-0075 directed all of the Regional Water Boards to consider the Los Angeles Water Board's alternative compliance path to receiving water limitations in all Phase I MS4 permits going forward (State Water Board Order WQ 2015-0075 at page 51), and the Los Angeles Water Board's process of developing over 30 watershed-based TMDLs and implementing several TMDLs since the adoption of the previous permits. In particular, the Los Angeles Water Board recognized the significance of allowing time to plan, design, fund, operate and maintain watershed-based BMPs necessary to attain water quality improvements and additionally recognized the potential for municipal storm water to benefit water supply. Similarly, the San Diego Water Board's experience developing and implementing the Fourth Term MS4 Permits and TMDLs that apply on a region-wide scale (e.g. TMDLs for Indicator Bacteria, Project I – Twenty Beaches and Creeks in the San Diego Region) has resulted in a similar recognition of the need for a watershed-based approach that allows time to plan, design, fund, operate and maintain BMPs to address impaired waters that have been impacted by MS4 discharges. Thus, even if the receiving water limitations are subject to anti-backsliding requirements, they were revised based on new information that would support an exception to the anti-backsliding provisions. (33 U.S.C. § 1342(o)(2)(B)(i); 40 C.F.R. § 122.44(l)(1); 40 C.F.R. §122.44(l)(2)(i)(B)(1)).

Clean Water Act Section 303(d) List

CWA section 303(d)(1) requires each State to identify specific water bodies within its boundaries where water quality standards are not being met or are not expected to be met after implementation of technology-based effluent limitations on point sources. Water bodies that do not meet water quality standards are considered impaired and are placed on the state's "303(d) List." Periodically, USEPA approves the State's 303(d) List.

Most recently, USEPA approved the State's 2010 303(d) List of impaired water bodies on October 11, 2011, which includes certain receiving waters in the San Diego Region. For each listed water body, the state or USEPA is required to establish a TMDL of each pollutant impairing the water quality standards in that water body. A TMDL is a tool for implementing water quality standards and is based on the relationship between pollution sources and in-stream water quality conditions. The TMDL establishes the allowable pollutant loadings for a water body and thereby provides the basis to establish water quality-based controls. These controls should provide the pollution reduction necessary for a water body to meet water quality standards.

A TMDL is the sum of the allowable pollutant loads of a single pollutant from all contributing point sources (the waste load allocations or WLAs) and non-point sources (load allocations of LAs) plus the contribution from background sources and a margin of safety (40 CFR 130.2(i)). MS4 discharges are considered point source discharges. For 303(d)-listed water bodies and pollutants in the San Diego Region, the San Diego Water Board or USEPA develops and adopts TMDLs that specify these requirements.

Since 2002, the San Diego Water Board has established seven (7) TMDLs to remedy water quality impairments in various water bodies within the San Diego Region (see Attachment E to the Order). These TMDLs identify MS4 discharges as a source of pollutants to these water bodies, and, as required, establish WLAs for MS4 discharges to reduce the amount of pollutant discharged to receiving waters. CWA section 402(p)(3)(B)(iii) requires the San Diego Water Board to impose permit conditions, including: "management practices, control techniques and system, design and engineering methods, and *such other provisions as the Administrator or the State determines appropriate for the control of such pollutants.*" (Emphasis added.) CWA section 402(a)(1) also requires states to issue permits with conditions necessary to carry out the provisions of the CWA. Federal regulations also require that NPDES permits contain WQBELs consistent with the assumptions and requirements of all available WLAs (40 CFR 122.44(d)(1)(vii)(B)). CWC section 13377 also requires that NPDES permits include limitations necessary to implement water quality control plans. Therefore, this Order includes WQBELs and other provisions to implement the TMDL WLAs assigned to Copermitttees regulated by this Order.

Other Regulations, Plans and Policies

This Order implements all other applicable federal regulations and State regulations, plans and policies, including the California Toxics Rule at 40 CFR 131.38 (Water Quality Standards; Establishment of Numeric Criteria for Priority Toxic Pollutants for the State of California Rule [California Toxics Rule or CTR]), and State Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California (State Implementation Policy or SIP).

F. Unfunded State Mandates

Article XIII B, Section 6(a) of the California Constitution provides that whenever “*any state agency mandates a new program or higher level of service on any local government, the state shall provide a subvention of funds to reimburse that local government for the costs of the program or increased level of service.*” The requirements of this Order do not constitute state mandates that are subject to a subvention of funds for several reasons, including, but not limited to, the following.

First, the requirements of this Order do not constitute a new program or a higher level of service as compared to the requirements contained in the previous Fourth Term Permits. The overarching requirement to impose controls to reduce the pollutants in discharges from MS4s is dictated by the CWA and is not new to this permit cycle (33 USC section 1342(p)(3)(B)). The inclusion of new and advanced measures as the MS4 programs evolve and mature over time is anticipated under the CWA (55 FR 47990, 48052 (Nov. 16, 1990)), and to the extent requirements in this Order are interpreted as new advanced measures, they do not constitute a new program or higher level of service.

Second, and more broadly, mandates imposed by federal law, rather than by a state agency, are exempt from the requirement that the local agency’s expenditures be reimbursed (Cal. Const., art. XIII B, section 9, subd. (b)). This Order implements federally mandated requirements under the CWA and its requirements are therefore not subject to subvention of funds. This includes federal requirements to effectively prohibit non-storm water discharges, to reduce the discharge of pollutants in storm water to the MEP, and to include such other provisions as the Administrator or the State determines appropriate for the control of such pollutants (33 USC section 1342(p)(3)(B)). Federal cases have held these provisions require the development of permits and permit provisions on a case-by-case basis to satisfy federal requirements. (*Natural Resources Defense Council, Inc., v. USEPA* (9th Cir. 1992) 966 F.2d 1292, 1308, fn. 17.)

The authority exercised under this Order is not reserved state authority under the CWA’s savings clause (cf. *Burbank v. State Water Resources Control Bd.* (2005) 35 Cal.4th 613, 627-628 [relying on 33 USC section 1370, which allows a state to develop requirements which are not “less stringent” than federal requirements]), but instead is part of a federal mandate to develop pollutant reduction requirements for municipal separate storm sewer systems. To this extent, it is entirely federal authority that forms the legal basis to establish the permit provisions. (See, *City of Rancho Cucamonga v. Regional Water Quality Control Board, Santa Ana Region* (2006) 135 Cal.App.4th 1377, 1389; *Building Industry Ass’n of San Diego Co. v. State Water Resources Control Bd.* (2004) 124 Cal.App.4th 866, 882-883.)

The MEP standard is a flexible standard that balances a number of considerations, including technical feasibility, cost, public acceptance, regulatory compliance, and effectiveness. (*Building Ind. Ass’n., supra*, 124 Cal.App.4th at pp. 873-874, 889.) Such considerations change over time with advances in technology and with experience

gained in storm water management (55 FR 47990, 48052 (Nov. 16, 1990)). Accordingly, a determination of whether the conditions contained in this Order exceed the requirements of federal law cannot be based on a point by point comparison of the permit conditions and the minimum control measures that are required “at a minimum” to reduce pollutants to the maximum extent practicable and to protect water quality (40 CFR 122.34). Rather, the appropriate focus is whether the permit conditions, as a whole, exceed the MEP standard.

In recent months, the County of Los Angeles and County of Sacramento Superior Courts have granted writs setting aside decisions of the Commission on State Mandates that held certain requirements in Phase I permits constituted unfunded mandates. In both cases, the courts have found that the correct analysis in determining whether an MS4 permit constituted a state mandate was to evaluate whether the permit as a whole exceeds the MEP standard. (*State of Cal. v. Comm. on State Mandates* (Super. Ct. Sacramento County, 2012, No. 34-2010-80000604), *State of California v. County of Los Angeles* (Super. Ct. Los Angeles County, 2011, No. BS130730.) Both cases are currently pending appeal.

The requirements of the Order, taken as a whole rather than individually, are necessary to reduce the discharge of pollutants to the MEP and to protect water quality. The San Diego Water Board finds that the requirements of the Order are practicable, do not exceed federal law, and thus do not constitute an unfunded mandate. These findings are the expert conclusions of the principal state agency charged with implementing the NPDES program in California (CWC sections 13001, 13370).

It should also be noted that the provisions in this Order to effectively prohibit non-storm water discharges are also mandated by the CWA (33 USC section 1342(p)(3)(B)(ii)). Likewise, the provisions of this Order to implement TMDLs are federal mandates. The CWA requires TMDLs to be developed for water bodies that do not meet federal water quality standards (33 USC section 1313(d)). Once the USEPA or a state establishes or adopts a TMDL, federal law requires that permits must contain effluent limitations consistent with the assumptions and requirements of any applicable waste load allocation in a TMDL (40 CFR 122.44(d)(1)(vii)(B)).

Third, the local agency Copermittees’ obligations under this Order are similar to, and in many respects less stringent than, the obligations of non-governmental dischargers who are issued NPDES permits for storm water discharges. With a few inapplicable exceptions, the CWA regulates the discharge of pollutants from point sources (33 USC section 1342) and the Porter-Cologne Act regulates the discharge of waste (CWC section 13263), both without regard to the source of the pollutant or waste. As a result, the “costs incurred by local agencies” to protect water quality reflect an overarching regulatory scheme that places similar requirements on governmental and non-governmental dischargers. (See *County of Los Angeles v. State of California* (1987) 43 Cal.3d 46, 57-58 [finding comprehensive workers’ compensation scheme did not create a cost for local agencies that was subject to state subvention].)

The CWA and the Porter-Cologne Act largely regulate storm water with an even hand, but to the extent there is any relaxation of this even-handed regulation, it is in favor of the local agencies. Generally, the CWA requires point source dischargers, including dischargers of storm water associated with industrial or construction activity, to comply strictly with water quality standards (33 USC section 1311(b)(1)(C); *Defenders of Wildlife v. Browner* (9th Cir. 1999) 191 F.3d 1159, 1164-1165 [noting that industrial discharges must strictly comply with water quality standards]). As discussed in prior State Water Board decisions, certain provisions of this Order do not require strict compliance with water quality standards (State Water Board Order No. WQ 2001-0015, p. 7). Those provisions of this Order regulate the discharge of waste in municipal storm water under the CWA's MEP standard, not the BAT/BCT standard that applies to other types of discharges. These provisions, therefore, regulate the discharge of waste in municipal storm water more leniently than the discharge of waste from non-governmental sources.

Fourth, the Copermittees have requested permit coverage in lieu of compliance with the complete prohibition against the discharge of pollutants contained in CWA section 301(a) (33 USC section 1311(a)). To the extent that the local agency Copermittees have voluntarily availed themselves of the permit, the program is not a state mandate. (Accord, *County of San Diego v. State of California* (1997) 15 Cal.4th 68, 107-108.)

Fifth, the local agency Copermittees' responsibility for preventing discharges of waste that can create conditions of pollution or nuisance from conveyances that are within their ownership or control under state law predates the enactment of Article XIII B, Section (6) of the California Constitution.

Finally, even if any of the permit provisions could be considered unfunded mandates, under Government Code section 17556, subdivision (d), a state mandate is not subject to reimbursement if the local agency has the authority to charge a fee. The local agency Copermittees have the authority to levy service charges, fees, or assessments sufficient to pay for compliance with this Order, subject to certain voting requirements contained in the California Constitution. (See Cal. Const., Art. XIII D, section 6, subd. (c); see also *Howard Jarvis Taxpayers Ass'n v. City of Salinas* (2002) 98 Cal.App.4th 1351, 1358-1359.) The Fact Sheet demonstrates that numerous activities contribute to the pollutant loading in the MS4. Local agencies can levy service charges, fees, or assessments on these activities, independent of real property ownership. (See, e.g., *Apartment Ass'n of Los Angeles County, Inc., v. City of Los Angeles* (2001) 24 Cal.4th 830, 842 [upholding inspection fees associated with renting property].) The authority and ability of a local agency to defray the cost of a program without raising taxes indicates that a program does not entail a cost subject to subvention. (*Clovis Unified School Dist. V. Chiang* (2010) 188 Cal.App.4th 794, 812, citing *Connell v. Sup. Ct.* (1997) 59 Cal.App.4th 382, 401; *County of Fresno v. State of California* (1991) 53 Cal. 3d. 482, 487-488.)

VIII. PROVISIONS

The provisions (i.e. NPDES permit requirements) of the Order are discussed below.

A. Prohibitions and Limitations

Purpose: Provision A includes the prohibitions and limitations requirements that are the foundation of all the subsequent requirements included in the Order. Compliance with the prohibitions and limitations will restore and protect receiving waters from impacts that may be caused by discharges into and from the Copermittees' MS4s and ultimately achieve the objective of the CWA.

In meeting the requirements set forth in the Order, the Copermittees must be cognizant that the prohibitions and limitations exist and will be the standard by which the San Diego Water Board will be measuring the progress and success of their implementation of the NPDES permit requirements.

Discussion: The objective of the CWA is to “*restore and maintain the chemical, physical, and biological integrity of the Nation’s waters.*” The CWA requires the implementation of NPDES permit programs to regulate discharges of pollutants and dredged or fill material to the navigable waters of the U.S. For discharges into and from MS4s, the CWA requires the NPDES permits to “*effectively prohibit non-stormwater discharges into the storm sewers*” and “*require controls to reduce the discharge of pollutants [in storm water] to the maximum extent practicable.*”

Provision A includes limitations, consistent with the requirements of the CWA for discharges from MS4s. Provision A expresses these limitations as discharge prohibitions, receiving water limitations, and effluent limitations. Compliance with the discharge prohibitions and receiving water limitations is also explicitly described, in conformance with precedential State Water Board Orders.

More specific and detailed discussions of the requirements of Provision A are provided below.

Provision A.1 (Discharge Prohibitions) prohibits the discharge of specific types of waste into and/or from the Copermittees' MS4s.

Provision A.1.a restates and reiterates Basin Plan Waste Discharge Prohibition 1, by prohibiting discharges into and from MS4s in a manner causing, or threatening to cause, a condition of pollution, contamination, or nuisance in receiving waters of the

state. The terms pollution,¹⁵ contamination,¹⁶ and nuisance¹⁷ are defined under CWC 13050. Provision A.1.c incorporates all the waste discharge prohibitions of the Basin Plan into the requirements of the Order. The waste discharge prohibitions from the Basin Plan have been reproduced and provided in Attachment A to the Order.

Provision A.1.b requires non-storm water discharges into the MS4s to be effectively prohibited, consistent with the requirements of the CWA for MS4 permits to “*effectively prohibit non-stormwater discharges into the storm sewers.*” The effective prohibition is required to be implemented by each Copermittee within its jurisdiction through the illicit discharge detection and elimination requirements under Provision E.2. The prohibition does not apply to NPDES permitted discharges into the Copermittees’ MS4s.

The CWA employs the strategy of prohibiting the discharge of any pollutant from a point source into waters of the United States unless the discharger of the pollutant(s) obtains an NPDES permit pursuant to CWA Section 402. The 1987 amendment to the CWA includes provision 402(p) that specifically addresses NPDES permitting requirements for storm water discharges from MS4s. CWA section 402(p) prohibits the discharge of pollutants from specified MS4s to waters of the U.S. except as authorized by an NPDES permit and identifies two substantive standards for MS4 storm water permits. MS4 permits (1) “*shall include a requirement to effectively prohibit non-stormwater discharges into the storm sewers*” and (2) “*shall require controls to reduce the discharge of pollutants to the maximum extent practicable, including management practices, control techniques and system, design and engineering methods, and such other provisions as the Administrator or State determines appropriate for the control of such pollutants.*” (CWA section 402(p)(3)(B)(ii)-(iii).)

In November 1990, the USEPA published regulations addressing storm water discharges from MS4s (55 FR 47990 and following (Nov. 16, 1990) (Phase I Final Rule)). The regulations establish minimum requirements for MS4 permits, and generally focus on the requirement that MS4s implement programs to reduce the amount of pollutants found in storm water discharges to the MEP. The CWA’s municipal storm water MEP standard does not require storm water discharges to strictly meet water quality standards, as is required for other NPDES permitted

¹⁵ CWC 13050(l): “(1) ‘Pollution’ means an alteration of the quality of waters of the state by waste to a degree which unreasonably affects either of the following: (A) The water for beneficial uses. (B) Facilities which serve beneficial uses. (2) ‘Pollution’ may include ‘contamination.’

¹⁶ CWC 13050(k): “Contamination’ means an impairment of the quality of waters of the state by waste to a degree which creates a hazard to public health through poisoning or through the spread of disease. ‘Contamination’ includes any equivalent effect resulting from the disposal of waste, whether or not waters of the state are affected.”

¹⁷ CWC 13050(m): ‘Nuisance’ means anything which meets all of the following requirements: (1) Is injurious to health, or is indecent or offensive to the senses, or an obstruction to the free use of property, so as to interfere with the comfortable enjoyment of life or property. (2) Affects at the same time an entire community or neighborhood, or any considerable number of persons, although the extent of the annoyance or damage inflicted upon individuals may be unequal. (3) Occurs during, or as a result of, the treatment or disposal of wastes.”

discharges. Compliance is achieved through an iterative approach of continuous implementation of improved BMPs. This distinction reflects Congress's recognition that variability in flow and intensity of storm events render difficult strict compliance with water quality standards by MS4 permittees. In describing the controls that permits must include to reduce pollutants in storm water discharges to the MEP, the statute (CWA section 402(p)(3)(B)(iii)) states that the controls shall include: "*management practices, control techniques and system, design and engineering methods, and such other provisions as the [permit writer] determines appropriate for the control of such pollutants.*"

In contrast, non-storm water discharges from the MS4 that are not authorized by separate NPDES permits are subject to requirements under the NPDES program, including discharge prohibitions, technology based effluent limitations and water quality-based effluent limitations (40 CFR 122.44). The regulations also require the Copermitee's program to include an element to detect and remove illicit discharges and improper disposal into the storm sewer (40 CFR 122.26(d)(2)(iv)(B)).

While "non-storm water" is not defined in the CWA or federal regulations, the federal regulations (at 40 CFR 122.26(b)(2)) define "*illicit discharge*" as "*any discharge to a municipal separate storm sewer that is not composed entirely of storm water and that is not covered by an NPDES permit (other than the NPDES permit for discharges from the municipal separate storm sewer and discharges resulting from fire fighting activities).*" This definition is the most closely applicable definition of "non-storm water" contained in federal law. As stated in the Phase I Final Rule, USEPA added the illicit discharge program requirement to begin implementation of the 'effective prohibition' requirement to detect and control non-storm water discharges to their municipal system.

Thus, federal law mandates that permits issued to MS4s must require management practices that will result in reducing storm water pollutants to the MEP yet at the same time requires that non-storm water discharges be effectively prohibited from entering the MS4. "Effectively" prohibit does not mean that non-storm water discharges are authorized to be discharged into and from the Copermitees' MS4s. The Phase I Final Rule clarifies what "effectively prohibit" means (55 FR 47995):

"Section 402(p)(3)(B) requires that permits for discharges from municipal separate storm sewers require the municipality to "effectively prohibit" non-storm water discharges from the municipal separate storm sewer...Ultimately, such non-storm water discharges through a municipal separate storm sewer must either be removed from the system or become subject to an NPDES permit (other than the permit for the discharge from the municipal separate storm sewer)" [Emphasis added].

Consistent with federal law, unless non-storm water discharges to the MS4 are authorized by a separate NPDES permit, non-storm water discharges are

appropriately subject to the effective prohibition requirement in the CWA and Regional Water Boards are not limited by the iterative MEP approach to storm water regulation in crafting appropriate regulations for non-storm water discharges.

The federal regulations (40CFR122.26(d)(2)(i)(B)) require the Copermitees to establish the legal authority which authorizes or enables the Copermitees to prohibit illicit discharges to the MS4s. The federal regulations (40 CFR 122.26(d)(2)(vi)(B)(1)) require the Copermitees to “*implement and enforce an ordinance, order or similar means*” to prevent non-storm water discharges to their MS4s. Thus, the Copermitees are required to “*effectively*” prohibit non-storm water discharges to their MS4s through enforcing their legal authority established under “*ordinance, order or similar means*” and either remove those discharges to their MS4s, or require those discharges to obtain coverage under a separate NPDES permit. More detail about the program that must be implemented to “*effectively*” prohibit non-storm water discharges to the Copermitees’ MS4s is provided under the discussion for Provision E.2.

Provision A.1.d was included to be consistent with Resolution No. 2012-0012, adopted by the State Water Board on March 20, 2012. Provision A.1.d prohibits discharges from MS4s to Areas of Special Biological Significance (ASBS), except for storm water discharges from the City of San Diego’s MS4 to the San Diego Marine Life Refuge in La Jolla, and the City of Laguna Beach to the Heisler Park ASBS subject to the Special Protections contained in Attachment B to State Water Board Resolution No. 2012-0012. The pertinent Special Protections contained in Attachment B to State Water Board Resolution No. 2012-0012 are provided in Attachment A to the Order.

Provision A.2 (Receiving Water Limitations) specifies the condition of the receiving waters that must be achieved when there are discharges from the Copermitees’ MS4s. Receiving water limitations are included in all NPDES permits issued pursuant to the CWA section 402. CWA section 402(p)(3)(B)(iii) authorizes the inclusion of “*such other provisions as the Administrator or the State determines appropriate for the control of such pollutants.*” This requirement gives USEPA or the State permitting authority, in this case the San Diego Water Board, discretion to determine what permit conditions are necessary to control pollutants.

In its Phase I Final Rule (see 55 FR 47990, 47994 (Nov. 16, 1990)), USEPA elaborated on these requirements, stating that, “*permits for discharges from municipal separate storm sewer systems must require controls to reduce the discharge of pollutants to the maximum extent practicable, and where necessary water quality-based controls.*” USEPA reiterated in its Phase II Final Rule (64 FR 68722, 68737), that MS4 “*permit conditions must provide for attainment of applicable water quality standards (including designated uses), allocations of pollutant loads established by a TMDL, and timing requirements for implementation of a TMDL.*” CWC section 13377 also requires that NPDES permits include limitations necessary to implement water quality control plans. Both the State Water Board and the San Diego Water Board have previously concluded that discharges from the MS4 contain pollutants that have

the reasonable potential to cause or contribute to excursions above water quality standards. As such, inclusion of receiving water limitations is appropriate to control MS4 discharges.

The inclusion of receiving water limitations is also consistent with the Ninth Circuit Court of Appeals' ruling in *Defenders of Wildlife v. Browner* (191 F.3d 1159, 1166 (1999)) that the permitting authority has discretion regarding the nature and timing of requirements that it includes as MS4 permit conditions to attain water quality standards. The Ninth Circuit Court of Appeals recently explained that, "[w]ater quality standards are used as a supplementary basis for effluent limitations [guidelines] so that numerous dischargers, despite their individual compliance with technology based effluent limitations, can be regulated to prevent water quality from falling below acceptable levels." (*Natural Resources Defense Council v. County of Los Angeles* (9th Cir. 2011) 673 F.3d 880, 886 (revd. On other grounds and remanded by *Los Angeles County Flood Control District v. Natural Resources Defense Council* (133 S.Ct. 710 (2013)))

The receiving water limitations included in this Order consist of all applicable numeric or narrative water quality objectives or criteria, or limitations to implement the applicable water quality objectives or criteria, for receiving waters as contained in the Basin Plan or in water quality control plans or policies adopted by the State Water Board, including State Water Board Resolution No. 68-16, or in federal regulations, including but not limited to 40 CFR 131.12 and 131.38. The water quality objectives in the Basin Plan and other State Water Board plans and policies have been approved by USEPA and combined with designated beneficial uses constitute the water quality standards required under federal law.

Provision A.2.a requires that discharges from the Copermittees' MS4s must not cause or contribute to the violation of water quality standards in receiving waters. The water quality standards of the receiving waters must be protected from the impacts that may be caused by the Copermittees' MS4 discharges. Water quality standards applicable to the surface waters in the San Diego Region must be achieved through meeting the technology based standard of MEP through an iterative process of improved management actions. Provision A.2.a is also consistent with State Water Board Order WQ 99-05 precedent-setting language requiring discharges from MS4s to attain receiving water quality standards. The water quality control plans and policies with water quality standards applicable to the waters in the San Diego Region are included under Provision A.2.a.

Provisions A.2.b was included to be consistent with the requirements of State Water Board Resolution No. 2012-0012, adopted on March 20, 2012.

Provision A.3 (Effluent Limitations) specifies the condition of the discharges from the Copermittees' MS4s that must be achieved if and when there are discharges.

Consistent with CWA section 301(b)(1)(A) and 40 CFR 122.44(a), Provision A.3.a includes the technology-based effluent limitations that must be included in the Order. The technology-based effluent limits, representing the minimum level of control that must be imposed in a permit under CWA section 402, requires that pollutants in discharges of storm water from the Copermittees' MS4s be reduced to the MEP. This provision applies specifically to storm water discharges. Non-storm water discharges must be effectively prohibited, as required under Provision A.1.b. Non-storm water (dry weather) discharges from the MS4 are not considered storm water (wet weather) discharges and therefore are not subject to the MEP standard.

The technology-based MEP standard is an ever-evolving, flexible, and advancing concept. Neither Congress nor USEPA has specifically defined the term "maximum extent practicable." Congress established this flexible MEP standard so that the administrative bodies would have "*the tools to meet the fundamental goals of the Clean Water Act in the context of storm water pollution.*" (*Building Industry Ass'n of San Diego County v. State Water Resources Control Bd.* (2004) 124 Cal.App.4th 866, 884.) As knowledge about controlling storm water runoff and discharges continues to evolve, so does the knowledge which constitutes MEP. Reducing the discharge of pollutants in storm water from the MS4 to the MEP requires the Copermittees to assess each program component and revise activities, control measures, BMPs, and measurable goals, as necessary to meet MEP.

The San Diego Water Board or the State Water Board ultimately define MEP, and may include requirements that provide specific guidance on what is expected to demonstrate MEP. It is the responsibility of the Copermittees to propose actions that implement BMPs to reduce storm water pollution to the MEP. In other words, the Copermittees' runoff management programs developed and implemented under the Order are the Copermittees' proposals for achieving MEP. Their total collective and individual activities conducted pursuant to their runoff management programs become their proposal for achieving MEP as it applies both to their overall effort, as well as to specific activities. Provisions B through E of the Order provides a minimum framework to guide the Copermittees in achieving the MEP standard for discharges of pollutants in storm water.

Provision A.3.b incorporates any water quality based effluent limitations (WQBELs) applicable to the MS4s established for TMDLs adopted and approved for the San Diego Region and requires the Copermittees to comply with those WQBELs. This is consistent with 40 CFR 122.44(d)(1)(vii)(B), which requires that NPDES permits to incorporate WQBELs "*developed to protect a narrative water quality criterion, a numeric water quality criterion, or both...consistent with the assumptions and requirements of any available wasteload allocation for the discharge...*"

Pursuant to CWA section 303(d), for surface water bodies identified as impaired by one or more pollutants, the San Diego Water Board is required to establish TMDLs "*at a level necessary to implement the applicable water quality standards with seasonal variations and a margin of safety which takes into account any lack of knowledge*

concerning the relationship between effluent limitations and water quality.” The TMDLs identify sources of the pollutants causing the impairments and assign portions of the TMDL as WLAs to point sources, which include MS4s.

WLAs must be expressed in NPDES permits as WQBELs, which may include one or more numeric components such as numeric effluent limits, and/or receiving water limitations, and/or BMP requirements. Because numeric targets for TMDLs typically include a component that will be protective of water quality standards, a TMDL will likely include one or more numeric receiving water limitations and/or effluent limitations as part of the assumptions or requirements of the TMDL. Any numeric receiving water limitations and/or effluent limitations developed as part of the assumptions or requirements of a TMDL must be incorporated and included as part of WQBELs for the MS4s.

Because the development and approval of new TMDLs, or modification of existing TMDLs, may occur during the term of this Order, the specific provisions of those TMDLs, including effluent limitations applicable to MS4s are provided within Attachment E to the Order. Attachment E will be updated with new TMDLs and modifications to existing TMDLs in a timely manner as they occur.

Provision A.4 (Compliance with Discharge Prohibitions and Receiving Water Limitations) describes the process required to be implemented by the Copermittees if compliance with the discharge prohibitions of Provisions A.1.a and A.1.c and receiving water limitations of Provision A.2.a are not being achieved under current conditions.

In its Phase II Stormwater Regulations, Final Rule, USEPA states that MS4 *“permit conditions must provide for attainment of applicable water quality standards (including designated uses), allocations of pollutant loads established by a TMDL, and timing requirements for implementation of a TMDL.”*¹⁸ In a series of comment letters on MS4 permits issued by various Regional Water Boards, USEPA has also reiterated that MS4 discharges must meet water quality standards.¹⁹ In addition, the Ninth Circuit Court of Appeals explained in a recent ruling that, *“[w]ater quality standards are used as a supplementary basis for effluent limitations [guidelines] so that numerous dischargers, despite their individual compliance with technology based effluent limitations, can be regulated to prevent water quality from falling below acceptable levels.”*²⁰

¹⁸ Phase II Stormwater Regulations, Final Rule, 64 Fed. Reg. 68722, 68737.

¹⁹ Letter from Alexis Strauss, Acting Director, Water Division, USEPA Region IX, to Walt Pettit, Executive Director, State Water Board, re: SWRCB/OCC File A-1041 for Orange County, dated January 21, 1998.

²⁰ NRDC v. County of Los Angeles (9th Cir. 2011), 673 F.3d 880, 886 (revd. on other grounds and remanded by *Los Angeles County Flood Control District v. Natural Resources Defense Council* (133 S.Ct. 710 (2013))). See also, *Building Industry Ass’n of San Diego County v. State Water Resources Control Bd.* (2004) 124 Cal.App.4th 866, 884-886, citing *Defenders of Wildlife v. Browning*, (9th Cir. 1999) 191 F.3d 1159.)

Water quality standards for the San Diego Region are established in the Basin Plan. The water quality standards of the Basin Plan are incorporated into this Order as the discharge prohibitions under Provisions A.1.a and A.1.c and receiving water limitations under Provision A.2.a. The discharge prohibitions and receiving water limitations in this Order consist of all applicable numeric or narrative water quality objectives or criteria, or limitations or prohibitions to implement the applicable water quality objectives or criteria, for receiving waters as contained in the Basin Plan, water quality control plans or policies adopted by the State Water Board, including Resolution No. 68-16, or federal regulations, including but not limited to, 40 CFR 131.12 and 131.38. The waste discharge prohibitions and water quality objectives in the Basin Plan have been approved by USEPA and combined with the designated beneficial uses constitute the water quality standards required under federal law.

Under federal law (CWA section 402(p)(3)(B)(iii)), an MS4 permit must include “*controls to reduce the discharge of pollutants to the maximum extent practicable...and such other provision as...the State determines appropriate for control of such pollutants.*” The State Water Board has previously determined that limitations necessary to meet water quality standards are appropriate for the control of pollutants discharged by MS4s and must be included in MS4 permits. (State Water Board Orders WQ 91-03, 98-01, 99-05, 2001-15; see also *Defenders of Wildlife v. Browner* (9th Cir. 1999) 191 F.3d 1159.) This Order prohibits discharges that cause or contribute to violations of water quality standards.

The discharge prohibitions under Provisions A.1.a and A.1.c and receiving water limitations under Provision A.2.a are included in this Order to ensure that discharges from the MS4s do not cause or contribute to exceedances of water quality objectives necessary to protect the beneficial uses of the receiving waters.

Provision A.4 is consistent with the precedent-setting language in State Water Board Order WQ 99-05 required to be included in municipal storm water permits. State Water Board Order WQ 2001-15 refined Order WQ 99-05 by requiring an iterative approach to compliance with water quality standards involving ongoing assessments and revisions, referred to as the “iterative process.” The “iterative process” is a fundamental NPDES requirement for municipal storm water permits to achieve the objectives of the CWA.

The State Water Board and Regional Water Boards have stated that the provisions under Provisions A.1.a, A.1.c, A.2.a, and A.4 are independently applicable, meaning that compliance with one provision does not provide a “safe harbor” where there is non-compliance with another provision (i.e., compliance with the Provision A.4 does not shield a Copermitttee who may have violated Provision A.1.a, A.1.c, or A.2.a from an enforcement action). The intent of Provision A.4 is to ensure that the Copermitttees have the necessary storm water management programs and controls in place, and that they are modified by the Copermitttees in a timely fashion when necessary, so that compliance with Provisions A.1.a, A.1.c, and/or A.2.a is achieved as soon as possible. USEPA expressed the importance of this independent applicability in a series of

comment letters on MS4 permits proposed by various Regional Water Boards. At that time, USEPA expressly objected to certain MS4 permits that included language stating, “*permittees will not be in violation of this [receiving water limitation] provision ... [if certain steps are taken to evaluate and improve the effectiveness of the jurisdictional runoff management programs],*” concluding that this phrase would not comply with the CWA.²¹

The Ninth Circuit held in *Natural Resources Defense Council v. County of Los Angeles* (2011) 673 F3d. 880, 886 (revd. on other grounds and remanded by *Los Angeles County Flood Control District v. Natural Resources Defense Council* (133 S.Ct. 710 (2013))) that engagement in the iterative process does not provide a safe harbor from liability for violations of permit terms prohibiting exceedances of water quality standards. The Ninth Circuit holding is consistent with the position of the State and Regional Water Boards that exceedances of water quality standards in an MS4 permit constitute violations of permit terms subject to enforcement by the Water Boards or through a citizen suit. While the Water Boards have generally directed dischargers to achieve compliance by improving control measures through the iterative process, the San Diego Water Board retains the discretion to take other appropriate enforcement and the iterative process does not shield dischargers from citizen suits under the CWA.

The requirements of Provision A.4, therefore, are required to be implemented until the water quality standards expressed under Provisions A.1.a, A.1.c, and A.2.a are achieved. The CWA requires MS4 permits to “*require controls to reduce the discharge of pollutants to the maximum extent practicable, including management practices, control techniques and system, design and engineering methods, and such other provisions as the Administrator or the State determines appropriate for the control of such pollutants.*” The requirements of this Order have been deemed or determined to be “appropriate” to achieve water quality standards in receiving waters.

Part of the “controls” required by the Order is the process described in Provision A.4. Provision A.4 includes the process that is ultimately expected to achieve compliance with the requirement that discharges from the MS4 do not cause or contribute to violations of water quality standards in the receiving waters. The implementation of Provision A.4 is required when the Copermitees or the San Diego Water Board have determined that discharges from the MS4 are causing or contributing to violations of water quality standards in the receiving waters.

The Copermitees must effectively prohibit non-storm water discharges into the MS4s, reduce the discharge of pollutants in storm water from the MS4s to the MEP, and ensure that their MS4 discharges do not cause or contribute to violations of water quality standards. If the Copermitees have effectively prohibited non-storm water

²¹ Letter from Alexis Strauss, Acting Director, Water Division, USEPA Region IX, to Walt Pettit, Executive Director, State Water Board, re: SWRCB/OCC File A-1041 for Orange County, dated January 21, 1998.

discharges and reduced storm water pollutant discharges to the MEP, but their discharges are still causing or contributing to violations of water quality standards, Provision A.4 provides a clear “iterative process” for the Copermittees to follow.

Provision A.4 essentially requires the Copermittees to implement additional BMPs until MS4 discharges no longer cause or contribute to a violation of water quality standards.

In assessing compliance and potential enforcement actions, the San Diego Water Board looks at the Copermittees’ efforts in total to meet the requirements of Provisions A.1.a, A.1.c, A.2.a and Provision A.4. The Copermittees need to demonstrate that they are making improvements to their programs and making progress toward achieving the discharge prohibitions and receiving water limitations in Provisions A.1.a, A.1.c, and A.2.a by implementing the requirements of Provision A.4. The San Diego Water Board would consider these efforts prior to strictly enforcing the requirements of Provisions A.1.a, A.1.c, and A.2.a. Causes of exceedances of the receiving water limitations can often be more difficult to identify and attribute solely to the Copermittees’ MS4s. The intent of the Order is to provide the Copermittees more clarity and flexibility in addressing these exceedances through the iterative approach and adaptive management process until the requirements under Provisions A.1.a, A.1.c, and A.2.a are fully achieved.

An exception to the iterative approach and adaptive management process would be in receiving waters subject to adopted and approved TMDLs. For TMDLs that are incorporated into the Order, there is a specific date for compliance to be achieved, after which the iterative approach and adaptive management process required under Provision A.4 no longer provides the flexibility to achieve compliance. Where compliance dates for a TMDL have passed, compliance with the WQBELs incorporated into the Order established by a TMDL in Attachment E to protect water quality standards is required. Thus, after the interim or final compliance dates for a TMDL have passed, if the discharges from the Copermittees’ MS4s are causing or contributing to a violation of WQBELs, exceedances of WQBELs must be strictly enforced by the San Diego Water Board. In the meantime, however, the Copermittees are in compliance with the interim or final TMDL requirements in Attachment E as long as the interim or final WQBELs are being achieved in accordance with the interim or final compliance dates.

In addition, this Order includes an optional pathway that incorporates the requirements of Provision A.4 and would allow a Copermittee to be deemed in compliance with the requirements under Provisions A.1.a, A.1.c, A.1.d, A.2, and A.3.b during implementation of a Water Quality Improvement Plan that incorporates specific additional requirements. This alternative compliance pathway and the additional specific requirements are described below under the discussion for Provision B.3.c.

B. Water Quality Improvement Plans

Purpose: Since 1990, the Copermittees have been developing and implementing programs and BMPs intended to effectively prohibit non-storm water discharges to the MS4s and control pollutants in storm water discharges from the MS4s to receiving waters. As a result, several water body / pollutant combinations have been de-listed from the CWA Section 303(d) List, beach closures have been significantly reduced, and public awareness of water quality issues has increased. The Copermittees have been able to achieve improvements in water quality in some respects, but significant improvements to the quality of receiving waters and discharges from the MS4s are still necessary to meet the requirements and objectives of the Clean Water Act.

Provision B includes requirements for the Copermittees to develop and implement Water Quality Improvement Plans to ultimately comply with the prohibitions and limitations under Provision A. The Water Quality Improvement Plans will provide the Copermittees a comprehensive program that can achieve the requirements and further the objectives of the CWA. Implementation of the Water Quality Improvement Plans will also improve the quality of the receiving waters in the San Diego Region.

The Water Quality Improvement Plan is the backbone of the Regional MS4 Permit requirements. Provision B provides the guidance, criteria, and minimum expectations and requirements for the elements of the Water Quality Improvement Plan to be developed and implemented by the Copermittees. The Water Quality Improvement Plans will be implemented in the Watershed Management Area by the Copermittees within their jurisdictions through their jurisdictional runoff management programs.

The Water Quality Improvement Plan also incorporates a program to monitor and assess the progress of the Copermittees' jurisdictional runoff management programs toward improving the quality of discharges from the MS4s, as well as tracking improvements to the quality of receiving waters. A process to adapt and improve the effectiveness of the Water Quality Improvement Plans has also been incorporated into the requirements of Provision B to be consistent with the "iterative approach" required to achieve compliance with discharge prohibitions of Provisions A.1.a and A.1.c and receiving water limitations of Provision A.2.a, pursuant to the requirements of Provision A.4.

The Water Quality Improvement Plans have also been structured to incorporate the requirements of any TMDLs that have been adopted for the San Diego Region. Incorporating the requirements of the TMDLs into the requirements of Provision B allows the Copermittees to develop a single plan, instead of separate plans, to coordinate their non-storm water and storm water runoff management programs. The Water Quality Improvement Plans allow the Copermittees to meet the requirements of this Order, as well as fulfill the requirements of the TMDLs.

As an added benefit, if the Copermittees demonstrate that impaired water bodies within the Watershed Management Area listed on the 303(d) List will be addressed with their Water Quality Improvement Plans in a reasonable period of time, the San Diego Water Board may be able to remove the water bodies from the 303(d) List, which would greatly reduce the need for the San Diego Water Board to develop additional TMDLs that would have to be incorporated into the Order and implemented by the Copermittees.

Discussion: The federal NPDES regulations require the Copermittees to develop a proposed management program (40 CFR 122.26(d)(2)(iv)). The proposed management program must include “a *comprehensive planning process*” and “*where necessary intergovernmental coordination*” for the “*duration of the permit.*” The Water Quality Improvement Plan is the Copermittees’ “*comprehensive planning process*” document for the proposed management program that will be implemented within a Watershed Management Area. Implementation of the Water Quality Improvement Plan requires “*intergovernmental coordination*” among the Copermittees for at least the “*duration of the permit,*” and likely into and beyond the next iteration of the permit.

Developing Water Quality Improvement Plans based upon watersheds is consistent with federal regulations that support the development of permit conditions, as well as implementation of storm water management programs, at a watershed scale (40 CFR 122.26(a)(3)(ii), 122.26(a)(3)(v), and 122.26(d)(2)(iv)). In 2003, USEPA issued a Watershed-Based NPDES Permitting Policy Statement (USEPA, 2003) that defines watershed-based permitting as an approach that produces NPDES permits that are issued to point sources on a geographic or watershed basis. In this policy statement, USEPA explains that “[t]he utility of this tool relies heavily on a detailed, integrated, and inclusive watershed planning process.” USEPA identifies a number of important benefits of watershed permitting, including more environmentally effective results, the ability to emphasize measuring the effectiveness of targeted actions on improvements in water quality, reduced cost of improving the quality of the nation’s waters and more effective implementation of watershed plans, including TMDLs, among others.

An emphasis on watersheds is appropriate at this stage in the San Diego Region’s MS4 program to shift the focus to more targeted, water quality driven planning and implementation. Addressing discharges on a watershed scale focuses on water quality results by emphasizing the receiving waters in the watershed. The conditions of the receiving waters drive management actions, which in turn focus measures to address pollutant contributions from MS4 discharges.

The Water Quality Improvement Plan gives the Copermittees the responsibility of developing a comprehensive plan to coordinate the efforts of their jurisdictional runoff management programs for addressing the problems related to MS4 discharges causing impacts to water quality in the Watershed Management Area. The development of the plan provides the Copermittees the opportunity to provide

significant input on how to implement their jurisdictional runoff management programs, and how to best utilize their available resources in addressing a focused set of priorities that they believe will result in measureable improvements to water quality within the Watershed Management Area.

The Copermittees are encouraged to separate the Watershed Management Area into subwatersheds, as appropriate. This allows the Copermittees to identify priorities applicable to a subset of the Copermittees or specific water bodies or areas within the Watershed Management Area.

Included in the requirements for the elements to be included in the Water Quality Improvement Plan are monitoring and assessment requirements that are necessary to implement, as well as ensure the Copermittees are in compliance with, the requirements of the Order. In addition to the federal requirements of the CWA section 308(a) and 40 CFR 122.26(d), the San Diego Water Board has the authority to establish monitoring, reporting, and recordkeeping requirements for NPDES permits under CWC 13383.

More specific and detailed discussions of the requirements of Provision B are provided below.

Provision B.1 (Watershed Management Areas) requires the Copermittees to develop a Water Quality Improvement Plan for each of the Watershed Management Areas defined by the San Diego Water Board.

Pursuant to 40 CFR 122.26(d)(2)(iv), proposed management programs “*may impose controls on a...watershed basis...*” The Water Quality Improvement Plan is the Copermittees’ proposed management program. A Water Quality Improvement Plan must be developed for each Watershed Management Area identified in the Order.

The Watershed Management Areas are identified in Table B-1. Table B-1 establishes ten (10) Watershed Management Areas, and identifies the Copermittees that are responsible for developing and implementing the Water Quality Improvement Plan for each Watershed Management Area.

The Copermittees from each of the three counties within the San Diego Region were phased in as their respective NPDES municipal storm water permits expired. Order No. R9-2007-0001 expired in January 2012, and the San Diego County Copermittees became covered under the Regional MS4 Permit on June 27, 2013, the effective date of the Order. Order No. R9-2009-0002 expired in December 2014, and the Orange County Copermittees became covered under the Regional MS4 Permit on April 1, 2015, the effective date of Order No. R9-2013-0001 as amended by Order No. R9-2015-0001. Order No. R9-2010-0016 expired in November 2015, and the Riverside County Copermittees became covered under the Regional MS4 Permit on January 7, 2016, the effective date of Order No. R9-2013-0001 as amended by Order No. R9-2015-0100.

The Cities of Laguna Woods, Laguna Hills, Murrieta, and Wildomar are located partially within the jurisdictions of both the California Regional Water Quality Control Board, Santa Ana Region (Santa Ana Water Board) and the San Diego Water Board. Written requests for designation of a single Regional Water Board to regulate matters pertaining to permitting of Phase I MS4 discharges were submitted to the San Diego Water Board and the Santa Ana Water Board by the City of Laguna Woods by letter dated September 8, 2014, the City of Laguna Hills by letter dated March 12, 2014, the City of Murrieta by letter dated June 22, 2015, and the City of Wildomar by letter dated June 23, 2015. The Cities of Laguna Woods, Laguna Hills, Murrieta, and Wildomar requested designation of the San Diego Water Board pursuant to CWC section 13228.

The Cities of Laguna Woods, Laguna Hills, Murrieta, and Wildomar reported that management and implementation of municipal programs to comply with two different Phase I MS4 permits creates a significant administrative and financial burden and inhibits their ability to contribute to greater overall water quality improvements in either Region. In an effort to address these concerns, the San Diego Water Board and the Santa Ana Water Board have entered into written agreements, whereby the San Diego Water Board is designated to regulate Phase I MS4 discharges within the jurisdictions of the Cities of Laguna Woods, Laguna Hills, Murrieta, and Wildomar including the portions of the jurisdictions within the Santa Ana Region. The San Diego Water Board and the Santa Ana Water Board entered into an agreement dated February 10, 2015 to designate the San Diego Water Board to regulate Phase I MS4 discharges within the jurisdictions of the Cities of Laguna Woods and Laguna Hills, including the portions of the jurisdictions within the Santa Ana Region, upon the later effective date of Order No. R9-2015-0001 or Santa Ana Water Board Tentative Order No. R8-2015-0001. The San Diego Water Board and the Santa Ana Water Board entered into an agreement dated October 26, 2015 to designate the San Diego Water Board to regulate Phase I MS4 discharges within the jurisdictions of the Cities of Murrieta and Wildomar, including the portions of the jurisdictions within the Santa Ana Region upon the effective date of Order R9-2015-0100.

Under the terms of the agreements, each Regional Water Board retains the authority to enforce provisions of the Phase I MS4 permits issued to each city but compliance will be determined based upon the Phase I MS4 permit in which a particular city is regulated as a Copermittee (Water Code section 13228 (b)). Also under the terms of the agreements, any TMDL and associated MS4 permit requirements issued by the San Diego Water Board or the Santa Ana Water Board which include the Cities of Laguna Woods, Laguna Hills, Murrieta, or Wildomar as a responsible party, will be incorporated into the appropriate Phase I MS4 permit by reference. Enforcement of the applicable TMDL would remain with the Regional Water Board which has jurisdiction over the targeted impaired water body. Applicable TMDLs subject to the terms of the agreement include, but are not limited to, the Santa Ana Water Board's San Diego Creek/Newport Bay TMDL and Lake Elsinore/Canyon Lake Nutrient TMDLs, and the San Diego Water Board's Indicator Bacteria Project I Beaches and Creeks TMDL.

In conformance with the agreements, footnotes to Table B-1 are included to specify coverage under Order No. R9-2013-0001 for those Phase I MS4 discharges within the jurisdictional boundaries of the Cities of Laguna Woods, Laguna Hills, Murrieta, and Wildomar within the Santa Ana Region. Footnote 1 to Table B-1 specifies that the Cities of Laguna Woods and Laguna Hills are identified as responsible Copermitttees in the San Diego Creek/Newport Bay TMDL in the Santa Ana Region and remain obligated to comply with the San Diego Creek/Newport Bay TMDL pursuant to section XVIII of Tentative Order No. R8-2015-0001 (NPDES No. CAS618030) and any reissuance thereof. Footnote 4 to Table B-1 specifies that the Cities of Murrieta and Wildomar are identified as responsible Copermitttees in the Lake Elsinore/Canyon Lake Nutrient TMDLs in the Santa Ana Region and remain obligated to comply with the Lake Elsinore/Canyon Lake Nutrient TMDLs pursuant to section VI.D.2 of Order No. R8-2010-0033 (NPDES No. CAS618030) or corresponding section as it may be amended or reissued.

The Cities of Lake Forest and Menifee are located partially within the jurisdictions of both the Santa Ana Water Board and the San Diego Water Board. Written requests for designation of a single Regional Water Board to regulate matters pertaining to permitting of Phase I MS4 discharges were submitted to the San Diego Water Board and the Santa Ana Water Board by the City of Lake Forest by letters dated January 14, 2013 and April 4, 2014, and the City of Menifee by letter dated June 25, 2015. The Cities of Lake Forest and Menifee requested designation of the San Ana Water Board pursuant to CWC section 13228.

The Cities of Lake Forest and Menifee reported that management and implementation of municipal programs to comply with two different Phase I MS4 permits creates a significant administrative and financial burden and inhibits their ability to contribute to greater overall water quality improvements in either Region. In an effort to address these concerns, the San Diego Water Board and the Santa Ana Water Board have entered into written agreements, whereby the Santa Ana Water Board is designated to regulate Phase I MS4 discharges within the jurisdictions of the Cities of Lake Forest and Menifee including the portions of the jurisdictions within the San Diego Region. The San Diego Water Board and the Santa Ana Water Board entered into an agreement dated February 10, 2015 to designate the San Ana Water Board to regulate Phase I MS4 discharges within the jurisdiction of the City of Lake Forest, including portions of the jurisdiction within the Santa Diego Region, upon the later date of Order No. R9-2015-0001 or Santa Ana Water Board Tentative Order No. R8-2015-0001. The San Diego Water Board and the Santa Ana Water Board entered into an agreement dated October 26, 2015 to designate the San Ana Water Board to regulate Phase I MS4 discharges within the jurisdiction of the City of Menifee, including portions of the jurisdiction within the San Diego Region, under Order No. R8-2010-0033 (NPDES No. CAS618030) as it may be amended or reissued upon the effective date of Order No. R9-2015-0100.

Under the terms of the agreements, each Regional Water Board retains the authority to enforce provisions of the Phase I MS4 permits issued to each city but compliance will be determined based upon the Phase I MS4 permit in which a particular city is regulated as a Copermittee (Water Code section 13228 (b)). Also under the terms of the agreements, any TMDL and associated Phase I MS4 permit requirements issued by the San Diego Water Board or the Santa Ana Water Board which include the Cities of Lake Forest or Menifee as a responsible party, will be incorporated into the appropriate Phase I MS4 permit by reference. Enforcement authority for the applicable TMDL would remain with the Regional Water Board which has the jurisdiction over the targeted impaired water body. Applicable TMDLs subject to the terms of the agreement include, but are not limited to, the Santa Ana Water Board's San Diego Creek/Newport Bay TMDL and Lake Elsinore/Canyon Lake Nutrient TMDLs, and the San Diego Water Board's Indicator Bacteria Project I Beaches and Creeks TMDL.

In conformance with the agreements, Footnote 2 to Table B-1 has been included to specify that Phase I MS4 discharges within the jurisdictional boundaries of the City of Lake Forest located within the San Diego Region will be regulated under Santa Ana Water Board Order No. R8-2015-0001 (NPDES No. CAS618030) and any reissuance thereof. The footnote specifies that the City of Lake Forest is an identified responsible Copermittee in the Indicator Bacteria Project I Beaches and Creeks TMDL (Bacteria TMDL) in the San Diego Region and remains obligated to comply with the Bacteria TMDL pursuant to Attachment E of Order No. R9-2013-0001 and any reissuance thereto. The City of Lake Forest is also identified as a responsible Copermittee in the San Diego Creek/Newport Bay TMDL established by the Santa Ana Water Board. The City remains obligated to comply with the San Diego Creek/New Port Bay TMDL pursuant to the Santa Ana Water Board's Phase I MS4 Permit (Tentative Order No. R8-2015-0001 (NPDES No. CAS618030), as it may be amended or reissued). Under the terms of the agreement, the City of Lake Forest must retain and continue implementation of the over irrigation prohibition in Title 15, Chapter 15, Section 14.030, List (b) of the City Municipal Code throughout its jurisdiction. Also under the terms of the agreement, the City of Lake Forest must actively participate in the development and implementation of the South Orange County Watershed Management Area Water Quality Improvement Plan required pursuant to Order No. R9-2013-0001, and any reissuance thereof.

Footnote 3 to Table B-1 has been included to specify that Phase I MS4 discharges within the jurisdictional boundaries of the City of Menifee located within the San Diego Region will be regulated under Santa Ana Water Board Order No. R8-2010-0033 (NPDES No. CAS618033) and any reissuance thereof. At this time, the City of Menifee is not identified as a responsible Copermittee for any TMDLs established by the San Diego Water Board. Under the terms of the agreement, the City of Menifee must actively participate in the development and implementation of the Santa Margarita River Watershed Management Area Water Quality Improvement Plan required pursuant to Order No. R9-2013-0001, and any reissuance thereof.

The basis supporting the Cities of Laguna Woods, Laguna Hills, Lake Forest, Menifee, Murrieta, and Wildomar requests to designate a specific Regional Water Board for regulatory oversight of Phase I MS4 discharges may change under future conditions and circumstances, therefore the San Diego Water Board will periodically review the effectiveness of the agreements during each MS4 permit reissuance. Based on this periodic review the San Diego Water Board may terminate one or both of the agreements with the Santa Ana Water Board or otherwise modify the agreements subject to the approval of the Santa Ana Water Board.

Provision B.2 (Priority Water Quality Conditions) requires the Copermittees in each Watershed Management Area to identify the highest priority water quality conditions which will be the focus of the Water Quality Improvement Plan implementation.

Provisions B.2.a and B.2.b provide the criteria that must be assessed when characterizing the receiving water quality and potential impacts from MS4 discharges of the receiving waters within the Watershed Management Area. The criteria are based primarily on the requirements in 40 CFR 122.26(d)(1)(iv)(C) and (C)(1)-(9). Characterizing the receiving water quality and identifying the potential impacts caused by MS4 discharges to receiving waters in the Watershed Management Area is necessary to identify the impacts to receiving waters associated with MS4 discharges that are of the most concern to the Copermittees.

Based on the information required to be considered under Provisions B.2.a and B.2.b, Provision B.2.c requires to Copermittees to identify the highest priority water quality conditions related to discharges from the MS4s that will be the primary focus of the Water Quality Improvement Plan in the Watershed Management Area. Addressing and improving these highest priority water quality conditions will become the focus of each Copermittee's jurisdictional runoff management program as the Water Quality Improvement Plan is implemented in the Watershed Management Area. The highest priority water quality conditions are expected to include sources of pollutants and/or stressors, and/or receiving water conditions, that the Copermittees consider the highest threats or most likely to have adverse impacts on the physical, chemical, and biological integrity of receiving waters. Addressing these threats and/or adverse impacts should restore the physical, chemical, and biological integrity of receiving waters, and result in the restoration and protection of the beneficial uses of the receiving waters in the Watershed Management Area.

Provision B.2.d requires the Copermittees to identify known and suspected sources of pollutants and/or stressors contributing to the highest priority water quality conditions. The requirements of Provision B.2.d are based primarily on the requirements in 40 CFR 122.26(d)(1)(iii)(B)(1)-(6). The Copermittees are required to evaluate several factors in the identification of those sources. The Copermittees must consider and evaluate the following: (1) the land uses that may contribute toward impacts to receiving waters, (2) the locations of the Copermittees' MS4s that can convey and discharge runoff and pollutants to receiving waters, (3) other sources that discharge

into the Copermittees' MS4s and receiving waters, and (4) other information and data that can help the Copermittees to evaluate the relative importance of or contribution from those sources toward the highest priority water quality conditions. Identifying the known and suspected sources, and their relative contribution toward the highest priority water quality conditions, will help the Copermittees to focus, direct, and prioritize their resources and implementation efforts within their jurisdictions.

Provision B.2.e requires the Copermittees to identify potential strategies that can result in improvements to water quality in MS4 discharges and/or receiving waters within the Watershed Management Area. Potential water quality improvement strategies will not necessarily be implemented by the Copermittees, but provide a "menu" of options that the Copermittees will consider for implementation. The public participation process that will be implemented during the development of the Water Quality Improvement Plan is where the potential water quality improvement strategies will be identified.

Provision B.3 (Water Quality Improvement Goals, Strategies and Schedules) requires the Copermittees in each Watershed Management Area to identify the goals that the Copermittees' jurisdictional runoff management programs will work toward achieving to address and improve the highest priority water quality conditions identified under Provision B.2.c; the strategies that will be implemented by the Copermittees within their jurisdictions and the Watershed Management Area to achieve the goals; and, the schedules for implementing the strategies and achieving the goals. The element of the Water Quality Improvement Plan required under Provision B.3 is where the "*comprehensive planning*" and "*intergovernmental coordination*" [40 CFR 122.26(d)(2)(iv)] of the Copermittees' actions for the proposed management programs within the Watershed Management Area is required to be described.

Provision B.3.a requires the Copermittees to identify interim and final numeric goals, and schedules to achieve those goals as part of the Water Quality Improvement Plans. Provision B.3.a.(1) requires the Copermittees to identify two types of numeric goals to be achieved:

- (1) Final numeric goals in the receiving waters and/or MS4 discharges that will result in the protection of the water quality standards of the receiving waters for the highest priority water quality conditions identified by the Copermittees for Provision B.2.c. These final numeric goals are the ultimate goals for the Water Quality Improvement Plan, and the achievement and maintenance of these final numeric goals will indicate that one or more beneficial uses have been successfully restored and/or protected from MS4 discharges.
- (2) Interim numeric goals that can be used by the Copermittees to demonstrate progress toward achieving the final numeric goals in the receiving waters and/or MS4 discharges for the highest priority water quality conditions in the Watershed Management Area. Achievement of the interim numeric goals will demonstrate to the San Diego Water Board that the Copermittees' implementation efforts are progressing toward achieving the final numeric goals.

Provision B.3.a.(1) does not specify what the interim and final numeric goals must be based on, but they essentially must be designed to achieve compliance with water quality standards in the receiving waters. To that end, the interim goals must be based on measureable criteria or indicators capable of demonstrating progress toward achieving the numeric goals.

The interim and final numeric goals can be based on the water quality objectives in the Basin Plan. The water quality objectives in the Basin Plan, however, consist of numeric and narrative water quality objectives. Numeric water quality objectives can be directly used as numeric goals. Narrative water quality objectives, on the other hand, will require some interpretation to identify numeric goals. The achievement of multiple numeric goals based on the water quality objectives, used in combination, may be necessary to demonstrate that beneficial uses have been restored and/or protected.

The Copermittees could also propose other numeric goals that are not necessarily water quality objectives from the Basin Plan. For example, the Copermittees could propose a numeric goal that consists of achieving some percent improvement of a measureable indicator, such as acreage of a specific habitat or increase in a specific plant or animal species population. Other examples may include pollutant load reductions, number of impaired waterbodies delisted from the List of Water Quality Impaired Segments, Index of Biological Integrity (IBI) scores, etc.

The Copermittees may choose to develop interim numeric goals based on the final numeric goals they develop, such as incremental steps toward ultimately achieving the final numeric goals. The Copermittees may also choose to develop interim numeric goals that are based on other measureable indicators that can indirectly indicate improvements and progress toward the final numeric goals.

There are no limits to the types of interim numeric goals that could be proposed by the Copermittees, other than the goals must be based on measureable criteria or indicators capable of demonstrating progress toward achieving the numeric goals. Likewise, there are no limits to the types of final numeric goals that could be proposed by the Copermittees, other than the goals must “*restore and protect the water quality standards of the receiving waters.*”

Finally, Provision B.3.a.(2) also requires the Copermittees to develop schedules for measuring progress and achieving the interim and final numeric goals. Several criteria are included for the development of the schedules, but the Copermittees are required to achieve the numeric goals as soon as possible, consistent with federal NPDES regulations (40 CFR 122.47(a)(1)).

The Copermittees are also required to incorporate any compliance schedules for applicable ASBS or TMDL requirements. Applicable ASBS and TMDL compliance schedules are set forth in Attachment A and Attachment E to the Order, respectively.

The information provided by the Copermittees under Provision B.3.a.(2) will be used by the Copermittees and the San Diego Water Board to gauge and track the progress of the Copermittees' efforts in addressing the highest priority water quality conditions identified in the Water Quality Improvement Plan.

Provision B.3.b requires the Copermittees to identify the strategies and schedules to implement those strategies as part of the Water Quality Improvement Plans. Provision B.3.b requires the Copermittees to identify the water quality improvement strategies that will be and may be implemented within the Watershed Management Area to 1) reduce pollutants in storm water discharged from the MS4 to the MEP, 2) effectively prohibit non-storm water discharges from entering the MS4, 3) protect water quality standards in receiving waters by controlling MS4 discharges so that they do not cause or contribute to exceedances of receiving water limitations, and 4) achieve applicable WQBELs that implement TMDLs. The Copermittees will select the strategies to be implemented based on the likely effectiveness and efficiency of the potential water quality improvement strategies identified under Provision B.2.e to effectively prohibit non-storm water discharges to the MS4, reduce pollutants in storm water discharges from the MS4 to the MEP, and/or achieve the interim and final numeric goals identified under Provision B.3.a.

Provision B.3.b.(1) requires each Copermittee to identify the strategies that will be or may be implemented within its jurisdiction. Each Copermittee is required to describe the strategies it is committed to implementing as part of its jurisdictional runoff management requirements under Provisions E.2 through E.7, and the optional jurisdictional strategies that the Copermittee will implement, as necessary, to achieve the numeric goals.

Each Copermittee is expected to implement the optional jurisdictional strategies identified under Provisions B.3.b.(1)(b) when the jurisdictional strategies it has committed to implement under Provision B.3.b.(1)(a) are not making adequate progress toward the interim and final numeric goals in accordance with the schedules established under Provision B.3.a. Provision B.3.b.(1)(b)(v) requires each Copermittee to describe the circumstances necessary to trigger implementation of the optional jurisdictional strategies, in addition to the requirements of Provisions B.3.b.(1)(a).

The San Diego Water Board recognizes that there may be optional jurisdictional strategies that will likely require funding and/or resources for planning, permitting, procurement of labor and materials, and implementation. Thus, Provision B.3.b.(1)(b)(iv) requires each Copermittee to describe the funding and/or resources that are necessary to implement these optional jurisdictional strategies. This information may provide interested groups and members of the public an understanding of the resources that they could provide or assist in obtaining to implement these optional jurisdictional strategies.

Provision B.3.b.(2) requires the Copermittees in the Watershed Management Area to identify the regional or multi-jurisdictional strategies that may be implemented, as necessary, to achieve the numeric goals. Similar to the requirements of Provision B.3.b.(1)(b), these regional or multi-jurisdictional strategies will likely require funding and/or resources for planning, permitting, procurement of labor and materials, and implementation, and San Diego Water Board recognizes that these strategies may be difficult to implement with only Copermittee resources. Thus, Provision B.3.b.(2)(d) requires the Copermittees to describe the funding and/or resources necessary to implement these optional regional or multi-jurisdictional strategies. This information may provide interested groups and members of the public an understanding of the resources that they could provide or assist in obtaining to implement these optional regional or multi-jurisdictional strategies.

Provision B.3.b.(3) requires the Copermittees to develop and include schedules in the Water Quality Improvement Plan for implementing the water quality improvement strategies identified under Provisions B.3.b.(1) and B.3.b.(2). The schedule for implementing the water quality improvement strategies will be used by the Copermittees and San Diego Water Board to measure and demonstrate the progress of the Copermittees' implementation efforts toward reducing pollutants in storm water discharged from the MS4 to the MEP, and eliminating illicit non-storm water discharges from entering the MS4.

Provision B.3.b.(4) provides the Copermittees in each Watershed Management Area the option of implementing watershed-specific structural BMP requirements for Priority Development Projects. Historically, storm water permits have included very specific performance standards for permanent, structural BMPs. These standards describe the expectation for the capture or treatment of pollutants and control of excessive flow before storm water is discharged from a site. The Copermittees were also allowed to develop waiver programs for Priority Development Projects to avoid implementing the structural BMPs; however, the waiver programs were not necessarily tied into any sort of holistic watershed strategy. The result is that implementation of BMP requirements is largely done on a site-by-site basis. This requires proper design on the part of the Priority Development Project and strict oversight on the part of the Copermittee.

Provision B.3.b.(4) promotes the evaluation of multiple strategies for water quality improvement, in addition to the implementation of permanent structural BMPs, on a watershed-scale versus the site-by-site approach. In a report issued by the Southern California Coastal Water Research Project (SCCWRP) and several other research institutions, the report emphasized that a successful hydromodification management program will involve watershed analysis as a first step, and that integrating multiple watershed-based strategies is preferable over a site-by-site approach. Indeed, the report states that the watershed analysis "*...should lead to identification of existing opportunities and constraints that can be used to help prioritize areas of greater concern, areas of restoration potential, infrastructure constraints, and pathways for*

*potential cumulative effects.*²² Provision B.3.b.(4) promotes the findings and recommendations of the report by providing a pathway for Copermittees to develop an integrated approach to their land development programs.

Under Provision B.3.b.(4), the Copermittees in a Watershed Management Area must first perform an analysis by gathering as much information pertaining to the physical characteristics of the Watershed Management Area as possible. This includes, for example, identifying potential areas of coarse sediment supply, present and anticipated future land uses, and locations of physical structures within receiving streams and upland areas that affect the watershed hydrology (such as bridges, culverts, and flood management basins). Once this information is collected, the Copermittees must produce GIS layers (maps) that include this information.

From there, the Copermittees must use the results of the Watershed Management Area Analysis to identify and compile a list of candidate projects that could potentially be used as alternative compliance options for Priority Development Projects. Such projects include, for example, opportunities for stream or riparian area rehabilitation, opportunities for retrofitting existing infrastructure to incorporate storm water retention or treatment, and opportunities for regional BMPs, among others. Once these candidate projects are identified, Copermittees may allow Priority Development Projects to fund, partially fund, or completely implement these candidate projects. The Copermittees must first find that implementing such a candidate project would provide greater overall benefit to the watershed than requiring implementation of the structural BMPs onsite, and also enter into a voluntary agreement with the Priority Development Project that authorizes this arrangement. The Copermittees may use Provision B.3.b.(4) as both 1) a mechanism to reach their stated goals of the Water Quality Improvement Plan by using Priority Development Projects to either fund or implement projects that will provide water quality benefit, and 2) an alternative to requiring strict adherence to the structural BMP design standards.

Additionally, Provision B.3.b.(4) allows the Copermittees to use the results of the Watershed Management Area Analysis to identify areas within the Watershed Management Area where it is appropriate to allow Priority Development Projects to be exempt from the hydromodification management BMP performance requirements. Provision E.3.c.(2) already allows exemptions for Priority Development Projects that discharge to a conveyance channel whose bed and bank are concrete lined from the point of discharge to an enclosed embayment or the Pacific Ocean. However, there may be cases where further exemptions are warranted. The Copermittees may identify such cases on a watershed basis and include them in the Watershed Management Area Analysis; however, they must provide the supporting rationale to support all claims for exemptions.

²² 2012. ED Stein, F Federico, DB Booth, BP Bledsoe, C Bowles, Z Rubin, GM Kondolf, A Sengupta. Technical Report 667. Southern California Coastal Water Research Project. Costa Mesa, CA.

Provision B.3.b.(4) provides an innovative pathway for Copermittees to regulate their land development programs by allowing alternative compliance in lieu of implementing structural BMPs on each and every Priority Development Project. This approach facilitates the integration of watershed-scale solutions for improving overall water quality and assisting Copermittees to achieve their stated goals of the Water Quality Improvement Plan. The San Diego Water Board understands, however, that undertaking this approach, which involves extensive planning, could be resource intensive for the Copermittees. Therefore, the Watershed Management Area Analysis is optional and not a requirement. The Copermittees can choose not to perform the watershed planning and mapping exercise described in Provision B.3.b.(4), and instead choose to require strict implementation of the structural BMPs onsite, pursuant to Provision E.3.c.

Provision B.3.c is included to provide the Copermittees an option that allows the Copermittees to be deemed in compliance with the prohibitions and limitations (receiving water limitations) of Provisions A.1.a, A.1.c, A.1.d, A.2, and A.3.b. One or more Copermittees within a Watershed Management Area can choose to implement this option. This option is only expected to be utilized by a Copermittee that wishes to be deemed in compliance with the requirements of Provisions A.1.a, A.1.c, A.1.d, A.2, and A.3.b.

The alternative compliance pathway option included in Provision B.3.c is consistent with the approach described in Order WQ 2015-0075, *In the Matter of Review of Order No. R4-2012-0175, NPDES Permit No. CAS004001, Waste Discharge Requirements for Municipal Separate Storm Sewer System (MS4) Discharges within the Coastal Watersheds of Los Angeles County, Except Those Discharges Originating from the City of Long Beach MS4*, adopted by the State Water Board on June 16, 2015. State Water Board Order WQ 2015-0075 directs the Regional Water Boards to consider a watershed-based planning and implementation approach to compliance with receiving water limitations when issuing Phase I MS4 permits going forward. Order WQ 2015-0075 included seven principles that the Regional Water Boards are expected to follow when incorporating an alternative compliance pathway into a MS4 permit. The San Diego Water Board incorporated the seven principles stipulated in State Water Board Order WQ 2015-0075 into the Regional MS4 Permit as follows:

1. Provision A of this Order continues to require compliance with water quality standards in the receiving water and does not deem good faith engagement in the iterative process to constitute compliance with receiving water limitations. Provision A of this Order continues to be consistent with the receiving water limitations provisions from State Water Board Order WQ 99-05.
2. Compliance with Provision B.3.c constitutes compliance with the requirements of the Provision A.3.b, which requires compliance with the WQBELs of the TMDLs in Attachment E to the Order, and is considered compliance with receiving water limitations for those TMDL water body-pollutant combinations.

3. Provision B.3.c is an ambitious, rigorous, and transparent alternative compliance pathway that allows a Copermittee appropriate time to come into compliance with receiving water limitations without being in violation of the receiving water limitations during implementation of the compliance alternative.
4. Provision B.3.c requirements are incorporated into a Water Quality Improvement Plan. Water Quality Improvement Plans are a watershed-based planning and implementation approach, which address multiple contaminants, and incorporate TMDL requirements.
5. The strategies required to be included in the Water Quality Improvement Plans promote and incentivize the use of green infrastructure and requires the implementation of low impact development principles.
6. The strategies required to be included in the Water Quality Improvement Plans encourage multi-benefit regional projects that capture, infiltrate, and reuse storm water and support a local sustainable water supply.
7. The alternative compliance pathway of Provision B.3.c includes rigor and accountability. The Copermittee is required, through a transparent public process, to demonstrate that water quality issues in the watershed have been analyzed and prioritized, and that appropriate solutions are proposed. The Copermittee is also required, through a transparent process, to monitor the results and return to their analysis to verify assumptions and update the solutions. The Copermittee is required to conduct this type of adaptive management on its own initiative without waiting for direction from the San Diego Water Board.

In order for a Copermittee to utilize this option, the Copermittee is required to include three components in the Water Quality Improvement Plan. The first component is a comprehensive set of numeric goals and schedules that will demonstrate the requirements of Provisions A.1.a, A.1.c, A.1.d, A.2, and A.3.b will be achieved within a specified period of time. The criteria provided in the Order will require the Copermittee to demonstrate that the discharges from its MS4s will not cause or contribute to exceedances of water quality objectives in the receiving waters, and/or the receiving waters will be adequately protected from adverse impacts attributable to the Copermittee's MS4 discharges. The Copermittee is also required to specify annual milestones to be achieved each year, which adds rigor, accountability, and transparency to the process. The annual milestones may consist of water quality improvement strategy implementation phases, interim numeric goals, and other acceptable metrics, which are expected to build upon previous milestones and lead to the achievement of the final numeric goals.

The second component is an analysis to demonstrate that implementation of the water quality improvement strategies required under Provision B.3.b will achieve the numeric goals within the established schedules required under Provisions B.3.a and B.3.c.(1).

Because the development of the analysis may require significant resources, the Order allows the Copermittees in each Watershed Management Area that choose to implement this option to perform the analysis individually, or pool their resources for the analysis collectively.

The analysis must “reasonably” and “quantitatively” demonstrate that the implementation of the water quality improvement strategies can achieve the numeric goals within the established schedules. However, as more data and information are collected during implementation of the Water Quality Improvement Plan to demonstrate progress toward achieving the numeric goals, the numeric goals, water quality improvement strategies and schedules may need to be modified. If the data and information indicate that modification is needed, the Copermittee must also update the analysis. With the exception of numeric goals and schedules associated with TMDLs from Attachment E to the Order, the modification to the analysis would be allowed as part of the adaptive management process of the Water Quality Improvement Plan. For TMDLs, modification of numeric goals or schedules would likely require an amendment to the Basin Plan and Attachment E to the Order before the analysis and Water Quality Improvement Plan could include such modifications.

Thus, the third component is the key component that allows a Copermittee to demonstrate the implementation of the water quality improvement strategies within its jurisdiction is making progress toward achieving the final numeric goals. Each Copermittee must specify the monitoring and assessments that will be performed to confirm that implementation of the water quality improvement strategies are making progress toward achieving the numeric goals within the established schedules, and whether the interim and final numeric goals have been achieved.

These three components must then be reviewed by the Water Quality Improvement Consultation Panel. The Water Quality Improvement Consultation Panel is required to be formed as part of the public participation process for the development of the Water Quality Improvement Plans. The Water Quality Improvement Consultation Panel is described under Provision F.1.a.(1)(b). Review by the Water Quality Improvement Consultation Panel is included to provide an additional layer of input, support, and accountability for the implementation of this option.

Compliance with the requirements of Provisions A.1.a, A.1.c, A.1.d, A.2, and A.3.b begins when the Water Quality Improvement Plan, incorporating the requirements of Provision B.3.c.(1), is accepted by the San Diego Water Board. Each Copermittee that chooses to implement and continues to implement this option will be deemed in compliance with the requirements of Provisions A.1.a, A.1.c, A.1.d, A.2, and A.3.b as long as the Copermittee continues to implement the strategies, monitoring and assessments as incorporated in the Water Quality Improvement Plan in accordance with Provision B.3.c.(1), and the Copermittee reports the achievement of the annual milestones each year, or provides acceptable rationale and recommends appropriate modifications to the interim numeric goals, and/or water quality improvement

strategies, and/or schedules to improve the rate of progress toward achieving the final numeric goals. The Copermittee continues to be deemed in compliance with the requirements of Provisions A.1.a, A.1.c, A.1.d, A.2, and A.3.b during the time the San Diego Water Board reviews the rationale and recommended modifications to the interim numeric goals, and/or water quality improvement strategies, and/or schedules. If and when the San Diego Water Board determines that it does not accept the rationale or recommendations, the Copermittee will be notified they are no longer deemed in compliance with Provisions A.1.a, A.1.c, A.1.d, A.2, and A.3.b.

Provision B.4 (Water Quality Improvement Monitoring and Assessment) requires the Copermittees to develop an integrated monitoring and assessment program to track the progress of the Water Quality Improvement Plan toward meeting the implementation goals and schedules, and improving the water quality of the Watershed Management Area. Provision B.4 is the part of the Water Quality Improvement Plan where the Copermittees describe the monitoring data that will be collected, which is not only necessary to implement the “iterative approach” required by Provision A.4, but inform the adaptive management and “*comprehensive planning process*” that allows the Copermittees to make adjustments and modifications to the Water Quality Improvement Plans and the jurisdictional runoff management programs.

Provision B.4 requires the Copermittees, at a minimum, to include the requirements of Provision D as part of the water quality improvement monitoring and assessment program for the Water Quality Improvement Plan. The Copermittees, however, are not limited to the requirements of Provision D and may include additional monitoring and assessment methods to track progress toward improving water quality in the Watershed Management Area.

In addition to incorporating the requirements of Provision D, the water quality improvement monitoring and assessment program must incorporate any monitoring and assessment requirements specified for any applicable TMDLs included in Attachment E to the Order, and the monitoring requirements of Attachment B to State Water Board Resolution No. 2012-0012 for Watershed Management Areas with ASBS.

The monitoring and assessments required to be incorporated into the Water Quality Improvement Plan are necessary to implement, as well as ensure the Copermittees are in compliance with, the requirements of the Order.

Provision B.5 (Iterative Approach and Adaptive Management Process) requires the Copermittees to implement the iterative approach pursuant to Provision A.4 to adapt the Water Quality Improvement Plan, monitoring and assessment program, and jurisdictional runoff management programs to become more effective toward achieving compliance with Provisions A.1.a, A.1.c and A.2.a.

Provision B.5 requires the Copermittees in each Watershed Management Area to re-evaluate the highest priority water quality conditions and potential water quality

improvement strategies, the water quality improvement goals, strategies and schedules, and the water quality improvement monitoring and assessment program and provide recommendations for modifying those elements to improve the effectiveness of the Water Quality Improvement Plan. The re-evaluation of the Water Quality Improvement Plan is part of the assessment requirements of Provision D.

Provision B.6 (Water Quality Improvement Plan Submittal, Updates, and Implementation) requires to Copermittees to submit, update, and implement the Water Quality Improvement Plans.

The requirements for the process to develop and submit the Water Quality Improvement Plans is described in more detail under the discussion for Provision F.1. The process will include several opportunities for the public to provide input during the development of the Water Quality Improvement Plans. The process for updating the Water Quality Improvement Plans is described in more detail under the discussion for Provision F.3.c. Upon acceptance of the Water Quality Improvement Plan and updates, the Copermittees are required to immediately begin implementing the Water Quality Improvement Plan and subsequent updates.

The Water Quality Improvement Plan is expected to be a dynamic document that will evolve over time. The Water Quality Improvement Plan is also expected to be a long term plan that focuses the Copermittees' efforts and resources on a limited set of priority water quality conditions, with the ultimate goal of protecting all the beneficial uses of the receiving waters within the Watershed Management Area from impacts that may be caused or contributed to by MS4 discharges. As the Copermittees collect data, implement their jurisdictional runoff management programs, and review the results from their water quality improvement monitoring and assessment program, the Water Quality Improvement Plan is expected to be continually reviewed and updated until compliance with Provisions A.1.a, A.1.b, and A.2.a is achieved.

However, in specific cases supported by robust analytical documentation the implementation of the Water Quality Improvement Plans may demonstrate that TMDLs are not necessary for identified impaired water bodies within the Watershed Management Area if the analytical record demonstrates that technology-based effluent limitations required by the CWA, more stringent effluent limitations required by state, local, or federal authority, and/or other pollution control requirements (e.g., best management practices) required by local, state or federal authority are stringent enough to implement applicable water quality standards within a reasonable period of time.²³

The San Diego Water Board submits an Integrated Report to USEPA to comply with the reporting requirements of CWA sections 303(d), 305(b) and 314, which lists the attainment status of water quality standards for water bodies in the San Diego Region.

²³ 40 CFR 130.7(b)(1)

According to USEPA guidance for the Integrated Report,²⁴ water bodies are placed in one of five categories. Water bodies included in Category 5 in the Integrated Report indicate at least one beneficial use is not being supported or is threatened, and a TMDL is required. Water bodies included in Category 5 are placed on the 303(d) List.

Category 4 in the Integrated Report is for water bodies where available data and/or information indicate that at least one beneficial use is not being supported or is threatened, but a TMDL is not needed.²⁵ Impaired surface water bodies may be included in Category 4 if a TMDL has been adopted and approved (Category 4a); if other pollution control requirements required by a local, state or federal authority are stringent enough to implement applicable water quality standards within a reasonable period of time (Category 4b); or, if the failure to meet an applicable water quality standard is not caused by a pollutant, but caused by other types of pollution (Category 4c).

Impaired water bodies can be included in Category 4a if a TMDL has been adopted and approved. The TMDLs in Attachment E to the Order implement the requirements of the TMDLs adopted by the San Diego Water Board, and approved by the State Water Board and USEPA. The water bodies in Attachment E will be included in Category 4a in the Integrated Report and removed from the 303(d) List.

Impaired water bodies can be included in Category 4b if there are *acceptable* “pollution control requirements” required by a local, state or federal authority stringent enough to implement applicable water quality standards within a reasonable period of time (e.g., a compliance date is set). When evaluating whether a particular set of pollution controls are “requirements,” the USEPA considers a number of factors, including: (1) the authority (local, state, federal) under which the controls are required and will be implemented with respect to sources contributing to the water quality impairment (examples may include: self-executing state or local regulations, permits, and contracts and grant/funding agreements that require implementation of necessary controls), (2) existing commitments made by the sources and completion or soon to be completed implementation of the controls (including an analysis of the amount of actual implementation that has already occurred), (3) the certainty of dedicated funding for the implementation of the controls, and (4) other relevant factors as determined by USEPA depending on case-specific circumstances.²⁶

Impaired water bodies can be included in Category 4c if the failure to meet an applicable water quality standard is not caused by a pollutant, but caused by other types of pollution. Pollution, as defined by the CWA is “the man-made or man-induced alteration of the chemical, physical, biological, and radiological integrity of water.”²⁷ In

²⁴ USEPA, 2005. Guidance for 2006 Assessment, Listing and Reporting Requirements Pursuant to Sections 303(d), 305(b) and 314 of the Clean Water Act

²⁵ Ibid

²⁶ Ibid

²⁷ CWA section 502(19)

other cases, pollution does not result from a pollutant and a TMDL is not required. Examples of circumstances where an impaired segment may be placed in Category 4c include segments impaired solely due to lack of adequate flow, stream channelization, or hydromodification. In these situations, there may be water quality management actions that can address the cause(s) of the impairment, but a TMDL may not be required to implement the actions.

The Water Quality Improvement Plans will require the implementation of pollution controls and water quality management actions (i.e. water quality improvement strategies) which can result in the attainment of water quality standards in water bodies impaired by discharges from the Copermittees' MS4s. The Water Quality Improvement Plans also include requirements that are expected to attain water quality standards in a reasonable period of time. The San Diego Water Board considers the Water Quality Improvement Plans to be a commitment by the Copermittees to develop, plan, budget for, and implement pollution controls that will attain water quality standards in receiving waters in a reasonable period of time, or as soon as possible. The results of the Copermittees' efforts in implementing the Water Quality Improvement Plans can be used to re-evaluate the condition of the impaired water bodies during the next update to the 303(d) List.

After the Copermittees submit the Water Quality Improvement Plans and demonstrate that water quality standards are being attained or will be attained in a reasonable period of time, the San Diego Water Board may re-evaluate the water bodies on the 303(d) List. These water bodies on the 303(d) List may be re-evaluated and placed into Category 4b or Category 4c in the Integrated Report. The water bodies placed in Category 4b or Category 4c in the Integrated Report must show a record that the water bodies are attaining water quality standards or supporting the identified beneficial uses, or will attain water quality standards or support identified beneficial uses in a reasonable period of time, in order for the water bodies to be appropriately removed from the 303(d) List.

C. Action Levels

Purpose: Provision C includes requirements for the Copermittees to identify and include numeric action levels in the Water Quality Improvement Plan to direct and focus the Copermittees' jurisdictional runoff management program implementation efforts for controlling MS4 discharges to receiving waters.

Discussion: Under Provision C, the numeric action levels required are for non-storm water discharges and storm water discharges. The non-storm water action levels (NALs) are applicable to non-storm water discharges from the Copermittees' MS4s, which can occur year-round. The storm water action levels (SALs) are applicable to storm water discharges from the Copermittees' MS4s, which occur during the rainy season defined as the period between October 1 and April 30.

The action levels required by Provision C are based on the action level requirements that were developed and incorporated into Order Nos. R9-2009-0002 and R9-2010-0016, the Orange County and Riverside County MS4 Permits, respectively. The Fact Sheets for these Orders provide detailed discussions about the development of the numeric NALs and SALs included in this Order.

Order Nos. R9-2009-0002 and R9-2010-0016 required the Copermittees to perform prescribed actions if the NALs or SALs are exceeded. The actions required under Order Nos. R9-2009-0002 and R9-2010-0016 generally included conducting additional monitoring and source investigations when a discharge from the MS4 is observed to exceed one or more NALs and/or SALs.

For this Order, however, the action levels of Provision C are to be used by the Copermittees to prioritize the actions to be implemented as part of the Water Quality Improvement Plan. Monitoring data collected by the Copermittees from MS4 outfalls will be compared with the NALs and SALs. Exceedances of the NALs and SALs will not require the Copermittees to immediately identify sources causing exceedances, but will provide some numeric indicator levels that can give the Copermittees a way to measure the relative severity of a pollutant contributing to receiving water quality impacts.

NALs and SALs must be included in the Water Quality Improvement Plans to be used by the Copermittees in directing and focusing their water quality improvement strategies. The Copermittees are expected to utilize the NALs and SALs to help focus their implementation efforts on addressing pollutants that have the most significant potential or observed impacts to receiving waters. The NALs and SALs will be used as part of the MS4 discharges assessments required under Provision D.4.b. The NALs and SALs may also be used by the Copermittees as the numeric goals to be achieved in MS4 discharges and/or receiving waters as the Water Quality Improvement Plans are implemented.

More specific and detailed discussions of the requirements of Provision C are provided below.

Provision C.1 (Non-storm Water Action Levels) requires the Copermittees to incorporate NALs into the Water Quality Improvement Plan for pollutants and/or constituents that are causing or contributing, or may be causing or contributing, to the highest priority water quality conditions identified in the Water Quality Improvement Plan related to non-storm water discharges from the MS4s. NALs generally must be consistent with the water quality objectives found within the Basin Plan.

The NALs have been included to ensure that the Copermittees are implementing and complying with several requirements of the MS4 permit. The federal CWA requires permits for municipal storm sewer systems to “*effectively prohibit non-storm water discharges into the storm sewers.*” The federal NPDES regulations, which were promulgated to implement the CWA requirements for discharges from municipal storm sewers, require a program to address illicit discharges, which are non-storm water discharges. Provision A.1.b prohibits “[*n*]on-storm water discharges into MS4s” unless the non-storm water discharge authorized by a separate NPDES permit. The NALs will be used as part of the illicit discharge detection and elimination program required pursuant to Provision E.2, as well as part of the MS4 discharges assessments required pursuant to Provision D.4.b.

Provision A.1.a prohibits non-storm water discharges from the MS4 from “*causing, or threatening to cause, a condition of pollution, contamination, or nuisance (as defined in CWC section 13050), in waters of the state.*” In addition, pursuant to Provision A.2.a, non-storm water discharges “*must not cause or contribute to the violation of water quality standards in any receiving waters.*”

Ideally, the Copermittees’ jurisdictional runoff management programs will eliminate all non-storm water discharges entering the MS4s within their jurisdictions. The complete elimination of non-storm water discharges to the Copermittees’ MS4s would be in compliance with the CWA requirements for non-storm water discharges, as well as the prohibitions and limitations of Provisions A.1.a and A.2.a.

The federal regulations, however, also refer to several non-storm water discharge categories that must be addressed as illicit discharges if they are found to be a source of pollutants. The federal regulations thus identify some non-storm water discharges that are not required to be addressed as illicit discharges if they are not a source of pollutants (e.g. non-storm water discharges specified in Provisions E.2.a.(1)-(5)). Thus, these regulations imply that some non-storm water discharges into and from the MS4 may occur even if non-storm water discharges are “effectively” prohibited by the Copermittees.

If the source of a non-storm water discharge is identified as a category of non-storm water specified in Provisions E.2.a.(1)-(5), the NALs can be used to determine if the category of non-storm water discharges is a source of pollutants. For other non-storm water discharges not specified in Provisions E.2.a.(1)-(5), the CWA requires those discharges to be “*effectively*” prohibited by removing the discharge to the MS4 through enforcement of the Copermittees’ legal authority established under “*ordinance, order or similar means*” to prohibit illicit discharges to the MS4s.

If there are non-storm water discharges that are not required to be addressed as illicit discharges, those discharges must comply, at a minimum, with the discharge prohibitions and receiving water limitations of Provision A. Thus, the non-storm water discharges from the MS4 must be at levels that will not cause or contribute to a condition of pollution, contamination, or nuisance (Provision A.1.a), and must not cause or contribute to a violation of water quality standards in receiving waters (Provision A.2.a) to be consistent with the discharge prohibitions and receiving water limitations of Provisions A.1.a and A.2.a.

Furthermore, the San Diego Region has predominantly intermittent and ephemeral rivers and streams which vary in flow volume and duration at spatial and temporal scales. For most of these river and stream systems, non-storm water discharges from the MS4 are likely to be the most significant or the only source contributing to surface flows present within the receiving water, especially during the dry season.

Therefore, because of the prohibitions and limitations of Provision A.1.a and A.2.a, and the likelihood that non-storm water discharges from the MS4 are the most significant or only source contributing to surface flows present within the receiving water, NALs generally must be consistent with the water quality objectives found within the Basin Plan. Non-storm water discharges that are meeting the NALs would not be expected to cause or contribute to an exceedance of water quality objectives in receiving waters, which would be consistent with the discharge prohibitions and receiving water limitations of Provisions A.1.a and A.2.a.

Exceedances of the NALs would then provide an indication of the relative severity of a pollutant in non-storm water discharges from the MS4 contributing to potential or observed receiving water quality impacts. The relative severity or significance of a pollutant in non-storm water discharges from the MS4 will provide the Copermittees a valuable source of information that can be used to identify priority water quality conditions within a Watershed Management Area and within each Copermittee’s jurisdiction.

Tables C-1 through C-4 under Provision C.1.a specify numeric NALs for several parameters or pollutant constituents for non-storm water discharges from the MS4 to several water body types. The NALs for MS4 discharges given under Provision C.1.a are based on the water quality objectives for inland surface waters in the Basin Plan, and the water quality objectives for ocean waters in the Ocean Plan. The NALs for

most of the metals were calculated based on the State Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California (State Implementation Policy or SIP). The NALs provided in Tables C-1 through C-4 must be included in the Water Quality Improvement Plans required to be developed pursuant to Provision B.

Provision C.1.b requires the Copermittees to identify NALs for pollutants and/or constituents, not specified in Provision C.1.a, which are causing or contributing, or may be causing or contributing, to the highest priority water quality conditions of the Watershed Management Area related to non-storm water discharges from the MS4s. The NALs must be based on the water quality objectives in the Basin Plan. The NALs identified under Provision C.1.b must be included in the Water Quality Improvement Plan.

The San Diego Water Board recognizes that some of the NALs required pursuant to Provisions C.1.a and C.1.b may be exceeded more frequently than not. Thus, Provision C.1.c has been included in the Order to provide the Copermittees the option to develop secondary NALs that are set at levels greater than the levels required pursuant to Provisions C.1.a and C.1.b to further refine the prioritization and assessment of water quality improvement strategies for addressing non-storm water discharges to and from the MS4s, as well as the detection and elimination of non-storm water and illicit discharges to and from the MS4.

Provision C.2 (Storm Water Action Levels) requires the Copermittees to incorporate SALs into the Water Quality Improvement Plan for pollutants and/or constituents causing or contributing, or may be causing or contributing, to the highest priority water quality conditions identified in the Water Quality Improvement Plan related to storm water discharges from the MS4s.

The SALs have been included to ensure that the Copermittees are implementing and complying with several requirements of the MS4 permit. Provision A.1.a prohibits storm water discharges from the MS4 from *“causing, or threatening to cause, a condition of pollution, contamination, or nuisance (as defined in CWC section 13050), in waters of the state.”* In addition, pursuant to Provision A.2.a, storm water discharges *“must not cause or contribute to the violation of water quality standards in any receiving waters.”*

Provision A.3.a, however, implicitly acknowledges that compliance with Provisions A.1.a and A.2.a cannot be achieved immediately for discharges of storm water from the MS4 by applying the MEP standard. Thus, Provision A.4 requires the Copermittees to implement an iterative approach to demonstrate that MEP is being achieved. This approach is supported by USEPA.

The federal CWA requires permits for municipal storm sewer systems to *“require controls to reduce the discharge of pollutants [in storm water] to the maximum extent practicable, including management practices, control techniques and system, design*

and engineering methods, and such other provisions as the Administrator or the State determines appropriate for the control of such pollutants.” MEP is an ever-evolving, flexible, and advancing concept. As knowledge about controlling storm water runoff and discharges evolves, so does the knowledge which constitutes MEP. Reducing the discharge of storm water pollutants from the MS4 to the MEP requires the Copermittees to assess their jurisdictional runoff management programs and revise activities, control measures, BMPs, and measurable goals, as necessary to meet MEP. The SALs provide the Copermittees measureable goals that may be used to demonstrate the achievement of MEP for reducing pollutants in storm water discharges from the MS4. The SALs will be used as part of the MS4 discharges assessments required under Provision D.4.a.

In June of 2006, the State Water Board’s Blue Ribbon Storm Water Panel released its report titled “*The Feasibility of Numerical Effluent Limits Applicable to Discharges of Storm Water Associated with Municipal, Industrial and Construction Activities.*” In the recommendations, the Blue Ribbon panel proposed storm water effluent limitations which are computed using statistical based population approaches. The SALs specified in Table C-5 under Provision C.2.a were developed from a regional subset of nationwide Phase I MS4 data by using USEPA Rain Zone 6 (arid west) data.²⁸ Additionally, utilization of regional data is appropriate due to the addition of data into the nationwide Phase I MS4 monitoring dataset in February 2008. This additional data increased the number of USEPA Rain Zone 6 samples to more than 400, and included additional monitoring events within Southern California.

Utilizing data from USEPA Rain Zone 6 resulted in SALs which closely reflect the environmental conditions experienced in the San Diego Region. The localized subset of data includes sampling events from multiple Southern California locations including Orange, San Diego, Riverside, Los Angeles, and San Bernardino Counties. The dataset includes samples taken from highly built-out impervious areas and from storm events representative of Southern California conditions.

The SALs for cadmium, copper, lead and zinc require the measurement of hardness and to provide more specificity in the assessment of samples with SALs for total metal concentrations. While USEPA Rain Zone 6 data include a large sample size for concentrations of total metals, the impact the concentration will have on receiving waters will vary with receiving water hardness. Since it is the goal of the SALs, through the iterative process and MEP standard, to have MS4 storm water discharges meet all applicable water quality objectives, the hardness of the receiving water should be used when assessing the total metal concentration of a sample.

Thus, when there is an exceedance of a SAL for a metal, the Copermittee must determine if that exceedance is above the existing applicable water quality objectives based upon the hardness of the receiving water. The water quality objectives

²⁸ Data used to develop SAL were obtained from <http://rpitt.eng.ua.edu/Research/ms4/mainms4.shtml>

Copermittees must use to assess total metal SAL exceedances are the California Toxic Rule (CTR) and USEPA National Recommended Water Quality Criteria for Freshwater Aquatic Life 1 hour maximum concentrations. The 1-hour maximum concentration is to be used for comparison since it is expected to most replicate the impacts to waters of the State from the first flush following a precipitation event.

The statistically calculated SALs given in Table C-5 are at levels greater than the water quality objectives in the Basin Plan or Ocean Plan. Because the objective of the CWA is to *“to restore and maintain the chemical, physical, and biological integrity of the Nation’s waters”*, meaning eventually pollutants in storm water discharges must be reduced to a level that cannot cause or contribute to an exceedance of water quality objectives in receiving waters, over time the SALs are expected to be reduced to a level that is based on the water quality objectives rather than statistical calculations. The San Diego Water Board will review the SALs as more data for discharges of storm water from the MS4s are collected, and revise them as conditions improve and the MEP standard advances. For the Water Quality Improvement Plans required under this Order, the SALs identified under Provision C.2.a must be included.

Provision C.2.b requires the Copermittees to identify SALs for pollutants and/or constituents, not specified in Provision C.2.a, which are causing or contributing, or may be causing or contributing, to the highest priority water quality conditions of the Watershed Management Area related to storm water discharges from the MS4s. The SALs identified under Provision C.2.b must be included in the Water Quality Improvement Plan.

The San Diego Water Board recognizes that some of the SALs required pursuant to Provisions C.2.a and C.2.b may be exceeded more frequently than not. Thus, Provision C.2.c has been included in the Order to provide the Copermittees the option to develop secondary SALs that are set at levels greater than the levels required pursuant to Provisions C.2.a and C.2.b to further refine the prioritization and assessment of water quality improvement strategies for reducing pollutants in storm water discharges from the MS4s.

D. Monitoring and Assessment Program Requirements

Purpose: Provision D includes minimum monitoring and assessment requirements that must be developed and implemented by the Copermittees as part of the Water Quality Improvement Plans. Implementation of the monitoring and assessment requirements of Provision D will allow the Copermittees to demonstrate that the requirements of the CWA to effectively prohibit non-storm water discharges to the MS4 and reduce pollutants in storm water discharges from the MS4 to the MEP are being achieved. Implementation of the monitoring and assessment requirements of Provision D will also allow the Copermittees and the San Diego Water Board to track improvements to the water quality in the San Diego Region. The monitoring and assessment program requirements are necessary to implement, as well as ensure the Copermittees are in compliance with, the requirements of the Order.

Discussion: The San Diego Water Board recognized that changes to the monitoring and assessment requirements of the Fourth Term Permit were necessary to improve the usefulness and usability of monitoring data collected by the Copermittees to support their jurisdictional storm water programs more efficiently and with increased effectiveness. The data collected are needed to better inform the Copermittees' understanding of the physical, chemical, and biological condition of the receiving waters and the quality of the MS4 discharges. The monitoring program needs to provide opportunities for the Copermittees to integrate regional monitoring efforts into municipal storm water monitoring requirements to provide a cost-effective approach to monitoring and avoid duplication of efforts.

The requirements in Provision D were largely recommended by the Copermittees as an outcome of the San Diego Water Boards Focused Meeting process. The monitoring and assessment program requirements now require collection of more specific information necessary for each Copermittee to adapt its jurisdictional runoff management program in such a way that focuses resources on a watershed's highest priority water quality conditions. The monitoring and assessment program will require the Copermittees to collect data that can be utilized to answer both watershed level management questions (e.g. Are the chemical, physical, and biological conditions of a receiving water protective, or likely protective of beneficial uses?), and specific jurisdictional runoff management program activity questions (e.g. Are the water quality improvement strategies of the jurisdictional program effectively eliminating non-storm water discharges to the MS4?).

The monitoring data collected and assessment information that will be reported to the San Diego Water Board are necessary to determine if the Copermittees are complying with the prohibitions and limitations of Provision A. The required monitoring and assessments that must be reported to the San Diego Water Board will be utilized for three purposes:

- (1) Inform the Copermitees, San Diego Water Board, and the public on the progress of the Copermitees' efforts to effectively prohibit non-storm water discharges to the MS4 and reduce pollutants in storm water discharges from the MS4 to the MEP;
- (2) Inform the Copermitees, San Diego Water Board, and the public on the condition of water bodies receiving discharges from the Copermitees' MS4, and the progress of the Copermitees' water quality improvement implementation efforts toward improving the receiving water quality; and
- (3) Inform the Copermitees, the San Diego Water Board, and the public on the effectiveness of the Water Quality Improvement Plan toward achieving (1) and (2).

The monitoring and assessment information reported pursuant to Provision F is also expected to be key to the iterative approach and adaptive management process required under Provision A.4 and implemented through the Water Quality Improvement Plan required under Provision B. As required by Provision A.4, the iterative approach and adaptive management process is required if the Copermitees cannot meet the discharge prohibitions and receiving water limitations of Provisions A.1.a, A.1.c, and/or A.2.a under the present conditions.

Provision D provides the minimum monitoring and assessment requirements that must be included in each Water Quality Improvement Plan to be developed and implemented by the Copermitees. The Copermitees, however, are not limited to the requirements of Provision D and may include additional methods to track progress toward improving water quality in a Watershed Management Area.

More specific and detailed discussions of the requirements of Provision D are provided below.

Provision D.1 (Receiving Water Monitoring Requirements) specifies the minimum receiving water monitoring that the Copermitees must conduct within the Watershed Management Area and include as part of the Water Quality Improvement Plan.

Provision D.1 establishes minimum monitoring requirements that must be conducted by the Copermitees within each Watershed Management Area. Provision D.1 requires the Copermitees to collect and develop the data and information necessary to determine potential impacts to the beneficial uses in the receiving waters due to discharges from the MS4s. The monitoring required under Provision D.1 will also provide the data that will allow the Copermitees to gauge the effectiveness and progress of its Water Quality Improvement Plan implementation efforts toward improving the quality of receiving waters.

The receiving water monitoring requirements of Provision D.1 are focused primarily on monitoring the conditions and response of the receiving waters to the Copermitees'

collective implementation efforts to reduce receiving water impacts that may be caused by the discharges from the MS4s. The preference of the San Diego Water Board is for the Copermittees to spend their resources achieving tangible and observable improvements in receiving water conditions instead of collecting samples and analyzing data that has consistently indicated that receiving water conditions are degraded and require improvement. In general, the ability to measure potential improvements in receiving water conditions due to any actions implemented by the Copermittees as part of the Water Quality Improvement Plan may require several years before a response can be observed. Thus, the frequency of collecting receiving water monitoring data has been kept to a minimum.

During the transitional period between adoption of this Order and San Diego Water Board acceptance of a Water Quality Improvement Plan, the Copermittees must conduct receiving water monitoring in accordance with Provision D.1.a. This approach to collecting receiving water data is different from what was required in the Fourth Term Permits, but one that truly embraces the concept of an integrated, cost-effective, streamlined receiving water monitoring approach.

Provision D.1.a requires Copermittees to continue performing the receiving water monitoring programs required in Order Nos. R-2007-0001, R9-2009-002, and R9-2010-0016; plus participation in: hydromodification management plan monitoring approved by the San Diego Water Board, monitoring plans as part of load reduction plans (either Bacteria Load Reduction Plans or Comprehensive Load Reduction Plans) for TMDLs in Attachment E of the Order, Storm Water Monitoring Coalition Regional Monitoring, Southern California Bight Regional Monitoring, Sediment Quality Monitoring, and ASBS Monitoring as applicable to a Watershed Management Area.

Provision D.1.a also provides an opportunity for the Copermittees to use third party data to meet receiving water monitoring requirements where feasible. Allowing the Copermittees to use the data currently collected through its participation in existing regional receiving water programs and that of third parties provides an efficiency of resources in obtaining the data necessary to inform the Copermittees and the San Diego Water Board about the physical, chemical, and biological conditions of the receiving waters, which can also help to focus the receiving water monitoring during the implementation of the Water Quality Improvement Plan. Once a Water Quality Improvement Plan is developed for a Watershed Management Area in compliance with Provision B of this Order, the transitional period is over and Copermittees are required to conduct receiving water monitoring according to the requirements of Provisions D.1.b-e.

Provision D.1.b requires each Copermittee to identify at least one long term receiving water monitoring station to be representative of receiving water quality within each Watershed Management Area. Long term receiving water monitoring stations can be located at any existing mass loading stations, temporary watershed assessment stations, bioassessment stations, and stream assessment stations previously established by the Copermittees. The requirements under Provision D.1.b. are

consistent with 40 CFR 122.26(d)(2)(iii)(D), which specifies that a “*monitoring program for representative data collection for the term of the permit*” may include “*instream locations*.” For each Watershed Management Area, at least one long term watershed monitoring station is required to be established and monitored. The Copermittees may choose to establish additional long term monitoring stations where necessary to support the implementation and adaptation of the Water Quality Improvement Plan.

Provision D.1.b. requires the Copermittees to locate the long term receiving water monitoring station at one of these existing receiving water monitoring stations to provide the Copermittees an opportunity to experience monitoring cost savings while continuing to collect the necessary data to assess the status and trends of receiving water quality conditions in 1) coastal water, 2) enclosed bays, harbors, estuaries, and lagoons, and 3) streams under both dry weather and wet weather conditions. Ideally these stations will continue to be monitored as part of the receiving water monitoring for each Watershed Management Area to maintain a consistent set of locations and a period of data that can be built upon with the monitoring required under this Order.

The receiving water monitoring requirements are separated into monitoring required during dry weather conditions pursuant to Provision D.1.c, and wet weather conditions pursuant to Provision D.1.d.

At each long term monitoring station the Copermittees must conduct at least three dry weather monitoring events as required pursuant to Provision D.1.c and at least three wet weather monitoring events as required pursuant to Provision D.1.d per permit term. Provisions D.1.c and D.1.d require the Copermittees to monitor priority water quality conditions identified in the Water Quality Improvement Plan, constituents listed as causing impairment of receiving waters in the Watershed Management Area, applicable NALs, toxicity, constituents listed in Tables D-2 and D-3, and constituents for implementation plans (e.g. Bacteria Load Reduction Plans and Comprehensive Load Reduction Plans). Required toxicity monitoring was changed to reflect an updated understanding of the unique challenges associated with sampling storm water for toxicity. Copermittees are required to sample receiving water for toxicity during each dry weather and each wet weather event pursuant to Provision D.1.c.(4) and D.1.d.(4). Required toxicity monitoring is now consistent with the State Water Resources Control Board Policy for Toxicity Assessment and Control (Draft June 2012) and recently adopted MS4 permits for Caltrans and Los Angeles Water Board. Receiving water monitoring efforts in this Order have been streamlined to redirect resources to monitoring efforts that better support pollutant reduction solutions with an increasing emphasis on MS4 outfall monitoring, source identification, and source abatement activities.

In addition to the receiving water monitoring requirements under Provisions D.1.b-d, Provision D.1.e requires the Copermittees participate in and/or conduct other types of receiving water monitoring. As recommended and requested by the Copermittees, Provision D.1.e.(1) requires the Copermittees to participate in existing regional monitoring, as applicable to each Watershed Management Area. Existing regional

monitoring includes monitoring conducted by the Storm Water Monitoring Coalition and for the Southern California Bight. Participation in and use of monitoring data collected from these existing regional water quality monitoring programs provide the Copermittees a greater opportunity for efficiency in the use of their resources to manage their storm water programs and those controllable discharges under their authority.

Provision D.1.e.(1)(c) requires the south Orange County MS4 Copermittees to participate in “unified regional beach water quality monitoring.” This monitoring replaces requirements to conduct “core monitoring” of beach water quality, as provided for in Appendix III of the Ocean Plan.

Several different public agencies currently conduct routine, ongoing beach water quality monitoring in south Orange County in accordance with several different sets of requirements. The monitoring programs implemented to meet those requirements overlap temporally and spatially. These monitoring programs are partially but not fully integrated. In November 2010, the State Water Board adopted Resolution No. 2010-0053, which directed Regional Water Boards to work with dischargers to modify beach water quality monitoring programs required by Regional Water Board-issued permits in order to eliminate redundancies and incorporate beach water quality monitoring required by beach water quality statutes, where appropriate.

In April 2012, the San Diego Water Board requested that its staff review beach water quality monitoring conducted in south Orange County. To assist in responding to that request, staff of the Board convened a workgroup that included representatives of the three public agencies that currently conduct almost all of the routine, ongoing beach water quality monitoring in south Orange County, i.e., South Orange County Wastewater Authority (SOCWA), Orange County Public Works, and Orange County Health Care Agency (OCHCA). The workgroup also included other interested parties, including representatives of the Sierra Club and Surfrider Foundation. In December 2012, the San Diego Water Board adopted Resolution No. R9-2012-0069, which endorsed the San Diego Water Board staff report entitled “A Framework for Monitoring and Assessment in the San Diego Region,” dated November 2012.

The unified program is consistent with and will meet or exceed the minimum requirements for beach water quality monitoring and related public notification and reporting established by State law, including the Ocean Plan. The unified program is consistent with State Water Board Resolution No. 2010-0053. The unified program is also consistent with and will help implement, “A Framework for Monitoring and Assessment in the San Diego Region,” which emphasizes the need for question-driven, beneficial use-oriented monitoring and assessment. The primary purpose of the unified program will be to answer the question “Does beach water quality meet standards for the beneficial use of water contact recreation?”

The unified program is intended to be protective; it will help protect the health of swimmers, surfers, and others who use south Orange County beach waters for water

contact recreational activities. The unified program is also intended to be reasonable; it will eliminate duplicative monitoring and will include triggers for public notification and additional sampling at all sampling stations year-round. The unified program is intended to be equitable; responsibility for implementation of the unified program will be shared and the responsible agencies will jointly make arrangements to implement the program and will have the flexibility to jointly make short and/or long term changes in those arrangements.

The San Diego Water Board Executive Officer issued a written directive on December 5, 2014, pursuant to California Water Code section 13383, for SOCWA and the south Orange County MS4 Copermittees to implement the unified program in cooperation with OCHCA. The Executive Officer may make revisions to the unified program, provided that the unified program, as revised, continues to be consistent with and meet the requirements of State law, including the Ocean Plan, for beach water quality monitoring and related public notification and reporting. Following a thirty day public comment period, and subject to a request for a hearing before the San Diego Water Board, any such revision shall take effect as specified in a written directive issued by the Executive Officer pursuant to CWC section 13383. The program and any Executive Officer issued revisions to the program are subject to CWC section 13320 right of review from the date of issuance.

The unified program will supersede the existing routine, ongoing, beach water quality monitoring programs in south Orange County that are conducted in accordance with the existing requirements of the NPDES permits for discharges from the SOCWA ocean outfalls and the south Orange County MS4s. The requirement to participate in “regional monitoring” of beach water quality replaces requirements to conduct “core monitoring” of beach water quality, as provided for in Appendix III of the Ocean Plan.

The State Water Resources Control Board adopted the Water Quality Control Plan for Enclosed Bays and Estuaries of California – Part 1 Sediment Quality which became effective August 25, 2009 (Sediment Quality Monitoring Policy). Provision D.1.e.(2) requires any Copermittees with MS4 discharges to an enclosed bay or estuary to monitor the sediments in the enclosed bay or estuary receiving water in accordance with the sediment quality monitoring procedures as prescribed in the Sediment Quality Monitoring Policy.

The State Water Board adopted Resolution No. 2012-0012 which approved exceptions to the California Ocean Plan for selected discharges into Areas of Special Biological Significance (ASBS), including special protections for beneficial uses. State Board Resolution No. 2012-0012 became effective on March 20, 2012, and Attachment B to the Resolution established limitations on point source storm water discharges to ASBS. Copermittees with MS4s that discharge to an ASBS must monitor its discharge to assure compliance with State Board Resolution No. 2012-0012 as required pursuant to Provision D.1.e.(3).

The San Diego Water Board is developing a regional monitoring strategy to assess the conditions of receiving waters in the San Diego Region. The monitoring requirements of Provision D.1 are expected to be incorporated or serve as a foundation of this regional monitoring strategy, but may require some modifications. When the San Diego Water Board develops an alternative regional monitoring strategy, the Copermittees will be required to participate in the development and implementation of the alternative regional monitoring program pursuant to Provision D.1.f.

Provision D.2 (MS4 Outfall Discharge Monitoring Requirements) specifies the minimum MS4 outfall discharge monitoring requirements that the Copermittees must incorporate and implement as part of the Water Quality Improvement Plan.

The dry weather MS4 outfall discharge monitoring requirements are included under Provisions D.2.a.(2) and D.2.b. The dry weather MS4 outfall discharge monitoring requirements are part of the “*program, including a schedule, to detect and remove (or require the discharger to the municipal separate storm sewer to obtain a separate NPDES permit for) illicit discharges and improper disposal into the storm sewer*” required by 40 CFR 122.26(d)(2)(iv)(B), which is expected to achieve compliance with the CWA section 402(p)(3)(B)(ii) statutory requirement for municipal storm water permits to require the Copermittees to “*effectively prohibit non-storm water discharges into the storm sewers.*” The dry weather MS4 outfall discharge monitoring data collection requirements are based on requirements under 40 CFR 122.26(d)(1)(iv)(D) and 122.26(d)(2)(iv)(B)(3).

The dry weather MS4 outfall discharge monitoring requirements are designed to provide wide spatial and temporal coverage of each jurisdiction to better understand the extent and magnitude of non-storm water discharges to receiving waters, and make a distinction between persistent and transient non-storm water flows. This information is expected to allow each Copermittee to focus its resources on eliminating and controlling the highest priority threats to receiving water quality, as well as integrating other elements of the storm water programs (e.g. complaint call response) and third party data to efficiently and effectively assist in efforts to eliminate non-storm water discharges.

The dry weather MS4 outfall discharge monitoring requirements of Provision D.2.a.(2) and D.2.b are separated into monitoring required before and after the San Diego Water Board accepts the Copermittees’ Water Quality Improvement Plan. Outfall monitoring conducted prior to acceptance of the Water Quality Improvement Plan is referred to in the Order as Transitional MS4 Outfall Discharge Monitoring. Provision D.2.a.(2) includes the transitional dry weather MS4 outfall discharge monitoring requirements.

The requirements under Provision D.2.a.(2) are based on the requirements under 40 CFR 122.26(d)(1)(iv)(D), (d)(1)(v)(B) and (d)(2)(iv)(B), which include the requirements for a monitoring program to identify, detect, and eliminate illicit connections and illegal discharges to the MS4s. The federal regulations (40 CFR 122.26(d)(1)(iv)(D)) require

the monitoring program to include “*a field screening analysis for illicit connections and illegal dumping [that]...[a]t a minimum, include[s] a narrative description, for either each field screening point or major outfall, of visual observations made during dry weather periods.*” The federal regulations (40 CFR 122.26(d)(1)(v)(B)) require the monitoring program to include “*inspection procedures and methods for detecting and preventing illicit discharges, and describe areas where this program has been implemented.*” Furthermore, the monitoring program is required by federal regulations (40 CFR 122.26(d)(2)(iv)(B)) to include “*a schedule, to detect and remove (or require the discharger to the municipal separate storm sewer to obtain a separate NPDES permit for) illicit discharges and improper disposal into the storm sewer.*”

Dry weather transitional MS4 outfall discharge monitoring requires each Copermittee to field screen (inspect) its major MS4 outfalls to classify the MS4 outfall locations as having persistent dry weather flows, transient dry weather flows, or no dry weather flows. To account for the variance in size of the 39 jurisdictions covered under this Order, the Copermittees recommended a tiered approach to the number of major MS4 outfalls that must be inspected. Provision D.2.a.(2)(a) provides a tiered approach to the number of major MS4 outfalls that must be visually inspected per jurisdiction as well as a minimum frequency each Copermittee must inspect each major MS4 outfall per year. This tiered approach is based on the total number of major MS4 outfalls within a Copermittees jurisdiction within each Watershed Management Area.

Based on the field screening, each Copermittee is required to make a determination whether any observed flowing, pooled, or ponded waters are transient or persistent flows. Based on this field screening information, other jurisdictional program information, and third party information, each Copermittee is required to prioritize the MS4 outfalls within its jurisdiction for follow up investigation and elimination of the non-storm water discharge, as part of its illicit discharge detection and elimination program required pursuant to Provision E.2. In accordance with the requirements of Provision E.2, each Copermittee is required to immediately investigate obvious illicit discharges (e.g. outfall discharges with unusual color, unusual odor, or high flows).

This approach allows a Copermittee to use all of its resources, as well as leverage resources and information provided by third parties, to effectively eliminate non-storm water discharges from its MS4 outfalls. If the source of the non-storm water discharge cannot be immediately eliminated, the Copermittee uses the persistent flow or transient flow classification along with other programmatic implementation data to prioritize the MS4 outfalls for future investigation. In accordance with the adaptive management approach deployed throughout this Order, Provision D.2.a.(2)(c) requires each Copermittee to update its MS4 outfall discharge monitoring station inventory, compiled pursuant to Provision D.2.a.(1), with any new information on the classification of whether the MS4 outfall produces persistent flow, transient flow, or no dry weather flow. The requirement of Provision D.2.a.(2)(c) assures that each Copermittee is collecting data that can be used to demonstrate compliance with the CWA requirement that each Copermittee must implement a program to “*effectively*

prohibit non-storm water discharges into the [MS4]" and with the requirements under 40 CFR 122.26(d)(1)(iv)(D), (d)(1)(v)(B) and (d)(2)(iv)(B).

Provision D.2.b describes the dry weather MS4 outfall discharge monitoring required to be incorporated and implemented as part of the Water Quality Improvement Plan. Dry weather MS4 outfall discharge monitoring must be performed by each Copermittee to identify non-storm water and illicit discharges within its jurisdiction pursuant to Provision E.2.c, and to prioritize the dry weather MS4 discharges that will be investigated and eliminated pursuant to Provision E.2.d. The emphasis of the dry weather MS4 outfall discharge monitoring required pursuant to Provision D.2.b is consistent with the requirements under 40 CFR 122.26(d)(1)(iv)(D), (d)(1)(v)(B) and (d)(2)(iv)(B).

Provision D.2.b.(1) requires each Copermittee to continue field screening its major MS4 outfalls and identifying those with persistent flows and transient flows, as conducted during the transitional period (i.e. before the Water Quality Improvement Plan was developed). However, each Copermittee now has the flexibility to adjust the field screening monitoring frequencies and locations for the MS4 outfalls in its inventory, as needed, to identify and eliminate sources of non-storm water persistent flow discharges in accordance with the highest priority water quality conditions identified in the Water Quality Improvement Plan. In order to ensure a minimum number of outfalls are inspected, Provision D.2.b.(1) requires the number of visual inspections be equal to the number of visual inspections required in the tiered inspection program pursuant to Provision D.2.a.(2)(a).

Provision D.2.b.(2)(b) requires each Copermittee to monitor a minimum of 5 major MS4 outfalls with persistent flows identified as the highest priorities within a Copermittee's jurisdiction, within each Watershed Management Area. In other words, Copermittees located in more than one Watershed Management Area must identify at least 5 major MS4 outfalls with persistent flows in its jurisdiction in each Watershed Management Area. If a Copermittee is located in more than one Watershed Management Area, and they have less than 5 major MS4 outfalls with persistent flows per jurisdictional area per Watershed Management Area, all of the major MS4 outfalls must be identified as high priority dry weather persistent flow MS4 outfalls. The Copermittees identified as Responsible Copermittees by a TMDL in Attachment E of the Order may need to monitor more than 5 dry weather major MS4 outfall locations to determine compliance with the requirements of the TMDL(s).

Monitoring must occur at the highest priority outfall locations at least semi-annually until the non-storm water discharges have been eliminated for three consecutive dry weather monitoring events; identified to be authorized by a separate NPDES Permit; or reprioritized to a lower priority. Persistent flow MS4 outfall monitoring stations that have been removed must be replaced with the next highest prioritized MS4 major outfall in the Copermittee's jurisdiction within the Watershed Management Area, unless there are no remaining qualifying major MS4 outfalls within the Copermittees jurisdiction. The Copermittees must continually update their dry weather persistent

flow MS4 outfall discharge monitoring locations with the next highest priority non-storm water flow that have yet to be eliminated until all persistent and transient flows are eliminated or its threat reduced.

Non-storm water persistent flow MS4 outfall discharge monitoring data collected during each semi-annual monitoring event, must be collected and analyzed according to the requirements of Provision D.2.b.(2)(b)-(e). These monitoring requirements are consistent with the requirements under 40 CFR 122.26(d)(1)(iv)(D), (d)(1)(v)(B) and (d)(2)(iv)(B).

The wet weather MS4 outfall discharge monitoring requirements are included under Provisions D.2.a.(3) and D.2.c. The wet weather MS4 outfall discharge monitoring requirements are necessary for the Copermittees to implement a *“management program...to reduce the discharge of pollutants to the maximum extent practicable, using management practices, control techniques and system, design and engineering methods, and such other provisions which are appropriate”* required by 40CFR 122.26(d)(2)(iv), which is expected to achieve compliance with the CWA section 402(p)(3)(B)(iii) statutory requirement for municipal storm water permits to require *“controls to reduce the discharge of pollutants [in storm water] to the maximum extent practicable.”* The wet weather MS4 outfall discharge monitoring data collection requirements are based on requirements under 40 CFR 122.26(d)(2)(iii), 122.26(d)(2)(iii)(A) and 122.26(d)(2)(iii)(A)(1)-(4), and 40 CFR 122.21(g)(7)(i)-(ii).

The wet weather MS4 outfall discharge monitoring requirements of Provision D.2.a.(3) and D.2.c are separated into monitoring required before and after the San Diego Water Board accepts the Copermittees' Water Quality Improvement Plan. Outfall monitoring conducted prior to acceptance of the Water Quality Improvement Plan is referred to in the Order as Transitional MS4 Outfall Discharge Monitoring. Provision D.2.a.(3) includes the transitional wet weather MS4 outfall discharge monitoring requirements.

Until the wet weather MS4 outfall discharge monitoring requirements of Provision D.2.c are incorporated into a Water Quality Improvement Plan that is accepted by the San Diego Water Board, the Copermittees must comply with the requirements of transitional wet weather MS4 outfall monitoring requirements pursuant to Provision D.2.a.(3). Provision D.2.a.(3) requires the Copermittees in each Watershed Management Area to sample, at least five of the major MS4 outfalls inventoried pursuant to Provision D.2.a.(1) once per wet season for the monitoring data required to be collected pursuant to Provision D.2.a.(3)(c)-(e). Provision D.2.a.(3) further requires at least one major MS4 outfall monitoring station be located in each Copermittee's jurisdiction within the Watershed Management Area.

At a minimum, the five sampling locations chosen must be representative of storm water discharges from residential, commercial, industrial, and typical mixed-use land uses present within a Watershed Management Area. The San Diego Water Board expects the Copermittees to extrapolate from these data to similar land uses

throughout the Watershed Management Area to better inform the Water Quality Improvement Plan development process by prioritizing drainages for implementation of storm water control efforts required pursuant to Provision E.

Provision D.2.c describes the wet weather MS4 outfall discharge monitoring required to be included and implemented as part of the Water Quality Improvement Plan. Provision D.2.c provides the Copermittees the flexibility to adjust the wet weather MS4 outfall discharge monitoring locations and frequencies in the Watershed Management Area, as needed, to identify sources of pollutants in storm water discharges from MS4s in accordance with the highest priority water quality conditions identified in the Water Quality Improvement Plan.

Although Provision D.2.c.(1) allows the Copermittees to adaptively manage the wet weather MS4 outfall discharge monitoring locations and frequencies, the provision requires a minimum of at least five wet weather outfall stations to be monitored. Provision D.2.c.(2) further allows the Copermittees to modify the monitoring frequency at each wet weather MS4 outfall station to meet the goals of the Water Quality Improvement Plan as long as the monitoring frequency occurs at least once per year and is at an appropriate frequency to identify sources of pollutants in storm water discharges, guide pollutant source identification efforts, or determine compliance with the requirements of the applicable TMDLs in Attachment E to the Order.

The wet weather MS4 outfall discharge monitoring requirements of Provisions D.2.c.(3) and D.2.c.(4) are the same as the transitional wet weather MS4 outfall discharge monitoring. In contrast, the requirements of Provision D.2.c.(5) are focused on collecting analytical data specific to the highest priority water quality conditions in the Watershed Management Area identified in the Water Quality Improvement Plan. The wet weather MS4 outfall discharge monitoring data collection requirements are consistent with the requirements under 40 CFR 122.26(d)(2)(iii), 122.26(d)(2)(iii)(A) and 122.26(d)(2)(iii)(A)(1)-(4), and 40 CFR 122.21(g)(7)(i)-(ii).

Provision D.3 (Special Studies) requires the Copermittees to develop special studies that will be conducted for each Watershed Management Area and the entire San Diego Region. Data collected pursuant to Provision D.3 is to be used by the Copermittees to improve the effectiveness of the strategies implemented by the jurisdictional runoff management programs toward achieving the numeric goals identified in the Water Quality Improvement Plans and ultimately achieve compliance with the discharge prohibitions and receiving water limitations of Provisions A.1.a, A.1.c, and A.2.a, which is consistent with the requirements of Provision A.4.

Special studies are often necessary to fill data gaps or provide more refined information that allow the Copermittees to better manage the generation or elimination of pollutants and discharges to and from the MS4. In the Fourth Term Permits, the Copermittees have been required to implement special studies as directed by the San Diego Water Board. The special studies required by this Order provide the Copermittees more flexibility to identify and implement special studies that will be most

useful to improving the effectiveness of their jurisdictional runoff management programs.

Provision D.3.a.(1) requires the Copermittees to develop and conduct at least two special studies per Watershed Management Area, to be determined by the Copermittees. One of the two special studies may be accomplished through participation in a Regional Special Study required under Provision D.3.a.(2). The requirements provide the Copermittees great latitude in identifying and developing the special studies. Watershed Management Area special studies are required, at a minimum, to: (a) relate in some way to the highest water quality priorities identified by the Copermittees in the Water Quality Improvement Plan, (b) be conducted within the Watershed Management Area, and (c) include some form of participation (e.g. contribution of funds, personnel services, project management) by all the responsible Copermittees within the Watershed Management Area.

Examples of Watershed Management Area special studies might include, but are not limited to: (1) focused pollutant source identification studies, (2) BMP effectiveness and/or comparison studies, (3) pilot tests for new or emerging pollutant control methods, (4) receiving water pollutant or stressor source identification and/or mitigation studies, or (5) pollutant fate and transport studies. The Watershed Management Area special studies are expected to provide data that can be utilized by the Copermittees to improve the Water Quality Improvement Plan or implementation of the Copermittees' jurisdictional runoff management programs to address the highest priority water quality conditions.

Provision D.3.a.(2) requires the Copermittees to develop at least one special study that will be conducted for the entire San Diego region. The regional special study is expected to provide data that can be utilized by the Copermittees to improve the Water Quality Improvement Plan or implementation of the Copermittees' jurisdictional runoff management programs to identify or address regional water quality concerns and priorities.

An example of a regional special study would be to develop and establish allowable exceedance frequencies of the bacteria water quality objectives for several types of water bodies, during different wet and dry weather conditions the San Diego region. The special study would be related to bacteria, which is a priority for the San Diego region due to the adoption of "*Bacteria TMDL Project I – Beaches and Creeks in the San Diego Region*." The study results could be used to inform the Copermittees and the San Diego Water Board about the indicator bacteria water quality objective exceedance frequencies that occur in natural or reference watersheds.

Provision D.4 (Assessment Requirements) specifies the assessments that the Copermittees are required to perform, based on the monitoring data collected, and will be reported as part of the Annual Report for the Water Quality Improvement Plan implementation. Provision D.4 requires the Copermittees assess the progress of the

water quality improvement strategies in the Water Quality Improvement Plan toward achieving compliance with Provisions A.1.a, A.1.c, and A.2.a.

Provision D.4 specifies the assessments that Copermittees must perform for each Watershed Management Area to assess the effectiveness of each Copermittee's jurisdictional runoff management program and the Water Quality Improvement Plan. The effectiveness of each Copermittee's jurisdictional runoff management program and Water Quality Improvement Plan is measured through these types of assessments: (a) Receiving Waters Assessments (b) MS4 Outfall Discharges Assessments, (c) Special Studies Assessments, and (d) Integrated Assessment of Water Quality Improvement Plan.

Provision D.4.a requires the Copermittees to assess the status of receiving water conditions annually during the transitional monitoring period (during development of the Water Quality Improvement Plan) and after acceptance of the Water Quality Improvement Plan. The monitoring data collected pursuant to Provision D.1 will be evaluated, among other information, to assess the condition of a Watershed Management Area's streams, coastal waters, enclosed bays, harbors, estuaries, and lagoons. The focus of the receiving waters assessments is to measure progress toward the objective of the CWA to "*restore and maintain the chemical, physical, and biological integrity of the Nation's waters*" as the Water Quality Improvement Plan and each Copermittee's jurisdictional runoff management program are implemented within a Watershed Management Area. Provision D.4.a is consistent with 40 CFR 122.42(c)(7) which requires the Copermittees to annually report the "[i]dentification of water quality improvements or degradation."

Provision D.4.b includes the MS4 outfall discharges assessment requirements. The focus of MS4 outfall discharges assessments is to determine if the Copermittees' are implementing programs that comply with the requirements of the CWA for MS4 permits to "*effectively prohibit non-stormwater discharges into the storm sewers*" and "*require controls to reduce the discharge of pollutants [in storm water] to the maximum extent practicable.*" The monitoring data collected pursuant to Provisions D.2 will be evaluated, among other information, to assess the effectiveness of the transitional MS4 outfall field screening monitoring, the implementation of the Water Quality Improvement Plan and each Copermittee's jurisdictional runoff management program. The MS4 outfall discharge assessments consist of Non-Storm Water Discharges Reduction Assessments and Storm Water Pollutant Discharges Reduction Assessments.

The Non-Storm Water Discharges Reduction Assessments are how each Copermittee will demonstrate that its jurisdictional runoff management program implementation efforts are achieving the CWA requirement to "*effectively prohibit non-stormwater discharges into the storm sewers.*" Provision D.4.b.(1) requires each Copermittee to assess and report on its illicit discharge detection and elimination program required pursuant to Provision E.2 to reduce and effectively prohibit non-storm water and illicit discharges into the MS4 within its jurisdiction. The Non-Storm Water Discharges

Reduction Assessments include specific assessment requirements applicable to each Copermitttee.

As each Copermitttee collects and analyzes the data collected pursuant to dry weather MS4 outfall discharges monitoring requirements of Provisions D.2.a.(2) and D.2.b, Provision D.4.b.(1) requires each Copermitttee to assess the progress, assess the effectiveness of its current actions, and identify modifications necessary to increase the effectiveness of its actions toward reducing and eliminating non-storm water and illicit discharges to its MS4. The findings from these assessments are expected to be utilized by the Copermitttee as part of its procedures to prioritize the non-storm water discharges that will be addressed by its Illicit Discharge Detection and Elimination program required pursuant to Provision E.2.

The assessment requirements of Provision D.4.a.(1) are consistent with 40 CFR 122.26(d)(2)(iv)(B) and 122.26(d)(2)(iv)(B)(3) which require *“procedures...to investigate portions of the separate storm sewer system that, based on the results of the field screen, or other appropriate information [emphasis added], indicate a reasonable potential of contain illicit discharges or other sources of non-storm water”* as part of a *“program...to detect and remove...illicit discharges and improper disposal into the storm sewer.”* The assessment requirements of Provision D.4.a.(1) are also consistent with 40 CFR 122.42(c)(1) requires the Copermitttees to annually report the *“status of implementing the components of the storm water management program that are established as permit conditions.”*

The Storm Water Pollutant Discharges Reduction Assessment is how the Copermitttees in each Watershed Management Area will demonstrate that their jurisdictional runoff management program implementation efforts are achieving the CWA requirement to *“reduce the discharge of pollutants [in storm water] to the maximum extent practicable.”* Provision D.4.b.(2) requires the Copermitttees in each Watershed Management Area to assess and report the progress of the Copermitttees’ efforts to reduce pollutants in storm water discharges from the MS4s to the MEP. The Storm Water Pollutant Discharges Reduction Assessments include specific assessment requirements during both the transitional monitoring period and after acceptance of the Water Quality Improvement Plan applicable to the Watershed Management Area and each Copermitttee.

As the Copermitttees collect and analyze the data collected pursuant to wet weather MS4 outfall discharges monitoring requirements of Provisions D.2.a.(3) and D.2.c, Provision D.4.b.(2) requires the Copermitttees to assess runoff conditions during the transitional period, and the progress of the Water Quality Improvement Plan strategies toward reducing pollutants in storm water from the MS4 to the MEP. The findings from these assessments are expected to be utilized by the Copermitttees to identify any modifications to the wet weather MS4 outfall discharge monitoring locations and frequencies necessary to identify sources of pollutants in storm water discharges from the MS4s, as well as focus, modify, and improve the water quality improvement

strategies implemented by each Copermittee within its jurisdiction to reduce pollutants in storm water discharges to the MEP.

The assessment requirements of Provision D.4.b.(2) are consistent with 40 CFR 122.26(d)(2)(iii)(B) which requires “[e]stimates of the annual pollutant load of the cumulative discharges to waters of the United States from all identified municipal outfalls...during a storm event...accompanied by a description of the procedures for estimating constituent loads and concentrations, including any modeling, data analysis, and calculation methods.” The assessment requirements of Provision D.4.a.(2) are consistent with 40 CFR 122.26(d)(2)(v) which requires that each Copermittee assesses the “estimated reductions in loadings of pollutants from discharges of municipal storm sewer constituents from municipal storm sewer systems expected as the result of the municipal storm water quality management program.” The assessment requirements of Provision D.4.b.(2) are also consistent with 40 CFR 122.42(c)(1) which requires the Copermittees to annually report the “status of implementing the components of the storm water management program that are established as permit conditions.”

Provision D.4.c includes the special studies assessment requirements. Performing special studies are how the Copermittees will address data gaps identified during the development of and updates to the Water Quality Improvement Plan. The relevant findings from the special studies assessments are expected to be incorporated as part of the applicable receiving water assessments, MS4 outfall discharge assessments, and integrated water quality improvement assessments required in Provision D.4.a, D.4.b, and D.4.d, respectively.

The assessment requirements in Provision D.4.d are part of the iterative approach and adaptive management process required by Provision A.4. The Copermittees are required to integrate the data collected pursuant to Provisions D.4.a-c, and information collected during the implementation of the jurisdictional runoff management programs required pursuant to Provision E to re-evaluate the Water Quality Improvement Plan.

The monitoring data collected pursuant to Provisions D.1 and D.2, and the results of the assessment required pursuant to Provisions D.4.a-c, will be used to determine whether the Water Quality Improvement Plan and each Copermittee’s jurisdictional runoff management program are effective, or require modifications or improvements to become more effective to achieve the requirements of the CWA. The assessments required by Provision D.4.d are consistent with 40 CFR 122.42(c)(1) which requires that the Copermittees to report the “[t]he status of implementing the components of the storm water management program that are established as permit conditions.”

E. Jurisdictional Runoff Management Programs

Purpose: Provision E includes the requirements for the jurisdictional runoff management programs to be implemented by each of the Copermittees. Compliance with the requirements for the jurisdictional runoff management programs will allow the Copermittees to demonstrate that they are implementing programs to effectively prohibit non-storm water discharges to the MS4 and reduce pollutants in storm water discharges from the MS4 to the MEP. The jurisdictional runoff management program document prepared by each Copermittee will also provide the details for implementing the water quality improvement strategies identified in the Water Quality Improvement Plan specifically within its jurisdiction.

Discussion: Implementation of the jurisdictional runoff management program requirements under Provision E is how the Copermittees “*effectively prohibit non-stormwater discharges into the storm sewer,*” and outlines the “*controls to reduce the discharge of pollutants to the maximum extent practicable*” consistent with the federal regulations under 40 CFR 122.26. The jurisdictional runoff management program is part of the “*comprehensive planning process*” that is required pursuant to 40 CFR 122.26(d)(2)(iv). Where the Water Quality Improvement Plan is the “*comprehensive planning process*” on a Watershed Management Area scale, requiring “*intergovernmental coordination,*” the jurisdictional runoff management program document is the “*comprehensive planning process*” on a jurisdictional scale that should be coordinated with the other Copermittees in the Watershed Management Area to achieve the goals of the Water Quality Improvement Plan.

The jurisdictional runoff management program requirements are included to provide each Copermittee criteria that can be used to demonstrate that its storm water management program is implementing the “*comprehensive planning process*” within its jurisdiction to “*effectively prohibit non-stormwater discharges into the storm sewers,*” and to identify and implement the most effective “*controls to reduce the discharge of pollutants to the maximum extent practicable*” in accordance with the performance standards given in the CWA.

Provision E includes the requirements for each of the components that must be included in the Copermittee’s jurisdictional runoff management program document that will be implemented by the Copermittee within its jurisdiction. Implementation of the components of each Copermittee’s jurisdictional runoff management program must incorporate the water quality improvement strategies identified by each Copermittee in the Water Quality Improvement Plans, described pursuant to Provision B.3.b.(1)(a).

More specific and detailed discussions of the requirements of Provision E are provided below.

Provision E.1 (Legal Authority Establishment and Enforcement) requires each Copermitttee to establish and enforce sufficient legal authority to control discharges to the MS4 within its jurisdiction.

Pursuant to 40 CFR 122.26(d)(1)(ii) and 40 CFR 122.26(d)(2)(i), each Copermitttee must have sufficient *“legal authority to control discharges to the municipal separate storm sewer system”* and be able to demonstrate that it can *“operate pursuant to legal authority established by statute, ordinance or series of contracts.”* Provision E.1.a describes the minimum legal authorities each Copermitttee must establish for itself within its jurisdiction to control discharges to its MS4. The requirements of Provision E.1.a are consistent with the requirements set forth in 40 CFR 122.26(d)(2)(i)(A)-(F).

The certification statement required from each Copermitttee by Provision E.1.b is included to provide the San Diego Water Board additional documentation that each Copermitttee has established the legal authorities consistent with Provision E.1.a and 40 CFR 122.26(d)(2)(i)(A)-(F), and the Copermitttee can *“operate pursuant to legal authority established by statute, ordinance or series of contracts.”*

Provision E.2 (Illicit Discharge Detection and Elimination) requires each Copermitttee to implement an illicit discharge detection and elimination program to effectively prohibit non-storm water discharges to the MS4 by actively detecting and eliminating illicit discharges and disposal into its MS4. If the San Diego Water Board finds that a Copermitttee is fully implementing the requirements of Provision E.2, then the Copermitttee is deemed in compliance with the effective prohibition of non-storm water discharges to the MS4 required under Provision A.1.b.

Provision E.2 establishes the minimum requirements that each Copermitttee must implement within its jurisdiction to effectively prohibit non-storm water discharges from entering its MS4. The federal CWA requires permits for municipal storm sewer systems to *“effectively prohibit non-storm water discharges into the storm sewers.”* The federal regulations (40CFR122.26(d)(2)(i)(B)) require each Copermitttee to establish the legal authority to prohibit illicit discharges to its MS4s. Under 40 CFR 122.26(d)(2)(iv)(B), each Copermitttee must implement a *“program...to detect and remove...illicit discharges and improper disposal into the storm sewer.”* The federal NPDES regulations, under 40 CFR 122.26(b)(2), define illicit discharges as *“any discharge to a municipal separate storm sewer that is not composed entirely of storm water.”* Thus, non-storm water discharges are not authorized to enter the MS4 and are considered to be illicit discharges, unless authorized by a separate NPDES permit.

The Phase I Final Rule clarifies that non-storm water discharges through an MS4 are not authorized under the CWA (55 FR 47995):

“Today’s rule defines the term “illicit discharge” to describe any discharge through a municipal separate storm sewer system that is not composed entirely of storm water and that is not covered by an NPDES permit. Such illicit discharges are not

authorized under the Clean Water Act. Section 402(p)(3)(B) requires that permits for discharges from municipal separate storm sewers require the municipality to “effectively prohibit” non-storm water discharges from the municipal separate storm sewer...Ultimately, such non-storm water discharges through a municipal separate storm sewer must either be removed from the system or become subject to an NPDES permit.”

The federal NPDES requirements for the program to address illicit discharges must include “*inspections, to implement and enforce an ordinance, orders, or other similar means to prevent illicit discharges to the MS4.*” The federal NPDES regulations also reference several categories of “*non-storm water discharges or flows [which] shall be addressed where such discharges are identified...as sources of pollutants to waters of the United States.*” The Phase I Final Rule (55 FR 48037) further clarified the requirements of 40 CFR 122.26(d)(2)(iv)(B)(1) as follows:

“EPA is clarifying that section 402(p)(3)(B) of the CWA (which requires permits for municipal separate storm sewers to ‘effectively’ prohibit non-storm water discharges) does not require permits for municipalities to prohibit certain discharges or flows of nonstorm water to waters of the United States through municipal separate storm sewers in all cases.”

In previous iterations of the municipal storm water permits for the San Diego Region, these categories were simply listed and referred to as categories of non-storm water discharges “not prohibited” unless identified as a source of pollutants. The Copermittees have often referred to these categories as “exempt” discharges. In both cases, however, the language is inconsistent with the federal CWA and NPDES regulations. And, the clarification provided in the Phase I Final Rule does not specifically state that such discharges are “not prohibited” or “exempt” or in any way authorized. The federal NPDES regulations do, however, state that specific categories of non-storm water discharges must be “*addressed*” if identified as “*sources of pollutants to waters of the United States.*”

The language of Provision E.2.a has been revised to be fully consistent with the language of the CWA and the requirements of the federal regulations under 40 CFR 122.26(d)(2)(iv)(B)(1). Provision E.2.a requires each Copermittee to address all types of non-storm water discharges into its MS4 as illicit discharges, unless the discharge is authorized by a separate NPDES permit, or identified as a category of non-storm water discharges or flows that must be addressed pursuant to Provisions E.2.a.(1) through E.2.a.(5). Only non-NPDES-permitted non-storm water discharges identified as a category of non-storm water discharges under Provisions E.2.a.(1) through E.2.a.(5) and not identified as a source of pollutants do not have to be addressed as illicit discharges. Categories of non-storm water discharges that meet the requirements of Provisions E.2.a.(1) through E.2.a.(5) do not have to be addressed by the Copermittee as illicit discharges.

Several of the non-storm water categories listed in 40 CFR 122.26(d)(2)(iv)(B)(1) have not been included in Provisions E.2.a.(1) through E.2.a.(5), including: street wash water, landscape irrigation, irrigation water, and lawn watering. Because these are no longer included within the categories listed under Provisions E.2.a.(1) through E.2.a.(5), the Copermittees must prohibit these types of non-storm water discharges from entering the MS4. This is consistent with the clarification of 40 CFR 122.26(d)(2)(iv)(B)(1) in the Phase I Final Rule (55 FR 48037), which states:

“[T]he Director may include permit conditions that either require municipalities to prohibit or otherwise control any of these types of discharges where appropriate.”

Street wash water is a category of non-storm water discharges that was removed when the Third Term Permits were issued. Street wash water is a source of several pollutants (e.g., metals, oil and grease, petroleum hydrocarbons, chlorinated solvents, sediment) which are generated during the street washing process. The removal of this category requires the Copermittees to prohibit this type of non-storm water discharge from entering the MS4.

The landscape irrigation, irrigation water, and lawn watering categories, collectively referred to hereafter as “over-irrigation” discharges, were removed from the list of non-storm water discharge categories in the Fourth Term Orange County and Riverside County Permits. Non-storm water discharges resulting from over-irrigation have been found to be a source of several types of pollutants (e.g., nutrients, bacteria, pesticides, sediment) in receiving waters. The San Diego Water Board and the Copermittees have identified categories of non-storm water discharges associated with over-irrigation as a source of pollutants and conveyance of pollutants to the MS4 and waters of the United States in the following documents:

- **SmartTimer/EdgescapE Evaluation Program (SEEP) Grant Application**

The State Water Board allocated grant funding to the SEEP project grant application submitted in 2006, which targeted irrigation runoff by retrofitting areas of existing development and documenting the conservation and runoff improvements. The basis of this grant project is that over-irrigation (landscape irrigation, irrigation water and lawn watering) into the MS4 is a source and conveyance of pollutants. In addition, the grant application indicated that this alteration of natural flows is impacting the beneficial uses of waters of the state and U.S. Results from the study indicate that that over-irrigation (landscape irrigation, irrigation water and lawn watering) into the MS4 is a source and conveyance of pollutants. The results of this study can be applied broadly to any area where over-irrigation takes place. The grant application included the following statements:

“Irrigation runoff contributes flow & pollutant loads to creeks and beaches that are 303(d) listed for bacteria indicators.”

“Regional program managers agree that the reduction and/or elimination of irrigation-related urban flows and associated pollutant loads may be key to successful attainment of water quality and beneficial use goals as outlined in the San Diego Basin Plan and Bacteria TMDL over the long term.”

“Elevated dry-weather storm drain flows, composed primarily ... of landscape irrigation water wasted as runoff, carry pollutants that impair recreational use and aquatic habitats all along Southern California’s urbanized coastline. Storm drain systems carry the wasted water, along with landscape derived pollutants such as bacteria, nutrients and pesticides, to local creeks and the ocean. Given the local Mediterranean climate, excessive perennial dry season stream flows are an unnatural hydrologic pattern, causing species shifts in local riparian communities and warm, unseasonal contaminated freshwater plumes in the near-shore marine environment.”

- **2006-2007 Orange County Watershed Action Plan Annual Reports**

The Watershed Action Plan Annual Reports for the 2006-2007 reporting period were submitted by the County of Orange, Orange County Flood Control District and Copermittees within the San Juan Creek, Laguna Coastal Streams, Aliso Creek, and Dana Point Coastal Streams Watersheds. San Juan Creek, Laguna Coastal Streams, Aliso Creek and Dana Point Coastal Streams are all currently 303(d) listed as impaired for indicator bacteria within their watersheds and/or in the Pacific Ocean at the discharge points of their watersheds. The Orange County Copermittees, within their Watershed Action Strategy Table for fecal indicator bacteria included the following:

“Support programs to reduce or eliminate the discharge of anthropogenic dry weather nuisance flow throughout the ... watershed. Dry weather flow is the transport medium for bacteria and other 303(d) constituents of concern.”

Additionally, they state that “conditions in the MS4 contribute to high seasonal bacteria propagation in-pipe during warm weather. Landscape irrigation is a major contributor to dry weather flow, both as surface runoff due to over-irrigation and overspray onto pavements; and as subsurface seepage that finds its way into the MS4.”

- **Fiscal Year 2008 Carlsbad Watershed Urban Runoff Management Program Annual Report**

The Carlsbad Watershed Urban Runoff Management Program Annual Report for Fiscal Year 2008 was submitted by the Carlsbad Watershed Copermittees (Cities of Carlsbad, Encinitas, Escondido, Oceanside, San Marcos, Solana Beach, and Vista, and the County of San Diego). In the Annual Report, the Carlsbad Watershed Copermittees stated the following:

“The Carlsbad Watershed Management Area (WMA) collective watershed strategy identifies bacteria, sediment, and nutrients as high priority water quality pollutants in the Agua Hedionda (904.3 – bacteria and sediment), Buena Vista (904.2 – bacteria), and San Marcos Creek (904.5 – nutrients) Hydrologic Areas. Bacteria, sediment, and nutrients have been identified as potential discharges from over-irrigation.”

- **2007-2008 San Diego Bay Watershed Urban Runoff Management Program Annual Report**

The San Diego Bay Watershed Urban Runoff Management Program 2007-2008 Annual Report was submitted by the San Diego Bay Watershed Copermittees (Cities of Chula Vista, Coronado, Imperial Beach, La Mesa, Lemon Grove, National City, and San Diego, the County of San Diego, the Port of San Diego, and the San Diego County Airport Authority). In Appendix D of the Annual Report, titled “Likely Sources of Pollutants,” the San Diego Bay Watershed Copermittees identified over-irrigation of lawns as a pollutant generating activity from business and/or residential land uses for bacteria, pesticides, and sediment.

- **Copermittee Public Education Materials**

The Orange County Public Works *Tips for Landscape & Gardening* public education brochure states: *“Fertilizers, pesticides and other chemicals that are left on yards or driveways can be blown or washed into storm drains that flow to the ocean. Overwatering lawns can also send materials into storm drains.”*

The Riverside County Flood Control and Water Conservation District *Landscape and Garden* public education brochure states: *“Soil, yard wastes, over-watering and garden chemicals become part of the urban runoff mix that winds its way through streets, gutters and storm drains before entering lakes, rivers, streams, etc. Urban runoff pollution contaminates water and harms aquatic life!”*

- **Los Peñasquitos Lagoon Sedimentation/Siltation TMDL Technical Report**

The Los Peñasquitos Lagoon Sedimentation/Siltation TMDL technical report was prepared for the City of San Diego and USEPA in October 2010. The technical report was included as a technical supporting document attached to the Sediment TMDL for Los Peñasquitos Lagoon staff report prepared by the San Diego Water Board, dated June 13, 2012. Under the Source Assessment section, the technical report states the following:

“Dry weather loading is dominated by nuisance flows from urban land use activities such as car washing, sidewalk washing, and lawn over-irrigation, which pick up and transport sediment into receiving waters.”

These documents confirm that non-storm water discharges associated with over-irrigation are a source of pollutants and should be addressed as illicit discharges to the MS4. Prohibiting non-storm water discharges associated with over-irrigation, however, is not a new requirement for the Copermittees because it is also consistent with and required by the Water Conservation in Landscaping Act (AB 1881, Laird).

The Water Conservation in Landscaping Act required the Department of Water Resources (DWR) to prepare a Model Water Efficient Landscape Ordinance for use by local agencies (e.g. the Copermittees). All local agencies were required to adopt a water efficient landscape ordinance by January 1, 2010. Local agencies could adopt the Water Efficient Landscape Ordinance developed by DWR, or an ordinance considered at least as effective as the Model Ordinance. The Water Efficient Landscape Ordinance includes a requirement that local agencies prohibit runoff from irrigation (§ 493.2):

“Local agencies shall prevent water waste resulting from inefficient landscape irrigation by prohibiting runoff from leaving the target landscape [emphasis added] due to low head drainage, overspray, or other similar conditions where water flows onto adjacent property, non-irrigated areas, walks, roadways, parking lots, or structures. Penalties for violation of these prohibitions shall be established locally.”

Furthermore, non-storm water discharges from over-irrigation not only transport and discharge pollutants to receiving waters, but are also a likely source of the dry weather flows causing changes to habitat within and along the receiving water bodies. Examples of habitat changes from the dry weather flows include perennialization of ephemeral streams, and conversion of saltwater and brackish water marsh habitats to freshwater marsh habitats (e.g. Los Peñasquitos Lagoon). Both of these examples have resulted in the promotion of invasive species in several areas of the San Diego Region.

The removal of the over-irrigation discharges categories does not require the Copermittees to strictly prohibit lawn and landscape irrigation, but does require the prohibition of excessive irrigation water that results in non-storm water discharges to the MS4. Non-storm water discharges to the MS4 from over-irrigation must be addressed as illicit discharges by the Copermittees pursuant to the requirements of Provision E.2.

The remaining non-storm water categories listed in 40 CFR 122.26(d)(2)(iv)(B)(1) are listed under Provisions E.2.a.(1) through E.2.a.(5) and generally fall into four categories: (1) non-storm water discharges subject to existing San Diego Water Board waste discharge requirements and NPDES permits; (2) non-storm water discharges generally not expected to be a source of pollutants to receiving waters; (3) non-storm water discharges likely to contain pollutants requiring some form of control to address

the pollutants prior to discharging to the MS4; and (4) non-storm water discharges or flows associated with firefighting.

Provisions E.2.a.(1) and E.2.a.(2) include several categories of non-storm water discharges listed in 40 CFR 122.26(d)(2)(iv)(B)(1) for which the San Diego Water Board already has developed general waste discharge requirements and NPDES permits to address the discharges. The Copermittees are only required to address these types of non-storm water discharges as illicit discharges if the Copermittees or the San Diego Water Board identifies these non-storm water discharges not having coverage under the applicable NPDES permit.

Provision E.2.a.(3) includes several categories of non-storm water discharges listed in 40 CFR 122.26(d)(2)(iv)(B)(1) which are generally not expected to be a source of pollutants to receiving waters, many of which originate from what are typically natural, uncontrollable sources. The Copermittees are only required to address these types of non-storm water discharges as illicit discharges if the Copermittees or the San Diego Water Board identifies these non-storm water discharges as a source of pollutants to receiving waters. Because many of these sources are generally uncontrollable, enforcing a prohibition may not be a possibility for the Copermittees. The Copermittees would be able to address these non-storm water discharges by preventing these non-storm water discharges from entering the MS4. This could potentially be achieved by sealing their MS4 structures so the discharges cannot enter the MS4.

Provision E.2.a.(4) includes several categories of non-storm water discharges listed in 40 CFR 122.26(d)(2)(iv)(B)(1) that are likely to contain pollutants requiring some form of control to address the pollutants prior to discharging to the MS4. At this time, an outright prohibition of these types of non-storm water discharges does not yet appear to be warranted. Thus, Provision E.2.a.(4) includes several requirements for the Copermittees to control the pollutants from these types of non-storm water discharges. This is consistent with the clarification of the federal regulations in the Phase I Final Rule (55 FR 48037), which states the San Diego Water Board has the authority to require the Copermittees to “*control any of these types of discharges where appropriate.*”

Unlike non-storm water discharges from over-irrigation, these types of non-storm water discharges are not expected to occur in close proximity to each other or very frequently. Provided these types of non-storm water discharges are controlled as required in Provision E.2.a.(4), the Copermittees would only be required to address these types of non-storm water discharges as illicit discharges if the Copermittee or the San Diego Water Board identifies these non-storm water discharges as a source of pollutants to receiving waters.

Provision E.2.a.(5) includes specific requirements for fire fighting discharges and flows. The requirements for non-storm water discharges and flows associated with fire

fighting have been separated into requirements for: a) non-emergency fire fighting discharges and flows, and b) emergency fire fighting discharges and flows.

The San Diego Water Board has found that discharges from building fire suppression system maintenance (e.g. fire sprinklers) contain waste and potentially a significant source of pollutants to receiving waters. As such, the San Diego Water Board is requiring these discharges be addressed as illicit discharges by the Copermittees. Thus, the discharges to the MS4 are to be prohibited via ordinance, order or similar means. For other non-emergency firefighting discharges and flows (i.e. flows from controlled or practice blazes, firefighting training, and maintenance activities not associated with building fire suppression systems), the Copermittees are required to develop and implement a program to address pollutants in these non-storm water discharges and flows. This is consistent with the clarification of the federal regulations in the Phase I Final Rule (55 FR 48037), which states the San Diego Water Board has the authority to require the Copermittees to “*control any of these types of discharges where appropriate.*”

For emergency firefighting discharges and flows, the Phase I Final Rule (55 FR 48037) has clarified the requirements of 40 CFR 122.26(d)(2)(iv)(B)(1) pertaining to emergency firefighting flows and discharges, which states:

“In the case of firefighting it is not the intention of these rules to prohibit in any circumstances the protection of life and public or private property through the use of water or other fire retardants that flow into separate storm sewers.”

Thus, the requirements have been made to be consistent with the guidance provided by the Phase I Final Rule. The Order recommends that the Copermittees develop and encourage implementation of BMPs to reduce or eliminate the discharge of pollutants from emergency firefighting flows to the MS4s and receiving waters. The Order does not include any requirements that should be interpreted as requiring the implementation of BMPs for emergency firefighting flows to the MS4s and receiving waters.

The Copermittees are expected to review the dry weather MS4 outfall discharge monitoring data they collect to determine if and when there are non-storm water discharges to or from their MS4s that are a source of pollutants to receiving waters. If the Copermittees identify one of the types of non-storm water discharges listed in Provisions E.2.a.(1) through E.2.a.(4) as a source of pollutants to receiving waters based on the review and evaluation of monitoring data, Provision E.2.a.(6) requires the Copermittees to prohibit those categories of discharges from entering the MS4 through ordinance, order or similar means. In addition, Provision E.2.a.(6) clarifies that the San Diego Water Board may identify categories of non-storm water discharges or flows listed under Provisions E.2.a.(1) through E.2.a.(4) that must be prohibited.

Provision E.2.a.(6) also provides the Copermittees an option to propose controls to be implemented for the category of non-storm water discharges as part of the Water Quality Improvement Plan instead of prohibiting the category of non-storm water discharges. If the Water Quality Improvement Plan is accepted by the San Diego Water Board with the proposed controls, the Copermittees will not be required to prohibit the category of non-storm water discharges to their MS4s as long as the controls are implemented. This is consistent with the clarification of 40 CFR 122.26(d)(2)(iv)(B)(1) in the Phase I Final Rule (55 FR 48037), which states the San Diego Water Board may “*require municipalities to prohibit or otherwise control any of these types of discharges where appropriate.*”

Finally, Provision E.2.a.(7) has been included in the requirements for non-storm water discharges to clarify that any non-storm water discharges to the Copermittee’s MS4, even those identified pursuant to Provisions E.2.a.(1) through E.2.a.(4), must be reduced or eliminated, unless a non-storm water discharge is identified as a discharge authorized by a separate NPDES permit. Provision E.2.a.(7) is consistent with the requirements of CWA section 402(p)(3)(B)(ii) and 40 CFR 122.26(d)(1)(v)(B), as clarified in the Phase I Final Rule (55 FR 47995) that “[u]ltimately, such non-storm water discharges through a municipal separate storm sewer must either be removed from the system or become subject to an NPDES permit.” However, the reduction or elimination of those non-storm water discharges are expected to be achieved as feasible, in accordance with the priorities in the Water Quality Improvement Plan and when the resources are available to the Copermittee.

Consistent with 40 CFR 122.26(d)(2)(iv)(B) and 122.26(d)(2)(iv)(B)(1), each Copermittee must implement a “*program...to prevent illicit discharges to the municipal storm sewer system*” and “*detect...illicit discharges and improper disposal into the storm sewer.*” Provision E.2.b requires each Copermittee to implement measures to prevent and detect illicit discharges and connections to its MS4 as part of its illicit discharge detection and elimination program.

As part of the program to prevent and detect illicit discharges to the MS4, 40 CFR 122.26(d)(2)(iv)(B)(2) requires “*procedures to conduct on-going field screening activities during the life of the permit, including areas or locations that will be evaluated by such field screens.*” As part of the procedures, each Copermittee is required to maintain an updated map of its entire MS4 and the corresponding drainage areas within its jurisdiction. Having knowledge about where inlets, access points, connections with other MS4s, and outfalls are located is necessary for each Copermittee to track, identify, and eliminate illicit discharges and connections. Thus, Provision E.2.b.(1) of the Order specifies that the map must include the segments of the storm sewer system owned, operated, and maintained by the Copermittee, and include locations of all known inlets, connections with other MS4s, and outfalls to the Copermittee’s MS4. The remaining requirements of Provision E.2.b are consistent with the requirements of 40 CFR 122.26(d)(2)(iv)(B)(3)-(7) related to implementing measures to prevent and detect illicit discharges and connections to the MS4.

Provision E.2.c requires each Copermittee to conduct field screening and monitoring of MS4 outfalls and other portions of its MS4 within its jurisdiction to detect non-storm water and illicit discharges and connections to the MS4. Field screening is a required element of the program to detect and eliminate illicit discharges and connections to the MS4, pursuant to 40 CFR 122.26(d)(2)(iv)(B)(2). The field screening requirement will be implemented through the dry weather MS4 outfall discharge monitoring required under Provisions D.2.a.(2) and D.2.b.(1).

Provision E.2.d specifies the measures each Copermittee must implement to eliminate illicit discharges and connections to its MS4. Elimination of illicit discharges and connections to the MS4 is consistent with the requirement of 40 CFR 122.26(d)(2)(iv)(B) *“to detect and remove [emphasis added]...illicit discharges and improper disposal into the storm sewer”* and will achieve the CWA requirement for MS4 permits to *“effectively prohibit non-storm water discharges into the storm sewers.”*

Generally, each Copermittee is responsible for prioritizing its efforts to eliminate non-storm water and illicit discharges or connections to its MS4 based on field screening and monitoring data, NALs, illicit discharge investigation records, and the known or suspected sources. Sources of non-storm water and illicit discharges or connections must be eliminated by enforcing the legal authority established by each Copermittee pursuant to Provision E.1.

Provision E.3 (Development Planning) requires each Copermittee to use its land use and planning authority to implement a development planning program to control and reduce the discharge of pollutants in storm water from new development and significant redevelopment to the MEP. Proper implementation of the development planning program will also contribute toward effectively prohibiting non-storm water discharges from development projects to the MS4.

Pursuant to 40 CFR 122.26(d)(2)(iv), each Copermittee is required to implement a *“management program...to reduce the discharge of pollutants to the maximum extent practicable using management practices, control techniques and system, design and engineering methods, and other such provisions where applicable.”* As part of the management program, 40 CFR 122.26(d)(2)(iv)(A)(2) requires *“planning procedures including a comprehensive master plan to develop, implement and enforce controls to reduce the discharge of pollutants from municipal storm sewers which receive discharges from areas of new development and significant redevelopment.”*

Land development generally alters the natural conditions of the land by removing vegetative cover, compacting soil, and/or placement of concrete, asphalt, or other impervious surfaces. These impervious surfaces concentrate urban pollutants (such as pesticides, petroleum hydrocarbons, heavy metals, and pathogens) that are otherwise not found in high concentrations in the natural environment. Pollutants that

accumulate on impervious surfaces are not easily biodegraded nor subject to natural treatment processes.

Impervious surfaces greatly affect the natural hydrology of the land because they do not allow natural infiltration and treatment of storm water runoff to take place. Instead, storm water runoff from impervious surfaces is typically directed through pipes, curbs, gutters, and other hardscape into receiving waters, with little treatment, at significantly increased volumes and accelerated flow rates over what would occur naturally. The increased pollutant loads, storm water volume, discharge rates and velocities, and discharge durations from the MS4 adversely impact stream habitat by causing accelerated, unnatural erosion and scouring within creek bed and banks. Placement of impervious surfaces also encapsulates “good” sediment (such as sand, gravel, rocks and cobbles) that would normally replenish creek beds and banks to help stabilize them. Collectively, these changes to natural hydrologic processes are termed hydrograph modification, or hydromodification.

Hydromodification, which is caused by both altered storm water flow and altered sediment flow regimes, is largely responsible for degradation of creeks, streams, and associated habitats in the San Diego Region. In an ongoing study by the Stormwater Monitoring Coalition to assess the health of streams throughout Southern California, researchers found that three of the four highest risk stressors to creeks (percent sands and fines present, channel alteration, and riparian disturbance) were related to physical habitat.²⁹ Researchers studying flood frequencies in Riverside County have found that increases in watershed imperviousness of only 9-22 percent can result in increases in peak flow rates for the two-year storm event of up to 100 percent.³⁰ Such changes in runoff have significant impacts on channel morphology.

In addition, a technical report issued by the Southern California Coastal Water Research Project (SCCWRP) stated that “[r]ecent studies indicate that California’s intermittent and ephemeral streams are more susceptible to the effects of hydromodification than streams from other parts of the United States. Physical degradation of stream channels in the central and eastern United States can initially be detected when watershed impervious cover approaches 10 percent, although biological effects (which may be more difficult to detect) may occur at lower levels. In contrast, initial response of streams in the semi-arid portions of California appears to occur between 3 and 5 percent impervious cover.”³¹ These studies highlight the extent to which impacts originating from impervious surfaces created by land development are responsible for the degradation of creek and stream habitat.

²⁹ Assessing the Health of Southern California Streams, Stormwater Monitoring Coalition, Fact Sheet

³⁰ Schueler and Holland, 2000. Storm Water Strategies for Arid and Semi-Arid Watersheds (Article 66). The Practice of Watershed Protection.

³¹ Stein, E. and Zaleski, S., 2005. Technical Report 475, Managing Runoff to Protect Natural Streams: The Latest Development on Investigation and Management of Hydromodification in California. December 30, 2005.

This is consistent with what USEPA has noted, that “[m]ost stormwater runoff is the result of the man-made hydrologic modifications that normally accompany development. The addition of impervious surfaces, soil compaction, and tree and vegetation removal result in alterations to the movement of water through the environment. As interception, evapotranspiration, and infiltration are reduced and precipitation is converted to overland flow, these modifications affect not only the characteristics of the developed site but also the watershed in which the development is located. Stormwater has been identified as one of the leading sources of pollution for all waterbody types in the United States. Furthermore, the impacts of stormwater pollution are not static; they usually increase with more development and urbanization.”³²

Reducing the impact from the increased pollutant loads and flows generated by impervious surfaces within a watershed is essential to protecting and restoring the integrity of the receiving waters. Provision E.3 includes the minimum “*management practices, control techniques and system, design and engineering methods, and other such provisions where applicable*” to be included in the “*planning procedures...to reduce the discharge of pollutants...from areas of new development and significant redevelopment.*” The requirements of Provision E.3 will 1) minimize the generation and discharge of pollutants in storm water from the MS4, and 2) minimize the potential of storm water discharges from the MS4 from causing altered flow regimes and excessive downstream erosion in receiving waters.

The requirements of Provision E.3.a include the minimum “*management practices, control techniques and system, design and engineering methods, and other such provisions where applicable*” to be included in the “*planning procedures...to reduce the discharge of pollutants...from areas of new development and significant redevelopment*” applicable to all development projects, regardless of size or purpose of development. In general, all development projects must implement onsite BMPs to remove pollutants from runoff prior to its discharge to any receiving waters, as close to the pollutant generating source as possible, and structural BMPs must not be constructed within waters of the U.S.

Furthermore, the onsite BMPs must be designed and implemented with measures to avoid the creation of nuisance or pollution associated with vectors (e.g. mosquitos, rodents, and flies). If not properly designed or maintained, certain BMPs implemented or required by municipalities may create a habitat for vectors. Monitoring studies conducted by the California Department of Public Health (CDPH) have documented that mosquitoes opportunistically breed in structural storm water BMPs, particularly those that hold standing water for over 96 hours. Certain site design features that hold standing water may similarly produce mosquitoes.

³² USEPA, 2007. Reducing Stormwater Costs through Low Impact Development (LID) Strategies and Practices, December 2007.

Structural BMPs and site design features should incorporate design, construction, and maintenance principles to promote drainage within 96 hours to minimize standing water available to mosquitoes. Nuisances and public health impacts resulting from vector breeding can be prevented with close collaboration and cooperative effort between municipalities and local vector control agencies and the CDPH during the development and implementation of storm water runoff management programs. The CDPH also has issued guidance for BMP implementation that will minimize potential nuisances and public health impacts resulting from vector breeding.³³

All development projects are required to implement source control BMPs that will minimize the generation of pollutants. Additionally, each development project must implement, where applicable and feasible, low impact development (LID) BMPs to mimic the natural hydrology of the site and retain and/or treat pollutants in storm water runoff prior to discharging to and from the MS4.

The LID Center defines LID as “a comprehensive land planning and engineering design approach with a goal of maintaining and enhancing the pre-development hydrologic regime of urban and developing watersheds.”³⁴ LID designs seek to control storm water at the source, using small-scale integrated site design and management practices to mimic the natural hydrology of a site, retain storm water runoff by minimizing soil compaction and impervious surfaces, and disconnect storm water runoff from conveyances to the storm drain system.

LID BMPs may utilize interception, storage, evaporation, evapotranspiration, infiltration, and filtration processes to retain and/or treat pollutants in storm water before it is discharged from a site. Because of these numerous options, the San Diego Water Board expects that every development project will be able to implement some form of LID BMPs. Examples of LID BMPs include using permeable pavements, rain gardens, rain barrels, grassy swales, soil amendments, and native plants.

Provision E.3.a also includes requirements for all development projects to, where feasible, landscape with native and/or low water use plants to minimize the discharge of non-storm water discharges associated with excessive irrigation, as well as harvest (i.e., storage) and use precipitation to promote the concept of utilizing storm water as a resource.

While all development projects are subject to the requirements of Provision E.3.a, Provision E.3.b identifies Priority Development Projects that exceed given size thresholds and/or fit under specific use categories. Priority Development Projects are required to incorporate specific performance criteria for structural BMPs into the

³³ California Department of Public Health, 2012. Best Management Practices for Mosquito Control in California. (<http://www.cdph.ca.gov/HealthInfo/discond/Documents/BMPforMosquitoControl07-12.pdf>)

³⁴ www.lowimpactdevelopment.org

project plan to reduce the generation of pollutants, and address potential impacts from hydromodification.

The Priority Development Project categories are based on the requirements of the Fourth Term Permits for Orange County and Riverside County (Order Nos. R9-2009-0002 and R9-2010-0016, respectively), and do not differ significantly from the Fourth Term Permit for San Diego County. Furthermore, the Priority Development Project categories are consistent with Santa Ana Water Board Order Nos. R8-2009-0030 and R8-2010-0033 (Orange County and Riverside County MS4 Permits, respectively), and Los Angeles Water Board Order No. R4-2010-0108 (Ventura County MS4 Permit).

Because of the impact of relatively small increases in watershed impervious surfaces to receiving waters, Provision E.3.b.(1)(c)(iv) has been updated to include large driveways that are 5,000 square feet or more. The San Diego Water Board finds that large driveways can exacerbate altered flow regimes if not properly controlled.

Provision E.3.b.(3) describes projects that are exempt from Priority Development Project status. These include new or retrofit paved sidewalks, bicycle lanes, or trails that are designed and constructed to direct runoff to vegetated areas or be hydraulically disconnected from paved areas. The exemptions have been provided to encourage these types of projects because they provide multiple environmental benefits, such as promoting walking rather than driving, which will in turn improve air quality. Additionally, retrofitting of existing alleys, streets, or roads are exempt from Priority Development Project status if they are constructed using USEPA Green Streets guidance.³⁵ By doing so, retrofitting of these types of projects is encouraged. The San Diego Water Board recognizes that there are spatial constraints associated with these projects, and implementation of structural BMPs are not always feasible.

For development projects identified as Priority Development Projects, the requirements of Provision E.3.c are the minimum "*management practices, control techniques and system, design and engineering methods, and other such provisions where applicable*" to be included in the "*planning procedures...to reduce the discharge of pollutants...from areas of new development and significant redevelopment.*" Provisions E.3.c.(1)-(3) describe the performance criteria for the structural BMPs that must be implemented for each Priority Development Project defined by Provision E.3.b.

Provision E.3.c.(1) describes the storm water pollutant control BMP requirements that must be implemented by all Priority Development Projects. The purpose of Provision E.3.c.(1) is to reduce pollutants in storm water runoff to the MEP from Priority Development Projects before it is discharged to the MS4. Of all the available treatment processes available, retention of storm water, and therefore capture of the

³⁵ "Managing Wet Weather with Green Infrastructure – Municipal Handbook: Green Streets" (USEPA, 2008).

pollutants in the storm water, will achieve 100 percent pollutant removal efficiency for the volume of storm water retained. No other method of treatment can achieve 100 percent pollutant removal efficiency. Thus, retention of as much storm water onsite is the most effective way to reduce pollutants in storm water discharges to, and consequently from the MS4, and controls pollutants in storm water discharges from a site to the MEP.

Under Provision E.3.c.(1)(a), retention of the pollutants in the runoff produced from the 85th percentile storm event (“design capture volume”) is the design standard to which Priority Development Projects must comply. Since the 85th percentile storm event has previously been used as the numeric design standard for treatment control BMPs, this same size storm event is used as the numeric design standard for storm water retention. This is the MEP standard recognized by the San Diego Water Board and is consistent with the Fourth Term Permits for Orange County and Riverside County (Order Nos. R9-2009-0002 and R9-2010-0016, respectively), as well as Santa Ana Water Board Order Nos. R8-2009-0030 and R8-2010-0033 (Orange County and Riverside County MS4 Permits, respectively), Los Angeles Water Board Order No. R4-2010-0108 (Ventura County MS4 Permit), and Los Angeles Water Board Order No. R4-2012-0175 (Los Angeles County MS4 Permit).

The 85th percentile storm event is the event that has a precipitation total greater than or equal to 85 percent of all storm events over a given period of record in a specific area or location. For example, to determine what the 85th percentile storm event is in a specific location, all 24 hour storms that have recorded values over a 30 year period would be tabulated and a 85th percentile storm would be determined from this record (i.e. 15 percent of the storms would be greater than the number determined to be the 85th percentile storm). Most jurisdictions in the San Diego Region have already developed isopluvial maps that can provide this type of information. The 85th percentile storm might be determined to be a number such as 1.0 inch, and this would be multiplied by the total area of the project footprint producing runoff to calculate the design capture volume. The Priority Development Project designer would then select a system of BMPs that would retain (i.e. intercept, store, infiltrate, evaporate, or evapotranspire) the pollutants contained in the design capture volume onsite.

Retention BMPs are necessary to capture and retain pollutants generated from a Priority Development Project. In a recent study performed by SCCWRP in the Los Angeles Region, they found *“that the magnitude of constituent load associated with storm water runoff depends, at least in part, on the amount of time available for pollutant build-up on land surfaces. The extended dry period that typically occurs in arid climates such as southern California maximizes the time for constituents to build-up on land surfaces, resulting in proportionally higher concentrations and loads during*

*initial storms of the season.*³⁶ This implies that the “first flush” of a rainy season and the first storm events after long antecedent dry periods tend to have the highest pollutant loads. Capturing and retaining the pollutant loads of the “first flush” of a rainy season and the first storm events after long antecedent dry periods will reduce a significant portion of the pollutants in storm water discharged to and from the MS4.

The San Diego Water Board, however, acknowledges that in some situations retention of the full design capture volume onsite may not be technically feasible. In this event, the Copermittee may allow the Priority Development Project to use biofiltration BMPs to treat 1.5 times the design capture volume not reliably retained onsite, or biofiltration BMPs with a flow-thru design that has a total volume, including pore spaces and pre-filter detention volume, sized to hold at least 0.75 times the portion of the design capture volume not reliably retained onsite.

The 1.5 multiplier is based on the finding in the Ventura County Technical Guidance Manual that biofiltration of 1.5 times the design capture volume not retained onsite will provide approximately the same pollutant removal as retention of the design capture volume on an annual basis.³⁷ This standard is consistent with the Los Angeles Water Board’s Los Angeles County and Ventura County municipal storm water permits (Order Nos. R4-2012-0175 and R4-2010-0108, respectively). The flow-thru design of 0.75 times the portion of the design capture volume not reliably retained onsite is consistent with the San Diego Water Board’s Fourth Term Permits for Orange County and Riverside County (Order Nos. R9-2009-0002 and R9-2010-0016, respectively). In either case, the biofiltration BMPs must be designed with an appropriate hydraulic loading rate to maximize storm water retention and pollutant removal, as well as to prevent erosion, scour, and channeling within the BMP. Each Copermittee is required to update its BMP Design Manual to provide guidance for hydraulic loading rates and other biofiltration design criteria necessary to maximize storm water retention and pollutant removal.

The San Diego Water Board further recognizes that, in addition to not being technically feasible, retention of the full design capture storm onsite may be cost prohibitive, or may not provide as much water quality benefit to the Watershed Management Area as would implementing BMPs elsewhere in the watershed. Thus, Provision E.3.c.(1)(b) allows for the use of a combination of onsite retention BMPs, and the implementation of an Alternative Compliance Program described in Provision E.3.c.(3). Provision E.3.c.(3) is discussed in more detail below.

If the full design capture volume is not retained onsite either because biofiltration is not technically feasible, or a Copermittee grants a Priority Development Project permission

³⁶ Stein, E.D., Tiefenthaler, L.L., and Schiff, K.C., 2007. Technical Report 510, Sources, Patterns and Mechanisms of Storm Water Pollutant Loading from Watershed and Land Uses of the Greater Los Angeles Area, California, USA. March 20, 2007.

³⁷ Ventura Countywide Stormwater Management Program. 2011. Ventura Technical Guidance Manual, Manual Update, 2011.

to utilize the Alternative Compliance Program, then the pollutants in the portion of the design capture volume that are not reliably retained onsite must still be reduced to the MEP. Thus, flow-thru treatment control BMPs are required to be implemented on Priority Development Projects in addition to the retention BMPs. The requirements of Provisions E.3.c.(1)(a)(ii)[a]-[c] include the performance standards for flow-thru treatment control BMPs, consistent with the Fourth Term Permits in the San Diego Region.

Whereas the purpose of the requirements under Provision E.3.c.(1) is to reduce pollutants in storm water runoff to the MEP, the purpose of the requirements under Provision E.3.c.(2) is to maintain or restore more natural hydrologic flow regimes to prevent accelerated, unnatural erosion in downstream receiving waters, also to the MEP standard. Provision E.3.c.(2) describes hydromodification management BMP requirements that must be implemented by all Priority Development Projects.

The performance criteria for the implementation of hydromodification management BMPs on Priority Development Projects are consistent with the requirements in the Fourth Term Permits for Orange and Riverside Counties (Order Nos. R9-2009-0002 and R9-2010-0016, respectively). Modifications to the Orange County and Riverside County Hydromodification Management Plans (HMPs) will likely be minor, or may not be necessary. The HMP for San Diego County will likely require some minor modifications to incorporate the requirements of Provision E.3.c.(2) and become consistent with the Orange County and Riverside County HMPs. The San Diego Water Board does not, however, expect that it will be necessary for the San Diego County Copermittees to develop a new approach or significantly re-write the San Diego County HMP. This is because the premise of the hydromodification management BMP requirements, which are to control storm water runoff conditions (flow rates and durations) for Copermittee-defined range of flows, is unchanged from all Fourth Term Permits in the San Diego Region.

Provision E.3.c.(2)(a) requires that post-project runoff conditions mimic the *pre-development* runoff conditions, and not the *pre-project* runoff conditions. Fundamentally, the San Diego Water Board believes that using a hydrology baseline that approximates that of an undeveloped, natural watershed is the only way to facilitate the return of more natural hydrological conditions to already built-out watersheds, and ultimately improved stream health. On the other hand, using the *pre-project* hydrology as a baseline for redevelopment projects results in propagating the unnatural hydrology of urbanized areas. Propagating the urbanized flow regime does not support conditions for restoring degraded or channelized stream segments, and would forever sentence such streams to the degraded state. Furthermore, reducing the volume of storm water runoff associated with the urbanized flow regime will also result in reducing the discharge of pollutants into receiving waters, since storm water runoff from impervious surfaces contains untreated pollutants.

The San Diego Water Board understands that approximating the pre-development runoff condition associated with a redevelopment site is not necessarily straightforward because factors such as natural grade and native vegetation for the site cannot be precisely known. Therefore, the San Diego Water Board does not expect project designers to estimate historical conditions associated with redevelopment sites. Rather, the San Diego Water Board expects project designers and the Copermittees to approximate pre-development runoff conditions using the parameters of a *pervious* area rather than an *impervious* area. This means that for redevelopment sites, approximating pre-development runoff conditions equates to using existing onsite grade and assuming the infiltration characteristics of the underlying soil. A redevelopment Priority Development Project must not use runoff coefficients of concrete or asphalt to estimate pre-development runoff conditions. Rather, redevelopment projects must use available information pertaining to existing underlying soil type (such as soil maps published by the National Resource Conservation Service), onsite existing grade, and any other readily available pertinent information to estimate pre-development runoff conditions.

The San Diego Water Board understands, indeed asserts, that the pre-development hydrology of an area in question can only be roughly estimated and cannot be precisely known. However, using the hydrology of a natural condition, even if not precisely known, will provide significant benefit to receiving waters over using the hydrology associated with impervious (developed) surfaces. Therefore in order to achieve the goals of the Clean Water Act, which are to “*restore and maintain the chemical, physical, and biological integrity of the nation’s waters* [emphasis added],” the most appropriate standard to use for hydromodification management is the standard associated with the pre-development condition.

Provision E.3.c.(2)(b) requires Priority Development Projects to avoid known critical sediment yield areas or implement measures that would allow coarse sediment to be discharged to receiving waters, such that the natural sediment supply is unaffected by the project. This is necessary because the availability of coarse sediment supply is as much an issue for causing erosive conditions to receiving streams as are accelerated flows.

The San Diego Water Board recognizes that in some situations implementing the hydromodification management BMP requirements for flow control fully onsite may not be technically feasible, may be cost prohibitive, or may not provide any overall water quality benefits to the Watershed Management Area. Thus, Provision E.3.c.(2)(c) allows for the use of a combination of onsite hydromodification management BMPs for flow control and alternative compliance options described in Provision E.3.c.(3).

Provision E.3.c.(3) allows for alternative compliance in instances where the Copermittee determines that offsite measures will have a greater overall water quality benefit for the Watershed Management Area than if the Priority Development Project were to implement structural BMPs onsite. Consequently, watershed-specific

structural BMP requirements are present in this Order in the form of allowable compliance offsite. The Alternative Compliance Program to Onsite Structural BMP Implementation Provision is intended to integrate with the Copermittees' planning efforts in the Water Quality Improvement Plans.

The Alternative Compliance Program is an option for Priority Development Projects where the governing Copermittee has participated in the development of a Watershed Management Area Analysis as part of the Water Quality Improvement Plan (described in Provision B.3.b.(4)). Such an approach is consistent with the latest findings in hydromodification management by the scientific community. In a Technical Report entitled *Hydromodification Assessment and Management in California*,³⁸ the report states:

“An effective [hydromodification] management program will likely include combinations of on-site measures (e.g., low-impact development techniques, flow-control basins), in-stream measures (e.g., stream habitat restoration), floodplain and riparian zone actions, and off-site measures. Off-site measures may include compensatory mitigation measures at upstream locations that are designed to help restore and manage flow and sediment yield in the watershed.”

Consistent with the ideas brought forth in the report, in the Watershed Management Area Analysis of Provision B.3.b.(4), which is optional, the Copermittees will develop watershed maps that include as much detail about factors that affect the hydrology of the watershed as is available. Such factors included identification of areas suitable for infiltration, coarse sediment supply areas, and locating stream channel structures and constrictions. Once these factors are mapped and studied, the Copermittees can identify areas in the watershed where candidate projects may be implemented that are expected to improve water quality in the watershed by providing more opportunity for infiltration, slowing down storm water flows, or attenuation of pollutants naturally via healthy stream habitat. These candidate projects may be in the form of retrofitting existing development, rehabilitating degraded stream segments, identifying regional BMPs, purchasing land to preserve valuable floodplain functions, and any other project(s) that the Copermittees identify.

Under the Alternative Compliance Program, Priority Development Projects may be allowed to fund, partially fund, or implement a candidate project, in lieu of implementing structural BMPs onsite, if they enter into a voluntary agreement with the governing Copermittee permitting this arrangement. Project proponents may also propose an alternative project not previously identified by the Copermittees. In either case, whether a project proponent implements a candidate project identified by the Copermittees or a separate alternative compliance project, the governing Copermittee must determine that implementation of the project will have a greater overall water

³⁸ 2012. ED Stein, F Federico, DB Booth, BP Bledsoe, C Bowles, Z Rubin, GM Kondolf, A Sengupta. Technical Report 667. Southern California Coastal Water Research Project. Costa Mesa, CA.

quality benefit for the Watershed Management Area than fully implementing structural BMPs onsite. Determination of greater overall water quality benefits associated with alternative compliance projects would be accomplished by utilizing Water Quality Equivalency calculations developed pursuant to Provision E.3.c.(3)(a). Water Quality Equivalency calculations are necessary to establish a regional and technical basis for determining water quality benefits associated with alternative compliance projects, which can be consistently used by all Copermitees in the San Diego Region. Finally, if alternative compliance involves funding or implementing a project that is outside the jurisdiction of the governing Copermitee, then that Copermitee may enter into an inter-agency agreement with the appropriate jurisdiction.

Finally, Provision E.3.c.(2)(d) allows Priority Development Projects to be exempt from the hydromodification management BMP requirements if there is no threat of erosion to downstream receiving waters (i.e. the receiving stream is concrete lined from the point of discharge all the way to water storage reservoirs, lakes, enclosed embayments, or the Pacific Ocean). If the Copermitees believe that more exemptions are warranted, then they must perform the optional Watershed Management Area Analysis of Provision B.3.b.(4). Additional exemptions other than those specified in this Order may be established on a watershed basis, provided the Copermitees perform the analysis, provide supporting rationale for the exemptions, and complete the Water Quality Improvement Plan approval process pursuant to Provision F.1.

To facilitate the transition to this Order from the Fourth Term Permits for Orange and Riverside County Copermitees, Provision E.3.c.(2)(e) allows two additional temporary exemptions from hydromodification management BMP implementation. The first temporary exemption allows relief from hydromodification management BMP implementation for Priority Development Projects discharging directly to an engineered channel conveyance system with a capacity to convey peak flows generated by the 10-year storm event all the way from the point of discharge to water storage reservoirs, lakes, enclosed embayments, or the Pacific Ocean. Similar to the exemption allowed for concrete-lined channels, this exemption is premised on the concept that there is little threat of erosion to these types of engineered channel systems.

The second temporary exemption allows relief from hydromodification management BMP implementation for Priority Development Projects discharging directly to large river reaches with drainage areas larger than 100 square miles and a 100-year flow capacity in excess of 20,000 cubic feet per second. If this exemption is claimed, then properly sized energy dissipation is required at all discharge points associated with the Priority Development Project. This exemption is premised on the concept that large river reaches can essentially assimilate the accelerated flow rates associated with individual Priority Development Projects because they are inconsequential compared

to the flow rate in the large river reach. Both of these exemptions are included in the Hydromodification Management Plan for San Diego County³⁹.

These temporary exemptions are allowed as a means to facilitate Orange and Riverside County Copermittees' transition to this Order from the Fourth Term Permits and are not meant to reside as permanent exemptions without additional rigorous technical analyses specific to each County. Therefore, these exemptions will no longer apply once the Copermittees' land development programs are fully updated to reflect the requirements of this Order, i.e., upon implementation of the BMP Design Manual pursuant to Provision F.2.b. If the Copermittees believe that these or other exemptions are warranted in the context of water quality improvement and stream restoration opportunities, then the Copermittees must perform the optional Watershed Management Area Analysis of Provision B.3.b.(4) and provide supporting rationale for the exemptions. The San Diego County Copermittees are also required to perform the optional Watershed Management Area Analysis to provide supporting rationale to justify use of these and other exemptions. Updated BMP Design Manuals including rationale to justify use of exemptions will be reviewed by the San Diego Water Board pursuant to Provision F.2.b.

Provisions E.3.c.(4) and E.3.c.(5) were included under the BMP requirements applicable to all development projects in the Fourth Term Permits for San Diego, Orange, and Riverside Counties (Order Nos. R9-2007-0001, R9-2009-0002, and R9-2010-0016, respectively). In this Order, the long-term BMP maintenance and infiltration and groundwater protection requirements apply to structural BMPs implemented by Priority Development Projects only.

Provision E.3.d requires the Copermittees to update their BMP Design Manual as needed to incorporate the requirements of Provision E.3. The BMP Design Manual is formerly known as the Standard Storm Water Mitigation Plan, or SSMP, and was renamed so that the title has a more accurate description of the document content. The contents of the BMP Design Manual are largely unchanged from the previous Standard Storm Water Mitigation Plans required under the Fourth Term Permits. The BMP Design Manual fulfills the 40 CFR 122.26(d)(2)(iv)(A)(2) requirement that the Copermittee's development planning program includes "*a comprehensive master plan to develop, implement and enforce controls to reduce the discharge of pollutants from municipal storm sewers which receive discharges from areas of new development and significant redevelopment.*"

As part of the "*planning procedures*," 40 CFR 122.26(d)(2)(iv)(A)(2) requires the procedures to "*address controls to reduce pollutants in discharges from municipal separate storm sewers after construction is completed.*" The requirements applicable to the implementation and oversight of structural BMPs at Priority Development Projects are provided under Provision E.3.e.

³⁹ Final Hydromodification Management Plan Prepared for County of San Diego, March 2011

Proper installation of the structural BMPs approved for a Priority Development Project is necessary to ensure that pollutants in storm water discharges will be reduced to the MEP after the project is completed. In addition to the proper installation of structural BMPs, the maintenance of structural BMPs on Priority Development Projects is necessary to ensure that pollutants in storm water discharges will continue to be reduced to the MEP. Provision E.3.e.(1) includes the minimum requirements that each Copermittee must implement to ensure structural BMPs are properly installed and will be properly maintained.

Provisions E.3.e.(1)(a)(i)-(ii) have been included to provide additional clarification regarding when a Copermittee may allow land development requirements from earlier MS4 permits to apply to a Priority Development Project. Since the MS4 permits issued from 2001 to the adoption of Order No. R9-2015-0001 amending Order No. R9-2013-0001 (Regional MS4 Permit), a Copermittee could allow development projects with “prior lawful approval” to be “grandfathered” into implementing BMP requirements from previous MS4 permits. The Copermittees were given the discretion to use their land use authority to determine when it was appropriate to allow a development project with prior lawful approval to implement BMP requirements from the previous MS4 permits, and when the most recent BMP requirements should be required to achieve the reduction of pollutants in storm water runoff from development projects to the MEP. However, the San Diego Water Board has found that the Copermittees and the development community frequently disagree about when a development project has prior lawful approval and what is necessary to reduce pollutants in storm water runoff from development projects to the MEP.

Therefore, Provisions E.3.e.(1)(a)(i)-(ii) were included to provide more clarity and certainty for the Copermittees, the land development community, and the general public about when the structural BMP performance standards of earlier MS4 permits may be allowed to be implemented. A Copermittee may allow a Priority Development Project to implement BMP requirements of the previous MS4 permit only if all requirements of Provisions E.3.e.(1)(a)(i)[a]-[d] have been met. Otherwise, the Copermittees must require all Priority Development Projects to incorporate the BMP requirements of Provision E.3 into the project to reduce pollutants in storm water runoff from development projects to the MEP.

Provisions E.3.e.(1)(a)(i)[a]-[d] are dependent upon the effective date of the BMP Design Manual. Unless otherwise directed by the San Diego Water Board, the effective date of the BMP Design Manual is December 24, 2015 for the San Diego County Copermittees, September 28, 2017 for the Orange County Copermittees, and July 5, 2018 for the Riverside County Copermittees.

Alternatively, if the Copermittee can demonstrate a lack of land use authority or legal authority to require a Priority Development Project to implement the requirements of Provision E.3, the Copermittee may allow land development requirements from the previous MS4 permits to apply. However, under these circumstances the San Diego

Water Board expects the Copermittee to utilize its available land use authority or legal authority to require the implementation of as much of Provision E.3 as possible to reduce the discharge of pollutants in storm water from development and redevelopment projects within its jurisdiction to the MEP.

In cases where BMP requirements from the earlier MS4 permits govern the structural BMP design requirements of a Priority Development Project, the San Diego Water Board expects the Copermittees to be able to demonstrate, in a programmatic audit or other means, that a Priority Development Project met all the requirements listed under Provisions E.3.e.(1)(a)(i)[a]-[d], or have evidence that the Copermittee did not have the land use or legal authority to require the implementation of Provision E.3 for a Priority Development Project.

The requirements under Provision E.3.e.(2)-(3) are necessary to demonstrate each Copermittee is implementing a program that complies with Provisions E.3.b-c and E.3.e.(1), and ensure structural BMPs at Priority Development Project will continue to be able to reduce pollutants in storm water discharges to the MEP.

Pursuant to 40 CFR 122.26(d)(1)(ii) and 40 CFR 122.26(d)(2)(i), each Copermittee must have sufficient *“legal authority to control discharges to the municipal separate storm sewer system.”* Where enforcement is necessary for any development projects to compel compliance with the requirements of Provision E.3 and ensure the pollutants in storm water discharges from the MS4 are reduced and continue to be reduced to the MEP, Provision E.3.f requires each Copermittee to enforce its legal authority established pursuant to Provision E.1, and in accordance with its Enforcement Response Plan required to be developed pursuant to Provision E.6.

Provision E.4 (Construction Management) requires each Copermittee to implement a construction management program to control and reduce the discharge of pollutants in storm water from construction sites to the MEP. Proper implementation of the construction management program will also contribute toward effectively prohibiting non-storm water discharges from construction sites to the MS4.

Pursuant to 40 CFR 122.26(d)(2)(iv), each Copermittee is required to implement a *“management program...to reduce the discharge of pollutants to the maximum extent practicable using management practices, control techniques and system, design and engineering methods, and other such provisions where applicable.”* As part of the management program, 40 CFR 122.26(d)(2)(iv)(D) requires *“a program to implement and maintain structural and non-structural best management practices to reduce pollutants in storm water runoff from construction sites to the municipal storm sewer system.”*

Construction sites can be significant sources of sediment, trash, and other pollutants to receiving waters. Although sediment is naturally occurring in the natural environment, the discharge of sediment under unnatural conditions is problematic to receiving waters. Fine sediment in creeks causes high turbidity that interferes with the

functionality of native flora and fauna in local creeks. For example, turbidity interferes with both photosynthesis of water-philic plants, as well as successful foraging and reproduction of benthic macroinvertebrates. Sediment can also make it difficult for fish to breathe because it clogs fish gills. Other pollutants such as heavy metals or pesticides can adhere to sediment and are transported to receiving waters during storm events, where they dissolve in the water column and become bioavailable to aquatic organisms. Sediment is recognized as a major stressor to surface waters and is responsible for the impairment of several lagoons and creeks in the San Diego Region.

Provision E.4 includes requirements that each Copermittee must implement to minimize the discharge of sediment and other pollutants from construction sites to the MS4 within its jurisdiction. The requirements under Provision E.4 are consistent with the Fourth Term Permits for San Diego, Orange, and Riverside Counties. Therefore, Copermittees are expected to implement the requirements seamlessly, with minimal changes to their existing construction management programs. The Copermittees, however, are given more flexibility to run their programs as needed to maximize efficiency, and also to be consistent with the Water Quality Improvement Plan for the Watershed Management Area.

As part of the construction management program, 40 CFR 122.26(d)(2)(iv)(D)(1) requires “*procedures for site planning which incorporate consideration of potential water quality impacts.*” Provision E.4.a describes the minimum elements each Copermittee is required to include as part of the construction site planning and project approval process. The construction site planning and approval process is based primarily on ensuring each project had an adequate site-specific pollution control, construction BMP, and/or erosion and sediment control plan that will be implemented to minimize the discharge of pollutants in storm water to the MEP, and minimize impacts to receiving waters.

The requirements under Provision E.4.b provide the data and information necessary to identify “*priorities for inspecting sites and enforcing control measures*” required pursuant to 40 CFR 122.26(d)(2)(iv)(D)(3). Under Provision E.4.b, each Copermittee must identify construction sites that are considered a high threat to downstream surface waters. Designation of “high threat to water quality” construction sites will necessitate the Copermittees to develop criteria to identify such sites. Provision E.4.b.(2) describes a list of factors that must be considered when the Copermittee considers threat to water quality. For example, a Copermittee must identify sites as “high threat to water quality” if it is located within a hydrologic subarea where sediment is known or suspected to contribute to the highest priority water quality conditions, according to the Water Quality Improvement Plan. This ensures that construction management program implementation is compatible with the Copermittee’s identified highest priority water quality conditions.

Pursuant to 40 CFR 122.26(d)(2)(iv)(D)(2) each Copermittee is required describe “*requirements for nonstructural and structural best management practices*” at

construction sites. Provision E.4.c includes the types of construction site BMPs that the Copermittees must implement, or require the implementation of, at each construction site to reduce pollutants in storm water discharges to the MEP.

Each Copermittee is expected to require the implementation of appropriate BMPs given specific site conditions, the season and likelihood of rain events, and construction phase (i.e. grading vs. vertical construction). This means that throughout the life of the project construction, the appropriate BMPs will vary, especially if the construction of the project spans multiple wet seasons. As opposed to describing specific minimum BMPs that must be implemented, the Order describes major BMP categories that should be considered for each site.

Each Copermittee is expected to use its 20 years of storm water experience and knowledge to require implementation of appropriate BMPs from the various categories at each construction site within its jurisdiction. For example, the San Diego Water Board expects that each site will be required to implement erosion control and sediment control. The San Diego Water Board also expects each Copermittee to require implementation of active/passive sediment treatment systems at sites where other BMPs have been tried and are known to be inadequate, and discharges of sediment are causing or contributing to water quality impairment downstream. Each Copermittee is granted flexibility in specifying the minimum level of BMP requirements at each site, but the San Diego Water Board expects each site to be capable of controlling pollutants in storm water discharges to the MEP and preventing illicit discharges.

The requirements under Provision E.4.d are necessary to demonstrate that each Copermittee is implementing a program that complies with Provisions E.4.a and E.4.c and ensure BMPs at construction sites will reduce pollutants in storm water discharges to the MEP.

Provision E.4.d does not include minimum required inspection frequencies for construction sites. Each Copermittee must use its experience and knowledge to specify an appropriate inspection frequency for both high priority and lower priority sites in their jurisdictional runoff management program documents, and in accordance with the Water Quality Improvement Plan. Appropriate inspection frequencies may vary by Copermittee, but the San Diego Water Board expects that the stated frequency will be adequate for each Copermittee to properly oversee the construction sites within its jurisdiction, confirm BMPs are implemented to reduce pollutants in storm water discharges from constructions sites to the MEP, and make needed changes to its program on an ongoing basis as necessary.

Pursuant to 40 CFR 122.26(d)(1)(ii) and 40 CFR 122.26(d)(2)(i), each Copermittee must have sufficient *“legal authority to control discharges to the municipal separate storm sewer system.”* Where enforcement is necessary for any development projects to compel compliance with the requirements of Provision E.4 and ensure the pollutants in storm water discharges from the MS4 are reduced and continue to be reduced to

the MEP, Provision E.4.e requires each Copermittee to enforce its legal authority established pursuant to Provision E.1, and in accordance with its Enforcement Response Plan required to be developed pursuant to Provision E.6.

Provision E.5 (Existing Development Management) requires each Copermittee to implement an existing development management program to control and reduce the discharge of pollutants in storm water from areas of existing development to the MEP. Proper implementation of the existing development management program will also contribute toward effectively prohibiting non-storm water discharges from areas of existing development to the MS4.

Pursuant to 40 CFR 122.26(d)(2)(iv), each Copermittee is required to implement a *“management program...to reduce the discharge of pollutants to the maximum extent practicable using management practices, control techniques and system, design and engineering methods, and other such provisions where applicable.”* Within 40 CFR 122.26(d)(2)(iv)(A) and (C), the management program is required to reduce impacts on receiving waters and reduce pollutants in storm water discharges to the MEP from commercial and residential areas, industrial facilities, and municipal facilities.

Commercial and residential areas, industrial facilities, and municipal facilities must be addressed by each Copermittee with the existing development management program required under Provision E.5. All other areas within each Copermittee’s jurisdiction should be either undeveloped open space, or areas that are being developed or under construction. Areas being developed or under construction will be addressed by the Copermittee under the requirements of Provision E.3 (Development Planning) or Provision E.4 (Construction Management).

Areas of existing development typically include impervious surfaces such as sidewalks, driveways, roads, and rooftops, which generate and concentrate pollutants (such as pesticides, petroleum hydrocarbons, heavy metals, and pathogens) that are otherwise not found in high concentrations in the natural environment. Pollutants that accumulate on impervious surfaces are not easily biodegraded or not subject to natural treatment processes. When it rains, these pollutants are transported in storm water runoff from these impervious surfaces into receiving waters, resulting in poor water quality and degradation of beneficial uses.

In addition to the generation of pollutants, areas of existing development have generally altered the natural conditions of the land and removed vegetative cover, reduced the perviousness of the surface, and reduced the capacity of storm water that can be intercepted, captured, stored, infiltrated, evaporated, and/or evapotranspired. The alteration of the natural conditions and the impervious surfaces associated with areas of existing development causes water quality problems due to the alteration of natural flow regimes within the watersheds; resulting in hydromodification of channels, streams, and habitats that exist within or adjacent to the areas of existing development.

Thus, storm water discharges from areas of existing development are responsible for poor water quality, degraded habitats, and hydromodified channels throughout the developed portions of the watersheds in the San Diego Region. To improve the health and functionality of the receiving waters in a Watershed Management Area, land use practices and the amount of impervious surfaces in areas of existing development must change to reduce the various impacts caused by hydromodification and pollutants from storm water runoff generated in developed areas. Each Copermittee must be aggressive to address pollutant sources and runoff from areas of existing development to be able to reduce pollutants in storm water discharges from the MS4 to the MEP.

There is some overlap in the requirements under Provision E.5 with the requirements under Provisions E.2 (Illicit Discharge Detection and Elimination), E.3 (Development Planning), and E.4 (Construction Management). Illicit discharges frequently originate from areas of existing development. New development projects, when completed will become some type of residential, commercial, industrial or municipal existing development. Redevelopment projects are, by definition, redeveloping areas of existing development. And, redevelopment projects become construction sites located in areas of existing development. Much of the data and information collected, inspections performed, and enforcement actions taken for the requirements under Provisions E.2 to E.4 may also be utilized by the existing development management program. The requirements under Provision E.5, however, are focused primarily on reducing pollutants generated in areas of existing development that can be transported in storm water runoff and discharged to and from the MS4.

The requirements under Provision E.5 build upon existing program elements being implemented by the Copermittees. Provision E.5 is generally consistent with the existing development requirements of the Fourth Term Permits for Orange and Riverside Counties (Order Nos. R9-2009-0002 and R9-2010-0016, respectively), but modified to provide more flexibility to implement the programs so resources can be better focused toward addressing the highest priority water quality conditions identified in the Water Quality Improvement Plans.

For a Copermittee to properly manage areas of existing development, having knowledge of what development exists within its jurisdiction is essential. Provision E.5.a requires each Copermittee to maintain a watershed-based inventory of all the existing development within its jurisdiction. This requirement is necessary for each Copermittee to implement the requirements of Provision E.5.b-e.

As opposed to just maintaining separate inventories based on the type of site, each Copermittee must maintain a watershed-based inventory that includes all types of existing development within its jurisdiction. By utilizing a watershed-based inventory, the Copermittees within a Watershed Management Area can combine their inventories and review the inventories by watershed in addition to by jurisdiction. Pollutant

sources and strategies for abatement can then be evaluated on a watershed level, as opposed to evaluating sources and strategies strictly by type of site.

Provision E.5.a includes the information that must be included in the inventory. Provision E.5.a.(1) specifies what facilities or areas must be included in the inventory. A commercial type of existing development may be identified in the inventory as a facility (e.g. individual building, individual business) or an area (e.g. shopping center, commercial zone). An industrial type of existing development must be identified in the inventory by facility (e.g. individual industrial entity). A municipal type of existing development must be identified in the inventory by facility, with a list of specific municipal facilities that must be included in the inventory. A residential type of existing development must be identified by areas to be designated by the Copermittee. For each of the facilities and areas identified in the Copermittee's inventory developed pursuant to Provision E.5.a.(1), Provision E.5.a.(2) specifies the information that must be included in the description for the facility or area.

Provision E.5.a.(3) requires each Copermittee to maintain an updated map showing the location of inventoried existing development, watershed boundaries, and water bodies. This requirement was included because this information is expected to help the Copermittees in a Watershed Management Area identify and prioritize sources of pollutants and/or stressors in areas of existing development that contribute toward the highest priority water quality conditions identified in the Water Quality Improvement Plans.

Knowledge of the existing development that are likely to be sources of pollutants contributing to the highest priority water quality conditions is expected to be a key element in the Copermittees' development of the water quality improvement strategies that will be included in the Water Quality Improvement Plans. The strategies described in the Water Quality Improvement Plans will direct efforts within the existing development management programs implemented by each Copermittee.

Pursuant to 40 CFR 122.26(d)(2)(iv)(A) each Copermittee is required describe "*structural and source control measures to reduce pollutants*" in storm water runoff discharged from areas of existing development. Provision E.5.b includes the BMP implementation and maintenance requirements that the each Copermittee must require at areas of existing development to reduce pollutants in storm water discharges to the MEP. The San Diego Water Board, however, recognizes that BMP implementation and maintenance for residential areas will require much more education and encouragement through less authoritative measures than for commercial, industrial and municipal facilities and areas. Thus, the BMP implementation and maintenance requirements have been separated between requirements under Provision E.5.b.(1) for commercial, industrial and municipal facilities and areas, and Provision E.5.b.(2) for residential areas.

Most of the requirements in Provision E.5.b are consistent with the related requirements in the Fourth Term Permits. The level of specificity, however, has been changed to allow each Copermittee the flexibility to implement its program to achieve maximum efficiency, and to perform functions that will address the highest priority water quality conditions identified in the Water Quality Improvement Plans.

Each Copermittee is expected to require the implementation of appropriate BMPs to address the expected pollutants from each facility or area. The Third and Fourth Term Permits described specific minimum BMPs that must be implemented at various sites. This Order, however, requires each Copermittee to designate minimum BMPs themselves and require implementation. Consistent with the Fourth Term Permits, each Copermittee is required to maintain, or require the maintenance of, all BMPs as needed.

The BMP implementation and maintenance requirements include a schedule of operation and maintenance activities for the MS4 and related structures (such as catch basins, storm drain inlets, and detention basins), as well as public streets and roads. Public streets and roads specifically include public unpaved roads. The San Diego Water Board identified, through investigations and complaints, sediment discharges from unpaved roads as a significant source of water quality problems in the San Diego Region. Inspection activities conducted by the San Diego Water Board since the Third Term Permits have found a lack of source control for many unpaved roads within the jurisdiction of the Copermittees.

Unpaved roads are a source of sediment that can be discharged in runoff to receiving waters, especially during storm events. Erosion of unpaved roadways occurs when soil particles are loosened and carried away from the roadway base, ditch, or road bank by water, wind, traffic, or other transport means. Exposed soils, high runoff velocities and volumes, sandy or silty soil types, and poor compaction increase the potential for erosion.

Road construction, culvert installation, and other maintenance activities can disturb the soil and drainage patterns to streams in undeveloped areas, causing excess runoff and thereby erosion and the release of sediment. Poorly designed unpaved roads can act as preferential drainage pathways that carry runoff and sediment into natural streams, impacting water quality. In addition, other public works activities along unpaved roads have the potential to significantly affect sediment discharge and transport within streams and other waterways, which can degrade the beneficial uses of those waterways.

USEPA also recognizes that discharges from unpaved roads pose a significant potential threat to water quality. USEPA guidance⁴⁰ emphasizes the threat of unpaved roads to water quality:

⁴⁰ USEPA, 2006. Environmentally Sensitive Maintenance for Dirt and Gravel Roads. Gesford and Anderson, USEPA-PA-2005.

“Dirt and gravel roads are a major potential source of these pollutants [sediment] and pollutants that bind to sediment such as oils, nutrients, pesticides, herbicides, and other toxic substances. Many roads have unstable surfaces and bases. Roads act like dams, concentrating flows that accelerate erosion of road materials and roadsides. Both unstable surfaces and accelerated erosion then lead to sediment and dust.”

There are several guidance documents, developed by the USEPA,⁴¹ the US Forest Service,⁴² the University of California,⁴³ and others, that include design and construction specifications and BMPs that are readily available for implementation by public entities. Implementing design and other source control BMPs for unpaved roads in the region is necessary to reduce and minimize the impacts of sediment discharged during storm events from unpaved roads to the MS4s and receiving waters.

Provision E.5.c describes existing development site inspection frequency, content, and tracking that each Copermittee must incorporate into their existing development management programs. The requirements under Provision E.5.c are necessary to demonstrate each Copermittee is implementing a program that complies with Provision E.5.b and ensure BMPs implemented in areas of existing development will reduce pollutants in storm water discharges to the MEP. Provision E.5.c has been modified to include a minimum of once every 5 years for all inventoried facilities and areas of existing development, utilizing one or more methods of inspection.

In addition to onsite inspections, the methods of inspection have been expanded to include drive-by inspections. Inspections may be performed by the Copermittee’s municipal and contract staff, or by volunteer monitoring or patrol programs. Volunteer monitoring or patrol programs are not expected to enforce the Copermittee’s ordinances, or to inspect areas or facilities where members of the public are not allowed access. Volunteer monitoring or patrol programs must be trained by the Copermittee, and are only expected to collect visual observations. By utilizing drive-by inspections and volunteer monitoring or patrol programs, the Copermittees will be able to maximize and efficiently use their resources to identify and address sources of pollutants in areas of existing development.

The municipal and contract staff of each Copermittee must annually perform onsite inspections of an equivalent of at least 20 percent of the commercial, industrial, and municipal facilities and areas in its inventoried existing development pursuant to Provision E.5.c.(1)(a)(iv). An “equivalent” of at least 20 percent means if any commercial, industrial, or municipal facilities or areas require multiple onsite

⁴¹ Ibid

⁴² US Forest Service, 1996. Forest Service Specifications for Construction of Roads & Bridges. EM-7720-100. Revised August 1996.

⁴³ University of California Division of Agriculture and Natural Resources, 2007. Rural Roads: A Construction and Maintenance Guide of California Landowners. Publication 8262.

inspections during any given year, those additional inspections may count toward the total annual inspection requirement. Linear municipal facilities (i.e. MS4 linear channels, sanitary sewer collection systems, streets, roads and highways) in the Copermittee's existing development inventory are not subject to the inspection frequency requirement of Provision E.5.c.(1)(a)(iv).

The inspection content specified in Provision E.5.c.(2)(a) includes the information required to be collected during an inspection by any method. The inspection content specified in Provision E.5.c.(2)(b) includes additional information that must be collected when a Copermittee's municipal or contract staff perform an onsite inspection. Provision E.5.c.(3) specifies the information that each Copermittee must maintain in its existing development inspection records.

Pursuant to 40 CFR 122.26(d)(1)(ii) and 40 CFR 122.26(d)(2)(i), each Copermittee must have sufficient "*legal authority to control discharges to the municipal separate storm sewer system.*" Where enforcement is necessary to compel compliance with the requirements of Provision E.5 and ensure the pollutants in storm water discharges from the MS4 are reduced and continue to be reduced to the MEP, Provision E.5.d requires each Copermittee to enforce its legal authority established pursuant to Provision E.1, and in accordance with its Enforcement Response Plan required to be developed pursuant to Provision E.6.

Provisions E.5.e.(1)-(2) specifically require the Copermittee to identify areas of existing development as candidates for retrofitting, and streams, channels, and/or habitats as candidates for rehabilitation. Provisions E.5.e.(1)-(2) are based on the retrofitting requirements of the Fourth Term Permits for Orange and Riverside Counties, but modified to also include identifying projects to rehabilitate channels within areas of existing development. The requirements have also been modified to be more focused on utilizing these types of projects for addressing the highest priority water quality conditions identified in the Water Quality Improvement Plans.

Interest and opportunity to retrofit areas of existing development and rehabilitate channels located in areas of existing development has been observed in several programs the San Diego Water Board oversees (e.g., CWA Section 401 Water Quality Certification program, supplemental environmental projects, and grant programs). Each jurisdiction has miles and miles of streets that could be retrofitted to become green streets. Reshaping landscaped areas from convex to concave configurations can detain storm water instead of directing runoff as quickly as possible to the MS4. Retrofit projects could also include simply replacing impervious surfaces with permeable surfaces.

Retrofitting projects do not necessarily have to be expensive. Retrofitting projects could be as simple as redirecting downspouts from roofs to pervious or landscaped areas instead of to hardscaped areas discharging directly to the MS4, providing rain barrels to harvest storm water from downspouts for use at a later time, or planting more trees in areas with little vegetation to provide canopy that can intercept storm

water. The San Diego Water Board encourages the Copermittees to identify simple, low-cost retrofitting opportunities that can be easily implemented, in addition to other more expensive retrofitting and channel rehabilitation projects.

Rehabilitation of channels, streams, and/or habitat will require more significant planning and resources to implement. There are, however, also abundant opportunities to rehabilitate channels, streams and/or habitats in or adjacent to areas of existing development. Each Watershed Management Area likely has several creeks and stream reaches that have been undergrounded, artificially hardened, or hydromodified that could be rehabilitated to be more sustainably configured, which would slow down storm water flows and potentially have more assimilative capacity for pollutants while still being supportive of designated beneficial uses.

The San Diego Water Board recognizes that it may be infeasible to implement retrofitting or channel rehabilitation projects within certain areas of a Copermittee's jurisdictions. For such areas, the Copermittee must instead identify, develop, and implement regional retrofitting and channel rehabilitation projects (i.e. projects that can retain and/or treat storm water from one or more areas of existing development) adjacent to and/or downstream of the areas of existing development.

Provisions E.5.e.(1)-(2) do not require the implementation of retrofitting and rehabilitation projects, but do require the Copermittee to develop a program with strategies to facilitate the implementation of these types of projects in areas of existing development. The strategies are expected to include allowing and encouraging Priority Development Projects to implement retrofitting types of projects as a means of compliance with the structural BMP performance criteria requirements of Provisions E.3.c.(1) and E.3.c.(2).

Provision E.6 (Enforcement Response Plans) requires each Copermittee to develop an Enforcement Response Plan as part of its jurisdictional runoff management program document. Proper implementation of the Enforcement Response Plans is necessary to effectively prohibit non-storm water discharges to the MS4, and reduce the discharge of pollutants in storm water from the MS4 to the MEP.

Pursuant to 40 CFR 122.26(d)(1)(ii) and 40 CFR 122.26(d)(2)(i), each Copermittee must have sufficient "*legal authority to control discharges to the municipal separate storm sewer system*" and be able to demonstrate that it can "*operate pursuant to legal authority established by statute, ordinance or series of contracts*" to control the discharge of non-storm water and pollutants in storm water to and from its MS4. Pursuant to 40 CFR 122.26(d)(2)(i)(E) each Copermittee is specifically required to have the legal authority to "*[r]equire compliance with conditions in ordinances, permits, contracts or orders.*"

The requirements under Provision E.6 are necessary to demonstrate that each Copermittee can enforce its legal authority to "*effectively prohibit non-stormwater discharges*" and "*reduce the discharge of pollutants to the maximum extent*

practicable” as well as “[r]equire compliance with conditions in ordinances, permits, contracts or order.”

The Enforcement Response Plan required under Provision E.6 will serve as a reference for the Copermittee and the San Diego Water Board to determine if consistent enforcement actions are being implemented to achieve timely and effective compliance from all public and private entities that are not in compliance with the Copermittee’s ordinances, permits, or other requirements. The Enforcement Response Plan must contain clear direction for the Copermittee to take immediate enforcement action, when appropriate and necessary, in their illicit discharge detection and elimination, development planning, construction management, and existing development management programs.

If the entities subject to the Copermittee’s legal authority do not implement appropriate corrective actions in a timely manner, or if violations repeat, the Copermittee must take progressively stricter responses to enforce its legal authority and achieve compliance with its ordinances, permits, or other requirements to *“effectively prohibit non-stormwater discharges”* and *“reduce the discharge of pollutants to the maximum extent practicable.”*

Provision E.7 (Public Education and Participation) requires each Copermittee to implement a public education and participation program. Proper implementation of the public education and participation program as part of its jurisdictional runoff management program will contribute toward effectively prohibiting non-storm water discharges to the MS4, and toward the reduction of pollutants in storm water from the MS4 to the MEP.

Provision E.7 establishes the minimum requirements that each Copermittee must implement to engage members of the public as part of its jurisdictional runoff management program. In the Fourth Term Permits, the public education program requirements and the public participation requirements were included as separate jurisdictional runoff management program components. In this Order, the public education requirements have been consolidated with the public participation requirements, as both sets of requirements are related to the engagement of the public by each Copermittee. Engagement of the public is critical for the success of each Copermittee’s jurisdictional runoff management program.

The Copermittees have been implementing public education programs for the last 20 years, which are now well established. The specificity of expected public education program elements of the Fourth Term Permits has been removed. For the most part, the public education program requirements in Provision E.7.a have been reduced to a set of requirements that are specifically included in the federal regulations under 40 CFR 122.26(d)(2)(iv)(A)(6), 122.26(d)(2)(B)(6) and 122.26(d)(2)(D)(4), which should already be incorporated into each Copermittee’s existing public education program. Each Copermittee is expected to utilize the information and data collected from the monitoring and assessments conducted within the Watershed Management Area, and

from its inventories and inspections to best direct its public education program resources toward addressing the highest priority water quality conditions identified within the Water Quality Improvement Plan.

According to 40 CFR 122.26(d)(2)(iv), public participation is required to be included as part of the “*comprehensive planning process*”, which includes the development and implementation of the Water Quality Improvement Plan and jurisdictional runoff management programs. The requirements under Provision E.7.b specify the opportunities that the public must be provided to be involved in the “*comprehensive planning process*”, as required by to 40 CFR 122.26(d)(2)(iv).

Provision E.8 (Fiscal Analysis) requires each Copermittee to secure the resources and provide an analysis of the resources that will be necessary to implement the requirements of the Order. Adequate fiscal resources are necessary for a jurisdictional runoff management program to effectively prohibit non-storm water discharges to the MS4, and reduce pollutants in storm water from the MS4 to the MEP.

According to 40 CFR 122.26(d)(2)(vi), each Copermittee is responsible for providing “a *fiscal analysis of the necessary capital and operation and maintenance expenditures necessary to accomplish the activities*” required by this Order, including “a *description of the source of funds that are proposed to meet the necessary expenditures, including legal restrictions on the use of such funds.*” The fiscal analysis requirements of Provision E.8 are consistent with 40 CFR 122.26(d)(2)(vi).

The San Diego Water Board has chosen not to require a description of fiscal benefits realized from implementation of the jurisdictional runoff management programs. This is a recommendation from the National Association of Flood and Stormwater Management Agencies.⁴⁴ For instance, the fiscal analysis requirements do not address city-wide fiscal benefits of protection (e.g., public health, tourism, property values, economic activity, beneficial uses, etc.), even though many costs currently reported to the San Diego Water Board are for related activities. This type of assessment may help Copermittees improve the allocation of resources and it may help the Copermittees secure adequate funding for the program. Qualitative assessments, however, could be overly subjective and most Copermittees likely lack the ability to provide accurate quantitative assessments. The San Diego Water Board encourages the Copermittees to consider means for conducting assessments of fiscal benefits derived from the programs. Such assessments could be conducted on a regional scale similar to studies of program costs conducted by the State Water Board.⁴⁵

⁴⁴ National Association of Flood and Stormwater Management Agencies. 2006. *Guidance for Municipal Stormwater Funding*. Prepared under a grant provided by the USEPA.

⁴⁵ State Water Board, 2005. NPDES Stormwater Cost Survey.

F. Reporting

Purpose: Provision F includes the requirements for the documents and reports that the Copermittees must prepare and provide to the San Diego Water Board. The documents prepared by the Copermittees and provided to the San Diego Water Board and made available to the public will provide the documentation that the Copermittees are complying with the requirements of the Order.

Discussion: Provision F requires the Copermittees to prepare several documents and reports that must be provided to the San Diego Water Board and made available to the public. The reporting requirements have been significantly reduced compared to the Fourth Term Permit reporting requirements. The reduction in reporting requirements was recommended by the San Diego County Copermittees in the Report of Water Discharge submitted in June 2011.

More specific and detailed discussions of the requirements of Provision F are provided below.

Provision F.1 (Water Quality Improvement Plans) requires the Copermittees in each Watershed Management Area to develop and submit a Water Quality Improvement Plan in accordance with the requirements of Provision B.

Of all the requirements of Provision F, the Water Quality Improvement Plans will likely be the documents requiring the most significant effort to develop. The content of the Water Quality Improvement Plans, however, is expected to include content that should already have been developed for the Watershed Plans and several elements that are included in the Monitoring and Reporting Programs required under the Fourth Term Permits.

Because the Water Quality Improvement Plan is part of the “*comprehensive planning process which involves public participation*,” Provision F.1 includes requirements to give multiple opportunities to the public to provide input on the content of the plans.

Provision F.1.a.(1) specifies the elements that the Copermittees must include in the public participation process for the development of the Water Quality Improvement Plans. In order for the public to be aware of the opportunities to provide input, Provision F.1.a.(1)(a) requires the Copermittees to develop a publicly available and noticed schedule of the opportunities for the public to participate and provide comments during the development of the Water Quality Improvement Plan. These opportunities are when the public can provide the data, information, and recommendations that the Copermittees can consider during the development of the Water Quality Improvement Plans.

The San Diego Water Board recognizes, however, that the Copermittees cannot be expected to incorporate all the data, information, and recommendations that the public may provide into the Water Quality Improvement Plans. The Copermittees will have to

review the data, information, and recommendations received and make some decisions on what to incorporate into the Water Quality Improvement Plans. Before the Copermittees finalize their decisions, members of the public should be allowed to review the Copermittees' decisions. Thus, Provision F.1.a.(1)(b) requires the Copermittees to form a Water Quality Improvement Consultation Panel (Panel).

The Panel will consist of a member from the environmental community and a member from the development community familiar with the Watershed Management Area. A representative from the San Diego Water Board staff will also be part of the Panel. The Copermittees may choose to include additional members, but the Panel is only required to include three panel members.

The Panel will serve as an additional public participation and input mechanism during the development of the Water Quality Improvement Plans. The knowledge and expertise from these Panel members are expected to provide the Copermittees valuable direction during their decision-making process. The Copermittees will review the content of their planned submittals with the Panel members to receive recommendations. If the Panel provides recommendations, the Copermittees must consider revisions to the Water Quality Improvement Plan submittals.

The San Diego Water Board recognizes that the development of multiple Water Quality Improvement Plans concurrently may limit the ability of the public to review and provide comments to the Copermittees. Thus, Provision F.1.a.(1)(c) requires the Copermittees to coordinate the schedules for the public participation process among the Watershed Management Areas to provide the public time and opportunity to participate during the development of the Water Quality Improvement Plans.

Provision F.1.a.(2) requires the Copermittees to develop and submit the first Water Quality Improvement Plan component, in accordance with the requirements of Provision B.2, which includes the identification of the priority water quality conditions and potential water quality improvement strategies. The public must be provided an opportunity to provide data, information and recommendations to be utilized in the development and identification of the priority water quality conditions and potential water quality improvement strategies for the Watershed Management Area. The Copermittees must consult with the Panel and consider making revisions. The Copermittees may submit the requirements of Provision B.2 as early as 6 months and no later than 12 months after the commencement of coverage under this Order. After the requirements of Provision B.2 are submitted to the San Diego Water Board, the public will be provided another opportunity to provide comments.

Provision F.1.a.(3) requires the Copermittees to develop and submit the second Water Quality Improvement Plan component, in accordance with the requirements of Provision B.3, which includes the identification of the numeric goals for the highest priority water quality conditions identified for the Watershed Management Area, and the strategies that will be implemented to achieve the potential numeric goals. The Copermittees may also develop the Optional Watershed Management Area Analysis, in accordance with the requirements of Provision B.3.b.(4), as part of this submittal.

The public must be provided an opportunity to provide data, information and recommendations to be utilized in the development and identification of the numeric goals and water quality improvement strategies for the Watershed Management Area. The Copermittees must consult with the Panel and consider making revisions. The Copermittees may submit the requirements of Provision B.3 as early as 9 months and no later than 18 months after the commencement of coverage under this Order. After the requirements of Provision B.3 are submitted to the San Diego Water Board, the public will be provided another opportunity to provide comments.

Finally, Provision F.1.b describes the process for the submittal and implementation of the Water Quality Improvement Plans. The complete Water Quality Improvement Plans are required to be submitted by the Copermittees within 24 months after the commencement of coverage under this Order. The San Diego Water Board will provide the public an opportunity to provide comments on each complete Water Quality Improvement Plan.

The San Diego Water Board will review each Water Quality Improvement Plan and the public comments received to determine if the Copermittees have submitted a Water Quality Improvement Plan that meets the requirements of Provision B. If a Water Quality Improvement Plan does not meet the requirements of Provision B, the Copermittees will be considered out of compliance and directed in writing by the San Diego Water Board Executive Officer to correct the deficiencies.

When a Water Quality Improvement Plan meets the requirements of Provision B, the San Diego Water Board will determine whether to hold a public hearing or to limit public input to submittal of written comments before accepting the Water Quality Improvement Plan. Implementation of the Water Quality Improvement Plan must begin within 30 days of acceptance.

The San Diego Water Board expects that any deficiencies in the Water Quality Improvement Plan will be identified either in the public comments or during the review by the San Diego Water Board before implementation begins. In the event any deficiencies are identified after the implementation of the Water Quality Improvement Plan, Provision F.1.b.(7) clarifies that the San Diego Water Board maintains the right to require the Copermittees to correct any deficiencies that may be identified.

Provision F.2 (Updates) requires the Copermittees to update specific documents that the Copermittees will utilize to implement the requirements of this Order.

Each Copermittee is required to continue implementing a jurisdictional runoff management program, as required under Provision E. Implementation of each Copermittee's jurisdictional runoff management program is directed by its jurisdictional runoff management program document. Provision F.2.a requires each Copermittee to update its jurisdictional runoff management program document to be consistent with the requirements of Provision E concurrent with the submittal of the Water Quality Improvement Plan.

Likewise, each Copermittee must continue to require new development and redevelopment projects to implement BMPs to control pollutants in storm water runoff. The control of pollutants in storm water runoff from development and redevelopment projects within each Copermittee's jurisdiction is guided and directed by its BMP Design Manual, formerly known as a Standard Storm Water Mitigation Plan (SSMP). Provision F.2.b requires each Copermittee to update its BMP Design Manual to be consistent with the requirements of Provision E.3 concurrent with the submittal of the Water Quality Improvement Plan.

For situations where the San Diego Water Board may amend the requirements of Provisions E.3.a-d after a Copermittee has updated its BMP Design Manual pursuant to Provision F.2.b.(1), Provision F.2.b.(4) gives the Copermittee up to 90 days to incorporate the amended requirements of Provision E.3.a-d into its BMP Design Manual. The San Diego Water Board Executive Officer has discretion to modify the 90-day time period depending on the complexity of the amendments or other information that warrants a change in the 90-day time period.

In general, the requirements of the Order should not necessitate a complete rewrite of each Copermittee's jurisdictional runoff management program document or BMP Design Manual, as was required by the Third Term Permits. The jurisdictional runoff management program and BMP Design Manual requirements of this Order are not significantly different than the requirements of the Fourth Term Permits. Thus, only sections of the Order which are new or have been significantly changed should warrant revisions to specific sections of the Copermittee's jurisdictional runoff management program document and BMP Design Manual.

Finally, the Water Quality Improvement Plans are expected to require updates as the iterative approach and adaptive management process included in the Water Quality Improvement Plan, as required under Provision B.5, is implemented by the Copermittees. Provision F.2.c.(1) requires the Copermittees to implement a public participation process for the proposed updates, review the proposed updates with the Panel, and submit the updates to the Water Quality Improvement Plan as part of the Annual Reports required under Provision F.3.b.

Also, because TMDLs are likely to be developed, adopted and approved during the term of the Order, Provision F.2.c.(2) has been included to expedite the incorporation of TMDLs into the Copermittees' Water Quality Improvement Plans as part of the update process, potentially before the Order is re-opened to incorporate the requirements of the new TMDLs.

Provision F.3 (Progress Reporting) requires the Copermittees to report on the progress of implementing the Water Quality Improvement Plans.

The requirements of Provision F.3 are to report the progress toward improving water quality that the Copermittees are achieving with the implementation of the Water Quality Improvement Plans and each Copermittee's jurisdictional runoff management program. The Progress Report Presentations required under Provision F.3.a are

included to provide the Copermittees an opportunity to communicate directly with the San Diego Water Board and the public. The Progress Report Presentations will also provide the members of the San Diego Water Board and members of the public an opportunity to become more acquainted with the Copermittees and their projects and programs to address non-storm water and storm water discharges into and from their MS4s.

The Annual Report requirements of Provision F.3.b are a consolidation of several reporting requirements from the Fourth Term Permits, including the Jurisdictional Runoff Management Program Annual Reports, the Watershed Annual Reports, and the Monitoring and Reporting Program Annual Reports. Furthermore, the Annual Report requirements are consistent with the requirements under 40 CFR 122.42(c).

Pursuant to 40 CFR 122.42(c), “[t]he operator of a large or medium municipal separate storm sewer system or a municipal separate storm sewer that has been designated by the Director...must submit an annual report”, which must include the following:

- (1) *The status of implementing the components of the storm water management program that are established as permit conditions [40 CFR 122.42(c)(1)];*
- (2) *Proposed changes to the storm water management programs that are established as permit conditions [40 CFR 122.42(c)(2)];*
- (3) *Revisions, if necessary, to the assessment of controls and fiscal analysis [40 CFR 122.42(c)(3)];*
- (4) *A summary of data, including monitoring data, that is accumulated throughout the reporting year [40 CFR 122.42(c)(4)];*
- (5) *Annual expenditures and budget for year following each annual report [40 CFR 122.42(c)(5)];*
- (6) *A summary describing the number and nature of enforcement actions, inspections, and public education programs [40 CFR 122.42(c)(6)];*
- (7) *Identification of water quality improvements or degradation [40 CFR 122.42(c)(7)].*

Under the Fourth Term Permits, each Copermittee is responsible for submitting a Jurisdictional Runoff Management Program Annual Report; the Copermittees in each designated watershed are responsible for submitting a Watershed Annual Report; and the Copermittees from each county are responsible for submitting a Monitoring and Reporting Program Annual Report.

There are 39 Copermittees in the San Diego Region, each required to prepare and submit a Jurisdictional Runoff Management Program Annual Report. There are 9 designated watersheds in San Diego County, 6 designated watersheds in Orange County, and 1 designated watershed in Riverside County for a total of 16 designated watersheds, each requiring a Watershed Annual Report. There are 3 sets of

Copermittees in 3 counties in the San Diego Region, requiring Copermittees from each county to prepare and submit a Monitoring and Reporting Program Annual Report. Thus each Copermittee is currently required to prepare, or participate in the preparation of at least 3 annual reports. In addition, the San Diego County Copermittees are required to prepare and submit a Regional Urban Runoff Management Plan Annual Report.

In total, there are 59 annual reports that are prepared by the Copermittees and submitted to the San Diego Water Board for the Fourth Term Permits. The preparation of these annual reports requires significant time and resources from each Copermittee, which could otherwise be expended on actions that could improve water quality within its jurisdiction. In turn, significant time and resources are required from the San Diego Water Board staff to review these reports, which could otherwise be expended on working directly with the Copermittees to improve their implementation efforts toward restoring and protecting water quality.

Until the Water Quality Improvement Plans are developed, there will be a transitional period during which the Copermittees will continue to implement their existing jurisdictional runoff management programs. There will also be a transitional period during which the Copermittees will implement the transitional monitoring and assessment requirements of Provision D. During the transitional period, the Copermittees will submit annual reports pursuant to the requirements of Provisions F.3.b.(1) and F.3.b.(2).

Provision F.3.b.(1) includes the transitional annual reporting requirements for each Copermittee's jurisdictional runoff management program. The reporting of the jurisdictional runoff management program implementation efforts have been reduced to a single 2-page form. Each Copermittee is required to complete and submit a Jurisdictional Runoff Management Program Annual Report Form (contained in Attachment D or a revised form accepted by the San Diego Water Board) no later than October 31 of each year for each jurisdictional runoff management program reporting period (i.e. July 1 to June 30) during the transitional period, until the first Water Quality Improvement Plan Annual Reports are required to be submitted. The Jurisdictional Runoff Management Program Annual Report Form will certify that each Copermittee has implemented its jurisdictional runoff management program in accordance with the requirements of Provision E. Each Copermittee may choose to continue to utilize and submit the jurisdictional runoff management program annual reporting format of its current Order until the first Water Quality Improvement Plan Annual Report is required to be submitted.

Provision F.3.b.(2) includes the transitional annual reporting requirements for the transitional monitoring and assessment program for each Watershed Management Area. The Copermittees in the Watershed Management Area are required to submit a Transitional Monitoring and Assessment Program Annual Report no later than January 31 for each complete transitional monitoring and assessment program reporting period (i.e. October 1 to September 30) during the transitional period, until the first Water

Quality Improvement Plan Annual Reports are required to be submitted. The Transitional Monitoring and Assessment Program Annual Report is required to include the transitional period monitoring data collected pursuant to Provisions D.1.a and D.2.a, and the findings from the transitional period findings from the assessments required pursuant to Provisions D.4.a.(1)(a), D.4.b.(1)(a)(i), D.4.b.(2)(a)(i).

Provision F.3.b.(3) includes the Water Quality Improvement Plan Annual Report requirements. Only one Water Quality Improvement Plan Annual Report is required for each of the ten (10) Watershed Management Areas designated under Provision B.1, which is a significant reduction in the number of annual reports required to be prepared and submitted by the Copermittees. The Water Quality Improvement Plan Annual Report will document the Copermittees' efforts to implement the Water Quality Improvement Plan. Each Water Quality Improvement Plan Annual Report will be focused primarily on reporting the analysis of the monitoring data collected pursuant to Provisions D.1-D.3 during the reporting period, and the assessments that are required pursuant to Provision D.4 based on the data. The monitoring data analyses and the assessments that are provided in the Water Quality Improvement Plan Annual Report will be the core of the report. The reporting of the jurisdictional runoff management program implementation efforts have been reduced to a single 2-page form, and will no longer be the primary focus of the reporting requirements as in the Third and Fourth Term Permits.

Each Copermittee will continue to prepare and submit a Jurisdictional Runoff Management Program Annual Report Form as part of the Water Quality Improvement Plan Annual Report to certify that each Copermittee has implemented its jurisdictional runoff management program in accordance with the requirements of Provision E. Instead of reviewing a voluminous report from each Copermittee, as was required under the Third and Fourth Term Permits, the San Diego Water Board will conduct audits of each Copermittee's jurisdictional runoff management program to investigate and confirm the information provided by each Copermittee on its Jurisdictional Runoff Management Program Annual Report Form. The audits will allow the San Diego Water Board to become more familiar with the each Copermittee's jurisdictional runoff management program, and each Copermittee will become more informed about the expectations of the San Diego Water Board.

The reduction in the number and content of the Water Quality Improvement Plan Annual Reports should result in significant time, cost and resource savings for the Copermittees, as well as the San Diego Water Board. Those savings should offset a significant portion of any additional costs that may be incurred to develop the Water Quality Improvement Plans and to implement the monitoring and assessment program requirements of Provision D.

The reporting period for the Water Quality Improvement Plan Annual Reports consists of two periods. Because the jurisdictional runoff management programs are typically budgeted and implemented during a fiscal year, the information provided on the

Jurisdictional Runoff Management Program Annual Report Forms will cover the period from July 1 to June 30 of the following year.

The Water Quality Improvement Plan Annual Reports, however, are focused primarily on the monitoring data and the assessments based on the monitoring data. The monitoring data is collected during the monitoring year, which begins October 1 and ends September 30 of the following year. The monitoring year begins after the beginning of the fiscal year and ends after the end of the fiscal year. Therefore, to accommodate and capture the information collected during the fiscal year and the monitoring year, the Annual Report reporting period incorporates both periods.

Finally, Provision F.3.c requires the Copermittees to develop and submit a Regional Monitoring and Assessment Report. The Regional Monitoring and Assessment Report is similar to the Long Term Effectiveness Assessment required under the Fourth Term San Diego County Permit. The Regional Monitoring and Assessment Report is expected to utilize the entire body of data and information collected by the Copermittees during the term of this Order to assess improvements to water quality on a regional scale.

Provision F.4 (Regional Clearinghouse) requires the Copermittees to develop, update, and maintain an internet-based Regional Clearinghouse that can be used to store, disseminate, and share the Copermittees' documents, monitoring data, special studies, and any other data or information.

Most of the documents and data that are generated by the Copermittees can be provided in electronic format, and made available to the San Diego Water Board and the public on the internet. The San Diego Water Board has been gradually transitioning its document submittal requirements to electronic submittals. Provision F.4 has been included to further these efforts.

Provision F.4 has also been included to improve the exchange and availability of information among the Copermittees, as well as between the Copermittees and the San Diego Water Board. Provision F.4 will also make the information generated during the implementation of the Order more accessible to the public.

Provision F.5 (Report of Waste Discharge) requires the Copermittees to submit a Report of Waste Discharge to reapply for renewal of the Order prior to its expiration, in accordance with 40 CFR 122.21(d)(2) and CWC section 13376.

Provision F.5 requires the Copermittees to submit a Report of Waste Discharge 180 days in advance of the expiration of this Order. Provision F.5 also describes the minimum information to be included in the Report of Waste Discharge, based on USEPA guidance "Interpretive Policy Memorandum on Reapplication Requirements for Municipal Separate Storm Sewer Systems," dated May 17, 1996.

G. Principal Watershed Copermittee Responsibilities

Purpose: Provision G includes the requirements for the Principal Watershed Copermittee designated by the Copermittees in each Watershed Management Area.

Discussion: Unlike previous NPDES requirements, there will no longer be a single Principal Copermittee. Provision G.1 requires the Copermittees to designate a Principal Watershed Copermittee for each Watershed Management Area. There are ten (10) Watershed Management Areas in the San Diego Region, as defined in Table B-1 under Provision B.1 of the Order. An individual Copermittee should not be the Principal Watershed Copermittee for more than two (2) Watershed Management Areas. There could be up to ten (10) Principal Water Copermittees designated for the Watershed Management Areas in the San Diego Region.

Provision G.2 describes the minimum responsibilities of each Principal Watershed Copermittee. The primary responsibility of the Principal Watershed Copermittees is to serve as the liaison between the Copermittees in the Watershed Management Area and the San Diego Water Board on general permit issues. Ideally, the Principal Watershed Copermittee can represent the interests of all the Copermittees within a Watershed Management Area during discussions or meetings to facilitate communication with the San Diego Water Board. The Principal Watershed Copermittees are also responsible for facilitating and coordinating the implementation efforts of the Copermittees and submittals of required documents and reports.

The Principal Watershed Copermittee is responsible for facilitating the efforts of the Copermittees within the Watershed Management Area to develop the Water Quality Improvement Plan required under Provision B, and submit it for approval in accordance with Provision F.1. The Principal Watershed Copermittee is also responsible for coordinating the submittal of the document updates, Progress Report Presentations, and Annual Reports required from the Copermittees within each Watershed Management Area under Provisions F.2, F.3.a, and F.3.b. The Principal Watershed Copermittees are responsible for coordinating with each other to develop and submit the Regional Clearinghouse, Regional Monitoring and Assessment Report, and the Report of Waste Discharge required under Provisions F.3.c, F.4, and F.5.

The designated Principal Watershed Copermittee for each Watershed Management Area does not necessarily have to serve as the Principal Watershed Copermittee for the entire term of the Order. If the Copermittees in a Watershed Management Area choose to designate a new Principal Watershed Copermittee, the change may be submitted as part of the Annual Report required under Provision F.3.b, with an update to the Water Quality Improvement Plan in accordance with Provision F.2.c.

Provision G.3 specifies that the Principal Watershed Copermittee is not responsible for ensuring that the other Copermittees within the Watershed Management Area are in compliance with the requirements of this Order

H. Modification of Order

Purpose: Provision H provides the conditions under which modifications to Order No. R9-2013-0001, as amended, may occur.

Discussion: Provision H allows for modifications to Order No. R9-2013-0001, as amended, for bases in addition to modifications (minor and major) allowed under the federal regulations at 40 CFR 122.62 and 122.63.

Modifications to the Order require re-opening the Order (see Water Code section 13223), subject to the requirements of 40 CFR 122.44, 122.62 to 122.64, and 124.5, but only for the specific provisions subject to the modification. Proposed modifications of the Order will be made available for public review, a public notice and comment period, and a public hearing if requested. Comments on the provisions not subject to the proposed modifications are not required to be considered in the San Diego Water Board's responses to comments or during the public hearing.

Provision H.4 was included to specify that the Order will be re-opened for modifications if the Basin Plan is amended to modify an existing TMDL or incorporate a new TMDL, or the monitoring and assessment program requirements need to be updated or revised.

I. Standard Permit Provisions and General Provisions

Purpose: Provision I incorporates the standard permit provisions required to be included in all NPDES permits, as well as several other general provisions.

Discussion: Provision I refers to Attachment B to the Order. Attachment B expressly incorporates the conditions applicable to all NPDES permits as provided under 40 CFR 122.41(a)-(n), as well as the applicable conditions for MS4s and storm water discharges provided under 40 CFR 122.42(c) and 40 CFR 122.42(d), respectively. Attachment B also includes several general provisions that are typically included in or applicable to waste discharge requirements issued by the San Diego Water Board.

IX. ATTACHMENTS

The attachments to the Order are discussed below. The discussions describe the content of the attachments.

Attachment A – Discharge Prohibitions and Special Protections

Section 1 of Attachment A includes the Waste Discharge Prohibitions from the Basin Plan. They have been provided verbatim in their entirety.

Section 2 of Attachment A includes the “*Special Protections for Areas of Special Biological Significance, Governing Point Source Discharges of Storm Water and Nonpoint Source Waste Discharges*” applicable to permitted point source discharges of storm water, adopted under State Water Board Resolution No. 2012-0012, as amended by Resolution No. 2012-0031. The terms, prohibitions, and special conditions (collectively referred to as special conditions) are established as limitations on point source storm water discharges. These special conditions provide Special Protections for marine aquatic life and natural water quality in ASBS, as required for State Water Quality Protection Areas pursuant to California Public Resources Code sections 36700(f) and 36710(f). These Special Protections were adopted by the State Water Board as part of the Ocean Plan General Exception.

Attachment B – Standard Permit Provisions and General Provisions

Conditions applicable to all NPDES permits, as required under 40 CFR 122.41, and conditions applicable to MS4s and storm water discharges, as required under 40 CFR 122.42(c) and 122.42(d), respectively are provided in Attachment B to the Order. They have been provided expressly in their entirety.

In addition to the standard provisions required to be incorporated into the Order and NPDES permit pursuant to 40 CFR 122.41 and 40 CFR 122.42, several other general provisions apply to this Order. These general provisions are typically included in or applicable to waste discharge requirements issued by the San Diego Water Board. Many of the general provisions were developed by the State Water Board. Where a general provision is derived from statute or regulation, a citation of the statute or regulation section is provided. General provisions that do not provide a citation are included under the authority provided CWC 13377.

Attachment C – Acronyms, Abbreviations and Definitions

The acronyms and abbreviations that are used in the Order are provided in Attachment C. Attachment C also includes definitions that may provide an explanation or description of the meaning or intent of specific terms or phrases included in the Order.

Attachment D – Jurisdictional Runoff Management Program Annual Report Form

An example of the Jurisdictional Runoff Management Program Annual Report Form required to be submitted by each Copermittee as part of the Annual Reports required under Provision F.3.b.(1)(e) is provided as Attachment D to the Order. An electronic version of the form will be available from the San Diego Water Board after the adoption of the Order.

The Jurisdictional Runoff Management Program Annual Report Form includes the minimum information necessary to demonstrate that the Copermittee is implementing and in compliance with the requirements of Provision E, and includes much of the information required to be reported pursuant to 40 CFR 122.42(c).

The information that must be provided on the Jurisdictional Runoff Management Program Annual Report Form is limited to the fiscal year, which begins July 1 and ends June 30 of the following year. The information expected to be provided by the Copermittees in each section of the Jurisdictional Runoff Management Program Annual Report Form is discussed below.

I. COPERMITTEE INFORMATION

The name of the Copermittee (e.g. name of city, county, or special district) and the contact information for the storm water program manager are provided under this section.

II. LEGAL AUTHORITY

The Copermittee must confirm whether or not the legal authorities under Provision E.1.a have been established for itself within its jurisdiction.

The Copermittee must also confirm whether or not a Principal Executive Officer, Ranking Elected Official, or Duly Authorized Representative has certified that the Copermittee obtained and maintains adequate legal authority, as required under Provision E.1.b. The certification statement required by Provision E.1.b is only required to be submitted with the first Annual Report required under Provision F.3.b.

III. JURISDICTIONAL RUNOFF MANAGEMENT PROGRAM DOCUMENT UPDATE

The Copermittee must inform the San Diego Water Board whether or not an update to its jurisdictional runoff management program document was required or recommended by the San Diego Water Board during the reporting period. An update to the jurisdictional runoff management program is required under Provision F.2.a. The San Diego Water Board may recommend modifications to the jurisdictional runoff management program as part of the iterative approach and adaptive management process required under Provision B.5, which may result in an update that is necessary for the Copermittee's jurisdictional runoff management document.

If an update was required or recommended, the Copermittee must confirm whether or not the update was completed and made available on the Regional Clearinghouse within the reporting period. If no update was required or recommended, an answer is not required. If the answer is NO, meaning the required or recommended update was not completed and/or made available on the Regional Clearinghouse, the Copermittee must attach a

schedule for the completion of the update and/or posting of the updated document on the Regional Clearinghouse.

IV. ILLICIT DISCHARGE DETECTION AND ELIMINATION PROGRAM

The Copermittee must confirm whether or not a program was implemented during the fiscal year to actively detect and eliminate illicit discharges and connections in accordance with the requirements under Provision E.2.

In addition to confirming that a program to detect and eliminate illicit discharges was implemented during the reporting period, the Copermittee is also required to report on several items related to the program. The information that must be reported is limited to the fiscal year for the Annual Report.

All non-storm water discharges are considered illicit discharges unless the source is identified as one of the categories on non-storm water discharges under Provisions E.2.a.(1)-(5). If a non-storm water discharge is identified as one of the categories on non-storm water discharges under Provisions E.2.a.(1)-(5), the discharge is a non-storm water discharge, but not an illicit discharge. If a non-storm water discharge is identified but not in one of the categories on non-storm water discharges under Provisions E.2.a.(1)-(5), the discharge is both a non-storm water discharge and an illicit discharge.

V. DEVELOPMENT PLANNING PROGRAM

The Copermittee must confirm whether or not a development planning program was implemented during the fiscal year in accordance with the requirements under Provision E.3.

The Copermittee must also inform the San Diego Water Board whether or not an update to its BMP Design Manual was required or recommended by the San Diego Water Board during the fiscal year. An update to the BMP Design Manual is required under Provision F.2.b. The San Diego Water Board may recommend modifications to the BMP Design Manual, which may result in an update that is necessary for Copermittee's the BMP Design Manual.

If an update was required or recommended, the Copermittee must confirm whether or not the update was completed and made available on the Regional Clearinghouse within the reporting period. If no update was required or recommended, an answer is not required. If the answer is NO, meaning the required or recommended update was not completed and/or made available on the Regional Clearinghouse, the Copermittee must attach a schedule for the completion of the update and/or posting of the updated document on the Regional Clearinghouse.

The Copermittee is also required to report on several items related to the program. For the development and redevelopment projects that are reviewed under the program, the Copermittee must report the total number projects submitted for review during the fiscal year. Of those projects, the Copermittee must report the number that are Priority Development Projects, as defined under Provision E.3.b.(1). The Copermittee must also report the number of Priority Development Projects that were approved and/or granted occupancy during the fiscal year, regardless of when the project was originally submitted for review. Any projects that were approved during the fiscal year and granted any

exemptions from the BMP Design Manual requirements and/or allowed to implement alternative compliance options in accordance with Provision E.3.c.(3) must be reported.

Finally, the Copermittee must also report on several items related to its oversight of permanent BMPs on Priority Development Projects within its jurisdiction, as required under Provision E.3.e. The information that must be reported is limited to the fiscal year for the Annual Report.

VI. CONSTRUCTION MANAGEMENT PROGRAM

The Copermittee must confirm whether or not a construction management program was implemented during the fiscal year in accordance with the requirements under Provision E.4.

The Copermittee is also required to report on several items related to its oversight construction projects within its jurisdiction. The information that must be reported is limited to the fiscal year for the Annual Report.

VII. EXISTING DEVELOPMENT MANAGEMENT PROGRAM

The Copermittee must confirm whether or not an existing development management program was implemented during the fiscal year in accordance with the requirements under Provision E.5.

The Copermittee is also required to report on several items related to its oversight in areas of existing development within its jurisdiction. The information that must be reported is limited to the fiscal year for the Annual Report. The information must also be separated into four categories of existing development: municipal, commercial, industrial, and residential.

VIII. PUBLIC EDUCATION AND PARTICIPATION

The Copermittee must confirm whether or not a public education program component was implemented during the fiscal year in accordance with the requirements under Provision E.7.a.

The Copermittee must also confirm whether or not a public participation program component was implemented during the fiscal year in accordance with the requirements under Provision E.7.b.

IX. FISCAL ANALYSIS

The Copermittee must confirm a summary of its fiscal analysis, conducted in accordance with the requirements under Provision E.8, has been attached to the form.

X. CERTIFICATION

A Principal Executive Officer, Ranking Elected Official, or Duly Authorized Representative must sign and certify the Jurisdictional Runoff Management Program Annual Report Form. The appropriate box must be checked to indicate the whether a Principal Executive Officer, Ranking Elected Official, or Duly Authorized Representative is signing the form.

Attachment E – Specific Provisions for Total Maximum Daily Loads

Attachment E provides specific provisions for implementing the load allocations (LAs) and wasteload allocations (WLAs) of Total Maximum Daily Loads (TMDLs) adopted by the San Diego Water Board and approved by USEPA in which the Copermitees are identified as responsible for discharges subject to the requirements of the TMDLs. Federal regulations require that NPDES requirements incorporate water quality based effluent limitations (WQBELs) that must be consistent with the requirements and assumptions of any available WLAs,⁴⁶ which may be expressed as numeric effluent limitations, when feasible, and/or as a best management practice (BMP) program of expanded or better-tailored BMPs.⁴⁷ Where the TMDL includes WLAs that provide numeric pollutant load or pollutant parameter objectives, the WLA has been, where feasible, translated into numeric WQBELs.⁴⁸

For each TMDL in Attachment E, four sections are included:

- a. **Applicability:** This section provides the resolution under which the TMDL Basin Plan amendment was adopted and approved, with the applicable adoption and approval dates. This section also gives the effective date of the TMDL and where the TMDL is applicable (i.e. Watershed Management Area and water body). The Copermitees that are responsible for implementing the specific provisions are also given in this section.
- b. **Final TMDL Compliance Requirements:** For each TMDL, the final TMDL compliance requirements consist of the final TMDL compliance date(s), the final WQBELs, and the final TMDL compliance determination requirements. The final WQBELs are expressed in terms of receiving water limitations, effluent limitations, and/or best management practices (BMPs). The final WQBELs for the TMDLs are incorporated by reference into Provision A of the Order. The final WQBELs become enforceable when the final TMDL compliance dates have passed. Applicable BMPs within the final WQBELs must be incorporated into the Water Quality Improvement Plans. Compliance with the final WQBELs will be determined in accordance with the options provided under the final TMDL compliance determination requirements.
- c. **Interim TMDL Compliance Requirements:** If the final TMDL compliance date has not passed and there are interim TMDL compliance requirements, they are included in this section. If there are interim WQBELs with interim compliance dates, the interim WQBELs become enforceable when the corresponding interim compliance dates have passed. Compliance with the interim WQBELs will be determined in accordance with the options provided under the interim TMDL compliance determination requirements.
- d. **Specific Monitoring and Assessment Requirements:** If there are specific monitoring and assessment requirements that cannot be met with the monitoring and assessment program

⁴⁶ 40 CFR 122.44(d)(1)(vii)(B)

⁴⁷ 40 CFR 122.44(k)(2) and 40 CFR 122.44(k)(3)

⁴⁸ November 26, 2014 Memorandum from the USEPA, Revisions to the November 22, 2002 Memorandum "Establishing Total Maximum Daily Load (TMDL) Wasteload Allocations (WLAs) for Storm Water Sources and NPDES Permit Requirements Based on Those WLA"

requirements under Provision D of the Order, the additional requirements are included in this section.

The requirements of the TMDLs are based on and consistent with the assumptions and requirements of any available adopted and approved TMDLs that have been incorporated into the Basin Plan. Modifications to the requirements for the TMDLs in Attachment E cannot be made unless the TMDLs are modified in the Basin Plan.

A modification to any aspect of a TMDL in the Basin Plan requires a Basin Plan amendment. A Basin Plan amendment to modify a TMDL will require the San Diego Water Board to adopt a resolution to amend the Basin Plan, which includes a separate public process. When the San Diego Water Board adopts a Basin Plan amendment, it subsequently requires approval from the State Water Board, the Office of Administrative Law, and the USEPA before it becomes effective.

If and when the TMDLs are modified in the Basin Plan, the San Diego Water Board will revise the requirements of the Order in accordance with the Basin Plan amendment. When a Basin Plan amendment to modify a TMDL becomes effective, the San Diego Water Board will modify the requirements of the Order pursuant to the requirements of Provision H.4 of the Order as soon as possible.

ATTACHMENT 44

ATTACHMENT 45

STATE OF CALIFORNIA

**CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
LOS ANGELES REGION**

**ORDER NO. 01-182
NPDES PERMIT NO. CAS004001
WASTE DISCHARGE REQUIREMENTS
FOR**

**MUNICIPAL STORM WATER AND URBAN RUNOFF DISCHARGES WITHIN THE
COUNTY OF LOS ANGELES, AND THE INCORPORATED CITIES THEREIN,
EXCEPT THE CITY OF LONG BEACH**

December 13, 2001

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STATE OF CALIFORNIA
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The California Regional Water Quality Control Board, Los Angeles Region (hereinafter referred to as the Regional Board) finds:

A. Existing Permit

The Los Angeles County Flood Control District, the County of Los Angeles, and 84 incorporated cities within the Los Angeles County Flood Control District (see Attachment A, List of Permittees), hereinafter referred to separately as Permittees and jointly as the Discharger, discharge or contribute to discharges of storm water and urban runoff from municipal separate storm sewer systems (MS4s), also called storm drain systems. The discharges flow to water courses within the Los Angeles County Flood Control District and into receiving waters of the Los Angeles Region. These discharges are covered under countywide waste discharge requirements contained in Order No. 96-054 adopted by this Regional Board on July 15, 1996, which replaced Order No. 90-079 adopted by this Regional Board on June 18, 1990. Order No. 96-054 also serves as a National Pollutant Discharge Elimination System (NPDES) permit for the discharge of municipal storm water.

B. Nature of Discharges and Sources of Pollutant

1. Storm water discharges consist of surface runoff generated from various land uses in all the hydrologic drainage basins that discharge into water bodies of the State. The quality of these discharges varies considerably and is affected by the hydrology, geology, land use, season, and sequence and duration of hydrologic events. The primary constituents of concern currently identified by the Los Angeles County Flood Control District Integrated Receiving Water Impacts Report (1994-2000) are cyanide, indicator bacteria, total dissolved solids, turbidity, total suspended solids, nutrients, total aluminum, dissolved cadmium, copper, lead, total mercury, nickel, zinc, bis(2-ethylhexyl)phthalate, polycyclic aromatic hydrocarbons (PAHs), diazinon, and chlorpyrifos.
2. Certain pollutants present in storm water and/or urban runoff may be derived from extraneous sources that Permittees have no or limited jurisdiction over. Examples of such pollutants and their respective sources are: PAHs which are products of internal combustion engine

operation, nitrates, bis (2-ethylhexyl) phthalate and mercury from atmospheric deposition, lead from fuels, copper from brake pad wear, zinc from tire wear, dioxins as products of combustion, and natural-occurring minerals from local geology. However, the implementation of the measures set forth in this Order is intended to reduce the entry of these pollutants into storm water and their discharge to receiving waters.

3. Water quality assessments conducted by the Regional Board identified impairment, or threatened impairment, of beneficial uses of water bodies in the Los Angeles Region. The causes of impairments include pollutants of concern identified in municipal storm water discharges by the County of Los Angeles in the Integrated Receiving Water Impacts Report (1994-2000). Pollutants in storm water can have damaging effects on both human health and aquatic ecosystems.
4. The Los Angeles County Grand Jury, September 2000, completed an investigation into the health risks of swimming near beaches in Los Angeles County and made several recommendations to reduce public health risks (Final Report, Grand Jury, Los Angeles County, 1999-2000). The Grand Jury recommended that the Regional Board consider among other actions, (i) a focus on setting contaminant limits rather than programmatic evaluations, (ii) audit of MS4 Permittee programs; and (iii) clarifying enforcement responsibilities between the State and local governments.
5. Studies and research conducted by other Regional agencies, academic institutions, and universities have also identified storm water and urban runoff as significant sources of pollutants to surface waters in Southern California. See, e.g., [*Surface Runoff to the Southern California Bight*, Southern California Coastal Water Research Project, (1992); *Impacts of Urban Runoff on Santa Monica Bay and Surrounding Ocean Waters* (Gersberg, R.M., 1995); *State of the Bay 1998*, Santa Monica Bay Restoration Project; *Storm Water Impact*, In, Southern California Environmental Report Card 1999, Institute of the Environment, University of California, Los Angeles (Stenstrom, M.S., 1999); *Distribution of Anthropogenic and Natural Debris on the Mainland Shelf of Southern California Bight*, Shelly L. Moore and M. James Allen (1999); *The Health Effects of Swimming in Ocean Water Contaminated by Storm Drain Runoff*, Haile, R.W. et al. (1999); *Huntington Beach Closure Investigation: Technical Review* (University of Southern California, 2000); *A Regional Survey of the Microbiological Water Quality Along the Shoreline of the Southern California Bight*, Rachel T. Noble et al. (2001); *Integrated Receiving Water Impacts Report (1994-2000)*, County of Los Angeles (2001)].
6. Development and urbanization increase pollutant load, volume, and discharge velocity. First, natural vegetated pervious ground cover is converted to impervious surfaces such as paved highways, streets, rooftops and parking lots. Natural vegetated soil can both absorb rainwater and remove pollutants providing an effective natural purification process. In contrast, pavement and concrete can neither absorb water nor remove pollutants, and thus the natural purification characteristics are

lost. Second, urban development creates new pollution sources as the increased density of human population brings proportionately higher levels of vehicle emissions, vehicle maintenance wastes, municipal sewage waste, pesticides, household hazardous wastes, pet wastes, trash, and other anthropogenic pollutants. Development and urbanization especially threaten environmentally sensitive areas. Such areas have a much lower capacity to withstand pollutant shocks than might be acceptable in the general circumstance. In essence, development that is ordinarily insignificant in its impact on the environment may in a particular sensitive environment become significant. These environmentally sensitive areas designated by the State and/or the County of Los Angeles include Areas of Special Biological Significance (ASBS), water bodies designated as supporting a RARE beneficial use, Significant Natural Areas (SNAs), and Significant Ecological Areas (SEAs).

7. The increased volume, increased velocity, and discharge duration of storm water runoff from developed areas has the potential to greatly accelerate downstream erosion and impair stream habitat in natural drainages. Studies have demonstrated a direct correlation between the degree of imperviousness of an area and the degradation of its receiving waters. Significant declines in the biological integrity and physical habitat of streams and other receiving waters have been found to occur with as little as 10 percent conversion from natural to impervious surfaces. Percentage impervious cover is a reliable indicator and predictor of potential water quality degradation expected from new development. (*Impervious Cover as An Urban Stream Indicator and a Watershed Management Tool*, Schueler, T. and R. Claytor, In, *Effects of Water Development and Management on Aquatic Ecosystems* (1995), ASCE, New York; Leopold, L. B., (1973), *River Channel Change with Time: An Example*, Geological Society of America Bulletin, v. 84, p. 1845-1860; Hammer, T. R., (1972), *Stream Channel Enlargement Due to Urbanization: Water Resources Research*, v. 8, p. 1530-1540; Booth, D. B., (1991), *Urbanization and the Natural Drainage System--Impacts, Solutions and Prognoses: The Northwest Environmental Journal*, v. 7, p. 93-118; Klein, R. D., (1979), *Urbanization and Stream Quality Impairment*. *Water Resources Bulletin*, v. 15, p. 948-963; May, C. W., Horner, R. R., Karr, J. R., Mar, B. W., and Welch, E. B., (1997), *Effects of Urbanization on Small Streams in the Puget Sound Lowland Ecoregion: Watershed Protection Techniques*, v. 2, p. 483-494; Morisawa, M. and LaFlure, E. *Hydraulic Geometry, Stream Equilibrium and Urbanization* In Rhodes, D. P. and Williams, G. P. *Adjustments to the Fluvial System* p.333-350. (1979); Dubuque, Iowa, Kendall/Hunt. Tenth Annual Geomorphology Symposia Series; and *The Importance of Imperviousness: Watershed Protection Techniques*, 1(3), Schueler, T. (1994).)
8. The County of Los Angeles has identified as the seven highest priority industrial and commercial critical source types, (i) wholesale trade (scrap recycling, auto dismantling); (ii) automotive repair/parking; (iii) fabricated metal products; (iv) motor freight; (v) chemical and allied products; (vi) automotive dealers/gas stations; (vii) primary metal products (*Critical*

Source Selection and Monitoring Report, Los Angeles County Department of Public Works -Sept 1996). Monitoring conducted by Los Angeles County and the Regional Board demonstrates that the priority industrial sectors and auto repair facilities (one of the commercial sectors) on the list, contribute significant concentrations of heavy metals to storm water (*Los Angeles County 1999-2000 Storm Water Monitoring Report*, Los Angeles County Department of Public Works -July 2000; *Compliance Assessment of the Auto Dismantling Industry; Evaluation of the California General Industrial Storm Water Permit*, H. Chang, (2001), 70 pp., California Regional Water Quality Control Board, Los Angeles Region).

9. The discharge of washwaters and contaminated storm water from industries and businesses specified in this Order for inspection by Permittees is an environmental threat and can also adversely impact public health and safety. For example, a review of industrial waste/pretreatment records performed in 1995 in the County of Los Angeles on illicit discharges indicates that automotive service facilities and food service facilities sometimes discharge polluted washwaters to the MS4. The pollutants of concern in such washwaters include food waste, oil and grease, and toxic chemicals. Other storm water/industrial waste programs in California have reported similar observations. Illicit discharges from automotive service facilities and food service facilities have been identified elsewhere as a major cause of widespread contamination and water quality problems (Washtenaw County Statutory Drainage Board - 1987 Huron River Pollution Abatement Program).
10. Studies indicate that facilities with paved surfaces subject to frequent motor vehicular traffic (such as parking lots and fast food restaurants), or facilities that perform vehicle repair, maintenance, or fueling (automotive service facilities) are potential sources of pollutants of concern in storm water. [References: Pitt *et al.*, *Urban Storm Water Toxic Pollutants: Assessment, Sources, and Treatability*, Water Environment Res., 67, 260 (1995); *Results of Retail Gas Outlet and Commercial Parking Lot Storm Water Runoff Study*, Western States Petroleum Association and American Petroleum Institute, (1994); *Action Plan Demonstration Project, Demonstration of Gasoline Fueling Station Best Management Practices*, Final Report, County of Sacramento (1993); *Source Characterization*, R. Pitt, In *Innovative Urban Wet-Weather Flow Management Systems* (2000) Technomic Press, Field, R *et al.* editors; *Characteristics of Parking Lot Runoff Produced by Simulated Rainfall*, L.L. Tiefenthaler *et al.* Technical Report 343, Southern California Coastal Water Research Project (2001).]
11. Retail Gasoline Outlets (RGOs) are points of convergence for vehicular traffic and are similar to parking lots and urban roads. Studies indicate that storm water discharges from RGOs have high concentrations of hydrocarbons and heavy metals. [*The Quality of Trapped Sediments and Poor Water within Oil Grit Separators in Suburban MD*, Schueler T. and Shepp D. (1992), and *Concentrations of Selected Constituents in Runoff from Impervious Surfaces in Four Urban Catchments of Different*

Landuse, Ranabal, F.I., and T.J. Gizzard (1995), In Proceedings of the Fourth Biennial Stormwater Research Conference, Florida, pp-42-52]. Pilot studies indicate that treatment control best management practices installed at retail gasoline stations are effective in removing pollutants, reasonable in capital cost, easy to operate, and do not present safety risks [Rouge River National Wet Weather Demonstration Project, Task Product Memorandum – Evaluation of On-line Media Filters RPO-NPS-TPM59.00, Wayne County, MI, March 1999]. The Regional Board and the San Diego Regional Board have jointly prepared a Technical Report on the applicability of new development BMP design criteria for retail gasoline outlets, (Retail Gasoline Outlets: New Development Design Standards for Mitigation of Storm Water Impacts, (June 2001)). Retail Gasoline Outlets in Western U.S. States (such as Washington and Oregon) are already subject to numerical BMP design criteria, as well in other U.S. States.

C. Permit Background

1. The essential components of the Storm Water Management Program, as established by federal regulations [40 CFR 122.26(d)] are: (i) Adequate Legal Authority, (ii) Fiscal Resources, (iii) Storm Water Quality Management Program (SQMP) - (Public Information and Participation Program, Industrial/Commercial Facilities Program, Development Planning Program, Development Construction Program, Public Agency Activities Program, Illicit Connection and Illicit Discharges Elimination Program), and (iv) Monitoring and Reporting Program.
2. The Permittees have filed a Report of Waste Discharge (ROWD), dated February 1, 2001, and applied for renewal of their waste discharge requirements that serves as an NPDES permit to discharge wastes to surface waters. The ROWD includes a proposed SQMP and a Monitoring Program. The proposed SQMP contains programs previously approved under Board Order No. 96-054 in the following areas:

Public Information and Participation
Development Planning
Development Construction
Public Agency Activities
Illicit Connection/Illicit Discharge Elimination Program

These programs are revised pursuant to the provisions of this Order after adoption.

3. The County of Los Angeles has previously conducted source identification and pollutant characterization consistent with 40 CFR 122.26(d)(1)(ii) and (iii) under its storm water Monitoring Program. The Monitoring Program submitted with the ROWD proposes to advance the assessment of receiving water impacts, identification of sources of pollution, evaluation of Best Management Practices (BMPs), and measurement of long term trends in mass emissions.

4. The Regional Board has reviewed the ROWD and has determined it to be complete under the reapplication policy of MS4s issued by the U.S. Environmental Protection Agency (USEPA) (61 *Fed. Reg.* 41697). The Regional Board finds that the Permittees' proposed SQMP, incorporating the additional and/or revised provisions contained in this Order would meet the minimum requirements of federal regulations.
5. The City of Los Angeles has conducted shoreline and nearshore water quality monitoring off the Santa Monica Bay since the 1950s under the monitoring program for the Hyperion Waste Water Treatment Plant (NPDES No. CA0109991). The monitoring results indicate that effluent from Hyperion's 5-Mile Outfall does not impinge the shoreline, and that elevated bacterial counts are associated with runoff from storm drains and discharges from piers. In 1994, the Regional Board approved the relocation of Hyperion's shoreline stations to implement a bay-wide, regional shoreline-monitoring program associated with storm drain outfalls in the Santa Monica Bay. The City of Los Angeles requested that the shoreline-monitoring requirement be incorporated in this Order. The shoreline pathogen monitoring requirements are outlined in the Monitoring Program for this Order.

D. Permit Coverage

1. The requirements in this Order cover all areas within the boundaries of the Permittee municipalities (see Attachment A) over which they have regulatory jurisdiction as well as unincorporated areas in Los Angeles County within the jurisdiction of the Regional Board. The Permittees serve a population of about 9.5 million [Reference: *2000 Census of Population and Housing*, Bureau of the Census, U.S. Department of Commerce (2001)] in an area of approximately 3,100 square miles.
2. Federal, state, regional or local entities within the Permittees' boundaries or in jurisdictions outside the Los Angeles County Flood Control District, and not currently named in this Order, may operate storm drain facilities and/or discharge storm water to storm drains and watercourses covered by this Order. The Permittees may lack legal jurisdiction over these entities under state and federal constitutions. The Regional Board will coordinate with these entities to implement programs that are consistent with the requirements of this Order. The Regional Board will consider such facilities for coverage in 2003 under its NPDES permitting scheme pursuant to USEPA Phase II storm water regulations.
3. Sources of discharges into receiving waters in the County of Los Angeles but in jurisdictions outside its boundary include the following:

About 34 square miles of unincorporated area in Ventura County, which drain into Malibu Creek and then to Santa Monica Bay,

About 9 square miles of the City of Thousand Oaks, which also drain into Malibu Creek and then to Santa Monica Bay, and

About 86 square miles of area in Orange County, which drain into Coyote Creek and then into the San Gabriel River.

The Regional Board will ensure that storm water management programs for the areas in Ventura County and the City of Thousand Oaks that drain into Santa Monica Bay are consistent with the requirements of this Order. The Regional Board will coordinate with the Santa Ana Regional Board so that storm water management programs for the areas in Orange County that drain into Coyote Creek are consistent with the requirements of this Order.

4. This permit is intended to develop, achieve, and implement a timely, comprehensive, cost-effective storm water pollution control program to reduce the discharge of pollutants in storm water to the Maximum Extent Practicable (MEP) from the permitted areas in the County of Los Angeles to the waters of the U.S. subject to the Permittees' jurisdiction.
5. Permittees have expressed their intention to work cooperatively to control the contribution of pollutants from one portion of the MS4 to another portion of the system. Permittees may control the contribution of pollutants to the MS4 from non-permittee dischargers such as Caltrans, the U.S. Department of Defense, and other state and federal facilities, through interagency agreements.

E. Federal, State, and Regional Regulations

1. The Water Quality Act of 1987 added Section 402(p) to the federal Clean Water Act (CWA) (33 U.S.C. § 1251-1387). This section requires the USEPA to establish regulations setting forth NPDES requirements for storm water discharges in two phases.
 - The USEPA Phase I storm water regulations were directed at MS4s serving a population of 100,000 or more, including interconnected systems and storm water discharges associated with industrial activities, including construction activities. The Phase I Final Rule was published on November 16, 1990 (55 *Fed. Reg.* 47990).
 - The USEPA Phase II storm water regulations are directed at storm water discharges not covered in Phase I, including small MS4s (serving a population of less than 100,000), small construction projects (one to five acres), municipal facilities with delayed coverage under the Intermodal Surface Transportation Efficiency Act of 1991, and other discharges for which the USEPA Administrator or the State determines that the storm water discharge contributes to a violation of a water quality standard, or is a significant contributor of pollutants to waters of the United States. The Phase II Final Rule was published on December 8, 1999 (64 *Fed. Reg.* 68722).
2. The USEPA published an 'Interim Permitting Approach for Water Quality-Based Effluent Limitations in Storm Water Permits' on August 26, 1996 (61 *Fed. Reg.* 43761). This policy discusses the appropriate kinds of

water quality-based effluent limitations to be included in NPDES storm water permits to provide for the attainment of water quality standards.

3. The USEPA published an 'Interpretative Policy Memorandum on Reapplication Requirements' for MS4 permits on August 9, 1996 (61 *Fed. Reg.* 41697). This policy requires that MS4 reapplication for reissuance for a subsequent five-year permit term contain certain basic information and information for proposed changes and improvements to the storm water management program and monitoring program.
4. The USEPA has entered into a Memorandum of Agreement (MOA) with the U.S. Fish and Wildlife Service and the National Marine Fisheries Service for enhancing coordination regarding the protection of endangered and threatened species under Section 7 of the Endangered Species Act and the CWA's Water Quality Standards and NPDES programs. Among other actions, the MOA establishes a framework for coordination of actions by the USEPA, the Services, and CWA delegated States on CWA permit issuance under Section 402 of the CWA [66 *Fed. Reg.* 11202 – 11217].
5. USEPA regulations at 40 CFR 122.26(d)(2)(iv)(A) and 40 CFR 122.26(d)(2)(iv)(C) require that MS4 permittees implement a program to monitor and control pollutants in discharges to the municipal system from industrial and commercial facilities that contribute a substantial pollutant load to the MS4. The regulations require that permittees establish priorities and procedures for inspection of industrial facilities and priority commercial establishments. This permit, consistent with the USEPA policy, incorporates a cooperative partnership, including the specifications of minimum expectations, between the Regional Board and the Permittees for the inspection of industrial facilities and priority commercial establishments to control pollutants in storm water discharges (58 *Fed. Reg.* 61157).
6. Section 402 (p) of the CWA (33 U.S.C. § 1342(p) provides that MS4 permits must "require controls to reduce the discharge of pollutants to the maximum extent practicable, including management practices, control techniques and system, design engineering method and such other provisions as the [EPA] Administrator or the State determines appropriate for the control of such pollutants." The State Water Resources Control Board's (State Board) Office of Chief Counsel (OCC) has issued a memorandum interpreting the meaning of MEP to include technical feasibility, cost, and benefit derived with the burden being on the municipality to demonstrate compliance with MEP by showing that a BMP is not technically feasible in the locality or that BMPs costs would exceed any benefit to be derived (dated February 11, 1993).
7. The CWA authorizes the USEPA to permit a state to serve as the NPDES permitting authority in lieu of the USEPA. The State of California has in-lieu authority for an NPDES program. The Porter-Cologne Water Quality Control Act authorizes the State Board, through the Regional Boards, to regulate and control the discharge of pollutants into waters of the State. The State Board entered into a MOA with the USEPA, on

September 22, 1989, to administer the NPDES Program governing discharges to waters of the U.S.

8. Section 303(d) of the CWA requires that the State identify a list of impaired water-bodies and develop and implement Total Maximum Daily Loads (TMDLs) for these waterbodies (33 U.S.C. §1313(d)(1)). A TMDL specifies the maximum amount of a pollutant that a water-body can receive, still meet applicable water quality standards and protect beneficial uses. The USEPA entered into a consent decree with the Natural Resources Defense Council (NRDC), Heal the Bay, and the Santa Monica BayKeeper on March 22, 1999, under which the Regional Board must adopt all TMDLs for the Los Angeles Region within 13 years from that date. This permit incorporates a provision to implement and enforce approved load allocations for municipal storm water discharges and requires amending the SQMP after pollutants loads have been allocated and approved.
9. Section 6217(g) of the Coastal Zone Act Reauthorization Amendments of 1990 (CZARA) requires coastal states with approved coastal zone management programs to address non-point pollution impacting or threatening coastal water quality. CZARA (16 U.S.C. § 1451-1465) amends the Coastal Zone Management Act of 1972, to address five sources of non-point pollution: agriculture, silviculture, urban, marinas, and hydromodification. This NPDES permit addresses the management measures required for the urban category, with the exception of septic systems. The Regional Board addresses septic systems through the administration of other programs.
10. On May 18, 2000, the USEPA established numeric criteria for priority toxic pollutants for the State of California (California Toxics Rule (CTR)) 65 *Fed. Reg.* 31682 (40 CFR 131.38), for the protection of human health and aquatic life. These apply as ambient water quality criteria for inland surface waters, enclosed bays, and estuaries. The State Board adopted the *Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California (SIP) – 2000*, on March 2, 2000, for implementation of the CTR (State Board Resolution No. 2000-15 as amended by Board Resolution No. 2000-030). This policy requires that discharges comply with TMDL-derived load allocations as soon as possible but no later than 20 years from the effective date of the policy.
11. The State Board adopted a revised Water Quality Control Plan for Ocean Waters of California (Ocean Plan) on July 23, 1997. The Ocean Plan contains water quality objectives which apply to all discharges to the coastal waters of California.
12. The State Board in *In Re: California Department of Transportation* (State Board Order WQ 2001-08), determined that the discharge of storm water to ASBS is subject to the prohibition in the Ocean Plan against the discharge of wastes to an ASBS.

13. The Regional Board adopted an updated Water Quality Control Plan (Basin Plan) for the Los Angeles Region on June 13, 1994, '*Water Quality Control Plan, Los Angeles Region: Basin Plan for the Coastal Watersheds of Los Angeles and Ventura Counties*, (1994).' The Basin Plan designates beneficial uses of receiving waters and specifies both narrative and numerical water quality objectives for the receiving waters in Los Angeles County.
14. The Regional Board on September 19, 2001, adopted amendments to the Basin Plan, to incorporate TMDLs for trash in the Los Angeles River (Resolution No. 01-013) and Ballona Creek (Resolution No. 01-014). After approval by the State Board, the Office of Administrative Law, and the USEPA, the TMDLs for trash will be effective and enforceable.
15. The Regional Board on April 13, 1998, approved BMPs for sidewalk rinsing to minimize the discharge of wash waters to the storm drain system (Resolution No. 98-08). By the same resolution, the Regional Board prohibited the discharge of municipal street wash waters to the storm drain system.
16. The Regional Board on April 13, 1998, approved recommended BMPs for industrial/commercial facilities (Resolution No. 98-08).
17. The Regional Board on April 22, 1999, approved a list of BMPs for use in development planning and development construction (Resolution No. 99-03)
18. The Regional Board adopted and approved requirements for new development and significant redevelopment projects in Los Angeles County to control the discharge of storm water pollutants in post-construction storm water, on January 26, 2000, in Board Resolution No. R-00-02. The Regional Board Executive Officer issued the approved Standard Urban Storm Water Mitigation Plans (SUSMPs) on March 8, 2000. The State Board in large part affirmed the Regional Board action and SUSMPs in State Board Order No. WQ 2000-11 issued on October 5, 2000.
 - The State Board's Chief Counsel has issued a statewide policy memorandum (dated December 26, 2000), which interprets the Order to provide broad discretion to Regional Boards and identifies potential future areas for inclusion in SUSMPs and the types of evidence and findings necessary. Such areas include ministerial projects, projects in environmentally sensitive areas, and water quality design criteria for RGOs.
 - The State Board's Chief Counsel interprets the Order to encourage regional solutions and endorses a mitigation fund or "bank" that may be funded by developers who obtain waivers from the numerical design standards for new development and significant redevelopment.
19. 40 CFR 131.10(a) prohibits states from designating waste transport or waste assimilation as a use for any water of the U.S. Authorizing the

construction of a storm water/ urban runoff treatment facility in a jurisdictional water body would be tantamount to accepting waste assimilation as an appropriate use for that water body. Furthermore, the construction and operation of a pollution control facility in a water body can impact the physical, chemical, and biological integrity as well as the beneficial uses of the water body. Therefore, storm water treatment and/or mitigation in accordance with SUSMPs and any other requirements of this Order must occur prior to the discharge of storm water into a water of the U.S.

20. The Regional Board supports a Watershed Management Approach to address water quality protection in the region. The objective of the Watershed Management Approach should be to provide a comprehensive and integrated strategy towards water resource protection, enhancement, and restoration while balancing economic and environmental impacts within a hydrologically defined drainage basin or watershed. It emphasizes cooperative relationships between regulatory agencies, the regulated community, environmental groups, and other stakeholders in the watershed to achieve the greatest environmental improvements with available resources.
21. To promote a watershed management approach, the County of Los Angeles is divided into six Watershed Management Areas (WMAs) as follows:

Malibu Creek and Rural Santa Monica Bay WMA
Ballona Creek and Urban Santa Monica Bay WMA
Los Angeles River WMA
San Gabriel River WMA
Dominguez Channel/Los Angeles Harbor WMA, and
Santa Clara River WMA

Attachment A shows the list of Permittees under each WMA and some Permittees have expressed an intent to form sub-watershed groups within the WMA to promote regional solutions for the mitigation of storm water discharge pollution.

22. To facilitate compliance with federal regulations, the State Board has issued two statewide general NPDES permits for storm water discharges: one for storm water from industrial sites [NPDES No. CAS000001, General Industrial Activity Storm Water Permit (GIASP)] and the other for storm water from construction sites [NPDES No. CAS000002, General Construction Activity Storm Water Permit (GCASP)]. The GCASP was reissued on August 19, 1999. The GIASP was reissued on April 17, 1997. Facilities discharging storm water associated with industrial activities and construction projects with a disturbed area of five acres or more are required to obtain individual NPDES permits for storm water discharges, or to be covered by a statewide general permit by completing and filing a Notice of Intent (NOI) with the State Board. The USEPA guidance anticipates coordination of the state-administered programs for

industrial and construction activities with the local agency program to reduce pollutants in storm water discharges to the MS4.

The Regional Board is the enforcement authority in the Los Angeles Region for the two statewide general permits regulating discharges from industrial facilities and construction sites, and all NPDES storm water and non-storm water permits issued by the Regional Board. These industrial and construction sites and discharges are also regulated under local laws and regulations.

23. The State Board, on October 28, 1968, adopted Resolution No. 68-16, which established an anti-degradation policy for the State and Regional Boards. This policy restricts the degradation of surface waters and protects waterbodies where existing water quality is higher than is necessary for the protection of beneficial uses.
24. The State Board, on June 17, 1999, adopted Order No. WQ 99-05, which, in a precedential decision, identifies acceptable receiving water limitations language to be included in municipal storm water permits issued by the State and Regional Boards. The receiving water limitations included herein are consistent with the State Board Order, USEPA Policy, and the U.S. Appellate court decision in, *Defenders of Wildlife v. Browner* (9th Cir, 1999). The State Board OCC has determined that the federal court decision did not conflict with State Board Order No. WQ 99-05 (memorandum dated October 14, 1999)
25. California Water Code (CWC) § 13263(a) requires that waste discharge requirements issued by the Regional Board shall implement any relevant water quality control plans that have been adopted; shall take into consideration the beneficial uses to be protected and the water quality objectives reasonably required for that purpose; other waste discharges; the need to prevent nuisance; and provisions of CWC § 13241. The Regional Board has considered the requirements of § 13263 and § 13241, and applicable plans, policies, rules, and regulations in developing these waste discharge requirements.
26. CWC § 13370 *et seq.* requires that waste discharge requirements issued by the Regional Boards be consistent with provisions of the federal CWA and its amendments.
27. On March 12, 2001, the U.S. Court of Appeals ruled that it is necessary to obtain a NPDES permit for application of aquatic pesticides to waterways. (*Headwaters, Inc. vs. Talent Irrigation District*, 243 F.3d. 526 (9th Cir., 2001)) This decision is controlling in California for nonagricultural applications of pesticides to waterways. The State Board adopted a general NPDES permit (Order No. 2001-12-DWQ) on July 19, 2001, for public entities that discharge pollutants to waters of the U.S. associated with the application of aquatic pesticides for resource or pest management. Public entities that conduct such activities must seek coverage under the general permit.

F. Implementation

1. The California Environmental Quality Act (CEQA) (Cal. Pub. Resources Code § 21000 *et seq.*) requires that public agencies consider the environmental impacts of the projects they approve for development. CEQA applies to projects that are considered discretionary and does not apply to ministerial projects, which involve the use of established standards or objective measurements. A ministerial project may be made discretionary by adopting local ordinance provisions or imposing conditions to create decision-making discretion in approving the project. In the alternative, Permittees may establish standards and objective criteria administratively for storm water mitigation for ministerial projects. For water quality purposes, the Regional Board considers that all new development and significant redevelopment activity in specified categories, that receive approval or permits from a municipality, are subject to storm water mitigation requirements.
2. The objective of this Order is to protect the beneficial uses of receiving waters in Los Angeles County. To meet this objective, this Order requires that the SQMP specify BMPs that will be implemented to reduce the discharge of pollutants in storm water to the maximum extent practicable. Further, Permittees are to assure that storm water discharges from the MS4 shall neither cause nor contribute to the exceedance of water quality standards and objectives nor create conditions of nuisance in the receiving waters, and that the discharge of non-storm water to the MS4 has been effectively prohibited.
3. The SQMP required in this Order builds upon the programs established in Order Nos. 90-079, and 96-054, consists of the components recommended in the USEPA guidance manual, and was developed with the cooperation of representatives from the regulated community and environmental groups. The SQMP includes provisions that promote customized initiatives, both on a countywide and watershed basis, in developing and implementing cost-effective measures to minimize discharge of pollutants to the receiving water. The various components of the SQMP, taken as a whole rather than individually, are expected to reduce pollutants in storm water and urban runoff to the maximum extent practicable. Provisions of the SQMP are fully enforceable under provisions of this Order.
4. The emphasis of the SQMP is pollution prevention through education, public outreach, planning, and implementation as source control BMPs first and then Structural and Treatment Control BMPs next. Successful implementation of the provisions of the SQMP will require cooperation and coordination of all public agencies in each Permittee's organization, among Permittees, and with the regulated community.
5. The implementation of a Public Information and Participation Program is a critical component of a storm water management program. An informed and knowledgeable community is critical to the success of a storm water management program since it helps insure the following: (i) greater support for the program as the public gains a greater understanding of

the reasons why it is necessary and important, and (ii) greater compliance with the program as the public becomes aware of the personal responsibilities expected of them and others in the community, including the individual actions they can take to protect or improve the quality of area waters.

6. This Order includes a Monitoring Program that incorporates Minimum Levels (MLs) established under the SIP. The SIP's MLs represent the lowest quantifiable concentration for priority toxic pollutants that is measurable with the use of proper method-based analytical procedures and factoring out matrix interference. The SIP's MLs therefore represent the best available science for determining MLs and are appropriate for a storm water monitoring program. The use of MLs allows the detection of toxic priority pollutants at concentrations of concern using recent advances in chemical analytical methods.
7. This Order provides flexibility for Permittees to petition the Regional Board Executive Officer to substitute a BMP under the SQMP with an alternative BMP, if they can provide information and documentation on the effectiveness of the alternative, equal to or greater than the prescribed BMP in meeting the objectives of this Order.
8. This Order contemplates that the Permittees are responsible for considering potential storm water impacts when making planning decisions in order to fulfill the Permittees' CWA requirement to reduce the discharge of pollutants in municipal storm water to the MEP from new development and redevelopment activities. However, the Permittees retain authority to make the final land-use decisions and retain full statutory authority for deciding what land uses are appropriate at specific locations within each Permittee's jurisdiction. This Order and its requirements are not intended to restrict or control local land use decision-making authority.
9. This Order is not intended to prohibit the inspection for or abatement of vectors by the State Department of Health Services or local vector agencies in accordance with Cal. Health and Safety Code § 2270 *et seq.* and §116110 *et seq.* Certain Treatment Control BMPs if not properly designed, operated or maintained may create habitats for vectors (e.g. mosquito and rodents). This Order contemplates that the Permittees will closely cooperate and collaborate with local vector control agencies and the State Department of Health Services for the implementation, operation, and maintenance of Treatment Control BMPs in order to minimize the risk to public health from vector borne diseases.

G. Public Process

1. The Regional Board has notified the Permittees and interested agencies and persons of its intent to issue waste discharge requirements for this discharge, and has provided them with an opportunity to submit their written view and recommendations.

2. The Regional Board, in a public hearing, heard and considered all comments pertaining to the discharge and to the tentative requirements.
3. The Regional Board has conducted public workshops to discuss drafts of the permit. On April 24, 2001, Regional Board staff conducted a workshop outlining the reasoning behind the changes proposed for the new permit and received input from the Permittees and the public regarding those proposed changes. On July 26, 2001, a second public workshop was held at a special Regional Board meeting. The Permittees and the public had another opportunity to express their opinions regarding the proposed changes to the permit in front of the Regional Board members. A significant number of working meetings with the Permittees and other interested parties have occurred throughout the period from the submittal of the ROWD and completion of the tentative draft, in an attempt to incorporate and address all the comments presented.
4. The Los Angeles County Flood Control District, the County of Los Angeles and the other municipalities are co-permittees as defined in 40 CFR 122.26 (b)(1). Los Angeles County Flood Control District will coordinate with the other municipalities and facilitate program implementation. Each Permittee is responsible only for a discharge for which it is the operator.
5. This Order shall serve as a NPDES Permit, pursuant to CWA § 402, or amendments thereto, and shall take effect 50 days from Order adoption provided the Regional Administrator of the USEPA has no objections.
6. The action to adopt an NPDES permit is exempt from the provisions of Chapter 3 of CEQA (Cal. Pub. Resources Code § 21100 *et seq.*), in accordance with CWC § 13389.
7. Pursuant to CWC §13320, any aggrieved party may seek review of this Order by filing a petition with the State Board. A petition must be sent to: State Water Resources Control Board, P.O. Box 100, Sacramento, California, 95812, within 30 days of adoption of the Order by the Regional Board.
8. This Order may be modified or alternatively revoked or reissued prior to its expiration date, in accordance with the procedural requirements of the NPDES program, and the CWC for the issuance of waste discharge requirements.

IT IS HEREBY ORDERED that the Los Angeles County Flood Control District, Los Angeles County, and the Cities of Agoura Hills, Alhambra, Arcadia, Artesia, Azusa, Baldwin Park, Bell, Bellflower, Bell Gardens, Beverly Hills, Bradbury, Burbank, Calabasas, Carson, Cerritos, Claremont, Commerce, Compton, Covina, Cudahy, Culver City, Diamond Bar, Downey, Duarte, El Monte, El Segundo, Gardena, Glendale, Glendora, Hawaiian Gardens, Hawthorne, Hermosa Beach, Hidden Hills, Huntington Park, Industry, Inglewood, Irwindale, La Cañada Flintridge, La Habra Heights, Lakewood, La Mirada, La Puente, La Verne, Lawndale, Lomita, Los Angeles, Lynwood, Malibu, Manhattan Beach, Maywood, Monrovia, Montebello, Monterey Park, Norwalk, Palos Verdes Estates, Paramount, Pasadena, Pico Rivera, Pomona, Rancho Palos Verdes,

Redondo Beach, Rolling Hills, Rolling Hills Estates, Rosemead, San Dimas, San Fernando, San Gabriel, San Marino, Santa Clarita, Santa Fe Springs, Santa Monica, Sierra Madre, Signal Hill, South El Monte, South Gate, South Pasadena, Temple City, Torrance, Vernon, Walnut, West Covina, West Hollywood, Westlake Village, and Whittier, in order to meet the provisions contained in Division 7 of the CWC and regulations adopted thereunder, and the provisions of the CWA, as amended, and regulations and guidelines adopted thereunder, shall comply with the following:

Part 1. DISCHARGE PROHIBITIONS

The Permittees shall effectively prohibit non-storm water discharges into the MS4 and watercourses, except where such discharges:

1. Are covered by a separate individual or general NPDES permit for non-storm water discharges; or
2. Fall within one of the categories below, and meet all conditions when specified by the Regional Board Executive Officer:
 - a) Category A - Natural flow:
 - (1) Natural springs and rising ground water;
 - (2) Flows from riparian habitats or wetlands;
 - (3) Stream diversions, permitted by the State Board; and
 - (4) Uncontaminated ground water infiltration [as defined by 40 CFR 35.2005(20)].
 - b) Category B - Flows from emergency fire fighting activity.
 - c) Category C - Flows incidental to urban activities:
 - (1) Reclaimed and potable landscape irrigation runoff;
 - (2) Potable drinking water supply and distribution system releases (consistent with American Water Works Association guidelines for dechlorination and suspended solids reduction practices);
 - (3) Drains for foundations, footings, and crawl spaces;
 - (4) Air conditioning condensate;
 - (5) Dechlorinated/debrominated swimming pool discharges;
 - (6) Dewatering of lakes and decorative fountains;
 - (7) Non-commercial car washing by residents or by non-profit organizations; and
 - (8) Sidewalk rinsing.

The Regional Board Executive Officer may add or remove categories of non-storm water discharges above. Furthermore, in the event that any of

the above categories of non-storm water discharges are determined to be a source of pollutants by the Regional Board Executive Officer, the discharge will no longer be exempt from this prohibition unless the Permittee implements conditions approved by the Regional Board Executive Officer to ensure that the discharge is not a source of pollutants. Notwithstanding the above, the Regional Board Executive Officer may impose additional prohibitions of non-storm water discharges in consideration of anti-degradation policies and TMDLs.

Part 2. RECEIVING WATER LIMITATIONS

1. Discharges from the MS4 that cause or contribute to the violation of Water Quality Standards or water quality objectives are prohibited.
2. Discharges from the MS4 of storm water, or non-storm water, for which a Permittee is responsible for, shall not cause or contribute to a condition of nuisance.
3. The Permittees shall comply with Part 2.1. and 2.2. through timely implementation of control measures and other actions to reduce pollutants in the discharges in accordance with the SQMP and its components and other requirements of this Order including any modifications. The SQMP and its components shall be designed to achieve compliance with receiving water limitations. If exceedances of Water Quality Objectives or Water Quality Standards (collectively, Water Quality Standards) persist, notwithstanding implementation of the SQMP and its components and other requirements of this permit, the Permittee shall assure compliance with discharge prohibitions and receiving water limitations by complying with the following procedure:
 - a) Upon a determination by either the Permittee or the Regional Board that discharges are causing or contributing to an exceedance of an applicable Water Quality Standard, the Permittee shall promptly notify and thereafter submit a Receiving Water Limitations (RWL) Compliance Report (as described in the Program Reporting Requirements, Section I of the Monitoring and Reporting Program) to the Regional Board that describes BMPs that are currently being implemented and additional BMPs that will be implemented to prevent or reduce any pollutants that are causing or contributing to the exceedances of Water Quality Standards. This RWL Compliance Report may be incorporated in the annual Storm Water Report and Assessment unless the Regional Board directs an earlier submittal. The RWL Compliance Report shall include an implementation schedule. The Regional Board may require modifications to the RWL Compliance Report.
 - b) Submit any modifications to the RWL Compliance Report required by the Regional Board within 30 days of notification.
 - c) Within 30 days following the approval of the RWL Compliance Report, the Permittee shall revise the SQMP and its components and monitoring program to incorporate the approved modified

BMPs that have been and will be implemented, an implementation schedule, and any additional monitoring required.

- d) Implement the revised SQMP and its components and monitoring program according to the approved schedule.
4. So long as the Permittee has complied with the procedures set forth above and is implementing the revised SQMP and its components, the Permittee does not have to repeat the same procedure for continuing or recurring exceedances of the same receiving water limitations unless directed by the Regional Board to develop additional BMPs.

Part 3. STORM WATER QUALITY MANAGEMENT PROGRAM (SQMP) IMPLEMENTATION

A. General Requirements

1. Each Permittee shall, at a minimum, implement the SQMP. The SQMP is an enforceable element of this Order. The SQMP shall be implemented no later than February 1, 2002, unless a later date has been specified for a particular provision in this Order.
2. The SQMP shall, at a minimum, comply with the applicable storm water program requirements of 40 CFR 122.26(d)(2). The SQMP and its components shall be implemented so as to reduce the discharges of pollutants in storm water to the MEP.
3. Each Permittee shall implement additional controls, where necessary, to reduce the discharges of pollutants in storm water to the MEP.
4. Permittees that modify the countywide SQMP (i.e., implement additional controls, implement different controls than described in the countywide SQMP, or determine that certain BMPs in the countywide SQMP are not applicable in the area under its jurisdiction), shall develop a local SQMP, no later than August 1, 2002. The local SQMP shall be customized to reflect the conditions in the area under the Permittee's jurisdiction and shall specify activities being implemented under the appropriate elements described in the countywide SQMP.

B. Best Management Practice Implementation

The Permittees shall implement or require the implementation of the most effective combination of BMPs for storm water/urban runoff pollution control. When implemented, BMPs are intended to result in the reduction of pollutants in storm water to the MEP.

C. Revision of the Storm Water Quality Management Program

The Permittees shall revise the SQMP, at the direction of the Regional Board Executive Officer, to incorporate program implementation amendments so as to comply with regional, watershed specific requirements, and/or waste load

allocations developed and approved pursuant to the process for the designation and implementation of Total Maximum Daily Loads (TMDLs) for impaired water bodies.

D. Designation and Responsibilities of the Principal Permittee

The Los Angeles County Flood Control District is hereby designated as the Principal Permittee. As such, the Principal Permittee shall:

1. Coordinate and facilitate activities necessary to comply with the requirements of this Order, but is not responsible for ensuring compliance of any individual Permittee;
2. Coordinate permit activities among Permittees and act as liaison between Permittees and the Regional Board on permitting issues;
3. Provide personnel and fiscal resources for the necessary updates of the SQMP and its components;
4. Provide technical and administrative support for committees that will be organized to implement the SQMP and its components;
5. Convene the Watershed Management Committees (WMCs) constituted pursuant to Part F, below, upon designation of representatives;
6. Implement the Countywide Monitoring Program required under this Order and evaluate, assess and synthesize the results of the monitoring program;
7. Provide personnel and fiscal resources for the collection, processing and submittal to the Regional Board of annual reports and summaries of other reports required under the SQMP; and
8. Comply with the "Responsibilities of the Permittees" in Part 3.E., below.

E. Responsibilities of the Permittees

Each Permittee is required to comply with the requirements of this Order applicable to discharges within its boundaries (see Findings D.1, D.2. and D.3.) and not for the implementation of the provisions applicable to the Principal Permittee or other Permittees. Each Permittee shall, within its geographic jurisdiction:

1. Comply with the requirements of the SQMP and any modifications thereto;
2. Coordinate among its internal departments and agencies, as appropriate, to facilitate the implementation of the requirements of the SQMP applicable to such Permittee in an efficient and cost-effective manner;
3. Designate a technically knowledgeable representative to the appropriate WMC;

4. Participate in intra-agency coordination (e.g. Fire Department, Building and Safety, Code Enforcement, Public Health, etc.) necessary to successfully implement the provisions of this Order and the SQMP.
5. Prepare an annual Budget Summary of expenditures applied to the storm water management program. This summary shall identify the storm water budget for the following year, using estimated percentages and written explanations where necessary, for the specific categories noted below:
 - a) Program management
 - Administrative costs
 - b) Program Implementation

Where information is available, provide an estimated percent breakdown of expenditures for the categories below:

 - Illicit connection/illicit discharge
 - Development planning
 - Development construction
 - Construction inspection activities
 - Industrial/Commercial inspection activities
 - Public Agency Activities
 - Maintenance of Structural BMPs and Treatment Control BMPs
 - Municipal Street Sweeping
 - Catch basin clean-up
 - Trash collection
 - Capital costs
 - c) Public Information and Participation
 - d) Monitoring Program
 - e) Miscellaneous Expenditures
6. Each Permittee, in addition to the Budget Summary, shall report any supplemental dedicated budgets for the same categories.

F. Watershed Management Committees (WMCs)

1. Each WMC shall be comprised of a voting representative from each Permittee in the WMA.
2. The WMC's chair and secretary shall be chosen by the WMC upon Order adoption and on an annual basis, thereafter. In the absence of volunteer Permittee(s) for the positions, the Principal Permittee shall assume those roles until the WMC chooses members of the committee for the positions.
3. Each WMC shall:
 - a) Facilitate cooperation and exchange of information among Permittees;

- b) Establish additional goals and objectives and associated deadlines for the WMA, as the program implementation progresses;
- c) Prioritize pollution control efforts based on beneficial use impairment(s), watershed characteristics and analysis of results from studies and the monitoring program;
- d) Develop and/or update and monitor the adequate implementation, on an annual basis, of the tasks identified for the WMA;
- e) Assess the effectiveness of, prepare revisions for, and recommend appropriate changes to the SQMP and its components;
- f) Continue to prioritize the Industrial/Commercial critical sources for investigation, outreach and follow-up; and
- g) Meet four times per year and, as necessary.

G. Legal Authority

1. Permittees shall possess the necessary legal authority to prohibit non-storm water discharges to the storm drain system, including, but not limited to:
 - a) Illicit discharges and illicit connections and require removal of illicit connections;
 - b) The discharge of wash waters to the MS4 from the cleaning of gas stations, auto repair garages, or other types of automotive service facilities;
 - c) The discharge of runoff to the MS4 from mobile auto washing, steam cleaning, mobile carpet cleaning, and other such mobile commercial and industrial operations;
 - d) The discharge of runoff to the MS4 from areas where repair of machinery and equipment which are visibly leaking oil, fluid or antifreeze, is undertaken;
 - e) The discharge of runoff to the MS4 from storage areas of materials containing grease, oil, or other hazardous substances, and uncovered receptacles containing hazardous materials;
 - f) The discharge of chlorinated/ brominated swimming pool water and filter backwash to the MS4;
 - g) The discharge of runoff from the washing of toxic materials from paved or unpaved areas to the MS4;
 - h) Washing impervious surfaces in industrial/commercial areas that results in a discharge of runoff to the MS4;

- i) The discharge of concrete or cement laden wash water from concrete trucks, pumps, tools, and equipment to the MS4; and
 - j) Dumping or disposal of materials into the MS4 other than storm water, such as:
 - (1) Litter, landscape debris and construction debris;
 - (2) Any state or federally banned or unregistered pesticides;
 - (3) Food and food processing wastes; and
 - (4) Fuel and chemical wastes, animal wastes, garbage, batteries, and other materials that have potential adverse impacts on water quality.
2. The Permittees shall possess adequate legal authority to:
- a) Require persons within their jurisdiction to comply with conditions in Permittees' ordinances, permits, contracts, model programs, or orders (i.e. hold dischargers to its MS4 accountable for their contributions of pollutants and flows);
 - b) Utilize enforcement mechanisms to require compliance with Permittees ordinances, permits, contracts, or orders;
 - c) Control pollutants, including potential contribution, in discharges of storm water runoff associated with industrial activities (including construction activities) to its MS4 and control the quality of storm water runoff from industrial sites (including construction sites). This requirement applies to Source Control, and Treatment Control BMPs;
 - d) Carry out all inspection, surveillance and monitoring procedures necessary to determine compliance and non-compliance with permit conditions, including the prohibition of illicit discharges to the MS4. Permittees must possess authority to enter, sample, inspect, review and copy records, and require regular reports from industrial facilities (including construction sites) discharging polluted or with the potential to discharge polluted storm water runoff into its MS4;
 - e) Require the use of BMPs to prevent or reduce the discharge of pollutants to MS4s to MEP; and
 - f) Require that Treatment Control BMPs be properly operated and maintained to prevent the breeding of vectors.
3. Each Permittee shall, no later than November 1, 2002, amend and adopt (if necessary), a Permittee-specific storm water and urban runoff ordinance to enforce all requirements of this permit.
4. Each Permittee shall submit no later than December 2, 2002, a new or updated statement by its legal counsel that the Permittee has obtained all

necessary legal authority to comply with this Order through adoption of ordinances and/or municipal code modifications.

Part 4. SPECIAL PROVISIONS

Maximum Extent Practicable Standard

This permit, and the provisions herein, are intended to develop, achieve, and implement a timely, comprehensive, cost-effective storm water pollution control program to reduce the discharge of pollutants in storm water to the MEP from the permitted areas in the County of Los Angeles to the waters of the State.

A. General Requirements

1. Best Management Practice Substitution

The Regional Board Executive Officer may approve any site-specific BMP substitution upon petition by a Permittee(s), if the Permittee can document that:

- a) The proposed alternative BMP or program will meet or exceed the objective of the original BMP or program in the reduction of storm water pollutants; or
- b) The fiscal burden of the original BMP or program is substantially greater than the proposed alternative and does not achieve a substantially greater improvement in storm water quality; and,
- c) The proposed alternative BMP or program will be implemented within a similar period of time.

B. Public Information and Participation Program (PIPP)

The Principal Permittee shall implement a Public Information and Participation Program (PIPP) that includes, but is not limited to, the requirements listed in this section. The Principal Permittee shall be responsible for developing and implementing the Public Education Program, as described in the SQMP, and shall coordinate with Permittees to implement specific requirements.

The objectives of the PIPP are as follows:

- To measurably increase the knowledge of the target audiences regarding the MS4, the impacts of storm water pollution on receiving waters, and potential solutions to mitigate the problems caused;
- To measurably change the waste disposal and runoff pollution generation behavior of target audiences by encouraging implementation of appropriate solutions; and
- To involve and engage socio-economic groups and ethnic communities in Los Angeles County to participate in mitigating the impacts of storm water pollution.

The Principal Permittee shall convene an advisory committee to provide input and assistance in meeting the goals and objectives of the public education campaign. The advisory committee shall be consulted during the process of developing the PIPP campaign, and shall provide comments and advice during the process of preparing a Request For Proposals for a storm water public education contractor. The committee may participate as a part of a working group that evaluates contractor proposals and other tasks as appropriate. The committee shall be comprised of representatives of the environmental community, Permittee cities, Regional Board staff, and experts in the fields of public education and marketing. The Principal Permittee shall ensure that the committee meets at least once a year.

1. Residential Program

a) "No Dumping" Message

Each Permittee shall mark all storm drain inlets that they own with a legible "no dumping" message. In addition, signs with prohibitive language discouraging illegal dumping must be posted at designated public access points to creeks, other relevant water bodies, and channels no later than February 2, 2004. Signage and storm drain messages shall be legible and maintained as necessary during the term of the permit.

b) Countywide Hotline

The 888-CLEAN-LA hotline will serve as the general public reporting contact for reporting clogged catch basin inlets and illicit discharges/dumping, faded or lack of catch basin stencils, and general storm water management information. Each Permittee may establish its own hotline if preferred. Permittees shall include this information, updated when necessary, in public information, and the government pages of the telephone book, as they are developed or published. The Principal Permittee shall compile a list of the general public reporting contacts from all Permittees and make this information available on the web site (888CleanLA.com) and upon request. Permittees shall provide the Principal Permittee with their reporting contacts no later than March 1, 2002. Permittees are responsible for providing current, updated information to the Principal Permittee.

c) Outreach and Education

(1) The Principal Permittee shall continue to implement the following activities that were components of the first five-year PIPP:

- (i) Advertising;
- (ii) Media relations;
- (iii) Public service announcements;
- (iv) "How To" instructional material distributed in a targeted and activity-related manner;

- (v) Corporate, community association, environmental organization and entertainment industry tie-ins; and
 - (vi) Events targeted to specific activities and population subgroups.
- (2) The Principal Permittee shall develop a strategy to educate ethnic communities and businesses through culturally effective methods. Details of this strategy should be incorporated into the Public Education Program, and implemented, no later than February 3, 2003.
 - (3) The Principal Permittee shall enhance the existing outreach efforts to residents and businesses related to the proper disposal of cigarette butts.
 - (4) Each Permittee shall conduct educational activities within its jurisdiction and participate in countywide events.
 - (5) The Principal Permittee shall organize Public Outreach Strategy meetings for Permittees on a quarterly basis, beginning no later than May 1, 2002. The Principal Permittee shall provide guidance for Permittees to augment the countywide outreach and education program. Permittees shall coordinate regional and local outreach and education to reduce duplication of efforts. Permittees are encouraged to include other interested parties in the outreach strategy to strengthen and coordinate educational efforts.
 - (6) The Principal Permittee shall ensure that a minimum of 35 million impressions per year are made on the general public about storm water quality via print, local TV access, local radio, or other appropriate media.
 - (7) The Principal Permittee, in cooperation with the Permittees, shall provide schools within each School District in the County with materials, including, but not limited to, videos, live presentations, and other information necessary to educate a minimum of 50 percent of all school children (K-12) every 2 years on storm water pollution.
 - (8) Permittees shall provide the contact information for their appropriate staff responsible for storm water public education activities to the Principal Permittee no later than April 1, 2002, and changes to contact information no later than 30 days after a change occurs.
 - (9) The Principal Permittee shall develop a strategy to measure the effectiveness of in-school educational programs. The protocol shall include assessment of students' knowledge of storm water pollution problems and

solutions before and after educational efforts are conducted. The protocol shall be developed and submitted to the Regional Board Executive Officer for approval no later than May 1, 2002. It shall be implemented upon approval.

- (10) In order to ensure that the PIPP is demonstrably effective in changing the behavior of the public, the Principal Permittee shall develop a behavioral change assessment strategy no later than May 1, 2002. The strategy shall be developed based on sociological data and studies (such as the County Segmentation Study). The Principal Permittee shall submit the assessment strategy to the Regional Board Executive Office for approval. It shall be implemented on approval.

d) Pollutant-Specific Outreach

The Principal Permittee, in cooperation with Permittees, shall coordinate to develop outreach programs that focus on the watershed-specific pollutants listed in Table 1 no later than February 3, 2003. Metals may be appropriately addressed through the Industrial/Commercial Facilities Program (e.g. distribute education materials on appropriate BMPs for metal waste management to facilities that have been identified as a potential source, such as metal fabricating facilities). Region-wide pollutants may be included in the Principal Permittee's mass media outreach efforts.

Watershed	Target Pollutants for Outreach
Ballona Creek	Trash, Indicator Bacteria, Metals, PAHs
Malibu Creek	Trash, Nutrients (Nitrogen), Indicator Bacteria, Sediments
Los Angeles River	Trash, Nutrients (Nitrogen), Indicator Bacteria, Metals, Pesticides, PAHs
San Gabriel River	Trash, Nutrients (Nitrogen), Indicator Bacteria, Metals
Santa Clara River	Nutrients (Nitrogen), Coliform
Dominguez Channel	Trash, Indicator Bacteria, PAHs

Each Permittee shall make outreach materials available to the general public and target audiences, such as schools, community groups, contractors and developers, and at appropriate public counters and events. Outreach material shall include information on pollutants, sources of concern, and source abatement measures.

2. Businesses Program

a) Corporate Outreach

The Principal Permittee shall develop and implement a Corporate Outreach program to educate and inform corporate managers about storm water regulations. The program shall target RGOs and restaurant chains. At a minimum, this program shall include:

- (1) Conferring with corporate management to explain storm water regulations;
- (2) Distribution and discussion of educational material regarding storm water pollution and BMPs, and provide managers with suggestions to facilitate employee compliance with storm water regulations.

Corporate Outreach for all RGOs and restaurant chain corporations shall be conducted not less than twice during the permit term, with the first outreach contact to begin no later than February 3, 2003.

b) Business Assistance Program

The Principal Permittee and Permittees may implement a Business Assistance Program to provide technical resource assistance to small businesses to advise them on BMPs implementation to reduce the discharge of pollutants in storm water runoff. Programs may include:

- (1) On-site technical assistance or consultation via telephone to identify and implement storm water pollution prevention methods and best management practices; and
- (2) Making available, distributing, and discussing of applicable BMP and educational materials.

C. Industrial/Commercial Facilities Control Program

Each Permittee shall require implementation of pollutant reduction and control measures at industrial and commercial facilities, with the objective of reducing pollutants in storm water runoff. Except as specified in other sections of this Order, pollutant reduction and control measures can be used alone or in combination, and can include Structural and Source Control BMPs, and operation and maintenance procedures, which can be applied before, during, and/or after pollution generating activities. At a minimum, the Industrial/Commercial Facilities Control Program shall include requirements to: (1) track, (2) inspect, and (3) ensure compliance at industrial and commercial facilities that are critical sources of pollutants in storm water.

1. Track Critical Sources

- a) Each Permittee shall maintain a watershed-based inventory or database of all facilities within its jurisdiction that are critical sources of storm water pollution. Critical sources to be tracked are summarized below, and also specified in Attachment B:
- (1) Commercial Facilities
 - restaurants;
 - automotive service facilities; and
 - RGOs and automotive dealerships.
 - (2) USEPA Phase I Facilities (Tier 1 and 2)
 - (3) Other Federally-mandated Facilities [as specified in 40 CFR 122.26(d)(2)(iv)(C)]
 - municipal landfills;
 - hazardous waste treatment, disposal, and recovery facilities; and
 - facilities subject to SARA Title III (also known as EPCRA).
- b) Each Permittee shall include the following minimum fields of information for each industrial and commercial facility:
- name of facility and name of owner/operator;
 - address;
 - coverage under the GIASP or other individual or general NPDES permits; and
 - a narrative description including SIC codes that best reflects the industrial activities at and principal products of each facility.

The Regional Board encourages Permittees to add other fields of information, such as material usage and/or industrial output, and discrepancies between SIC Code designations (as reported by facility operators) and the actual type of industrial activity has the potential to pollute storm water. In addition, the Regional Board recommends use of an automated database system, such as a Geographical Information System (GIS) or Internet-based system; however, this is not required.

- c) Each Permittee shall update its inventory of critical sources at least annually. The update may be accomplished through collection of new information obtained through field activities or through other readily available intra-agency informational databases (e.g. business licenses, pretreatment permits, sanitary sewer hook-up permits).

2. Inspect Critical Sources

Each Permittee shall inspect all facilities in the categories and at a level and frequency as specified in the following subsections.

a) Commercial Facilities

(1) Restaurants

Frequency of Inspections: Twice during the 5-year term of the Order, provided that the first inspection occurs no later than August 1, 2004, and that there is a minimum interval of one year in between the first compliance inspection and the second compliance inspection.

Level of inspections: Each Permittee, in cooperation with its appropriate department (such as health or public works), shall inspect all restaurants within its jurisdiction to confirm that storm water BMPs are being effectively implemented in compliance with State law, County and municipal ordinances, Regional Board Resolution 98-08, and the SQMP. At each restaurant, inspectors shall verify that the restaurant operator:

- has received educational materials on storm water pollution prevention practices;
- does not pour oil and grease or oil and grease residue onto a parking lot, street or adjacent catch basin;
- keeps the trash bin area clean and trash bin lids closed, and does not fill trash bins with washout water or any other liquid;
- does not allow illicit discharges, such as discharge of washwater from floormats, floors, porches, parking lots, alleys, sidewalks and street areas (in the immediate vicinity of the establishment), filters or garbage/trash containers;
- removes food waste, rubbish or other materials from parking lot areas in a sanitary manner that does not create a nuisance or discharge to the storm drain.

(2) Automotive Service Facilities

Frequency of Inspections: Twice during the 5-year term of the Order, provided that the first inspection occurs no later than August 1, 2004, and that there is a minimum interval of one year in between the first compliance inspection and the second compliance inspection.

Level of inspections: Each Permittee shall inspect all automotive service facilities within its jurisdiction to confirm that storm water BMPs are effectively implemented in compliance with County and municipal ordinances, Regional Board Resolution 98-08, and the SQMP. At each

automotive service facility, inspectors shall verify that each operator:

- maintains the facility area so that it is clean and dry and without evidence of excessive staining;
- implements housekeeping BMPs to prevent spills and leaks;
- properly discharges wastewaters to a sanitary sewer and/or contains wastewaters for transfer to a legal point of disposal;
- is aware of the prohibition on discharge of non-storm water to the storm drain;
- properly manages raw and waste materials including proper disposal of hazardous waste;
- protects outdoor work and storage areas to prevent contact of pollutants with rainfall and runoff;
- labels, inspects, and routinely cleans storm drain inlets that are located on the facility's property; and
- trains employees to implement storm water pollution prevention practices.

(3) Retail Gasoline Outlets and Automotive Dealerships

Frequency of Inspection: Twice during the 5-year term of the Order, provided that the first inspection occurs no later than August 1, 2004, and that there is a minimum interval of one year in between the first compliance inspection and the second compliance inspection.

Level of Inspection: Each Permittee shall confirm that BMPs are being effectively implemented at each RGO and automotive dealership within its jurisdiction, in compliance with the SQMP, Regional Board Resolution 98-08, and the Stormwater Quality Task Force Best Management Practice Guide for RGOs. At each RGO and automotive dealership, inspectors shall verify that each operator:

- routinely sweeps fuel-dispensing areas for removal of litter and debris, and keeps rags and absorbents ready for use in case of leaks and spills;
- is aware that washdown of facility area to the storm drain is prohibited;
- is aware of design flaws (such as grading that doesn't prevent run-on, or inadequate roof covers and berms), and that equivalent BMPs are implemented;
- inspects and cleans storm drain inlets and catch basins within each facility's boundaries no later than October 1st of each year;

- posts signs close to fuel dispensers, which warn vehicle owners/operators against “topping off” of vehicle fuel tanks and installation of automatic shutoff fuel dispensing nozzles;
- routinely checks outdoor waste receptacle and air/water supply areas, cleans leaks and drips, and ensures that only watertight waste receptacles are used and that lids are closed; and
- trains employees to properly manage hazardous materials and wastes as well as to implement other storm water pollution prevention practices.

b) Phase I Facilities

Permittees need not inspect facilities that have been inspected by the Regional Board within the past 24 months. For the remaining Phase I facilities that the Regional Board has not inspected, each Permittee shall conduct compliance inspections as specified below.

Frequency of Inspection

Facilities in Tier 1 Categories: Twice during the 5-year term of the Order, provided that the first inspection occurs no later than August 1, 2004, and that there is a minimum interval of one year in between the first compliance inspection and the second compliance inspection.

Facilities in Tier 2 Categories: Twice during the 5-year term of the permit, provided that the first inspection occurs no later than August 1, 2004. Permittees need not perform additional inspections at those facilities determined to have no risk of exposure of industrial activity to storm water. For those facilities that do have exposure of industrial activities to storm water, a Permittee may reduce the frequency of additional compliance inspections to once every 5 years, provided that the Permittee inspects at least 20% of the facilities in Tier 2 each year.

Level of Inspection: Each Permittee shall confirm that each operator:

- has a current Waste Discharge Identification (WDID) number for facilities discharging storm water associated with industrial activity, and that a Storm Water Pollution Prevention Plan is available on-site, and
- is effectively implementing BMPs in compliance with County and municipal ordinances, Regional Board Resolution 98-08, and the SQMP.

c) Other Federally-mandated Facilities

Frequency of Inspection: Twice during the 5-year term of the Order, provided that the first inspection occurs no later than August 1, 2004, and that there is a minimum interval of one year in between the first compliance inspection and the second compliance inspection.

Level of Inspection: Each Permittee shall confirm that each operator:

- has a current Waste Discharge Identification (WDID) number for facilities discharging storm water associated with industrial activity, and that a Storm Water Pollution Prevention Plan is available on-site, and
- is effectively implementing BMPs in compliance with County and municipal ordinances, Regional Board Resolution 98-08, and the SQMP.

3. Ensure Compliance of Critical Sources

- a) **BMP Implementation:** In the event that a Permittee determines that a BMP specified by the SQMP or Regional Board Resolution 98-08 is infeasible at any site, that Permittee shall require implementation of other BMPs that will achieve the equivalent reduction of pollutants in the storm water discharges. Likewise, for those BMPs that are not adequate to achieve water quality objectives, Permittees may require additional site-specific controls, such as Treatment Control BMPs.
- b) **Environmentally Sensitive Areas and Impaired Waters:** For critical sources that are in ESAs or that are tributary to CWA § 303(d) impaired water bodies, Permittees shall consider requiring operators to implement additional controls to reduce pollutants in storm water runoff that are causing or contributing to the exceedences of Water Quality Objectives.
- c) **Progressive Enforcement:** Each Permittee shall implement a progressive enforcement policy to ensure that facilities are brought into compliance with all storm water requirements within a reasonable time period as specified below.
- (1) In the event that a Permittee determines, based on an inspection conducted above, that an operator has failed to adequately implement all necessary BMPs, that Permittee shall take progressive enforcement action which, at a minimum, shall include a follow-up inspection within 4 weeks from the date of the initial inspection.

- (2) In the event that a Permittee determines that an operator has failed to adequately implement BMPs after a follow-up inspection, that Permittee shall take further enforcement action as established through authority in its municipal code and ordinances or through the judicial system.
 - (3) Each Permittee shall maintain records, including inspection reports, warning letters, notices of violations, and other enforcement records, demonstrating a good faith effort to bring facilities into compliance.
- d) Interagency Coordination
- (1) **Referral of Violations of the SQMP, Regional Board Resolution 98-08, and Municipal Storm Water Ordinances:** A Permittee may refer a violation(s) to the Regional Board provided that that Permittee has made a good faith effort of progressive enforcement. At a minimum, a Permittee's good faith effort must include documentation of:
 - Two follow-up inspections, and
 - Two warning letters or notices of violation.
 - (2) **Referral of Violations of the GIASP, including Requirements to File a Notice of Intent:** For those facilities in violation of the GIASP, Permittees may escalate referral of such violations to the Regional Board after one inspection and one written notice to the operator regarding the violation. In making such referrals, Permittees shall include, at a minimum, the following documentation:
 - Name of the facility;
 - Operator of the facility;
 - Owner of the facility;
 - Industrial activity being conducted at the facility that is subject to the GIASP; and
 - Records of communication with the facility operator regarding the violation, which shall include at least an inspection report and one written notice of the violation.

Permittees shall, at a minimum, make such referrals on a quarterly basis.
 - (3) **Investigation of Complaints Regarding Facilities – Transmitted by the Regional Board Staff:** Each Permittee shall initiate, within one business day, investigation of complaints (other than non-storm water discharges) regarding facilities within its jurisdiction. The initial investigation shall include, at a minimum, a limited

inspection of the facility to confirm the complaint to determine if the facility is effectively complying with the SQMP and municipal storm water/urban runoff ordinances, and to oversee corrective action.

- (4) **Support of Regional Board Enforcement Actions:** As directed by the Regional Board Executive Officer, Permittees shall support Regional Board enforcement actions by: assisting in identification of current owners, operators, and lessees of facilities; providing staff, when available, for joint inspections with Regional Board inspectors; appearing as witnesses in Regional Board enforcement hearings; and providing copies of inspection reports and other progressive enforcement documentation.
- (5) **Participation in a Task Force:** The Permittees, Regional Board, and other stakeholders may form a Storm Water Task Force, the purpose of which is to communicate concerns regarding special cases of storm water violations by industrial and commercial facilities and to develop a coordinated approach to enforcement action.

D. Development Planning Program

The Permittees shall implement a development-planning program that will require all Planning Priority development and Redevelopment projects to:

- Minimize impacts from storm water and urban runoff on the biological integrity of Natural Drainage Systems and water bodies in accordance with requirements under CEQA (Cal. Pub. Resources Code § 21100), CWC § 13369, CWA § 319, CWA § 402(p), CWA § 404, CZARA § 6217(g), ESA § 7, and local government ordinances ;
- Maximize the percentage of pervious surfaces to allow percolation of storm water into the ground;
- Minimize the quantity of storm water directed to impervious surfaces and the MS4;
- Minimize pollution emanating from parking lots through the use of appropriate Treatment Control BMPs and good housekeeping practices;
- Properly design and maintain Treatment Control BMPs in a manner that does not promote the breeding of vectors; and
- Provide for appropriate permanent measures to reduce storm water pollutant loads in storm water from the development site.

1. Peak Flow Control

The Permittees shall control post-development peak storm water runoff discharge rates, velocities, and duration (peak flow control) in Natural

Drainage Systems (i.e., mimic pre-development hydrology) to prevent accelerated stream erosion and to protect stream habitat. Natural Drainage Systems are located in the following areas:

- a) Malibu Creek;
- b) Topanga Canyon Creek;
- c) Upper Los Angeles River;
- d) Upper San Gabriel River;
- e) Santa Clara River; and
- f) Los Angeles County Coastal streams (see Basin Plan Table 2-1).

The Principal Permittee in consultation with Permittees shall develop numerical criteria for peak flow control, based on the results of the Peak Discharge Impact Study (see Monitoring Program Section II.I).

Each Permittee shall, no later than February 1, 2005, implement numerical criteria for peak flow control.

A Permittee or group of Permittees may substitute for the countywide peak flow control criteria with a Hydromodification Control Plan (HCP), on approval by the Regional Board, in the following circumstances:

- (1) Stream or watershed-specific conditions indicate the need for a different peak flow control criteria, and the alternative numerical criteria is developed through the application of hydrologic modeling and supporting field observations; or
- (2) A watershed-wide plan has been developed for implementation of control measures to reduce erosion and stabilize drainage systems on a watershed basis.

2. Standard Urban Storm Water Mitigation Plans (SUSMPs)

- a) Each Permittee shall amend codes and ordinances not later than August 1, 2002 to give legal effect to SUSMP changes contained in this Order. Changes to SUSMP requirements shall take effect not later than September 2, 2002.
- b) Each Permittee shall require that a single-family hillside home:
 - (1) Conserve natural areas;
 - (2) Protect slopes and channels;
 - (3) Provide storm drain system stenciling and signage;
 - (4) Divert roof runoff to vegetated areas before discharge unless the diversion would result in slope instability; and

- (5) Direct surface flow to vegetated areas before discharge unless the diversion would result in slope instability.
- c) Each Permittee shall require that a SUSMP as approved by the Regional Board in Board Resolution No. R 00-02 be implemented for the following categories of developments:
 - (1) Ten or more unit homes (includes single family homes, multifamily homes, condominiums, and apartments);
 - (2) A 100,000 or more square feet of impervious surface area industrial/ commercial development;
 - (3) Automotive service facilities (SIC 5013, 5014, 5541, 7532-7534, and 7536-7539);
 - (4) Retail gasoline outlets;
 - (5) Restaurants (SIC 5812);
 - (6) Parking lots 5,000 square feet or more of surface area or with 25 or more parking spaces; and
 - (7) Redevelopment projects in subject categories that meet Redevelopment thresholds.
- d) Each Permittee shall submit an ESA Delineation Map for its jurisdictional boundary, based on the Regional Board's ESA Definition, no later than June 3, 2002, for approval by the Regional Board Executive Officer in consultation with the California Department of Fish and Game, and the California Coastal Commission.
- e) Each Permittee shall require the implementation of SUSMP provisions no later than September 2, 2002, for all projects located in or directly adjacent to or discharging directly to an ESA, where the development will:
 - (1) Discharge storm water and urban runoff that is likely to impact a sensitive biological species or habitat; and
 - (2) Create 2,500 square feet or more of impervious surface area.

3. Numerical Design Criteria

The Permittees shall require that post-construction Treatment Control BMPs incorporate, at a minimum, either a volumetric or flow based treatment control design standard, or both, as identified below to mitigate (infiltrate, filter or treat) storm water runoff:

- a) Volumetric Treatment Control BMP
 - (1) The 85th percentile 24-hour runoff event determined as the maximized capture storm water volume for the area, from

the formula recommended in *Urban Runoff Quality Management, WEF Manual of Practice No. 23/ ASCE Manual of Practice No. 87, (1998)*; or

- (2) The volume of annual runoff based on unit basin storage water quality volume, to achieve 80 percent or more volume treatment by the method recommended in *California Stormwater Best Management Practices Handbook – Industrial/ Commercial, (1993)*; or
 - (3) The volume of runoff produced from a 0.75 inch storm event, prior to its discharge to a storm water conveyance system; or
 - (4) The volume of runoff produced from a historical-record based reference 24-hour rainfall criterion for “treatment” (0.75 inch average for the Los Angeles County area) that achieves approximately the same reduction in pollutant loads achieved by the 85th percentile 24-hour runoff event.
- b) Flow Based Treatment Control BMP
- (1) The flow of runoff produced from a rain event equal to at least 0.2 inches per hour intensity; or
 - (2) The flow of runoff produced from a rain event equal to at least two times the 85th percentile hourly rainfall intensity for Los Angeles County; or
 - (3) The flow of runoff produced from a rain event that will result in treatment of the same portion of runoff as treated using volumetric standards above.

4. Applicability of Numerical Design Criteria

The Permittees shall require the following categories of Planning Priority Projects to design and implement post-construction treatment controls to mitigate storm water pollution:

- a) Single-family hillside residential developments of one acre or more of surface area;
- b) Housing developments (includes single family homes, multifamily homes, condominiums, and apartments) of ten units or more;
- c) A 100,000 square feet or more impervious surface area industrial/commercial development;
- d) Automotive service facilities (SIC 5013, 5014, 5541, 7532-7534 and 7536-7539) [5,000 square feet or more of surface area];
- e) Retail gasoline outlets [5,000 square feet or more of impervious surface area and with projected Average Daily Traffic (ADT) of 100 or more vehicles]. Subsurface Treatment Control BMPs

which may endanger public safety (i.e., create an explosive environment) are considered not appropriate;

- f) Restaurants (SIC 5812) [5,000 square feet or more of surface area];
 - g) Parking lots 5,000 square feet or more of surface area or with 25 or more parking spaces;
 - h) Projects located in, adjacent to or discharging directly to an ESA that meet threshold conditions identified above in 2.e; and
 - i) Redevelopment projects in subject categories that meet Redevelopment thresholds.
5. Not later than March 10, 2003, each Permittee shall require the implementation of SUSMP and post-construction control requirements for the industrial/commercial development category to projects that disturb one acre or more of surface area.
6. Site Specific Mitigation

Each Permittee shall, no later than September 2, 2002, require the implementation of a site-specific plan to mitigate post-development storm water for new development and redevelopment not requiring a SUSMP but which may potentially have adverse impacts on post-development storm water quality, where one or more of the following project characteristics exist:

- a) Vehicle or equipment fueling areas;
 - b) Vehicle or equipment maintenance areas, including washing and repair;
 - c) Commercial or industrial waste handling or storage;
 - d) Outdoor handling or storage of hazardous materials;
 - e) Outdoor manufacturing areas;
 - f) Outdoor food handling or processing;
 - g) Outdoor animal care, confinement, or slaughter; or
 - h) Outdoor horticulture activities.
7. Redevelopment Projects

The Permittees shall apply the SUSMP, or site specific requirements including post-construction storm water mitigation to all Planning Priority Projects that undergo significant Redevelopment in their respective categories.

- a) Significant Redevelopment means land-disturbing activity that results in the creation or addition or replacement of 5,000 square

feet or more of impervious surface area on an already developed site.

Where Redevelopment results in an alteration to more than fifty percent of impervious surfaces of a previously existing development, and the existing development was not subject to post development storm water quality control requirements, the entire project must be mitigated. Where Redevelopment results in an alteration to less than fifty percent of impervious surfaces of a previously existing development, and the existing development was not subject to post development storm water quality control requirements, only the alteration must be mitigated, and not the entire development.

- b) Redevelopment does not include routine maintenance activities that are conducted to maintain original line and grade, hydraulic capacity, original purpose of facility or emergency redevelopment activity required to protect public health and safety.
- c) Existing single family structures are exempt from the Redevelopment requirements.

8. Maintenance Agreement and Transfer

Each Permittee shall require that all developments subject to SUSMP and site specific plan requirements provide verification of maintenance provisions for Structural and Treatment Control BMPs, including but not limited to legal agreements, covenants, CEQA mitigation requirements, and or conditional use permits. Verification at a minimum shall include:

- a) The developer's signed statement accepting responsibility for maintenance until the responsibility is legally transferred; and either
- b) A signed statement from the public entity assuming responsibility for Structural or Treatment Control BMP maintenance and that it meets all local agency design standards; or
- c) Written conditions in the sales or lease agreement, which requires the recipient to assume responsibility for maintenance and conduct a maintenance inspection at least once a year; or
- d) Written text in project conditions, covenants and restrictions (CCRs) for residential properties assigning maintenance responsibilities to the Home Owners Association for maintenance of the Structural and Treatment Control BMPs; or
- e) Any other legally enforceable agreement that assigns responsibility for the maintenance of post-construction Structural or Treatment Control BMPs.

9. Regional Storm Water Mitigation Program

A Permittee or Permittee group may apply to the Regional Board for approval of a regional or sub-regional storm water mitigation program to substitute in part or wholly SUSMP requirements. Upon review and a determination by the Regional Board Executive Officer that the proposal is technically valid and appropriate, the Regional Board may consider for approval such a program if its implementation will:

- a) Result in equivalent or improved storm water quality;
- b) Protect stream habitat;
- c) Promote cooperative problem solving by diverse interests;
- d) Be fiscally sustainable and has secure funding; and
- e) Be completed in five years including the construction and start-up of treatment facilities.

Nothing in this provision shall be construed as to delay the implementation of SUSMP requirements, as approved in this Order.

10. Mitigation Funding

The Permittees may propose a management framework, for endorsement by the Regional Board Executive Officer, to support regional or sub-regional solutions to storm water pollution, where any of the following situations occur:

- a) A waiver for impracticability is granted;
- b) Legislative funds become available;
- c) Off-site mitigation is required because of loss of environmental habitat; or
- d) An approved watershed management plan or a regional storm water mitigation plan exists that incorporates an equivalent or improved strategy for storm water mitigation.

11. California Environmental Quality Act (CEQA) Document Update

Each Permittee shall incorporate into its CEQA process, with immediate effect, procedures for considering potential storm water quality impacts and providing for appropriate mitigation when preparing and reviewing CEQA documents. The procedures shall require consideration of the following:

- a) Potential impact of project construction on storm water runoff;
- b) Potential impact of project post-construction activity on storm water runoff;
- c) Potential for discharge of storm water from areas from material storage, vehicle or equipment fueling, vehicle or equipment maintenance (including washing), waste handling, hazardous

materials handling or storage, delivery areas or loading docks, or other outdoor work areas;

- d) Potential for discharge of storm water to impair the beneficial uses of the receiving waters or areas that provide water quality benefit;
- e) Potential for the discharge of storm water to cause significant harm on the biological integrity of the waterways and water bodies;
- f) Potential for significant changes in the flow velocity or volume of storm water runoff that can cause environmental harm; and
- g) Potential for significant increases in erosion of the project site or surrounding areas.

12. General Plan Update

- a) Each Permittee shall amend, revise or update its General Plan to include watershed and storm water quality and quantity management considerations and policies when any of the following General Plan elements are updated or amended: (i) Land Use, (ii) Housing, (iii) Conservation, and (iv) Open Space.
- b) Each Permittee shall provide the Regional Board with the draft amendment or revision when a listed General Plan element or the General Plan is noticed for comment in accordance with Cal. Govt. Code § 65350 *et seq.*

13. Targeted Employee Training

Each Permittee shall train its employees in targeted positions (whose jobs or activities are engaged in development planning) regarding the development planning requirements on an annual basis beginning no later than August 1, 2002, and more frequently if necessary. For Permittees with a population of 250,000 or more (2000 U.S. Census), training shall be completed no later than February 3, 2003.

14. Developer Technical Guidance and Information

- a) Each Permittee shall develop and make available to the developer community SUSMP (development planning) guidelines immediately.
- b) The Principal Permittee in partnership with Permittees shall issue no later than February 2, 2004, a technical manual for the siting and design of BMPs for the development community in Los Angeles County. The technical manual may be adapted from the revised California Storm Water Quality Task Force Best Management Practices Handbooks scheduled for publication in September 2002. The technical manual shall at a minimum include:

- (1) Treatment Control BMPs based on flow-based and volumetric water quality design criteria for the purposes of countywide consistency;
- (2) Peak Flow Control criteria to control peak discharge rates, velocities and duration;
- (3) Expected pollutant removal performance ranges obtained from national databases, technical reports and the scientific literature;
- (4) Maintenance considerations; and
- (5) Cost considerations.

E. Development Construction Program

1. Each Permittee shall implement a program to control runoff from construction activity at all construction sites within its jurisdiction. The program shall ensure the following minimum requirements are effectively implemented at all construction sites:
 - a) Sediments generated on the project site shall be retained using adequate Treatment Control or Structural BMPs;
 - b) Construction-related materials, wastes, spills, or residues shall be retained at the project site to avoid discharge to streets, drainage facilities, receiving waters, or adjacent properties by wind or runoff;
 - c) Non-storm water runoff from equipment and vehicle washing and any other activity shall be contained at the project site; and
 - d) Erosion from slopes and channels shall be controlled by implementing an effective combination of BMPs (as approved in Regional Board Resolution No. 99-03), such as the limiting of grading scheduled during the wet season; inspecting graded areas during rain events; planting and maintenance of vegetation on slopes; and covering erosion susceptible slopes.
2. For construction sites one acre and greater, each Permittee shall comply with all conditions in section E.1. above and shall:
 - a) Require the preparation and submittal of a Local Storm Water Pollution Prevention Plan (Local SWPPP), for approval prior to issuance of a grading permit for construction projects.
The Local SWPPP shall include appropriate construction site BMPs and maintenance schedules. (A Local SWPPP may substitute for the State SWPPP if the Local SWPPP is at least as inclusive in controls and BMPs as the State SWPPP). The Local SWPPP must include the rationale used for selecting or rejecting BMPs. The project architect, or engineer of record, or authorized

qualified designee, must sign a statement on the Local SWPPP to the effect:

“As the architect/engineer of record, I have selected appropriate BMPs to effectively minimize the negative impacts of this project’s construction activities on storm water quality. The project owner and contractor are aware that the selected BMPs must be installed, monitored, and maintained to ensure their effectiveness. The BMPs not selected for implementation are redundant or deemed not applicable to the proposed construction activity.”

The landowner or the landowner’s agent shall sign a statement to the effect:

“I certify that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system or those persons directly responsible for gathering the information, to the best of my knowledge and belief, the information submitted is true, accurate, and complete. I am aware that submitting false and/or inaccurate information, failing to update the Local SWPPP to reflect current conditions, or failing to properly and/or adequately implement the Local SWPPP may result in revocation of grading and/or other permits or other sanctions provided by law.”

The Local SWPPP certification shall be signed by the landowner as follows, for a corporation: by a responsible corporate officer which means (a) a president, secretary, treasurer, or vice president of the corporation in charge of a principal business function, or any other person who performs similar policy or decision-making functions for the corporation, or (b) the manager of the construction activity if authority to sign documents has been assigned or delegated to the manager in accordance with corporate procedures; for a partnership or sole proprietorship: by a general partner or the proprietor; or for a municipality or other public agency: by an elected official, a ranking management official (e.g., County Administrative Officer, City Manager, Director of Public Works, City Engineer, District Manager), or the manager of the construction activity if authority to sign Local SWPPPs has been assigned or delegated to the manager in accordance with established agency policy.

- b) Inspect all construction sites for storm water quality requirements during routine inspections a minimum of once during the wet season. The Local SWPPP shall be reviewed for compliance with local codes, ordinances, and permits. For inspected sites that have not adequately implemented their Local SWPPP, a follow-up inspection to ensure compliance will take place within 2 weeks. If compliance has not been attained, the Permittee will take additional actions to achieve compliance (as specified in municipal

- codes). If compliance has not been achieved, and the site is also covered under a statewide general construction storm water permit, each Permittee shall enforce their local ordinance requirements, and if non-compliance continues the Regional Board shall be notified for further joint enforcement actions.
- c) Require, no later than March 10, 2003, prior to issuing a grading permit for all projects less than five acres requiring coverage under a statewide general construction storm water permit, proof of a Waste Discharger Identification (WDID) Number for filing a Notice of Intent (NOI) for permit coverage and a certification that a SWPPP has been prepared by the project developer. A Local SWPPP may substitute for the State SWPPP if the Local SWPPP is at least as inclusive in controls and BMPs as the State SWPPP.
3. For sites five acres and greater, each Permittee shall comply with all conditions in Sections E.1. and E.2. and shall:
- a) Require, prior to issuing a grading permit for all projects requiring coverage under the state general permit, proof of a Waste Discharger Identification (WDID) Number for filing a Notice of Intent (NOI) for coverage under the GCASP and a certification that a SWPPP has been prepared by the project developer. A Local SWPPP may substitute for the State SWPPP if the Local SWPPP is at least as inclusive in controls and BMPs as the State SWPPP.
- b) Require proof of an NOI and a copy of the SWPPP at any time a transfer of ownership takes place for the entire development or portions of the common plan of development where construction activities are still on-going.
- c) Use an effective system to track grading permits issued by each Permittee. To satisfy this requirement, the use of a database or GIS system is encouraged, but not required.
4. GCASP Violation Referrals
- a) Referral of Violations of the SQMP, Regional Board Resolution 98-08, and municipal storm water ordinances:
A Permittee may refer a violation(s) to the Regional Board provided that the Permittee has made a good faith effort of progressive enforcement. At a minimum, a Permittee's good faith effort must include documentation of:
- Two follow-up inspections within 3 months, and
 - Two warning letters or notices of violation.
- b) Referral of Violations of GCASP Filing Requirements:
For those projects subject to the GCASP, Permittees shall refer non-filers (i.e., those projects which cannot demonstrate that they have a WDID number) to the Regional Board, within 15 days of

making a determination. In making such referrals, Permittees shall include, at a minimum, the following documentation:

- Project location;
- Developer;
- Estimated project size; and
- Records of communication with the developer regarding filing requirements.

5. Each Permittee shall train employees in targeted positions (whose jobs or activities are engaged in construction activities including construction inspection staff) regarding the requirements of the storm water management program no later than August 1, 2002, and annually thereafter. For Permittees with a population of 250,000 or more (2000 U.S. Census), initial training shall be completed no later than February 3, 2003. Each Permittee shall maintain a list of trained employees.

F. Public Agency Activities Program

Each Permittee shall implement a Public Agency program to minimize storm water pollution impacts from public agency activities. Public Agency requirements consist of:

- Sewage Systems Maintenance, Overflow, and Spill Prevention
- Public Construction Activities Management
- Vehicle Maintenance/Material Storage Facilities/Corporation Yards Management
- Landscape and Recreational Facilities Management
- Storm Drain Operation and Management
- Streets and Roads Maintenance
- Parking Facilities Management
- Public Industrial Activities Management
- Emergency Procedures
- Treatment Feasibility Study

1. Sewage System Maintenance, Overflow, and Spill Prevention
 - a) Each Permittee shall implement a response plan for overflows of the sanitary sewer system within their respective jurisdiction, which shall consist at a minimum of the following:
 - (1) Investigation of any complaints received;
 - (2) Upon notification, immediate response to overflows for containment; and
 - (3) Notification to appropriate sewer and public health agencies when a sewer overflows to the MS4.
 - b) In addition to 1.a.1, 1.a.2, and 1.a.3 above, for those Permittees, which own and/or operate a sanitary sewer system, the Permittee shall also implement the following requirements:

- (1) Procedures to prevent sewage spills or leaks from sewage facilities from entering the MS4; and
 - (2) Identify, repair, and remediate sanitary sewer blockages, exfiltration, overflow, and wet weather overflows from sanitary sewers to the MS4.
2. Public Construction Activities Management
 - a) Each Permittee shall implement the Development Planning Program requirements (Permit Part 4.D) at public construction projects.
 - b) Each Permittee shall implement the Development Construction Program requirements (Permit Part 4.E) at Permittee owned construction sites.
 - c) Each Permittee shall obtain coverage under the GCASP for public construction sites 5 acres or greater (or part of a larger area of development) except that a municipality under 100,000 in population (1990 U.S. Census) need not obtain coverage under a separate permit until March 10, 2003.
 - d) Each Permittee, no later than March 10, 2003, shall obtain coverage under a statewide general construction storm water permit for public construction sites for projects between one and five acres.
3. Vehicle Maintenance/Material Storage Facilities/Corporation Yards Management
 - a) Each Permittee, consistent with the SQMP, shall implement SWPPPs for public vehicle maintenance facilities, material storage facilities, and corporation yards which have the potential to discharge pollutants into storm water.
 - b) Each Permittee shall implement BMPs to minimize pollutant discharges in storm water including but not be limited to:
 - (1) Good housekeeping practices;
 - (2) Material storage control;
 - (3) Vehicle leaks and spill control; and
 - (4) Illicit discharge control.
 - c) Each Permittee shall implement the following measures to prevent the discharge of pollutants to the MS4:
 - (1) For existing facilities, that are not already plumbed to the sanitary sewer, all vehicle and equipment wash areas (except for fire stations) shall either be:

- (i) Self-contained;
 - (ii) Equipped with a clarifier;
 - (iii) Equipped with an alternative pre-treatment device;
or
 - (iv) Plumbed to the sanitary sewer.
- (2) For new facilities, or during redevelopment of existing facilities (including fire stations), all vehicle and equipment wash areas shall be plumbed to the sanitary sewer and be equipped with a pre-treatment device in accordance with requirements of the sewer agency.

4. Landscape and Recreational Facilities Management

Each Permittee shall implement the following requirements:

- a) A standardized protocol for the routine and non-routine application of pesticides, herbicides (including pre-emergents), and fertilizers;
- b) Consistency with State Board's guidelines and monitoring requirements for application of aquatic pesticides to surface waters (WQ Order No. 2001-12 DWQ);
- c) Ensure no application of pesticides or fertilizers immediately before, during, or immediately after a rain event or when water is flowing off the area to be applied;
- d) Ensure that no banned or unregistered pesticides are stored or applied;
- e) Ensure that staff applying pesticides are certified by the California Department of Food and Agriculture, or are under the direct supervision of a certified pesticide applicator;
- f) Implement procedures to encourage retention and planting of native vegetation and to reduce water, fertilizer, and pesticide needs;
- g) Store fertilizers and pesticides indoors or under cover on paved surfaces or use secondary containment;
- h) Reduce the use, storage, and handling of hazardous materials to reduce the potential for spills; and
- i) Regularly inspect storage areas.

5. Storm Drain Operation and Management

- a) Each Permittee shall designate catch basin inlets within its jurisdiction as one of the following:
- Priority A: Catch basins that are designated as consistently generating the highest volumes of trash and/or debris.
 - Priority B: Catch basins that are designated as consistently generating moderate volumes of trash and/or debris.
 - Priority C: Catch basins that are designated as generating low volumes of trash and/or debris.

- b) Permittees subject to a trash TMDL (Los Angeles River and Ballona Creek WMAs) shall continue to implement the requirements listed below until trash TMDL implementation measures are adopted. Thereafter, the subject Permittees shall implement programs in conformance with the TMDL implementation schedule, which shall include an effective combination of measures such as street sweeping, catch basin cleaning, installation of treatment devices and trash receptacles, or other BMPs. Default requirements include:

- (1) Inspection and cleaning of catch basins between May 1 and September 30 of each year;
- (2) Additional cleaning of any catch basin that is at least 40% full of trash and/or debris;
- (3) Record keeping of catch basins cleaned; and
- (4) Recording of the overall quantity of catch basin waste collected.

If the implementation phase for the Los Angeles River and Ballona Creek Trash TMDLs has not begun by October 2003, subject Permittees shall implement the requirements described below in subsection 5(c), until such time programs in conformance with the subject Trash TMDLs are being implemented.

- c) Permittees not subject to a trash TMDL shall:
- (1) Clean catch basins according to the following schedule:
 - Priority A: A minimum of three times during the wet season and once during the dry season every year.
 - Priority B: A minimum of once during the wet season and once during the dry season every year.

Priority C: A minimum of once per year.

In addition to the schedule above, between February 1, 2002 and July 1, 2003, Permittees shall ensure that any catch basin that is at least 40% full of trash and/or debris shall be cleaned out. After July 1, 2003, Permittees shall ensure that any catch basin that is at least 25% full of trash and debris shall be cleaned out.

- (2) For any special event that can be reasonably expected to generate substantial quantities of trash and litter, include provisions that require for the proper management of trash and litter generated, as a condition of the special use permit issued for that event. At a minimum, the municipality who issues the permit for the special event shall arrange for either temporary screens to be placed on catch basins or for catch basins in that area to be cleaned out subsequent to the event and prior to any rain event.
 - (3) Place trash receptacles at all transit stops within its jurisdiction that have shelters no later than August 1, 2002, and at all other transit stops within its jurisdiction no later than February 3, 2003. All trash receptacles shall be maintained as necessary.
- d) Each Permittee shall inspect the legibility of the catch basin stencil or label nearest the inlet. Catch basins with illegible stencils shall be recorded and re-stenciled or re-labeled within 180 days of inspection.
- e) Each Permittee shall implement BMPs for Storm Drain Maintenance that include:
- (1) A program to visually monitor Permittee-owned open channels and other drainage structures for debris at least annually and identify and prioritize problem areas of illicit discharge for regular inspection;
 - (2) A review of current maintenance activities to assure that appropriate storm water BMPs are being utilized to protect water quality;
 - (3) Removal of trash and debris from open channel storm drains shall occur a minimum of once per year before the storm season;
 - (4) Minimize the discharge of contaminants during MS4 maintenance and clean outs; and
 - (5) Proper disposal of material removed.

6. Streets and Roads Maintenance
- a) Each Permittee shall designate streets and/or street segments within its jurisdiction as one of the following:
- Priority A: Streets and/or street segments that are designated as consistently generating the highest volumes of trash and/or debris.
- Priority B: Streets and/or street segments that are designated as consistently generating moderate volumes of trash and/or debris.
- Priority C: Streets and/or street segments that are designated as generating low volumes of trash and/or debris.
- b) Each Permittee shall perform street sweeping of curbed streets according to the following schedule:
- Priority A: These streets and/or street segments shall be swept at least two times per month.
- Priority B: Each Permittee shall ensure that each street and/or street segments is swept at least once per month.
- Priority C: These streets and/or street segments shall be swept as necessary but in no case less than once per year.
- c) Each Permittee shall require that:
- (1) Sawcutting wastes be recovered and disposed of properly and that in no case shall waste be left on a roadway or allowed to enter the storm drain;
- (2) Concrete and other street and road maintenance materials and wastes shall be managed to prevent discharge to the MS4; and
- (3) The washout of concrete trucks and chutes shall only occur in designated areas and never discharged to storm drains, open ditches, streets, or catch basins.
- d) Each Permittee shall, no later than August 1, 2002, train their employees in targeted positions (whose interactions, jobs, and activities affect storm water quality) regarding the requirements of the storm water management program to:
- (1) Promote a clear understanding of the potential for maintenance activities to pollute storm water; and
- (2) Identify and select appropriate BMPs.

For Permittees with a population of 250,000 or more (2000 U.S. Census) training shall be completed no later than February 1, 2003.

7. Parking Facilities Management

Permittee-owned parking lots exposed to storm water shall be kept clear of debris and excessive oil buildup and cleaned no less than 2 times per month and/or inspected no less than 2 times per month to determine if cleaning is necessary. In no case shall a Permittee-owned parking lot be cleaned less than once a month.

8. Public Industrial Activities Management

Each Permittee shall, for any municipal activity considered a discharge of storm water associated with industrial activity, obtain separate coverage under the GIASP except that a municipality under 100,000 in population (1990 U.S. Census) need not file the Notice Of Intent to be covered by said permit until March 10, 2003 (with the exception of power plants, airports, and uncontrolled sanitary landfills).

9. Emergency Procedures

Each Permittee shall repair essential public services and infrastructure in a manner to minimize environmental damage in emergency situations such as: earthquakes; fires; floods; landslides; or windstorms. BMPs shall be implemented to the extent that measures do not compromise public health and safety. After initial emergency response or emergency repair activities have been completed, each Permittee shall implement BMPs and programs as required under this Order.

10. Treatment Feasibility Study

The Permittees in cooperation with the County Sanitation Districts of Los Angeles County shall conduct a study to investigate the possible diversion of dry weather discharges or the use of alternative Treatment Control BMPs to treat flows from their jurisdiction which may impact public health and safety and/or the environment. The Permittees shall collectively review their individual prioritized lists and create a watershed based priority list of drains for potential diversion or treatment and submit the priority listing to the Regional Board Executive Officer, no later than July 1, 2003.

G. Illicit Connections and Illicit Discharges Elimination Program

Permittees shall eliminate all illicit connections and illicit discharges to the storm drain system, and shall document, track, and report all such cases in accordance

with the elements and performance measures specified in the following subsections.

1. General

- a) Implementation: Each Permittee must develop an Implementation Program which specifies how each Permittee is implementing revisions to the IC/ID Program of the SQMP. This Implementation Program must be documented, and available for review and approval by the Regional Board Executive Officer, upon request.
- b) Tracking: All Permittees shall, no later than February 3, 2003, develop and maintain a listing of all permitted connections to their storm drain system. All Permittees shall map at a scale and in a format specified by the Principal Permittee all illicit connections and discharges on their baseline maps, and shall transmit this information to the Principal Permittee. No later than February 3, 2003, the Principal Permittee shall use this information as well as results of baseline and priority screening for illicit connections (as set forth in subsection 2 below) to start an annual evaluation of patterns and trends of illicit connections and illicit discharges, with the objectives of identifying priority areas for elimination of illicit connections and illicit discharges.
- c) Training: All Permittees shall train all targeted employees who are responsible for identification, investigation, termination, cleanup, and reporting of illicit connections and discharges. For Permittees with a population of less than 250,000 (2000 U.S. Census), training shall be completed no later than August 1, 2002. For Permittees with a population of 250,000 or more (2000 U.S. Census), training shall be completed no later than February 3, 2003. Furthermore, all Permittees shall conduct refresher training on an annual basis thereafter.

2. Illicit Connections

a) Screening for Illicit Connections

- (1) Field Screening: All Permittees shall field Screen the storm drain system for illicit connections in accordance with the following schedule:

- (i) Open channels: No later than February 3, 2003;
- (ii) Underground pipes in priority areas: No later than February 1, 2005; and
- (iii) Underground pipes with a diameter of 36 inches or greater: No later than December 12, 2006.

Permittees shall report, to the Principal Permittee, on the location and length of open channels or underground pipes that have been Screened *vis a vis* the entire storm drain

network, and on the status of suspected, confirmed, and terminated illicit connections. Permittees shall maintain a list containing all permitted connections and the status of connections under investigation for possible illicit connection.

- (2) Permit Screening: No later than December 12, 2006, Permittees shall complete a review of all permitted connections to the storm drain system, to confirm compliance with Part 1 (Discharge Prohibition).

b) Response to Illicit Connections

- (1) Investigation: Upon discovery or upon receiving a report of a suspected illicit connection, Permittees shall initiate an investigation within 21 days, to determine the source of the connection, the nature and volume of discharge through the connection, and the responsible party for the connection.
- (2) Termination: Upon confirmation of the illicit nature of a storm drain connection, Permittees shall ensure termination of the connection within 180 days, using enforcement authority as needed.

3. Illicit Discharges

- a) Abatement and Cleanup: Permittees shall respond, within one business day of discovery or a report of a suspected illicit discharge, with activities to abate, contain, and clean up all illicit discharges, including hazardous substances.
- b) Investigation: Permittees shall investigate illicit discharges as soon as practicable (during or immediately following containment and cleanup activities), and shall take enforcement action as appropriate.

Part 5. DEFINITIONS

The following are definitions for terms applicable to this Order:

"Adverse Impact" means a detrimental effect upon water quality or beneficial uses caused by a discharge or loading of a pollutant or pollutants.

"Anti-degradation policies" means the *Statement of Policy with Respect to Maintaining High Quality Water in California* (State Board Resolution No. 68-16) which protects surface and ground waters from degradation. In particular, this policy protects waterbodies where existing quality is higher than that necessary for the protection of beneficial uses including the protection of fish and wildlife propagation and recreation on and in the water.

"Applicable Standards and Limitations" means all State, interstate, and federal standards and limitations to which a "discharge" or a related activity is subject under the CWA, including

"effluent limitations, "water quality standards, standards of performance, toxic effluent standards or prohibitions, "best management practices," and pretreatment standards under sections 301, 302, 303, 304, 306, 307, 308, 403 and 404 of CWA.

"Areas of Special Biological Significance (ASBS)" means all those areas of this state as ASBS, listed specifically within the California Ocean Plan or so designated by the State Board which, among other areas, includes the area from Mugu Lagoon to Latigo Point: Oceanwater within a line originating from Laguna Point at 34° 5' 40" north, 119° 6'30" west, thence southeasterly following the mean high tideline to a point at Latigo Point defined by the intersection of the meanhigh tide line and a line extending due south of Benchmark 24; thence due south to a distance of 1000 feet offshore or to the 100 foot isobath, whichever distance is greater; thence northwesterly following the 100 foot isobath or maintaining a 1,000-foot distance from shore, whichever maintains the greater distance from shore, to a point lying due south of Laguna Point, thence due north to Laguna Point.

"Authorized Discharge" means any discharge that is authorized pursuant to an NPDES permit or meets the conditions set forth in this Order.

"Automotive Service Facilities" means a facility that is categorized in any one of the following Standard Industrial Classification (SIC) codes: 5013, 5014, 5541, 5511, 7532-7534, or 7536-7539. For inspection purposes, Permittees need not inspect facilities with SIC codes 5013, 5014, 5541, 5511, provided that these facilities have no outside activities or materials that may be exposed to storm water.

"Basin Plan" means the Water Quality Control Plan, Los Angeles Region, Basin Plan for the Coastal Watersheds of Los Angeles and Ventura Counties, adopted by the Regional Board on June 13, 1994 and subsequent amendments.

"Beneficial Uses" means the existing or potential uses of receiving waters in the permit area as designated by the Regional Board in the Basin Plan.

"Best Management Practices (BMPs)" means methods, measures, or practices designed and selected to reduce or eliminate the discharge of pollutants to surface waters from point and nonpoint source discharges including storm water. BMPs include structural and nonstructural controls, and operation and maintenance procedures, which can be applied before, during, and/or after pollution producing activities.

"Commercial Development" means any development on private land that is not heavy industrial or residential. The category includes, but is not limited to: hospitals, laboratories and other medical facilities, educational institutions, recreational facilities, plant nurseries, car wash facilities, mini-malls and other business complexes, shopping malls, hotels, office buildings, public warehouses and other light industrial complexes.

"Construction" means constructing, clearing, grading, or excavation that results in soil disturbance. Construction includes structure teardown. It does not include routine maintenance to maintain original line and grade, hydraulic capacity, or original purpose of facility; emergency construction activities required to immediately protect public health and safety; interior remodeling with no outside exposure of construction material or construction waste to storm water; mechanical permit work; or sign permit work.

"Control" means to minimize, reduce, eliminate, or prohibit by technological, legal, contractual or other means, the discharge of pollutants from an activity or activities.

"Dechlorinated/Debrominated Swimming Pool Discharge" means swimming pool discharges which have no measurable chlorine or bromine and do not contain any detergents, wastes, or additional chemicals not typically found in swimming pool water. The term does not include swimming pool filter backwash.

"Development" means any construction, rehabilitation, redevelopment or reconstruction of any public or private residential project (whether single-family, multi-unit or planned unit development); industrial, commercial, retail and other non-residential projects, including public agency projects; or mass grading for future construction. It does not include routine maintenance to maintain original line and grade, hydraulic capacity, or original purpose of facility, nor does it include emergency construction activities required to immediately protect public health and safety.

"Directly Adjacent" means situated within 200 feet of the contiguous zone required for the continued maintenance, function, and structural stability of the environmentally sensitive area.

"Director" means the Director of a municipality and Person(s) designated by and under the Director's instruction and supervision.

"Discharge" means when used without qualification the "discharge of a pollutant."

"Discharging Directly" means outflow from a drainage conveyance system that is composed entirely or predominantly of flows from the subject, property, development, subdivision, or industrial facility, and not commingled with the flows from adjacent lands.

"Discharge of a Pollutant" means: any addition of any "pollutant" or combination of pollutants to "waters of the United States" from any "point source" or, any addition of any pollutant or combination of pollutants to the waters of the "contiguous zone" or the ocean from any point source other than a vessel or other floating craft which is being used as a means of transportation. The term discharge includes additions of pollutants into waters of the United States from: surface runoff which is collected or channeled by man; discharges through pipes, sewers, or other conveyances owned by a State, municipality, or other person which do not lead to a treatment works; and discharges through pipes, sewers, or other conveyances, leading into privately owned treatment works.

"Disturbed Area" means an area that is altered as a result of clearing, grading, and/or excavation.

"Environmentally Sensitive Areas (ESAs)" means an area in which plant or animal life or their habitats are either rare or especially valuable because of their special nature or role in an ecosystem and which would be easily disturbed or degraded by human activities and developments (California Public Resources Code § 30107.5). Areas subject to storm water mitigation requirements are: areas designated as Significant Ecological Areas by the County of Los Angeles (*Los Angeles County Significant Areas Study, Los Angeles County Department of Regional Planning (1976)* and amendments); an area designated as a Significant Natural Area by the California Department of Fish and Game's Significant Natural Areas Program, provided that area has been field verified by the Department of Fish and Game; an area listed in the

Basin Plan as supporting the "Rare, Threatened, or Endangered Species (RARE)" beneficial use; and an area identified by a Permittee as environmentally sensitive.

"General Construction Activities Storm Water Permit (GCASP)" means the general NPDES permit adopted by the State Board which authorizes the discharge of storm water from construction activities under certain conditions.

"General Industrial Activities Storm Water Permit (GIASP)" means the general NPDES permit adopted by the State Board which authorizes the discharge of storm water from certain industrial activities under certain conditions.

"Hillside" means property located in an area with known erosive soil conditions, where the development contemplates grading on any natural slope that is 25% or greater and where grading contemplates cut or fill slopes.

"Illicit Connection" means any man-made conveyance that is connected to the storm drain system without a permit, excluding roof drains and other similar type connections. Examples include channels, pipelines, conduits, inlets, or outlets that are connected directly to the storm drain system.

"Illicit Discharge" means any discharge to the storm drain system that is prohibited under local, state, or federal statutes, ordinances, codes, or regulations. The term illicit discharge includes all non storm-water discharges except discharges pursuant to an NPDES permit, discharges that are identified in Part 1, "Discharge Prohibitions" of this order, and discharges authorized by the Regional Board Executive Officer.

"Illicit Disposal" means any disposal, either intentionally or unintentionally, of material(s) or waste(s) that can pollute storm water.

"Industrial/Commercial Facility" means any facility involved and/or used in the production, manufacture, storage, transportation, distribution, exchange or sale of goods and/or commodities, and any facility involved and/or used in providing professional and non-professional services. This category of facilities includes, but is not limited to, any facility defined by the Standard Industrial Classifications (SIC). Facility ownership (federal, state, municipal, private) and profit motive of the facility are not factors in this definition.

"Infiltration" means the downward entry of water into the surface of the soil.

"Inspection" means entry and the conduct of an on-site review of a facility and its operations, at reasonable times, to determine compliance with specific municipal or other legal requirements. The steps involved in performing an inspection, include, but are not limited to:

1. Pre-inspection documentation research.;
2. Request for entry;
3. Interview of facility personnel;
4. Facility walk-through.
5. Visual observation of the condition of facility premises;
6. Examination and copying of records as required;
7. Sample collection (if necessary or required);

8. Exit conference (to discuss preliminary evaluation); and,
9. Report preparation, and if appropriate, recommendations for coming into compliance.

In the case of restaurants, a Permittee may conduct an inspection from the curbside, provided that such "curbside" inspection provides the Permittee with adequate information to determine an operator's compliance with BMPs that must be implemented per requirements of this Order, Regional Board Resolution 98-08, County and municipal ordinances, and the SQMP.

"Large Municipal Separate Storm Sewer System (MS4)" means all MS4s that serve a population greater than 250,000 (1990 Census) as defined in 40 CFR 122.26 (b)(4). The Regional Board designated Los Angeles County as a large MS4 in 1990, based on: (i) the U.S. Census Bureau 1990 population count of 8.9 million, and (ii) the interconnectivity of the MS4s in the incorporated and unincorporated areas within the County.

"Local SWPPP" means the Storm Water Pollution Prevention Plan required by the local agency for a project that disturbs one or more acres of land.

"Maximum Extent Practicable (MEP)" means the standard for implementation of storm water management programs to reduce pollutants in storm water. CWA § 402(p)(3)(B)(iii) requires that municipal permits "shall require controls to reduce the discharge of pollutants to the maximum extent practicable, including management practices, control techniques and system, design and engineering methods, and such other provisions as the Administrator or the State determines appropriate for the control of such pollutants. See also State Board Order WQ 2000-11 at page 20.

"Method Detection Limit (MDL)" means the minimum concentration of a substance that can be measured and reported with 99 percent confidence that the analyte concentration is greater than zero, as defined in 40 CFR 136, Appendix B.

"Minimum Level (ML)" means the concentration at which the entire analytical system must give a recognizable signal and acceptable calibration point. The ML is the concentration in a sample that is equivalent to the concentration of the lowest calibration standard analyzed by a specific analytical procedure, assuming that all the method specified sample weights, volumes, and processing steps have been followed.

"Municipal Separate Storm Sewer System (MS4)" means a conveyance or system of conveyances (including roads with drainage systems, municipal streets, alleys, catch basins, curbs, gutters, ditches, manmade channels, or storm drains) owned by a State, city, county, town or other public body, that is designed or used for collecting or conveying storm water, which is not a combined sewer, and which is not part of a publicly owned treatment works, and which discharges to Waters of the United States.

"National Pollutant Discharge Elimination System (NPDES)" means the national program for issuing, modifying, revoking and reissuing, terminating, monitoring and enforcing permits, and imposing and enforcing pretreatment requirements, under CWA §307, 402, 318, and 405. The term includes an "approved program."

"Natural Drainage Systems" means unlined or unimproved (not engineered) creeks, streams, rivers or similar waterways.

“New Development” means land disturbing activities; structural development, including construction or installation of a building or structure, creation of impervious surfaces; and land subdivision.

“Non-Storm Water Discharge” means any discharge to a storm drain that is not composed entirely of storm water.

“Nuisance” means anything that meets all of the following requirements: (1) is injurious to health, or is indecent or offensive to the senses, or an obstruction to the free use of property, so as to interfere with the comfortable enjoyment of life or property; (2) affects at the same time an entire community or neighborhood, or any considerable number of persons, although the extent of the annoyance or damage inflicted upon individuals may be unequal.; (3) occurs during, or as a result of, the treatment or disposal of wastes.

“Parking Lot” means land area or facility for the parking or storage of motor vehicles used for businesses, commerce, industry, or personal use, with a lot size of 5,000 square feet or more of surface area, or with 25 or more parking spaces.

“Permittee(s)” means Co-Permittees and any agency named in this Order as being responsible for permit conditions within its jurisdiction. Permittees to this Order include the Los Angeles County Flood Control District, Los Angeles County, and the cities of Agoura Hills, Alhambra, Arcadia, Artesia, Azusa, Baldwin Park, Bellflower, Bell Gardens, Beverly Hills, Bradbury, Burbank, Calabasas, Carson, Cerritos, Claremont, Commerce, Compton, Covina, Cudahy, Culver City, Diamond Bar, Downey, Duarte, El Monte, El Segundo, Gardena, Glendale, Glendora, Hawaiian Gardens, Hawthorne, Hermosa Beach, Hidden Hills, Huntington Park, Industry, Inglewood, Irwindale, La Canada Flintridge, La Habra Heights, Lakewood, La Mirada, La Puente, La Verne, Lawndale, Lomita, Los Angeles, Lynwood, Malibu, Manhattan Beach, Maywood, Monrovia, Montebello, Monterey Park, Norwalk, Palos Verdes Estates, Paramount, Pasadena, Pico Rivera, Pomona, Rancho Palos Verdes, Redondo Beach, Rolling Hills, Rolling Hills Estates, Rosemead, San Dimas, San Fernando, San Gabriel, San Marino, Santa Clarita, Santa Fe Springs, Santa Monica, Sierra Madre, Signal Hill, South El Monte, South Gate, South Pasadena, Temple City, Torrance, Vernon, Walnut, West Covina, West Hollywood, Westlake Village, and Whittier.

“Planning Priority Projects” means those projects that are required to incorporate appropriate storm water mitigation measures into the design plan for their respective project. These types of projects include:

1. Ten or more unit homes (includes single family homes, multifamily homes, condominiums, and apartments)
2. A 100,000 or more square feet of impervious surface area industrial/commercial development (1 ac starting March 2003)
3. Automotive service facilities (SIC 5013, 5014, 5541, 7532-7534, and 7536-7539)
4. Retail gasoline outlets
5. Restaurants (SIC 5812)
6. Parking lots 5,000 square feet or more of surface area or with 25 or more parking spaces

7. Redevelopment projects in subject categories that meet Redevelopment thresholds
8. Projects located in or directly adjacent to or discharging directly to an ESA, which meet thresholds; and
9. Those projects that require the implementation of a site-specific plan to mitigate post-development storm water for new development not requiring a SUSMP but which may potentially have adverse impacts on post-development storm water quality, where the following project characteristics exist:
 - a) Vehicle or equipment fueling areas;
 - b) Vehicle or equipment maintenance areas, including washing and repair;
 - c) Commercial or industrial waste handling or storage;
 - d) Outdoor handling or storage of hazardous materials;
 - e) Outdoor manufacturing areas;
 - f) Outdoor food handling or processing;
 - g) Outdoor animal care, confinement, or slaughter; or
 - h) Outdoor horticulture activities.

"Pollutants" means those "pollutants" defined in CWA §502(6) (33.U.S.C.§1362(6)), and incorporated by reference into California Water Code §13373.

"Potable Water Distribution Systems Releases" means sources of flows from drinking water storage, supply and distribution systems including flows from system failures, pressure releases, system maintenance, distribution line testing, fire hydrant flow testing; and flushing and dewatering of pipes, reservoirs, vaults, and minor non-invasive well maintenance activities not involving chemical addition(s). It does not include wastewater discharges from activities that occur at wellheads, such as well construction, well development (i.e., aquifer pumping tests, well purging, etc.), or major well maintenance.

"Project" means all development, redevelopment, and land disturbing activities. The term is not limited to "Project" as defined under CEQA (Pub. Resources Code §21065).

"Rain Event" means any rain event greater than 0.1 inch in 24 hours except where specifically stated otherwise.

"Rare, Threatened, or Endangered Species (RARE)" means a beneficial use for waterbodies in the Los Angeles Region, as designated in the Basin Plan (Table 2-1), that supports habitats necessary, at least in part, for the survival and successful maintenance of plant or animal species established under state or federal law as rare, threatened, or endangered.

"Receiving Waters" means all surface water bodies in the Los Angeles Region that are identified in the Basin Plan.

"Redevelopment" means land-disturbing activity that results in the creation, addition, or replacement of 5,000 square feet or more of impervious surface area on an already developed site. Redevelopment includes, but is not limited to: the expansion of a building footprint;

addition or replacement of a structure; replacement of impervious surface area that is not part of a routine maintenance activity; and land disturbing activities related to structural or impervious surfaces. It does not include routine maintenance to maintain original line and grade, hydraulic capacity, or original purpose of facility, nor does it include emergency construction activities required to immediately protect public health and safety.

“Regional Administrator” means the Regional Administrator of the Regional Office of the USEPA or the authorized representative of the Regional Administrator.

“Restaurant” means a facility that sells prepared foods and drinks for consumption, including stationary lunch counters and refreshment stands selling prepared foods and drinks for immediate consumption (SIC Code 5812).

“Retail Gasoline Outlet” means any facility engaged in selling gasoline and lubricating oils.

“Runoff” means any runoff including storm water and dry weather flows from a drainage area that reaches a receiving water body or subsurface. During dry weather it is typically comprised of base flow either contaminated with pollutants or uncontaminated, and nuisance flows.

“Screening” means using proactive methods to identify illicit connections through a continuously narrowing process. The methods may include: performing baseline monitoring of open channels, conducting special investigations using a prioritization approach, analyzing maintenance records for catch basin and storm drain cleaning and operation, and verifying all permitted connections into the storm drains. Special investigation techniques may include: dye testing, visual inspection, smoke testing, flow monitoring, infrared, aerial and thermal photography, and remote control camera operation.

“Sidewalk Rinsing” means pressure washing of paved pedestrian walkways with average water usage of 0.006 gallons per square foot, with no cleaning agents, and properly disposing of all debris collected, as authorized under Regional Board Resolution No. 98-08.

“Significant Ecological Area (SEA)” means an area that is determined to possess an example of biotic resources that cumulatively represent biological diversity, for the purposes of protecting biotic diversity, as part of the Los Angeles County General Plan.¹

Areas are designated as SEAs, if they possess one or more of the following criteria:

1. The habitat of rare, endangered, and threatened plant and animal species.
2. Biotic communities, vegetative associations, and habitat of plant and animal species that are either one of a kind, or are restricted in distribution on a regional basis.
3. Biotic communities, vegetative associations, and habitat of plant and animal species that are either one of a kind or are restricted in distribution in Los Angeles County.

¹ The 61 existing SEAs represent the findings of a study that was completed in 1976 by England and Nelson, Environmental Consultants, as amended through the adoption of a revised Los Angeles County General Plan in 1980. The results of an update study to evaluate existing SEAs within unincorporated Los Angeles County is currently being proposed to the Los Angeles County Planning Commission (*Los Angeles County Significant Ecological Area Update Study 2000, Background Report*, PCR Services Corporation). The *Update Study 2000*, which contains existing and proposed SEA boundaries, can be downloaded from the Los Angeles County Department of Planning website at http://planning.co.la.ca.us/drp_revw.html#SEA

4. Habitat that at some point in the life cycle of a species or group of species, serves as a concentrated breeding, feeding, resting, migrating grounds and is limited in availability either regionally or within Los Angeles County.
5. Biotic resources that are of scientific interest because they are either an extreme in physical/geographical limitations, or represent an unusual variation in a population or community.
6. Areas important as game species habitat or as fisheries.
7. Areas that would provide for the preservation of relatively undisturbed examples of natural biotic communities in Los Angeles County.
8. Special areas.²

"Significant Natural Area (SNA)" means an area defined by the California Department of Fish and Game (DFG), Significant Natural Areas Program, as an area that contains an important example of California's biological diversity. The most current SNA maps, reports, and descriptions can be downloaded from the DFG website at <ftp://maphost.dfg.ca.gov/outgoing/whdab/sna/>. These areas are identified using the following biological criteria only, irrespective of any administrative or jurisdictional considerations:

1. Areas supporting extremely rare species or habitats.
2. Areas supporting associations or concentrations of rare species or habitats.
3. Areas exhibiting the best examples of rare species and habitats in the state.

"Site" means the land or water area where any "facility or activity" is physically located or conducted, including adjacent land used in connection with the facility or activity.

"Source Control BMP" means any schedules of activities, prohibitions of practices, maintenance procedures, managerial practices or operational practices that aim to prevent storm water pollution by reducing the potential for contamination at the source of pollution.

"SQMP" means the Los Angeles Countywide Stormwater Quality Management Program.

"State Storm Water Pollution Prevention Plan (State SWPPP)" means a plan, as required by a State General Permit, identifying potential pollutant sources and describing the design, placement and implementation of BMPs, to effectively prevent non-stormwater Discharges and reduce Pollutants in Stormwater Discharges during activities covered by the General Permit.

"Storm Water" means storm water runoff, snow melt runoff, and surface runoff and drainage.

"Storm Water Discharge Associated with Industrial Activity" means industrial discharge as defined in 40 CFR 122.26(b)(14)

"Stormwater Quality Management Program" means the Los Angeles Countywide Stormwater Quality Management Program, which includes descriptions of programs, collectively developed by the Permittees in accordance with provisions of the NPDES Permit, to comply with applicable federal and state law, as the same is amended from time to time.

² These criteria from the 1976 study have been modified in the *Update Study 2000*.

“Structural BMP” means any structural facility designed and constructed to mitigate the adverse impacts of storm water and urban runoff pollution (e.g. canopy, structural enclosure). The category may include both Treatment Control BMPs and Source Control BMPs.

"SUSMP" means the Los Angeles Countywide Standard Urban Stormwater Mitigation Plan. The SUSMP shall address conditions and requirements of new development.

“Total Maximum Daily Load (TMDL)” means the sum of the individual waste load allocations for point sources and load allocations for nonpoint sources and natural background.

"Toxicity Identification Evaluation (TIE)" means a set of procedures to identify the specific chemical(s) responsible for toxicity. These procedures are performed in three phases (characterization, identification, and confirmation) using aquatic organism toxicity tests.

"Toxicity Reduction Evaluation (TRE)" means a study conducted in a step-wise process to identify the causative agents of effluent or ambient toxicity, isolate the sources of toxicity, evaluate the effectiveness of toxicity control options, and then confirm the reduction in toxicity.

“Treatment” means the application of engineered systems that use physical, chemical, or biological processes to remove pollutants. Such processes include, but are not limited to, filtration, gravity settling, media absorption, biodegradation, biological uptake, chemical oxidation and UV radiation.

“Treatment Control BMP” means any engineered system designed to remove pollutants by simple gravity settling of particulate pollutants, filtration, biological uptake, media absorption or any other physical, biological, or chemical process.

"USEPA Phase I Facilities" means facilities in specified industrial categories that are required to obtain an NPDES permit for storm water discharges, as required by 40 CFR 122.26(c). These categories include:

- i. facilities subject to storm water effluent limitation guidelines, new source performance standards, or toxic pollutant effluent standards (40 CFR N)
- ii. manufacturing facilities
- iii. oil and gas/mining facilities
- iv. hazardous waste treatment, storage, or disposal facilities
- v. landfills, land application sites, and open dumps
- vi. recycling facilities
- vii. steam electric power generating facilities
- viii. transportation facilities
- ix. sewage of wastewater treatment works
- x. light manufacturing facilities

"Vehicle Maintenance/Material Storage Facilities/Corporation Yards" means any Permittee owned or operated facility or portion thereof that:

- i. Conducts industrial activity, operates equipment, handles materials, and provides services similar to Federal Phase I facilities;
- ii. Performs fleet vehicle service/maintenance on ten or more vehicles per day including repair, maintenance, washing, and fueling;

- iii. Performs maintenance and/or repair of heavy industrial machinery/equipment ; and
- iv. Stores chemicals, raw materials, or waste materials in quantities that require a hazardous materials business plan or a Spill Prevention, Control , and Counter-measures (SPCC) plan.

“Water Quality Standards and Water Quality Objectives” means water quality criteria contained in the Basin Plan, the California Ocean Plan, the National Toxics Rule, the California Toxics Rule, and other state or federally approved surface water quality plans. Such plans are used by the Regional Board to regulate all discharges, including storm water discharges.

“Waters of the State” means any surface water or groundwater, including saline waters, within boundaries of the state.

“Waters of the United States” or “Waters of the U.S.” means:

- a. All waters that are currently used, were used in the past, or may be susceptible to use in interstate or foreign commerce, including all waters which are subject to the ebb and flow of the tide;
- b. All interstate waters, including interstate “wetlands”;
- c. All other waters such as intrastate lakes, rivers, streams (including intermittent streams), mudflats, sandflats, “wetlands,” sloughs, prairie potholes, wet meadows, playa lakes, or natural ponds the use, degradation, or destruction of which would affect or could affect interstate or foreign commerce including any such waters:
 - 1. Which are or could be used by interstate or foreign travelers for recreational or other purposes;
 - 2. From which fish or shellfish are or could be taken and sold in interstate or foreign commerce; or
 - 3. Which are used or could be used for industrial purposes by industries in interstate commerce;
- d. All impoundments of waters otherwise defined as waters of the United States under this definition;
- e. Tributaries of waters identified in paragraphs (a) through (d) of this definition;
- f. The territorial sea; and
- g. “Wetlands” adjacent to waters (other than waters that are themselves wetlands) identified in paragraph (a) through (f) of this definition.

Waste treatment systems, including treatment ponds or lagoons designed to meet the requirements of CWA (other than cooling ponds as defined in 40 CFR 423.22(m), which also meet the criteria of this definition) are not waters of the United States. This exclusion applies only to man-made bodies of water, which neither were originally created in waters of the United States (such as disposal area in wetlands) nor resulted from the impoundment of waters of the United States. Waters of the United States do not include prior converted cropland. Notwithstanding the determination of an area’s status as prior converted cropland by any other federal agency, for the purposes of the CWA, the final authority regarding CWA jurisdiction remains with USEPA.

“Wet Season” means the calendar period beginning October 1 through April 15.

Part 6. STANDARD PROVISIONS

A. Standard Requirements

1. Each Permittee shall comply with all provisions and requirements of this permit.
2. Should a Permittee discover a failure to submit any relevant facts or that it submitted incorrect information in a report, it shall promptly submit the missing or correct information.
3. Each Permittee shall report all instances of non-compliance not otherwise reported at the time monitoring reports are submitted.
4. This Order includes the attached Monitoring and Reporting Program, and SUSMP(Regional Board Resolution No. R00-02), which are a part of the permit and must be complied with in the same manner as with the rest of the requirements in the permit.

B. Regional Board Review

Any formal determination or approval made by the Regional Board Executive Officer pursuant to the provisions of this Order may be reviewed by the Regional Board. A Permittee(s) or a member of the public may request such review upon petition within 30 days of the effective date of the notification of such decision to the Permittee(s) and interested parties on file at the Regional Board.

C. Public Review

1. All documents submitted to the Regional Board in compliance with the terms and conditions of this Order shall be made available to members of the public pursuant to the Freedom of Information Act (5 U.S.C. § 552 (as amended) and the Public Records Act (Cal. Government Code § 6250 *et seq.*).
2. All documents submitted to the Regional Board Executive Officer for approval shall be made available to the public for a 30-day period to allow for public comment.

D. Duty to Comply

1. Each Permittee must comply with all of the terms, requirements, and conditions of this Order. Any violation of this order constitutes a violation of the Clean Water Act, its regulations and the California Water Code, and is grounds for enforcement action, Order termination, Order revocation and reissuance, denial of an application for reissuance; or a combination thereof [40 CFR 122.41(a), CWC § 13261, 13263, 13265, 13268, 13300, 13301, 13304, 13340, 13350].
2. A copy of these waste discharge specifications shall be maintained by each Permittee so as to be available during normal business hours to Permittee employees and members of the public.

3. Any discharge of wastes at any point(s) other than specifically described in this Order is prohibited, and constitutes a violation of the Order.

E. Duty to Mitigate [40 CFR 122.41 (d)]

Each Permittee shall take all reasonable steps to minimize or prevent any discharge that has a reasonable likelihood of adversely affecting human health or the environment.

F. Inspection and Entry [40 CFR 122.41(i), CWC § 13267]

The Regional Board, USEPA, and other authorized representatives shall be allowed:

1. Entry upon premises where a regulated facility is located or conducted, or where records are kept under conditions of this Order;
2. Access to copy any records, at reasonable times, that are kept under the conditions of this Order;
3. To inspect at reasonable times any facility, equipment (including monitoring and control equipment), practices, or operations regulated or required under this Order; and,
4. To photograph, sample, and monitor at reasonable times for the purpose of assuring compliance with this Order, or as otherwise authorized by the CWA and the CWC.

G. Proper Operation and Maintenance [40 CFR 122.41 (e), CWC § 13263(f)]

The Permittees shall at all times properly operate and maintain all facilities and systems of treatment (and related appurtenances) that are installed or used by the Permittees to achieve compliance with this Order. Proper operation and maintenance includes adequate laboratory controls and appropriate quality assurance procedures. This provision requires the operation of backup or auxiliary facilities or similar system that are installed by a Permittee only when necessary to achieve compliance with the conditions of this Order.

H. Signatory Requirements [40 CFR 122.41(k) & 122.22]

Except as otherwise provided in this Order, all applications, reports, or information submitted to the Regional Board shall be signed by the Director of Public Works, City Engineer, or authorized designee and certified as set forth in 40 CFR 122.22.

I. Reopener and Modification [40 CFR 122.41(f) & 122.62]

1. This Order may only be modified, revoked, or reissued, prior to the expiration date, by the Regional Board, in accordance with the procedural requirements of the CWC and CCR Title 23 for the issuance of waste

discharge requirements, 40 CFR 122.62, and upon prior notice and hearing, to:

- a) Address changed conditions identified in the required reports or other sources deemed significant by the Regional Board;
 - b) Incorporate applicable requirements or statewide water quality control plans adopted by the State Board or amendments to the Basin Plan;
 - c) Comply with any applicable requirements, guidelines, and/or regulations issued or approved pursuant to CWA Section 402(p); and/or,
 - d) Consider any other federal, or state laws or regulations that became effective after adoption of this Order.
2. After notice and opportunity for a hearing, this Order may be terminated or modified for cause, including, but not limited to:
- a) Violation of any term or condition contained in this Order;
 - b) Obtaining this Order by misrepresentation, or failure to disclose all relevant facts; or,
 - c) A change in any condition that requires either a temporary or permanent reduction or elimination of the authorized discharge.
3. The filing of a request by the Principal Permittee or Permittees for a modification, revocation and re-issuance, or termination, or a notification of planned changes or anticipated noncompliance does not stay any condition of this Order.
4. This Order may be modified to make corrections or allowances for changes in the permitted activity listed in this section, following the procedures at 40 CFR 122.63, if processed as a minor modification. Minor modifications may only:
- a) Correct typographical errors, or
 - b) Require more frequent monitoring or reporting by the Permittee.

J. Severability

The provisions of this permit are severable; and if any provision of this permit or the application of any provision of this permit to any circumstance is held invalid, the application of such provision to other circumstances and the remainder of this permit shall not be affected.

K. Duty to Provide Information [40 CFR 122.41(h)]

The Permittees shall furnish, within a reasonable time, any information the Regional Board or USEPA may request to determine whether cause exists for

modifying, revoking and reissuing, or terminating this Order. The Permittees shall also furnish to the Regional Board, upon request, copies of records required to be kept by this Order.

L. Twenty-four Hour Reporting [40 CFR 122.41(l)(6)]³

1. The Permittees shall report to the Regional Board any noncompliance that may endanger health or the environment. Any information shall be provided orally within 24 hours from the time any Permittee becomes aware of the circumstances. A written submission shall also be provided within five days of the time the Permittee becomes aware of the circumstances. The written submission shall contain a description of the noncompliance and its cause; the period of noncompliance, including exact dates and times and, if the noncompliance has not been corrected, the anticipated time it is expected to continue; and steps taken or planned to reduce, eliminate, and prevent reoccurrence of the noncompliance.
2. The Regional Board may waive the required written report on a case-by-case basis.

M. Bypass [40 CFR 122.41(m)]⁴

Bypass (the intentional diversion of waste streams from any portion of a treatment facility) is prohibited. The Regional Board may take enforcement action against Permittees for bypass unless:

1. Bypass was unavoidable to prevent loss of life, personal injury or severe property damage. (Severe property damage means substantial physical damage to property, damage to the treatment facilities that causes them to become inoperable, or substantial and permanent loss of natural resources that can reasonably be expected to occur in the absence of a bypass. Severe property damage does not mean economic loss caused by delays in production.);
2. There were no feasible alternatives to bypass, such as the use of auxiliary treatment facilities, retention of untreated waste, or maintenance during normal periods of equipment down time. This condition is not satisfied if adequate back-up equipment should have been installed in the exercise of reasonable engineering judgment to prevent a bypass that could occur during normal periods of equipment downtime or preventive maintenance;
3. The Permittee submitted a notice at least ten days in advance of the need for a bypass to the Regional Board; or,
4. Permittees may allow a bypass to occur that does not cause effluent limitations to be exceeded, but only if it is for essential maintenance to

³ This provision applies to incidents where effluent limitations (numerical or narrative) as provided in this Order or in the Los Angeles County SQMP are exceeded, and which endanger public health or the environment.

⁴ This provision applies to the operation and maintenance of storm water controls and BMPs as provided in this Order or in the SQMP.

assure efficient operation. In such a case, the above bypass conditions are not applicable. The Permittee shall submit notice of an unanticipated bypass as required.

N. Upset [40 CFR 122.41(n)]⁵

Upset means an exceptional incident in which there is unintentional and temporary noncompliance with technology based permit effluent limitations because of factors beyond the reasonable control of the permittee. An upset does not include noncompliance to the extent caused by operational error, improperly designed treatment facilities, inadequate treatment facilities, lack of preventive maintenance, or careless or improper operation.

1. A Permittee that wishes to establish the affirmative defense of an upset in an action brought for non compliance shall demonstrate, through properly signed, contemporaneous operating logs, or other relevant evidence that:
 - a) An upset occurred and that the Permittee can identify the cause(s) of the upset;
 - b) The permitted facility was being properly operated by the time of the upset;
 - c) The Permittee submitted notice of the upset as required; and,
 - d) The Permittee complied with any remedial measures required.
2. No determination made before an action for noncompliance, such as during administrative review of claims that non-compliance was caused by an upset, is final administrative action subject to judicial review.
3. In any enforcement proceeding, the Permittee seeking to establish the occurrence of an upset has the burden of proof.

O. Property Rights [40 CFR 122.41(g)]

This Order does not convey any property rights of any sort, or any exclusive privilege.

P. Enforcement

1. Violation of any of the provisions of the NPDES permit or any of the provisions of this Order may subject the violator to any of the penalties described herein, or any combination thereof, at the discretion of the prosecuting authority; except that only one kind of penalties may be applied for each kind of violation. The CWA provides the following:
 - a) Criminal Penalties for:

⁵ *Supra*. See footnote number 3.

(1) Negligent Violations:

The CWA provides that any person who negligently violates permit conditions implementing § 301, 302, 306, 307, 308, 318, or 405 is subject to a fine of not less than \$2,500 nor more than \$25,000 per day for each violation, or by imprisonment for not more than 1 year, or both.

(2) Knowing Violations:

The CWA provides that any person who knowingly violates permit conditions implementing § 301, 302, 306, 307, 308, 318, or 405 is subject to a fine of not less than \$5,000 nor more than \$50,000 per day of violation, or by imprisonment for not more than 3 years, or both.

(3) Knowing Endangerment:

The CWA provides that any person who knowingly violates permit conditions implementing § 301, 302, 307, 308, 318, or 405 and who knows at that time that he is placing another person in imminent danger of death or serious bodily injury is subject to a fine of not more than \$250,000, or by imprisonment for not more than 15 years, or both.

(4) False Statement:

The CWA provides that any person who knowingly makes any false material statement, representation, or certification in any application, record, report, plan, or other document filed or required to be maintained under the Act or who knowingly falsifies, tampers with, or renders inaccurate, any monitoring device or method required to be maintained under the Act, shall upon conviction, be punished by a fine of not more than \$10,000 or by imprisonment for not more than two years, or by both. If a conviction is for a violation committed after a first conviction of such person under this paragraph, punishment shall be by a fine of not more than \$20,000 per day of violation, or by imprisonment of not more than four years, or by both. (See CWA § 309(c)(4))

b) Civil Penalties

The CWA provides that any person who violates a permit condition implementing § 301, 302, 306, 307, 308, 318, or 405 is subject to a civil penalty not to exceed \$27,500 per day for each violation.

2. The CWC provides that any person who violates a waste discharge requirement provision of the CWC is subject to civil penalties of up to \$5,000 per day, \$10,000 per day, or \$25,000 per day of violation; or when the violation involves the discharge of pollutants, is subject to civil penalties of up to \$10 per gallon per day or \$25 per gallon per day of violation; or some combination thereof, depending on the violation or combination of violations.

Q. Need to Halt or Reduce Activity not a Defense [40 CFR 122.41(c)]

It shall not be a defense for a Permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this Order.

R. Rescission

Regional Board Order No. 96-054 is hereby rescinded.

S. Expiration

This Order expires on December 12, 2006. The Permittees must submit a Report of Waste Discharges and a proposed Storm Water Quality Management Program in accordance with CCR Title 23 as application for reissuance of waste discharge requirements no later than June 12, 2006.

I, Dennis A. Dickerson, Regional Board Executive Officer, do hereby certify that the foregoing is a full, true, and correct copy of an order adopted by the California Regional Water Quality Control Board, Los Angeles Region, on December 13, 2001.



Dennis A. Dickerson
Executive Officer

ATTACHMENT U-1
LIST OF CONSTITUENTS FOR THE STORM WATER
MONITORING PROGRAM AND ASSOCIATED MINIMUM LEVELS (MLs)¹

CONSTITUENTS	MLs
CONVENTIONAL POLLUTANTS	mg/L
Oil and Grease	5
Total Phenols	0.1
Cyanide	0.005
pH	0 - 14
Temperature	None
Dissolved Oxygen	Sensitivity to 5 mg/L
BACTERIA	
Total coliform	<20mpn/100ml
Fecal coliform	<20mpn/100ml
Enterococcus (marine waters)	<20mpn/100ml
E. coli (fresh waters)	
GENERAL	mg/L
Dissolved Phosphorus	0.05
Total Phosphorus	0.05
Turbidity	0.1NTU
Total Suspended Solids	2
Total Dissolved Solids	2
Volatile Suspended Solids	2
Total Organic Carbon	1
Total Petroleum Hydrocarbon	5
Biochemical Oxygen Demand	2
Chemical Oxygen Demand	20-900
Total Ammonia-Nitrogen	0.1
Total Kjeldahl Nitrogen	0.1
Nitrate-Nitrite	0.1
Alkalinity	2
Specific Conductance	1umho/cm
Total Hardness	2
MBAS	0.5
Chloride	2
Fluoride	0.1
Methyl tertiary butyl ether (MTBE)	1

¹ For Priority Pollutants, the MLs represent the lowest value listed in Appendix 4 of SIP. MDLs must be lower than or equal to the ML value. If a particular ML is not attainable in accordance with procedures set forth in 40 CFR 136, the lowest quantifiable concentration of the lowest calibration standard analyzed by a specific analytical procedure may be used instead.

METALS	µg/L
Aluminum	100
Antimony	0.5
Arsenic	1
Beryllium	0.5
Cadmium	0.25
Chromium (total)	0.5
Copper	0.5
Hex. Chromium	5
Iron	100
Lead	0.5
Mercury	0.5
Nickel	1
Selenium	1
Silver	0.25
Thallium	1
Zinc	1
SEMIVOLATILE ORGANIC COMPOUNDS	µg/L
Acids	
2-Chlorophenol	2
2, 4-Dichlorophenol	1
2,4-Dimethylphenol	2
2, 4-Dinitrophenol	5
2-Nitrophenol	10
4-Nitrophenol	5
4-Chloro-3-methylphenol	1
Pentachlorophenol	2
Phenol	1
2,4,6-Trichlorophenol	10
BASE/NEUTRAL	µg/L
Acenaphthene	1
Acenaphthylene	2
Anthracene	2
Benzidine	5
1,2 Benzanthracene	5
Benzo(a)pyrene	2
Benzo(g,h,i)perylene	5
3,4 Benzoflouranthene	10
Benzo(k)flouranthene	2
Bis(2-Chloroethoxy) methane	5
Bis(2-Chloroisopropyl) ether	2
Bis(2-Chloroethyl) ether	1
Bis(2-Ethylhexyl) phthalate	5
4-Bromophenyl phenyl ether	5

Butyl benzyl phthalate	10
2-Chloroethyl vinyl ether	1
2-Chloronaphthalene	10
4-Chlorophenyl phenyl ether	5
Chrysene	5
Dibenzo(a,h)anthracene	0.1
1,3-Dichlorobenzene	1
1,4-Dichlorobenzene	1
1,2-Dichlorobenzene	1
3,3-Dichlorobenzidine	5
Diethyl phthalate	2
Dimethyl phthalate	2
di-n-Butyl phthalate	10
2,4-Dinitrotoluene	5
2,6-Dinitrotoluene	5
4,6 Dinitro-2-methylphenol	5
1,2-Diphenylhydrazine	1
di-n-Octyl phthalate	10
Fluoranthene	0.05
Fluorene	0.1
Hexachlorobenzene	1
Hexachlorobutadiene	1
Hexachloro-cyclopentadiene	5
Hexachloroethane	1
Indeno(1,2,3-cd)pyrene	0.05
Isophorone	1
Naphthalene	0.2
Nitrobenzene	1
N-Nitroso-dimethyl amine	5
N-Nitroso-diphenyl amine	1
N-Nitroso-di-n-propyl amine	5
Phenanthrene	0.05
Pyrene	0.05
1,2,4-Trichlorobenzene	1
CHLORINATED PESTICIDES	µg/L
Aldrin	0.005
alpha-BHC	0.01
beta-BHC	0.005
delta-BHC	0.005
gamma-BHC (lindane)	0.02
alpha-chlordane	0.1
gamma-chlordane	0.1
4,4'-DDD	0.05
4,4'-DDE	0.05
4,4'-DDT	0.01
Dieldrin	0.01
alpha-Endosulfan	0.02

beta-Endosulfan	0.01
Endosulfan sulfate	0.05
Endrin	0.01
Endrin aldehyde	0.01
Heptachlor	0.01
Heptachlor Epoxide	0.01
Toxaphene	0.5
Polychlorinated Biphenyls	µg/L
Aroclor-1016	0.5
Aroclor-1221	0.5
Aroclor-1232	0.5
Aroclor-1242	0.5
Aroclor-1248	0.5
Aroclor-1254	0.5
Aroclor-1260	0.5
ORGANOPHOSPHATE PESTICIDES	µg/L
Chlorpyrifos	0.05
Diazinon	0.01
Prometryn	2
Atrazine	2
Simazine	2
Cyanazine	2
Malathion	1
HERBICIDES	µg/L
Glyphosate	5
2,4-D	0.02
2,4,5-TP-SILVEX	0.2

Attachment U-3
Total Maximum Daily Loads Scheduled for Implementation in
Los Angeles County within 10 Years

<i>Watershed</i>	<i>TMDL</i>
Malibu	Coliform, Nutrients
Malibu Creek Lakes and Tributaries	Metals
Ballona Creek	Trash, Coliform, Historic Pesticides, Metals, TBT
Dominguez Channel/LA Harbor	Coliform, PAHs, Historic Pesticides, PCBs, DDT, Metals, Nutrients, Trash
Los Angeles River	Trash, Nutrients, Coliform, Chlorpyrifos, Metals
San Gabriel River	Nutrients, Coliform, Metals, Trash
San Gabriel Lakes	Coliform
Santa Monica Bay Beaches	Coliform, Metals, Chlordane, Historic PCBs and Pesticides
Santa Clara River	Historic Pesticides, Chloride, Coliform, Nitrogen, Eutrophication, Trash
Los Cerritos Channel	Metals, Ammonia, Coliform

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This form summarizes the requirements in Order No. 01-182. Each Permittee must complete this form in its entirety, except for those requirements applicable only to the Principal Permittee. Only report activities that were performed during the previous fiscal year. Upon completion, this form shall be submitted to the Principal Permittee, by the date specified by the Principal Permittee, for inclusion in the unified Annual Storm Water Program Report. Attachments should be included where necessary to provide sufficient information on program implementation.

The goals of this Report are to: 1) concisely document implementation of the Storm Water Quality Management Program (SQMP) during the past fiscal year; 2) evaluate program results for continuous improvement; 3) to determine compliance with Order 01-182; and 4) to share this information with other Permittees, municipal decision makers, and the public.

!	YOU MUST FILL OUT ALL THE INFORMATION REQUESTED <i>Do not leave any of the sections blank.</i>
N/A	If the question does not apply to your municipality, please indicate N/A in the space provided and provide a brief explanation
U	If the information requested is currently unavailable, please indicate U in the space provided and give a brief explanation.

This Report Form consists of the following sections:

SECTION	PAGE
I. Program Management	2-4
II. Receiving Water Limitations	5
III. SQMP Implementation	5-7
IV. Special Provisions	8
IV.A. Public Information and Participation Program	8-14
IV.B. Industrial/Commercial Facilities Program	15-17
IV.C. Development Planning Program	18-21
IV.D. Development Construction Program	22-23
IV.E. Public Agency Activities Program	24-33
IV.F. IC/ID Elimination Program	34-37
V. Monitoring	38
VI. Assessment of Program Effectiveness	38
VII. Certification	39

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Reporting Year 200__ - 200__

I. Program Management

A. Permittee Name: _____

B. Permittee Program Supervisor: _____

Title:

Address:

City:

Zip Code:

Phone:

Fax:

C. In the space below, briefly describe how the storm water program is coordinated within your agency's departments and divisions. Include a description of any problems with coordination between departments. To facilitate this, complete the Table 1.

TABLE 1 - Program Management

Storm Water Management Activity	Division/Department	# of Individuals Responsible for Implementing
1. Outreach & Education		
2. Industrial/Commercial Inspections		
3. Construction Permits/Inspections		
4. IC/ID Inspections		
5. Street sweeping		
6. Catch Basin Cleaning		
7. Spill Response		
8. Development Planning (project/SUSMP review and approval)		
9. Trash Collection		

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D. Staff and Training

Attach a summary of staff training over the last fiscal year. This shall include the staff name, department, type of training, and date of training.

E. Budget Summary

1. Does your municipality have a storm water utility? Yes No
If no, describe the funding source(s) used to implement the requirements of Order No. 01-182.

2. Are the existing financial resources sufficient to accomplish all required activities? Yes No
3. Complete Table 2 to the extent that accurate information is available (indicate U in the spaces where the information is unavailable), and report any supplemental dedicated budgets for the same categories on the lines below the table.
4. List any additional state/federally funded projects related to storm water.

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TABLE 2

Program Element	Expenditures in Previous Fiscal Year	Estimated Amount Needed to implement Order 01-182
1. Program management a. Administrative costs b. Capital costs		
2. Public Information and Participation a. Public Outreach/Education b. Employee Training c. Corporate Outreach d. Business Assistance		
3. Industrial/Commercial inspection/ site visit activities		
4. Development Planning		
5. Development Construction a. Construction inspections		
6. Public Agency Activities a. Maintenance of structural and treatment control BMPs b. Municipal street sweeping c. Catch basin cleaning d. Trash collection/recycling e. Capital costs f. Other		
7. IC/ID Program a. Operations and Maintenance b. Capitol Costs		
8. Monitoring		
9. Other		
10. TOTAL		

List any supplemental dedicated budgets for the above categories:

List any activities that have been contracted out to consultants/other agencies:

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II. Receiving Water Limitations (Part 2)

- A. Are you aware, or have you been notified, of any discharges from your MS4 that cause or contribute to a condition of nuisance or to the violation of any applicable water quality standards? Yes No

- B. Has the Regional Board notified you that discharges from your MS4 are causing or contributing to an exceedance of water quality standards? Yes No

- C. If you answered Yes to either of the above questions, you must attach a Receiving Water Limitations (RWL) Compliance Report. The Report must include the following:
 - 1. A description of the pollutants that are in exceedance and an analysis of possible sources;
 - 2. A plan to comply with the RWL (Permit, Part 2);
 - 3. Changes to the SQMP to eliminate water quality exceedances;
 - 4. Enhanced monitoring to demonstrate compliance; and
 - 5. Results of implementation.

III. SQMP Implementation (Part 3)

- A. Has your agency implemented the SQMP and any additional controls necessary to reduce the discharges of pollutants in storm water to the maximum extent practicable? Yes No

- B. If your agency has implemented additional or different controls than described in the countywide SQMP, has your agency developed a local SQMP that reflects the conditions in its jurisdiction and specifies activities being implemented under the appropriate elements described in the countywide SQMP? Yes No

- C. Describe the status of developing a local SQMP in the box below.

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- D. If applicable, describe an additional BMP, in addition to those in the countywide SQMP, that your city has implemented to reduce pollutants in storm water to the maximum extent practicable.

- E. Watershed Management Committees (WMCs)

- 1. Which WMC are you in?
- 2. Who is your designated representative to the WMC?
- 3. How many WMC meetings did you participate in last year?
- 4. Describe specific improvements to your storm water management program as a result of WMC meetings.

- 5. Attach any comments or suggestions regarding your WMC.

- F. Storm Water Ordinance

- 1. Have you adopted a storm water and urban runoff ordinance to enforce all requirements of Order 01-182? Yes No
If not, describe the status of adopting such an ordinance.

- 2. If yes, have you already submitted a copy of the ordinance to the Regional Board? Yes No
If not, please attach a copy to this Report.

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3. Were any amendments made to your storm water ordinance during the last fiscal year? Yes No
If yes, attach a copy of amendments to this Report.

G. Discharge Prohibitions

1. List any non-storm water discharges you feel should be further regulated:

2. List any non-storm water discharges you feel should be exempt, and provide an explanation for each:

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IV. Special Provisions (Part 4)

A. Public Information and Participation (Part 4.B)

In addition to answering the following questions, attach a summary of all storm water education activities that your agency conducted or participated in last year.

1. No Dumping Message

- a) How many storm drain inlets does your agency own?
- b) How many storm drain inlets were marked with a no dumping message in the last fiscal year?
- c) What is the total number of storm drain inlets that are legibly marked with a no dumping message?

If this number is less than the number in question 1.b, describe why all inlets have not been marked, the process used to implement this requirement, and the expected completion date.

- d) How many public access points to creeks, channels, and other water bodies within your jurisdiction have been posted with no dumping signage in the past year?

Describe your agency's status of implementing this requirement by the date required in Order No. 01-182.

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2. Reporting Hotline

- a) Has your agency established its own hotline for reporting and for general storm water management information? Yes No
- b) If so, what is the number?
- c) Is this information listed in the government pages of the telephone book? Yes No
- d) If no, is your agency coordinated with the countywide hotline? Yes No
- e) Do you keep record of the number of calls received and how they were responded to? Yes No
- f) How many calls were received in the last fiscal year?
- g) Describe the process used to respond to hotline calls.

- h) Have you provided the Principal Permittee with your current reporting contact information? Yes No
- i) Have you compiled a list of the general public reporting contacts for all Permittees and posted it on the www.888CleanLA.com web site (Principal Permittee only)? Yes No
If not, when is this scheduled to occur?

3. Outreach and Education

- a) Describe the strategy developed to provide outreach and bilingual materials to target ethnic communities. Include an explanation of why each community was chosen as a target, how program effectiveness will be determined, and status of implementation. (Principal Permittee only)

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- b) Did the Principal Permittee organize quarterly Public Outreach Strategy meetings that you were aware of? Yes No

How many Public Outreach Strategy meetings did your agency participate in last year?

Explain why your agency did not attend any or all of the organized meetings.

Identify specific improvements to your storm water education program as a result of these meetings:

List suggestions to increase the usefulness of quarterly meetings:

If quarterly Public Outreach Strategy meetings were not organized, explain why not and when this requirement will be implemented (*Principal Permittee only*).

- c) Approximately how many impressions were made last year on the general public about storm water quality via print, local TV, local radio, or other media?

- d) Describe efforts your agency made to educate local schools on storm water pollution.

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- e) Did you provide all schools within each school district in Los Angeles County with materials necessary to educate a minimum of 50 percent of all school children (K-12) every 2 years on storm water pollution (*Principal Permittee only*)? Yes No
If not, explain why.

- f) Describe the strategy developed to measure the effectiveness of in-school educational programs, including assessing students' knowledge of storm water pollution problems and solutions before and after educational efforts (*Principal Permittee only*).

For Permit Years 2-5, attach an assessment of the effectiveness of in-school storm water education programs.

- g) What is the behavioral change target that was developed based on sociological data and other studies (*Principal Permittee only*)?

If no target has been developed, explain why and describe the status of developing a target.

What is the status of meeting the target by the end of Year 5?

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4. Pollutant-Specific Outreach

- a) Attach a description of each watershed-specific outreach program that your agency developed (*Principal Permittee only*). All pollutants listed in Table 1 (Section B.1.d.) must be included.
- b) Did your agency cooperate with the Principal Permittee to develop specific outreach programs to target pollutants in your area? Yes No
- c) Did your agency help distribute pollutant-specific materials in your city? Yes No
- d) Describe how your agency has made outreach material available to the general public, schools, community groups, contractors and developers, etc...

5. Businesses Program

- a) Briefly describe the Corporate Outreach Program that has been developed to target gas stations and restaurant chains (*Principal Permittee only*).

- b) How many corporate managers did your agency (*Principal Permittee only*) reach last year?
- c) What is the total number of corporations to be reached through this program (*Principal Permittee only*)?
- d) Is your agency meeting the requirement of reaching all gas station and restaurant corporations once every two years (*Principal Permittee only*)? Yes No
If not, describe measures that will be taken to fully implement this requirement.

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e) Has your agency developed and/or implemented a Business Assistance Program? Yes No

If so, briefly describe your agency's program, including the number of businesses assisted, the type of assistance, and an assessment of the program's effectiveness.

6. Did you encourage local radio stations and newspapers to use public service announcements? Yes No

How many media outlets were contacted?
Which newspapers or radio stations ran them?

Who was the audience?

7. Did you supplement the County's media purchase by funding additional media buys? Yes No

Estimated dollar value/in-kind contribution:

Type of media purchased:

Frequency of the buys:

Did another agency help with the purchase? Yes No

8. Did you work with local business, the County, or other Permittees to place non-traditional advertising? Yes No

If so, describe the type of advertising.

9. Did you establish local community partnerships to distribute educational storm water pollution prevention material? Yes No

Describe the materials that were distributed:

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Who were the key partners?

Who was the audience (businesses, schools, etc.)?

10. Did you participate in or publicize workshops or community events to discuss storm water pollution? Yes No
How many events did you attend?

11. Does your agency have a website that provides storm water pollution prevention information? Yes No
If so, what is the address?

12. Has awareness increased in your community regarding storm water pollution? Yes No
Do you feel that behaviors have changed? Yes No
Explain the basis for your answers. Include a description of any evaluation methods that are used to determine the effectiveness of your agency's outreach.

13. How would you modify the storm water public education program to improve it on the City or County level?

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B. Industrial/Commercial Facilities Program

1. Critical Source Inventory Database

Did you (individually or jointly) update the Database for Critical Sources Inventory? Yes No

Comments/Explanation/Conclusion:

2. Inspection Program

Provide the reporting data as suggested in the following tables.

Category	Initial Number of Facilities at the start of cycle proposed for inspection by categories (after the initial year, the updated number based on the new data)	Number of facilities inspected in the current reporting year	% Completed at the time of this report for present cycle (from the initial value, and from the updated value after first cycle)	Total number since permit adoption
Landfills				
TSDF				
...				

Comments/Explanation/Conclusion:

3. BMPs Implementation

Provide the reporting data as suggested in the following table.

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Category	Number of facilities inspected by category in this reporting year	Number of facilities identified as adequately implementing BMPs as specified in this reporting year	% adequately implementing out of total in this reporting year	Number of facilities required to implement or upgrade in this reporting year	Number of facilities inspected by category in this reporting cycle	Number of facilities identified as adequately implementing BMPs as specified in this reporting cycle	% adequately implementing out of total in this reporting cycle	Number of facilities required to implement or upgrade in this reporting cycle	Total Number during this permit adequately implementing	Total Number during this permit required to implement or upgrade
Landfills										
...										

Comments/Explanation/Conclusion:

4. Enforcement Activities

Provide the reporting data as suggested in the following tables.

Enforcement Actions by categories (e.g. Warning letter, NOV, referral to D.A., etc.)	Number of facilities issued enforcement actions in the current reporting year	Number of facilities issued enforcement actions in the current reporting cycle	Number of facilities (re)inspected due to enforcement actions in current reporting year	Number of facilities (re)inspected due to enforcement actions in current reporting cycle	Number of facilities brought into compliance in the current reporting year	Number of facilities brought into compliance in current reporting cycle	Total number of enforcement actions since permit adoption (by category)

Facilities by category	Number of Warning letters	Number of NOVs	Number of Referral	Number of Other

Comments/Explanation/Conclusion:

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5. Program Implementation Effectiveness Assessment

Please give a brief assessment of the implementation of the program in removing pollutants from the storm water discharges. Please provide an explanation. Suggested improvements or adjustments based on the knowledge gained through this reporting period activities must be reflected in a change in the SQMP, if warranted.

Highly Effective

Somewhat Effective

Non-effective

Comments/Explanation/Conclusion:

6. You must also submit a quarterly electronic submittal of your Industrial/Commercial Facilities Program activities.

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C. Development Planning Program (Part 4.D)

1. Does your agency have a process to minimize impacts from storm water and urban runoff on the biological integrity of natural drainage systems and water bodies in accordance with requirements under CEQA, Section 404 of the CWA, local ordinances, and other legal authorities? Yes No

Attach examples showing how storm water quality impacts were addressed in environmental documents for projects over the past year.

2. Does your agency have procedures to include the following requirements in all priority development and redevelopment projects:

a) Maximize the percentage of permeable surfaces to allow more percolation of storm water into the ground? Yes No

b) Minimize the quantity of storm water directed to impermeable surfaces and the MS4? Yes No

c) Minimize pollution emanating from parking lots through the use of appropriate treatment control BMPs and good housekeeping practices? Yes No

d) Provide for appropriate permanent measures to reduce storm water pollutant loads from the development site? Yes No

3. List the types and numbers of BMPs that your agency required for priority projects to meet the requirements described above.

4. Describe the status of the development or implementation of peak flow controls in Natural Drainage Systems.

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5. Has your agency amended codes and/or ordinances to give legal effect to the SUSMP changes required in the Permit? Yes No

6. Describe the process your agency uses to include SUSMP design standards in new development and redevelopment project approvals.

7. How many of each of the following projects did your agency review and condition to meet SUSMP requirements last year?

- a) Residential
- b) Commercial
- c) Industrial
- d) Automotive Service Facilities
- e) Retail Gasoline Outlets
- f) Restaurants
- g) Parking Lots
- h) Projects located in or directly adjacent to or discharging directly to an environmentally sensitive area
- i) Total number of permits issued to priority projects

8. What is the percentage of total development projects that were conditioned to meet SUSMP requirements? %

9. How has your agency prepared to reduce the SUSMP threshold for industrial/commercial facilities to 1 acre from 100,000 square feet in 2003?

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- 10. After 2003, how many additional projects per year will require/did require implementation of SUSMP requirements as a result of the lower threshold?

- 11. Does your agency participate in an approved regional or sub-regional storm water mitigation program to substitute in part or wholly SUSMP requirements for new development? Yes No

- 12. Has your agency modified its planning procedures for preparing and reviewing CEQA documents to consider potential storm water quality impacts and provide for appropriate mitigation? Yes No

If no, provide an explanation and an expected date of completion.

- 13. Did your agency update any of the following General Plan elements in the past year?
 - a) Land Use Yes No
 - b) Housing Yes No
 - c) Conservation Yes No
 - d) Open Space Yes No

If yes, please describe how watershed and storm water quality and quantity management considerations were included.

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- 14. How many targeted staff were trained last year?
- 15. How many targeted staff are trained annually?
- 16. What percentage of total staff are trained annually? %
- 17. Has your agency developed and made available development planning guidelines? Yes No
- 18. If no, what is the expected date that guidelines will be developed and available to developers?
- 19. What is the status of completion of the technical manual for siting and design of BMPs for the development community?

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D. Development Construction Program

1. Describe your agency's program to control runoff from construction activity at all construction sites within its jurisdiction.

2. Does your agency require the preparation, submittal, and implementation of a Local Storm Water Pollution Prevention Plan (Local SWPPP) prior to the issuance of a grading permit for all sites that meet one or all of the following criteria?

a) Will result in soil disturbance of one acre or greater Yes No

b) Is within, directly adjacent to, or is discharging directly to an environmentally sensitive area Yes No

c) Is located in a hillside area Yes No

3. Attach one example of a local SWPPP

4. Describe the process your agency uses to require proof of filing a Notice of Intent for coverage under the State General Construction Activity Storm Water permit and a certification that a SWPPP has been prepared prior to issuing a grading permit?

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5. How many building/grading permits were issued to sites requiring Local SWPPPs last year?
6. How many building/grading permits were issued to sites requiring coverage under the General Construction Activities Storm Water Permit last year?
7. How many building/grading permits were issued to construction site less than one acre in size last year?
8. How many construction sites were inspected during the last wet season?
9. Complete the table below.

Type of Violation	# of Violations	% of Total Inspections	# of Follow-up Inspections	# of Enforcement Actions
Off-site discharge of sediment				
Off-site discharge of other pollutants				
No or inadequate SWPPP				
Inadequate BMP/SWPPP implementation				

10. Describe the process for taking enforcement actions against construction site violations, including the types of actions that are taken.

11. Describe the system that your agency uses to track the issuance of grading permits.

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E. Public Agency Activities (Part 4.F)

1. Sewage System Maintenance, Overflow, and Spill Prevention
(only applicable to agencies that own and/or operate a sanitary sewer system)

- a) Has your agency developed and implemented a response plan for sanitary sewer overflows that includes the requirements in Order 01-182? Yes No
- b) How many sanitary sewer overflows occurred within your jurisdiction?
- c) How many did your agency respond to?
- d) Did your agency investigate all complaints received? Yes No
- e) How many complaints were received?
- f) Upon notification, did your agency immediately respond to overflows by containment? Yes No
- g) Did your agency notify appropriate sewer and public health agencies when a sewer overflowed to the MS4? Yes No
- h) Did your agency implement a program to prevent sewage spills or leaks from sewage facilities from entering the MS4? Yes No

If so, describe the program:

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- i) Did your agency implement a program to identify, repair, and remediate sanitary sewer blockages, exfiltration, overflow, and wet weather overflows from sanitary sewers to the MS4? Yes No
If so, describe the program:

2. Public Construction Activities Management

- a) What percentage of public construction sites 5 acres or greater in size did your agency obtain coverage under the State of California General Construction Activities Storm Water Discharge Permit ? %
- b) Give an explanation for any sites greater than 5 acres that were not covered:

- c) What is the total number of active public construction sites?
How many were 5 acres or greater in size?

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d) (After March, 2003) Did your agency obtain coverage under the State of California General Construction Activities Storm Water Discharge Permit coverage for public construction sites for sites one acre or greater? Yes No

3. Vehicle Maintenance/Material Storage Facilities/Corporation Yards Management

a) Did your agency implement pollution prevention plans for each public vehicle maintenance facility, material storage facility, and corporation yard? Yes No

b) Briefly describe how your agency implements the following, and any additional, BMPs to minimize pollutant discharges in storm water:

- (1) Good housekeeping practices
- (2) Material storage control
- (3) Vehicle leaks and spill control
- (4) Illicit discharge control

c) Are all Permittee owned and/or operated vehicle/equipment wash areas self-contained, covered, equipped with a clarifier, and properly connected to the sanitary sewer? Yes No
If not, what is the status of implementing this requirement?

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d) How many Permittee owned and/or operated vehicle/equipment wash areas are scheduled to be redeveloped to include the BMPs listed above?

4. Landscape and Recreational Facilities Management

a) Has your agency developed a standardized protocol for the routine and non-routine application of pesticides, herbicides (including pre-emergents), and fertilizers?

Yes No

Briefly describe this protocol:

b) How does your agency ensure that there is no application of pesticides or fertilizers immediately before, during, or immediately after a rain event or when water is flowing off the area to be applied?

c) Are any banned pesticides, herbicides, fungicides, or rodenticides stored or applied in your agency's jurisdiction that you know of?

Yes No

If so, list them:

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- d) What percentage of your agency's staff that apply pesticides are certified by the California Department of Food and Agriculture, or are under the direct supervision of a certified pesticide applicator?
- e) Describe procedures your agency has implemented to encourage retention and planting of native vegetation and to reduce water, fertilizer, and pesticide needs:

5. Storm Drain Operation and Management

- a) Did your agency designate catch basin inlets within its jurisdiction as Priority A; Priority B; and Priority C? Yes No
- b) How many of each designation exist in your jurisdiction?
Priority A:
Priority B:
Priority C:
- c) Is your city subject to a trash TMDL? Yes No
- d) If yes, describe the activities and/or implementation measures that your agency conducted pursuant to the TMDL and any other trash reduction efforts that occurred.

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- e) How many times were all Priority A basins cleaned last year?
- f) How many times were all Priority B basins cleaned last year?
- g) How many times were all Priority C basins cleaned last year?
- h) How much total waste was collected in tons from catch basin clean-outs last year?
- i) Attach a record of all catch basins in your jurisdiction. This shall identify each basin as City or County owned, and Priority A, B, or C. For all basins that are owned and operated by your agency, include dates that each was cleaned out over the past year.
- j) Did your agency place and maintain trash receptacles at all transit stops within its jurisdiction. Yes No
- k) How many new trash receptacles were installed last year?
- l) Did your agency place special conditions for events that generated substantial quantities of trash and litter including provisions that:
 - (1) Provide for the proper management of trash and litter generated from the event? Yes No
 - (2) Arrange for temporary screens to be placed on catch basins? Yes No
 - (3) Or for catch basins in that area to be cleaned out subsequent to the event and prior to any rain? Yes No
- m) Did your agency inspect the legibility of the catch basin stencil or labels? Yes No
What percentage of stencils were legible?

Los Angeles County Municipal Storm Water Permit (Order 01-182)
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n) Were illegible stencils recorded and re-stenciled or re-labeled within 180 days of inspection? Yes No

o) Did your agency visually monitor Permittee-owned open channel storm drains and other drainage structures for debris at least annually and identify and prioritize problem areas of illicit discharge for regular inspection? Yes No
Is the prioritization attached? Yes No

p) Did your agency review its maintenance activities to assure that appropriate storm water BMPs are being utilized to protect water quality? Yes No
What changes have been made?

q) Did your agency remove trash and debris from open channel storm drains a minimum of once per year before the storm season? Yes No

r) How did your agency minimize the discharge of contaminants during MS4 maintenance and clean outs?

s) Where is removed material disposed of?

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6. Streets and Roads Maintenance

- a) Did your agency designate streets and/or street segments within its jurisdiction as one of the following:
- (1) Priority A – streets and/or street segments that are designated as consistently generating the highest volumes of trash and/or litter? Yes No
 - (2) Priority B - streets and/or street segments that are designated as consistently generating moderate volumes of trash and/or litter? Yes No
 - (3) Priority C – streets and/or street segments that are designated as generating low volumes of trash and/or litter? Yes No
- b) Did your agency perform all street sweeping in compliance with the permit and according to the following schedule:
- (1) Priority A – These streets and/or street segments shall be swept at least two times per month? Yes No
 - (2) Priority B - Each Permittee shall ensure that each streets and/or street segments is cleaned at least once per month? Yes No
 - (3) Priority C – These streets and/or street segments shall be cleaned as necessary but in no case less than once per year? Yes No

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- c) Did your agency require that saw cutting wastes be recovered and disposed of properly and that in no case shall waste be left on a roadway or allowed to enter the storm drain? Yes No
- d) Did your agency require that concrete and other street and road maintenance materials and wastes be managed to prevent pollutant discharges? Yes No
- e) Did your agency require that the washout of concrete trucks and chutes only occur in designated areas and never into storm drains, open ditches, streets, or catch basins leading to the storm drain system? Yes No
- f) Did your agency train its employees in targeted positions (whose interactions, jobs, and activities affect storm water quality) regarding the requirements of the storm water management program to:
- (1) Promote a clear understanding of the potential for maintenance activities to pollute storm water? and Yes No
- (2) Identify and select appropriate BMPs? Yes No
7. Parking Facilities Management
- a) Did your agency ensure that Permittee-owned parking lots be kept clear of debris and excessive oil buildup and cleaned no less than 2 times per month and/or inspected no less than 2 times per month to determine if cleaning is necessary. Yes No
- b) Were any Permittee-owned parking lots cleaned less than once a month? How many? Yes No

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8. Public Industrial Activities Management
- a) Did your agency, for all municipal activity considered an industrial activity under USEPA Phase I storm water regulations, obtain separate coverage under the State of California General Industrial Activities Storm Water Discharge Permit no later than December 31, 2001? Yes No
- b) Does your agency serve a population of less than 100,000 people? Yes No
9. Emergency Procedures
- a) In case of real emergencies, did your agency repair essential public services and infrastructure in a manner to minimize environmental damage? Yes No
- b) Were BMPs implemented to the extent that measures did not compromise public health and safety? Yes No
10. Feasibility Study
- a) Did your agency cooperate with the County Sanitation Districts of Los Angeles County to prepare a study which investigates the possible diversion of dry weather flows or the use of alternative treatment control BMPs? Yes No
- b) Did your agency review its individual prioritized list and create a watershed based priority list of drains for potential diversion and submit a listing of priority diversions to the Regional Board Executive Officer? Yes No

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F. Illicit Connections and Illicit Discharges (IC/ID) Elimination Program (Part 4.G)

1. Attach a copy of your agency's IC/ID Elimination Implementation Program (Part 4.G.1.a.).
2. Attach a map of your storm drain system showing all permitted connections (if available), and the locations of all illicit connections and discharges that occurred last year (Part 4.G.1.b). If your agency has not completed this requirement, describe the status of the development of a baseline map, including an expected completion date.

3. Describe your enforcement procedures for eliminating illicit discharges and terminating illicit connections.

4. Describe your record keeping system to document all illicit connections and discharges.

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5. What is the total length of open channel that your agency owns and operates?
6. What length was screened last year for illicit connections?
7. What is the total length of closed storm drain that your agency owns and operates?
8. What length was screened last year for illicit connections?
9. Describe the method used to screen your storm drains.

10. Provide the reporting data for illicit connections as suggested in the following table (you may submit a spreadsheet from your database that contains the information).

Year	Total # reported/ identified	Total # investigated	# that conveyed exempt discharges or NPDES permitted	# that conveyed illicit discharges that were terminated	# that were removed	# that resulted in enforcement action	# that resulted in <i>other</i> actions
01/02							
02/03							
03/04							
04/05							
05/06							

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11. Explain any *other* actions that occurred in the last year.

12. What is the average time it takes your agency to initiate an illicit connection investigation after it is reported?

a) Were all identified connections terminated within 180 days? Yes No

b) If not, explain why.

13. Provide the reporting data for illicit discharges as suggested in the following table (you may submit a spreadsheet from you database that contains this information).

Year	Total # reported	Total # that were discontinued/ cleaned up voluntarily through enforcement and the source was identified	# that were cleaned up but the source could not be identified	# that resulted in no evidence of discharge	# that were determined to be conditionally exempt	# that were exempt or in compliance and the source identified	# that resulted in enforcement action
01/02							
02/03							
03/04							
04/05							
05/06							

**Los Angeles County Municipal Storm Water Permit (Order 01-182)
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14. What is the average response time after an illicit discharge is reported?

a) Did any response times exceed 72 hours? Yes No

b) If yes, explain why.

15. Describe the your agency's spill response procedures.

16. What would you do differently to improve your agency's IC/ID Elimination Program?

17. Attach a list of all permitted connections to your storm sewer system.

**Los Angeles County Municipal Storm Water Permit (Order 01-182)
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V. Monitoring

Briefly describe any storm water monitoring activities that are not required by Order No. 01-182 that your municipality conducted, participated in, or received funding to conduct in the past fiscal year. These activities should correspond with the dollar amount you listed in Table 2.

VI. Assessment of Program Effectiveness

- A. Attach a summary of the effectiveness of your storm water management program. This summary should include, at a minimum, the following:
1. An assessment of your agency's compliance with permit requirements, based on your responses to the questions in this form;
 2. Descriptions of any evaluation methods that your agency uses to determine the effectiveness of your storm water management program;
 3. A summary of the strengths and weaknesses of your agency's storm water management program;
 4. A list of specific program highlights and accomplishments;
 5. A description of water quality improvements or degradation in your watershed over the past fiscal year;
 6. Interagency coordination between cities to improve the storm water management program;
 7. Future plans to improve your agency's storm water management program; and
 8. Suggestions to improve the effectiveness of your program or the County model programs.
- B. On a scale of 1 to 10 (10 being full implementation of requirements by their deadlines), rate your municipality's level of compliance with Order No. 01-182.
- C. List any suggestions your agency has for improving program reporting and assessment.

**Los Angeles County Municipal Storm Water Permit (Order 01-182)
Individual Annual Report Form
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VII. Certification Statement

"I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted.

Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility, of a fine and imprisonment for knowing violations.

Executed on the ___ day of _____, 20__,

at _____.

Printed Name _____ Title _____

(Signature) _____

Signature by duly authorized representative



California Regional Water Quality Control Board

Los Angeles Region



Linda S. Adams
Cal/EPA Secretary

320 W. 4th Street, Suite 200, Los Angeles, California 90013
Phone (213) 576-6600 FAX (213) 576-6640 - Internet Address: <http://www.waterboards.ca.gov/losangeles>

Arnold Schwarzenegger
Governor

August 23, 2007

Mr. Donald L. Wolfe, Director
County of Los Angeles
Department of Public Works
900 South Fremont Avenue
Alhambra, CA 91803-1331

And

Directors of Public Works/City Engineers
Los Angeles County Municipal Co-Permittees

**TRANSMITTAL OF THE LOS ANGELES COUNTY MUNICIPAL STORM WATER
NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) PERMIT
AS AMENDED BY REGIONAL BOARD ORDER R4-2007-0042 ON AUGUST 9, 2007
(BOARD ORDER 01-182; NPDES PERMIT NO. CAS004001)**

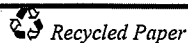
Dear Mr. Wolfe, Directors of Public Works, and City Engineers:

We are pleased to transmit to you a copy of the municipal storm water permit for the County of Los Angeles (LA Storm Water Permit) that was amended by the Los Angeles Regional Water Quality Control Board (LA Water Board) at its meeting on August 9, 2007 pursuant to Division 7 of the California Water Code. Board Order 01-182 (as amended by Board Orders R4-2006-0074 and R4-2007-0042) serves as the permit under the National Pollutant Discharge Elimination System (NPDES) for storm water discharges and urban runoff within the County of Los Angeles.

The LA Water Board reopened the LA Storm Water Permit to incorporate the Marina del Rey Harbor Mothers' Beach and Back Basins Bacteria (MDR Bacteria) Total Maximum Daily Load (TMDL) Waste Load Allocations (WLAs) for summer dry weather discharges from the MS4 to Marina del Rey Harbor (MDRH). The LA Water Board adopted the MDR Bacteria TMDL in 2003 (Resolution No. 2003-012). This TMDL was subsequently approved by the State Water Resources Control Board (Resolution No. 2003-0072), Office of Administrative Law, and the United States Environmental Protection Agency and became effective on March 18, 2004. This TMDL required compliance with the summer dry weather WLAs and winter dry weather WLAs by March 18, 2007.

The MDR Bacteria summer dry weather WLAs were incorporated as Receiving Water Limitations along with a supporting prohibition on discharges from the MS4 to MDRH that are inconsistent with the limits. The LA Storm Water Permit already prohibits discharges that cause or contribute to the exceedance of water quality standards. The proposed changes make more

California Environmental Protection Agency



Our mission is to preserve and enhance the quality of California's water resources for the benefit of present and future generations.

Mr. Donald L. Wolfe
Los Angeles Flood Control District

- 2 -

August 23, 2007

specific the permit provisions as they relate to discharges of bacteria that could impact Mothers' Beach and the back basins (Basins D, E, and F) of Marina del Rey Harbor during summer dry weather. The changes affect the County of Los Angeles and the Los Angeles County Flood Control District and the Cities of Los Angeles and Culver City.

For your use and public dissemination, an electronic copy of the current LA Storm Water Permit may be downloaded from our website at:

<http://www.waterboards.ca.gov/losangeles/html/programs/stormwater/lams4.html>

We would greatly appreciate your staff directing others to the website for further information on storm water management updates as necessary.

We thank you and your staff for the assistance with developing language that recognizes the ongoing work of the County and the Cities toward improving water quality in Marina del Rey, while also strengthening public health protection for the hundreds of thousands of people who live in and visit Marina del Rey. In particular, I would like to acknowledge the efforts of Mr. Pestrella who proactively sought to work with me on this issue, as well as the broader issue of our partnership in addressing water quality issues.

Should you have any comments or questions please do not hesitate to call me directly at (213) 576-6609. Alternatively, your staff may contact Carlos Urrunaga at (213) 620-2083.

Sincerely,



Deborah J. Smith
Interim Executive Officer

Enclosure

cc: Mr. Michael Levy, Office of the Chief Counsel, State Water Resources Control Board
Mr. Bruce Fujimoto, Storm Water Section, State Water Resources Control Board,
Mr. Craig Hooks, Director, Office of Wetlands Oceans and Watersheds, USEPA, HQ
Mr. James Hanlon, Director, Office of Wastewater Management, USEPA, HQ
Mr. Eugene Bromley, USEPA, Region 9
Mr. David E. Janssen, Chief Administrative Officer, County of Los Angeles, Attn. Jan Takata
Mr. Mark Pestrella, Assistant Deputy Director, Watershed Management Division, County of Los Angeles, Department of Public Works
Interested Parties

California Environmental Protection Agency



Our mission is to preserve and enhance the quality of California's water resources for the benefit of present and future generations.

STATE OF CALIFORNIA

**CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
LOS ANGELES REGION**

**ORDER NO. 01-182
NPDES PERMIT NO. CAS004001
WASTE DISCHARGE REQUIREMENTS
FOR**

**MUNICIPAL STORM WATER AND URBAN RUNOFF DISCHARGES WITHIN THE
COUNTY OF LOS ANGELES, AND THE INCORPORATED CITIES THEREIN,
EXCEPT THE CITY OF LONG BEACH**

**December 13, 2001
(Amended on September 14, 2006 by Order R4-2006-0074
and
on August 9, 2007 by Order R4-2007-0042)**

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STATE OF CALIFORNIA
CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
LOS ANGELES REGION

ORDER NO. 01-182
NPDES PERMIT NO. CAS004001
WASTE DISCHARGE REQUIREMENTS
FOR
MUNICIPAL STORM WATER AND URBAN RUNOFF DISCHARGES WITHIN THE
COUNTY OF LOS ANGELES, AND THE INCORPORATED CITIES THEREIN,
EXCEPT THE CITY OF LONG BEACH

The California Regional Water Quality Control Board, Los Angeles Region (hereinafter referred to as the Regional Board) finds:

A. Existing Permit

The Los Angeles County Flood Control District, the County of Los Angeles, and 84 incorporated cities within the Los Angeles County Flood Control District (see Attachment A, List of Permittees), hereinafter referred to separately as Permittees and jointly as the Discharger, discharge or contribute to discharges of storm water and urban runoff from municipal separate storm sewer systems (MS4s), also called storm drain systems. The discharges flow to water courses within the Los Angeles County Flood Control District and into receiving waters of the Los Angeles Region. These discharges are covered under countywide waste discharge requirements contained in Order No. 96-054 adopted by this Regional Board on July 15, 1996, which replaced Order No. 90-079 adopted by this Regional Board on June 18, 1990. Order No. 96-054 also serves as a National Pollutant Discharge Elimination System (NPDES) permit for the discharge of municipal storm water.

B. Nature of Discharges and Sources of Pollutant

1. Storm water discharges consist of surface runoff generated from various land uses in all the hydrologic drainage basins that discharge into water bodies of the State. The quality of these discharges varies considerably and is affected by the hydrology, geology, land use, season, and sequence and duration of hydrologic events. The primary constituents of concern currently identified by the Los Angeles County Flood Control District Integrated Receiving Water Impacts Report (1994-2000) are cyanide, indicator bacteria, total dissolved solids, turbidity, total suspended solids, nutrients, total aluminum, dissolved cadmium, copper, lead, total mercury, nickel, zinc, bis(2-ethylhexyl)phthalate, polycyclic aromatic hydrocarbons (PAHs), diazinon, and chlorpyrifos.
2. Certain pollutants present in storm water and/or urban runoff may be derived from extraneous sources that Permittees have no or limited jurisdiction over. Examples of such pollutants and their respective

sources are: PAHs which are products of internal combustion engine operation, nitrates, bis (2-ethylhexyl) phthalate and mercury from atmospheric deposition, lead from fuels, copper from brake pad wear, zinc from tire wear, dioxins as products of combustion, and natural-occurring minerals from local geology. However, the implementation of the measures set forth in this Order is intended to reduce the entry of these pollutants into storm water and their discharge to receiving waters.

3. Water quality assessments conducted by the Regional Board identified impairment, or threatened impairment, of beneficial uses of water bodies in the Los Angeles Region. The causes of impairments include pollutants of concern identified in municipal storm water discharges by the County of Los Angeles in the Integrated Receiving Water Impacts Report (1994-2000). Pollutants in storm water can have damaging effects on both human health and aquatic ecosystems.
4. The Los Angeles County Grand Jury, September 2000, completed an investigation into the health risks of swimming near beaches in Los Angeles County and made several recommendations to reduce public health risks (Final Report, Grand Jury, Los Angeles County, 1999-2000). The Grand Jury recommended that the Regional Board consider among other actions, (i) a focus on setting contaminant limits rather than programmatic evaluations, (ii) audit of MS4 Permittee programs; and (iii) clarifying enforcement responsibilities between the State and local governments.
5. Studies and research conducted by other Regional agencies, academic institutions, and universities have also identified storm water and urban runoff as significant sources of pollutants to surface waters in Southern California. See, e.g., [*Surface Runoff to the Southern California Bight*, Southern California Coastal Water Research Project, (1992); *Impacts of Urban Runoff on Santa Monica Bay and Surrounding Ocean Waters* (Gersberg, R.M., 1995); *State of the Bay 1998*, Santa Monica Bay Restoration Project; *Storm Water Impact*, In, Southern California Environmental Report Card 1999, Institute of the Environment, University of California, Los Angeles (Stenstrom, M.S., 1999); *Distribution of Anthropogenic and Natural Debris on the Mainland Shelf of Southern California Bight*, Shelly L. Moore and M. James Allen (1999); *The Health Effects of Swimming in Ocean Water Contaminated by Storm Drain Runoff*, Haile, R.W. et al. (1999); *Huntington Beach Closure Investigation: Technical Review* (University of Southern California, 2000); *A Regional Survey of the Microbiological Water Quality Along the Shoreline of the Southern California Bight*, Rachel T. Noble et al. (2001); *Integrated Receiving Water Impacts Report (1994-2000)*, County of Los Angeles (2001)].
6. Development and urbanization increase pollutant load, volume, and discharge velocity. First, natural vegetated pervious ground cover is converted to impervious surfaces such as paved highways, streets, rooftops and parking lots. Natural vegetated soil can both absorb rainwater and remove pollutants providing an effective natural purification process. In contrast, pavement and concrete can neither absorb water

nor remove pollutants, and thus the natural purification characteristics are lost. Second, urban development creates new pollution sources as the increased density of human population brings proportionately higher levels of vehicle emissions, vehicle maintenance wastes, municipal sewage waste, pesticides, household hazardous wastes, pet wastes, trash, and other anthropogenic pollutants. Development and urbanization especially threaten environmentally sensitive areas. Such areas have a much lower capacity to withstand pollutant shocks than might be acceptable in the general circumstance. In essence, development that is ordinarily insignificant in its impact on the environment may in a particular sensitive environment become significant. These environmentally sensitive areas designated by the State and/or the County of Los Angeles include Areas of Special Biological Significance (ASBS), water bodies designated as supporting a RARE beneficial use, Significant Natural Areas (SNAs), and Significant Ecological Areas (SEAs).

7. The increased volume, increased velocity, and discharge duration of storm water runoff from developed areas has the potential to greatly accelerate downstream erosion and impair stream habitat in natural drainages. Studies have demonstrated a direct correlation between the degree of imperviousness of an area and the degradation of its receiving waters. Significant declines in the biological integrity and physical habitat of streams and other receiving waters have been found to occur with as little as 10 percent conversion from natural to impervious surfaces. Percentage impervious cover is a reliable indicator and predictor of potential water quality degradation expected from new development. (*Impervious Cover as An Urban Stream Indicator and a Watershed Management Tool*, Schueler, T. and R. Claytor, In, *Effects of Water Development and Management on Aquatic Ecosystems* (1995), ASCE, New York; Leopold, L. B., (1973), *River Channel Change with Time: An Example*, Geological Society of America Bulletin, v. 84, p. 1845-1860; Hammer, T. R., (1972), *Stream Channel Enlargement Due to Urbanization: Water Resources Research*, v. 8, p. 1530-1540; Booth, D. B., (1991), *Urbanization and the Natural Drainage System--Impacts, Solutions and Prognoses: The Northwest Environmental Journal*, v. 7, p. 93-118; Klein, R. D., (1979), *Urbanization and Stream Quality Impairment: Water Resources Bulletin*, v. 15, p. 948-963; May, C. W., Horner, R. R., Karr, J. R., Mar, B. W., and Welch, E. B., (1997), *Effects of Urbanization on Small Streams in the Puget Sound Lowland Ecoregion: Watershed Protection Techniques*, v. 2, p. 483-494; Morisawa, M. and LaFlure, E. *Hydraulic Geometry, Stream Equilibrium and Urbanization* In Rhodes, D. P. and Williams, G. P. *Adjustments to the Fluvial System* p.333-350. (1979); Dubuque, Iowa, Kendall/Hunt. Tenth Annual Geomorphology Symposia Series; and *The Importance of Imperviousness: Watershed Protection Techniques*, 1(3), Schueler, T. (1994).)
8. The County of Los Angeles has identified as the seven highest priority industrial and commercial critical source types, (i) wholesale trade (scrap recycling, auto dismantling); (ii) automotive repair/parking; (iii) fabricated metal products; (iv) motor freight; (v) chemical and allied products; (vi)

automotive dealers/gas stations; (vii) primary metal products (*Critical Source Selection and Monitoring Report*, Los Angeles County Department of Public Works -Sept 1996). Monitoring conducted by Los Angeles County and the Regional Board demonstrates that the priority industrial sectors and auto repair facilities (one of the commercial sectors) on the list, contribute significant concentrations of heavy metals to storm water (*Los Angeles County 1999-2000 Storm Water Monitoring Report*, Los Angeles County Department of Public Works -July 2000; *Compliance Assessment of the Auto Dismantling Industry; Evaluation of the California General Industrial Storm Water Permit*, H. Chang, (2001), 70 pp., California Regional Water Quality Control Board, Los Angeles Region).

9. The discharge of washwaters and contaminated storm water from industries and businesses specified in this Order for inspection by Permittees is an environmental threat and can also adversely impact public health and safety. For example, a review of industrial waste/pretreatment records performed in 1995 in the County of Los Angeles on illicit discharges indicates that automotive service facilities and food service facilities sometimes discharge polluted washwaters to the MS4. The pollutants of concern in such washwaters include food waste, oil and grease, and toxic chemicals. Other storm water/industrial waste programs in California have reported similar observations. Illicit discharges from automotive service facilities and food service facilities have been identified elsewhere as a major cause of widespread contamination and water quality problems (Washtenaw County Statutory Drainage Board - 1987 Huron River Pollution Abatement Program).
10. Studies indicate that facilities with paved surfaces subject to frequent motor vehicular traffic (such as parking lots and fast food restaurants), or facilities that perform vehicle repair, maintenance, or fueling (automotive service facilities) are potential sources of pollutants of concern in storm water. [References: Pitt *et al.*, *Urban Storm Water Toxic Pollutants: Assessment, Sources, and Treatability*, Water Environment Res., 67, 260 (1995); *Results of Retail Gas Outlet and Commercial Parking Lot Storm Water Runoff Study*, Western States Petroleum Association and American Petroleum Institute, (1994); *Action Plan Demonstration Project, Demonstration of Gasoline Fueling Station Best Management Practices*, Final Report, County of Sacramento (1993); *Source Characterization*, R. Pitt, In *Innovative Urban Wet-Weather Flow Management Systems* (2000) Technomic Press, Field, R *et al.* editors; *Characteristics of Parking Lot Runoff Produced by Simulated Rainfall*, L.L. Tiefenthaler *et al.* Technical Report 343, Southern California Coastal Water Research Project (2001).]
11. Retail Gasoline Outlets (RGOs) are points of convergence for vehicular traffic and are similar to parking lots and urban roads. Studies indicate that storm water discharges from RGOs have high concentrations of hydrocarbons and heavy metals. [*The Quality of Trapped Sediments and Poor Water within Oil Grit Separators in Suburban MD*, Schueler T. and Shepp D. (1992), and *Concentrations of Selected Constituents in Runoff*

from Impervious Surfaces in Four Urban Catchments of Different Landuse, Ranabal, F.I., and T.J. Gizzard (1995), In Proceedings of the Fourth Biennial Stormwater Research Conference, Florida, pp-42-52]. Pilot studies indicate that treatment control best management practices installed at retail gasoline stations are effective in removing pollutants, reasonable in capital cost, easy to operate, and do not present safety risks [*Rouge River National Wet Weather Demonstration Project, Task Product Memorandum – Evaluation of On-line Media Filters RPO-NPS-TPM59.00*, Wayne County, MI, March 1999]. The Regional Board and the San Diego Regional Board have jointly prepared a Technical Report on the applicability of new development BMP design criteria for retail gasoline outlets, (*Retail Gasoline Outlets: New Development Design Standards for Mitigation of Storm Water Impacts*, (June 2001)). Retail Gasoline Outlets in Western U.S. States (such as Washington and Oregon) are already subject to numerical BMP design criteria, as well in other U.S. States.

C. Permit Background

1. The essential components of the Storm Water Management Program, as established by federal regulations [40 CFR 122.26(d)] are: (i) Adequate Legal Authority, (ii) Fiscal Resources, (iii) Storm Water Quality Management Program (SQMP) - (Public Information and Participation Program, Industrial/Commercial Facilities Program, Development Planning Program, Development Construction Program, Public Agency Activities Program, Illicit Connection and Illicit Discharges Elimination Program), and (iv) Monitoring and Reporting Program.
2. The Permittees have filed a Report of Waste Discharge (ROWD), dated February 1, 2001, and applied for renewal of their waste discharge requirements that serves as an NPDES permit to discharge wastes to surface waters. The ROWD includes a proposed SQMP and a Monitoring Program. The proposed SQMP contains programs previously approved under Board Order No. 96-054 in the following areas:

Public Information and Participation
Development Planning
Development Construction
Public Agency Activities
Illicit Connection/Illicit Discharge Elimination Program

These programs are revised pursuant to the provisions of this Order after adoption.

3. The County of Los Angeles has previously conducted source identification and pollutant characterization consistent with 40 CFR 122.26(d)(1)(ii) and (iii) under its storm water Monitoring Program. The Monitoring Program submitted with the ROWD proposes to advance the assessment of receiving water impacts, identification of sources of pollution, evaluation of Best Management Practices (BMPs), and measurement of long term trends in mass emissions.

4. The Regional Board has reviewed the ROWD and has determined it to be complete under the reapplication policy of MS4s issued by the U.S. Environmental Protection Agency (USEPA) (61 *Fed. Reg.* 41697). The Regional Board finds that the Permittees' proposed SQMP, incorporating the additional and/or revised provisions contained in this Order would meet the minimum requirements of federal regulations.
5. The City of Los Angeles has conducted shoreline and nearshore water quality monitoring off the Santa Monica Bay since the 1950s under the monitoring program for the Hyperion Waste Water Treatment Plant (NPDES No. CA0109991). The monitoring results indicate that effluent from Hyperion's 5-Mile Outfall does not impinge the shoreline, and that elevated bacterial counts are associated with runoff from storm drains and discharges from piers. In 1994, the Regional Board approved the relocation of Hyperion's shoreline stations to implement a bay-wide, regional shoreline-monitoring program associated with storm drain outfalls in the Santa Monica Bay. The City of Los Angeles requested that the shoreline-monitoring requirement be incorporated in this Order. The shoreline pathogen monitoring requirements are outlined in the Monitoring Program for this Order.

D. Permit Coverage

1. The requirements in this Order cover all areas within the boundaries of the Permittee municipalities (see Attachment A) over which they have regulatory jurisdiction as well as unincorporated areas in Los Angeles County within the jurisdiction of the Regional Board. The Permittees serve a population of about 9.5 million [Reference: *2000 Census of Population and Housing*, Bureau of the Census, U.S. Department of Commerce (2001)] in an area of approximately 3,100 square miles.
2. Federal, state, regional or local entities within the Permittees' boundaries or in jurisdictions outside the Los Angeles County Flood Control District, and not currently named in this Order, may operate storm drain facilities and/or discharge storm water to storm drains and watercourses covered by this Order. The Permittees may lack legal jurisdiction over these entities under state and federal constitutions. The Regional Board will coordinate with these entities to implement programs that are consistent with the requirements of this Order. The Regional Board will consider such facilities for coverage in 2003 under its NPDES permitting scheme pursuant to USEPA Phase II storm water regulations.
3. Sources of discharges into receiving waters in the County of Los Angeles but in jurisdictions outside its boundary include the following:

About 34 square miles of unincorporated area in Ventura County, which drain into Malibu Creek and then to Santa Monica Bay,

About 9 square miles of the City of Thousand Oaks, which also drain into Malibu Creek and then to Santa Monica Bay, and

About 86 square miles of area in Orange County, which drain into Coyote Creek and then into the San Gabriel River.

The Regional Board will ensure that storm water management programs for the areas in Ventura County and the City of Thousand Oaks that drain into Santa Monica Bay are consistent with the requirements of this Order. The Regional Board will coordinate with the Santa Ana Regional Board so that storm water management programs for the areas in Orange County that drain into Coyote Creek are consistent with the requirements of this Order.

4. This permit is intended to develop, achieve, and implement a timely, comprehensive, cost-effective storm water pollution control program to reduce the discharge of pollutants in storm water to the Maximum Extent Practicable (MEP) from the permitted areas in the County of Los Angeles to the waters of the U.S. subject to the Permittees' jurisdiction.
5. Permittees have expressed their intention to work cooperatively to control the contribution of pollutants from one portion of the MS4 to another portion of the system. Permittees may control the contribution of pollutants to the MS4 from non-permittee dischargers such as Caltrans, the U.S. Department of Defense, and other state and federal facilities, through interagency agreements.

E. Federal, State, and Regional Regulations

1. The Water Quality Act of 1987 added Section 402(p) to the federal Clean Water Act (CWA) (33 U.S.C. § 1251-1387). This section requires the USEPA to establish regulations setting forth NPDES requirements for storm water discharges in two phases.
 - The USEPA Phase I storm water regulations were directed at MS4s serving a population of 100,000 or more, including interconnected systems and storm water discharges associated with industrial activities, including construction activities. The Phase I Final Rule was published on November 16, 1990 (55 *Fed. Reg.* 47990).
 - The USEPA Phase II storm water regulations are directed at storm water discharges not covered in Phase I, including small MS4s (serving a population of less than 100,000), small construction projects (one to five acres), municipal facilities with delayed coverage under the Intermodal Surface Transportation Efficiency Act of 1991, and other discharges for which the USEPA Administrator or the State determines that the storm water discharge contributes to a violation of a water quality standard, or is a significant contributor of pollutants to waters of the United States. The Phase II Final Rule was published on December 8, 1999 (64 *Fed. Reg.* 68722).
2. The USEPA published an 'Interim Permitting Approach for Water Quality-Based Effluent Limitations in Storm Water Permits' on August 26, 1996 (61 *Fed. Reg.* 43761). This policy discusses the appropriate kinds of

water quality-based effluent limitations to be included in NPDES storm water permits to provide for the attainment of water quality standards.

3. The USEPA published an 'Interpretative Policy Memorandum on Reapplication Requirements' for MS4 permits on August 9, 1996 (61 *Fed. Reg.* 41697). This policy requires that MS4 reapplication for reissuance for a subsequent five-year permit term contain certain basic information and information for proposed changes and improvements to the storm water management program and monitoring program.
4. The USEPA has entered into a Memorandum of Agreement (MOA) with the U.S. Fish and Wildlife Service and the National Marine Fisheries Service for enhancing coordination regarding the protection of endangered and threatened species under Section 7 of the Endangered Species Act and the CWA's Water Quality Standards and NPDES programs. Among other actions, the MOA establishes a framework for coordination of actions by the USEPA, the Services, and CWA delegated States on CWA permit issuance under Section 402 of the CWA [66 *Fed. Reg.* 11202 – 11217].
5. USEPA regulations at 40 CFR 122.26(d)(2)(iv)(A) and 40 CFR 122.26(d)(2)(iv)(C) require that MS4 permittees implement a program to monitor and control pollutants in discharges to the municipal system from industrial and commercial facilities that contribute a substantial pollutant load to the MS4. The regulations require that permittees establish priorities and procedures for inspection of industrial facilities and priority commercial establishments. This permit, consistent with the USEPA policy, incorporates a cooperative partnership, including the specifications of minimum expectations, between the Regional Board and the Permittees for the inspection of industrial facilities and priority commercial establishments to control pollutants in storm water discharges (58 *Fed. Reg.* 61157).
6. Section 402 (p) of the CWA (33 U.S.C. § 1342(p) provides that MS4 permits must "require controls to reduce the discharge of pollutants to the maximum extent practicable, including management practices, control techniques and system, design engineering method and such other provisions as the [EPA] Administrator or the State determines appropriate for the control of such pollutants." The State Water Resources Control Board's (State Board) Office of Chief Counsel (OCC) has issued a memorandum interpreting the meaning of MEP to include technical feasibility, cost, and benefit derived with the burden being on the municipality to demonstrate compliance with MEP by showing that a BMP is not technically feasible in the locality or that BMPs costs would exceed any benefit to be derived (dated February 11, 1993).
7. The CWA authorizes the USEPA to permit a state to serve as the NPDES permitting authority in lieu of the USEPA. The State of California has in-lieu authority for an NPDES program. The Porter-Cologne Water Quality Control Act authorizes the State Board, through the Regional Boards, to regulate and control the discharge of pollutants into waters of the State. The State Board entered into a MOA with the USEPA, on

September 22, 1989, to administer the NPDES Program governing discharges to waters of the U.S.

8. Section 303(d) of the CWA requires that the State identify a list of impaired water-bodies and develop and implement Total Maximum Daily Loads (TMDLs) for these waterbodies (33 U.S.C. §1313(d)(1)). A TMDL specifies the maximum amount of a pollutant that a water-body can receive, still meet applicable water quality standards and protect beneficial uses. The USEPA entered into a consent decree with the Natural Resources Defense Council (NRDC), Heal the Bay, and the Santa Monica BayKeeper on March 22, 1999, under which the Regional Board must adopt all TMDLs for the Los Angeles Region within 13 years from that date. This permit incorporates a provision to implement and enforce approved load allocations for municipal storm water discharges and requires amending the SQMP after pollutants loads have been allocated and approved.
9. Section 6217(g) of the Coastal Zone Act Reauthorization Amendments of 1990 (CZARA) requires coastal states with approved coastal zone management programs to address non-point pollution impacting or threatening coastal water quality. CZARA (16 U.S.C. § 1451-1465) amends the Coastal Zone Management Act of 1972, to address five sources of non-point pollution: agriculture, silviculture, urban, marinas, and hydromodification. This NPDES permit addresses the management measures required for the urban category, with the exception of septic systems. The Regional Board addresses septic systems through the administration of other programs.
10. On May 18, 2000, the USEPA established numeric criteria for priority toxic pollutants for the State of California (California Toxics Rule (CTR)) 65 *Fed. Reg.* 31682 (40 CFR 131.38), for the protection of human health and aquatic life. These apply as ambient water quality criteria for inland surface waters, enclosed bays, and estuaries. The State Board adopted the *Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California (SIP) – 2000*, on March 2, 2000, for implementation of the CTR (State Board Resolution No. 2000-15 as amended by Board Resolution No. 2000-030). This policy requires that discharges comply with TMDL-derived load allocations as soon as possible but no later than 20 years from the effective date of the policy.
11. The State Board adopted a revised Water Quality Control Plan for Ocean Waters of California (Ocean Plan) on July 23, 1997. The Ocean Plan contains water quality objectives which apply to all discharges to the coastal waters of California.
12. The State Board in *In Re: California Department of Transportation* (State Board Order WQ 2001-08), determined that the discharge of storm water to ASBS is subject to the prohibition in the Ocean Plan against the discharge of wastes to an ASBS.

13. The Regional Board adopted an updated Water Quality Control Plan (Basin Plan) for the Los Angeles Region on June 13, 1994, '*Water Quality Control Plan, Los Angeles Region: Basin Plan for the Coastal Watersheds of Los Angeles and Ventura Counties*, (1994).' The Basin Plan designates beneficial uses of receiving waters and specifies both narrative and numerical water quality objectives for the receiving waters in Los Angeles County.
14. The Regional Board on September 19, 2001, adopted amendments to the Basin Plan, to incorporate TMDLs for trash in the Los Angeles River (Resolution No. 01-013) and Ballona Creek (Resolution No. 01-014). After approval by the State Board, the Office of Administrative Law, and the USEPA, the TMDLs for trash will be effective and enforceable.
15. The Regional Board on April 13, 1998, approved BMPs for sidewalk rinsing to minimize the discharge of wash waters to the storm drain system (Resolution No. 98-08). By the same resolution, the Regional Board prohibited the discharge of municipal street wash waters to the storm drain system.
16. The Regional Board on April 13, 1998, approved recommended BMPs for industrial/commercial facilities (Resolution No. 98-08).
17. The Regional Board on April 22, 1999, approved a list of BMPs for use in development planning and development construction (Resolution No. 99-03)
18. The Regional Board adopted and approved requirements for new development and significant redevelopment projects in Los Angeles County to control the discharge of storm water pollutants in post-construction storm water, on January 26, 2000, in Board Resolution No. R-00-02. The Regional Board Executive Officer issued the approved Standard Urban Storm Water Mitigation Plans (SUSMPs) on March 8, 2000. The State Board in large part affirmed the Regional Board action and SUSMPs in State Board Order No. WQ 2000-11 issued on October 5, 2000.
 - The State Board's Chief Counsel has issued a statewide policy memorandum (dated December 26, 2000), which interprets the Order to provide broad discretion to Regional Boards and identifies potential future areas for inclusion in SUSMPs and the types of evidence and findings necessary. Such areas include ministerial projects, projects in environmentally sensitive areas, and water quality design criteria for RGOs.
 - The State Board's Chief Counsel interprets the Order to encourage regional solutions and endorses a mitigation fund or "bank" that may be funded by developers who obtain waivers from the numerical design standards for new development and significant redevelopment.
19. 40 CFR 131.10(a) prohibits states from designating waste transport or waste assimilation as a use for any water of the U.S. Authorizing the

construction of a storm water/ urban runoff treatment facility in a jurisdictional water body would be tantamount to accepting waste assimilation as an appropriate use for that water body. Furthermore, the construction and operation of a pollution control facility in a water body can impact the physical, chemical, and biological integrity as well as the beneficial uses of the water body. Therefore, storm water treatment and/or mitigation in accordance with SUSMPs and any other requirements of this Order must occur prior to the discharge of storm water into a water of the U.S.

20. The Regional Board supports a Watershed Management Approach to address water quality protection in the region. The objective of the Watershed Management Approach should be to provide a comprehensive and integrated strategy towards water resource protection, enhancement, and restoration while balancing economic and environmental impacts within a hydrologically defined drainage basin or watershed. It emphasizes cooperative relationships between regulatory agencies, the regulated community, environmental groups, and other stakeholders in the watershed to achieve the greatest environmental improvements with available resources.
21. To promote a watershed management approach, the County of Los Angeles is divided into six Watershed Management Areas (WMAs) as follows:

Malibu Creek and Rural Santa Monica Bay WMA
Ballona Creek and Urban Santa Monica Bay WMA
Los Angeles River WMA
San Gabriel River WMA
Dominguez Channel/Los Angeles Harbor WMA, and
Santa Clara River WMA

Attachment A shows the list of Permittees under each WMA and some Permittees have expressed an intent to form sub-watershed groups within the WMA to promote regional solutions for the mitigation of storm water discharge pollution.

22. To facilitate compliance with federal regulations, the State Board has issued two statewide general NPDES permits for storm water discharges: one for storm water from industrial sites [NPDES No. CAS000001, General Industrial Activity Storm Water Permit (GIASP)] and the other for storm water from construction sites [NPDES No. CAS000002, General Construction Activity Storm Water Permit (GCASP)]. The GCASP was reissued on August 19, 1999. The GIASP was reissued on April 17, 1997. Facilities discharging storm water associated with industrial activities and construction projects with a disturbed area of five acres or more are required to obtain individual NPDES permits for storm water discharges, or to be covered by a statewide general permit by completing and filing a Notice of Intent (NOI) with the State Board. The USEPA guidance anticipates coordination of the state-administered programs for

industrial and construction activities with the local agency program to reduce pollutants in storm water discharges to the MS4.

The Regional Board is the enforcement authority in the Los Angeles Region for the two statewide general permits regulating discharges from industrial facilities and construction sites, and all NPDES storm water and non-storm water permits issued by the Regional Board. These industrial and construction sites and discharges are also regulated under local laws and regulations.

23. The State Board, on October 28, 1968, adopted Resolution No. 68-16, which established an anti-degradation policy for the State and Regional Boards. This policy restricts the degradation of surface waters and protects waterbodies where existing water quality is higher than is necessary for the protection of beneficial uses.
24. The State Board, on June 17, 1999, adopted Order No. WQ 99-05, which, in a precedential decision, identifies acceptable receiving water limitations language to be included in municipal storm water permits issued by the State and Regional Boards. The receiving water limitations included herein are consistent with the State Board Order, USEPA Policy, and the U.S. Appellate court decision in, *Defenders of Wildlife v. Browner* (9th Cir, 1999). The State Board OCC has determined that the federal court decision did not conflict with State Board Order No. WQ 99-05 (memorandum dated October 14, 1999)
25. California Water Code (CWC) § 13263(a) requires that waste discharge requirements issued by the Regional Board shall implement any relevant water quality control plans that have been adopted; shall take into consideration the beneficial uses to be protected and the water quality objectives reasonably required for that purpose; other waste discharges; the need to prevent nuisance; and provisions of CWC § 13241. The Regional Board has considered the requirements of § 13263 and § 13241, and applicable plans, policies, rules, and regulations in developing these waste discharge requirements.
26. CWC § 13370 *et seq.* requires that waste discharge requirements issued by the Regional Boards be consistent with provisions of the federal CWA and its amendments.
27. On March 12, 2001, the U.S. Court of Appeals ruled that it is necessary to obtain a NPDES permit for application of aquatic pesticides to waterways. (*Headwaters, Inc. vs. Talent Irrigation District*, 243 F.3d. 526 (9th Cir., 2001)) This decision is controlling in California for nonagricultural applications of pesticides to waterways. The State Board adopted a general NPDES permit (Order No. 2001-12-DWQ) on July 19, 2001, for public entities that discharge pollutants to waters of the U.S. associated with the application of aquatic pesticides for resource or pest management. Public entities that conduct such activities must seek coverage under the general permit.

Findings Related To The Incorporation Of The Santa Monica Bay Beaches Dry Weather Bacteria TMDL And The Marina Del Rey Harbor Mothers' Beach And Back Basins Bacteria TMDL

28. The Regional Board adopted the Santa Monica Bay Beaches Dry Weather TMDL for Bacteria (hereinafter "Dry Weather Bacteria TMDL") on January 24, 2002. The TMDL was subsequently approved by the State Board, the Office of Administrative Law (OAL), and the USEPA and became effective on July 15, 2003.
29. The Regional Board adopted the Marina del Rey Harbor Mothers' Beach and Back Basins Bacteria TMDL (hereinafter "MDR Bacteria TMDL") on August 7, 2003. The TMDL was subsequently approved by the SWRCB, the OAL, and the USEPA and became effective on March 18, 2004.
30. The Waste Load Allocations (WLAs) in the Dry Weather Bacteria TMDL and the MDR Bacteria TMDL are expressed as the number of allowable days that the Santa Monica Bay beaches, Mothers' Beach and Basins D, E, and F in Marina del Rey Harbor may exceed the Basin Plan water quality objectives for protection of Water Contact Recreation (REC-1) in marine waters, specifically the water quality objectives for bacteria. Appropriate modifications to this order are therefore included in Parts 1 (Discharge Prohibitions) and 2 (Receiving Water Limitations), pursuant to 40 CFR 122.41(f) and 122.62, and Part 6.I.1 of this Order. Additionally, 40 CFR 122.44(d)(1)(vii)(B) requires that NPDES permits be consistent with the assumptions and requirements of any available waste load allocation. Tables 7-4.1, 7-4.2a, and 7-4.3 of the Basin Plan set forth the pertinent provisions of the Dry Weather Bacteria TMDL. Tables 7-5.1, 7-5.2, and 7-5.3 of the Basin Plan set forth the pertinent provisions of the MDR Bacteria TMDL. They require that during Summer Dry Weather there shall be no exceedances in the Wave Wash of the single sample or the geometric mean bacteria objectives set to protect the Water Contact Recreation (REC-1) beneficial use in marine waters. Accordingly, a prohibition is included in this Order barring discharges from a MS4 to Santa Monica Bay or Marina del Rey Harbor that result in exceedance of these objectives. Since the TMDL and the WLAs contained therein are expressed as receiving water conditions, Receiving Water Limitations have been included in this Order that are consistent with and implement the zero exceedance day WLAs.
31. Pursuant to federal regulations at 40 CFR 124.8, and 125.56, Fact Sheets were prepared to provide the bases for incorporating the Dry Weather Bacteria TMDL and the MDR Bacteria TMDL into this Order. These Fact Sheets are hereby incorporated by reference into these findings.
32. The iterative approach to regulating municipal storm water is not an appropriate means of implementing the Santa Monica Bay beaches or the MDR Summer Dry Weather WLAs for any and all of the following reasons: (a) The WLAs do not regulate the discharge of storm water; (b) The harm to the public from violating the WLAs is dramatic both in terms

of health impacts to exposed beachgoers, and the economic cost to the region associated with related illnesses; (c) Under the iterative approach over three permit cycles, required elements of the MS4 permit (e.g., elimination of illicit connections/illicit discharges (IC/ID) into their MS4s, revisions to their SQMP, etc.) have not resulted in the elimination of exceedances of water quality standards at the beaches or in Basins D, E, and F of Marina del Rey Harbor.

33. On March 14, 2007, Marina del Rey watershed responsible agencies submitted to the Regional Board the results of a non-point source study conducted over a one year period between July 2005 and July 2006, which was required under the terms of the MDR TMDL. The study was designed to determine the relative bacterial loading to the harbor from sources including but not limited to storm drains, boats, birds, and other non-point sources. The study has not yet been peer reviewed, and is currently under review by Regional Board staff.
34. On January 8, 2007, as required by the MDR Bacterial TMDL, Marina del Rey watershed responsible agencies submitted to the Regional Board an implementation plan describing the strategy by which they intend to comply with the MDR Bacterial TMDL. This implementation plan was developed through a process that included both Regional Board staff and representatives from Heal the Bay and Santa Monica Baykeeper.
35. The Regional Board acknowledges the County's timely submittals of reports required by the TMDL and implementation measures initiated thus far towards meeting water quality standards for bacteria in Marina del Rey. As a result of the adoption of the MDR Bacterial TMDL in 2003, the County has funded or received grants to initiate the following activities:
 - Marina Beach Water Quality Improvement Project, Phase I and Phase II through a CBI grant;
 - Mothers' Beach and Back Basins Bacterial TMDL Non-point Source Study;
 - Marina del Rey Harbor Mothers' Beach and Back Basins Report of Small Drain Identification;
 - Marina del Rey Vessel Discharge Report;
 - Marina del Rey Harbor Mothers' Beach and Back Basins Bacterial TMDL Coordinated Monitoring Plan; and
 - Three low-flow diversion projects, which were partially funded by a grant, two of which have been completed.

In addition to participation in the above studies, the County and other Marina del Rey watershed responsible agencies continue to implement BMPs proposed in the January 8, 2007, Implementation Plan.

36. The Receiving Water Limitations have been revised to implement the Summer Dry Weather WLAs set forth in Basin Plan Tables 7-4.1 and 7-5.1. These Receiving Water Limitations apply at the compliance

monitoring sites identified in the *Santa Monica Bay Beaches Bacterial TMDLs Coordinated Shoreline Monitoring Plan* dated April 7, 2004¹ and the *Marina del Rey Harbor Mothers' Beach and Back Basins Bacterial TMDL Coordinated Monitoring Plan* dated April 13, 2007. Compliance with the Receiving Water Limitations shall be determined using monitoring data obtained in conformance with the *Santa Monica Bay Beaches Bacterial TMDLs Coordinated Shoreline Monitoring Plan* dated April 7, 2004; the *Marina del Rey Harbor Mothers' Beach and Back Basins Bacterial TMDL Coordinated Monitoring Plan* dated April 13, 2007; and the Monitoring and Reporting Program CI 6948.

37. If the Receiving Water Limitations are exceeded at a compliance monitoring site, the Regional Board will generally issue an appropriate investigative order pursuant to Cal. Water Code § 13267 or § 13225 to the Permittees and other responsible agencies or jurisdictions within the relevant subwatershed to determine the source of the exceedance. Following these actions, Regional Board staff will generally evaluate the need for further enforcement as follows:
- a) If the Regional Board determines that the exceedance did not result from discharges from the MS4, then the MS4 Permittees would not be responsible for violations of these provisions.
 - b) If the Regional Board determines that Permittees in the relevant subwatershed have demonstrated that their MS4 does not discharge dry weather flow into Santa Monica Bay or Basins D, E, or F in Marina del Rey Harbor, those Permittees would not be responsible for violations of these provisions even if the Receiving Water Limitations are exceeded at an associated compliance monitoring site.
 - c) If the Regional Board determines that Permittees in the relevant subwatershed have demonstrated that their MS4 summer dry weather discharge into Santa Monica Bay or Basins D, E, or F in Marina del Rey Harbor is treated to a level that does not exceed either the single sample or the geometric mean bacteria objectives, those Permittees shall not be responsible for violations of these provisions even if the Receiving Water Limitations are exceeded at an associated compliance monitoring site.
 - d) If the Regional Board determines that one or more Permittees have caused or contributed to violations of these Receiving Water Limitations, the Regional Board will consider appropriate enforcement action, including a cease and desist order with or without a time schedule for compliance, or other appropriate

¹ If the Regional Board determines that publicly owned storm drains that flow during dry weather are situated at additional shoreline locations, the *Santa Monica Bay Beaches Bacterial TMDLs Coordinated Shoreline Monitoring Plan* may be revised by the Regional Board Executive Officer approval, after providing the opportunity for public comment, to include these locations as compliance monitoring sites.

enforcement action depending upon the circumstances and the extent to which the Permittee(s) has endeavored to comply with these provisions.

38. A Permittee would not be responsible for violations of these provisions if the Regional Board Executive Officer determines that the Permittee has adequately documented through a source investigation of the subwatershed, pursuant to protocols established under Cal. Water Code 13178, that bacterial sources originating within the jurisdiction of the Permittee have not caused or contributed to the exceedance of the Receiving Water Limitations.
39. Water Code section 13389 exempts the Regional Board from compliance with Chapter 3 (commencing with Section 21100) of Division 13 of the Public Resources Code prior to the adoption of waste discharge requirements. Therefore the Regional Board is not required to prepare environmental documents to evaluate this permit modification. Nevertheless, the Regional Board has considered the policies and requirements set forth in Chapters 1 through 2.6 of CEQA, and further, has considered the final substitute environmental documents for the Santa Monica Bay Beaches Bacteria TMDL and the MDR Bacteria TMDL.

F. Implementation

1. The California Environmental Quality Act (CEQA) (Cal. Pub. Resources Code § 21000 *et seq.*) requires that public agencies consider the environmental impacts of the projects they approve for development. CEQA applies to projects that are considered discretionary and does not apply to ministerial projects, which involve the use of established standards or objective measurements. A ministerial project may be made discretionary by adopting local ordinance provisions or imposing conditions to create decision-making discretion in approving the project. In the alternative, Permittees may establish standards and objective criteria administratively for storm water mitigation for ministerial projects. For water quality purposes, the Regional Board considers that all new development and significant redevelopment activity in specified categories, that receive approval or permits from a municipality, are subject to storm water mitigation requirements.
2. The objective of this Order is to protect the beneficial uses of receiving waters in Los Angeles County. To meet this objective, this Order requires that the SQMP specify BMPs that will be implemented to reduce the discharge of pollutants in storm water to the maximum extent practicable. Further, Permittees are to assure that storm water discharges from the MS4 shall neither cause nor contribute to the exceedance of water quality standards and objectives nor create conditions of nuisance in the receiving waters, and that the discharge of non-storm water to the MS4 has been effectively prohibited.
3. The SQMP required in this Order builds upon the programs established in Order Nos. 90-079, and 96-054, consists of the components recommended in the USEPA guidance manual, and was developed with

the cooperation of representatives from the regulated community and environmental groups. The SQMP includes provisions that promote customized initiatives, both on a countywide and watershed basis, in developing and implementing cost-effective measures to minimize discharge of pollutants to the receiving water. The various components of the SQMP, taken as a whole rather than individually, are expected to reduce pollutants in storm water and urban runoff to the maximum extent practicable. Provisions of the SQMP are fully enforceable under provisions of this Order.

4. The emphasis of the SQMP is pollution prevention through education, public outreach, planning, and implementation as source control BMPs first and then Structural and Treatment Control BMPs next. Successful implementation of the provisions of the SQMP will require cooperation and coordination of all public agencies in each Permittee's organization, among Permittees, and with the regulated community.
5. The implementation of a Public Information and Participation Program is a critical component of a storm water management program. An informed and knowledgeable community is critical to the success of a storm water management program since it helps insure the following: (i) greater support for the program as the public gains a greater understanding of the reasons why it is necessary and important, and (ii) greater compliance with the program as the public becomes aware of the personal responsibilities expected of them and others in the community, including the individual actions they can take to protect or improve the quality of area waters.
6. This Order includes a Monitoring Program that incorporates Minimum Levels (MLs) established under the SIP. The SIP's MLs represent the lowest quantifiable concentration for priority toxic pollutants that is measurable with the use of proper method-based analytical procedures and factoring out matrix interference. The SIP's MLs therefore represent the best available science for determining MLs and are appropriate for a storm water monitoring program. The use of MLs allows the detection of toxic priority pollutants at concentrations of concern using recent advances in chemical analytical methods.
7. This Order provides flexibility for Permittees to petition the Regional Board Executive Officer to substitute a BMP under the SQMP with an alternative BMP, if they can provide information and documentation on the effectiveness of the alternative, equal to or greater than the prescribed BMP in meeting the objectives of this Order.
8. This Order contemplates that the Permittees are responsible for considering potential storm water impacts when making planning decisions in order to fulfill the Permittees' CWA requirement to reduce the discharge of pollutants in municipal storm water to the MEP from new development and redevelopment activities. However, the Permittees retain authority to make the final land-use decisions and retain full statutory authority for deciding what land uses are appropriate at specific locations within each Permittee's jurisdiction. This Order and its

requirements are not intended to restrict or control local land use decision-making authority.

9. This Order is not intended to prohibit the inspection for or abatement of vectors by the State Department of Health Services or local vector agencies in accordance with Cal. Health and Safety Code § 2270 *et seq.* and §116110 *et seq.* Certain Treatment Control BMPs if not properly designed, operated or maintained may create habitats for vectors (e.g. mosquito and rodents). This Order contemplates that the Permittees will closely cooperate and collaborate with local vector control agencies and the State Department of Health Services for the implementation, operation, and maintenance of Treatment Control BMPs in order to minimize the risk to public health from vector borne diseases.

G. Public Process

1. The Regional Board has notified the Permittees and interested agencies and persons of its intent to issue waste discharge requirements for this discharge, and has provided them with an opportunity to submit their written view and recommendations.
2. The Regional Board, in a public hearing, heard and considered all comments pertaining to the discharge and to the tentative requirements.
3. The Regional Board has conducted public workshops to discuss drafts of the permit. On April 24, 2001, Regional Board staff conducted a workshop outlining the reasoning behind the changes proposed for the new permit and received input from the Permittees and the public regarding those proposed changes. On July 26, 2001, a second public workshop was held at a special Regional Board meeting. The Permittees and the public had another opportunity to express their opinions regarding the proposed changes to the permit in front of the Regional Board members. A significant number of working meetings with the Permittees and other interested parties have occurred throughout the period from the submittal of the ROWD and completion of the tentative draft, in an attempt to incorporate and address all the comments presented.
4. The Los Angeles County Flood Control District, the County of Los Angeles and the other municipalities are co-permittees as defined in 40 CFR 122.26 (b)(1). Los Angeles County Flood Control District will coordinate with the other municipalities and facilitate program implementation. Each Permittee is responsible only for a discharge for which it is the operator.
5. This Order shall serve as a NPDES Permit, pursuant to CWA § 402, or amendments thereto, and shall take effect 50 days from Order adoption provided the Regional Administrator of the USEPA has no objections.
6. The action to adopt an NPDES permit is exempt from the provisions of Chapter 3 of CEQA (Cal. Pub. Resources Code § 21100 *et seq.*), in accordance with CWC § 13389.

7. Pursuant to CWC §13320, any aggrieved party may seek review of this Order by filing a petition with the State Board. A petition must be sent to: State Water Resources Control Board, P.O. Box 100, Sacramento, California, 95812, within 30 days of adoption of the Order by the Regional Board.
8. This Order may be modified or alternatively revoked or reissued prior to its expiration date, in accordance with the procedural requirements of the NPDES program, and the CWC for the issuance of waste discharge requirements.

IT IS HEREBY ORDERED that the Los Angeles County Flood Control District, Los Angeles County, and the Cities of Agoura Hills, Alhambra, Arcadia, Artesia, Azusa, Baldwin Park, Bell, Bellflower, Bell Gardens, Beverly Hills, Bradbury, Burbank, Calabasas, Carson, Cerritos, Claremont, Commerce, Compton, Covina, Cudahy, Culver City, Diamond Bar, Downey, Duarte, El Monte, El Segundo, Gardena, Glendale, Glendora, Hawaiian Gardens, Hawthorne, Hermosa Beach, Hidden Hills, Huntington Park, Industry, Inglewood, Irwindale, La Cañada Flintridge, La Habra Heights, Lakewood, La Mirada, La Puente, La Verne, Lawndale, Lomita, Los Angeles, Lynwood, Malibu, Manhattan Beach, Maywood, Monrovia, Montebello, Monterey Park, Norwalk, Palos Verdes Estates, Paramount, Pasadena, Pico Rivera, Pomona, Rancho Palos Verdes, Redondo Beach, Rolling Hills, Rolling Hills Estates, Rosemead, San Dimas, San Fernando, San Gabriel, San Marino, Santa Clarita, Santa Fe Springs, Santa Monica, Sierra Madre, Signal Hill, South El Monte, South Gate, South Pasadena, Temple City, Torrance, Vernon, Walnut, West Covina, West Hollywood, Westlake Village, and Whittier, in order to meet the provisions contained in Division 7 of the CWC and regulations adopted thereunder, and the provisions of the CWA, as amended, and regulations and guidelines adopted thereunder, shall comply with the following:

Part 1. DISCHARGE PROHIBITIONS

- Part 1. A. The Permittees shall effectively prohibit non-storm water discharges into the MS4 and watercourses, except where such discharges:
1. Are covered by a separate individual or general NPDES permit for non-storm water discharges; or
 2. Fall within one of the categories below, and meet all conditions when specified by the Regional Board Executive Officer:
 - a) Category A - Natural flow:
 - (1) Natural springs and rising ground water;
 - (2) Flows from riparian habitats or wetlands;
 - (3) Stream diversions, permitted by the State Board; and
 - (4) Uncontaminated ground water infiltration [as defined by 40 CFR 35.2005(20)].
 - b) Category B - Flows from emergency fire fighting activity.

- c) Category C - Flows incidental to urban activities:
- (1) Reclaimed and potable landscape irrigation runoff;
 - (2) Potable drinking water supply and distribution system releases (consistent with American Water Works Association guidelines for dechlorination and suspended solids reduction practices);
 - (3) Drains for foundations, footings, and crawl spaces;
 - (4) Air conditioning condensate;
 - (5) Dechlorinated/debrominated swimming pool discharges;
 - (6) Dewatering of lakes and decorative fountains;
 - (7) Non-commercial car washing by residents or by non-profit organizations; and
 - (8) Sidewalk rinsing.

The Regional Board Executive Officer may add or remove categories of non-storm water discharges above. Furthermore, in the event that any of the above categories of non-storm water discharges are determined to be a source of pollutants by the Regional Board Executive Officer, the discharge will no longer be exempt from this prohibition unless the Permittee implements conditions approved by the Regional Board Executive Officer to ensure that the discharge is not a source of pollutants. Notwithstanding the above, the Regional Board Executive Officer may impose additional prohibitions of non-storm water discharges in consideration of antidegradation policies and TMDLs.

- Part 1. B. Discharges of Summer Dry Weather flows from MS4s into Santa Monica Bay² or into Marina del Rey Harbor Basins D, E, or F, including Mothers' Beach, that cause or contribute to exceedances of the bacteria Receiving Water Limitations in Part 2.5 and 2.6 below, are prohibited.³

² Santa Monica Bay encompasses the coastal waters from Point Dume to Point Fermin and seaward to the 500-meter depth contour. It includes all beaches from the Los Angeles/Ventura County line south to the Outer Cabrillo Beach located just south of the Palos Verdes Peninsula.

³ Responsibility for such prohibited discharges is determined as indicated in Footnote 3 part (2) of Table 7-4.1 and Footnote 2 part (1) of Table 7-5.1 of the Basin Plan. All Permittees within a subwatershed of the Santa Monica Bay Watershed Management Area are jointly responsible for compliance with the limitations imposed in Tables 7-4.1 and 7-5.1 of the Basin Plan.

Part 2. RECEIVING WATER LIMITATIONS

1. Except as provided in Part 2.5 and 2.6 below, discharges from the MS4 that cause or contribute to the violation of Water Quality Standards or water quality objectives are prohibited.
2. Discharges from the MS4 of storm water, or non-storm water, for which a Permittee is responsible for, shall not cause or contribute to a condition of nuisance.
3. The Permittees shall comply with Part 2.1. and 2.2. through timely implementation of control measures and other actions to reduce pollutants in the discharges in accordance with the SQMP and its components and other requirements of this Order including any modifications. The SQMP and its components shall be designed to achieve compliance with receiving water limitations. If exceedances of Water Quality Objectives or Water Quality Standards (collectively, Water Quality Standards) persist, notwithstanding implementation of the SQMP and its components and other requirements of this permit, the Permittee shall assure compliance with discharge prohibitions and receiving water limitations by complying with the following procedure:
 - a) Upon a determination by either the Permittee or the Regional Board that discharges are causing or contributing to an exceedance of an applicable Water Quality Standard, the Permittee shall promptly notify and thereafter submit a Receiving Water Limitations (RWL) Compliance Report (as described in the Program Reporting Requirements, Section I of the Monitoring and Reporting Program) to the Regional Board that describes BMPs that are currently being implemented and additional BMPs that will be implemented to prevent or reduce any pollutants that are causing or contributing to the exceedances of Water Quality Standards. This RWL Compliance Report may be incorporated in the annual Storm Water Report and Assessment unless the Regional Board directs an earlier submittal. The RWL Compliance Report shall include an implementation schedule. The Regional Board may require modifications to the RWL Compliance Report.
 - b) Submit any modifications to the RWL Compliance Report required by the Regional Board within 30 days of notification.
 - c) Within 30 days following the approval of the RWL Compliance Report, the Permittee shall revise the SQMP and its components and monitoring program to incorporate the approved modified BMPs that have been and will be implemented, an implementation schedule, and any additional monitoring required.
 - d) Implement the revised SQMP and its components and monitoring program according to the approved schedule.
4. So long as the Permittee has complied with the procedures set forth above and is implementing the revised SQMP and its components, the Permittee does not

have to repeat the same procedure for continuing or recurring exceedances of the same receiving water limitations unless directed by the Regional Board to develop additional BMPs.

5. During Summer Dry Weather there shall be no discharges of bacteria from MS4s into the Santa Monica Bay that cause or contribute to exceedances in the Wave Wash, of the applicable bacteria objectives. The applicable bacteria objectives include both the single sample and geometric mean bacteria objectives set to protect the Water Contact Recreation (REC-1) beneficial use, as set forth in the Basin Plan.⁴
6. During Summer Dry Weather there shall be no discharges of bacteria from MS4s into Marina del Rey Harbor Basins D, E, or F, including Mothers' Beach that cause or contribute to exceedances of the applicable bacteria objectives. The applicable bacteria objectives include both the single sample and geometric mean bacteria objectives set to protect the Water Contact Recreation (REC-1) beneficial use, as set forth in the Basin Plan.⁵

Part 3. STORM WATER QUALITY MANAGEMENT PROGRAM (SQMP) IMPLEMENTATION

A. General Requirements

1. Each Permittee shall, at a minimum, implement the SQMP. The SQMP is an enforceable element of this Order. The SQMP shall be implemented no later than February 1, 2002, unless a later date has been specified for a particular provision in this Order.
2. The SQMP shall, at a minimum, comply with the applicable storm water program requirements of 40 CFR 122.26(d)(2). The SQMP and its components shall be implemented so as to reduce the discharges of pollutants in storm water to the MEP.
3. Each Permittee shall implement additional controls, where necessary, to reduce the discharges of pollutants in storm water to the MEP.
4. Permittees that modify the countywide SQMP (i.e., implement additional controls, implement different controls than described in the countywide SQMP, or determine that certain BMPs in the countywide SQMP are not applicable in the area under its jurisdiction), shall develop a local SQMP, no later than August 1, 2002. The local SQMP shall be customized to reflect the conditions in the area under the Permittee's jurisdiction and

⁴ Samples collected for determining compliance with the receiving water limitations of Part 2.5 shall be processed in accordance with the sampling procedures and analytical methodology set forth in the *Santa Monica Bay Beaches Bacterial TMDLs Coordinated Shoreline Monitoring Plan* dated April 7, 2004 and the Monitoring and Reporting Program CI 6948.

⁵ Samples collected for determining compliance with the receiving water limitations of Part 2.6 shall be processed in accordance with the sampling procedures and analytical methodology set forth in the *Marina del Rey Harbor Mothers' Beach and Back Basins Bacterial TMDL Coordinated Shoreline Monitoring Plan* dated April 13, 2007 and the Monitoring and Reporting Program CI 6948.

shall specify activities being implemented under the appropriate elements described in the countywide SQMP.

B. Best Management Practice Implementation

The Permittees shall implement or require the implementation of the most effective combination of BMPs for storm water/urban runoff pollution control. When implemented, BMPs are intended to result in the reduction of pollutants in storm water to the MEP.

C. Revision of the Storm Water Quality Management Program

The Permittees shall revise the SQMP, at the direction of the Regional Board Executive Officer, to incorporate program implementation amendments so as to comply with regional, watershed specific requirements, and/or waste load allocations developed and approved pursuant to the process for the designation and implementation of Total Maximum Daily Loads (TMDLs) for impaired water bodies.

D. Designation and Responsibilities of the Principal Permittee

The Los Angeles County Flood Control District is hereby designated as the Principal Permittee. As such, the Principal Permittee shall:

1. Coordinate and facilitate activities necessary to comply with the requirements of this Order, but is not responsible for ensuring compliance of any individual Permittee;
2. Coordinate permit activities among Permittees and act as liaison between Permittees and the Regional Board on permitting issues;
3. Provide personnel and fiscal resources for the necessary updates of the SQMP and its components;
4. Provide technical and administrative support for committees that will be organized to implement the SQMP and its components;
5. Convene the Watershed Management Committees (WMCs) constituted pursuant to Part F, below, upon designation of representatives;
6. Implement the Countywide Monitoring Program required under this Order and evaluate, assess and synthesize the results of the monitoring program;
7. Provide personnel and fiscal resources for the collection, processing and submittal to the Regional Board of annual reports and summaries of other reports required under the SQMP; and
8. Comply with the "Responsibilities of the Permittees" in Part 3.E., below.

E. Responsibilities of the Permittees

Each Permittee is required to comply with the requirements of this Order applicable to discharges within its boundaries (see Findings D.1, D.2. and D.3.) and not for the implementation of the provisions applicable to the Principal Permittee or other Permittees. Each Permittee shall, within its geographic jurisdiction:

1. Comply with the requirements of the SQMP and any modifications thereto;
2. Coordinate among its internal departments and agencies, as appropriate, to facilitate the implementation of the requirements of the SQMP applicable to such Permittee in an efficient and cost-effective manner;
3. Designate a technically knowledgeable representative to the appropriate WMC;
4. Participate in intra-agency coordination (e.g. Fire Department, Building and Safety, Code Enforcement, Public Health, etc.) necessary to successfully implement the provisions of this Order and the SQMP.
5. Prepare an annual Budget Summary of expenditures applied to the storm water management program. This summary shall identify the storm water budget for the following year, using estimated percentages and written explanations where necessary, for the specific categories noted below:
 - a) Program management
 - Administrative costs
 - b) Program Implementation

Where information is available, provide an estimated percent breakdown of expenditures for the categories below:

 - Illicit connection/illicit discharge
 - Development planning
 - Development construction
 - Construction inspection activities
 - Industrial/Commercial inspection activities
 - Public Agency Activities
 - Maintenance of Structural BMPs and Treatment Control BMPs
 - Municipal Street Sweeping
 - Catch basin clean-up
 - Trash collection
 - Capital costs
 - c) Public Information and Participation
 - d) Monitoring Program
 - e) Miscellaneous Expenditures

6. Each Permittee, in addition to the Budget Summary, shall report any supplemental dedicated budgets for the same categories.

F. Watershed Management Committees (WMCs)

1. Each WMC shall be comprised of a voting representative from each Permittee in the WMA.
2. The WMC's chair and secretary shall be chosen by the WMC upon Order adoption and on an annual basis, thereafter. In the absence of volunteer Permittee(s) for the positions, the Principal Permittee shall assume those roles until the WMC chooses members of the committee for the positions.
3. Each WMC shall:
 - a) Facilitate cooperation and exchange of information among Permittees;
 - b) Establish additional goals and objectives and associated deadlines for the WMA, as the program implementation progresses;
 - c) Prioritize pollution control efforts based on beneficial use impairment(s), watershed characteristics and analysis of results from studies and the monitoring program;
 - d) Develop and/or update and monitor the adequate implementation, on an annual basis, of the tasks identified for the WMA;
 - e) Assess the effectiveness of, prepare revisions for, and recommend appropriate changes to the SQMP and its components;
 - f) Continue to prioritize the Industrial/Commercial critical sources for investigation, outreach and follow-up; and
 - g) Meet four times per year and, as necessary.

G. Legal Authority

1. Permittees shall possess the necessary legal authority to prohibit non-storm water discharges to the storm drain system, including, but not limited to:
 - a) Illicit discharges and illicit connections and require removal of illicit connections;
 - b) The discharge of wash waters to the MS4 from the cleaning of gas stations, auto repair garages, or other types of automotive service facilities;
 - c) The discharge of runoff to the MS4 from mobile auto washing, steam cleaning, mobile carpet cleaning, and other such mobile commercial and industrial operations;

- d) The discharge of runoff to the MS4 from areas where repair of machinery and equipment which are visibly leaking oil, fluid or antifreeze, is undertaken;
- e) The discharge of runoff to the MS4 from storage areas of materials containing grease, oil, or other hazardous substances, and uncovered receptacles containing hazardous materials;
- f) The discharge of chlorinated/ brominated swimming pool water and filter backwash to the MS4;
- g) The discharge of runoff from the washing of toxic materials from paved or unpaved areas to the MS4;
- h) Washing impervious surfaces in industrial/commercial areas that results in a discharge of runoff to the MS4;
- i) The discharge of concrete or cement laden wash water from concrete trucks, pumps, tools, and equipment to the MS4; and
- j) Dumping or disposal of materials into the MS4 other than storm water, such as:
 - (1) Litter, landscape debris and construction debris;
 - (2) Any state or federally banned or unregistered pesticides;
 - (3) Food and food processing wastes; and
 - (4) Fuel and chemical wastes, animal wastes, garbage, batteries, and other materials that have potential adverse impacts on water quality.

2. The Permittees shall possess adequate legal authority to:

- a) Require persons within their jurisdiction to comply with conditions in Permittees' ordinances, permits, contracts, model programs, or orders (i.e. hold dischargers to its MS4 accountable for their contributions of pollutants and flows);
- b) Utilize enforcement mechanisms to require compliance with Permittees ordinances, permits, contracts, or orders;
- c) Control pollutants, including potential contribution, in discharges of storm water runoff associated with industrial activities (including construction activities) to its MS4 and control the quality of storm water runoff from industrial sites (including construction sites). This requirement applies to Source Control, and Treatment Control BMPs;
- d) Carry out all inspection, surveillance and monitoring procedures necessary to determine compliance and non-compliance with permit conditions, including the prohibition of illicit discharges to the MS4. Permittees must possess authority to enter, sample, inspect, review and copy records, and require regular reports from

- industrial facilities (including construction sites) discharging polluted or with the potential to discharge polluted storm water runoff into its MS4;
- e) Require the use of BMPs to prevent or reduce the discharge of pollutants to MS4s to MEP; and
 - f) Require that Treatment Control BMPs be properly operated and maintained to prevent the breeding of vectors.
3. Each Permittee shall, no later than November 1, 2002, amend and adopt (if necessary), a Permittee-specific storm water and urban runoff ordinance to enforce all requirements of this permit.
 4. Each Permittee shall submit no later than December 2, 2002, a new or updated statement by its legal counsel that the Permittee has obtained all necessary legal authority to comply with this Order through adoption of ordinances and/or municipal code modifications.

Part 4. SPECIAL PROVISIONS

Maximum Extent Practicable Standard

This permit, and the provisions herein, are intended to develop, achieve, and implement a timely, comprehensive, cost-effective storm water pollution control program to reduce the discharge of pollutants in storm water to the MEP from the permitted areas in the County of Los Angeles to the waters of the State.

A. General Requirements

1. Best Management Practice Substitution

The Regional Board Executive Officer may approve any site-specific BMP substitution upon petition by a Permittee(s), if the Permittee can document that:

- a) The proposed alternative BMP or program will meet or exceed the objective of the original BMP or program in the reduction of storm water pollutants; or
- b) The fiscal burden of the original BMP or program is substantially greater than the proposed alternative and does not achieve a substantially greater improvement in storm water quality; and,
- c) The proposed alternative BMP or program will be implemented within a similar period of time.

B. Public Information and Participation Program (PIPP)

The Principal Permittee shall implement a Public Information and Participation Program (PIPP) that includes, but is not limited to, the requirements listed in this section. The Principal Permittee shall be responsible for developing and

implementing the Public Education Program, as described in the SQMP, and shall coordinate with Permittees to implement specific requirements.

The objectives of the PIPP are as follows:

- To measurably increase the knowledge of the target audiences regarding the MS4, the impacts of storm water pollution on receiving waters, and potential solutions to mitigate the problems caused;
- To measurably change the waste disposal and runoff pollution generation behavior of target audiences by encouraging implementation of appropriate solutions; and
- To involve and engage socio-economic groups and ethnic communities in Los Angeles County to participate in mitigating the impacts of storm water pollution.

The Principal Permittee shall convene an advisory committee to provide input and assistance in meeting the goals and objectives of the public education campaign. The advisory committee shall be consulted during the process of developing the PIPP campaign, and shall provide comments and advice during the process of preparing a Request For Proposals for a storm water public education contractor. The committee may participate as a part of a working group that evaluates contractor proposals and other tasks as appropriate. The committee shall be comprised of representatives of the environmental community, Permittee cities, Regional Board staff, and experts in the fields of public education and marketing. The Principal Permittee shall ensure that the committee meets at least once a year.

1. Residential Program

a) "No Dumping" Message

Each Permittee shall mark all storm drain inlets that they own with a legible "no dumping" message. In addition, signs with prohibitive language discouraging illegal dumping must be posted at designated public access points to creeks, other relevant water bodies, and channels no later than February 2, 2004. Signage and storm drain messages shall be legible and maintained as necessary during the term of the permit.

b) Countywide Hotline

The 888-CLEAN-LA hotline will serve as the general public reporting contact for reporting clogged catch basin inlets and illicit discharges/dumping, faded or lack of catch basin stencils, and general storm water management information. Each Permittee may establish its own hotline if preferred. Permittees shall include this information, updated when necessary, in public information, and the government pages of the telephone book, as they are developed or published. The Principal Permittee shall compile a list of the general public reporting contacts from all Permittees and make this information available on the web site (888CleanLA.com) and upon request. Permittees shall provide the Principal Permittee with their reporting contacts no later than

March 1, 2002. Permittees are responsible for providing current, updated information to the Principal Permittee.

c) Outreach and Education

- (1) The Principal Permittee shall continue to implement the following activities that were components of the first five-year PIPP:
 - (i) Advertising;
 - (ii) Media relations;
 - (iii) Public service announcements;
 - (iv) "How To" instructional material distributed in a targeted and activity-related manner;
 - (v) Corporate, community association, environmental organization and entertainment industry tie-ins; and
 - (vi) Events targeted to specific activities and population subgroups.
- (2) The Principal Permittee shall develop a strategy to educate ethnic communities and businesses through culturally effective methods. Details of this strategy should be incorporated into the Public Education Program, and implemented, no later than February 3, 2003.
- (3) The Principal Permittee shall enhance the existing outreach efforts to residents and businesses related to the proper disposal of cigarette butts.
- (4) Each Permittee shall conduct educational activities within its jurisdiction and participate in countywide events.
- (5) The Principal Permittee shall organize Public Outreach Strategy meetings for Permittees on a quarterly basis, beginning no later than May 1, 2002. The Principal Permittee shall provide guidance for Permittees to augment the countywide outreach and education program. Permittees shall coordinate regional and local outreach and education to reduce duplication of efforts. Permittees are encouraged to include other interested parties in the outreach strategy to strengthen and coordinate educational efforts.
- (6) The Principal Permittee shall ensure that a minimum of 35 million impressions per year are made on the general public about storm water quality via print, local TV access, local radio, or other appropriate media.
- (7) The Principal Permittee, in cooperation with the Permittees, shall provide schools within each School

District in the County with materials, including, but not limited to, videos, live presentations, and other information necessary to educate a minimum of 50 percent of all school children (K-12) every 2 years on storm water pollution.

- (8) Permittees shall provide the contact information for their appropriate staff responsible for storm water public education activities to the Principal Permittee no later than April 1, 2002, and changes to contact information no later than 30 days after a change occurs.
- (9) The Principal Permittee shall develop a strategy to measure the effectiveness of in-school educational programs. The protocol shall include assessment of students' knowledge of storm water pollution problems and solutions before and after educational efforts are conducted. The protocol shall be developed and submitted to the Regional Board Executive Officer for approval no later than May 1, 2002. It shall be implemented upon approval.
- (10) In order to ensure that the PIPP is demonstrably effective in changing the behavior of the public, the Principal Permittee shall develop a behavioral change assessment strategy no later than May 1, 2002. The strategy shall be developed based on sociological data and studies (such as the County Segmentation Study). The Principal Permittee shall submit the assessment strategy to the Regional Board Executive Office for approval. It shall be implemented on approval.

d) Pollutant-Specific Outreach

The Principal Permittee, in cooperation with Permittees, shall coordinate to develop outreach programs that focus on the watershed-specific pollutants listed in Table 1 no later than February 3, 2003. Metals may be appropriately addressed through the Industrial/Commercial Facilities Program (e.g. distribute education materials on appropriate BMPs for metal waste management to facilities that have been identified as a potential source, such as metal fabricating facilities). Region-wide pollutants may be included in the Principal Permittee's mass media outreach efforts.

Table 1.	
Watershed	Target Pollutants for Outreach
Ballona Creek	Trash, Indicator Bacteria, Metals, PAHs
Malibu Creek	Trash, Nutrients (Nitrogen), Indicator Bacteria, Sediments
Los Angeles River	Trash, Nutrients (Nitrogen), Indicator

	Bacteria, Metals, Pesticides, PAHs
San Gabriel River	Trash, Nutrients (Nitrogen), Indicator Bacteria, Metals
Santa Clara River	Nutrients (Nitrogen), Coliform
Dominguez Channel	Trash, Indicator Bacteria, PAHs

Each Permittee shall make outreach materials available to the general public and target audiences, such as schools, community groups, contractors and developers, and at appropriate public counters and events. Outreach material shall include information on pollutants, sources of concern, and source abatement measures.

2. Businesses Program

a) Corporate Outreach

The Principal Permittee shall develop and implement a Corporate Outreach program to educate and inform corporate managers about storm water regulations. The program shall target RGOs and restaurant chains. At a minimum, this program shall include:

- (1) Conferring with corporate management to explain storm water regulations;
- (2) Distribution and discussion of educational material regarding storm water pollution and BMPs, and provide managers with suggestions to facilitate employee compliance with storm water regulations.

Corporate Outreach for all RGOs and restaurant chain corporations shall be conducted not less than twice during the permit term, with the first outreach contact to begin no later than February 3, 2003.

b) Business Assistance Program

The Principal Permittee and Permittees may implement a Business Assistance Program to provide technical resource assistance to small businesses to advise them on BMPs implementation to reduce the discharge of pollutants in storm water runoff. Programs may include:

- (1) On-site technical assistance or consultation via telephone to identify and implement storm water pollution prevention methods and best management practices; and
- (2) Making available, distributing, and discussing of applicable BMP and educational materials.

C. Industrial/Commercial Facilities Control Program

Each Permittee shall require implementation of pollutant reduction and control measures at industrial and commercial facilities, with the objective of reducing pollutants in storm water runoff. Except as specified in other sections of this Order, pollutant reduction and control measures can be used alone or in combination, and can include Structural and Source Control BMPs, and operation and maintenance procedures, which can be applied before, during, and/or after pollution generating activities. At a minimum, the Industrial/Commercial Facilities Control Program shall include requirements to: (1) track, (2) inspect, and (3) ensure compliance at industrial and commercial facilities that are critical sources of pollutants in storm water.

1. Track Critical Sources

- a) Each Permittee shall maintain a watershed-based inventory or database of all facilities within its jurisdiction that are critical sources of storm water pollution. Critical sources to be tracked are summarized below, and also specified in Attachment B:
- (1) Commercial Facilities
 - restaurants;
 - automotive service facilities; and
 - RGOs and automotive dealerships.
 - (2) USEPA Phase I Facilities (Tier 1 and 2)
 - (3) Other Federally-mandated Facilities [as specified in 40 CFR 122.26(d)(2)(iv)(C)]
 - municipal landfills;
 - hazardous waste treatment, disposal, and recovery facilities; and
 - facilities subject to SARA Title III (also known as EPCRA).
- b) Each Permittee shall include the following minimum fields of information for each industrial and commercial facility:
- name of facility and name of owner/operator;
 - address;
 - coverage under the GIASP or other individual or general NPDES permits; and
 - a narrative description including SIC codes that best reflects the industrial activities at and principal products of each facility.

The Regional Board encourages Permittees to add other fields of information, such as material usage and/or industrial output, and discrepancies between SIC Code designations (as reported by facility operators) and the actual type of industrial activity has the potential to pollute storm water. In addition, the Regional Board recommends use of an automated database system, such as a Geographical Information System (GIS) or Internet-based system; however, this is not required.

- c) Each Permittee shall update its inventory of critical sources at least annually. The update may be accomplished through collection of new information obtained through field activities or through other readily available intra-agency informational databases (e.g. business licenses, pretreatment permits, sanitary sewer hook-up permits).

2. Inspect Critical Sources

Each Permittee shall inspect all facilities in the categories and at a level and frequency as specified in the following subsections.

a) Commercial Facilities

(1) Restaurants

Frequency of Inspections: Twice during the 5-year term of the Order, provided that the first inspection occurs no later than August 1, 2004, and that there is a minimum interval of one year in between the first compliance inspection and the second compliance inspection.

Level of inspections: Each Permittee, in cooperation with its appropriate department (such as health or public works), shall inspect all restaurants within its jurisdiction to confirm that storm water BMPs are being effectively implemented in compliance with State law, County and municipal ordinances, Regional Board Resolution 98-08, and the SQMP. At each restaurant, inspectors shall verify that the restaurant operator:

- has received educational materials on storm water pollution prevention practices;
- does not pour oil and grease or oil and grease residue onto a parking lot, street or adjacent catch basin;
- keeps the trash bin area clean and trash bin lids closed, and does not fill trash bins with washout water or any other liquid;
- does not allow illicit discharges, such as discharge of washwater from floormats, floors, porches, parking lots, alleys, sidewalks and street areas (in the immediate vicinity of the establishment), filters or garbage/trash containers;
- removes food waste, rubbish or other materials from parking lot areas in a sanitary manner that does not create a nuisance or discharge to the storm drain.

(2) Automotive Service Facilities

Frequency of Inspections: Twice during the 5-year term of the Order, provided that the first inspection occurs no later than August 1, 2004, and that there is a minimum interval of one year in between the first compliance inspection and the second compliance inspection.

Level of inspections: Each Permittee shall inspect all automotive service facilities within its jurisdiction to confirm that storm water BMPs are effectively implemented in compliance with County and municipal ordinances, Regional Board Resolution 98-08, and the SQMP. At each automotive service facility, inspectors shall verify that each operator:

- maintains the facility area so that it is clean and dry and without evidence of excessive staining;
- implements housekeeping BMPs to prevent spills and leaks;
- properly discharges wastewaters to a sanitary sewer and/or contains wastewaters for transfer to a legal point of disposal;
- is aware of the prohibition on discharge of non-storm water to the storm drain;
- properly manages raw and waste materials including proper disposal of hazardous waste;
- protects outdoor work and storage areas to prevent contact of pollutants with rainfall and runoff;
- labels, inspects, and routinely cleans storm drain inlets that are located on the facility's property; and
- trains employees to implement storm water pollution prevention practices.

(3) Retail Gasoline Outlets and Automotive Dealerships

Frequency of Inspection: Twice during the 5-year term of the Order, provided that the first inspection occurs no later than August 1, 2004, and that there is a minimum interval of one year in between the first compliance inspection and the second compliance inspection.

Level of Inspection: Each Permittee shall confirm that BMPs are being effectively implemented at each RGO and automotive dealership within its jurisdiction, in compliance with the SQMP, Regional Board Resolution 98-08, and the Stormwater Quality Task Force Best Management Practice Guide for RGOs. At each RGO and automotive dealership, inspectors shall verify that each operator:

- routinely sweeps fuel-dispensing areas for removal of litter and debris, and keeps rags and absorbents ready for use in case of leaks and spills;
- is aware that washdown of facility area to the storm drain is prohibited;
- is aware of design flaws (such as grading that doesn't prevent run-on, or inadequate roof covers and berms), and that equivalent BMPs are implemented;
- inspects and cleans storm drain inlets and catch basins within each facility's boundaries no later than October 1st of each year;
- posts signs close to fuel dispensers, which warn vehicle owners/operators against "topping off" of vehicle fuel tanks and installation of automatic shutoff fuel dispensing nozzles;
- routinely checks outdoor waste receptacle and air/water supply areas, cleans leaks and drips, and ensures that only watertight waste receptacles are used and that lids are closed; and
- trains employees to properly manage hazardous materials and wastes as well as to implement other storm water pollution prevention practices.

b) Phase I Facilities

Permittees need not inspect facilities that have been inspected by the Regional Board within the past 24 months. For the remaining Phase I facilities that the Regional Board has not inspected, each Permittee shall conduct compliance inspections as specified below.

Frequency of Inspection

Facilities in Tier 1 Categories: Twice during the 5-year term of the Order, provided that the first inspection occurs no later than August 1, 2004, and that there is a minimum interval of one year in between the first compliance inspection and the second compliance inspection.

Facilities in Tier 2 Categories: Twice during the 5-year term of the permit, provided that the first inspection occurs no later than August 1, 2004. Permittees need not perform additional inspections at those facilities determined to have no risk of exposure of industrial activity to storm water. For those facilities that do have exposure of industrial activities to storm water, a Permittee may reduce the frequency of additional compliance inspections to once every 5 years, provided that the Permittee inspects at least 20% of the facilities in Tier 2 each year.

Level of Inspection: Each Permittee shall confirm that each operator:

- has a current Waste Discharge Identification (WDID) number for facilities discharging storm water associated with industrial activity, and that a Storm Water Pollution Prevention Plan is available on-site, and
- is effectively implementing BMPs in compliance with County and municipal ordinances, Regional Board Resolution 98-08, and the SQMP.

c) Other Federally-mandated Facilities

Frequency of Inspection: Twice during the 5-year term of the Order, provided that the first inspection occurs no later than August 1, 2004, and that there is a minimum interval of one year in between the first compliance inspection and the second compliance inspection.

Level of Inspection: Each Permittee shall confirm that each operator:

- has a current Waste Discharge Identification (WDID) number for facilities discharging storm water associated with industrial activity, and that a Storm Water Pollution Prevention Plan is available on-site, and
- is effectively implementing BMPs in compliance with County and municipal ordinances, Regional Board Resolution 98-08, and the SQMP.

3. Ensure Compliance of Critical Sources

- a) **BMP Implementation:** In the event that a Permittee determines that a BMP specified by the SQMP or Regional Board Resolution 98-08 is infeasible at any site, that Permittee shall require implementation of other BMPs that will achieve the equivalent reduction of pollutants in the storm water discharges. Likewise, for those BMPs that are not adequate to achieve water quality objectives, Permittees may require additional site-specific controls, such as Treatment Control BMPs.

- b) **Environmentally Sensitive Areas and Impaired Waters:** For critical sources that are in ESAs or that are tributary to CWA § 303(d) impaired water bodies, Permittees shall consider requiring operators to implement additional controls to reduce pollutants in storm water runoff that are causing or contributing to the exceedences of Water Quality Objectives.
- c) **Progressive Enforcement:** Each Permittee shall implement a progressive enforcement policy to ensure that facilities are brought into compliance with all storm water requirements within a reasonable time period as specified below.
- (1) In the event that a Permittee determines, based on an inspection conducted above, that an operator has failed to adequately implement all necessary BMPs, that Permittee shall take progressive enforcement action which, at a minimum, shall include a follow-up inspection within 4 weeks from the date of the initial inspection.
 - (2) In the event that a Permittee determines that an operator has failed to adequately implement BMPs after a follow-up inspection, that Permittee shall take further enforcement action as established through authority in its municipal code and ordinances or through the judicial system.
 - (3) Each Permittee shall maintain records, including inspection reports, warning letters, notices of violations, and other enforcement records, demonstrating a good faith effort to bring facilities into compliance.
- d) Interagency Coordination
- (1) **Referral of Violations of the SQMP, Regional Board Resolution 98-08, and Municipal Storm Water Ordinances:** A Permittee may refer a violation(s) to the Regional Board provided that that Permittee has made a good faith effort of progressive enforcement. At a minimum, a Permittee's good faith effort must include documentation of:
 - Two follow-up inspections, and
 - Two warning letters or notices of violation.
 - (2) **Referral of Violations of the GIASP, including Requirements to File a Notice of Intent:** For those facilities in violation of the GIASP, Permittees may escalate referral of such violations to the Regional Board after one inspection and one written notice to the operator regarding the violation. In making such referrals, Permittees shall include, at a minimum, the following documentation:

- Name of the facility;
- Operator of the facility;
- Owner of the facility;
- Industrial activity being conducted at the facility that is subject to the GIASP; and
- Records of communication with the facility operator regarding the violation, which shall include at least an inspection report and one written notice of the violation.

Permittees shall, at a minimum, make such referrals on a quarterly basis.

- (3) **Investigation of Complaints Regarding Facilities – Transmitted by the Regional Board Staff:** Each Permittee shall initiate, within one business day, investigation of complaints (other than non-storm water discharges) regarding facilities within its jurisdiction. The initial investigation shall include, at a minimum, a limited inspection of the facility to confirm the complaint to determine if the facility is effectively complying with the SQMP and municipal storm water/urban runoff ordinances, and to oversee corrective action.
- (4) **Support of Regional Board Enforcement Actions:** As directed by the Regional Board Executive Officer, Permittees shall support Regional Board enforcement actions by: assisting in identification of current owners, operators, and lessees of facilities; providing staff, when available, for joint inspections with Regional Board inspectors; appearing as witnesses in Regional Board enforcement hearings; and providing copies of inspection reports and other progressive enforcement documentation.
- (5) **Participation in a Task Force:** The Permittees, Regional Board, and other stakeholders may form a Storm Water Task Force, the purpose of which is to communicate concerns regarding special cases of storm water violations by industrial and commercial facilities and to develop a coordinated approach to enforcement action.

D. Development Planning Program

The Permittees shall implement a development-planning program that will require all Planning Priority development and Redevelopment projects to:

- Minimize impacts from storm water and urban runoff on the biological integrity of Natural Drainage Systems and water bodies in accordance with requirements under CEQA (Cal. Pub. Resources Code § 21100), CWC §

13369, CWA § 319, CWA § 402(p), CWA § 404, CZARA § 6217(g), ESA § 7, and local government ordinances ;

- Maximize the percentage of pervious surfaces to allow percolation of storm water into the ground;
- Minimize the quantity of storm water directed to impervious surfaces and the MS4;
- Minimize pollution emanating from parking lots through the use of appropriate Treatment Control BMPs and good housekeeping practices;
- Properly design and maintain Treatment Control BMPs in a manner that does not promote the breeding of vectors; and
- Provide for appropriate permanent measures to reduce storm water pollutant loads in storm water from the development site.

1. Peak Flow Control

The Permittees shall control post-development peak storm water runoff discharge rates, velocities, and duration (peak flow control) in Natural Drainage Systems (i.e., mimic pre-development hydrology) to prevent accelerated stream erosion and to protect stream habitat. Natural Drainage Systems are located in the following areas:

- a) Malibu Creek;
- b) Topanga Canyon Creek;
- c) Upper Los Angeles River;
- d) Upper San Gabriel River;
- e) Santa Clara River; and
- f) Los Angeles County Coastal streams (see Basin Plan Table 2-1).

The Principal Permittee in consultation with Permittees shall develop numerical criteria for peak flow control, based on the results of the Peak Discharge Impact Study (see Monitoring Program Section II.I).

Each Permittee shall, no later than February 1, 2005, implement numerical criteria for peak flow control.

A Permittee or group of Permittees may substitute for the countywide peak flow control criteria with a Hydromodification Control Plan (HCP), on approval by the Regional Board, in the following circumstances:

- (1) Stream or watershed-specific conditions indicate the need for a different peak flow control criteria, and the alternative numerical criteria is developed through the application of hydrologic modeling and supporting field observations; or

- (2) A watershed-wide plan has been developed for implementation of control measures to reduce erosion and stabilize drainage systems on a watershed basis.
2. Standard Urban Storm Water Mitigation Plans (SUSMPs)
 - a) Each Permittee shall amend codes and ordinances not later than August 1, 2002 to give legal effect to SUSMP changes contained in this Order. Changes to SUSMP requirements shall take effect not later than September 2, 2002.
 - b) Each Permittee shall require that a single-family hillside home:
 - (1) Conserve natural areas;
 - (2) Protect slopes and channels;
 - (3) Provide storm drain system stenciling and signage;
 - (4) Divert roof runoff to vegetated areas before discharge unless the diversion would result in slope instability; and
 - (5) Direct surface flow to vegetated areas before discharge unless the diversion would result in slope instability.
 - c) Each Permittee shall require that a SUSMP as approved by the Regional Board in Board Resolution No. R 00-02 be implemented for the following categories of developments:
 - (1) Ten or more unit homes (includes single family homes, multifamily homes, condominiums, and apartments);
 - (2) A 100,000 or more square feet of impervious surface area industrial/ commercial development;
 - (3) Automotive service facilities (SIC 5013, 5014, 5541, 7532-7534, and 7536-7539);
 - (4) Retail gasoline outlets;
 - (5) Restaurants (SIC 5812);
 - (6) Parking lots 5,000 square feet or more of surface area or with 25 or more parking spaces; and
 - (7) Redevelopment projects in subject categories that meet Redevelopment thresholds.

- d) Each Permittee shall submit an ESA Delineation Map for its jurisdictional boundary, based on the Regional Board's ESA Definition, no later than June 3, 2002, for approval by the Regional Board Executive Officer in consultation with the California Department of Fish and Game, and the California Coastal Commission.
- e) Each Permittee shall require the implementation of SUSMP provisions no later than September 2, 2002, for all projects located in or directly adjacent to or discharging directly to an ESA, where the development will:
 - (1) Discharge storm water and urban runoff that is likely to impact a sensitive biological species or habitat; and
 - (2) Create 2,500 square feet or more of impervious surface area.

3. Numerical Design Criteria

The Permittees shall require that post-construction Treatment Control BMPs incorporate, at a minimum, either a volumetric or flow based treatment control design standard, or both, as identified below to mitigate (infiltrate, filter or treat) storm water runoff:

- a) Volumetric Treatment Control BMP
 - (1) The 85th percentile 24-hour runoff event determined as the maximized capture storm water volume for the area, from the formula recommended in *Urban Runoff Quality Management, WEF Manual of Practice No. 23/ ASCE Manual of Practice No. 87, (1998)*; or
 - (2) The volume of annual runoff based on unit basin storage water quality volume, to achieve 80 percent or more volume treatment by the method recommended in *California Stormwater Best Management Practices Handbook – Industrial/ Commercial, (1993)*; or
 - (3) The volume of runoff produced from a 0.75 inch storm event, prior to its discharge to a storm water conveyance system; or
 - (4) The volume of runoff produced from a historical-record based reference 24-hour rainfall criterion for "treatment" (0.75 inch average for the Los Angeles County area) that achieves approximately the same reduction in pollutant loads achieved by the 85th percentile 24-hour runoff event.
- b) Flow Based Treatment Control BMP
 - (1) The flow of runoff produced from a rain event equal to at least 0.2 inches per hour intensity; or

- (2) The flow of runoff produced from a rain event equal to at least two times the 85th percentile hourly rainfall intensity for Los Angeles County; or
- (3) The flow of runoff produced from a rain event that will result in treatment of the same portion of runoff as treated using volumetric standards above.

4. Applicability of Numerical Design Criteria

The Permittees shall require the following categories of Planning Priority Projects to design and implement post-construction treatment controls to mitigate storm water pollution:

- a) Single-family hillside residential developments of one acre or more of surface area;
- b) Housing developments (includes single family homes, multifamily homes, condominiums, and apartments) of ten units or more;
- c) A 100,000 square feet or more impervious surface area industrial/commercial development;
- d) Automotive service facilities (SIC 5013, 5014, 5541, 7532-7534 and 7536-7539) [5,000 square feet or more of surface area];
- e) Retail gasoline outlets [5,000 square feet or more of impervious surface area and with projected Average Daily Traffic (ADT) of 100 or more vehicles]. Subsurface Treatment Control BMPs which may endanger public safety (i.e., create an explosive environment) are considered not appropriate;
- f) Restaurants (SIC 5812) [5,000 square feet or more of surface area];
- g) Parking lots 5,000 square feet or more of surface area or with 25 or more parking spaces;
- h) Projects located in, adjacent to or discharging directly to an ESA that meet threshold conditions identified above in 2.e; and
- i) Redevelopment projects in subject categories that meet Redevelopment thresholds.

5. Not later than March 10, 2003, each Permittee shall require the implementation of SUSMP and post-construction control requirements for the industrial/commercial development category to projects that disturb one acre or more of surface area.

6. Site Specific Mitigation

Each Permittee shall, no later than September 2, 2002, require the implementation of a site-specific plan to mitigate post-development storm water for new development and redevelopment not requiring a SUSMP

but which may potentially have adverse impacts on post-development storm water quality, where one or more of the following project characteristics exist:

- a) Vehicle or equipment fueling areas;
- b) Vehicle or equipment maintenance areas, including washing and repair;
- c) Commercial or industrial waste handling or storage;
- d) Outdoor handling or storage of hazardous materials;
- e) Outdoor manufacturing areas;
- f) Outdoor food handling or processing;
- g) Outdoor animal care, confinement, or slaughter; or
- h) Outdoor horticulture activities.

7. Redevelopment Projects

The Permittees shall apply the SUSMP, or site specific requirements including post-construction storm water mitigation to all Planning Priority Projects that undergo significant Redevelopment in their respective categories.

- a) Significant Redevelopment means land-disturbing activity that results in the creation or addition or replacement of 5,000 square feet or more of impervious surface area on an already developed site.

Where Redevelopment results in an alteration to more than fifty percent of impervious surfaces of a previously existing development, and the existing development was not subject to post development storm water quality control requirements, the entire project must be mitigated. Where Redevelopment results in an alteration to less than fifty percent of impervious surfaces of a previously existing development, and the existing development was not subject to post development storm water quality control requirements, only the alteration must be mitigated, and not the entire development.

- b) Redevelopment does not include routine maintenance activities that are conducted to maintain original line and grade, hydraulic capacity, original purpose of facility or emergency redevelopment activity required to protect public health and safety.
- c) Existing single family structures are exempt from the Redevelopment requirements.

8. Maintenance Agreement and Transfer

Each Permittee shall require that all developments subject to SUSMP and site specific plan requirements provide verification of maintenance provisions for Structural and Treatment Control BMPs, including but not limited to legal agreements, covenants, CEQA mitigation requirements, and or conditional use permits. Verification at a minimum shall include:

- a) The developer's signed statement accepting responsibility for maintenance until the responsibility is legally transferred; and either
- b) A signed statement from the public entity assuming responsibility for Structural or Treatment Control BMP maintenance and that it meets all local agency design standards; or
- c) Written conditions in the sales or lease agreement, which requires the recipient to assume responsibility for maintenance and conduct a maintenance inspection at least once a year; or
- d) Written text in project conditions, covenants and restrictions (CCRs) for residential properties assigning maintenance responsibilities to the Home Owners Association for maintenance of the Structural and Treatment Control BMPs; or
- e) Any other legally enforceable agreement that assigns responsibility for the maintenance of post-construction Structural or Treatment Control BMPs.

9. Regional Storm Water Mitigation Program

A Permittee or Permittee group may apply to the Regional Board for approval of a regional or sub-regional storm water mitigation program to substitute in part or wholly SUSMP requirements. Upon review and a determination by the Regional Board Executive Officer that the proposal is technically valid and appropriate, the Regional Board may consider for approval such a program if its implementation will:

- a) Result in equivalent or improved storm water quality;
- b) Protect stream habitat;
- c) Promote cooperative problem solving by diverse interests;
- d) Be fiscally sustainable and has secure funding; and
- e) Be completed in five years including the construction and start-up of treatment facilities.

Nothing in this provision shall be construed as to delay the implementation of SUSMP requirements, as approved in this Order.

10. Mitigation Funding

The Permittees may propose a management framework, for endorsement by the Regional Board Executive Officer, to support regional or sub-

regional solutions to storm water pollution, where any of the following situations occur:

- a) A waiver for impracticability is granted;
- b) Legislative funds become available;
- c) Off-site mitigation is required because of loss of environmental habitat; or
- d) An approved watershed management plan or a regional storm water mitigation plan exists that incorporates an equivalent or improved strategy for storm water mitigation.

11. California Environmental Quality Act (CEQA) Document Update

Each Permittee shall incorporate into its CEQA process, with immediate effect, procedures for considering potential storm water quality impacts and providing for appropriate mitigation when preparing and reviewing CEQA documents. The procedures shall require consideration of the following:

- a) Potential impact of project construction on storm water runoff;
- b) Potential impact of project post-construction activity on storm water runoff;
- c) Potential for discharge of storm water from areas from material storage, vehicle or equipment fueling, vehicle or equipment maintenance (including washing), waste handling, hazardous materials handling or storage, delivery areas or loading docks, or other outdoor work areas;
- d) Potential for discharge of storm water to impair the beneficial uses of the receiving waters or areas that provide water quality benefit;
- e) Potential for the discharge of storm water to cause significant harm on the biological integrity of the waterways and water bodies;
- f) Potential for significant changes in the flow velocity or volume of storm water runoff that can cause environmental harm; and
- g) Potential for significant increases in erosion of the project site or surrounding areas.

12. General Plan Update

- a) Each Permittee shall amend, revise or update its General Plan to include watershed and storm water quality and quantity management considerations and policies when any of the following General Plan elements are updated or amended: (i) Land Use, (ii) Housing, (iii) Conservation, and (iv) Open Space.
- b) Each Permittee shall provide the Regional Board with the draft amendment or revision when a listed General Plan element or the

General Plan is noticed for comment in accordance with Cal. Govt. Code § 65350 *et seq.*

13. Targeted Employee Training

Each Permittee shall train its employees in targeted positions (whose jobs or activities are engaged in development planning) regarding the development planning requirements on an annual basis beginning no later than August 1, 2002, and more frequently if necessary. For Permittees with a population of 250,000 or more (2000 U.S. Census), training shall be completed no later than February 3, 2003.

14. Developer Technical Guidance and Information

- a) Each Permittee shall develop and make available to the developer community SUSMP (development planning) guidelines immediately.
- b) The Principal Permittee in partnership with Permittees shall issue no later than February 2, 2004, a technical manual for the siting and design of BMPs for the development community in Los Angeles County. The technical manual may be adapted from the revised California Storm Water Quality Task Force Best Management Practices Handbooks scheduled for publication in September 2002. The technical manual shall at a minimum include:
 - (1) Treatment Control BMPs based on flow-based and volumetric water quality design criteria for the purposes of countywide consistency;
 - (2) Peak Flow Control criteria to control peak discharge rates, velocities and duration;
 - (3) Expected pollutant removal performance ranges obtained from national databases, technical reports and the scientific literature;
 - (4) Maintenance considerations; and
 - (5) Cost considerations.

E. Development Construction Program

1. Each Permittee shall implement a program to control runoff from construction activity at all construction sites within its jurisdiction. The program shall ensure the following minimum requirements are effectively implemented at all construction sites:
 - a) Sediments generated on the project site shall be retained using adequate Treatment Control or Structural BMPs;
 - b) Construction-related materials, wastes, spills, or residues shall be retained at the project site to avoid discharge to streets, drainage

- facilities, receiving waters, or adjacent properties by wind or runoff;
- c) Non-storm water runoff from equipment and vehicle washing and any other activity shall be contained at the project site; and
 - d) Erosion from slopes and channels shall be controlled by implementing an effective combination of BMPs (as approved in Regional Board Resolution No. 99-03), such as the limiting of grading scheduled during the wet season; inspecting graded areas during rain events; planting and maintenance of vegetation on slopes; and covering erosion susceptible slopes.
2. For construction sites one acre and greater, each Permittee shall comply with all conditions in section E.1. above and shall:
- a) Require the preparation and submittal of a Local Storm Water Pollution Prevention Plan (Local SWPPP), for approval prior to issuance of a grading permit for construction projects.
The Local SWPPP shall include appropriate construction site BMPs and maintenance schedules. (A Local SWPPP may substitute for the State SWPPP if the Local SWPPP is at least as inclusive in controls and BMPs as the State SWPPP). The Local SWPPP must include the rationale used for selecting or rejecting BMPs. The project architect, or engineer of record, or authorized qualified designee, must sign a statement on the Local SWPPP to the effect:

“As the architect/engineer of record, I have selected appropriate BMPs to effectively minimize the negative impacts of this project’s construction activities on storm water quality. The project owner and contractor are aware that the selected BMPs must be installed, monitored, and maintained to ensure their effectiveness. The BMPs not selected for implementation are redundant or deemed not applicable to the proposed construction activity.”

The landowner or the landowner’s agent shall sign a statement to the effect:

“I certify that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system or those persons directly responsible for gathering the information, to the best of my knowledge and belief, the information submitted is true, accurate, and complete. I am aware that submitting false and/or inaccurate information, failing to update the Local SWPPP to reflect current conditions, or failing to properly and/or adequately implement the Local SWPPP may result in revocation of grading and/or other permits or other sanctions provided by law.”

The Local SWPPP certification shall be signed by the landowner as follows, for a corporation: by a responsible corporate officer which means (a) a president, secretary, treasurer, or vice president of the corporation in charge of a principal business function, or any other person who performs similar policy or decision-making functions for the corporation, or (b) the manager of the construction activity if authority to sign documents has been assigned or delegated to the manager in accordance with corporate procedures; for a partnership or sole proprietorship: by a general partner or the proprietor; or for a municipality or other public agency: by an elected official, a ranking management official (e.g., County Administrative Officer, City Manager, Director of Public Works, City Engineer, District Manager), or the manager of the construction activity if authority to sign Local SWPPPs has been assigned or delegated to the manager in accordance with established agency policy.

- b) Inspect all construction sites for storm water quality requirements during routine inspections a minimum of once during the wet season. The Local SWPPP shall be reviewed for compliance with local codes, ordinances, and permits. For inspected sites that have not adequately implemented their Local SWPPP, a follow-up inspection to ensure compliance will take place within 2 weeks. If compliance has not been attained, the Permittee will take additional actions to achieve compliance (as specified in municipal codes). If compliance has not been achieved, and the site is also covered under a statewide general construction storm water permit, each Permittee shall enforce their local ordinance requirements, and if non-compliance continues the Regional Board shall be notified for further joint enforcement actions.
 - c) Require, no later than March 10, 2003, prior to issuing a grading permit for all projects less than five acres requiring coverage under a statewide general construction storm water permit, proof of a Waste Discharger Identification (WDID) Number for filing a Notice of Intent (NOI) for permit coverage and a certification that a SWPPP has been prepared by the project developer. A Local SWPPP may substitute for the State SWPPP if the Local SWPPP is at least as inclusive in controls and BMPs as the State SWPPP.
3. For sites five acres and greater, each Permittee shall comply with all conditions in Sections E.1. and E.2. and shall:
- a) Require, prior to issuing a grading permit for all projects requiring coverage under the state general permit, proof of a Waste Discharger Identification (WDID) Number for filing a Notice of Intent (NOI) for coverage under the GCASP and a certification that a SWPPP has been prepared by the project developer. A Local SWPPP may substitute for the State SWPPP if the Local SWPPP is at least as inclusive in controls and BMPs as the State SWPPP.

- b) Require proof of an NOI and a copy of the SWPPP at any time a transfer of ownership takes place for the entire development or portions of the common plan of development where construction activities are still on-going.
 - c) Use an effective system to track grading permits issued by each Permittee. To satisfy this requirement, the use of a database or GIS system is encouraged, but not required.
4. GCASP Violation Referrals
- a) Referral of Violations of the SQMP, Regional Board Resolution 98-08, and municipal storm water ordinances:
A Permittee may refer a violation(s) to the Regional Board provided that the Permittee has made a good faith effort of progressive enforcement. At a minimum, a Permittee's good faith effort must include documentation of:
 - Two follow-up inspections within 3 months, and
 - Two warning letters or notices of violation.
 - b) Referral of Violations of GCASP Filing Requirements:
For those projects subject to the GCASP, Permittees shall refer non-filers (i.e., those projects which cannot demonstrate that they have a WDID number) to the Regional Board, within 15 days of making a determination. In making such referrals, Permittees shall include, at a minimum, the following documentation:
 - Project location;
 - Developer;
 - Estimated project size; and
 - Records of communication with the developer regarding filing requirements.
5. Each Permittee shall train employees in targeted positions (whose jobs or activities are engaged in construction activities including construction inspection staff) regarding the requirements of the storm water management program no later than August 1, 2002, and annually thereafter. For Permittees with a population of 250,000 or more (2000 U.S. Census), initial training shall be completed no later than February 3, 2003. Each Permittee shall maintain a list of trained employees.

F. Public Agency Activities Program

Each Permittee shall implement a Public Agency program to minimize storm water pollution impacts from public agency activities. Public Agency requirements consist of:

- Sewage Systems Maintenance, Overflow, and Spill Prevention
- Public Construction Activities Management
- Vehicle Maintenance/Material Storage Facilities/Corporation Yards Management
- Landscape and Recreational Facilities Management

- Storm Drain Operation and Management
 - Streets and Roads Maintenance
 - Parking Facilities Management
 - Public Industrial Activities Management
 - Emergency Procedures
 - Treatment Feasibility Study
1. Sewage System Maintenance, Overflow, and Spill Prevention
 - a) Each Permittee shall implement a response plan for overflows of the sanitary sewer system within their respective jurisdiction, which shall consist at a minimum of the following:
 - (1) Investigation of any complaints received;
 - (2) Upon notification, immediate response to overflows for containment; and
 - (3) Notification to appropriate sewer and public health agencies when a sewer overflows to the MS4.
 - b) In addition to 1.a.1, 1.a.2, and 1.a.3 above, for those Permittees, which own and/or operate a sanitary sewer system, the Permittee shall also implement the following requirements:
 - (1) Procedures to prevent sewage spills or leaks from sewage facilities from entering the MS4; and
 - (2) Identify, repair, and remediate sanitary sewer blockages, exfiltration, overflow, and wet weather overflows from sanitary sewers to the MS4.
 2. Public Construction Activities Management
 - a) Each Permittee shall implement the Development Planning Program requirements (Permit Part 4.D) at public construction projects.
 - b) Each Permittee shall implement the Development Construction Program requirements (Permit Part 4.E) at Permittee owned construction sites.
 - c) Each Permittee shall obtain coverage under the GCASP for public construction sites 5 acres or greater (or part of a larger area of development) except that a municipality under 100,000 in population (1990 U.S. Census) need not obtain coverage under a separate permit until March 10, 2003.
 - d) Each Permittee, no later than March 10, 2003, shall obtain coverage under a statewide general construction storm water permit for public construction sites for projects between one and five acres.

3. Vehicle Maintenance/Material Storage Facilities/Corporation Yards Management
 - a) Each Permittee, consistent with the SQMP, shall implement SWPPPs for public vehicle maintenance facilities, material storage facilities, and corporation yards which have the potential to discharge pollutants into storm water.
 - b) Each Permittee shall implement BMPs to minimize pollutant discharges in storm water including but not be limited to:
 - (1) Good housekeeping practices;
 - (2) Material storage control;
 - (3) Vehicle leaks and spill control; and
 - (4) Illicit discharge control.
 - c) Each Permittee shall implement the following measures to prevent the discharge of pollutants to the MS4:
 - (1) For existing facilities, that are not already plumbed to the sanitary sewer, all vehicle and equipment wash areas (except for fire stations) shall either be:
 - (i) Self-contained;
 - (ii) Equipped with a clarifier;
 - (iii) Equipped with an alternative pre-treatment device; or
 - (iv) Plumbed to the sanitary sewer.
 - (2) For new facilities, or during redevelopment of existing facilities (including fire stations), all vehicle and equipment wash areas shall be plumbed to the sanitary sewer and be equipped with a pre-treatment device in accordance with requirements of the sewer agency.
4. Landscape and Recreational Facilities Management

Each Permittee shall implement the following requirements:

 - a) A standardized protocol for the routine and non-routine application of pesticides, herbicides (including pre-emergents), and fertilizers;
 - b) Consistency with State Board's guidelines and monitoring requirements for application of aquatic pesticides to surface waters (WQ Order No. 2001-12 DWQ);
 - c) Ensure no application of pesticides or fertilizers immediately before, during, or immediately after a rain event or when water is flowing off the area to be applied;

- d) Ensure that no banned or unregistered pesticides are stored or applied;
 - e) Ensure that staff applying pesticides are certified by the California Department of Food and Agriculture, or are under the direct supervision of a certified pesticide applicator;
 - f) Implement procedures to encourage retention and planting of native vegetation and to reduce water, fertilizer, and pesticide needs;
 - g) Store fertilizers and pesticides indoors or under cover on paved surfaces or use secondary containment;
 - h) Reduce the use, storage, and handling of hazardous materials to reduce the potential for spills; and
 - i) Regularly inspect storage areas.
5. Storm Drain Operation and Management
- a) Each Permittee shall designate catch basin inlets within its jurisdiction as one of the following:
 - Priority A: Catch basins that are designated as consistently generating the highest volumes of trash and/or debris.
 - Priority B: Catch basins that are designated as consistently generating moderate volumes of trash and/or debris.
 - Priority C: Catch basins that are designated as generating low volumes of trash and/or debris.
 - b) Permittees subject to a trash TMDL (Los Angeles River and Ballona Creek WMAs) shall continue to implement the requirements listed below until trash TMDL implementation measures are adopted. Thereafter, the subject Permittees shall implement programs in conformance with the TMDL implementation schedule, which shall include an effective combination of measures such as street sweeping, catch basin cleaning, installation of treatment devices and trash receptacles, or other BMPs. Default requirements include:
 - (1) Inspection and cleaning of catch basins between May 1 and September 30 of each year;
 - (2) Additional cleaning of any catch basin that is at least 40% full of trash and/or debris;
 - (3) Record keeping of catch basins cleaned; and

- (4) Recording of the overall quantity of catch basin waste collected.

If the implementation phase for the Los Angeles River and Ballona Creek Trash TMDLs has not begun by October 2003, subject Permittees shall implement the requirements described below in subsection 5(c), until such time programs in conformance with the subject Trash TMDLs are being implemented.

- c) Permittees not subject to a trash TMDL shall:

- (1) Clean catch basins according to the following schedule:

Priority A: A minimum of three times during the wet season and once during the dry season every year.

Priority B: A minimum of once during the wet season and once during the dry season every year.

Priority C: A minimum of once per year.

In addition to the schedule above, between February 1, 2002 and July 1, 2003, Permittees shall ensure that any catch basin that is at least 40% full of trash and/or debris shall be cleaned out. After July 1, 2003, Permittees shall ensure that any catch basin that is at least 25% full of trash and debris shall be cleaned out.

- (2) For any special event that can be reasonably expected to generate substantial quantities of trash and litter, include provisions that require for the proper management of trash and litter generated, as a condition of the special use permit issued for that event. At a minimum, the municipality who issues the permit for the special event shall arrange for either temporary screens to be placed on catch basins or for catch basins in that area to be cleaned out subsequent to the event and prior to any rain event.
- (3) Place trash receptacles at all transit stops within its jurisdiction that have shelters no later than August 1, 2002, and at all other transit stops within its jurisdiction no later than February 3, 2003. All trash receptacles shall be maintained as necessary.

- d) Each Permittee shall inspect the legibility of the catch basin stencil or label nearest the inlet. Catch basins with illegible stencils shall be recorded and re-stenciled or re-labeled within 180 days of inspection.
- e) Each Permittee shall implement BMPs for Storm Drain Maintenance that include:

- (1) A program to visually monitor Permittee-owned open channels and other drainage structures for debris at least annually and identify and prioritize problem areas of illicit discharge for regular inspection;
 - (2) A review of current maintenance activities to assure that appropriate storm water BMPs are being utilized to protect water quality;
 - (3) Removal of trash and debris from open channel storm drains shall occur a minimum of once per year before the storm season;
 - (4) Minimize the discharge of contaminants during MS4 maintenance and clean outs; and
 - (5) Proper disposal of material removed.
6. Streets and Roads Maintenance
- a) Each Permittee shall designate streets and/or street segments within its jurisdiction as one of the following:
 - Priority A: Streets and/or street segments that are designated as consistently generating the highest volumes of trash and/or debris.
 - Priority B: Streets and/or street segments that are designated as consistently generating moderate volumes of trash and/or debris.
 - Priority C: Streets and/or street segments that are designated as generating low volumes of trash and/or debris.
 - b) Each Permittee shall perform street sweeping of curbed streets according to the following schedule:
 - Priority A: These streets and/or street segments shall be swept at least two times per month.
 - Priority B: Each Permittee shall ensure that each street and/or street segments is swept at least once per month.
 - Priority C: These streets and/or street segments shall be swept as necessary but in no case less than once per year.
 - c) Each Permittee shall require that:
 - (1) Sawcutting wastes be recovered and disposed of properly and that in no case shall waste be left on a roadway or allowed to enter the storm drain;

- (2) Concrete and other street and road maintenance materials and wastes shall be managed to prevent discharge to the MS4; and
 - (3) The washout of concrete trucks and chutes shall only occur in designated areas and never discharged to storm drains, open ditches, streets, or catch basins.
- d) Each Permittee shall, no later than August 1, 2002, train their employees in targeted positions (whose interactions, jobs, and activities affect storm water quality) regarding the requirements of the storm water management program to:
- (1) Promote a clear understanding of the potential for maintenance activities to pollute storm water; and
 - (2) Identify and select appropriate BMPs.

For Permittees with a population of 250,000 or more (2000 U.S. Census) training shall be completed no later than February 1, 2003.

7. Parking Facilities Management

Permittee-owned parking lots exposed to storm water shall be kept clear of debris and excessive oil buildup and cleaned no less than 2 times per month and/or inspected no less than 2 times per month to determine if cleaning is necessary. In no case shall a Permittee-owned parking lot be cleaned less than once a month.

8. Public Industrial Activities Management

Each Permittee shall, for any municipal activity considered a discharge of storm water associated with industrial activity, obtain separate coverage under the GIASP except that a municipality under 100,000 in population (1990 U.S. Census) need not file the Notice Of Intent to be covered by said permit until March 10, 2003 (with the exception of power plants, airports, and uncontrolled sanitary landfills).

9. Emergency Procedures

Each Permittee shall repair essential public services and infrastructure in a manner to minimize environmental damage in emergency situations such as: earthquakes; fires; floods; landslides; or windstorms. BMPs shall be implemented to the extent that measures do not compromise public health and safety. After initial emergency response or emergency repair activities have been completed, each Permittee shall implement BMPs and programs as required under this Order.

10. Treatment Feasibility Study

The Permittees in cooperation with the County Sanitation Districts of Los Angeles County shall conduct a study to investigate the possible diversion of dry weather discharges or the use of alternative Treatment Control BMPs to treat flows from their jurisdiction which may impact public health and safety and/or the environment. The Permittees shall collectively review their individual prioritized lists and create a watershed based priority list of drains for potential diversion or treatment and submit the priority listing to the Regional Board Executive Officer, no later than July 1, 2003.

G. Illicit Connections and Illicit Discharges Elimination Program

Permittees shall eliminate all illicit connections and illicit discharges to the storm drain system, and shall document, track, and report all such cases in accordance with the elements and performance measures specified in the following subsections.

1. General

- a) Implementation: Each Permittee must develop an Implementation Program which specifies how each Permittee is implementing revisions to the IC/ID Program of the SQMP. This Implementation Program must be documented, and available for review and approval by the Regional Board Executive Officer, upon request.
- b) Tracking: All Permittees shall, no later than February 3, 2003, develop and maintain a listing of all permitted connections to their storm drain system. All Permittees shall map at a scale and in a format specified by the Principal Permittee all illicit connections and discharges on their baseline maps, and shall transmit this information to the Principal Permittee. No later than February 3, 2003, the Principal Permittee shall use this information as well as results of baseline and priority screening for illicit connections (as set forth in subsection 2 below) to start an annual evaluation of patterns and trends of illicit connections and illicit discharges, with the objectives of identifying priority areas for elimination of illicit connections and illicit discharges.
- c) Training: All Permittees shall train all targeted employees who are responsible for identification, investigation, termination, cleanup, and reporting of illicit connections and discharges. For Permittees with a population of less than 250,000 (2000 U.S. Census), training shall be completed no later than August 1, 2002. For Permittees with a population of 250,000 or more (2000 U.S. Census), training shall be completed no later than February 3, 2003. Furthermore, all Permittees shall conduct refresher training on an annual basis thereafter.

2. Illicit Connections

a) Screening for Illicit Connections

(1) Field Screening: All Permittees shall field Screen the storm drain system for illicit connections in accordance with the following schedule:

(i) Open channels: No later than February 3, 2003;

(ii) Underground pipes in priority areas: No later than February 1, 2005; and

(iii) Underground pipes with a diameter of 36 inches or greater: No later than December 12, 2006.

Permittees shall report, to the Principal Permittee, on the location and length of open channels or underground pipes that have been Screened *vis a vis* the entire storm drain network, and on the status of suspected, confirmed, and terminated illicit connections. Permittees shall maintain a list containing all permitted connections and the status of connections under investigation for possible illicit connection.

(2) Permit Screening: No later than December 12, 2006, Permittees shall complete a review of all permitted connections to the storm drain system, to confirm compliance with Part 1 (Discharge Prohibition).

b) Response to Illicit Connections

(1) Investigation: Upon discovery or upon receiving a report of a suspected illicit connection, Permittees shall initiate an investigation within 21 days, to determine the source of the connection, the nature and volume of discharge through the connection, and the responsible party for the connection.

(2) Termination: Upon confirmation of the illicit nature of a storm drain connection, Permittees shall ensure termination of the connection within 180 days, using enforcement authority as needed.

3. Illicit Discharges

- a) Abatement and Cleanup: Permittees shall respond, within one business day of discovery or a report of a suspected illicit discharge, with activities to abate, contain, and clean up all illicit discharges, including hazardous substances.
- b) Investigation: Permittees shall investigate illicit discharges as soon as practicable (during or immediately following containment and cleanup activities), and shall take enforcement action as appropriate.

Part 5. DEFINITIONS

The following are definitions for terms applicable to this Order:

"Adverse Impact" means a detrimental effect upon water quality or beneficial uses caused by a discharge or loading of a pollutant or pollutants.

"Anti-degradation policies" means the *Statement of Policy with Respect to Maintaining High Quality Water in California* (State Board Resolution No. 68-16) which protects surface and ground waters from degradation. In particular, this policy protects waterbodies where existing quality is higher than that necessary for the protection of beneficial uses including the protection of fish and wildlife propagation and recreation on and in the water.

"Applicable Standards and Limitations" means all State, interstate, and federal standards and limitations to which a "discharge" or a related activity is subject under the CWA, including "effluent limitations, "water quality standards, standards of performance, toxic effluent standards or prohibitions, "best management practices," and pretreatment standards under sections 301, 302, 303, 304, 306, 307, 308, 403 and 404 of CWA.

"Areas of Special Biological Significance (ASBS)" means all those areas of this state as ASBS, listed specifically within the California Ocean Plan or so designated by the State Board which, among other areas, includes the area from Mugu Lagoon to Latigo Point: Oceanwater within a line originating from Laguna Point at 34° 5' 40" north, 119° 6'30" west, thence southeasterly following the mean high tideline to a point at Latigo Point defined by the intersection of the meanhigh tide line and a line extending due south of Benchmark 24; thence due south to a distance of 1000 feet offshore or to the 100 foot isobath, whichever distance is greater; thence northwesterly following the 100 foot isobath or maintaining a 1,000-foot distance from shore, whichever maintains the greater distance from shore, to a point lying due south of Laguna Point, thence due north to Laguna Point.

"Authorized Discharge" means any discharge that is authorized pursuant to an NPDES permit or meets the conditions set forth in this Order.

"Automotive Service Facilities" means a facility that is categorized in any one of the following Standard Industrial Classification (SIC) codes: 5013, 5014, 5541, 5511, 7532-7534, or 7536-7539. For inspection purposes, Permittees need not inspect facilities with SIC codes 5013, 5014, 5541, 5511, provided that these facilities have no outside activities or materials that may be exposed to storm water.

"Basin Plan" means the Water Quality Control Plan, Los Angeles Region, Basin Plan for the Coastal Watersheds of Los Angeles and Ventura Counties, adopted by the Regional Board on June 13, 1994 and subsequent amendments.

"Beneficial Uses" means the existing or potential uses of receiving waters in the permit area as designated by the Regional Board in the Basin Plan.

"Best Management Practices (BMPs)" means methods, measures, or practices designed and selected to reduce or eliminate the discharge of pollutants to surface waters from point and nonpoint source discharges including storm water. BMPs include structural and nonstructural controls, and operation and maintenance procedures, which can be applied before, during, and/or after pollution producing activities.

"Commercial Development" means any development on private land that is not heavy industrial or residential. The category includes, but is not limited to: hospitals, laboratories and other medical facilities, educational institutions, recreational facilities, plant nurseries, car wash facilities, mini-malls and other business complexes, shopping malls, hotels, office buildings, public warehouses and other light industrial complexes.

"Construction" means constructing, clearing, grading, or excavation that results in soil disturbance. Construction includes structure teardown. It does not include routine maintenance to maintain original line and grade, hydraulic capacity, or original purpose of facility; emergency construction activities required to immediately protect public health and safety; interior remodeling with no outside exposure of construction material or construction waste to storm water; mechanical permit work; or sign permit work.

"Control" means to minimize, reduce, eliminate, or prohibit by technological, legal, contractual or other means, the discharge of pollutants from an activity or activities.

"Dechlorinated/Debrominated Swimming Pool Discharge" means swimming pool discharges which have no measurable chlorine or bromine and do not contain any detergents, wastes, or additional chemicals not typically found in swimming pool water. The term does not include swimming pool filter backwash.

"Development" means any construction, rehabilitation, redevelopment or reconstruction of any public or private residential project (whether single-family, multi-unit or planned unit development); industrial, commercial, retail and other non-residential projects, including public agency projects; or mass grading for future construction. It does not include routine maintenance to maintain original line and grade, hydraulic capacity, or original purpose of facility, nor does it include emergency construction activities required to immediately protect public health and safety.

"Directly Adjacent" means situated within 200 feet of the contiguous zone required for the continued maintenance, function, and structural stability of the environmentally sensitive area.

"Director" means the Director of a municipality and Person(s) designated by and under the Director's instruction and supervision.

"Discharge" means when used without qualification the "discharge of a pollutant."

“Discharging Directly” means outflow from a drainage conveyance system that is composed entirely or predominantly of flows from the subject, property, development, subdivision, or industrial facility, and not commingled with the flows from adjacent lands.

“Discharge of a Pollutant” means: any addition of any “pollutant” or combination of pollutants to “waters of the United States” from any “point source” or, any addition of any pollutant or combination of pollutants to the waters of the “contiguous zone” or the ocean from any point source other than a vessel or other floating craft which is being used as a means of transportation. The term discharge includes additions of pollutants into waters of the United States from: surface runoff which is collected or channeled by man; discharges through pipes, sewers, or other conveyances owned by a State, municipality, or other person which do not lead to a treatment works; and discharges through pipes, sewers, or other conveyances, leading into privately owned treatment works.

“Disturbed Area” means an area that is altered as a result of clearing, grading, and/or excavation.

“Dry Weather” means those days with less than 0.1 inch of rainfall, and occurring more than three days after a Rain Day.

“Environmentally Sensitive Areas (ESAs)” means an area in which plant or animal life or their habitats are either rare or especially valuable because of their special nature or role in an ecosystem and which would be easily disturbed or degraded by human activities and developments (California Public Resources Code § 30107.5). Areas subject to storm water mitigation requirements are: areas designated as Significant Ecological Areas by the County of Los Angeles (*Los Angeles County Significant Areas Study, Los Angeles County Department of Regional Planning (1976)* and amendments); an area designated as a Significant Natural Area by the California Department of Fish and Game’s Significant Natural Areas Program, provided that area has been field verified by the Department of Fish and Game; an area listed in the Basin Plan as supporting the “Rare, Threatened, or Endangered Species (RARE)” beneficial use; and an area identified by a Permittee as environmentally sensitive.

“General Construction Activities Storm Water Permit (GCASP)” means the general NPDES permit adopted by the State Board which authorizes the discharge of storm water from construction activities under certain conditions.

“General Industrial Activities Storm Water Permit (GIASP)” means the general NPDES permit adopted by the State Board which authorizes the discharge of storm water from certain industrial activities under certain conditions.

“Hillside” means property located in an area with known erosive soil conditions, where the development contemplates grading on any natural slope that is 25% or greater and where grading contemplates cut or fill slopes.

“Illicit Connection” means any man-made conveyance that is connected to the storm drain system without a permit, excluding roof drains and other similar type connections. Examples include channels, pipelines, conduits, inlets, or outlets that are connected directly to the storm drain system.

"Illicit Discharge" means any discharge to the storm drain system that is prohibited under local, state, or federal statutes, ordinances, codes, or regulations. The term illicit discharge includes all non storm-water discharges except discharges pursuant to an NPDES permit, discharges that are identified in Part 1, "Discharge Prohibitions" of this order, and discharges authorized by the Regional Board Executive Officer.

"Illicit Disposal" means any disposal, either intentionally or unintentionally, of material(s) or waste(s) that can pollute storm water.

"Industrial/Commercial Facility" means any facility involved and/or used in the production, manufacture, storage, transportation, distribution, exchange or sale of goods and/or commodities, and any facility involved and/or used in providing professional and non-professional services. This category of facilities includes, but is not limited to, any facility defined by the Standard Industrial Classifications (SIC). Facility ownership (federal, state, municipal, private) and profit motive of the facility are not factors in this definition.

"Infiltration" means the downward entry of water into the surface of the soil.

"Inspection" means entry and the conduct of an on-site review of a facility and its operations, at reasonable times, to determine compliance with specific municipal or other legal requirements. The steps involved in performing an inspection, include, but are not limited to:

1. Pre-inspection documentation research.;
2. Request for entry;
3. Interview of facility personnel;
4. Facility walk-through.
5. Visual observation of the condition of facility premises;
6. Examination and copying of records as required;
7. Sample collection (if necessary or required);
8. Exit conference (to discuss preliminary evaluation); and,
9. Report preparation, and if appropriate, recommendations for coming into compliance.

In the case of restaurants, a Permittee may conduct an inspection from the curbside, provided that such "curbside" inspection provides the Permittee with adequate information to determine an operator's compliance with BMPs that must be implemented per requirements of this Order, Regional Board Resolution 98-08, County and municipal ordinances, and the SQMP.

"Large Municipal Separate Storm Sewer System (MS4)" means all MS4s that serve a population greater than 250,000 (1990 Census) as defined in 40 CFR 122.26 (b)(4). The Regional Board designated Los Angeles County as a large MS4 in 1990, based on: (i) the U.S. Census Bureau 1990 population count of 8.9 million, and (ii) the interconnectivity of the MS4s in the incorporated and unincorporated areas within the County.

"Local SWPPP" means the Storm Water Pollution Prevention Plan required by the local agency for a project that disturbs one or more acres of land.

"Maximum Extent Practicable (MEP)" means the standard for implementation of storm water management programs to reduce pollutants in storm water. CWA § 402(p)(3)(B)(iii) requires

that municipal permits "shall require controls to reduce the discharge of pollutants to the maximum extent practicable, including management practices, control techniques and system, design and engineering methods, and such other provisions as the Administrator or the State determines appropriate for the control of such pollutants. See also State Board Order WQ 2000-11 at page 20.

"Method Detection Limit (MDL)" means the minimum concentration of a substance that can be measured and reported with 99 percent confidence that the analyte concentration is greater than zero, as defined in 40 CFR 136, Appendix B.

"Minimum Level (ML)" means the concentration at which the entire analytical system must give a recognizable signal and acceptable calibration point. The ML is the concentration in a sample that is equivalent to the concentration of the lowest calibration standard analyzed by a specific analytical procedure, assuming that all the method specified sample weights, volumes, and processing steps have been followed.

"Municipal Separate Storm Sewer System (MS4)" means a conveyance or system of conveyances (including roads with drainage systems, municipal streets, alleys, catch basins, curbs, gutters, ditches, manmade channels, or storm drains) owned by a State, city, county, town or other public body, that is designed or used for collecting or conveying storm water, which is not a combined sewer, and which is not part of a publicly owned treatment works, and which discharges to Waters of the United States.

"National Pollutant Discharge Elimination System (NPDES)" means the national program for issuing, modifying, revoking and reissuing, terminating, monitoring and enforcing permits, and imposing and enforcing pretreatment requirements, under CWA §307, 402, 318, and 405. The term includes an "approved program."

"Natural Drainage Systems" means unlined or unimproved (not engineered) creeks, streams, rivers or similar waterways.

"New Development" means land disturbing activities; structural development, including construction or installation of a building or structure, creation of impervious surfaces; and land subdivision.

"Non-Storm Water Discharge" means any discharge to a storm drain that is not composed entirely of storm water.

"Nuisance" means anything that meets all of the following requirements: (1) is injurious to health, or is indecent or offensive to the senses, or an obstruction to the free use of property, so as to interfere with the comfortable enjoyment of life or property; (2) affects at the same time an entire community or neighborhood, or any considerable number of persons, although the extent of the annoyance or damage inflicted upon individuals may be unequal.; (3) occurs during, or as a result of, the treatment or disposal of wastes.

"Parking Lot" means land area or facility for the parking or storage of motor vehicles used for businesses, commerce, industry, or personal use, with a lot size of 5,000 square feet or more of surface area, or with 25 or more parking spaces.

"Permittee(s)" means Co-Permittees and any agency named in this Order as being responsible for permit conditions within its jurisdiction. Permittees to this Order include the Los Angeles County Flood Control District, Los Angeles County, and the cities of Agoura Hills, Alhambra, Arcadia, Artesia, Azusa, Baldwin Park, Bellflower, Bell Gardens, Beverly Hills, Bradbury, Burbank, Calabasas, Carson, Cerritos, Claremont, Commerce, Compton, Covina, Cudahy, Culver City, Diamond Bar, Downey, Duarte, El Monte, El Segundo, Gardena, Glendale, Glendora, Hawaiian Gardens, Hawthorne, Hermosa Beach, Hidden Hills, Huntington Park, Industry, Inglewood, Irwindale, La Canada Flintridge, La Habra Heights, Lakewood, La Mirada, La Puente, La Verne, Lawndale, Lomita, Los Angeles, Lynwood, Malibu, Manhattan Beach, Maywood, Monrovia, Montebello, Monterey Park, Norwalk, Palos Verdes Estates, Paramount, Pasadena, Pico Rivera, Pomona, Rancho Palos Verdes, Redondo Beach, Rolling Hills, Rolling Hills Estates, Rosemead, San Dimas, San Fernando, San Gabriel, San Marino, Santa Clarita, Santa Fe Springs, Santa Monica, Sierra Madre, Signal Hill, South El Monte, South Gate, South Pasadena, Temple City, Torrance, Vernon, Walnut, West Covina, West Hollywood, Westlake Village, and Whittier.

"Planning Priority Projects" means those projects that are required to incorporate appropriate storm water mitigation measures into the design plan for their respective project. These types of projects include:

1. Ten or more unit homes (includes single family homes, multifamily homes, condominiums, and apartments)
2. A 100,000 or more square feet of impervious surface area industrial/commercial development (1 ac starting March 2003)
3. Automotive service facilities (SIC 5013, 5014, 5541, 7532-7534, and 7536-7539)
4. Retail gasoline outlets
5. Restaurants (SIC 5812)
6. Parking lots 5,000 square feet or more of surface area or with 25 or more parking spaces
7. Redevelopment projects in subject categories that meet Redevelopment thresholds
8. Projects located in or directly adjacent to or discharging directly to an ESA, which meet thresholds; and
9. Those projects that require the implementation of a site-specific plan to mitigate post-development storm water for new development not requiring a SUSMP but which may potentially have adverse impacts on post-development storm water quality, where the following project characteristics exist:

- a) Vehicle or equipment fueling areas;
- b) Vehicle or equipment maintenance areas, including washing and repair;
- c) Commercial or industrial waste handling or storage;
- d) Outdoor handling or storage of hazardous materials;
- e) Outdoor manufacturing areas;
- f) Outdoor food handling or processing;
- g) Outdoor animal care, confinement, or slaughter; or
- h) Outdoor horticulture activities.

"Pollutants" means those "pollutants" defined in CWA §502(6) (33.U.S.C.§1362(6)), and incorporated by reference into California Water Code §13373.

"Potable Water Distribution Systems Releases" means sources of flows from drinking water storage, supply and distribution systems including flows from system failures, pressure releases, system maintenance, distribution line testing, fire hydrant flow testing; and flushing and dewatering of pipes, reservoirs, vaults, and minor non-invasive well maintenance activities not involving chemical addition(s). It does not include wastewater discharges from activities that occur at wellheads, such as well construction, well development (i.e., aquifer pumping tests, well purging, etc.), or major well maintenance.

"Project" means all development, redevelopment, and land disturbing activities. The term is not limited to "Project" as defined under CEQA (Pub. Resources Code §21065).

"Rain Days" are those days with greater than or equal to 0.1 inch of rainfall.

"Rain Event" means any rain event greater than 0.1 inch in 24 hours except where specifically stated otherwise.

"Rare, Threatened, or Endangered Species (RARE)" means a beneficial use for waterbodies in the Los Angeles Region, as designated in the Basin Plan (Table 2-1), that supports habitats necessary, at least in part, for the survival and successful maintenance of plant or animal species established under state or federal law as rare, threatened, or endangered.

"Receiving Waters" means all surface water bodies in the Los Angeles Region that are identified in the Basin Plan.

"Redevelopment" means land-disturbing activity that results in the creation, addition, or replacement of 5,000 square feet or more of impervious surface area on an already developed site. Redevelopment includes, but is not limited to: the expansion of a building footprint; addition or replacement of a structure; replacement of impervious surface area that is not part of a routine maintenance activity; and land disturbing activities related to structural or impervious surfaces. It does not include routine maintenance to maintain original line and grade, hydraulic capacity, or original purpose of facility, nor does it include emergency construction activities required to immediately protect public health and safety.

"Regional Administrator" means the Regional Administrator of the Regional Office of the USEPA or the authorized representative of the Regional Administrator.

“Restaurant” means a facility that sells prepared foods and drinks for consumption, including stationary lunch counters and refreshment stands selling prepared foods and drinks for immediate consumption (SIC Code 5812).

“Retail Gasoline Outlet” means any facility engaged in selling gasoline and lubricating oils.

“Runoff” means any runoff including storm water and dry weather flows from a drainage area that reaches a receiving water body or subsurface. During dry weather it is typically comprised of base flow either contaminated with pollutants or uncontaminated, and nuisance flows.

“Screening” means using proactive methods to identify illicit connections through a continuously narrowing process. The methods may include: performing baseline monitoring of open channels, conducting special investigations using a prioritization approach, analyzing maintenance records for catch basin and storm drain cleaning and operation, and verifying all permitted connections into the storm drains. Special investigation techniques may include: dye testing, visual inspection, smoke testing, flow monitoring, infrared, aerial and thermal photography, and remote control camera operation.

“Sidewalk Rinsing” means pressure washing of paved pedestrian walkways with average water usage of 0.006 gallons per square foot, with no cleaning agents, and properly disposing of all debris collected, as authorized under Regional Board Resolution No. 98-08.

“Significant Ecological Area (SEA)” means an area that is determined to possess an example of biotic resources that cumulatively represent biological diversity, for the purposes of protecting biotic diversity, as part of the Los Angeles County General Plan.⁶

Areas are designated as SEAs, if they possess one or more of the following criteria:

1. The habitat of rare, endangered, and threatened plant and animal species.
2. Biotic communities, vegetative associations, and habitat of plant and animal species that are either one of a kind, or are restricted in distribution on a regional basis.
3. Biotic communities, vegetative associations, and habitat of plant and animal species that are either one of a kind or are restricted in distribution in Los Angeles County.
4. Habitat that at some point in the life cycle of a species or group of species, serves as a concentrated breeding, feeding, resting, migrating grounds and is limited in availability either regionally or within Los Angeles County.
5. Biotic resources that are of scientific interest because they are either an extreme in physical/geographical limitations, or represent an unusual variation in a population or community.
6. Areas important as game species habitat or as fisheries.

⁶ The 61 existing SEAs represent the findings of a study that was completed in 1976 by England and Nelson, Environmental Consultants, as amended through the adoption of a revised Los Angeles County General Plan in 1980. The results of an update study to evaluate existing SEAs within unincorporated Los Angeles County is currently being proposed to the Los Angeles County Planning Commission (*Los Angeles County Significant Ecological Area Update Study 2000, Background Report*, PCR Services Corporation). The *Update Study 2000*, which contains existing and proposed SEA boundaries, can be downloaded from the Los Angeles County Department of Planning website at http://planning.co.la.ca.us/drp_revw.html#SEA

7. Areas that would provide for the preservation of relatively undisturbed examples of natural biotic communities in Los Angeles County.
8. Special areas.⁷

"Significant Natural Area (SNA)" means an area defined by the California Department of Fish and Game (DFG), Significant Natural Areas Program, as an area that contains an important example of California's biological diversity. The most current SNA maps, reports, and descriptions can be downloaded from the DFG website at <ftp://maphost.dfg.ca.gov/outgoing/whdab/sna/>. These areas are identified using the following biological criteria only, irrespective of any administrative or jurisdictional considerations:

1. Areas supporting extremely rare species or habitats.
2. Areas supporting associations or concentrations of rare species or habitats.
3. Areas exhibiting the best examples of rare species and habitats in the state.

"Site" means the land or water area where any "facility or activity" is physically located or conducted, including adjacent land used in connection with the facility or activity.

"Source Control BMP" means any schedules of activities, prohibitions of practices, maintenance procedures, managerial practices or operational practices that aim to prevent storm water pollution by reducing the potential for contamination at the source of pollution.

"SQMP" means the Los Angeles Countywide Stormwater Quality Management Program.

"State Storm Water Pollution Prevention Plan (State SWPPP)" means a plan, as required by a State General Permit, identifying potential pollutant sources and describing the design, placement and implementation of BMPs, to effectively prevent non-stormwater Discharges and reduce Pollutants in Stormwater Discharges during activities covered by the General Permit.

"Storm Water" means storm water runoff, snow melt runoff, and surface runoff and drainage.

"Storm Water Discharge Associated with Industrial Activity" means industrial discharge as defined in 40 CFR 122.26(b)(14)

"Stormwater Quality Management Program" means the Los Angeles Countywide Stormwater Quality Management Program, which includes descriptions of programs, collectively developed by the Permittees in accordance with provisions of the NPDES Permit, to comply with applicable federal and state law, as the same is amended from time to time.

"Structural BMP" means any structural facility designed and constructed to mitigate the adverse impacts of storm water and urban runoff pollution (e.g. canopy, structural enclosure). The category may include both Treatment Control BMPs and Source Control BMPs.

"Summer Dry Weather" means Dry Weather days occurring from April 1 through October 31 of each year.

⁷ These criteria from the 1976 study have been modified in the *Update Study 2000*.

"SUSMP" means the Los Angeles Countywide Standard Urban Stormwater Mitigation Plan. The SUSMP shall address conditions and requirements of new development.

"Total Maximum Daily Load (TMDL)" means the sum of the individual waste load allocations for point sources and load allocations for nonpoint sources and natural background.

"Toxicity Identification Evaluation (TIE)" means a set of procedures to identify the specific chemical(s) responsible for toxicity. These procedures are performed in three phases (characterization, identification, and confirmation) using aquatic organism toxicity tests.

"Toxicity Reduction Evaluation (TRE)" means a study conducted in a step-wise process to identify the causative agents of effluent or ambient toxicity, isolate the sources of toxicity, evaluate the effectiveness of toxicity control options, and then confirm the reduction in toxicity.

"Treatment" means the application of engineered systems that use physical, chemical, or biological processes to remove pollutants. Such processes include, but are not limited to, filtration, gravity settling, media absorption, biodegradation, biological uptake, chemical oxidation and UV radiation.

"Treatment Control BMP" means any engineered system designed to remove pollutants by simple gravity settling of particulate pollutants, filtration, biological uptake, media absorption or any other physical, biological, or chemical process.

"USEPA Phase I Facilities" means facilities in specified industrial categories that are required to obtain an NPDES permit for storm water discharges, as required by 40 CFR 122.26(c). These categories include:

- i. facilities subject to storm water effluent limitation guidelines, new source performance standards, or toxic pollutant effluent standards (40 CFR N)
- ii. manufacturing facilities
- iii. oil and gas/mining facilities
- iv. hazardous waste treatment, storage, or disposal facilities
- v. landfills, land application sites, and open dumps
- vi. recycling facilities
- vii. steam electric power generating facilities
- viii. transportation facilities
- ix. sewage of wastewater treatment works
- x. light manufacturing facilities

"Vehicle Maintenance/Material Storage Facilities/Corporation Yards" means any Permittee owned or operated facility or portion thereof that:

- i. Conducts industrial activity, operates equipment, handles materials, and provides services similar to Federal Phase I facilities;
- ii. Performs fleet vehicle service/maintenance on ten or more vehicles per day including repair, maintenance, washing, and fueling;
- iii. Performs maintenance and/or repair of heavy industrial machinery/equipment ; and
- iv. Stores chemicals, raw materials, or waste materials in quantities that require a hazardous materials business plan or a Spill Prevention, Control , and Counter-measures (SPCC) plan.

“Water Quality Standards and Water Quality Objectives” means water quality criteria contained in the Basin Plan, the California Ocean Plan, the National Toxics Rule, the California Toxics Rule, and other state or federally approved surface water quality plans. Such plans are used by the Regional Board to regulate all discharges, including storm water discharges.

“Waters of the State” means any surface water or groundwater, including saline waters, within boundaries of the state.

“Waters of the United States” or “Waters of the U.S.” means:

- a. All waters that are currently used, were used in the past, or may be susceptible to use in interstate or foreign commerce, including all waters which are subject to the ebb and flow of the tide;
- b. All interstate waters, including interstate “wetlands”;
- c. All other waters such as intrastate lakes, rivers, streams (including intermittent streams), mudflats, sandflats, “wetlands,” sloughs, prairie potholes, wet meadows, playa lakes, or natural ponds the use, degradation, or destruction of which would affect or could affect interstate or foreign commerce including any such waters:
 1. Which are or could be used by interstate or foreign travelers for recreational or other purposes;
 2. From which fish or shellfish are or could be taken and sold in interstate or foreign commerce; or
 3. Which are used or could be used for industrial purposes by industries in interstate commerce;
- d. All impoundments of waters otherwise defined as waters of the United States under this definition;
- e. Tributaries of waters identified in paragraphs (a) through (d) of this definition;
- f. The territorial sea; and
- g. “Wetlands” adjacent to waters (other than waters that are themselves wetlands) identified in paragraph (a) through (f) of this definition.

Waste treatment systems, including treatment ponds or lagoons designed to meet the requirements of CWA (other than cooling ponds as defined in 40 CFR 423.22(m), which also meet the criteria of this definition) are not waters of the United States. This exclusion applies only to man-made bodies of water, which neither were originally created in waters of the United States (such as disposal area in wetlands) nor resulted from the impoundment of waters of the United States. Waters of the United States do not include prior converted cropland. Notwithstanding the determination of an area’s status as prior converted cropland by any other federal agency, for the purposes of the CWA, the final authority regarding CWA jurisdiction remains with USEPA.

“Wave Wash” means the point at which a storm drain or creek empties and the effluent from the storm drain initially mixes with the receiving ocean water.

“Wet Season” means the calendar period beginning October 1 through April 15.

Part 6. STANDARD PROVISIONS

A. Standard Requirements

1. Each Permittee shall comply with all provisions and requirements of this permit.
2. Should a Permittee discover a failure to submit any relevant facts or that it submitted incorrect information in a report, it shall promptly submit the missing or correct information.
3. Each Permittee shall report all instances of non-compliance not otherwise reported at the time monitoring reports are submitted.
4. This Order includes the attached Monitoring and Reporting Program, and SUSMP(Regional Board Resolution No. R00-02), which are a part of the permit and must be complied with in the same manner as with the rest of the requirements in the permit.

B. Regional Board Review

Any formal determination or approval made by the Regional Board Executive Officer pursuant to the provisions of this Order may be reviewed by the Regional Board. A Permittee(s) or a member of the public may request such review upon petition within 30 days of the effective date of the notification of such decision to the Permittee(s) and interested parties on file at the Regional Board.

C. Public Review

1. All documents submitted to the Regional Board in compliance with the terms and conditions of this Order shall be made available to members of the public pursuant to the Freedom of Information Act (5 U.S.C. § 552 (as amended) and the Public Records Act (Cal. Government Code § 6250 *et seq.*).
2. All documents submitted to the Regional Board Executive Officer for approval shall be made available to the public for a 30-day period to allow for public comment.

D. Duty to Comply

1. Each Permittee must comply with all of the terms, requirements, and conditions of this Order. Any violation of this order constitutes a violation of the Clean Water Act, its regulations and the California Water Code, and is grounds for enforcement action, Order termination, Order revocation and reissuance, denial of an application for reissuance; or a combination thereof [40 CFR 122.41(a), CWC § 13261, 13263, 13265, 13268, 13300, 13301, 13304, 13340, 13350].
2. A copy of these waste discharge specifications shall be maintained by each Permittee so as to be available during normal business hours to Permittee employees and members of the public.

3. Any discharge of wastes at any point(s) other than specifically described in this Order is prohibited, and constitutes a violation of the Order.

E. Duty to Mitigate [40 CFR 122.41 (d)]

Each Permittee shall take all reasonable steps to minimize or prevent any discharge that has a reasonable likelihood of adversely affecting human health or the environment.

F. Inspection and Entry [40 CFR 122.41(i), CWC § 13267]

The Regional Board, USEPA, and other authorized representatives shall be allowed:

1. Entry upon premises where a regulated facility is located or conducted, or where records are kept under conditions of this Order;
2. Access to copy any records, at reasonable times, that are kept under the conditions of this Order;
3. To inspect at reasonable times any facility, equipment (including monitoring and control equipment), practices, or operations regulated or required under this Order; and,
4. To photograph, sample, and monitor at reasonable times for the purpose of assuring compliance with this Order, or as otherwise authorized by the CWA and the CWC.

G. Proper Operation and Maintenance [40 CFR 122.41 (e), CWC § 13263(f)]

The Permittees shall at all times properly operate and maintain all facilities and systems of treatment (and related appurtenances) that are installed or used by the Permittees to achieve compliance with this Order. Proper operation and maintenance includes adequate laboratory controls and appropriate quality assurance procedures. This provision requires the operation of backup or auxiliary facilities or similar system that are installed by a Permittee only when necessary to achieve compliance with the conditions of this Order.

H. Signatory Requirements [40 CFR 122.41(k) & 122.22]

Except as otherwise provided in this Order, all applications, reports, or information submitted to the Regional Board shall be signed by the Director of Public Works, City Engineer, or authorized designee and certified as set forth in 40 CFR 122.22.

I. Reopener and Modification [40 CFR 122.41(f) & 122.62]

1. This Order may only be modified, revoked, or reissued, prior to the expiration date, by the Regional Board, in accordance with the procedural requirements of the CWC and CCR Title 23 for the issuance of waste

discharge requirements, 40 CFR 122.62, and upon prior notice and hearing, to:

- a) Address changed conditions identified in the required reports or other sources deemed significant by the Regional Board;
 - b) Incorporate applicable requirements or statewide water quality control plans adopted by the State Board or amendments to the Basin Plan;
 - c) Comply with any applicable requirements, guidelines, and/or regulations issued or approved pursuant to CWA Section 402(p); and/or,
 - d) Consider any other federal, or state laws or regulations that became effective after adoption of this Order.
2. After notice and opportunity for a hearing, this Order may be terminated or modified for cause, including, but not limited to:
- a) Violation of any term or condition contained in this Order;
 - b) Obtaining this Order by misrepresentation, or failure to disclose all relevant facts; or,
 - c) A change in any condition that requires either a temporary or permanent reduction or elimination of the authorized discharge.
3. The filing of a request by the Principal Permittee or Permittees for a modification, revocation and re-issuance, or termination, or a notification of planned changes or anticipated noncompliance does not stay any condition of this Order.
4. This Order may be modified to make corrections or allowances for changes in the permitted activity listed in this section, following the procedures at 40 CFR 122.63, if processed as a minor modification. Minor modifications may only:
- a) Correct typographical errors, or
 - b) Require more frequent monitoring or reporting by the Permittee.

J. Severability

The provisions of this permit are severable; and if any provision of this permit or the application of any provision of this permit to any circumstance is held invalid, the application of such provision to other circumstances and the remainder of this permit shall not be affected.

K. Duty to Provide Information [40 CFR 122.41(h)]

The Permittees shall furnish, within a reasonable time, any information the Regional Board or USEPA may request to determine whether cause exists for

modifying, revoking and reissuing, or terminating this Order. The Permittees shall also furnish to the Regional Board, upon request, copies of records required to be kept by this Order.

L. Twenty-four Hour Reporting [40 CFR 122.41(l)(6)]⁸

1. The Permittees shall report to the Regional Board any noncompliance that may endanger health or the environment. Any information shall be provided orally within 24 hours from the time any Permittee becomes aware of the circumstances. A written submission shall also be provided within five days of the time the Permittee becomes aware of the circumstances. The written submission shall contain a description of the noncompliance and its cause; the period of noncompliance, including exact dates and times and, if the noncompliance has not been corrected, the anticipated time it is expected to continue; and steps taken or planned to reduce, eliminate, and prevent reoccurrence of the noncompliance.
2. The Regional Board may waive the required written report on a case-by-case basis.

M. Bypass [40 CFR 122.41(m)]⁹

Bypass (the intentional diversion of waste streams from any portion of a treatment facility) is prohibited. The Regional Board may take enforcement action against Permittees for bypass unless:

1. Bypass was unavoidable to prevent loss of life, personal injury or severe property damage. (Severe property damage means substantial physical damage to property, damage to the treatment facilities that causes them to become inoperable, or substantial and permanent loss of natural resources that can reasonably be expected to occur in the absence of a bypass. Severe property damage does not mean economic loss caused by delays in production.);
2. There were no feasible alternatives to bypass, such as the use of auxiliary treatment facilities, retention of untreated waste, or maintenance during normal periods of equipment down time. This condition is not satisfied if adequate back-up equipment should have been installed in the exercise of reasonable engineering judgment to prevent a bypass that could occur during normal periods of equipment downtime or preventive maintenance;
3. The Permittee submitted a notice at least ten days in advance of the need for a bypass to the Regional Board; or,

⁸ This provision applies to incidents where effluent limitations (numerical or narrative) as provided in this Order or in the Los Angeles County SQMP are exceeded, and which endanger public health or the environment.

⁹ This provision applies to the operation and maintenance of storm water controls and BMPs as provided in this Order or in the SQMP.

4. Permittees may allow a bypass to occur that does not cause effluent limitations to be exceeded, but only if it is for essential maintenance to assure efficient operation. In such a case, the above bypass conditions are not applicable. The Permittee shall submit notice of an unanticipated bypass as required.

N. Upset [40 CFR 122.41(n)]¹⁰

Upset means an exceptional incident in which there is unintentional and temporary noncompliance with technology based permit effluent limitations because of factors beyond the reasonable control of the permittee. An upset does not include noncompliance to the extent caused by operational error, improperly designed treatment facilities, inadequate treatment facilities, lack of preventive maintenance, or careless or improper operation.

1. A Permittee that wishes to establish the affirmative defense of an upset in an action brought for non compliance shall demonstrate, through properly signed, contemporaneous operating logs, or other relevant evidence that:
 - a) An upset occurred and that the Permittee can identify the cause(s) of the upset;
 - b) The permitted facility was being properly operated by the time of the upset;
 - c) The Permittee submitted notice of the upset as required; and,
 - d) The Permittee complied with any remedial measures required.
2. No determination made before an action for noncompliance, such as during administrative review of claims that non-compliance was caused by an upset, is final administrative action subject to judicial review.
3. In any enforcement proceeding, the Permittee seeking to establish the occurrence of an upset has the burden of proof.

O. Property Rights [40 CFR 122.41(g)]

This Order does not convey any property rights of any sort, or any exclusive privilege.

P. Enforcement

1. Violation of any of the provisions of the NPDES permit or any of the provisions of this Order may subject the violator to any of the penalties described herein, or any combination thereof, at the discretion of the

¹⁰ *Supra.* See footnote number 3.

prosecuting authority; except that only one kind of penalties may be applied for each kind of violation. The CWA provides the following:

a) Criminal Penalties for:

(1) Negligent Violations:

The CWA provides that any person who negligently violates permit conditions implementing § 301, 302, 306, 307, 308, 318, or 405 is subject to a fine of not less than \$2,500 nor more than \$25,000 per day for each violation, or by imprisonment for not more than 1 year, or both.

(2) Knowing Violations:

The CWA provides that any person who knowingly violates permit conditions implementing § 301, 302, 306, 307, 308, 318, or 405 is subject to a fine of not less than \$5,000 nor more than \$50,000 per day of violation, or by imprisonment for not more than 3 years, or both.

(3) Knowing Endangerment:

The CWA provides that any person who knowingly violates permit conditions implementing § 301, 302, 307, 308, 318, or 405 and who knows at that time that he is placing another person in imminent danger of death or serious bodily injury is subject to a fine of not more than \$250,000, or by imprisonment for not more than 15 years, or both.

(4) False Statement:

The CWA provides that any person who knowingly makes any false material statement, representation, or certification in any application, record, report, plan, or other document filed or required to be maintained under the Act or who knowingly falsifies, tampers with, or renders inaccurate, any monitoring device or method required to be maintained under the Act, shall upon conviction, be punished by a fine of not more than \$10,000 or by imprisonment for not more than two years, or by both. If a conviction is for a violation committed after a first conviction of such person under this paragraph, punishment shall be by a fine of not more than \$20,000 per day of violation, or by imprisonment of not more than four years, or by both. (See CWA § 309(c)(4))

b) Civil Penalties

The CWA provides that any person who violates a permit condition implementing § 301, 302, 306, 307, 308, 318, or 405 is subject to a civil penalty not to exceed \$27,500 per day for each violation.

2. The CWC provides that any person who violates a waste discharge requirement provision of the CWC is subject to civil penalties of up to \$5,000 per day, \$10,000 per day, or \$25,000 per day of violation; or when the violation involves the discharge of pollutants, is subject to civil penalties of up to \$10 per gallon per day or \$25 per gallon per day of

violation; or some combination thereof, depending on the violation or combination of violations.

Q. Need to Halt or Reduce Activity not a Defense [40 CFR 122.41(c)]

It shall not be a defense for a Permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this Order.

R. Rescission

Regional Board Order No. 96-054 is hereby rescinded.

S. Expiration

This Order expires on December 12, 2006. The Permittees must submit a Report of Waste Discharges and a proposed Storm Water Quality Management Program in accordance with CCR Title 23 as application for reissuance of waste discharge requirements no later than June 12, 2006.

I, Dennis A. Dickerson, Regional Board Executive Officer, do hereby certify that the foregoing is a full, true, and correct copy of an order adopted by the California Regional Water Quality Control Board, Los Angeles Region, on December 13, 2001.

Dennis A. Dickerson
Executive Officer

UNDERLINE/STRIKEOUT VERSION OF CHANGES TO SHORELINE MONITORING REQUIREMENTS
MADE ON JUNE 15, 2005

State of California
CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
LOS ANGELES REGION
MONITORING AND REPORTING PROGRAM - CI 6948
FOR
ORDER No. 01-182
NPDES No. CAS004001
MUNICIPAL STORM WATER AND URBAN RUNOFF DISCHARGES WITHIN THE
COUNTY OF LOS ANGELES, AND THE INCORPORATED CITIES, EXCEPT THE CITY OF
LONG BEACH

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I. Program Reporting Requirements

The Principal Permittee shall submit, no later than October 15 of each year beginning in the year 2002, a Unified Annual Storm Water Report (Unified Annual Report) documenting the progress of Permittees' implementation of the SQMP and the requirements of this Order. The Unified Annual Report shall contain a section covering common activities conducted collectively by the Permittees, and an integrated summary of the Monitoring Program results. Each Permittee shall submit an Individual Annual Report to the Principal Permittee, by the date determined by the Principal Permittee, to be included in the Unified Annual Report. The Unified Annual Reports shall cover each fiscal year from July 1 through June 30. The first Unified Annual Report, to be submitted on October 15, 2002, shall report for the period from July 1, 2001 through June 30, 2002. Specific requirements that must be addressed in the Annual Reports are listed below.

A. Unified Annual Report

The Principal Permittee shall include the following in the Unified Annual Report:

1. A compilation of Permittee Individual Annual Reports.
2. Proposed changes to the SQMP, as recommended by the WMCs.
3. An assessment of the effectiveness of SQMP requirements to reduce storm water pollution. This assessment shall be comprised of a compilation of watershed-wide assessments conducted by each WMC. Assessments shall be based upon the specific record-keeping information requirement in each section of the permit, monitoring data, summaries of program effectiveness from each Permittee, and any other information related to program effectiveness. The program assessment shall include summaries of the following:
 - a) Summary of common activities conducted by all Permittees;
 - b) WMA BMP implementation;
 - c) Identification of management measures proven to be effective and/or ineffective at reducing urban runoff pollutants and flow;
 - d) Permittee level of effort, as indicated in their Individual Annual Report self evaluations (Attachment U-4, section VI); and
 - e) Integrated summary of Monitoring Program results, including the identification of water quality improvements or degradation, and recommendations for improvements to the SQMP (including proposed BMPs) based on the results from the Monitoring Program.

4. Pursuant to Part 2 of this Order, after a determination by either a Permittee or the Regional Board that discharges are causing or contributing to an exceedance of an applicable Water Quality Standard, a Receiving Water Limitations (RWL) Compliance Report shall be attached to the subsequent Unified Annual Report. A status RWL Compliance Report shall be submitted every alternate year following the submittal of the first Report. The RWL Compliance Report shall include the following:
 - a) A plan to comply with the RWL (Part 2 of this Order);
 - b) Changes to the SQMP to eliminate water quality exceedances;
 - c) Enhanced monitoring to demonstrate compliance; and
 - d) Results of implementation.

After all water quality exceedances have been abated, a RWL Compliance Report is not required.

B. Individual Annual Reports

Each Individual Annual Report shall document and describe all activities conducted by a Permittee to meet all requirements of this Order, during the completed annual reporting period. Individual Annual Reports shall use the attached form (Attachment U-4), or create another reporting format that includes all items on the attached form. Each Permittee shall complete the form in its entirety, except for those requirements applicable only to the Principal Permittee, as indicated on the form. Status of compliance with permit requirements including implementation dates for all time-specific deadlines should be included for each program area. If permit deadlines are not met, Permittees shall report the reasons why the requirement was not met and how the requirements will be met in the future, including projected implementation dates. A comparison of program implementation results to performance standards established in this Order and in the SQMP shall be included for each program area.

C. Monitoring Program Management

The Principal Permittee shall submit a Storm Water Monitoring Report (Monitoring Report) on August 15, 2002, and annually on August 15, thereafter. The Monitoring Report to be submitted on August 15, 2002 shall include the results of monitoring from July 1, 2001 through June 30, 2002. Each Monitoring Report shall include:

1. Status of implementation of the Monitoring Program.
2. Data, results, methods of evaluating the data, graphical summaries of the data, and an explanation/discussion of the data for each component of the monitoring program, including any specific reporting requirements included in Section II. Monitoring Program.
3. An analysis of the findings of each Monitoring Program component. The analysis shall identify and prioritize water quality problems. Based on the identification and prioritization of water quality problems, the analysis shall identify potential sources of the problems, and recommend future

monitoring and BMP implementation measures for identifying and addressing the sources. The analysis shall also include an evaluation of the effectiveness of existing control measures.

4. Identification and analysis of any long-term trends in storm water or receiving water quality.
5. An estimation of total pollutant loads due to storm water/urban runoff for each mass emission station.
6. A comparison to the applicable Water Quality Standards for each component of the Monitoring Program. The lowest applicable standard from the Basin Plan, the Ocean Plan, or the CTR shall be used for comparison. Constituents that exceed applicable Water Quality Standards shall be highlighted. When data indicate that discharges are causing or contributing to exceedances of applicable Water Quality Standards, a discussion of possible pollutant sources shall be included in the Monitoring Report and a RWL Compliance Report (Section I.A.4) shall be submitted with the subsequent Unified Annual Report.
7. For each monitoring component, maps of all monitoring station locations and descriptions of each location.
8. All Monitoring Reports shall be submitted in both electronic and paper formats.

D. Integrated Receiving Water Impacts Report

The Principal Permittee shall, not later than August 15, 2005, prepare and submit an Integrated Receiving Water Impacts Report, which may also serve as the fourth-year Monitoring Report. The Report shall include, but not be limited to, a comprehensive analysis of the results of the data from each component of the Monitoring Program, and other pertinent studies available, and feasible environmental indicators. It should also include a budget summary for each monitoring requirement and recommendations on future monitoring requirements. This report will be an integral part of the next ROWD.

E. Certification

All applications, reports, or information submitted to the Regional Board shall be signed and certified pursuant to US EPA regulations at 40 CFR 122.41 (k). Each report shall contain the following completed declaration:

"I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted.

Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for

submitting false information, including the possibility, of a fine and imprisonment for knowing violations.

Executed on the ___ day of _____, 20__,

at _____.

(Signature) _____ (Title) _____";

Permittee submittals to the Principal Permittee shall also be signed and certified pursuant to USEPA regulations 40 CFR 122.41 (k).

The Principal Permittee shall submit the original of each Unified Annual Report to:

INFORMATION TECHNOLOGY
CALIFORNIA REGIONAL WATER QUALITY
CONTROL BOARD - LOS ANGELES REGION
320 W. 4TH STREET, SUITE 200
LOS ANGELES, CA 90013

A copy of the Unified Annual Report shall also be mailed to:

REGIONAL ADMINISTRATOR
ENVIRONMENTAL PROTECTION AGENCY
REGION 9
75 Hawthorne Street
San Francisco, CA 94105

II. Monitoring Program

The primary objectives of the Monitoring Program include, but are not limited to:

- Assessing compliance with this Order;
- Measuring and improving the effectiveness of the SQMPs;
- Assessing the chemical, physical, and biological impacts of receiving waters resulting from urban runoff;
- Characterization of storm water discharges;
- Identifying sources of pollutants; and
- Assessing the overall health and evaluating long-term trends in receiving water quality.

Ultimately, the results of the monitoring requirements outlined below should be used to refine the SQMP for the reduction of pollutant loadings and the protection and enhancement of the beneficial uses of the receiving waters in Los Angeles County.

The Principal Permittee and Permittees shall implement the Monitoring Program as follows:

CORE MONITORING

A. Mass Emissions

The Principal Permittee shall monitor mass emissions to accomplish the following objectives:

- Estimate the mass emissions from the MS4;
- Assess trends in the mass emissions over time; and
- Determine if the MS4 is contributing to exceedances of Water Quality Standards by comparing results to applicable standards in the Basin Plan, the Ocean Plan, or the CTR, and with emissions from other dischargers.

1. The Principal Permittee shall monitor mass emissions from the following seven mass emission stations: Ballona Creek, Malibu Creek, Los Angeles River, San Gabriel River, Coyote Creek, Dominguez Channel, and the Santa Clara River. The Principal Permittee shall monitor the first storm event and a minimum of 2 additional storm events for each season. A minimum of two dry weather samples per year at each mass emission station shall also be analyzed. Sampling at all stations shall begin no later than February 1, 2002, except for sampling in the Santa Clara River, which will begin no later than October 15, 2002.
2. All storms events, in addition to those required above, that result in at least 0.25 inches of rainfall shall be sampled and analyzed for TSS. Results shall be used to assess the variability of storm water constituents and provide a more accurate estimate of mass emissions (pollutant correlation with TSS). This requirement does not apply to manual sampling stations.
3. Samples for mass emission monitoring may be taken with the same type of automatic sampler used under Order 96-054. Grab samples shall be taken for pathogen indicators and oil and grease. The samplers shall be set to monitor storms that produce 0.25 inches or greater of rainfall.

Samples taken at mass emission stations during the first storm event of the wet season shall be analyzed for all constituents listed in Attachment U-1.

4. Manual samples shall be collected from mass emission stations where it is not feasible to install an automatic sampler (Santa Clara River). Manual samples shall be flow-weighted composites, collected during the first 3 hours, or for the duration of the storm if it is less than 3 hours. A minimum of 3 sample aliquots, separated by a minimum of 15 minutes, shall be taken within each hour of discharge¹, unless the Regional Board Executive Officer approves an alternate protocol.
5. Samples from mass emission stations shall be analyzed for all constituents listed in Attachment U-1. If a constituent is not detected at the method detection limit for its respective test method listed in Attachment U-1 in more than 75 percent of the first 48 sampling events, it need not be further analyzed unless the observed occurrences show concentrations greater than state water quality standards. The Principal Permittee will also conduct annual confirmation sampling for non-detected constituents during the first storm of the wet season every year at each station.
6. The Principal Permittee shall perform an annual analysis, to be included in the Monitoring Report, of the correlation between pollutants of concern (including but not limited to metals and PAHs) and TSS loadings for the sampling events that are analyzed for the complete list of constituents.

B. Water Column Toxicity Monitoring

The Principal Permittee shall analyze mass emission samples for toxicity to evaluate the extent and causes of toxicity in receiving waters and to modify and utilize the SQMP to implement practices that eliminate or reduce sources of toxicity in storm water.

1. The Principal Permittee shall analyze samples from two storm events (including the first storm of each year) and two dry weather events from each mass emission station for toxicity every year. A minimum of one freshwater and one marine species shall be used for toxicity testing for each station event. Specifically, *Ceriodaphnia dubia* (water flea) 7-day survival/reproduction and *Strongylocentrotus purpuratus* (sea urchin) fertilization tests shall be used. These tests should include a dilution series (0.5x steps) that ranges from the undiluted sample (or the highest concentration that can be tested within the limitations of the test methods or sample type) to less than or equal to 6% sample.
2. Toxicity Identification Evaluations (TIE)

The Principal Permittee shall begin a Phase I TIE immediately on all samples that are substantially toxic (greater than or equal to 1 Toxic Unit)

¹ Required in 40 CFR 122.21(g)(7)(ii), and described in NPDES Storm Water Sampling Guidance Document EPA 833-B-92-001. Time-weighted samples may be appropriate if flow is measured during sampling.

to either test species.² If a sample is substantially toxic to both species, a TIE shall be performed for both species. The Phase I TIE shall include the following treatments and corresponding blanks:

- a) Baseline toxicity;
- b) Particle removal by centrifugation;
- c) Solid phase extraction of the centrifuged sample using C18 media;
- d) Complexation of metals using ethylenediaminetetraacetic acid (EDTA) addition to the raw sample;
- e) Neutralization of oxidants/metals using sodium thiosulfate addition to the raw sample; and
- f) Inhibition of organo-phosphate (OP) pesticide activation using piperonyl butoxide addition to the raw sample (crustacean toxicity tests only).

3. Toxicity Reduction Evaluations (TRE)

- a) When the same pollutant or class of pollutants is identified through the TIE process as causing at least 50% of the toxic responses in at least 3 samples at a sampling location, a TRE shall be performed for that identified toxic pollutant. TRE development shall be performed by a neutral third party (retained by the Principal Permittee), with input from Permittees and Regional Board staff. The TRE shall include all reasonable steps to identify the source(s) of toxicity and discuss appropriate BMPs to eliminate the causes of toxicity. Once the source of toxicity and appropriate BMPs are identified, the Principal Permittee shall submit the TRE to the Regional Board Executive Officer for approval. At a minimum, it shall include a discussion of the following items:
 - (1) The potential sources of pollutant(s) causing toxicity;
 - (2) A list of municipalities that may have jurisdiction over sources of pollutant(s) causing toxicity;
 - (3) Recommended BMPs to reduce the pollutant(s) causing toxicity;
 - (4) Proposed changes to the SQMP to reduce the pollutant(s) causing toxicity; and
 - (5) Suggested follow-up monitoring to demonstrate that toxicity has been removed.

² Substantial toxicity means the amount of toxicity necessary to successfully conduct a Phase I TIE. Toxic Units are calculated by dividing 100 by the calculated median test response value (e.g., LC50 or EC50). For example, a LC50 of 50% sample equals 2 Toxic Units. Ceriodaphnia TIEs require at least 50% mortality in undiluted sample (1 Toxic Unit) at any time during the 7-day duration of the initial chronic bioassay (SCCWRP).

- b) Since the Phase I TIEs may only identify a broad category of toxicants (e.g., nonpolar organics), additional TIE analyses may be required in order to identify or confirm the identity of the pollutants causing toxicity before the TRE can be completed.
- c) If TRE implementation for a specific pollutant coincides with TMDL implementation for that pollutant, the efforts may be coordinated.
- d) Upon approval by the Regional Board Executive Officer, the Permittee(s) having jurisdiction over sources causing or contributing to toxicity shall implement the recommended BMPs and take all reasonable steps necessary to eliminate toxicity.
- e) The Principal Permittee shall be responsible for the development of a maximum of two TREs per year. If applicable, the Principal Permittee may use the same TRE for the same toxic pollutant or pollutant class in different watersheds. The TRE process shall be coordinated with TMDL development and implementation (ie. If a TMDL for zinc is being implemented when a TRE for zinc is required, the efforts shall be coordinated to avoid overlap).
- f) The Principal Permittee shall report on the development, implementation, and results for each TRE in the annual Monitoring Report, beginning the year following the identification of each pollutant or pollutant class causing toxicity.

C. Tributary Monitoring

The Principal Permittee shall monitor tributaries to identify sub-watersheds where storm water discharges are causing or contributing to exceedances of Water Quality Standards, and to prioritize drainage and sub-drainage areas that need management actions.

1. The Principal Permittee shall develop and implement a watershed-based tributary monitoring program, in which a minimum of six tributaries per year will be monitored, based on the schedule described below:
 - a) Monitoring station locations will be rotated so that a minimum total of six tributaries will be monitored per year. Each tributary shall be monitored for a minimum period of one year. If no exceedances of applicable water quality standards occur during one year of monitoring at a single tributary station, the Principal Permittee may move that monitoring station to another tributary, subject to the approval of the Regional Board Executive Officer. When an applicable water quality standard is exceeded in three out of four sampling events in a given monitoring year, the Permittees shall initiate a focused effort to identify sources of pollutants within that subwatershed.
 - b) Tributary monitoring shall begin in the Los Angeles River WMA, and shall be rotated to locations in other watersheds as monitoring at each station is complete, as approved by the Regional Board Executive Officer. The Principal Permittee shall include a

description and explanation of each proposed station location and a summary of the prior year's results of the tributary monitoring program in the annual Monitoring Report.

c) Monitoring shall begin at the following tributaries:

- (1) Aliso Creek;
- (2) Bull Creek;
- (3) Arroyo Seco Channel;
- (4) Rio Hondo Channel;
- (5) Burbank West; and
- (6) Verdugo Wash.

2. Tributary monitoring shall begin October 15, 2002.

3. The Principal Permittee shall monitor the first storm event and at least 3 additional storm events during each storm season. At least one dry weather flow per year will also be sampled at each station.

4. Samples shall be flow-weighted composites, collected during the first 3 hours or for the duration of the storm if it is less than 3 hours. Samples may be collected manually or automatically. A minimum of 3 sample aliquots, separated by a minimum of 15 minutes, shall be taken within each hour of discharge³, unless the Regional Board Executive Officer approves an alternate protocol. Samples shall be taken just upstream of the tributary's confluence with the mainstem. Constituents to be analyzed for each location shall include the following:

- a) pH, dissolved oxygen, temperature, conductivity, and total suspended solids;
- b) Indicator bacteria;
- c) All priority pollutants (Attachment U-1) for the first storm of the year;
- d) All constituents for which the water body is impaired downstream of the monitoring station;⁴
- e) All constituents that caused toxicity or exceeded any applicable water quality criteria at the associated mass emission station the previous year (these constituents shall be listed in each Monitoring Report); and
- f) Flow (flow may be estimated using EPA methods⁵ at sites where flow measurement devices are not in place).

³ Required in 40 CFR 122.21(g)(7)(ii), and described in NPDES Storm Water Sampling Guidance Document EPA 833-B-92-001. Time-weighted samples may be appropriate if flow is measured during sampling.

⁴ The 1998 California 303(d) List and TMDL Priority Schedule lists pollutants for which each water body is impaired, www.swrcb.ca.gov/tmdl/docs/303d98.pdf#reg4

⁵ NPDES Storm Water Sampling Guidance Document, EPA 833-B-92-001, July 1992

D. Shoreline Monitoring

The City of Los Angeles shall monitor shoreline stations to evaluate the impacts to coastal receiving waters and the loss of recreational beneficial uses resulting from storm water/urban runoff. This component shall be integrated and coordinated with similar monitoring programs in the region.

1. The City of Los Angeles shall monitor eighteen water quality sampling stations and supplement the monitoring conducted by the County of Los Angeles Department of Health Services at two additional water quality stations along the shoreline of the Pacific Ocean within the Santa Monica Bay to determine compliance with the California's bathing water standards for public beaches and ocean water-contact sport areas⁶, and the related impacts of discharges from storm drains and piers. The shoreline monitoring program shall be implemented as follows:

- a) The eighteen established shoreline water quality stations listed in Attachment U-2 shall be monitored. Station locations may be modified based on recommendations from the Santa Monica Bay Restoration Project Commission (SMBRPSMBRC) and approval from the Regional Board Executive Officer⁷;
- b) The City of Los Angeles shall supplement the weekly sampling done by the Los Angeles Department of Health Services at two additional shoreline monitoring locations, Manhattan Beach at 28th Street (DHS 113) and the Herondo storm drain (DHS 115), to increase sampling frequency at these sites to 5 times per week.
- c) The City of Los Angeles shall evaluate three additional sites, Temescal Canyon (DHS 102), Bel Air Bay Club (DHS 103), and Montana Avenue (DHS 104), for storm water impact and the necessity of increasing monitoring frequency to 5 times per week. The City of Los Angeles shall report its findings to the Regional Board no later than September 16, 2005. The Regional Board Executive Officer will make a final determination regarding sampling frequency at these sites on the basis of the report. If more frequent sampling is required at one or more of these sites by the Regional Board, the City of Los Angeles shall supplement, as necessary, the weekly sampling done by the Los Angeles County Department of Health Services to increase the sampling frequency to 5 times per week until this Order is re-adopted.
- b)d) Three indicator groups shall be tested for using either membrane filtration, multiple tube fermentation, or chromogenic substrate test kits. Monitoring shall include the following types and frequencies of sampling:

Parameter	Units	Sample Frequency
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⁶ California Department of Health Services, Health and Safety Code §115880 (Assembly Bill 411, Statutes of 1997, Chapter 765)

⁷ Station locations were modified based on the recommendations of the SMBRC TAC at its November 23, 2004 meeting on ~~insert~~ [date] to align the shoreline monitoring program contained herein with that of the Santa Monica Bay Beaches Bacterial TMDLs Coordinated Shoreline Monitoring Plan, April 7, 2004, developed to assess compliance with the requirements of the Bacteria TMDLs for Santa Monica Bay Beaches.

Total coliforms	CFU or MPN/100 ml	6/week (Mon-Sat) ⁸
Fecal coliform ⁹	CFU or MPN/100 ml	6/week (Mon-Sat) ⁵
Enterococcus	CFU or MPN/100 ml	6/week (Mon-Sat) ⁶

- e) Sample frequency shall be either weekly or 5 times per week, depending upon historical shoreline monitoring data. Days not sampled shall be Sundays and Mondays or Tuesdays. Sampling shall be conducted 5 times per week at shoreline monitoring sites with historical water quality that is worse than the reference beach identified in the Santa Monica Bay Beaches Bacteria TMDLs (Resolutions 2002-004 and 2002-022). Systematic weekly sampling shall be conducted at shoreline monitoring sites with historical water quality that is as good as or better than the reference beach.¹⁰
- (1) Sampling shall be conducted 5 times per week at the following sites listed in Attachment U-2: S1, S2, S4, S5, S6, S7, S9, S10, and S16.
- (2) Sampling shall be conducted once per week at the following sites listed in Attachment U-2: S3, S8, S11, S12, S13, S14, S15, S17, and S18.
- e)f) Shoreline monitoring shall occur during daylight hours. Samples may be omitted in the event of hazardous weather;
- d)g) Shoreline monitoring frequencies at certain stations may be modified based on the use of the adjacent beaches and their proximity to storm drains, as recommended by the SMBRP's SMBRC's Technical Advisory Committee and the Los Angeles County Department of Health Services (LA County DHS).
- e)h) Data collected shall be transmitted daily to the LA County DHS. The City of Los Angeles will annually assess the data and submit it to the Principal Permittee for inclusion in the Monitoring Report;
- f)i) When exceedances of public health standards for bacteria occur, the LA County DHS shall take the appropriate action, as described in the Regulations for Public Beaches and Ocean Water-Contact Sports Areas.¹¹
- g)j) The City of Los Angeles will continue to conduct all monitoring, testing, and data transferring actions as part of the Santa Monica Bay Restoration Commission (SMBRPC) Regional Program for the Santa Monica Bay.

⁸ Samples will be collected on Sundays preceding Monday holidays

⁹ Escherichia Coli (E. Coli) may be substituted for Fecal Coliform if chromogenic substrate test kits are used

¹⁰ As recommended by the SMBRC at its November 23, 2004 meeting, and approved by the Regional Board Executive Officer on insert date.

¹¹ Regulations for Public Beaches and Ocean Water-Contact Sports Areas, Title 17 CCR Group 10, developed in response to Health and Safety Code §115880

E. Trash Monitoring

To assess the quantities of trash in receiving waters after storm events and to identify areas impaired for trash, the Principal Permittee shall conduct visual observations of trash and take a minimum of one photograph at each mass emission station after the first storm event and 3 additional storm events per year.

Monitoring and Reporting Program No. 6948

1. The Principal Permittee and Permittees in the Los Angeles River and Ballona Creek WMAs (listed in Permit Attachment A) shall develop and implement a trash monitoring program for the Los Angeles River and Ballona Creek watersheds no later than October 15, 2002. The monitoring program and schedule shall be consistent with and pursuant to CWC §13267 "Request for Trash Monitoring", issued by the Regional Board on December 21, 2001. For the first two years of monitoring, either of the following formats for monitoring plans may be used:
 - a) For each watershed, the group of Permittees in that watershed will capture and quantify trash from an area no less than 10% of the total land area over which they have jurisdiction. The monitoring areas shall represent 10% of every land use the group of Permittees has jurisdiction over. If storm drain configuration versus land use make the representation of 10% of a land use infeasible, the Permittees can choose areas that represent their land uses as accurately as possible, as long as the extent of the surface being monitored represents 10%. This monitoring shall use full capture devices. During wet weather, all sampling devices will be emptied within 72 hours of every rain event of 0.25 inch or greater. During dry weather, sampling devices will be emptied and analyzed every three months in the absence of precipitation.
 - b) For each watershed, the group of Permittees in that watershed will sample a minimum of ten representative sites for each land use monitored. For each sampling site, a minimum of five catch basins will be fitted with inserts, for a total of not less than 50 catch basin inserts per land use monitored. The existing litter removal practices that the cities implement will remain in place, so that monitoring will evaluate how much trash is washed into the system under current practices. A structural full capture device shall be installed downstream of at least one sampling site for each land use monitored. For this sampling site, all of the catch basins that are upstream of the full capture-monitoring device must be fitted with inserts. This configuration will provide information on the relative effectiveness of the catch basin inserts as opposed to the full capture systems in varying land uses and under varying weather conditions. During wet weather, all sampling devices will be emptied within 72 hours of every rain event of 0.25 inch or greater. During dry weather, sampling devices will be emptied and analyzed every three months in the absence of precipitation.
2. Permittees shall report data in a single unit of measure that is reproducible and measures the amount of trash, irrespective of water content (e.g. compacted volume based on a standardized compaction rate, or dry weight). Permittees may select the unit, but all Permittees must use the same unit of measure.
3. Following the first two years of data collection, Permittees shall conduct compliance monitoring, which involves calculating trash loading as a

running three-year average (estimated total load discharged from 2003-2006, divided by three).

4. All trash collected shall be disposed of in compliance with all applicable State, federal, and local regulations.

REGIONAL MONITORING

The Principal Permittee shall participate on regional monitoring committees to help establish ongoing regional programs that address public health concerns, monitor trends in natural resources and nearshore habitats, and assess regional impacts from all pollutant sources. Regional Monitoring participation shall include, but not necessarily be limited to, the efforts described below.

F. Estuary Sampling

The Southern California Coastal Waters Research Project (SCCWRP), in conjunction with the USEPA, the State Board, three Regional Boards, and participating dischargers, has organized an effort to implement a regional monitoring program for the southern California bight. Previous studies (in 1994 and 1998) included microbiology, water quality, sediment chemistry, sediment toxicity testing, benthic infauna, demersal fish, and bioaccumulation. A similar bight-wide monitoring effort is planned to be conducted in 2003. The Principal Permittee shall participate on the Steering Committee for this bight-wide monitoring project, and complete the estuary sampling requirement described below in parallel with this effort.

In addition to participation in the Bight-wide study, the goal of this requirement is to sample estuaries for sediment chemistry, sediment toxicity, and benthic macroinvertebrate community to determine the spatial extent of sediment fate from storm water, and the magnitude of its effects. A map of each estuary which depicts the impacted areas shall be produced. The maps shall provide the information necessary to conduct effective sediment monitoring to determine trends and accumulation, as a future permit requirement.

1. The Principal Permittee shall sample a maximum of 25 sites in each estuary/mouth (Ballona Creek, Malibu Creek, Los Angeles River, San Gabriel River, and Dominguez Channel) once during the permit term. Sediment samples shall be taken at each station by means of a 0.1m² (1.1 ft²) modified Van Veen sediment grab sampler.
2. The Principal Permittee shall also sample a total of 25 sites outside of the direct outfalls to assess cumulative effects.
3. All samples shall be analyzed for the following:
 - a) Sediment Chemistry (priority pollutants)
 - b) Total Organic Carbon (TOC)
 - c) Grain size
 - d) Sediment Toxicity
 - (1) Amphipod survival bioassays shall be conducted on each sediment sample. Toxicity shall be indicated by an amphipod survival rate of 70% or less in a single test.

- (2) Phase I TIEs of interstitial water, using the amphipod test species, shall be conducted for samples from stations identified to be toxic in a single amphipod survival bioassay.
- e) Benthic Macroinvertebrates
- (1) All sediment samples shall be passed through a 1.0mm (0.039 in) screen to retrieve the benthic organisms. Benthic epifauna and infauna shall be analyzed to determine the structure of the benthic community.
 - (2) The Principal Permittee shall identify all organisms to lowest possible taxon.
 - (3) The Principal Permittee shall determine the Total Biomass of:
 - (i) Mollusks;
 - (ii) Echinoderms;
 - (iii) Annelids/polychaetes
 - (iv) Crustaceans; and
 - (v) All other macroinvertebrates.
 - (4) The Principal Permittee shall determine the community structure analysis, including wet weight of each taxonomic group (listed above), number of species, number of individuals per species, total numerical abundance, species abundance per grab, species richness, species diversity, species evenness and dominance, similarity analysis, cluster analyses, or other appropriate multivariate statistical techniques approved by the Regional Board Executive Officer, and the Infaunal Index¹².
4. The Principal Permittee shall create a map of each estuary depicting degraded areas and the spatial distribution of sediment from storm water. In the Integrated Monitoring Report, the Principal Permittee shall suggest appropriate locations for regular sediment monitoring, based on the results of this study.

G. Bioassessment

The Principal Permittee shall continue participation in the Stormwater Monitoring Coalition (SMC), as well as coordinate with the Surface Water Ambient Monitoring Program (SWAMP) being developed by the State Board to complete the bioassessment requirement. The Regional Board anticipates that the SMC will organize an effort to evaluate the biological index approach for southern California and to design a research project for developing an Index of Biological Integrity (IBI) for this region. The SWAMP has begun work on a statewide effort to determine how to identify reference sites with the goal of IBI development.

¹² Benthic Response Index for Assessing Infaunal Communities on the Mainland Shelf of Southern California, the SCCWRP

The purpose of the bioassessment requirement is to detect biological trends in receiving waters and to collect data for the development of an IBI for southern California. The ultimate goals of bioassessment are to assess the biological integrity of receiving waters, to detect biological responses to pollution, and to identify probable causes of impairment not detected by chemical and physical water quality analysis.

1. The Principal Permittee shall coordinate with the SMC and SWAMP to identify the most appropriate locations for bioassessment stations within Los Angeles County.
2. Station selection shall be complete within one year from the date this Order is adopted, and sampling shall begin no later than October of 2003.
3. The Principal Permittee shall monitor a minimum of 20 bioassessment stations in October of each year, beginning in 2003. A minimum of three replicate samples shall be collected at each station during each sampling event.
4. A professional environmental laboratory shall perform all laboratory, quality assurance, and analytical procedures. The Principal Permittee may collect samples when properly trained in CSBP methods. The Principal Permittee shall develop Standard Operation Procedures (SOPs) for the Bioassessment Monitoring Program that describes all procedures and responsible parties. The SOPs must contain step-by-step field, laboratory and data entry procedures, as well as, related QA/QC procedures. There must also be specific information about the bioassessment program including: assessment program description, its organization and the responsibilities of all its personnel; assessment project description and objectives; qualifications of all personnel; and the type of training each member has received. A copy of the SOPs shall be available to the Regional Board Executive Officer upon request.
5. Field sampling must conform to the SOP established for the California Stream Bioassessment Procedure (CSBP) when appropriate. For sampling of aquatic environments where the CSBP is not appropriate (i.e., an estuary or unwadable stream), California Department of Fish and Game and the Regional Board Executive Officer shall be consulted in order to determine the most appropriate protocol to be implemented. Field crews shall be trained on aspects of the protocol and appropriate safety issues. All field data and sample Chain of Custody (COC) forms must be examined for completion and gross errors by the field crews, the receiving laboratory, and the Principal Permittee. These forms shall be available to California Department of Fish and Game or the Regional Board Executive Officer upon request. Field inspections should be planned with random visits and should be performed by the Principal Permittee, if properly trained in CSBP methods, or an independent auditor. These visits should report on all aspects of the field procedure with corrective action occurring immediately.
6. Taxonomic identification laboratories process the biological samples that usually consist of subsampling organisms, enumerating and identifying taxonomic groups and entering the information into an electronic format.

There should be intra-laboratory QA/QC results for subsampling, taxonomic validation and corrective actions. Biological laboratories should also maintain reference collections, vouchered specimens (the Principal Permittee can request return of their sample voucher collections) and remnant collections. Biological laboratories shall participate in an inter-laboratory (external) taxonomic validation program at a recommended level of 20% for the first two years of the program. If there are no substantial QA/QC problems, the level of external validation may be decreased to 10% in year three upon approval from the Regional Board. External QA/QC should be arranged through the California Department of Fish and Game's Aquatic Bioassessment Laboratory in Rancho Cordova.

7. Sampling, laboratory, quality assurance, and analysis procedures shall follow the standardized "Non-point Source Bioassessment Sampling Procedures" for professional bioassessment as set forth in the California Department of Fish and Game California Stream Bioassessment Procedure (CSBP)¹³. The following results and information shall be included in the annual Monitoring Report:
 - a) All physical, chemical and biological data collected in the assessment;
 - b) Photographs and GPS locations of all stations;
 - c) Documentation of quality assurance and control procedures;
 - d) Analysis that shall include calculation of the metrics used in the CSBP;
 - e) Comparison of mean biological and habitat assessment metric values between stations and year-to-year trends;
 - f) Electronic data formatted to the California Department of Fish and Game Aquatic Bioassessment Laboratory for inclusion in the Statewide Access Bioassessment Database; and
 - g) Copies of all QA/QC documents from laboratories.

SPECIAL STUDIES

H. New Development Impacts Study in the Santa Clara Watershed

The Principal Permittee, with support from the City of Santa Clarita, shall monitor tributaries in the Santa Clara watershed to determine impacts from new development and to compare storm water quality between subwatersheds with and without SUSMPs.

1. The Principal Permittee, in cooperation with the City of Santa Clarita, shall select one station that is representative of a subwatershed in which the majority of development has occurred without SUSMP

¹³ California Stream Bioassessment Procedure (Protocol Brief for Biological and Physical/Habitat Assessment in Wadeable Streams), California Department of Fish and Game - Aquatic Bioassessment Laboratory, May 1999. Located at www.dfg.ca.gov/cabw/protocols.html.

implementation, and one station (SUSMP station) in a subwatershed in which the majority of the development has/will include SUSMP implementation. Other inputs to runoff, such as septic systems, in the two subwatersheds should be similar.

2. The Principal Permittee shall coordinate with the City of Santa Clarita and the Regional Board to develop a proposed study design, including a description of the drainage areas to be monitored and sampling locations, no later than August 1, 2002. If appropriate, this study may be conducted in conjunction with the Peak Discharge Impact Study, described below.
3. The Principal Permittee shall monitor the first storm event and at least 2 additional storm events during each storm season. At least one dry weather event per year will also be sampled at each station.
4. Samples shall be flow-weighted composites, collected during the first 3 hours, or for the duration of the storm if it is less than 3 hours. Samples may be collected manually or automatically. A minimum of 3 sample aliquots, separated by a minimum of 15 minutes, shall be taken within each hour of discharge¹⁴, unless the Regional Board Executive Officer approves alternate protocol. Constituents to be analyzed for each location shall include the following:
 - a) pH, dissolved oxygen, temperature, conductivity, chloride, nitrogen, and TSS;
 - b) Metals: aluminum, arsenic, beryllium, cadmium, chromium, copper, iron, lead, mercury, nickel, selenium, silver, and zinc;
 - c) Pathogen Indicators (Coliform);
 - d) PAHs; and
 - e) Flow (flow may be estimated using EPA methods at sites where flow measurement devices are not in place).
5. The Principal Permittee shall submit an analysis of the data, including a description of each subwatershed, year-to-year changes compared to the amount of development that occurred in each, comparisons between stations, and an analysis of SUSMP effectiveness, with the fourth year Monitoring Report.

I. Peak Discharge Impact Study

The Principal Permittee shall conduct a study to evaluate peak flow control and to determine numeric criteria to prevent or minimize erosion of natural stream channels and banks caused by urbanization.¹⁵ The Principal Permittee may partner with the Ventura County Flood Control District to expand the stream erosion study to the Santa Clara River watershed. The study shall begin no later

¹⁴ Required in 40 CFR 122.21(g)(7)(ii), and described in NPDES Storm Water Sampling Guidance Document EPA 833-B-92-001. Time-weighted samples may be appropriate if flow is measured during sampling.

¹⁵ Permit, Part 4.D.2 (Development Planning Program) requires the development of numerical criteria for peak flow control in natural drainage systems.

than August 1, 2002.

J. BMP Effectiveness Study

The Principal Permittee shall conduct or participate in studies to evaluate the effectiveness of structural and treatment control BMPs. The objective of this study shall include the following:

- Monitor the reduction of pollutants of concern in storm water (including, but not limited to: trash, suspended sediment, pathogen indicators, nutrients, heavy metals, and oil and grease) from five or more different types of BMPs that have been properly installed within the year preceding monitoring. Monitoring shall be continued until the effectiveness of the BMP can be determined.
- Evaluate the requirements, feasibility and cost of maintenance for each BMP.
- Develop recommendations for appropriate BMPs for the reduction of pollutants of concern in storm water in Los Angeles County.

The Principal Permittee may participate in the SMBRP's, "Performance Evaluation of Structural BMPs for Storm Water Pollution Control in the Santa Monica Bay Watershed" study to meet this requirement. Participation includes collaboration and fund contribution to cover the scope of the proposed study.

K. Standard Monitoring Provisions

All monitoring activities shall meet the following requirements:

1. Monitoring and Records [40 CFR 122.41(j)(1)]
Samples and measurements taken for the purpose of monitoring shall be representative of the monitored activity.
2. Monitoring and Records [40 CFR 122.41(j)(2)] [CWC §13383(a)]
The Principal Permittee and Permittees shall retain records of all monitoring information, including all calibration and maintenance of monitoring instrumentation, copies of all reports required by this Order, and records of all data used to complete the Report of Waste Discharge and application for this Order, for a period of at least five (5) years from the date of the sample, measurement, report, or application. This period may be extended by request of the Regional Board or USEPA at any time and shall be extended during the course of any unresolved litigation regarding this discharge.
3. Monitoring and Records [40 CFR 122.21(j)(3)]
Records of monitoring information shall include:
 - a) The date, exact place, and time of sampling or measurements;
 - b) The individual(s) who performed the sampling or measurements;
 - c) The date(s) analyses were performed;

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- d) The individual(s) who performed the analyses;
 - e) The analytical techniques or methods used; and,
 - f) The results of such analyses.
4. Monitoring and Records [40 CFR 122.21(j)(4)]

All sampling, sample preservation, and analyses must be conducted according to test procedures under 40 CFR Part 136, unless other test procedures have been specified in this Order.
 5. Monitoring and Records [40 CFR 122.21(j)(5)]

The CWA provides that any person who falsifies, tampers with, or knowingly renders inaccurate any monitoring device or method required to be maintained under this Order shall, upon conviction, be punished by a fine of not more than \$10,000, or by imprisonment for not more than two years, or both. If a conviction of a person is for a violation committed after a first conviction of such person under this paragraph, punishment is a fine of not more than \$20,000 per day of violation, or by imprisonment of not more than four years, or both.
 6. All chemical, bacteriological, and toxicity analyses shall be conducted at a laboratory certified for such analyses by an appropriate governmental regulatory agency.
 7. For priority toxic pollutants that are identified in the CTR (65 *Fed. Reg.* 31682), the MLs published in Appendix 4 of the SIP shall be used for all analyses, unless otherwise specified. The MLs from the SIP are incorporated into the Constituent List (Attachment U-1).
 8. The Monitoring Report shall specify the analytical method used, the MDL and the ML for each pollutant. For the purpose of reporting compliance with numerical limitations, performance goals, and receiving water limitations, analytical data shall be reported with one of the following methods, as appropriate:
 - a) An actual numerical value for sample results greater than or equal to the ML;
 - b) "Not-detected (ND)" for sample results less than the laboratory's MDL with the MDL indicated for the analytical method used; or
 - c) "Detected, but Not Quantified (DNQ)" if results are greater than or equal to the laboratory's MDL but less than the ML. The estimated chemical concentration of the sample shall also be reported. This is the concentration that results from the confirmed detection of the substance by the analytical method below the ML value.
 9. For priority toxic pollutants, if the Principal Permittee or Permittee can demonstrate that a particular ML is not attainable, in accordance with procedures set forth in 40 CFR 136, the lowest quantifiable concentration of the lowest calibration standard analyzed by a specific analytical procedure (assuming that all the method specified sample weights, volumes, and processing steps have been followed) may be used instead

of the ML listed in Appendix 4 of the SIP. The Principal Permittee must submit documentation from the laboratory to the Regional Board Executive Officer for approval prior to raising the ML for any constituent.

10. Monitoring Reports [40 CFR 122.41(l)(4)(ii)]
If the Principal Permittee monitors any pollutant more frequently than required by the permit using test procedures approved under 40 CFR part 136, unless otherwise specified in the Order, the results of this monitoring shall be included in the calculation and reporting of the data submitted in the annual Monitoring Reports.
11. Monitoring Reports [40 CFR 122.41(l)(4)(iii)]
Calculations for all limitations which require averaging of measurements shall utilize an arithmetic mean unless otherwise specified in this Order.
12. If no flow occurred during the reporting period, the Monitoring Report shall so state.
13. The Regional Board Executive Officer or the Regional Board, consistent with 40 CFR 122.41, may approve changes to the Monitoring Program, after providing the opportunity for public comment, either:
 - a) By petition of the Principal Permittee or by petition of interested parties after the submittal of the annual Monitoring Report. Such petition shall be filed not later than 60 days after the Monitoring Report submittal date, or
 - b) As deemed necessary by the Regional Board Executive Officer following notice to the Principal Permittee.

Ordered by:

Dennis A. Dickerson
Executive Officer
Date: December 13, 2001

Changes approved by:

Jonathan Bishop
Executive Officer
Date: June 15, 2005

**ATTACHMENT U-2
SHORELINE MONITORING STATIONS**

Station	Location¹	Latitude	Longitude
S1	Surfrider Beach, Malibu, 50 yds E. of breechpoint zero	34.03500 03244	= 118.678336 7900
S2	Topanga Point Creek, Malibu, seaward of lifeguard station point zero	34.03833 03814	= 118.580835 8200
S3	Pulga storm drain, Pacific Palisades, 50 yds E. of drain point zero	34.03361 03757	= 118.534175 4200
S4	Santa Monica Canyon storm drain, Pacific Palisades, 50 yds E. of drain point zero	34.02639 02784	= 118.518645 1800
S5	Santa Monica Pier, Santa Monica, 50 yds S. of pier point zero	34.00833 00870	= 118.496674 9600
S6	Pico-Kenter storm drain, Santa Monica, 50 yds S. of drain point zero	34.00583 00615	= 118.492504 9100
S7	Ashland storm drain, Santa Monica, 50 yds S. of drain point zero	33.99639 99702	= 118.484724 8400
S8	Windward storm drain, Los Angeles, 50 yds S. of drain point zero	33.98778 98520	= 118.477504 7600
S9	Marina Del Rey Beach, Marina Del Rey, at lifeguard tower.	33.98139	=118.45833
S10	Ballona Creek, Playa Del Rey, 50 yds S. of south jetty	33.96083 96077	= 118.456114 5550
S11	Culver Blvd., extended storm drain, Playa Del Rey, N side of Culver storm drain point zero	33.95639 95641	= 118.451674 5100
S12	Imperial Hwy. Storm storm drain, Playa Del Rey, 50 yds S. of drain point zero	33.93028 93005	= 118.437224 3600
S13	El Porto, Manhattan Beach, 40 th St. extended	33.90389 90390	=118.42250
S14	Manhattan Beach Pier, Manhattan Beach, 50 yds S. of pier point zero	33.88360 88422	= 118.412784 1100
S15	Hermosa Beach Pier, Hermosa Beach, 50 yds S.	33.86114	=

Los Angeles County Municipal Storm Water Permit
December 13, 2001

Changes to Shoreline Monitoring Requirements approved on June 15, 2005

Station	Location ¹	Latitude	Longitude
	of pier	<u>86112</u>	118.402784 0270
S16	Redondo Pier, Redondo Beach, <u>50-100 yds S. of pier</u>	33.83833 <u>83908</u>	= 118.391113 9000
S17	Ave. I storm drain, Redondo Beach, Ave. I extended, <u>50 yds S. of drainpoint zero</u>	33.81889 <u>81944</u>	= 118.391113 9000
S18	Malaga Cove, Palos Verdes Estates, Arroyo Circle extended	33.80500 <u>80440</u>	= 118.394673 9424

¹ Station locations from *Ocean Water Regulatory & Monitoring Protocol*, County of Los Angeles, Department of Health Services, May 5, 1999, updated based on *Santa Monica Bay Beaches Bacterial TMDLs Coordinated Shoreline Monitoring Plan*, April 7, 2004.



California Regional Water Quality Control Board

Los Angeles Region



Linda S. Adams
Cal/EPA Secretary

320 W. 4th Street, Suite 200, Los Angeles, California 90013
Phone (213) 576-6600 FAX (213) 576-6640 - Internet Address: <http://www.waterboards.ca.gov/losangeles>

Arnold Schwarzenegger
Governor

August 23, 2007

Mr. Donald L. Wolfe, Director
County of Los Angeles
Department of Public Works
900 South Fremont Avenue
Alhambra, CA 91803-1331

And

Directors of Public Works/City Engineers
Los Angeles County Municipal Co-Permittees

**TRANSMITTAL OF THE LOS ANGELES COUNTY MUNICIPAL STORM WATER
NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) PERMIT
AS AMENDED BY REGIONAL BOARD ORDER R4-2007-0042 ON AUGUST 9, 2007
(BOARD ORDER 01-182; NPDES PERMIT NO. CAS004001)**

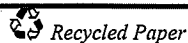
Dear Mr. Wolfe, Directors of Public Works, and City Engineers:

We are pleased to transmit to you a copy of the municipal storm water permit for the County of Los Angeles (LA Storm Water Permit) that was amended by the Los Angeles Regional Water Quality Control Board (LA Water Board) at its meeting on August 9, 2007 pursuant to Division 7 of the California Water Code. Board Order 01-182 (as amended by Board Orders R4-2006-0074 and R4-2007-0042) serves as the permit under the National Pollutant Discharge Elimination System (NPDES) for storm water discharges and urban runoff within the County of Los Angeles.

The LA Water Board reopened the LA Storm Water Permit to incorporate the Marina del Rey Harbor Mothers' Beach and Back Basins Bacteria (MDR Bacteria) Total Maximum Daily Load (TMDL) Waste Load Allocations (WLAs) for summer dry weather discharges from the MS4 to Marina del Rey Harbor (MDRH). The LA Water Board adopted the MDR Bacteria TMDL in 2003 (Resolution No. 2003-012). This TMDL was subsequently approved by the State Water Resources Control Board (Resolution No. 2003-0072), Office of Administrative Law, and the United States Environmental Protection Agency and became effective on March 18, 2004. This TMDL required compliance with the summer dry weather WLAs and winter dry weather WLAs by March 18, 2007.

The MDR Bacteria summer dry weather WLAs were incorporated as Receiving Water Limitations along with a supporting prohibition on discharges from the MS4 to MDRH that are inconsistent with the limits. The LA Storm Water Permit already prohibits discharges that cause or contribute to the exceedance of water quality standards. The proposed changes make more

California Environmental Protection Agency



Our mission is to preserve and enhance the quality of California's water resources for the benefit of present and future generations.

Mr. Donald L. Wolfe
Los Angeles Flood Control District

- 2 -

August 23, 2007

specific the permit provisions as they relate to discharges of bacteria that could impact Mothers' Beach and the back basins (Basins D, E, and F) of Marina del Rey Harbor during summer dry weather. The changes affect the County of Los Angeles and the Los Angeles County Flood Control District and the Cities of Los Angeles and Culver City.

For your use and public dissemination, an electronic copy of the current LA Storm Water Permit may be downloaded from our website at:

<http://www.waterboards.ca.gov/losangeles/html/programs/stormwater/lams4.html>

We would greatly appreciate your staff directing others to the website for further information on storm water management updates as necessary.

We thank you and your staff for the assistance with developing language that recognizes the ongoing work of the County and the Cities toward improving water quality in Marina del Rey, while also strengthening public health protection for the hundreds of thousands of people who live in and visit Marina del Rey. In particular, I would like to acknowledge the efforts of Mr. Pestrella who proactively sought to work with me on this issue, as well as the broader issue of our partnership in addressing water quality issues.

Should you have any comments or questions please do not hesitate to call me directly at (213) 576-6609. Alternatively, your staff may contact Carlos Urrunaga at (213) 620-2083.

Sincerely,



Deborah J. Smith
Interim Executive Officer

Enclosure

cc: Mr. Michael Levy, Office of the Chief Counsel, State Water Resources Control Board
Mr. Bruce Fujimoto, Storm Water Section, State Water Resources Control Board,
Mr. Craig Hooks, Director, Office of Wetlands Oceans and Watersheds, USEPA, HQ
Mr. James Hanlon, Director, Office of Wastewater Management, USEPA, HQ
Mr. Eugene Bromley, USEPA, Region 9
Mr. David E. Janssen, Chief Administrative Officer, County of Los Angeles, Attn. Jan Takata
Mr. Mark Pestrella, Assistant Deputy Director, Watershed Management Division, County of Los Angeles, Department of Public Works
Interested Parties

California Environmental Protection Agency



Our mission is to preserve and enhance the quality of California's water resources for the benefit of present and future generations.

STATE OF CALIFORNIA

**CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
LOS ANGELES REGION**

**ORDER NO. 01-182
NPDES PERMIT NO. CAS004001
WASTE DISCHARGE REQUIREMENTS
FOR**

**MUNICIPAL STORM WATER AND URBAN RUNOFF DISCHARGES WITHIN THE
COUNTY OF LOS ANGELES, AND THE INCORPORATED CITIES THEREIN,
EXCEPT THE CITY OF LONG BEACH**

**December 13, 2001
(Amended on September 14, 2006 by Order R4-2006-0074
and
on August 9, 2007 by Order R4-2007-0042)**

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STATE OF CALIFORNIA
CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
LOS ANGELES REGION

ORDER NO. 01-182
NPDES PERMIT NO. CAS004001
WASTE DISCHARGE REQUIREMENTS
FOR
MUNICIPAL STORM WATER AND URBAN RUNOFF DISCHARGES WITHIN THE
COUNTY OF LOS ANGELES, AND THE INCORPORATED CITIES THEREIN,
EXCEPT THE CITY OF LONG BEACH

The California Regional Water Quality Control Board, Los Angeles Region (hereinafter referred to as the Regional Board) finds:

A. Existing Permit

The Los Angeles County Flood Control District, the County of Los Angeles, and 84 incorporated cities within the Los Angeles County Flood Control District (see Attachment A, List of Permittees), hereinafter referred to separately as Permittees and jointly as the Discharger, discharge or contribute to discharges of storm water and urban runoff from municipal separate storm sewer systems (MS4s), also called storm drain systems. The discharges flow to water courses within the Los Angeles County Flood Control District and into receiving waters of the Los Angeles Region. These discharges are covered under countywide waste discharge requirements contained in Order No. 96-054 adopted by this Regional Board on July 15, 1996, which replaced Order No. 90-079 adopted by this Regional Board on June 18, 1990. Order No. 96-054 also serves as a National Pollutant Discharge Elimination System (NPDES) permit for the discharge of municipal storm water.

B. Nature of Discharges and Sources of Pollutant

1. Storm water discharges consist of surface runoff generated from various land uses in all the hydrologic drainage basins that discharge into water bodies of the State. The quality of these discharges varies considerably and is affected by the hydrology, geology, land use, season, and sequence and duration of hydrologic events. The primary constituents of concern currently identified by the Los Angeles County Flood Control District Integrated Receiving Water Impacts Report (1994-2000) are cyanide, indicator bacteria, total dissolved solids, turbidity, total suspended solids, nutrients, total aluminum, dissolved cadmium, copper, lead, total mercury, nickel, zinc, bis(2-ethylhexyl)phthalate, polycyclic aromatic hydrocarbons (PAHs), diazinon, and chlorpyrifos.
2. Certain pollutants present in storm water and/or urban runoff may be derived from extraneous sources that Permittees have no or limited jurisdiction over. Examples of such pollutants and their respective

sources are: PAHs which are products of internal combustion engine operation, nitrates, bis (2-ethylhexyl) phthalate and mercury from atmospheric deposition, lead from fuels, copper from brake pad wear, zinc from tire wear, dioxins as products of combustion, and natural-occurring minerals from local geology. However, the implementation of the measures set forth in this Order is intended to reduce the entry of these pollutants into storm water and their discharge to receiving waters.

3. Water quality assessments conducted by the Regional Board identified impairment, or threatened impairment, of beneficial uses of water bodies in the Los Angeles Region. The causes of impairments include pollutants of concern identified in municipal storm water discharges by the County of Los Angeles in the Integrated Receiving Water Impacts Report (1994-2000). Pollutants in storm water can have damaging effects on both human health and aquatic ecosystems.
4. The Los Angeles County Grand Jury, September 2000, completed an investigation into the health risks of swimming near beaches in Los Angeles County and made several recommendations to reduce public health risks (Final Report, Grand Jury, Los Angeles County, 1999-2000). The Grand Jury recommended that the Regional Board consider among other actions, (i) a focus on setting contaminant limits rather than programmatic evaluations, (ii) audit of MS4 Permittee programs; and (iii) clarifying enforcement responsibilities between the State and local governments.
5. Studies and research conducted by other Regional agencies, academic institutions, and universities have also identified storm water and urban runoff as significant sources of pollutants to surface waters in Southern California. See, e.g., [*Surface Runoff to the Southern California Bight*, Southern California Coastal Water Research Project, (1992); *Impacts of Urban Runoff on Santa Monica Bay and Surrounding Ocean Waters* (Gersberg, R.M., 1995); *State of the Bay 1998*, Santa Monica Bay Restoration Project; *Storm Water Impact*, In, Southern California Environmental Report Card 1999, Institute of the Environment, University of California, Los Angeles (Stenstrom, M.S., 1999); *Distribution of Anthropogenic and Natural Debris on the Mainland Shelf of Southern California Bight*, Shelly L. Moore and M. James Allen (1999); *The Health Effects of Swimming in Ocean Water Contaminated by Storm Drain Runoff*, Haile, R.W. et al. (1999); *Huntington Beach Closure Investigation: Technical Review* (University of Southern California, 2000); *A Regional Survey of the Microbiological Water Quality Along the Shoreline of the Southern California Bight*, Rachel T. Noble et al. (2001); *Integrated Receiving Water Impacts Report (1994-2000)*, County of Los Angeles (2001)].
6. Development and urbanization increase pollutant load, volume, and discharge velocity. First, natural vegetated pervious ground cover is converted to impervious surfaces such as paved highways, streets, rooftops and parking lots. Natural vegetated soil can both absorb rainwater and remove pollutants providing an effective natural purification process. In contrast, pavement and concrete can neither absorb water

nor remove pollutants, and thus the natural purification characteristics are lost. Second, urban development creates new pollution sources as the increased density of human population brings proportionately higher levels of vehicle emissions, vehicle maintenance wastes, municipal sewage waste, pesticides, household hazardous wastes, pet wastes, trash, and other anthropogenic pollutants. Development and urbanization especially threaten environmentally sensitive areas. Such areas have a much lower capacity to withstand pollutant shocks than might be acceptable in the general circumstance. In essence, development that is ordinarily insignificant in its impact on the environment may in a particular sensitive environment become significant. These environmentally sensitive areas designated by the State and/or the County of Los Angeles include Areas of Special Biological Significance (ASBS), water bodies designated as supporting a RARE beneficial use, Significant Natural Areas (SNAs), and Significant Ecological Areas (SEAs).

7. The increased volume, increased velocity, and discharge duration of storm water runoff from developed areas has the potential to greatly accelerate downstream erosion and impair stream habitat in natural drainages. Studies have demonstrated a direct correlation between the degree of imperviousness of an area and the degradation of its receiving waters. Significant declines in the biological integrity and physical habitat of streams and other receiving waters have been found to occur with as little as 10 percent conversion from natural to impervious surfaces. Percentage impervious cover is a reliable indicator and predictor of potential water quality degradation expected from new development. (*Impervious Cover as An Urban Stream Indicator and a Watershed Management Tool*, Schueler, T. and R. Claytor, In, *Effects of Water Development and Management on Aquatic Ecosystems* (1995), ASCE, New York; Leopold, L. B., (1973), *River Channel Change with Time: An Example*, Geological Society of America Bulletin, v. 84, p. 1845-1860; Hammer, T. R., (1972), *Stream Channel Enlargement Due to Urbanization: Water Resources Research*, v. 8, p. 1530-1540; Booth, D. B., (1991), *Urbanization and the Natural Drainage System--Impacts, Solutions and Prognoses: The Northwest Environmental Journal*, v. 7, p. 93-118; Klein, R. D., (1979), *Urbanization and Stream Quality Impairment: Water Resources Bulletin*, v. 15, p. 948-963; May, C. W., Horner, R. R., Karr, J. R., Mar, B. W., and Welch, E. B., (1997), *Effects of Urbanization on Small Streams in the Puget Sound Lowland Ecoregion: Watershed Protection Techniques*, v. 2, p. 483-494; Morisawa, M. and LaFlure, E. *Hydraulic Geometry, Stream Equilibrium and Urbanization* In Rhodes, D. P. and Williams, G. P. *Adjustments to the Fluvial System* p.333-350. (1979); Dubuque, Iowa, Kendall/Hunt. Tenth Annual Geomorphology Symposia Series; and *The Importance of Imperviousness: Watershed Protection Techniques*, 1(3), Schueler, T. (1994).)
8. The County of Los Angeles has identified as the seven highest priority industrial and commercial critical source types, (i) wholesale trade (scrap recycling, auto dismantling); (ii) automotive repair/parking; (iii) fabricated metal products; (iv) motor freight; (v) chemical and allied products; (vi)

automotive dealers/gas stations; (vii) primary metal products (*Critical Source Selection and Monitoring Report*, Los Angeles County Department of Public Works -Sept 1996). Monitoring conducted by Los Angeles County and the Regional Board demonstrates that the priority industrial sectors and auto repair facilities (one of the commercial sectors) on the list, contribute significant concentrations of heavy metals to storm water (*Los Angeles County 1999-2000 Storm Water Monitoring Report*, Los Angeles County Department of Public Works -July 2000; *Compliance Assessment of the Auto Dismantling Industry; Evaluation of the California General Industrial Storm Water Permit*, H. Chang, (2001), 70 pp., California Regional Water Quality Control Board, Los Angeles Region).

9. The discharge of washwaters and contaminated storm water from industries and businesses specified in this Order for inspection by Permittees is an environmental threat and can also adversely impact public health and safety. For example, a review of industrial waste/pretreatment records performed in 1995 in the County of Los Angeles on illicit discharges indicates that automotive service facilities and food service facilities sometimes discharge polluted washwaters to the MS4. The pollutants of concern in such washwaters include food waste, oil and grease, and toxic chemicals. Other storm water/industrial waste programs in California have reported similar observations. Illicit discharges from automotive service facilities and food service facilities have been identified elsewhere as a major cause of widespread contamination and water quality problems (Washtenaw County Statutory Drainage Board - 1987 Huron River Pollution Abatement Program).
10. Studies indicate that facilities with paved surfaces subject to frequent motor vehicular traffic (such as parking lots and fast food restaurants), or facilities that perform vehicle repair, maintenance, or fueling (automotive service facilities) are potential sources of pollutants of concern in storm water. [References: Pitt *et al.*, *Urban Storm Water Toxic Pollutants: Assessment, Sources, and Treatability*, *Water Environment Res.*, 67, 260 (1995); *Results of Retail Gas Outlet and Commercial Parking Lot Storm Water Runoff Study*, Western States Petroleum Association and American Petroleum Institute, (1994); *Action Plan Demonstration Project, Demonstration of Gasoline Fueling Station Best Management Practices*, Final Report, County of Sacramento (1993); *Source Characterization*, R. Pitt, In *Innovative Urban Wet-Weather Flow Management Systems* (2000) Technomic Press, Field, R *et al.* editors; *Characteristics of Parking Lot Runoff Produced by Simulated Rainfall*, L.L. Tiefenthaler *et al.* Technical Report 343, Southern California Coastal Water Research Project (2001).]
11. Retail Gasoline Outlets (RGOs) are points of convergence for vehicular traffic and are similar to parking lots and urban roads. Studies indicate that storm water discharges from RGOs have high concentrations of hydrocarbons and heavy metals. [*The Quality of Trapped Sediments and Poor Water within Oil Grit Separators in Suburban MD*, Schueler T. and Shepp D. (1992), and *Concentrations of Selected Constituents in Runoff*

from Impervious Surfaces in Four Urban Catchments of Different Landuse, Ranabal, F.I., and T.J. Gizzard (1995), In Proceedings of the Fourth Biennial Stormwater Research Conference, Florida, pp-42-52]. Pilot studies indicate that treatment control best management practices installed at retail gasoline stations are effective in removing pollutants, reasonable in capital cost, easy to operate, and do not present safety risks [*Rouge River National Wet Weather Demonstration Project, Task Product Memorandum – Evaluation of On-line Media Filters RPO-NPS-TPM59.00*, Wayne County, MI, March 1999]. The Regional Board and the San Diego Regional Board have jointly prepared a Technical Report on the applicability of new development BMP design criteria for retail gasoline outlets, (*Retail Gasoline Outlets: New Development Design Standards for Mitigation of Storm Water Impacts*, (June 2001)). Retail Gasoline Outlets in Western U.S. States (such as Washington and Oregon) are already subject to numerical BMP design criteria, as well in other U.S. States.

C. Permit Background

1. The essential components of the Storm Water Management Program, as established by federal regulations [40 CFR 122.26(d)] are: (i) Adequate Legal Authority, (ii) Fiscal Resources, (iii) Storm Water Quality Management Program (SQMP) - (Public Information and Participation Program, Industrial/Commercial Facilities Program, Development Planning Program, Development Construction Program, Public Agency Activities Program, Illicit Connection and Illicit Discharges Elimination Program), and (iv) Monitoring and Reporting Program.
2. The Permittees have filed a Report of Waste Discharge (ROWD), dated February 1, 2001, and applied for renewal of their waste discharge requirements that serves as an NPDES permit to discharge wastes to surface waters. The ROWD includes a proposed SQMP and a Monitoring Program. The proposed SQMP contains programs previously approved under Board Order No. 96-054 in the following areas:

Public Information and Participation
Development Planning
Development Construction
Public Agency Activities
Illicit Connection/Illicit Discharge Elimination Program

These programs are revised pursuant to the provisions of this Order after adoption.

3. The County of Los Angeles has previously conducted source identification and pollutant characterization consistent with 40 CFR 122.26(d)(1)(ii) and (iii) under its storm water Monitoring Program. The Monitoring Program submitted with the ROWD proposes to advance the assessment of receiving water impacts, identification of sources of pollution, evaluation of Best Management Practices (BMPs), and measurement of long term trends in mass emissions.

4. The Regional Board has reviewed the ROWD and has determined it to be complete under the reapplication policy of MS4s issued by the U.S. Environmental Protection Agency (USEPA) (61 *Fed. Reg.* 41697). The Regional Board finds that the Permittees' proposed SQMP, incorporating the additional and/or revised provisions contained in this Order would meet the minimum requirements of federal regulations.
5. The City of Los Angeles has conducted shoreline and nearshore water quality monitoring off the Santa Monica Bay since the 1950s under the monitoring program for the Hyperion Waste Water Treatment Plant (NPDES No. CA0109991). The monitoring results indicate that effluent from Hyperion's 5-Mile Outfall does not impinge the shoreline, and that elevated bacterial counts are associated with runoff from storm drains and discharges from piers. In 1994, the Regional Board approved the relocation of Hyperion's shoreline stations to implement a bay-wide, regional shoreline-monitoring program associated with storm drain outfalls in the Santa Monica Bay. The City of Los Angeles requested that the shoreline-monitoring requirement be incorporated in this Order. The shoreline pathogen monitoring requirements are outlined in the Monitoring Program for this Order.

D. Permit Coverage

1. The requirements in this Order cover all areas within the boundaries of the Permittee municipalities (see Attachment A) over which they have regulatory jurisdiction as well as unincorporated areas in Los Angeles County within the jurisdiction of the Regional Board. The Permittees serve a population of about 9.5 million [Reference: *2000 Census of Population and Housing*, Bureau of the Census, U.S. Department of Commerce (2001)] in an area of approximately 3,100 square miles.
2. Federal, state, regional or local entities within the Permittees' boundaries or in jurisdictions outside the Los Angeles County Flood Control District, and not currently named in this Order, may operate storm drain facilities and/or discharge storm water to storm drains and watercourses covered by this Order. The Permittees may lack legal jurisdiction over these entities under state and federal constitutions. The Regional Board will coordinate with these entities to implement programs that are consistent with the requirements of this Order. The Regional Board will consider such facilities for coverage in 2003 under its NPDES permitting scheme pursuant to USEPA Phase II storm water regulations.
3. Sources of discharges into receiving waters in the County of Los Angeles but in jurisdictions outside its boundary include the following:

About 34 square miles of unincorporated area in Ventura County, which drain into Malibu Creek and then to Santa Monica Bay,

About 9 square miles of the City of Thousand Oaks, which also drain into Malibu Creek and then to Santa Monica Bay, and

About 86 square miles of area in Orange County, which drain into Coyote Creek and then into the San Gabriel River.

The Regional Board will ensure that storm water management programs for the areas in Ventura County and the City of Thousand Oaks that drain into Santa Monica Bay are consistent with the requirements of this Order. The Regional Board will coordinate with the Santa Ana Regional Board so that storm water management programs for the areas in Orange County that drain into Coyote Creek are consistent with the requirements of this Order.

4. This permit is intended to develop, achieve, and implement a timely, comprehensive, cost-effective storm water pollution control program to reduce the discharge of pollutants in storm water to the Maximum Extent Practicable (MEP) from the permitted areas in the County of Los Angeles to the waters of the U.S. subject to the Permittees' jurisdiction.
5. Permittees have expressed their intention to work cooperatively to control the contribution of pollutants from one portion of the MS4 to another portion of the system. Permittees may control the contribution of pollutants to the MS4 from non-permittee dischargers such as Caltrans, the U.S. Department of Defense, and other state and federal facilities, through interagency agreements.

E. Federal, State, and Regional Regulations

1. The Water Quality Act of 1987 added Section 402(p) to the federal Clean Water Act (CWA) (33 U.S.C. § 1251-1387). This section requires the USEPA to establish regulations setting forth NPDES requirements for storm water discharges in two phases.
 - The USEPA Phase I storm water regulations were directed at MS4s serving a population of 100,000 or more, including interconnected systems and storm water discharges associated with industrial activities, including construction activities. The Phase I Final Rule was published on November 16, 1990 (55 *Fed. Reg.* 47990).
 - The USEPA Phase II storm water regulations are directed at storm water discharges not covered in Phase I, including small MS4s (serving a population of less than 100,000), small construction projects (one to five acres), municipal facilities with delayed coverage under the Intermodal Surface Transportation Efficiency Act of 1991, and other discharges for which the USEPA Administrator or the State determines that the storm water discharge contributes to a violation of a water quality standard, or is a significant contributor of pollutants to waters of the United States. The Phase II Final Rule was published on December 8, 1999 (64 *Fed. Reg.* 68722).
2. The USEPA published an 'Interim Permitting Approach for Water Quality-Based Effluent Limitations in Storm Water Permits' on August 26, 1996 (61 *Fed. Reg.* 43761). This policy discusses the appropriate kinds of

water quality-based effluent limitations to be included in NPDES storm water permits to provide for the attainment of water quality standards.

3. The USEPA published an 'Interpretative Policy Memorandum on Reapplication Requirements' for MS4 permits on August 9, 1996 (61 *Fed. Reg.* 41697). This policy requires that MS4 reapplication for reissuance for a subsequent five-year permit term contain certain basic information and information for proposed changes and improvements to the storm water management program and monitoring program.
4. The USEPA has entered into a Memorandum of Agreement (MOA) with the U.S. Fish and Wildlife Service and the National Marine Fisheries Service for enhancing coordination regarding the protection of endangered and threatened species under Section 7 of the Endangered Species Act and the CWA's Water Quality Standards and NPDES programs. Among other actions, the MOA establishes a framework for coordination of actions by the USEPA, the Services, and CWA delegated States on CWA permit issuance under Section 402 of the CWA [66 *Fed. Reg.* 11202 – 11217].
5. USEPA regulations at 40 CFR 122.26(d)(2)(iv)(A) and 40 CFR 122.26(d)(2)(iv)(C) require that MS4 permittees implement a program to monitor and control pollutants in discharges to the municipal system from industrial and commercial facilities that contribute a substantial pollutant load to the MS4. The regulations require that permittees establish priorities and procedures for inspection of industrial facilities and priority commercial establishments. This permit, consistent with the USEPA policy, incorporates a cooperative partnership, including the specifications of minimum expectations, between the Regional Board and the Permittees for the inspection of industrial facilities and priority commercial establishments to control pollutants in storm water discharges (58 *Fed. Reg.* 61157).
6. Section 402 (p) of the CWA (33 U.S.C. § 1342(p) provides that MS4 permits must "require controls to reduce the discharge of pollutants to the maximum extent practicable, including management practices, control techniques and system, design engineering method and such other provisions as the [EPA] Administrator or the State determines appropriate for the control of such pollutants." The State Water Resources Control Board's (State Board) Office of Chief Counsel (OCC) has issued a memorandum interpreting the meaning of MEP to include technical feasibility, cost, and benefit derived with the burden being on the municipality to demonstrate compliance with MEP by showing that a BMP is not technically feasible in the locality or that BMPs costs would exceed any benefit to be derived (dated February 11, 1993).
7. The CWA authorizes the USEPA to permit a state to serve as the NPDES permitting authority in lieu of the USEPA. The State of California has in-lieu authority for an NPDES program. The Porter-Cologne Water Quality Control Act authorizes the State Board, through the Regional Boards, to regulate and control the discharge of pollutants into waters of the State. The State Board entered into a MOA with the USEPA, on

September 22, 1989, to administer the NPDES Program governing discharges to waters of the U.S.

8. Section 303(d) of the CWA requires that the State identify a list of impaired water-bodies and develop and implement Total Maximum Daily Loads (TMDLs) for these waterbodies (33 U.S.C. §1313(d)(1)). A TMDL specifies the maximum amount of a pollutant that a water-body can receive, still meet applicable water quality standards and protect beneficial uses. The USEPA entered into a consent decree with the Natural Resources Defense Council (NRDC), Heal the Bay, and the Santa Monica BayKeeper on March 22, 1999, under which the Regional Board must adopt all TMDLs for the Los Angeles Region within 13 years from that date. This permit incorporates a provision to implement and enforce approved load allocations for municipal storm water discharges and requires amending the SQMP after pollutants loads have been allocated and approved.
9. Section 6217(g) of the Coastal Zone Act Reauthorization Amendments of 1990 (CZARA) requires coastal states with approved coastal zone management programs to address non-point pollution impacting or threatening coastal water quality. CZARA (16 U.S.C. § 1451-1465) amends the Coastal Zone Management Act of 1972, to address five sources of non-point pollution: agriculture, silviculture, urban, marinas, and hydromodification. This NPDES permit addresses the management measures required for the urban category, with the exception of septic systems. The Regional Board addresses septic systems through the administration of other programs.
10. On May 18, 2000, the USEPA established numeric criteria for priority toxic pollutants for the State of California (California Toxics Rule (CTR)) 65 *Fed. Reg.* 31682 (40 CFR 131.38), for the protection of human health and aquatic life. These apply as ambient water quality criteria for inland surface waters, enclosed bays, and estuaries. The State Board adopted the *Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California (SIP) – 2000*, on March 2, 2000, for implementation of the CTR (State Board Resolution No. 2000-15 as amended by Board Resolution No. 2000-030). This policy requires that discharges comply with TMDL-derived load allocations as soon as possible but no later than 20 years from the effective date of the policy.
11. The State Board adopted a revised Water Quality Control Plan for Ocean Waters of California (Ocean Plan) on July 23, 1997. The Ocean Plan contains water quality objectives which apply to all discharges to the coastal waters of California.
12. The State Board in *In Re: California Department of Transportation* (State Board Order WQ 2001-08), determined that the discharge of storm water to ASBS is subject to the prohibition in the Ocean Plan against the discharge of wastes to an ASBS.

13. The Regional Board adopted an updated Water Quality Control Plan (Basin Plan) for the Los Angeles Region on June 13, 1994, '*Water Quality Control Plan, Los Angeles Region: Basin Plan for the Coastal Watersheds of Los Angeles and Ventura Counties*, (1994).' The Basin Plan designates beneficial uses of receiving waters and specifies both narrative and numerical water quality objectives for the receiving waters in Los Angeles County.
14. The Regional Board on September 19, 2001, adopted amendments to the Basin Plan, to incorporate TMDLs for trash in the Los Angeles River (Resolution No. 01-013) and Ballona Creek (Resolution No. 01-014). After approval by the State Board, the Office of Administrative Law, and the USEPA, the TMDLs for trash will be effective and enforceable.
15. The Regional Board on April 13, 1998, approved BMPs for sidewalk rinsing to minimize the discharge of wash waters to the storm drain system (Resolution No. 98-08). By the same resolution, the Regional Board prohibited the discharge of municipal street wash waters to the storm drain system.
16. The Regional Board on April 13, 1998, approved recommended BMPs for industrial/commercial facilities (Resolution No. 98-08).
17. The Regional Board on April 22, 1999, approved a list of BMPs for use in development planning and development construction (Resolution No. 99-03)
18. The Regional Board adopted and approved requirements for new development and significant redevelopment projects in Los Angeles County to control the discharge of storm water pollutants in post-construction storm water, on January 26, 2000, in Board Resolution No. R-00-02. The Regional Board Executive Officer issued the approved Standard Urban Storm Water Mitigation Plans (SUSMPs) on March 8, 2000. The State Board in large part affirmed the Regional Board action and SUSMPs in State Board Order No. WQ 2000-11 issued on October 5, 2000.
 - The State Board's Chief Counsel has issued a statewide policy memorandum (dated December 26, 2000), which interprets the Order to provide broad discretion to Regional Boards and identifies potential future areas for inclusion in SUSMPs and the types of evidence and findings necessary. Such areas include ministerial projects, projects in environmentally sensitive areas, and water quality design criteria for RGOs.
 - The State Board's Chief Counsel interprets the Order to encourage regional solutions and endorses a mitigation fund or "bank" that may be funded by developers who obtain waivers from the numerical design standards for new development and significant redevelopment.
19. 40 CFR 131.10(a) prohibits states from designating waste transport or waste assimilation as a use for any water of the U.S. Authorizing the

construction of a storm water/ urban runoff treatment facility in a jurisdictional water body would be tantamount to accepting waste assimilation as an appropriate use for that water body. Furthermore, the construction and operation of a pollution control facility in a water body can impact the physical, chemical, and biological integrity as well as the beneficial uses of the water body. Therefore, storm water treatment and/or mitigation in accordance with SUSMPs and any other requirements of this Order must occur prior to the discharge of storm water into a water of the U.S.

20. The Regional Board supports a Watershed Management Approach to address water quality protection in the region. The objective of the Watershed Management Approach should be to provide a comprehensive and integrated strategy towards water resource protection, enhancement, and restoration while balancing economic and environmental impacts within a hydrologically defined drainage basin or watershed. It emphasizes cooperative relationships between regulatory agencies, the regulated community, environmental groups, and other stakeholders in the watershed to achieve the greatest environmental improvements with available resources.
21. To promote a watershed management approach, the County of Los Angeles is divided into six Watershed Management Areas (WMAs) as follows:

Malibu Creek and Rural Santa Monica Bay WMA
Ballona Creek and Urban Santa Monica Bay WMA
Los Angeles River WMA
San Gabriel River WMA
Dominguez Channel/Los Angeles Harbor WMA, and
Santa Clara River WMA

Attachment A shows the list of Permittees under each WMA and some Permittees have expressed an intent to form sub-watershed groups within the WMA to promote regional solutions for the mitigation of storm water discharge pollution.

22. To facilitate compliance with federal regulations, the State Board has issued two statewide general NPDES permits for storm water discharges: one for storm water from industrial sites [NPDES No. CAS000001, General Industrial Activity Storm Water Permit (GIASP)] and the other for storm water from construction sites [NPDES No. CAS000002, General Construction Activity Storm Water Permit (GCASP)]. The GCASP was reissued on August 19, 1999. The GIASP was reissued on April 17, 1997. Facilities discharging storm water associated with industrial activities and construction projects with a disturbed area of five acres or more are required to obtain individual NPDES permits for storm water discharges, or to be covered by a statewide general permit by completing and filing a Notice of Intent (NOI) with the State Board. The USEPA guidance anticipates coordination of the state-administered programs for

industrial and construction activities with the local agency program to reduce pollutants in storm water discharges to the MS4.

The Regional Board is the enforcement authority in the Los Angeles Region for the two statewide general permits regulating discharges from industrial facilities and construction sites, and all NPDES storm water and non-storm water permits issued by the Regional Board. These industrial and construction sites and discharges are also regulated under local laws and regulations.

23. The State Board, on October 28, 1968, adopted Resolution No. 68-16, which established an anti-degradation policy for the State and Regional Boards. This policy restricts the degradation of surface waters and protects waterbodies where existing water quality is higher than is necessary for the protection of beneficial uses.
24. The State Board, on June 17, 1999, adopted Order No. WQ 99-05, which, in a precedential decision, identifies acceptable receiving water limitations language to be included in municipal storm water permits issued by the State and Regional Boards. The receiving water limitations included herein are consistent with the State Board Order, USEPA Policy, and the U.S. Appellate court decision in, *Defenders of Wildlife v. Browner* (9th Cir, 1999). The State Board OCC has determined that the federal court decision did not conflict with State Board Order No. WQ 99-05 (memorandum dated October 14, 1999)
25. California Water Code (CWC) § 13263(a) requires that waste discharge requirements issued by the Regional Board shall implement any relevant water quality control plans that have been adopted; shall take into consideration the beneficial uses to be protected and the water quality objectives reasonably required for that purpose; other waste discharges; the need to prevent nuisance; and provisions of CWC § 13241. The Regional Board has considered the requirements of § 13263 and § 13241, and applicable plans, policies, rules, and regulations in developing these waste discharge requirements.
26. CWC § 13370 *et seq.* requires that waste discharge requirements issued by the Regional Boards be consistent with provisions of the federal CWA and its amendments.
27. On March 12, 2001, the U.S. Court of Appeals ruled that it is necessary to obtain a NPDES permit for application of aquatic pesticides to waterways. (*Headwaters, Inc. vs. Talent Irrigation District*, 243 F.3d. 526 (9th Cir., 2001)) This decision is controlling in California for nonagricultural applications of pesticides to waterways. The State Board adopted a general NPDES permit (Order No. 2001-12-DWQ) on July 19, 2001, for public entities that discharge pollutants to waters of the U.S. associated with the application of aquatic pesticides for resource or pest management. Public entities that conduct such activities must seek coverage under the general permit.

Findings Related To The Incorporation Of The Santa Monica Bay Beaches Dry Weather Bacteria TMDL And The Marina Del Rey Harbor Mothers' Beach And Back Basins Bacteria TMDL

28. The Regional Board adopted the Santa Monica Bay Beaches Dry Weather TMDL for Bacteria (hereinafter "Dry Weather Bacteria TMDL") on January 24, 2002. The TMDL was subsequently approved by the State Board, the Office of Administrative Law (OAL), and the USEPA and became effective on July 15, 2003.
29. The Regional Board adopted the Marina del Rey Harbor Mothers' Beach and Back Basins Bacteria TMDL (hereinafter "MDR Bacteria TMDL") on August 7, 2003. The TMDL was subsequently approved by the SWRCB, the OAL, and the USEPA and became effective on March 18, 2004.
30. The Waste Load Allocations (WLAs) in the Dry Weather Bacteria TMDL and the MDR Bacteria TMDL are expressed as the number of allowable days that the Santa Monica Bay beaches, Mothers' Beach and Basins D, E, and F in Marina del Rey Harbor may exceed the Basin Plan water quality objectives for protection of Water Contact Recreation (REC-1) in marine waters, specifically the water quality objectives for bacteria. Appropriate modifications to this order are therefore included in Parts 1 (Discharge Prohibitions) and 2 (Receiving Water Limitations), pursuant to 40 CFR 122.41(f) and 122.62, and Part 6.I.1 of this Order. Additionally, 40 CFR 122.44(d)(1)(vii)(B) requires that NPDES permits be consistent with the assumptions and requirements of any available waste load allocation. Tables 7-4.1, 7-4.2a, and 7-4.3 of the Basin Plan set forth the pertinent provisions of the Dry Weather Bacteria TMDL. Tables 7-5.1, 7-5.2, and 7-5.3 of the Basin Plan set forth the pertinent provisions of the MDR Bacteria TMDL. They require that during Summer Dry Weather there shall be no exceedances in the Wave Wash of the single sample or the geometric mean bacteria objectives set to protect the Water Contact Recreation (REC-1) beneficial use in marine waters. Accordingly, a prohibition is included in this Order barring discharges from a MS4 to Santa Monica Bay or Marina del Rey Harbor that result in exceedance of these objectives. Since the TMDL and the WLAs contained therein are expressed as receiving water conditions, Receiving Water Limitations have been included in this Order that are consistent with and implement the zero exceedance day WLAs.
31. Pursuant to federal regulations at 40 CFR 124.8, and 125.56, Fact Sheets were prepared to provide the bases for incorporating the Dry Weather Bacteria TMDL and the MDR Bacteria TMDL into this Order. These Fact Sheets are hereby incorporated by reference into these findings.
32. The iterative approach to regulating municipal storm water is not an appropriate means of implementing the Santa Monica Bay beaches or the MDR Summer Dry Weather WLAs for any and all of the following reasons: (a) The WLAs do not regulate the discharge of storm water; (b) The harm to the public from violating the WLAs is dramatic both in terms

of health impacts to exposed beachgoers, and the economic cost to the region associated with related illnesses; (c) Under the iterative approach over three permit cycles, required elements of the MS4 permit (e.g., elimination of illicit connections/illicit discharges (IC/ID) into their MS4s, revisions to their SQMP, etc.) have not resulted in the elimination of exceedances of water quality standards at the beaches or in Basins D, E, and F of Marina del Rey Harbor.

33. On March 14, 2007, Marina del Rey watershed responsible agencies submitted to the Regional Board the results of a non-point source study conducted over a one year period between July 2005 and July 2006, which was required under the terms of the MDR TMDL. The study was designed to determine the relative bacterial loading to the harbor from sources including but not limited to storm drains, boats, birds, and other non-point sources. The study has not yet been peer reviewed, and is currently under review by Regional Board staff.
34. On January 8, 2007, as required by the MDR Bacterial TMDL, Marina del Rey watershed responsible agencies submitted to the Regional Board an implementation plan describing the strategy by which they intend to comply with the MDR Bacterial TMDL. This implementation plan was developed through a process that included both Regional Board staff and representatives from Heal the Bay and Santa Monica Baykeeper.
35. The Regional Board acknowledges the County's timely submittals of reports required by the TMDL and implementation measures initiated thus far towards meeting water quality standards for bacteria in Marina del Rey. As a result of the adoption of the MDR Bacterial TMDL in 2003, the County has funded or received grants to initiate the following activities:
 - Marina Beach Water Quality Improvement Project, Phase I and Phase II through a CBI grant;
 - Mothers' Beach and Back Basins Bacterial TMDL Non-point Source Study;
 - Marina del Rey Harbor Mothers' Beach and Back Basins Report of Small Drain Identification;
 - Marina del Rey Vessel Discharge Report;
 - Marina del Rey Harbor Mothers' Beach and Back Basins Bacterial TMDL Coordinated Monitoring Plan; and
 - Three low-flow diversion projects, which were partially funded by a grant, two of which have been completed.

In addition to participation in the above studies, the County and other Marina del Rey watershed responsible agencies continue to implement BMPs proposed in the January 8, 2007, Implementation Plan.

36. The Receiving Water Limitations have been revised to implement the Summer Dry Weather WLAs set forth in Basin Plan Tables 7-4.1 and 7-5.1. These Receiving Water Limitations apply at the compliance

monitoring sites identified in the *Santa Monica Bay Beaches Bacterial TMDLs Coordinated Shoreline Monitoring Plan* dated April 7, 2004¹ and the *Marina del Rey Harbor Mothers' Beach and Back Basins Bacterial TMDL Coordinated Monitoring Plan* dated April 13, 2007. Compliance with the Receiving Water Limitations shall be determined using monitoring data obtained in conformance with the *Santa Monica Bay Beaches Bacterial TMDLs Coordinated Shoreline Monitoring Plan* dated April 7, 2004; the *Marina del Rey Harbor Mothers' Beach and Back Basins Bacterial TMDL Coordinated Monitoring Plan* dated April 13, 2007; and the Monitoring and Reporting Program CI 6948.

37. If the Receiving Water Limitations are exceeded at a compliance monitoring site, the Regional Board will generally issue an appropriate investigative order pursuant to Cal. Water Code § 13267 or § 13225 to the Permittees and other responsible agencies or jurisdictions within the relevant subwatershed to determine the source of the exceedance. Following these actions, Regional Board staff will generally evaluate the need for further enforcement as follows:
- a) If the Regional Board determines that the exceedance did not result from discharges from the MS4, then the MS4 Permittees would not be responsible for violations of these provisions.
 - b) If the Regional Board determines that Permittees in the relevant subwatershed have demonstrated that their MS4 does not discharge dry weather flow into Santa Monica Bay or Basins D, E, or F in Marina del Rey Harbor, those Permittees would not be responsible for violations of these provisions even if the Receiving Water Limitations are exceeded at an associated compliance monitoring site.
 - c) If the Regional Board determines that Permittees in the relevant subwatershed have demonstrated that their MS4 summer dry weather discharge into Santa Monica Bay or Basins D, E, or F in Marina del Rey Harbor is treated to a level that does not exceed either the single sample or the geometric mean bacteria objectives, those Permittees shall not be responsible for violations of these provisions even if the Receiving Water Limitations are exceeded at an associated compliance monitoring site.
 - d) If the Regional Board determines that one or more Permittees have caused or contributed to violations of these Receiving Water Limitations, the Regional Board will consider appropriate enforcement action, including a cease and desist order with or without a time schedule for compliance, or other appropriate

¹ If the Regional Board determines that publicly owned storm drains that flow during dry weather are situated at additional shoreline locations, the *Santa Monica Bay Beaches Bacterial TMDLs Coordinated Shoreline Monitoring Plan* may be revised by the Regional Board Executive Officer approval, after providing the opportunity for public comment, to include these locations as compliance monitoring sites.

enforcement action depending upon the circumstances and the extent to which the Permittee(s) has endeavored to comply with these provisions.

38. A Permittee would not be responsible for violations of these provisions if the Regional Board Executive Officer determines that the Permittee has adequately documented through a source investigation of the subwatershed, pursuant to protocols established under Cal. Water Code 13178, that bacterial sources originating within the jurisdiction of the Permittee have not caused or contributed to the exceedance of the Receiving Water Limitations.
39. Water Code section 13389 exempts the Regional Board from compliance with Chapter 3 (commencing with Section 21100) of Division 13 of the Public Resources Code prior to the adoption of waste discharge requirements. Therefore the Regional Board is not required to prepare environmental documents to evaluate this permit modification. Nevertheless, the Regional Board has considered the policies and requirements set forth in Chapters 1 through 2.6 of CEQA, and further, has considered the final substitute environmental documents for the Santa Monica Bay Beaches Bacteria TMDL and the MDR Bacteria TMDL.

F. Implementation

1. The California Environmental Quality Act (CEQA) (Cal. Pub. Resources Code § 21000 *et seq.*) requires that public agencies consider the environmental impacts of the projects they approve for development. CEQA applies to projects that are considered discretionary and does not apply to ministerial projects, which involve the use of established standards or objective measurements. A ministerial project may be made discretionary by adopting local ordinance provisions or imposing conditions to create decision-making discretion in approving the project. In the alternative, Permittees may establish standards and objective criteria administratively for storm water mitigation for ministerial projects. For water quality purposes, the Regional Board considers that all new development and significant redevelopment activity in specified categories, that receive approval or permits from a municipality, are subject to storm water mitigation requirements.
2. The objective of this Order is to protect the beneficial uses of receiving waters in Los Angeles County. To meet this objective, this Order requires that the SQMP specify BMPs that will be implemented to reduce the discharge of pollutants in storm water to the maximum extent practicable. Further, Permittees are to assure that storm water discharges from the MS4 shall neither cause nor contribute to the exceedance of water quality standards and objectives nor create conditions of nuisance in the receiving waters, and that the discharge of non-storm water to the MS4 has been effectively prohibited.
3. The SQMP required in this Order builds upon the programs established in Order Nos. 90-079, and 96-054, consists of the components recommended in the USEPA guidance manual, and was developed with

the cooperation of representatives from the regulated community and environmental groups. The SQMP includes provisions that promote customized initiatives, both on a countywide and watershed basis, in developing and implementing cost-effective measures to minimize discharge of pollutants to the receiving water. The various components of the SQMP, taken as a whole rather than individually, are expected to reduce pollutants in storm water and urban runoff to the maximum extent practicable. Provisions of the SQMP are fully enforceable under provisions of this Order.

4. The emphasis of the SQMP is pollution prevention through education, public outreach, planning, and implementation as source control BMPs first and then Structural and Treatment Control BMPs next. Successful implementation of the provisions of the SQMP will require cooperation and coordination of all public agencies in each Permittee's organization, among Permittees, and with the regulated community.
5. The implementation of a Public Information and Participation Program is a critical component of a storm water management program. An informed and knowledgeable community is critical to the success of a storm water management program since it helps insure the following: (i) greater support for the program as the public gains a greater understanding of the reasons why it is necessary and important, and (ii) greater compliance with the program as the public becomes aware of the personal responsibilities expected of them and others in the community, including the individual actions they can take to protect or improve the quality of area waters.
6. This Order includes a Monitoring Program that incorporates Minimum Levels (MLs) established under the SIP. The SIP's MLs represent the lowest quantifiable concentration for priority toxic pollutants that is measurable with the use of proper method-based analytical procedures and factoring out matrix interference. The SIP's MLs therefore represent the best available science for determining MLs and are appropriate for a storm water monitoring program. The use of MLs allows the detection of toxic priority pollutants at concentrations of concern using recent advances in chemical analytical methods.
7. This Order provides flexibility for Permittees to petition the Regional Board Executive Officer to substitute a BMP under the SQMP with an alternative BMP, if they can provide information and documentation on the effectiveness of the alternative, equal to or greater than the prescribed BMP in meeting the objectives of this Order.
8. This Order contemplates that the Permittees are responsible for considering potential storm water impacts when making planning decisions in order to fulfill the Permittees' CWA requirement to reduce the discharge of pollutants in municipal storm water to the MEP from new development and redevelopment activities. However, the Permittees retain authority to make the final land-use decisions and retain full statutory authority for deciding what land uses are appropriate at specific locations within each Permittee's jurisdiction. This Order and its

requirements are not intended to restrict or control local land use decision-making authority.

9. This Order is not intended to prohibit the inspection for or abatement of vectors by the State Department of Health Services or local vector agencies in accordance with Cal. Health and Safety Code § 2270 *et seq.* and §116110 *et seq.* Certain Treatment Control BMPs if not properly designed, operated or maintained may create habitats for vectors (e.g. mosquito and rodents). This Order contemplates that the Permittees will closely cooperate and collaborate with local vector control agencies and the State Department of Health Services for the implementation, operation, and maintenance of Treatment Control BMPs in order to minimize the risk to public health from vector borne diseases.

G. Public Process

1. The Regional Board has notified the Permittees and interested agencies and persons of its intent to issue waste discharge requirements for this discharge, and has provided them with an opportunity to submit their written view and recommendations.
2. The Regional Board, in a public hearing, heard and considered all comments pertaining to the discharge and to the tentative requirements.
3. The Regional Board has conducted public workshops to discuss drafts of the permit. On April 24, 2001, Regional Board staff conducted a workshop outlining the reasoning behind the changes proposed for the new permit and received input from the Permittees and the public regarding those proposed changes. On July 26, 2001, a second public workshop was held at a special Regional Board meeting. The Permittees and the public had another opportunity to express their opinions regarding the proposed changes to the permit in front of the Regional Board members. A significant number of working meetings with the Permittees and other interested parties have occurred throughout the period from the submittal of the ROWD and completion of the tentative draft, in an attempt to incorporate and address all the comments presented.
4. The Los Angeles County Flood Control District, the County of Los Angeles and the other municipalities are co-permittees as defined in 40 CFR 122.26 (b)(1). Los Angeles County Flood Control District will coordinate with the other municipalities and facilitate program implementation. Each Permittee is responsible only for a discharge for which it is the operator.
5. This Order shall serve as a NPDES Permit, pursuant to CWA § 402, or amendments thereto, and shall take effect 50 days from Order adoption provided the Regional Administrator of the USEPA has no objections.
6. The action to adopt an NPDES permit is exempt from the provisions of Chapter 3 of CEQA (Cal. Pub. Resources Code § 21100 *et seq.*), in accordance with CWC § 13389.

7. Pursuant to CWC §13320, any aggrieved party may seek review of this Order by filing a petition with the State Board. A petition must be sent to: State Water Resources Control Board, P.O. Box 100, Sacramento, California, 95812, within 30 days of adoption of the Order by the Regional Board.
8. This Order may be modified or alternatively revoked or reissued prior to its expiration date, in accordance with the procedural requirements of the NPDES program, and the CWC for the issuance of waste discharge requirements.

IT IS HEREBY ORDERED that the Los Angeles County Flood Control District, Los Angeles County, and the Cities of Agoura Hills, Alhambra, Arcadia, Artesia, Azusa, Baldwin Park, Bell, Bellflower, Bell Gardens, Beverly Hills, Bradbury, Burbank, Calabasas, Carson, Cerritos, Claremont, Commerce, Compton, Covina, Cudahy, Culver City, Diamond Bar, Downey, Duarte, El Monte, El Segundo, Gardena, Glendale, Glendora, Hawaiian Gardens, Hawthorne, Hermosa Beach, Hidden Hills, Huntington Park, Industry, Inglewood, Irwindale, La Cañada Flintridge, La Habra Heights, Lakewood, La Mirada, La Puente, La Verne, Lawndale, Lomita, Los Angeles, Lynwood, Malibu, Manhattan Beach, Maywood, Monrovia, Montebello, Monterey Park, Norwalk, Palos Verdes Estates, Paramount, Pasadena, Pico Rivera, Pomona, Rancho Palos Verdes, Redondo Beach, Rolling Hills, Rolling Hills Estates, Rosemead, San Dimas, San Fernando, San Gabriel, San Marino, Santa Clarita, Santa Fe Springs, Santa Monica, Sierra Madre, Signal Hill, South El Monte, South Gate, South Pasadena, Temple City, Torrance, Vernon, Walnut, West Covina, West Hollywood, Westlake Village, and Whittier, in order to meet the provisions contained in Division 7 of the CWC and regulations adopted thereunder, and the provisions of the CWA, as amended, and regulations and guidelines adopted thereunder, shall comply with the following:

Part 1. DISCHARGE PROHIBITIONS

- Part 1. A. The Permittees shall effectively prohibit non-storm water discharges into the MS4 and watercourses, except where such discharges:
1. Are covered by a separate individual or general NPDES permit for non-storm water discharges; or
 2. Fall within one of the categories below, and meet all conditions when specified by the Regional Board Executive Officer:
 - a) Category A - Natural flow:
 - (1) Natural springs and rising ground water;
 - (2) Flows from riparian habitats or wetlands;
 - (3) Stream diversions, permitted by the State Board; and
 - (4) Uncontaminated ground water infiltration [as defined by 40 CFR 35.2005(20)].
 - b) Category B - Flows from emergency fire fighting activity.

- c) Category C - Flows incidental to urban activities:
- (1) Reclaimed and potable landscape irrigation runoff;
 - (2) Potable drinking water supply and distribution system releases (consistent with American Water Works Association guidelines for dechlorination and suspended solids reduction practices);
 - (3) Drains for foundations, footings, and crawl spaces;
 - (4) Air conditioning condensate;
 - (5) Dechlorinated/debrominated swimming pool discharges;
 - (6) Dewatering of lakes and decorative fountains;
 - (7) Non-commercial car washing by residents or by non-profit organizations; and
 - (8) Sidewalk rinsing.

The Regional Board Executive Officer may add or remove categories of non-storm water discharges above. Furthermore, in the event that any of the above categories of non-storm water discharges are determined to be a source of pollutants by the Regional Board Executive Officer, the discharge will no longer be exempt from this prohibition unless the Permittee implements conditions approved by the Regional Board Executive Officer to ensure that the discharge is not a source of pollutants. Notwithstanding the above, the Regional Board Executive Officer may impose additional prohibitions of non-storm water discharges in consideration of antidegradation policies and TMDLs.

- Part 1. B. Discharges of Summer Dry Weather flows from MS4s into Santa Monica Bay² or into Marina del Rey Harbor Basins D, E, or F, including Mothers' Beach, that cause or contribute to exceedances of the bacteria Receiving Water Limitations in Part 2.5 and 2.6 below, are prohibited.³

² Santa Monica Bay encompasses the coastal waters from Point Dume to Point Fermin and seaward to the 500-meter depth contour. It includes all beaches from the Los Angeles/Ventura County line south to the Outer Cabrillo Beach located just south of the Palos Verdes Peninsula.

³ Responsibility for such prohibited discharges is determined as indicated in Footnote 3 part (2) of Table 7-4.1 and Footnote 2 part (1) of Table 7-5.1 of the Basin Plan. All Permittees within a subwatershed of the Santa Monica Bay Watershed Management Area are jointly responsible for compliance with the limitations imposed in Tables 7-4.1 and 7-5.1 of the Basin Plan.

Part 2. RECEIVING WATER LIMITATIONS

1. Except as provided in Part 2.5 and 2.6 below, discharges from the MS4 that cause or contribute to the violation of Water Quality Standards or water quality objectives are prohibited.
2. Discharges from the MS4 of storm water, or non-storm water, for which a Permittee is responsible for, shall not cause or contribute to a condition of nuisance.
3. The Permittees shall comply with Part 2.1. and 2.2. through timely implementation of control measures and other actions to reduce pollutants in the discharges in accordance with the SQMP and its components and other requirements of this Order including any modifications. The SQMP and its components shall be designed to achieve compliance with receiving water limitations. If exceedances of Water Quality Objectives or Water Quality Standards (collectively, Water Quality Standards) persist, notwithstanding implementation of the SQMP and its components and other requirements of this permit, the Permittee shall assure compliance with discharge prohibitions and receiving water limitations by complying with the following procedure:
 - a) Upon a determination by either the Permittee or the Regional Board that discharges are causing or contributing to an exceedance of an applicable Water Quality Standard, the Permittee shall promptly notify and thereafter submit a Receiving Water Limitations (RWL) Compliance Report (as described in the Program Reporting Requirements, Section I of the Monitoring and Reporting Program) to the Regional Board that describes BMPs that are currently being implemented and additional BMPs that will be implemented to prevent or reduce any pollutants that are causing or contributing to the exceedances of Water Quality Standards. This RWL Compliance Report may be incorporated in the annual Storm Water Report and Assessment unless the Regional Board directs an earlier submittal. The RWL Compliance Report shall include an implementation schedule. The Regional Board may require modifications to the RWL Compliance Report.
 - b) Submit any modifications to the RWL Compliance Report required by the Regional Board within 30 days of notification.
 - c) Within 30 days following the approval of the RWL Compliance Report, the Permittee shall revise the SQMP and its components and monitoring program to incorporate the approved modified BMPs that have been and will be implemented, an implementation schedule, and any additional monitoring required.
 - d) Implement the revised SQMP and its components and monitoring program according to the approved schedule.
4. So long as the Permittee has complied with the procedures set forth above and is implementing the revised SQMP and its components, the Permittee does not

have to repeat the same procedure for continuing or recurring exceedances of the same receiving water limitations unless directed by the Regional Board to develop additional BMPs.

5. During Summer Dry Weather there shall be no discharges of bacteria from MS4s into the Santa Monica Bay that cause or contribute to exceedances in the Wave Wash, of the applicable bacteria objectives. The applicable bacteria objectives include both the single sample and geometric mean bacteria objectives set to protect the Water Contact Recreation (REC-1) beneficial use, as set forth in the Basin Plan.⁴
6. During Summer Dry Weather there shall be no discharges of bacteria from MS4s into Marina del Rey Harbor Basins D, E, or F, including Mothers' Beach that cause or contribute to exceedances of the applicable bacteria objectives. The applicable bacteria objectives include both the single sample and geometric mean bacteria objectives set to protect the Water Contact Recreation (REC-1) beneficial use, as set forth in the Basin Plan.⁵

Part 3. STORM WATER QUALITY MANAGEMENT PROGRAM (SQMP) IMPLEMENTATION

A. General Requirements

1. Each Permittee shall, at a minimum, implement the SQMP. The SQMP is an enforceable element of this Order. The SQMP shall be implemented no later than February 1, 2002, unless a later date has been specified for a particular provision in this Order.
2. The SQMP shall, at a minimum, comply with the applicable storm water program requirements of 40 CFR 122.26(d)(2). The SQMP and its components shall be implemented so as to reduce the discharges of pollutants in storm water to the MEP.
3. Each Permittee shall implement additional controls, where necessary, to reduce the discharges of pollutants in storm water to the MEP.
4. Permittees that modify the countywide SQMP (i.e., implement additional controls, implement different controls than described in the countywide SQMP, or determine that certain BMPs in the countywide SQMP are not applicable in the area under its jurisdiction), shall develop a local SQMP, no later than August 1, 2002. The local SQMP shall be customized to reflect the conditions in the area under the Permittee's jurisdiction and

⁴ Samples collected for determining compliance with the receiving water limitations of Part 2.5 shall be processed in accordance with the sampling procedures and analytical methodology set forth in the *Santa Monica Bay Beaches Bacterial TMDLs Coordinated Shoreline Monitoring Plan* dated April 7, 2004 and the Monitoring and Reporting Program CI 6948.

⁵ Samples collected for determining compliance with the receiving water limitations of Part 2.6 shall be processed in accordance with the sampling procedures and analytical methodology set forth in the *Marina del Rey Harbor Mothers' Beach and Back Basins Bacterial TMDL Coordinated Shoreline Monitoring Plan* dated April 13, 2007 and the Monitoring and Reporting Program CI 6948.

shall specify activities being implemented under the appropriate elements described in the countywide SQMP.

B. Best Management Practice Implementation

The Permittees shall implement or require the implementation of the most effective combination of BMPs for storm water/urban runoff pollution control. When implemented, BMPs are intended to result in the reduction of pollutants in storm water to the MEP.

C. Revision of the Storm Water Quality Management Program

The Permittees shall revise the SQMP, at the direction of the Regional Board Executive Officer, to incorporate program implementation amendments so as to comply with regional, watershed specific requirements, and/or waste load allocations developed and approved pursuant to the process for the designation and implementation of Total Maximum Daily Loads (TMDLs) for impaired water bodies.

D. Designation and Responsibilities of the Principal Permittee

The Los Angeles County Flood Control District is hereby designated as the Principal Permittee. As such, the Principal Permittee shall:

1. Coordinate and facilitate activities necessary to comply with the requirements of this Order, but is not responsible for ensuring compliance of any individual Permittee;
2. Coordinate permit activities among Permittees and act as liaison between Permittees and the Regional Board on permitting issues;
3. Provide personnel and fiscal resources for the necessary updates of the SQMP and its components;
4. Provide technical and administrative support for committees that will be organized to implement the SQMP and its components;
5. Convene the Watershed Management Committees (WMCs) constituted pursuant to Part F, below, upon designation of representatives;
6. Implement the Countywide Monitoring Program required under this Order and evaluate, assess and synthesize the results of the monitoring program;
7. Provide personnel and fiscal resources for the collection, processing and submittal to the Regional Board of annual reports and summaries of other reports required under the SQMP; and
8. Comply with the "Responsibilities of the Permittees" in Part 3.E., below.

E. Responsibilities of the Permittees

Each Permittee is required to comply with the requirements of this Order applicable to discharges within its boundaries (see Findings D.1, D.2. and D.3.) and not for the implementation of the provisions applicable to the Principal Permittee or other Permittees. Each Permittee shall, within its geographic jurisdiction:

1. Comply with the requirements of the SQMP and any modifications thereto;
2. Coordinate among its internal departments and agencies, as appropriate, to facilitate the implementation of the requirements of the SQMP applicable to such Permittee in an efficient and cost-effective manner;
3. Designate a technically knowledgeable representative to the appropriate WMC;
4. Participate in intra-agency coordination (e.g. Fire Department, Building and Safety, Code Enforcement, Public Health, etc.) necessary to successfully implement the provisions of this Order and the SQMP.
5. Prepare an annual Budget Summary of expenditures applied to the storm water management program. This summary shall identify the storm water budget for the following year, using estimated percentages and written explanations where necessary, for the specific categories noted below:
 - a) Program management
 - Administrative costs
 - b) Program Implementation

Where information is available, provide an estimated percent breakdown of expenditures for the categories below:

 - Illicit connection/illicit discharge
 - Development planning
 - Development construction
 - Construction inspection activities
 - Industrial/Commercial inspection activities
 - Public Agency Activities
 - Maintenance of Structural BMPs and Treatment Control BMPs
 - Municipal Street Sweeping
 - Catch basin clean-up
 - Trash collection
 - Capital costs
 - c) Public Information and Participation
 - d) Monitoring Program
 - e) Miscellaneous Expenditures

6. Each Permittee, in addition to the Budget Summary, shall report any supplemental dedicated budgets for the same categories.

F. Watershed Management Committees (WMCs)

1. Each WMC shall be comprised of a voting representative from each Permittee in the WMA.
2. The WMC's chair and secretary shall be chosen by the WMC upon Order adoption and on an annual basis, thereafter. In the absence of volunteer Permittee(s) for the positions, the Principal Permittee shall assume those roles until the WMC chooses members of the committee for the positions.
3. Each WMC shall:
 - a) Facilitate cooperation and exchange of information among Permittees;
 - b) Establish additional goals and objectives and associated deadlines for the WMA, as the program implementation progresses;
 - c) Prioritize pollution control efforts based on beneficial use impairment(s), watershed characteristics and analysis of results from studies and the monitoring program;
 - d) Develop and/or update and monitor the adequate implementation, on an annual basis, of the tasks identified for the WMA;
 - e) Assess the effectiveness of, prepare revisions for, and recommend appropriate changes to the SQMP and its components;
 - f) Continue to prioritize the Industrial/Commercial critical sources for investigation, outreach and follow-up; and
 - g) Meet four times per year and, as necessary.

G. Legal Authority

1. Permittees shall possess the necessary legal authority to prohibit non-storm water discharges to the storm drain system, including, but not limited to:
 - a) Illicit discharges and illicit connections and require removal of illicit connections;
 - b) The discharge of wash waters to the MS4 from the cleaning of gas stations, auto repair garages, or other types of automotive service facilities;
 - c) The discharge of runoff to the MS4 from mobile auto washing, steam cleaning, mobile carpet cleaning, and other such mobile commercial and industrial operations;

- d) The discharge of runoff to the MS4 from areas where repair of machinery and equipment which are visibly leaking oil, fluid or antifreeze, is undertaken;
- e) The discharge of runoff to the MS4 from storage areas of materials containing grease, oil, or other hazardous substances, and uncovered receptacles containing hazardous materials;
- f) The discharge of chlorinated/ brominated swimming pool water and filter backwash to the MS4;
- g) The discharge of runoff from the washing of toxic materials from paved or unpaved areas to the MS4;
- h) Washing impervious surfaces in industrial/commercial areas that results in a discharge of runoff to the MS4;
- i) The discharge of concrete or cement laden wash water from concrete trucks, pumps, tools, and equipment to the MS4; and
- j) Dumping or disposal of materials into the MS4 other than storm water, such as:
 - (1) Litter, landscape debris and construction debris;
 - (2) Any state or federally banned or unregistered pesticides;
 - (3) Food and food processing wastes; and
 - (4) Fuel and chemical wastes, animal wastes, garbage, batteries, and other materials that have potential adverse impacts on water quality.

2. The Permittees shall possess adequate legal authority to:

- a) Require persons within their jurisdiction to comply with conditions in Permittees' ordinances, permits, contracts, model programs, or orders (i.e. hold dischargers to its MS4 accountable for their contributions of pollutants and flows);
- b) Utilize enforcement mechanisms to require compliance with Permittees ordinances, permits, contracts, or orders;
- c) Control pollutants, including potential contribution, in discharges of storm water runoff associated with industrial activities (including construction activities) to its MS4 and control the quality of storm water runoff from industrial sites (including construction sites). This requirement applies to Source Control, and Treatment Control BMPs;
- d) Carry out all inspection, surveillance and monitoring procedures necessary to determine compliance and non-compliance with permit conditions, including the prohibition of illicit discharges to the MS4. Permittees must possess authority to enter, sample, inspect, review and copy records, and require regular reports from

- industrial facilities (including construction sites) discharging polluted or with the potential to discharge polluted storm water runoff into its MS4;
- e) Require the use of BMPs to prevent or reduce the discharge of pollutants to MS4s to MEP; and
 - f) Require that Treatment Control BMPs be properly operated and maintained to prevent the breeding of vectors.
3. Each Permittee shall, no later than November 1, 2002, amend and adopt (if necessary), a Permittee-specific storm water and urban runoff ordinance to enforce all requirements of this permit.
 4. Each Permittee shall submit no later than December 2, 2002, a new or updated statement by its legal counsel that the Permittee has obtained all necessary legal authority to comply with this Order through adoption of ordinances and/or municipal code modifications.

Part 4. SPECIAL PROVISIONS

Maximum Extent Practicable Standard

This permit, and the provisions herein, are intended to develop, achieve, and implement a timely, comprehensive, cost-effective storm water pollution control program to reduce the discharge of pollutants in storm water to the MEP from the permitted areas in the County of Los Angeles to the waters of the State.

A. General Requirements

1. Best Management Practice Substitution

The Regional Board Executive Officer may approve any site-specific BMP substitution upon petition by a Permittee(s), if the Permittee can document that:

- a) The proposed alternative BMP or program will meet or exceed the objective of the original BMP or program in the reduction of storm water pollutants; or
- b) The fiscal burden of the original BMP or program is substantially greater than the proposed alternative and does not achieve a substantially greater improvement in storm water quality; and,
- c) The proposed alternative BMP or program will be implemented within a similar period of time.

B. Public Information and Participation Program (PIPP)

The Principal Permittee shall implement a Public Information and Participation Program (PIPP) that includes, but is not limited to, the requirements listed in this section. The Principal Permittee shall be responsible for developing and

implementing the Public Education Program, as described in the SQMP, and shall coordinate with Permittees to implement specific requirements.

The objectives of the PIPP are as follows:

- To measurably increase the knowledge of the target audiences regarding the MS4, the impacts of storm water pollution on receiving waters, and potential solutions to mitigate the problems caused;
- To measurably change the waste disposal and runoff pollution generation behavior of target audiences by encouraging implementation of appropriate solutions; and
- To involve and engage socio-economic groups and ethnic communities in Los Angeles County to participate in mitigating the impacts of storm water pollution.

The Principal Permittee shall convene an advisory committee to provide input and assistance in meeting the goals and objectives of the public education campaign. The advisory committee shall be consulted during the process of developing the PIPP campaign, and shall provide comments and advice during the process of preparing a Request For Proposals for a storm water public education contractor. The committee may participate as a part of a working group that evaluates contractor proposals and other tasks as appropriate. The committee shall be comprised of representatives of the environmental community, Permittee cities, Regional Board staff, and experts in the fields of public education and marketing. The Principal Permittee shall ensure that the committee meets at least once a year.

1. Residential Program

a) "No Dumping" Message

Each Permittee shall mark all storm drain inlets that they own with a legible "no dumping" message. In addition, signs with prohibitive language discouraging illegal dumping must be posted at designated public access points to creeks, other relevant water bodies, and channels no later than February 2, 2004. Signage and storm drain messages shall be legible and maintained as necessary during the term of the permit.

b) Countywide Hotline

The 888-CLEAN-LA hotline will serve as the general public reporting contact for reporting clogged catch basin inlets and illicit discharges/dumping, faded or lack of catch basin stencils, and general storm water management information. Each Permittee may establish its own hotline if preferred. Permittees shall include this information, updated when necessary, in public information, and the government pages of the telephone book, as they are developed or published. The Principal Permittee shall compile a list of the general public reporting contacts from all Permittees and make this information available on the web site (888CleanLA.com) and upon request. Permittees shall provide the Principal Permittee with their reporting contacts no later than

March 1, 2002. Permittees are responsible for providing current, updated information to the Principal Permittee.

c) Outreach and Education

- (1) The Principal Permittee shall continue to implement the following activities that were components of the first five-year PIPP:
 - (i) Advertising;
 - (ii) Media relations;
 - (iii) Public service announcements;
 - (iv) "How To" instructional material distributed in a targeted and activity-related manner;
 - (v) Corporate, community association, environmental organization and entertainment industry tie-ins; and
 - (vi) Events targeted to specific activities and population subgroups.
- (2) The Principal Permittee shall develop a strategy to educate ethnic communities and businesses through culturally effective methods. Details of this strategy should be incorporated into the Public Education Program, and implemented, no later than February 3, 2003.
- (3) The Principal Permittee shall enhance the existing outreach efforts to residents and businesses related to the proper disposal of cigarette butts.
- (4) Each Permittee shall conduct educational activities within its jurisdiction and participate in countywide events.
- (5) The Principal Permittee shall organize Public Outreach Strategy meetings for Permittees on a quarterly basis, beginning no later than May 1, 2002. The Principal Permittee shall provide guidance for Permittees to augment the countywide outreach and education program. Permittees shall coordinate regional and local outreach and education to reduce duplication of efforts. Permittees are encouraged to include other interested parties in the outreach strategy to strengthen and coordinate educational efforts.
- (6) The Principal Permittee shall ensure that a minimum of 35 million impressions per year are made on the general public about storm water quality via print, local TV access, local radio, or other appropriate media.
- (7) The Principal Permittee, in cooperation with the Permittees, shall provide schools within each School

District in the County with materials, including, but not limited to, videos, live presentations, and other information necessary to educate a minimum of 50 percent of all school children (K-12) every 2 years on storm water pollution.

- (8) Permittees shall provide the contact information for their appropriate staff responsible for storm water public education activities to the Principal Permittee no later than April 1, 2002, and changes to contact information no later than 30 days after a change occurs.
- (9) The Principal Permittee shall develop a strategy to measure the effectiveness of in-school educational programs. The protocol shall include assessment of students' knowledge of storm water pollution problems and solutions before and after educational efforts are conducted. The protocol shall be developed and submitted to the Regional Board Executive Officer for approval no later than May 1, 2002. It shall be implemented upon approval.
- (10) In order to ensure that the PIPP is demonstrably effective in changing the behavior of the public, the Principal Permittee shall develop a behavioral change assessment strategy no later than May 1, 2002. The strategy shall be developed based on sociological data and studies (such as the County Segmentation Study). The Principal Permittee shall submit the assessment strategy to the Regional Board Executive Office for approval. It shall be implemented on approval.

d) Pollutant-Specific Outreach

The Principal Permittee, in cooperation with Permittees, shall coordinate to develop outreach programs that focus on the watershed-specific pollutants listed in Table 1 no later than February 3, 2003. Metals may be appropriately addressed through the Industrial/Commercial Facilities Program (e.g. distribute education materials on appropriate BMPs for metal waste management to facilities that have been identified as a potential source, such as metal fabricating facilities). Region-wide pollutants may be included in the Principal Permittee's mass media outreach efforts.

Table 1.	
Watershed	Target Pollutants for Outreach
Ballona Creek	Trash, Indicator Bacteria, Metals, PAHs
Malibu Creek	Trash, Nutrients (Nitrogen), Indicator Bacteria, Sediments
Los Angeles River	Trash, Nutrients (Nitrogen), Indicator

	Bacteria, Metals, Pesticides, PAHs
San Gabriel River	Trash, Nutrients (Nitrogen), Indicator Bacteria, Metals
Santa Clara River	Nutrients (Nitrogen), Coliform
Dominguez Channel	Trash, Indicator Bacteria, PAHs

Each Permittee shall make outreach materials available to the general public and target audiences, such as schools, community groups, contractors and developers, and at appropriate public counters and events. Outreach material shall include information on pollutants, sources of concern, and source abatement measures.

2. Businesses Program

a) Corporate Outreach

The Principal Permittee shall develop and implement a Corporate Outreach program to educate and inform corporate managers about storm water regulations. The program shall target RGOs and restaurant chains. At a minimum, this program shall include:

- (1) Conferring with corporate management to explain storm water regulations;
- (2) Distribution and discussion of educational material regarding storm water pollution and BMPs, and provide managers with suggestions to facilitate employee compliance with storm water regulations.

Corporate Outreach for all RGOs and restaurant chain corporations shall be conducted not less than twice during the permit term, with the first outreach contact to begin no later than February 3, 2003.

b) Business Assistance Program

The Principal Permittee and Permittees may implement a Business Assistance Program to provide technical resource assistance to small businesses to advise them on BMPs implementation to reduce the discharge of pollutants in storm water runoff. Programs may include:

- (1) On-site technical assistance or consultation via telephone to identify and implement storm water pollution prevention methods and best management practices; and
- (2) Making available, distributing, and discussing of applicable BMP and educational materials.

C. Industrial/Commercial Facilities Control Program

Each Permittee shall require implementation of pollutant reduction and control measures at industrial and commercial facilities, with the objective of reducing pollutants in storm water runoff. Except as specified in other sections of this Order, pollutant reduction and control measures can be used alone or in combination, and can include Structural and Source Control BMPs, and operation and maintenance procedures, which can be applied before, during, and/or after pollution generating activities. At a minimum, the Industrial/Commercial Facilities Control Program shall include requirements to: (1) track, (2) inspect, and (3) ensure compliance at industrial and commercial facilities that are critical sources of pollutants in storm water.

1. Track Critical Sources

- a) Each Permittee shall maintain a watershed-based inventory or database of all facilities within its jurisdiction that are critical sources of storm water pollution. Critical sources to be tracked are summarized below, and also specified in Attachment B:
- (1) Commercial Facilities
 - restaurants;
 - automotive service facilities; and
 - RGOs and automotive dealerships.
 - (2) USEPA Phase I Facilities (Tier 1 and 2)
 - (3) Other Federally-mandated Facilities [as specified in 40 CFR 122.26(d)(2)(iv)(C)]
 - municipal landfills;
 - hazardous waste treatment, disposal, and recovery facilities; and
 - facilities subject to SARA Title III (also known as EPCRA).
- b) Each Permittee shall include the following minimum fields of information for each industrial and commercial facility:
- name of facility and name of owner/operator;
 - address;
 - coverage under the GIASP or other individual or general NPDES permits; and
 - a narrative description including SIC codes that best reflects the industrial activities at and principal products of each facility.

The Regional Board encourages Permittees to add other fields of information, such as material usage and/or industrial output, and discrepancies between SIC Code designations (as reported by facility operators) and the actual type of industrial activity has the potential to pollute storm water. In addition, the Regional Board recommends use of an automated database system, such as a Geographical Information System (GIS) or Internet-based system; however, this is not required.

- c) Each Permittee shall update its inventory of critical sources at least annually. The update may be accomplished through collection of new information obtained through field activities or through other readily available intra-agency informational databases (e.g. business licenses, pretreatment permits, sanitary sewer hook-up permits).

2. Inspect Critical Sources

Each Permittee shall inspect all facilities in the categories and at a level and frequency as specified in the following subsections.

a) Commercial Facilities

(1) Restaurants

Frequency of Inspections: Twice during the 5-year term of the Order, provided that the first inspection occurs no later than August 1, 2004, and that there is a minimum interval of one year in between the first compliance inspection and the second compliance inspection.

Level of inspections: Each Permittee, in cooperation with its appropriate department (such as health or public works), shall inspect all restaurants within its jurisdiction to confirm that storm water BMPs are being effectively implemented in compliance with State law, County and municipal ordinances, Regional Board Resolution 98-08, and the SQMP. At each restaurant, inspectors shall verify that the restaurant operator:

- has received educational materials on storm water pollution prevention practices;
- does not pour oil and grease or oil and grease residue onto a parking lot, street or adjacent catch basin;
- keeps the trash bin area clean and trash bin lids closed, and does not fill trash bins with washout water or any other liquid;
- does not allow illicit discharges, such as discharge of washwater from floormats, floors, porches, parking lots, alleys, sidewalks and street areas (in the immediate vicinity of the establishment), filters or garbage/trash containers;
- removes food waste, rubbish or other materials from parking lot areas in a sanitary manner that does not create a nuisance or discharge to the storm drain.

(2) Automotive Service Facilities

Frequency of Inspections: Twice during the 5-year term of the Order, provided that the first inspection occurs no later than August 1, 2004, and that there is a minimum interval of one year in between the first compliance inspection and the second compliance inspection.

Level of inspections: Each Permittee shall inspect all automotive service facilities within its jurisdiction to confirm that storm water BMPs are effectively implemented in compliance with County and municipal ordinances, Regional Board Resolution 98-08, and the SQMP. At each automotive service facility, inspectors shall verify that each operator:

- maintains the facility area so that it is clean and dry and without evidence of excessive staining;
- implements housekeeping BMPs to prevent spills and leaks;
- properly discharges wastewaters to a sanitary sewer and/or contains wastewaters for transfer to a legal point of disposal;
- is aware of the prohibition on discharge of non-storm water to the storm drain;
- properly manages raw and waste materials including proper disposal of hazardous waste;
- protects outdoor work and storage areas to prevent contact of pollutants with rainfall and runoff;
- labels, inspects, and routinely cleans storm drain inlets that are located on the facility's property; and
- trains employees to implement storm water pollution prevention practices.

(3) Retail Gasoline Outlets and Automotive Dealerships

Frequency of Inspection: Twice during the 5-year term of the Order, provided that the first inspection occurs no later than August 1, 2004, and that there is a minimum interval of one year in between the first compliance inspection and the second compliance inspection.

Level of Inspection: Each Permittee shall confirm that BMPs are being effectively implemented at each RGO and automotive dealership within its jurisdiction, in compliance with the SQMP, Regional Board Resolution 98-08, and the Stormwater Quality Task Force Best Management Practice Guide for RGOs. At each RGO and automotive dealership, inspectors shall verify that each operator:

- routinely sweeps fuel-dispensing areas for removal of litter and debris, and keeps rags and absorbents ready for use in case of leaks and spills;
- is aware that washdown of facility area to the storm drain is prohibited;
- is aware of design flaws (such as grading that doesn't prevent run-on, or inadequate roof covers and berms), and that equivalent BMPs are implemented;
- inspects and cleans storm drain inlets and catch basins within each facility's boundaries no later than October 1st of each year;
- posts signs close to fuel dispensers, which warn vehicle owners/operators against "topping off" of vehicle fuel tanks and installation of automatic shutoff fuel dispensing nozzles;
- routinely checks outdoor waste receptacle and air/water supply areas, cleans leaks and drips, and ensures that only watertight waste receptacles are used and that lids are closed; and
- trains employees to properly manage hazardous materials and wastes as well as to implement other storm water pollution prevention practices.

b) Phase I Facilities

Permittees need not inspect facilities that have been inspected by the Regional Board within the past 24 months. For the remaining Phase I facilities that the Regional Board has not inspected, each Permittee shall conduct compliance inspections as specified below.

Frequency of Inspection

Facilities in Tier 1 Categories: Twice during the 5-year term of the Order, provided that the first inspection occurs no later than August 1, 2004, and that there is a minimum interval of one year in between the first compliance inspection and the second compliance inspection.

Facilities in Tier 2 Categories: Twice during the 5-year term of the permit, provided that the first inspection occurs no later than August 1, 2004. Permittees need not perform additional inspections at those facilities determined to have no risk of exposure of industrial activity to storm water. For those facilities that do have exposure of industrial activities to storm water, a Permittee may reduce the frequency of additional compliance inspections to once every 5 years, provided that the Permittee inspects at least 20% of the facilities in Tier 2 each year.

Level of Inspection: Each Permittee shall confirm that each operator:

- has a current Waste Discharge Identification (WDID) number for facilities discharging storm water associated with industrial activity, and that a Storm Water Pollution Prevention Plan is available on-site, and
- is effectively implementing BMPs in compliance with County and municipal ordinances, Regional Board Resolution 98-08, and the SQMP.

c) Other Federally-mandated Facilities

Frequency of Inspection: Twice during the 5-year term of the Order, provided that the first inspection occurs no later than August 1, 2004, and that there is a minimum interval of one year in between the first compliance inspection and the second compliance inspection.

Level of Inspection: Each Permittee shall confirm that each operator:

- has a current Waste Discharge Identification (WDID) number for facilities discharging storm water associated with industrial activity, and that a Storm Water Pollution Prevention Plan is available on-site, and
- is effectively implementing BMPs in compliance with County and municipal ordinances, Regional Board Resolution 98-08, and the SQMP.

3. Ensure Compliance of Critical Sources

- a) **BMP Implementation:** In the event that a Permittee determines that a BMP specified by the SQMP or Regional Board Resolution 98-08 is infeasible at any site, that Permittee shall require implementation of other BMPs that will achieve the equivalent reduction of pollutants in the storm water discharges. Likewise, for those BMPs that are not adequate to achieve water quality objectives, Permittees may require additional site-specific controls, such as Treatment Control BMPs.

- b) **Environmentally Sensitive Areas and Impaired Waters:** For critical sources that are in ESAs or that are tributary to CWA § 303(d) impaired water bodies, Permittees shall consider requiring operators to implement additional controls to reduce pollutants in storm water runoff that are causing or contributing to the exceedences of Water Quality Objectives.
- c) **Progressive Enforcement:** Each Permittee shall implement a progressive enforcement policy to ensure that facilities are brought into compliance with all storm water requirements within a reasonable time period as specified below.
- (1) In the event that a Permittee determines, based on an inspection conducted above, that an operator has failed to adequately implement all necessary BMPs, that Permittee shall take progressive enforcement action which, at a minimum, shall include a follow-up inspection within 4 weeks from the date of the initial inspection.
 - (2) In the event that a Permittee determines that an operator has failed to adequately implement BMPs after a follow-up inspection, that Permittee shall take further enforcement action as established through authority in its municipal code and ordinances or through the judicial system.
 - (3) Each Permittee shall maintain records, including inspection reports, warning letters, notices of violations, and other enforcement records, demonstrating a good faith effort to bring facilities into compliance.
- d) Interagency Coordination
- (1) **Referral of Violations of the SQMP, Regional Board Resolution 98-08, and Municipal Storm Water Ordinances:** A Permittee may refer a violation(s) to the Regional Board provided that that Permittee has made a good faith effort of progressive enforcement. At a minimum, a Permittee's good faith effort must include documentation of:
 - Two follow-up inspections, and
 - Two warning letters or notices of violation.
 - (2) **Referral of Violations of the GIASP, including Requirements to File a Notice of Intent:** For those facilities in violation of the GIASP, Permittees may escalate referral of such violations to the Regional Board after one inspection and one written notice to the operator regarding the violation. In making such referrals, Permittees shall include, at a minimum, the following documentation:

- Name of the facility;
- Operator of the facility;
- Owner of the facility;
- Industrial activity being conducted at the facility that is subject to the GIASP; and
- Records of communication with the facility operator regarding the violation, which shall include at least an inspection report and one written notice of the violation.

Permittees shall, at a minimum, make such referrals on a quarterly basis.

- (3) **Investigation of Complaints Regarding Facilities – Transmitted by the Regional Board Staff:** Each Permittee shall initiate, within one business day, investigation of complaints (other than non-storm water discharges) regarding facilities within its jurisdiction. The initial investigation shall include, at a minimum, a limited inspection of the facility to confirm the complaint to determine if the facility is effectively complying with the SQMP and municipal storm water/urban runoff ordinances, and to oversee corrective action.
- (4) **Support of Regional Board Enforcement Actions:** As directed by the Regional Board Executive Officer, Permittees shall support Regional Board enforcement actions by: assisting in identification of current owners, operators, and lessees of facilities; providing staff, when available, for joint inspections with Regional Board inspectors; appearing as witnesses in Regional Board enforcement hearings; and providing copies of inspection reports and other progressive enforcement documentation.
- (5) **Participation in a Task Force:** The Permittees, Regional Board, and other stakeholders may form a Storm Water Task Force, the purpose of which is to communicate concerns regarding special cases of storm water violations by industrial and commercial facilities and to develop a coordinated approach to enforcement action.

D. Development Planning Program

The Permittees shall implement a development-planning program that will require all Planning Priority development and Redevelopment projects to:

- Minimize impacts from storm water and urban runoff on the biological integrity of Natural Drainage Systems and water bodies in accordance with requirements under CEQA (Cal. Pub. Resources Code § 21100), CWC §

13369, CWA § 319, CWA § 402(p), CWA § 404, CZARA § 6217(g), ESA § 7, and local government ordinances ;

- Maximize the percentage of pervious surfaces to allow percolation of storm water into the ground;
- Minimize the quantity of storm water directed to impervious surfaces and the MS4;
- Minimize pollution emanating from parking lots through the use of appropriate Treatment Control BMPs and good housekeeping practices;
- Properly design and maintain Treatment Control BMPs in a manner that does not promote the breeding of vectors; and
- Provide for appropriate permanent measures to reduce storm water pollutant loads in storm water from the development site.

1. Peak Flow Control

The Permittees shall control post-development peak storm water runoff discharge rates, velocities, and duration (peak flow control) in Natural Drainage Systems (i.e., mimic pre-development hydrology) to prevent accelerated stream erosion and to protect stream habitat. Natural Drainage Systems are located in the following areas:

- a) Malibu Creek;
- b) Topanga Canyon Creek;
- c) Upper Los Angeles River;
- d) Upper San Gabriel River;
- e) Santa Clara River; and
- f) Los Angeles County Coastal streams (see Basin Plan Table 2-1).

The Principal Permittee in consultation with Permittees shall develop numerical criteria for peak flow control, based on the results of the Peak Discharge Impact Study (see Monitoring Program Section II.I).

Each Permittee shall, no later than February 1, 2005, implement numerical criteria for peak flow control.

A Permittee or group of Permittees may substitute for the countywide peak flow control criteria with a Hydromodification Control Plan (HCP), on approval by the Regional Board, in the following circumstances:

- (1) Stream or watershed-specific conditions indicate the need for a different peak flow control criteria, and the alternative numerical criteria is developed through the application of hydrologic modeling and supporting field observations; or

- (2) A watershed-wide plan has been developed for implementation of control measures to reduce erosion and stabilize drainage systems on a watershed basis.
2. Standard Urban Storm Water Mitigation Plans (SUSMPs)
 - a) Each Permittee shall amend codes and ordinances not later than August 1, 2002 to give legal effect to SUSMP changes contained in this Order. Changes to SUSMP requirements shall take effect not later than September 2, 2002.
 - b) Each Permittee shall require that a single-family hillside home:
 - (1) Conserve natural areas;
 - (2) Protect slopes and channels;
 - (3) Provide storm drain system stenciling and signage;
 - (4) Divert roof runoff to vegetated areas before discharge unless the diversion would result in slope instability; and
 - (5) Direct surface flow to vegetated areas before discharge unless the diversion would result in slope instability.
 - c) Each Permittee shall require that a SUSMP as approved by the Regional Board in Board Resolution No. R 00-02 be implemented for the following categories of developments:
 - (1) Ten or more unit homes (includes single family homes, multifamily homes, condominiums, and apartments);
 - (2) A 100,000 or more square feet of impervious surface area industrial/ commercial development;
 - (3) Automotive service facilities (SIC 5013, 5014, 5541, 7532-7534, and 7536-7539);
 - (4) Retail gasoline outlets;
 - (5) Restaurants (SIC 5812);
 - (6) Parking lots 5,000 square feet or more of surface area or with 25 or more parking spaces; and
 - (7) Redevelopment projects in subject categories that meet Redevelopment thresholds.

- d) Each Permittee shall submit an ESA Delineation Map for its jurisdictional boundary, based on the Regional Board's ESA Definition, no later than June 3, 2002, for approval by the Regional Board Executive Officer in consultation with the California Department of Fish and Game, and the California Coastal Commission.
- e) Each Permittee shall require the implementation of SUSMP provisions no later than September 2, 2002, for all projects located in or directly adjacent to or discharging directly to an ESA, where the development will:
 - (1) Discharge storm water and urban runoff that is likely to impact a sensitive biological species or habitat; and
 - (2) Create 2,500 square feet or more of impervious surface area.

3. Numerical Design Criteria

The Permittees shall require that post-construction Treatment Control BMPs incorporate, at a minimum, either a volumetric or flow based treatment control design standard, or both, as identified below to mitigate (infiltrate, filter or treat) storm water runoff:

- a) Volumetric Treatment Control BMP
 - (1) The 85th percentile 24-hour runoff event determined as the maximized capture storm water volume for the area, from the formula recommended in *Urban Runoff Quality Management, WEF Manual of Practice No. 23/ ASCE Manual of Practice No. 87, (1998)*; or
 - (2) The volume of annual runoff based on unit basin storage water quality volume, to achieve 80 percent or more volume treatment by the method recommended in *California Stormwater Best Management Practices Handbook – Industrial/ Commercial, (1993)*; or
 - (3) The volume of runoff produced from a 0.75 inch storm event, prior to its discharge to a storm water conveyance system; or
 - (4) The volume of runoff produced from a historical-record based reference 24-hour rainfall criterion for "treatment" (0.75 inch average for the Los Angeles County area) that achieves approximately the same reduction in pollutant loads achieved by the 85th percentile 24-hour runoff event.
- b) Flow Based Treatment Control BMP
 - (1) The flow of runoff produced from a rain event equal to at least 0.2 inches per hour intensity; or

- (2) The flow of runoff produced from a rain event equal to at least two times the 85th percentile hourly rainfall intensity for Los Angeles County; or
- (3) The flow of runoff produced from a rain event that will result in treatment of the same portion of runoff as treated using volumetric standards above.

4. Applicability of Numerical Design Criteria

The Permittees shall require the following categories of Planning Priority Projects to design and implement post-construction treatment controls to mitigate storm water pollution:

- a) Single-family hillside residential developments of one acre or more of surface area;
- b) Housing developments (includes single family homes, multifamily homes, condominiums, and apartments) of ten units or more;
- c) A 100,000 square feet or more impervious surface area industrial/commercial development;
- d) Automotive service facilities (SIC 5013, 5014, 5541, 7532-7534 and 7536-7539) [5,000 square feet or more of surface area];
- e) Retail gasoline outlets [5,000 square feet or more of impervious surface area and with projected Average Daily Traffic (ADT) of 100 or more vehicles]. Subsurface Treatment Control BMPs which may endanger public safety (i.e., create an explosive environment) are considered not appropriate;
- f) Restaurants (SIC 5812) [5,000 square feet or more of surface area];
- g) Parking lots 5,000 square feet or more of surface area or with 25 or more parking spaces;
- h) Projects located in, adjacent to or discharging directly to an ESA that meet threshold conditions identified above in 2.e; and
- i) Redevelopment projects in subject categories that meet Redevelopment thresholds.

5. Not later than March 10, 2003, each Permittee shall require the implementation of SUSMP and post-construction control requirements for the industrial/commercial development category to projects that disturb one acre or more of surface area.

6. Site Specific Mitigation

Each Permittee shall, no later than September 2, 2002, require the implementation of a site-specific plan to mitigate post-development storm water for new development and redevelopment not requiring a SUSMP

but which may potentially have adverse impacts on post-development storm water quality, where one or more of the following project characteristics exist:

- a) Vehicle or equipment fueling areas;
- b) Vehicle or equipment maintenance areas, including washing and repair;
- c) Commercial or industrial waste handling or storage;
- d) Outdoor handling or storage of hazardous materials;
- e) Outdoor manufacturing areas;
- f) Outdoor food handling or processing;
- g) Outdoor animal care, confinement, or slaughter; or
- h) Outdoor horticulture activities.

7. Redevelopment Projects

The Permittees shall apply the SUSMP, or site specific requirements including post-construction storm water mitigation to all Planning Priority Projects that undergo significant Redevelopment in their respective categories.

- a) Significant Redevelopment means land-disturbing activity that results in the creation or addition or replacement of 5,000 square feet or more of impervious surface area on an already developed site.

Where Redevelopment results in an alteration to more than fifty percent of impervious surfaces of a previously existing development, and the existing development was not subject to post development storm water quality control requirements, the entire project must be mitigated. Where Redevelopment results in an alteration to less than fifty percent of impervious surfaces of a previously existing development, and the existing development was not subject to post development storm water quality control requirements, only the alteration must be mitigated, and not the entire development.

- b) Redevelopment does not include routine maintenance activities that are conducted to maintain original line and grade, hydraulic capacity, original purpose of facility or emergency redevelopment activity required to protect public health and safety.
- c) Existing single family structures are exempt from the Redevelopment requirements.

8. Maintenance Agreement and Transfer

Each Permittee shall require that all developments subject to SUSMP and site specific plan requirements provide verification of maintenance provisions for Structural and Treatment Control BMPs, including but not limited to legal agreements, covenants, CEQA mitigation requirements, and or conditional use permits. Verification at a minimum shall include:

- a) The developer's signed statement accepting responsibility for maintenance until the responsibility is legally transferred; and either
- b) A signed statement from the public entity assuming responsibility for Structural or Treatment Control BMP maintenance and that it meets all local agency design standards; or
- c) Written conditions in the sales or lease agreement, which requires the recipient to assume responsibility for maintenance and conduct a maintenance inspection at least once a year; or
- d) Written text in project conditions, covenants and restrictions (CCRs) for residential properties assigning maintenance responsibilities to the Home Owners Association for maintenance of the Structural and Treatment Control BMPs; or
- e) Any other legally enforceable agreement that assigns responsibility for the maintenance of post-construction Structural or Treatment Control BMPs.

9. Regional Storm Water Mitigation Program

A Permittee or Permittee group may apply to the Regional Board for approval of a regional or sub-regional storm water mitigation program to substitute in part or wholly SUSMP requirements. Upon review and a determination by the Regional Board Executive Officer that the proposal is technically valid and appropriate, the Regional Board may consider for approval such a program if its implementation will:

- a) Result in equivalent or improved storm water quality;
- b) Protect stream habitat;
- c) Promote cooperative problem solving by diverse interests;
- d) Be fiscally sustainable and has secure funding; and
- e) Be completed in five years including the construction and start-up of treatment facilities.

Nothing in this provision shall be construed as to delay the implementation of SUSMP requirements, as approved in this Order.

10. Mitigation Funding

The Permittees may propose a management framework, for endorsement by the Regional Board Executive Officer, to support regional or sub-

regional solutions to storm water pollution, where any of the following situations occur:

- a) A waiver for impracticability is granted;
- b) Legislative funds become available;
- c) Off-site mitigation is required because of loss of environmental habitat; or
- d) An approved watershed management plan or a regional storm water mitigation plan exists that incorporates an equivalent or improved strategy for storm water mitigation.

11. California Environmental Quality Act (CEQA) Document Update

Each Permittee shall incorporate into its CEQA process, with immediate effect, procedures for considering potential storm water quality impacts and providing for appropriate mitigation when preparing and reviewing CEQA documents. The procedures shall require consideration of the following:

- a) Potential impact of project construction on storm water runoff;
- b) Potential impact of project post-construction activity on storm water runoff;
- c) Potential for discharge of storm water from areas from material storage, vehicle or equipment fueling, vehicle or equipment maintenance (including washing), waste handling, hazardous materials handling or storage, delivery areas or loading docks, or other outdoor work areas;
- d) Potential for discharge of storm water to impair the beneficial uses of the receiving waters or areas that provide water quality benefit;
- e) Potential for the discharge of storm water to cause significant harm on the biological integrity of the waterways and water bodies;
- f) Potential for significant changes in the flow velocity or volume of storm water runoff that can cause environmental harm; and
- g) Potential for significant increases in erosion of the project site or surrounding areas.

12. General Plan Update

- a) Each Permittee shall amend, revise or update its General Plan to include watershed and storm water quality and quantity management considerations and policies when any of the following General Plan elements are updated or amended: (i) Land Use, (ii) Housing, (iii) Conservation, and (iv) Open Space.
- b) Each Permittee shall provide the Regional Board with the draft amendment or revision when a listed General Plan element or the

General Plan is noticed for comment in accordance with Cal. Govt. Code § 65350 *et seq.*

13. Targeted Employee Training

Each Permittee shall train its employees in targeted positions (whose jobs or activities are engaged in development planning) regarding the development planning requirements on an annual basis beginning no later than August 1, 2002, and more frequently if necessary. For Permittees with a population of 250,000 or more (2000 U.S. Census), training shall be completed no later than February 3, 2003.

14. Developer Technical Guidance and Information

- a) Each Permittee shall develop and make available to the developer community SUSMP (development planning) guidelines immediately.
- b) The Principal Permittee in partnership with Permittees shall issue no later than February 2, 2004, a technical manual for the siting and design of BMPs for the development community in Los Angeles County. The technical manual may be adapted from the revised California Storm Water Quality Task Force Best Management Practices Handbooks scheduled for publication in September 2002. The technical manual shall at a minimum include:
 - (1) Treatment Control BMPs based on flow-based and volumetric water quality design criteria for the purposes of countywide consistency;
 - (2) Peak Flow Control criteria to control peak discharge rates, velocities and duration;
 - (3) Expected pollutant removal performance ranges obtained from national databases, technical reports and the scientific literature;
 - (4) Maintenance considerations; and
 - (5) Cost considerations.

E. Development Construction Program

1. Each Permittee shall implement a program to control runoff from construction activity at all construction sites within its jurisdiction. The program shall ensure the following minimum requirements are effectively implemented at all construction sites:
 - a) Sediments generated on the project site shall be retained using adequate Treatment Control or Structural BMPs;
 - b) Construction-related materials, wastes, spills, or residues shall be retained at the project site to avoid discharge to streets, drainage

- facilities, receiving waters, or adjacent properties by wind or runoff;
- c) Non-storm water runoff from equipment and vehicle washing and any other activity shall be contained at the project site; and
 - d) Erosion from slopes and channels shall be controlled by implementing an effective combination of BMPs (as approved in Regional Board Resolution No. 99-03), such as the limiting of grading scheduled during the wet season; inspecting graded areas during rain events; planting and maintenance of vegetation on slopes; and covering erosion susceptible slopes.
2. For construction sites one acre and greater, each Permittee shall comply with all conditions in section E.1. above and shall:
- a) Require the preparation and submittal of a Local Storm Water Pollution Prevention Plan (Local SWPPP), for approval prior to issuance of a grading permit for construction projects.
The Local SWPPP shall include appropriate construction site BMPs and maintenance schedules. (A Local SWPPP may substitute for the State SWPPP if the Local SWPPP is at least as inclusive in controls and BMPs as the State SWPPP). The Local SWPPP must include the rationale used for selecting or rejecting BMPs. The project architect, or engineer of record, or authorized qualified designee, must sign a statement on the Local SWPPP to the effect:

“As the architect/engineer of record, I have selected appropriate BMPs to effectively minimize the negative impacts of this project’s construction activities on storm water quality. The project owner and contractor are aware that the selected BMPs must be installed, monitored, and maintained to ensure their effectiveness. The BMPs not selected for implementation are redundant or deemed not applicable to the proposed construction activity.”

The landowner or the landowner’s agent shall sign a statement to the effect:

“I certify that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system or those persons directly responsible for gathering the information, to the best of my knowledge and belief, the information submitted is true, accurate, and complete. I am aware that submitting false and/or inaccurate information, failing to update the Local SWPPP to reflect current conditions, or failing to properly and/or adequately implement the Local SWPPP may result in revocation of grading and/or other permits or other sanctions provided by law.”

The Local SWPPP certification shall be signed by the landowner as follows, for a corporation: by a responsible corporate officer which means (a) a president, secretary, treasurer, or vice president of the corporation in charge of a principal business function, or any other person who performs similar policy or decision-making functions for the corporation, or (b) the manager of the construction activity if authority to sign documents has been assigned or delegated to the manager in accordance with corporate procedures; for a partnership or sole proprietorship: by a general partner or the proprietor; or for a municipality or other public agency: by an elected official, a ranking management official (e.g., County Administrative Officer, City Manager, Director of Public Works, City Engineer, District Manager), or the manager of the construction activity if authority to sign Local SWPPPs has been assigned or delegated to the manager in accordance with established agency policy.

- b) Inspect all construction sites for storm water quality requirements during routine inspections a minimum of once during the wet season. The Local SWPPP shall be reviewed for compliance with local codes, ordinances, and permits. For inspected sites that have not adequately implemented their Local SWPPP, a follow-up inspection to ensure compliance will take place within 2 weeks. If compliance has not been attained, the Permittee will take additional actions to achieve compliance (as specified in municipal codes). If compliance has not been achieved, and the site is also covered under a statewide general construction storm water permit, each Permittee shall enforce their local ordinance requirements, and if non-compliance continues the Regional Board shall be notified for further joint enforcement actions.
 - c) Require, no later than March 10, 2003, prior to issuing a grading permit for all projects less than five acres requiring coverage under a statewide general construction storm water permit, proof of a Waste Discharger Identification (WDID) Number for filing a Notice of Intent (NOI) for permit coverage and a certification that a SWPPP has been prepared by the project developer. A Local SWPPP may substitute for the State SWPPP if the Local SWPPP is at least as inclusive in controls and BMPs as the State SWPPP.
3. For sites five acres and greater, each Permittee shall comply with all conditions in Sections E.1. and E.2. and shall:
- a) Require, prior to issuing a grading permit for all projects requiring coverage under the state general permit, proof of a Waste Discharger Identification (WDID) Number for filing a Notice of Intent (NOI) for coverage under the GCASP and a certification that a SWPPP has been prepared by the project developer. A Local SWPPP may substitute for the State SWPPP if the Local SWPPP is at least as inclusive in controls and BMPs as the State SWPPP.

- b) Require proof of an NOI and a copy of the SWPPP at any time a transfer of ownership takes place for the entire development or portions of the common plan of development where construction activities are still on-going.
 - c) Use an effective system to track grading permits issued by each Permittee. To satisfy this requirement, the use of a database or GIS system is encouraged, but not required.
4. GCASP Violation Referrals
- a) Referral of Violations of the SQMP, Regional Board Resolution 98-08, and municipal storm water ordinances:
A Permittee may refer a violation(s) to the Regional Board provided that the Permittee has made a good faith effort of progressive enforcement. At a minimum, a Permittee's good faith effort must include documentation of:
 - Two follow-up inspections within 3 months, and
 - Two warning letters or notices of violation.
 - b) Referral of Violations of GCASP Filing Requirements:
For those projects subject to the GCASP, Permittees shall refer non-filers (i.e., those projects which cannot demonstrate that they have a WDID number) to the Regional Board, within 15 days of making a determination. In making such referrals, Permittees shall include, at a minimum, the following documentation:
 - Project location;
 - Developer;
 - Estimated project size; and
 - Records of communication with the developer regarding filing requirements.
5. Each Permittee shall train employees in targeted positions (whose jobs or activities are engaged in construction activities including construction inspection staff) regarding the requirements of the storm water management program no later than August 1, 2002, and annually thereafter. For Permittees with a population of 250,000 or more (2000 U.S. Census), initial training shall be completed no later than February 3, 2003. Each Permittee shall maintain a list of trained employees.

F. Public Agency Activities Program

Each Permittee shall implement a Public Agency program to minimize storm water pollution impacts from public agency activities. Public Agency requirements consist of:

- Sewage Systems Maintenance, Overflow, and Spill Prevention
- Public Construction Activities Management
- Vehicle Maintenance/Material Storage Facilities/Corporation Yards Management
- Landscape and Recreational Facilities Management

- Storm Drain Operation and Management
 - Streets and Roads Maintenance
 - Parking Facilities Management
 - Public Industrial Activities Management
 - Emergency Procedures
 - Treatment Feasibility Study
1. Sewage System Maintenance, Overflow, and Spill Prevention
 - a) Each Permittee shall implement a response plan for overflows of the sanitary sewer system within their respective jurisdiction, which shall consist at a minimum of the following:
 - (1) Investigation of any complaints received;
 - (2) Upon notification, immediate response to overflows for containment; and
 - (3) Notification to appropriate sewer and public health agencies when a sewer overflows to the MS4.
 - b) In addition to 1.a.1, 1.a.2, and 1.a.3 above, for those Permittees, which own and/or operate a sanitary sewer system, the Permittee shall also implement the following requirements:
 - (1) Procedures to prevent sewage spills or leaks from sewage facilities from entering the MS4; and
 - (2) Identify, repair, and remediate sanitary sewer blockages, exfiltration, overflow, and wet weather overflows from sanitary sewers to the MS4.
 2. Public Construction Activities Management
 - a) Each Permittee shall implement the Development Planning Program requirements (Permit Part 4.D) at public construction projects.
 - b) Each Permittee shall implement the Development Construction Program requirements (Permit Part 4.E) at Permittee owned construction sites.
 - c) Each Permittee shall obtain coverage under the GCASP for public construction sites 5 acres or greater (or part of a larger area of development) except that a municipality under 100,000 in population (1990 U.S. Census) need not obtain coverage under a separate permit until March 10, 2003.
 - d) Each Permittee, no later than March 10, 2003, shall obtain coverage under a statewide general construction storm water permit for public construction sites for projects between one and five acres.

3. Vehicle Maintenance/Material Storage Facilities/Corporation Yards Management
 - a) Each Permittee, consistent with the SQMP, shall implement SWPPPs for public vehicle maintenance facilities, material storage facilities, and corporation yards which have the potential to discharge pollutants into storm water.
 - b) Each Permittee shall implement BMPs to minimize pollutant discharges in storm water including but not be limited to:
 - (1) Good housekeeping practices;
 - (2) Material storage control;
 - (3) Vehicle leaks and spill control; and
 - (4) Illicit discharge control.
 - c) Each Permittee shall implement the following measures to prevent the discharge of pollutants to the MS4:
 - (1) For existing facilities, that are not already plumbed to the sanitary sewer, all vehicle and equipment wash areas (except for fire stations) shall either be:
 - (i) Self-contained;
 - (ii) Equipped with a clarifier;
 - (iii) Equipped with an alternative pre-treatment device; or
 - (iv) Plumbed to the sanitary sewer.
 - (2) For new facilities, or during redevelopment of existing facilities (including fire stations), all vehicle and equipment wash areas shall be plumbed to the sanitary sewer and be equipped with a pre-treatment device in accordance with requirements of the sewer agency.
4. Landscape and Recreational Facilities Management

Each Permittee shall implement the following requirements:

 - a) A standardized protocol for the routine and non-routine application of pesticides, herbicides (including pre-emergents), and fertilizers;
 - b) Consistency with State Board's guidelines and monitoring requirements for application of aquatic pesticides to surface waters (WQ Order No. 2001-12 DWQ);
 - c) Ensure no application of pesticides or fertilizers immediately before, during, or immediately after a rain event or when water is flowing off the area to be applied;

- d) Ensure that no banned or unregistered pesticides are stored or applied;
 - e) Ensure that staff applying pesticides are certified by the California Department of Food and Agriculture, or are under the direct supervision of a certified pesticide applicator;
 - f) Implement procedures to encourage retention and planting of native vegetation and to reduce water, fertilizer, and pesticide needs;
 - g) Store fertilizers and pesticides indoors or under cover on paved surfaces or use secondary containment;
 - h) Reduce the use, storage, and handling of hazardous materials to reduce the potential for spills; and
 - i) Regularly inspect storage areas.
5. Storm Drain Operation and Management
- a) Each Permittee shall designate catch basin inlets within its jurisdiction as one of the following:
 - Priority A: Catch basins that are designated as consistently generating the highest volumes of trash and/or debris.
 - Priority B: Catch basins that are designated as consistently generating moderate volumes of trash and/or debris.
 - Priority C: Catch basins that are designated as generating low volumes of trash and/or debris.
 - b) Permittees subject to a trash TMDL (Los Angeles River and Ballona Creek WMAs) shall continue to implement the requirements listed below until trash TMDL implementation measures are adopted. Thereafter, the subject Permittees shall implement programs in conformance with the TMDL implementation schedule, which shall include an effective combination of measures such as street sweeping, catch basin cleaning, installation of treatment devices and trash receptacles, or other BMPs. Default requirements include:
 - (1) Inspection and cleaning of catch basins between May 1 and September 30 of each year;
 - (2) Additional cleaning of any catch basin that is at least 40% full of trash and/or debris;
 - (3) Record keeping of catch basins cleaned; and

- (4) Recording of the overall quantity of catch basin waste collected.

If the implementation phase for the Los Angeles River and Ballona Creek Trash TMDLs has not begun by October 2003, subject Permittees shall implement the requirements described below in subsection 5(c), until such time programs in conformance with the subject Trash TMDLs are being implemented.

- c) Permittees not subject to a trash TMDL shall:

- (1) Clean catch basins according to the following schedule:

Priority A: A minimum of three times during the wet season and once during the dry season every year.

Priority B: A minimum of once during the wet season and once during the dry season every year.

Priority C: A minimum of once per year.

In addition to the schedule above, between February 1, 2002 and July 1, 2003, Permittees shall ensure that any catch basin that is at least 40% full of trash and/or debris shall be cleaned out. After July 1, 2003, Permittees shall ensure that any catch basin that is at least 25% full of trash and debris shall be cleaned out.

- (2) For any special event that can be reasonably expected to generate substantial quantities of trash and litter, include provisions that require for the proper management of trash and litter generated, as a condition of the special use permit issued for that event. At a minimum, the municipality who issues the permit for the special event shall arrange for either temporary screens to be placed on catch basins or for catch basins in that area to be cleaned out subsequent to the event and prior to any rain event.
- (3) Place trash receptacles at all transit stops within its jurisdiction that have shelters no later than August 1, 2002, and at all other transit stops within its jurisdiction no later than February 3, 2003. All trash receptacles shall be maintained as necessary.

- d) Each Permittee shall inspect the legibility of the catch basin stencil or label nearest the inlet. Catch basins with illegible stencils shall be recorded and re-stenciled or re-labeled within 180 days of inspection.
- e) Each Permittee shall implement BMPs for Storm Drain Maintenance that include:

- (1) A program to visually monitor Permittee-owned open channels and other drainage structures for debris at least annually and identify and prioritize problem areas of illicit discharge for regular inspection;
 - (2) A review of current maintenance activities to assure that appropriate storm water BMPs are being utilized to protect water quality;
 - (3) Removal of trash and debris from open channel storm drains shall occur a minimum of once per year before the storm season;
 - (4) Minimize the discharge of contaminants during MS4 maintenance and clean outs; and
 - (5) Proper disposal of material removed.
6. Streets and Roads Maintenance
- a) Each Permittee shall designate streets and/or street segments within its jurisdiction as one of the following:
 - Priority A: Streets and/or street segments that are designated as consistently generating the highest volumes of trash and/or debris.
 - Priority B: Streets and/or street segments that are designated as consistently generating moderate volumes of trash and/or debris.
 - Priority C: Streets and/or street segments that are designated as generating low volumes of trash and/or debris.
 - b) Each Permittee shall perform street sweeping of curbed streets according to the following schedule:
 - Priority A: These streets and/or street segments shall be swept at least two times per month.
 - Priority B: Each Permittee shall ensure that each street and/or street segments is swept at least once per month.
 - Priority C: These streets and/or street segments shall be swept as necessary but in no case less than once per year.
 - c) Each Permittee shall require that:
 - (1) Sawcutting wastes be recovered and disposed of properly and that in no case shall waste be left on a roadway or allowed to enter the storm drain;

- (2) Concrete and other street and road maintenance materials and wastes shall be managed to prevent discharge to the MS4; and
 - (3) The washout of concrete trucks and chutes shall only occur in designated areas and never discharged to storm drains, open ditches, streets, or catch basins.
- d) Each Permittee shall, no later than August 1, 2002, train their employees in targeted positions (whose interactions, jobs, and activities affect storm water quality) regarding the requirements of the storm water management program to:
- (1) Promote a clear understanding of the potential for maintenance activities to pollute storm water; and
 - (2) Identify and select appropriate BMPs.

For Permittees with a population of 250,000 or more (2000 U.S. Census) training shall be completed no later than February 1, 2003.

7. Parking Facilities Management

Permittee-owned parking lots exposed to storm water shall be kept clear of debris and excessive oil buildup and cleaned no less than 2 times per month and/or inspected no less than 2 times per month to determine if cleaning is necessary. In no case shall a Permittee-owned parking lot be cleaned less than once a month.

8. Public Industrial Activities Management

Each Permittee shall, for any municipal activity considered a discharge of storm water associated with industrial activity, obtain separate coverage under the GIASP except that a municipality under 100,000 in population (1990 U.S. Census) need not file the Notice Of Intent to be covered by said permit until March 10, 2003 (with the exception of power plants, airports, and uncontrolled sanitary landfills).

9. Emergency Procedures

Each Permittee shall repair essential public services and infrastructure in a manner to minimize environmental damage in emergency situations such as: earthquakes; fires; floods; landslides; or windstorms. BMPs shall be implemented to the extent that measures do not compromise public health and safety. After initial emergency response or emergency repair activities have been completed, each Permittee shall implement BMPs and programs as required under this Order.

10. Treatment Feasibility Study

The Permittees in cooperation with the County Sanitation Districts of Los Angeles County shall conduct a study to investigate the possible diversion of dry weather discharges or the use of alternative Treatment Control BMPs to treat flows from their jurisdiction which may impact public health and safety and/or the environment. The Permittees shall collectively review their individual prioritized lists and create a watershed based priority list of drains for potential diversion or treatment and submit the priority listing to the Regional Board Executive Officer, no later than July 1, 2003.

G. Illicit Connections and Illicit Discharges Elimination Program

Permittees shall eliminate all illicit connections and illicit discharges to the storm drain system, and shall document, track, and report all such cases in accordance with the elements and performance measures specified in the following subsections.

1. General

- a) Implementation: Each Permittee must develop an Implementation Program which specifies how each Permittee is implementing revisions to the IC/ID Program of the SQMP. This Implementation Program must be documented, and available for review and approval by the Regional Board Executive Officer, upon request.
- b) Tracking: All Permittees shall, no later than February 3, 2003, develop and maintain a listing of all permitted connections to their storm drain system. All Permittees shall map at a scale and in a format specified by the Principal Permittee all illicit connections and discharges on their baseline maps, and shall transmit this information to the Principal Permittee. No later than February 3, 2003, the Principal Permittee shall use this information as well as results of baseline and priority screening for illicit connections (as set forth in subsection 2 below) to start an annual evaluation of patterns and trends of illicit connections and illicit discharges, with the objectives of identifying priority areas for elimination of illicit connections and illicit discharges.
- c) Training: All Permittees shall train all targeted employees who are responsible for identification, investigation, termination, cleanup, and reporting of illicit connections and discharges. For Permittees with a population of less than 250,000 (2000 U.S. Census), training shall be completed no later than August 1, 2002. For Permittees with a population of 250,000 or more (2000 U.S. Census), training shall be completed no later than February 3, 2003. Furthermore, all Permittees shall conduct refresher training on an annual basis thereafter.

2. Illicit Connections

a) Screening for Illicit Connections

(1) Field Screening: All Permittees shall field Screen the storm drain system for illicit connections in accordance with the following schedule:

(i) Open channels: No later than February 3, 2003;

(ii) Underground pipes in priority areas: No later than February 1, 2005; and

(iii) Underground pipes with a diameter of 36 inches or greater: No later than December 12, 2006.

Permittees shall report, to the Principal Permittee, on the location and length of open channels or underground pipes that have been Screened *vis a vis* the entire storm drain network, and on the status of suspected, confirmed, and terminated illicit connections. Permittees shall maintain a list containing all permitted connections and the status of connections under investigation for possible illicit connection.

(2) Permit Screening: No later than December 12, 2006, Permittees shall complete a review of all permitted connections to the storm drain system, to confirm compliance with Part 1 (Discharge Prohibition).

b) Response to Illicit Connections

(1) Investigation: Upon discovery or upon receiving a report of a suspected illicit connection, Permittees shall initiate an investigation within 21 days, to determine the source of the connection, the nature and volume of discharge through the connection, and the responsible party for the connection.

(2) Termination: Upon confirmation of the illicit nature of a storm drain connection, Permittees shall ensure termination of the connection within 180 days, using enforcement authority as needed.

3. Illicit Discharges

- a) Abatement and Cleanup: Permittees shall respond, within one business day of discovery or a report of a suspected illicit discharge, with activities to abate, contain, and clean up all illicit discharges, including hazardous substances.
- b) Investigation: Permittees shall investigate illicit discharges as soon as practicable (during or immediately following containment and cleanup activities), and shall take enforcement action as appropriate.

Part 5. DEFINITIONS

The following are definitions for terms applicable to this Order:

"Adverse Impact" means a detrimental effect upon water quality or beneficial uses caused by a discharge or loading of a pollutant or pollutants.

"Anti-degradation policies" means the *Statement of Policy with Respect to Maintaining High Quality Water in California* (State Board Resolution No. 68-16) which protects surface and ground waters from degradation. In particular, this policy protects waterbodies where existing quality is higher than that necessary for the protection of beneficial uses including the protection of fish and wildlife propagation and recreation on and in the water.

"Applicable Standards and Limitations" means all State, interstate, and federal standards and limitations to which a "discharge" or a related activity is subject under the CWA, including "effluent limitations, "water quality standards, standards of performance, toxic effluent standards or prohibitions, "best management practices," and pretreatment standards under sections 301, 302, 303, 304, 306, 307, 308, 403 and 404 of CWA.

"Areas of Special Biological Significance (ASBS)" means all those areas of this state as ASBS, listed specifically within the California Ocean Plan or so designated by the State Board which, among other areas, includes the area from Mugu Lagoon to Latigo Point: Oceanwater within a line originating from Laguna Point at 34° 5' 40" north, 119° 6'30" west, thence southeasterly following the mean high tideline to a point at Latigo Point defined by the intersection of the meanhigh tide line and a line extending due south of Benchmark 24; thence due south to a distance of 1000 feet offshore or to the 100 foot isobath, whichever distance is greater; thence northwesterly following the 100 foot isobath or maintaining a 1,000-foot distance from shore, whichever maintains the greater distance from shore, to a point lying due south of Laguna Point, thence due north to Laguna Point.

"Authorized Discharge" means any discharge that is authorized pursuant to an NPDES permit or meets the conditions set forth in this Order.

"Automotive Service Facilities" means a facility that is categorized in any one of the following Standard Industrial Classification (SIC) codes: 5013, 5014, 5541, 5511, 7532-7534, or 7536-7539. For inspection purposes, Permittees need not inspect facilities with SIC codes 5013, 5014, 5541, 5511, provided that these facilities have no outside activities or materials that may be exposed to storm water.

"Basin Plan" means the Water Quality Control Plan, Los Angeles Region, Basin Plan for the Coastal Watersheds of Los Angeles and Ventura Counties, adopted by the Regional Board on June 13, 1994 and subsequent amendments.

"Beneficial Uses" means the existing or potential uses of receiving waters in the permit area as designated by the Regional Board in the Basin Plan.

"Best Management Practices (BMPs)" means methods, measures, or practices designed and selected to reduce or eliminate the discharge of pollutants to surface waters from point and nonpoint source discharges including storm water. BMPs include structural and nonstructural controls, and operation and maintenance procedures, which can be applied before, during, and/or after pollution producing activities.

"Commercial Development" means any development on private land that is not heavy industrial or residential. The category includes, but is not limited to: hospitals, laboratories and other medical facilities, educational institutions, recreational facilities, plant nurseries, car wash facilities, mini-malls and other business complexes, shopping malls, hotels, office buildings, public warehouses and other light industrial complexes.

"Construction" means constructing, clearing, grading, or excavation that results in soil disturbance. Construction includes structure teardown. It does not include routine maintenance to maintain original line and grade, hydraulic capacity, or original purpose of facility; emergency construction activities required to immediately protect public health and safety; interior remodeling with no outside exposure of construction material or construction waste to storm water; mechanical permit work; or sign permit work.

"Control" means to minimize, reduce, eliminate, or prohibit by technological, legal, contractual or other means, the discharge of pollutants from an activity or activities.

"Dechlorinated/Debrominated Swimming Pool Discharge" means swimming pool discharges which have no measurable chlorine or bromine and do not contain any detergents, wastes, or additional chemicals not typically found in swimming pool water. The term does not include swimming pool filter backwash.

"Development" means any construction, rehabilitation, redevelopment or reconstruction of any public or private residential project (whether single-family, multi-unit or planned unit development); industrial, commercial, retail and other non-residential projects, including public agency projects; or mass grading for future construction. It does not include routine maintenance to maintain original line and grade, hydraulic capacity, or original purpose of facility, nor does it include emergency construction activities required to immediately protect public health and safety.

"Directly Adjacent" means situated within 200 feet of the contiguous zone required for the continued maintenance, function, and structural stability of the environmentally sensitive area.

"Director" means the Director of a municipality and Person(s) designated by and under the Director's instruction and supervision.

"Discharge" means when used without qualification the "discharge of a pollutant."

“Discharging Directly” means outflow from a drainage conveyance system that is composed entirely or predominantly of flows from the subject, property, development, subdivision, or industrial facility, and not commingled with the flows from adjacent lands.

“Discharge of a Pollutant” means: any addition of any “pollutant” or combination of pollutants to “waters of the United States” from any “point source” or, any addition of any pollutant or combination of pollutants to the waters of the “contiguous zone” or the ocean from any point source other than a vessel or other floating craft which is being used as a means of transportation. The term discharge includes additions of pollutants into waters of the United States from: surface runoff which is collected or channeled by man; discharges through pipes, sewers, or other conveyances owned by a State, municipality, or other person which do not lead to a treatment works; and discharges through pipes, sewers, or other conveyances, leading into privately owned treatment works.

“Disturbed Area” means an area that is altered as a result of clearing, grading, and/or excavation.

“Dry Weather” means those days with less than 0.1 inch of rainfall, and occurring more than three days after a Rain Day.

“Environmentally Sensitive Areas (ESAs)” means an area in which plant or animal life or their habitats are either rare or especially valuable because of their special nature or role in an ecosystem and which would be easily disturbed or degraded by human activities and developments (California Public Resources Code § 30107.5). Areas subject to storm water mitigation requirements are: areas designated as Significant Ecological Areas by the County of Los Angeles (*Los Angeles County Significant Areas Study, Los Angeles County Department of Regional Planning (1976)* and amendments); an area designated as a Significant Natural Area by the California Department of Fish and Game’s Significant Natural Areas Program, provided that area has been field verified by the Department of Fish and Game; an area listed in the Basin Plan as supporting the “Rare, Threatened, or Endangered Species (RARE)” beneficial use; and an area identified by a Permittee as environmentally sensitive.

“General Construction Activities Storm Water Permit (GCASP)” means the general NPDES permit adopted by the State Board which authorizes the discharge of storm water from construction activities under certain conditions.

“General Industrial Activities Storm Water Permit (GIASP)” means the general NPDES permit adopted by the State Board which authorizes the discharge of storm water from certain industrial activities under certain conditions.

“Hillside” means property located in an area with known erosive soil conditions, where the development contemplates grading on any natural slope that is 25% or greater and where grading contemplates cut or fill slopes.

“Illicit Connection” means any man-made conveyance that is connected to the storm drain system without a permit, excluding roof drains and other similar type connections. Examples include channels, pipelines, conduits, inlets, or outlets that are connected directly to the storm drain system.

"Illicit Discharge" means any discharge to the storm drain system that is prohibited under local, state, or federal statutes, ordinances, codes, or regulations. The term illicit discharge includes all non storm-water discharges except discharges pursuant to an NPDES permit, discharges that are identified in Part 1, "Discharge Prohibitions" of this order, and discharges authorized by the Regional Board Executive Officer.

"Illicit Disposal" means any disposal, either intentionally or unintentionally, of material(s) or waste(s) that can pollute storm water.

"Industrial/Commercial Facility" means any facility involved and/or used in the production, manufacture, storage, transportation, distribution, exchange or sale of goods and/or commodities, and any facility involved and/or used in providing professional and non-professional services. This category of facilities includes, but is not limited to, any facility defined by the Standard Industrial Classifications (SIC). Facility ownership (federal, state, municipal, private) and profit motive of the facility are not factors in this definition.

"Infiltration" means the downward entry of water into the surface of the soil.

"Inspection" means entry and the conduct of an on-site review of a facility and its operations, at reasonable times, to determine compliance with specific municipal or other legal requirements. The steps involved in performing an inspection, include, but are not limited to:

1. Pre-inspection documentation research.;
2. Request for entry;
3. Interview of facility personnel;
4. Facility walk-through.
5. Visual observation of the condition of facility premises;
6. Examination and copying of records as required;
7. Sample collection (if necessary or required);
8. Exit conference (to discuss preliminary evaluation); and,
9. Report preparation, and if appropriate, recommendations for coming into compliance.

In the case of restaurants, a Permittee may conduct an inspection from the curbside, provided that such "curbside" inspection provides the Permittee with adequate information to determine an operator's compliance with BMPs that must be implemented per requirements of this Order, Regional Board Resolution 98-08, County and municipal ordinances, and the SQMP.

"Large Municipal Separate Storm Sewer System (MS4)" means all MS4s that serve a population greater than 250,000 (1990 Census) as defined in 40 CFR 122.26 (b)(4). The Regional Board designated Los Angeles County as a large MS4 in 1990, based on: (i) the U.S. Census Bureau 1990 population count of 8.9 million, and (ii) the interconnectivity of the MS4s in the incorporated and unincorporated areas within the County.

"Local SWPPP" means the Storm Water Pollution Prevention Plan required by the local agency for a project that disturbs one or more acres of land.

"Maximum Extent Practicable (MEP)" means the standard for implementation of storm water management programs to reduce pollutants in storm water. CWA § 402(p)(3)(B)(iii) requires

that municipal permits "shall require controls to reduce the discharge of pollutants to the maximum extent practicable, including management practices, control techniques and system, design and engineering methods, and such other provisions as the Administrator or the State determines appropriate for the control of such pollutants. See also State Board Order WQ 2000-11 at page 20.

"Method Detection Limit (MDL)" means the minimum concentration of a substance that can be measured and reported with 99 percent confidence that the analyte concentration is greater than zero, as defined in 40 CFR 136, Appendix B.

"Minimum Level (ML)" means the concentration at which the entire analytical system must give a recognizable signal and acceptable calibration point. The ML is the concentration in a sample that is equivalent to the concentration of the lowest calibration standard analyzed by a specific analytical procedure, assuming that all the method specified sample weights, volumes, and processing steps have been followed.

"Municipal Separate Storm Sewer System (MS4)" means a conveyance or system of conveyances (including roads with drainage systems, municipal streets, alleys, catch basins, curbs, gutters, ditches, manmade channels, or storm drains) owned by a State, city, county, town or other public body, that is designed or used for collecting or conveying storm water, which is not a combined sewer, and which is not part of a publicly owned treatment works, and which discharges to Waters of the United States.

"National Pollutant Discharge Elimination System (NPDES)" means the national program for issuing, modifying, revoking and reissuing, terminating, monitoring and enforcing permits, and imposing and enforcing pretreatment requirements, under CWA §307, 402, 318, and 405. The term includes an "approved program."

"Natural Drainage Systems" means unlined or unimproved (not engineered) creeks, streams, rivers or similar waterways.

"New Development" means land disturbing activities; structural development, including construction or installation of a building or structure, creation of impervious surfaces; and land subdivision.

"Non-Storm Water Discharge" means any discharge to a storm drain that is not composed entirely of storm water.

"Nuisance" means anything that meets all of the following requirements: (1) is injurious to health, or is indecent or offensive to the senses, or an obstruction to the free use of property, so as to interfere with the comfortable enjoyment of life or property; (2) affects at the same time an entire community or neighborhood, or any considerable number of persons, although the extent of the annoyance or damage inflicted upon individuals may be unequal.; (3) occurs during, or as a result of, the treatment or disposal of wastes.

"Parking Lot" means land area or facility for the parking or storage of motor vehicles used for businesses, commerce, industry, or personal use, with a lot size of 5,000 square feet or more of surface area, or with 25 or more parking spaces.

"Permittee(s)" means Co-Permittees and any agency named in this Order as being responsible for permit conditions within its jurisdiction. Permittees to this Order include the Los Angeles County Flood Control District, Los Angeles County, and the cities of Agoura Hills, Alhambra, Arcadia, Artesia, Azusa, Baldwin Park, Bellflower, Bell Gardens, Beverly Hills, Bradbury, Burbank, Calabasas, Carson, Cerritos, Claremont, Commerce, Compton, Covina, Cudahy, Culver City, Diamond Bar, Downey, Duarte, El Monte, El Segundo, Gardena, Glendale, Glendora, Hawaiian Gardens, Hawthorne, Hermosa Beach, Hidden Hills, Huntington Park, Industry, Inglewood, Irwindale, La Canada Flintridge, La Habra Heights, Lakewood, La Mirada, La Puente, La Verne, Lawndale, Lomita, Los Angeles, Lynwood, Malibu, Manhattan Beach, Maywood, Monrovia, Montebello, Monterey Park, Norwalk, Palos Verdes Estates, Paramount, Pasadena, Pico Rivera, Pomona, Rancho Palos Verdes, Redondo Beach, Rolling Hills, Rolling Hills Estates, Rosemead, San Dimas, San Fernando, San Gabriel, San Marino, Santa Clarita, Santa Fe Springs, Santa Monica, Sierra Madre, Signal Hill, South El Monte, South Gate, South Pasadena, Temple City, Torrance, Vernon, Walnut, West Covina, West Hollywood, Westlake Village, and Whittier.

"Planning Priority Projects" means those projects that are required to incorporate appropriate storm water mitigation measures into the design plan for their respective project. These types of projects include:

1. Ten or more unit homes (includes single family homes, multifamily homes, condominiums, and apartments)
2. A 100,000 or more square feet of impervious surface area industrial/commercial development (1 ac starting March 2003)
3. Automotive service facilities (SIC 5013, 5014, 5541, 7532-7534, and 7536-7539)
4. Retail gasoline outlets
5. Restaurants (SIC 5812)
6. Parking lots 5,000 square feet or more of surface area or with 25 or more parking spaces
7. Redevelopment projects in subject categories that meet Redevelopment thresholds
8. Projects located in or directly adjacent to or discharging directly to an ESA, which meet thresholds; and
9. Those projects that require the implementation of a site-specific plan to mitigate post-development storm water for new development not requiring a SUSMP but which may potentially have adverse impacts on post-development storm water quality, where the following project characteristics exist:

- a) Vehicle or equipment fueling areas;
- b) Vehicle or equipment maintenance areas, including washing and repair;
- c) Commercial or industrial waste handling or storage;
- d) Outdoor handling or storage of hazardous materials;
- e) Outdoor manufacturing areas;
- f) Outdoor food handling or processing;
- g) Outdoor animal care, confinement, or slaughter; or
- h) Outdoor horticulture activities.

"Pollutants" means those "pollutants" defined in CWA §502(6) (33.U.S.C.§1362(6)), and incorporated by reference into California Water Code §13373.

"Potable Water Distribution Systems Releases" means sources of flows from drinking water storage, supply and distribution systems including flows from system failures, pressure releases, system maintenance, distribution line testing, fire hydrant flow testing; and flushing and dewatering of pipes, reservoirs, vaults, and minor non-invasive well maintenance activities not involving chemical addition(s). It does not include wastewater discharges from activities that occur at wellheads, such as well construction, well development (i.e., aquifer pumping tests, well purging, etc.), or major well maintenance.

"Project" means all development, redevelopment, and land disturbing activities. The term is not limited to "Project" as defined under CEQA (Pub. Resources Code §21065).

"Rain Days" are those days with greater than or equal to 0.1 inch of rainfall.

"Rain Event" means any rain event greater than 0.1 inch in 24 hours except where specifically stated otherwise.

"Rare, Threatened, or Endangered Species (RARE)" means a beneficial use for waterbodies in the Los Angeles Region, as designated in the Basin Plan (Table 2-1), that supports habitats necessary, at least in part, for the survival and successful maintenance of plant or animal species established under state or federal law as rare, threatened, or endangered.

"Receiving Waters" means all surface water bodies in the Los Angeles Region that are identified in the Basin Plan.

"Redevelopment" means land-disturbing activity that results in the creation, addition, or replacement of 5,000 square feet or more of impervious surface area on an already developed site. Redevelopment includes, but is not limited to: the expansion of a building footprint; addition or replacement of a structure; replacement of impervious surface area that is not part of a routine maintenance activity; and land disturbing activities related to structural or impervious surfaces. It does not include routine maintenance to maintain original line and grade, hydraulic capacity, or original purpose of facility, nor does it include emergency construction activities required to immediately protect public health and safety.

"Regional Administrator" means the Regional Administrator of the Regional Office of the USEPA or the authorized representative of the Regional Administrator.

“Restaurant” means a facility that sells prepared foods and drinks for consumption, including stationary lunch counters and refreshment stands selling prepared foods and drinks for immediate consumption (SIC Code 5812).

“Retail Gasoline Outlet” means any facility engaged in selling gasoline and lubricating oils.

“Runoff” means any runoff including storm water and dry weather flows from a drainage area that reaches a receiving water body or subsurface. During dry weather it is typically comprised of base flow either contaminated with pollutants or uncontaminated, and nuisance flows.

“Screening” means using proactive methods to identify illicit connections through a continuously narrowing process. The methods may include: performing baseline monitoring of open channels, conducting special investigations using a prioritization approach, analyzing maintenance records for catch basin and storm drain cleaning and operation, and verifying all permitted connections into the storm drains. Special investigation techniques may include: dye testing, visual inspection, smoke testing, flow monitoring, infrared, aerial and thermal photography, and remote control camera operation.

“Sidewalk Rinsing” means pressure washing of paved pedestrian walkways with average water usage of 0.006 gallons per square foot, with no cleaning agents, and properly disposing of all debris collected, as authorized under Regional Board Resolution No. 98-08.

“Significant Ecological Area (SEA)” means an area that is determined to possess an example of biotic resources that cumulatively represent biological diversity, for the purposes of protecting biotic diversity, as part of the Los Angeles County General Plan.⁶

Areas are designated as SEAs, if they possess one or more of the following criteria:

1. The habitat of rare, endangered, and threatened plant and animal species.
2. Biotic communities, vegetative associations, and habitat of plant and animal species that are either one of a kind, or are restricted in distribution on a regional basis.
3. Biotic communities, vegetative associations, and habitat of plant and animal species that are either one of a kind or are restricted in distribution in Los Angeles County.
4. Habitat that at some point in the life cycle of a species or group of species, serves as a concentrated breeding, feeding, resting, migrating grounds and is limited in availability either regionally or within Los Angeles County.
5. Biotic resources that are of scientific interest because they are either an extreme in physical/geographical limitations, or represent an unusual variation in a population or community.
6. Areas important as game species habitat or as fisheries.

⁶ The 61 existing SEAs represent the findings of a study that was completed in 1976 by England and Nelson, Environmental Consultants, as amended through the adoption of a revised Los Angeles County General Plan in 1980. The results of an update study to evaluate existing SEAs within unincorporated Los Angeles County is currently being proposed to the Los Angeles County Planning Commission (*Los Angeles County Significant Ecological Area Update Study 2000, Background Report*, PCR Services Corporation). The *Update Study 2000*, which contains existing and proposed SEA boundaries, can be downloaded from the Los Angeles County Department of Planning website at http://planning.co.la.ca.us/drp_revww.html#SEA

7. Areas that would provide for the preservation of relatively undisturbed examples of natural biotic communities in Los Angeles County.
8. Special areas.⁷

"Significant Natural Area (SNA)" means an area defined by the California Department of Fish and Game (DFG), Significant Natural Areas Program, as an area that contains an important example of California's biological diversity. The most current SNA maps, reports, and descriptions can be downloaded from the DFG website at <ftp://maphost.dfg.ca.gov/outgoing/whdab/sna/>. These areas are identified using the following biological criteria only, irrespective of any administrative or jurisdictional considerations:

1. Areas supporting extremely rare species or habitats.
2. Areas supporting associations or concentrations of rare species or habitats.
3. Areas exhibiting the best examples of rare species and habitats in the state.

"Site" means the land or water area where any "facility or activity" is physically located or conducted, including adjacent land used in connection with the facility or activity.

"Source Control BMP" means any schedules of activities, prohibitions of practices, maintenance procedures, managerial practices or operational practices that aim to prevent storm water pollution by reducing the potential for contamination at the source of pollution.

"SQMP" means the Los Angeles Countywide Stormwater Quality Management Program.

"State Storm Water Pollution Prevention Plan (State SWPPP)" means a plan, as required by a State General Permit, identifying potential pollutant sources and describing the design, placement and implementation of BMPs, to effectively prevent non-stormwater Discharges and reduce Pollutants in Stormwater Discharges during activities covered by the General Permit.

"Storm Water" means storm water runoff, snow melt runoff, and surface runoff and drainage.

"Storm Water Discharge Associated with Industrial Activity" means industrial discharge as defined in 40 CFR 122.26(b)(14)

"Stormwater Quality Management Program" means the Los Angeles Countywide Stormwater Quality Management Program, which includes descriptions of programs, collectively developed by the Permittees in accordance with provisions of the NPDES Permit, to comply with applicable federal and state law, as the same is amended from time to time.

"Structural BMP" means any structural facility designed and constructed to mitigate the adverse impacts of storm water and urban runoff pollution (e.g. canopy, structural enclosure). The category may include both Treatment Control BMPs and Source Control BMPs.

"Summer Dry Weather" means Dry Weather days occurring from April 1 through October 31 of each year.

⁷ These criteria from the 1976 study have been modified in the *Update Study 2000*.

"SUSMP" means the Los Angeles Countywide Standard Urban Stormwater Mitigation Plan. The SUSMP shall address conditions and requirements of new development.

"Total Maximum Daily Load (TMDL)" means the sum of the individual waste load allocations for point sources and load allocations for nonpoint sources and natural background.

"Toxicity Identification Evaluation (TIE)" means a set of procedures to identify the specific chemical(s) responsible for toxicity. These procedures are performed in three phases (characterization, identification, and confirmation) using aquatic organism toxicity tests.

"Toxicity Reduction Evaluation (TRE)" means a study conducted in a step-wise process to identify the causative agents of effluent or ambient toxicity, isolate the sources of toxicity, evaluate the effectiveness of toxicity control options, and then confirm the reduction in toxicity.

"Treatment" means the application of engineered systems that use physical, chemical, or biological processes to remove pollutants. Such processes include, but are not limited to, filtration, gravity settling, media absorption, biodegradation, biological uptake, chemical oxidation and UV radiation.

"Treatment Control BMP" means any engineered system designed to remove pollutants by simple gravity settling of particulate pollutants, filtration, biological uptake, media absorption or any other physical, biological, or chemical process.

"USEPA Phase I Facilities" means facilities in specified industrial categories that are required to obtain an NPDES permit for storm water discharges, as required by 40 CFR 122.26(c). These categories include:

- i. facilities subject to storm water effluent limitation guidelines, new source performance standards, or toxic pollutant effluent standards (40 CFR N)
- ii. manufacturing facilities
- iii. oil and gas/mining facilities
- iv. hazardous waste treatment, storage, or disposal facilities
- v. landfills, land application sites, and open dumps
- vi. recycling facilities
- vii. steam electric power generating facilities
- viii. transportation facilities
- ix. sewage of wastewater treatment works
- x. light manufacturing facilities

"Vehicle Maintenance/Material Storage Facilities/Corporation Yards" means any Permittee owned or operated facility or portion thereof that:

- i. Conducts industrial activity, operates equipment, handles materials, and provides services similar to Federal Phase I facilities;
- ii. Performs fleet vehicle service/maintenance on ten or more vehicles per day including repair, maintenance, washing, and fueling;
- iii. Performs maintenance and/or repair of heavy industrial machinery/equipment ; and
- iv. Stores chemicals, raw materials, or waste materials in quantities that require a hazardous materials business plan or a Spill Prevention, Control , and Counter-measures (SPCC) plan.

“Water Quality Standards and Water Quality Objectives” means water quality criteria contained in the Basin Plan, the California Ocean Plan, the National Toxics Rule, the California Toxics Rule, and other state or federally approved surface water quality plans. Such plans are used by the Regional Board to regulate all discharges, including storm water discharges.

“Waters of the State” means any surface water or groundwater, including saline waters, within boundaries of the state.

“Waters of the United States” or “Waters of the U.S.” means:

- a. All waters that are currently used, were used in the past, or may be susceptible to use in interstate or foreign commerce, including all waters which are subject to the ebb and flow of the tide;
- b. All interstate waters, including interstate “wetlands”;
- c. All other waters such as intrastate lakes, rivers, streams (including intermittent streams), mudflats, sandflats, “wetlands,” sloughs, prairie potholes, wet meadows, playa lakes, or natural ponds the use, degradation, or destruction of which would affect or could affect interstate or foreign commerce including any such waters:
 1. Which are or could be used by interstate or foreign travelers for recreational or other purposes;
 2. From which fish or shellfish are or could be taken and sold in interstate or foreign commerce; or
 3. Which are used or could be used for industrial purposes by industries in interstate commerce;
- d. All impoundments of waters otherwise defined as waters of the United States under this definition;
- e. Tributaries of waters identified in paragraphs (a) through (d) of this definition;
- f. The territorial sea; and
- g. “Wetlands” adjacent to waters (other than waters that are themselves wetlands) identified in paragraph (a) through (f) of this definition.

Waste treatment systems, including treatment ponds or lagoons designed to meet the requirements of CWA (other than cooling ponds as defined in 40 CFR 423.22(m), which also meet the criteria of this definition) are not waters of the United States. This exclusion applies only to man-made bodies of water, which neither were originally created in waters of the United States (such as disposal area in wetlands) nor resulted from the impoundment of waters of the United States. Waters of the United States do not include prior converted cropland. Notwithstanding the determination of an area’s status as prior converted cropland by any other federal agency, for the purposes of the CWA, the final authority regarding CWA jurisdiction remains with USEPA.

“Wave Wash” means the point at which a storm drain or creek empties and the effluent from the storm drain initially mixes with the receiving ocean water.

“Wet Season” means the calendar period beginning October 1 through April 15.

Part 6. STANDARD PROVISIONS

A. Standard Requirements

1. Each Permittee shall comply with all provisions and requirements of this permit.
2. Should a Permittee discover a failure to submit any relevant facts or that it submitted incorrect information in a report, it shall promptly submit the missing or correct information.
3. Each Permittee shall report all instances of non-compliance not otherwise reported at the time monitoring reports are submitted.
4. This Order includes the attached Monitoring and Reporting Program, and SUSMP(Regional Board Resolution No. R00-02), which are a part of the permit and must be complied with in the same manner as with the rest of the requirements in the permit.

B. Regional Board Review

Any formal determination or approval made by the Regional Board Executive Officer pursuant to the provisions of this Order may be reviewed by the Regional Board. A Permittee(s) or a member of the public may request such review upon petition within 30 days of the effective date of the notification of such decision to the Permittee(s) and interested parties on file at the Regional Board.

C. Public Review

1. All documents submitted to the Regional Board in compliance with the terms and conditions of this Order shall be made available to members of the public pursuant to the Freedom of Information Act (5 U.S.C. § 552 (as amended) and the Public Records Act (Cal. Government Code § 6250 *et seq.*).
2. All documents submitted to the Regional Board Executive Officer for approval shall be made available to the public for a 30-day period to allow for public comment.

D. Duty to Comply

1. Each Permittee must comply with all of the terms, requirements, and conditions of this Order. Any violation of this order constitutes a violation of the Clean Water Act, its regulations and the California Water Code, and is grounds for enforcement action, Order termination, Order revocation and reissuance, denial of an application for reissuance; or a combination thereof [40 CFR 122.41(a), CWC § 13261, 13263, 13265, 13268, 13300, 13301, 13304, 13340, 13350].
2. A copy of these waste discharge specifications shall be maintained by each Permittee so as to be available during normal business hours to Permittee employees and members of the public.

3. Any discharge of wastes at any point(s) other than specifically described in this Order is prohibited, and constitutes a violation of the Order.

E. Duty to Mitigate [40 CFR 122.41 (d)]

Each Permittee shall take all reasonable steps to minimize or prevent any discharge that has a reasonable likelihood of adversely affecting human health or the environment.

F. Inspection and Entry [40 CFR 122.41(i), CWC § 13267]

The Regional Board, USEPA, and other authorized representatives shall be allowed:

1. Entry upon premises where a regulated facility is located or conducted, or where records are kept under conditions of this Order;
2. Access to copy any records, at reasonable times, that are kept under the conditions of this Order;
3. To inspect at reasonable times any facility, equipment (including monitoring and control equipment), practices, or operations regulated or required under this Order; and,
4. To photograph, sample, and monitor at reasonable times for the purpose of assuring compliance with this Order, or as otherwise authorized by the CWA and the CWC.

G. Proper Operation and Maintenance [40 CFR 122.41 (e), CWC § 13263(f)]

The Permittees shall at all times properly operate and maintain all facilities and systems of treatment (and related appurtenances) that are installed or used by the Permittees to achieve compliance with this Order. Proper operation and maintenance includes adequate laboratory controls and appropriate quality assurance procedures. This provision requires the operation of backup or auxiliary facilities or similar system that are installed by a Permittee only when necessary to achieve compliance with the conditions of this Order.

H. Signatory Requirements [40 CFR 122.41(k) & 122.22]

Except as otherwise provided in this Order, all applications, reports, or information submitted to the Regional Board shall be signed by the Director of Public Works, City Engineer, or authorized designee and certified as set forth in 40 CFR 122.22.

I. Reopener and Modification [40 CFR 122.41(f) & 122.62]

1. This Order may only be modified, revoked, or reissued, prior to the expiration date, by the Regional Board, in accordance with the procedural requirements of the CWC and CCR Title 23 for the issuance of waste

discharge requirements, 40 CFR 122.62, and upon prior notice and hearing, to:

- a) Address changed conditions identified in the required reports or other sources deemed significant by the Regional Board;
 - b) Incorporate applicable requirements or statewide water quality control plans adopted by the State Board or amendments to the Basin Plan;
 - c) Comply with any applicable requirements, guidelines, and/or regulations issued or approved pursuant to CWA Section 402(p); and/or,
 - d) Consider any other federal, or state laws or regulations that became effective after adoption of this Order.
2. After notice and opportunity for a hearing, this Order may be terminated or modified for cause, including, but not limited to:
- a) Violation of any term or condition contained in this Order;
 - b) Obtaining this Order by misrepresentation, or failure to disclose all relevant facts; or,
 - c) A change in any condition that requires either a temporary or permanent reduction or elimination of the authorized discharge.
3. The filing of a request by the Principal Permittee or Permittees for a modification, revocation and re-issuance, or termination, or a notification of planned changes or anticipated noncompliance does not stay any condition of this Order.
4. This Order may be modified to make corrections or allowances for changes in the permitted activity listed in this section, following the procedures at 40 CFR 122.63, if processed as a minor modification. Minor modifications may only:
- a) Correct typographical errors, or
 - b) Require more frequent monitoring or reporting by the Permittee.

J. Severability

The provisions of this permit are severable; and if any provision of this permit or the application of any provision of this permit to any circumstance is held invalid, the application of such provision to other circumstances and the remainder of this permit shall not be affected.

K. Duty to Provide Information [40 CFR 122.41(h)]

The Permittees shall furnish, within a reasonable time, any information the Regional Board or USEPA may request to determine whether cause exists for

modifying, revoking and reissuing, or terminating this Order. The Permittees shall also furnish to the Regional Board, upon request, copies of records required to be kept by this Order.

L. Twenty-four Hour Reporting [40 CFR 122.41(l)(6)]⁸

1. The Permittees shall report to the Regional Board any noncompliance that may endanger health or the environment. Any information shall be provided orally within 24 hours from the time any Permittee becomes aware of the circumstances. A written submission shall also be provided within five days of the time the Permittee becomes aware of the circumstances. The written submission shall contain a description of the noncompliance and its cause; the period of noncompliance, including exact dates and times and, if the noncompliance has not been corrected, the anticipated time it is expected to continue; and steps taken or planned to reduce, eliminate, and prevent reoccurrence of the noncompliance.
2. The Regional Board may waive the required written report on a case-by-case basis.

M. Bypass [40 CFR 122.41(m)]⁹

Bypass (the intentional diversion of waste streams from any portion of a treatment facility) is prohibited. The Regional Board may take enforcement action against Permittees for bypass unless:

1. Bypass was unavoidable to prevent loss of life, personal injury or severe property damage. (Severe property damage means substantial physical damage to property, damage to the treatment facilities that causes them to become inoperable, or substantial and permanent loss of natural resources that can reasonably be expected to occur in the absence of a bypass. Severe property damage does not mean economic loss caused by delays in production.);
2. There were no feasible alternatives to bypass, such as the use of auxiliary treatment facilities, retention of untreated waste, or maintenance during normal periods of equipment down time. This condition is not satisfied if adequate back-up equipment should have been installed in the exercise of reasonable engineering judgment to prevent a bypass that could occur during normal periods of equipment downtime or preventive maintenance;
3. The Permittee submitted a notice at least ten days in advance of the need for a bypass to the Regional Board; or,

⁸ This provision applies to incidents where effluent limitations (numerical or narrative) as provided in this Order or in the Los Angeles County SQMP are exceeded, and which endanger public health or the environment.

⁹ This provision applies to the operation and maintenance of storm water controls and BMPs as provided in this Order or in the SQMP.

4. Permittees may allow a bypass to occur that does not cause effluent limitations to be exceeded, but only if it is for essential maintenance to assure efficient operation. In such a case, the above bypass conditions are not applicable. The Permittee shall submit notice of an unanticipated bypass as required.

N. Upset [40 CFR 122.41(n)]¹⁰

Upset means an exceptional incident in which there is unintentional and temporary noncompliance with technology based permit effluent limitations because of factors beyond the reasonable control of the permittee. An upset does not include noncompliance to the extent caused by operational error, improperly designed treatment facilities, inadequate treatment facilities, lack of preventive maintenance, or careless or improper operation.

1. A Permittee that wishes to establish the affirmative defense of an upset in an action brought for non compliance shall demonstrate, through properly signed, contemporaneous operating logs, or other relevant evidence that:
 - a) An upset occurred and that the Permittee can identify the cause(s) of the upset;
 - b) The permitted facility was being properly operated by the time of the upset;
 - c) The Permittee submitted notice of the upset as required; and,
 - d) The Permittee complied with any remedial measures required.
2. No determination made before an action for noncompliance, such as during administrative review of claims that non-compliance was caused by an upset, is final administrative action subject to judicial review.
3. In any enforcement proceeding, the Permittee seeking to establish the occurrence of an upset has the burden of proof.

O. Property Rights [40 CFR 122.41(g)]

This Order does not convey any property rights of any sort, or any exclusive privilege.

P. Enforcement

1. Violation of any of the provisions of the NPDES permit or any of the provisions of this Order may subject the violator to any of the penalties described herein, or any combination thereof, at the discretion of the

¹⁰ *Supra.* See footnote number 3.

prosecuting authority; except that only one kind of penalties may be applied for each kind of violation. The CWA provides the following:

a) Criminal Penalties for:

(1) Negligent Violations:

The CWA provides that any person who negligently violates permit conditions implementing § 301, 302, 306, 307, 308, 318, or 405 is subject to a fine of not less than \$2,500 nor more than \$25,000 per day for each violation, or by imprisonment for not more than 1 year, or both.

(2) Knowing Violations:

The CWA provides that any person who knowingly violates permit conditions implementing § 301, 302, 306, 307, 308, 318, or 405 is subject to a fine of not less than \$5,000 nor more than \$50,000 per day of violation, or by imprisonment for not more than 3 years, or both.

(3) Knowing Endangerment:

The CWA provides that any person who knowingly violates permit conditions implementing § 301, 302, 307, 308, 318, or 405 and who knows at that time that he is placing another person in imminent danger of death or serious bodily injury is subject to a fine of not more than \$250,000, or by imprisonment for not more than 15 years, or both.

(4) False Statement:

The CWA provides that any person who knowingly makes any false material statement, representation, or certification in any application, record, report, plan, or other document filed or required to be maintained under the Act or who knowingly falsifies, tampers with, or renders inaccurate, any monitoring device or method required to be maintained under the Act, shall upon conviction, be punished by a fine of not more than \$10,000 or by imprisonment for not more than two years, or by both. If a conviction is for a violation committed after a first conviction of such person under this paragraph, punishment shall be by a fine of not more than \$20,000 per day of violation, or by imprisonment of not more than four years, or by both. (See CWA § 309(c)(4))

b) Civil Penalties

The CWA provides that any person who violates a permit condition implementing § 301, 302, 306, 307, 308, 318, or 405 is subject to a civil penalty not to exceed \$27,500 per day for each violation.

2. The CWC provides that any person who violates a waste discharge requirement provision of the CWC is subject to civil penalties of up to \$5,000 per day, \$10,000 per day, or \$25,000 per day of violation; or when the violation involves the discharge of pollutants, is subject to civil penalties of up to \$10 per gallon per day or \$25 per gallon per day of

violation; or some combination thereof, depending on the violation or combination of violations.

Q. Need to Halt or Reduce Activity not a Defense [40 CFR 122.41(c)]

It shall not be a defense for a Permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this Order.

R. Rescission

Regional Board Order No. 96-054 is hereby rescinded.

S. Expiration

This Order expires on December 12, 2006. The Permittees must submit a Report of Waste Discharges and a proposed Storm Water Quality Management Program in accordance with CCR Title 23 as application for reissuance of waste discharge requirements no later than June 12, 2006.

I, Dennis A. Dickerson, Regional Board Executive Officer, do hereby certify that the foregoing is a full, true, and correct copy of an order adopted by the California Regional Water Quality Control Board, Los Angeles Region, on December 13, 2001.

Dennis A. Dickerson
Executive Officer

ATTACHMENT 46



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION IX

75 Hawthorne Street

San Francisco, CA 94105-3901

May 14, 2009

James Smith
San Diego Regional Water Quality Control Board
9174 Sky Park Court, Suite 100
San Diego, CA 92123

Re: Draft MS4 Permit for South Orange County (NPDES Permit No. CAS0108740)

Dear Mr. Smith:

Following below are EPA Region 9's comments on the March 13, 2009 Tentative Draft Permit for the South Orange County Municipal Separate Storm Sewer System (MS4) within the jurisdiction of the San Diego Regional Board (NPDES permit No. CAS0108740).

EPA appreciates the efforts made by Regional Board staff to respond to our comments of January 2008 on the previous draft permit. Our comments on the latest draft mainly concern one aspect of the permit, namely the Low Impact Development (LID) requirements. Regarding LID, we still believe the permit needs certain improvements to ensure it contains clear, measurable, and enforceable requirements in this area.

With regards to other issues, we believe a number of clarifications are needed regarding the applicability of TMDLs to the permit. And in response to your request, we are providing comments on two other issues which are the removal of the term "urban runoff" and the use of numeric effluent limits for non-stormwater discharges.

A. Implementation of LID Requirements

First of all, we understand that the Orange County permittees desire consistency between the LID requirements adopted by the Santa Ana and San Diego Regional Boards. As noted in our letter to the Santa Ana Regional Board dated May 8, 2009 (which we provided to you earlier), with a few relatively minor clarifications, we would be comfortable with the requirements of the Santa Ana Regional Board's permit for North Orange County (May 1, 2009 version). As discussed below, however, we have certain concerns with the LID requirements of the March 13, 2009 draft permit proposed by the San Diego Regional Board as well as the tentative update of April 29, 2009. If the adopted Santa Ana Regional Board North Orange County permit satisfactorily addresses EPA's May 8 comments, we would support direct incorporation of the North Orange

County permit's LID provisions into your South Orange County permit. We will continue to consult with you regarding the status of the North Orange County permit.

1) Concerns with the South Orange County draft permit of March 13, 2009

Our concerns with the South Orange County draft permit of March 13, 2009 include the following:

a) We believe the draft permit should be revised to more clearly incorporate numeric criteria for LID implementation. This has been a priority of ours in our review of draft MS4 permits across the State including the recently-reissued permit for Ventura County and for the North Orange County permit.

In the South Orange County permit, numeric LID criteria should be included in section F.1.d.4 of the permit, entitled "Low Impact Development Site Design BMP Requirements." This section of the draft permit describes LID BMPs, but does not include numeric performance criteria. We recognize that in a subsequent section of the permit, section F.1.h which addresses hydromodification, there is a section entitled "Interim Requirements for Large Projects" (section F.1.h.6) which calls for the reduction of Effective Impervious Area (EIA) to less than 5%. While we support including an interim hydromodification requirement, to avoid confusion over the permit's expectations for LID, we believe the permit would be improved by including numeric criteria in the LID section F.1.d.4.

An example of this recommended approach is the permit adopted by the Los Angeles Regional Board for Ventura County on May 7, 2009. This permit includes numeric criteria in the LID sections of the permits, and also contains appropriate, separate criteria for hydromodification.

b) We would also point out that the South Orange County permit lacks storm sizing criteria to use in conjunction with the EIA requirement. The absence of such criteria resulted in criticism of an early version of the draft Ventura County permit.

Additionally, we would note that the latest draft North Orange County permit no longer contains the 5% EIA requirement, but instead establishes numeric LID performance criteria in terms of a design storm volume. We are supportive of both the design storm volume approach proposed by the Santa Ana Regional Board and the 5% EIA approach used by the Los Angeles Regional Board for the Ventura County permit.

c) We believe the South Orange County permit should include specific requirements for alternative programs when permittees conclude that implementation of LID is infeasible. However, the existing provisions in the permit related to waivers (sections F.1.d.7 and F.1.d.8) do not address this concern. Section F.1.d.7 is entitled "Waiver Provision for Numeric Sizing of Treatment Control BMP Requirements" and provides waivers for treatment requirements rather than LID. Further, section F.1.d.8, entitled "LID Site Design BMP Substitution Program" is written to substitute for "some

or all treatment control BMPs." Our concern is with the draft permit's LID section (section F.1.d.4.a.i) which refers to a "finding of infeasibility" that permittees may make if LID implementation is not practical for a given project; additional clarification is needed concerning the circumstances when LID would be considered "infeasible."

2) Concerns with the tentative revisions to the South Orange County permit of April 29, 2009

Our concerns with the tentative revisions to the South Orange County permit of April 29, 2009 include the following:

a) New language would be added in section F.1.d.(4)(a)(i) which would require LID practices or participation in the LID substitution program of F.1.d.(8)(d). However, the permit still does not clarify the circumstances when LID would be considered infeasible (see comment 1.c above) or require the permittees to develop such criteria for submittal to and approval by the Regional Board (as does the current draft of the Santa Ana Regional Board's permit). Further, the revised section F.1.d.(8)(d) seems misplaced (and is confusing) in that it is located within section F.1.d.(8) which sets forth an optional program to substitute LID for treatment controls.

b) A new section F.1.d.(4)(c) would be added to the permit which would require capture of a design storm. However, the permit also provides a rather open-ended list of acceptable LID BMPs. We would recommend that acceptable LID measures be limited as suggested in the first comment in our May 8 letter to the Santa Ana Regional Board on the proposed North Orange County permit, in which LID is defined in terms of the way the BMP performs. The concern in our May 8 letter is that certain BMPs (even biofiltration which is listed in the North Orange County permit) may not necessarily perform consistent with LID principles, unless additional operational requirements are specified. Such concerns would also apply to certain BMPs on the list in your permit such as detention ponds and constructed wetlands.

B. Total Maximum Daily Loads (TMDLs)

We believe that additional clarification is needed concerning the consistency of the draft permit with approved TMDLs. Finding E.12 for the permit indicates the permit includes applicable wasteload allocations (WLAs) that have been adopted by the Regional Board and approved by the State Board, Office of Administration Law and EPA. However, we are not aware of any such WLAs for the MS4s subject to the permit. Table 1 in the fact sheet for the permit notes that certain TMDLs have been adopted by the Regional Board, but have not yet been approved by EPA. There is also a reference in the fact sheet to dry weather TMDLs included in section C of the draft permit, which apparently have received all the necessary approvals. Again, however, we are not aware of these TMDLs and the fact sheet should provide full and clear information concerning the approval status of TMDLs with WLAs applicable to the MS4s.

Even if no applicable WLAs have been approved by EPA, it is helpful for the fact sheet to clarify this matter. Further, if applicable WLAs are approved by EPA prior to Regional Board adoption of the permit, they should be included in the permit. We are also pleased by the apparent intent of the Regional Board as indicated in Finding E.12 and Section I of the draft permit to express permit effluent limits, when necessary to ensure consistency with applicable WLAs, as numeric effluent limits. Numeric limits provide greater assurance of consistency with WLAs than the alternative of BMPs which are sometimes used, given the uncertainty in the performance of many of the BMPs commonly used for stormwater pollution control.

C. Removal of the Term "Urban Runoff"

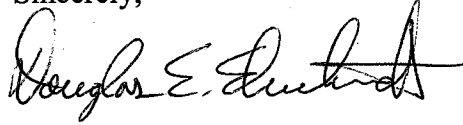
You had asked for our views on the proposed replacement of the term "urban runoff", which was commonly used in the previous permit, with the terms "stormwater" and "non-stormwater" as the discharges regulated in the new permit. We would support this revision since it is actually more consistent with the terminology used in the EPA stormwater regulations at 40 CFR 122.26. However, we would point out that the new Finding C.14 and the discussion in the fact sheet incorrectly indicate that industrial stormwater discharges are subject to the maximum extent practicable (MEP) discharge standard in the Clean Water Act (CWA). Section 402(p)(3)(B) of the CWA provides that only municipal stormwater discharges are subject to the MEP standard; section 402(p)(3)(A) provides that industrial runoff is subject to all applicable requirements of sections 402(p) of the CWA, and section 301 of the CWA which includes BAT/BCT effluent limits and water quality standards compliance.

D. Numeric Effluent Limits for Non-Stormwater Discharges

You also asked for our views on whether numeric effluent limits would be appropriate for non-stormwater discharges. As noted above in our comments on LID and TMDLs, we are seeking to ensure that permits include clear, measurable and enforceable requirements. We believe that the use of numeric effluent limits for non-stormwater discharges would be a significant step in the right direction and we support the proposed limits. In previous MS4 permits, the non-stormwater discharges addressed in the permits have typically been regulated through best management practices (BMPs) pursuant to 40 CFR 122.44(k) for the same reason that stormwater discharges themselves are often regulated by BMPs, which is the lack of good information about the discharges and the difficulty in deriving appropriate numeric effluent limits. This issue was recognized in a 1996 EPA guidance on water quality-based effluent limits for stormwater discharges which is cited by the fact sheet. However, the guidance also indicates that as additional information becomes available, more specific limits should be considered. As noted in the fact sheet, additional information has become available to the Board about the discharges over the years, and we agree that the numeric effluent limits are now appropriate.

We appreciate the opportunity to provide input on this draft permit. If you would like to discuss these comments, please contact John Tinger at (415) 972-3518, or Eugene Bromley at 415-972-3510.

Sincerely,

A handwritten signature in black ink, appearing to read "Douglas E. Eberhardt". The signature is fluid and cursive, with a long horizontal stroke extending to the right.

Douglas E. Eberhardt, Chief
NPDES Permits Office



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION IX

75 Hawthorne Street

San Francisco, CA 94105-3901

June 18, 2009

Mr. Ben Neill
Northern Watershed Protection Unit
San Diego Regional Water Quality Control Board
9174 Sky Park Court, Suite 100
San Diego, CA 92123

Re: Draft MS4 Permit for South Orange County

Dear Mr. Neill:

The following are EPA Region 9's comments on the March 13, 2009 Tentative Draft Permit for the South Orange County Municipal Separate Storm Sewer System (MS4), as amended by the "Draft Updates to LID Language" dated June 8, 2009. EPA most recently commented on the March 13 draft permit in a letter to James Smith dated May 14, 2009. These comments are intended to supplement our May 14 comments.

First, we would like to express our support for one aspect of the March 13, 2009 Tentative Draft Permit which was not covered by our May 14 letter. We recognize that section B, regarding Non-Stormwater Discharges removes "landscape irrigation, irrigation water, and lawn watering" from the listed categories of non-prohibited non-stormwater discharges. We note that the draft Fact Sheet identifies discharges from these categories to be substantial sources of pollutants. We agree that it is valid for the Regional Board to remove these sources from the list of non-prohibited non-stormwater discharges.

We are encouraged by the revisions made to the draft permit's Low Impact Development (LID) provisions in the June 8 update. We have been supportive of the Santa Ana Regional Board's Orange County MS4 permit, which was adopted on May 24, 2009. The LID provisions included in the June 8 update are generally consistent with the Santa Ana Regional Board's permit. We also appreciate that the June 8 update addresses the comments pertaining to LID in our May 14 letter.

We have the following specific comments on the June 8 update.

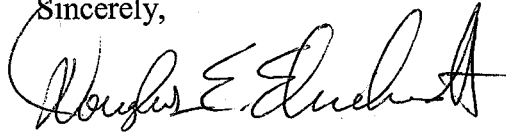
Section F.1.d requires the submittal of an updated model SUSMP within two years of permit adoption. We note that in other permits, including the May 24, 2009 Santa Ana Regional Board permit for Orange County, similar plans must be submitted within one year of permit issuance.

Section F.1.d.4.c.ii – The updated LID language includes the term “biofiltration.” Although this term is commonly used, as a general matter, its exact meaning is unclear. For example, in some circumstances, distinctions have not been made between infiltration and biofiltration. Conceptually, we believe that a well designed and operated biofiltration system can be consistent with LID principles by reducing flow volumes and protecting water quality. However, without a clear definition of biofiltration, there is the potential for the use of approaches that are contrary to LID. This section of the draft permit takes a step in the right direction by providing a total volume requirement for an acceptable biofilter. We would be interested in conferring further with you to improve the permit’s definition of biofiltration.

Lastly, we’d like to refer to our May 14 comment letter’s mention of the permit’s provisions regarding the incorporation of Total Maximum Daily Loads (TMDLs). We continue to believe that the draft permit’s TMDL provisions should be clarified, and would be glad to consult with you on this issue.

Thank you for the productive work you’ve done to improve this permit. If you’d like to discuss these comments, please contact John Tinger at (415) 972-3518, or Eugene Bromley at (415) 972-3510.

Sincerely,

A handwritten signature in black ink, appearing to read "Douglas E. Eberhardt". The signature is fluid and cursive, with a large initial "D" and "E".

Douglas E. Eberhardt, Chief
NPDES Permits Office



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION IX
75 Hawthorne Street
San Francisco, CA 94105

FAX TRANSMITTAL

Date: 9/28 # of Pages (including cover sheet): 5

TO: James Smith

Dept./Agency: San Diego RR

Fax Number: 858-571-6272

Verification Number:

FROM: Eugene Bumbly

Mail Code: WTR-5

Phone Number: (415) 972-3510

Fax Number: (415)

NOTE:

Doc Scanned On: 9.28.09
R.J. Stewart Time: 449



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION IX
75 Hawthorne Street
San Francisco, CA 94105-3901

September 28, 2009

James Smith
San Diego Regional Water Quality Control Board
9174 Sky Park Court, Suite 100
San Diego, CA 92123

Re: Draft MS4 Permit for South Orange County (NPDES Permit No.
CAS0108740)

Dear Mr. Smith:

The following are EPA Region 9's comments on the August 12, 2009 draft permit for discharges from the South Orange County Municipal Separate Storm Sewer System (MS4) within the jurisdiction of the San Diego Regional Board (SDRB) (NPDES permit No. CAS0108740).

Region 9 submitted comments on the previous draft permit of March 2009 in letters to the SDRB dated May 14, 2009 and June 18, 2009. We believe significant progress has been made in the August 2009 draft permit in addressing our comments on the previous draft. Region 9 supports adoption of the latest draft permit, with a few relatively minor revisions and clarifications as described below.

A. Low Impact Development (LID) Requirements

As we pointed out in our previous letters, Region 9 is seeking clear, measurable, and enforceable LID requirements in MS4 permits. The LID requirements of the latest draft are quite similar to the requirements in the North Orange County MS4 permit adopted in May 2009, with Region 9's support, by the Santa Ana Regional Board (SARB). We believe the SDRB's draft permit would be consistent with our objectives for LID implementation with a few minor revisions discussed below:

1) Page 8 (Finding D.2.c) – We recommend either removing the word “filtration” or replacing it with “retention.” This would be consistent with the draft permit's Part F.1.d.(4)(d) which requires LID BMPs to be sized and designed to ensure onsite retention of the design storm event. We believe this would also better mirror the intent of mimicking natural hydrology via infiltration, harvesting and reuse, or evapotranspiration of stormwater, as opposed to the use of filtration systems which result in stormwater flows into the MS4 via underdrains.

- 2 -

2) Page 31 (Part F.1.c.8) – The inclusion of “LID biofiltration” in this section pertaining to large development projects is inconsistent with both section F.1.d.(4)(d) of the draft permit (described above) and with the SARB MS4 permit for Orange County (Part XII.C.2), where “bio-treatment” is only considered to meet that permit’s LID provisions if infiltration, harvesting and reuse, or evapotranspiration are not feasible. This section should be revised to clarify that retention BMPs are preferred, and that the use of biofiltration will comply with this provision only if retention BMPs are not feasible.

3) Page 31 (Part F.1.c.8) - At the first mention of the feasibility of onsite retention or “LID biofiltration” there should be a reference to the requirement that feasibility criteria will be proposed by the co-permittees and approved by the Executive Officer (EO). Based on the mention of a “technical feasibility analysis” in section F.1.d.7., it’s our understanding that it’s the intent of the permit that this analysis must be submitted for the approval of the EO as part of the standard stormwater mitigation plans (SSMPs), and will be subject to public review and comment. The permit should be clarified to explicitly state the expectations for the timing of the submittal of this analysis and the review and approval process. These expectations should be included initially in this section, which is the first instance in the permit where this analysis would apply.

4) Page 34 (Part F.1.d.4.(a)(iv)) – We recommend deletion of the words “filter” and “detain” since they are not consistent with the intent of onsite retention as noted above.

5) Page 36 (Part F.1.d.4.(d)(ii)) - Given the mention of technical infeasibility in this section, it should be noted here that the conclusions on feasibility will be made based on the approved feasibility analysis.

6) Page 36 (Part F.1.d.4.(d)(iii)) – We recommend the word “may” be changed to “must” to ensure conventional treatment is required when LID is determined to be infeasible.

7) Page 39 (Part F.1.d.7) – As noted above, mention of the technical feasibility analysis should clarify expectations for the submittal of this analysis along with the fact that there will be an opportunity for public review and comments, and ultimate approval by the EO.

B. Total Maximum Daily Loads (TMDLs)

As you know, the Baby Beach TMDL has not yet been approved by the State Office of Administrative Law (OAL) or EPA. Accordingly, Finding E.11 is not currently accurate in stating that the permit includes wasteload allocations (WLAs) from fully approved TMDLs. However, we anticipate the Baby Beach TMDL will be approved by OAL and EPA prior to permit adoption, and we suggest you proceed under this assumption.

We also suggest the following clarifications and revisions related to the proposed TMDL requirements of the permit:

- 3 -

- 1) Page 79 (Part I) – The reference to Finding E.12 appears to be an error, and should be corrected.
- 2) Page 79 (Part I.1.a) - Although Finding E.11 identifies the particular co-permittees which are affected by the TMDL requirements, it would be helpful for additional clarification to include the names of these co-permittees in Part I.1.a of the permit as well.
- 3) Page 79 (Part I.1.b) - The permit should contain clear expectations for monitoring to ensure achievement of TMDL WLAs. Given that the referenced TMDL does not include a clear monitoring plan, the permit should require submittal of a monitoring plan, and specify the date by which this plan must be submitted.
- 4) Page 79 (Part I.1.c.) - Since the date for compliance with the dry weather WLA is five years after permit adoption, it appears erroneous to require both the wet weather and dry weather WLAs to be met by 2019, ten years after permit adoption. It should be noted that dry weather WLAs must be met by the end of 2014.

C. *Numeric Effluent Limits for Non-Stormwater Discharges*

In our previous letter of May 14, 2009, we supported the inclusion of numeric effluent limits for non-stormwater discharges, and we continue to do so. Establishing these limits is consistent with section 402(p)(3)(B)(ii) of the Clean Water Act, which states that permits for municipal stormwater must effectively prohibit non-stormwater discharges into the storm sewers.

- 1) Page 22 (Part C.4) - We recommend clarification regarding the “representative percentage” of the major outfalls/stations which will be monitored. The permit should provide expectations for the magnitude of required monitoring pursuant to this section.
- 2) Page 23 (Table 4.a.2) – It appears that the numeric values in the columns for the saltwater AMELs and MDELs should be reversed, i.e., the MDELs should be the larger numbers.

D. *Stormwater Action Levels*

We fully support the inclusion of stormwater action levels (SALs) in the permit. These requirements help to clarify MEP. We recommend the fact sheet include additional information describing how the particular values for the SALs were derived.

- 1) Page 25 (Part D.2.) - Again, the permit requires sampling of a “representative percent of the outfalls.” Both here and in Part C.4, the permit should provide some degree of specificity so that the permittees and the public have an idea of the expectations for the number of outfalls to be monitored.

E. *Retrofitting Existing Development*

- 4 -

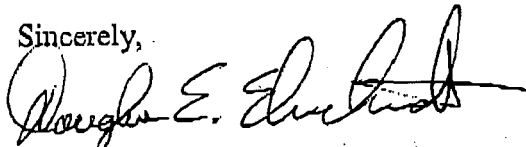
We fully support the proposed requirements in the permit for retrofitting existing development with additional controls such as LID. The benefits of adding LID measures in particular in new developments have been documented in numerous reports of which the Board is well aware. Such benefits would also accrue from adding LID to existing developments. In addition to the support provided by the fact sheet, we would note that such requirements are encouraged by the State's 2005 report entitled "NPDES Stormwater Cost Survey" which also investigated alternative approaches to stormwater control.

F. Hydromodification

We are pleased to see the draft permit continues to include requirements related to hydromodification, and that clear, measurable requirements are included to address the issue. We believe the requirements are fully supported in the fact sheet and are consistent with the requirements of other recent MS4 permits in California.

We appreciate the opportunity to provide input on the draft permit. If you would like to discuss these comments, please contact John Tinger at (415) 972-3518, or Eugene Bromley at 415-972-3510.

Sincerely,



Douglas E. Eberhardt, Chief
NPDES Permits Office

ATTACHMENT 47

1 APPEARANCES:

2 Board Members: Richard Wright, Chair
3 David King, Member
4 Eric Anderson, Member
5 Wayne Rayfield, Member
6 Grant Destache, Member
7 George Loveland, Member

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1 San Diego, California, Wednesday, November 18, 2009

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5 CHAIRMAN WRIGHT: Before us is Item 12.

6 And this item we've heard many, many times. Hopefully, we
7 we are moving towards some finality. I have a
8 statement. First of all, I want to apologize for -- I
9 understand that you were all here around 2:00 o'clock for
10 the time certain thing, but it just didn't seem to make much
11 sense to try to break up what we were doing and then try to
12 pick it up many hours from now when we're still talking about
13 -- about this one.

14 Okay, I will read this statement. And, please,
15 bear with me. This is a hearing to receive testimony and
16 consider adoption of Tentative Order Number R9-2009-002,
17 reissuance of N.P.D.S. waste discharge requirements for
18 discharges of runoff from the municipal separate storm sewer
19 system draining watersheds of the County of Orange, the
20 Orange County Flood Control District and 11 incorporated
21 cities in Orange County within the San Diego Region, that is
22 Region 9.

23 This is the time and place for a public hearing
24 to consider testimony on the tentative order, the number
25 which I just read and for the Board to consider adoption of

1 the tentative order. As indicated in the executive
2 officer's summary report, the tentative order before the
3 Board is the fifth --

4 I remind you, fifth version of the draft order
5 to reissue the 2000 permit under which the Orange County
6 permittees have been operating. The Board held a public
7 hearing to consider an earlier version on July 1, 2009,
8 and heard extensive testimony on that tentative order.

9 All the comments made on earlier versions of
10 the tentative order are in the record for this Matter and
11 have been considered by the Board. For this reason, the
12 public notice for this hearing encourages, strongly
13 encourages, interested parties to focus comments on changes
14 made to the tentative order since the July 1, 2009 hearing.
15 I encourage interested parties to avoid repeating
16 comments made at the July 1 or earlier public hearings. And
17 also encourage you not to be repetitious today during this
18 hearing. Of course, that goes without saying. The procedure
19 for this hearing is as follows:

20 First, we hear from the Regional Board Staff.
21 And I have encouraged them to keep their comments brief,
22 less than 20 minutes. Then we'll hear from the
23 co-permittees. Orange County, as I understand it, will be
24 speaking on behalf of all of the co-permittees. Thus, I
25 think an hour -- up to an hour, is in order. But, I again,

1 I would encourage you to try to keep it to less than that
2 one hour time.

3 we will hear from elected officials who --
4 maybe we will hear from the elected officials early on, at
5 least, in each group. So maybe if you could sort out the
6 elected officials we will hear from them. The
7 U.S.E.P.A. -- well, with elected officials, we would hope
8 that you would keep your comments to less than five minutes.
9 The U.S.E.P.A., up to 15 minutes.

10 Environmental groups, now I don't know how
11 many environmental groups we have, but if we have groups of
12 individuals or whether you've combined your -- your group,
13 your members into a group, we will give you a new order of
14 about 10 minutes for each group. And then for interested
15 persons that wish to speak outside of the groups that I have
16 mentioned, I would like for you to keep your comments to
17 about 10 minutes each. Then we will hear a response by
18 Regional Board Staff and then recommendation from the
19 executive officer.

20 So at this point, I would like to ask those
21 persons that are expecting to testify, please stand,
22 raise your right hand. Please stand, if you would, raise
23 your hand, and take the following oath.

24

25

1 not yet seen that. And what I wanted to suggest is
2 that rather than give those -- that document to you right
3 now, that the County incorporate, as it wishes, its
4 suggestions for revisions in their presentation.

5 And then when the Board is deliberating, if you
6 are interested in looking at alternative language on points
7 raised by the co-permittees, then certainly you are free to
8 look at that language and discuss it.

9 Also, if you do want copies of that, please let
10 me know and I will provide that to you at any time. And
11 then lastly, late yesterday also Michael Beeman submitted
12 a comment letter that he had previously submitted in this
13 proceeding from 2007. He's not able to be here today.
14 Since that comment is already in the record, there is no
15 need to provide that to you at this time. But I just
16 wanted to note that for the record.

17 And then, lastly, just wanted to remind -- or
18 ask you to remind speakers who use PowerPoint presentation
19 to please be sure to leave a copy for the Board so that it's
20 included in the record. Thank you.

21 CHAIRMAN WRIGHT: Okay. And if the co-permittees
22 would -- as you going through your presentation, please
23 cover the changes that you are proposing or the changes that
24 you have proposed in the -- by the errata sheet. It would
25 be easier to follow if we had the errata sheet. We would

1 like to have the errata sheet done.

2 Catherine, and a couple of Board members --

3 MR. ANDERSON: Would it be easier to follow the
4 presentation if we had the errata sheet?

5 CHAIRMAN WRIGHT: They said yeah. Well, they don't
6 know. If you are asking them if they thought we -- I think,
7 the question is -- we have to ask ourselves is whether or not
8 we would benefit and we've heard two people indicate that
9 they would, so Catherine?

10 MS. HAGEN: You may certainly have copies. I think
11 staff has copies available. And we will have to take a
12 close look at it as well and see how the changes affect the
13 rest of the permit and so forth.

14 CHAIRMAN WRIGHT: And again, the changes proposed in
15 the errata sheet should be included as part of your
16 presentation. So first, let's hear from the Regional Board
17 Staff, up to 20 minutes.

18 MR. NEILL: Chad's going to hand you a copy of my
19 presentation so you can follow along if you don't want to
20 watch the screen.

21 Good afternoon Dr. Wright and Board members.
22 My name is Ben Neill and I took the oath. And my last name
23 is spelled N-e-i, double l. And I am an engineer in the
24 northern watershed unit and I work for Mr. Jimmy Smith
25 sitting right here. I have worked the stormwater program

1 since 2001. And I present to you and introduce into the
2 file record, the N.P.D.S. permit for municipal separate
3 storm sewer systems in Orange County, tentative order
4 R920090002 with all the supporting documents.

5 This order will be the fourth term permit
6 issued for Orange County. In your agenda package, we gave
7 you the tentative order and the fact sheet, some minor
8 errata to the order, a map of Orange County, timeline of
9 events, the comments that we received on this fifth draft of
10 the tentative order and our response to those comments.

11 I would especially like to bring to your
12 attention in your agenda package supporting
13 document number 7. That is a legal memo written by
14 Catherine, Regional Board Counsel. This was to fulfill the
15 Board's request that we respond to questions regarding
16 regulation of non-stormwater discharges. And it confirms
17 our regulatory authority for those discharges and provides
18 clarification on the question about of state mandates.

19 And if you have any questions regarding that
20 memo, I would direct those to Catherine. I am going to be
21 brief. You said 20 minutes. I was timed at 18 minutes. So
22 we'll have two extra minutes.

23 But when developing this presentation, I
24 decided to go a different route because we've heard all
25 these issues in July. And after we released that, we had no

1 real significant new issues, just rehashing of the same
2 issues raised since the July hearing.

3 I will go over a brief history of the permit
4 reissuance process, a summary of your directives that you
5 gave us in the previous meetings and including a directive
6 to compare our existing permit for Orange County to this
7 tentative order up for adoption and also a comparison of
8 Region 8's Orange County permit with the tentative order
9 looking at consistency. And we provided these comparative
10 analysis to you in supporting documents numbers 10 and 11.

11 At the end of my presentation, I will recommend
12 that the Regional Board close the public comment period and
13 adopt the tentative order with errata.

14 So this busy slide is a timeline of the
15 permit reissuance process for this permit. So in purple,
16 up there, is the five drafts that we have written of this
17 order. We are continuing the long process of reissuance
18 This was started back in 2006. And at that time, we met
19 with the co-permittees about their reported waste discharge
20 and we gave them comments on that.

21 In 2007, we released the first draft of the
22 tentative order and held a public workshop. And the first
23 public hearing was also held. The tentative order was
24 modified. And a second and third draft was released. An
25 adoption hearing was held in February, 2008.

1 And at that hearing, motion to adopt the permit
2 failed to pass. And as a result, we got several directions
3 from the Regional Board on what to do. First was to place a
4 greater emphasis on measurable performance criteria that
5 impact environmental outcomes. Second, take another look at
6 the low-impact development and hydromodification
7 requirements.

8 Third, remove the regulations of F.E.T.D.s.
9 These are the so-called in stream facilities that treat the
10 water. They remove water from the creek, treat it for a
11 specific pollutant, then discharge it back into the creek.

12 Fourth, we incorporate any fully adopted
13 T.M.D.L.s into the tentative order. And, lastly, is look
14 into the question of consistency. So if you notice on our
15 timeline, 2006, 2007, then we have a gap here of 2008,
16 February 2008, between the adoption hearing and the fourth
17 draft of 2009.

18 So during that time period, we were
19 fulfilling those directives and looking into the
20 consistency question. During that time, we twice met with
21 the executive officers and the stormwater staff of Region 8
22 and Region 4 before we met as a group with the U.S.E.P.A.
23 and the State Board. At those meetings, we sat down with
24 them and we shared with our colleagues at the other Regional
25 Boards and the State Board what we felt was the future and

1 our vision for the future of MS4 permits in Southern
2 California.

3 Unfortunately, consistency was not a real
4 concern for the other Regional Boards because they had never
5 received any comments about consistency from their
6 constituents. We all agree that the concept of a unified
7 MS4 permit for Southern California could be a good idea, but
8 the practicality of doing a single permit was beyond our
9 resources and especially our authority for the whole
10 Southern California area.

11 And, frankly, I would expect many of the other
12 permits in Southern California to have to come up to the
13 level of the MS4 permits adopted by this Board in order for
14 us to be consistent with federal regulations that are for
15 anti-backsliding. Now, what is within our authority would
16 be a single unified MS4 permit throughout our Region. We
17 have three MS4 permits. One for San Diego County, Riverside
18 County and Orange County.

19 We could have a single permit for the whole
20 region and that's similar to what's being done in Region 2
21 currently, in the San Francisco Bay Area region. We can be
22 consistent within our boundaries with these three separate
23 N.P.D.S. permits for MS4 discharges. And we could start
24 this process with the upcoming reissuance of the Riverside
25 County MS4 permit by making the next Riverside MS4 pursuant

1 substantially similar to the tentative order that's up for
2 adoption today.

3 And then after Riverside County, we can follow
4 up with the San Diego County MS4 permit. So that's how we
5 looked at consistency during that time frame. And then, in
6 2009, we released a fourth draft in March. We incorporated
7 the Board's directions. And we held a workshop in early
8 April. We met multiple times with various stakeholders and
9 held a public hearing in July.

10 At that July hearing, if you remember, the
11 Board asked that we release a fifth draft, which we did in
12 August. And we really had a full 45-day public comment
13 period on that fifth draft. At that July hearing, the Board
14 also asked staff to include language protecting downstream
15 water rights holders, provide legal clarification on the
16 regulation of the non-stormwater discharges and about the
17 question of unfunded state mandates and I remind you, that's
18 in supporting document number 7 for you.

19 And you also asked we provide a comparison of a
20 tentative order to Region 8's Orange County permit looking
21 at consistency and also a comparison with our current,
22 existing Orange County permit to look into any additional
23 costs there may be with the tentative order.

24 So, after three-and-a-half years, we are here
25 today for the adoption of the tentative order. And this

1 slide gives the five dates on the bottom here where we had a
2 response to comments. And then, the short dark bars are the
3 number of comment letters we got and then the tall bars, we
4 separated out the comment letters into the number of
5 comments. And as you are seeing in this last response to
6 comments, it has been the most ever. We had over 400
7 comments that we've responded to on the fifth draft of
8 comments.

9 The thing is about this fifth draft, the fifth
10 response to comments, is we pretty much heard all these
11 issues before. And a lot of the comments that received the
12 most recent response to comments were just repeat submittals
13 from the previous response to comments.

14 So I have some numbers I'd like to share with
15 you in total for this permit over the past three years,
16 we've had four hearings, five draft orders, eleven
17 stakeholder meetings, five public comment periods;
18 we've received comment letters from 60 different commenters.
19 And some of those commenters submitted comments -- letters
20 every time. And we have responded in writing to over 1200
21 written comments.

22 So that's just the time frame for this permit
23 reissuance. But I wanted to look in the larger picture of
24 MS4 permit regulation. And this slide demonstrates what I
25 think is the natural development in MS4 permitting over the

1 past 20 years.

2 Prior to 1990, pollutants in MS4 discharges
3 were not regulated. Then the first Orange County MS4
4 permit was adopted in 1990. And at that time, the cities
5 needed to develop a stormwater program to address those
6 discharges.

7 The Orange County MS4 permit was reissued in
8 1996, and again, in 2002. Each time with more specific
9 requirements. And one thing these permits all focused on,
10 activity-based outputs as the co-permittees were
11 developing their program to address stormwater pollution.

12 This is a time period where the municipalities
13 established their programs and we measure compliance more by
14 an accounting of the City's actions and activities they took
15 as part of those programs.

16 So today we're in 2009, and we're looking at
17 shifting the focus of the MS4 permitting process. And we
18 think this is going to progress us to the next level. The
19 previous permits focused on the activities and actions of
20 the cities. This tentative order now focuses on measurable
21 criteria directly impacting environmental outcomes. This
22 shift and focus to environmental outcomes is what I think is
23 the natural and beneficial consequence of the science and
24 reason implementing the original and unchanged federal
25 regulations.

1 Now, I am kind of guessing here. But we've
2 also put the year 2030 out there. So hopefully, we
3 anticipate that in the next 20 years, as we do this shift
4 and focus to environmental outcomes, they will eventually,
5 the regulations will become more robust and evolve so we're
6 restoring water quality, restoring beneficial uses. So
7 then, in 2030, we get to a point where we are focusing on
8 maintenance and sustainability of water quality.

9 So, I think -- I think this focus on the
10 environmental outcomes will be more apparent to you as I go
11 over some of the permit details that were in the
12 comparison documents, numbers -- supporting documents
13 numbers 10 and 11 in your agenda package. The left column
14 on this table is going to be the topic that I am going to
15 talk about. The next column is the comparison with the
16 existing current order and if that requirement is in the
17 current existing order.

18 Then the next column is in the Region 8
19 permit. And then the final column shows if that requirement
20 is in the tentative order up for adoption today. On a side
21 note, we did not compare our permit -- our tentative order
22 to any other California MS4 permits such as the recently
23 adopted Ventura County MS4 permit or the Region 2,
24 San Francisco Bay Area Municipal Regional Permit. And I do
25 know that these permits do have a low impact development and

1 hydromodification requirements in them.

2 So, if you see up on your screen, the first
3 topic is low impact development. And L.I.D., it is in the
4 current permit, in the existing permit. But it's only
5 recommended to be done in the existing permit. Of all the
6 topics that I am going to go over today. I think that
7 this is the one that we have the most consistency with the
8 Region 8 permit. And, in fact, in response to the comments
9 that we've received from the co-permittees, we modified the
10 language and requirements of our order to -- so that they
11 are nearly identical to the Region 8 permit.

12 So the next topic we will go over is
13 hydromodification requirements. All three permits have
14 hydromodification requirements to varying degree of
15 specificity. Now, the requirements that we place in these
16 tentative orders is based on the hydromodification
17 requirements found in the current San Diego permit.

18 This way, we feel that the co-permittees can
19 save their money and save their time by building on the
20 processes and development that San Diego has already done in
21 developing their hydromodification program. I mean, they
22 don't have to reinvent the wheel to do the same thing in
23 Orange County.

24 So in response to comments we received, we did
25 add a limited exemption for discharges to certain hardened

1 channels. Not to all hardened channels, but just to some of
2 the hardened channels.

3 Next topic is the water rights language. We
4 incorporated language protecting water rights for downstream
5 water rights holders. And this language is not found in the
6 existing permit. And it's not found in the Region 8 permit.
7 And we did this in response to what -- the Board's direction
8 in July. And this language was at the request of a comment
9 letter we received from Camp Pendleton. And we pretty much
10 put the exact language that Camp Pendleton requested in the
11 tentative order.

12 This is the F.E.T.D.s. These are the
13 facilities that extract, treat and discharge and this
14 tentative order does not regulate these facilities. The
15 existing order does not regulate these facilities. And the
16 Region 8 permit does have regulations on F.E.T.D.s. And we
17 don't regulate F.T.E.D.s in this tentative order. We felt
18 the Board's direction was pretty clear in February of 2008
19 and July of this year that it's -- and the way we felt about
20 it is that these are not part of the MS4 and they are more
21 appropriately regulated through a separate N.P.D.S. permit
22 or waste discharge requirements.

23 So, if you look at up on the Board, two
24 of the things that come out of the water rights and the
25 F.E.T.D.s were not consistent with the with other permits.

1 And this points out that consistency between permits is not
2 always appropriate and it's not always feasible. And there
3 are good reasons and appropriate reasons to be inconsistent.
4 Water rights protection language is needed due to the new
5 L.I.D. requirements in the permits. And F.E.T.D.s are not
6 part of the MS4, so they shouldn't be regulated by an MS4
7 permit.

8 Moving on, the next topic is retrofitting. The
9 existing permit for Orange County does not have a similar
10 section on retrofitting. The Region 8 permit does have a
11 limited provision for retrofitting and only in municipal
12 areas. And the tentative order requires an examination of
13 retrofitting opportunities at the existing development. And
14 this is necessary for stormwater pollutant reduction to the
15 maximum extent practicable.

16 We feel the cost would not be extraordinary
17 because the capital expenses for retrofitting are not
18 explicitly required. The requirement is to explore
19 retrofitting, identify high priority areas and implement
20 those retrofits where feasible and the co-permittees could
21 also incorporate some of their existing studies they have on
22 retrofitting, such as -- they have a South Orange County
23 integrated Regional water management plan that addresses
24 retrofitting.

25 Over irrigation in this tentative order has

1 removed exemptions for over irrigation discharges which
2 there is -- there is an exemption from prohibition in the
3 existing permit and in the Region 8 permit. We removed this
4 exemption to be consistent with federal regulations.

5 Let's say, if you have an exempted discharge
6 and it's identified as a source of pollutants, then it must
7 be prohibited. So -- so we took it out. We feel that the
8 cost of implementing this requirement will not be
9 extraordinary. The co-permittees already have programs to
10 identify illicit discharges and to enforce their ordinances.
11 And the co-permittees can achieve -- can also achieve
12 compliance through implementation of the water conservation
13 and landscaping act which requires co-permittees to adopt
14 the water conservation ordinance.

15 Stormwater action levels, that's S.A.L.s were
16 formerly were called M.A.L.s, municipal action levels. And
17 then also N.E.L.s. That's the non-stormwater dry weather
18 numeric effluent limitations. And so at the February 2008
19 hearing, the Board asked us to include more measurable
20 performance criteria in the permit. The
21 stormwater action levels and non-stormwater effluent water
22 limitations fulfill that request. And these two provisions
23 directly assess environmental outcomes.

24 Like I said, the stormwater action levels
25 used to be called the municipal action levels. The

1 co-permittees asked us to change the name. We thought it
2 was not a big deal. We went ahead and changed the name of
3 S.A.L.s to stormwater action levels. The S.A.L.s were
4 developed using the State Board's blue ribbon panel guidance
5 and are set at the 90th percentile of the pollutant
6 concentrations in the existing data. The dry weather
7 non-stormwater numeric effluent limitations were developed
8 as required by federal regulations which established
9 effluent limitations. And, yet, we did the required
10 reasonable potential analysis. And then established the
11 required water quality based-effluent limitations.

12 And we don't feel that the cost for monitoring
13 on these is going to be any greater than their current
14 efforts at monitoring. And we made some minor changes to
15 the S.A.L.s and N.E.L.s based on the latest round of comment
16 we received. The number of constituents for S.A.L.s was
17 decreased. The action levels which we recalculated them to
18 be the 90th percentile of data. The monitoring for N.E.L.s
19 was modified to more closely mirror their existing efforts
20 at monitoring.

21 CHAIRMAN WRIGHT: Your time is up.

22 MR. NEILL: Okay. I am almost done here. In
23 addition, if the supporting document number 7, the Regional
24 Board counsel's legal memo clarifies that N.E.L.s are in
25 conformance with the federal N.P.D.S. regulations. These

1 four topics here -- they're not found for the most part in
2 the current permit or in the Region 8 permit. These are
3 also the four requirements that will have the greatest
4 benefit to environmental outcomes. I also would like to
5 point out that in the comment letters we've received, the
6 U.S.E.P.A. has expressed their support for these provisions.

7 So, here I am -- I am closing. The tentative
8 order shifts our focus towards the environmental outcomes.
9 And this has been over a three-and-a-half year process.
10 There has been plenty of time to hear a response to and
11 discuss all the issues and comments from all the interested
12 parties. As you heard earlier today, the 303D listings and
13 impairments have increased in Orange County.

14 Water quality objectives are not being met.
15 And the existing permits have not been stringent enough to
16 protect the physical, chemical, and biological integrity of
17 our receiving waters. I feel that time is appropriate for
18 this next generation of MS4 permits to be implemented. And
19 this is the best possible permit that we could write for you
20 today.

21 Finally, and most importantly, the continued
22 evolution of this MS4 permit is reasonable and necessary to
23 further protect water quality for the benefit of present and
24 future generations. I recommend the Board closes the public
25 comment hearing and adopt the tentative order with errata.

1 CHAIR WRIGHT: Let's hear from the co-permittees. We
2 have to see we have if any elected officials in this group.
3 Let's hear from them. We have Mark Nielsen, mayor of
4 San Juan Capistrano; Steve Weinberg; Randal Bressette and
5 Andre Monette.

6 Just those three. What's your name? Verna
7 Rollinger.

8 MS. ROLLINGER: Verna Rollinger.

9 CHAIRMAN WRIGHT: You weren't speaking with a green
10 card.

11 MR. NEILSEN: Mr. Chairman, members of the Board, my
12 name is Mark Nielsen.

13 And I'm the mayor of San Juan Capistrano, which
14 is also a member of the San Juan Basin Authority. I've
15 taken the oath. And I am here to discuss the impacts of the
16 proposed permit on our city. I will leave the technical
17 issues to others.

18 Instead, I will focus, as I did, in your last
19 hearing at the Ocean Institute, on the devastating financial
20 impacts the proposed permit will force on the cities of
21 South Orange County while placing cities in the untenable
22 position of being responsible for each individual landowner
23 without any realistic chance of enforcing the requirements.

24 Let me say at the outset that our city fully
25 supports the intent behind this permit, which is to improve

1 our overall water quality and sustainability. However, it
2 is vital that we do so in a way that is doable and does not
3 destroy the academy and overall quality of life of our
4 cities and our citizens. There are ways to achieve greatly
5 improved sustainability and do so in a revenue neutral way.
6 Our city has a strong record of putting these actions to
7 words -- these words into action.

8 Not only is the city a great cost to our
9 citizens fighting Chevron for their two M.T.B.E. spills that
10 are impacting our drinking water wells at a cost of over
11 three million dollars so far. But we have a long track
12 record of city initiatives. San Juan Capistrano achieved
13 70 percent solid waste diversion after being at less than
14 30 percent about a decade ago.

15 Our community recently voted for a 30-million
16 dollar bond to purchase and protect more open space for the
17 community to enjoy, which also results in less pollutants to
18 reach the creeks. We are funding repairing habitat
19 restoration and have trout ladders going in for steelhead
20 have been repopulating our creeks. Our annual creek cleanup
21 day attracts hundreds of volunteers each year. These
22 efforts reflect a goal of a well-rounded, ecologically
23 balanced San Juan Capistrano.

24 They're but a sample of the programs that the
25 city is involved in. And I hope it's enough to make a point

1 of our commitment to the environment. With that said, I
2 would like to present the darker side of this message.

3 We're in one of the worst economic times of our
4 city. Many of our businesses have closed, approved
5 developments are not being constructed and developers have
6 shut down construction sites as they have gone bankrupt.

7 Our city, like others, have lost many of our
8 car dealers that generated the bulk of our sales tax. Our
9 general fund that the stormwater program and many other
10 programs depend on is running dry. The state has reached
11 into our pocket and forced us to make some major cuts to the
12 various programs and critical maintenance services that we
13 offer our community. This financial story is not unique to
14 San Juan Capistrano.

15 As I examine the new requirements of the
16 proposed permit, I can only conclude that a major flaw in
17 the analysis presented to you is the financial impacts of
18 the permit staff is asking you to adopt. This analysis
19 should be a critical factor that it is sorely missing.
20 There is a whole list of new monitoring requirements for a
21 lot of different pollutants, 38, I believe, that will cost
22 us all huge amounts of money with no measurable return.

23 This permit imposes mandatory minimum penalties
24 for violations of limits that often we have no control over.
25 From sources such as Cal-Trans right-of-way, federal lands

1 atmospheric deposition, or natural sources as opposed to the
2 more reasonable use of a maximum extent practicable that the
3 Clean Water Act requires.

4 I also ask you to remember the discussion you
5 had at the Ocean Institute regarding the mandatory minimum
6 penalty for South Coast Water District. Many of you bemoan
7 fact that while the circumstances may not have warranted, a
8 penalty, your hands were tied because of minimum mandatory
9 penalties. Now, you have the opportunity to correct such a
10 situation recurring in the future. But instead, the
11 recommendation is to add yet another framework for mandatory
12 penalties that will again tie your hands in the future. Yet
13 this time, it will be of your own doing.

14 Please, I ask you to reconsider this path which
15 if approved as put forward, would result in literally
16 millions of dollars of minimum mandatory fines on cities
17 that can be bankrupted by this framework. I wish I was
18 exaggerating, but sadly, I am not.

19 I know when I am sitting on the dyas (phonetic)
20 dealing with proposed ordinances and fees, I am always
21 cognizant of the law of unintended consequences as to our
22 own council's actions. This permit and penalty liability
23 framework is fraught with unintended consequences to the
24 city.

25 we are suffering from water shortages and are

1 diligently educating the public and the problem of over
2 irrigation at a time of drought and have adopted an
3 ordinance dealing with this situation. We're also in the
4 process of significantly increasing our fees and changing
5 our structure for allocation and reducing allocations of
6 water.

7 Your permit mandates a prohibition of
8 irrigation runoff. It does so in a way that is impossible
9 to enforce. And, again, guarantees more penalties on cash
10 strapped cities. I ask each of you to look at your own
11 watering and judge whether you can guarantee that not a
12 single ounce of water gets on the pavement or curb.

13 Our staff has shared with your staff the
14 ongoing partnerships between the cities and water districts
15 and offer to provide evidence of major reduction and
16 irrigation and over irrigation. But staff seemed
17 uninterested.

18 This mandate could potentially expose us to
19 litigation efforts from third parties and possible mandatory
20 minimum penalties. I suggest that the Board direct staff to
21 modify the permit to require cities to work closely with the
22 water districts and report on the progress over the next
23 permit term, but not impose the proposed unenforceable
24 requirements.

25 Again, these are but a few of the new unfunded

1 mandates in the new permit that will cost us a great deal of
2 money. I believe that the previous direction to staff was
3 for a cost neutral permit. But let me tell you, this is not
4 what is being presented to you. I hope that you will listen
5 to our South County representatives and speakers and take
6 into consideration our financial situation.

7 I urge you direct your staff to make some of
8 our proposed revisions that will provide a balance between
9 water quality protection and improvement compared against
10 the reality of what our cities financially can do and what
11 is practical as well as able to show a clear return on the
12 investment.

13 To do otherwise will merely result in yet
14 another state raid on the ever dwindling city funds. Thank
15 you for your consideration.

16 CHAIRMAN WRIGHT: Thank you, that's right at five
17 minutes. Randall Bressette, Mayor Pro Tem from the City of
18 Laguna Hills, welcome.

19 MR. BRESSETTE: Yes. I have taken the oath. Good
20 afternoon, Honorable Chair and Members of the Board. The
21 City of Laguna Hills is committed to claim stormwater
22 discharge and we embrace reasonable, enforceable and
23 effective water quality regulations.

24 During my 18-year tenure as the Mayor and City
25 Council member, I have had the opportunity to serve as

1 chairman of L.A.F.C.O. in Orange County and as
2 Governor Schwarzenegger's appointee to the
3 California Veteran's Board, I have served on variety of
4 boards and agencies. And as a result of my experience, I
5 feel quite confident and capable of speaking to you today
6 not only as a homeowner who is potentially affected by your
7 decision, but as a local elected official with a regional
8 and statewide perspective.

9 And I dare say that everyone in this room would
10 like to hold up one colored card because we are all here to
11 have clean water runoff in our cities and in this region.
12 But there are provisions of this permit that are not
13 acceptable to Laguna Hills from practical, legal, and
14 perhaps most importantly, economic perspectives. It is not
15 necessary for this Board to set unattainable regulations to
16 reach our common goal of clean waters runoff.

17 Not only are many of the regulations in the
18 draft permit extremely costly, but unnecessarily burdensome
19 and impossible to enforce. The proposed permit would
20 require all permittees in the region to spend considerably
21 more on water quality at a time when all other areas
22 of our budget, including first respond to public safety are
23 being cut. In the last two fiscal years, the costs of our
24 required water quality program increased by almost 11
25 percent while our total operating budget has been cut by 8

1 percent, including the elimination of two police officer
2 positions and an overall workforce reduction of 9 percent.

3 The duty to regulate is in your hands and I
4 understand and respect those duties. The changes to the
5 approach to attain cleaner stormwater runoff must be done in
6 an incremental manner that makes good sense to the public
7 and does place the emphasis of water quality above first
8 responder public safety. You must know that complying with
9 the provisions of this permit are not revenue neutral.

10 Furthermore, as Laguna Hills is divided into
11 both North County and South County regions, permit
12 inconsistency between the two regional water quality boards
13 is a major concern for us. There are fundamental
14 differences between the two permits. Inconsistency creates
15 regulatory confusion for developers, businesses and
16 residents about the N.P.D.E.S. requirements.

17 Laguna Hills government, our residences and
18 businesses, having to cope with the inconsistency of the two
19 permits is frankly irrational. Alignment of the North and
20 South County permit requirements is a critical issue that
21 should be resolved prior to the adoption of the San Diego
22 Region permit. The current draft of the tentative order has
23 modified the non-stormwater exempt discharge section by
24 removing the exemption for landscape irrigation, irrigation
25 water and lawn watering.

1 How do I tell my constituents they can't water
2 their lawn? This regulation change unnecessarily exposes
3 the City to charges of noncompliance. It is also
4 inconsistent with the North County N.P.D.S. permit. If the
5 regulation stays in the permit, then the city will have to
6 educate the public that irrigation runoff north of
7 El Toro Road, the boundary between our two regions, is
8 permissible, but illegal south of El Toro Road.

9 The issue of incidental irrigation runoff can
10 be resolved through water conservation issues currently
11 being carried out through the two public water districts
12 that serve our community, which is understandable and being
13 accepted by our residents. In an effort to stay within five
14 minutes, Mr. Chairman, I will just move to my conclusions,
15 which I apologize for fumbling a little bit here.

16 CHAIRMAN WRIGHT: I have the same problem.

17 MR. BRESSETTE: The problem was I didn't put my
18 glasses on. That's the real issue here.

19 The draft permit, and tentative order will
20 place an undo financial burden on the City of Laguna Hills,
21 and all other cities within the region. And creates
22 prescriptive technical requirements on the City of
23 Laguna Hills stormwater program while not necessarily
24 achieving the desired water quality programs we all strive
25 to achieve.

1 The city believes that the Board should
2 recognize our concerns and issue a revised order that will
3 allow all of us to work together as a team to insure clean
4 water run-off and an effective and successful stormwater
5 program. Two-and-a-half years and five hearings does not
6 mean that you have to be finished with this permit today.
7 This is not the best permit that your staff could give you.
8 I thank you for your time.

9 CHAIRMAN WRIGHT: Thank you. Steve Weinberg, Mayor
10 Pro Tem, City of Dana Point.

11 MR. WEINBERG: And I took the oath.

12 Good afternoon. As you said, I'm Steven
13 Weinberg, Mayor Pro Tem. And I'm going to try to make this
14 in three minutes.

15 I am here representing the City Council. We
16 have focused tremendous attention to water quality Dana
17 Point. We're excited about our 303-D list reductions and
18 our epidemiology study at San Juan creek. However, like
19 most entities, we are struggling with budget shortfalls this
20 year. We took a 10 percent cut last fiscal year, reduced
21 another five percent beginning of this fiscal year and are
22 still not meeting our revenue budget through the first
23 quarter of this year. It looks like further cuts will have
24 to be made this mid-year.

25 To give you an idea in F.Y. '09, we budgeted

1 1.2 million for water quality. But this year, we'll have to
2 work with much, much less. As in many cities, our public
3 safety budget comes first. It is the biggest aspect of our
4 budget actually. If this were an ideal world, we would give
5 you all the resources for water quality, but we have
6 pressing issues such as supporting police, fire and
7 supporting our infracture in the city itself.

8 we are a beach city, and as you all know, water
9 is key to our economic survival.

10 what do you think our constituents are going to
11 say if we tell them we have to cut fire and police services
12 to cover the increasing Board proposed water quality
13 requirements this year? I think, I'd probably want to run
14 out of town. I realize that costs in and of itself
15 shouldn't stand in the way of water quality progress. But
16 the world we live in has to accommodate cost versus benefit
17 for this and other functions. We have to prioritize our
18 revenues on how they are spent.

19 In addition to this new permit, we are just
20 beginning to fund the new bacteria T.M.D.L. for San Juan
21 Creek. I am worried how we and the other five San Juan Creek
22 watershed cities are going to fund this significant and
23 important new initiative if we have additional new N.P.D.S.
24 costs with declining revenues. Something has to give.

25 The Board staff says each little item is

1 minimal cost. Well, a lot of little minimal costs is a lot
2 of cost. They say the only way that we can cover these
3 costs is ask our citizens for new taxes. This would be nice
4 to contemplate, but I don't think our citizens are going to
5 support that, particularly, in these economic times.

6 My staff has advised me that the State Board
7 has acknowledged that no other MS4, N.P.D.S. permit in this
8 state has N.E.L.s for dry weather flow and that the N.E.L.s
9 can inherently trigger mandatory minimum penalties. I think
10 it's a good question of why we are getting this language
11 like no other region.

12 When I asked what the impact -- the County
13 advises that the proposed N.E.L.s standards will fall or
14 fail at virtually every storm drain outlet, even at pristine
15 water bodies that are untouched by humans. This has been
16 confirmed by the independent studies of S.C.C.W.R.P.P. I
17 hope that's -- that's S.C.C.W.R.P.P. The acronyms are going
18 to kill me on this thing.

19 So are we going to see mandatory minimal
20 penalties for every outlet tested? Not a good way to start
21 a new program. Let's reflect back, as my colleague from
22 San Juan did, it in the meeting concerning South Coast Water
23 District and S.C.C.W.R.P.P. The Board questioned staff
24 about why mandatory minimum penalties applied when the
25 violation was really administrative in nature for ground

1 water development inland and not a violation of water
2 quality standards at the receiving waters.

3 Staff stated the Board had no choice and had to
4 generate or do a penalty of \$204,000.

5 why would you, again, put the Board in the same
6 position by establishing mandatory minimum penalties for an
7 untested standard that is clearly unattainable. We all
8 lose. Given our stormwater advocacy and track record with
9 water quality programs and infrastructure to reduce urban
10 runoff, I am asking the Board to reconsider the wording of
11 several areas of the permit to get to the point that we can
12 all live with.

13 CHAIRMAN WRIGHT: Your five minutes are up, sir.

14 MR. BRESSETTE: How many?

15 CHAIRMAN WRIGHT: Your five minutes are up.

16 MR. BRESSETTE: I'd just like to say in closing, if
17 we have to litigate this permit, nobody wins. We need to
18 make this a win/win situation. If you back the cities in
19 the corner where litigation is the only remedy, then we all
20 lose. On that note, have a great holiday.

21 CHAIRMAN WRIGHT: Thank you for your time. I
22 appreciate it. Verna Rollinger.

23 MS. ROLLINGER: Good afternoon. My name is Verna
24 Rollinger. I have a frog in my throat. I have taken the
25 oath. I have my glasses on. And I appreciate knowing that

1 we didn't need to be here until this afternoon. A little
2 less than a year ago, a group of residents from Laguna Beach
3 and I traveled down here to one of your meetings and spoke
4 under public communications to ask you to help with
5 addressing the amount of water and pollutants that are
6 entering our waterways. Little did we know at the time that
7 you had undertaken this process. I am here today because I
8 personally want to thank you for your thoroughness,
9 patience, responsiveness and responsiveness during this
10 process.

11 Environmental sustainability is essential for
12 the health of our waterways, beaches, oceans, and our
13 residents. And this permit is an important step in that
14 direction. I congratulate you and especially your staff for
15 the work that's been done on this permit and I urge
16 adoption. Thank you very much.

17 CHAIRMAN WRIGHT: Thank you for your brevity. All
18 right, now we move to the organized presentation of Orange
19 County. And who speaks for Orange County first?

20 MS. SKORPANICH: Good afternoon, I am MaryAnne
21 Skorpanich from the County of Orange. I have taken the
22 oath. I will take just a second away from my comments to
23 offer a congratulations to the retiring executive officer
24 and the newly appointed new sworn in executive officer.
25 Best wishes to you both.

1 We have 30-some representatives of the
2 permittees here today. But we, in the interest of time, we
3 have consolidated them and appreciate your consideration.
4 Supervisor Patricia Bates, whose district covers all of
5 South Orange County is in Washington D.C. and was not be
6 able to be here today. But has a letter that's being
7 distributed to you. So in the interest of time, I will
8 limit my comments to the reading of her letter to you.

9 Dear Chairman Wright and members of the San
10 Diego Regional Board, as Chair of the Orange County Board of
11 Supervisors, I want to assure you that we share a common
12 desire and commitment to keep the water in our creeks, bays
13 and oceans clean.

14 These precious resources are part of our
15 communities and the quality of our environment is as
16 important to our way of life as our economy. My board
17 continues to take a leadership role on water quality issues
18 and continues to provide support for the programs even
19 during these current difficult economic times.

20 At the same time, it must be recognized that
21 urban stormwater quality management presents difficult
22 challenges. One, our communities have been built the way
23 they are for over hundred years. And no matter how much we
24 would like to, it is simply not possible to rebuild our
25 infrastructure overnight to correct all of the

1 problems, even if we knew what all the problems were and how
2 to correct them.

3 Two, managing and improving the quality of
4 urban stormwater is relatively(sic) new field that is full
5 of complexities that are not fully understood, even at the
6 national level. This is evident in some of the proposed
7 permit conditions. Seven years ago, when the last permit
8 was issued, the emphasis was on treatment controls at
9 land development sites. And now that emphasis has
10 fundamentally changed to onsite retention of
11 stormwater rather than treatment.

12 Three, funding for stormwater quality programs
13 has never been placed on an equal footing with other clean
14 water act programs such as sanitary sewers, grants, it's
15 have been extremely limited and they are very significant
16 barriers in order to establish dedicated funding sources.

17 Consequently, urban stormwater programs often
18 operate in a competitive position with other important
19 programs in general government. This is of
20 particular concern in the current economic downturn when
21 revenues are dropping and government employees are being
22 terminated or furloughed. There is just no revenue to
23 support new and expansive programs.

24 Since the County and the cities submitted our
25 permit renewal applications in 2006, we have spent more than

1 three years working with your staff and Board on appropriate
2 permit conditions for South Orange County.

3 In February 2008, we came very close to
4 agreement with just one defining issue. Regulations on
5 regional treatment plants such at the Salt Creek Ozone
6 Treatment System. Although that permit was not adopted it
7 is consequently extremely disappointing that over two years
8 later, the list of areas of disagreement has multiplied and
9 as recently as September 28th, the county's comment letter
10 on the draft permit totaled 61 pages.

11 This places you as the Regional Board in the
12 difficult position of having to navigate through a complex
13 permit with different interpretations of legality and
14 outcome from your staff, the County and the cities as well
15 as other stakeholders and interested parties. The County
16 and the cities recognize this and have therefore put
17 together a simplified version of some permit fixes that we
18 think will go a long way to resolving a number of these
19 issues.

20 This has been provided to you as an errata
21 sheet and the details will be described in more detail by
22 the county staff and city representatives in the following
23 testimony. There are three overarching themes that you will
24 see in the errata and hear in our testimony that follows.

25 One, the Regional Board has considerable

1 discretion in shaping an appropriate permit for South Orange
2 County. Two, the counties and the cities are seeking much
3 greater consistency with the key permit features of the
4 North Orange County permit in order to deliver more
5 uniform compliance in a manner that is as cost effective as
6 possible.

7 Three, the County and the cities are seeking
8 cost neutrality in the new permit and are deeply concerned
9 with new requirements such as dry weather numeric effluent
10 limits that could cost hundreds of millions of dollars to
11 implement over the next permit term if diversion to the
12 sanitary sewer is our only viable option.

13 In conclusion, I would ask you to carefully
14 consider the changes proffered in the errata sheet. Again,
15 the Orange County permittees are eager to continue
16 protecting our surface water resources. As a fellow policy
17 maker, I request that you use the discretion within your
18 authority to properly shape a regulatory program that can be
19 beneficial and successful in achieving our mutual goals.

20 Sincerely, Patricia C. Bates, Chair, Orange
21 County Board of Supervisors.

22 And If I may just make one note about the
23 errata sheet, we did make E-mail it to your staff yesterday.
24 But it's in essence the same language changes that we
25 proffered to them in July -- following the July 1 workshop

1 that you held. Thank you.

2 CHAIRMAN WRIGHT: Ms. Skorpanich, do you want
3 to -- since you are the lead speaker -- do you want to just
4 introduce your speakers? I just want to try to find out
5 who's part of your organized presentation and how you are
6 going to going to handle this.

7 MS. SKORPANICH: First up, I have Richard Boon from
8 the county staff. He's the manager of the Countywide
9 stormwater program. And following him, is the --

10 CHAIRMAN WRIGHT: And Mr. Boon, I just want to remind
11 you that we heard from you at very great length last time in
12 your presentation. And I would urge you not to be
13 repetitious in your presentation last time. I mean, I
14 appreciate your expertise and all that, but it would be
15 helpful for us if you could just zero in on the changes that
16 have been made since the last time out.

17 MS. SKORPANICH: Then we have a group of cards that
18 were in order of the following speakers.

19 CHAIRMAN WRIGHT: All right. We have those. And by
20 the way, I just can't help but comment, if we were that
21 close last time, according to Supervisor Bates, there was
22 only one issue. Why don't we just zero in on that issue and
23 approve this and be done with it.

24 MS. SKORPANICH: Ironically, that issue has been
25 dropped from this permit.

1 CHAIRMAN WRIGHT: Okay. Then, we're in all
2 agreement.

3 MS. SKORPANICH: But there are now eight other
4 major issues that are new.

5 CHAIRMAN WRIGHT: All right. Let's go back to where
6 we were, then.

7 MS. SKORPANICH: We would be happy to do that, sir.

8 MR. BOON: Good afternoon, I'm Richard Boon with the
9 County of Orange, section chief of the unit that administers
10 countywide stormwater program.

11 I take your point that I went at great
12 length last time -- I've worked considerably on my oratory
13 since then and hopefully it will be much more succinct.

14 where are we at? You have heard that there are
15 fundamental flaws with the tentative order relating to
16 consistency. Our ability to pursue cost effectively
17 development and implementation of the countywide program. I
18 have identified areas today of inconsistency. And we know
19 that this is an area of key concern to you.

20 The last time we met, Board member
21 weather(phonetic) suggested that staff compile a matrix to
22 compare -- the Region permits, but also provide a rationale
23 for the differences between the two. Board Member Loveland,
24 you agreed. You said that it's not good for the County and
25 affected cities to be split between permits and that needs

1 to be reconciled. And we're here reviewing issues because
2 we have been unable in meetings with your staff to reconcile
3 those issues. We're also going to talk about technical
4 validity. Some of the actions that are being prescribed, I
5 think, are not going to resolve in meaningful environmental
6 outcomes.

7 But unless we get off on overly gloomy note, I
8 do want to note that we do have specific fixes to offer.
9 They are straight-forward. You do have the discretion to
10 direct that they be implemented. And we're talking about
11 provisions that have gone into permits in Ventura in, North
12 Orange County area and in the Bay Area that have been
13 endorsed by you U.S.E.P.A.

14 So where do we disagree? We disagree across
15 these -- these areas of concern of consistency of cost and
16 of technical merit on low-impact development and hydromod on
17 stormwater action levels or S.A.L.s on the T.M.D.L.
18 language, on the reporting provisions, on, obviously,
19 numeric effluent limits for dry weather flows, on some of
20 the retrofitting requirements, on the B.M.P. inventory
21 requirements and on the irrigation prohibition. I am going
22 to talk to the first five issues and then I'm going to hand
23 it over to counsel for some remarks and then my colleagues
24 from the South County cities are going to go into detail on
25 numeric effluent limits.

1 So the first issue for us is low-impact
2 development. There is an important -- a very important
3 difference between the language in the South County permit,
4 the tentative order, and the North County permit.

5 The permit that you have before you requires
6 that the B.M.P.s be developed and implemented to ensure
7 on-site retention without runoff. And that you without
8 runoff is unique to this permit.

9 It's been noted, you have also added some
10 language in the legal section saying that nothing herein
11 shall authorize a permittee, co-permittee or other
12 discharger to impound water if the action is reasonably
13 anticipated to harm downstream water rights uses. We can't
14 comply with those two conditions. They are mutually
15 exclusive.

16 If you require onsite retention without runoff,
17 then we will be affecting downstream water right uses. A
18 point is made in the chart below. What we're trying to get
19 from is the post development hydrograph -- back to the
20 predevelopment hydrograph. We're not trying to get to a
21 flat line hydrograph with no runoff. That is antithetical
22 to the basic philosophy of low-impact development.

23 So it's inconsistent with our North County
24 permit. It has major cost implications. And, I think, it's
25 technically invalid and it poses probably some interesting

1 legal water right issues. In terms of the technical
2 concern, what we have here is some work that was done by Geo
3 Sintech on our behalf looking at how the hydrology of the
4 site between the undisturbed natural condition and the
5 developed condition over the course of the year. In a
6 semi-arid climate, over the course of the year, 70 percent
7 of the rainfall that falls on that site will be
8 vapotranspired back to the atmosphere.

9 In the developed condition using the low-impact
10 development requirements of the permit, that 70 percent gets
11 percolated into the ground where previously you would have
12 had 20 percent. So there is -- moving the problem from the
13 surface to the shallow groundwater. This is monitoring of
14 Aliso Creek outfalls in dry weather, which goes between --
15 the monitoring occurs between May and September. And this
16 is the analysis for cadmium. And you can see that in
17 particularly wet years, following particular wet seasons
18 -- May '05 onward to May '06 -- May '06, as that shallow
19 ground water is displaced, so we find exceedances of the
20 cadmium numeric effluent limit throughout our system.

21 So the more water you put in the ground through
22 your low-impact development requirements, the chances are
23 you are producing unintended consequences in the system, the
24 drainage system in dry weather. So the fix, we need to
25 establish the basis of the low impact development provisions

1 as matching of the pre and post development hydrograph. And
2 we also need to allow the option for biotreatment in
3 addition for infiltration, harvesting reuse and
4 vapotransfers of B.M.P.s onsite. If we get the consistency
5 of the North County permit, the provisions become cost
6 effective and technically valid.

7 Moving on to hydromodification. There has been
8 some change to the exception to -- for hardened channels.
9 But it is still a long way from the exception that is
10 written into the North County permit. What you have here in
11 the picture is a section of San Juan Creek. San Juan Creek
12 has concrete sidewalls, but is a soft bottom channel. So it
13 does not meet the requirements for relieving a project
14 proponent of having to do with hydromodification. And that
15 means much more costly and sophisticated management of
16 on-site runoff.

17 Before we can think about restoring that
18 section of San Juan Creek, you would have to remove the
19 businesses, homes, mobile park and major urban
20 infrastructure that is adjacent to that creek. So simply
21 requiring that area of agriculture -- towards the top of
22 that slide -- if it were to be developed to do
23 hydromodification B.M.P.s would result in no net
24 environmental outcome. It's technically invalid.

25 You have also heard about the issue of

1 splitting of the states, splitting a land use authority.
2 This is an intersection on El Toro Road. On one side the
3 north west quadrant, the land that drains through the
4 Newport Bay Watershed, on the eastern side of that picture,
5 it drains to Aliso Creek. So you have two sites potentially
6 divided by a street where one side would have to do an
7 extensive hydromodification modeling exercise that simply
8 won't be applicable on the other side. So you are creating
9 inconsistency across the city with regard to development
10 standards.

11 So the fix, simply incorporate the language
12 from the North County permit into this permit. It provides
13 consistency, cost effectiveness and is a technically valid
14 requirement. Stormwater action levels. This is monitoring
15 of wet weather flows. The cost analysis provided by your
16 staff is vague. But we identify cost in the first year of
17 reading this provision and 480,000 dollars, and a third of a
18 million dollars thereafter. So we need to be able to offset
19 those costs against the all that monitoring requirements.

20 So the fix is simple. We reduce the number of
21 outfalls from 28 to 1 to permittee. And you allow us to
22 provide offsetting of other monitoring costs. T.M.D.L.
23 issues, compliance is currently based on meeting water
24 quality based effluent limits and it is not based on
25 implementing on BMPs to achieve waste load allocations.

1 There is a lack of iterative process to
2 evaluate and propose additional B.M.P.s to effect compliance
3 so it has cost implications and it's inconsistent with
4 T.M.D.L. language and the North County permit. So the fix.
5 We need to modify the permit to specify that the B.M.P.s and
6 their implementation will be the basis of compliance with
7 the waste load allocations and the language is in errata
8 sheet number three. It's cost effective and it's consistent
9 across the County of Orange.

10 On the issue of reporting, the annual report,
11 we have this struggle every time we go through this process
12 of permit renewal. For the first two permits, we had a
13 November 15th reporting deadline consistent with North
14 County. It was changed in the third term permit. We wrote
15 and request that it be retained as November 15th, you agreed
16 to that. And your staff has changed it once again. To be
17 able to operate Countywide on this matter of self-auditing and
18 compliance reporting cost effectively, we need to have the
19 same date across the County.

20 And lastly, the most -- I think, obviously, the
21 potentially precedential issue of numeric effluent limits,
22 you are going to hear a lot of detailed testimony of why
23 this is objectionable to the co-permittees. Numeric
24 effluent limits are proposed for dry weather. And we end up
25 in a situation of facing mandatory minimum penalties unless

1 we can get to one of three off ramps.

2 We have to show that the source of the
3 exceedance is non-anthropogenically influenced in origin and
4 conveyance show that it's the exempted non-stormwater
5 discharge or we have to show this it is an illicit
6 connection that we have eliminated. And my colleagues are
7 going to talk about this in much greater detail. But if we
8 look in the first box of information there, this is dry
9 weather monitoring information compiled from our drains on a
10 countywide basis. We can show that not only does the
11 draining system not meet those N.E.L.S essentially anywhere
12 at any time, but you will see data that shows that pristine
13 streams. Totally removed from any urban influence will not
14 meet those standards and in the case of bacteria pristine
15 streams did not meet the enterococcic standards pretty much
16 any of the time. So we can't distinguish between the
17 different components in the drainage system.

18 You will also hear -- so if a drain cannot --
19 if a concrete pipe cannot be shown to be totally
20 non-anthropogenic -- if we can't discern whether it's a
21 discharge exception or a natural source, we're then faced
22 with the choice of eliminating the dry weather flow to avoid
23 mandatory minimum penalties. And you will hear data shortly
24 that shows the cost on a South Countywide basis for
25 eliminating outfalls from our 480 or so outfalls will be an

1 excessive of 400 million dollars for capital costs alone.

2 So the fix. We need to move away from the term
3 "numeric effluent limits" and think more about action levels
4 and we need to retain the current investigative approach
5 that's in the North County permit. And that is provided for
6 you in errata sheet one that would result in a program
7 consistent with North County, cost effective and technically
8 valid. So, Tim --

9 CHAIRMAN WRIGHT: Richard Montevideo.

10 MR. CARLSTEDT: Mr. Chairman, my name is
11 Tim Carlstedt. I'm actually with Bingham McCutchen on behalf
12 of the County, just following up on Richard Boon's comments and
13 then other speakers from other co-permittees will be
14 speaking.

15 UNIDENTIFIED MALE SPEAKER: Richard will be next
16 after Tim.

17 CHAIRMAN WRIGHT: This is Tim. Please, go ahead.

18 MR. CARLSTEDT: Again, my name is Tim Carlstedt with
19 the law firm of Bingham McCutchen on behalf of the County of
20 Orange. I have taken the oath. I just want to follow up on
21 some of the things that Richard said in reminding you of the
22 legal framework which you are acting. And to suggest to you
23 and to remind you that it provides you with ample discretion
24 to make that the changes that permittees have suggested in
25 their errata sheets. And that it doesn't -- the Clean water

1 Act, support the numeric effluent limit provision that is in
2 the tentative order before you.

3 And I do want to thank staff for their efforts
4 on this -- just the effort in responding to all the comments
5 even where I don't always agree with all of the responses,
6 it's quite an undertaking. The Federal Clean Water Act, it
7 doesn't regulate stormwater, per se. It regulates MS4s. It
8 doesn't make a distinction between discharge of stormwater
9 out of the MS4 versus the discharge of non-stormwater out of
10 the MS4. But what it does provide is -- an MS4 permit is
11 pretty simple. It must include a requirement to effectively
12 prohibit non-stormwater discharges into the MS4. And an MS4
13 permit must require controls to reduce the discharge of
14 pollutants from the MS4 to the maximum extent practicable.
15 That's it.

16 So long as the Board issues a permit today that
17 complies with those two requirements, it's consistent with
18 the Clean Water Act. The Board does not have to issue a
19 permit that includes such things as the requirement on the
20 discharge non-stormwater storm from the MS4 with numeric
21 effluent limits. You don't have to issue a permit that has
22 a 100 percent stormwater retention provision for low impact
23 development. You don't have to issue a permit that
24 includes any requirement that goes beyond the M.E.P.
25 standard including such things like the retrofitting.

1 The tentative order, as currently written, does
2 all of those things. I think it's interesting, when you are
3 thinking about the discretion you have, to keep in mind that
4 no other Regional Board has issued an MS4 permit with these
5 same provisions. Earlier this year, as you've already
6 heard, the Santa Ana Regional Board issued its fourth term
7 permit for North Orange County. Before that occurred, staff
8 from San Diego from your staff met with staff from Santa Ana
9 Regional Board and discussed with them what they were
10 proposing. Numeric effluent limits, the 100 percent on time
11 -- onsite retention, the stormwater action levels.

12 Santa Ana Board staff heard that and said,
13 we're not going to go that route. Their board adopted a
14 permit that didn't include those provisions. They have the
15 discretion to do that. They didn't have to include those
16 provisions, the Clean Water Act doesn't require it.

17 I think in the council's memorandum that you
18 have in front as part of your package -- your council
19 concluded that the numeric effluent limits are not required.
20 In counsel's opinion, they're legally permissible, but
21 they're not required. So you have the discretion not to
22 include numeric effluent limits. You could convert them to
23 something like action level as is provided in the errata
24 sheet.

25 U.S.E.P.A. supports this permit. But I think

1 it's interesting to note that whereas U.S.E.P.A. supports
2 the permit, they don't come out to say that all these
3 provisions are required by the Clean Water Act. Go for it,
4 in other words, the E.P.A. fully supports this approach, but
5 it's not required. So, again, as Richard alluded to, you
6 have the discretion not to issue the permit with
7 these provisions. You have the discretion to issue the
8 permit with the changes that are suggested by the errata
9 sheet.

10 So why make the proposed changes? well first,
11 the change proposed by permittees shouldn't negatively
12 impact water quality. That's the most important thing. The
13 changes proposed are not going to degrade water quality.
14 There may be some problems with the existing program, but
15 these problems are being addressed by the existing program
16 and these changes will improve the program and consequently
17 improve water quality.

18 Second, the changes proposed by the permittees
19 would provide them with flexibility to allocate scarce
20 resources to the most significant problems. So let
21 permittees implement the errata sheet and they will be
22 better able to use resources to address more significant
23 problems.

24 Third, the changes proposed by permittees will
25 improve water quality without subjecting to them to

1 potential mandatory minimum penalties that you've already
2 heard and third party liability. As a compromise, rather
3 than calling them numeric effluent limitations, if they were
4 instead action levels or something other than an effluent
5 limitation --

6 UNIDENTIFIED MALE SPEAKER: Your microphone --

7 MR. CARLSTEDT: AS I was saying, the third reason to
8 make the proposed changes by the errata sheet as opposed to
9 the tentative order that staff proposed is avoiding
10 mandatory minimum penalties which has been an issue in other
11 instances. The board doesn't like getting their hands tied
12 and having to impose penalties. But if you adopt this
13 permit with the numeric effluent limitations, that is
14 likely the route that you are going down.

15 And then finally, just -- I would just suggest
16 to keep in mind that the changes proposed in the errata
17 sheet are somewhat of a compromise.

18 We believe that some of the provisions in the
19 permit wouldn't withstand legal scrutiny and would likely be
20 struck down if challenged. So, why go there? Why not take
21 these proposed errata sheets, this compromise, and we're
22 done. We don't have to waste resources in any type of
23 litigation.

24 So I would submit to you that there is plenty
25 of good reasons to adopt the permit with the proposed

1 errata sheet and you are not required -- you have the
2 discretion to do so, you are not required to adopt those
3 provisions that are in the tentative order as written. I
4 would just like to touch upon the dry weather numeric
5 effluent limits because that is probably the -- at least,
6 legally the most controversial provision in the tentative
7 order.

8 Again, as I mentioned, the Clean Water Act does
9 not regulate stormwater discharge per se. It regulates
10 MS4s. As I mentioned to you, the permit -- the MS4 permit
11 must effectively prohibit non-stormwater discharges into the
12 MS4. The discharge of all pollutants from the MS4 must be
13 controlled to the maximum extent practicable. That's it.
14 The Clean Water Act is very clear on that point.

15 I think that clarity is important because,
16 again, if it was challenged, as you probably are aware,
17 under judicial scrutiny, a court would not need to look at
18 congressional intent. Why did Congress write it the way
19 they did? It's clear on the face effectively prohibit
20 non-stormwater into the MS4, M.E.P. standards for all
21 pollutant discharge from the MS4.

22 The E.P.A.'s regulations are consistent with
23 that. They center around on the management program. The
24 goal of the management program is to reduce the discharge of
25 all pollutants from the MS4 to the maximum extent

1 practicable contrary to federal laws and E.P.A.
2 regulations, the tentative order before you, specifically,
3 makes a distinction between stormwater and non-stormwater.
4 And consistently talks about the discharge of stormwater
5 from the MS4 and the discharge of non-stormwater from the
6 MS4. That distinction is not made in federal law.

7 I would submit to you that the numeric effluent
8 limits are not required or even appropriate in an MS4
9 permit. You will hear later that even under state law,
10 they're not required or necessarily appropriate here as
11 well. If you think about numeric effluent limits, they are
12 appropriate where the discharge are -- like in industrial
13 facilities are in control of his or her discharge and they
14 are means of meeting numeric limits. But permittees here do
15 not have the same amount of control, obviously, the
16 discharges from the MS4

17 Moreover, the tentative order doesn't tie
18 numeric effluent limits to the M.P.E. standard. So what you
19 are going to get is you are going to get people exceeding
20 numeric effluent limits even when they have addressed the
21 discharge, the maximum extent practicable.

22 In other words, they're going to have to do
23 more than what is maximally practicable to comply with the
24 this permit. Probably not possible.

25 Just to summarize, as a matter of compromise, I

1 think it's an easy fix to adopt the errata sheet on the
2 numeric effluent limits. Numeric effluent limits are not
3 required by federal law. You will have to include them in
4 the permit. You will be the first Board to essentially do
5 so. And the Board has ample discretion to
6 adopt the errata sheet before you adopt the permit. Thank
7 you.

8 CHAIRMAN WRIGHT: Thank you. Just check to see
9 if the miche is working. Richard Montevideo.

10 MR. MONTEVIDEO: Good afternoon, Mr. Chair,
11 members of the Board, Richard Montevideo with the law firm
12 of Rutan and Tucker on behalf of the city of Dana Point with
13 city of Dana Point City Attorney's Office. I do have
14 a PowerPoint presentation, which if I can get a little
15 assistance in getting it up on the screen. I also have an
16 extra copy for the record.

17 CHAIRMAN WRIGHT: Is your PowerPoint presentation
18 just a continuation of the one we saw earlier?

19 Is it part of that?

20 MR. MONTEVIDEO: The answer is, it is.

21 CHAIRMAN WRIGHT: It's separate from --

22 MR. MONTEVIDEO: what happened, if the Chair is able
23 to recall from the last meeting, there was a number of
24 questions about some of the legal issues that were raised.
25 It kind of covers old ground, but only in the sense

1 that -- the focus of is to address some of the issues raised
2 in the November 5, 2009, memo from the office of chief
3 counsel. So that's the primary focus of it. And this is
4 only focusing on the one issue of N.E.L.s.

5 CHAIRMAN WRIGHT: That's what we just heard, right?

6 MR. MONTEVIDEO: You heard part of the story. And I
7 am going to hopefully tell you the other part of the story.
8 What you've heard so far with respect to N.E.L.s is the fact
9 that N.E.L.s are not required by federal law. And we would
10 agree with that and I have some additional support for that
11 conclusion.

12 But why is that significant? The reason it's
13 significant is because if N.E.L.s are not required by
14 federal law, that means that you then have to comply with
15 requirements of state law before you can adopt these N.E.L.
16 requirements. And I would like to put some perspective on
17 what that means in terms of complying with state law and
18 look briefly at what you have before you to argue in the
19 sense that what you have before you is not consistent with
20 state law.

21 So the gist of the the presentation, my
22 presentation is to say N.E.L.s are not required by federal
23 law. Because they're not required by federal law, they are
24 a number of state law provisions that do apply. Those state
25 law provisions, namely water Code Sections 13241, 13000 and

1 with respect to monitoring, sections 13225C and 13267B must
2 be complied with.

3 But yet when you look at your permit that's
4 before you or even the fact sheet, there aren't findings
5 that show compliance with these water code sections. And
6 there's been evidence so support the findings.

7 Of course, you have to have findings to support
8 the terms of the permit, otherwise the permit will be
9 legally defective and you have to have evidence to support
10 any findings that you may make. So that's in a nutshell,
11 the gist of the presentation.

12 Beyond what counsel for the County has
13 expressed that the Clean Water Act clearly does not require
14 N.E.L.s in the MS4 Permit, there is other support for that
15 proposition. To begin with, I have in front of you some
16 quotes from the existing permit.

17 And the existing permit provides that the
18 co-permittees are required to implement or require the
19 implementation of B.M.P.s to the M.E.P. standard for all
20 discharges from the MS4s. So your existing permit which
21 presumably was consistent with state and federal law, at the
22 time. It was adopted in 2002, clearly indicates that the
23 time requirement is M.E.P. for discharges from the MS4. It
24 doesn't specify -- distinguish between dry weather and wet
25 weather. It says all discharges. The co-permittees have to

1 comply with the M.E.P. standard for all discharges from the
2 MS4. Nothing about N.E.L.s. N.E.L.s is a new term.
3 Similarly with respect to discharges into the MS4.

4 Again, doesn't distinguish between the alleged
5 non-stormwater or dry weather versus wet weather. It says
6 it's the M.E.P. standard. So whether it's going in to the
7 MS4 or coming out of the MS4, the existing permit says, it's
8 M.E.P., nothing about N.E.L.s. Beyond the language we have
9 in the existing permit and beyond the discussion that we
10 just heard from counsel for the County that the clean water
11 act says M.E.P., we also have your November 5, 2009, memo,
12 which we just got at the end of last week, is the first time
13 I've seen this memo. But the memo actually supports the
14 fact that -- that N.E.L.s are not required under federal
15 law. This is a quote from -- towards the top of page 5 of
16 this November 5, memo from the office of chief counsel.

17 Quote, "While quarter quality based effluent
18 limits expresses the numeric effluent limits are not
19 required in the italics of this -- actually in the original,
20 to be imposed on dry weather non-stormwater discharges from
21 the MS4, it is legally permissible to do so." That may be
22 the case that it is legally permissible to do so, but the
23 point of the matter is you then have to comply with state
24 law.

25 And I will get into this in a minute what state

1 law means. But the next point on this slide that's in front
2 of you at the bottom of page 5 of this November 5 memo,
3 actually tells the Board, this is the office of chief
4 counsel, tells the Board what it means if it's not
5 required by federal law.

6 Quote, "while the Burbank decision does require
7 an analysis of Water Code Section 13241 factors, when the
8 state adopts mint conditions that are more stringent than
9 federal law. Then it goes on to say that the tentative
10 order reflects that all the challenge provisions are
11 required to implement federal law.

12 2.2. First there is a concession at the outset
13 on page 5 that numeric effluent limits are not required by
14 federal law. And then, secondly, chief counsel makes our
15 point. If it's not required by federal law, the Burbank
16 decision, which is a California Supreme Court Decision, says
17 you gotta comply, consider the factors under Section 13241.

18 Then, the sentence concludes that the tentative
19 order reflects that all the challenge provisions are
20 required to implement federal law. And I don't know how to
21 explain the inconsistency there. But I do know that the
22 first statement at top of page 5 of this memo is accurate as
23 we heard from the County, that N.E.L.s are not
24 required by federal law. So what does that mean?

25 well, what that means is when we look back at

1 the Burbank decision which was just quoted in the November 5
2 memo. First, the Burbank decision confirms -- and this is a
3 quote, at the top of this slide, which is slide four. That
4 the Clean Water Act reserves to the states has significant
5 aspects of water quality and policy and does not restrict
6 the factors that a state may consider when exercised in the
7 reserve authority.

8 In Burbank, the Supreme Court actually
9 concluded that if in that case it was numeric effluent limit
10 that applied to a P.O.T.W. The court concluded that if
11 N.E.L.s are not required by federal law, then, in fact, you
12 have to meet the requirements of Water Code Section 13241.
13 Specifically, the court concluded that you have to consider
14 the dischargers cost of compliance under state law.

15 Beyond the discussion that we just were looking
16 at in the November 5 memo, there is also a discussion of
17 order number 2009-08, which came down in August of 2009. So
18 this order came down after our last hearing before this
19 tentative order permit. This particular order was used in
20 the November 5 memo that's before you as justification for
21 including N.E.L.s. but I would point out several
22 reasons why this order is not controlling and frankly not
23 relevant to the discussion at this point in time.

24 First, the 2009-08 order doesn't even discuss
25 compliance with Sections 13241, 13000 or 13225 and 13267.

1 There is not even a mention of those sections in here. So
2 clearly, it's not controlling on that issue. Secondly, that
3 order actually deals with an adopted T.M.D.L. for bacteria.
4 It doesn't deal with a new numeric limit that's outside of
5 the T.M.D.L. and that's being added to the permit for the
6 first time.

7 And then finally, that particular order is
8 actually not a final order because it has been challenged by
9 the County of Los Angeles through a writ of mandate action
10 that's been filed in L.A. Superior Court. Finally, what I
11 would say about that order, the conclusion of that order
12 actually is very informative because it talks about the fact
13 that whether you have numeric limits for storm water
14 versus non-stormwater discharges, the State Board
15 concluded that it's not necessarily a different analysis.
16 And it goes then onto make a statement that what you really
17 have to look at are the quote findings supporting either
18 numeric or non numeric effluent limitations contained in the
19 permit.

20 So that's really the issue. What are your
21 findings in this permit that show compliance with state law?
22 State law provides that you have to -- and this is
23 consistent with the Burbank decision and consistent with
24 what we just saw from your chief counsel's memo. You have
25 to consider certain factors when you are adopting N.P.D.S.

1 permits. Two of the factors are, are the water quality
2 conditions, can they reasonably be achieved?

3 And we would submit that N.E.L.s, at this point
4 in time, as we just heard partly from Richard Boon, they
5 can't reasonably be achieved. Secondly, what are the
6 economic impacts from imposing these N.E.L.s? This is what
7 state law requires that you consider. This is what state
8 law requires that you have evidence in the record to support
9 findings and beyond the findings that you then -- that your
10 permit terms are consistent with the findings.

11 In addition to Water Code Section 13241, we
12 have Water Code Section 13000 which was also quoted in the
13 Burbank decision. Again, there is a requirement
14 under state law that you impose reasonable requirements.
15 And, secondly, that you again consider the economic impacts.
16 This is under 13241 as well as under Section 13000. Beyond
17 that, we have Water Code Section 13225 which in effect says
18 if you are going to impose monitoring or reporting
19 requirements on local agencies, then this concerns -- then
20 the monitoring -- the additional monitoring requirements
21 that are being imposed upon the permittees to comply with
22 the N.E.L.s, that you, in effect, you have to do a cost
23 benefit analysis.

24 But if that requirement of conducting a cost
25 benefit analysis is not only in Section 13225C, it's also in

1 section 13267. And in 13267 actually goes on to say, you
2 have to have your conclusions in writings. So what are the
3 findings that are in this permit that will show compliance
4 with water code section 13241, 13000, and 13225 and 67?

5 I read through it. I didn't find any findings
6 by this Board to support imposing N.E.L.s and to show that
7 the factors required in this section, 13241, 13000, 13225
8 and 13267 have been complied with. There is nothing. There
9 is no findings in your permit to support the inclusion of
10 the N.E.L.s in compliance with state law. And that is
11 obviously a fatal flaw with the terms of the permit.

12 Now, what evidence is there to show that you
13 did some kind of economic analysis or that you looked at the
14 reasonable achievability of these N.E.L.s? Well, I did find
15 an economic discussion in your fact sheet. This economic
16 discussion, for the most part, was just talking about prior
17 cost figures that were developed in connection with other
18 permits. And other terms, what we heard today is that this
19 is the only permit in the state that anyone is aware of that
20 includes N.E.L.s. So relying upon old data of permits that
21 do not have N.E.L.s to support N.E.L.s in this permit,
22 obviously is -- it would be arbitrary.

23 And what does this -- your -- your evidence in
24 terms of this fact sheet, what does it provide to support
25 the inclusion of N.E.L.s? First, off, I would point out

1 that at the outset, what we heard from your staff, is that
2 this permit represents a major shift in your focus. The
3 focus was on permittees' activities. But now, it is on
4 environmental outcomes.

5 So what's the economic analysis that we've
6 seen in the record? well, the economic analysis is that the
7 vast majority of the cost incurred are not new because the
8 vast majority of the terms apparently are not new. It goes
9 on to say that any increase in cost of the co-permittees
10 will be incremental in nature. And beyond that, since the
11 2009 permit, quote, "fine tunes" requirements of the 2002
12 permit. These cost increases are expected to be modest.

13 well, if you remember from the slide I showed
14 you earlier from the Burbank decision, you actually have to
15 look at the discharger's cost of compliance. There isn't
16 anything in here that does that and there are no findings,
17 nor evidence anywhere in the record before you that shows
18 compliance with water Code Sections 13241 and 13000, nor
19 with the monitoring requirements of cost benefits analysis
20 that is required in the 13225C and 13267.

21 without those findings showing that these
22 N.E.L.s are reasonably achievable in showing the economic
23 impact and showing that you have done a cost benefit
24 analysis without evidence supporting the findings, we would
25 submit that the permit is flawed and that those provisions

1 should be excluded from the permit. Thank you.

2 CHAIRMAN WRIGHT: Thank you.

3 why don't you stop the clock for a minute. In
4 terms of time management, Ms. Skorpanich we've had four
5 speakers running about eleven minutes each and we still have
6 two to four, five speakers. Well, we if we include
7 assistant city engineer, City of San Clemente and if Council
8 of Lake Forest, that's two, three, four -- that's seven
9 speakers. So we're going to have cut their comments short
10 to keep it within the 60 minutes. And then we have
11 another -- this is Orange County Coast Keeper. But they're
12 not part of the organized presentation.

13 UNIDENTIFIED MALE SPEAKER 2: Our presentation is
14 five speakers -- one after the other so we'll be --

15 UNIDENTIFIED FEMALE SPEAKER 1: A three-minute
16 speech.

17 CHAIRMAN WRIGHT: Okay. But we do have -- I thought
18 you were speaking for all of the co-permittees. And I have
19 a couple more here from Lake Forest and San Clemente that I
20 assume you were speaking for.

21 UNIDENTIFIED MALE SPEAKER 2: They are
22 talking about different issues. We're going to concentrate
23 on the N.E.L.s.

24 CHAIRMAN WRIGHT: Are they co-permittees?

25 UNIDENTIFIED MALE SPEAKER 2: Yes, they, are.

1 CHAIRMAN WRIGHT: well, I thought your organized
2 presentation --

3 UNIDENTIFIED MALE SPEAKER 2: well that's part of
4 the --

5 CHAIRMAN WRIGHT: -- was speaking for all of the
6 co-permittees?

7 UNIDENTIFIED MALE SPEAKER: The comments for Lake
8 Forest and Aliso Viejo we are intending to make can be
9 limited to no more than three minutes.

10 CHAIRMAN WRIGHT: I'm not trying to be argumentative.
11 I am trying to help manage your time for you.

12 UNIDENTIFIED MALE SPEAKER 2: we kind of took this
13 presentation -- I mean, we can't put them all together. But
14 we kind of broke it to continue separate into
15 different things.

16 CHAIRMAN WRIGHT: Mr. King does have a question.
17 We've stopped the clock. So Mr. King does have a question
18 of a previous speaker.

19 MR. KING: I do want to try and nail down the legal
20 analysis of the -- N.E.L. numeric limits here. The link
21 between the -- the fact that numeric limits are not
22 expressly required under federal law. But I want to
23 understand the statement that the tentative order
24 reflects that all of the challenged provisions are required
25 to implement federal law.

1 Just help me -- which sections of the tentative
2 order demonstrate that the particular numeric limits that
3 are at issue here are required under federal law?

4 MS. HAGEN: Numeric water -- let me back up,
5 non-stormwater discharges -- I disagree with some of the
6 commenters. I do not believe they're subject to the M.E.P.
7 standards. But they're required to be effectively
8 prohibited or if they are authorized, they need to comply
9 with -- meet water quality standards.

10 And in this case, I believe they need to meet
11 water quality standards in compliance with water
12 quality-based effluent limits because there is evidence in
13 the record that the discharges have reasonable potential to
14 cause exceedance -- cause or contribute to exceedances with
15 water quality standards.

16 So, I believe they are required by federal law.
17 Not water quality-based effluent limits are required by
18 federal law. They need not be expressed as numeric limits
19 as they are in the permit. They could be expressed as
20 narrative limits. But they are in the permit as written --
21 which is why my memo concludes that they are not required to
22 be implemented as numeric limits. But I disagree that they
23 are being implemented under state law.

24 MR. KING: I understand that. We're not looking at
25 the maximum extent practicable, but the conclusion that all

1 the challenged provisions are required to implement federal
2 law. The challenged provisions could actually be structured
3 differently as you just said. They could be a narrative
4 limit, they don't have to necessarily be a quantitative
5 limit in order to be -- effectively prohibit in
6 non-stormwater.

7 MS. HAGEN: Well, that's correct. Numeric limits are
8 not required by federal law, but limits are required by
9 federal law.

10 CHAIRMAN WRIGHT: We're going to take a ten-minute
11 break. Our stenographer has a pained expression on her
12 face. So we need to give her a break. And we've stopped
13 the clock. And we will get back with Mr. Mazboudi.

14 (Recess)

15 CHAIRMAN WRIGHT: Before we begin and start talking,
16 I just want everybody out there to know that at 5:30, we are
17 going to lose Mr. Luker. He has family obligations that
18 trump everything. And this is very important. So just keep
19 that in mind. So Mr. Mazboudi, we're going to start the
20 clock. And we have 17 minutes to go in this organized
21 presentation and many speakers slips.

22 MR. MAZBOUDI: Will be very quick. Just want to
23 say that I am local government environmental advocate. And
24 I believe we are all environmental groups in here, so
25 hopefully you'll look at us as such. So what's the problem

1 with N.E.L.s? I'm not going to cover any of the technical
2 stuff, but I'm going to talk about why they're not
3 reasonably achievability.

4 For one, because natural -- of natural
5 background and uncontrollable sources. The other thing
6 that -- the reason why they are not sure is the
7 investigations, is a lot of time they are very inconclusive.
8 These charges are only controlled with the maximum extent
9 practicable. We've known that also with some structural
10 treatment that we've done but also barely meet some of these
11 N.E.L.s proposed.

12 In addition, costs for monitoring investigating
13 controlling and penalties are huge. So -- but they are
14 smarter ways. And this presentation, hopefully, myself and
15 my colleagues will show you that there are smarter ways.

16 The N.E.L. standard is flawed and guarantees
17 failure. These are some of the constituents that we have to
18 monitor for and on the first column, you see some of our
19 current dry weather monitoring data. And we have exceeded
20 the proposed N.E.L., almost 97 percent of the time in some
21 of them.

22 But if you look at some of the Orange County coastal
23 streams, while they are also -- their exceedances vary from
24 30 to 90 percent of the time. And even current reference
25 areas exceed them about half of the time. So these are some

1 pristine streams here. And they exceed N.E.L.

2 So all of these have uncontrollable natural
3 source components. But the soil is high in phosphorus.
4 Sometimes, that's why it's given us high phosphorus.
5 Nitrogen is abundant and geology indicating vegetation. So
6 we're all familiar with the bacteria problem. We're doing
7 kind of studies to show where the bacteria is coming from
8 and sometimes we can't even pinpoint that.

9 The investigation outcome A is futile. Page 22
10 CIA says determined that it is natural
11 non-anthropogenically influenced in origin and conveyance.
12 Well, that's impossible. That sets us up for failure and
13 unintended consequences such as mandatory minimum penalties
14 and third-party lawsuits.

15 We have chatted with the Regional Board Staff.
16 They told us well, you may have an area that's natural. But
17 since you put a pipe under a bridge to (inaudible) the
18 water, your focus it so it's not natural anymore. Well, how
19 can we meet both? So it's either natural, but even when
20 it's natural, we're told that if we improve and urbanize,
21 now, it's not natural anymore. Well, that's a problem for
22 us.

23 The concentration based limits it's flawed.
24 You know, it doesn't take into consideration laws at all.
25 So if I have a trickle coming from a pipe or if I have

1 hundreds of gallons per minute coming out of another pipe,
2 they are treated the same. And it doesn't give me the to
3 prioritize flexibility where I can focus my attention on.

4 So there is no also no recognition of frequency
5 of exceedance. There is no recognition of outfall of
6 location or impact, where it's impacting. There is no
7 recognition of number of constituents that are exceeded, so
8 once size does not fit all and no ability to prioritize
9 whatsoever.

10 MR. FOWLER: Brad Fowler, City of Dana Point.
11 Investigating dry weather exceedances is a daunting task.
12 Here is a map of Dana Point showing our public storm inlets
13 and outlet. What this shows you is not only those, but the
14 11,000 source parcels for even a small city that can be the
15 source of dry weather flow.

16 Next. So if we extrapolate that onto the South
17 County Region across the acreage, we find that now we're up
18 over half a million potential sources or close to half a
19 million potential sources for this dry weather flow.
20 Therefore, such a multitude of sources of water that are for
21 all intents and purposes dry weather flow as a non point
22 source and can only be controlled by M.E.P.

23 Next, now, this slide shows you in
24 Dana Point -- is this the next slide or did we skip one?

25 Okay, next. While the concept of prioritizing

1 dry weather flow sounds simple and reasonable, the practical
2 reality is different and here's an example of the challenges
3 of pinpointing a non point dry weather source. What you see
4 here is a typical sub drain in the City of Dana Point. It's
5 about a thousand homes. A freeway runs across it through
6 here and there is three parks. It's only one percent of the
7 city. But we have some dry weather flow as you see.

8 Next. So I sent a staff member out to look out
9 over these sources and guess what we find? We find that
10 there is a multitude of variable and hidden sources. For
11 example, this first one here is an exempted natural water
12 discharge from groundwater drainage of underground fence
13 drains used to prevent landslides viewable only by camera
14 because it's underground and an inside a pipe. Here, we've
15 got groundwater seepage coming out of the slope that comes
16 into the catch or the -- and flows down the street here.
17 Here we've got the ubiquitous curb cuts, are they ground
18 water or over irrigation? We have both.

19 Here you got a place in town where you've got
20 groundwater that's coming out of the street, coming down and
21 into the catch basin. Now, inside that catch basin, there
22 is pipes coming in here, also. And these pipe are,
23 again, allowable from sources such as groundwater or perhaps
24 from a landscaped area clear up the street or up the slope.
25 But you can't see those when you are out there trying to

1 track down this problem. And then, of course, we've got
2 residential car washing, which is currently exempted that
3 comes up periodically.

4 Next, please. Now, in this drainage area, I
5 sent one of our staff members out, and over three days here,
6 you can see, I said, go see what you can find for dry
7 weather flow. And the first one, you have got 19 places,
8 the second one, nine, the next one, 11. There is over 40
9 locations out here, 30 of which are different locations.
10 And guess what? How do you pinpoint that source? That's
11 what is so difficult here in eliminating all sources that
12 makes it unachievable. Thank you.

13 CHAIRMAN WRIGHT: Thank you.

14 MR. AMES: Thank you. I am Joe Ames from Mission
15 Viejo.

16 I am here to tell you that numeric effluent
17 limits will cause monitoring expenses to increase
18 dramatically. Here's an example right here. The current
19 testing program calls for 420 dollars per site, give or
20 take. New testing program will cost over a thousand
21 dollars. That's an increase of 140 percent. And that is
22 not cost mutual.

23 We have more things to test. We have 16
24 constituents for runoff from outfalls to inland and surface
25 waters. Five constituents for runoff from outfalls to urban

1 and from harbors to lagoons. And three constituents for
2 runoff and outfalls to service centers. Next. And that's
3 not all the testing.

4 Attachment E to the tentative order describes
5 dry weather testing. That talks about 38 constituents
6 needed to be tested in N.E.L. outfalls. And these extra 22
7 tests are for informational purposes only and have nothing
8 to do with assessing N.E.L. compliance.

9 Next, please. On top of that, N.E.L. dry
10 weather testing period has been expanded in the tentative
11 order to require doubling the amount of time for testing.
12 So six months, it requires four months. That's an increase
13 of 50 percent in the time that we are monitoring outfalls.

14 Next, please. Where does this all lead to? An
15 increase of 260 percent for this one program alone to
16 360,000 dollars per year and excludes investigative costs
17 and the wet weather monitoring, which was just described
18 here as an additional cost of 420,000 dollars, give or take
19 in the first year. And over 300,000 dollars in each
20 subsequent year. So my question is, where is the cost of
21 benefit analysts as mentioned by Richard Montevideo?

22 Next, please. We are appealing to your good
23 judgement to require cost effective monitoring in this
24 permit, make extra informational testing optional, and to be
25 confine testing to high recreational use periods consistent

1 with other regions by adopting the County errata sheet.

2 CHAIRMAN WRIGHT: Thank you. Lisa Zawaski.

3 MS. ZAWASKI: I'm Lisa Zawaski. I work for the City
4 of Dana Point and I took the oath. Investigations are cost
5 prohibited at all sites. I have two examples shown up here.
6 One is the Aliso Creek outfall after four and-a-half years
7 and 320,000, we still don't have all the answers.

8 Another example is a metal study in
9 San Juan Creek. After a year and 30,000
10 dollars, we were able to show that -- we concluded that high
11 amount of metals were the result of natural -- natural
12 archeology and uncontrollable source. Change slide, please.

13 N.E.L.S -- the N.E.L. program requires us to
14 investigation each and every exceedance with no
15 consideration for magnitude or priority. With potentially
16 480 outfalls and the average investigation cost of 175,000,
17 this amounts to 84 million dollars. Therefore, we recommend
18 that the non-stormwater action levels as provided in the
19 errata. Next, please.

20 Another new program element is the
21 irrigation runoff prohibition staff indicates that they
22 don't anticipate any extra costs and we disagree. We
23 use the word "reduced" here because in the real world, we
24 would not be able to completely eliminate runoff from
25 irrigation. But we can and will control to the M.E.P., the

1 maximum extent practicable.

2 There are various magnitudes of over irrigation
3 that occur 24/7 at thousands of locations everyday.
4 Additional staff serving as water cops, even during night
5 hours will be needed. This cost we estimate at 3 million
6 dollars a year in our region. To address the runoff issues
7 that are identified, we know from state funded studies that
8 we have tools, such as smart timers and irrigation retrofits
9 that can significantly reduce the runoff, but these come in
10 at costs that we estimate at 22 million dollars.

11 Next slide. After the monitoring
12 costs and investigations costs in our best efforts to reduce
13 runoffs, we will need to implement treatment B.M.P.s to
14 attempt to meet the N.E.L.s. Real world examples include
15 the media filters and diversions that have been implemented
16 at Baby Beach and the parking lot in Dana Point.

17 Using an average cost of these projects at
18 900,000 dollars each, if we had to treat all the outflows in
19 our region, it could cost up to 432 -- 432 million dollars
20 plus an extra 10 million dollars annually to maintain the
21 systems. As you can see, these potential costs to implement
22 the N.E.L.s alone are staggering and would more than consume
23 our availability of water quality funding.

24 CHAIRMAN WRIGHT: Nancy Palmer. Welcome.

25 MS. PALMER: Thank you. My name is Nancy Palmer,

1 City of Laguna Niguel. I took the oath. In the interest of
2 time, I am not going to try to add up these numbers that you
3 just had presented to you.

4 Mainly, I have come to plead with you today
5 about the single biggest wild card cost that cities are
6 concerned about. By allowing numeric effluent limits to
7 define and end-of-pipe, under the law you are setting
8 cities up for exposure to mandatory minimal penalties. It's
9 our understanding that under the State's water quality
10 enforcement policy, mandatory penalties would be calculated
11 at two dollars per gallon of discharge. If numeric effluent
12 limits had been in place 10 years ago when Cleanup and
13 Abatement Order number 99211 for bacteria in the J03P02
14 outfall with issue to my city, Laguna Niguel the mandatory
15 minimum penalty for that one outfall would have been about
16 260,000 dollars a day.

17 That pipe is still not in strict compliance
18 today despite our best efforts and over a million dollars of
19 expenditure to get it there. Pending your decision today,
20 there are 480 outfalls potentially out of cost compliance
21 tomorrow in South Orange County. No city can afford to risk
22 even one of those mandatory penalties which would rapidly
23 devour our entire water quality program budgets and then
24 chew into other essential city services, even in the best of
25 economic years.

1 I know, you as the Board Members would
2 fully intend to be fair and reasonable before wielding this
3 for enforcement. But by defining the numeric effluent
4 limits in such a narrowly simplistic and perfectionist way,
5 please realize that they could quickly become a sort of
6 weapon of mass destruction in the hands of any individual
7 inclined to file a third-party lawsuit.

8 In case, you think I am kind of
9 hyperventilating here, let me remind you that the threat of
10 a third-party lawsuit against the Regional Board for failure
11 to enforce its permit was a key factor in pushing the
12 issuance of that Cleanup and Abatement Order ten years ago.
13 I don't think any of us wants to take those risks.

14 Today, you have the power and the opportunity
15 to take a wiser course. Instead of imposing numeric
16 effluent limits that are not reasonably achievable, adopt
17 numeric or narrative action levels for non-stormwater
18 discharge in their place. The County has already submitted
19 proposed errata sheet that would enable you to do that
20 today, if you chose.

21 Non-stormwater action levels
22 recognize that the real world is complex. And our knowledge
23 about it is imperfect. They provide you and us the
24 flexibility to exercise judgement, prioritize problems and
25 focus resources where they can be effective if you make only

1 one change in the permit today, I ask you to please make it
2 this one. Thank you.

3 CHAIRMAN WRIGHT: Thank you, Ms. Skorpanich.

4 Do you do have any summary for your group?

5 MS. SKORPANICH: We do have one final speaker.

6 CHAIRMAN WRIGHT: You do? I must have missed that.

7 MR. BONIGUT: Mr. Chairman, I'm Tom Bonigut, with the
8 City of San Clemente. I will be brief.

9 CHAIRMAN WRIGHT: We didn't have you as part of the
10 organized presentation. But go ahead. And your time is
11 just about up.

12 MR. BONIGUT: Then, I'm just going to do
13 cleanup and suggest some fixes to some issues and then
14 hopefully we can move on.

15 Regarding irrigation runoff, you've heard a lot
16 about it, but I think there is common ground that we can
17 move on from. Your Board staff has already indicated orally
18 in writing in this fact sheet that their preferred approach
19 for compliance is coordination with water agencies and we
20 absolutely agree.

21 So really we're just asking you, why can't we
22 just have the permit say that? The errata sheet that the
23 County provided has a proposed text. It's one sentence that
24 I will read. And we're proposing that if you leave the
25 irrigation exemptions in there as they are now and simply

1 add a new provision, B5, that would say, "Each co-permittee
2 shall coordinate with the water purveyors or purveyor within
3 its jurisdiction to develop and implement a work plan that
4 results in a coordinated water conservation in landscape
5 irrigation runoff reduction program to prevent landscape
6 irrigation runoff and minimize the conveyance of pollutants
7 to the MS4. If we do that, we could move on. It really
8 meets what your Board Staff have told us.

9 Secondly, regarding the retrofitting, this is
10 an even easier fix that we could live with and move on. If
11 we could change the two mentions of co-permittees to
12 permittees, that basically gives us the flexibility to pool
13 our resources and look at a retrofitting program for
14 existing development on a regional watershed basis. I think
15 that will be a much more cost-effective approach.

16 And the County, again, has suggested the strike
17 out really simple -- it has absolutely no change in the
18 meaning or in the intent of what the Board Staff wants.
19 And, finally the, on the BMP maintenance tracking
20 requirement, we respectfully suggest that we implement this
21 change on a go forward basis instead of retroactive to 2001.

22 It's one matter to go forward and implement all
23 that new data collection and inspection requirement. It's
24 entirely another matter to go back some eight years and go
25 through all that data.

1 More importantly, I think, it's unnecessary
2 because in our current permit, we've already implemented or
3 verified implementation of water quality management plans.
4 And those plans include language that require the property
5 owners, the responsible parties just to provide proper
6 operation and maintenance of all B.M.P.s identified therein.
7 And we've reported that in our annual reports.

8 So, again, I don't see the value in going back,
9 but we could live with going forward and adding that in and
10 incorporate that and plan for that. So you know -- I
11 respectfully request that you make those changes and then we
12 can forget about issues and move on. Thank you.

13 CHAIRMAN WRIGHT: Ms. Skorpanich?

14 MS. SKORPANICH: Thank you. Mr. Chairman.

15 CHAIRMAN WRIGHT: Hold on.

16 UNIDENTIFIED SPEAKER: Did the last speaker take the
17 oath.

18 MR. BONIGUT: I did take the oath.

19 CHAIRMAN WRIGHT: Thank you.

20 MS. SKORPANICH: Mr. Chairman, I appreciate your
21 offer to make rap-up comments, but if I might reserve a
22 minute when all the other testimony has been received.
23 I'd appreciate that.

24 CHAIRMAN WRIGHT: Okay. Andre Monette.

25 MR. MONETTE: Good evening, Chair Wright, members of

1 the Board. My name is Andre Monette on behalf of Cities of
2 Lake Forest and Aliso Viejo. And I will keep this brief in
3 the interest of time.

4 If you won't hold this against me, though, that
5 I would like to take one moment to thank Mr. Robertus for
6 his service of the Board. I understand this is his last
7 meeting and my last opportunity to address him as executive
8 officer. Almost two decades of service is very admirable
9 and so thank you.

10 And disregard that as far as my comments that
11 go here. And really, I just want to make two points. A lot
12 has been made of the distinction between dry weather and wet
13 weather flows. And we fully support the County's comments
14 to that end and the city of Dana Point's comments to that
15 end. I think what needs to be brought up is the issue of
16 what the MEP standard is, maximum extent practicable was
17 implemented by Congress in 1987 when they we're revamping
18 the Clean Water Act. And it was the only standard that was
19 applied to municipal discharges.

20 It's -- it's -- all of the regulations, case
21 law reflects that it's a lower standard, then technological
22 standard that's applied to traditional dischargers. And the
23 real reason for that is the issue of control over what comes
24 into and out of your system. If you are a private property
25 owner, you clearly have the ability to regulate what goes on

1 in your property and what comes in your property in a lot
2 more succinct way than you do if you were a public entity.
3 And I think that should be reflected in the permit. And it
4 is reflected in the MS4 for the most part.

5 when you start changing that standard, as
6 that's being done with the numeric effluent limits in this
7 permit, it really eviscerates -- you know, the language of
8 the Clean Water Act but as well as the intent of Congress.
9 And for that reason, it's our position that the numeric
10 effluent limits should be removed and any references to this
11 distinction between the non-stormwater and stormwater should
12 removed. Again, because everything that comes out the pipes
13 is subject in that M.E.P. discharge.

14 The second comment that I have is on the issue
15 of consistency, we represent Lake Forest and Aliso Viejo.
16 Lake Forest is one of those agencies that slipped
17 jurisdictionally. The jurisdictional line between the
18 Santa Ana Regional Board and the San Diego Regional Board is
19 roughly through the middle of Lake Forest. So when you are
20 looking at really those four issues that Ben had up on his
21 presentation, are pretty important. When we are looking at
22 irrigation, retrofit requirements, stormwater action levels
23 and numeric effluent limits, considerably there is some
24 property owner in there who half of his lawn is going to be
25 subject to the over irrigation requirements and the other

1 half isn't.

2 There has been some efforts to make things
3 jurisdictionally consistent. But in light of my first
4 comment on the M.E.P. standard, I think what's important and
5 what I would ask the Board to do is to look at those areas
6 where they are inconsistent and what are we getting out of
7 that. With numeric effluent limits, are you getting a
8 pragmatic approach, an approach that benefits water quality
9 at the same time as getting people there or are you getting
10 an approach that is punitive and exposes everybody to
11 liability without necessarily benefiting water quality.

12 So I think we should look at how -- I would
13 request that the Board looks at those issues. And that's
14 all I have. So, thank you for your time.

15 CHAIRMAN WRIGHT: Thank you. I have four speakers.
16 I think, we will finish off the Orange County Group.
17 Colin Kelly, Claudio Padres, Vaikko Allen and Mark Corey.
18 So if you could come up in that order.

19 Colin Kelly. Actually you're not part of --

20 MR. KELLY: I'm an environmental group.

21 CHAIRMAN WRIGHT: So we will hold off on you.
22 Claudio Padres.

23 MR. PADRES: Also not with an Orange County
24 Permittee.

25 CHAIRMAN WRIGHT: Yeah, but you're with --

1 MR. PADRES: I'm with Riverside County --

2 CHAIRMAN WRIGHT: I understand that. You are part of
3 Riverside County Flood control.

4 MR. PADRES: Would you like, me to hold off?

5 CHAIRMAN WRIGHT: Yes, I guess. Regulatory manager
6 contact.

7 MR. ALLEN: I'm also not with the County.

8 CHAIRMAN WRIGHT: How about Mark Corey?

9 MR. GREY: I think it's Mark Grey. And I'm not with
10 the County, either.

11 CHAIRMAN WRIGHT: Oh, it's Grey. Excuse me.

12 Okay, do you want to -- Ms. Skorpanich, why
13 don't you rap up now. Because we have a bunch of other
14 speaker slips that -- I don't think are part -- any of your
15 group.

16 MS. SKORPANICH: Whatever is the pleasure of the
17 Board. I want to thank you for listening very carefully. I
18 hope that you -- we were able to convey to you how important
19 these issues are and how earnestly we do really want to try
20 to protect resources and our water resources and put our
21 financial resources to the most effective way that we can
22 get that job done.

23 I did want to comment on something that was in
24 staff's presentation that the first three permit terms that
25 we've had or really been characterized by activities by the

1 permittees. And it's only going forward that we are going
2 to effect any pollutant reduction. And I would argue that
3 we have been affecting pollutant reduction for a number of
4 years through our programs and very effectively doing so.

5 And, in fact, in our annual report every year
6 we characterize in each one of those sections of our
7 compliance activity reporting those which get at
8 changing behavior, those which get at reducing at loads of
9 pollutants and those that work at restoring those beneficial
10 uses. So I would like to add that to the record as well.

11 We have offered this set of fixes, if you will,
12 this errata sheet, in an effort to come up with a compromise
13 solution to a number of areas that we find just would not be
14 effective in us being able to reduce pollutants and protect
15 our waterways.

16 And so we hope you take that into consideration
17 and it really is offered in this period of wanting to get
18 the job done in the most effective way possible.

19 CHAIRMAN WRIGHT: Thank you very much. At this time,
20 I think, we need to hear from E.P.A. Is the E.P.A.
21 representative here?

22 MR. KEMMER: Good evening, Chairman Wright and Board
23 Members. My name is John Kemmer and I am have
24 taken the oath earlier this afternoon.

25 I am an associate director of the water

1 division in E.P.A. Region 9. As you may know, our Region 9
2 covers the State of California, Arizona, Nevada and Hawaii
3 and the Pacific Island territories. And I am here today to
4 express E.P.A.'s strong support of the adoption of this
5 permit today.

6 First, I would like to start off with some
7 little background with our involvement in stormwater. Over
8 the past few years, we've been actively working with
9 Regional Boards across the State of California on the
10 renewal of municipal stormwater permits. We decided to get
11 into these permits -- involved in these permits for a number
12 of reasons.

13 First of all my, monitoring data has shown that
14 municipal stormwater is a major cause of water quality
15 impairments in coastal areas. Especially, here in Southern
16 California. Also, we've been seeing over the past few
17 years, as you are well aware of, many Regional Boards are
18 working concurrently on renewing MS4 permits and as been
19 alluded to earlier -- we did some convening of all the
20 boards together to foster some communications across the
21 regions on how the challenging issues of these MS4 permits
22 would be addressed.

23 And the area -- the reason we have probably --
24 I would say is probably most -- probably most informative
25 for us for our involvement in these permits is the fact that

1 we've been doing a number of audits of MS4 programs over the
2 past seven or eight years. We've audited about 55 different
3 programs across our region. And there are exercises where
4 we go out with the permittees, with the state folks and look
5 at how the programs are working and from both the compliance
6 standpoint, determining whether the permits are being
7 complied with and how effective the permit terms are.

8 And our conclusions, based on these audits,
9 have been pretty overwhelming that there is significantly
10 need for improvement in the MS4 permits, really, across our
11 region. And actually, I have been finding in talking to my
12 counterparts across the country -- across the country. And
13 one of the key findings has been that we believe that the
14 permit needs to be improved to include clear, measurable
15 enforceable provisions if we're going to really improve
16 water quality that's being effected now by municipal
17 stormwater.

18 Back in February of 2008, which was the last
19 time you had an adoption hearing on this permit, we came in
20 and actually expressed -- we were not supportive of the
21 permit before you that day, we expressed concerns of it
22 about the permit primarily because we felt that it did not
23 include clear and measurable and enforceable requirements
24 for the implementation of low impact development of new and
25 redevelopment projects.

1 Since last February, we have been working very
2 closely with your staff and have been extremely impressed
3 with the improvements that have been made to the permit.
4 We appreciate that the preparation of these permits is
5 extremely resource intensive for your office and for the
6 permittees, I recognize, also. And there has -- as a result
7 of your staff's work on this permit, we believe that the
8 permit being proposed for adoption today is among of the
9 best of the renewed permits across the State of California
10 and there are several specific aspects that I want to
11 highlight and commend in the permit.

12 First are the low-impact development
13 provisions. And these really are clear, measurable and
14 enforceful requirements consistent with the basic approach
15 that are taken by the Santa Ana board for the northern
16 portion of Orange County. I would disagree with the
17 comments earlier from the county that the inclusion of the
18 -- without runoff clause makes it somehow different.

19 Both permits require the use of these LID to
20 retain a specified volume of stormwater, the volume is the
21 same in both permits based on the definition of the capture
22 volume. And we really see this as consistent with both the
23 Orange County permit and other permits that are being
24 adopted around the State.

25 And I really believe that these provisions

1 provide a valuable framework for reducing pollution at the
2 source and ensuring -- in order to protect water quality.
3 You've heard a lot of other benefits about L.I.D. for
4 groundwater conservation. And reducing our reliance on
5 importing water from Northern California. I guess I can't
6 really over emphasize the importance of incorporating these
7 L.I.D. provisions in the permit. I also think it contains a
8 really creative and reasonable approach for beginning to
9 evaluate how L.I.D. can be promoted via retrofitting of
10 existing developments.

11 Ultimately, these retrofits, where they're
12 feasible and practicable will likely be necessary if we were
13 going to restore water quality impacted by municipal
14 stormwater. I guess the big issue on this permit is the
15 inclusion of these numeric effluent limits for
16 non-stormwater discharge. And was stated earlier, we are in
17 support of the language in the permit for these numeric
18 effluent limits. The limits are consistent with the
19 Clean Water Acts requirement that municipal stormwater
20 permits effectively prohibit non-stormwater discharges.

21 I think I heard one of the speakers say that
22 the M.E.P. standard applies throughout. I would disagree
23 that such the provision on prohibiting non-stormwater
24 discharges is in a separate section of the Clean Water Act.
25 I agree with your counsel's analysis, recent analysis that

1 laid out the legal authority for regulating non-stormwater
2 discharges.

3 And in your counsel's report, there is a
4 reference to the recent California State Board conclusions
5 about the L.A. County MS4 permit. As you may know, and
6 there is reference in the County's presentation also that
7 recently there was a challenge to the inclusion of numeric
8 limits for non-stormwater discharges in that L.A. permit.
9 we followed this petition closely. And in a June 3rd letter
10 from the my boss, Alexis Strauss, we supported the inclusion
11 of the numeric limits and the L.A. County Permit.

12 And, specifically, in the letter from Alexis,
13 the point she made was that the reason we supported them --
14 is because these discharges are subject to the prohibition
15 of non-stormwater discharges to the MS4. So I think that if
16 you want to get into that issue a little bit more you ought
17 to talk to Catherine Hagen. I think her analysis on this is
18 on the mark.

19 We strongly agree with the State Board's August
20 4th conclusions in this matter in which the state board
21 agreed that the inclusion of numeric limits for dry weather
22 discharges in the L.A. County MS4 permit was appropriate.
23 Moving on, we also support the permit to set the stormwater
24 action levels. I didn't hear much about that. But I think
25 that's really a great step forward. It's a reasonable way

1 to determine the effectiveness of stormwater controls and to
2 get a necessary better understanding of stormwater
3 dischargers and support the -- I think, your staff -- the
4 direction your staff are headed to, to achieve measurable
5 results.

6 And, finally, I just want to mention that we
7 believe the permit's incorporation of the recently T.M.D.L.
8 that the E.P.A. recently approved for the Baby Beach and
9 Dana Point Harbor is consistent with E.P.A.'s policies and
10 the Clean Water Act. And this approach is also consistent
11 with what was done for addressing municipal waste load
12 allocations and Santa Ana Regional Board's Orange County
13 Permit.

14 So, I am going to conclude there and I urge you
15 to take a big step forward today in the protection of water
16 quality in the San Diego Region by adopting this permit and
17 thanks for giving me the chance to speak.

18 CHAIRMAN WRIGHT: Thank you very much.
19 Gabriel Solmer just indicated that she wishes to register
20 her support, but does not need to speak. Thank you, Gabe.
21 Penny Elia followed by Jack Eidt, E-i-d-t.

22 MS. ELIA: Good evening. And I took the
23 oath. I'm Penny Elia and I'm with the Sierra Club. Here
24 today, to once again, strongly support the adoption of a
25 generally effective MS4 permit that focuses on environmental

1 outcomes and not claim financial crisis by the
2 co-permittees. The EPA couldn't have said it better for us.
3 We are talking about the destruction of irreplaceable
4 coastal wetlands and ocean resources due to an inadequate
5 MS4 permit. Now, that's a real crisis.

6 Arguments to perpetuate and allow ongoing water
7 pollution are no longer acceptable. In compliance
8 with your request, I will not repeat what I have been saying
9 for over three-and-a-half years.

10 water quality laws and regulations are not
11 intended to be implemented for the convenience of
12 co-permittees, inland water districts and their partners
13 among the residential and development and building
14 industries. Dry weather MS4 discharges are directly
15 attributable to the collective practices of these entities
16 and constitute an industrial waste water by product known
17 money point sources.

18 Removing harmful dry weather urban runoff water
19 quality constituents and elevated flows is possible through
20 your aggressive leadership. Please listen to the EPA, and
21 adopt this permit today. And the reason that I passed those
22 around -- do any of you gentlemen know what those are?

23 Those are out of the large street sweepers that
24 goes through the streets that make up the big brushes.
25 That's from last Thursday -- one street sweep, my block,

1 that's what we're doing as far as water quality and cleaning
2 up my street in my city. Thank you.

3 CHAIRMAN WRIGHT: Thank you. Mr. Eidt, followed by
4 Cindalee Penney-Hall.

5 MR. EIDT: Hi, good afternoon, my name is Jack Eidt
6 with Wild Heritage Planners. And I have taken the oath. I
7 want to thank you for having this hearing and pushing
8 forward with these requirements. I think they're most
9 necessary. They are obviously necessary because we have
10 seen major development as has been shown by the cities that
11 have gotten up and made statements that we have a real
12 problem and this is a way to address that problem. With
13 regard to non-storm numeric effluent limitation, basically,
14 it's an issue endemic to the Mediterranean climate,
15 urbanized with tropical landscaping.

16 So it's not something that's maybe addressed in
17 the Clean Water Act, but has been stated. It is necessarily
18 in keeping with the spirit of compliance with the Clean
19 Water Act and it's necessary. These dry weather flows are
20 not something you have in Massachusetts or Alabama. It's a
21 serious problem that we have here and it needs to be taken
22 care of. And I appreciate that this is an excellent,
23 positive step forward to deal with that.

24 So, also with regard to low-impact development,
25 I think it's it's audible that this is involved here. This

1 is the way that we can prohibit this from continuing to be a
2 problem in future generations by dealing with the water at
3 the source of its -- you know, where it's causing the
4 problem. That's really what's necessary. How we got all
5 this development approved, we could ask the County and the
6 cities. And with regard to the economic impact, what is the
7 impact to all of us having -- of having a severely degraded
8 ocean as well as environmentally sensitive habitats. There
9 is money to be saved by preserving that water, recycling
10 that water. There is a number of ways to reduce that. And
11 by educating people, and getting them on board about making
12 their world a much better place, I think this is -- this is
13 a really excellent step and I fully support it. Thank you
14 very much.

15 CHAIRMAN WRIGHT: I should have asked you if you had
16 taken the oath?

17 MR. EIDT: I did state that I did.

18 CHAIRMAN WRIGHT: I couldn't remember. My brain is
19 turning to mush here. Cindalee Penney-Hall, followed by
20 Lisa Marks.

21 MS. HALL: I've taken the oath. My name is Cindalee
22 Penney-Hall. I've heard the previous speakers from the city
23 and county bureaucracy speak. And I am a tax payer. I
24 share their concerns about money. But I also get thirsty
25 once in a while and you can't drink money. With that said,

1 I am here with the fervent hope that with this permit in
2 place, the chronic illegal discharges from the MS4 storm
3 drains will finally be abated.

4 For too long, we have suffered the hazardous
5 effects of the runoff flowing into our creek and ocean. For
6 too long, this pollution has been allowed to affect human
7 health, aquatic organisms and the beneficial uses of our
8 receiving waters.

9 The now seriously impaired Aliso Creek
10 watershed is the result of allowing the co-permittees to put
11 off enforcement because they didn't want to pay the price
12 for the impacts they created. That left us, residents and
13 citizens, to pay that price. And we have paid dearly
14 through the years as we watched, what was once a clean and
15 vibrant watershed go into decline.

16 There is a saying that goes, there are those
17 that know the price of everything and the value of nothing.
18 It is time that value -- it is time the value of this
19 watershed is remanded in full. Please adopt this
20 MS4 permit as is. Thank you.

21 CHAIRMAN WRIGHT: Thank you. Lisa Marks, followed by
22 Barbara Metzger.

23 MS. MARKS: Hi. My name is Lisa Marks and I have
24 taken the oath. I am a resident of Laguna Beach and I am
25 director of the South Laguna Civic Association. I am here

1 to strongly support the new permit and commend the efforts
2 of the staff and the Board toward this. And I live adjacent
3 to the Aliso Creek watershed and I observed the surreal
4 levels of dry weather flow that come down the creek
5 everyday.

6 I completely commend the effort to -- to deter
7 dry weather flows and think that's essential to the
8 preservation of the oceans and the creek. I also strongly
9 support the retrofit of our already very urbanized watershed
10 and as that redevelopment occurs, there is so much we can do
11 with landscape and stormwater. So I totally support those
12 efforts.

13 And lastly, the pollutants flowing into the
14 ocean include so much more than bacteria, so I commend your
15 efforts to control those pollutants. Thank you very much.

16 CHAIRMAN WRIGHT: Thank you very much. Barbara
17 Metzger, followed by Charlotte Masarik.

18 MS. METZGER: I'm Barbara Metzger; I have taken the
19 oath. At the first of the these hearings that I attended,
20 the EPA representative reminded us all that 20 years of
21 regulation has not improved the quality of the water in
22 Aliso Creek. So if the new regulations are more rigorous
23 than the old ones, there is a good reason for it. I think
24 the public wants clean water, a clean ocean to swim in, and
25 a healthy ocean for marine life.

1 Living on the coast, as we do, residents of
2 Laguna have always been concerned about water quality. But
3 a couple of hefty fines from this Board seems to have
4 focused our collective attention on doing something about it
5 seriously. We've made a lot of changes. And we have hired
6 specialists to work on water quality full time and as a
7 result, our record is much cleaner than what it used to be.
8 I anticipate that the new MS4 regulations prohibiting the
9 discharge of excess irrigation water will have a similar
10 effect on the County and the cities upstream. I hope that
11 you will adopt them today.

12 CHAIRMAN WRIGHT: Thank you. Charlotte Masarik,
13 followed by Noah Garrison.

14 MS. MASARIK: Good afternoon, Board members. I have
15 taken the oath. Charlotte Masarik, resident of Laguna
16 Beach. I am in support of the adoption of this MS4
17 permit. My husband and I are big supporters of our
18 bluebelt. We strongly believe in preserving ocean water
19 resources and in preventing the ocean pollution. We cannot
20 expect our ocean to continue to take this kind of toxic
21 urban runoff abuse and be able to survive. But I can expect
22 you to protect our ocean and marine resources and that's why
23 I am here.

24 It is inexcusable that we continue to pollute
25 Aliso Creek and our ocean, especially when we know the

1 public is universally in support of eliminating urban runoff
2 from our coastal waters. The ocean belongs to us all and
3 the few co-permittees, including the County, should not be
4 allowed to continue to pollute. It's a question of
5 priority, not budget constraints. And we can find the funds
6 if we want to and we can change our ways if we want to have
7 a healthy Aliso Creek and healthy receiving coastal waters
8 in South Laguna.

9 Finally, after all this time, I have to believe
10 that this permit is water tight. Despite all of that we've
11 heard and in making your decision today, we hope that you
12 will not be pressured by any legal action that these cities
13 and the County may or may not take. Please adopt and
14 enforce this MS4 permit. It's as simple as that. Thank
15 you.

16 CHAIRMAN WRIGHT: Thank you. Noah Garrison,
17 followed by Colin Kelly.

18 MS. HAGEN: Excuse me, Mr. Chair -- this is
19 Catherine. I had intended when I prepared the Chair
20 statement, Noah Garrison had requested 10 to 15 fifteen
21 minutes and I was considering N.R.D.C. environmental group.
22 So hopefully, if he needs that time --

23 CHAIRMAN WRIGHT: I understand that. But he's asking
24 for eight minutes here. And I am --

25 MR. GARRISON: I think given the late hour of the

1 day, I will try not --

2 CHAIRMAN WRIGHT: I would greatly appreciate it.

3 MR. GARRISON: I actually had a PowerPoint
4 presentation and given again the late hour and people's eye
5 strain, I will refrain from using at this point just to say
6 that there is suggestive language in it, and should the
7 Board wish to look at it.

8 My name is Noah Garrison. I'm with the Natural
9 Resources Defense Counsel. I have taken the oath today. I
10 do want to start by thanking the Board staff who I think
11 throughout this process have been extremely gracious in
12 their willingness to engage with all the stakeholders and to
13 open a dialogue during the drafting in process. It's been
14 greatly appreciated.

15 At the start, there has been a lot of
16 discussion today about the different standards under which
17 the permit is viewed by the Clean Water Act. And I think
18 it's important to remember that a fundamental goal and
19 actually a requirement for all permits is that they be
20 certified to prevent violations of water quality standards.
21 And that's what this permit does.

22 Addressing many other comments that have been
23 made so far, I would like start with the prohibition against
24 lawn irrigation and it simply state that while the
25 co-permittees or cities may feel that there are other

1 approaches that would be easier or more practical,
2 potentially, for them to implement, the Clean Water Act
3 specifically requires that this -- this particular form of
4 discharge be prohibited if it is found to be a source of
5 pollutants to the MS4 system or to waters in the United
6 States.

7 There is no discretion under the act to allow
8 for a more flexible approach. The approach they are seeking
9 in the permit which is to remove this exemption for lawn
10 irrigation is appropriate and in fact required by the Clean
11 Water Act. Following from that and related to the
12 non-stormwater discharges, the N.E.L.s are also an
13 appropriate means of enforcing the Clean Water Act.

14 while the permittees may say that the only
15 means of enforcing any kind of discharge in the MS4 system
16 is the M.E.P. standard, this ignores the fact that the Clean
17 Water Act requires that non-stormwater discharges must be
18 effectively prohibited from entering the MS4 system. The
19 N.E.L. is simply an allowance. It is a means of assessing
20 whether that is occurring. But the only other alternative
21 for this permit would be to flat out prohibit all
22 non-stormwater discharges from reaching the MS4 system.

23 The N.E.L. simply provides a means of assessing
24 whether or not that is occurring. It is required under a
25 Clean Water Act, it is not a permissible feature of the

1 permit. Following from that, we would like to talk about
2 two points in the permit that are both related to
3 biofiltration. Those are the only points that we feel
4 should be amended in the permit at this point.

5 And specifically, biofiltration a means of
6 implying with the L.I.D. features of the permit. It's
7 something we do not feel is appropriate. Biofiltration is a
8 practice that we do not outright oppose. We feel that in
9 many instances, it would be preferable to use biofiltration
10 as opposed to conventional controls for the controlling of
11 discharges.

12 However, biofiltration, almost by definition,
13 cannot be as effective at preventing the discharge of
14 pollutants, the MS4 system as onsite retention. With onsite
15 retention, you are preventing all water, and as a result,
16 all pollutants in that water from mobilizing and leaving the
17 site in the first place. Biofiltration will allow some
18 quantum of water to leave a site, under the MS4 system and
19 it will take some quantum of pollutants.

20 By definition, it is not as protective as
21 water quality and to allow it to substitute for the onsite
22 retention features does not meet the M.E.P. standard as a
23 result. Our suggestion would be that anywhere that the
24 permit does allow in cases infeasibility to use
25 biofiltration in place of an onsite retention that it should

1 also trigger the offsite waiver provisions that the
2 permittees should be required to whatever volume is treated
3 through biofiltration, they should also have to treat
4 offsite using the L.I.D. waiver provision.

5 Added to this, we also do not see any reason
6 why as the permit is currently set up, a permittee or
7 developer should have to find that biofiltration is
8 infeasible in order to participate in the L.I.D. waiver
9 program. As the L.I.D. provisions are currently set up,
10 there is a tiered approach to addressing stormwater
11 discharges. The first is to retain water onsite. If that
12 is found to be infeasible, the permittee or developer may
13 then use biofiltration. And only when that is found to be
14 infeasible, can they participate in the L.I.D. waiver
15 program.

16 We feel that as soon as onsite retention has
17 been demonstrated and is to be infeasible, the permittee or
18 developer should be allowed to participate in the waiver
19 program. They should not have go through the interim step
20 of finding that biofiltration itself isn't feasible.

21 I also want to echo the comments of
22 Mr. Kemmerer to state that the permit is an appropriate and,
23 in fact, strongly supported means of addressing stormwater
24 pollution. And that the requirements -- the N.E.L.S, the
25 onsite retention requirements that provide specific

1 enforceable and quantifiable limits are both necessary and
2 at this point required under the Clean Water Act.

3 They are being adopted in permits throughout
4 California, and in fact, across the country. These are now
5 the M.E.P. standard and they should be adopted by this Board
6 and we fully support adoption with the amendments that we've
7 proposed. Thank you for your time.

8 CHAIRMAN WRIGHT: Thank you. Colin Kelly, followed
9 by Claudio Padres.

10 MR. KELLY: Good evening. I did take the oath.

11 Inasmuch as we support the L.I.D. principles
12 into the South Orange County MS4 permit, we're also
13 dedicated towards the adoption of a permit which accurately
14 reflects the various L.I.D. best management practices in a
15 way which maximizes their utilities.

16 And, frankly, in today's meeting, the most
17 difficult thing for me to do as a representative of
18 Coastkeeper is pick whether we were going to pick the red or
19 the green card. And, generally, we support the adoption of
20 this program similar to N.R.D.C. with some minor adjustments
21 to it.

22 But in general, we support more than 95 percent
23 of this program, of this MS4 plan. Chief among our concerns
24 is the permit's pervasive reliance on biofiltration without
25 including a workable definition of the term or providing

1 verifiable standards for which biofiltration B.M.P.s must
2 satisfy.

3 Rather, the MS4 permit provides clarity, the
4 permit instead re-enforces ambiguity by providing a
5 potentially unworkable vague term which does not guarantee
6 onsite retention. If biofiltration is adopted, which we are
7 not opposed to, then there should be additional guidance on
8 the Regional Board's definition.

9 Additionally, the Regional Board should ensure
10 proper oversight of any proposed biofiltration device to
11 guarantee that it is properly sized and designed.
12 Coastkeeper agrees with the Regional Board that structured,
13 proprietary and/or engineered biofiltration devices should
14 be permitted where appropriate. However, the Board should
15 hold those biofiltration devices to equivalent water quality
16 standards and require proper monitoring to prove their
17 initial and continued effectiveness as pollution control
18 devices.

19 Finally, Coastkeeper encourages the Regional
20 Board to view utilization of biofiltration as a trigger for
21 L.I.D. offset programs similar to the N.R.D.C. That's the
22 conclusion of our comments.

23 CHAIRMAN WRIGHT: Thank you. Claudio Padres followed
24 by Vaikko Allen, and then Mark Corey.

25 MR. PADRES: Hi. My name is Claudio Padres and I am

1 from Riverside County Flood Control and I have taken the
2 oath. I would like to thank you for the opportunity to
3 speak in front of you today. I want to express that the
4 district generally supports the positions of Orange County
5 and the permittees. Especially on two major items. One is
6 the consistency issue and the other is on the N.E.L.s issue.

7 Now, as you may be aware, the district and many
8 of the permittees within Riverside County are confronted
9 with some of the same issues of being split between Regional
10 Board boundaries. And that creates a big consistency issue.
11 So that's something that we really support their position
12 on.

13 What I would like to move onto, though, is
14 providing a little bit more context at a little bit higher
15 level and getting into the details of the N.E.L. issue.
16 Over the past 20 years, roughly, MS4 programs have used
17 ordinances and enforcements for dealing with the effective
18 prohibition for illegal discharges. And this is for good
19 reason, because this was the system that was originally
20 described in the federal regulations. This permit is
21 completely and uniquely, among other permits, changing this
22 approach by requiring permittees to comply with strict
23 numeric effluent limits.

24 And although the Board may have the discretion
25 to do this, the district strongly believes that this is not

1 appropriate within the MS4 permit. And I will speak a
2 little bit more about this. N.E.L.s have been typically
3 applied in an environment or to an entity that is generating
4 of processing pollutants such as an industrial
5 plant owner. Through their N.P.D.S. permit, they would be
6 required to control their pollutants such that their
7 discharges meet numeric effluent limits.

8 Now, in contrast with MS4 permittees and in
9 disagreement with some of the comments that we've heard, one
10 example, but not the only one was Sierra Club, the
11 permittees are not the ones generating these pollutants and
12 discharges. The public is. And while the permittees, with
13 the consent of the public, can regulate the public, they
14 cannot their actions. The people have free will. Even to
15 the extent, unfortunately, sometimes they are breaking the
16 law, they do have that free will.

17 And I would like to think of N.E.L.s kind of
18 like freeway speed limits. The state can set a speed limit
19 and the local law enforcement agencies can require
20 compliance with their speed limits, but they cannot outright
21 prevent somebody from speeding. And if somebody does speed,
22 you don't go back and penalize the local law enforcement
23 agency, especially when they have been taking the
24 appropriate steps to make sure that people are able to
25 comply with this.

1 But this is exactly what N.E.L.s are going to
2 be doing to MS4 permittees. They will directly penalize the
3 permittee, although, they have limited ability to control
4 the activities that are causing these discharges. And this
5 is why the federal regulations contemplated that the M.E.P.
6 style approach that's based on ordinances enforcement to
7 address these kind of discharges.

8 Because they have realized -- and I am sure you
9 are aware that success is dependent upon and inexorably tied
10 to the values and behaviors of society as a whole. And
11 since the permittees cannot control society, it doesn't make
12 sense to regulate them as if they can, and then penalize
13 them when they can't. I heard a beeping. So I know my time
14 is up. I will wrap up just with a conclusion that, we
15 again, appreciate the opportunity to speak in front of you
16 today. And we strongly feel that the N.E.L.s are not
17 appropriate for this environment and support the Orange
18 County's proposed provisions to the permit.

19 CHAIRMAN WRIGHT: Thank you. Vaikko Allen and
20 Mark Grey.

21 MR. ALLEN: Good evening. My name is Vaikko Allen
22 and I did take the oath. I am representing Contech. I
23 would like to just challenge a couple of what I think are
24 pretty fundamental assumptions, one made in the permit and
25 one just made in testimony a couple of minutes ago regarding

1 low-impact development and then talk a little about how
2 those assumptions are carried through in the permit and what
3 I view as a problematic way.

4 First, is that L.I.D. equals full retention of
5 the design storm as was just proposed by N.R.D.C. and
6 advocated. I think if you look at any definition of what
7 low-impact development is, it will say something like it's
8 an approach
9 toward stimulating or preserving predevelopment hydrology.
10 That means that we are trying to match predevelopment water
11 balance. So whatever runoff ran off before it was
12 developed, should also be running off after the storm.

13 It's fundamentally different than a full
14 retention standard which is proposed there. The other
15 function that I think the permit makes is that
16 L.I.D. equals M.E.P. in most cases, that is probably
17 correct. And certainly it would advocate retention of
18 stormwater
19 where ever possible and when that is not possible,
20 additional measures should be taken.

21 what I think this permit does is it essentially
22 requires implementation of L.I.D. to the maximum extent
23 practicable, which is fundamentally different than reducing
24 discharge of pollutants to the maximum extent practicable.
25 The way the L.I.D. waiver provision is written, you

1 basically have to do L.I.D. and if you can't do L.I.D., then
2 you get kicked into the waiver program. That's not what the
3 Clean Water Act asks us to do. It asks us to reduce the
4 discharge of pollutants to the maximum extent practicable.

5 In my view, the L.I.D. waiver program
6 should be changed to an M.E.P. waiver program. So if you
7 are doing the M.E.P. on your site -- if you are not treating
8 -- using the most effective controls that they are also
9 financially feasible then you should be required to do
10 something off site. I think that's a fundamentally
11 different thing that was in this permit here. And in my
12 view, is not consistent with the Clean Water Act.

13 As a short term fix, I would generally advocate
14 or support the County's recommendations. I would like to
15 see that word "biofilter" or "biotreatment" changed to just
16 filtration. Recognizing that there will be instances where
17 things like sand filters or even perhaps power filters or
18 disinfection systems which may be required to meet bacteria
19 T.M.D.L.s, for example may be more effective than quote,
20 unquote, biotreatment devices, whatever that means. It is
21 an undefined term.

22 I'd also point out further along in the
23 permit, after that section there is a requirement that all
24 treatment controls have medium or high effect in this for
25 pollutants of concern. I would suggest to you that is a

1 performance standard. And that performance standard is what
2 should be met on onsite retention and is not required. And
3 if you meet that standard, you should not be required to
4 participate in the waiver program. Thank you.

5 CHAIRMAN WRIGHT: Thank you. Mark Grey. Last
6 speaker.

7 MR. GREY: Chair, I thank you very much. And I
8 will make this brief as the last speaker. Mark Grey,
9 technical director for the Construction Industry Coalition
10 on Water Quality. I represent union contractors and
11 management of more than three thousand companies who build
12 the project that this permit will regulate. I have taken
13 the oath, but I have not drank all the L.I.D. cool-aid that
14 is going around. And I want to point out just a couple of
15 specifics about that.

16 And I am going to refer specifically to
17 the L.I.D. sizing and BMP sizing criteria. In the permit,
18 it states BMP should be sized and designed to ensure onsite
19 retention without run off. And Vaikko just brought it up --
20 a few other speakers brought it up, we are at
21 odds somewhat with E.P.A., N.R.D.C., some of the N.G.O.s and
22 the rest of the regulated committee over what L.I.D. means.

23 It is a mimic of predevelopment hydrology. It
24 is not to have a zero discharge standard. So we take some
25 issue with that. But in staff's credit, we have included

1 biofiltration as an option in meeting the L.I.D. standard.
2 It says, if onsite retention with B.M.P.s are technically
3 infeasible, L.I.D. biofiltration B.M.P.s may treat any
4 volume that is not retained onsite by the L.I.D. B.M.P.s.
5 we would support this permit whole heartedly if we ended
6 that statement right there.

7 But unfortunately, it goes onto say that due to
8 the flow through design of biofiltration B.M.P.s, and I will
9 point that biofiltration isn't necessarily a flow-through
10 BMP, it also included retention B.M.P.s such as sand filters
11 that aren't necessarily flow through like vegetated swails
12 and other more linear channel-type systems that are
13 engineered.

14 I repeat, due to the flow-through design of
15 biofiltration B.M.P.s, the total volume of the B.M.P.
16 including poor spaces and prefilter detention volume is
17 allowed to be no less than the 0.75 -- 5 times the design's
18 storm volume. Let me interpret that for you. What staff is
19 saying is you can use biofiltration B.M.P.s, but if you
20 design a biofilter and put one in your project, you have got
21 to size it to handle three quarters of the whole design
22 storm. Not the portion of the design storm that you can
23 infiltrate, harvest, and use or evapotransporate. Very
24 important distinction. One we see in no other permit.

25 And I have run this -- I have run this past

1 other engineers that I work with. It seems like a bit of an
2 arbitrary decision to include a performance standard such as
3 this in the permit language. My suggestion in brief is to
4 just eliminate that and leave the first sentence in place.

5 My last comment is concerning
6 hydromodification. We have seen some movement and
7 recognition that there are cases where exemptions are
8 appropriate for what we would term hardened channels are
9 significantly hardened to their ultimate outlet, be it a
10 bay, the ocean, a river, what-have-you.

11 In the language in the permit, it refers to
12 concrete lined. And I think we all recognize that not all
13 cases, we have hardened channels that are specifically
14 concrete lined. My suggestion is to change concrete
15 lined to hardened channels. Thank you very much. I
16 appreciate your time and I appreciate staff's effort to work
17 with us throughout this very long process.

18 CHAIRMAN WRIGHT: Thank you very much for staying all
19 day. Mr. Neill?

20 MR. NEILL: Ben Neill, N-e-i, double L. And I took
21 the oath. And everything what we've heard here today is
22 nothing new under the sun. We heard all these comments.
23 We've heard over 400 comments in the last round -- 1,200
24 written comments in the five total rounds. And hearing the
25 rehash of all these. We can answer any questions you have

1 about the M.E.P. and the stormwater and non-stormwater
2 discharges, the N.E.L.S. and I would like to point out there
3 is numeric effluent limits and a whole slew of permits
4 across California. There is N.E.L.S for even stormwater
5 discharges, the Lake Tahoe permit. And there is N.E.L.S for
6 non-stormwater discharges and the non-stormwater permits
7 such as groundwater dewatering permits.

8 we looked at the Geo syntech study that they
9 provided to us about L.I.D. and we've seen -- we considered
10 any economic information that they provided to us. We
11 looked at that. There is some of it, seemed a little new in
12 the numbers. We didn't have really a chance to see the
13 assumptions behind these numbers in this presentation. But
14 some of it seemed to be a little bit high -- on the high end
15 of -- based on what the assumptions are behind it.

16 we feel that they already have programs to
17 address illegal discharges so if over-irrigation becomes
18 illegal discharge, then they can already address that. And
19 in those programs for illegal discharges, we're not telling
20 them they have to have staff on call three days or three
21 shifts, seven days a week. They have a hotline people call
22 when they spot illegal discharges and then respond to them.
23 The over irrigation prohibition does not permit the lawn
24 watering. I heard one commenter say that. I want to
25 clarify that. I can answer any questions about the L.I.D.

1 and the downstream water rights holder's language on why the
2 hydromodification plan language is slightly different than
3 the Region 8 language.

4 Is there anything you would like me to focus
5 on?

6 CHAIRMAN WRIGHT: we'll just deal with it if there
7 are some questions. Why don't we just move to the
8 recommendation of the executive director and then
9 close the hearing we can ask questions and have a
10 discussion.

11 MR. ROBERTUS: May I make a comment before I give
12 you my recommendation?

13 CHAIRMAN WRIGHT: Certainly.

14 MR. ROBERTUS: Shortly, I won't be the executive
15 officer but I have sat through these permits for some years.
16 And about eight years ago, I sat through the orange County
17 permit. And I listened as the arguments were made. And I
18 think what we've witnessed today is the maximum extent
19 practicable of trying to influence this Board to keep the
20 permit standards as low as possible. And there is a lot of
21 reason for that. Because this is a very difficult endeavor.
22 We heard from citizens who were screaming at us to clean up
23 the water. And we have elected officials who purport to
24 represent those citizens. And yet, when I hear the
25 citizens, it is not the same thing that the elected

1 officials have told me. And my thought there is maybe some
2 of you should follow my lead and retire.

3 This is a difficult business. There's a bell
4 weather with the existing permit. And it pains me to see a
5 slide where that issue of exempting car washing is held up
6 before the Board as though it's -- that we gave you
7 permission and exempted it. In my thinking, exemption was
8 only there unless you could determine that car washing
9 actually contributing to what caused the problem in
10 receding water.

11 Have any of the cities in Orange County
12 exempted car washing? Okay. That's my bell weather because
13 what these permits do is offer the opportunity to find out
14 where the pollution is by monitoring and then implement best
15 management practices to reduce the pollution to meet the
16 demand of our citizens who live and recreate here. And the
17 tension is developed over, where do you set the bar? Of the
18 recommendations that we heard today, I am moved by the
19 arguments on N.E.L. you have no idea how much this staff
20 have discussed these matters. And we are compelled to set
21 that bar as high as we can. I told the staff not to say
22 that. But what we're talking about is the next five years
23 or possibly the next six, seven or eight years as was the
24 case with the last permit.

25 But I think that there is good cause for some

1 changes to be made to the permit. The issue of how much
2 water should be retained onsite, the argument that it should
3 retained on site to get to a point where you are
4 implementing the natural runoff is a good argument. But the
5 to let the rest of the water go, if it's loaded with
6 pollutants it's not something that I think it's a good idea.

7 So perhaps retaining more water is for the
8 purpose of pollution abatement, not to emulate the natural
9 flow because you have to do both, you have to emulate the
10 natural flow. And you also have to make sure that the
11 pollutants have been removed from the water that runs off
12 the site and every water site is different.

13 On the issue of N.E.L.s, the maximum extent
14 practicable, Congress really did it to us because it's how
15 do you measure? How you quantify it? And we're probing how
16 to do that. And ultimately, I believe it will be done in
17 the receiving waters through T.M.D.L.s that will take many
18 years. So as far as the recommendation on the N.E.L., I am
19 going to defer to the Board members and hear what your
20 thoughts are.

21 But I am compelled to recommend to you to
22 adopt this permit as it's written and live with the
23 consequences. With that said, I think there is
24 an opportunity to make some changes. There's been some very
25 focused and well-stated issues. And I am going to defer to

1 Catherine Hagen because a lot of these are legal issues.

2 For example, are there things in this permit
3 that are not in the federal law? And they are clearly out
4 of that box which sets us up for precedent. Putting in the
5 federal permits, I think, is something for the state. So
6 our recommendation is adoption. But I think there is
7 opportunity for change. That would mean it would come back
8 to you at a subsequent meeting. I don't think that could be
9 done this evening. So with that, I request that you ask
10 Catherine if she ha any comments.

11 CHAIRMAN WRIGHT: Ms. Hagen?

12 MS. HAGEN: No. I don't have a concern that the
13 permit exceeds federal law. And I've said that in the memo
14 and I don't I think that's the case. So I think what's in
15 the permit, you are permitted -- you may adopt the permit as
16 written, if you wish; it's legally defensible in my opinion.

17 CHAIRMAN WRIGHT: All right. I am going to close the
18 public hearing. And let's try to address some of these
19 issues, if we can. Frankly, I am inclined to agree with the
20 executive officer's recommendation. I would like to make
21 just kind of a general statement before we get into some
22 specifics. Those of you that are familiar with Maslow's
23 hierarchy of human needs, know that drinkable water,
24 breathable air, housing, food, security form the basis of
25 higher order needs.

1 I don't know if you recall in 2005, a movie, it
2 was entitled Running Dry. I want to put my comments in the
3 context of drinkable water. In that movie, which was
4 narrated by Jane Seymour, one of the speakers, I think she
5 was from the water district in Nevada, made a comment
6 that water quality and drinkable water are inseparable. And
7 that it's unconscionable that we are not paying more
8 attention to water quality, particularly, as it relates to
9 drinkable water.

10 Basically, she goes onto say that we're like a
11 bunch of teenagers. I mean -- this is an over statement.
12 But like a bunch of teenagers. It's time to grow up. And I
13 think that's what this permit is all about. We're in a
14 growing up process. And this is going to -- we're going to
15 continue to grow up. And I -- that's -- you know, in
16 general, that's the reason I think this permit is on the
17 right mark. We are beginning to grow up.

18 So with that, I will turn it over to the other
19 members of the Board and if they wish to get into some
20 specifics. You want to start out, Grant.

21 CHAIRMAN WRIGHT: I think we need to hear from
22 Mr. King this time.

23 MR. KING: I do just -- there is a variety of
24 different issues. But I think that if there is anything
25 we're going to tighten the screws on here and try to

1 improve, I think this -- the numeric effluent limits for the
2 non-stormwater district is an area where we are setting this
3 up for vast disagreement between ourselves and the
4 co-permittees and more litigation.

5 And, you know, if it were earlier in the day,
6 and if we didn't have the decision to make every landfill
7 bring in their matter either way, and the City of San Diego,
8 here as well today, I would hate that the co-permittees
9 today be shortchanged because a couple of other matters
10 didn't need to be heard today rather than this, rather than
11 taking a little bit more time to get this permit where it
12 should be.

13 I think Ms. Hagen has in mind some
14 alternatives for what we can do in lieu of having the
15 numeric effluent limits for the non-stormwater discharges.
16 That there could be a better alternative than the errata
17 sheet that was provided by the County. I am not
18 inclined to go along with the errata, but I think that we
19 can have something -- we have gone a couple of
20 different directions on this thing -- the last draft that we
21 have considered in Orange County, and we had a complete
22 prohibition.

23 Now, we've got numeric limits. And now we've
24 got the alternative put before us with these numeric action
25 levels. I think that what Ms. Hagen kind of briefly

1 mentioned of maybe not a numeric limit, but a qualitative
2 limit, or a narrative limit might be more appropriate and
3 avoid this trap door of having these mandatory minimum
4 penalties. And that's what we need to be aware of here
5 that, yes, we'd rather have a permit that sets quantifiable,
6 measurable results, but to the extent that we create this in
7 the same system, we've got the state law setting up the
8 system of mandatory minimum penalties, that's where the rub
9 is. The state and federal law here. And that's not going
10 to be something we want to be hitting these co-permittees
11 for, paying penalties rather than going out and implementing
12 more B.M.P.s.

13 I think that's kind of the biggest bone of
14 contention we've got here. And if we can work out something
15 to harmonize what everybody wants and get this permit
16 approved, we can start implementing this permit. If we -- I
17 think, if we drive full force ahead down the torpedos, then
18 the this whole thing is going to get bogged down in
19 litigation and we're going to have subsequent consequence of
20 these mandatory minimum penalties -- if we survive the
21 litigation. And I think that's the downside that we ought
22 to try to avoid here.

23 And if Ms. Hagen has a solution that she is
24 thinking of here, I would welcome it as a proposal. I am
25 willing to stay a little bit longer tonight, newborn at home

1 notwithstanding, but that's where I am. And I am willing to
2 bring this back again. I would love to be able to approve
3 this on Mr. Robertus' last night as the executive officer
4 but this is a significant act. And if we could tighten up
5 this one particular area here, I would rather do that.

6 CHAIRMAN WRIGHT: You know, I am inclined to agree
7 with that despite what I said earlier. I think that if we
8 can crack this nut, that the rest of it, I think, will fall
9 into place. I think, this is the critical part. So if
10 anybody, Ms. Hagen -- do you have any substitute language?

11 MS. HAGEN: I don't have any substitute language in
12 mind, specifically, but just have a couple of ideas that
13 may be helpful to you. And I wanted to clarify something
14 that Mr. King said that we were -- that the N.E.L.s are
15 being proposed in lieu of the prohibition or something to
16 that effect, and that's not actually true. The prohibition
17 is still required, for the non-stormwater discharges under
18 the Clean Water Act. The N.E.L.s are designed to measure
19 violations where non-stormwater discharges are not being
20 prohibited but are nonetheless making their way out of the
21 MS4 and it's a means of regulating that.

22 But one possibility would be to have the
23 prohibition against non-stormwater discharges that cause
24 pollution in the permit. And that could be
25 enforced using your discretion rather than mandatory minimum

1 penalties. Violations of the prohibition could be enforced
2 against. But then one sort of a companion to that might be
3 to include the -- keep the numeric effluent limits, but
4 convert them to action levels so they don't actually -- in
5 exceedance of the number that's in there as the numeric
6 effluent limit, would not be a violation per se, but it
7 would trigger the three different actions on behalf of the
8 -- on the part of the permittees.

9 And I haven't had a chance to discuss this with
10 staff at length. I don't know if there are other
11 problems with that I am not thinking of. But that's one
12 idea -- you still have the data, the monitorings occurring,
13 so that you find out what is actually occurring and there is
14 some triggers to require investigation of sources and so
15 forth. And then perhaps in the next permit, numeric
16 effluent limits are more appropriate. That's just one
17 option that I am thinking of and I have not worked on a
18 permit language, but I can work on that.

19 MR. KING: Then I would like to -- if staff welcome
20 specific questions -- as much as you can, respond to the
21 proposal in their County's errata with regards to the
22 non-stormwater action levels and the revision beginning on
23 page 1 through page 5 of the errata. The downside of making
24 that change to the permit.

25 MR. LAUGHLIN: I can -- I'm sorry. My name is Shawn

1 Laughlin. I'm an environmental scientist in the Northern
2 watershed Protection Unit. I did take the oath. I can also
3 provide some clarification on M.E.P.s hopefully and in
4 their applicability for the non-stormwater numeric effluent
5 limitations and defer to Catherine for legal questions on
6 that too.

7 I don't know if you would like me to start with
8 discussing B.M.P.s or should I start with discussing with
9 motivation of the numeric effluent limits and action levels.

10 MR. KING: What I am more looking for is if you've
11 had enough time to look at the errata proposed by the
12 County. Their proposal for the numeric action levels
13 opposed to the effluent limits. Have you had enough time to
14 look at that, that you've got a response --

15 MR. LAUGHLIN: I understand. Under the current
16 order, the 2002 order, the co-permittees are required to
17 prohibit discharges of non-stormwater into the MS4. And
18 they have I.C.I.D. monitoring programs. And currently they
19 have come up with their own action levels. These action
20 levels trigger follow-up investigations into what the source
21 of pollutants are whether it's an illicit discharge, an
22 exempted discharge, a natural source. Currently the county
23 sets these action levels themselves and these levels are set
24 not at what the water quality based-effluent limitations
25 are, but they are set based on the existing date set

1 statistically to look at the outlier, so to speak, to take
2 action on it.

3 So the action levels are actually -- the
4 numbers are a little different, but they are already in the
5 current tentative order. Otherwise, I haven't had too much
6 of a chance to review this specific language that they have
7 changed. I don't know if that answers your question.

8 MS. HAGEN: If I may, just a difference between what
9 the errata included and what I was proposing was that in the
10 errata that the discharge proposes, they would again set the
11 action levels at a level they think are appropriate whereas
12 staff has determined levels that they think are appropriate
13 as numeric effluent limits and you could, if you chose to
14 treat those as action levels.

15 And also -- I am not sure if this permit
16 includes an outright prohibition on non-stormwater
17 discharges that cause or contribute to the exceedances of
18 water quality standards as compared to requiring
19 dischargers to effectively prohibit these discharges. But
20 you could include a prohibition. I know that other MS4
21 permits have a prohibition on those discharges. And that
22 does give you an enforcement tool that you can use if you
23 think you have an appropriate case, but it takes you out of
24 the mandatory realm.

25 MR. KING: So I wonder if staff would be more

1 receptive to the proposal of action levels but that the
2 action levels that Ms. Hagen described, that are the
3 existing ones that you drafted into the permit now as
4 effluent limits.

5 UNIDENTIFIED MALE SPEAKER: So in lieu of the
6 effluent limits just make -- reading those as action levels,
7 basically. Well, I -- from my personal take on it, I would
8 say that we would not be receptive to that. And the
9 primary reason is because when N.P.D.S. permits are
10 reissued, as you know, they have to evaluate existing
11 controls to see if they are sufficient to protect water
12 quality standards.

13 So for the past 19 years, the co-permittees
14 have been utilizing B.M.P.s to protect water quality
15 standards and carry out the purpose of the Clean Water Act.
16 So as part of the re-issuance process, we evaluated those
17 controls and the monitoring data so the dry weather
18 monitoring data that they have collected today. And
19 determined that those are not stringent enough to protect
20 the receiving water standards.

21 Therefore, based on that, which is called
22 reasonable potential analysis that's required pursuant to
23 the federal regulations for the N.P.D.S. permits, we
24 established water quality based effluent limitations.

25 So my first response to that question would be

1 therefore be no, based on the actual reasonable analysis
2 that we went through. Because you are in essence retaining
3 same B.M.P.s that have been used for the past 19 years which
4 our analysis showed are not protecting water quality.

5 MR. KING: If we have the same effluent limits, we
6 take the effluent limits that we've proposed in this current
7 draft permit and make those action levels, why would that
8 necessarily mean that the co-permittees stick with all the
9 same B.M.P.s that are failing.

10 UNIDENTIFIED MALE SPEAKER: It is more -- it would be
11 negating the reasonable potential analysis for N.P.D.S.
12 permits.

13 CHAIRMAN WRIGHT: Mr. Rayfield, and then
14 Mr. Destache, if you can zero in on the --

15 MR. RAYFIELD: I'm going to try to zero in on this
16 one. I think we have got to start from the premise that we
17 are all vitally concerned about water quality. And I am
18 really having a tough time accepting the view that nothing
19 has happened in the past 19 years. I just -- a month or two
20 ago did a review of Orange County beaches over the last 10
21 years. And there has been a dramatic improvement in beach
22 quality.

23 Now that's one measure -- I agree, it's not the
24 only measure, but it is one. And a very valid
25 measure. And that comes not from me, but people like Heal

1 The Bay, Coastkeeper and so forth. Two problem beaches
2 remain. But when it comes to the N.E.L. thing, I really
3 have, again, passion for water quality. But I am not
4 convinced that the N.E.L.s are going to do much to improve
5 water quality.

6 And, in fact, if we were to implement the
7 N.E.L.s, I would be afraid that we run the risk of diverting
8 resources that fix the problem to monitoring and other
9 things that don't help the problem directly. And I'd also
10 be concerned about taking resources away from the fixes to
11 the problem to litigation which certainly won't fix the
12 problem in the short term or even the long term. I think
13 there is value in looking at numerical action levels because
14 that generates an action without the threat of penalties
15 reoccurring daily, weekly, monthly, whatever.

16 I think though -- and I as far I am concerned
17 even though Lake Tahoe or the Tahoe region is maybe doing
18 N.E.L.s. For us and our co-permittees, this is new ground.
19 And I would like to see perhaps some fazing in or I think we
20 all know what the serious areas of concern are within Orange
21 County and within our region.

22 I would like to see some program that starts
23 focusing in perhaps with numerical action limits,
24 seeing how well that works. I think there is value in
25 jointly setting the limits. I think the co-permittees could

1 propose limits that could be reviewed by staff. We
2 either -- staff either signs off on those or we negotiate
3 something different. But I -- bottom line is, on this whole
4 question, I think we need to focus on results, which in my
5 mind, is action levels, which in my mind, gets things done.

6 Now, listening to the folks from Laguna Beach
7 who were here a little bit ago and commented on Aliso Creek,
8 and the woman who spoke, I don't remember her name, said,
9 the ocean belongs to all of us. That's true. The ocean
10 begins at our front door no matter where we live, whether we
11 live in Riverside County, Laguna Beach or somewhere else,
12 that's where the ocean begins. We need -- I think, to be
13 spending resources on public education and on fixes of areas
14 we know we can fix. And, I think, the folks from Laguna
15 Beach may have a misconception if we go to N.E.L.S, that's
16 not going to fix Aliso Creek. At least, I don't think it's
17 going to fix Aliso Creek, not for a long time.

18 And my fear, again, is that it will divert
19 resources from fixing creeks like Aliso Creek. So, again, I
20 would urge us to look at something like numerical action
21 limits, work those out jointly and develop a priority list
22 of where we're going to look to fix the water quality
23 problems.

24 CHAIRMAN WRIGHT: Mr. Destache and then Mr. Anderson.

25 MR. DESTACHE: I think I wanted to push forward on

1 the comment that Mr. King made about how, if in fact the
2 Board or the staff put in place numerical action limits that
3 are similar to the N.E.L.s, then how is it -- then the
4 co-permittees are going to have to come up with B.M.P.s that
5 have effectively changed the way that they treat that --
6 those dry weather runoffs, the non-stormwater runoffs. So,
7 again, I want to ask the question again. How does that --
8 how does setting N.E.L.s, in lieu of N.E.L.s, to change the
9 perspective of how the B.M.P.s are going to be implemented?

10 MR. SMITH: Jimmy Smith, senior scientist from the
11 Northern Watershed Unit, and I have taken the oath. The
12 bottom line is if we change these from effluent limitations,
13 which are appropriate for non-stormwater discharges that are
14 to be effectively prohibited, and we make them action
15 levels, we effectively soften the hammer that we have as a
16 regulatory body.

17 we shouldn't get ahead of ourselves too much
18 here because we haven't even let this play out yet. If we
19 remove the exemption for over irrigation, that's going to
20 cut down on a lot of these flows. The pollutants that you
21 saw put up on the screen by the co-permittees, bacteria and
22 nutrients, are the very ones that they also identified as
23 associated with over irrigation. Let's get those out of
24 there and see if we exceed these N.E.L.s.

25 we can't avoid the discussion of M.M.P.s.

1 Because, that I think -- is the big concern of the Board
2 that we don't want to get automatically launched -- and
3 having to fine the co-permittees. There is language within
4 the statute that allows intentional acts of a third party to
5 alleviate the burden for M.M.P.s to be issued. There is
6 also language in there that says that natural flows may also
7 alleviate the need to put M.M.P.s on the co-permittees.

8 So those provisions are built in and we may not
9 have to go to M.M.P.s. It's not a forgone conclusion. If
10 we move to a narrative, furthermore, we have already in the
11 existing permit and probably from two iterations ago,
12 prohibitions against any discharges to and from the MS4 in a
13 manner causing or threatening to cause a condition of
14 pollution, contamination or nuisance. We also have already
15 in there non-stormwater discharge prohibitions that say,
16 each co-permittee must effectively prohibit all types of
17 non-stormwater discharges into its MS4 system. They already
18 may be liable for those. There is already penalties, we may
19 be able to assess for failure to comply with those
20 provisions.

21 Putting a narrative N.E.L. or N.A.L. out there
22 doesn't get us anywhere. We already have those
23 requirements. These N.E.L.s are really a way to assess
24 what's allowable in a non-stormwater. And those are
25 exempted discharges, discharges exempted from prohibition

1 that we don't think are causing contributions to a condition
2 of pollution. N.E.L.s allow us to assess the
3 appropriateness of that exemption. It allows us to look at
4 other discharges into the MS4 covered by other
5 non-stormwater permits. Are they working? If they're
6 working, then the discharge from those coming out of the
7 system should not exceed N.E.L.s.

8 And, then finally, there is natural
9 constituents that are out there. And if we can show that
10 those are the causes of the exceedance, then the M.M.P.
11 problem doesn't apply.

12 CHAIRMAN WRIGHT: Okay. Mr. Anderson.

13 MS. HAGEN: Excuse me. I just wanted to point to you
14 some permit language that hasn't been pointed out to you
15 that continues with what Jimmy was saying is that non -- non
16 natural causes or non anthropogenic causes, there is a
17 provision in the permit. It's on page 22C3. That says in
18 the third sentence that if to be relieved of the
19 requirements to meet a numeric effluent limit and to
20 continue -- and the need to need to continue monitoring a
21 particular station, the permittees must demonstrate that the
22 likely cause of the N.E.L. exceedance is non anthropogenic
23 in nature.

24 So to the extent that a permittee has
25 determined that exceedances at a certain station are being

1 caused by non anthropogenic sources, that can be removed
2 from the -- removed the -- excuse me, the numeric effluent
3 limit would no longer apply and therefore that does take you
4 completely outside the realm of the M.E.P. statute. And the
5 effluent limits simply wouldn't apply, so that it wouldn't
6 be possible to violate it or generating an M.M.P.

7 MR. RAYFIELD: While people are thinking -- a quick
8 comment. But you know, in many cases, we heard testimony
9 that we are not going to be able to know whether phosphorus
10 and nitrogen are coming from non anthropogenic sources or from
11 fertilizer. And it's not even clear whether -- whether it
12 makes a difference when it comes to water quality probably
13 won't fix it.

14 And I am not arguing for changing the permit
15 here, but I'm just saying that I'm not sure that making that
16 distinction, at least, in some cases, is very helpful. And
17 it doesn't lead to -- necessarily to improving the water
18 quality.

19 CHAIRMAN WRIGHT: Eric, did you to want go off in a
20 different direction? You want to --

21 MR. ANDERSON: No. I am not going to go in a
22 different direction. I would just like to reinforce what
23 Mr. King had said -- Dr. King. In reading through the
24 permit, I came up with a fairly short list and it kind of
25 mered what the co-permittees included in their errata. And

1 I agree that the main issue, the real important issue is
2 what to do with the N.E.L.s. And I agreed that
3 demonstrating the nature anthropogenic or non anthropogenic
4 is going to be very difficult. And I'd rather not waste the
5 Board's time and staff's time in trying to go out and do the
6 investigations and try to figure that out. I'd rather have
7 it trigger the action level as an N.E.L. And that's my
8 preference.

9 And so, if there is a clear way to work that
10 out, I think their numbers pretty much mirrored what was in
11 our tentative order -- is that -- from my recollection. So,
12 anyway, so that's my preference. I am supporting your view.

13 MR. KING: I think that looking again at the errata
14 and noting staff's reaction, that they are deceptively
15 similar to what the -- the way this section of the permit is
16 drafted. They have made them receiving water quality
17 objectives. And, again, giving them their own discretion to
18 set action levels in order to achieve that. What we could
19 do is a more surgical strike is taking the existing language
20 of the permit right now that has non-stormwater dry weather
21 numeric effluent limitations and change the words "numeric
22 effluent limitations" to "numeric action levels" and keep
23 the same structure. We're already setting these limits.
24 And they're not receiving water limitation. And they're not
25 subject to their own discretion of setting them.

1 And, again, the amount -- anthropogenic -- what
2 we are really talking about here is people watering their
3 grass and it run offs into the street and into the storm
4 drain. And that's going to happen. Even with the
5 limitations we've got now to prohibit it, people are still
6 going to do it. It's just a reality here.

7 And we're going fine them when that happens
8 immediately. And it's just going to take a while before
9 these things filter their way down to everybody on the
10 street and they no longer let their water, you know,
11 run off their driveway and into the gutter.

12 So if we just simply changed the words in the
13 existing draft from effluent limitations in Section C, on
14 page 22 to action levels, what do we lose at that point?

15 CHAIRMAN WRIGHT: well, I think along with that,
16 there is a need to review the actions themselves. And maybe
17 that's -- what's necessary is to tighten up the -- or
18 increase the actions levels; make them more stringent.

19 MR. SMITH: A point of clarification. If there are
20 ordinances in place by the co-permittees that
21 are prohibiting the over irrigation which you speak of, now
22 we're talking about somebody who is doing that on purpose
23 and that intentional act of a third party in violation of
24 what they have in place as ordinances would alleviate them
25 from M.M.P. fines.

1 So that needs to be made clear. If we go to an
2 action level, we would have to probably craft some new
3 language as to what it means when you exceed an action level
4 now for non-stormwater. And I would tie it back down to
5 those existing prohibitions.

6 MR. KING: What if we create a specific
7 discretionary penalty for violations of their own
8 action levels as set forth in this particular section right
9 here? So that it's not that we're going to set the
10 abilities to impose fines for violations of all action
11 levels, but particularly for these specific action
12 levels within this section.

13 So that again, it's not mandatory, it's not
14 automatic. Then we would have some hammer there and they
15 wouldn't just be action levels like every other action level
16 throughout the permit. They're still an action level and
17 they are not effluent limitations --

18 MR. SMITH: So, again, inherent with action level is
19 you have to do something to kind of iterate your program
20 which is appropriate for the stormwater. I think -- I hear
21 you saying is probably a new term. It's not "action level."
22 It's not "effluent limitation." But it's some kind of dry
23 weather bar, if you will. Once they exceed it, then you
24 have to --

25 MR. KING: It's an action level that gives an

1 additional means of enforcement.

2 MS. HAGEN: well, I think if you violate an action
3 level, that's a numeric action level, it's effectively an
4 effluent limit that would subject them to mandatory minimum
5 penalties. I don't know that you can call it something
6 else. That's something I can look at but, I don't know that
7 you can just call it by a different name when it's really
8 the same thing and avoid M.M.P.s.

9 MR. ANDERSON: When I reviewed this, the thought was
10 the -- the idea is that we have the legal authority to
11 implement the N.E.L.s. and the argument is that it would
12 work better than action levels. I thought maybe the
13 co-permittees could come up with a specific location as a
14 pilot program where they do use the N.E.L. and we've
15 compared it to how it works with the rest of the region
16 without exposing all of Southern Orange County, every one of
17 those 400 pipes to the M.M.P.s

18 CHAIRMAN WRIGHT: I don't think I -- I would prefer
19 not to go in that direction. It's seems to me -- my sense
20 is that there is general agreement on the Board on the rest
21 of the permit. Am I reading things in correctly? So we
22 need to ask staff to come back, craft some language that
23 this Board can approve, staff, certainly with Ms. Hagen.

24 MR. RAYFIELD: Just a quick comment on that. I think
25 there was some valid points raised about biofiltration

1 versus just filtration on the L.I.D. and some other issues
2 there. But I -- biofiltration and some other things.

3 CHAIRMAN WRIGHT: Let's see if we can narrow down the
4 issues.

5 MR. RAYFIELD: That's what I was trying to do.

6 MR. DESTACHE: I think one other issue that I see
7 within the -- well, in the original or in the draft
8 tentative order, it states under C2 that the -- no later
9 than year three following the adoption of the order show
10 that stormwater dry weather numeric effluent monitoring
11 start I think, if we go in the direction of action limits,
12 we reduce that timeframe and we're going to see
13 some monitoring that shows us where we're headed with this.
14 And I think that that's important. I mean, three years --
15 what, do we wait three years after we adopt this order to
16 implement N.E.L.s? I would rather see action sooner than
17 later. And if we have to reduce our requirement to action
18 limits, then let's make it a year from the adoption and then
19 we get some movement.

20 I mean, it's about affecting water quality
21 three years from now. We're not affecting water quality in
22 a timely fashion if we wait three years. So I think we need
23 to craft the language that both puts limits that are -- that
24 are equal or close to the N.E.L.s and implement it faster
25 than -- sooner than later. I think that's an important part

1 of this permit.

2 And as far as the N.E.L.s, that's the only
3 comment. I think that -- that there are other issues within
4 the county's errata that can be addressed. And I think we
5 can take a look at them and change them accordingly.

6 CHAIRMAN WRIGHT: Let's look at them because if we
7 don't address them now, we're just going to be coming back
8 and going through the same -- same thing, again. So, we
9 need to zero in on these issues. I agree, Grant, that if we
10 deal with -- if we make changes in the N.E.L. language, there
11 may be some other language that needs to be changed as well.
12 And I think you just mentioned a notion of the time --
13 timeline for implementation. There may be others. Okay, so
14 we've had -- Wayne mentioned the biofiltration.

15 MR. RAYFIELD: I would also mention the reporting
16 date, which is a problem with T.M.D.L.s to a certain degree
17 was raised by the County. On Grant's point about sooner
18 rather than later, I agree. I'm not sure that everything
19 could be done in a year and would it be appropriate, Grant,
20 do you think to do a priority list? If they know what the
21 worst situations are, start there and work their way down
22 kind of thing.

23 MR. DESTACHE: I think it is. But in lieu of trying
24 to make the permit more complicated than it already is, we
25 need to really rely on Staff to tell us where their highest

1 concern is and maybe work from that point.

2 MR. RAYFIELD: That was my point. And maybe say, you
3 know, over a period of one to three years starting with the
4 most important water quality issues.

5 CHAIRMAN WRIGHT: We've -- anything else? What other
6 matters do we need staff to address? Again, I think it's
7 the N.E.L., to me is the major issue.

8 MR. DESTACHE: And I want to ask staff another
9 question about hydromodification and maybe you could just
10 clarify this. The tentative order requires a change in the
11 hydromodification requirements. Is that true?

12 UNIDENTIFIED MALE SPEAKER: Yes.

13 MR. DESTACHE: To what level, to a level of no
14 discharge, no runoff?

15 UNIDENTIFIED MALE SPEAKER: No. It's a hydromod
16 that's -- there's -- the County has to develop the
17 actual storms that must be matched. But then there is
18 interim criteria until they do that where they match their
19 two, five and 10-year storm events for the flows coming off
20 their site. And this individual is also in the 2007 San
21 Diego permit.

22 MR. DESTACHE: So it's similar to Region 8?.

23 UNIDENTIFIED MALE SPEAKER: It's similar to the
24 Region 9, our permit, San Diego. And we feel that is
25 appropriate given that there is certain watersheds in Orange

1 County.

2 MR. DESTACHE: So it's not -- it's not a no runoff
3 hydromodification model, it is by storm, by volume basis?

4 UNIDENTIFIED MALE SPEAKER: Right.

5 CHAIRMAN WRIGHT: Anything else? Okay. Staff, would
6 you read back to us the items that we want you to modify?

7 MR. SMITH: Okay. The biggie continues to be the
8 non-stormwater numeric effluent limitations. And I believe
9 I am hearing the Board direct me to change those to
10 non-stormwater numeric action levels. And what that action
11 is, is somewhat yet to be determined.

12 CHAIRMAN WRIGHT: That's correct.

13 MR. SMITH: But I would offer at this point, there
14 are other provisions within the permit that currently exist
15 that I will recommend that the action will be that the
16 co-permittees would then have to demonstrate compliance with
17 those existing discharge prohibition that they have been in
18 place for several rounds. Failure to demonstrate compliance
19 with those prohibitions then would be a violation of the
20 permit.

21 A couple of other issues came up:
22 biofiltration as it pertains to the L.I.D. provisions.
23 Biofiltration is allowable once the technical feasibility
24 has been made in an existing tentative order. I understand
25 Mr. Rayfield thinks there are some valid concerns with that.

1 I am not sure which way he's leaning. And if you just want
2 us to come back and present more information on that, we can
3 do that.

4 MR. RAYFIELD: Actually, I was picking up on a
5 comment that was made by the public there seemed to be an
6 over reliance on biofiltration to the exclusion of some
7 other technologies or other approaches.

8 MR. SMITH: We feel that biofiltration has its place
9 in the LID.

10 MR. RAYFIELD: I don't think that's the issue. I
11 think the way it was read that prompted the comment was and
12 over -- an emphasis on biofiltration ignoring other
13 possibilities. That was the way I understood the comment.
14 And maybe you need to look at the transcript of public
15 comments and so forth and see.

16 MR. SMITH: I heard two things that conventional
17 B.M.P.s should also be applied right away. If we do that,
18 that was from -- I forget his name, the second to last
19 gentleman, Vaikko. We're going to really upset U.S.E.P.A.
20 and N.R.D.C. I heard also from the very last commenter that
21 sizing criteria was inappropriate. Well, that change had
22 already been made in the errata that was before you today.
23 So that is not an issue. So if you want us to consider
24 conventional B.M.P.s as part of the sweep of L.I.D., I think
25 we're going to take a step back.

1 MR. RAYFIELD: No. I don't want you to do that. I
2 am just -- maybe you need to look at the wording that they
3 were concerned about and I couldn't find it. So I was going
4 to look at it. But maybe it just doesn't communicate well,
5 is what I am saying. So somebody reading it is getting the
6 wrong -- reading the wrong intent.

7 CHAIRMAN WRIGHT: Okay. So Jimmy, it may or may not
8 be okay. The hearing is closed.

9 MR. SMITH: The other two issues were T.M.D.L.s, I'm
10 not sure what you wanted us to do with that one and then
11 the reporting date. Consistency with the reporting date, we
12 have already offered within the tentative order, that they
13 can come back to us with a whole new schedule and propose
14 how they think it should be and we will review and see if it
15 works. We wanted the information prior to the rainy season
16 is why we changed it to October, prior to October. With
17 T.M.D.L.s, if you could help me out a little bit about what
18 the concern is. I didn't hear much detail on that.

19 MR. RAYFIELD: I can't read my notes on that one very
20 well. I just got down T.M.D.L. and I thought that County
21 had proposed change that, at the time, I thought
22 looked reasonable to me.

23 MR. SMITH: Okay. We will re evaluate the language
24 as proposed by the County on T.M.D.L.s.

25 MR. KING: I don't know that we've agreed -- I will

1 kind of leave this with a broad sweeping list. I think we
2 agreed upon on a handful of one, two, three issues. And I
3 think that we all agree that the N.E.L., N.A.L., tweak, and
4 if you could refer to the other provisions that would give
5 you means for enforcement for exceedances, flush that out
6 just a little bit further because that sounds like an
7 adequate --

8 MR. SMITH: There are existing discharge
9 prohibitions. Prohibition A1 is what I read to you before
10 and also specifically for non-stormwater prohibition B1,
11 basically say you shouldn't have anything coming out of your
12 system that causes or contributes to pollutants and that's
13 been in there.

14 The N.E.L.s were a way to get at that; a way to
15 assess compliance with that. But if we're going to call
16 them action levels, I'm going to rely on those existing
17 provisions and seek compliance with those provisions.

18 MR. KING: And I thought Mr. Grey also kind of
19 succinctly identified the issue with the biofiltration and
20 the degree of retention and the consistency between what
21 we're requiring. If we go to -- go to biofiltration and
22 then what -- is the retention still 100 percent or are you
23 allowing --

24 MR. SMITH: No --

25 MR. KING: Help me flush that out a little bit.

1 MR. SMITH: The bio filter size, the volume retention
2 that can go into there, must be point .75 of the design
3 storm for that portion of the flow that doesn't get retained
4 on site. And that was a clarification we made in the agenda
5 package before you. So that change had already been made
6 and perhaps Mr. Grey hasn't seen that change.

7 CHAIRMAN WRIGHT: So we are left with the N.E.L.s and
8 I understand what you are saying, Jimmy. I think there is
9 probable need for some language clarifications along with
10 the lines that you were talking about.

11 MR. KING: Are we in agreement with one issue?

12 CHAIRMAN WRIGHT: Yeah, as far as I am concerned,
13 there is one issue.

14 MR. KING: Just one issue. And then there is no
15 other changes --

16 MR. RAYFIELD: With the explanations.

17 MR. KING: So we're not looking for a new permit. So
18 we can get this done relatively quickly, I think.

19 MR. SMITH: Okay. Why don't we try now?

20 IDENTIFIED MALE SPEAKER: Let's take a break and we
21 could come back and present some language --

22 MS. HAGEN: Except we will have to change findings
23 and also a fact sheet. And if we have some specific
24 direction to bring back changes -- only -- only changes
25 consistent with your most recent direction and keep the

1 hearing closed, we will come back and if it satisfies what
2 you are intending, then we will come back and if it's not
3 quite right, we can work on some tweaks at that time.

4 CHAIRMAN WRIGHT: I think that's all. That's our
5 understanding. And we've already closed the hearing so --

6 MR. SMITH: Just to clarify, then we will bring back
7 the entirety of the permit as is with the exception of any
8 language and the finding of the fact sheets or the
9 directives that pertain to the non-stormwater numeric
10 effluent limitations. Everything else remains as is?

11 MS. HAGEN: And just to be crystal clear for the
12 record. The goal of the changes is to affect your -- the
13 Board's general direction that the numeric effluent limits
14 should be changed to numeric action levels. And should we
15 incorporate for your consideration, Mr. Destache's comment
16 that monitoring should begin within -- at the conclusion of
17 the first year rather than waiting until the end of the
18 third year?

19 CHAIRMAN WRIGHT: Yes.

20 MS. HAGEN: Okay. We will craft something that
21 hopefully will meet that specific direction.

22 CHAIRMAN WRIGHT: And if there is any other language
23 that needs to be changed that relates -- has to be
24 consistent with the N.E.L. changes --

25 MS. HAGEN: Yes. I just want to make sure that we

1 capture everything that needs to be captured so that we
2 don't have to reopen it the permit.

3 CHAIRMAN WRIGHT: Okay. That takes care of item
4 number 12. And, I think the Board really appreciates all
5 the time that the stakeholders have put into this -- the
6 staff and so on. Thank you very much.

7 (Meeting concluded at 6:40 p.m.)

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CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
SAN DIEGO REGION
9174 Sky Park Court, Suite 100
San Diego, California 92123

MINUTES OF MEETING
NOVEMBER 18, 2009

At 9:00 a.m. Chairman Wright called to order the meeting of the California Regional Water Quality Control Board, San Diego Region at the Regional Water Quality Control Board, 9174 Sky Park Court, San Diego, California.

Item 1 – Roll Call and Introductions: Board Members Present: Chairman Richard Wright, David King, Eric Anderson, Wayne Rayfield, Grant Destache, and Marc Luker.

Staff Present: John Robertus, David Gibson, Michael McCann, Lori Costa, David Barker, Julie Chan, Bob Morris, Deborah Jayne, Craig Carlisle, Chiara Clemente, Jeremy Haas, John Odermatt, James Smith, Eric Becker, Bruce Posthumus, DiAnne Broussard, Mike Porter, Alan Monji, Barry Pulver, Jody Ebsen, Frank Melbourn, Cathryn Henning, Wayne Chiu, Laurie Walsh, Chris Means, Joann Cofrancesco, Carol Tamaki, Fisayo Osibodu, Ben Neill, Chad Loflen, Kristin Schwall, Charles Cheng, Cynthia Gorham, Tony Felix, Tom Alo, Helen Yu, Lisa Honma, Debbie Woodward, Robert Pierce, Cheryl Prowell, and Lynn Berlad.

Others Present on behalf of the Regional Board: State Water Resources Control Board – Catherine Hagan, Fran Spivy-Weber, Jessica Newman, Frances McChesney, and David Boyers.

Public Attendance: James Dodson- Vallecitos Water District; John Lormon, Walter Rusinek- Procopio Corey; Terry Thielen- Lake San Marcos; Linda Wagner- City of Chula Vista; Laura Hunter- EHC; Jon Van Rhyn, Y. Sachiko Kohatsu- County of San Diego; Jim Peugh- San Diego Audubon Society; Bary Willis- San Diego resident; George Zanter- Herzog Environmental; Malcolm Franks, Inez Feltscher, Sarah Johnson, Keith Battle, Bill Fedak; Ron Stanley; Rene Monteagudo, Stephanie Dutcher, Alec Weismer, Tori Lindman, Jack Griffiths, Linda Cooper, Mike Kirkconnel, Meaghan Reynolds, Janette Littler, Ted Felicetti, Nathan Walter, Gary Valdez, Debi Murphy, Hershell Price, Barbara Metzger, Sonia Nasser, Ruth Kolb, Lisa Marly, Drew Kleis- Self; Jim Simmons, Bill Hutton, Heather Riley, Angelika Villagrana- Gregory Canyon Ltd.; Bill Magdych- Bill Magdych Associates; Matt Moore, Jennifer Nevins- URS Corp.; Gary Knight- San Diego North Economic Development Council; Amy Harris- San Diego Taxpayers Assoc.; Nancy Chase- GCL; Pam Slater-Price- Sand Diego Board of Supervisors; Jim Wood- Mayor of Oceanside; Guss Pennell, Mo Lahsaie, Alison Witheridge- City of Oceanside; Larry Purcell- San Diego County Water Authority; Stephanie Sekich, Johnny Pappas- Surfrider Foundation; Nancy McCleary- League of Women Voters of San Diego County; Damon Nagami-

Natural Resources Defense Council; Ed Kimura, Penny Elia- Sierra Club; George Courser- Backcountry Coalition; Shasta Gaughen, Mona Sespe- Pala Band of Mission Indians; Paul Macurro- Pechanga Reservation; Todd Snyder, Tom Zeleny, Jean Fernandes- County of San Diego; Amanda Carr, Tim Carlstedt, Richard Boon, MaryAnne Skorpanich, Jian Peng, Geoffrey Hunt, Chris Crompton- County of Orange; Jim Barrett, Ann Sasaki, Steve Meyer- San Diego Public Utilities; Gabriel Solmer- Legal Director; Andre Monette- Santa Fe Irrigation District; Karen Fraqnz- San Diego Coastkeeper; Colin Kelley- Orange County Coastkeeper; Claudio Padres, Arlene Chun- Riverside County Flood Control; Vaikko Allen- Contech; Mark Corey- Construction Industry Coalition; Lisa Marks, Charlotte Masarik, Cindalee Penney-Hall- Resident of Laguna Beach; Noah Garrison- NRDC; Jack Eidt- Wild Heritage Planners; John Kemmerer- EPA Region 9; Tom Bonigut- City of San Clemente; Nancy Palmer- City of Laguna Niguel; Lisa Zanaski, Brad Fowler, Richard Montevideo, Steven Weinberg, David Rocha- City of Dana Point; Joe Ames, Deborah Carson, Rich Schlesinger- City of Mission Viejo; Ziad Mazboudi, Mayor Mark Nielson, Joe Tait- City of San Juan Capistrano; Randal Bressette, Humza Javed- City of Laguna Hills; Verna Rollinger- Laguna Beach Council Member; Malik Tamimi- City of Poway; Rob Vardenhemel- Mild Producers Coucil; Len Sixifield- US Navy; Theresa O'Rourke- US Army; Chris Viveros- Rincon; Elaine Lukey, James Wood- City of Carlsbad; Todd Novacer- Moulton Niguel Water; Paul Hartman- City of Vista; Andre Crumpacker- Weston Soutlions; Con Kontaxis- Caltrans; Jay Shrake- Mactec; Liz Kruidenier- LWW-SDC; Devin Slaven- City of Lake Forest; Maged Soliman- Los Angeles County; Aldo Licitra- City of Temecula; Laura Eisenberg- RUV; Moy Yahya- City of Aliso Viejo; Robert Stone, Pete Shruffer- Quantum Ozone Inc.; Richard Gardner- SCWD

Item 2 – Public Forum

Jim Puegh, San Diego Audubon Society, said he hoped the Regional Board would move forward with not extending the South Bay Power Plant permit. He asked that the meeting be held in Chula Vista when the item came before the Board and said he would like to talk about the environmental impacts of the plant at the meeting.

Jon Van Rhyn, County of San Diego, on behalf of the county, thanked John Robertus for everything he had done and wished him the best in his retirement.

Laura Hunter, Environmental Health Coalition, requested that the South Bay Power Plant meeting be held in Chula Vista. She also asked the Regional Board to issue a 13267 order asking for a work plan to mitigate the damage they had done to the Bay, and made a noticing request.

Linda Wagner, City of Chula Vista, again offered their Council Chambers for the South Bay Power Plant hearing.

Terry Thielen, Lake San Marcos resident, asked the Board to fine the Vallecitos Water District for their spill of untreated sewerage into Lake San Marcos.

John Lormon, Procopio Cory, said he was working for the City of San Marcos to address the issues in Lake San Marcos.

James Dodson, counsel for Vallecitos Water District, reported that they have been aggressively taking precautions to avoid spills and are working with other parties on an agreement to address the issues.

Item 3 – Minutes of Board Meetings of October 14, 2009

This record of the minutes of the meeting on this date is not intended as the official record of events and is solely for administrative convenience. A more detailed account of the proceedings is available upon request, consisting of a tape recording and a court reporter transcribed record. Please contact the Regional Board office for assistance.

Mr. Destache moved approval of the October 14, 2009 minutes. The motion was seconded by Mr. King and approved with abstention by Mr. Rayfield and Mr. Anderson.

Item 4 – Chairman's, Board Members', State Board liaison's and Executive Officer's Reports: These items are for Board discussion only. No public testimony will be allowed, and the Board will take no formal action.

Fran Spivy-Weber, State Board Member Liaison, thanked Board Members for attending the WQCC, and then reported on a projected \$21 billion deficit for the state, a conservation bill that was passed, 25 new employees for Water Rights enforcement, the state Enforcement Policy adopted by the State Board, and once through cooling policy workshop on December 1.

Chairman Wright said the rest of the reports would be heard later in the meeting.

Consent Calendar:

Item 5 – Modification of Waste Discharge Requirements: Mr. Larry Tardie, Lilac Oaks Campground, San Diego County (Tentative Addendum No. 1 to Order No. 94-074) (*Fisayo Osibodu*)

Item 6 – Administrative Civil Liability against the City of Laguna Beach, Bluebird SOCWA Lift Station Sanitary Sewer Overflow to the Pacific Ocean. The Regional Board will consider adoption of a Tentative Order that would impose liability in the amount of \$70,680 recommended in Complaint R9-2009-0040 for a 591,000 gallon sanitary sewer overflow in violation of State Board Order No. 2006-0003-DWQ, Statewide General Waste Discharge Requirements for Sanitary Sewer Systems, Section 301 of the Clean Water Act and California Water Code Section

13376. The City of Laguna Beach has waived its right to a public hearing. The Regional Board may approve, modify, or reject assessment of the recommended penalty. If the Regional Board rejects the Tentative Order, the matter may be rescheduled to a future public hearing at which time the Regional Board will receive evidence and testimony and consider assessment of liability. (Tentative Order R9-2009-0168) (*Rebecca Stewart*)

Item 7 – Waste Discharge Requirements: Rite Time Pharmaceuticals Inc., Anza Commercial Center Onsite Wastewater Treatment System, Riverside County (Tentative Order No. R9-2009-0147) (*Fisayo Osibodu*)

Item 8 – NPDES Permit Rescissions: (*Kristin Schwall*)

a) An Order rescinding Waste Discharge Requirements for Van Ommering Dairy, San Diego County, Order No. R9-2004-0065, NPDES No. CA0109207 (Tentative Order No. R9-2009-0165);

b) An Order rescinding Waste Discharge Requirements for Frank J. Konyon Dairy, San Diego County, Order No. 2000-163, NPDES No. CA0109053 (Tentative Order No. R9-2009-0166); and,

c) An Order rescinding Waste Discharge Requirements for the Tom Van Tol T.D. Dairy, San Diego County, Order No. 2001-28, NPDES No. CA0109339 (Tentative Order No. R9-2009-0167).

Mr. King moved approval of the Consent Calendar Items 5-8. The motion was seconded by Mr. Rayfield and approved by unanimous vote.

Remainder of the Agenda (Non-Consent Items):

Item 9 – Gregory Canyon Bridge 401 Water Quality Certification. The Regional Board will consider certification, in accordance with Section 401 of the Clean Water Act, for the Gregory Canyon Bridge. The Regional Board will hear testimony on the bridge component of the Gregory Canyon Landfill and direct the Executive Officer to amend, postpone, certify, or deny water quality certification No. R9-2009C-073. Comments and testimony will be limited to the impacts of certification of the bridge. The Board is not considering and will not accept testimony on Waste Discharge Requirements for the landfill. The WDRs for the landfill project will be considered by the Board at a future public meeting. (Draft Cert. No. R9-2009C-073) (*Chiara Clemente*)

Chairman Wright introduced the item and explained the hearing procedures.

Mr. Luker disclosed that he was a member of the Pechanga Band of Luiseno Mission Indians.

Mr. Anderson disclosed that he received a letter from NRDC directly, a letter that was also included in the agenda package to the Board.

Mr. Rayfield made a motion to have the Board act on the certification, and not defer to the Executive Officer. The motion was seconded by Mr. Grant and approved by unanimous vote.

Senior staff member Chiara Clemente gave the presentation.

Other speakers included:

Jim Simmons – Gregory Canyon Landfill project manager

Bill Hutton – Gregory Canyon Ltd. legal counsel

In support:

Angelika Villagrana – San Diego Regional Chamber of Commerce

Jack Griffiths – north county property owner

Keith Battle

Gary Knight – San Diego North Economic Development Council

Amy Harris – San Diego Co Taxpayers Association

In opposition:

Supervisor Pam Slater-Price – County of San Diego

Mayor Jim Wood – City of Oceanside

Larry Purcell – San Diego County Water Authority

Stefanie Sekich – Surfrider Foundation

Nancy McCleary – League of Women Voters of San Diego County

Johnny Pappas – Surfrider Foundation

Damon Nagami – Natural Resources Defense Council

Ed Kumura – Sierra Club

Walter Rusinek – Procopio Corey

George Courser – Back Country Coalition

Shasta Gaughen – Pala Band of Mission Indians

Paul Macarro – Pechanga Reservation

Mona Sespe – Pala Band Member

Hershell Price – County Water Authority Board of Directors

Mr. Hutton made closing comments.

Ms. Clemente made closing comments.

Theresa O'Rourke, U.S. Army Corp of Engineers, answered questions asked by the Board.

Mr. Robertus made comments.

Board Members made comments and recommendations.

Mr. Rayfield made a motion to seek an extension from the Corps of Engineers and defer action to a later date in coordination with the landfill waste discharge requirements. The motion was seconded by Mr. Luker and approved with opposition by Mr. King and Mr. Destache.

Item 10 – 2008 Update of Federal Clean Water Act Sections 305(b) and 303(d) Integrated Report on Evaluation of Surface Water Quality and Listing of Impaired Water Body Segments in the San Diego Region (*Alan Monji*)

Chairman Wright introduced the item. Staff member Alan Monji gave the presentation.

Other speakers included:

Todd Snyder – County of San Diego

Amanda Carr – County of Orange

Mr. Robertus thanked the County representatives for their hard work and then recommended bringing the item back at the December Board meeting.

Mr. Monji answered questions asked by the Board.

Mr. David Gibson and Ms. Catherine Hagan made comments.

Staff will respond to comments and make revisions to report. The item will be brought back to the Board for adoption at the December 16, 2009 meeting.

Mr. Destache made closing comments.

The meeting was recessed for lunch 12:30 and reconvened at 1:10.

Item 11 – Administrative Assessment of Civil Liability, City of San Diego, Sewage Collection System: The Regional Board will consider adoption of a Tentative Order that would impose \$620,278 in civil liability recommended in Complaint No. R9-2009-0042 for violations of State Board Order No. R9-2006-0003-DWQ, Statewide General Waste Discharge Requirements for Sanitary Sewer Systems. The Regional Board may approve, modify, or reject assessment of the recommended liability. The deadline for the submission of rebuttal evidence and legal argument pertaining to the Complaint is Monday, November 5, 2009. (Tentative Order No. R9-2009-0172) (*Frank Melbourn*)

Chairman Wright introduced the item and explained the hearing procedures.

Staff member Frank Melbourn gave the presentation. Senior staff member Jeremy Haas addressed the Supplemental Environmental Project proposed by the City of San Diego.

Other speakers included:

In opposition:

Tom Zeleny – City attorney, City of San Diego

In support:

Gabriel Solmer – San Diego Coastkeeper

Andre Monette – counsel to Santa Fe Irrigation District

Karen Franz – San Diego Coastkeeper

Mr. Zeleny gave a presentation and made closing comments.

David Boyers, State Water Board attorney of the Office of Enforcement, made closing comments.

Board Members made comments and asked questions of staff.

Mr. King made a motion to raise the liability to \$680,287 with the forgiveness of \$60,000 if it was repaid to the Irrigation District. The motion was seconded by Mr. Rayfield and approved by unanimous vote.

Item 12 – Reissuance of NPDES Waste Discharge Requirements for Discharges of Runoff from the Municipal Separate Storm Sewer Systems (MS4s) draining the watersheds of the County of Orange, the Orange County Flood Control District, and the incorporated Cities of Aliso Viejo, Dana Point, Laguna Beach, Laguna Hills, Laguna Niguel, Laguna Woods, Lake Forest, Mission Viejo, Rancho Santa Margarita, San Clemente, and San Juan Capistrano within the San Diego Region (South Orange County Municipal Storm Water Requirements). The Board will hear comments and consider adoption of Tentative Order No. R9-2009-0002 (formerly Tentative Orders No. R9-2008-0001 and R9-2007-0002). (Tentative Order No. R9-2009-0002) (*Ben Neill*)

Chairman Wright introduced the item and explained the procedures for the hearing.

Ms. Hagan reported that comment letters were received late on November 17 by Coast Law Group, Orange County, and Michael Beenan.

Staff member Ben Neill gave the presentation.

Other speakers included:

In opposition:

Mayor Mark Nielsen – City of San Juan Capistrano

Mayor Pro-Tem Randal Bressette – City of Laguna Hills

Mayor Pro-Tem Steven Weinberg – City of Dana Point
Councilmember Verna Rollinger – City of Laguna Beach (*In support*)
Mary Anne Skorpanich – County of Orange
Richard Boon – County of Orange
Tim Carlstedt – Bingham McCutchen for County of Orange
Richard Montevideo – City of Dana Point
Ziad Mazboudi – City of San Juan Capistrano
Brad Fowler – City of Dana Point
Joe Ames – City of Mission Viejo
Lisa Zawaski – City of Dana Point
Nancy Palmer – City of Laguna Niguel
Tom Bonigut – City of San Clemente
Andre Monette – counsel to Cities of Lake Forest and Aliso Viejo

In support:

John Kemmerer – U.S. EPA
Penny Elia – Sierra Club
Jack Eidt – Wild Heritage Planners
Cindalee Penney-Hall – Laguna Beach resident
Lisa Marks – Laguna Beach resident
Barbara Metzger – Laguna Beach resident
Charlotte Masarik – Laguna Beach resident

In opposition:

Noah Garrison – Natural Resources Defense Counsel
Colin Kelly – Orange County Coastkeeper

Board Member Luker left at 5:40 p.m.

Claudio Padres – Riverside County Flood Control District
Vaikko Allen – Contech
Mark Grey – Construction Industry Coalition on Water Quality

Mr. Neill made closing comments.

Board Members and Mr. Robertus made comments.

Ms. Hagan talked about the Board's options.

Staff member Chad Loflen responded to a question asked by Mr. King on numeric action levels and effluent limits.

Board Members continued their discussion on bio-filtration, reporting date, TMDLS, implementation, numeric effluent limitations vs. numeric action levels, and other possible changes to the permit.

After Board Member discussion, the Board directed staff to change the "non storm water numeric effluent limitations" language in the permit to "non storm water numeric action levels." Also, monitoring should begin at the conclusion of the first year rather than waiting until the third year.

The item would be brought back to the Board for action at the December 16, 2009 meeting.

Item 13 – Approval of Year 2010 Board Meeting Schedule (*John Robertus*)

Mr. Rayfield moved approval of the 2010 Board Meeting Schedule. The motion was seconded by Mr. Destache and approved by unanimous vote.

Item 4 (continued)

Mr. Anderson reported that he attended the California Nursery Conference.

Mr. King reported that he granted a motion made by the Shipyard Sediment Cleanup Team to extend the date for releasing the revised cleanup and abatement order and technical report to December 22, 2009.

Mr. Robertus said that he received requests to hold the December meeting in Chula Vista and asked the Board for direction. After discussion, it was decided that the December meeting would be held in San Diego.

Mr. Robertus gave the status of the International Boundary and Water Commission's upgrade of the International Treatment Plant.

Chairman Wright read the Oath of Office swearing in David Gibson as the new Executive Officer.

Item 14 – *Closed Session* - Discussion of Ongoing Litigation [Authorized under Government Code Section 11126, subd. (e)]

The Regional Board may meet in closed session to discuss ongoing litigation for the following cases:

Civil Actions

a. *People of the State of California Ex Rel. the Regional Water Quality Control Board, San Diego Region v. Carlos Marin, an individual in his capacity as Commissioner of the International Boundary and Water Commission, United States Section, et al., Complaint for Violations of the Clean Water Act and Related State Law Claims. United States District Court, Southern District of California, Case No. 01-CV-027BTM(JFS) (filed February 2001). (John Robertus)*

b. *Surfrider Foundation v. California Regional Water Quality Control Board -- San Diego Region and California State Water Resources Control Board; (Cabrillo Power I, LLC, Real Party-in-Interest)*, Petition for Writ of Mandate. San Diego County Superior Court, Case No. 37 2007-00069621-CU-PT-CTL (filed July 2007). (Brian Kelley)

c. *William G. Dickerson and Heidi Dickerson, Husband and Wife; Larry Gunning and Penelope L. Gunning, Husband and Wife; and Perry & Papenhausen, Inc., a California Corporation v. San Diego Regional Water Quality Control Board, a Public Entity*, Petition for Writ of Mandate. San Diego County Superior Court, Case No. 37-2007-00075846-CU-WM-CTL (filed September 2007). (Frank Melbourn)

d. *In re: Test Claim on California Regional Water Quality Control Board, San Diego Region, Order No. R9-2007-001, (NPDES No. CAS0108758) Waste Discharge Requirements for Discharges of Urban Runoff from the Municipal Separate Storm Sewer Systems (MS4s) Draining the Watersheds of the County of San Diego, the Incorporated Cities of San Diego County, the San Diego Unified Port District, and the San Diego County Regional Airport Authority adopted on January 24, 2007. Test Claim filed by San Diego County, et al., with Commission on State Mandates, No. 07-TC-09* (filed June 2008). (Catherine George Hagan)

e. *Joye Goodwin and Hope Goodwin v. EDCO Disposal Corporation, a California Corporation, dba EDCO Waste & Recycling Services, State of California Water Resources Board, John P. Anderson, et al., San Diego County Superior Court No. 37-2007-00066373-CU-PO-NC* (filed March 2009). (John Anderson, Catherine Hagan)

f. *William and Lori C. Moritz v. California Regional Water Quality Control Board, San Diego Region*, Petition for Writ of Mandate. San Diego County Superior Court, Case No. 37-2009-00093097-CU-WM-CTL (filed June 2009) (Christopher Means)

Petitions for Review Pending Before State Water Resources Control Board

g. Petition of NRDC, Inc. (Waste Discharge Requirements Order No. R9-2007-001 [NPDES No. CAS0108758] for Urban Runoff Discharges from the Municipal Storm Systems in the Incorporated Cities of San Diego, San Diego Unified Port District, and San Diego Regional Airport Authority, SWRCB/OCC File A-1830©, filed February, 2007 (in abeyance).

h. Petition of City of San Marcos (Investigative Order No. R9-2008-0118 for City of San Marcos Discharge of Material into Upper Copper Creek, San Marcos, San Diego County), filed October, 2008 (in abeyance).

- i. Petition of Natural Resources Defense Council and San Diego Coastkeeper (Executive Officer Approval of Countywide Model Standard Urban Stormwater Mitigation Plan for Development Applications), SWRCB/OCC File A-2010, filed April 2009 (in abeyance). (*Eric Becker*)
- j. Petition of San Diego Coastkeeper and Petition of Surfrider Foundation (Order No. R9-2009-0038 (Poseidon Resources Corporation, Carlsbad Desalination Plant, Order Amending Waste Discharge Requirements No. R9-2006-0065 [NPDES No. CA0109223]), SWRCB/OCC File A-2024 and A-2024(a), filed June 2009. (*Michelle Mata*)
- k. Petition of Department of the Navy (Waste Discharge Requirements Order No. R9-2009-0081 [NPDES No. CA0109185] for the United States Department of the Navy, Naval Base Coronado, San Diego County), SWRCB/OCC File A-2032, filed July 2009. (*Vicente Rodriguez*)
- l. Petition of South Coast Water District and South Orange County Wastewater Authority (Administrative Civil Liability Order No. R9-2009-0048 for South Orange County Wastewater Authority, South Coast Water District Groundwater Recovery Facility, San Diego County), SWRCB/OCC File A-2035, filed July 2009. (*Jeremy Haas*)
- m. Petition of La Costa Town Square, LLC (Denial of Clean Water Act section 401 Water Quality Certification, La Costa Town Square Project, Application 09C-043, San Diego County), SWRCB/OCC File A-2039, filed August 2009 (in abeyance). (*Chiara Clemente*)
- n. Petition of San Juan Capistrano (Revised Cleanup and Abatement Order No. R9-2009-0124 for Chevron USA, Inc and the City of San Juan Capistrano at Chevron Service Station No. 9-3417, 32009 Camino Capistrano, San Juan Capistrano, Orange County), SWRCB/OCC File A-2051, filed October 2009 (in abeyance).

The Closed Session was not held.

Item 15 – *Closed Session* - Consideration of Initiation of Litigation or Discussion of Significant Exposure to Litigation

The Regional Board may meet in closed session to initiate or consider initiating litigation against persons who are alleged to have violated the Porter-Cologne Water Quality Control Act or the federal Clean Water Act or to discuss significant exposure to litigation [Authorized under Government Code Section 11126(e)] (*John Robertus*)

The Closed Session was not held.

Item 16 – *Closed Session* - Deliberation on a Decision to be Reached Based on Evidence Introduced in a Hearing

The Regional Board may meet in closed session to consider evidence received in an adjudicatory hearing and to deliberate on a decision to be reached based upon that evidence [Authorized under Government Code Section 11126(c)(3)]

The Closed Session was not held.

Item 17 – *Closed Session* - Personnel

The Regional Board may meet in closed session to consider the appointment, employment, evaluation of performance, or dismissal of a public employee or to hear complaints or charges brought against that employee by another person or employee unless the employee requests a public hearing [Authorized under Government Code Section 11126(a)]


The Closed Session was not held.

Item 18 – Arrangements for Next Meeting and Adjournment

Wednesday, December 16, 2009 - 9:00 a.m.
Water Quality Control Board
Regional Board Meeting Room
9174 Sky Park Court
San Diego, California


With there being no further business, the meeting was adjourned at 7:00 p.m.

These minutes were prepared by:



Lori Costa
Executive Assistant

Signed by:



David W. Gibson
Executive Officer

ATTACHMENT 48



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION IX

75 Hawthorne Street

San Francisco, CA 94105-3901

APR 10 2008

Ms. Tam M. Doduc, Chair
Ms. Dorothy R. Rice, Executive Director
State Water Resources Control Board
1001 I Street
Sacramento, CA 95814

Dear Ms. Doduc and Ms. Rice:

I understand that certain specific provisions of the 2001 Municipal Separate Storm Sewer System ("MS4") permit for the County of Los Angeles have been called into question as going beyond what is required under section 402(p) of the CWA. (Commission on State Mandates, File Nos. 03-TC-04, 03-TC-19, 03-TC-20, and 03-TC-21.) The permit conditions at issue are: 1) the requirements for conducting inspections at industrial and commercial facilities including, restaurants and automobile servicing, [Parts 4.C.2.a. and b.] and, 2) the requirement for permittees not subject to the Trash TMDL to locate and maintain trash receptacles at transit stops [Part 4.F.5.c.3.]. California RWQCB, Los Angeles Region, Order No. 01-182, NPDES No. CAS004001 (Dec. 13, 2001). This letter discusses these permit conditions in the context of EPA's expectations for MS4 permits.

Section 402(p) of the Clean Water Act, 33 U.S.C. 1342(p), requires EPA (or authorized states) to issue National Pollutant Discharge Elimination System ("NPDES") permits to regulate the discharge of stormwater from MS4s. Typically, these MS4s are owned and operated by cities and counties. Pursuant to the Clean Water Act, these permits must require the MS4 to: 1) "effectively prohibit" non-stormwater discharges, and 2) "reduce the discharge of pollutants to the maximum extent practicable, including management practices, control techniques and system, design and engineering methods, and such other provisions as the Administrator or the State determines appropriate for the control of such pollutants." 33 U.S.C. 1342(p)(3)(B)(ii) and (iii).

The NPDES regulations require medium and large MS4s to develop stormwater management programs that the permitting authority will consider when developing permit conditions to reduce pollutants in discharges to the maximum extent practicable. Stormwater permitting has generally relied on the use of best management practices ("BMPs"), including both structural and non-structural controls, for achieving compliance with these requirements. The EPA also expects stormwater permits to follow an iterative process whereby each successive permit becomes more refined, detailed, and expanded as needed, based on experience under the previous permit. See, 55 Fed. Reg. 47990, 48052 ("EPA anticipates that storm water management programs will evolve and mature over time."); 64 Fed. Reg. 68722, 68754 (Dec. 8, 1999) ("EPA envisions application of the MEP standard as an iterative process."); Interim Permitting Approach for Water Quality-Based Effluent Limitations in Stormwater Permits (Sept. 1, 1996) ("The interim permitting approach uses BMPs in first-round storm water permits, and

expanded or better-tailored BMPs in subsequent permits, where necessary, to provide for the attainment of water quality standards”). See also, “Evaluating the Effectiveness of Municipal Stormwater Programs” (January 2008) (http://www.epa.gov/npdes/pubs/region3_factsheet_swmp.pdf). While the standard of “maximum extent practicable” (MEP) allows for flexibility, that flexibility is not boundless and requires some level of vigor. EPA has created a national menu of stormwater BMPs to provide additional guidance concerning appropriate BMPs for stormwater management plans. Other factors to consider in ensuring appropriate controls include “technical feasibility, cost, public acceptance, regulatory compliance, and effectiveness.” Building Indus. Ass’n v. State Water Res. Control Bd., 124 Cal. App. 4th 866, 889 (2004). See also “In re Cities of Bellflower, et al.”, SWRCB 2000-11.

At the outset, I note the Los Angeles MS4 permit is a third generation Phase I MS4 permit that should be building upon the experiences from previous permits. Both of the provisions at issue here seem well within a reasonable expectation of controls that reduce pollutants to the “maximum extent practicable.” EPA regulations at 40 C.F.R. §122.26(d)(2)(iv) set forth the basic elements to be included in a Phase I MS4’s stormwater management program. Subparagraph (A) requires a description of “source control measures to reduce pollutants from runoff from commercial and residential areas that are discharged from the [MS4] that are to be implemented during the life of the permit.” Subparagraph (B) requires a program for detection and removal of illicit discharges and improper disposal into the storm sewer, including a program for inspections and enforcement. A program for commercial and industrial facility inspection and enforcement that includes restaurants and automobile facilities, would appear to be both practicable and effective. Such an inspection program ensures that stormwater discharges from such facilities are reducing their contribution of pollutants and that there are no non-stormwater discharges or illicit connections. Thus these programs are founded in both 402(p)(3)(B)(ii) and (iii) and are well within the scope of 40 C.F.R. §122.26(d)(2)(iv)(A) and (B).¹

Similarly, maintaining trash receptacles at all public transit stops is well within the scope of these regulations. Among the minimum controls required to reduce pollutants from runoff from commercial and residential areas are practices for “operating and maintaining public streets, roads, and highways” §122.26(d)(2)(iv)(A)(3). I believe these requirements are also practical and effective.² Moreover, this permit provision is consistent with EPA’s national menu

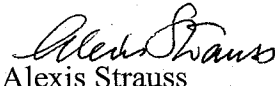
¹EPA’s “MS4 Program Evaluation Guidance” (January 2007) envisions that an MS4 permit would include a requirement for an inspection program for common industrial/commercial businesses, such as restaurants and gas stations, within the jurisdiction of the MS4. *Id.* at 76 - 77, 81. The inspection requirements of the LA MS4 permit are consistent with the recommended activities in the Guide.

²The provision applicable to the TMDL permittees is also clearly consistent with EPA’s 2002 guidance on TMDLs and storm water permitting. “Establishing Total Maximum Daily Load (TMDL) Wasteload Allocations (WLAs) for Storm Water Sources and NPDES Permit

of BMPs for stormwater management programs, which recommends a number of BMPs to reduce trash discharges. See <http://cfpub.epa.gov/npdes/stormwater/menuofbmps/index.cfm?action=browse&Rbutton=detail&bmp=5>. Among the recommendations is "improved infrastructure" for trash management when necessary, which includes the placement of trash receptacles at appropriate locations based on expected need. The requirements of the Los Angeles County MS4 permit are consistent with this recommendation. See also, "MS4 Program Evaluation Guidance" (January 2007) at pp. 50, 79. EPA's expectations of the programs to reduce pollutants to the maximum extent practicable specifically refer to control of litter and trash, regardless of whether the particular receiving water is already impaired for trash.

I hope that this explanation helps clarify EPA's expectations for MS4 permit requirements under the Clean Water Act. I look forward to continuing to work with the State on our shared goal of ensuring consistency and effectiveness in storm water permitting as a vital tool in protecting the quality of our waters. Should you have further questions about these issues, please have your staff contact Douglas Eberhardt of my staff at (415) 972-3420 or have your counsel's office contact Laurie Kermish of the Office of Regional Counsel at (415) 972-3917.

Sincerely,

 10 April 2008
Alexis Strauss
Director, Water Division

cc: Mr. Michael Lauffer, Chief Counsel
State Water Resources Control Board

Ms. Paula Higashi, Executive Director
Commission on State Mandates

Requirements Based on Those WLAs" (November 22, 2002) which is available at:
http://cfpub.epa.gov/npdes/pubs.cfm?program_id=6

ATTACHMENT 49



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION IX Southern California Field Office
600 Wilshire Blvd. Suite 1460
Los Angeles, CA 90017

July 31, 2008

Mark A Grey
Director of Environmental Affairs
Building Industry Association of Southern California
1330 South Valley Vista Drive
Diamond Bar, CA 91765

Andrew R. Henderson
Vice President and General Counsel
Building Industry Association of Southern California
1330 South Valley Vista Drive
Diamond Bar, CA 91765

Dear Dr. Grey and Mr. Henderson:

This is in response to your July 1, 2008 letter to Alexis Strauss regarding the incorporation of Low Impact Development (LID) provisions into Municipal Separate Storm Sewer System (MS4) permits in southern California.

Your letter refers to your email communications with Ms. Strauss, as well as to testimony provided at the February 13, 2008 San Diego Regional Water Quality Control Board Hearing by Dr. Cindy Lin and to the April 1, 2008 comments to the Colorado River Basin Regional Water Quality Control Board by Mr. Doug Eberhardt. Your letter asks several questions about the U.S. EPA Region 9 Water Division's positions regarding the incorporation of LID provisions into southern California MS4 permits.

Nationally, U.S. EPA has formally recognized the benefits of LID (also termed "Green Infrastructure") in several policy documents. EPA is advocating green infrastructure as an approach to wet weather management that is cost-effective, sustainable, and environmentally-sound. On April 19, 2007, EPA and four national groups signed an agreement to promote green infrastructure as an environmentally preferable approach to storm water management, and on August 16, 2007 EPA issued a memo encouraging the incorporation of Green Infrastructure into NPDES storm water permits. Ongoing efforts are described in the January 17, 2008 Action Strategy for Managing Wet Weather with Green Infrastructure. All of these materials regarding EPA's policy on green infrastructure can be found at:

<http://cfpub.epa.gov/npdes/greeninfrastructure/information.cfm#greenpolicy>.

In EPA Region 9, we are promoting LID strategies that infiltrate, evapotranspire, capture, and reuse storm water to maintain or restore natural hydrologies and improve water

quality. We are encouraging permitting agencies across Region 9 to incorporate LID provisions into MS4 permits as clear, measurable and enforceable requirements.

The next round of MS4 permits in the coastal Regions of southern California will be the fourth generation of these permits. It is our expectation that these latest permits be strengthened to take advantage of lessons learned from previous permits, and to contribute to the restoration of impaired waters impacted by MS4s. These new MS4 permits should include quantitative requirements to enable all parties to clearly identify performance expectations for LID implementation.


Your letter asks several questions about our position regarding permit provisions which call for LID implementation to attain a standard of no more than 5% Effective Impervious Area (EIA). Such provisions are included in the current draft (April 29, 2008) MS4 permit for Ventura County proposed by the Los Angeles Regional Water Quality Control Board, and the February 15, 2008 guidelines provided by the Central Coast Regional Water Quality Control Board to those in the Central Coast Region enrolling under the State's Phase II general MS4 permit. We support the inclusion of the 5% EIA provisions for new development and redevelopment projects in both of these examples as clear, measurable, and enforceable requirements. Use of the 5% EIA requirement is not the only acceptable, quantitative approach for incorporating LID into renewed MS4 permits in southern California. As noted in Mr. Eberhardt's April 1, 2008 letter, and his May 13, 2008 follow-up letter to the Colorado River Basin Regional Water Quality Control Board, we are open to other quantitative means for measuring how LID tools reduce storm water discharges.

Your letter asks about our use of a paper by Dr. Richard Horner concluding that the achievement of a 3% EIA standard for development in Ventura County is feasible. Dr. Horner's paper is one of many we have before us. Our positions have been informed by many documents germane to the management of municipal storm water, including the January 21, 2008 paper by your organization entitled "Integration of Low Impact Development Measures and CEQA Approvals." EPA has also considered numerous publications, case studies and guidance manuals in its consideration of LID/Green Infrastructure as a cost-effective, preferable alternative to storm water management. A partial list of these materials may be found at <http://cfpub.epa.gov/npdes/greeninfrastructure/research.cfm>.

While we cannot attribute our position on future MS4 permits to a single report or analysis, our views on these permits have been most comprehensively informed by the nearly 50 audits of Region 9 MS4 permits we have conducted over the past seven years. These audit reports can be found on our website at <http://epa.gov/region09/water/npdes/ms4audits.html#report>. Twenty of our audits have been conducted in southern California. These audits have highlighted the need for quantitative, measurable requirements in MS4 permits to ensure effective implementation of storm water controls.

I hope this has answered the questions in your July 1, 2008 letter. If you would like to discuss this further, please call me, here in EPA's Southern California Field Office, at 213-244-1832

Sincerely,

A handwritten signature in black ink, appearing to read 'John Kemmerer', written in a cursive style.

John Kemmerer
Associate Director,
Water Division

cc: Executive Officers, RWQCBs Regions 1-9
Tam Doduc, Chair SWRCB
Dorothy Rice, Executive Director, SWRCB
(all cc's transmitted electronically)

ATTACHMENT 50

ATTACHMENT 51

ATTACHMENT 52

ATTACHMENT 53



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION IX

75 Hawthorne Street
San Francisco, CA 94105-3901

JAN 11 2013

Wayne Chui
San Diego Regional Water Board
9174 Sky Park Court, Suite 100
San Diego, CA 92123-4340

Re: Draft San Diego Regional MS4 Permit

Dear Mr. Chui:

The following are EPA Region 9's comments on the draft permit for the municipal separate storm sewer system (MS4) located within the jurisdiction of the San Diego Regional Board, which the Board released for public comment on October 31, 2012. We also provided comments on an early draft of this permit in a letter to the Board dated February 14, 2012. For the most part, we are pleased with the latest version of the permit and we commend the Board and its staff for their extensive efforts in developing this draft permit. We also offer the following comments for the Board's consideration:

A. *Total Maximum Daily Loads (TMDLs)*

In our February 14, 2012 letter, we also generally supported the Board's approach for incorporation of applicable TMDL requirements into the permit, i.e., incorporation of applicable wasteload allocations (WLAs) as numeric effluent limits. We urge the Board to retain this approach in the final permit as well since it will enhance enforceability and will most clearly ensure consistency with the WLAs.

Our February 14, 2012 letter had also suggested revisions of certain provisions of the early draft permit related to TMDLs; the October 31, 2012 draft permit has been substantially revised from the early draft and many of our early comments have been addressed. However, as discussed below, we still have certain concerns whether the monitoring requirements of the October 31, 2012 draft permit would be adequate to ensure compliance with the TMDLs.

Sections II.D.1 and 2 set forth the receiving water monitoring and MS4 outfall monitoring requirements of the draft permit. In general, a monitoring program would be developed and conducted by the permittees to assess the impacts of the discharges and the effectiveness of the Water Quality Improvement Plans (WQIPs), focusing on the highest priority water quality conditions. Compliance with applicable WLAs from TMDLs would be one of several competing priorities in selecting monitoring locations in the receiving waters and at MS4 outfalls.

Attachment E to the draft permit requires monitoring at MS4 outfalls or receiving water locations, but the locations to be monitored are not fully specified. Although TMDL compliance would presumably receive a high ranking in setting the monitoring program priorities, it is still not clear that appropriate monitoring locations would necessarily be selected to measure compliance with WLAs. As such, we recommend that Section II.D of the permit clarify that notwithstanding other monitoring priorities, at a minimum, appropriate monitoring locations must be selected to ensure compliance with all applicable WLAs and associated effluent limitations. The permit should specify that a mix of receiving water and representative end-of-pipe monitoring locations must be selected to ensure that the monitoring data collected will be sufficient to determine compliance with effluent limitations based on WLAs and to determine whether individual copermitees have caused or contributed to observed in-stream noncompliance. The permit should provide that the parties that develop and submit for Regional Board review a monitoring plan for a WQIP agree to the use of monitoring plan results for purposes of compliance determination.

Section II.D.2.c.(2) of the draft permit also requires monitoring at an “appropriate” frequency for the post-transitional period; the transitional monitoring program (Section II.D.2.a.(3)) would require twice/year monitoring during the wet season. We recommend the permit clarify the minimum monitoring frequency for the post-transitional period and suggest maintaining the twice/year frequency.

Attachment E also describes the specific provisions for TMDLs adopted and approved that are applicable to this tentative order. We note that a few of the compliance requirements provided in an existing TMDL were not included in this tentative order. We recommend that all applicable TMDL WLAs and compliance endpoints be included in Attachment E. For instance, the TMDL for Indicator Bacteria Project I – Twenty Beaches and Creeks in San Diego Region (including Tecolote Creek), provided both concentration-based and mass-based TMDLs. All identified TMDL WLAs and endpoints should be included in Attachment E to prevent confusion with the WLA requirements described and adopted in the TMDL.

Provision B.6 identifies the WQIP submittal, updates and implementation. Paragraph 3 under this Provision should clarify that the intent of all monitoring and assessment is to improve our evaluation of the waterbodies’ conditions, including the 303(d) listed impaired waterbodies. We recommend paragraph 3 under Provision B.6 be modified to the following:

“All State identified impaired waterbodies within the Watershed Management Area should be placed on the 303(d) List as required under CWA Section 303(d) and 40 CFR §130.7(b)(4)). However, in specific cases supported by robust analytical documentation the implementation of the Water Quality Improvement Plans may demonstrate that TMDLs are not necessary for identified impaired waterbodies within the Watershed Management Area if the analytical record demonstrates that technology-based effluent limitations required by the CWA, more stringent effluent

limitations required by state, local, or federal authority, and/or other pollution control requirements (e.g., best management practices) required by local, state or federal authority are together stringent enough to implement applicable water quality standards associated with the waterbody impairment causes within a reasonable period of time.”

Finally, we reiterate our suggestion from the February 14, 2012 letter that a provision be added to the draft permit to address TMDLs approved during the term of the permit; we had suggested a provision similar to section O of the 2012 MS4 permit for the City of Salinas (NPDES permit No. CA0049981) available at: http://www.ci.salinas.ca.us/services/maintenance/pdf/NPDES_Permit.pdf. The provision requires the development and submittal (within one year of final TMDL approval) of a plan for complying with applicable WLAs. Such a provision would expedite compliance with the WLAs by the permittees.

B. Low Impact Development (LID) Requirements

In our February 14, 2012 letter, we generally supported the LID provisions of the early draft permit, and we continue to largely support the proposed LID requirements of the October 31, 2012 draft permit. The proposed requirements in the October 31, 2012 draft (beginning on page 78) are also similar to the requirements in other recent California MS4 permits such as those for Los Angeles and Orange Counties. As you know, Region 9 is encouraging the Boards to include measurable requirements in MS4 permits to enhance clarity and enforceability of the permits. We are pleased to see the inclusion of the measurable requirement for onsite management of the runoff from the 85% storm similar to other recent permits. However, we also note that Section II.E.3.c.(1)(a)(ii) of the October 31, 2012 draft permit provides a new alternative of retaining the volume (determined by modeling) that would be retained under natural, undeveloped conditions. We are concerned that this option may create uncertainty and provide opportunities for subjective analyses that would be resource intensive and difficult to review. For this reason, and for consistency with other recent California MS4 permits, we recommend that Section II.E.3.c.(1)(a)(ii) of the proposed permit be removed. However, if this provision is retained, the permit and fact sheet should fully clarify that undeveloped conditions refer to natural conditions prior to any anthropogenic impacts.

We did raise a couple of questions regarding LID in our February 14, 2012 letter which we believe have been adequately addressed in the latest draft. We had been unclear concerning requirements related to biofiltration; the October 31, 2012 permit has been restructured in a way which clarifies the questions we had raised.

We had also suggested that the Board may want to consider off-site water supply augmentation projects as an acceptable alternative when onsite stormwater management is not feasible. Several recent studies have highlighted the many benefits (such as energy

savings) of increased stormwater infiltration for groundwater recharge. We note such a provision has been added to the draft permit, and we support this provision.

C. *Water Quality Improvement Plan Review*

In our February 14, 2012 letter, we had expressed concern whether the public would have an adequate opportunity to review draft WQIPs consistent with the 2005 decision by the Second Circuit Court in *Waterkeeper Alliance et al. v. EPA*, 399 F.3d 486, and the 2003 decision by the Ninth Circuit Court in *Environmental Defense Center, Inc. v. EPA*, 344 F.3d 832. We are pleased to see the draft permit (section F) and the fact sheet have been revised to clarify that the Board would be soliciting public comment concerning draft WQIPs submitted to the Board for approval during the term of the permit.

The fact sheet and the permit also describe the WQIPs as dynamic and evolving documents which are likely to be updated and modified over time in accordance with the iterative process. Although permittees must solicit public input in developing proposed updates that are submitted to the Board, it does not appear that public comment would necessarily be solicited concerning Board action in approving, disapproving or revising proposed updates; we suggest that an opportunity be provided for public comment on such Board actions similar to that provided when the original WQIPs are submitted.

D. *Prescriptive BMP Requirements*

In our February 14, 2012 letter, we expressed concern that the early draft permit would only require inspections of construction sites "at an appropriate frequency"; this provision has also been included in the October 31, 2012 draft permit. We noted in our comments that the existing San Diego MS4 permit includes specific frequencies for the inspections (such as once/two weeks, or once/month), as do other recent California MS4 permits such as the San Ana Board's 2009 MS4 permit for Orange County. As noted earlier, we are trying to improve the clarity and enforceability of MS4 permits and terms such as "an appropriate frequency" reduce clarity and make enforcement of the permit more difficult. Such provisions may also be insufficient to ensure compliance with the Clean Water Act's requirement to reduce pollutants in the discharges to the maximum extent practicable (MEP). We recommend that the permit specify the required frequency of construction site inspections.

Certain other provisions of the October 31, 2012 draft permit are also less prescriptive than the existing permit, such as the storm drain maintenance requirements and the inspection requirements for commercial and industrial facilities. We recognize that the Board is attempting to improve the environmental outcome of its stormwater program by shifting the focus from prescriptive BMPs to prescriptive water quality results, and we concur with the increased emphasis on water quality results. However, we are not convinced that the prescriptive BMPs of the existing permit are as significant

a burden as portrayed in the draft fact sheet, and we suggest they be retained for the most part in the new permit to ensure permit clarity, enforceability and compliance with MEP. To the extent the requirements for numeric water quality goals in the WQIPs would also ensure compliance with MEP, such requirements would be acceptable.

We recommend the permit or fact sheet also clarify that the numeric water quality goals (and the schedule for attainment of the goals) in the draft WQIPs would become enforceable permit requirements once the Plans are approved by the Board. EPA's 1999 regulations for Phase II MS4s (64 FR 68722, December 8, 1999) required similar measurable goals for stormwater management programs and intended that "goals" would be enforceable permit requirements once approved. Further, a wide variety of measurable goals were intended to be considered including measurable BMPs and measurable water quality improvements.

E. Action Levels

In our February 14, 2012 letter, we expressed concern that there did not seem to be any clear actions which would be required on the part of permittees if an action level concentration were exceeded. Although the draft fact sheet of October 31, 2012 provides additional insight into the Board's intent, we still believe the clarity and enforceability of the permit would be enhanced by adding clearer provisions for acting upon action level exceedences to the permit similar to the Board's 2009 permit for Orange County.

Footnote 7 in the proposed permit notes that NALs are not intended to be enforceable limitations. Provision II.C.1.b.(2) also provides that some NALs may be based on WLAs established in TMDLs included in Attachment E of the permit. We believe the Board intends the WLAs to be enforceable permit requirements; as such, we recommend NALs not be based on the WLAs. Instead, enforceable effluent limitations should be incorporated that are consistent with and ensure effective implementation of WLAs.

F. Toxicity Testing

The toxicity testing monitoring provisions proposed in the draft permit should be brought up to date with those in MS4 permits recently issued by the State Water Board (Caltrans MS4) and the Los Angeles Regional Water Board (Los Angeles MS4). Following the approach in these permits, only chronic toxicity monitoring should be required and biological toxicity test endpoints should be analyzed using the Test of Significant Toxicity hypothesis testing approach. At minimum, the permit should be revised to reflect the following requirements: (1) monitoring for chronic toxicity in fresh or marine waters shall be estimated as specified in U.S. EPA's short-term chronic toxicity methods in the most recent edition of 40 CFR 136; and (2) for chronic toxicity test samples (either stormwater or non-stormwater), the in-stream waste concentration (IWC) is 100 percent to calculate either a pass or fail test sample result following Appendix A in

National Pollutant Discharge Elimination System Test of Significant Toxicity Implementation Document (EPA 833-R-10-003, June 2010). A pass result indicates no toxicity at the IWC. A fail result indicates toxicity at the IWC.

G. *Permit Expiration Date*

In our letter of February 14, 2012, we had expressed concern that the Board appeared to be considering a permit term longer than five years to accommodate the expiration dates of the current MS4 permits for Orange County and Riverside County. We noted such a provision would conflict with NPDES regulations at 40 CFR 122.46 which require that the term of a permit not exceed five years. We are pleased to see the proposed permit term has been revised to be consistent with this requirement.

We appreciate the opportunity to provide our views on the draft permit. If you would like to discuss these comments, please contact me at (415) 972-3464 or Eugene Bromley of the NPDES Permits Office at (415) 972-3510.

Sincerely,

A handwritten signature in black ink, appearing to read "David Smith". The signature is fluid and cursive, with a large initial "D" and "S".

David Smith, Manager
NPDES Permits Office (WTR-5)

ATTACHMENT 54



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

NOV 22 2002

OFFICE OF
WATER

MEMORANDUM

SUBJECT: Establishing Total Maximum Daily Load (TMDL) Wasteload Allocations (WLAs) for Storm Water Sources and NPDES Permit Requirements Based on Those WLAs

FROM: Robert H. Wayland, III, Director
Office of Wetlands, Oceans and Watersheds

Handwritten signature of Robert H. Wayland, III.

James A. Hanlon, Director
Office of Wastewater Management

Handwritten signature of James A. Hanlon.

TO: Water Division Directors
Regions 1 - 10

This memorandum clarifies existing EPA regulatory requirements for, and provides guidance on, establishing wasteload allocations (WLAs) for storm water discharges in total maximum daily loads (TMDLs) approved or established by EPA. It also addresses the establishment of water quality-based effluent limits (WQBELs) and conditions in National Pollutant Discharge Elimination System (NPDES) permits based on the WLAs for storm water discharges in TMDLs. The key points presented in this memorandum are as follows:

NPDES-regulated storm water discharges must be addressed by the wasteload allocation component of a TMDL. See 40 C.F.R. § 130.2(h).

NPDES-regulated storm water discharges may not be addressed by the load allocation (LA) component of a TMDL. See 40 C.F.R. § 130.2 (g) & (h).

Storm water discharges from sources that are not currently subject to NPDES regulation may be addressed by the load allocation component of a TMDL. See 40 C.F.R. § 130.2(g).

It may be reasonable to express allocations for NPDES-regulated storm water discharges from multiple point sources as a single categorical wasteload allocation when data and information are insufficient to assign each source or outfall individual WLAs. See 40 C.F.R. § 130.2(i). In cases where wasteload allocations

are developed for categories of discharges, these categories should be defined as narrowly as available information allows.

The WLAs and LAs are to be expressed in numeric form in the TMDL. See 40 C.F.R. § 130.2(h) & (i). EPA expects TMDL authorities to make separate allocations to NPDES-regulated storm water discharges (in the form of WLAs) and unregulated storm water (in the form of LAs). EPA recognizes that these allocations might be fairly rudimentary because of data limitations and variability in the system.

NPDES permit conditions must be consistent with the assumptions and requirements of available WLAs. See 40 C.F.R. § 122.44(d)(1)(vii)(B).

WQBELs for NPDES-regulated storm water discharges that implement WLAs in TMDLs may be expressed in the form of best management practices (BMPs) under specified circumstances. See 33 U.S.C. §1342(p)(3)(B)(iii); 40 C.F.R. §122.44(k)(2)&(3). If BMPs alone adequately implement the WLAs, then additional controls are not necessary.

EPA expects that most WQBELs for NPDES-regulated municipal and small construction storm water discharges will be in the form of BMPs, and that numeric limits will be used only in rare instances.

When a non-numeric water quality-based effluent limit is imposed, the permit's administrative record, including the fact sheet when one is required, needs to support that the BMPs are expected to be sufficient to implement the WLA in the TMDL. See 40 C.F.R. §§ 124.8, 124.9 & 124.18.

The NPDES permit must also specify the monitoring necessary to determine compliance with effluent limitations. See 40 C.F.R. § 122.44(i). Where effluent limits are specified as BMPs, the permit should also specify the monitoring necessary to assess if the expected load reductions attributed to BMP implementation are achieved (e.g., BMP performance data).

The permit should also provide a mechanism to make adjustments to the required BMPs as necessary to ensure their adequate performance.

This memorandum is organized as follows:

- (I). Regulatory basis for including NPDES-regulated storm water discharges in WLAs in TMDLs;
- (II). Options for addressing storm water in TMDLs; and

(III). Determining effluent limits in NPDES permits for storm water discharges consistent with the WLA

(I). Regulatory Basis for Including NPDES-regulated Storm Water Discharges in WLAs in TMDLs

As part of the 1987 amendments to the CWA, Congress added Section 402(p) to the Act to cover discharges composed entirely of storm water. Section 402(p)(2) of the Act requires permit coverage for discharges associated with industrial activity and discharges from large and medium municipal separate storm sewer systems (MS4), *i.e.*, systems serving a population over 250,000 or systems serving a population between 100,000 and 250,000, respectively. These discharges are referred to as Phase I MS4 discharges.

In addition, the Administrator was directed to study and issue regulations that designate additional storm water discharges, other than those regulated under Phase I, to be regulated in order to protect water quality. EPA issued regulations on December 8, 1999 (64 FR 68722), expanding the NPDES storm water program to include discharges from smaller MS4s (including all systems within “urbanized areas” and other systems serving populations less than 100,000) and storm water discharges from construction sites that disturb one to five acres, with opportunities for area-specific exclusions. This program expansion is referred to as Phase II.

Section 402(p) also specifies the levels of control to be incorporated into NPDES storm water permits depending on the source (industrial versus municipal storm water). Permits for storm water discharges associated with industrial activity are to require compliance with all applicable provisions of Sections 301 and 402 of the CWA, *i.e.*, all technology-based and water quality-based requirements. *See* 33 U.S.C. §1342(p)(3)(A). Permits for discharges from MS4s, however, “shall require controls to reduce the discharge of pollutants to the maximum extent practicable ... and such other provisions as the Administrator or the State determines appropriate for the control of such pollutants.” *See* 33 U.S.C. §1342(p)(3)(B)(iii).

Storm water discharges that are regulated under Phase I or Phase II of the NPDES storm water program are point sources that must be included in the WLA portion of a TMDL. *See* 40 C.F.R. § 130.2(h). Storm water discharges that are not currently subject to Phase I or Phase II of the NPDES storm water program are not required to obtain NPDES permits. 33 U.S.C. §1342(p)(1) & (p)(6). Therefore, for regulatory purposes, they are analogous to nonpoint sources and may be included in the LA portion of a TMDL. *See* 40 C.F.R. § 130.2(g).

(II). Options for Addressing Storm Water in TMDLs

Decisions about allocations of pollutant loads within a TMDL are driven by the quantity and quality of existing and readily available water quality data. The amount of storm water data available for a TMDL varies from location to location. Nevertheless, EPA expects TMDL authorities will make separate aggregate allocations to NPDES-regulated storm water discharges

(in the form of WLAs) and unregulated storm water (in the form of LAs). It may be reasonable to quantify the allocations through estimates or extrapolations, based either on knowledge of land use patterns and associated literature values for pollutant loadings or on actual, albeit limited, loading information. EPA recognizes that these allocations might be fairly rudimentary because of data limitations.

EPA also recognizes that the available data and information usually are not detailed enough to determine waste load allocations for NPDES-regulated storm water discharges on an outfall-specific basis. In this situation, EPA recommends expressing the wasteload allocation in the TMDL as either a single number for all NPDES-regulated storm water discharges, or when information allows, as different WLAs for different identifiable categories, e.g., municipal storm water as distinguished from storm water discharges from construction sites or municipal storm water discharges from City A as distinguished from City B. These categories should be defined as narrowly as available information allows (e.g., for municipalities, separate WLAs for each municipality and for industrial sources, separate WLAs for different types of industrial storm water sources or dischargers).

(III). Determining Effluent Limits in NPDES Permits for Storm Water Discharges Consistent with the WLA

Where a TMDL has been approved, NPDES permits must contain effluent limits and conditions consistent with the requirements and assumptions of the wasteload allocations in the TMDL. See 40 CFR § 122.44(d)(1)(vii)(B). Effluent limitations to control the discharge of pollutants generally are expressed in numerical form. However, in light of 33 U.S.C. §1342(p)(3)(B)(iii), EPA recommends that for NPDES-regulated municipal and small construction storm water discharges effluent limits should be expressed as best management practices (BMPs) or other similar requirements, rather than as numeric effluent limits. See *Interim Permitting Approach for Water Quality-Based Effluent Limitations in Storm Water Permits*, 61 FR 43761 (Aug. 26, 1996). The Interim Permitting Approach Policy recognizes the need for an iterative approach to control pollutants in storm water discharges. Specifically, the policy anticipates that a suite of BMPs will be used in the initial rounds of permits and that these BMPs will be tailored in subsequent rounds.

EPA's policy recognizes that because storm water discharges are due to storm events that are highly variable in frequency and duration and are not easily characterized, only in rare cases will it be feasible or appropriate to establish numeric limits for municipal and small construction storm water discharges. The variability in the system and minimal data generally available make it difficult to determine with precision or certainty actual and projected loadings for individual dischargers or groups of dischargers. Therefore, EPA believes that in these situations, permit limits typically can be expressed as BMPs, and that numeric limits will be used only in rare instances.

Under certain circumstances, BMPs are an appropriate form of effluent limits to control pollutants in storm water. See 40 CFR § 122.44(k)(2) & (3). If it is determined that a BMP approach (including an iterative BMP approach) is appropriate to meet the storm water component of the TMDL, EPA recommends that the TMDL reflect this.

EPA expects that the NPDES permitting authority will review the information provided by the TMDL, see 40 C.F.R. § 122.44(d)(1)(vii)(B), and determine whether the effluent limit is appropriately expressed using a BMP approach (including an iterative BMP approach) or a numeric limit. Where BMPs are used, EPA recommends that the permit provide a mechanism to require use of expanded or better-tailored BMPs when monitoring demonstrates they are necessary to implement the WLA and protect water quality.

Where the NPDES permitting authority allows for a choice of BMPs, a discussion of the BMP selection and assumptions needs to be included in the permit's administrative record, including the fact sheet when one is required. 40 C.F.R. §§ 124.8, 124.9 & 124.18. For general permits, this may be included in the storm water pollution prevention plan required by the permit. See 40 C.F.R. § 122.28. Permitting authorities may require the permittee to provide supporting information, such as how the permittee designed its management plan to address the WLA(s). See 40 C.F.R. § 122.28. The NPDES permit must require the monitoring necessary to assure compliance with permit limitations, although the permitting authority has the discretion under EPA's regulations to decide the frequency of such monitoring. See 40 CFR § 122.44(i). EPA recommends that such permits require collecting data on the actual performance of the BMPs. These additional data may provide a basis for revised management measures. The monitoring data are likely to have other uses as well. For example, the monitoring data might indicate if it is necessary to adjust the BMPs. Any monitoring for storm water required as part of the permit should be consistent with the state's overall assessment and monitoring strategy.

The policy outlined in this memorandum affirms the appropriateness of an iterative, adaptive management BMP approach, whereby permits include effluent limits (e.g., a combination of structural and non-structural BMPs) that address storm water discharges, implement mechanisms to evaluate the performance of such controls, and make adjustments (i.e., more stringent controls or specific BMPs) as necessary to protect water quality. This approach is further supported by the recent report from the National Research Council (NRC), *Assessing the TMDL Approach to Water Quality Management* (National Academy Press, 2001). The NRC report recommends an approach that includes "adaptive implementation," i.e., "a cyclical process in which TMDL plans are periodically assessed for their achievement of water quality standards" . . . and adjustments made as necessary. *NRC Report* at ES-5.

This memorandum discusses existing requirements of the Clean Water Act (CWA) and codified in the TMDL and NPDES implementing regulations. Those CWA provisions and regulations contain legally binding requirements. This document describes these requirements; it does not substitute for those provisions or regulations. The recommendations in this memorandum are not binding; indeed, there may be other approaches that would be appropriate

in particular situations. When EPA makes a TMDL or permitting decision, it will make each decision on a case-by-case basis and will be guided by the applicable requirements of the CWA and implementing regulations, taking into account comments and information presented at that time by interested persons regarding the appropriateness of applying these recommendations to the particular situation. EPA may change this guidance in the future.

If you have any questions please feel free to contact us or Linda Boornazian, Director of the Water Permits Division or Charles Sutfin, Director of the Assessment and Watershed Protection Division.

cc:

Water Quality Branch Chiefs

Regions 1 - 10

Permit Branch Chiefs

Regions 1 - 10



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

NOV 12 2010

OFFICE OF
WATER

MEMORANDUM

SUBJECT: Revisions to the November 22, 2002 Memorandum "Establishing Total Maximum Daily Load (TMDL) Wasteload Allocations (WLAs) for Storm Water Sources and NPDES Permit Requirements Based on Those WLAs"

FROM: James A. Hanlon, Director
Office of Wastewater Management

Denise Keehner, Director
Office of Wetlands, Oceans and Watersheds

TO: Water Management Division Directors
Regions 1 - 10

This memorandum updates aspects of EPA's November 22, 2002 memorandum from Robert H. Wayland, III, Director of the Office of Wetlands, Oceans and Watersheds, and James A. Hanlon, Director of the Office of Wastewater Management, on the subject of "Establishing Total Maximum Daily Load (TMDL) Wasteload Allocations (WLAs) for Storm Water Sources and NPDES Permit Requirements Based on Those WLAs" (hereafter "2002 memorandum").

Background

Section III of the 2002 memorandum "affirm[ed] the appropriateness of an iterative, adaptive management best management practices (BMP) approach" for improving stormwater management over time as permitting agencies, the regulated community, and other involved stakeholders gain more experience and knowledge. Since 2002, States and EPA have obtained considerable experience in developing TMDLs and WLAs that address stormwater sources. The technical capacity to monitor stormwater and its impacts on water quality has increased. In many areas, monitoring of the impacts of stormwater on water quality has become more sophisticated and widespread. Better information on the effectiveness of stormwater controls to reduce pollutant loadings and address water quality impairments is now available. In many parts of the country, permitting agencies have issued several rounds of permits for Phase I municipal separate storm sewer systems (MS4s), Phase II MS4s, and stormwater discharges associated with industrial activity, including stormwater from construction activities. Notwithstanding these developments, stormwater discharges remain a significant cause of water quality

impairment in many places, highlighting a continuing need for more useful WLAs and better NPDES permit provisions to restore impaired waters to their beneficial uses.

With this additional experience in mind, EPA is updating and revising the following four elements of the 2002 memorandum to better reflect current practices and trends in permits and WLAs for stormwater discharges:

- Providing numeric water quality-based effluent limitations in NPDES permits for stormwater discharges;
- Disaggregating stormwater sources in a WLA;
- Using surrogates for pollutant parameters when establishing targets for TMDL loading capacity; and
- Designating additional stormwater sources to regulate and treating load allocations as wasteload allocations for newly regulated stormwater sources.

EPA is currently reviewing other elements of the 2002 memorandum and will consider making appropriate revisions in the future.

Providing Numeric Water Quality-Based Effluent Limitations in NPDES Permits for Stormwater Discharges

In today's memorandum, EPA is revising the 2002 memorandum with respect to water quality-based effluent limitations (WQBELs) in stormwater permits. Since 2002, many NPDES authorities have documented the contributions of stormwater discharges to water quality impairment and have identified the need to include clearer permit requirements in order to address these impairments. Numeric WQBELs in stormwater permits can clarify permit requirements and improve accountability and enforceability. For the purpose of this memorandum, numeric WQBELs use numeric parameters such as pollutant concentrations, pollutant loads, or numeric parameters acting as surrogates for pollutants, such as such as stormwater flow volume or percentage or amount of impervious cover.

The CWA provides that stormwater permits for MS4 discharges shall contain controls to reduce the discharge of pollutants to the "maximum extent practicable" and such other provisions as the Administrator or the State determines appropriate for the control of such pollutants. CWA section 402(p)(3)(B)(iii). Under this provision, the NPDES permitting authority has the discretion to include requirements for reducing pollutants in stormwater discharges as necessary for compliance with water quality standards. *Defenders of Wildlife v. Browner*, 191 F.3d 1159, 1166 (9th Cir. 1999).

Where the NPDES authority determines that MS4 discharges have the reasonable potential to cause or contribute to a water quality standard excursion, EPA recommends that, where feasible, the NPDES permitting authority exercise its discretion to include numeric effluent limitations as necessary to meet water quality standards. The 2002

memorandum stated "EPA expects that most WQBELs for NPDES-regulated municipal and small construction stormwater discharges will be in the form of BMPs, and that numeric limitations will be used only in rare instances." Those expectations have changed as the stormwater permit program has matured. EPA now recognizes that where the NPDES authority determines that MS4 discharges and/or small construction stormwater discharges have the reasonable potential to cause or contribute to water quality standards excursions, permits for MS4s and/or small construction stormwater discharges should contain numeric effluent limitations where feasible to do so. EPA recommends that NPDES permitting authorities use numeric effluent limitations where feasible as these types of effluent limitations create objective and accountable means for controlling stormwater discharges.

The Clean Water Act (CWA) requires that permits for stormwater discharges associated with industrial activity comply with section 301 of the Act, including the requirement under section 301(b)(1)(C) to contain WQBELs for any discharge that the permitting authority determines has the reasonable potential to cause or contribute to a water quality standard excursion. CWA section 402(p)(3)(A), 40 CFR 122.44(d)(1)(iii). When the permitting authority determines, using the procedures specified at 40 CFR 122.44(d)(1)(ii) that the discharge causes or has the reasonable potential to cause or contribute to an in-stream excursion of the water quality standards, the permit must contain effluent limits for that pollutant. EPA recommends that NPDES permitting authorities use numeric effluent limitations where feasible as these types of effluent limitations create objective and accountable means for controlling stormwater discharges.

Where WQBELs in permits for stormwater discharges from MS4s, small construction sites or industrial sites are expressed in the form of BMPs, the permit should contain objective and measurable elements (e.g., schedule for BMP installation or level of BMP performance). The objective and measurable elements should be included in permits as enforceable provisions. Permitting authorities should consider including numeric benchmarks for BMPs and associated monitoring protocols or specific protocols for estimating BMP effectiveness in stormwater permits. These benchmarks could be used as thresholds that would require the permittee to take additional action specified in the permit, such as evaluating the effectiveness of the BMPs, implementing and/or modifying BMPs, or providing additional measures to protect water quality.

If the State or EPA has established a TMDL for an impaired water that includes WLAs for stormwater discharges, permits for either industrial stormwater discharges or MS4 discharges must contain effluent limits and conditions consistent with the requirements and assumptions of the WLAs in the TMDL. See 40 CFR § 122.44(d)(1)(vii)(B). Where the WLA of a TMDL is expressed in terms of a surrogate pollutant parameter, then the corresponding permit can generally use the surrogate pollutant parameter in the WQBEL as well. Where the TMDL includes WLAs for stormwater sources that provide numeric pollutant load or numeric surrogate pollutant parameter objectives, the WLA should, where feasible, be translated into numeric WQBELs in the applicable stormwater permits.

The permitting authority's decision as to how to express the WQBEL(s), either as numeric effluent limitations or BMPs, including BMPs accompanied by numeric benchmarks, should be based on an analysis of the specific facts and circumstances surrounding the permit, and/or the underlying WLA, including the nature of the stormwater discharge, available data, modeling results or other relevant information. As discussed in the 2002 memorandum, the permit's administrative record needs to provide an adequate demonstration that, where a BMP-based approach to permit limitations is selected, the BMPs required by the permit will be sufficient to implement applicable WLAs. Improved knowledge of BMP effectiveness gained since 2002 should be reflected in the demonstration and supporting rationale that implementation of the BMPs will attain water quality standards and WLAs.

EPA's regulations at 40 CFR § 122.47 govern the use of compliance schedules in NPDES permits. Central among the requirements is that the effluent limitation(s) must be met "as soon as possible." 40 CFR 122.47(a)(1). EPA expects the permitting authority to include in the permit record a sound rationale for determining that any compliance schedule meets this requirement. Where a TMDL has been established and there is an accompanying implementation plan that provides a schedule for an MS4 to implement the TMDL, the permitting authority should consider the schedule as it decides whether and how to establish enforceable interim requirements and interim dates in the permit.

Lastly, NPDES permits must specify monitoring requirements necessary to determine compliance with effluent limitations. See CWA section 402(a)(2); 40 C.F.R. 122.44(i). Where WQBELs are expressed as BMPs, the permit must require adequate monitoring to determine if the BMPs are performing as necessary. When developing monitoring requirements, the NPDES authority should consider the variable nature of stormwater as well the availability of reliable and applicable field data describing the treatment efficiencies of the BMPs required and supporting modeling analysis.

Disaggregating Stormwater Sources in a WLA

As stated in the 2002 memorandum, EPA expects TMDL authorities will make separate aggregate allocations to NPDES-regulated storm water discharges (in the form of WLAs) and unregulated storm water (in the form of LAs). EPA also recognized that the available data and information usually are not detailed enough to determine waste load allocations for NPDES-regulated storm water discharges on an outfall-specific basis.

EPA still recognizes that decisions about allocations of pollutant loads within a TMDL are driven by quantity and quality of existing and readily available water quality data. However, today, TMDL writers may have better data or better access to data and, over time, may have gained more experience since 2002 in developing TMDLs and WLAs in a less aggregated manner. Moreover, since 2002, EPA has noted the difficulty of establishing clear, effective, and enforceable NPDES permit limitations for sources covered by WLAs that are expressed as single categorical or aggregated wasteload allocations.

Accordingly, for all these reasons, EPA recommends that WLAs for NPDES-regulated stormwater discharges should be disaggregated into specific categories (e.g., separate WLAs for MS4 and industrial stormwater discharges) to the extent feasible based on available data and/or modeling projections. In addition, these disaggregated WLAs should be defined as narrowly as available information allows (e.g., for MS4s, separate WLAs for each one; and, for industrial sources, separate WLAs for different sources or types of industrial sources or discharges.)

Where appropriate, EPA encourages permit writers to assign specific shares of the wasteload allocation to specific permittees during the permitting process.

Using Surrogate for Pollutant Parameters When Establishing Targets for TMDL Loading Capacity

Many waterbodies affected by stormwater discharges are listed as impaired under Section 303(d) due to biological degradation or habitat alteration, rather than for specific pollutants (e.g., metals, pathogens, sediment). Impairment can be due to pollutants where hydrologic changes such as quantity of flow and variation in flow regimes are important factors in their transport. Since the stormwater-source impairment is usually the result of the cumulative impact of multiple pollutants and physical effects, it may be difficult to identify a specific pollutant (or pollutants) causing the impairment. Using a surrogate parameter in developing wasteload allocations for waters impaired by stormwater sources may, at times, be the appropriate approach for restoring the waterbodies.

In the 2009 report *Urban Stormwater Management in the United States*, the National Research Council suggests: "A more straightforward way to regulate stormwater contributions to waterbody impairment would be to use flow or a surrogate, like impervious cover, as a measure of stormwater loading . . . Efforts to reduce stormwater flow will automatically achieve reductions in pollutant loading. Moreover, flow is itself responsible for additional erosion and sedimentation that adversely impacts surface water quality."

Therefore, when developing TMDLs for receiving waters where stormwater sources are the primary source of impairment, it may be suitable to establish a numeric target for a surrogate pollutant parameter, such as stormwater flow volume or impervious cover, that would be expected to provide attainment of water quality standards. This is consistent with the TMDL regulations that specify that TMDLs can be expressed in terms of mass per time, toxicity or other appropriate measure (40 C.F.R. §130.2(i)).

Where a surrogate parameter is used, the TMDL document must demonstrate the linkage between the surrogate parameter and the documented impairment (e.g., biological degradation). In addition, the TMDL should provide supporting documentation to indicate that the surrogate pollutant parameter appropriately represents stormwater pollutant loadings. Monitoring is an essential undertaking to ensure that compliance with the effluent limitations occurs.

Recent examples of TMDLs using flow or impervious cover as surrogates for pollutants in setting TMDL loading targets include: the Eagleville Brook (CT) TMDL and the Barberry Creek (ME) TMDL which used impervious cover as a surrogate; and, the Potash Brook (VT) TMDL which used stormwater flow volume as a surrogate.

Designating Additional Stormwater Sources to Regulate and Treating Load Allocations as Wasteload Allocations for Newly Regulated Stormwater Sources

The 2002 memorandum states that “stormwater discharges from sources that are not currently subject to NPDES regulation may be addressed by the load allocation component of a TMDL.” Section 402(p)(2) of the Clean Water Act (CWA) requires industrial stormwater sources, certain municipal separate storm sewer systems, and other designated sources to be subject to NPDES permits. Section 402(p)(6) provides EPA with authority to identify additional stormwater discharges as needing a permit.

In addition to the stormwater discharges specifically identified as needing an NPDES permit, the CWA and the NPDES regulations allow for EPA and NPDES authorized States to designate, additional stormwater discharges for regulation. See 40 CFR 122.26 (a)(9)(i)(C), (a)(9)(i)(D), (b)(4)(iii), (b)(7)(iii), (b)(15)(ii) and 122.32(a)(2). Since 2002, EPA has become concerned that NPDES authorities have generally not adequately considered exercising these authorities to designate for NPDES permitting stormwater discharges that are currently not required to obtain permit coverage but that are significant enough to be identified in the load allocation component of a TMDL. Accordingly, EPA encourages permitting authorities to consider designation of stormwater sources in situations where coverage under NPDES permits would afford a more effective mechanism to reduce pollutants in stormwater discharges than available nonpoint source control methods.

In situations where a stormwater source addressed in a TMDL’s load allocation is not currently regulated by an NPDES permit but may be required to obtain an NPDES permit in the future, the TMDL writer should consider including language in the TMDL explaining that the allocation for the stormwater source is expressed in the TMDL as a “load allocation” contingent on the source remaining unpermitted, but that the “load allocation” would later be deemed a “wasteload allocation” if the stormwater discharge from the source were required to obtain NPDES permit coverage. Such language, while not legally required, would help ensure that the allocation is properly characterized by the permit writer should the source’s regulatory status change. This will help ensure that effluent limitations in a NPDES permit applicable to the newly permitted source are consistent with the requirements and assumptions of the TMDL’s allocation to that source.

Such recharacterization of a load allocation as a wasteload allocation would not automatically require resubmission of the TMDL to EPA for approval. However, if the TMDL’s allocation for the newly permitted source had been part of a single aggregated or gross load allocation for all unregulated stormwater sources, it may be appropriate for the NPDES permit authority to determine a wasteload allocation and corresponding

effluent limitation specific to the newly permitted stormwater source. Any additional analysis used to refine the allocation should be included in the administrative record for the permit. In such cases, the record should describe the basis for

(1) recharacterizing the load allocation as a wasteload allocation for this source and
(2) determining that the permit's effluent limitations are consistent with the assumptions and requirements of this recharacterized wasteload allocation. For purposes of this discussion, it is assumed that the permit writer's additional analysis or recharacterization of the load allocation as a wasteload allocation does not change the TMDL's overall loading cap. Any change in a TMDL loading cap would have to be resubmitted for EPA approval.

If you have any questions please feel free to contact us or Linda Boornazian, Director of the Water Permits Division or Benita Best-Wong, Director of the Assessment and Watershed Protection Division.

cc: Association of State and Interstate Water Pollution Control Administrators
Water Quality Branch Chiefs, Regions 1 – 10
Permits Branch Chiefs, Regions 1 – 10

**UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON D.C. 20460**



OFFICE OF
WATER

March 17, 2011

On November 12, 2010, the Environmental Protection Agency (EPA) issued a memorandum entitled "Revisions to the November 22, 2002 Memorandum "Establishing Total Maximum Daily Load (TMDL) Wasteload Allocations (WLAs) for Storm Water Sources and NPDES Permit Requirements Based on Those WLAs". The memorandum is available at: http://www.epa.gov/npdes/pubs/establishingtmdlwla_revision.pdf. The 2010 memorandum reflects the considerable experience States and EPA have obtained in developing TMDLs and stormwater permits since 2002.

A number of stakeholders expressed concern that they did not have the opportunity to provide input before the memorandum was issued and have asked questions about the substance of the memorandum. EPA is soliciting comments on the 2010 memorandum and will accept comments until May 16, 2011. EPA plans to make a decision by August 15, 2011 to either retain the memorandum without change, to reissue it with revisions, or to withdraw it.

A key issue addressed in the 2010 memorandum is the feasibility of including numeric effluent limitations in National Pollutant Discharge Elimination System (NPDES) permits for stormwater discharges. The 2002 memorandum stated that EPA expected that numeric effluent limitations for stormwater discharges would be rarely used. The guidance provided in the 2010 memorandum recognizes developments over the past eight years and reflects current use of numeric limitations in stormwater permits. EPA has found that the use of numeric effluent limitations no longer is a novel or unique approach to stormwater permitting. As such, the 2010 memorandum reflects EPA's view that there has been an incremental evolution of the stormwater permits program and the TMDL program that has been occurring since 2002, such that numeric effluent limitations are no longer as rare as they were in 2002.

Some stakeholders are concerned that the 2010 memorandum can be read as advising NPDES permit authorities to impose end-of-pipe limitations on each individual outfall in a municipal separate storm sewer system. In general, EPA does not anticipate that end-of-pipe effluent limitations on each municipal separate storm sewer system outfall will be used frequently. Rather, the memorandum expressly describes "numeric" limitations in broad terms, including "numeric parameters acting as surrogates for pollutants such as stormwater flow volume or

percentage or amount of impervious cover.” In the context of the 2010 memorandum, the term “numeric effluent limitation” should be viewed as a significantly broader term than just end-of-pipe limitations, and could include limitations expressed as pollutant reduction levels for parameters that are applied system-wide rather than to individual discharge locations, expressed as requirements to meet performance standards for surrogate parameters or for specific pollutant parameters, or could be expressed as in-stream targets for specific pollutant parameters. Under this approach, NPDES authorities have significant flexibility to establish numeric effluent limitations in stormwater permits.

EPA emphasizes that the discussion in the November 12, 2010 memorandum is intended solely as guidance to regulatory authorities as they implement CWA Programs. The statutory provisions and EPA regulations described in this document contain legally binding requirements. This memorandum is not a regulation itself, nor does it change or substitute for those provisions and regulations. Thus, it does not impose legally binding requirements on EPA, States, or the regulated community, nor does it confer legal rights or impose legal obligations upon any member of the public. In the event of a conflict between the discussion in this document and any statute or regulation, this document would not be controlling.

The general description provided here may not apply to a particular situation based upon the circumstances. Interested parties are free to raise questions and objections about the substance of this guidance and the appropriateness of the application of this guidance to a particular situation. EPA and State permit writers and other decision makers retain the discretion to adopt approaches on a case-by-case basis that differ from those described in this guidance where appropriate.

Comments on the November 12, 2010, memorandum should be submitted by May 16, 2011 by either:

- Email to weiss.kevin@epa.gov
- Mail: Kevin Weiss
Water Permits Division
U.S. Environmental Protection Agency
Room 7334 EPA East
1200 Pennsylvania Avenue, NW
Washington DC 20460

If additional information is necessary, please contact Kevin Weiss at (202) 564-0742.

ATTACHMENT 55



United States Environmental Protection Agency and the EPA Region III states of Pennsylvania, Maryland, Delaware, District of Columbia, Virginia and West Virginia

Evaluating the Effectiveness of Municipal Stormwater Programs

EPA 833-F-07-010

January 2008

Introduction

NPDES Stormwater Management Programs

EPA stormwater regulations require National Pollutant Discharge Elimination Program (NPDES) permits for stormwater discharges from many municipal separate storm sewer systems (MS4s). Phase I of the stormwater permit program generally addresses municipalities with greater than 100,000 in population, while Phase II addresses smaller jurisdictions within urban areas. Additional information on EPA's stormwater program is available at www.epa.gov/npdes/stormwater.

Stormwater Phase II programs address the following program components:

- ◆ Public education and outreach
- ◆ Public involvement
- ◆ Illicit discharge detection and elimination
- ◆ Construction Site Runoff Control
- ◆ Post-Construction Runoff Control
- ◆ Pollution Prevention/Good Housekeeping for Municipal Operations

In addition to the programs above, Stormwater Phase I programs also must address stormwater runoff from industrial facilities.

Operators of regulated MS4s are required to develop a stormwater management plan (SWMP) that includes measurable goals and to implement needed stormwater management controls (BMPs). The process of developing a plan, implementing the plan, and evaluating the plan is a dynamic, iterative process that helps move communities toward achievement of their goals (Figure 1).

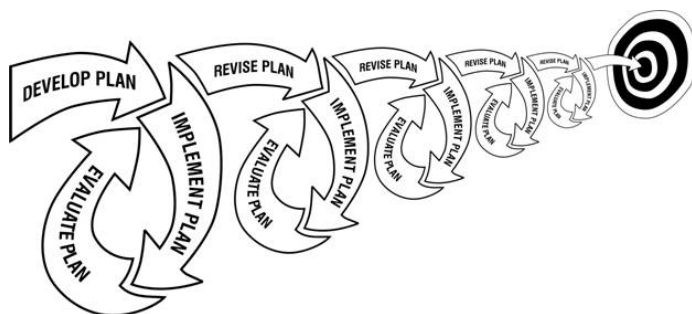


Figure 1. The iterative process of stormwater management (Develop, implement, evaluate, repeat).

40 CFR 122.26(d)(2)(v) and 122.34(g) requires MS4s to assess controls and the effectiveness of their stormwater programs. Municipal stormwater programs are also required to reduce the discharge of pollutants to the “maximum extent practicable” and satisfy the water quality requirements of the Clean Water Act. In addition, a number of government and scientific reports have found that better water quality data is needed if MS4s are to evaluate the effectiveness of their program in meeting water quality goals (NRC, 2004; Schwarzenback, et. al, 2006; Vaux, 2005).

This document discusses three approaches to evaluation of municipal SWMP effectiveness:

- ◆ Assessing program operations;
- ◆ Evaluating social indicators; and
- ◆ Monitoring water quality.

Other guidance is available to assist managers in evaluating overall implementation of the SWMP to the maximum extent practicable, e.g., EPA's *MS4 Program Evaluation Guidance* (www.epa.gov/npdes/pubs/ms4guide_withappendixa.pdf).

Purposes of Program Evaluation

- ◆ **Meet regulatory requirements.** EPA stormwater regulations require that the effectiveness of the SWMP be evaluated, including assessment of SWMP implementation, evaluation of BMP effectiveness, and the extent to which improvements in stormwater outfall discharge quality have occurred.
- ◆ **Document progress toward water quality goals.** Evaluation of SWMP effectiveness is essential to measure progress toward meeting benchmark conditions, complying with water quality standards, or restoring beneficial uses.
- ◆ **Justify commitment of resources.** Knowledge of program effectiveness can help justify SWMP expenditures to decision-makers and to the public, and help improve cost-effective implementation and management of the SWMP.
- ◆ **Provide feedback to the management program.** Stormwater management is an iterative process and knowledge of program effectiveness is essential for the permit renewal process and for mid-course corrections to improve the program.
- ◆ **Assess reductions in pollutants of concern.** If a waterbody is impaired, it may be helpful to assess the effectiveness of the SWMP in reducing the pollutants of concern.

Evaluating the Effectiveness of Municipal Stormwater Programs

Stormwater Management Goals

Setting Goals for SWMPs

Stormwater management plans must be guided by specific measurable water quality-based goals, but also typically include, programmatic, BMP-implementation, and social goals. NPDES permit conditions often serve as minimum goals for a SWMP, but an MS4 may have other goals for restoration or protection of water quality that go beyond minimum permit conditions and reflect local understanding of the storm drain system and receiving water conditions. Guidance on setting measurable goals for SWMPs can be found in EPA's *Measurable Goals Guidance for Phase II Small MS4s* (www.epa.gov/npdes/pubs/measurablegoals.pdf).

Programmatic goals might address education and outreach to a range of audiences, establishment of partnerships with business owners, or adoption of ordinances. BMP implementation goals may call for some number of practices to be installed in key locations according to a certain schedule. Goals for public involvement could include targets for number of participants in clean-up or tree-planting activities, number and quality of responses to attitude surveys, or changes in the use of lawn fertilizer.

The ultimate goal of any NPDES stormwater management program is to reduce pollutant discharges to the maximum extent practical, prohibit illicit discharges to the MS4, and protect water quality. Water quality goals may pertain to pollution prevention (reduction of potential pollutants at the source), improvements in stormwater outfall discharge quality, reduction of pollutant loads to receiving waters (e.g., a TMDL), restoration of aquatic resources (e.g., stream channel stabilization, fishery restoration), compliance with water quality standards, or restoration of beneficial uses. Intermediate benchmarks that indicate progress toward meeting water quality standards are important elements of successful long-term SWMPs.

Matching Evaluation to Management Goals

Evaluation of the effectiveness of a SWMP must relate directly to its goals. Two central questions are: *Are we meeting the municipal SWMP goals?* and *Are we meeting NPDES stormwater regulatory requirements?* If a goal is to keep a swimming beach open, it is often necessary to determine the extent to which water quality criteria for bacteria are being met. If a goal is to reduce nutrient loads by 40% from a watershed, it is then necessary to measure nutrient loads and compare measured loads against the goal. Meeting your water quality goals is the ultimate sign of program success, however, meeting programmatic or social goals can also be indicators of a successful program. Information on how these goals are met will serve as critical feedback in the iterative process of stormwater management.

Evaluating Stormwater Management Program Effectiveness

Stormwater program evaluation must be more than an exercise in collecting and tabulating data; evaluation data must be analyzed, interpreted, and reported so that results can be applied to such purposes as documenting effectiveness of BMPs, reporting information to government or the public, and planning future management activities.

Stormwater programs address multiple objectives and program evaluation can focus on a variety of desired outcomes that parallel these objectives. Approaches to the evaluation of stormwater program effectiveness may therefore fall on a continuum from basic verification of compliance with regulatory requirements to assessing changes in knowledge and behavior to detecting changes in receiving water quality (Figure 2). The NPDES stormwater evaluation program in Baltimore County, Maryland (www.baltimorecountymd.gov/Agencies/environment/watersheds/epnpdesmain.html) is a good example of effective evaluation of an MS4 program.

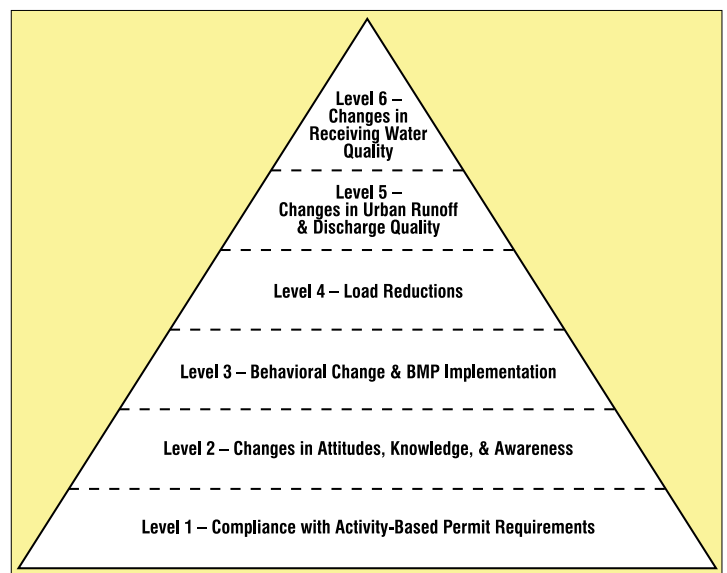


Figure 2. Approaches to evaluation of stormwater program effectiveness. (Source: CASQA, 2007)

In this document, we consider the range of evaluation approaches in three groups: program operations, social indicators, and water quality. Every evaluation approach must contain appropriate water quality measures to be meaningful.

Assess program operations

Assessment of stormwater program operations and activities verifies basic compliance with permit requirements and, more importantly, documents that tangible efforts have been made to reduce the impacts of urban stormwater. This approach to program evaluation can be applied to all of the components of a SWMP.

Evaluating the Effectiveness of Municipal Stormwater Programs

Track structural BMP implementation. Tracking the type and number of structural BMPs installed provides managers with direct feedback on how implementation is progressing and whether goals set forth in the permit are being achieved. Data on BMP specifications, location, date of completion, compliance with permit conditions, and ongoing operation and maintenance may be important to record. See USEPA [Techniques for Tracking, Evaluating, and Reporting the Implementation of Nonpoint Source Control Measures: Urban](#) (www.epa.gov/owow/nps/urban.pdf) for more information on the topic of tracking BMPs implemented in your jurisdiction.

Document management activities. Documenting management activities and pollutant source reduction efforts can be as important as tracking structural BMPs. How much material has been collected through street-sweeping and parking lot maintenance? How many site inspections were conducted and what were the results? How many and what type of illicit discharges were identified and eliminated? How many trainings and outreach activities were conducted, and how many people were reached? Baltimore City, Maryland, focuses limited stormwater management resources in a small highly urbanized watershed to demonstrate how making communities more livable can improve water quality. An important part of this effort is to document management activities so that both managers and residents can easily follow progress.

Evaluate social indicators

Social indicators—changes in knowledge, attitudes, and behavior of people—are important for two reasons. First, some SWMPs may have goals for increasing knowledge and awareness and changing attitudes among groups such as residents, business owners, and municipal employees. Second, social indicators—especially behavior changes—are important intermediate benchmarks in a successful SWMP when many years are needed to measure a water quality response. For more information, see *Developing a Social Component for the NPS Evaluation Framework* (www.uwex.edu/ces/regionalwaterquality/Flagships/Indicators.htm). This approach to program evaluation is typically applied to the public education and public participation components of a SWMP.

Gauge the effects of public education efforts. Changes in awareness, knowledge, and attitudes can be measured effectively using statistically valid surveys or questionnaires; for example see *Stormwater Knowledge, Attitude and Behaviors: A 2005 Survey of North Carolina Residents* (www.ncstormwater.org/pdfs/stormwater_survey_12506.pdf). Other approaches include monitoring attendance at public meetings, tracking requests for information, and counting hits on web sites. Keep in mind that simply reporting the number of meetings held or the number of brochures printed is not an effective method to document changes in stormwater knowledge.

Assess behavior changes. Measurement of change in pollution-generating behavior in a watershed can be an

important indicator of progress toward achieving SWMP goals. Examples include: changes in lawn fertilizer sales in response to a publicity campaign, pounds of hazardous waste turned in at collection events, participation in streambank clean-up events, and sign-ups for environmental action pledges.

Monitor water quality

Water quality monitoring is the most direct—and usually the best—approach to evaluating the effectiveness of a SWMP. Program evaluation through water quality monitoring can apply to several of the SWMP components, including illicit discharge detection, construction site runoff control and post-construction runoff control. The collection of water quality data (along with BMP performance data) would be especially useful for discharges to an impaired water body with an approved TMDL. (For more information about the TMDL program, visit www.epa.gov/owow/tmdl). Detailed guidance on design and operation of monitoring is available elsewhere, e.g., *USDA-NRCS National Handbook of Water Quality Monitoring* (<ftp://ftp.wcc.nrcs.usda.gov/downloads/wqam/wqm1.pdf>) and *EPA Monitoring Guidance for Determining the Effectiveness of Nonpoint Source Controls* (Sept. 1997, EPA 841-B-96-004).

Water quality monitoring approaches range from qualitative observations to highly quantitative measurements, covering areas as small as individual BMPs to large receiving waters such as lakes or estuaries. A good monitoring program for evaluation of SWMP effectiveness will probably contain several elements at various levels of detail and scale. Before embarking on new monitoring, however, it is important to collect and evaluate historic and current data from existing monitoring activities. Data from state 305(b) assessments, 303(d) lists, and published TMDLs, ongoing state and federal agency monitoring programs, water supply intake testing, and watershed volunteer groups, for example, can be useful both in designing a monitoring program and in supplementing program results.

Monitoring can focus on **biological** (e.g., *E. coli*, fish), **physical** (e.g., flow, suspended sediment, streambank stability), or **chemical** (e.g., phosphorus, trace metals) dimensions of the water resource. Measured water quality variables should be directly linked to both the pollutant sources and the BMPs being implemented. In general, a monitoring program should focus on selecting a few good water quality variables to measure well, rather than trying to track a long list of indicators. For example, for a swimming beach impaired by bacteria, it would be appropriate to monitor the swimming area, nearby storm drain outfalls, and tributary flows for *E. coli*. If stream channel blow-outs are an issue and BMPs addressing excessive flows are implemented, monitoring of streamflow and channel cross-section conditions would be a good choice. For algal blooms, monitoring of nutrient concentrations and loads to the receiving water might be appropriate.

Water quality monitoring must take hydrologic variation into account. Most stormwater pollution processes are driven by rainfall that varies from year to year. If several dry years follow

Evaluating the Effectiveness of Municipal Stormwater Programs

implementation of a SWMP, the program may appear to be highly effective in reducing pollutant loads simply because runoff is unusually low. Conversely, several years of wet weather could result in higher pollutant loads simply because of increased runoff volume despite BMP implementation. Consequently, it is important to monitor precipitation and streamflow to help interpret results from all but a few highly qualitative monitoring approaches.

MS4s can take a variety of monitoring approaches to evaluate their SWMP effectiveness. Several common approaches that can be implemented for physical, chemical, and biological dimensions of water quality are listed at the end of this document.

Feedback: The Iterative Approach to Stormwater Management

Management of stormwater programs is an iterative process, beginning with planning, progressing through implementation and program evaluation, and then returning to the beginning of the cycle with feedback to further program planning. Effectiveness evaluation assesses how well implementation is working and estimates benefits derived from the program for the primary purpose of assessing progress toward program goals and compliance with regulatory requirements. Results can also be used to make practical changes in management strategies. Effective program feedback will enable local governments to guide decisions on shifting priorities to achieve goals more cost-effectively, including modification of activities that need improvement, expansion of effective activities, and cessation of efforts that are no longer productive. Results of SWMP evaluation should be presented to decision-makers in a clear manner that addresses the questions formulated when the evaluation plan was designed.

Reporting

Annual reports are a good place to summarize evaluation results and to take stock of what is working and what is not. Data gathered throughout the year should be used to answer critical questions such as:

- ◆ What is the current status in meeting stormwater goals and NPDES regulatory requirements?
- ◆ What are the estimated load reductions and other benefits of BMP implementation?
- ◆ What are the costs associated with program implementation?
- ◆ How do the costs of program implementation relate to water quality changes?
- ◆ What stormwater program changes are necessary to meet the stated goals?

The Baltimore City, Maryland MS4 2005 NPDES permit, for example, requires the permittee to provide an annual narrative summary describing the results and analyses of program data,

including monitoring data accumulated throughout the reporting year. Identification of water quality improvements or degradation is a key part of this requirement.

Fourth-year reports are a good opportunity to use data gathered under the entire permit period to guide future management direction. Continuation of a NPDES permit typically requires the permittee to submit with its permit renewal application a summary of its SWMP describing how water quality goals are being achieved. Information in the application would include measured pollutant load reductions resulting from SWMP implementation and achievement of other benchmarks or water quality standards. Analysis of evaluation data is also used to justify or support changes in the permit and SWMP.

Feedback to the stormwater management program

NPDES regulations require assessment and revision of the stormwater management program in order to continue, to the maximum extent practicable, to not cause or contribute to water quality standards exceedances. As part of the iterative management process, stormwater program activities should be adjusted based on the results of an effectiveness evaluation. If a management goal has been achieved, effort in this area might be reduced to a maintenance level and resources reallocated to another pollutant or goal. If a goal has not been achieved, or satisfactory progress has not been made, additional resources can be applied and new strategies implemented. Such adjustments provide the direction for a municipality's permit renewal and will ensure progress toward program goals.

Effectiveness evaluation can also apply to ongoing stormwater programs through the process of adaptive management. Through this, evaluation results on program operations, social or water quality can provide rapid feedback to guide management activities. For example, an MS4 might establish dry weather action levels—or targets—for water quality constituents such as turbidity, phosphorus, and trace metals in tributaries draining to receiving water. Exceedance of an action level in samples taken from a tributary during dry weather would trigger an immediate investigation upstream to find and eliminate illicit connections and illegal discharges. Dry weather action levels would be reviewed and updated annually based on monitoring data and progress toward meeting SWMP goals.

In another example (Figure 3), coastal beaches and storm drains discharging near them are monitored for fecal bacteria. When compared against storm drain action levels for bacteria (sampled at the storm drain) and bacteria water quality criteria for body contact recreation (sampled in the open coastal receiving water), results of the paired samples guide management decisions on actions needed to protect the beach and follow up on sources of high bacteria counts.

Multi-faceted stormwater management programs can be evaluated as well. Baltimore City's NPDES stormwater permit requires it to restore a watershed or combination of watersheds containing 10% of the City's total impervious area during each five-year permit. The City conducts comprehensive watershed assessments and goals for restoration are developed based on

Evaluating the Effectiveness of Municipal Stormwater Programs

		Beach	
		Meets bacteria criteria	Fails to meet bacteria criteria
Storm drain discharge	Below bacteria action level	No action required	Storm drain discharge not causing beach impairment; continue to monitor and investigate other sources
	Above bacteria action level	Storm drain discharge not causing beach impairment; investigate storm drain sources	Storm drain discharge causing beach impairment; investigate storm drain sources ASAP

Figure 3. Decision table for storm drain and beach bacteria levels.

severity of water quality problems, input from local watershed associations, the possibility for inter-jurisdictional cooperation, and the availability of restoration opportunities. One restoration priority is Watershed 263 (www.cwp.org/RR_Photos/Baltimore_City_profile_sheet.pdf) where Baltimore City plans to restore a degraded stream system and simultaneously address other social and economic problems associated with older urban environments. The goals in this watershed include; replacing school yard asphalt with green infrastructure to filter stormwater; replacement of sidewalk sections with trees to remove nutrients and reduce the “heat island” effect; conversion of vacant abandoned lots into gardens for local residents to use; reduce the buildup of trash and litter through increased municipal street sweeping; and installing innovative ultra-urban BMPs wherever possible. A catch basin downstream of all of these activities will be monitored for water quality and compared to a similar watershed in the City with no controls. Since the installation of BMPs will be progressive, monitoring data will show the effectiveness of differing management strategies. Information will be fed back into future management plans for this watershed and others across the City to ensure that stormwater is being controlled to the maximum extent practicable.

In summary, a municipal stormwater management program needs to set clear goals and identify appropriate monitoring methods to evaluate those goals in order to assess the effectiveness of the stormwater program in protecting water quality.

Additional Resources

Monitoring/Evaluation Guidance or References

California Stormwater Quality Association (CASQA), 2007, *Municipal Stormwater Program Effectiveness Assessment Guidance*. Available at www.casqa.org

Southern California Coastal Water Research Project, *Model Monitoring Program for Municipal Separate Storm Sewer Systems in Southern California*. ftp://ftp.sccwrp.org/pub/download/PDFs/419_smc_mm.pdf

EPA, 1992, NPDES Stormwater Sampling Guidance Document, EPA 833-B-92-001. www.epa.gov/npdes/pubs/owm0093.pdf

Center for Watershed Protection, *Smart Watershed Benchmarking Tool*. Available at www.cwp.org

Chesapeake Bay Program, *BMP Efficiencies and Definitions*. www.chesapeakebay.net/pubs/subcommittee/nsc/uswg/BMP_Pollutant_Removal_Efficiencies.pdf

International Stormwater BMP Database, *Development of Performance Measures: Determining Urban Stormwater Best Management Practice Removal Efficiencies* (www.bmpdatabase.org/docs/task3_1.pdf) and *Urban Stormwater BMP Performance Monitoring: A Guidance Manual for Meeting the National Stormwater BMP Database Requirements* (www.bmpdatabase.org/docs/Urban%20Stormwater%20BMP%20Performance%20Monitoring.pdf)

Stormwater Manager’s Resource Center, *Environmental Indicator Profile Sheet: BMP Performance Monitoring*. www.stormwatercenter.net/monitoring%20and%20assessment/ind%20profiles/IndPros25.pdf

State/Municipal examples of monitoring/evaluation programs

Baltimore County, *Watershed Management and Monitoring*. www.baltimorecountymd.gov/Agencies/environment/watersheds/ep_watershed_monitoring.html

City of Hialeah, FL *Stormwater Utility Monitoring Program*. <http://hialeahfl.gov/dept/streets/stormwater/plans/monitoring>

Maryland Watershed Restoration Action Strategy. www.dnr.state.md.us/watersheds/surf/proj/wras.html

Ventura, California, MS4 Permit www.swrcb.ca.gov/rwqcb4/html/programs/stormwater/venturaMs4.html

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NOTE: This document is not law or regulation; it provides recommendations and explanations that MS4s may consider in determining how to comply with requirements of the CWA and NPDES permit requirements.

Evaluating the Effectiveness of Municipal Stormwater Programs

Useful Water Quality Monitoring Approaches for Evaluation of SWMPs

Visual observations. Some water quality conditions can be assessed by visual (qualitative) observations of controls, outfalls or receiving waters. Searching for and correcting illicit discharges through observation of oil and grease sheens, floatables, or odors at outfalls is one example. Progress in streambank stabilization and channel restoration might be monitored by regular photography of critical locations. In general, qualitative observations should be supplemented by quantitative measurements where possible, such as with dry weather sampling at outfalls or regular surveys of representative stream cross-sections. The City of Albuquerque MS4 Floatable & Gross Pollutant Study (www.cabq.gov/flood/pdf/FINALREPORT-OCTOBER2005.pdf) is an example of a systematic approach to qualitative observations of water quality conditions. Examples of survey techniques for streambank assessment can be found in the Maryland Stream Corridor Assessment Survey (www.dnr.maryland.gov/streams/pubs/surveyprotocols2.pdf) and the USACE/USEPA Review of protocols for stream assessment (www.mitigationactionplan.gov/Physical%20Stream%20Assessment%20Sept%202004%20Final.pdf).

BMP performance monitoring. Monitoring of individual BMP performance provides a direct measure of pollutant reduction efficiency of these key components of a SWMP. Conceptually, BMP input/output monitoring is simple—measure pollutant concentrations or loads entering and leaving a wet pond for example, and compute the difference. In practice, BMP monitoring is more complex, requiring careful collection of data concerning storm and runoff characteristics and information on BMP attributes, as well as water quality information. There are several sources of information on BMP performance and on protocols for collecting, storing, analyzing, and reporting BMP monitoring data, including the National Stormwater BMP Database (www.bmpdatabase.org) and the USEPA and ASCE *Urban Stormwater BMP Performance Monitoring Manual*. Some examples of individual BMP monitoring studies can be found at the Villanova Urban Stormwater Partnership (www3.villanova.edu/VUSP/index.html).

Probability monitoring. Monitoring sites can be selected across a broad geographic area according to some statistical design to broadly characterize water quality conditions in a watershed or to identify possible contamination hotspots. Site selection could be random to achieve wide spatial coverage or stratified to focus monitoring on particular environment types or represent specific target populations. Data from a statistical sample of stream riffle sites across a watershed could be used to assess the overall condition of watershed macroinvertebrate communities. A monitoring program addressing sediment toxicity in a bay might geographically direct sampling to ensure that sediments in different depositional environments or with different physical characteristics are sampled, or that samples are collected within the areas affected by discharges from major tributaries. Results of probability monitoring can be used to guide SWMP implementation efforts and to assess long-term trends in response to SWMP implementation. An example of a probability design applied to evaluating sediment toxicity is found in the NOAA report *Magnitude and Extent of Contaminated Sediment and Toxicity in Chesapeake Bay* (ccma.nos.noaa.gov/publications/NCCOSTM47.pdf).

Short-term extensive network monitoring. Short-term grab-sampling at the outlets of numerous small watersheds or other drainages within a large MS4 can identify impaired waters and rank areas for implementation priority. Data collected simultaneously across the MS4 can help characterize the geographical distribution of pollutant sources. The City of Los Angeles monitors a network of shoreline stations in Santa Monica Bay for bacteria to identify stormwater impacts on recreational uses of the bay. This approach can apply not only to streams draining small watersheds but also to storm drains during both wet-weather and dry-weather conditions. If continued over several years, this kind of monitoring can be a good

opportunity for volunteer groups to participate in the SWMP evaluation process. Data collected by volunteers could be reported separately or incorporated within “official” data sets used for regulatory purposes depending upon the methods used and level of training provided to volunteers.

Site-specific monitoring. High-value resources such as popular swimming beaches, important shellfish beds, or high-priority habitats could require specific monitoring to regularly assess the status of use support. Similarly, known high-priority pollutant sources or hotspots of impairment like contaminated aquatic sediments, an eroding stream channel threatening property, or a stream reach with a degraded fish population could be monitored to assess progress in restoration. Depending on the situation, such monitoring can be done in the critical area itself to assess its condition or upstream and downstream of the area to evaluate changes in pollutant stressors. Fairfax County’s MS4 program conducts an Industrial and High-Risk Runoff monitoring program to identify and investigate industrial and other high-risk sites to determine if they are contributing substantial pollutant loadings to the MS4. The San Diego Bay MS4 permittees operate a Toxic Hot Spots Monitoring Program to locate and track areas of aquatic sediment contamination related to discharges from MS4s around the Bay.

Long-term fixed stations. Permanent monitoring stations at major discharges from an MS4 or on a receiving water above and below an MS4 can be used to measure changes in pollutant loads discharged from the MS4. Such stations are usually located where it is easy to measure flow and collect representative samples. Accurate load measurement requires consideration of many factors including patterns of hydrologic variation, seasonal patterns of pollutant concentrations, and desired statistical power; it is advisable to consult a monitoring expert before setting up a sample program to monitor pollutant loads. Flow, concentration, and load data from long-term fixed stations can be used for many purposes, including assessing compliance with water quality standards, collection of representative data from drainage areas that are undergoing similar activities and where the discharges are expected to be of similar quality as required in some MS4s under Phase I rules, documenting water quality trends, and marking progress toward meeting pollutant load goals, e.g., for a TMDL. The Los Angeles County stormwater monitoring program operates a system of mass emissions stations (www.ladpw.com/WMD/npdes/Int_report/Section_1.pdf) to update estimated pollutant loads to the ocean and to document long-term trends in pollutant concentrations. The San Diego region urban runoff monitoring program maintains similar long-term mass loading stations (www.projectcleanwater.org/pdf/science_mon/2003-2004_monitoring_summary.pdf) that regular assessment of the biological communities as well as chemical pollutant loads in major drainages.

Receiving water monitoring. Protection of a water body receiving discharges from an MS4 is often the ultimate goal of stormwater management. However, an MS4 may not be the only stormwater discharge into a water body, and achievement of the MS4’s discharge quality goals may not eliminate the impairment in the receiving water. It may nevertheless be important to monitor water quality in the river, lake, estuary, or bay that receives its discharge, especially if localized impacts can be identified. Evaluation of the effectiveness of a SWMP on maintaining recreational benefits, for example, might involve monitoring both storm drains and swimming beaches for *E. coli*. If a goal of a SWMP is to reduce the impacts of toxic materials delivered in stormwater, a program monitoring a combination of water and sediment chemistry, sediment toxicity, and benthic communities in the receiving water might be appropriate.

ATTACHMENT 56

ATTACHMENT 57

MS4 Permit Improvement Guide



U.S. ENVIRONMENTAL PROTECTION AGENCY

OFFICE OF WATER

OFFICE OF WASTEWATER MANAGEMENT

WATER PERMITS DIVISION

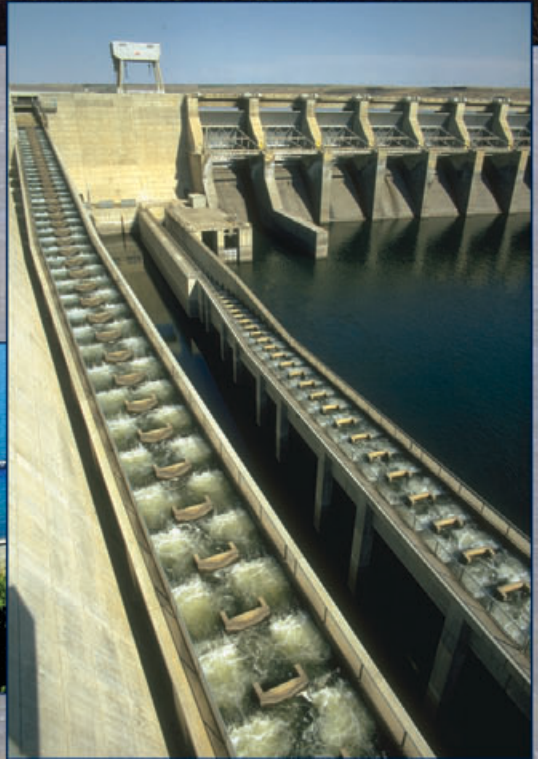
APRIL 2010

EPA 833-R-10-001

ATTACHMENT 58



National Management Measures to Control Nonpoint Source Pollution from Hydromodification





United States Environmental Protection Agency
Office of Water
Washington, DC 20460
(4503T)

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July 2007

National Management Measures
to Control Nonpoint Source Pollution from Hydromodification

Nonpoint Source Control Branch
Office of Wetlands, Oceans and Watersheds
U.S. Environmental Protection Agency
Office of Water

July 2007

Disclaimer

This document provides technical guidance to states, territories, authorized tribes, and the public for managing hydromodification and reducing associated nonpoint source pollution of surface and ground water. At times, this document refers to statutory and regulatory provisions, which contain legally binding requirements. This document does not substitute for those provisions or regulations, nor is it a regulation itself. Thus, it does not impose legally-binding requirements on EPA, states, territories, authorized tribes, or the public and may not apply to a particular situation based upon the circumstances. EPA, state, territory, and authorized tribe decision makers retain the discretion to adopt approaches to manage hydromodification and reduce associated NPS pollution of surface and ground water on a case-by-case basis that differ from this guidance where appropriate. EPA may change this guidance in the future.

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Chapter 1: Introduction

The Nation's aquatic resources are among its most valuable assets. Although environmental protection programs in the United States have improved water quality during the past 35 years, many challenges remain. Significant strides have been made in reducing the impacts of discrete pollutant sources, but some aquatic ecosystems remain impaired, due in part to complex pollution problems caused by nonpoint source (NPS) pollution.¹ Of special concern are the problems in our streams, lakes, estuaries, aquifers, and other water bodies caused by runoff that is inadequately controlled or treated. These problems include changes in flow, increased sedimentation, higher water temperature, lower dissolved oxygen, degradation of aquatic habitat structure, loss of fish and other aquatic populations, and decreased water quality due to increased levels of nutrients, metals, hydrocarbons, bacteria, and other constituents.

What is Hydromodification?

USEPA (1993) defines hydromodification as the "alteration of the hydrologic characteristics of coastal and non-coastal waters, which in turn could cause degradation of water resources." Examples of hydromodification in streams include dredging, straightening, and, in some cases, complete stream relocation. Other examples include construction in or along streams, construction and operation of dams and impoundments, channelization in streams, dredging, and land reclamation activities. Hydromodification can also include activities in streams that are being done to maintain the stream's integrity such as removing snags.² Some indirect forms of hydromodification, such as erosion along streambanks or shorelines, are caused by the introduction or maintenance of structures in or adjacent to a waterbody and other activities, including many upland activities, that change the natural physical properties of the waterbody.

EPA has grouped hydromodification activities into three categories: (1) channelization and channel modification, (2) dams, and (3) streambank and shoreline erosion. The following definitions are offered to clarify the hydromodification activities associated with these three categories:

Channelization and channel modification include activities such as straightening, widening, deepening, and clearing channels of debris and sediment. Categories of channelization and channel modification projects include flood control and drainage, navigation, sediment control, infrastructure protection, mining, channel and bank instability, habitat improvement/enhancement, recreation, and flow control for water supply (Watson et al., 1999). Channelization activities can play a critical role in NPS pollution by increasing the timing and delivery of pollutants, including sediment, that enter the water. Channelization can also be a cause of higher flows during storm events, which potentially increases the risk of flooding.

¹ For more information on NPS pollution, go to EPA's website at <http://www.epa.gov/owow/nps>.

² A tree or branch embedded in a lake or stream bed and constituting a hazard to navigation; a standing dead tree.

Dams³ are artificial barriers on waterbodies that impound or divert water and are built for a variety of purposes, including flood control, power generation, irrigation, navigation, and to create ponds, lakes, and reservoirs for uses such as livestock watering, municipal water supply, fish farming, and recreation. While these types of dams are constructed to provide benefits to society, they can contribute to NPS pollution. For example dams can alter flows, which ultimately can cause impacts to water quality (changes to temperature or dissolved gases) and biological/habitat (disruption of spawning or altering of plant and benthic communities) above and below the dam.

Streambank and shoreline erosion are the wearing away of material in the area landward of the bank along non-tidal streams and rivers. Streambank erosion occurs when the force of flowing water in a river or stream exceeds the ability of soil and vegetation to hold the banks in place. Eroded material is carried downstream and redeposited in the channel bottom or in point bars located along bends in the waterway. Shoreline erosion occurs in large open waterbodies, such as the Great Lakes or coastal bays and estuaries, when waves and currents sort coarser sands and gravels from eroded bank materials and move them in both directions along the shore away from the area undergoing erosion. While the underlying forces causing the erosion may be different for streambank and shoreline erosion, the results (erosion and its impacts) are usually similar. It is also important to note that streambank and shoreline erosion are natural processes and that natural background levels of erosion also exist. However, human activities along or adjacent to streambanks or shorelines may increase erosion and other nonpoint sources of pollution.

Why is NPS Guidance on Hydromodification Important?

Hydromodification is one of the leading sources of impairment in our nation's waters. According to the *National Water Quality Inventory: 2000 Report to Congress* (USEPA, 2002a), there are almost 3.7 million miles of rivers and streams⁴ in the United States. Approximately 280,000 miles of assessed rivers and streams in the United States are impaired for one or more designated uses, which include aquatic life support, fish consumption, primary and contact recreation, drinking water supply, and agriculture. Many of the pollutants causing impairment are delivered to surface and ground waters from diffuse sources, such as agricultural runoff, urban runoff, hydrologic modification, and atmospheric deposition of contaminants. The leading causes of

³ Dams are defined according to Title 33 of the Code of Federal Regulations, section 222.6(h) (2003) as all artificial barriers together with appurtenant works which impound or divert water and which (1) are 25-feet or more in height or (2) have an impounding capacity of 50 acre-feet or more. Barriers that are six-feet or less in height, regardless of storage capacity or barriers that have a storage capacity at maximum water storage elevation of fifteen acre-feet or less regardless of height are not included. Federal regulations define dams for the purpose of ensuring public safety. For example, 33 CFR 222.6 states objectives, assigns responsibilities, and prescribes procedures for implementation of a National Program for Inspection of Non-Federal Dams. Most states use this or a very similar definition, which creates a category of dams that requires some form of inspection to ensure that they are structurally sound. Dams smaller than those defined above, such as those used to create farm ponds, are authorized under the NRCS program.

⁴ Approximately 700,000 miles (19%) of the total 3.7 million miles of rivers and streams in the United States were assessed for the *National Water Quality Inventory: 2000 Report to Congress* (USEPA, 2002a).

beneficial use impairment (partially or not supporting one or more uses) are nutrients, sediment, pathogens (bacteria), metals, pesticides, oxygen-depleting materials, and habitat alterations (USEPA, 2002a).

The *National Water Quality Inventory: 2000 Report to Congress* (USEPA, 2002a) identified hydrologic modifications (i.e., hydromodification) as a leading source of water quality impairment in assessed surface waters. Of the 11 pollution source categories listed in the report, hydromodification was ranked as the second leading source of impairment in assessed rivers, second in assessed lakes, and sixth in assessed estuaries (Table 1.1). Three major types of hydromodification activities—channelization and channel modification, dams, and streambank and shoreline erosion—change a waterbody’s physical structure as well as its natural functions.

Many hydromodification activities are necessary because of human activities. For example, hardening of streambanks to correct headcutting and streambank erosion is often necessary because of changes in landuse that increase impervious surfaces. While hydromodification activities are intended to provide some form of benefit (e.g., levees for reducing flooding, electricity from hydroelectric dams, or bulkheads to reduce shoreline erosion and protect valuable property), there may be unintended consequences resulting from the activity. To illustrate, levees may provide local flood reduction by keeping storm flows from spreading onto flood plains. However, these same levees may alter riparian wetland habitat that once relied on seasonal flooding.

Table 1.1 Leading Sources of Water Quality Impairment Related to Human Activities for Rivers, Lakes, and Estuaries (USEPA, 2002a)

	Rivers and Streams	Lakes, Ponds, and Reservoirs	Estuaries
Sources^a	Agriculture (48%) ^b	Agriculture (41%)	Municipal Point Sources (37%)
	Hydrologic Modification (20%)^c	Hydrologic Modification (18%)	Urban Runoff/Storm Sewers (32%)
	Habitat Modification (14%) ^d	Urban Runoff/Storm Sewers (18%)	Industrial Discharges (26%)
	Urban Runoff /Storm Sewers (13%)	Nonpoint Sources (14%)	Atmospheric Deposition (23%)
	Forestry (10%)	Atmospheric Deposition (13%)	Agriculture (18%)
	Municipal Point Sources (10%)	Municipal Point Sources (12%)	Hydrologic Modification (14%)
	Resource Extraction (10%)	Land Disposal (10%)	Resource Extraction (12%)

^a Excluding unknown, natural, and “other” sources.

^b Values in parentheses represent the approximate percentage of surveyed river miles, lake acres, or estuary square miles that are classified as impaired due to the associated sources.

^c Hydrologic modifications include flow regulation and modification, dredging, and construction of dams. These activities may alter a lake’s habitat in such a way that it becomes less suitable for aquatic life (USEPA, 2002a).

^d Habitat modifications result from human activities, such as flow regulation, logging, and land-clearing practices. Habitat modifications—changes such as the removal of riparian (stream bank) vegetation—can make a river or stream less suitable for the organisms inhabiting it (USEPA, 2002a).

Purpose and Scope of the Guidance

National summaries, such as those shown in Table 1.1, are useful in providing an overview of the magnitude of problems associated with hydromodification. Solutions, however, are usually applied at the local level. For example, in Maryland, the Shore Erosion Task Force, after investigating shore erosion in the state, published recommendations to be implemented under a Comprehensive Shore Erosion Control Plan. To initiate statewide planning, the Maryland Department of Natural Resources established partnerships with two coastal counties that were significantly affected by shoreline erosion. These state-local partnerships enable the state to better identify and correct shoreline erosion problems throughout Maryland (MDNR, 2001).

State and local elected officials and agencies, landowners, developers, environmental and conservation groups, and others play a crucial role in working together for protecting, maintaining, and restoring water resources that are impacted by hydromodification activities. These local efforts, in aggregate, form the basis for changing the status of hydromodification as a national problem.

This guidance document provides background information about NPS pollution and offers a variety of solutions for reducing NPS pollution resulting from hydromodification activities. The background information provided in Chapter 2 includes a discussion of sources of NPS pollution associated with hydromodification and how the generated pollutants enter the Nation's waters. Chapter 3 (Channelization and Channel Modification), Chapter 4 (Dams), and Chapter 5 (Streambank and Shoreline Erosion) present technical information about how certain types of NPS pollution can be reduced or eliminated.

Since hydromodification is not associated with localized impacts and solutions, Chapter 6 provides a discussion on the broad concept of assessing and addressing water quality problems on a watershed level. Chapter 7 provides detailed information for practices that can be used to implement the management measures presented in this guidance. Chapter 8 provides a discussion of available models and assessment approaches that could be used to determine the effects of hydromodification activities. Chapter 9 summarizes additional dam removal information, including permitting requirements, process, and techniques for dam removal. The primary goal of this guidance document is to provide technical assistance to states, territories, tribes, local governments, and the public for managing hydromodification and reducing associated NPS pollution.

Document Organization

This document is divided into the following chapters:

- Chapter 1: Introduction
- Chapter 2: Background
- Chapter 3: Channelization and Channel Modification
- Chapter 4: Dams
- Chapter 5: Streambank and Shoreline Erosion

- Chapter 6: Guiding Principles
- Chapter 7: Practices for Implementing Management Measures
- Chapter 8: Modeling Information
- Chapter 9: Dam Removal Requirements, Process, and Techniques
- References Cited
- Additional Resources
- Appendix A: Federal, State, Nonprofit, and Private Financial and Technical Assistance Programs
- Appendix B: U.S. Environmental Agency Contacts

Activities to Control NPS Pollution

Historical Perspective

During the first 15 years of the national program to abate and control water pollution (1972–1987), EPA and the states focused most of their water pollution control activities on traditional point sources, which are stationary locations or fixed facilities from which pollutants are discharged; any single identifiable source of pollution (e.g., a pipe, ditch). EPA and the states have regulated these point sources through the National Pollutant Discharge Elimination System (NPDES) permit program established by section 402 of the Clean Water Act (CWA).⁵ The NPDES program functions as the primary regulatory tool for assuring that state water quality standards are met. NPDES permits, issued by an authorized state or EPA, contain discharge limits designed to meet water quality standards and national technology-based effluent regulations.

In 1987, in view of the progress achieved in controlling point sources and the growing national awareness of the increasingly dominant influence of NPS pollution on water quality, Congress amended the CWA to focus greater national efforts on nonpoint sources.

Federal Programs and Funding

The CWA establishes several reporting, funding, and regulatory programs that address pollutants carried in runoff that is not subject to confinement or treatment. These programs relate to watershed management and nonpoint source control. Readers are encouraged to use the information contained in this guidance to develop nonpoint source management programs/plans that comprehensively address the following EPA programs:

- *Section 319 Grant Program.* Under section 319 of the CWA, EPA awards funds to states and eligible tribes to implement NPS management programs. These funds can be used for projects that address nonpoint source related sources of pollution, including hydromodification.⁶
- *Clean Water State Revolving Fund.* The Clean Water State Revolving Fund (CWSRF) program is an innovative method of financing environmental projects. Under the

⁵ For more information on the NPDES program, refer to EPA's NPDES website at <http://cfpub.epa.gov/npdes>.

⁶ More information about the section 319 program is provided at <http://www.epa.gov/owow/nps/cwact.html>.

program, EPA provides grants or “seed money” to all 50 states plus Puerto Rico to capitalize state loan funds. The states, in turn, make loans to communities, individuals, and others for high-priority water quality activities. As money is paid back into the revolving fund, new loans are made to other recipients. When funded with a loan from this program, a project typically costs much less than it would if funded through the bond market. Many states offer low or no interest rate loans to small and disadvantaged communities. In recent years, state programs have begun to devote an increasing volume of loans to nonpoint source, estuary management, and other water-quality projects. Eligible NPS projects include almost any activity that a state has identified in its nonpoint source management plan. Such activities include projects to control runoff from agricultural land; conservation tillage and other projects to address soil erosion; development of streambank buffer zones; and wetlands protection and restoration.⁷

- *Total Maximum Daily Loads.* Under section 303(d) of the CWA, states are required to compile a list of impaired waters that fail to meet any of their applicable water quality standards. This list, called a 303(d) list, is submitted to Congress every 2 years, and states are required to develop a Total Maximum Daily Load (TMDL) for each pollutant causing impairment for waterbodies on the list.⁸
- *Water Quality Certification.* Section 401 of the CWA requires that any applicant for a federal license or permit to conduct any activity that “may result in any discharge” into navigable waters must obtain a certification from the state or tribe in which the discharge originates that the discharge will comply with various provisions of the CWA, including sections 301 and 303. The federal license or permit may not be issued unless the state or tribe has granted or waived certification. The certification shall include conditions, e.g., “effluent limitations or other limitations” necessary to assure that the permit will comply with the state’s or tribe’s water quality standards or other appropriate requirements of state or tribal law. Such conditions must be included in the federal license or permit.
- *National Estuary Program.* Under the National Estuary Program, states work together to evaluate water quality problems and their sources, collect and compile water quality data, and integrate management efforts to improve conditions in estuaries. To date, 28 estuaries have been accepted into the program. Estuary programs can be an excellent source of water quality data and can provide information on management practices.⁹
- *Safe Drinking Water Act.* Many areas, especially urban fringe areas, need to maintain or improve the quality of surface and ground waters that are used as drinking water sources. This act requires states to develop Source Water Assessment Reports and implement Source Water Protection Programs. Low- or no-interest loans are available under the Drinking Water State Revolving Fund (SRF) Program.¹⁰

⁷ Additional information about CWSRF is available at <http://www.epa.gov/OWM/cwfinance/cwsrf/index.htm>.

⁸ More information on the TMDL program and 303(d) lists is provided at <http://www.epa.gov/owow/tmdl>.

⁹ More information on the National Estuary Program is provided at <http://www.epa.gov/nep>.

¹⁰ More information about the Safe Drinking Water Act and Source Water Protection Programs can be found at <http://www.epa.gov/safewater/sdwa/index.html> and <http://www.epa.gov/safewater/protect.html>.

- *Wildlife Habitat Incentives Program (WHIP)*. WHIP¹¹ is a voluntary program authorized by the Farm Security and Rural Investment Act of 2002 (Farm Bill)¹² that enables landowners to apply for technical and financial assistance to improve wildlife habitat. The program is administered by the Natural Resources Conservation Service (NRCS), which works with private landowners and operators, conservation districts, and federal, state, and tribal agencies to improve terrestrial and aquatic habitats. NRCS and participants work together to create a wildlife habitat development plan that includes a cost-share agreement. Continued assistance after habitat development includes monitoring, review of management guidelines, and technical advice. WHIP funds may also be used for dam removal. Additional information is available from an NRCS WHIP fact sheet.¹³

Two excellent resources for learning more about the CWA and the many programs established under it are *The Clean Water Act: An Owner's Manual* (Killam, 2005) and *The Clean Water Act Desk Reference* (WEF, 1997).

Introduction to Management Measures

Management measures may be implemented as part of state, tribal, or local programs to control nonpoint source pollution for a variety of purposes, including protection of water resources, aquatic wildlife habitat, and land downstream from increased pollution and flood risks. They can be used to guide in the development of a runoff management program. Management measures establish performance expectations and, in many cases, specify actions that can be taken to prevent or minimize nonpoint source pollution from hydromodification activities. Management measures might control the delivery of NPS pollutants to receiving water resources by:

- Minimizing pollutants available (source reduction)
- Retarding the transport and/or delivery of pollutants, either by reducing water transported, and thus the amount of the pollutant transported, or through deposition of the pollutant
- Remediating or intercepting the pollutant before or after it is delivered to the water resource through chemical or biological transformation

Management measures are generally designed to control a particular type of pollutant from specific activities and land uses. The intent of the six management measures in this guidance document is to provide information for addressing and considering the NPS pollution potential associated with hydromodification activities. Implementation of management measures can minimize and control hydromodification NPS pollution through erosion and sediment control, chemical and pollutant control, management of instream and riparian habitat restoration, and protection of surface water quality.

¹¹ <http://www.nrcs.usda.gov/programs/whip>

¹² <http://www.nrcs.usda.gov/programs/farmbill/2002>

¹³ <http://www.nrcs.usda.gov/programs/farmbill/2002/pdf/WHIPFct.pdf>

Activities associated with these management measures may be regulated by federal, state, or local law (e.g., section 404 of the Clean Water Act). These measures do not supersede such requirements. Sometimes regulatory authorities may appear to conflict, as is sometimes the case of the CWA and water use and distribution. CWA sections 101(g) and 510 specifically allow for resolution of the conflict by placing water use and its distribution under the authority of the states, thus protecting any state agreements on “water rights.” Users of this NPS guidance should recognize that the applicability of the guidance provided in this document will remain subject to state statutes, interstate compacts, and international treaties. As such, this guidance does not recommend or require any management measures or practices that hinder a state’s ability to exercise existing water rights, which provide water for municipal, industrial, and agricultural needs. For further information regarding specific state policies on water rights and regulations of water use, contact the appropriate state water agency. Contact information is generally provided on state government Web sites.

This document also lists and describes management practices for each management measure. Management practices are specific actions taken to achieve, or aid in the achievement of, a management measure. A more familiar term might be best management practice (BMP). The word “best” has been dropped for the purposes of this guidance (as it was in the Coastal Management Measures Guidance (USEPA, 1993)) because the adjective is too subjective. The “best” practice in one area or situation might be entirely inappropriate in another area or situation. The practices listed in this document have been found by EPA to be representative of the types of practices that can be applied successfully to achieve the management measures. EPA recognizes that there is often site-specific, regional, and national variability in the selection of appropriate practices, as well as in the design constraints and pollution control effectiveness of practices. The practices presented for each management measure are not all-inclusive. States or local agencies and communities might wish to apply other technically and environmentally sound practices to achieve the goals of the management measures.

Channelization and Channel Modification (Chapter 3)

Channelization can cause a variety of instream flow changes and may result in the faster delivery of pollutants to downstream areas. Channel modification might result in a combination of harmful effects (higher flows or increased risk of downstream flooding) and beneficial effects (local flood control or enhanced flushing in a stream channel). The management measures for channelization and channel modification are intended to protect waterbodies by ensuring proper planning before a proposed project is implemented. Planning and evaluation can help to identify and prevent local and downstream problems before a project is started. An added benefit of planning and evaluation is to correct or prevent detrimental changes to the instream and riparian habitat associated with the project. Implementation of the management measures can also ensure that operation and maintenance programs for existing projects improve physical and chemical characteristics of surface waters and restore or maintain instream and riparian habitat when possible.

Management Measure 1: Physical and Chemical Characteristics of Surface Water:

Ensure that the planning process for new hydromodification projects addresses changes to physical and chemical characteristics of surface waters that may occur as a result of the proposed work. For existing projects, ensure that operation and maintenance programs use any opportunities available to improve the physical and chemical characteristics of surface waters.

Management Measure 2: Instream and Riparian Habitat Restoration: Correct or prevent detrimental changes to instream and riparian habitat from the impacts of channelization and channel modification projects, both proposed and existing.

Dams (Chapter 4)

Because of their instream locations, any construction activities associated with dams have the potential to introduce sediment and other pollutants into adjacent waterbodies. Construction activities, chemical spills during dams operation or maintenance, and changes in the quantity and quality of water held and released by a dam may alter the nature of the waterbody. The management measures for dams are intended to be applied to the construction of new dams, as well as any construction activities associated with the maintenance of existing dams. They can also be applied to dam operations that result in the loss of desirable surface water quality, and instream and riparian habitat.

Management Measure 3: Erosion and Sediment Control: Prevent sediment from entering surface waters during the construction or maintenance of dams.

Management Measure 4: Chemical and Pollutant Control: Prevent downstream contamination from pollutants associated with dam construction and operation and maintenance activities.

Management Measure 5: Protection of Surface Water Quality and Instream and Riparian Habitat: Protect the quality of surface waters and aquatic habitat in reservoirs and in the downstream portions of rivers and streams that are influenced by the quality of water contained in the releases (tailwaters) from reservoir impoundments.

Streambank and Shoreline Erosion (Chapter 5)

NPS pollution might result from the rapid increase in erosion of streambanks caused by increased flow rates associated with urbanization in a watershed. Not only is the land adjacent to these eroding streambanks unnaturally carried away, but these eroded soils are carried downstream and deposited in often undesirable locations. Shorelines erode more severely as the result of poorly planned and implemented shoreline protection projects located nearby. Habitats can be buried and wetlands can be filled. As runoff upstream increases, more erosion results on downstream streambanks. The streambank and shoreline erosion management measure promotes the necessary actions required to correct streambank and shoreline erosion where it must be controlled. Because erosion is a natural process, this management measure is not intended to be applied to all erosion occurring on streambanks and shorelines.

Management Measure 6: Eroding Streambanks and Shorelines: Protect streambanks and shorelines from erosion and promote institutional measures that establish minimum setback requirements or measures that allow a buffer zone to reduce concentrated flows and promote infiltration of surface water runoff in areas adjacent to the shoreline.

Channelization and channel modification and dams represent forms of hydromodification that are direct results of human activities—someone performs a construction activity directly in or along a stream, river, or shoreline. For example, a town constructs concrete lined channels along a stream passing through the city limits to reduce stream meandering and prevent flooding. Another example is the construction (many years ago) of a dam in a stream for hydropower at a grist mill. Streambank and shoreline erosion are forms of hydromodification that result from direct and indirect human activities. For example, a streambank is eroding at a much faster rate because of recent development activities on shore that result in increased runoff, which is causing increased bank erosion. Another example is a concrete seawall that is protecting property at one location, but causing increased erosion on adjacent properties.

This distinction between forms of hydromodification and impacts from hydromodification is important when contrasting the relationship between Chapter 3 (Channelization and Channel Modification) and Chapter 5 (Streambank and Shoreline Erosion). Many of the operation and maintenance solutions presented in Chapter 3 are also practices that can be used to stabilize streambanks and shorelines as presented in Chapter 5. For example, a stream channel that has been hardened with vertical concrete walls to prevent local flooding and limit the stream to its existing channel (to protect property built along the stream channel), may benefit from operation and maintenance practices that use opportunities to replace the concrete walls with an appropriate vegetative or combined vegetative and non-vegetative structures along the streambank when possible. These same practices may be applicable to stabilize downstream streambanks that are eroding and creating a nonpoint source pollution problem because of the upstream development and hardened streambanks.

Chapter 2: Background

There are differing views on defining the stability of a stream channel and other waterbodies. From a navigation perspective, a stream channel is considered stable if shipping channels are maintained to enable safe movement of vessels. Landowners with property adjacent to a stream or shoreline might consider the waterbody to be stable if it does not flood and erosion is minimal. Ecologists might find some erosion of streambanks and meandering channels to be a part of natural evolution (i.e., changes that are not induced by humans) and consider long-term changes like these to be quite acceptable (Watson et al., 1999). In any case, new and existing channelization projects, construction and maintenance of dams, and streambank and shoreline erosion problems should be evaluated with these differing perspectives in mind and a balance of these perspectives should be taken into account when constructing or maintaining a project. Often, multiple priorities can be maintained with good up-front planning and communication among the different stakeholders involved.

Key Geomorphic Functions of Streams

Discharge, Slope, and Sinuosity

Figure 2.1 is a cross-section of a typical stream channel. The thalweg is the deepest part of the channel. The sloped bank is known as the scarp. The term discharge is used to describe the volume of water moving down the channel per unit time (usually described in the United States as cubic foot per second (cfs)). Discharge is the product of the area through which the water is flowing (in square feet) and the average velocity of the water (in feet per second). If discharge in a channel increases or decreases, there must be a corresponding change in streamflow velocity and/or flow area.

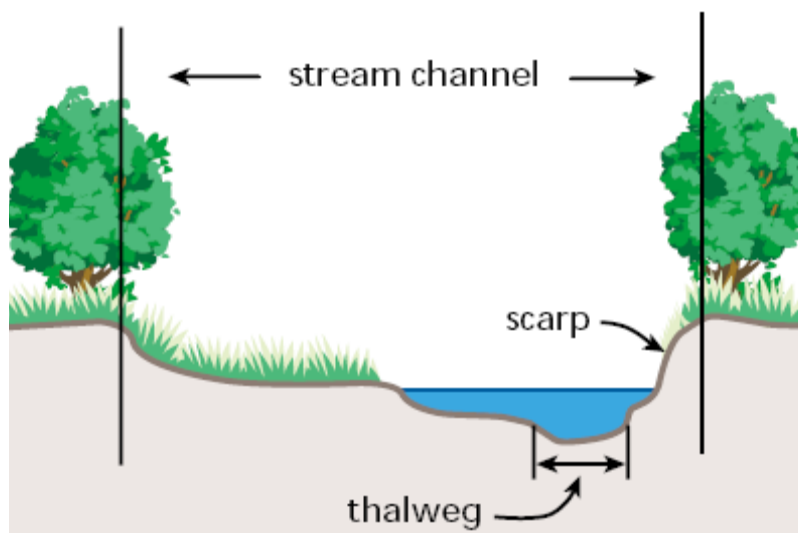


Figure 2.1 Cross-section of a Stream Channel (FISRWG, 1998)

Channel slope is an especially key concept when dealing with hydromodification projects. It is the difference in elevation between two points in the stream divided by the stream length

between the two points. Stream sinuosity greatly affects stream slope. Sinuosity is the stream length between two points on a stream divided by the valley length between the two points. A meandering stream moving through a valley has a lower slope than a straight stream.

Erosion, Transport, and Deposition of Sediment

All streams accomplish three basic geomorphic tasks:

- *Erosion*—the detachment of soil particles along the stream bed and banks
- *Sediment transport*—the movement of eroded soil particles in streamflow
- *Sediment deposition*—the settling of eroded soil particles in the water or on land as water recedes

These processes largely determine the size and shape of the channel, both laterally and longitudinally. The ability to accomplish these geomorphic tasks is related to stream power, the product of slope and discharge. Slope directly affects flow velocity. Consequently, a shallow, meandering stream with low slope generates less stream power, and has lower erosion and sediment-transport capacity, than a deep, straight stream.

In addition to sinuosity, roughness along the boundaries of a stream area is also important in determining streamflow velocity and stream power. The rougher the channel bottom and banks, the more they are able to slow down the flow of water. The level of roughness is determined by many conditions including:

- Type and spacing of bank vegetation
- Size and distribution of sediment particles
- Bedforms
- Bank irregularities
- Other miscellaneous obstructions

Tractive stress, also known as shear stress, describes the lift and drag forces that work to create erosion along the stream bed and banks. In general, the larger the sediment particle, the more stream power is needed to dislodge it and transport it downstream. When stream power decreases in the channel, larger sediment particles are deposited back to the stream bed.

Dynamic Equilibrium

One of the primary functions of a stream is to move particles out of the watershed. Erosion, sediment transport, and deposition occur all the time at both large and small scales within a channel. A channel is considered stable when the average tractive stress maintains a stable streambed and streambanks. That is, sediment particles that erode and are transported downstream from one area are replaced by particles of the same size and shape that have originated in areas upstream. Lane (1955) qualitatively described this relationship as:

$$Q_s * D \propto Q_w * S$$

Where: Q_s = Sediment discharge, D = Sediment particle size, Q_w = Streamflow, S = Stream slope

When all four variables are in balance, the channel is stable, or in dynamic equilibrium.

Lane's channel variable relationships can be visualized as a pan balance with sliding weights (Figure 2.2). Sediment discharge is placed on one pan and streamflow on the other. The hook holding the sediment load pan can slide back and forth based on changes in sediment size. Likewise, the hook holding the streamflow pan can slide according to changes in slope.

If a disturbance or stream modification occurs that causes a variable to change, one or more of the other variables must change in order to maintain the balance. During an imbalanced phase, the scale indicator will point to either degradation or aggradation. This indicates that the channel will try to adjust and regain equilibrium by either increasing sediment discharge by scouring the bottom or eroding its banks (degradation) or decreasing sediment discharge by depositing sediment on the bottom (aggradation), depending on the circumstance.

For example, if stream slope is decreased and streamflow remains the same (i.e., streamflow pan slides toward the center), the balance will tip and aggradation will occur (Figure 2.3). Alternatively, if streamflow increases and slope remains the same (i.e., more weight on the streamflow pan), degradation will occur. No matter the scenario, this basic relationship between the variables will hold true and aggradation or degradation will cease only when the system reaches equilibrium. This can occur naturally over time, or through management practices designed to deal with the "balancing" issue.

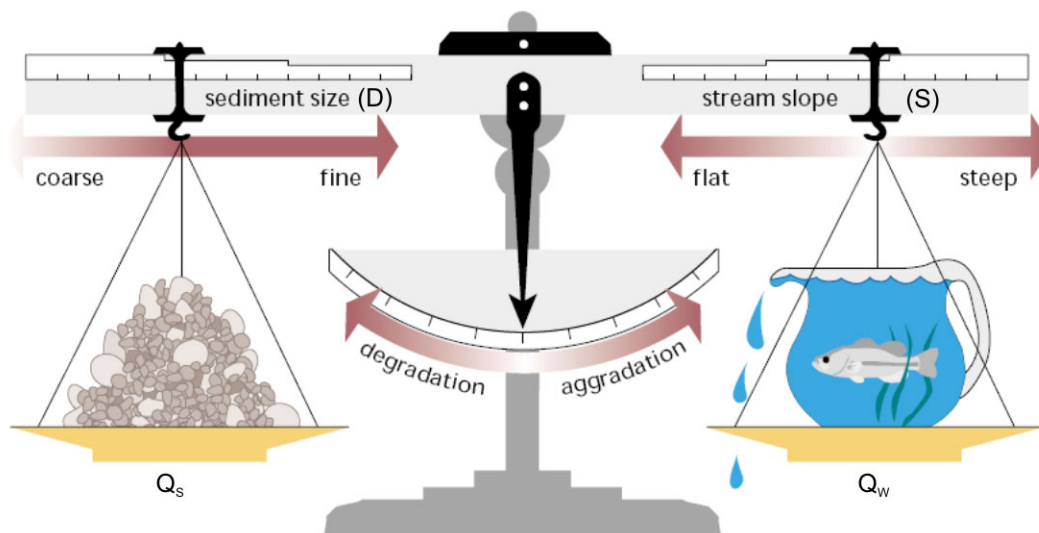


Figure 2.2 Factors Affecting Channel Degradation and Aggradation (FISRWG, 1998)

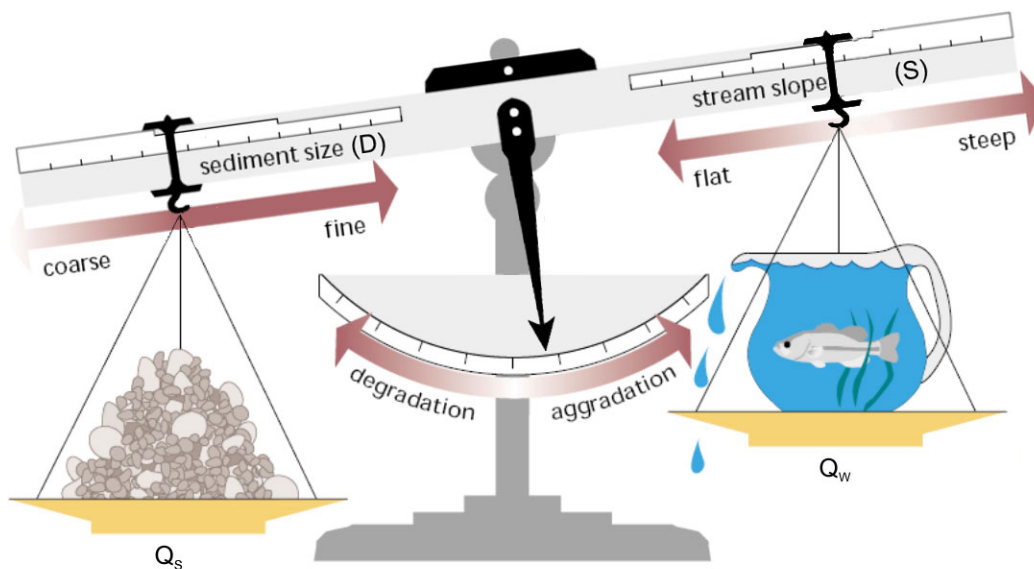


Figure 2.3 Example of Aggradation (Adapted from FISRWG, 1998)

Longitudinal View of Channels

The geomorphic processes that define the size and shape of channels can be observed in large and small scale longitudinal views. The overall longitudinal view of many streams can be divided into three general zones (Schumm, 1977):

- *Headwater zone*—characterized by steep slopes with sediment erosion as the most dominant geomorphic process.
- *Transfer zone*—characterized by more sinuous channel patterns and wider floodplains with sediment transfer as the most dominant geomorphic process.
- *Deposition zone*—characterized by lower slope and higher channel sinuosity than the other zone and is the primary deposition area for watershed sediment.

Key characteristics of each zone are summarized in Figure 2.4.

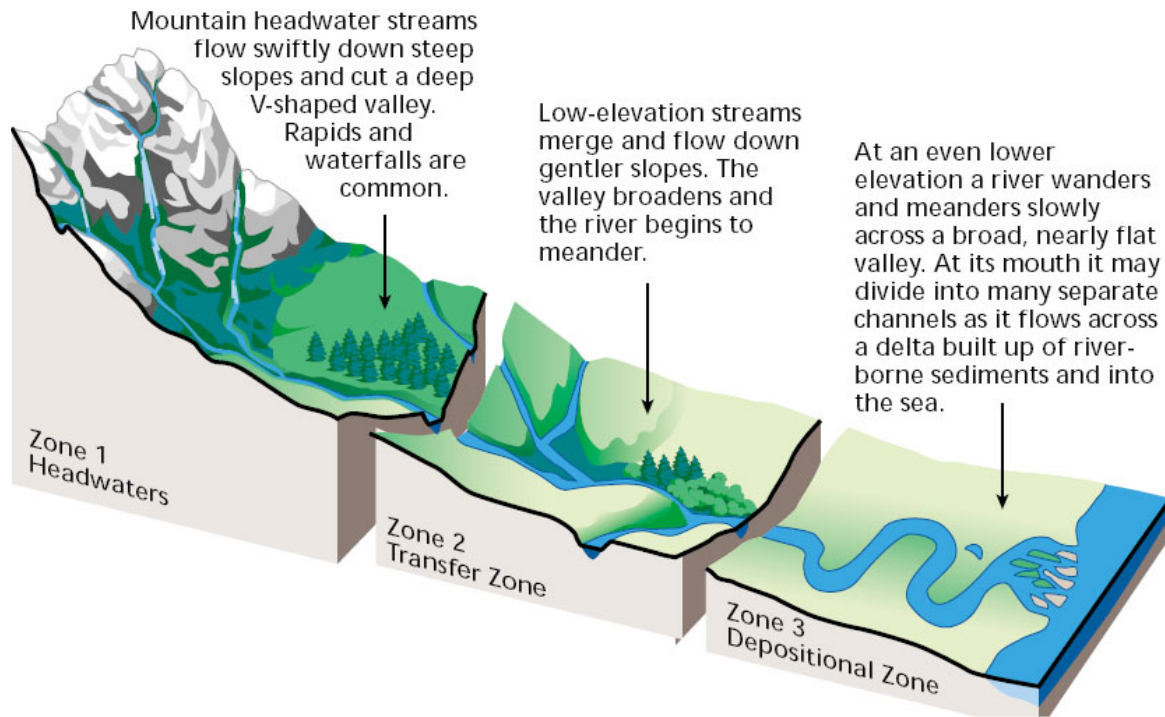


Figure 2.4 Three Longitudinal Profile Zones (FISRWG, 1998)

At a smaller scale, natural-forming channels are usually characterized by a series of riffles, pools, and runs. These structures are primarily associated with the thalweg, which meanders within the channel (Figure 2.5).

Riffles are shallow, turbulent, and swiftly flowing stretches of water that flow over partially or totally submerged rocks. Deeper areas at stream bends are the pools and can be classified as large-shallow, large-deep, small-shallow, and small-deep. Runs are the sections of a stream with little or no surface turbulence that connect pools and riffles.

The distribution in streamflow velocity and stream power throughout the riffle/pool/run sequence impact the geomorphic tasks. The stream bottom of a riffle is at a higher

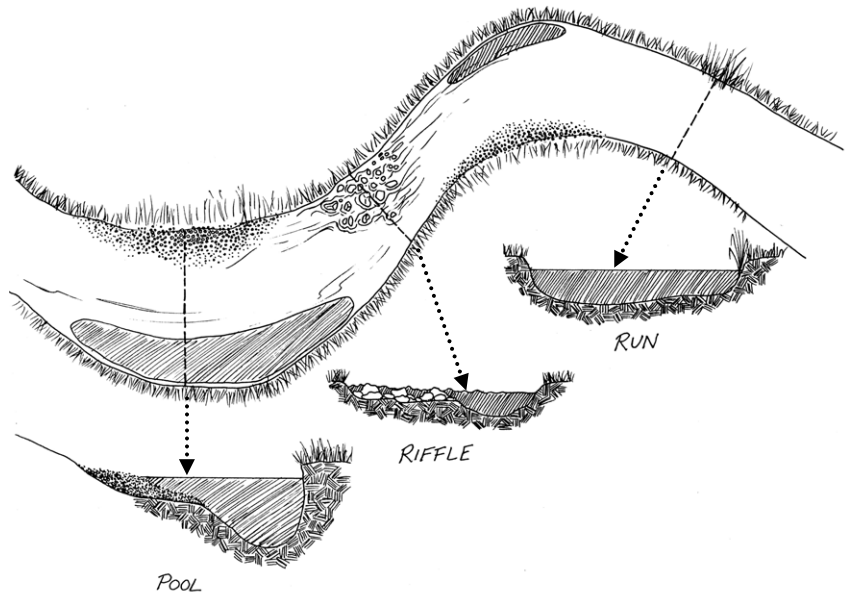


Figure 2.5 Overview of a Pool, Riffle, and Run (USEPA, 1997b)

elevation than the stream areas surrounding it. Consequently, the water flowing in a run from riffle to pool has the highest velocity near the center of the channel just under the surface (i.e., away from the roughness associated with channel boundaries). On reaching a bend, angular momentum forces the highest velocity flow to the outside of the bend and, given enough tractive stress, causes erosion to the bank (cutbanks). Meanwhile on the inside of the bend deposition often occurs because of decreasing flow velocity. Importantly, these and other characteristics of the riffle/pool/run sequence create unique habitats which allow different species to live, reproduce, and feed.

Disruption of Dynamic Equilibrium

Changes caused by (or exacerbated by) hydromodification projects and other human activities can lead to a disruption of the dynamic equilibrium of the stream channel. If, for example, a modification occurs that causes a change in sediment discharge, channel slope, or streamflow, one or more of the other variables will be imbalanced and the channel will usually try to adjust and regain equilibrium by either increasing sediment discharge by scouring the bottom or eroding its banks (degradation) or decreasing sediment discharge by depositing sediment on the bottom (aggradation) (Biedenharn et al., 1997; Watson et al., 1999). In some cases, alterations to a stream channel can result in local or system-wide channel instability (FISRWG, 1998).

General Impacts of Channelization and Channel Modifications

Channelization and channel modifications are undertaken for many purposes including flood control, navigation, drainage improvement, and reduction of channel migration potential. Modifications also occur in association with the installation of culverts and bridges, urbanization of the watershed, and agricultural drainage. These changes may result in several physical and chemical impacts.

Physical Impacts

The most significant physical impact of channelization and channel modifications is the movement or deposition of sediment. Sediment erodes from stream banks and beds, is washed downstream in faster moving water, deposited in areas of slower flows, and transported into new areas of streams or other receiving waters. Critical habitat can be changed when channelization or channel modification projects alter the dynamic equilibrium of a stream and change sediment transport or deposition characteristics. Re-establishing equilibrium may take some time to occur and have long-lasting effects to habitat and water quality conditions.

Channel modification and channelization can lead to increased erosion in some areas of the stream, which produces sediment. Sediment can be dislodged and transported directly from the waterbody's shoreline, bank, or bottom. Sediment being transported by a stream is referred to as the sediment load, which is further classified as the bed load (those particles moving on or near the bed, or bottom of the channel) and the suspended load (those particles moving in the water column). Hydromodification typically results in more uniform channel cross-sections, steeper stream gradients, and reduced average pool depths.

An increase in the sediment load could lead to increased turbidity, which then may cause an increase in stream temperature because the darker sediment particles absorb heat (USEPA, 1997b). Changes in water temperature can influence several abiotic chemical processes, such as dissolved oxygen concentrations, sorption of chemicals onto particles, and volatilization rates. Water temperature influences reaeration rates of oxygen from the atmosphere. Dissolved oxygen concentrations in water are inversely related to temperature; solubility of oxygen decreases with increasing water temperature. In addition, sorption of chemicals to particulate matter and volatilization rates are influenced by changes in water temperature. Sorption often decreases with increasing temperature and volatilization increases with increasing temperature (University of Texas, 1998).

An increased sediment load that contains significant organic matter can increase the sediment oxygen demand (SOD). The SOD is the total of all biological and chemical processes in sediment that consume oxygen (USEPA, 2003a). These processes occur at or just below the sediment-water interface. Most of the SOD at the surface of the sediment is due to the biological decomposition of organic material and the bacterially facilitated nitrification of ammonia, while the SOD several centimeters into the sediment is often dominated by the chemical oxidation of species such as iron, manganese, and sulfide (Walker and Snodgrass, 1986 from USGS, 1997; Wang, 1980). Increases in SOD can lead to lower levels of dissolved oxygen, which can be harmful to aquatic life.

A channel that is deepened or widened can result in slower and/or shallower flow. Reduced stream velocities can result in more sediment deposits to a stream segment. When more sediment is deposited in an area of a stream, critical habitats can be buried, channels may become unstable, and flooding increases. In tidal areas, channel modification activities, such as deepening a channel to allow for larger ships to access a shoreline, may require frequent maintenance to remove accumulating sediment because of changes in flow patterns.

Chemical Impacts

A variety of chemicals can be introduced into surface waters when channelization and channel modification activities alter flow and sediment transport characteristics. Nutrients, metals, toxic organic compounds, pesticides, and organic materials can enter the water in eroding soils along banks and move throughout a stream as flow characteristics change. Changing temperatures and dissolved oxygen levels may lead to alterations in the bioavailability of metals and toxic organics. Complex chemical conditions can significantly change when stream flow and sedimentation characteristics change, resulting in new and/or potentially harmful forms of chemicals affecting instream or benthic organisms.

It is important to remember that many of the physical and chemical changes are interrelated. For a more detailed discussion of the impacts associated with chemical and physical changes to surface waters, see *Restoration of Aquatic Ecosystems* (NRC, 1992). The following discussion provides examples of impacts that may be present as a result of different kinds of channelization. For a more detailed discussion of types of channelization projects and potential impacts, see Watson et al. (1999).

Biological and Habitat Impacts

Pools, riffles, and runs create a mixture of flows and depths and provide a variety of habitats to support fish and invertebrate life (USEPA, 1997b). The shallow, turbulent, and swiftly flowing stretches of riffle water are well oxygenated and have a “patchy distribution of organisms,” which means that different types of organisms are naturally found in different parts of the riffle. Pools can also be large or small and shallow or deep and support a wide variety of aquatic species. Sediments can deposit in pools, which can lead to the formation of islands, shoals, or point bars.

Changes in habitat and biological communities following hydromodification of a channel can be highly site-specific and complex. The physical and chemical alterations resulting from channelization impact various habitats and biological communities, including instream algae, fish, macroinvertebrate populations, and bank or floodplain vegetation. Mathias and Moyle (1992) compared unchannelized and channelized sections of the same stream and found a much higher diversity of many organisms, including aquatic invertebrates, fish, and riparian vegetation, in the unchannelized sections of the stream. Adams and Maughan (1986) compared the benthic community in a small headwater stream, prior to and after channelization. They found that the pathways of organic input shifted from materials associated with leaf fall and runoff to materials associated with periphyton production. Accompanying this change was a shift of the assemblage from shredder domination to grazer domination and a decrease in diversity. Biological and habitat impacts caused by channelization can result from increased stream velocity, decreases in pool and riffle habitat complex, decrease in canopy cover, increase in the solar radiation reaching the channel, channel incision, and increases in sediment.

Channelization of a stream may increase velocity due to increased channel slope and decreased friction with the bank and bed material. Changes in the velocity may cause an impact to organisms within the channel. For example, fish may have to expend more energy to stay in swifter currents and their source of food may be swept downstream. Studies have demonstrated that fisheries associated with channelized streams can be far less productive than those of non-channelized streams (Jackson, 1989). Increased rates of erosion as a result of increased velocities downstream of a channelization feature can also create unstable streambanks, which could lead to increased streambank erosion, higher risks of flooding, and ultimately negative impacts to aquatic organisms.

Channelization can result in a more uniform stream channel that is void of the pool and riffle habitat complex or obstructions, such as woody debris inputs. As repeatedly observed, this can result in changes to the biological community. Negishi et al. (2002) observed a decrease in the total density of macroinvertebrates in the middle of a channelized stream and a decrease in taxon richness in the middle and edge of a channelized stream. An overall reduction in habitat heterogeneity is likely responsible for the reduction in species diversity and the increased abundance of those species favored by the altered flows that is typically observed (Allan, 1995). On medium-sized, unregulated rivers, Benke (2001) found that habitat-specific invertebrate biomass was highest on snags, followed by the main channel and then the floodplain. It was concluded that invertebrate productivity from these habitats has likely been significantly diminished as a result of snag removal, channelization, and floodplain drainage (Benke, 2001).

The survival of the Gulf Coast walleye (*Stizostedion vitreum*) relies on the availability of appropriate spawning habitat, such as large woody debris, that locally reduce current velocity. Channelization and the removal of structures have been identified as activities of concern that could threaten the survival of the species (VanderKooy and Peterson, 1998). In one experiment, an assessment of water quality using environmental indices, such as macroinvertebrate communities, found that channelization and deforestation resulted in a completely different and less varied biocommunity (Bis et al., 2000). A lower persistence of the macroinvertebrate assemblage in the channelized stream was attributed to the lower availability of flow such as backwaters and inundated habitats (Negishi et al., 2002). In a study by Kubecka and Vostradovsky (1995), low fish populations were attributed to channelization of the riverbed.

The channelization of a river can also result in a decrease in canopy cover and an increase in the solar radiation reaching the channel. Bis et al. (2000) found that an increase in incident radiation on a river resulted in increased algal productivity and a significant decrease in scrapers, a macroinvertebrate that feeds on periphyton or algae growing on plant surfaces. Increased water temperatures can also lead to a shift in the algal community to predominately planktonic algal communities, which disrupts the aquatic food chain (Galli, 1991). The combination of increased water temperatures and loss of riparian vegetation falling into the stream (which provides both food and cover) may be responsible for the decrease in macroinvertebrates. Increased solar radiation on a channelized stream can act to decrease productivity by reaching the level of photoinhibition; a decrease in productivity due to excessive amounts of solar radiation. The temperature of the water can also be increased to the extent that it adversely impacts organisms. Elevated temperatures disrupt aquatic organisms that have narrow temperature limits, such as trout, salmon, and many aquatic insects.

Incision of a channel, a common impact of channelization, disconnects the channel from the floodplain by lowering the riverbed relative to the floodplain and decreasing the occurrence of overbank flow. Channel incision or downcutting has rarely been found to directly affect the biotic ecosystem, but indirect changes in habitat conditions are significant. Channel incision decreases habitat heterogeneity and, as a result, biodiversity (Tachet, 1997). An analysis of forest overstory, understory, and herbaceous strata along a channelized and unchannelized stream showed that there was a difference in terms of size-class structure and woody debris quantity (Franklin et al., 2001). Loss of woody vegetation along riparian zones on a channel that is incised because of upstream channelization was attributed to a decrease in over bank flooding and a lowering of the water table as the stream became incised (Steiger et al., 1998). A comparison of a regulated and an unregulated river in Colorado's Green River Basin found a difference in riparian vegetation composition. The regulated river supported banks with wetland species that survive in anaerobic soils and terraces with desert species adapted to xeric soil conditions. The unregulated river supported riparian vegetation that changed along a more gradual environmental continuum from a river channel to a high floodplain (Merritt and Cooper, 2000).

Sediment affects the use of water in many ways. When the rate of erosion changes, transport and deposition of sediment also changes. Excessive quantities of sediment can bury benthic organisms and the habitat of fish and waterfowl. Suspended solids in the water reduce the amount of sunlight available to aquatic plants, cover fish spawning areas and food supplies, fill

rearing pools, reduce beneficial habitat structure in stream channels, smother coral reefs, clog the filtering capacity of filter feeders, and clog and harm the gills of fish. Those fish species that rely on visual means to get food may be restricted by increased turbidity. Sedimentation effects combine to reduce fish, shellfish, coral, and plant populations and decrease the overall productivity of lakes, streams, estuaries, and coastal waters.

Impacts Associated with Specific Hydromodification Actions

Channel Straightening and Deepening

Channels are straightened for a multitude of reasons, such as directing water away from a particular structure or area and reducing local flooding. Channelization that involves straightening of the stream channel increases the slope of the channel, which results in higher discharge velocities. Impacts associated with increased water velocities include more streambank and streambed erosion, higher sediment loads, changes in pools, riffle, and run structure, and increased transport of nutrients and other pollutants (FISRWG, 1998; Simons and Senturk, 1992).

Channelization can also result in alterations to the base level of the stream, including channel downcutting or incision of a section of the stream, which raise the height of the floodplain relative to the riverbed and decrease the frequency of overbank flow. When streams reach flood stage and flow into the floodplain, velocities decrease. The reduction in overbank flow reduces sediment deposition and the sediment storage potential of the floodplain (Wyzga, 2001). A change in the downstream base level of a stream can create an unstable stream system (Biedenharn et al., 1997).

Headcutting is the deepening of a waterway caused by channelization or localized stream-bed mining. Headcutting severely impacts the physical integrity of a stream, as streambanks become unstable and are more prone to eroding and sloughing. Bank failures may result, removing streamside vegetation and introducing significant amounts of sediment into the waterway. As sediments build on the stream bottom, natural substrate is covered and stream depth decreases. Water quality often diminishes as temperatures rise due to less shading by riparian vegetation and increased water surface area with decreased depth. The rapid alteration to stream habitat caused by headcutting is usually detrimental to aquatic wildlife. Various organizations, such as the U.S. Army Corps of Engineers, the Natural Resources Conservation Service (NRCS), and the Missouri Department of Conservation, are involved in projects to reduce headcutting (CSU, n.d.; MDC, 2007; USGS, 2000).

Channel Lining

The sides of channels can be lined with materials such as metal sheeting, concrete, wood, or stone to prevent erosion of a particular section of stream channel or stream bank. The artificially lined areas can reduce the friction between the channel and flowing water, leading to an increase in velocity. The increased velocity and thus the increased erosive potential of the flowing water are not able to erode the artificially lined channel area and can result in augmented erosion downstream as well as increased downstream flooding (Brookes, 1998). Lining the channel also removes aquatic habitat and important substrates that are essential to aquatic life.

Channel Narrowing

Narrowing of a stream channel often occurs when flood control measures such as levees and floodwalls are implemented. By narrowing a stream channel, the water is forced to flow through a more confined area and thus travels at an increased velocity (FISRWG, 1998). The increased velocity in turn increases the stream's erosive potential and ability to transport sediment. This can lead to increased erosion of the streambank and shoreline in downstream locations.

When a channel is made narrower, the water depth increases and the surface area exposed to the solar radiation and ambient temperature decreases, especially in the warmer months. This can cause a decrease in the water temperature. Increased depth may also reduce the surface area of the water in contact with the atmosphere and affect the transfer of oxygen into the water.

In a naturally flowing stream, floods are responsible for such processes as redistributing sediment from the river bottom to form sandbars and point bar deposits. Stream channel modifications to reduce flood damage, such as levees and floodwalls, often narrow the stream width, increasing the velocity of the water and thus its erosive potential. This can lead to increased erosion of the streambank and shoreline in downstream locations (FISRWG, 1998).

Channel Widening

Channel widening is often performed to increase a channel's ability to transport a larger volume of water. The design is often based on volumes of water that occur during flood events. The design of a channel modification project to increase the channel's ability to transport a large volume of water will determine the characteristic of the water flow. The widening of a channel can result in a channel with a capacity to transport water that far exceeds the typical daily discharge. This results in a typical flow that is shallow and wide. As a result of increased contact with the streambed and streambank, there is increased friction and a decreased water velocity. The decrease in velocity causes sediment to settle out of the water column and accumulate within the stream channel. This accumulation of sediment can decrease the capacity of the stream channel. The decreased depth and increased surface area of the water exposed to solar radiation and ambient air temperatures can lead to an increase in water temperature. A change in water temperature can influence dissolved oxygen concentrations as dissolved oxygen solubility decreases with increasing water temperature.

Where tidal flow restrictors cause impoundments, there may be a loss of streamside vegetation, disruption of riparian habitat, changes in the historic plant and animal communities, and decline in sediment quality. Restricted flows can impede the movement of fish or other aquatic life. Flow alteration can reduce the level of tidal flushing and the exchange rate for surface waters within coastal embayments, with resulting impacts on the quality of surface waters and on the rates and paths of sediment transport and deposition.

Culverts and Bridges

The presence of culverts and bridges along a channel can have an impact on the physical and chemical qualities of the water. A culvert can be in the form of an arch over a channel or a pipe that encircles a channel, and it functions to direct flow below a roadway or other land use. A culvert or the supports of a bridge can confine the width of a channel forcing the water to flow in a smaller area and thus at a higher velocity. Impacts associated with a higher flow velocity

include increased erosion. An arch culvert maintains the natural integrity of the stream bottom. In addition, as compared with the natural substrate that can be found using an arch culvert without concrete inverts (floors), a pipe culvert may create less friction with the water flow and result in an increased flow velocity. The chemical and physical changes associated with increased erosion and sediment transport capacity would then result.

The culvert acts as a fixed point with a fixed elevation within the stream channel and as the stream attempts to adjust over time, the culvert remains stationary. Placement of this type of structure disturbs the natural equilibrium of a channel. A culvert sometimes may have beneficial attributes when it acts as a grade control structure, and as such, may serve to prevent upstream migrating incision (headcutting) from moving further up the channel. Depending on the watershed processes, the culvert may act to preserve the natural equilibrium of a channel.

Urbanization

As humans develop watersheds, the proportions of pervious and impervious land within the watershed change (most often increasing impervious areas and decreasing pervious areas). Development also results in reductions in vegetative cover in exchange for increases in houses, buildings, roads, and other non-vegetative cover. The result is a change in the fate of water from rainfall events. Generally, as imperviousness increases and vegetative cover is lost:

- Runoff increases
- Soil percolation decreases
- Evaporation decreases
- Transpiration decreases

Increased volumes of runoff resulting from some types of watershed development can result in hydraulic changes in downstream areas including bank scouring, channel modifications, and flow alterations (Anderson, 1992; Schueler, 1987). The resulting changes to the distribution, amount, and timing of flows caused by flow alterations can affect a wide variety of living resources. As urbanization occurs, changes to the natural hydrology of an area are inevitable. During urbanization, pervious spaces, including vegetated and open forested areas, are converted to land uses that usually have increased areas of impervious surface, resulting in increased runoff volumes and pollutant loadings. Hydrologic and hydraulic changes occur in response to site clearing, grading, and change in landscape. Water that previously infiltrated the ground and was slowly released runs off quickly into stream networks. Development, with corresponding increases in imperviousness, can lead to:

- Increased magnitude and frequency of bankfull and subbankfull floods
- Dimensions of the stream channel that are no longer in equilibrium with its hydrologic regime
- Enlargement of channels
- Highly modified stream channels (from human activity)
- Upstream channel erosion that contributes greater sediment load to the stream
- Reduced dry weather flow to the stream
- Decreased wetland perimeter of the stream
- Degraded in-stream habitat structure

- Reduced large woody debris
- Increased stream crossings and potential fish barriers
- Fragmented riparian forests that are narrower and less diverse
- Decline in water quality
- Increased summer stream temperatures
- Reduced aquatic diversity

The hydraulic changes associated with urbanization have often been addressed with channelization and channel modification as a solution. Evaluating impacts from urbanization on a watershed scale and planning solutions on the same watershed scale can often prevent the transference of upstream problems to downstream locations. There are a variety of management activities that can reduce the impacts associated with urban development. When these urban impacts are reduced, additional hydromodification impacts, such as channelization and channel modification or streambank and shoreline erosion effects, may be reduced. Changes in urban development practices that result in reduced sediment in runoff can enhance reservoir quality and lessen the need for management activities to reduce nonpoint source impacts associated with the operation of dams.¹

Agricultural Drainage

Some activities, including channelization and channel modification, that take place within a watershed, can lead to unintended adverse effects on watershed hydrology. Even when the intended effect of the watershed activity is to reduce pollution or erosion for an area within a watershed, the impact of the project to the entire watershed's hydrology should be evaluated. Since hydrology is important to the detachment, transport, and delivery of pollutants, better understanding of these effects can lead to reduction of nonpoint source pollution problems (USEPA, 2003b).

One example of an activity that has been shown to provide localized nonpoint source benefits, but can negatively affect the hydrology of a watershed, is an agricultural drainage system. The main purpose of agricultural drainage is to provide a root environment suitable for plant growth, but it can also be used as a means of reducing erosion and improving water quality. Despite the localized positive effects of drainage, when drainage water is poor in quality or contains elevated levels of pollutants, adverse impacts may occur downstream within a watershed. Concentrations of salts, nutrients, and other crop-related chemicals, such as fertilizers and pesticides can damage downstream aquatic ecosystems. Many agricultural drainage systems include drain tiles placed strategically throughout a field to create a network of gravity fed drains. The drain tiles empty into a collection pipe that drains to a waterbody nearby. With the drain system in place and operating, water will leave the affected area quicker and at one or more focused points. Water from the drainage system may erode the banks of unlined surface drains, contribute to flashier runoff events in the receiving water or downstream, and increase the load of sediment in drainage water (USEPA, 2003b).

¹ For additional information on hydrologic problems associated with urbanization and management practices that address urbanization issues, refer to *National Management Measures to Control Nonpoint Source Pollution from Urban Areas* (USEPA, 2005d): <http://www.epa.gov/owow/nps/urbanmm/index.html>.

Because of these adverse effects, drainage planners should analyze effluents from these systems for nutrients and pesticides to determine possible downstream impacts. Care should also be taken with drainage water so that it does not negatively alter the hydrology of a watershed (FAO, 1997). The degree to which management activities, such as agricultural drainage systems, affect watersheds beyond their intended purpose should be evaluated. In some cases, a thorough assessment and thoughtful discussion with key stakeholders is enough to evaluate the potential impacts of a project on hydrology. However, in many instances, some form of modeling is probably needed to integrate various small and large impacts of watershed activities. For more information on agricultural drainage and management practices related to agricultural drainage, refer to *National Management Measures for the Control of Nonpoint Pollution from Agriculture* (USEPA, 2003b).²

Shorelines

A shoreline is defined as the areas between low tide and the highest land affected by storm waves. The shape and position of shorelines are constantly being modified by the processes of erosion and deposition by waves and currents (Tarbuck and Lutgens, 2005). NOAA's Coastal Services Center defines shoreline as "the line of contact between the land and a body of water. On Coast and Geodetic Survey nautical charts and surveys the shoreline approximates the mean high water line" (NOAA, 2006).

The shoreline can be divided into three major areas:

- 1) *Coast*—the land inland from the base of the sea cliff (produced by the undercutting of bedrock at sea level by wave erosion).
- 2) *Beach (shore)*—the area between low tide level and dunes, sea cliff, or permanent vegetation. This can be separated into backshore and foreshore.
- 3) *Offshore*—the area continuously underwater, which can include a wave build platform.

Shoreline Processes

As mentioned above, the shape and position of shorelines are constantly modified by erosion and deposition by waves and currents. Waves are agents of erosion, transportation, and deposition of sediments. Waves can be formed by the following processes (Tulane University, n.d.; University of Alabama, 2006):

- *Wind-generated waves*—formed by shear stress between water and air when the wind speed is higher than about 3 km/hr. Factors that determine the size of waves are wind velocity, wind duration, and fetch (distance the wind blows over a continuous water surface).
- *Displacement of water*—can be caused by activities such as landslides.
- *Displacement of seafloor*—can be caused by faulting and volcanic eruptions.

² Available online at: <http://www.epa.gov/owow/nps/agmm/index.html>.

Wave refraction occurs where wave fronts approach the shore at an angle, but are bent to become more parallel to the shoreline by frictional drag on the bottom. The part of the wave in shallow water slows down because of bottom friction, while the part in the deep water keeps moving at regular speed. Wave refraction causes headland erosion and deposition in bays (Tulane University, n.d.; University of Alabama, 2006).

Nearshore currents occur in the area from the shoreline to beyond the surf zone and consist of (Tulane University, n.d.; University of Alabama, 2006):

- *Longshore currents* move parallel to shore in the same general direction as the approaching waves. They are produced by the movement of oblique waves in the surf zone, and can transport large amounts of sediment by longshore drift.
- *Rip currents* are strong, narrow currents of surface water that flow seaward through the surf into deeper water. The currents develop in areas with lower wave heights (deeper water depths).

Deposition and Erosion

Wave erosion and rivers that open into the ocean or lakes can deposit sediment, transported by longshore currents, developing the following depositional features (Tulane University, n.d.; University of Alabama, 2006):

- 1) *Beaches*—Any strip of sediment that extends from the low-water line inland to a cliff or zone of permanent vegetation, which is built of material eroded by waves from the headlands, and material brought down by rivers that carry the products of weathering and erosion from the land masses. Beaches are protected from the full force of water waves but are continually modified by wave and current erosion.
- 2) *Spits*—A narrow ridge or embankment of sediment forming a finger-like projection from the shore into the open ocean. Spits typically develop when the sediment being carried by long-shore drift is deposited where water becomes deeper, such as the mouth of a bay.
- 3) *Baymouth bars*—Sand bars that form as a result of longshore drift and completely cross a bay, sealing it off from the open ocean.
- 4) *Tombolo*—A ridge of sand that connects two islands or an island with the mainland, formed as the result of wave refraction around an island.
- 5) *Tidal inlet*—A break in a spit or baymouth bar, caused by storm erosion, through which tidal currents rush.
- 6) *Barrier islands*—Low offshore ridges of sediments that parallel the coast and are separated from the mainland by lagoons.

Wave erosion can also wear away land features, causing the following types of features to form (Tulane University, n.d.; University of Alabama, 2006):

- 1) *Sea cliffs*—formed by storm wave erosion which undercuts higher land, making it susceptible to mass wasting. Sea cliffs can erode very slowly or rapidly, depending on the rock type and wave energy.
- 2) *Wave-cut terrace or platform*—produced by the retreat of a sea cliff which slopes gently in a seaward direction.

- 3) *Headlands*—occur due to the seaward projections of shore eroded by wave refraction.

Common Natural and Anthropogenic Causes of Coastal Land Loss

Primary causes of coastal land loss, including both natural and anthropogenic causes, are summarized in Table 2.1 below (USGS, 2004).

Table 2.1 Common Causes of Coastal Land Loss

Agent	Examples
Natural Causes	
Erosion	Waves and currents, storms, landslides
Sediment reduction	Climate change, stream avulsion, source depletion
Submergence	Land subsidence, sea-level rise
Wetland deterioration	Herbivory, freezes, fires, saltwater intrusion
Anthropogenic Causes	
Transportation	Boat wakes, altered water circulation
Coastal construction	Sediment deprivation (bluff retention), coastal structures (jetties, groins, seawalls)
River modification	Control and diversion (dams, levees)
Fluid extraction	Water, oil, gas, sulfur
Climate alteration	Global warming and ocean expansion, increased frequency and intensity of storms
Excavation	Dredging (canals, pipelines, drainage), mineral extraction (sand, shell, heavy mines)
Wetland destruction	Pollutant discharge, traffic, failed reclamation, burning

Shorelines can also experience increased rates of erosion as a result of hydromodification activities. Alterations to the sediment sources for beaches can result in erosion. The sediment supplied to beaches or shorelines can come from a variety of sources including rivers, cliff and rocky foreshores, the seafloor, or windblown dune materials. Beaches and shorelines at the mouth of a river are often replenished by fluvial sediment. When changes within the river system decrease the sediment load carried to the mouth of the river, the result may be decreased sediment supplies to the shoreline or beach. While the design of each hydromodification system determines the impacts that will ensue, streambank and shoreline erosion is a common consequence.

Impacts Associated with Dams

The physical presence and operation of dams can result in changes in water quality and quantity. Some of the water quality impacts include changes in erosion, sedimentation, temperature, dissolved gases, and water chemistry. Examples of biological and habitat impacts, which may result from a combination of physical and chemical changes, include loss of habitat for existing or desirable fish, amphibian, and invertebrate species; changes from cold water to warm water species (or inversely, changes from warm water to cold water species); blockage of fish passage; or loss of spawning or necessary habitat.

The impacts associated with dams occur above (upstream) and below (downstream) the dam. Upstream impacts occur primarily in the impoundment/reservoir created by the presence and operation of the dam. The area and depth of the impoundment will determine the extent and

complexity of the upstream and downstream impacts. For example, small, low-head dams with little impounded areas will exhibit different impacts than large storage dams. Sedimentation and fish passage issues at the smaller, low-head dam contrast with sedimentation, temperature, fish passage, flow regulation, and water quality issues that may be associated with the larger storage dam. The existence of the dam and associated impoundment results in much different water quality interactions than those associated with the preexisting naturally flowing streams or rivers.

Above dams, activities within the watershed can have significant impacts on water quality within impoundments and in releases from dams to downstream areas. Watershed activities, such as agricultural land use, unpaved rural roads, forestry harvesting, or urbanization can lead to changes in runoff water quantity and quality. Agricultural and forestry practices that lead to sediment-laden runoff may result in increased sediment accumulation within an impoundment. Chemicals (e.g., pesticides and nutrients) that are applied on agricultural crops can be carried with sediment in runoff. Increases in urbanization that result in more impervious areas within a watershed often result in dramatic changes in the quantity and timing of runoff flows. These external sources are integrated by the dam and may result in short- and long-term water quality changes within an impoundment and dam releases.

Water quality in reservoirs and releases from dams are closely linked and scrutinized to uses of the water. Often, there are multiple potential users who may have differing quality needs and perceptions. Management of dams includes balancing dam operations, watershed activities, reservoirs, and downstream water and uses. Dortch (1997) provides an excellent assessment on water quality considerations in *Reservoir Management*. Dortch (1997) notes the following about water quality:

- *Temperature* regulates biotic growth rates and life stages and defines fishery habitat (warm, cool, and cold water).
- *Oxygen* sustains aquatic life.
- *Turbidity* affects light transmission and clarity.
- *Nutrient enrichment* is linked to primary productivity (algal growth) and can cause oxygen depletion, poor taste, and odor problems.
- *Organic chemicals and metals* may be toxic and accumulate when bound to sediment that settles in the reservoir.
- *Total dissolved solids* may be problematic for water supplies and other users.
- *Total suspended solids* are a transport mechanism for nutrients and contaminants. Solids may settle in reservoirs and displace water storage volume.
- *pH* regulates many chemical reactions.
- *Dissolved iron, manganese, and sulfide* can accumulate in reservoir hypolimnions that are depleted of oxygen and can cause water quality problems in the reservoir and release water.
- *Pathogens* include bacteria, viruses, and protozoa that can cause public health problems.

Water uses include water supply, flood control, hydropower, navigation, fish and wildlife conservation, and recreation (Dortch, 1997). All of the uses have varying water quality requirements, ranging from almost none for flood control to high quality needs for water supply, fish and wildlife conservation, and recreation.

Dams act as a barrier to the flow of water, as well as to materials being transported by the water. This can impact water quality both in the impoundment/reservoir created by the dam and downstream of the dam. Alteration to the chemical and physical qualities of water held behind a dam is often a function of the retention time of a reservoir or the amount of time the water is retained and not able to flow downstream. Water held in a small basin behind a run-of-river dam may undergo minimal alteration. In contrast, water stored for months or even years behind a large storage dam can undergo drastic changes that impact the downstream environment when released (McCully, 2001). A storage dam that impounds a large reservoir of water for an extended time period will cause more extensive impacts to the physical and chemical characteristics of the water than a smaller dam with little storage capacity.

Several physical changes are possible when dams are introduced into a stream or river, including changes in:

- Instream water velocities
- Timing and duration of flows
- Flow rates
- Sediment transport capacities
- Turbidity
- Temperature
- Dissolved gasses

Similarly, changes to water chemistry are possible as a result of damming rivers and streams, including changes to:

- Nutrients
- Alkalinity and pH
- Metals and other toxic pollutants
- Organic matter

The nature and severity of impacts will depend on the location in the river or stream, in relation to the upstream or downstream side of the dam, the storage time of the impounded water, and the operational practices at the dam. Many of the above impacts are also interrelated. For example, changes in temperature may result in changes in dissolved oxygen levels or changes to pH may result in changes to nutrient dynamics and the solubility of metals.

Water Quality in the Impoundment/Reservoir

As water approaches a dam from upstream, the stream velocity slows down considerably, creating a lake-like environment. The water builds up behind the dam and forms a basin (i.e., impoundment, reservoir) that is deeper than the previous stream flow. The height of the dam and its operational characteristics will determine how much water is stored and the length of storage. The extent of impacted stream area above the dam is influenced by the size of the dam installed, how much water is released, and how often water is released. For example, a small run-of-the-river dam constructed to divert water for a millrace will have minimal storage capacity and may only store water for several hours or less. In this case, instream water velocities may decrease,

but with minimal upstream and downstream effects. Thus, the length of upstream channel that is impacted should be relatively small.

In contrast, a large flood control dam and reservoir may have many months of storage and severely alter instream velocities for long distances upstream. Topography surrounding the original stream channel and storage volume will be important parameters determining the length of stream channel affected by the large dam. The volume and frequency of discharges from the dam will also determine how much of the upstream channel is impacted with lower instream velocities as a result of the dam.

Dams act as a physical barrier to the movement of suspended sediments and nutrients downstream (McCully, 2001). When the stream flow behind a dam slows, the sediment carrying capacity of the water decreases and the suspended sediment settles onto the reservoir bottom. Any organic compounds, nutrients, and metals that are absorbed to the sediment also settle and can accumulate on the reservoir bottom.

Turbidity associated with sediment varies, depending on particle sizes of the sediment and the length of time water is held. Longer holding times in the reservoir could result in periodic episodes of high turbidity from upstream storm events that carry sediment rich stormwater, especially if the sediment is predominantly very fine clay particles. Turbidity may also increase as a result of planktonic algal growth in a reservoir.

The increased depth of the water in reservoirs reduces the volume of water exposed to solar radiation and ambient temperatures. Once the flow is controlled by the operation of the dam and the reservoir is mixed primarily by winds, temperature variations can become established within the reservoir. This can cause thermal stratification where, compared to the bottom, surface layers become warmer in the summer and cooler in the winter. In deeper reservoirs, the deepest layers may become nearly constant in temperature throughout the year. Changes in temperature can impact water quality and biological processes in the reservoir, including changes in predominant fish species. Since the density of water is a function of water temperature, thermal stratification creates density gradients within the impoundment. As density gradients become established, exchanges of gases and chemicals between gradients decrease. In a stratified impoundment well aerated surface waters often do not mix with hypolimnetic water and result in poorly oxygenated strata below the surface waters.

Nutrient transport is affected by dams, which can trap the nutrients in the impoundment/reservoir. When nutrients accumulate, the reservoir might become nutrient enriched (i.e., eutrophic). In warmer seasons, concentrated nutrients in waters exposed to light can promote growth of algae and other aquatic plants, which consume nutrients and release oxygen (during photosynthesis) and carbon dioxide (during respiration). When algae and other aquatic plants complete their growth cycles, they die and sink to the bottom of an impoundment. Microbial decomposition of the highly organic dead plant materials may release nutrients back into the water column. Microbial decomposition of the dead plant and algal cells in aerobic conditions consumes oxygen, which can rapidly deplete bottom waters of dissolved oxygen. Under anaerobic conditions, microbial decomposition can produce potentially toxic concentrations of gases, such as hydrogen sulfide.

The operational characteristics of a dam will influence nutrient levels in water releases. For example, water released from the surface of an impoundment may contain seasonally varying forms and levels of nutrients. During periods of algal growth, releases may contain lower levels of dissolved nutrients and higher levels of organic materials (algae) containing nutrients. When algal growth is not occurring, releases may contain higher levels of dissolved nutrients.

Anaerobic (oxygen-depleted) environments, which are typical of deeper waters in reservoirs, can result in several changes to the water chemistry. For example, as by-products of organic matter decomposition in an anaerobic environment, ammonia and hydrogen sulfide concentrations can become elevated (Freeman, 1977; Pozo et al., 1997). Highly acidic (or highly alkaline) waters tend to convert insoluble metal sulfides to soluble forms, which can increase the concentration of toxic metals in reservoir waters (FISRWG, 1998).

Changes in one water quality parameter in a reservoir/impoundment can impact other water quality parameters, causing a cycling of events to occur. For example, increased sedimentation (from internal or external sources) can lead to more organic matter remaining in the reservoir, resulting in more biochemical oxygen demand, potentially lower dissolved oxygen, and other changes to water chemistry, such as pH and metal solubility. Periodic growth and then die-off of aquatic plants and algae creates additional variable cycling of organic matter in the reservoir. The following references may provide additional detail on the complex water quality changes that can occur in impoundments and reservoirs:

- Holdren, C., W. Jones, and J. Taggart. 2001. *Managing Lakes and Reservoirs*. North American Lake Management Society and Terrene Institute, in cooperation with the Office of Water, Assessment and Watershed Protection Division, U.S. Environmental Protection Agency, Madison, WI.
- Thornton, K.W., B.L. Kimmel, and F.E. Payne. 1990. *Reservoir Limnology: Ecological Perspectives*. John Wiley & Sons, Inc., New York.
- U.S. Army Corps of Engineers. N.d. *The WES Handbook on Water Quality Enhancement Techniques for Reservoirs and Tailwaters*. U.S. Army Corps of Engineer Research and Development Center Waterways Experiment Station, Vicksburg, MS.

Water Quality Downstream of a Dam

The physical and chemical changes that occur to the water quality in an impoundment/reservoir have a large impact on the water released downstream of a dam. As previously stated, the presence of a dam can alter water velocities above and below the dam. In smaller dams with little storage capacity, velocities may slow locally and recover to an undisturbed state shortly downstream from the dam. When dams store large volumes of water in a reservoir, the operation of the dam will have a major impact on the downstream velocities and flows. Unless the dam is operated to consistently release water at flows near pre-dam levels, downstream areas will have flows and velocities that are directly related to the volume of water released in a given time period. The downstream flow characteristics will become a function of the operation of the dam, including the timing and duration of releases, the depth of reservoir intakes, and other physical characteristics of the release.

On the Columbia River, research found that prior to construction of dams, average water temperatures fluctuated more diurnally with cooler nighttime temperatures as compared with the existing average water temperatures. With the dams in place, cooler weather tends to cool the free flowing river but have little effect on the average temperature of the impounded river (USEPA, 2003c).

When dams trap sediment upstream, water released from the dam may be starved of sediment and have an increase in erosive capacity. Along with trapping sediment, nutrients may also be trapped above the dam. When the nutrients are trapped and unavailable, sensitive downstream habitats and populations may be affected.

Whether the water is released from the surface or bottom of the reservoir can have a large impact on the characteristics of the water. The impacts of water outflows below a dam are an outcome of the seasonal temperature fluctuations and the outflow positioning. Seasonal temperature profiles in reservoirs are highly variable and dependent upon a complex set of factors including tributary inflow, basin morphometry, drawdown and discharge characteristics, and the degree of stratification (Wetzel, 2001). Compared to natural temperatures, in summer elevated temperatures in surface water releases can increase downstream river temperatures, whereas bottom water releases can be expected to decrease water temperatures. The opposite effect is generally observed in the winter due to changes in the water temperature gradient (USACE, 1999 in Fidler and Oliver, 2001).

Suspended Sediment and Reduced Discharge

Whether the release water originates from the surface or the bottom of the reservoir, the suspended sediment has typically settled out of the water column and thus the water released from behind the dam is usually relatively free from sediment (Simons and Senturk, 1992). This sediment-free water can easily pick up and carry a sediment load and have an increase in erosive capacity. Because of the rock lined channels of bank stabilization and navigation projects that usually occur below these reservoirs, the only place that the clear waters can find the sediments they need is in the streambed or navigation channel. This leads to channel deepening or bed degradation, which in turn lowers water tables and drains floodplain channels and backwaters (Rasmussen, 1999). Streambed and streambanks will continue to erode until an equilibrium suspended sediment load is established. Without sediment from upstream sources, downstream streambanks, streambeds, sandbars, and beaches can erode away more quickly (FISRWG, 1998).

A reduction in the discharge and sediment load generally results in degradation of the channel close to the dam and sedimentation downstream due to the increased supply from the erosion near the dam. Degradation may eventually migrate downstream, but is typically most dramatic the first few years following construction of the dam (Biedenharn et al., 1997). In addition, the physical impact of the discharge will depend, in part, on the channel substrate. A fine silt and sand channel bottom may experience more extensive erosion than a bed rock or cobble substrate.

Lower flow conditions below a dam within a tidally influenced basin can lead to changes in water chemistry. The impact of lower freshwater flow into estuaries was extensively studied in San Francisco Bay. Nichols et al. (1986) provide a detailed history of changes to freshwater inflows to San Francisco Bay. They also provide a summary of the impacts, which include the ecological and water quality effects. A study comparing an unregulated river and a dam regulated river found a significant difference in the water quality chemistry, including an analysis of levels of sodium, potassium, calcium, phosphorus, electrical conductivity, and pH in the middle and lower reaches of the rivers. These differences were attributed to increased tidal influence as a result of lower outflow volumes of fresh water from the dam (Colonnello, 2001). In addition, a decreased discharge from the dam and increased tidal influence can prolong the flushing time or the time it takes water to move through a system. This causes the nutrients and pollutants within the water to remain concentrated in areas below the dam near an estuary.

Biological and Habitat Impacts

The presence of a dam may cause physical and chemical changes to the water quality. These, in turn, can have an impact on the entire biological community including fish, macroinvertebrates, algae, and streamside vegetation. Impacts to the biological community differ upstream and downstream of a dam. Dams may disrupt spawning, increase mortalities from predation, change instream and riparian habitat, and alter plant and benthic communities. Resulting fish populations after dam construction may thrive and become well established, but could be very different than populations prior to installing the dam. For example, upstream of the dam, a fish population may change from a cold-water salmonid fishery to one that is dominated by cool- or warm-water species. A once thriving native trout population may become a largemouth bass (*Micropterus salmoides*) and bluegill (*Lepomis macrochirus*) dominated system. Similarly, downstream conditions may also change. In southern states, streams that once supported catfish and other tolerant warm-water species may now be able to support a trout fishery because of cold-water releases from bottom waters behind a dam. Although the trout fishery may be viewed as positive by some, the displaced native warmwater species may not be perceived as beneficial.

Dams prevent the movement of organisms throughout the river system (Morita and Yamamoto, 2002). Researchers found that fragmenting habitat by damming a river caused the disappearance of a fish species in several upstream locations and further disappearances were predicted (Morita and Yamamoto, 2002). Recently, some individual cases involving movement of invasive, non-native aquatic species note the presence of dams as a positive factor. In these cases, dams have blocked the movement of potentially harmful invasive species.

Flood control and hydropower projects influence a river's hydrograph. For example, in some regions normal river hydrographs featured a rise in water level elevation corresponding to spring

rains. Other geographic areas had stream hydrographs corresponding to snowmelt in the mountains, or fall rainfall. Native species evolved under these scenarios and used such water level rises to trigger spawning movements onto floodplains and in the case of birds, for nesting on islands. Additionally, the stream water level fluctuations were important in providing feeding and resting areas for spring and fall waterfowl migrations. Under managed scenarios for commercial navigation, river water level elevations are raised in the spring and held stable throughout the navigation season, virtually eliminating the triggering mechanisms native species used to reproduce and complete their life cycles. Because of this, many native riverine species often fail to spawn or nest, and are becoming increasingly threatened (Rasmussen, 1999). Additionally, stabilization of periodic flooding has also lead to the loss of ephemeral wetlands and may lead to the accumulation of sediments in nearshore areas, thus negatively affecting fish spawning areas (NRC, 1992).

Dams may lead to increased predation of fish in several ways. A dam may cause populations of fish to concentrate on the upstream and downstream sides, which might lead to the likelihood of increased predation. Changes in the habitat adjacent to a dam can make conditions more suitable to predation. Dams may cause the migration process to be delayed, which also leads to increased predation (Larinier, 2000).

The physical and chemical changes to water released from a dam, including reduced streamflow variability and decreased sediment loads, may also impact benthic communities. Increased water clarity and reduced streamflow variability just below a dam may result in a greater abundance of periphyton or other plants as compared with other locations in the river (Stanford and Ward, 1996). A slowed stream flow velocity with decreased turbulence can also encourage the growth of phytoplankton blooms (Décamps et al., 1988). In contrast, the operation of some hydroelectric dams with large, sudden releases of water may scour the bottom of the downstream channel to the extent that there is a nearly complete removal of the plant communities (Allan, 1995).

Impacts Associated with Dam Removal

Removing a dam affects the flow of water, movement of sediment and chemical constituents, and the overall channel morphology (Academy of Natural Sciences, 2002) on the waterway where the dam was located. The impacts of removing a dam differ for the upstream and downstream sections of a waterway.

Changes in the biological community following the removal of a dam are difficult to generalize, as they are highly site specific and can vary in recovery time from a few months to

The effects of river damming were evaluated in a study comparing a regulated river to an unregulated river in the Green River Basin in Colorado. Prior to installation of the dam in Green River in 1962, Green River and the Yampa River were similar in riparian vegetation and fluvial processes. Comparison of the now regulated Green River and the free-flowing Yampa River found distinctive vegetation differences between the parks that surround the rivers. The channel form of Green River has undergone three stages of morphologic change that have transformed the historically deep river into a shallow braided channel. The Yampa River has remained relatively unchanged. The land surrounding the Green River now consists of marshes with anaerobic soil that supports wetland species and terraces with desert species adapted to xeric soil conditions. The meandering Yampa River has maintained its original surroundings. Its frequently flooded bars and high floodplains provide a wide range of habitats for succession of riparian vegetation (Merritt and Cooper, 2000).

more than a decade. With the removal of a dam, there are changes in the vegetative community surrounding the stream channel and changes in the biological community within the stream itself.

Physical Changes: Upstream Impacts

The removal of a dam allows the water formerly held behind the dam to flow and will likely cause the extent of the impoundment area or reservoir area to decrease. As a dam is removed and the water recedes, sediment is scoured from the bottom and a stream channel returns sometimes to its pre-dam pathway and sometimes to a newly carved channel. As a channel is formed, areas that were formerly beneath the impoundment area become exposed. This can leave large areas of unvegetated and unstable land exposed, which makes these areas likely to undergo erosion and gully development, increasing the sediment load to the stream.

In time, vegetation will stabilize the newly formed stream banks, reducing erosion and allowing sediment transport levels to return to natural levels. The nutrient and metal constituents associated with the sediment will also return to natural levels. As the newly established channel-like flow develops and the stagnant and deep conditions are removed, the natural temperature and oxygen levels will be reestablished.

Physical Changes: Downstream Impacts

Once the physical barrier of the dam is removed, a river can flow unrestricted. As the channel is reformed, the water discharge volume and the stream channel can reach equilibrium. As a result, a more natural stream flow rate is maintained.

With the removal of a dam, the fate of the trapped sediments is of concern because flooding and downstream pollution problems can result. On a short-term time scale, the redistribution of the fine silt and sand sediments that accumulated behind the dam wall may cause an increase in turbidity and water quality problems. In addition, the impact can be greater if the sediments contain toxic pollutants, such as metals or bioaccumulative compounds such as mercury or PCBs. On a short-term time scale, the redistribution of the fine silt and sand sediments increases the turbidity and can damage spawning grounds, water quality, habitat, and food quality (American Rivers, 2002a). Suspended sediment loads can have a negative impact on a biological community and reach lethal levels during dam removal if preventive measures are not implemented (Doyle et al., 2000).

After a dam is removed and the sediment that has been trapped behind the dam is redistributed, natural sediment transport levels return. As a result, the constituents typically sorbed to sediment, including nutrients and metals, are no longer found localized in excess. Normal sediment transport levels typically result in a river bottom with a higher percentage of rocky substrate. Gravel and cobblestones located below the sediment may be exposed or may be transported from upstream locations as the flow rate of the river increases. This unrestricted flow and transport of sediment and gravel may also play a key role in restoring sediments to downstream locations and coastal beaches (USDOI, 1995). The removal of a dam and the return of natural flow rates should also help to restore a river's natural water temperature range and oxygen levels.

Short-term chemical changes to the water quality, including the possibility of supersaturation of nitrogen gas directly following the removal of a dam, can cause aquatic animals to experience

adverse conditions. This can include gas bubble disease, in which nitrogen bubbles form in the blood and tissues and block capillaries by embolism (Colt, 1984; Soderberg, 1995). Adverse effects can be seen when the dissolved nitrogen level reaches 102% and at 105% widespread fish mortalities are possible (Dryden Aqua, 2002). Supersaturation was an issue in the 1992 removal of Little Goose Dam on the Snake River (American Rivers, 2002a). If a reservoir is drawn down slowly, the severity of the impact of supersaturation on aquatic organisms can be lessened (American Rivers, 2002a).

Biological Changes: Upstream Impacts

Following the removal of a dam, a return to the normal temperature range, flow rates, and oxygen levels supports the return of native aquatic vegetation species. Still water impoundments support aquatic vegetation that is free floating or that does not need to be strongly rooted, while free-flowing systems support plants that are rooted strongly enough to resist being uprooted by the water current (WRM, 2000).

As the water recedes and the formerly impounded area becomes exposed, vegetation can begin to colonize the area. Sometimes, the exposed area may be colonized by invasive plant species, which are able to remain for several years and prevent other vegetation from becoming established.

The removal of a dam and the subsequent drawdown of water from the impoundment area can affect the wetlands formerly bordering the impoundment area. As the dam is removed, the water table typically begins to drop. The elevation of the wetlands and the extent of the water table drawdown determine whether the wetland areas dry up and what changes will occur in the wetland species composition. Wetlands that develop alongside the newly carved channel are likely to be different than the wetlands formerly bordering the impoundment area in terms of plant and animal species composition.

The biological changes associated with the removal of a dam can be described in phases, as the waterbody makes the transition from reservoir to river. This includes a pattern of relatively rapid recovery for invertebrates or short-lived taxa, followed by a second phase of slower recovery for fish or longer-lived taxa if the dam removal is not an especially large or disruptive event. Overall, the initial impacts, such as colonization by invasive species, typically determine the ecological recovery that follows (Doyle et al., 2000).

Dam removal can allow for improved fish passage and unrestricted fish movement that provides access to spawning habitat upstream. For coastal rivers, the removal of a dam may enable tidal waters to reach upper portions of the stream that were formerly cut off by the dam, creating a spawning environment preferred by certain fish species. Access to upstream sections is particularly beneficial for some anadromous fish that live most of their lives in saltwater and swim upstream toward freshwater to spawn (Massachusetts River Restore Program, 2002).

A dam can also act as a barrier between upstream and downstream fish populations. If a downstream community of fish is an invasive fish species the dam serves as a physical barrier to separate the invasives from the upstream community (American Rivers, 2002a). Thus, the removal of the dam can negatively impact the ecosystem if it allows for the movement of a

population of an invasive species that was previously prevented from traveling to a section of the stream because of the presence of a dam.

Biological Changes: Downstream Impacts

Downstream of the former dam, wetlands are likely to reappear along side the stream channel where they occurred prior to the construction of the dam (WRM, 2000). Revegetation of river beds and banks typically occurs within one growing season, following removal of a dam (Massachusetts River Restore Program, 2002).

Recolonization of the stream banks by vegetation affects the biological community within the stream by providing shade, reducing water temperatures, and supplying a source of woody debris and organic matter to the stream.

As streamside vegetation begins to recover and suitable habitat is restored, fish begin to return. Changes in flow as a result of dam removal lead to the development of side channels and ponds that provide habitat for fish and wildlife. Increased flow rates also allow for the transport of larger debris, including gravel and logs, which create spawning beds and pool and riffle habitat (River Recovery, 2001). In addition, the rocky substrate environment, which is typically exposed as a result of dam removal, provides habitat for aquatic insects and spawning fish. In the long term, the return to natural stream temperatures, oxygen levels, and flow rates all contribute to the reestablishment of a healthy aquatic and riparian ecosystem.

Chapter 3: Channelization and Channel Modification



Channelization and channel modification describe river and stream channel engineering undertaken for flood control, navigation, drainage improvement, and reduction of channel migration potential. Activities that fall into this category include straightening, widening, deepening, or relocating existing stream channels and clearing or snagging operations. These forms of hydromodification typically result in more uniform channel cross-sections, steeper stream gradients, and reduced average pool depths. Channelization and channel modification also refer to the excavation of borrow pits, canals, underwater mining, or other practices that change the depth, width, or location of waterways, or embayments within waterways.

Channelization and channel modification activities can play a critical role in nonpoint source pollution by increasing the downstream delivery of pollutants and sediment that enter the water. Some channelization and channel modification activities can also cause higher flows, which increase the risk of downstream flooding.

Channelization and channel modification can:

- Disturb stream equilibrium
- Disrupt riffle and pool habitats
- Create changes in stream velocities
- Eliminate the function of floods to control channel-forming properties
- Alter the base level of a stream (streambed elevation)
- Increase erosion and sediment load

Many of these impacts are related. For example, straightening a stream channel can increase stream velocities and destroy downstream pool and riffle habitats. As a result of less structure in the stream to retard velocities, downstream velocities may continue to increase and lead to more frequent and severe erosion.

Management Measure 1: Physical and Chemical Characteristics of Channelized or Modified Surface Waters

Management Measure 1

- 1) Evaluate the potential effects of proposed channelization and channel modification on the physical and chemical characteristics of surface waters.
- 2) Plan and design channelization and channel modification to reduce undesirable impacts.
- 3) Develop an operation and maintenance program for existing modified channels that includes identification and implementation of opportunities to improve physical and chemical characteristics of surface waters in those channels.

This management measure applies to proposed channelization or channel modification projects and is intended to occur concurrently with the implementation of Management Measure 2 (Instream and Riparian Habitat Restoration). The intent of the management measure is for project planners to consider potential changes in surface water characteristics when evaluating proposed channelization or channel modification projects. Also, for existing modified channels, the planning process can include consideration of opportunities to improve the surface water characteristics necessary to support desired fish and wildlife.

The purpose of the management measure is to ensure that the planning process for new hydromodification projects addresses changes to physical and chemical characteristics of surface waters that may occur as a result of proposed work. For existing projects, this management measure can be used to ensure the operation and maintenance program uses any opportunities available to improve the physical and chemical characteristics of the surface waters.

Changes created by channelization and channel modification activities are problematic if they unexpectedly alter environmental parameters to levels outside normal or desired ranges. The physical and chemical characteristics of surface waters that may be influenced by channelization and channel modification include sedimentation, turbidity, salinity, temperature, nutrients, dissolved oxygen, oxygen demand, and contaminants. Changes in natural sediment supplies, reduced freshwater availability, and accelerated delivery of pollutants are examples of the types of changes that can be associated with channelization and channel modification.

Published case studies of existing channelization and channel modification projects describe alterations to physical and chemical characteristics of surface waters (Burch et al., 1984; Petersen, 1990; Reiser et al., 1985; Roy and Messier, 1989; Sandheinrich and Atchison, 1986; Sherwood et al., 1990; Shields et al., 1995). Frequently, the post-project conditions are intolerable to desirable fish and wildlife. The literature also describes instream benefits for fish and wildlife that can result from careful planning of channelization and channel modification

projects (Bowie, 1981; Los Angeles River Watershed, 1973; Sandheinrich and Atchison, 1986; Shields et al., 1990; Swanson et al., 1987; USACE, 1989).

Management Practices for Management Measure 1

Implementation of this management measure should begin during the planning process for new projects. For existing projects, implementation of this management measure can be included as part of a regular operation and maintenance program. The approach is two-pronged and should include:

1. *Planning and evaluation*, with numerical models for some situations, of the types of nonpoint source (NPS) pollution related to instream changes and watershed development.
2. *Operation and maintenance programs that apply* a combination of nonstructural and structural practices to address some types of NPS problems stemming from instream changes or watershed development.

Planning and Evaluation

In planning-level evaluations of proposed hydromodification projects, it is critical to understand that the surface water quality and ecological impact of the proposed project will be driven primarily by the alteration of physical transport processes. In addition, it is critical to realize that the most important environmental consequences of many hydromodification projects will occur over a long-term time scale of years to decades.

Use models/methodologies as one means to evaluate the effects of proposed channelization and channel modification projects on the physical and chemical characteristics of surface waters. Evaluate these effects as part of watershed plans, land use plans, and new development plans.

The key element in the selection and application of models for the evaluation of the environmental consequences of hydromodification projects is the use of appropriate models to adequately characterize circulation and physical transport processes. Appropriate surface water quality and ecosystem models (e.g., salinity, sediment, cultural eutrophication, oxygen, bacteria, fisheries, etc.) are then selected for linkage with the transport model to evaluate the environmental impact of the proposed hydromodification project. There are several sophisticated two-dimensional (2D) and three-dimensional (3D) time-variable hydrodynamic models available for environmental assessments of hydromodification projects. Two-dimensional depth or laterally averaged hydrodynamic models can be routinely applied to assist with environmental assessments of beneficial and adverse effects on surface water quality by knowledgeable teams of physical scientists and engineers (Hamilton, 1990). Three-dimensional hydrodynamic models are also beginning to be more widely applied for large-scale environmental assessments of aquatic ecosystems (e.g., EPA/USACE-WES Chesapeake Bay 3D hydrodynamic and surface water quality model).

Refer to Chapter 8 for a list of some models available for studying the effects of channelization and channel modification activities (Table 8.1). Chapter 8 also provides examples of channelization and channel modification activities and associated models that can be used in the planning process.

Operation and Maintenance Programs

Several management practices can be implemented to avoid or mitigate the physical and chemical impacts generated by hydromodification projects. Many of these practices have been engineered and used for several decades, not only to mitigate human-induced impacts but also to rehabilitate hydrologic systems degraded by natural processes.

In cases where existing channelization or channel modification projects can be changed to enhance instream or streamside characteristics, several practices can be included as a part of regular operation and maintenance programs. New channelization and channel modification projects that are predicted to cause unavoidable physical or chemical changes in surface waters can also use one or more practices to mitigate the undesirable changes. Some of the types of practices include:

- Grade control structures
- Levees, setback levees, and floodwalls
- Noneroding roadways
- Streambank protection and instream sediment load controls
- Vegetative cover

Grade Control Structures

There are two basic types of grade control structures. The first type can be referred to as a bed control structure because it is designed to provide a hard point in the streambed that is capable of resisting the erosive forces of the degradational zone. The second type can be referred to as a hydraulic control structure because it is designed to function by reducing the energy slope along the degradational zone to the point where the stream is no longer capable of scouring the bed. The distinction between the operating processes of these two types is important whenever grade control structures are considered (Biedenharn and Hubbard, 2001).

Design considerations for siting of grade control structures include determining the type, location, and spacing of structures along the stream, along with the elevation and dimensions of structures. Siting grade control structures can be considered a simple optimization of hydraulics and economics. However, these factors alone are usually not sufficient to define optimum siting conditions. Hydraulic considerations must be integrated with a host of other factors that can vary from site to site to determine the final structure plan. Some of the more important factors to be considered when siting grade control structures are discussed more specifically in the U.S. Army Corps of Engineers' *Design Consideration for Siting Grade Control Structures* (Biedenharn and Hubbard, 2001).

When carefully applied, grade control structures can be highly versatile in establishing human and environmental benefits in stabilized channels. To be successful, application of grade control structures should be guided by analysis of the stream system both upstream and downstream from the area to be reclaimed (CASQA, 2003).

In some cases, grade control structures can be designed to allow fish passage. However, some grade control structures can obstruct fish passage. In many instances, fish passage is a primary consideration and may lead engineers to select several small fish passable structures in lieu of

one or more high drops that would restrict fish passage. In some cases, particularly when drop heights are small, fish are able to migrate upstream past a structure during high flows. In situations where structures are impassable, and where the migration of fish is an important concern, openings, fish ladders, or other passageways must be incorporated into the structure's design (Biedenharn and Hubbard, 2001). Fish passage practices are described in Chapter 7.

A type of grade control structure is a check dam. Refer to Chapter 7 for more information about this practice.

Levees, Setback Levees, and Floodwalls

Levees are embankments or shaped mounds constructed for flood control or hurricane protection (USACE, 1981). Setback levees and floodwalls are longitudinal structures used to reduce flooding and minimize sedimentation problems associated with fluvial systems. These practices can be used to reduce the impacts of channelization and channel modification. A more detailed discussion of levees, setback levees, and floodwalls is available in Chapter 7.

Noneroding Roadways

Disturbances along the streambank that result from activities associated with operation and maintenance of channelization projects can lead to additional nonpoint source pollution impacts to the stream. An example of human-induced activities is erosion associated with roadways. Rural road construction, streamside vehicle operation, and stream crossings usually result in significant soil disturbance and create a high potential for increased erosion processes and sediment transport to adjacent streams and surface waters. Erosion during and after construction of roadways can contribute large amounts of sediment and silt to runoff waters, which can deteriorate water quality and lead to fish kills and other ecological problems (USEPA, 1995b).

Road construction involves activities such as clearing of existing native vegetation along the road right-of-way; excavating and filling the roadbed to the desired grade; installation of culverts and other drainage systems; and installation, compaction, and surfacing of the roadbed.

Although most erosion from roadways occurs during the first few years after construction, significant impacts may result from maintenance operations using heavy equipment, especially when the road is located adjacent to a waterbody. In addition, improper construction and lack of maintenance may increase erosion processes and the risk for road failure. To minimize erosion and prevent sedimentation impacts on nearby waterbodies during construction and operation periods, streamside roadway management needs to combine proper design for site-specific conditions with appropriate maintenance practices. A discussion of how roadways can impact fish habitat and passage is available from EPA's *National Management Measures to Control Nonpoint Source Pollution from Forestry* (USEPA, 2005a).

More information about suggested practices to consider during design, construction, operation and maintenance, and general maintenance of noneroding roadways, is available from EPA's *National Management Measures to Control Nonpoint Source Pollution from Forestry* (USEPA, 2005a). This EPA guidance document also provides some suggested permanent control BMPs that may be used to prevent erosion from roadways. Additional information about noneroding roadways is available in Chapter 7 and the Resources section of this document.

Streambank Protection and Instream Sediment Load Controls

Streambank erosion is a natural process that occurs in fluvial systems. Streambank erosion can also be induced or exaggerated as a result of human activities. There are several factors within a watershed that can contribute to human induced streambank erosion. Accelerated streambank erosion related to human activity can typically be attributed to three major causes including channel modifications, reservoir construction, and land use changes (Henderson, 1986). When possible, streambank erosion problems should be addressed in the context of the entire watershed, using a systems approach that considers and accommodates natural stream processes. Approaches to addressing streambank erosion problems associated with channelization and channel modification activities can involve efforts to identify and address all significant contributing factors in addition to treating the immediate symptom, bank erosion.

In general, the design of streambank protection may involve the use of several techniques and materials. Nonstructural or programmatic management practices for the prevention of streambank failures include:

- Protection of existing vegetation along streambanks
- Careful use or regulation of irrigation near streambanks, such as rerouting of overbank drainage
- Minimization of loads on top of streambanks (such as prevention of building within a defined distance from the streambed)

Several structural practices are used to protect or rehabilitate eroded banks. These practices are usually implemented in combination to provide stability of the stream system, and they can be grouped into direct and indirect methods. Direct methods place protecting material in contact with the bank to shield it from erosion. Indirect methods function by deflecting channel flows away from the bank or by reducing the flow velocities to nonerosive levels (Henderson, 1986; Henderson and Shields, 1984). Indirect bank protection requires less bank grading and tree and snag removal. However, some structural methods like stone toe protection, as discussed below, can be placed with minimal disturbance to existing slope, habitat, and vegetation.

Feasibility of the practices at a site depends on the engineering design of the structure, availability of the protecting material, extent of the bank erosion, and specific site conditions such as the flow velocity, channel depth, inundation characteristics, and geotechnical characteristics of the bank. The use of vegetation alone or in combination with other structural practices, when appropriate, could further reduce the engineering and maintenance efforts.

Vegetation can be considered with respect to site-specific characteristics. When vegetation is combined with low cost building materials or engineered structures, numerous techniques can be created for streambank erosion control. It is important to consider the assets and limitations when planning to use planted vegetation for streambank protection. Advantages of vegetation include the following (Allen and Leech, 1997):

- Reinforces soil (increases bank stability).
- Increases resistance to flow and reduces flow velocities (from exposed stalks), causing the flow to dissipate energy against the plant (rather than the soil).

- Intercepts water.
- Enhances water infiltration.
- Depletes soil water by uptake and transpiration.
- Acts as a buffer against the abrasive effect of transported materials.
- Induces sediment deposition (from close-growing vegetation).
- Reduces costs, in some cases, when compared to most structural methods.
- Improves conditions for fisheries and wildlife.
- Improves water quality.
- Protects cultural/archeological resources.

Limits of vegetation include failure to grow; being subject to undermining; being uprooted by wind, water, and the freezing and thawing of ice; ingestion by wildlife or livestock; and maintenance requirements. Chapter 3 of *Bioengineering for Streambank Erosion Control* discusses plant acquisition, handling, and timing of planting (Allen and Leech, 1997).

Streambanks can be protected or restored either by increasing resistance of the bank to erosion or by decreasing the energy of the water at the point of contact with the bank, for example by deflecting or interrupting flows (Henderson, 1986). Instream sediment can be controlled by using several structural, vegetative, or bioengineered practices, depending on the management objective and the source of sediment. Streambank protection and channel stabilization practices, including various types of revetments, grade control structures, and flow restrictors, have been effective in controlling sediment production caused by streambank erosion. Designs should match the protection capability of the treatment to the erosion potential of each stream zone. For example, riprap may be needed at the toe of a slope to protect it from undercutting combined with tree revetments to deflect flows and provide protection for live stakings that will develop permanent support. The growing body of research indicates management techniques that emulate nature and work with natural stream processes are more successful and economical.

Significant amounts of instream sediment deposition can be prevented by controlling bank erosion processes and streambed degradation. Channel stabilization structures can also be designed to trap sediment and decrease the sediment delivery to desired areas by altering the transport capacity of the stream and creating sediment storage areas. In regulated streams, alteration of the natural streamflow, particularly the damping of peak flows caused by surface water regulation and diversion projects, can increase streambed sediment deposits by impairing the stream's transport capacity and its natural flushing power. Sediment deposits and reduced flow alter the channel morphology and stability, the flow area, the channel alignment and sinuosity, and the riffle and pool sequence. Such alterations have direct impacts on the aquatic habitat and the fish populations in the altered streams (Reiser et al., 1985).

Vegetative Cover

Streambank protection using vegetation is a commonly used practice, particularly in areas of low water velocities. Vegetative cover, also used in combination with structural practices, is often relatively easy to establish and maintain, and is visually attractive (USACE, 1983). Emergent vegetation provides two levels of protection. First, the root system helps hold soil together and increases overall bank stability by forming a binding network. Second, the exposed stalks, stems, branches, and foliage provide resistance to streamflow, causing the flow to lose part of its energy

by deforming the plants rather than by removing the soil particles. Above the waterline, vegetation protects against rainfall impact on the banks and reduces the velocity of the overland flow during storm events.

Vegetative controls are not suitable for all sites, especially those sites with severe erosion due to high flow rates or channel velocities. Refer to the Washington State Department of Transportation's (WSDOT's) *Hydraulics Manual*, Chapter 4¹ for information on calculating flow rates or channel velocities. Stabilization measures should only be implemented after a careful evaluation of the stream and the surrounding area. A knowledgeable fluvial geomorphologist may be helpful with this evaluation. In addition, plant species should be selected with care; native plant species should be used whenever possible. Appropriate species can be determined by consulting horticulturalists and botanists for plant selection assistance. The USDA-Forest Service guide, *A Soil Bioengineering Guide for Streambank and Lakeshore Stabilization*² provides a list of plants for soil bioengineering associated systems. The International Erosion Control Association (IECA)³ publishes a products and services directory listing sources of plant material and professional assistance.

In addition to bank stabilization, vegetation can also offer pollutant filtering capacity. Pollutants and sediment transported by overland flow may be partly removed as a result of a combination of processes including reduction in flow pattern and transport capacity, settling and deposition of particulates, and eventual nutrient uptake by plants.

Summary of Physical and Chemical Practices

All of the following practices can be used to address the effects of channelization and channel modification activities on the physical and chemical characteristics of a waterbody:

- Bank shaping and planting
- Branch packing
- Brush layering
- Brush mattresses
- Bulkheads and seawalls
- Check dams
- Coconut fiber roll
- Dormant post plantings
- Erosion and Sediment Control (ESC) Plans
- Joint plantings
- Levees, setback levees, and floodwalls
- Live cribwalls
- Live fascines
- Live staking
- Noneroding roadways
- Return walls

¹ <http://www.wsdot.wa.gov/eesc/design/hydraulics/Manual/Rev3Publications/Chapter%204.pdf>

² <http://www.fs.fed.us/publications/soil-bio-guide>

³ <http://ieca.org>

- Revetments
- Riprap
- Root wad revetments
- Rosgen's Stream Classification Method
- Setbacks
- Toe protection
- Tree revetments
- Vegetated buffers
- Vegetated gabions
- Vegetated geogrids
- Vegetated reinforced soil slope (VRSS)
- Wing deflectors

Additional information about each of the above practices is available in Chapter 7. The Additional Resources section provides a number of sources for obtaining information about the effectiveness, limitations, and cost estimates for these practices.

Management Measure 2: Instream and Riparian Habitat Restoration

Management Measure 2

- 1) Evaluate the potential effects of proposed channelization and channel modification on instream and riparian habitat.
- 2) Plan and design channelization and channel modification to reduce undesirable impacts.
- 3) Develop an operation and maintenance program for existing modified channels that includes identification and implementation of opportunities to restore instream and riparian habitat in those channels.

Implementation of this management measure is intended to occur concurrently with the implementation of the Management Measure for Physical and Chemical Characteristics of Channelized or Modified Surface Waters (see previous management measure discussion). This management measure pertains to surface waters where channelization and channel modification have altered or have the potential to alter instream and riparian habitat, such that historically present plants, fish, or wildlife are adversely affected. This management measure is intended to apply to any proposed channelization or channel modification project to determine changes in instream and riparian habitat and to existing modified channels to evaluate possible improvements to instream and riparian habitat. The purpose of this management measure is to correct or prevent detrimental changes to instream and riparian habitat from the impacts of channelization and channel modification projects.

Management Practices for Management Measure 2

Implementation of this management measure should begin during the planning process for new projects. For existing projects, implementation of this management measure can be included as part of a regular operation and maintenance program. Ensuring the involvement and participation of all partners is a place to start on any restoration project. Determining the extent of the restoration activity can help identify potential partners and other interested stakeholders. Each stakeholder may bring a certain expertise, historical information and data, and possibly funding to a project. Development of a stream corridor restoration plan can help organize the group, set goals for implementation of management practices, secure funding or other types of support, and facilitate the sharing of ideas and accomplishments within the group and to others in the community. The approach is two-pronged and should include:

1. *Planning and evaluation*, with numerical models for some situations, of the types of NPS pollution related to instream and riparian habitat changes and watershed development.

2. *Operation and maintenance* activities that restore habitat through the application of a combination of nonstructural and structural practices to address some types of NPS problems stemming from instream and riparian habitat changes or watershed development.

Planning and Evaluation

Several tools can be used to evaluate the instream and riparian health of a stream system. These approaches include:

- Biological methods/models
- Temperature restoration practices
- Geomorphic assessment techniques
- Expert judgment and checklists

Biological Methods/Models

To assess the biological impacts of channelization, it is necessary to evaluate both physical and biological attributes of the stream system. Assessment studies should be performed before and after channel modification, with samples being collected upstream from, within, and downstream from the modified reach to allow characterization of baseline conditions. It also may be desirable to identify and sample a reference site within the same ecoregion as part of the rapid bioassessment procedures discussed below.

Use models/methodologies to evaluate the effects of proposed channelization and channel modification projects on instream and riparian habitat and to determine the effects after such projects are implemented.

There are a number of different methods that can be used to assess the biological impacts of channelization. Rapid Bioassessment Protocols (RBPs) were developed as inexpensive screening tools for determining whether a stream is supporting a designated aquatic life use (Barbour et al., 1999; Plafkin et al., 1989). One component of these protocols is an instream habitat assessment procedure that measures physical characteristics of the stream reach (Barbour and Stribling, 1991). An assessment of instream habitat quality based on 12 instream habitat parameters is performed in comparison to conditions at a “reference” site, which represents the “best attainable” instream habitat in nearby streams similar to the one being studied. The RBP habitat assessment procedure has been used in a number of locations across the United States. A small field crew of one or two persons typically can perform the procedure in approximately 20 minutes per sampling site.

Rapid Bioassessment Protocols (Barbour et al., 1999; Plafkin et al., 1989) were designed to be scientifically valid and cost-effective and to offer rapid return of results and assessments. Protocol III (RBP III) focuses on quantitative sampling of benthic macroinvertebrates in riffle/run habitats or on other submerged, fixed structures (e.g., boulders, logs, bridge abutments, etc.) where such riffles may not be available. The data collected are used to calculate various metrics pertaining to benthic community structure, community balance, and functional feeding groups. The metrics are assigned scores and compared to biological conditions as described by either an ecoregional reference database or reference sites chosen to represent the “best attainable” biological community in similarly sized streams. In conjunction with the instream

habitat quality assessment, an overall assessment of the biological and instream habitat quality at the site is derived. RBP III can be used to determine spatial and temporal differences in the modified stream reach. Application of RBP III requires a crew of two persons; field collections and lab processing require 4 to 7 hours per station and data analysis about 3 to 5 hours, totaling 7 to 12 hours per station. The RBP III has been extensively applied across the United States. More information about biological assessments is available from EPA's Biological Assessment Web site.⁴

Karr et al. (1986) describes an Index of Biological Integrity (IBI), which includes 12 metrics in three major categories of fish assemblage attributes: species composition, trophic composition, and fish abundance and condition. Data are collected at each site and compared to those collected at regional reference sites with relatively unimpacted biological conditions. A numerical rating is assigned to each metric based on its degree of agreement with expectations of biological condition provided by the reference sites. The sum of the metric ratings yields an overall score for the site. Application of the IBI requires a crew of two persons; field collections require 2 to 15 hours per station and data analysis about 1 to 2 hours, totaling 3 to 17 hours per station. The IBI, which was originally developed for Midwestern streams, can be readily adapted for use in other regions. It has been used in several states across the country to assess a wide range of impacts in streams and rivers.

Habitat Evaluation Procedures (HEPs) can be used to document the quality and quantity of available habitat, including aquatic habitat, for selected wildlife species. HEPs provide information for two general types of instream and riparian habitat comparisons:

- The relative value of different areas at the same point in time
- The relative value of the same area at future points in time

By combining the two types of comparisons, the impact of proposed or anticipated land and water use changes on instream and riparian habitat can be quantified (Ashley and Berger, 1997).

Additional information about the assessment methods discussed above, as well as other methods for assessing biological impacts is available in Table 8.2 of Chapter 8.

Temperature Restoration Practices

Channelization and channel modification activities can greatly impact stream temperature. All other factors remaining unchanged, when a channel is narrowed, the water depth increases and the surface area exposed to solar radiation and ambient temperature decreases. This can decrease water temperature. When a channel is widened, the opposite occurs; shallower depths and increased temperatures occur. Temperature may also be increased from increased turbidity because the sediment particles absorb heat. It is important to model how temperature will change in a stream, as a result of channelization and channel modification activities, to determine what other changes and impacts might occur in the stream.

⁴ <http://www.epa.gov/owow/monitoring/bioassess.html>

Stream temperature has been widely studied, and heat transfer is one of the better-understood processes in natural watershed systems. Most available approaches use energy balance formulations based on the physical processes of heat transfer to describe and predict changes in stream temperature.

More information about temperature restoration models and practices is provided in Chapter 8 (Modeling).

Geomorphic Assessment Techniques

Fluvial geomorphology is the study of stream form and function. Geomorphic assessment focuses on qualitative and quantitative observations of stream form. It provides a “moment-in-time” characterization of the existing morphology of the stream. In addition, geomorphic assessment includes a stability component. Stability assessments place the stream in the context of past, present, and anticipated adjustment processes. Geomorphic assessments can be useful in predicting changes that could be created by channelization and channel modification activities.

Stream classification is a technique that is used to show the relationship between streams and their watersheds. There are several techniques for stream classification, all of which have advantages and limitations. Advantages of geomorphic assessment include (adapted from FISRWG, 1998):

- Promotes communication.
- Enables extrapolation of data collected on a few streams to a number of channels over a broader geographical area.
- Helps the restoration practitioner consider the landscape context and determine expected ranges of parameters.
- Enables practitioners to interpret the channel-forming or dominant processes active at the site.
- Uses reference reaches as the desired outcome of restoration.
- Provides an important cross-check to verify if the selected design values are within a reasonable range.

Limitations of geomorphic assessment include (adapted from FISRWG, 1998):

- Determination of bankfull or channel-forming flow depth may be difficult or inaccurate.
- The dynamic condition of the stream is not indicated in stream classification systems.
- River response to a perturbation or restoration action is normally not determined by classifying it alone.
- Biological health is not directly determined.
- Classifying a stream should not be used alone to determine the type, location, and purpose of restoration activities.

Schumm (1960) identified straight, meandering, and braided channels and related both channel pattern and stability to modes of sediment transport. Schumm recognized that stable straight and meandering channels have mostly suspended sediment loads and cohesive bank materials, as opposed to unstable braided streams characterized by mostly bedload sediment transport and

wide sandy channels with noncohesive bank materials. Meandering mixed-load channels are found at an intermediate condition (FISRWG, 1998).

Montgomery and Buffington (1993) proposed a classification system similar to Schumm for alluvial, colluvial, and bedrock streams in the Pacific Northwest. This system addresses channel response to sediment inputs throughout the drainage network. Six classes of alluvial channels were identified—cascade, step-pool, plane-bed, riffle-pool, regime, and braided. The stream types are differentiated based on channel response to sediment inputs. For example, steeper channels maintain their morphology while transporting sediment. Streams with lower gradients make more morphological adjustments with increased sediment loads (FISRWG, 1998).

A conceptual model of channel evolution in response to channelization (CEM-channel evolution model) was developed by Simon and Hupp (1986, 1987), Hupp and Simon (1986, 1991), and Simon (1989a, 1989b). The model identifies six geomorphic stages of channel response and was developed and extensively applied to predict empirical stream channel changes following large-scale channelization projects in western Tennessee. Data required for model application include bed elevation and gradient, channel top-width, and channel length before, during, and after modification. Gauging station data can be used to evaluate changes through time of the stage-discharge relationship and bed-level trends. Riparian vegetation is dated to provide ages of various geomorphic surfaces and thereby to deduce the temporal stability of a reach.

A component of Simon and Hupp's (1986, 1987) channel response model is the identification of specific groups of woody plants associated with each of the six geomorphic channel response stages. Their findings for western Tennessee streams suggest that the site preference or avoidance patterns of selected tree species allow their use as indicators of specific bank conditions. This method might require calibration for specific regions of the United States to account for differences in riparian zone plant communities, but it would allow simple vegetative reconnaissance of an area to be used for a preliminary estimate of stream recovery stage (Simon and Hupp, 1987).

Restoring or maintaining streams to a stable form through natural channel design requires detailed information about surface water hydrology and the interactions between rainfall and overland flow or runoff. The Rosgen classification system, developed by David L. Rosgen, and presented in *Applied River Morphology*, is currently the most comprehensive and widely used quantitative assessment method for geomorphology. It represents a compilation of much of the early work in applied fluvial geomorphology and relies largely on the identification of bankfull field indicators. The bankfull discharge is the flow event that fills a stable alluvial channel up to the elevation of the active floodplain (Rosgen, 1996). Dunne and Leopold (1978) first developed hydraulic geometry relationships for the bankfull stage, also called regional curves. Most river engineers and hydrologists work under the assumption that the bankfull discharge is equivalent to the channel forming or dominant discharge in geomorphic classification and in analog and empirical design methods. The bankfull discharge is the only discharge that can be easily identified in the field using physical indicators; therefore it is one of the most commonly used in natural channel design. Additional information about Rosgen is available in Chapter 7.

Moment-in-time stream classifications provide insights into the existing form of the stream and can help to define design parameters and understand potential modifications in reference to existing conditions. Stream classification offers a way to categorize streams based on channel morphology. The older classification systems were largely qualitative descriptions of stream features and landforms and were difficult to apply universally. In 1994, Rosgen published *A Classification of Natural Rivers*. Because of its relative simplicity and usefulness in stream restoration, the Rosgen classification system has become popular among hydrologists, engineers, geomorphologists, and biologists working to restore the biological function and stability of degraded streams. The classification consists of 41 major stream types for which stream channel stability and stream bank erosion potential can be assessed. From the assessment, structures for in-stream and stream bank restoration or modification can be selected. When planning stream restoration projects, it is important for the planning team to use a multidisciplinary approach that includes consideration of hydraulics, hydrology, water quality, geomorphological processes, and biological interactions to develop and implement a successful restoration. Chapter 7 provides additional detailed information on stream classification practices.

In site selection, geomorphic assessments can determine if a site is unstable and in need of some form of restoration activity. During design, geomorphic assessments can be used in combination with hydrologic, hydraulic, and/or sediment transport analyses to define design elements such as channel slope and hydraulic geometry.

Sediment transport analysis in rivers and streams is used to approximate the amount of sediment being moved by flow event scenarios and to determine where it will be deposited. Modeling the sediment transport capacity of a channel and its predicted sediment deposition patterns are important for assessing existing and proposed channel design projects to estimate potential project impacts. Sediment transport analysis is also useful for determining restoration opportunities in existing channelization and channel modification projects. Sediment transport analysis is often coupled with stable channel analyses methods to refine channel geometries to estimate optimal scour and deposition characteristics (Schulte et al., 2000). A good source of technical information on sediment transport analysis can be found in *River Engineering for Highway Encroachments* (FHWA, 2001).

Sediment transport analysis has been used in many projects, including:

- Channel design projects (Schulte et al., 2000)
- Stream restoration design (Copeland et al., 2001; Shields et al., 2003)
- Flood control projects (USACE, 1994)
- Highway projects that include stream crossings (FHWA, 2001)

In the design of new channelization projects and analysis of existing projects, channels are typically evaluated using channel stability methods and then the analysis is refined using sediment transport models. Sediment transport analysis is used to refine geometry so that scour and deposition are minimized. It is also used to determine the optimum grade control structure elevation and placement and to find the excavation depths in depositional zones to minimize operational costs for maintaining the channel geometry (Schulte et al., 2000).

The methods and techniques used to accomplish a geomorphic assessment should be project-specific and conducted by personnel trained in applied fluvial geomorphology. Geomorphic assessment of streams has evolved rapidly over the past 10–15 years. Initial methodologies tended to be tailored for localized applications and required extensive data collection and validation. Rosgen's methodology provides a more universal approach to stream classification that represents trade-offs between data collection needs and ease of application for many different stream types. The challenge to this type of modeling and assessment has always been to balance the complexity and need for extensive data collection with ease of use and reliability of the results. The key is that the geomorphic assessment must provide a fundamental understanding of the linkage between river form and process. The assessment should provide insight into where the stream has been, is now, and in what direction it is moving. It should also place the project reach in the context of broader system wide adjustment processes. Geomorphic assessment can be used to select sites for restoration and develop designs.

Expert Judgment and Checklists

Approaches using expert judgment and checklists developed based on experience acquired in previous projects and case studies may be very helpful in integrating environmental goals into project development. The USACE used this concept of incorporating environmental goals into project design (Shields and Schaefer, 1990) in the development of a computer-based system for the environmental design of waterways (ENDOW). The ENDOW system is composed of three modules: a streambank protection module, a flood control channel module, and a streamside levee module. The three modules require the definition of the pertinent environmental goals to be considered in the identification of design features. Depending on the environmental goals selected for each module, ENDOW will display a list of comments or cautions about anticipated impacts and other precautions to be taken into account in the design.

Another example of using expert judgment is the Proper Functioning Condition (PFC) technique. PFC was developed by the Bureau of Land Management (BLM) to rapidly assess whether a stream riparian area is functioning properly in terms of hydrology, landform/soils, channel characteristics, and vegetation. The assessment is performed by an interdisciplinary team and involves completing a checklist evaluating 17 factors concerning hydrology, vegetation, and erosional/depositional characteristics. The PFC field technique is not quantitative, but with adequate training, results are reproducible to a high degree (FISRWG, 1998).

Operation and Maintenance Activities

Implementation practices for instream and riparian habitat restoration in planned or existing modified channels are consistent with those management practices for physical and chemical characteristics of channelized or modified surface waters. To prevent future impacts to instream or riparian habitat or to solve current problems caused by channelization or channel modification projects, include one or more of the following practices to mitigate the undesirable changes:

- Bank shaping and planting
- Branch packing
- Brush layering
- Brush mattresses
- Bulkheads and seawalls

- Check dams
- Coconut fiber roll
- Dormant post plantings
- Erosion and Sediment Control (ESC) Plans
- Establish and protect stream buffers
- Joint plantings
- Levees, setback levees, and floodwalls
- Live cribwalls
- Live fascines
- Live staking
- Marsh creation and restoration
- Noneroding roadways
- Return walls
- Revetments
- Riparian improvements
- Riprap
- Root wad revetments
- Rosgen's Stream Classification Method
- Setbacks
- Toe protection
- Tree revetments
- Vegetated buffers
- Vegetated gabions
- Vegetated geogrids
- Vegetated reinforced soil slope (VRSS)
- Wing deflectors

Additional information about each of the above practices is available in Chapter 7. The Additional Resources section provides a number of sources for obtaining information about the effectiveness, limitations, and cost estimates for these practices.

Operation and maintenance programs should weigh the benefits of including practices such as those for mitigating any current or future impairments to instream or riparian habitat. Additional information about these practices can be found in Chapter 7. Also, Fischenich and Allen (2000) provide a comprehensive summary of practices that can be evaluated for use in operation and maintenance programs.

Chapter 4: Dams



Dams are a common form of hydromodification. The National Research Council estimated that there were more than 2.5 million dams in the United States in 1992 (NRC, 1992). These dams range in size from berms across small streams that create farm ponds to large concrete structures across major rivers for hydropower and flood control. The USACE estimates (of these 2.5 million dams in the United States) about 79,000 are large enough to be included in the National Inventory of Dams (USACE, n.d.b.).¹

Dams generally were built to store and provide water for mechanical power generation (e.g., waterwheels to mill grain), industrial cooling, hydroelectric power generation, agricultural irrigation, municipal water supplies for human consumption, and impoundment-based recreation (e.g., boating and sport fishing). Dams are also used for flood control and to maintain channel depths for barge transportation.

Dams can be associated with a number of effects, including changes to hydrology, water quality, habitat, and river morphology. Lakes and reservoirs integrate many processes that take place in their contributing watersheds, including processes that contribute energy (heat), sediment, nutrients, and toxic substances. Human activities, such as agricultural and urban land use, contribute to contaminant and sediment loads to reservoirs. The presence and operation of dams can determine the fate of these pollutants in a reservoir or impoundment and potentially downstream as water is released from the dam. For example, the presence of a dam may lead to sediment accumulation in a reservoir. However, there are management practices that can mitigate this integrative effect of a reservoir. One example is selective withdrawals, which are an operational technique that can be used by some dam operators to provide water quality and temperatures necessary to sustain downstream fish populations.

When dams are built, depending on size and design, they may alter the river system structure, causing it to change from a river (flowing) to lake (static) and back to a river (flowing) system.

¹ With the National Dam Inspection Act (P.L. 92-367) of 1972, Congress authorized the U.S. Army Corps of Engineers (USACE) to inventory U.S. dams. The Water Resources Development Act of 1986 (P.L. 99-662) authorized USACE to maintain and periodically publish an updated National Inventory of Dams (NID).

Dams with large storage capacities will, by design, retain water longer than those with little storage. This can change system flow patterns, which can affect water quality and habitat upstream and downstream of the dam. Most effects from dams are observed downstream. Table 4.1 provides a description of several common types of dams.

Table 4.1 Types of Dams (FEMA, 2003)

Type of Dam	Description
Ambursen dam	A buttress dam in which the upstream part is a relatively thin, flat slab usually made of reinforced concrete
Arch dam	A concrete, masonry, or timber dam with the alignment curved upstream so as to transmit the major part of the water load to the abutments
Buttress dam	A dam consisting of a watertight part supported at intervals on the downstream side by a series of buttresses
Crib dam	A gravity dam built up of boxes, crossed timbers, or gabions, filled with earth or rock
Diversion dam	A dam built to divert water from a waterway or stream into a different watercourse
Double curvature arch dam	An arch dam that is curved both vertically and horizontally
Earth dam	An embankment dam in which more than 50% of the total volume is formed of compacted earth layers that are generally smaller than 3-inch size
Embankment dam	Any dam constructed of excavated natural materials, such as both earthfill and rockfill dams, or of industrial waste materials, such as a tailings dam
Gravity dam	A dam constructed of concrete and/or masonry, which relies on its weight and internal strength for stability
Hollow gravity dam	A dam constructed of concrete and/or masonry on the outside but having a hollow interior and relying on its weight for stability
Hydraulic fill dam	An earth dam constructed of materials, often dredged, which are conveyed and placed by suspension in flowing water
Industrial waste dam	An embankment dam, usually built in stages, to create storage for the disposal of waste products from an industrial process
Masonry dam	Any dam constructed mainly of stone, brick, or concrete blocks pointed with mortar
Mine tailings dam (or tailings dam)	An industrial waste dam in which the waste materials come from mining operations or mineral processing
Multiple arch dam	A buttress dam comprised of a series of arches for the upstream face
Overflow dam	A dam designed to be overtopped
Regulating dam (or afterbay dam)	A dam impounding a reservoir from which water is released to regulate the flow downstream
Rock-fill dam	An embankment dam in which more than 50% of the total volume is comprised of compacted or dumped cobbles, boulders, rock fragments, or quarried rock generally larger than 3-inch size
Roller compacted concrete dam	A concrete gravity dam constructed by the use of a dry mix concrete transported by conventional construction equipment and compacted by rolling, usually with vibratory rollers
Rubble dam	A stone masonry dam in which the stones are unshaped or uncoursed
Saddle dam (or dike)	A subsidiary dam of any type constructed across a saddle or low point on the perimeter of a reservoir

Siting, construction, operation, maintenance, and removal of dams can lead to nonpoint source (NPS) effects. For example, siting of dams can result in inundation of wetlands, riparian areas, and fastland in areas upstream of the dam. During construction or maintenance, erosion and soil loss occurs. Proper siting and design help prevent erosion prone areas from being developed. For dams actively controlled by human operators, dam operation and the amount of water released can affect downstream areas when flood waters necessary to deliver sediment are restricted, or when controlled releases from dams change the timing, quantity, or quality of downstream flow. While removal of dams can lead to physical and biological impacts, such as temporary increased turbidity from redistribution of sediment previously stored behind the dam or displacement of warm-water species that prefer lake-like conditions, dam removal has many biological and habitat benefits, such as allowing for easier fish movement and a return of natural stream temperatures and dissolved oxygen. Sometimes, however, dams limit passage of undesirable invasive species. Therefore, a comprehensive evaluation of the benefits and limitations resulting from the presence of a dam should be completed when evaluating operation and maintenance procedures, as well as options for removal. A more detailed discussion of water quality, biological, habitat, physical, and chemical changes from dam removal is provided in Chapter 2.

One opportunity to evaluate and address the NPS impacts of some larger dams that are used for hydropower occurs during the licensing/relicensing process. The Federal Power Act (FPA) requires all nonfederal hydropower projects located on navigable waters to be licensed. The FPA (16 U.S.C. 791-828c) was originally enacted as the Federal Water Power Act in 1920 and was made part of the FPA in 1935. The Federal Energy Regulatory Commission (FERC) is the independent regulatory agency within the Department of Energy that has exclusive authority, under the FPA, to license such projects. The hydropower dam relicensing process offers an opportunity to assess the balance between natural resources and the generation of electricity and to address some areas that are determined to be problematic. Stakeholders, including dam owners and operators, local governments, environmental groups, and the public, often have different interests to be balanced. Through the FPA and the relicensing process, these varied interests can be evaluated and a balanced outcome can be derived. In conjunction with FPA licensing requirements, states and authorized tribes certify that discharges (including those that originate from dams) meet water quality standards under section 401 of the Clean Water Act (CWA).

The FPA also requires relicensing to be conducted in light of recent laws and regulations that are in effect at the time of renewal. As regulations related to hydropower dams change, it is possible that many dams that were previously licensed and are up for relicensing may no longer be in compliance with current regulatory standards. For example, many dams were built prior to the CWA, which includes regulatory requirements for protecting and maintaining designated uses (such as protecting desired aquatic life or maintaining bacterial water quality that is protective of human health for all recreational activities). Other regulatory requirements that may be evaluated during relicensing include protections for wetlands, aquatic habitat, and endangered species.²

² Additional information about FERC and hydropower licensing/relicensing is available at <http://www.ferc.gov>.

Management Measure 3: Erosion and Sediment Control for the Construction of New Dams and Maintenance of Existing Dams

Management Measure 3

- 1) Reduce erosion and, to the extent practicable, retain sediment onsite during and after construction.
- 2) Prior to land disturbance, prepare and implement an approved erosion and sediment control plan or similar administrative document that contains erosion and sediment control provisions.

The purpose of this management measure is to prevent sediment from entering surface waters during the construction or maintenance of dams. This management measure emphasizes the importance of minimizing sediment loss to surface waters during both dam construction and maintenance. It is essential that proper erosion and sediment control practices be used to protect surface water quality because of the high potential for sediment loss directly to surface waters. Sediment and erosion control practices can be borrowed from other applications, such as urban development and construction activities.

Two broad performance goals constitute this management measure: minimizing erosion and maximizing the retention of sediment onsite. These performance goals allow for site-specific flexibility in specifying practices appropriate for local conditions. Regular inspections of a dam are valuable opportunities for dam owners to identify erosion problems and implement sediment controls to protect the integrity of the dam. Since the number of new dam construction projects is relatively small compared to the number of existing dams, operation and maintenance activities offer significantly more opportunities to prevent NPS problems associated with erosion and sediment control.

Dam owners are encouraged to establish a program of regular safety inspection of the dam's infrastructure and dam maintenance. Safety inspection of a dam is a program of regular visual inspection using simple equipment and techniques. These inspections are often an economical means of ensuring the long-term safety and survival of a dam structure. By regularly monitoring the condition and performance of the dam and its surroundings, adequate warning of potentially unsafe conditions will enable timely maintenance. Being able to recognize the signs of potential problems and failure, as well as what to do and whom to contact, is vital. Partial or total failure of a dam may cause extensive damage to downstream areas, including loss of life, property damage, and impacts to wetlands, riparian areas, stream channels, and other ecologically important lands, for which the owner may be held liable. There are also potentially expensive repair costs and lost income that may result from failures or poorly maintained dam structures.

The primary areas of dam structural failure are:

- Loss of clay soils used in berms and other earthen structures
- Seepage and leakage at the base or along pipes
- Erosion, including wave action, stock damage and spillways
- Cracking and movement of structural components
- Defects in associated structures
- Vegetation, including catchment protection and weed control

Operation and maintenance should be applied to small, as well as large dams. Many owners of small dams, like those on farm ponds, should regularly inspect their dams for maintenance needs. Local NRCS staff can provide technical assistance to small dam owners for operation and maintenance activities.³

Regular operation and maintenance efforts can lead to some dams being in need of repairs and/or upgrades. Designs for repairs and upgrades can involve replacing reinforced concrete risers and impact basins, replacing rusted out corrugated metal pipe principal spillways, raising the top of the dams, widening the auxiliary spillways, and removing sediment from the flood pools. Examples of project costs for these types of maintenance activities reported in Ohio have ranged from \$175,000 on a small dam to \$775,000 on the largest dam (Brate, 2004).

At the state and local levels, this measure can be incorporated into existing erosion and sediment control (ESC) programs. This measure can also be effectively implemented as part of safety inspection requirements. Erosion and sediment control is also intended to be part of a comprehensive land use or watershed management program.

Management Practices for Management Measure 3

The management measure can be implemented by applying one or more management practices appropriate to the source, location, and climate. The practices described below can be applied successfully to implement the management measure for erosion and sediment control for construction of new dams and maintenance of existing dams.

Erosion Control Practices

Successful control of erosion and sedimentation from construction and maintenance activities can involve a system of management practices that targets each stage of the erosion process. The most efficient approach involves minimizing the potential sources of sediment from the onset. This means limiting the extent and duration of land disturbance to the minimum needed, and protecting surfaces once they are exposed. The second stage of the management practice system involves controlling the amount of runoff and its ability to carry sediment by diverting incoming flows and impeding internally generated flows. The third stage involves retaining sediment that is picked up on the project site through the use of sediment-capturing devices. On most sites

³ Contact your local USDA Service Center (<http://offices.sc.egov.usda.gov/locator/app>) to access NRCS in your community.

successful erosion and sedimentation control requires a combination of structural and vegetative practices. All of these stages are better performed using advanced planning and good scheduling.

The timing of land disturbing activities and installation of erosion control measures must be coordinated to minimize water quality impacts. For large scale activities, the management practice system is typically installed in reverse order, starting with sediment capturing devices, followed by key runoff control measures and runoff conveyances, and then land clearing activities. Often, construction or maintenance activities that generate significant off-site sediment have failed to sequence activities in the proper order.

Erosion controls reduce the amount of sediment lost during dam construction and prevent sediment from entering surface waters. Erosion control is based on (1) minimizing the area and time of land disturbance and (2) quickly stabilizing disturbed soils to prevent erosion.

The effectiveness of erosion control practices can vary based on land slope, the size of the disturbed area, rainfall frequency and intensity, wind conditions, soil type, use of heavy machinery, length of time soils are exposed and unprotected, and other factors. In general, a system of erosion and sediment control practices can more effectively reduce offsite sediment transport than a single practice. Numerous nonstructural measures such as protecting natural or newly planted vegetation, minimizing the disturbance of vegetation on steep slopes and other highly erodible areas, maximizing the distance eroded material must travel before reaching the drainage system, and locating roads away from sensitive areas may be used to reduce erosion.

The following practices have proven to be useful in controlling erosion and can be incorporated into ESC plans and used during dam construction as appropriate. These practices can be used during and after construction and throughout ongoing maintenance activities.

- Bank shaping and planting
- Branch packing
- Brush layering
- Brush mattressing
- Bulkheads and seawalls
- Check dams
- Coconut fiber roll
- Construct runoff intercepts
- Construction management
- Dormant post plantings
- Erosion and sediment control (ESC) plans
- Erosion control blankets
- Joint planting
- Live cribwalls
- Live fascines
- Live staking
- Locate potential land disturbing activities away from critical areas
- Mulching

- Noneroding roadways
- Phase construction
- Preserve onsite vegetation
- Retaining walls
- Revegetate
- Revetment
- Riparian improvements
- Riprap
- Rootwad revetments
- Scheduling projects
- Sediment fences
- Seeding
- Site fingerprinting
- Sodding
- Soil protection
- Surface roughening
- Training—erosion and sediment control
- Tree armoring, fencing, and retaining walls or tree walls
- Tree revetments
- Vegetated buffers
- Vegetated filter strips
- Vegetated gabions
- Vegetated geogrids
- Vegetated reinforced soil slope (VRSS)
- Wildflower cover
- Wind erosion controls

A more detailed discussion of each of the above practices is provided in Chapter 7.

Runoff Control

To prevent the entry of sediment used during construction into surface waters, these precautionary steps should be followed:

- Identify areas with steep slopes, unstable soils, inadequate vegetation density, insufficient drainage, or other conditions that give rise to a high erosion potential.
- Identify measures to reduce runoff from such areas if disturbance of these areas cannot be avoided (Hynson et al., 1985).

Runoff diversions are structures that channel upslope runoff away from erosion source areas, divert sediment-laden runoff to appropriate traps or stable outlets, or capture runoff before it leaves the site, diverting it to locations where it can be used or released without erosion or flood damage. Diversions can be either temporary or permanent in nature.

Runoff control measures, mechanical sediment control measures, grassed filter strips, mulching, and/or sediment basins could be used to control runoff from the construction site. Scheduling

construction during drier seasons, exposing areas for only the time needed for completion of specific activities, and avoiding stream fording also help to reduce the amount of runoff created during construction.

The largest surface water pollution problem during construction is suspended sediment resulting from aggregate processing, excavation, and concrete work. Preventing the entry of these materials above and/or below a dam is always the preferable alternative because runoff due to these types of construction activities can add more sediment to a reservoir, harm aquatic life above and below the dam, or affect habitat in streams below a dam. Filtration and gravitational settling during detention are the main processes used to remove sediment from construction site runoff. Methods used to control runoff and associated sedimentation from construction sites include:

- Check dams
- Constructing runoff intercepts
- Locate potential land disturbing activities away from critical areas
- Preserve onsite vegetation
- Retaining walls
- Sediment basins/rock dams
- Sediment fences
- Sediment traps
- Vegetated buffers
- Vegetated filter strips

A more detailed discussion of each of the above practices is provided in Chapter 7.

Erosion and Sediment Control (ESC) Plans

ESC plans can be used to control erosion and sediment and incorporate such control in planning. Some states call for specific requirements to be included in state ESC plans. Table 4.2 provides examples of several state ESC plan requirements. Additional detail about ESC plans, including general objectives, and management techniques for ensure proper administration of plans, is available in Chapter 7.

Table 4.2 Examples of Erosion and Sediment Control Plan Requirements for Select States

Location	General Requirements for ESC Plan
Delaware	ESC plans required for sites over 5,000 ft ² . Temporary or permanent stabilization must occur within 14 days of disturbance.
Florida	ESC plans required on all sites that need a runoff management permit.
Georgia	ESC plan required for all land-disturbing activities.
Indiana	ESC plan required for sites over 5 acres.
Maine	ESC plans required for sites adjacent to a wetland or waterbody. Stabilization must occur at completion or if no construction activity is to occur for 7 days. If temporary stabilization is used, permanent stabilization must be implemented within 30 days.
Maryland	ESC plans required for sites over 5,000 ft ² or 100 yd ³ .
Michigan	ESC plans required for sites over 1 acre or within 500 ft of a waterbody. Permanent stabilization must occur within 15 days of final grading. Temporary stabilization is required within 30 days if construction ceases.

Location	General Requirements for ESC Plan
Minnesota	ESC plans required for land development over 1 acre.
New Jersey	ESC plans required for sites over 5,000 ft ² .
North Carolina	ESC plans required for sites over 1 acre. Controls must retain sediment on-site. Stabilization must occur within 30 days of completion of any phase of development.
Ohio	ESC plans required for sites over 5 acres. Permanent stabilization must occur within 7 days of final grading or when there is no construction activity for 45 days.
Oklahoma	ESC plans required for sites over 5 acres.
Pennsylvania	ESC plans required for all sites, but the state reviews only plans for sites over 25 acres. Permanent stabilization must occur as soon as possible after final grading. Temporary stabilization is required within 70 days if construction ceases for more than 30 days. Permanent stabilization is required if the site will be inactive for more than 1 year.
South Carolina	ESC plans required for all sites unless specifically exempted. Perimeter controls must be installed. Temporary or permanent stabilization is required for topsoil stockpiles and all other areas within 7 days of disturbance.
Virginia	For areas within the jurisdiction of the Chesapeake Bay Preservation Act, no more land is to be disturbed than necessary for the project. Indigenous vegetation must be preserved to the greatest extent possible.
Washington	ESC provisions are incorporated into the state runoff management plan.
Wisconsin	ESC plans required for all sites over 4,000 ft ³ . Temporary or permanent stabilization is required within 7 days.

(Adapted from Environmental Law Institute, 1998; USEPA, 1993)

Management Measure 4: Chemical and Pollutant Control at Dams

Management Measure 4

- 1) Limit application, generation, and migration of toxic substances.
- 2) Ensure the proper storage and disposal of toxic materials.
- 3) Apply nutrients at rates necessary to establish and maintain vegetation without causing significant nutrient runoff to surface waters.

This management measure is intended to be applied to the construction of new dams, as well as to construction activities associated with the maintenance of dams. This management measure addresses fuel and chemical spills associated with dam construction and operation and maintenance activities, as well as concrete washout and related construction activities. The purpose of this management measure is to prevent downstream contamination from pollutants associated with dam construction and maintenance activities.

Although suspended sediment is the major pollutant generated at a construction site, other pollutants that may be present around dams (especially during construction and operation and maintenance activities) include:

- Petroleum products—fuels and lubricants, specifically gasoline, diesel oil, kerosene, lubricating oils, grease, and asphalt
- Pesticides—insecticides, herbicides, fungicides, and rodenticides
- Fertilizers
- Construction chemicals—acids, soil additives, and concrete-curing compounds
- Wastewater—aggregate wash water, herbicide wash water, concrete-curing water, core-drilling wastewater, or clean-up water from concrete mixers
- Solid wastes—paper, wood, metal, rubber, plastic, and roofing materials
- Garbage
- Sanitary wastes
- Cement
- Lime

This management measure is important because most erosion and sediment control practices are ineffective at retaining soluble NPS pollutants on a construction site. Many of the NPS pollutants, other than suspended sediment, generated at a construction site are carried offsite in solution or attached to clay particles in runoff. Some metals (e.g., manganese, iron, and nickel) attach to larger sediment particles and usually can be retained onsite. Other metals (e.g., copper, cobalt, and chromium) attach to fine clay particles and have greater potential to be carried offsite. Insoluble pollutants (e.g., oils, petrochemicals, and asphalt) form a surface film on runoff water and can be easily washed away (USEPA, 1973; USEPA, 2002b; USEPA, 2005d). Factors that influence the pollution potential of construction chemicals include:

- The nature of the construction and maintenance activity
- The physical characteristics of the construction site
- The characteristics of the receiving water

Dam construction sites are particularly sensitive areas and have the potential to severely impact surface waters with runoff containing construction chemical pollutants. Because dams are located on rivers or streams, pollutants generated at these construction sites have a much shorter distance to travel before entering surface waters. Therefore, chemicals and other NPS pollutants generated at a dam construction site should be controlled.

Management Practices for Management Measure 4

The management measure generally will be implemented by applying one or more management practices appropriate to the source, location, and climate. The practices described below can be applied successfully to implement the control of chemicals and pollutants at dams. This includes dam construction as well as routine maintenance. Practices for controlling chemicals and pollutants include the following:

- Equipment runoff control
- Fuel and maintenance staging areas
- Locate potential land disturbing activities away from critical areas
- Pesticide and fertilizer management
- Pollutant runoff control
- Spill prevention and control program

A more detailed discussion of each of the above practices is provided in Chapter 7.

Management Measure 5: Protection of Surface Water Quality and Instream and Riparian Habitat

Management Measure 5

Develop and implement a program to manage the operation of dams that includes an assessment of:

- 1) Surface water quality and instream and riparian habitat and potential for improvement.
- 2) Significant nonpoint source pollution problems that result from excessive surface water withdrawals.

This management measure is intended to be applied to dam operation, maintenance, and removal activities that result in the loss of desirable surface water quality, and of desirable instream and riparian habitat.

The purpose of the management measure is to protect the quality of surface waters and aquatic habitat (including riparian habitat) in the portion of rivers and streams that are impacted by dams. Operation, maintenance, and dam removal activities can be assessed to determine opportunities for potential improvements in water quality and aquatic habitat. These activities, as well as actions within the watershed, that contribute NPS pollutants to an impoundment should be collectively and periodically evaluated to help identify opportunities for cost-effective change.

The recommended overall programmatic approach is to evaluate a set of practices that can be applied individually or in combination to protect and improve surface water quality and aquatic habitat in reservoirs, as well as in areas downstream of dams. Then, a program can be implemented using the most cost-effective operation, maintenance, and removal activities to protect and improve surface water quality and aquatic and riparian habitat.

The individual application of any particular technique, such as aeration, change in operational procedure, restoration of an aquatic or riparian habitat, or implementation of a watershed protection best management practice (BMP), will, by itself, probably not improve water quality to an acceptable level within the reservoir impoundment or in tailwaters flowing through downstream areas. The individual practices discussed in this portion of the guidance may have to be implemented in some combination in order to improve water quality in the impoundment or in tailwaters to acceptable levels.

Selection of the management measure for the protection of surface water and instream and riparian habitat was based on:

- The availability and demonstrated effectiveness of practices to improve water quality in impoundments and in tailwaters of dams.

- The level of improvement in water quality of impoundments and tailwaters that can be measured from implementation of engineering practices, operational procedures, watershed protection approaches, or aquatic or riparian habitat improvements.

Successful implementation of the management measure should generally involve the following categories of practices undertaken individually or in combination to improve water quality and aquatic and riparian habitat in reservoir impoundments and in tailwaters:

- Artificial destratification and hypolimnetic aeration of reservoirs with deep withdrawal points that do not have multilevel outlets to improve dissolved oxygen (DO) levels in the impoundment and to decrease levels of other types of NPS pollutants, such as manganese, iron, hydrogen sulfide, methane, ammonia, and phosphorus in reservoir releases.
- Aeration of reservoir releases, through turbine venting, injection of air into turbine releases, installation of reregulation weirs, use of selective withdrawal structures, or modification of other turbine start-up or pulsing procedures.
- Providing both minimum flows to enhance the establishment of desirable instream habitat and scouring flows as necessary to maintain instream habitat.
- Establishing adequate fish passage or alternative spawning ground and instream habitat for fish species.
- Improving watershed protection by installing and maintaining BMPs in the drainage area above the dam to remove phosphorus, suspended sediment, and organic matter and otherwise improve the quality of surface waters flowing into the impoundment.
- Removing dams, which are unsafe, unwanted, or obsolete, after careful consideration of alternatives.

Since the presence and operation of a dam have the potential to cause impacts, periodic assessments of reservoir water quality, watershed activities, and operational practices may provide valuable information for evaluating management strategies. The types and severity of the impacts can serve as an indicator of the frequency and magnitude of the assessments. There are a variety of assessment tools that are available to assist decision-makers in the evaluation of impacts associated with dams. Watershed-related impacts and management activities can be evaluated with a variety of models. EPA supports several models that may be useful for watershed assessments, such as BASINS.⁴

⁴ More information about EPA-supported watershed assessment tools can be found at <http://www.epa.gov/waterscience/wqm>.

Reservoir water quality can also be assessed with various models. Table 8-1 in this document provides a list of models that may be used to assess reservoir water quality. Also presented in Table 8-1 are models that could be used to evaluate downstream impacts of dams.⁵

Management Practices for Management Measure 5

The management measure generally can be implemented by applying one or more management practices appropriate to the source, location, and climate. Management practices that can be used to achieve the management measure include practices to improve water quality, restore or maintain aquatic and riparian habitat, and maintain fish passage, as well as possible removal of dams. The subsection on dam removal includes planning and evaluation considerations, descriptions of the removal process, permitting requests, sediment removal techniques, descriptions of changes associated with dam removal, and a discussion of potential biological impacts.

Practices for Improving Water Quality

Management practices for improving water quality associated with the operation and maintenance of dams can be categorized as:

- Watershed Protection Practices—activities to reduce NPS pollution that take place within the watershed surrounding a dam. Reduced NPS pollutant inputs, such as sediment or nutrients, can have a significant, positive effect on water quality within a reservoir and often in reservoir releases, as well.
- Practices for Aeration of Reservoir Water—aeration activities within the reservoir. The primary goal for aerating a large portion of reservoir water is to increase oxygen levels throughout the reservoir. Other water quality factors may also improve, including levels of dissolved metals and nutrients, destratification of the water column, and improved oxygen levels in releases.
- Practices for Aeration of Reservoir Releases—a variety of aeration techniques for improving water quality, specifically dissolved oxygen levels, are presented.

Improving water quality in impoundments and tailwaters often requires consideration of the interaction of several different factors. For example, achievement of desired DO levels at specific projects may require evaluation of several different technologies and management activities. The U.S. Army Corps of Engineers created a computer-modeling program, AERATE, that performs calculations to

Management practices to protect surface water quality and instream and riparian habitat are discussed in the following subsections:

- Improving Water Quality
 - Watershed Protection
 - Aeration of Reservoir Water
 - Aeration of Reservoir Releases
- Improving Aquatic Habitat
- Maintaining Fish Passage
- Dam Removal

⁵ The USACE Environmental Laboratory develops and supports several models, such as QUAL2E, Bathtub, and CE-QUAL-RI that can be found at <http://el.erdc.usace.army.mil/products.cfm?Topic=none>.

evaluate several direct (e.g., active aeration technologies) and indirect (e.g., activities such as watershed management to reduce nitrogen and phosphorous runoff, which result in improved DO) reservoir aeration techniques. The program considers the following aeration techniques: improving water quality in the reservoir, modifying the withdrawal outlet location (and thereby changing which water is withdrawn and released from the reservoir), treating the release water to eliminate the poor quality as the flow passes through the outlet structure, and treating the release water in the tail water area (Wilhelms and Yates, 1995).

Watershed Protection Practices

Many NPS pollution problems in reservoirs and dam tailwaters frequently result from sources in the contributing watershed (e.g., sediment, nutrients, metals, and toxics). Management of pollution sources from a watershed has been found to be a cost-effective solution for improving reservoir and dam tailwater water quality (TVA, 1988). Watershed protection practices can be effective in producing long-term water quality benefits and lack the high operation and maintenance costs associated with structural controls.

Additional information about watershed protection, specifically developing and implementing watershed plans, is available from EPA's draft *Handbook for Developing Watershed Plans to Restore and Protect Our Waters*. The handbook is available at <http://www.epa.gov/nps>.

Watershed protection is a technique that provides long-term water quality benefits, and many states and local communities have adopted this practice. Numerous state and local governments have already legislated and implemented detailed watershed planning programs that are consistent with this management measure. For example, Oregon, New Jersey, Delaware, and Florida have passed legislation that requires county and municipal governments to adopt comprehensive plans, including requirements to direct future development away from sensitive areas. Many municipalities and regions have adopted land use and growth controls, including the towns of Amherst and Norwood and the Cape Cod region of Massachusetts; Narragansett, Rhode Island; King County, Washington; and many others.

Watershed protection management practices fall under the following four categories:

- Encourage drainage protection—includes descriptions and applications of zoning techniques that can be used to limit development density or redirect density to less environmentally sensitive areas.
- Establish and protect stream buffers—describes important steps for protecting or establishing riparian buffer zones to enhance water quality and pollutant removal.
- Identify and address NPS contributions—involves identifying potential upstream sources of nonpoint source pollution, as well as providing solutions to minimize those impacts.
- Identify and preserve critical areas—entails identifying properties that if preserved or enhanced could maintain or improve water quality and reduce the impacts of urban runoff, as well as, preserving environmentally significant areas (includes land acquisition, easements, and development restrictions of various types).

Refer to Chapter 7 for additional information about each of the above practices.

Reservoir Aeration Practices

Systems that have been developed and tested for reservoir aeration rely on atmospheric air, compressed air, or liquid oxygen to increase DO concentrations in reservoir waters. Mixing of reservoir water to destratify warmer, oxygen rich, epilimnion and cooler, oxygen poor, hypolimnion waters can be used. However, this practice has not been used at large hydropower reservoirs because of the associated cost in deep, large volume reservoirs. Refer to Chapter 7 for additional information about reservoir aeration practices.

Practices to Improve Oxygen Levels in Tailwaters

Aeration of water as it passes through the dam or through the portion of the waterway immediately downstream from the dam is another approach to improving DO in water releases from dams. The systems in this category rely on agitation and turbulence to mix the reservoir releases with atmospheric air. One approach involves the increased use of spillways, which release surface water to prevent it from overtopping the dam. An alternative approach is to install barriers called weirs in the downstream areas. Weirs are designed to allow water to overtop them, which can increase DO through surface agitation and increased surface area contact. Some of these downstream systems create supersaturation of dissolved gases and may require additional modifications to prevent supersaturation, which may be harmful to aquatic organisms.

The quality of reservoir releases can be improved through adjustments in the operational procedures at dams. These include scheduling of releases or of the duration of shutoff periods, instituting procedures for the maintenance of minimum flows, making seasonal adjustments in the pool levels or in the timing and variation of the rate of drawdown, selecting the turbine unit that most increases DO (often increasing the DO levels by 1 mg/L), and operating more units simultaneously (often increasing DO levels by about 2 mg/L). The magnitude and duration of reservoir releases also should be evaluated to determine impacts to the salinity regime in coastal waters, which could be substantially altered from historical patterns.

Two factors should be considered when evaluating the suitability of hydraulic structures such as spillways and weirs for their application in raising the DO concentration in waterways:

- Most of the measurements of DO increases associated with hydraulic structures have been collected at low-head facilities. The effectiveness of these devices may be limited as the level of discharge increases (Wilhelms, 1988).
- The hydraulic functioning of these types of structures should be carefully considered since undesirable flow conditions may occur in some instances (Wilhelms, 1988).

Practices that improve oxygen levels in tailwaters include:

- Gated conduits
- Labyrinth weirs
- Modifying operational procedures
- Reregulation weirs
- Selective withdrawal

- Spillway modifications
- Turbine operation
- Turbine venting
- Water conveyances

Additional information about each of these practices is available in Chapter 7.

Practices to Restore or Maintain Aquatic and Riparian Habitat

Several options are available for the restoration or maintenance of aquatic and riparian habitat in the area of a reservoir impoundment or in portions of the waterway downstream from a dam. One set of practices is designed to augment existing flows that result from normal operation of the dam. These include operation of the facility to produce flushing flows, minimum flows, or turbine pulsing. Another approach to producing minimum flows is to install small turbines that operate continuously. Installation of reregulation weirs in the waterway downstream from the dam can also achieve minimum flows. Finally, riparian improvements are discussed for their importance and effectiveness in restoring or maintaining aquatic and riparian habitat in portions of the waterway affected by the location and operation of a dam.

A 2004 report from the National Academies' National Research Council (NRC, 2004) illustrates the importance of maintaining instream flows and critical wildlife habitat in streams where dams are present and notes that areas along Nebraska's Platte River are properly designated as "critical habitats" for the river's endangered whooping crane and threatened piping plover. A series of dams and reservoirs have been constructed in the river basin for flood control and to provide water for farm irrigation, power generation, recreation, and municipal use. The alterations to the river and surrounding land caused by this extensive water-control system, however, resulted in habitat changes that were at odds with the protection of the listed species.

Conflicts over the protection of federally listed species and water management in the Platte River Basin have existed for more than 25 years. In recent years, the Fish and Wildlife Service of the U.S. Department of the Interior issued a series of biological opinions indicating that new water depletions would have to be balanced by mitigation measures, and a lawsuit forced the designation of "critical habitat" for the piping plover. These and other controversies prompted the Department of the Interior and the Governance Committee of the Platte River Endangered Species Partnership to request that the National Research Council examine whether the current designations of "critical habitat" for the whooping crane and piping plover are supported by existing science. The National Research Council was also asked to assess whether current habitat conditions are affecting the survival of listed species or limiting their chances of recovery, and to examine the scientific basis for the department's instream-flow recommendations, habitat-suitability guidelines, and other decisions. The report concludes that in most instances habitat conditions are indeed affecting the likelihood of species survival and recovery.

Additional information about the following practices to restore or maintain aquatic and riparian habitat are available in Chapter 7:

- Constructed spawning beds
- Flow augmentation

- Riparian improvements
- Spillway modifications

Practices to Maintain Fish Passage

Migrating fish populations may be unable to travel up or downstream because of the presence of a dam or suffer losses when passing through the turbines of hydroelectric dams at facilities that have not been equipped with special design features to accommodate fish passage. The effect of dams and hydraulic structures on migrating fish has been studied since the early 1950s in an effort to develop systems or identify operating conditions that would minimize mortality rates. Selecting a device or management strategy for optimal fish passage in a stream or river with a dam requires careful analysis of a variety of factors, such as species, type and operational strategy of the dam, and the physical characteristics of the river system.

Larinier (2000) reports that devices such as fish ladders and bypass channels can help fish travel past dams, but may result in increased mortality due to the hardship and stress involved with passing through these structures. In addition, the fish passage structures have to be placed in a suitable entrance location, have a flow that is attractive to the species of concern, be continually maintained, and possess the hydraulic conditions necessary for the target species (Larinier, 2000). With all of these requirements, the success of a fish ladder or similar device is often uncertain. Passage through the hydraulic turbines of a hydropower dam can cause increased stress as a result of changes in velocity or pressure and the possibility of electric shocks from the turbines and can lead to increased mortality (Larinier, 2000).

The safe passage of fish either upstream or downstream through a dam requires a balance between operation of the facility for its intended uses and implementation of practices that will ensure safe passage of fish. The United States Congress' Office of Technology Assessment (OTA) report on fish passage technologies at hydropower facilities provides an excellent overview of fish passage technologies and discusses some of the economic considerations associated with the safe passage of fish (OTA, 1995).

The U.S. Fish and Wildlife Service and its partners have created a database that makes information about barriers to fish passage in the United States available to policy makers and the public. The database, known as the Fish Passage Decision Support System (FPDSS),⁶ is part of the U.S. Fish and Wildlife Service's National Fish Passage Program.⁷

Available fish-protection systems for hydropower facilities fall into one of four categories based on their mode of action (Stone and Webster, 1986): behavioral barriers, physical barriers, collection systems, and diversion systems. These are discussed in separate sections below, along with additional practices that have been successfully used to maintain fish passage: spill and water budgets, fish ladders, fish lifts, advanced hydroelectric turbines, transference of fish runs, and constructed spawning beds.

⁶ <https://ecos.fws.gov/fpdss/index.do>

⁷ <http://www.fws.gov/fisheries/fwma/fishpassage>

Upstream fish passage systems have been constructed at approximately 10 percent of the FERC licensed hydropower plants. Upstream fish passage systems such as fish ladders and lifts are considered adequately developed for anadromous species such as salmon, American shad (*Alosa sapidissima*), alewives (*Alosa pseudoharengus*), and blueback herring (*Alosa aestivalis*). Fish passage systems for riverine fish have not been specifically designed, although some of these species will use fish passage systems designed for anadromous species (OTA, 1995).

Practices include:

- Advanced hydroelectric turbines
- Behavioral barriers
- Collection systems
- Fish ladders
- Fish lifts
- Physical barriers
- Spill and water budgets
- Transference of fish runs

Additional information about the above practices is available in Chapter 7.

Removal of Dams

The removal of dams has become an accepted practice for dam owners to deal with unsafe, unwanted, or obsolete dams. Dam removal may be necessary as dams deteriorate, sediments accumulate behind dams in reservoirs, human needs shift, and economics dictate (NRC, 1992). Dams serve a variety of important social and environmental purposes (e.g., water supply, flood control, power generation, wildlife habitat, and recreation). As a result, dam removal is often infrequent.

Dam Removal Resource

American Rivers is a nonprofit organization focusing on the health of U.S. river systems, fish, and wildlife. American Rivers' website hosts a variety of information related to hydromodification, including past and recent estimates of dam removals in the United States.
<http://www.americanrivers.org>

Migratory fish passage throughout United States rivers and streams is obstructed by over 2 million dams and many other barriers such as blocked, collapsed, and perched culverts. The National Oceanic and Atmospheric Administration (NOAA) is expanding its community-based approach to restoring fish habitat through the recently developed Open Rivers Initiative (ORI).⁸ Administered by NOAA Fisheries Service Office of Habitat Conservation, ORI is designed to help communities correct fish passage problems by focusing financial and technical resources on the removal of obsolete dams and other blockages. ORI strives to restore vital habitat for migrating fish like salmon, striped bass, sturgeon, and shad, as well as improve community safety and stimulate economic revitalization of riverfront communities. Through its more broadly focused Community-based Restoration Program (CRP), NOAA Fisheries Service has opened over 700 miles of stream habitat with financial and technical assistance provided to fish passage

⁸ <http://www.nmfs.noaa.gov/habitat/restoration/ORI>

projects. Examples of successfully completed CRP projects that fit the Open Rivers Initiative model include:

- Culvert removal in the John Smith Creek (Mendocino County, CA)
- Mt. Scott Creek dam removal (Happy Valley, OR)
- Wyomissing Creek dam removal (Reading, PA)
- Town Brook dam removal and fish ladder (Plymouth, MA)
- Sennebec dam removal (Union, ME)

There are many things to consider when removing a dam, one of which is the function(s) of the dam and the status of that function (active vs. inactive). As discussed above, dams are used for various purposes, including water supply, hydroelectric power, recreation, and flood control benefits. When proposals are made to remove a dam with one or more of these active functions, the way in which these functions and benefits will be replaced or mitigated must be addressed (FOR, 1999). An example of this process can be seen with the Jackson Street Dam, located on Bear Creek in Medford, Oregon. The dam diverted water from the creek into the irrigation canals of Rogue River Valley Irrigation District (RRVID). Since the dam created a partial barrier to migratory fish, a loss of stream habitat, and an algae-filled impoundment near the city park, a consensus was reached that removing the dam was the most cost-efficient means of eliminating the problem. However, since the dam was currently providing irrigation diversion, another cost-efficient diversion had to be devised for RRVID. The decision was made to replace the old dam with a less damaging diversion structure. The new structure is approximately one-fourth the height of the Jackson Street Dam (about 3 feet) and is located 1,200 feet upstream. The new structure is also removed at the end of the irrigation season, which coincides with the time of the year when most upstream migration occurs. When the new structure is in place during the irrigation season, it allows fish to migrate (by well-designed fish ladders and screens), and it was designed so that little water will back up behind it. It is also equipped with fish screens to keep fish out of the irrigation canal (FOE et al., 1999).

It is also important to consider the cost of removing a dam, and who will pay for the removal. Removal costs can vary from tens of thousands of dollars to hundreds of millions of dollars, depending on the size and location of the dam. Who pays for dam removal can be a complex issue. Removal in the past has often been financed by the dam owner; local, state, and federal government; and in some cases agreements where multiple stakeholders cover the costs (American Rivers, n.d.a.). A guide to selected funding sources (*Paying for Dam Removal: A Guide to Selected Funding Sources*)⁹ is available from American Rivers.

Dam owners are responsible to keep the dam safe. When a dam begins to fail or breach, a decision must be made as to whether to keep or repair the structure. When a dam generates no revenue, the long-term costs of liability insurance, dam and impoundment maintenance, and operation weigh heavily on the side of dam removal. On average, dam removal costs 3–5 times less than repair.

Source: Delaware Riverkeeper, n.d.

⁹ <http://www.americanrivers.org/site/DocServer/pdr-color.pdf?docID=727>

In the case of the Jackson Street Dam, the most cost-effective alternative to solving the problems associated with the dam was to remove it. However, since it was currently functioning, an alternative means to provide that function was needed. In some instances, it is not more beneficial to remove the dam if it is functioning. For example, USACE expressed concern over the costs of air pollution created by fuel-burning power plants needed to replace the lost power from dams in the debate over the removal of the Snake River dams (Lee, 1999). There was much controversy over whether it was more cost-efficient to remove the dams, especially due to the functions the dams provided. USACE found that replacing the dams would be costly, both monetarily and ecologically. The estimated costs to replace the lower Snake hydropower were between \$180 million to \$380 million a year for 100 years (Lee, 1999). In addition, the cost of the resulting increase in pollution due to natural gas or coal replacement plants was very high, yet an actual amount was not determined.

Evaluations made by the USACE found that the costs associated with removing the Snake River dams greatly exceeded the costs of maintaining, improving, and keeping them (Associated Press, 2002). Therefore, the dams along the Snake River remain and have been repaired. USACE plans to pursue technical and operational changes at the Snake River dams to improve fish survival, in addition to barging or trucking juvenile salmon around the dams (Associated Press and the Herald Staff, 2002).

The entire decision-making process is a delicate balance that involves many stakeholders. One important step in this process is to decide if the ecological benefits of removing the dam outweigh the benefits of maintaining the dam.

When deciding whether to remove a dam, interested parties should collect as much information as possible about the potential removal project. American Rivers has published a fact sheet (*Data Collection: Researching Dams and Rivers Prior to Removal*),¹⁰ which contains a variety of sources to help begin researching the particular dam that might be removed and the river on which it is located (American Rivers, n.d.b.).

American Rivers and Trout Unlimited have published a guide to help decide whether to remove a dam or not, *Exploring Dam Removal: A Decision-Making Guide* (American Rivers and Trout Unlimited, 2002).¹¹

Repercussions of Unsafe Dams (American Rivers, 1999)

Unsafe dams may result in:

1. Loss of life from surging flows if a dam fails
2. Destruction of property
3. Harm to the downstream river environment (e.g., erosion)
4. Release of toxic sediments (e.g., dioxins, PCBs)
5. Risk to users of the river (i.e., users may not be able to avoid life threatening hazards if in close approximation to a failing dam)
6. Jeopardizing delivery of critical services to communities (e.g., power generation, flood control)

The decision-making process related to dam removal is often complex with inputs from stakeholders with opposing desired outcomes. Additional resources related to dam removal are available in the Resources chapter.

¹⁰ http://www.americanrivers.org/site/DocServer/Researching_a_Dam_Data_Collection.pdf?docID=981

¹¹ http://www.americanrivers.org/site/DocServer/Exploring_Dam_Removal-A_Decision-Making_Guide.pdf?docID=3641

Chapter 5: Streambank and Shoreline Erosion



Figure 5.1 Shoreline Erosion: Before and After Photos (SEAS, 2007)

Streambanks and shorelines naturally erode. Water flowing along (parallel to) streambanks dislodges sediment and other materials that constitute the streambank. Similarly, water flowing perpendicular to shorelines, due to waves or tides, transports sediment and other materials away from the shoreline. Anthropogenic influences change the natural erosion processes, often increasing erosion locally and sedimentation downstream, along adjacent shorelines, or offshore. Many human activities change the hydraulic characteristics of stream flows or transfer energy to adjacent shorelines and contribute to increased streambank and shoreline erosion, for example:

- *Urbanization* that leads to changes in imperviousness creates changes in the hydraulics of water during wet weather events. Increased imperviousness can result in flashier runoff events that are shorter in duration with greater flow rates and more erosive force.
- *Agricultural practices*, such as drainage ditches, can change the characteristics of subsurface water flows into receiving streams. These changes result in less subsurface water storage and often increase stream flows during and after storms.
- *Livestock grazing* may reduce vegetative cover, which can result in more erosion on uplands and increased sediment and other pollutant loads in streams. Livestock that are allowed direct access to streams can significantly increase streambank erosion and destroy important riparian habitat.
- *Roads* built in rural areas, such as forest and recreational roads, alter the natural landscape and can destroy riparian habitat. If not properly installed and maintained, these types of roads erode and supply increased sediment and pollutants to adjacent streams. Additionally, roads may increase imperviousness, which leads to flashier runoff events. Stream crossings associated with rural roads can block fish passage, trap debris during storms, and lead to increased streambank erosion in nearby areas.
- *Marinas* can alter local wave and tidal flow patterns, resulting in transference of wave and tidal energy to adjacent shorelines.
- *Channelization or channel straightening* sometimes results in an increase in the slope of a channel, which causes an increase in stream flow velocities. Channel modifications to reduce flood damage, such as levees and floodwalls, often narrow the stream width, increasing the velocity of the water and thus its erosive potential. In addition, newly

constructed banks are generally more prone to erosion than “seasoned” banks and are more likely to require bank stabilization.

- *Dams* alter the flow of water, sediment, organic matter, and nutrients, resulting in both direct physical and indirect biological effects. The impact of a dam on a stream corridor can vary, depending on the purposes of the dam and its size in relation to stream flow. Varying discharges released from a hydropower dam can be a significant factor increasing streambank erosion. When dams are a barrier to the flow of sediment and organic materials, the decreased suspended sediment load in release waters may lead to scouring of downstream streambeds and streambanks.

In summary, these anthropogenic factors can affect the state of equilibrium in streams or along shorelines. The typical chain of events that follows the disturbance to a stream corridor or shoreline can be described as changes in:

- Hydrology
- Stream hydraulics
- Morphology
- Factors such as sediment transport and storage
- Alterations to the biological community
- Impervious cover

Management Measure 6: Eroding Streambanks and Shorelines

Management Measure 6

- 1) Where streambank or shoreline erosion is a nonpoint source (NPS) pollution problem, streambanks and shorelines should be stabilized. Vegetative methods are strongly preferred unless structural methods are more effective, considering the severity of stream flow discharge, wave and wind erosion, and offshore bathymetry, and the potential adverse impact on other streambanks, shorelines, and offshore areas.
- 2) Protect streambank and shoreline features with the potential to reduce NPS pollution.
- 3) Protect streambanks and shorelines from erosion due to uses of either the shorelands or adjacent surface waters.

Typically, several streambank and shoreline stabilization techniques may be used to effectively control erosion wherever it is a source of nonpoint pollution. Often a combination of techniques may be necessary to effectively control conditions that are causing the increased erosion. Techniques involving marsh creation and vegetative bank stabilization (“soil bioengineering”) will usually be effective at sites with limited exposure to strong currents or wind-generated waves. In cases with increased erosional forces, an integrated approach that employs the use of structural systems in combination with soil bioengineering techniques can be utilized. The use of harder, more structural approaches, including beach nourishment and coastal or riparian structures, may need to be considered in areas facing severe water velocities or wave energy. In addition to controlling the sources of sediment contributed to surface waters, which are causing nonpoint source (NPS) pollution, these techniques can halt the destruction of wetlands and riparian areas located along the shoreline. Once affected streambanks and shorelines are protected, they can serve as a filter for surface water runoff from upland areas, or as a temporary sink for nutrients, contaminants, or sediment already present as NPS pollution in surface waters.

Stabilization practices involving vegetation or engineering structures should be properly designed and installed. These techniques should be applied only when there will be no adverse effects to aquatic or riparian habitat, or to the stability of adjacent shorelines. In addition to activities that are applied directly to an eroding streambank or shoreline, there may be opportunities to promote institutional measures that establish minimum setback requirements or a buffer zone to reduce concentrated flows and promote infiltration of surface water runoff in areas adjacent to the shoreline.

Stream-friendly Project Tips**Before Construction**

- Involve your neighbors to increase project success
- Get the necessary permits
- Flag and avoid disturbing wetlands
- Preserve existing native trees and shrubs
- Cut trees and shrubs rather than ripping them out of the ground (many may resprout)
- Make a plan to replant disturbed areas and use native plants
- Install sediment-control practices (e.g., coffer dams)

During Construction

- Stockpile fertile topsoil for later use for plants
- Use hand equipment rather than heavy equipment
- If using heavy equipment, use wide-tracks or rubberized tires
- Work from the streambank, preferably on the higher, non-wetland side
- Avoid instream work except as authorized by your local fishery and wildlife authority
- Stay 100 feet away from water when refueling or adding oil
- Avoid using wood treated with creosote or copper compounds

After Construction

- Keep out people and livestock during plant establishment
- Check project after high flows
- Water plants during *droughts*
- Control grass until trees and shrubs overtop grass, usually two to three years

Source: SWCD. No date. *Protecting Streambanks from Erosion: Tips for Small Acreages in Oregon*. Washington County Soil and Water Conservation District and the Small Acreage Steering Committee, Oregon Association of Conservation Districts. <http://www.or.nrcs.usda.gov/news/factsheets/fs4.pdf>. Accessed June 2003.

Initially project planners can consider whether a complete removal or reversal of the causative effects is possible. For example, when evaluating restoration sites affected by upstream armoring and urbanization, rather than adding armoring to the downstream site that is eroding, the planning team may consider whether changes to operations up stream can be made. Next, activities to improve existing erosion damage may be examined. The alteration of operation approaches in combination with management and restoration efforts can reduce future impacts. Similarly, removal of channelization structures may allow for a greater recovery of the integrity of a stream corridor. If feasible, the objective of a restoration design should be to eliminate or moderate disruptive influences to allow for equilibrium (NRC, 1992). If this is not possible, restoration may have limited effectiveness in the long term or may require a closer look at an entire watershed to determine alternate restoration activities. See Chapter 6 for additional information on watershed planning and restoration information.

A glossary of stream restoration terms is available from U.S. Army Corps of Engineers' Ecosystem Management and Restoration Research Program at <http://el.erd.c.usace.army.mil/elpubs/pdf/sr01.pdf>.

This management measure was selected for the following reasons:

- Many anthropogenic activities can destabilize streambanks and shorelines, resulting in erosion that contributes significant amounts of NPS pollution in surface waters.
- The loss of coastal land and streambanks due to shoreline and streambank erosion results in reduction of riparian areas and wetlands that have NPS pollution abatement potential.
- A variety of activities related to use of shorelands or adjacent surface waters can result in erosion of land along coastal bays or estuaries and loss of land along rivers and streams.

Preservation and protection of shorelines and streambanks can be accomplished through many approaches, but preference in this guidance is for vegetative practices, such as soil bioengineering and marsh creation, where their use is appropriate.

Management Practices for Management Measure 6

The management measure generally will be implemented by applying one or more management practices appropriate to the source, location, and climate. A variety of vegetative and structural practices are presented and are examples of activities that can be used as a single practice or in combination with other practices to achieve the desired project goals. An example of a source of information is the USACE publication *Stream Management* (Fischenich and Allen, 2000), which provides a good summary of vegetative and structural practices as well as a comprehensive review of processes related to stream and streambank erosion. The document also presents a thorough overview of planning activities for approaching streambank erosion issues.

The types of practices that can be used to accomplish the elements of Management Measure 6, including the following groups of practices:

- Vegetative practices
- Structural practices
- Integrated systems
- Planning and regulatory approaches

Vegetative Practices

Vegetative practices have a long history of use in Europe for streambank and shoreline protection and for slope stabilization. Prior to the 1980s, they have been practiced in the United States only to a limited extent, primarily because other engineering options, such as the use of riprap, have been more commonly accepted practices (Allen and Klimas, 1986). The use of vegetative streambank and shoreline stabilization practices have become more common in the United States over the past several decades as their implementation has shown to be physically and ecologically successful. Economically, less costly alternatives of stabilization, such as vegetative practices, are being pursued as alternatives to engineering structures for controlling erosion of streambanks and shorelines.

Vegetative practices, sometimes referred to as soil bioengineering, refer to the installation of plant materials as a main structural component in controlling problems of land instability where

erosion and sedimentation are occurring (USDA-NRCS, 1992). Vegetative practices can be defined as, “the use of live and dead plant materials, in combination with natural and synthetic support materials, for slope stabilization, erosion reduction, and vegetative establishment” (FISRWG, 1998).

Basic principles of soil bioengineering include the following (USDA-NRCS, 1992):

- Fit the soil bioengineering system to the site
 - Topography and exposure (e.g., note the degree of slope, presence of moisture)
 - Geology and soils (e.g., determine soil depth and type)
 - Hydrology (e.g., calculate peak flows in the project area)
- Retain existing vegetation whenever possible
- Limit removal of vegetation
- Stockpile and protect topsoil
- Protect areas exposed during construction
- Divert, drain, or store excess water

Additionally, vegetative approaches have the advantage of providing food, cover, and instream and riparian habitat for fish and wildlife and result in a more aesthetically appealing environment than traditional engineering approaches (Allen and Klimas, 1986). Many planners of vegetative practices try to utilize native plants and materials that can be obtained from local stands of species. These plants are already well adapted to the climate and soil conditions of the area and thus have an increased chance of becoming established and surviving. The use of locally available plants also cuts the costs of a restoration project (Gray and Sotir, 1996). Vegetative systems that use locally available plants have the added advantage of blending in with natural vegetation over time.

Additional benefits of using bioengineering methods include (USEPA, 2003c):

- Designed to be low maintenance or maintenance-free in the long run
- Enhance habitat not only by providing food and cover sources, but by serving as a temperature control for aquatic and terrestrial animals
- If successful, can stabilize slopes effectively in a short period of time (e.g., one growing season)
- Self-repairing after establishment
- Filter overland runoff, increase infiltration, and attenuate flood peaks

The limitations of vegetative practices include the need for skilled laborers and the difficulty of locating plant materials, particularly during the dormant season, which is the optimal time for installation. To properly establish a soil bioengineering planting, orientation, on-site training, and careful supervision of the labor crews are required. Another limitation, which is avoidable, is that projects that promote the growth of thick vegetation may increase roughness values or increase friction and raise floodwater elevations. This should be taken into consideration during the planning stages of a project and prevented.

Additional information about soil bioengineering principles is available from the *Engineering Field Handbook, Chapter 18* (USDA-NRCS, 1992).¹ Local agencies, such as the USDA Natural Resources Conservation Service (NRCS) and the Cooperative Extension Service, can be useful sources of information on appropriate native plant species to consider in bioengineering projects.

The USDA Forest Service has published *A Soil Bioengineering Guide for Streambank and Lakeshore Stabilization*,² which provides information on how to successfully plan and implement a soil bioengineering project, including the application of soil bioengineering techniques. The guide also provides specific tips for using soil bioengineering techniques successfully.

Specific vegetative practices include (USDA-NRCS, 1992):

- Branch packing
- Brush layering
- Brush mattresses
- Coconut fiber roll
- Dormant post plantings
- Live fascines
- Live staking
- Marsh creation and restoration
- Tree revetments
- Vegetated buffers

Refer to Chapter 7 for additional information about the above practices. The Additional Resources section provides a number of sources for obtaining information about the effectiveness, limitations, and cost estimates for these practices.

Structural Approaches

Soil bioengineering alone is not suitable in all instances. When considering an approach to streambank or shoreline stabilization, it is important to take several factors into account. For example, it is inappropriate to stabilize slopes with vegetative systems in areas that would not support plant growth, such as those areas with soils that are toxic to plants, areas of high water velocity, or where there is significant wave action (Gray and Sotir, 1996). Shores subject to wave erosion will usually require structures or beach nourishment to dampen wave or stream flow energy.

Properly designed and constructed shoreline and streambank erosion control structures are used in areas where higher water velocity or wave energy make vegetative stabilization and marsh creation ineffective. In addition to careful consideration of the engineering design, the proper planning for a shoreline or streambank protection project will include a thorough evaluation of

¹ The soil bioengineering chapter of the handbook is available at <http://www.info.usda.gov/CED/ftp/CED/EFH-Ch18.pdf>.

² Available at <http://www.fs.fed.us/publications/soil-bio-guide>.

the physical processes causing the erosion. To complete the analysis of physical factors, the following steps are suggested (Hobbs et al., 1981):

- Determine the limits of the shoreline reach
- Determine the rates and patterns of erosion and accretion and the active processes of erosion within the reach
- Determine, within the reach of the sites of erosion-induced sediment supply, the volumes of that sediment supply available for redistribution within the reach, as well as the volumes of that sediment supply lost from the reach
- Determine the direction of sediment transport and, if possible, estimation of the magnitude of the gross and net sediment transport rates
- Estimate factors such as ground-water seepage or surface water runoff that contribute to erosion

Some of the most widely accepted alternative engineering practices for streambank or shoreline erosion control are described below. These practices will have varying levels of effectiveness depending on the strength of waves, tides, streamflow, or currents at the project site. They will also have varying degrees of suitability at different sites and may have varying types of secondary impacts. One important impact that must always be considered is secondary effects, such as the transfer of wave or streamflow energy, which can cause erosion elsewhere, either offshore or alongshore. Finding a satisfactory balance between these three factors (effectiveness, suitability, and secondary impacts) is often the key to a successful streambank or shoreline erosion control project.

Examples of structural approaches include:

- Beach nourishment
- Breakwaters
- Bulkheads and seawalls
- Check dams
- Groins
- Levees, setback levees, and floodwalls
- Return walls
- Revetment
- Riprap
- Toe protection
- Wing deflectors

Refer to Chapter 7 for additional information about the above practices. The Additional Resources section provides a number of sources for obtaining information about the effectiveness, limitations, and cost estimates for these practices.

Integrated Systems

The use of structural systems alone may raise concern because these systems lack vegetation, which can be effective at stabilizing soils in most conditions. Additionally, vegetated systems

can help to restore damaged habitat along shorelines and streambanks. Integrated systems, which combine structural systems and vegetation, can be very effective in many settings where vegetation adds support and habitat to structural systems. An example of an integrated system is the use of stones for toe protection (structural) and soil bioengineering techniques (vegetative) for the upper banks of a waterway. Integrated slope protection designs that employ the traditional structural methods and the soil bioengineering techniques have proven to be more cost effective than either method independently. Where construction methods are labor-intensive and labor costs are reasonable, the combination of methods may be especially cost effective (Gray and Sotir, 1996).

Integrated systems include:

- Bank shaping and planting
- Joint planting
- Live cribwalls
- Riparian improvements
- Root wad revetments
- Vegetated gabions
- Vegetated geogrids
- Vegetated reinforced soil slope (VRSS)

Refer to Chapter 7 for additional information regarding the above practices. The Additional Resources section provides a number of sources for obtaining information about the effectiveness, limitations, and cost estimates for these practices.

Planning and Regulatory Approaches

In addition to the vegetative, structural, and integrated practices discussed above, another group of practices that can be used to protect streambanks and shorelines includes planning and regulatory approaches. The variety of planning activities include practices in waters adjacent to eroding streambanks and shorelines (e.g., evaluating the erosion potential) and on land areas adjacent to eroding streambanks and shorelines (e.g., watershed planning processes). There are also a variety of local policy and regulatory activities that can be used to protect sensitive or eroding streambanks and shorelines ranging from setback requirements and vegetated buffer minimum widths to requirements for erosion and sediment control plans for various types of construction activities. The following are examples (with complete descriptions located in Chapter 7) of planning and regulatory protection activities that could be used to protect vulnerable streambanks or shorelines:

- Erosion and sediment control plans
- Establishment and protection of stream buffers
- Rosgen's stream classification method
- Setbacks
- Shoreline sensitivity assessment

Chapter 6: Guiding Principles

Many of the management measures and practices recommended by EPA to reduce the nonpoint source (NPS) pollutant impacts associated with hydromodification activities stress the need to incorporate planning as a tool. States, local governments, or community groups should begin the planning process early when trying to determine how to address a particular NPS issue associated with a new or existing hydromodification project. The planning process should bring key stakeholders together so that a variety of options can be explored to adequately define the problem and potential solutions. Once the issues are identified according to the various perspectives, project goals can be established to solve one or more environmental problems.

One important part of the planning process is the identification of the goals of the different stakeholders. Once these goals, which are sometimes different for the different groups of stakeholders, are identified and defined, the planning team can strive to achieve a balance among the needs of the various stakeholders. Often restoration compromises can be made to meet differing goals of the stakeholders to achieve a balance of the needs of the different groups. For example, changes in hydroelectric dam operation may be possible to produce minimum base flows downstream from the dam to support a variety of aquatic habitats, while still providing energy in a profitable manner. In addition, solutions that only allow for complete removal of the dam and restoration to preexisting stream conditions may not be possible because of other changes in the watershed (e.g., urbanization, other hydromodification projects, or the need for affordable and environmentally friendly electricity). A compromise solution that enables the dam to continue to operate while minimizing environmental impacts and to enhance critical downstream habitats that support a desirable fish population may be the best solution.

Part of the planning process and achievement of balance when evaluating techniques for restoring areas impacted by NPS pollution associated with hydromodification activities can be termed “creating opportunities.” For example, an opportunity may be found by working with stakeholders such as local homeowners who are concerned about the unsightly algae present in a community reservoir. Reducing runoff containing an abundant supply of nitrogen and phosphorous pollutants from lawns surrounding the reservoir may lead to reductions in the algal bloom. Changes in land use that result in increasing the permeability of land adjacent to a channelized stream can reduce the overall volume and velocity of water in the stream. As flooding conditions are reduced, “hard” structures like bulkheads can be replaced with softer, vegetative solutions along the stream channel. The combination of reduced scouring flows associated with the greater stream velocities and vegetated channel banks can lead to improved instream ecological conditions. There are many other possible opportunities waiting to be found and implemented when projects are evaluated at the watershed level.

Project planning and analysis are essential parts of success when trying to reduce the impact of NPS pollution from new or existing hydromodification activities. One example of a planning process is explained in the EPA document *Ecological Restoration: A Tool to Manage Stream Quality* (USEPA, 1995a). This document outlines the key steps in the ecological restoration decision framework as:

- Identification of impaired or threatened watersheds

- Inventory of the watershed
- Identification of the restoration goals
- Selection of candidate restoration techniques
- Implementation of selected restoration techniques
- Monitoring

Other EPA guidance documents offer similar approaches to the restoration planning process, including *Community-Based Environmental Protection: A Resource Book for Protecting Ecosystems and Communities* (USEPA, 1997a). Both guidance documents offer a variety of case studies to provide readers with examples of the frameworks as they are applied to real-world situations. EPA's *Draft Handbook for Developing Watershed Plans to Restore and Protect Our Waters* (USEPA, 2005c) also provides useful planning information related to watershed plans.

The Natural Resources Conservation Service (NRCS) is also a source of information for planning. NRCS provides assistance through their Watershed Protection and Flood Prevention Program, whose purpose is to assist federal, state, local agencies, local government sponsors, tribal governments, and program participants to protect and restore watersheds from damage caused by erosion, floodwater, and sediment; to conserve and develop water and land resources; and to solve natural resource and related economic problems on a watershed basis. The program provides technical and financial assistance to local people or project sponsors, builds partnerships, and requires local and state funding contribution.¹

NRCS uses locally-led conservation programs, which are an extension of the agency's traditional assistance to individual farmers and ranchers, for planning and installing conservation practices for soil erosion control, water management, and other purposes. Through this effort, local people, generally with the leadership of conservation districts along with NRCS technical assistance, will assess their natural resource conditions and needs, set goals, identify ways to solve resource problems, utilize a broad array of programs to implement solutions, and measure their success.

When planning any new development activities or restoration of already developed or impacted activities, it is important to account for the guiding principles:

- Using a watershed approach
- Smart growth principles
- Project design principles
- Monitoring and maintenance of structures

Each of these principles is discussed in more detail below.

¹ Additional information about this program, as well as contact information is available at <http://www.nrcs.usda.gov/programs/watershed>.

Using a Watershed Approach

EPA recommends the use of a watershed approach as the key framework for dealing with problems caused by runoff and other sources that impair surface waters (USEPA, 1998). The watershed protection approach is a comprehensive planning process that considers all natural resources in the watershed, as well as social, cultural, and economic factors. Using a watershed approach, multiple stakeholders integrate regional and locally-led activities with local, state, tribal, and federal environmental management programs. EPA works with federal agencies, states, tribes, local communities, and non-governmental sectors to make a watershed approach the key coordinating framework of planning, restoration, and protection efforts to achieve “clean and safe” water and healthy aquatic habitat.

The watershed approach framework can be applied to address impacts caused by hydromodification activities throughout a watershed. Additionally, the watershed approach can help to identify and address problems within a watershed that increase NPS pollution associated with hydromodification activities.

Major elements of successful watershed approaches include:

- Focusing on hydrologically-defined areas—watersheds and aquifers have hydrologic features that converge to a common point of flow; watersheds range in size from very large (e.g., the Mississippi River Basin) to a drainage basin for a small creek.
- Using an integrated set of tools and programs (regulatory and voluntary, federal/state/tribal/local and non-governmental sectors) to address the myriad problems facing the Nation’s water resources, including NPS and point source pollution, habitat degradation, invasive species, and air deposition of pollutants (e.g., mercury and nutrients).
- Involving all parties that have a stake or interest in developing collaborative solutions to a watershed’s water resource problems.
- Using an iterative planning or adaptive management process of assessment and setting environmental, water quality, and habitat goals (e.g., water quality standards).
- Planning, implementation, and monitoring to ensure that plans and implementation actions are revised to reflect new data.
- Breaking down barriers between plan development and implementation to enhance prospects for success.

A key attribute of the watershed approach is that it can be applied with equal success to large- and small-scale watersheds. Federal agencies, states, interstate commissions, and tribes usually apply the approach on larger scales, such as in watersheds greater than 100 square miles in size.

However, local agencies and urban communities can apply the approach to watersheds as small as several acres in size.

Although specifics may vary from large scale to small scale, the basic goals of the watershed approach remain the same—protecting, maintaining, and restoring water resources, based on the geomorphology, ecology, and other natural characteristics of the waterbody. Local runoff management program officials must be especially conscious of watershed scale when planning and implementing specific management practices. For example, programmatic practices, such as stream protection ordinances and public education campaigns, are usually applied community wide. Consequently, the results benefit many small watersheds. In contrast, structural practices, such as vegetative approaches, usually provide direct benefits to a single stream. Regional structural management practices such as headland breakwater systems for larger watersheds can be used, but they do not protect smaller contributing streams. Given limited resources, program officials must often analyze cost and benefits and choose between large- and small-scale practices. Often, a combination of nonstructural and structural practices implemented across the watershed and at regional and local levels is the most cost effective approach.

An example of the watershed approach being used for hydromodification activities is the South Myrtle Creek Ditch Project. South Myrtle Creek, which flows into the South Umpqua River in Oregon, was historically populated with cutthroat trout (*Oncorhynchus clarki*) and coho salmon (*Oncorhynchus kisutch*). However, since the early 20th century, diversion structures, used primarily to provide water for irrigating agricultural crops, have blocked the passage of fish through creek waters (USEPA, 2002c). One example of the diversion structures was a diversion dam with a concrete apron, which was installed in a portion of South Myrtle Creek to raise the water level in an impoundment to provide irrigation water for adjacent and downstream landowners. During the summer, water levels in the creek would elevate 14 feet above natural levels and were diverted into a 2.5 mile irrigation ditch. Ultimately, hydromodification of this stream caused flow modifications and high stream temperatures, which degraded water quality for the native trout and salmon populations.

9 Elements of Watershed Planning

EPA has identified a minimum of nine elements that are critical for achieving improvements in water quality. EPA requires that these nine elements be addressed for section 319-funded watershed plans and strongly recommends that they be included in all other watershed plans that are intended to remediate water quality impairments. Additional information is available from FY 2004 Guidelines for the Award of Section 319 Nonpoint Source Grants to States and Territories at <http://www.epa.gov/owow/nps/cwact.html>. The nine elements are listed below:

- a. Identification of causes of impairment and pollutant sources or groups of similar sources that need to be controlled to achieve needed load reductions, and any other goals identified in the watershed plan. Sources that need to be controlled should be identified at the significant subcategory level along with estimates of the extent to which they are present in the watershed (e.g., X linear miles of eroded streambank needing remediation).*
- b. An estimate of the load reductions expected from management measures.*
- c. A description of the nonpoint source management measures that will need to be implemented to achieve load reductions and a description of the critical areas in which those measures will be needed to implement this plan.*
- d. Estimate of the amounts of technical and financial assistance needed, associated costs, and/or the sources and authorities that will be relied upon to implement this plan.*
- e. An information and education component used to enhance public understanding of the project and encourage their early and continued participation in selecting, designing, and implementing the nonpoint source management measures that will be implemented.*
- f. Schedule for implementing the nonpoint source management measures identified in this plan that is reasonably expeditious.*
- g. A description of interim measurable milestones for determining whether nonpoint source management measures or other control actions are being implemented.*
- h. A set of criteria that can be used to determine whether loading reductions are being achieved over time and substantial progress is being made toward attaining water quality standards.*
- i. A monitoring component to evaluate the effectiveness of the implementation efforts over time, measured against the criteria established under item h immediately above.*

In 1998 one of the landowners initiated a project to restore flow and improve water quality in South Myrtle Creek. The project used the guiding principles of the watershed approach to restore the health of the creek.

- *Partnership.* The project was a collaborative effort of landowners, who donated services and supplies. The project received funding and support from government agencies, such as the U.S. Fish and Wildlife Service, the Oregon Water Resources Department, the Oregon Watershed Enhancement Board, the Bureau of Land Management, the Natural Resources Conservation Service, and the Douglas County Watermaster.

- *Geographic focus.* Resource management activities were directed specifically to the creek and the drainage ditch, where flow restoration and improved water quality were desired.
- *Sound management techniques based on strong science and data.* An assessment of South Myrtle Creek identified water quality problems from flow modification and high stream temperatures as the priority problems in the creek. The diversion dam and concrete apron were found to be causing the problems. Landowners, the Water Resources Department, and the Watershed Enhancement Board developed a plan, the goal of which was to restore flow and improve water quality in the creek. The plan was implemented by removing the diversion dam and concrete apron. The irrigation system was switched to a sprinkler type system, which is more efficient than the original ditch irrigation. In addition, the denuded riparian area was revegetated to help lower stream temperatures and new seedlings were protected with fencing to keep away livestock.

With the cooperation of the landowners, the county and state governments, and other interested parties, the South Myrtle Creek Ditch Project was a success. Water temperatures have improved and flows have increased by 2.5 cubic feet per second during the summer. Restoration of the streambed to its historical level has allowed passage of salmon and trout to the 10 miles of stream above the dam (USEPA, 2002c).²

Smart Growth

Smart growth practices cover a range of development and conservation strategies that are environmentally sensitive, economically viable, community-oriented, and sustainable. Environmental impacts of development can be reduced with techniques that include compact development, reduced impervious surfaces and improved water detention, safeguarding of environmentally sensitive areas, mixing of land uses (e.g., homes, offices, and shops), transit accessibility, and better pedestrian and bicycle amenities.

Through smart growth approaches that enhance neighborhoods and involve local residents in development decisions, these communities are creating vibrant places to live, work, and play. The high quality of life in these communities makes them economically competitive, creates business opportunities, and improves the local tax base. Smart growth practices have also been shown to help protect water quality by reducing the amount of paved surfaces and allowing natural lands to filter rainwater and runoff before it reaches downstream areas.

Based on the experience of communities around the nation that have used smart growth approaches to create and maintain great neighborhoods, the Smart Growth Network³ developed a set of ten basic principles:

² Additional information about the project is available at <http://www.epa.gov/owow/nps/Section319III/OR.htm>.

³ Smart Growth Network (SGN) is a partnership of government, business, and civic organizations that support smart growth. The SGN Web site, Smart Growth Online (<http://www.smartgrowth.org/Default.asp?res=1024>), features an extensive array of smart growth-related news, events, information, research, presentations, and publications.

1. Mix land uses
2. Take advantage of compact building design
3. Create a range of housing opportunities and choices
4. Create walkable neighborhoods
5. Foster distinctive, attractive communities with a strong sense of place
6. Preserve open space, farmland, natural beauty, and critical environmental areas
7. Strengthen and direct development towards existing communities
8. Provide a variety of transportation choices
9. Make development decisions predictable, fair, and cost effective
10. Encourage community and stakeholder collaboration in development decisions

EPA offers help to communities through the EPA smart growth program to improve development practices and get the type of development they want. They work with local, state, and national experts to discover and encourage successful, environmentally sensitive development strategies. EPA is engaged in conducting research, publishing reports and other publications,⁴ showcasing outstanding communities, working with communities through grants⁵ and technical assistance (Smart Growth Implementation Assistance Program),⁶ and bringing together diverse interests to encourage better growth and development.⁷

Low Impact Development

Low Impact Development (LID) is an innovative stormwater management approach. The goal of LID is to mimic a site's predevelopment hydrology by using design techniques that infiltrate, filter, store, evaporate, and detain runoff close to its source (Low Impact Development Center, Inc., n.d.).

LID is based on the paradigm that stormwater management should not be viewed as stormwater disposal and that numerous opportunities exist within the developed landscape to control stormwater runoff close to the source. These principles include (NRDC, n.d.):

- Integrate stormwater management early in site planning activities
- Use natural hydrologic functions as the integrating framework
- Focus on prevention rather than mitigation
- Emphasize simple, low-tech, and low cost methods
- Manage as close to the source as possible
- Distribute small-scale practices throughout the landscape
- Rely on natural features and processes
- Create a multifunctional landscape

⁴ <http://www.epa.gov/piedpage/publications.htm>

⁵ <http://www.epa.gov/piedpage/grants/index.htm>

⁶ <http://www.epa.gov/piedpage/sgia.htm>

⁷ Links to technical assistance, tools, partnerships and grants and other funding are at "Making Smart Growth Happen" at http://www.epa.gov/piedpage/sg_implementation.htm.

The use of LID practices offers both economic and environmental benefits. LID measures result in less disturbance of the development area and conservation of natural features, and they can be less cost intensive than traditional stormwater control mechanisms. Cost savings for control mechanisms are not only for construction, but also for long-term maintenance and life cycle cost considerations (USEPA, 2000).

Ten common LID practices are the following (NRDC, n.d.):

- Impervious surface reduction and disconnection
- Permeable pavers
- Pollution prevention and good housekeeping
- Rain barrels and cisterns
- Rain gardens and bioretention
- Roof leader disconnection
- Rooftop gardens
- Sidewalk storage
- Soil amendments
- Tree preservation
- Vegetated swales, buffers, and strips

Project Design Considerations

General Design Factors

When designing any type of restoration project, it is important to consider the watershed as a whole as well as the specific site where restoration will occur. A watershed survey, or visual assessment, evaluates an entire watershed and can be used to help identify and verify pollutants, sources, and causes of impairments that lead to changes in streambank erosion. Additional monitoring of chemical, physical, and biological conditions may be necessary to determine if water quality is actually being affected by observed pollutants and sources. Watershed surveys can provide an accurate picture of what is occurring in the watershed. EPA's *Volunteer Stream Monitoring: A Methods Manual*⁸ provides a watershed survey visual assessment form that may be used. In addition to EPA's method, a variety of visual assessment protocols have been developed by states and agencies. Designers of watershed restoration plans should look for assessment protocols that are already being used in their state or local area (USEPA, 2005c). Another general resource for planning and implementing restoration projects associated with hydromodification activities is EPA's *National Management Measures to Protect and Restore Wetlands* (USEPA, 2005b).

Photographs may also be a powerful tool that can be incorporated into watershed surveys. Photos serve as a visual reference for the site and provide before and after pictures that may be used to analyze restoration or remediation activities. In addition to taking individual photographs, aerial photographs may also provide important before and after information and can be obtained from

⁸ <http://www.epa.gov/owow/monitoring/volunteer/stream/vms32.html>

USGS (Earth Science Information Center), USDA (Consolidated Farm Service Agencies, Aerial Photography Field Office), and other agencies (USEPA, 2005c). Refer to EPA's draft *Handbook for Developing Watershed Plans to Restore and Protect Our Waters* (USEPA, 2005c) for more information about watershed assessments.

Assessment

Tools to analyze channels on a site-by-site basis may include geomorphic assessments such as the methodology developed by Rosgen. Geomorphic assessments help to determine river and stream characteristics such as channel dimensions, reach slope, and channel enlargement and stability. This information about stream physical characteristics might help the restoration team to understand current stream conditions and may be evaluated over time to describe degradation or improvements in the stream. Geomorphic assessment may also be useful for predicting future stream conditions, which can help in selecting suitable restoration or protection approaches (USEPA, 2005c).

The Rosgen geomorphic assessment approach groups streams into different geomorphic classes, based on a set of criteria that include entrenchment ratio, width/depth ratio, sinuosity, channel slope, and channel materials. Assessment methodologies, such as Rosgen's Stream Classification System, can help identify streams at different levels of impairment, determine the types of hydrologic and physical factors affecting stream morphologic conditions, and choose appropriate management measures to implement if needed.⁹ Another common geomorphic assessment method is the Modified Wolman Pebble Count (Harrelson et al., 1994), which characterizes the texture (particle size) in the stream or riverbeds of flowing surface waters. It can be used alone or with Rosgen-type assessments. The composition of the streambed can provide information about the characteristics of the stream, including effects of flooding, sedimentation, and other physical impacts on a stream (USEPA, 2005c). Other assessment methods may be available from state agencies or environmental organizations.

The physical conditions of a site can provide important information about factors affecting overall stream integrity, such as agricultural activities and urban development. Runoff from cropland and feedlots can carry sediment into streams, clog existing habitat, and change geomorphological characteristics. An understanding of stream physical conditions can facilitate identification of sources and pollutants and allow for designing and implementing more effective restoration and protection strategies. Physical characterization should also extend beyond the streambanks or shore and include a look at conditions in riparian areas (USEPA, 2005c).

Before choosing a practice to restore an area impacted by hydromodification activities, it is also important to determine what biological endpoints are desired and to consider other environmental or water quality goals. Biological endpoints may include metrics such as the number of fish surviving, number of offspring produced, impairment of reproductive capability, or morbidity. Biological endpoints can be used to evaluate the effectiveness of treatment schemes and can serve as a design parameter during restoration planning. Water quality goals, such as increasing low dissolved oxygen levels, reducing nitrogen or phosphorous pollutant

⁹ More information about the Rosgen Stream Classification System is available at http://www.epa.gov/watertrain/stream_class/index.htm.

levels, or decreasing turbidity, are also important to consider when planning restoration. For example, if turbidity is a major problem in the waterbody, planners will want to choose a method of restoration that prevents erosion, is efficient at trapping sediment before it enters the waterbody, or one that will help sediment to settle in desired locations of the stream or river. Looking at endpoints and goals before designing the method of restoration can help planners and stakeholders achieve the desired results.

Engineering Considerations

When choosing from the various alternatives of engineering practices for addressing impacts associated with hydromodification, such as protecting and restoring eroding streambanks and shorelines, the following factors should be taken into consideration:

- Foundation conditions
- Level of exposure to erosive forces
- Availability of materials
- Initial and annual costs
- Past performance

Foundation conditions may have a significant influence on the selection of the specific practice or combination of practices to be used for restoring areas impacted by hydromodification, including shoreline or streambank stabilization. Foundation characteristics at the site must be compatible with the structure that is to be installed for erosion control. A structure such as a bulkhead, which must penetrate through the existing substrate for stability, will generally not be suitable for shorelines with a rocky bottom. Where foundation conditions are poor or where little penetration is possible, a gravity-type structure such as a stone revetment may be preferable. However, all vertical protective structures (revetments, seawalls, and bulkheads) built on sites with soft or unconsolidated bottom materials can experience scouring as incoming waves are reflected off the structures. In the absence of additional toe protection in these circumstances, the level of scouring and erosion of bottom sediments at the base of the structure may be severe enough to contribute to structural failure at some point in the lifetime of the installation.

Along streambanks, the erosive force of the current during periods of high streamflow will influence the selection of bank stabilization techniques and details of the design. For shorelines, the levels of wave exposure at the site will also generally influence the selection of shoreline stabilization techniques and details of the design. In areas of severe levels of exposure to erosive forces, such as strong wave action or currents, light structures such as vegetative techniques, timber cribbing, or light riprap revetment may not provide adequate protection. The effects of winter ice along the shoreline or streambank may also need to be considered in the selection and design of erosion control projects.

The availability of materials is another key factor influencing the selection of suitable techniques for protecting and restoring areas affected by hydromodification activities. For a vegetative approach, availability of plant materials of sufficient quantity and quality is an important design consideration. A particular type of bulkhead, seawall, or revetment may not be economically feasible if materials are not readily available near the construction site. Installation methods may also preclude the use of specific structures in certain situations. For instance, the installation of

bulkhead pilings in coastal areas near wetlands may not always be permissible due to disruptive impacts in locating pile-driving equipment at the project site.

Costs should also be included in the decision making process for implementing hydromodification practices. The total cost of a project should be viewed as including both the initial costs (materials, labor, and planning) and the annual costs of operation and maintenance. To the extent possible, practices should be compared by their total costs. Although a particular practice may be cheaper initially, it could have operation and maintenance costs that make it more expensive in the long run. For example, in some parts of the country, the initial costs of timber bulkheads may be less than the cost of stone revetments. However, stone structures typically require less maintenance and have a longer life than timber structures. Other types of structures whose installation costs are similar may actually have a wide difference in overall cost when annual maintenance and the anticipated lifetime of the structure are considered (USACE, 1984). Environmental benefits, such as creation of habitat, should also be factored into cost evaluations.

An example of a valuable resource that provides specific cost information for practices to protect or reduce streambank and shoreline erosion is your local USDA Service Center, which makes available services provided by the NRCS.¹⁰

The engineering designers should also evaluate similar existing projects and practice designs to determine how well they performed compared to design specifications. An important consideration for determining past performance is to compare the physical, water quality, and biological endpoints specified in the design with the corresponding endpoints that were observed in the monitoring results. For example, if an operation and maintenance program for an urban channelization project incorporates establishment of vegetative cover along many of the low energy areas of an urban stream, the long-term performance of the vegetative cover can be evaluated with metrics such as:

- Percent of riparian area with erosion problems
- Number of recreationally important fish species present
- Annual operation and maintenance costs
- Changes in important water quality parameter values (e.g., dissolved oxygen, turbidity)

Incorporating Monitoring and Maintenance of Structures

Generally, the monitoring program will help to determine how well the project is performing with respect to the design goals and the extent of any maintenance activities needed (NRC, 1992). The project monitoring plan should be an integral part of the overall design and will be an important consideration for developing long-term project costs and resource needs. Once the project's goals are established, performance indicators are then matched to the goals to create the

¹⁰ A list of USDA Service Centers is available at <http://offices.sc.egov.usda.gov/locator/app>. A list of regional and state NRCS offices is available at <http://www.nrcs.usda.gov/about/organization/regions.html#state>.

monitoring program (NRC, 1992). The monitoring program should also be appropriate to the scope of the project (NRC, 1992) by including considerations such as:

- The area covered by the monitoring compared to the area of the overall project—both should be similar.
- The frequency and intensity of sampling to provide reliable assessments of the performance indicators.
- The cost and resources required for monitoring should reflect the overall cost and resources of the project.
- The performance indicators provide information to enable effective assessments of the project goals and decision-making for project maintenance activities.

Each project will have unique goals and corresponding monitoring needs. Chapter 3 of The National Research Council's document *Restoration of Aquatic Ecosystems* (NRC, 1992) provides detailed advice on considerations for planning a monitoring program for restoration activities such as those associated with hydromodification activities. Some additional monitoring considerations can be found in the USDA Forest Service document *A Soil Bioengineering Guide for Streambank and Lakeshore Stabilization* (USDA-FS, 2002):

- Keeping track of where plants were harvested—is there a correlation between growth rate of certain cuttings and the “mother” plants?
- Is the installation functioning as designed?
- Which areas are maturing more rapidly than others?
- Are seeds sprouting in the newly formed beds?
- Which plants have invaded the site through natural succession?
- What has sprouted in the second season?
- Which areas are experiencing difficulty and why?
- Is the bank stabilizing or washing away and why?
- Is something occurring that is unexpected?
- Which techniques are succeeding?
- Are any of the structures failing?

USDA NRCS' *The Practical Streambank Bioengineering Guide*¹¹ (Bentrup and Hoag, 1998) provides an example monitoring form. The monitoring sheet is also available in Appendix C of *A Soil Bioengineering Guide for Streambank and Lakeshore Stabilization* (USDA-FS, 2002).¹²

During the first few years after installation, maintenance is necessary until vegetation becomes established and the bank stabilizes. Structures may shift or you may notice something that was left undone. Once vegetation is established, projects should become self-sustaining and require little or no maintenance. Be sure the site is managed to give the treatment every chance to be effective over a long period of time (USDA-FS, 2002).

¹¹ <http://www.engr.colostate.edu/~bbledsoe/CE413/idpmcpustguid.pdf>

¹² <http://www.fs.fed.us/publications/soil-bio-guide/guide/appendices.pdf>

Common maintenance tasks include (USDA-FS, 2002; Bentrup and Hoag, 1998):

- Remove debris and weeds that may shade and compete with cuttings
- Secure stakes, wire, twine, etc.
- Control weeds
- Repair weakened or damaged structures (including fences)
- Replant and reseed as necessary (it is not uncommon for a flood to occur days after installation)

It is beneficial to inspect the project every other week for the first 2 months after installation, once a month for the next 6 months, and then every other month for 2 years, at least. One should also inspect the project after heavy precipitation, flooding, snowmelt, drought, or any extraordinary occurrence.

Assess damage from flooding, wildlife, grazing, boat wakes, trampling, drought, and high precipitation (USDA-FS, 2002). Additional information about monitoring is available from USDA NRCS' *The Practical Streambank Bioengineering Guide* (Bentrup and Hoag, 1998).

Maintenance varies with the structural type. For stone revetments, the replacement of stones that have been dislodged is necessary; timber bulkheads need to be backfilled if there has been a loss of upland material, and broken sheet pile should be replaced as necessary. Gabion baskets should be inspected for corrosion failure of the wire, usually caused either by improper handling during construction or by abrasion from the stones inside the baskets. Baskets should be replaced as necessary since waves will rapidly empty failed baskets.

Steel, timber, and aluminum bulkheads should be inspected for sheet pile failure due to active earth pressure or debris impact and for loss of backfill. For all structural types not contiguous to other structures, lengthening of flanking walls may be necessary every few years. Through periodic monitoring and required maintenance, a substantially greater percentage of coastal structures will perform effectively over their design life. Since streambank or shoreline protection projects can transfer energy from one area to another, which causes increased erosion in the adjacent area, the possible effects of erosion control measures on adjacent properties should be routinely monitored.

Planting success varies from project to project. Bentrup and Hoag (1998) provide the following potential growth success rates:

<i>Pole Plantings</i>	<i>70-100%</i>
<i>Live Fascines</i>	<i>20-50%</i>
<i>Brush Layering</i>	<i>10-70%</i>
<i>Post Plantings</i>	<i>50-70%</i>

Plan and design all streambank, shoreline, and navigation structures so that they do not transfer erosion energy or otherwise cause visible loss of surrounding streambanks or shorelines.

Chapter 7: Practices for Implementing Management Measures

Many of the operation and maintenance solutions presented in Chapter 3 (Channelization and Channel Modification) are also practices that can be used to stabilize streambanks and shorelines as presented in Chapter 5 (Streambank and Shoreline Erosion). For example, a stream channel that has been hardened with vertical concrete walls to prevent local flooding and limit the stream to its existing channel (to protect property built along the stream channel), may benefit from operation and maintenance practices that use opportunities to replace the concrete walls with appropriate vegetative or combined vegetative and non-vegetative structures along the streambank when possible. These same practices may be applicable to stabilize downstream streambanks that are eroding and creating a nonpoint source (NPS) pollution problem because of the upstream development and hardened streambanks.

The following practices apply to one or more management measures. The descriptions and illustrations presented in this chapter are intended to provide a starting point for stakeholders and decision-makers for selecting possible practices to address NPS pollution problems associated with hydromodification activities. Table 7.1 provides a cross-reference of the practices with possible applications for the various hydromodification management measure components (e.g., instream and riparian restoration corresponds to the second component of Management Measures 1 and 2 described in detail in Chapter 3). Users of the information provided in the following table and descriptions evaluate the attributes of the possible practices with site-specific conditions in mind.

Table 7.1 Practices for Hydromodification Management Measures

	Channelization		Dams							Streambanks				Shorelines				
	Physical & chemical	Instream/riparian restoration	Erosion control	Runoff control	Chemical/pollutant control	Watershed protection	Aerate reservoir water	Improve tailwater oxygen	Restore/maintain habitat	Maintain fish passage	Vegetative	Structural	Integrated	Planning & regulatory	Vegetative	Structural	Integrated	Planning & regulatory
Practices	MM1	MM2	MM3	MM4	MM5					MM6								
Advanced Hydroelectric Turbines (7-7)										•								
Bank Shaping and Planting (7-9)	•	•	•										•					•
Beach Nourishment (7-10)												•				•		
Behavioral Barriers (7-12)										•								
Branch Packing (7-14)	•	•	•								•							
Breakwaters (7-15)																•		
Brush Layering (7-17)	•	•	•								•							
Brush Mattressing (7-19)	•	•	•								•							
Bulkheads and Seawalls (7-21)	•	•	•									•				•		
Check Dams (7-22)	•	•	•	•								•						
Coconut Fiber Roll (7-23)	•	•	•								•							
Collection Systems (7-25)										•								
Construct Runoff Intercepts (7-26)			•	•														
Constructed Spawning Beds (7-27)									•									
Construction Management (7-28)			•															
Dormant Post Plantings (7-29)	•	•	•								•				•			

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	Channelization		Dams								Streambanks				Shorelines			
	Physical & chemical	Instream/riparian restoration	Erosion control	Runoff control	Chemical/pollutant control	Watershed protection	Aerate reservoir water	Improve tailwater oxygen	Restore/maintain habitat	Maintain fish passage	Vegetative	Structural	Integrated	Planning & regulatory	Vegetative	Structural	Integrated	Planning & regulatory
Encourage Drainage Protection (7-30)						•												
Equipment Runoff Control (7-31)					•													
Erosion and Sediment Control (ESC) Plans (7-32)	•	•	•										•					•
Erosion Control Blankets (7-35)			•															
Establish and Protect Stream Buffers (7-37)		•				•							•					
Fish Ladders(7-38)									•									
Fish Lifts (7-40)									•									
Flow Augmentation (7-41)								•										
Fuel and Maintenance Staging Areas (7-43)					•													
Gated Conduits (7-44)								•										
Groins (7-45)																•		
Identify and Address NPS Contributions (7-46)						•												
Identify and Preserve Critical Areas (7-48)						•												
Joint Planting (7-50)	•	•	•										•					
Labyrinth Weir (7-51)								•										
Levees, Setback Levees, and Floodwalls (7-52)	•	•										•			•			

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July 2007

	Channelization		Dams								Streambanks				Shorelines			
	Physical & chemical	Instream/riparian restoration	Erosion control	Runoff control	Chemical/pollutant control	Watershed protection	Aerate reservoir water	Improve tailwater oxygen	Restore/maintain habitat	Maintain fish passage	Vegetative	Structural	Integrated	Planning & regulatory	Vegetative	Structural	Integrated	Planning & regulatory
Live Cribwalls (7-54)	●	●	●										●					
Live Fascines (7-56)	●	●	●								●							
Live Staking (7-58)	●	●	●								●							
Locate Potential Land Disturbing Activities Away from Critical Areas (7-60)			●	●	●													
Marsh Creation and Restoration (7-61)		●									●			●				
Modifying Operational Procedures (7-62)							●											
Mulching (7-63)			●															
Noneroding Roadways (7-64)	●	●	●															
Pesticide and Fertilizer Management (7-67)					●													
Phase Construction (7-69)			●															
Physical Barriers (7-70)									●									
Pollutant Runoff Control (7-72)					●													
Preserve Onsite Vegetation (7-73)			●	●														
Reregulation Weir (7-74)							●											
Reservoir Aeration (7-75)							●											
Retaining Walls (7-77)			●	●														
Return Walls (7-78)	●	●									●				●			
Revegetate (7-79)			●															

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	Channelization		Dams								Streambanks				Shorelines			
	Physical & chemical	Instream/riparian restoration	Erosion control	Runoff control	Chemical/pollutant control	Watershed protection	Aerate reservoir water	Improve tailwater oxygen	Restore/maintain habitat	Maintain fish passage	Vegetative	Structural	Integrated	Planning & regulatory	Vegetative	Structural	Integrated	Planning & regulatory
Revetment (7-80)	●	●	●								●				●			
Riparian Improvements (7-82)		●	●					●				●				●		
Riprap (7-83)	●	●	●								●				●			
Root Wad Revetments (7-84)	●	●	●									●						
Rosgen's Stream Classification Method (7-86)	●	●											●					
Scheduling Projects (7-88)			●															
Sediment Basins/Rock Dams (7-89)				●														
Sediment Fences (7-91)			●	●														
Sediment Traps (7-92)				●														
Seeding (7-93)			●															
Selective Withdrawal (7-94)							●											
Setbacks (7-95)	●	●											●					●
Shoreline Sensitivity Assessment (7-97)																		●
Site Fingerprinting (7-99)			●															
Sodding (7-100)			●															
Soil Protection (7-101)			●															
Spill and Water Budgets (7-102)									●									
Spill Prevention and Control Program (7-103)					●													
Spillway Modifications (7-104)							●	●										
Surface Roughening (7-105)			●															

	Channelization		Dams								Streambanks				Shorelines			
	Physical & chemical	Instream/riparian restoration	Erosion control	Runoff control	Chemical/pollutant control	Watershed protection	Aerate reservoir water	Improve tailwater oxygen	Restore/maintain habitat	Maintain fish passage	Vegetative	Structural	Integrated	Planning & regulatory	Vegetative	Structural	Integrated	Planning & regulatory
Toe Protection (7-106)	●	●									●				●			
Training—ESC (7-107)			●															
Transference of Fish Runs (7-108)									●									
Tree Armoring, Fencing, and Retaining Walls or Tree Wells (7-109)			●															
Tree Revetments (7-110)	●	●	●							●				●				
Turbine Operation (7-112)							●											
Turbine Venting (7-113)							●											
Vegetated Buffers (7-114)	●	●	●	●						●				●				
Vegetated Filter Strips (7-115)			●	●														
Vegetated Gabions (7-116)	●	●	●									●				●		
Vegetated Geogrids (7-118)	●	●	●									●				●		
Vegetated Reinforced Soil Slope (VRSS) (7-120)	●	●	●									●				●		
Water Conveyances (7-121)							●											
Wildflower Cover (7-122)			●															
Wind Erosion Controls (7-123)			●															
Wing Deflectors (7-124)	●	●									●				●			

Advanced Hydroelectric Turbines

Hydroelectric turbines can be designed to reduce impacts to juvenile fish passing through the turbine as it operates. Most research on advanced hydroelectric turbines is being carried out by power producers in the Columbia River basin (U.S. Army Corps of Engineers (USACE) and public utility districts) who are looking to improve the survival of hydroelectric turbine-passed juvenile fish by modifying the operation and design of turbines. Development of low impact turbines is also being pursued on a national scale by the U.S. Department of Energy (DOE) (Cada, 2001).

In the last few years, field studies have shown that improvements in the design of turbines have increased the survival of juvenile fish. Researchers continue to examine the causes and extent of injuries from turbine systems, as well as the significance of indirect mortality and the effects of turbine passage on adult fish. Overall, improvements in turbine design and operation, and new field, laboratory, and modeling techniques to assess turbine-passage survival, are contributing towards improving downstream fish passage at hydroelectric power plants (Cada, 2001).

The redesign of conventional turbines for fish passage has focused on strategies to reduce obstructions and to narrow the gaps between moveable elements of the turbine that are thought to injure fish. The effects of changes in the number, size, orientation, or shape of the blades that make up the runner (the rotating element of a turbine which converts hydraulic energy into mechanical energy) are being investigated (Cada, 2001).

The USACE has put considerable resources into improving turbine passage survival. The USACE Turbine Passage Survival Program (TSP) was developed to investigate means to improve the survival of juvenile salmon as they pass through turbines located at Columbia and Snake River dams. The TSP is organized along three functional elements that are integrated to achieve the objectives (Cada, 2001):¹

- Biological studies of turbine passage at field sites
- Hydraulic model investigations
- Engineering studies of the biological studies, hydraulic components, and optimization of turbine operations

DOE supports development of low impact turbines under the Advanced Hydropower Turbine System (AHTS) Program. The AHTS program explores innovative concepts for turbine design that will have environmental benefits and maintain efficient electrical generation. The AHTS program awarded contracts for conceptual designs of advanced turbines to different firms/companies. Early in the development of conceptual designs, it became clear that there were

Channelization

- Physical & chemical
- Instream/riparian restoration

Dams

- Erosion control
- Runoff control
- Chemical/pollutant control
- Watershed protection
- Aerate reservoir water
- Improve tailwater oxygen
- Restore/maintain habitat
- Maintain fish passage

Erosion

- Streambanks
- Shorelines
 - Vegetative
 - Structural
 - Integrated
 - Planning & regulatory

¹ Additional information about USACE efforts with advanced hydroelectric turbines is available at <http://hydropower.inel.gov/turbines/pdfs/amfishsoc-fall2001.pdf>.

significant gaps in the knowledge of fish responses to physical stresses (injury mechanisms) experienced during turbine passage. Consequently, the AHTS program expanded its activities to include studies to develop biological criteria for turbines (Cada, 2001).²

² Additional information about DOE efforts with advanced hydroelectric turbines is available at <http://hydropower.inel.gov/turbines/pdfs/amfishsoc-fall2001.pdf>.

Bank Shaping and Planting

Bank shaping and planting involve regrading a streambank to establish a stable slope angle, placing topsoil and other material needed for plant growth on the streambank, and selecting and installing appropriate plant species on the streambank. This design is most successful on streambanks where moderate erosion and channel migration are anticipated. Reinforcement at the toe of the bank is often required, particularly where flow velocities exceed the tolerance range for plantings and where erosion occurs below base flows. To determine the appropriate slope angle, slope stability analyses that take into account streambank materials, groundwater fluctuations, and bank loading conditions are recommended (FISRWG, 1998).

Additional Resources

- FISRWG. 1998. *Stream Corridor Restoration: Principles, Processes, and Practices*. Federal Interagency Stream Restoration Working Group. http://www.nrcs.usda.gov/technical/stream_restoration/PDFFILES/APPENDIX.pdf.
- Mississippi State University, Center for Sustainable Design. 1999. *Water Related Best Management Practices in the Landscape: Bank Shaping and Vegetating*. Created for United States Department of Agriculture, Natural Resource Conservation Service, Watershed Science Institute. <http://www.abe.msstate.edu/csd/NRCS-BMPs/pdf/streams/bank/bankshaping.pdf>.

Channelization

- Physical & chemical
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Erosion

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Beach Nourishment

The creation or nourishment of existing beaches provides protection to the eroding area and can also provide a riparian habitat function, particularly when portions of the finished project are planted with beach or dune grasses (Woodhouse, 1978). Beach nourishment (Figures 7.1 through 7.4) requires a readily available source of suitable fill material that can be effectively transported to the erosion site for reconstruction of the beach (Hobson, 1977). Dredging or pumping from offshore deposits is the method most frequently used to obtain fill material for beach nourishment. A second possibility is the mining of suitable sand from inland areas and overland hauling and dumping by trucks. To restore an eroded beach and stabilize it at the restored position, fill is placed directly along the eroded sector (USACE, 1984). In most cases, plans must be made to periodically obtain and place additional fill on the nourished beach to replace sand that is carried offshore into the zone of breaking waves or alongshore in littoral drift (Houston, 1991; Pilkey, 1992).

- | |
|---|
| <p>Channelization</p> <ul style="list-style-type: none"> <input type="checkbox"/> Physical & chemical <input type="checkbox"/> Instream/riparian restoration <p>Dams</p> <ul style="list-style-type: none"> <input type="checkbox"/> Erosion control <input type="checkbox"/> Runoff control <input type="checkbox"/> Chemical/pollutant control <input type="checkbox"/> Watershed protection <input type="checkbox"/> Aerate reservoir water <input type="checkbox"/> Improve tailwater oxygen <input type="checkbox"/> Restore/maintain habitat <input type="checkbox"/> Maintain fish passage <p>Erosion</p> <ul style="list-style-type: none"> <input checked="" type="checkbox"/> Streambanks <input checked="" type="checkbox"/> Shorelines <input type="checkbox"/> Vegetative <input checked="" type="checkbox"/> Structural <input type="checkbox"/> Integrated <input type="checkbox"/> Planning & regulatory |
|---|

One important task that should not be overlooked in the planning process for beach nourishment projects is the proper identification and assessment of the ecological and hydrodynamic effects of obtaining fill material from nearby submerged coastal areas. Removal of substantial amounts of bottom sediments in coastal areas can disrupt populations of fish, shellfish, and benthic organisms (Atlantic States Marine Fisheries Commission, 2002). Grain size analysis should be performed on sand from both the borrow area and the beach area to be nourished. Analysis of grain size should include both size and size distribution, and fill material should match both of these parameters (Stauble, 2005). Fill materials should also be analyzed for the presence of contaminants, and contaminated sediment should not be used (CA Department of Boating and Waterways and State Coastal Conservancy, 2002). Turbidity levels in the overlying waters can also be raised to undesirable levels (EUCC, 1999). Certain

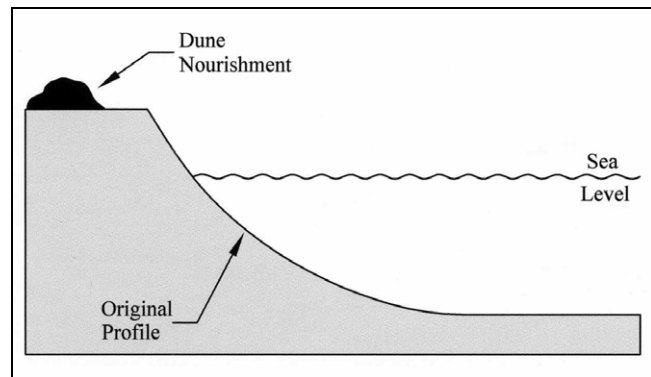


Figure 7.1 Dune Nourishment (CA Dept. of Boating and Waterways and State Coastal Conservancy, 2002)

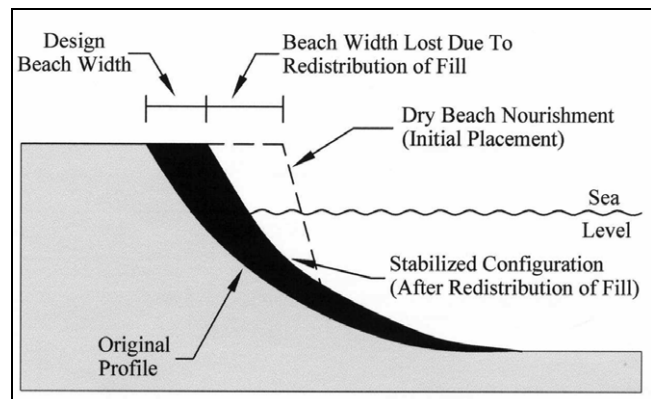


Figure 7.2 Dry Beach Nourishment (CA Dept. of Boating and Waterways and State Coastal Conservancy, 2002)

areas may have seasonal restrictions on obtaining fill from nearby submerged areas (TRB, 2001). Timing of nourishment activities is frequently a critical factor since the recreational demand for beach use frequently coincides with the best months for completing the beach nourishment. These may also be the worst months from the standpoint of impacts to aquatic life and the beach community such as turtles seeking nesting sites.

Design criteria should include proper methods for stabilizing the newly created beach and provisions for long-term monitoring of the project to document the stability of the newly created beach and the recovery of the riparian habitat and wildlife in the area.

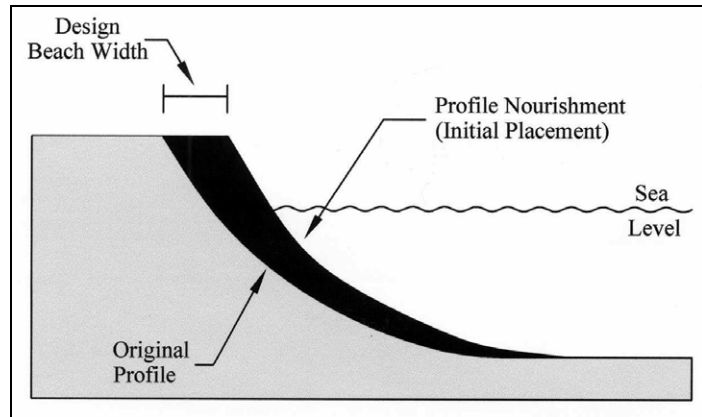


Figure 7.3 Profile Nourishment (CA Dept. of Boating and Waterways and State Coastal Conservancy, 2002)

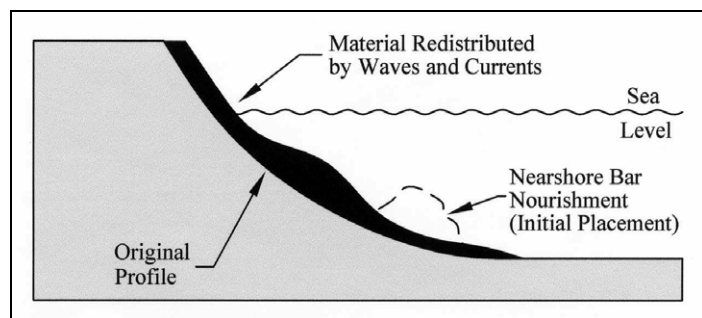


Figure 7.4 Nearshore Bar Nourishment (CA Dept. of Boating and Waterways and State Coastal Conservancy, 2002)

Additional Resources

- Barber, D. No date. *Beach Nourishment Basics*. <http://www.brynmawr.edu/geology/geomorph/beachnourishmentinfo.html>.
- NOAA. No date. *Beach Nourishment: A Guide for Local Government Officials*. U.S. Department of Commerce, NOAA Coastal Services Center. <http://www.csc.noaa.gov/beachnourishment>.
- Scottish National Heritage. No date. *A Guide to Managing Coastal Erosion in Beach/Dune Systems: Beach Nourishment*. http://www.snh.org.uk/publications/on-line/heritagemanagement/erosion/appendix_1.7.shtml.

Behavioral Barriers

Behavioral barriers use fish responses to external stimuli to keep fish away from intakes or to attract them to a bypass. Since fish behavior is notably variable both within and among species, behavioral barriers cannot be expected to prevent all fish from entering hydropower intakes. Environmental conditions such as high turbidity levels can obscure some behavioral barriers, such as lighting systems and curtains. Competing behaviors such as feeding or predator avoidance can also be a factor influencing the effectiveness of behavioral barriers at a particular time.

Electric screens, bubble and chain curtains, light, sound, and water jets have been evaluated in laboratory or field studies and show mixed results. Despite numerous studies, very few permanent applications of behavioral barriers have been realized (EPRI, 1999). Some authors suggest using behavioral barriers in combination with physical barriers (Mueller et al., 1999).

Electrical screens keep fish away from structures and guide them into bypass areas for removal. Fish seem to respond to the electrical stimulus best when water velocities are low. Tests of an electrical guidance system at the Chandler Canal diversion (Yakima River, Washington) showed efficiency ranging from 70 to 84 percent for velocities of less than 1 ft/sec. Efficiencies decreased to less than 50 percent when water velocities were higher than 2 ft/sec (Pugh et al., 1971). Success of electrical screens may be specific to species and fish size. An electrical field strength suitable to deter small fish may result in injury or death to large fish, since total fish body voltage is directly proportional to fish body length (Stone and Webster, 1986). Electrical screens require constant maintenance of electrodes and associated underwater hardware to maintain effectiveness. Surface water quality can affect the life and performance of electrodes.

Bubble and chain curtains are created by pumping air through a diffuser to create a continuous, dense curtain of bubbles, which can cause an avoidance response. Many factors affect fish response to the curtains, including temperature, turbidity, light, and water velocity. Bubbler systems should be constructed from corrosion-resistant materials and be installed with adequate positioning of the diffuser away from areas where siltation might clog the air ducts. Hanging chains provide a physical, visible obstacle that fish avoid. They are species-specific and lifestage-specific. Efficiency of hanging chains is affected by such variables as velocity, instream flow, turbidity, and illumination levels. Debris can limit their performance. In particular, buildup of debris can deflect chains into a nonuniform pattern and disrupt hydraulic flow patterns.

Strobe lights repel fish by producing an avoidance response. A strobe light system at Saunders Generating Station in Ontario, Canada was found to be 67 to 92 percent effective at repelling or diverting eels (EPRI, 1999). Turbidity levels can affect strobe light efficiency. The intensity and duration of the flash can also affect the response of the fish; for instance, an increase in flash duration has been associated with less avoidance. Strobe lights have the potential for far-field

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fish attraction, since they can appear to fish as a constant light source due to light attenuation over a long distance (Stone and Webster, 1986). Strobe lights at Hiram M. Chittenden Locks in Seattle, Washington were examined to determine how fish respond, depending on strobe light distance. Vertical avoidance was 90 to 100 percent when lights were 0.5 meters away, 45 percent when 2.5 meters away, and 19 percent when 4.5 to 6.5 meters away (EPRI, 1999).

Mercury lights have successfully attracted fish to passage systems and repelled them from dams. Studies suggest their effectiveness is species-specific; alewives (*Alosa pseudoharengus*) were attracted to mercury light, whereas coho salmon (*Oncorhynchus kisutch*) and rainbow trout (*Oncorhynchus mykiss*) displayed no attraction to the light (Stone and Webster, 1986). In a test on the Susquehanna River (Maryland, Pennsylvania, and New York), mercury lights attracted gizzard shad (OTA, 1995). Although results have been mixed, low overall cost of the systems has led to continued research on their effectiveness (Duke Engineering & Services, Inc., 2000).

Underwater sound, broadcast at different frequencies and amplitudes, has been effective in attracting fish away from dams or repelling fish from dangers around dams, although the results of field tests are not consistent. Fish have been attracted, repelled, or guided by the sound. A study prepared for DOE showed that low-frequency, high particle motion was effective at invoking flight and avoidance responses in salmonids (Mueller et al., 1998). These findings agree with Knudsen et al. (1994), who found that low frequencies are efficient for evoking awareness reactions and avoidance responses in juvenile Atlantic salmon. Not all fish possess the ability to perceive sound or localized acoustical sources (Harris and Van Bergeijk, 1962). Fish also frequently seem to become habituated to the sound source.

Poppers are pneumatic sound generators that create a high-energy acoustic output to repel fish. Poppers have effectively repelled warm-water fish from water intakes. Laboratory and field studies in California indicate avoidance by several freshwater species such as alewives (*Alosa pseudoharengus*), perch, and smelt. Salmonids do not seem to be effectively repelled (Stone and Webster, 1986). Operation and maintenance considerations include frequent replacement of "O" rings, air entrainment in water inlets, and vibration of structures associated with the inlets.

Water jet curtains create hydraulic conditions that repel fish. Effectiveness is influenced by the angle at which water is jetted. Although effectiveness averages 75 percent (Stone and Webster, 1986), not enough is known to determine what variables affect performance of water jet curtains. Important operation and maintenance concerns would be clogging of the jet nozzles by debris or rust and the acceptable range of stream flow conditions, which contribute to effective results.

Hybrid barriers or combinations of different barriers can enhance the effectiveness of individual behavioral barriers. Laboratory studies showed a chain net barrier combined with strobe lights to be up to 90 percent effective at repelling some species and sizes of fish. Tests of combining rope-net and chain-rope barriers have shown good results. Barriers with horizontal and vertical components in the water column are more effective than those with vertical components alone. Barriers with a large diameter are more effective than those with a small diameter, and thicker barriers are more effective than thinner barriers. Effectiveness of hanging chains was increased when used in combination with strobe lights. Effectiveness also increased when strobe lights were added to air bubble curtains and poppers (Stone and Webster, 1986).

Branch Packing

Branch packing consists of alternating layers of live branch cuttings and compacted backfill to repair small, localized slumps and holes in slopes (Figure 7.5). Live branch cuttings may range from 0.5 to 2 inches in diameter. They should be long enough to touch undisturbed soil at the back of the trench and extend slightly outward from the rebuilt slope face. Wooden stakes should be 5 to 8 feet long, depending on the depth of the slump or hole being repaired. Stakes should also be made from poles that are 3 to 4 inches in diameter or 2 by 4 feet lumber. Live posts can be substituted. As plant tops begin to grow, the branch packing system becomes more effective in retarding runoff and reducing surface erosion. Trapped sediment refills the localized slumps or holes, while roots spread throughout the backfill and surrounding earth to form a unified mass. Branch packing is not effective in slump areas greater than 4 feet deep or 5 feet wide (USDA-NRCS, 1992). Installation guidelines are available from the USDA-FS Soil Bioengineering Guide (USDA-FS, 2002) and the USDA Natural Resources Conservation Service's (NRCS's) *Engineering Field Handbook, Chapter 18* (USDA-NRCS, 1992).

Channelization

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Erosion

- Streambanks
- Shorelines
- Vegetative
- Structural
- Integrated
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Additional Resources

- FISRWG. 1998. *Stream Corridor Restoration: Principles, Processes, and Practices*. Federal Interagency Stream Restoration Working Group.
http://www.nrcs.usda.gov/technical/stream_restoration/PDFFILES/APPENDIX.pdf
- ISU. 2006. *How to Control Streambank Erosion: Branchpacking*. Iowa State University.
<http://www.ctre.iastate.edu/erosion/manuals/streambank/branchpacking.pdf>

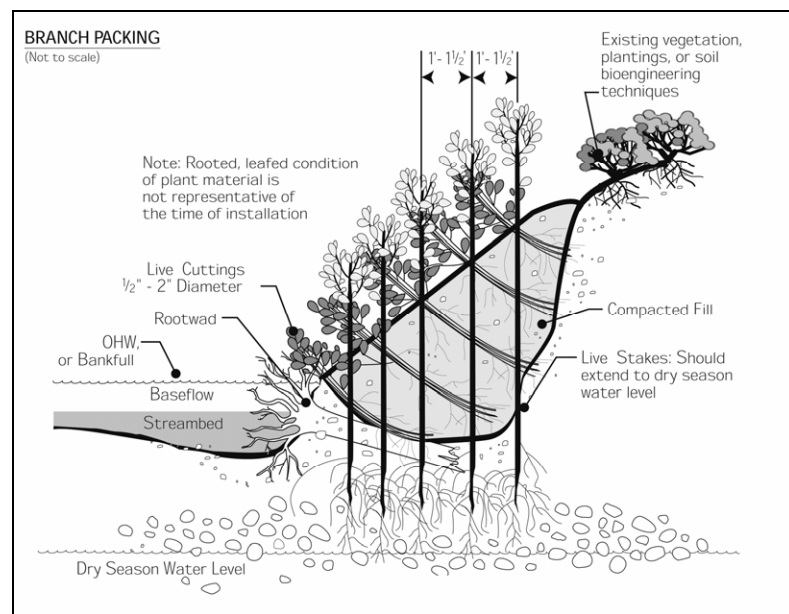


Figure 7.5 Branch Packing (USDA-FS, 2002)

Breakwaters

Breakwaters are wave energy barriers designed to protect the land or nearshore area behind them from the direct assault of waves. Breakwaters have traditionally been used only for harbor protection and navigational purposes; in recent years, however, designs of shore-parallel segmented breakwaters have been used for shore protection purposes (Fulford, 1985; Hardaway and Gunn, 1989; Hardaway and Gunn, 1991; USACE, 1990). Segmented breakwaters can be used to provide protection over longer sections of shoreline than is generally affordable through the use of bulkheads or revetments. Wave energy is able to pass through the breakwater gaps, allowing for the maintenance of some level of longshore sediment transport, as well as mixing and flushing of the sheltered waters behind the structures. The cost per foot of shore for the installation of segmented offshore breakwaters is generally competitive with the costs of stone revetments and bulkheads (Hardaway et al., 1991).

Channelization

- Physical & chemical
- Instream/riparian restoration

Dams

- Erosion control
- Runoff control
- Chemical/pollutant control
- Watershed protection
- Aerate reservoir water
- Improve tailwater oxygen
- Restore/maintain habitat
- Maintain fish passage

Erosion

- Streambanks
- Shorelines
 - Vegetative
 - Structural
 - Integrated
 - Planning & regulatory

Figure 7.6 provides a view of breakwaters off the coast of Pennsylvania and Figure 7.7 illustrates single and multiple breakwaters.



Figure 7.6 Breakwaters – View of Presque Isle, Pennsylvania (USACE, 2003)

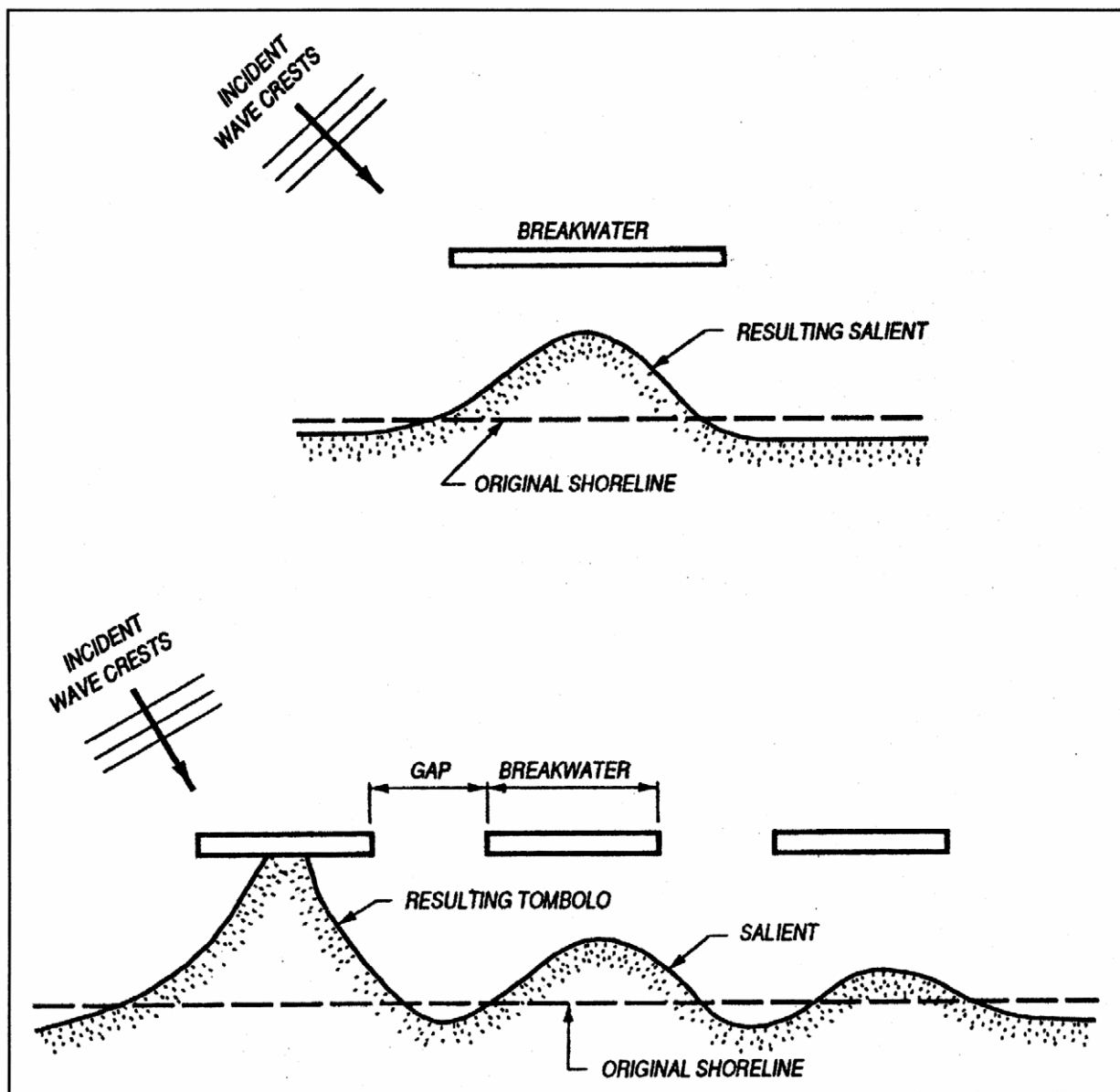


Figure 7.7 Single and Multiple Breakwaters (USACE, 2003)

Additional Resource

- USACE. No date. *Breakwaters*.
http://www.usna.edu/NAOE/courses/en420/bonnette/breakwater_design.html.

Brush Layering

Brush layering consists of placing live branch cuttings interspersed between layers of soil on cut slopes or fill slopes (Figures 7.8 and 7.9). These systems are recommended on slopes up to 2:1 in steepness and not to exceed 15 feet in vertical height. Branch cuttings, which are placed in a crisscross or overlapping pattern, should be long enough to reach the back of the bench and still protrude from the bank (growing tips facing the outside of the slope). The portions of the brush that protrude from the slope face assist in retarding runoff and reducing surface erosion. Backfill is then placed on the branches and compacted.

Brush layering can be used to stabilize a slope against shallow sliding or mass wasting, as well as to provide erosion protection. Brush layers can stabilize and reinforce the outside edge or face of drained earthen buttresses placed against cut slopes or embankment fills. Brush layering works better on fill slopes than cut slopes, because much longer stems can be used in fill (Mississippi State University, 1999). It is most applicable for areas subjected to cut or fill operations or areas that are highly disturbed and/or eroded (ECY, 2007)

Brush layering is somewhat similar to live fascine systems because both involve the cutting and placement of live branch cuttings on slopes. The two techniques differ principally in the orientation of the branches and the depth to which they are placed in the slope. In brush layering, the cuttings are oriented more or less perpendicular to the slope contour. In live fascine systems, the cuttings are oriented more or less parallel to the slope contour. The perpendicular orientation is more effective from the point of view of earth reinforcement and mass stability of the slope (USDA-NRCS, 1992). Thus, brush layering is more effective than live fascines in terms of earth reinforcement and mass stability (Mississippi State University, 1999). When used on a fill slope, brush layering is similar to vegetated geogrids, except the technique does not use geotextile fabric (USDA-FS, 2002).

Brush layering can disrupt native soils. Therefore, installation should be completed in phases and no more area should be excavated than is necessary (ECY, 2007).

Channelization

- Physical & chemical
- Instream/riparian restoration

Dams

- Erosion control
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- Improve tailwater oxygen
- Restore/maintain habitat
- Maintain fish passage

Erosion

- Streambanks
- Shorelines
- Vegetative
- Structural
- Integrated
- Planning & regulatory

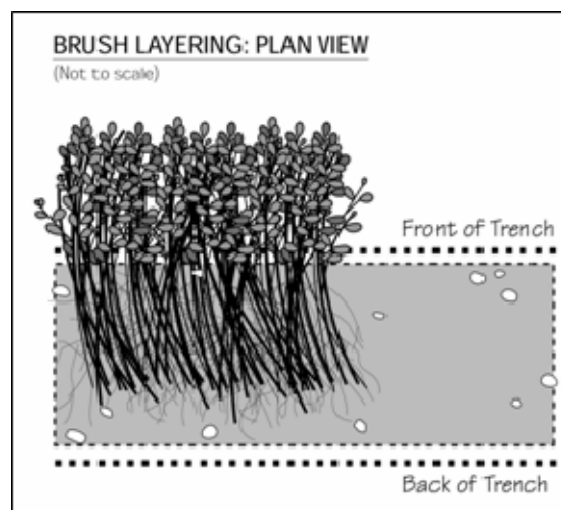


Figure 7.8 Brush Layering: Plan View (USDA-FS, 2002)

Additional Resources

- Mississippi State University, Center for Sustainable Design. 1999. *Water Related Best Management Practices in the Landscape: Brush Layering*. Created for United States Department of Agriculture, Natural Resource Conservation Service, Watershed Science Institute.
<http://www.abe.msstate.edu/csd/NRCS-BMPs/pdf/streams/bank/brushlayer.pdf>.

- Myers, R.D. 1993. *Slope Stabilization and Erosion Control Using Vegetation: A Manual of Practice for Coastal Property Owners: Brush Layering*. Shorelands and Coastal Zone Management Program, Washington Department of Ecology. Olympia, WA. Publication 93-30.
<http://www.ecy.wa.gov/programs/sea/pubs/93-30/brush.html>.
- Walter, J., D. Hughes, and N.J. Moore. 2005. *Streambank Revegetation and Protection: A Guide for Alaska. Revegetation Techniques: Brush/Hedge – Brush Layering*. Revised Edition. Alaska Department of Fish and Game, Division of Sport Fish.
<http://www.sf.adfg.state.ak.us/SARR/restoration/techniques/hedgebrush.cfm>.

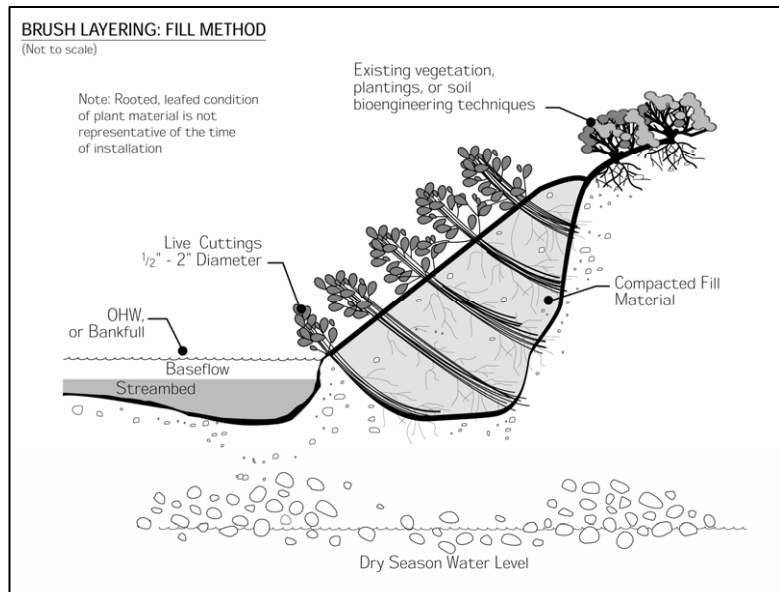


Figure 7.9 Brush Layering: Fill Method (USDA-FS, 2002)

Brush Mattressing

Brush mattressing is commonly used in Europe for streambank protection (Figure 7.10). It involves digging a slight depression on the bank and creating a mat or mattress from woven wire or single strands of wire and live, freshly cut branches from sprouting trees or shrubs. Branches approximately 1 inch in diameter are normally cut 6 to 9 feet long (the height of the bank to be covered) and laid in criss-cross layers with the butts in alternating directions to create a uniform mattress with few voids. The mattress is then covered with wire secured with wooden stakes 2.5 to 4 feet long. It is then covered with soil and watered repeatedly to fill voids with soil and facilitate sprouting; however, some branches should be left partially exposed on the surface. The structure may require protection from undercutting by placement of stones or burial of the lower edge. Brush mattresses are generally resistant to waves and currents and provide protection from the digging out of plants by animals. Disadvantages include possible burial with sediment in some situations and difficulty in making later plantings through the mattress.

Channelization

- Physical & chemical
- Instream/riparian restoration

Dams

- Erosion control
- Runoff control
- Chemical/pollutant control
- Watershed protection
- Aerate reservoir water
- Improve tailwater oxygen
- Restore/maintain habitat
- Maintain fish passage

Erosion

- Streambanks Shorelines
- Vegetative
- Structural
- Integrated
- Planning & regulatory

Installation guidelines are available from the USDA-FS Soil Bioengineering Guide (USDA-FS, 2002). Under the Ecosystem Management and Restoration Research Program (EMRRP), the USACE has presented research on brush mattresses in a technical note (*Brush Mattresses for Streambank Erosion Control*).³

Additional Resources

- Allen, H.H. and C. Fischenich. 2001. *Brush Mattresses for Streambank Erosion Control*. U.S. Army Corps of Engineers, Ecosystem Management and Restoration Research Program. <http://el.ercd.usace.army.mil/elpubs/pdf/sr23.pdf>.
- FISRWG. 1998. *Stream Corridor Restoration: Principles, Processes, and Practices*. Federal Interagency Stream Restoration Working Group. http://www.nrcs.usda.gov/technical/stream_restoration/PDFFILES/APPENDIX.pdf.
- ISU. 2006. *How to Control Streambank Erosion: Brushmattress*. Iowa State University. <http://www.ctre.iastate.edu/erosion/manuals/streambank/brushmattress.pdf>.
- Mississippi State University, Center for Sustainable Design. 1999. *Water Related Best Management Practices in the Landscape: Brush Mattress*. Created for United States Department of Agriculture, Natural Resource Conservation Service, Watershed Science Institute. <http://www.abe.msstate.edu/csd/NRCS-BMPs/pdf/streams/bank/brushmattress.pdf>.

³ <http://el.ercd.usace.army.mil/elpubs/pdf/sr23.pdf>

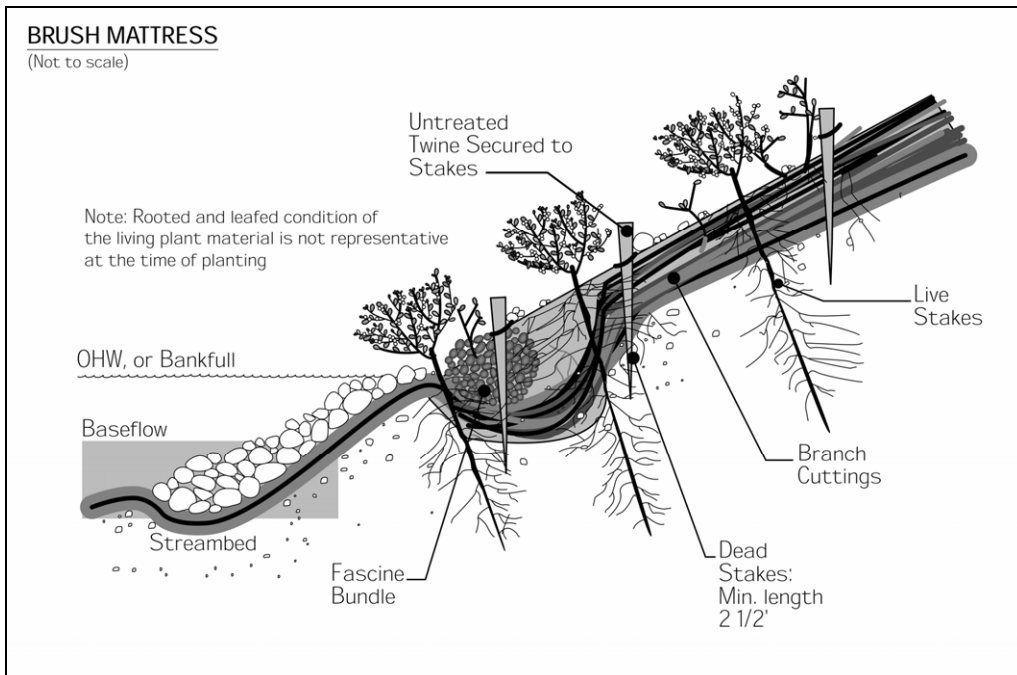


Figure 7.10 Brush Mattress (USDA-FS, 2002)

Bulkheads and Seawalls

Bulkheads (Figure 7.11) are primarily soil-retaining structures designed to also resist wave attack. Seawalls are principally structures designed to resist wave attack, but they also may retain some soil (USACE, 1984). Both bulkheads and seawalls may be built of many materials, including steel, timber, or aluminum sheet pile, gabions, or rubble-mound structures. Although bulkheads and seawalls protect the upland area against further erosion and land loss, they often create a local problem. Downward forces of water, produced by waves striking the wall, can produce a transfer of wave energy and rapidly remove sand from the wall (Pilkey and Wright, 1988). A stone apron is often necessary to prevent scouring and undermining. With vertical protective structures built from treated wood, there are also concerns about the leaching of chemicals used in the wood preservatives. Chromated copper arsenate (CCA), the most popular chemical used for treating the wood used in docks, pilings, and bulkheads, contains elements of chromium, copper, and arsenic that are toxic above trace levels (CSWRCB, 2005; Kahler et al., 2000).

Additional Resources

- Scottish National Heritage. No date. *A Guide to Managing Coastal Erosion in Beach/Dune Systems: Seawalls*. http://www.snh.org.uk/publications/on-line/heritagemanagement/erosion/appendix_1.12.shtml.
- USACE. No date. *Bulkheads and Seawalls*. http://www.usna.edu/NAOE/courses/en420/bonnette/Seawall_Design.html.

Channelization

- Physical & chemical
- Instream/riparian restoration

Dams

- Erosion control
- Runoff control
- Chemical/pollutant control
- Watershed protection
- Aerate reservoir water
- Improve tailwater oxygen
- Restore/maintain habitat
- Maintain fish passage

Erosion

- Streambanks
- Shorelines
- Vegetative
- Structural
- Integrated
- Planning & regulatory

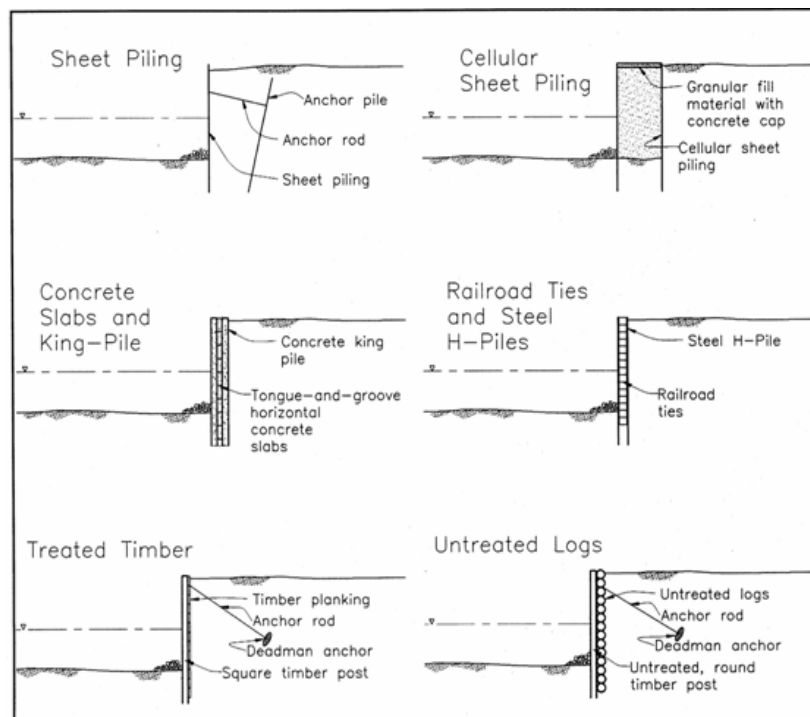


Figure 7.11 Typical Bulkhead Types (USACE, 2003)

Check Dams

Check dams, a type of grade control structure, are small dams constructed across an influent, intermittent stream, or drainageway to reduce channel erosion by restricting flow velocity. They can serve as emergency or temporary measures in small eroding channels that will be filled or permanently stabilized at a later date. Check dams can be installed in eroding gullies as permanent measures that fill up with sediment over time. In permanent usage, when the impounded area is filled, a relatively level surface or delta is formed over which water flows at a noneroding gradient. The water then cascades over the dam through a spillway onto a hardened apron. A series of check dams may be constructed along a stream channel of comparatively steep slope or gradient to create a channel consisting of a succession of gentle slopes with cascades in between.

Channelization

- Physical & chemical
- Instream/riparian restoration

Dams

- Erosion control
- Runoff control
- Chemical/pollutant control
- Watershed protection
- Aerate reservoir water
- Improve tailwater oxygen
- Restore/maintain habitat
- Maintain fish passage

Erosion

- Streambanks Shorelines
- Vegetative
- Structural
- Integrated
- Planning & regulatory

Check dams can be nonporous (constructed from concrete, sheet steel, or wet masonry) or porous (using available materials such as straw bales, rock, brush, wire netting, boards, and posts). Porous dams release part of the flow through the structure, decreasing the head of flow over the spillway and the dynamic and hydrostatic forces against the dam. Nonporous dams are durable, permanent, and more expensive, while porous dams are simpler, more economical to construct, and temporary. Maintenance of check dams is important, especially the areas to the sides of the dam. Regular inspections, particularly after high flow events, should be performed to observe and repair erosion at the sides of the check dams. Excessive erosion could dislodge the check dam, create additional channel erosion, and add more sediment to the streambed.

Additional Resources

- CASQA. 2003. *California Stormwater BMP Construction Handbook: Check Dams*. California Stormwater Quality Association, Sacramento, CA. <http://www.cabmphandbooks.com/Documents/Construction/SE-4.pdf>.
- ISU. 2006. *Iowa Construction Site Erosion Control Manual: Check Dam*. Iowa State University. http://www.ctre.iastate.edu/erosion/manuals/construction/3.3_check_dam.pdf.
- Mississippi State University, Center for Sustainable Design. 1999. *Water Related Best Management Practices in the Landscape: Check Dam*. Created for United States Department of Agriculture, Natural Resource Conservation Service, Watershed Science Institute. <http://www.abe.msstate.edu/csd/NRCS-BMPs/pdf/water/erosion/checkdam.pdf>.
- SMRC. No date. *Stream Restoration: Grade Control Practices*. The Stormwater Manager's Resource Center. http://www.stormwatercenter.net/Assorted%20Fact%20Sheets/Restoration/grade_control.htm.
- Tennessee Department of Environment and Conservation. 2002. *Erosion and Sediment Control Handbook: Check Dams*. Tennessee Department of Environment and Conservation, Nashville, TN. http://state.tn.us/environment/wpc/sed_ero_controlhandbook/cd.pdf.

Coconut Fiber Roll

The coconut fiber roll technique consists of cylindrical structures composed of coconut husk fibers held together with twine woven from coconut material (Figures 7.12 and 7.13). The fiber rolls are typically manufactured in 12-inch diameters and lengths of 20 feet, which serves to protect slopes from erosion, trap sediment, and as a result, encourage plant growth within the fiber roll. The system is typically installed near the toe of the streambank with dormant cuttings and rooted plants inserted into holes cut into the fiber rolls. Once installed, the system provides a good substrate for promoting plant growth and is appropriate where short-term moderate toe stabilization is needed. Installation of this design requires minimal site disturbance and is ideal for sites that are especially sensitive to disturbance. A limitation of this system is that it cannot withstand high velocities or large ice buildup, and it can be fairly expensive to construct. Coconut fiber rolls have an effective life of 6 to 10 years. In some locations, similar and abundant locally available materials, such as corn stalks, are being used instead of coconut materials (FISRWG, 1998).

Installation guidelines are available from the USDA-FS Soil Bioengineering Guide (USDA-FS, 2002). Under EMRRP, the USACE has presented research on coconut rolls in a technical note (*Coir Geotextile Roll and Wetland Plants for Streambank Erosion Control*), which is available at <http://el.ercd.usace.army.mil/elpubs/pdf/sr04.pdf>.

Additional Resources

- CASQA. 2003. *California Stormwater BMP Construction Handbook: Fiber Rolls*. California Stormwater Quality Association, Sacramento, CA. <http://www.cabmphandbooks.com/Documents/Construction/SE-5.pdf>.
- FISRWG. 1998. *Stream Corridor Restoration: Principles, Processes, and Practices*. Federal Interagency Stream Restoration Working Group. http://www.nrcs.usda.gov/technical/stream_restoration/PDFFILES/APPENDIX.pdf.
- ISU. 2006. *How to Control Streambank Erosion: Coconut Fiber Rolls*. Iowa State University. http://www.ctre.iastate.edu/erosion/manuals/streambank/coconut_fiber.pdf.

<p>Channelization</p> <ul style="list-style-type: none"> <input checked="" type="checkbox"/> Physical & chemical <input checked="" type="checkbox"/> Instream/riparian restoration <p>Dams</p> <ul style="list-style-type: none"> <input checked="" type="checkbox"/> Erosion control <input type="checkbox"/> Runoff control <input type="checkbox"/> Chemical/pollutant control <input type="checkbox"/> Watershed protection <input type="checkbox"/> Aerate reservoir water <input type="checkbox"/> Improve tailwater oxygen <input type="checkbox"/> Restore/maintain habitat <input type="checkbox"/> Maintain fish passage <p>Erosion</p> <ul style="list-style-type: none"> <input checked="" type="checkbox"/> Streambanks <input type="checkbox"/> Shorelines <input checked="" type="checkbox"/> Vegetative <input type="checkbox"/> Structural <input type="checkbox"/> Integrated <input type="checkbox"/> Planning & regulatory



Figure 7.12 Coconut Fiber Roll
(Montgomery Watson, 2001)

- Mississippi State University, Center for Sustainable Design. 1999. *Water Related Best Management Practices in the Landscape: Coconut Fiber Roll*. Created for United States Department of Agriculture, Natural Resource Conservation Service, Watershed Science Institute. <http://www.abe.msstate.edu/csd/NRCS-BMPs/pdf/streams/bank/coconutfiberroll.pdf>.

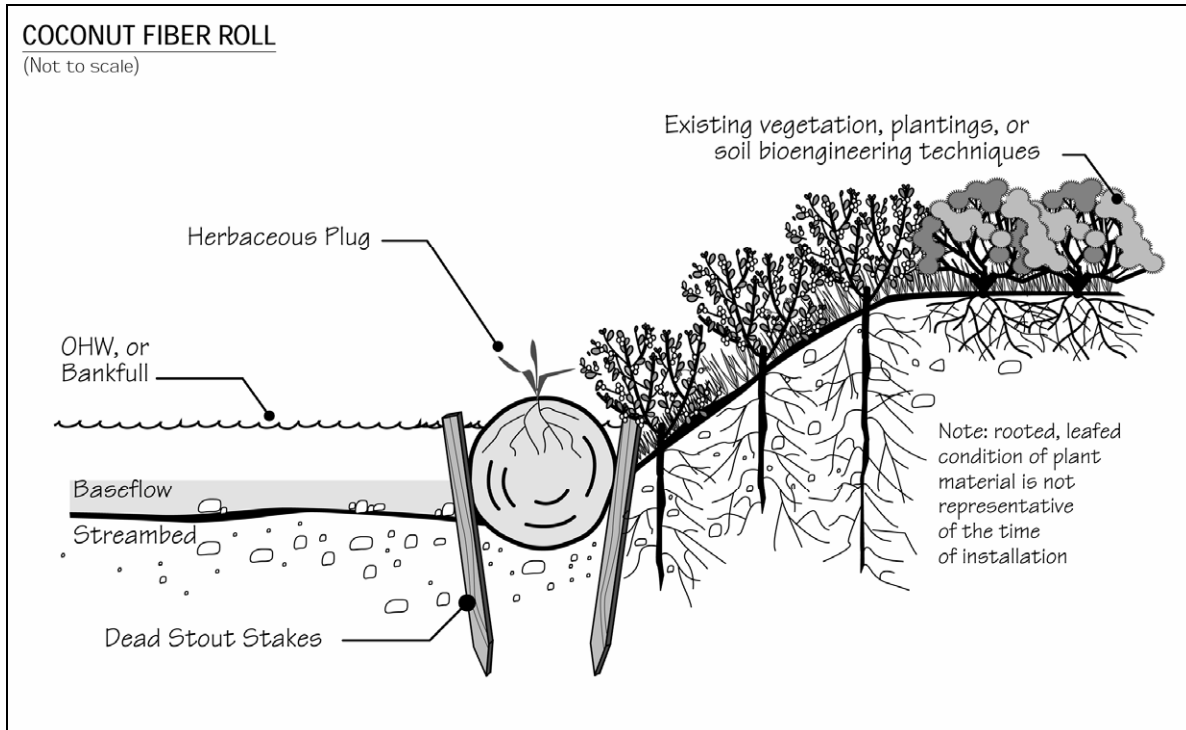


Figure 7.13 Coconut Fiber Roll (USDA-FS, 2002)

Collection Systems

Collection systems involve capture of fish by screening and/or netting followed with transport by truck or barge to a downstream location. Since the late 1970s, the USACE has successfully implemented a program that takes juvenile salmon from the uppermost dams in the Columbia River system (Pacific Northwest) and transports them by barge or truck to below the last dam. The program improves the travel time of fish through the river system, reduces most of the exposure to reservoir predators, and eliminates the mortality associated with passing through a series of turbines (van der Borg and Ferguson, 1989). Survivability rates for the collected fish are in excess of 95 percent, as opposed to survival rates of about 60 percent when the fish remain in the river system and pass through the dams (Dodge, 1989). However, the collection efficiency can range from 70 percent to as low as 30 percent. At the McNary Dam on the Columbia River, spill budgets are also implemented to improve overall passage (discussed in greater detail below) when the collection rate achieves less than 70 percent efficiency (Dodge, 1989).

Channelization

- Physical & chemical
- Instream/riparian restoration

Dams

- Erosion control
- Runoff control
- Chemical/pollutant control
- Watershed protection
- Aerate reservoir water
- Improve tailwater oxygen
- Restore/maintain habitat
- Maintain fish passage

Erosion

- Streambanks
- Shorelines
 - Vegetative
 - Structural
 - Integrated
 - Planning & regulatory

Additional Resource

- Chelan County Public Utility District. No date. *Juvenile Fish Bypass*. <http://www.chelanpud.org/juvenile-fish-passage.html>.

Construct Runoff Intercepts

Benches, terraces, or ditches break up a slope by providing areas of low slope in the reverse direction. This keeps water from proceeding down the slope at increasing volume and velocity. Instead, the flow is directed to a suitable outlet or protected drainage system. The frequency of benches, terraces, or ditches will depend on the erodibility of the soils, steepness and length of the slope, and rock outcrops. This practice can be used if there is a potential for erosion along the slope.

Earth dikes, perimeter dikes or swales, or diversions can intercept and convey runoff from above disturbed areas to undisturbed areas or drainage systems. An earth dike is a temporary berm or ridge of compacted soil that channels water to a desired location. A perimeter dike/swale or diversion is a swale with a supporting ridge on the lower side that is constructed from the soil excavated from the adjoining swale (Delaware DNREC, 2003). These practices can intercept flow from denuded areas or newly seeded areas and keep clean runoff away from disturbed areas. The structures can be stabilized within 14 days of installation. A pipe slope drain, also known as a pipe drop structure, is a temporary pipe placed from the top of a slope to the bottom of the slope to convey concentrated runoff down the slope without causing erosion (Delaware DNREC, 2003).

Additional Resources

- CASQA. 2003. *California Stormwater BMP Construction Handbook: Earth Dikes and Drainage Swales*. California Stormwater Quality Association, Sacramento, CA. <http://www.cabmphandbooks.com/Documents/Construction/EC-9.pdf>.
- Fifield, J. 2000. *Design and Implementation of Runoff Control Structures: Diversion Dikes and Swales*. http://www.forester.net/ec_0001_design.html#diversion.
- Lake Superior/Duluth Streams. 2005. *Grassed Swales*. <http://www.duluthstreams.org/stormwater/toolkit/swales.html>.

Channelization

- Physical & chemical
- Instream/riparian restoration

Dams

- Erosion control
- Runoff control
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Erosion

- Streambanks Shorelines
 - Vegetative
 - Structural
 - Integrated
 - Planning & regulatory

Constructed Spawning Beds

When a dam adversely affects the aquatic habitat of an anadromous fish species, one option may be to construct replacement spawning beds. Additional facilities such as electric barriers, fish ladders, or bypass channels would be required to channel the fish to these spawning beds.

Merz et al., (2004) tested whether spawning bed enhancement increases survival and growth of Chinook salmon (*Oncorhynchus tshawytscha*) embryos in a regulated stream with a gravel deficit. The authors also examined a dozen physical parameters correlated with spawning sites (e.g., stream velocity, average turbidity, distance from the dam) and how they predicted survival and growth of Chinook salmon and steelhead (*Oncorhynchus mykiss*). The results suggest that spawning bed enhancement can improve embryo survival in degraded habitat. Measuring observed physical parameters before and after spawning bed manipulation can also accurately predict benefits. The National Oceanic and Atmospheric Administration's (NOAA's) *Status Review of Chinook Salmon from Washington, Idaho, Oregon, and California* (1998) states that artificial spawning beds for ocean-type Chinook salmon operated near three different dams was discontinued because of high pre-spawning mortality in adult fish and poor egg survival in the spawning beds. Success of constructed spawning beds in increasing survival and development of fish varies and often depends on the site.

Channelization

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Dams

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Erosion

- Streambanks
- Shorelines
- Vegetative
- Structural
- Integrated
- Planning & regulatory

Construction Management

Construction areas can be managed properly to control erosion by stabilizing entrances and proper traffic routing. A construction entrance is a pad of gravel or rock over filter cloth located where traffic enters and leaves a construction site. As construction vehicles drive over the gravel, mud and sediment are collected from the vehicles' wheels. To maximize effectiveness, the rock pad should be at least 50 feet long and 10 to 12 feet wide. The gravel should be 1- to 2-inch aggregate 6 inches deep laid over a layer of filter fabric. Maintenance might include pressure washing the gravel to remove accumulated sediment and adding more rock to maintain thickness. Runoff from this entrance should be treated before exiting the site. This practice can be combined with a designated truck wash-down station to ensure sediment is not transported off-site.

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Erosion

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- Vegetative
- Structural
- Integrated
- Planning & regulatory

Where possible, construction traffic should be directed to avoid existing or newly planted vegetation. Instead, it should be directed over areas that must be disturbed for other construction activity. This practice reduces the net total area that is cleared and susceptible to erosion.

Additional Resources

- CASQA. 2003. *California Stormwater BMP Construction Handbook: Stabilized Construction Entrance/Exit*. California Stormwater Quality Association, Sacramento, CA.
<http://www.cabmphandbooks.com/Documents/Construction/TR-1.pdf>.
- ISU. 2006. *Iowa Construction Site Erosion Control Manual: Stabilized Construction Entrance*. Iowa State University.
http://www.ctre.iastate.edu/erosion/manuals/construction/3.14_stabilized_entrance.pdf.

Dormant Post Plantings

Dormant post plantings include planting of either cottonwood, willow, poplar, or other sprouting species embedded vertically into streambanks to increase channel roughness, reduce flow velocities near the slope face, and trap sediment (Figure 7.14). Dormant posts are made up of large cuttings installed in streambanks in square or triangular patterns. Live posts should be 7 to 20 feet long and 3 to 5 inches in diameter. This method is effective for quickly establishing riparian vegetation particularly in arid regions. By decreasing near bank flow velocities, this design causes sediment deposition and reduces streambank erosion. This design is more resistant to erosion than live staking or similar designs that use smaller cuttings. Success of this design is most likely on streambanks that are not gravel dominated and where ice build up is not common. The exclusion of certain herbivores aids in the success of this design. This method should be combined with other soil bioengineering techniques to achieve a comprehensive streambank restoration design (FISRWG, 1998). Installation guidelines are available from the USDA-FS Soil Bioengineering Guide (USDA-FS, 2002).

Channelization

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Erosion

- Streambanks Shorelines
- Vegetative
- Structural
- Integrated
- Planning & regulatory

Additional Resources

- FISRWG. 1998. *Stream Corridor Restoration: Principles, Processes, and Practices*. Federal Interagency Stream Restoration Working Group. http://www.nrcs.usda.gov/technical/stream_restoration/PDFFILES/APPENDIX.pdf.
- ISU. 2006. *How to Control Streambank Erosion: Dormant Post Plantings*. Iowa State University. http://www.ctre.iastate.edu/erosion/manuals/streambank/dormant_post.pdf.

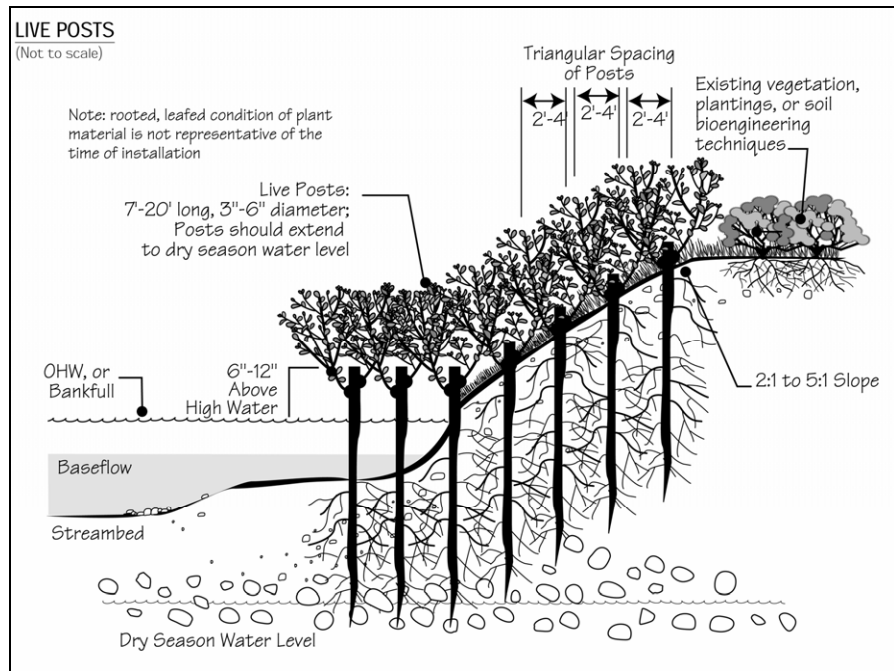


Figure 7.14 Live Posts (USDA-FS, 2002)

Encourage Drainage Protection

A complete understanding of watershed protection should include the implementation of practices that guide future development and land use activities. This will not only help to identify existing sources of NPS pollution but also to prevent future impairments that may impact dam construction or operations and reservoir management. Watershed protection practices can include zoning for natural resource protection. Several zoning techniques are:

- Use cluster zoning and planned unit development
- Consider resource protection zones
- Practice performance-based zoning
- Establish overlay zones
- Establish bonus or incentive zoning
- Consider large lot zoning
- Practice agricultural protection zoning
- Use watershed-based zoning
- Delineate urban growth boundaries

Channelization

- Physical & chemical
- Instream/riparian restoration

Dams

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- Maintain fish passage

Erosion

- Streambanks Shorelines
- Vegetative
- Structural
- Integrated
- Planning & regulatory

More details about these techniques and case studies can be found in *Protecting Wetlands: Tools for Local Governments in the Chesapeake Bay Region* (Chesapeake Bay Program, 1997).

Equipment Runoff Control

During construction and maintenance activities at dams, equipment and machinery can be a potential source of pollution to the surface and ground water. Thinners or solvents should not be discharged into sanitary or storm sewer systems or into surface water systems, when cleaning machinery. Use alternative methods for cleaning larger equipment parts, such as high-pressure, high-temperature water washes or steam cleaning. Equipment-washing detergents can be used and wash water appropriately discharged. Small parts should be cleaned with degreasing solvents that can be reused or recycled. Washout from concrete trucks should never be dumped directly into surface waters or into a drainage leading to surface waters but can be disposed of into:

- A designated area that will later be backfilled
- An area where the concrete wash can harden, can be broken up, and can then be appropriately disposed
- A location not subject to surface water runoff and more than 50 feet away from a receiving water

Channelization

- Physical & chemical
- Instream/riparian restoration

Dams

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Erosion

- Streambanks Shorelines
 - Vegetative
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 - Integrated
 - Planning & regulatory

Erosion and Sediment Control (ESC) Plans

ESC plans are important for controlling the adverse impacts of dam construction. ESC plans ensure that provisions for control measures are incorporated into the site planning stage of development. ESC plans also provide for prevention of erosion and sediment problems and accountability if a problem occurs (MDEP, 1990). In many municipalities, ESC plans are required under ordinances enacted to protect water resources. These plans describe the activities construction and maintenance personnel will use to reduce soil erosion and contain and treat runoff that is carrying eroded sediments. ESC plans typically include descriptions and locations of soil stabilization practices, perimeter controls, and runoff treatment facilities that will be installed and maintained before and during construction activities. In addition to special area considerations, the full ESC plan review inventory should include:

- Topographic and vicinity maps
- Site development plan
- Construction schedule
- Erosion and sedimentation control plan drawings
- Detailed drawings and specifications for practices
- Design calculations
- Vegetation plan
- Detailed drawings and specifications for control or management practices

Some erosion and soil loss is unavoidable during land-disturbing activities. Although proper siting and design help prevent areas prone to erosion from being developed, construction activities invariably produce conditions where erosion can occur. To reduce the adverse impacts associated with construction activities at dams, the construction management measure suggests a system of nonstructural and structural ESCs for incorporation into an ESC plan.

Nonstructural controls address erosion control by decreasing erosion potential, whereas structural controls are both preventive and mitigative because they control erosion and sediment movement. Brown and Caraco (1997) identified several general objectives that should be addressed in an effective ESC plan:

- *Minimize clearing and grading* – clearing and grading should occur only where absolutely necessary to build and provide access to structures and infrastructure. Clearing should be done immediately before construction, rather than leaving soils exposed for months or years (SQI, 2000).
- *Protect waterways and stabilize drainage ways* – all natural waterways within a development site should be clearly identified before construction activities begin. Clearing should generally be prohibited in or adjacent to waterways. Sediment control

Channelization

- Physical & chemical
- Instream/riparian restoration

Dams

- Erosion control
- Runoff control
- Chemical/pollutant control
- Watershed protection
- Aerate reservoir water
- Improve tailwater oxygen
- Restore/maintain habitat
- Maintain fish passage

Erosion

- Streambanks
- Shorelines
- Vegetative
- Structural
- Integrated
- Planning & regulatory

practices such as check dams might be needed to stabilize drainage ways and retain sediment on-site.

- *Phase construction to limit soil exposure* – construction phasing is a process where only a portion of the site is disturbed at any one time to complete the required building in that phase. Other portions of the site are not cleared and graded until exposed soils from the earlier phase have been stabilized and the construction nearly completed.
- *Stabilize exposed soils immediately* – seeding or other stabilization practices should occur as soon as possible after grading. In colder climates, a mulch cover is needed to stabilize the soil during the winter months when grass does not grow or grows poorly.
- *Protect steep slopes and cuts* - wherever possible, clearing and grading of existing steep slopes should be completely avoided. If clearing cannot be avoided, practices should be implemented to prevent runoff from flowing down slopes.
- *Install perimeter controls to filter sediments* – perimeter controls are used to retain sediment-laden runoff or filter it before it exits the site. The two most common perimeter control options are silt fences and earthen dikes or diversions.
- *Employ advanced sediment-settling controls* – traditional sediment basins are limited in their ability to trap sediments because fine-grained particles tend to remain suspended and the design of the basin themselves is often simplistic. Sediment basins can be designed to improve trapping efficiency through the use of perforated risers; better internal geometry; the installation of baffles, skimmers, and other outlet devices; gentler side slopes; and multiple-cell construction.

ESC plans ensure that provisions for control measures that are incorporated into the site planning stage of development help to reduce the incidence of erosion and sediment problems, and improve accountability if a problem occurs. An effective plan for runoff management on construction sites controls erosion, retains sediments on-site to the extent practicable, and reduces the adverse effects of runoff. Climate, topography, soils, drainage patterns, and vegetation affect how erosion and sediment should be controlled on a site (Washington State Department of Ecology, 1989).

ESC plans should be flexible to account for unexpected events that occur after the plans have been approved, including:

- Discrepancies between planned and as-built grades
- Weather conditions
- Altered drainage
- Unforeseen construction requirements

Changes to an ESC plan should be made based on regular inspections that identify whether the ESC practices were appropriate or properly installed or maintained. Inspecting an ESC practice after storm events shows whether the practice was installed or maintained properly. Such inspections also show whether a practice requires cleanout, repair, reinforcement, or replacement with a more appropriate practice. Inspecting after storms is the best way to ensure that ESC practices remain in place and effective at all times during construction activities.

Because funding for ESC programs is not always dedicated, budgetary and staffing constraints may thwart effective program implementation. Brown and Caraco (1997) recommend several management techniques to ensure that ESC programs are properly administered:

- Local leadership committed to the ESC program
- Redeployment of existing staff from the office to the field or training room
- Cross-training of local review and inspection staff
- Submission of erosion prevention elements for early planning reviews.
- Prioritization of inspections based on erosion risk
- Requirement of designers to certify the initial installation of ESC practices
- Investment in contractor certification and private inspector programs
- Use of public-sector construction projects to demonstrate effective ESC controls
- Enlistment of the talents of developers and engineering consultants in the ESC program
- Revision and update of the local ESC manual

An allowance item that acts as an additional “insurance policy” for complying with the erosion and sediment control plan can be added to bid or contract documents (Deering, 2000a). This allowance covers costs to repair storm damage to ESC measures as specified in the ESC plan. This allowance does not cover storm damage to property that is not related to the ESC plan, because this would be covered under traditional liability insurance. Damage caused by severe and continuous rain events, windblown objects, fallen trees or limbs, or high-velocity, short-term rain events on steep slopes and existing grades would be covered by the allowance, as would deterioration from exposure to the elements or excessive maintenance for silt removal. The contractor is responsible for being in compliance with the ESC plan by properly implementing and maintaining all specified measures and structures. The allowance does not cover damage to practices caused by improper installation or maintenance.

Additional Resources

- ISU. 2006. *Iowa Construction Site Erosion Control Manual: Infiltration Basin and Trench*. Iowa State University. http://www.ctre.iastate.edu/erosion/manuals/construction/4.1_infiltration.pdf.
- Milwaukee River Basin Partnership. 2003. *Detention & Infiltration Basins*. <http://clean-water.uwex.edu/plan/drbasins.htm>.
- Tennessee Department of Environment and Conservation. 2002. *Erosion and Sediment Control Handbook: Vegetative Practices*. Tennessee Department of Environment and Conservation, Nashville, TN. http://state.tn.us/environment/wpc/sed_ero_controlhandbook/2.%20Vegetative%20Practices.pdf.

Erosion Control Blankets

Turf reinforcement mats (TRMs) combine vegetative growth and synthetic materials to form a high-strength mat that helps prevent soil erosion in drainage areas and on steep slopes (Figure 7.15) (USEPA, 1999). TRMs enhance vegetation's natural ability to protect soil from erosion. They are composed of interwoven layers of nondegradable geosynthetic materials (e.g., nylon, polypropylene) stitched together to form a three-dimensional matrix. They are thick and porous enough to allow for soil filling and retention. In addition to providing scour protection, the mesh netting of TRMs is designed to enhance vegetative root and stem development. By protecting the soil from scouring forces and enhancing vegetative growth, TRMs can raise the threshold of natural vegetation to withstand higher hydraulic forces on stabilization slopes, streambanks, and channels. In addition to reducing flow velocities, natural vegetation removes particulates through sedimentation and soil infiltration and improves site aesthetics. In general, TRMs should not be used for the following:

- To prevent deep-seated slope failure due to causes other than surficial erosion
- If anticipated hydraulic conditions are beyond the limits of TRMs and natural vegetation
- Directly beneath drop outlets to dissipate impact force (can be used beyond impact zone)
- Where wave height might exceed 1 foot (can protect areas upslope of wave impact zone)

The performance of a TRM-lined conveyance system depends on the duration of the runoff event. For short-term events, TRMs are typically effective at flow velocities of up to 15 feet per second and shear stresses of up to 8 lb/ft². However, specific high-performance TRMs may be effective under more severe hydraulic conditions. Practitioners should check with manufacturers for specifications and performance limits of different products. Factors influencing the cost of TRMs include the type of material required, site conditions (e.g., underlying soils, slope steepness), and installation-specific factors (e.g., local construction costs). TRMs typically cost considerably less than concrete and riprap solutions.

<p>Channelization</p> <ul style="list-style-type: none"> <input type="checkbox"/> Physical & chemical <input type="checkbox"/> Instream/riparian restoration <p>Dams</p> <ul style="list-style-type: none"> <input checked="" type="checkbox"/> Erosion control <input type="checkbox"/> Runoff control <input type="checkbox"/> Chemical/pollutant control <input type="checkbox"/> Watershed protection <input type="checkbox"/> Aerate reservoir water <input type="checkbox"/> Improve tailwater oxygen <input type="checkbox"/> Restore/maintain habitat <input type="checkbox"/> Maintain fish passage <p>Erosion</p> <ul style="list-style-type: none"> <input type="checkbox"/> Streambanks <input type="checkbox"/> Shorelines <input type="checkbox"/> Vegetative <input type="checkbox"/> Structural <input type="checkbox"/> Integrated <input type="checkbox"/> Planning & regulatory



Figure 7.15 Erosion Control Blanket
(Conwed Fibers, n.d.)

Additional Resources

- Barr Engineering Company. 2001. *Minnesota Urban Small Sites BMP Manual: Stormwater Best Management Practices for Cold Climates. Soil Erosion Control: Mulches, Blankets and Mats*. Prepared for the Metropolitan Council by Barr Engineering Company, St. Paul, MN. http://www.metrocouncil.org/Environment/Watershed/BMP/CH3_RPPSoilMulch.pdf.
- CASQA. 2003. *California Stormwater BMP Construction Handbook: Geotextiles and Mats*. California Stormwater Quality Association, Sacramento, CA. <http://www.cabmphandbooks.com/Documents/Construction/EC-7.pdf>.
- California Department of Transportation. 1999. *Soil Stabilization Using Erosion Control Blankets*. Construction Storm Water Pollution Prevention Bulletin. Vol. 3, No. 8. California Department of Transportation, Division of Environmental Analysis, Sacramento, CA. http://www.dot.ca.gov/hq/env/stormwater/publicat/const/Aug_1999.pdf.
- Matthews, M. 1998. *What are RECPs? Soil Stabilization Using Erosion Control Blankets*. Erosion Control Technology Council, St. Paul, MN. <http://www.ectc.org/what.html>.
- North American Green. 2004. *Green Views: Turn Reinforcement Mats as an Alternative to Rock Riprap*. North American Green, Evansville, IN. http://www.nagreen.com/resources/literature/GV_AltToRockRiprap.pdf.
- Tennessee Department of Environment and Conservation. 2002. *Erosion and Sediment Control Handbook: Vegetative Practices: Erosion Control Blanket/Matting*. Tennessee Department of Environment and Conservation, Nashville, TN. http://state.tn.us/environment/wpc/sed_ero_controlhandbook/2.%20Vegetative%20Practices.pdf.

Establish and Protect Stream Buffers

Riparian buffers and wetlands can provide long-term pollutant removal capabilities without the comparatively high costs usually associated with constructing and maintaining structural controls. Conservation or preservation of these areas is important to water quality protection. Land acquisition programs help to preserve areas considered critical to maintaining surface water quality. Adequate buffer strips along streambanks provide protection for stream ecosystems, help stabilize the stream, and can prevent streambank erosion (Holler, 1989). Buffer strips can also protect and maintain near-stream vegetation that attenuates the release of sediment into stream channels. Levels of suspended solids have been shown to increase at a slower rate in stream channel sections with well-developed riparian vegetation (Holler, 1989).

Channelization

- Physical & chemical
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Dams

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- Vegetative
- Structural
- Integrated
- Planning & regulatory

Stream buffers should be protected and preserved as a conservation area because these areas provide many important functions and benefits, including:

- Providing a “right-of-way” for lateral movement
- Conveying floodwaters
- Protecting streambanks from erosion
- Treating runoff and reducing drainage problems from adjacent areas
- Providing nesting areas and other wildlife habitat functions
- Mitigating stream warming
- Protecting wetlands
- Providing recreational opportunities and aesthetic benefits
- Increasing adjacent property values

Specific stream buffer practices could include:

- Establishing a stream buffer ordinance
- Developing vegetative and use strategies within management zones
- Establishing provisions for stream buffer crossings
- Integration of structural runoff management practices where appropriate
- Developing stream buffer education and awareness programs

More information on establishing and protecting stream buffers is available from EPA’s *National Management Measures to Control Nonpoint Source Pollution from Urban Areas*,⁴ a document for use by state, local, and tribal managers in the implementation of nonpoint source pollution management programs. It contains a variety of practices and management activities for reducing pollution of surface and ground water from urban areas (USEPA, 2005d).

⁴ <http://www.epa.gov/owow/nps/urbanmm/index.html>

Fish Ladders

Fish ladders have been a commonly used structure to enable the safe upstream and downstream passage of mature fish (see Figure 7.16). There are four basic designs: pool-weir, Denil, vertical slot, and steeppass.

Pool-weir fish ladders are one of the oldest and most commonly designed fish passage structures, which consists of stepped pools and weirs that allow fish to pass from pool to pool over the weirs that separate each. Pool-weir fish ladders are normally used on slopes of about 10-degrees. Some pool-weir fish ladders can be modified to increase the possible number of fish that are passed by including submerged orifices that allow fish to pass the fish ladder without cresting the weirs.

Pool-weir fish ladders will pass many different species of fish if they are designed correctly for the environment in which they are employed. OTA (1995) provides details on design and operation of various forms of fish ladders.

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Figure 7.16 Fish Ladder at Feather River Hatchery, Oroville Dam, CA (Feather River, n.d.)

Denil fish ladders are elongated rectangular channels that use internal baffles to dissipate flow energy and allow fish passage. They are widely used in the eastern United States due to their ability to pass a wide range of species (from salmonids to riverine) over a wider range of flows than pool-weir ladders. Denil ladders can be used on slopes from 10 to 25 degrees although 10 to 15 degrees is optimal. Most Denil fish ladders are 2–4 feet wide and 4–8 feet deep. This fish ladder design allows fish to pass at a preferred depth instead of through a jumping action. Denil ladders do not have resting areas and therefore fish must either be able to pass the ladder in one burst or resting pools must be provided between sections. Resting pools should be provided every 16 to 50 feet depending upon the species being passed. The high flow rates and turbulence

associated with Denil fish ladders reduces the demand for attraction flow, which is commonly added to insure good attraction over varying flow rates.

Vertical slot fish ladders are elongated rectangular channels that use regularly spaced baffles to create steps and resting pools. The vertically oriented slots in the baffles allow fish to pass through the ladder at a preferred depth. Unlike Denil fishways, vertical slot fishways provide a resting area behind each baffle allowing fish to pass in a “burst-rest” manner instead of one sustained motion. The channel created by the baffles is off-center making the baffles on one side of the ladder wider than the opposing side. Eddies that form behind longer baffles allow fish to rest and end the need for resting areas. Although vertical slot ladders are usually operated at slopes of about 10 degrees, they can be operated over a larger variety of flows. The vertical slots create a water jet that is regulated by the pool on the downstream side of it. This creates a uniform, level flow throughout the ladder.

The steppass fish ladder, often referred to as the “Alaska steppass,” is a modified Denil fish ladder most commonly used in remote areas for the passage of salmonids. Steppass fish ladders are usually constructed of lightweight materials such as aluminum and can operate on slopes up to 33 percent. The construction materials and design allow this type of fish ladder to be deployed as a single unit to remote areas. The baffles used in steppass ladders are more aggressively designed, which allow the ladder to more effectively control water flow. The steppass ladder is not without its limitations. Due to their narrow design, steppass ladders are more susceptible to clogging due to debris and changes in flow upstream or downstream of the ladder.

Although fish ladders can be extremely efficient at passing fish, small changes in design have been shown to significantly improve their functionality. A good example of this is the John Day Dam located on the Columbia River. The original design focused on the passage of salmonids and therefore only passed about 17 percent of the American shad (*Alosa sapidissima*) using the ladder. Research indicated that simple design changes could allow for the passage of riverine species such as American shad. By changing the placement of the weirs within the fish ladder, the fish ladder was able to pass 94 percent of the salmonids, and American shad passage increased to 74 percent (Monk et al., 1989).

According to the USACE, Portland District (1997), the success rate for adults negotiating fish ladders at dams in the Columbia River Basin is about 95 percent. The U.S. Fish and Wildlife Agency designs fishways assuming a 90 percent efficiency rate. Few studies document actual efficiency of fish ladders, but it is recognized that not all fishways are equally effective (for various reasons, such as predation or physical damage to passing fish). Some fishways installed in the last 20 years are less effective than newer ones (when federal licenses began to include fish passage requirements). Maine Department of Marine Resources (DMR) estimates efficiency between 75 and 90 percent (Presumpscot River Plan Steering Committee, 2002).

Additional Resource

- Michigan DNR. No date. *What is a fish ladder?* Michigan Department of Natural Resources, Lansing, MI. http://www.michigan.gov/dnr/0,1607,7-153-10364_19092-46291--,00.html.

Fish Lifts

Fish lifts describe both fish elevators and locks, which are used to capture fish at the downstream side of a structure and then move them above the structure. Like fish ladders, these systems require sufficient attraction flow to move fish into the lift area. Lift systems can be advantageous because they are not species or flow specific. They can also be employed at structures too tall for fish ladders and to pass species with reduced swimming ability.

Lift systems have the potential to move large numbers of fish if they are operated efficiently. These systems can be automated to allow operation much like fish ladders. Fish lift systems do require additional operation and maintenance costs and are subject to mechanical failures not associated with fish ladders.

Most lift systems require either an active or passive bypass system to move fish far enough upstream to avoid entrainment in the flow through the dam. Passive bypass systems may include constructed waterways or pipes that discharge passed fish sufficiently up-stream of the structure. Active bypass systems include trucking and pumping operations that discharge the fish safely upstream of the structure. Active bypass systems, especially pumping systems, have come under scrutiny for fish behavior and health reasons. During the pumping process, fish may be subject to descaling and/or death due to overcrowding. After release, the fish may have orientation problems and therefore be subject to higher rates of predation mortality. Due to these concerns the United States Fish and Wildlife service has generally opposed the use of fish pumps (OTA, 1995).

Channelization

- Physical & chemical
- Instream/riparian restoration

Dams

- Erosion control
- Runoff control
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- Watershed protection
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- Restore/maintain habitat
- Maintain fish passage

Erosion

- Streambanks Shorelines
- Vegetative
- Structural
- Integrated
- Planning & regulatory

Flow Augmentation

Operational procedures such as flow regulation, flood releases, or fluctuating flow releases all have the potential for detrimental impacts on downstream aquatic and riparian habitat. When evaluating solutions associated with degraded aquatic and riparian habitat, stakeholders must balance operational procedures to address the needs of downstream aquatic and riparian habitat with the requirements of dam operation. There are often legal and jurisdictional requirements for an operational procedure at a particular dam that should also be considered (USDOI, 1988).

A flushing flow is a high-magnitude, short-duration release for the purpose of maintaining channel capacity and the quality of instream habitat by scouring the accumulation of fine-grained sediments from the streambed. Availability of suitable instream habitat is a key factor limiting spawning success. Flushing flows wash away the sediments without removing the gravel. Flushing flows also prevent the encroachment of riparian vegetation.

However, it is important to keep in mind that flushing flows are not recommended in all cases. Flushing flows of a large magnitude may cause flooding in the old floodplain or depletion of gravel below a dam. Flushing flows are more efficient and predictable for small, shallow, high-velocity mountain streams unaltered by dams, diversions, or intensive land use. Routine maintenance generally requires a combination of practices including high flows coupled with sediment dams or channel dredging, rather than simply relying on flushing or scouring flows (Nelson et al., 1988).

Several options exist for creating minimum flows in the tailwaters below dams. The selection of any particular technique as the most cost-effective is site-specific and depends on several factors including adequate performance to achieve the desired instream and riparian habitat characteristic, compatibility with other requirements for operation of the hydropower facility, availability of materials, and cost.

Sluicing is the practice of releasing water through the sluice gate rather than through the turbines. For portions of the waterway immediately below the dam, the steady release of water by sluicing provides minimum flows with the least amount of water expenditure. At some facilities, this practice may dictate that modifications be made to the existing sluice outlets to maintain continuous low releases. Continuous low-level sluice releases at Eufala Lake and Fort Gibson Lake (Oklahoma) provided minimum flows needed to sustain downstream fish populations. The sluicing also had the benefit of improving DO levels in tailwaters downstream of these two dams such that fish mortalities, which had been experienced in the tailwaters below these two dams prior to initiating this practice, no longer occurred (USDOE, 1991).

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- Planning & regulatory

Turbine pulsing is a practice involving the release of water through the turbines at regular intervals to improve minimum flows. In the absence of turbine pulsing, water is released from large hydropower dams only when the turbines are operating, which is typically when the demand for power is high.

A study undertaken at the Douglas Dam (French Broad River, Tennessee) suggests some of the site-specific factors that should be considered when evaluating the advantages of practices such as turbine pulsing, sluicing, or other alternatives for providing minimum flows and improving dissolved oxygen (DO) levels in reservoir releases. Two options for maintaining minimum flows (turbine pulsing and sluicing), and two aeration alternatives (operation of surface water pumps and diffusers) were evaluated for their effectiveness, advantages, and disadvantages in providing minimum flows and aeration of reservoir releases. Computer modeling indicated that either turbine pulsing or sluicing could improve DO concentrations in releases by levels ranging from 0.7 to 1.5 mg/L. This is slightly below the level of improvement that might be expected from operation of a diffuser system for aeration. A trade-off can also be expected at this facility between water saved by frequent short-release pulses and the higher maintenance costs due to operating turbines on and off frequently (Hauser et al., 1989). Hauser et al. (1989) found that schemes of turbine pulsing ranging from 15-minute intervals to 60-minute intervals every 2 to 6 hours were found to provide fairly stable flow regimes after the first 3 to 8 miles downstream at several Tennessee Valley Authority (TVA) projects. However, at points farther downstream, less overall flow would be produced by sluicing than by pulsing. Turbine pulsing may also cause waters to rise rapidly, which could endanger people wading or swimming in the tailwaters downstream of the dam (TVA, 1990).

Fuel and Maintenance Staging Areas

Proper maintenance of equipment and installation of proper stream crossings will further reduce pollution of water by these sources. Vehicles need to be inspected for leaks. To prevent runoff, fuel and maintain vehicles on site only in a bermed area or over a drip pan. Fuel tanks should be protected and have containment systems. Stream crossings can be minimized through proper planning of access roads. This will help to keep potential sources of pollution away from direct contact with surface waters.

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Gated Conduits

Gated conduits are hydraulic structures that divert the flow of water under the dam. They are designed to create turbulent mixing to enhance oxygen transfer. Gates are used to control the cross-sectional area of flow. Gated conduits have been extensively analyzed for their performance and effectiveness (Wilhelms and Smith, 1981), although the available data are mostly from high-head projects (Wilhelms, 1988). An example of the effectiveness found that gated conduit structures were able to achieve 90 percent aeration and a minimum DO standard of 5 mg/L (Wilhelms and Smith, 1981).

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Groins

Groins are structures that are built perpendicular to the shore and extend into the water. Examples of possible planform shapes for groins are illustrated in Figure 7.17. They are generally constructed in series, referred to as a groin field, along the entire length of shore to be protected. Groins trap sand in littoral drift and halt its longshore movement along beaches. The sand trapped by each groin acts as a protective barrier that waves can attack and erode without damaging previously unprotected upland areas. Unless the groin field is artificially filled with sand from other sources, sand is trapped in each groin by interrupting the natural supply of sand moving along the shore in the natural littoral drift. This frequently results in an inadequate natural supply of sand to replace the sand carried away from beaches located farther along the shore in the direction of the littoral drift. If “downdrift” beaches are kept starved of sand for long periods of time, severe beach erosion in unprotected areas can result. As with bulkheads and revetments, the most durable materials for construction of groins are timber and stone. Less expensive techniques for building groins use sand- or concrete-filled bags or tires. It must be recognized that the use of lower-cost materials in the construction of bulkheads, revetments, or groins frequently results in less durability and reduced project life. Figure 7.18 illustrates transition from a groin field to a natural shoreline.

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| <p>Channelization</p> <ul style="list-style-type: none"> <input type="checkbox"/> Physical & chemical <input type="checkbox"/> Instream/riparian restoration <p>Dams</p> <ul style="list-style-type: none"> <input type="checkbox"/> Erosion control <input type="checkbox"/> Runoff control <input type="checkbox"/> Chemical/pollutant control <input type="checkbox"/> Watershed protection <input type="checkbox"/> Aerate reservoir water <input type="checkbox"/> Improve tailwater oxygen <input type="checkbox"/> Restore/maintain habitat <input type="checkbox"/> Maintain fish passage <p>Erosion</p> <ul style="list-style-type: none"> <input type="checkbox"/> Streambanks <input checked="" type="checkbox"/> Shorelines <input type="checkbox"/> Vegetative <input checked="" type="checkbox"/> Structural <input type="checkbox"/> Integrated <input type="checkbox"/> Planning & regulatory |
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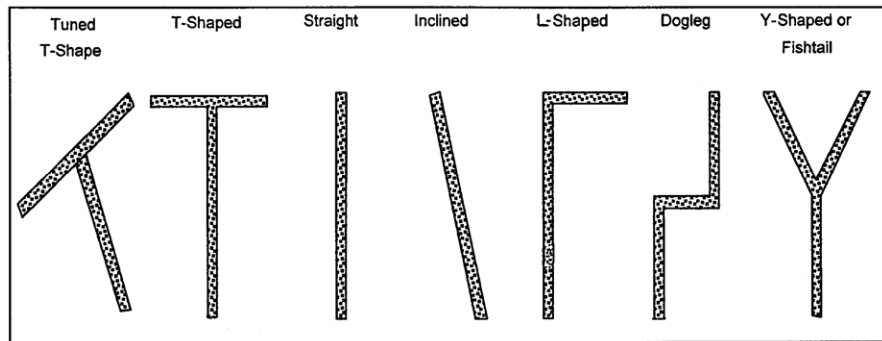


Figure 7.17 Possible Planform Shapes for Groins (USACE, 2003)

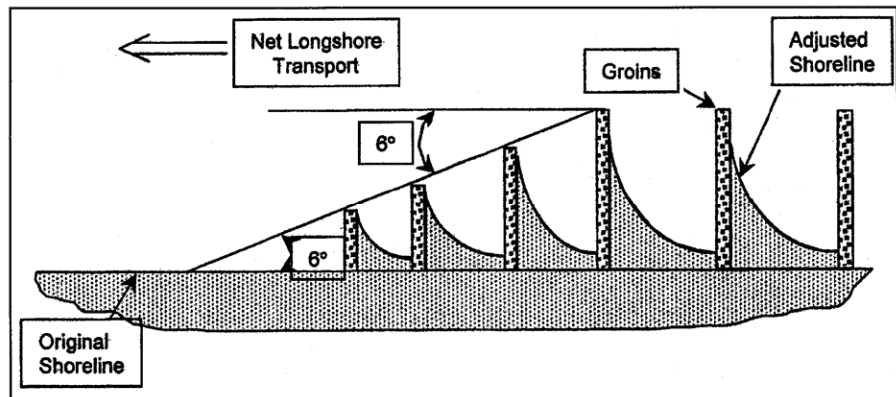


Figure 7.18 Transition from Groin Field to Natural Shoreline (USACE, 2003)

Additional Resource

- USACE. No date. *Groins*. U.S. Army Corps of Engineers, Coastal & Hydraulics Laboratory. <http://chl.erdc.usace.army.mil/chl.aspx?p=s&a=ARTICLES!188>.

Identify and Address NPS Contributions

Another watershed protection practice involves the evaluation of the total NPS pollution contributions in the watershed. NPS contributions can stem from different land use activities upstream from a dam. For example, the analysis and interpretation of stereoscopic color infrared aerial photographs can be used to find and map specific areas of concern where a high probability of NPS pollution exists from septic tank systems, animal wastes, soil erosion, and other similar types of NPS pollution (TVA, 1988). Other remote sensing techniques, such as analysis of satellite imagery, can be used to map areas of concern within a watershed. Historically, TVA has used analysis of aerial photography images to survey about 25 percent of the Tennessee Valley to identify sources of nonpoint pollution in a period of less than 5 years at a cost of a few cents per acre (TVA, 1988). Modern geographic information systems (GIS) enable watershed planners and modelers to rapidly assess large watersheds in a cost-effective manner.

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The development of Total Maximum Daily Loads (TMDLs) in watersheds with impaired waterbodies is a way to identify all sources of pollution. TMDLs are planning documents that provide load allocations, for both point and nonpoint sources, and identify potential contributions of pollutants to an impaired waterbody. TMDLs often include the involvement of stakeholders throughout the watershed, in not only the development, but also with implementation of specific activities within the watershed. TMDL documents can provide a plan for addressing pollution sources throughout a watershed.

Different practices can be used to control NPS pollution once sources have been identified. These practices may include the following:

Soil Erosion Control

Soil erosion has been determined to be the major source of suspended solids, nutrients, organic wastes, pesticides, and sediment that combined form the most problematic form of NPS pollution (TVA, 1988). Soil erosion and runoff controls have been addressed throughout earlier management measures in this document.

Mine Reclamation

Abandoned mines may have the potential to contribute significant sediment, metals, acidified water, and other pollutants to reservoirs (TVA, 1988). Old mines need to be located and reclaimed to reduce NPS pollutants emanating from them. Revegetation is a cost-effective method of reclaiming denuded strip-mined lands, and agencies such as the Natural Resource Conservation Service (NRCS) can provide technical insight for revegetation practices.

Animal Waste Control

A major contributor to reservoir pollution in some watersheds is waste from animal confinement facilities. TVA (1988) estimated that in the Tennessee Valley, farms produced about six times the organic wastes of the population of the valley. EPA also has available the *National Management Measures to Control Nonpoint Source Pollution from Agriculture*,⁵ which is a technical guidance and reference document for use by state, local, and tribal managers in the implementation of NPS pollution management programs. It contains information on a variety of practices and management strategies for reducing pollution of surface and ground water from agriculture (USEPA, 2003b).

Correcting Failing Septic Systems

The objective of this practice is to protect waterbodies from pollutants discharged by onsite sewage disposal systems (OSDS). They should be sited, designed, and installed so that impacts to waterbodies will be reduced to the extent practicable. Factors such as soil type, soil depth, depth to water table, rate of sea level rise, and topography should be considered. The installation of OSDS should be prevented in areas where soil absorption systems will not provide adequate treatment of effluents containing solids, phosphorus, pathogens, nitrogen, and nonconventional pollution prior to entry into surface waters and ground water. Setbacks, separation distances, and maintenance requirements should be established.

Failing septic tank or OSDS are another source of NPS pollution in reservoirs. TVA has found septic tank failures to be a problem in some of its reservoirs and has identified them through an aerial survey (TVA, 1988). Additional guidance on OSDS is available from EPA's *Onsite Wastewater Treatment Systems Manual* (EPA 625-R-00-008), which is available through EPA's National Service Center for Environmental Publications.⁶

Land Use Planning

Land use plans that establish guidelines for permissible uses of land within a watershed serve as a guide for reservoir management programs addressing NPS pollution (TVA, 1988). Watershed land use plans identify suitable uses for land surrounding a reservoir, establish sites for economic development and natural resource management activities, and facilitate improved land management (TVA, 1988). Land use plans must be flexible documents that account for the needs of the landowners, state and local land use goals, the characteristics of the land and its ability to support various uses, and the control of NPS pollution (TVA, 1988).

Comprehensive planning is an effective nonstructural tool to control NPS pollution. Where possible, growth should be directed toward areas where it can be sustained with minimal impact on the environment (Meeks, 1990). Poorly planned growth and development have the potential to degrade and destroy natural drainage systems and surface waters (Mantell et al., 1990). Proper planning and zoning decisions allow water quality managers to direct development and land disturbance away from areas that drain to sensitive waters. Land use designations and zoning laws can also be used to protect environmentally sensitive areas such as riparian corridors and wetlands.

⁵ <http://www.epa.gov/owow/nps/pubs.html>

⁶ <http://www.epa.gov/ncepihom>

Identify and Preserve Critical Areas

Protection of sensitive areas and areas that provide water quality benefits (e.g., natural wetlands and riparian areas) is integral to maintaining or minimizing the impacts of development on receiving waters and associated habitat. Without a comprehensive planning approach that includes the use of riparian buffers, open space, bioretention, and structural controls to maintain the predevelopment hydrologic characteristics of the site, significant water quality and habitat impacts are likely. The experience of various communities has shown that the use of structural controls in the absence of adequate local land use planning and zoning often does not adequately protect water quality and might even cause detrimental effects, such as increased temperature.

An initial step for incorporating targeted land conservation into a runoff management program is to identify critical conservation areas on a watershed map and superimpose this information on a tax map. Owners of potential conservation lands could include a mix of individuals, corporations or other business entities, homeowner associations, government agencies, and land trusts.

Land conservation includes more than simply preserving land in its current state. It also means that an individual or organization should take responsibility for restoration of areas of the property that are contributing to runoff problems or have been adversely affected by runoff. Stewardship activities for land conservation might include:

- Resource monitoring
- General maintenance
- Control of exotic species
- Installation of structural runoff management practices and maintenance

There are several options for landowners who would like to retain ownership of the parcel but relinquish stewardship and conservation management to another organization. These nonexclusive management options, discussed below, include establishing conservation easements, leases, deed restrictions, covenants, or transfer of development rights (TDRs).

Conservation Easements

A conservation easement is a legal agreement that transfers specific rights concerning the use of land by sale or donation to a government agency (municipal, county, or state), a qualified nonprofit organization (e.g., land trust or conservancy), or other legal entity without transferring title of the land (Cwikiel, 1996).

Channelization

- Physical & chemical
- Instream/riparian restoration

Dams

- Erosion control
- Runoff control
- Chemical/pollutant control
- Watershed protection
- Aerate reservoir water
- Improve tailwater oxygen
- Restore/maintain habitat
- Maintain fish passage

Erosion

- Streambanks Shorelines
- Vegetative
- Structural
- Integrated
- Planning & regulatory

Leases

Even though government agencies, land trusts, and other nonprofit organizations would prefer that conservation lands be acquired by donation or that conservation easements be placed on the property, some lands hold so much value as conservation areas that leasing is worth the expense and effort. Leasing a property allows the agency, trust, or organization to actively manage the land for conservation.

Deed Restrictions

Restrictions can be included in deeds for the purpose of constraining use of the land. In theory, deed restrictions are designed to perform functions similar to those of conservation easements. In practice, however, deed restrictions have proven to be much weaker substitutes because unlike conservation easements, deed restrictions do not necessarily designate or convey oversight responsibilities to a particular agency or organization to enforce protection and maintenance provisions. Also, deed restrictions can be relatively easy to modify or vacate through litigation. Modifying or nullifying an easement is difficult, especially if tax benefits have already been realized. For these reasons, conservation easements are generally preferred over deed restrictions.

Covenants

A covenant is similar to a deed restriction in that it restricts activities on a property, but it is in the form of a contract between the landowner and another party. The term *mutual covenants* is used to describe a situation where one or more nearby or adjacent landowners are contracted and covered by the same restrictions.

Transfer of Development Rights (TDRs)

The concept of TDRs as a watershed protection tool is based on the premise that ownership of land includes a “bundle” of property rights. One of these rights is the right to develop the property to its “highest and best use.” Although this right can be restricted by zoning building codes, environmental constraints, and other types of restrictions, the basic right to develop remains. A TDR system creates an opportunity for property owners to transfer development potential or density at one property, called a sending area to another property, called a receiving area. In the context of watershed planning objectives, TDR programs can be an effective way to transfer development potential from sensitive subwatersheds to subwatersheds that can better deal with increased imperviousness.

Joint Planting

Joint planting (or vegetated riprap) involves tamping live cuttings of rootable plant material into soil between the joints or open spaces in rocks that have previously been placed on a slope (Figure 7.19). Alternatively, the cuttings can be tamped into place at the same time that rock is being placed on the slope face. Joint planting is useful where rock riprap is required or already in place. It is successful 30 to 50 percent of the time, with first year irrigation improving survival rates. Live cuttings must have side branches removed and bark intact. They should range from 0.5 to 1.5 inches in diameter and be long enough to extend well into the soil, reaching into the dry season water level. Installation guidelines are available from the USDA-FS Soil Bioengineering Guide (USDA-FS, 2002) and the USDA NRCS *Engineering Field Handbook, Chapter 18* (USDA-NRCS, 1992).

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- Maintain fish passage

Erosion

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- Vegetative
- Structural
- Integrated
- Planning & regulatory

Additional Resources

- FISRWG. 1998. *Stream Corridor Restoration: Principles, Processes, and Practices*. Federal Interagency Stream Restoration Working Group.
http://www.nrcs.usda.gov/technical/stream_restoration/PDFFILES/APPENDIX.pdf.
- ISU. 2006. *How to Control Streambank Erosion: Joint Planting*. Iowa State University.
http://www.ctre.iastate.edu/erosion/manuals/streambank/joint_planting.pdf.

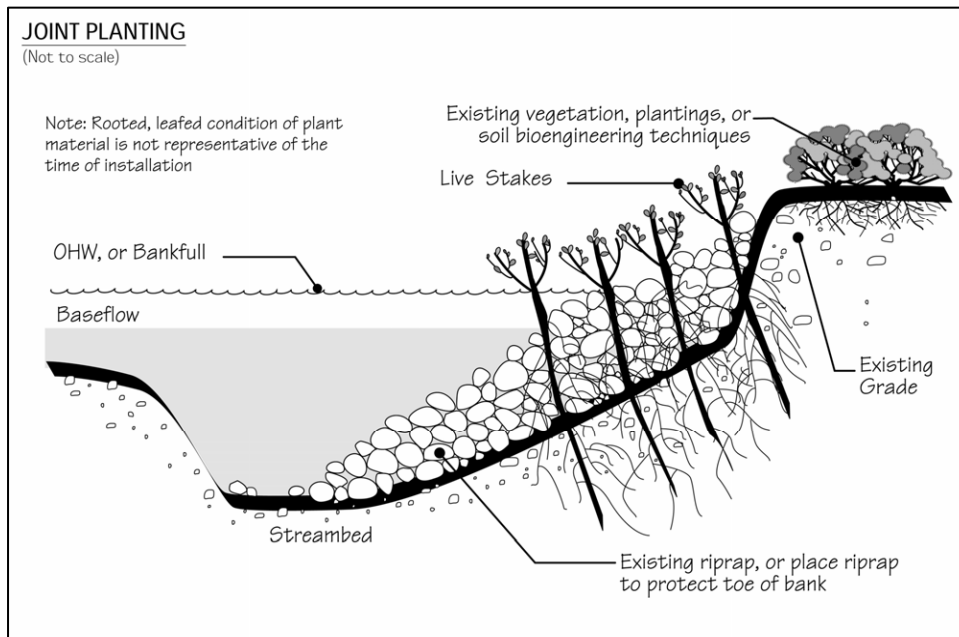


Figure 7.19 Joint Planting (USDA-FS, 2002)

Labyrinth Weir

Labyrinth weirs have extended crest length and are usually W-shaped. These weirs spread the flow out to prevent dangerous undertows in the plunge pool. A labyrinth weir at South Holston Dam (Tennessee) was constructed for the dual purpose of providing minimum flows and improving DO in reservoir releases. The weir aerates to up to 60 percent of the oxygen deficit. For instance, projected performance at the end of the summer is an increase in the DO from 3 mg/L to 7 mg/L (or an increase of 4 mg/L) (Hauser, 1992). Actual increases in the DO will depend on the temperature and the level of DO in the incoming water.

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Levees, Setback Levees, and Floodwalls

Many valuable techniques can be used, when applied correctly, to protect, operate, and maintain levees (Hynson et al., 1985). Evaluation of site-specific conditions and the use of best professional judgment are the best methods for selecting the proper levee protection and operation and maintenance plan. According to Hynson and others (1985), maintenance activities generally consist of vegetation management, burrowing animal control, upkeep of recreational areas, and levee repairs.

Care must be taken during construction to prevent disturbing the natural channel vegetation, cross section, or bottom slope. No immediate instream effects from sedimentation are usually caused by implementing this type of modification. The potential for long-term channel adjustments can be evaluated using methods outlined in *Channel Stability Assessment for Flood Control Projects* (USACE, 1994).

Methods to control vegetation include mowing, grazing, burning, and using chemicals. Selection of a vegetation control method should consider the existing and surrounding vegetation, desired instream and riparian habitat types and values, timing of controls to avoid critical periods, selection of livestock grazing periods, and timing of prescribed burns to be consistent with historical fire patterns. Additionally, a balance between the vegetation management practices for instream and riparian habitat and engineering considerations should be maintained to avoid structural compromise. Animal control methods are most effective when used as a part of an integrated pest management program and might include instream and riparian habitat manipulation or biological controls. Recreational area management includes upkeep of planted areas, disposal of solid waste, and repairing of facilities (Hynson et al., 1985).

The prevention of floods by dams and levees can eliminate or diminish essential ecological functions. Dams, levees and channel training structures have dramatically altered or eliminated the frequency, duration, magnitude, and timing of periodic high flows. These projects significantly reduce the likelihood of floodplain inundation, block the transfer of organic matter and nutrients between river and floodplain, block plant succession, eliminate fish access to spawning areas, and rob rivers of the erosive power to restore and create a diversity of habitats (Environmental Defense, 2002). Levees have had several impacts on the Snake River in Wyoming. Anthony (1998) found habitat losses, including changes in vegetation (including losses of cottonwood and riparian habitats from 1956) and changes in channel and floodplain complexity from a braided to a single channel pattern.

Siting of levees and floodwalls should be addressed prior to design and implementation of these types of projects. Proper siting of such structures can avoid several types of problems. First, construction activities should not disturb the physical integrity of adjacent riparian areas and/or

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wetlands. Second, by setting back the structures (offsetting them from the streambank), the relationship between the channel and adjacent riparian areas can be preserved. Proper siting and alignment of proposed structures can be established based on hydraulic calculations, historical flood data, and geotechnical analysis of riverbank stability.

Additional Resource

- LSU AgCenter. 1999. *Floodwalls*. Louisiana State University Agricultural Center, Louisiana Cooperative Extension Service.
<http://www.louisianafloods.org/NR/rdonlyres/7A01F7C8-703B-47D1-BCCD-63CD0A57721F/2995/pub2745Floodwall6.pdf>

Live Cribwalls

A live cribwall is used to rebuild a bank in a nearly vertical setting. It consists of a hollow, box-like interlocking arrangement of untreated log or timber members (Figure 7.20). The structure is filled with suitable backfill material and layers of live branch cuttings, which root inside the crib structure and extend into the slope. Logs or untreated timbers should range from 4 to 6 inches in diameter. Lengths will vary with the size of the crib structure. Fill rock should be 6 inches in diameter. Live branch cuttings should be 0.5 to 2.5 inches in diameter and long enough to reach the back of the wooden crib structure. Once the live cuttings root and become established, the subsequent vegetation gradually takes over the structural functions of the wood members. Live cribwalls are appropriate where space is limited and at the base of a slope where a low wall may be required to stabilize the toe of the slope and to reduce its steepness. They are also appropriate above and below the water level where stable streambeds exist. They are not designed for or intended to resist large, lateral earth stress. Installation guidelines are available from the USDA-FS Soil Bioengineering Guide (USDA-FS, 2002) and the USDA NRCS *Engineering Field Handbook, Chapter 18* (USDA-NRCS, 1992).

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Erosion

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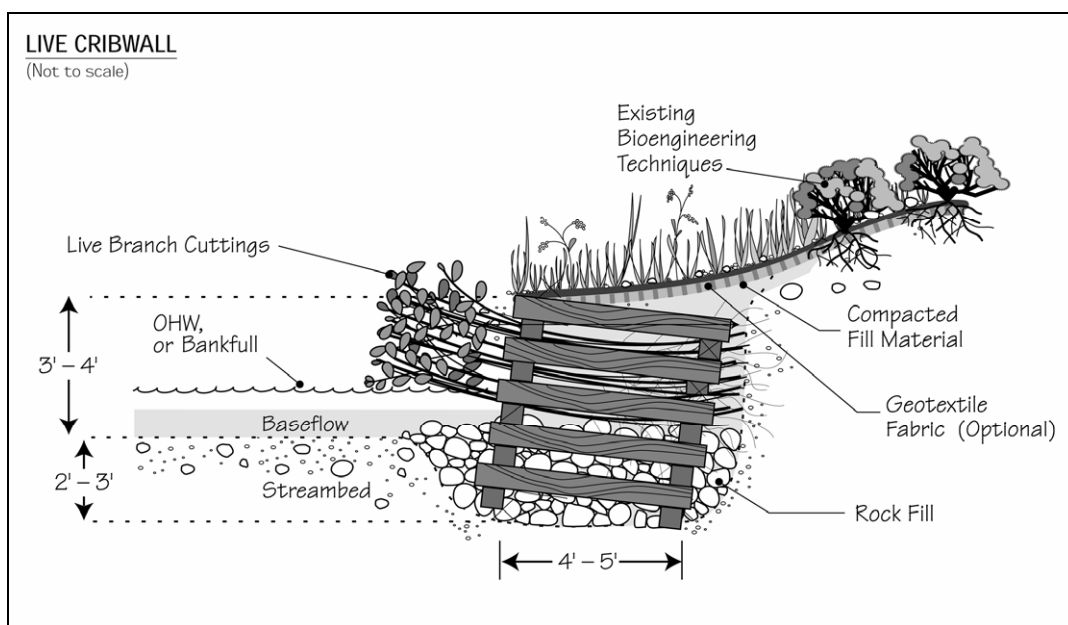


Figure 7.20 Live Cribwall (USDA-FS, 2002)

Additional Resources

- FISRWG. 1998. *Stream Corridor Restoration: Principles, Processes, and Practices*. Federal Interagency Stream Restoration Working Group. http://www.nrcs.usda.gov/technical/stream_restoration/PDFFILES/APPENDIX.pdf.
- ISU. 2006. *How to Control Streambank Erosion: Live Cribwall*. Iowa State University. http://www.ctre.iastate.edu/erosion/manuals/streambank/live_cribwall.pdf.
- Mississippi State University, Center for Sustainable Design. 1999. *Water Related Best Management Practices in the Landscape: Live Cribwall*. Created for United States Department of Agriculture, Natural Resource Conservation Service, Watershed Science Institute. <http://www.abe.msstate.edu/csd/NRCS-BMPs/pdf/streams/bank/livecribwall.pdf>.
- Ohio DNR. No date. *Ohio Stream Management Guide: Live Cribwalls*. Ohio Department of Natural Resources. http://www.ohiodnr.com/water/pubs/fs_st/stfs17.htm.

Live Fascines

Live fascines are long bundles of branch cuttings bound together in a cylindrical structure (Figure 7.21). They are suited to steep, rocky slopes, where digging is difficult (USDA-NRCS, 1992). When cut from appropriate species (e.g., young willows or shrub dogwoods) that root easily and have long straight branches, and when properly installed, they immediately begin to stabilize slopes. The cuttings (0.5 to 1.5 inches in diameter) form live fascine bundles that vary in length from 5 to 10 feet or longer, depending on site conditions and handling limitations. Completed bundles should be 6 to 8 inches in diameter. The goal is for natural recruitment to follow once slopes are secured. Live fascines should be placed in shallow contour trenches on dry slopes and at an angle on wet slopes to reduce erosion and shallow face sliding. Live fascines should be applied above ordinary high-water mark or bankfull level except on very small drainage area sites. In arid climates, they should be used between the high and low water marks on the bank. This system, installed by a trained crew, does not cause much site disturbance.

Installation guidelines are available from the USDA-FS Soil Bioengineering Guide (USDA-FS, 2002) and the USDA NRCS *Engineering Field Handbook, Chapter 18* (USDA-NRCS, 1992). Under their Ecosystem Management and Restoration Research Program (EMRRP), the U.S. Army Corps of Engineers presents research on live fascines in a technical note (*Live and Inert Fascine Streambank Erosion Control*).⁷

Additional Resources

- Massachusetts DEP. 2006. *Massachusetts Nonpoint Source Pollution Management Manual: Live Fascines*. Massachusetts Department of Environmental Protection, Boston, MA. <http://projects.geosyntec.com/NPSManual/Fact%20Sheets/Live%20Fascines.pdf>.
- Greene County Soil & Water Conservation District. No date. *Construction Specification VS-01: Live Fascines*. <http://www.geswed.com/stream/library/pdfdocs/vs-01.pdf>.
- ISU. 2006. *How to Control Streambank Erosion: Live Fascine*. Iowa State University. http://www.ctre.iastate.edu/erosion/manuals/streambank/live_fascine.pdf.
- Mississippi State University, Center for Sustainable Design. 1999. *Water Related Best Management Practices in the Landscape: Live Fascine*. Created for United States Department of Agriculture, Natural Resource Conservation Service, Watershed Science Institute. <http://abe.msstate.edu/csd/NRCS-BMPs/pdf/streams/bank/livefascine.pdf>.

⁷ <http://el.erdc.usace.army.mil/elpubs/pdf/sr31.pdf>

Channelization

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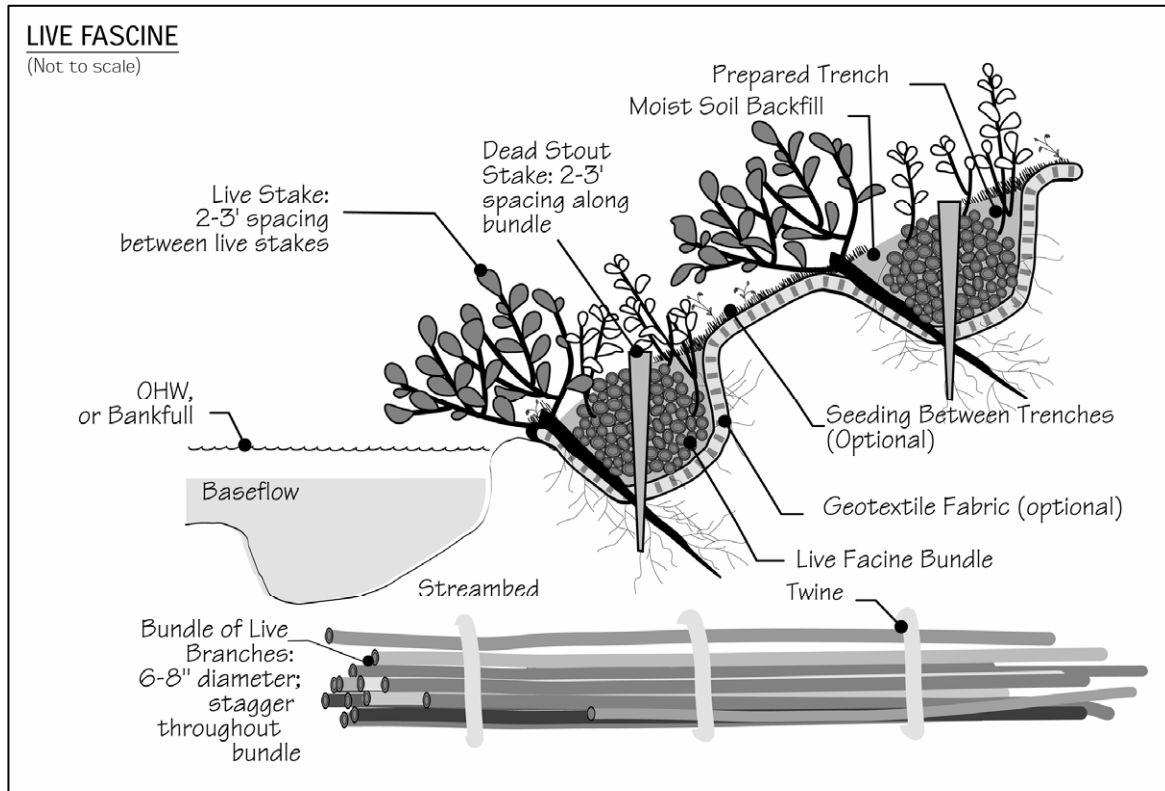
Dams

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- Maintain fish passage

Erosion

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- Ohio DNR. No date. *Ohio Stream Management Guide: Live Fascines*. Ohio Department of Natural Resources. http://www.ohiodnr.com/water/pubs/fs_st/stfs14.pdf.



Note: OHW (Ordinary High Water) is the mark along a streambank where the waters are common and usual. This mark is generally recognized by the difference in the character of the vegetation above and below the mark or the absence of vegetation below the mark (USDA-FS, 2002).

Figure 7.21 Live Fascine (USDA-FS, 2002)

Live Staking

Live staking (Figure 7.22) is appropriate for relatively uncomplicated site conditions when construction time is limited. It can also be used to stabilize intervening areas between other soil bioengineering techniques (USDA-NRCS, 1992). Live staking involves the insertion and tamping of live, rootable vegetative cuttings into the ground. If correctly prepared and placed, the live stake will root and grow. A system of stakes creates a living root mat that stabilizes the soil by reinforcing and binding soil particles together and by extracting excess soil moisture. Stakes are generally 1 to 2 inches in diameter and 2 to 3 feet long. Specific site requirements and available cutting source will determine size. Vegetation selected should be able to withstand the degree of anticipated inundation, provide year round protection, have the capacity to become well established under sometimes adverse soil conditions, and have root, stem, and branch systems capable of resisting erosive flows. Most willow species are ideal for live staking because they root rapidly and begin to dry out a slope soon after installation. Sycamore and cottonwood are also species commonly used for live staking. This is an appropriate technique for repair of small earth slips and slumps that are frequently wet. Installation guidelines are available from the USDA-FS Soil Bioengineering Guide (USDA-FS, 2002) and the USDA NRCS *Engineering Field Handbook, Chapter 18* (USDA-NRCS, 1992).

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Erosion

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Additional Resources

- ISU. 2006. *How to Control Streambank Erosion: Live Stakes*. Iowa State University. http://www.ctre.iastate.edu/erosion/manuals/streambank/live_stakes.pdf.
- Myers, R.D. 1993. *Slope Stabilization and Erosion Control Using Vegetation: A Manual of Practice for Coastal Property Owners. Live Staking*. Shorelands and Coastal Zone Management Program, Washington Department of Ecology. Olympia. Publication 93-30. <http://www.ecy.wa.gov/programs/sea/pubs/93-30/livestaking.html>.
- Walter, J., D. Hughes, and N.J. Moore. 2005. *Streambank Revegetation and Protection: A Guide for Alaska. Revegetation Techniques: Live Staking*. Revised Edition. Alaska Department of Fish and Game, Division of Sport Fish. <http://www.sf.adfg.state.ak.us/SARR/restoration/techniques/livestake.cfm>.

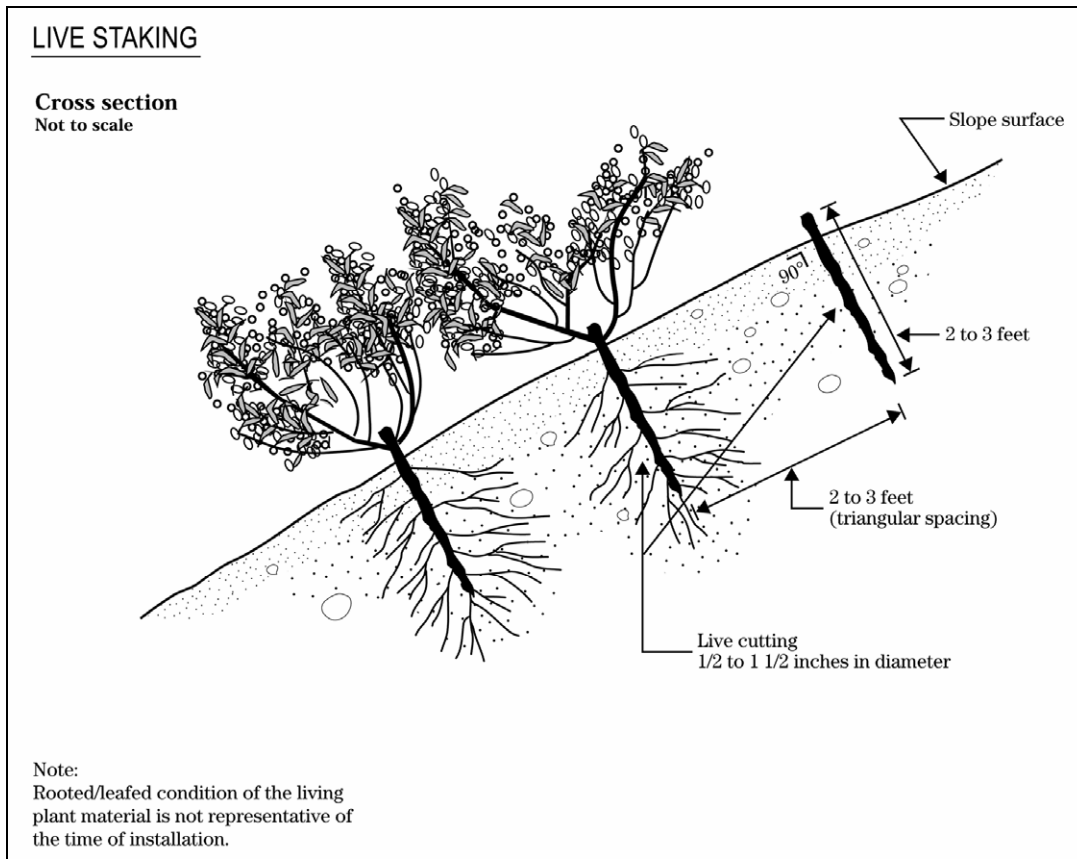


Figure 7.22 Live Staking (USDA-NRCS, 1992)

Locate Potential Land Disturbing Activities Away from Critical Areas

Material stockpiles, borrow areas, access roads, and other land-disturbing activities can often be located away from critical areas such as steep slopes, highly erodible soils, and areas that drain directly into sensitive waterbodies.

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Marsh Creation and Restoration

Marsh creation and restoration is a useful vegetative technique that can address problems with erosion of shorelines. Marsh plants perform two functions in controlling shore erosion (Knutson, 1988). First, their exposed stems form a flexible mass that dissipates wave energy. As wave energy is diminished, the offshore transport and longshore transport of sediment are reduced. Ideally, dense stands of marsh vegetation can create a depositional environment, causing accretion of sediments along the intertidal zone rather than continued shore erosion. Second, marsh plants form a dense mat of roots, which can add stability to the shoreline sediments. The basic approach for marsh creation is to plant a shoreline area in the vicinity of the tide line with appropriate marsh grass species. Suitable fill material may be placed in the intertidal zone to create a wetlands planting terrace of sufficient width (at least 18 to 25 feet) if such a terrace does not already exist at the project site. For shoreline sites that are highly sheltered from the effects of wind, waves, or boat wakes, the fill material is usually stabilized with small structures, similar to groins, which extend out into the water from the land. For shorelines with higher levels of wave energy, the newly planted marsh can be protected with an offshore installation of stone that is built either in a continuous configuration or in a series of breakwaters.

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Erosion

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Additional Resource

- Maryland Department of the Environment. 2006. *Shore Erosion Control Guidelines: Marsh Creation*. <http://www.mde.state.md.us/assets/document/wetlandswaterways/Shoreerosion.pdf>.

Modifying Operational Procedures

A useful tool for evaluating the effects of operational procedures on the quality of tailwaters is computer modeling. For instance, computer models can describe the vertical withdrawal zone that would be expected under different scenarios of turbine operation (Smith et al., 1987). Zimmerman and Dortch (1989) modeled release operations for a series of dams on a Georgia river and found that procedures that were maintaining cool temperatures in summer were causing undesirable decreases in DO and increases in dissolved iron in autumn. The suggested solution was a seasonal release plan that is flexible, depending on variations in the in-pool water quality and predicted local weather conditions. Care should be taken with this sort of approach to accommodate the needs of both the fishery resource and reservoir recreationalists, particularly in late summer.

Modeling has also been undertaken for a variety of TVA and USACE facilities to evaluate the downstream impacts on DO and temperature that would result from changes in several operational procedures, including (Hauser et al., 1990a; Hauser et al., 1990b; Higgins and Kim, 1982; Nestler et al., 1986):

- Maintenance of minimum flows
- Timing and duration of shutoff periods
- Seasonal adjustments to the pool levels
- Timing and variation of the rate of drawdown

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Mulching

Newly established vegetation does not have as extensive a root system as existing vegetation and therefore is more prone to erosion, especially on steep slopes. Additional stabilization should be considered during the early stages of seeding. This extra stabilization can be accomplished using mulches or mulch mats, which are applied to disturbed soil surfaces and can protect the area while vegetation becomes established.

Mulches and mulch mats include tacked straw, wood chips, and jute netting and are often covered by blankets or netting. Mulching alone should be used only for temporary protection of the soil surface or when permanent seeding is not feasible. The useful life of mulch varies with the material used and the amount of precipitation, but, generally, is approximately 2 to 6 months. Mulching and/or sodding may be necessary as slopes become moderate to steep, as soils become more erosive, and as areas become more sensitive. During the times of the year when vegetation cannot be established, mulch can be applied to moderate slopes and soils that are not highly erodible. On steep slopes or highly erodible soils, mulching may need to be reapplied if washed away.

Additional Resources

- Barr Engineering Company. 2001. *Minnesota Urban Small Sites BMP Manual: Stormwater Best Management Practices for Cold Climates. Soil Erosion Control: Mulches, Blankets and Mats.* Prepared for the Metropolitan Council by Barr Engineering Company, St. Paul, MN. http://www.metrocouncil.org/Environment/Watershed/BMP/CH3_RPPSoilMulch.pdf.
- CASQA. 2004. *California Stormwater BMP Construction Handbook: Hydraulic Mulch.* California Stormwater Quality Association, Sacramento, CA. <http://www.cabmphandbooks.com/Documents/Construction/EC-3.pdf>.
- ISU. 2006. *Iowa Construction Site Erosion Control Manual: Mulching.* Iowa State University. http://www.ctre.iastate.edu/erosion/manuals/construction/2.3_mulching.pdf.

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Noneroding Roadways

General Road Construction Considerations

Road design and construction activities that are tailored to topography and soils and take into consideration the overall drainage pattern in the watershed where the road is being constructed can prevent road-related water quality problems. Lack of adequate consideration of watershed and site characteristics, road system design, and construction techniques appropriate to the site can result in mass soil movements, extensive surface erosion, and severe sedimentation in nearby waterbodies. The effect that a road network has on stream networks largely depends on the extent to which the networks are interconnected. Road networks can be hydrologically connected to stream networks where road surface runoff is delivered directly to stream channels (at stream crossings or via ditches or gullies that direct flow off the road into a stream) and where road cuts transform subsurface flow into surface flow (in road ditches or on road surfaces that deliver sediment and water to streams much more quickly than without a road present). The combined effects of these drainage network connections are increased sedimentation and peak flows that are higher and arrive more quickly after storms. This can lead to increased instream erosion and stream channel changes, especially in small watersheds (USEPA, 2005a).

Site characteristics should be considered during construction planning. On-site verification of information from topographic maps, soil maps, and aerial photos can ensure that locations where roads are to be cut into slopes or built on steep slopes or where skid trails, landings, and equipment maintenance areas are to be located are appropriate to the use. If an on-site visit indicates that construction changes can reduce the risk of erosion, the project manager can make these changes prior to construction, and in some cases as the project progresses (USEPA, 2005a).

Road drainage features tailored to the site prevent water from pooling or collecting on road surfaces. This prevents saturation of the road surface, which can lead to rutting, road slumping, and channel washout. Many roads associated with channelization projects are temporary or seasonal-use roads, and their construction should not involve the high level of disturbance generated by construction of permanent, high-standard roads. However, these types of roads still need to be constructed and maintained to prevent erosion and sedimentation (USEPA, 2005a).

Erosion control practices need to be applied while a road is being constructed, when soils are most susceptible to erosion, to minimize soil loss to waterbodies. Since sedimentation from roads often does not occur incrementally and continuously, but in pulses during large rainstorms, it is important that road, drainage structure, and stream crossing design take into consideration a sufficiently large design storm that has a good chance of occurring during the life of the project. Such a storm might be the 10-year, 25-year, 50-year, or even 100-year, 12- to 24-hour return period storm. Sedimentation cannot be completely prevented during or after road construction,

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but the process is exacerbated if the road construction and design are inappropriate for the site conditions or if the road drainage or stream crossing structures are insufficient (USEPA, 2005a).

When constructing a new road, it is useful to consider road surface shape and composition, slope stabilization, and wetlands. A more detailed discussion of these topics is provided below. More information about potential impacts to fish habitat and passage are provided in EPA's *National Management Measures to Control Nonpoint Source Pollution from Forestry*.⁸

Road Shape and Composition

The shape of a road is an important runoff control component. Road drainage and runoff control are obtained by shaping the road surface to be insloping, outsloping, or crowned. Insloping roads can be effective where soils are highly erodible and directing runoff directly to the fill slope would be detrimental. Outsloped roads tend to dissipate runoff more than insloped roads, which concentrate runoff at cross drain locations, and are useful where erosion of backfill or ditch soil might be a problem. Crowned roads are suited to two lane roads and to steep single-lane roads that have frequent cross drains or ditches and ditch relief culverts (USEPA, 2005a). These road surface shapes are illustrated in Figure 7.23. Maintain one of these shapes to ensure good drainage. Crowns, inslopes, and outslopes will quickly lose effectiveness if not maintained frequently, due to ruts created by traffic when the road surface is damp or wet (USEPA, 2005a).

Road surface composition can effectively control erosion from road surfaces and slopes. It is important to choose a surface that is suitable to the topography, soils, and intended use. Surface protection of the roadbed and cut-and-fill slopes with a suitable material can minimize soil losses during storms, reduce frost heave erosion production, restrain downslope movement of soil slumps, and minimize erosion from softened roadbeds (USEPA, 2005a).

Slope Stabilization

Road cuts and fills can be a large source of sediment when constructing a rural road. Stabilizing back slopes and fill slopes as they are constructed is important in minimizing erosion from these areas. Combined with gravel or other surfacing, establishing grass or another form of slope stabilization can significantly reduce soil loss from road construction. If constructing on an unstable slope is necessary, consider consulting with an engineering geologist or geotechnical

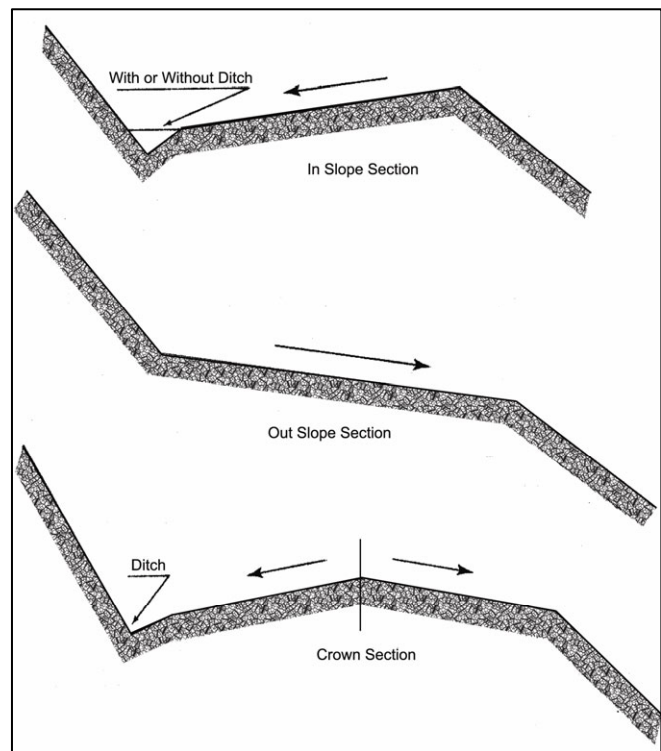


Figure 7.23 Types of Road Surface Shapes (USEPA, 2005a)

⁸ Available online at <http://www.epa.gov/owow/nps/forestrygmt>.

engineer for recommended construction methods and to develop plans for the road segment. Unstable slopes that threaten water quality should be considered unsuitable for road building.

Planting grass on cut-and-fill slopes of new roads can effectively reduce erosion, and placing forest floor litter or brush barriers on downslopes in combination with establishing grass is also effective for reducing downslope sediment transport. Grass-covered fill is generally more effective than mulched fill in reducing soil erosion from newly constructed roads because of the roots that hold the soil in place, which are lacking with other cover. Because grass needs some time to establish itself, a combination of straw mulch with netting to hold it in place can be used to cover a seeded area and effectively reduce erosion while grass is growing. The mulch and netting provide immediate erosion control and promote grass growth (USEPA, 2005a).

Wetland Road Considerations

Sedimentation is a concern when considering road construction through wetlands. It is better to avoid putting a road through a wetland when an alternative route exists. If no alternative exists, make sure to implement best management practices (BMPs) suggested by the state. Road construction or maintenance for certain farming, forestry, or mining activities might be exempt under Clean Water Act (CWA) section 404. However, to qualify for the exemption, the roads must be constructed and maintained following application of specific BMPs designed to protect the aquatic environment (USEPA, 2005a).

Pesticide and Fertilizer Management

Chemicals used in dam management include pesticides (insecticides, herbicides, and fungicides) and fertilizers. Since pesticides can be toxic, they have to be mixed, transported, loaded, and applied correctly and their containers disposed properly to prevent potential nonpoint source pollution. Since fertilizers can also be toxic or can damage the ecosystem, it is important that they be handled and applied properly, according to label instructions.

Even though a limited number of applications might be made at a specific dam site, consider that throughout a watershed many sites could receive applications of fertilizers and pesticides, which can accumulate in soils and in waterbodies. Application techniques also partly determine the potential risk to the aquatic environment from infrequent applications of pesticides and fertilizers.

These chemicals can directly enter surface waters through five major pathways—direct application, drift, mobilization in ephemeral streams, overland flow, and leaching. Direct application is the most important source of increased chemical concentrations and is also one of the most easily controlled.

Some more specific implementation practices for pesticide maintenance include:

- Apply pesticides during favorable atmospheric conditions. Do not apply pesticides when wind conditions increase the likelihood of significant drift. It is also best to avoid pesticide application when temperatures are high or relative humidity is low because these conditions influence the rate of evaporation and enhance losses of volatile pesticides.
- Ensure that pesticide users abide by the current pesticide label, which might specify whether users be trained and certified in the proper use of the pesticide; allowable use rates; safe handling, storage, and disposal requirements; and whether the pesticide may be used under the provisions of an approved State Pesticide Management Plan.
- Locate mixing and loading areas, and clean all mixing and loading equipment thoroughly after each use, where pesticide residues will not enter streams or other waterbodies.
- Dispose of pesticide wastes and containers according to state and federal laws.
- Consider the use of pesticides as only one part of an overall program to control pest problems. Integrated Pest Management (IPM) strategies have been developed to control pests without total reliance on chemical pesticides.
- Base selection of pesticide on site factors and pesticide characteristics. These factors include vegetation height, target pest, adsorption (attachment) to soil organic matter, persistence or half-life, toxicity, and type of formulation.
- Check all equipment carefully, particularly for leaking hoses and connections and plugged or worn nozzles. Calibrate spray equipment periodically to achieve uniform pesticide distribution and rate.

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- Aerate reservoir water
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- Restore/maintain habitat
- Maintain fish passage

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- Vegetative
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- Always use pesticides in accordance with label instructions, and adhere to all federal and state policies and regulations governing pesticide use.

Specific implementation practices for fertilizer maintenance include:

- Apply slow-release fertilizers when possible. This practice reduces potential nutrient leaching to ground water, and it increase the availability of nutrients for plant uptake.
- Apply fertilizer during favorable atmospheric conditions. Do not apply fertilizer when wind conditions increase the likelihood of significant drift.
- Apply fertilizers during maximum plant uptake periods to minimize leaching.
- Base fertilizer type and application rate on soil and/or foliar analysis.

Phase Construction

Construction site phasing involves disturbing only small portions of a site at a time to prevent erosion from dormant parts (CWP, 1997c). Grading activities and construction are completed and soils are effectively stabilized on one part of the site before grading and construction commence at another. This is different from the more traditional practice of construction site sequencing, in which construction occurs at only one part of the site at a time but site grading and other site-disturbing activities typically occur all at once, leaving portions of the disturbed site vulnerable to erosion. To be effective, construction site phasing must be incorporated into the overall site plan early. Elements to consider when phasing construction activities include (CWP, 1997c):

- Managing runoff separately in each phase
- Determining whether water and sewer connections and extensions can be accommodated
- Determining the fate of already completed downhill phases
- Providing separate construction and residential accesses to prevent conflicts between residents living in completed stages of the site and construction equipment working on later stages

A comparison of sediment loss from a typical development and from a comparable phased project showed a 42 percent reduction in sediment export in the phased project (CWP, 1997c). Phasing can also provide protection from complete enforcement and shutdown of the entire project. If a contractor is in noncompliance in one phase or zone of a site, that will be the only zone affected by enforcement. This approach can help to minimize liability exposure and protect the contractor financially (Deering, 2000b).

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Physical Barriers

Physical barriers are diversion systems that lead or force fish to bypasses that transport them above or below the dam (FAO, 2001). Physical diversion structures deployed at dams include angled screens, drum screens, inclined plane screens, louvers, and traveling screens. The success and effectiveness of physical barriers has been found to be specific to individual hydropower facilities (Mattice, 1990).

Angled screens are used to guide fish to a bypass by guiding them through the channel at some angle to the flow. Coarse-mesh angled screens have been shown to be highly effective with numerous warm- and cold-water species at adult life stages. Fine-mesh angled screens have been shown in laboratory studies to be highly effective in diverting larval and juvenile fish to a bypass with resultant high survival. Performance of angled screens can vary by species, stream velocity, fish length, screen mesh size, screen type, and temperature (Stone and Webster, 1986). Clogging from debris and fouling organisms is a maintenance problem associated with angled screens.

Angled rotary drum screens oriented perpendicular to the flow direction have been used extensively to lead fish to a bypass. Angled rotary drum screens tend not to experience the major operational and maintenance clogging problems of stationary screens, such as angled vertical screens. Maintenance of angled rotary drum screens typically consists of routine inspection, cleaning, lubrication, and periodic replacement of the screen mesh (Stone and Webster, 1986).

An inclined plane screen is used to divert fish upward in the water column into a bypass. Once concentrated, the fish are transported to a release point below the dam. An inclined plane pressure screen at the T.W. Sullivan Hydroelectric Project (Willamette Falls, Oregon) is located in the penstock of one unit. The design is effective in diverting fish, with a high survival rate. However, this device has been linked to injuries in some species of migrating fish, and it has not been accepted for routine use (Stone and Webster, 1986).

Louvers consist of an array of evenly spaced, vertical slats aligned across a channel at an angle leading to a bypass. The turbulence they create is sensed and avoided by the fish (Stone and Webster, 1986). Louver systems rely on a fish's instincts to use senses other than sight to move around obstacles. Once the louver is sensed, the fish tend to reverse their head first downstream orientation (to head upstream, tail to the louver) and move laterally along it until they reach the bypass (OTA, 1995).

Submerged traveling screens are used to divert downstream migrating fish out of turbine intakes to adjoining gatewell structures, where the fish are concentrated for release downstream. This device has been tested extensively at hydropower facilities on the Snake and Columbia Rivers. Because of their complexity, submerged traveling screens must be continually maintained. The

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screens must be serviced seasonally, depending on the debris load, and trash racks and bypass orifices must be kept free of debris (Stone and Webster, 1986).

Physical barrier fish diversion systems have been found to work best when specifically designed to the structure and fish being passed. Small differences in design, such as the spacing or depth of the louvers, can mean the difference in success and failure. A successful louver system has been installed at the Holyoke Hydroelectric Power Station, on the Connecticut River. This partial depth louver system was installed in the intake channel at the power plant and successfully passed 86 percent of the juvenile clupeids and 97 percent of the Atlantic salmon (*Salmo salar*) smolts (Marmulla, 2001). Another partial depth louver system on the same river has experienced less successful results. The system installed at the Vernon Dam on the Connecticut River is successfully passing about 50 percent of the Atlantic salmon smolts (OTA, 1995).

Pollutant Runoff Control

Store, cover, and isolate construction materials, refuse, garbage, sewage, debris, oil and other petroleum products, mineral salts, industrial chemicals, and topsoil to prevent runoff of pollutants and contamination of ground water.

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Preserve Onsite Vegetation

Preserving onsite vegetation retains soil and limits runoff of water, sediment, and pollutants. The destruction of existing onsite vegetation can be minimized by initially surveying the site to plan access routes, locations of equipment storage areas, and the location and alignment of the dam. Construction workers can be encouraged to limit activities to designated areas only. Reducing the disturbance of vegetation also reduces the need for revegetation after construction is completed, including the required fertilization, replanting, and grading that are associated with revegetation. Additionally, as much natural vegetation as possible should be left next to the waterbody where construction is occurring. This vegetation provides a buffer to reduce the NPS pollution effects of runoff originating from areas associated with the construction activities.

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Additional Resource

- CASQA. 2004. *California Stormwater BMP Construction Handbook: Preservation of Existing Vegetation*. California Stormwater Quality Association, Sacramento, CA. <http://www.cabmphandbooks.com/Documents/Construction/EC-2.pdf>.

Reregulation Weir

Reregulation weirs have been constructed from stone, wood, and aggregate. In addition to increasing the levels of DO in the tailwaters, reregulation weirs result in a more constant rate of flow farther downstream during periods when turbines are not in operation. A reregulation weir constructed downstream of the Canyon Dam (Guadalupe River, Texas) increased DO levels in waters leaving the turbine from 3.3 mg/L to 6.7 mg/L (EPRI, 1990).

The USACE Waterways Experiment Station (Wilhelms, 1988) has compared the effectiveness with which various hydraulic structures accomplished the reaeration of reservoir releases. The study concluded that, whenever operationally feasible, more discharge should be passed over weirs to improve DO concentrations in releases.

Results indicated that overflow weirs aerate releases more effectively than low-sill spillways (Wilhelms, 1988).

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Reservoir Aeration

Some techniques for reservoir aeration include:

- Air injection systems
- Diffused air systems
- Oxygen injection systems
- U-tube design

Air injection systems mix water from different strata in the impoundment by using air or pure oxygen injected into a pumping system. Air injection systems are categorized as partial air lift systems and full air lift systems. In the partial air lift system, compressed air is injected at the bottom of the unit; then the air and water are separated at depth and the air is vented to the surface. In the full air lift system, compressed air is injected at the bottom of the unit (as in the partial air lift system), but the air-water mixture rises to the surface. The full air lift design has a higher efficiency than the partial-air lift and has a lesser tendency to elevate dissolved nitrogen levels (Thornton et al., 1990).

Diffused air systems provide effective transfer of oxygen to water by forcing compressed air through small pores in diffuser systems to form bubbles. One diffuser system test in the Delaware River near Philadelphia, Pennsylvania in 1969–1970 demonstrated the efficiency of this practice. Coarse-bubble diffusers were deployed at depths ranging from 13 to 38 feet. Depending on the depth of deployment, the oxygen transfer efficiency varied from 1 to 12 percent. When compared with other systems discussed below, this efficiency rate is rather low. But the results of this test determined that river aeration was more economical than advanced wastewater treatment as a strategy for improving the levels of DO in the river (EPRI, 1990). Another type of oxygen injection system, which pumps gaseous oxygen into the hypolimnion through diffusers, has effectively improved DO levels in the reservoir behind the Richard B. Russell Dam (Savannah River, on the Georgia-South Carolina border). The system is operated 1 mile upstream of the dam, with occasional supplemental injection of oxygen at the dam face when DO levels are especially low. The system has successfully maintained DO levels above 6 mg/L in the releases, with an average oxygen transfer efficiency of 75 percent (EPRI, 1990; Gallagher and Mauldin, 1987).

The diffused air system has been found to be a cost-effective method to raise low DO levels within a reservoir (Henderson and Shields, 1984). However, the costs of air diffuser operation may be high for deep reservoirs because of hydraulic pressures that must be overcome. Destratification that results from deployment of an air diffuser system may also mix nutrient-rich waters located deep in the impoundment into layers located closer to the surface, increasing the potential for stimulation of algal populations. Barbiero et al. (1996), in a study on the effects of artificial circulation on a small northeastern impoundment, found that artificial circulation ultimately had no effect on the magnitude of summer phytoplankton populations. However, the authors note that intermittent mixing events tend to promote increased transport of phosphorus

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into the epilimnion. While this had no effect on phytoplankton populations in the studied lake, it demonstrates the potential of artificial circulation to impact water quality and the need for careful evaluation of potential impacts.

Oxygen injection systems use pure oxygen to increase levels of dissolved oxygen in reservoirs. One type of design, termed side stream pumping, carries water from the impoundment onto the shore and through a piping system into which pure oxygen is injected. After passing through this system, the water is returned to the impoundment (EPRI, 1990).

The U-tube design, in which water from deep in the impoundment is pumped to the surface layer, provides a means to aerate reservoir waters. Oxygen transfer is increased as a mixture of water and oxygen gas is subjected to greater hydrostatic pressure. Water moves down the U-tube and pressure increases as a function of depth, dissolving the oxygen gas into the water. The oxygenated water then travels back up through the system and is released to the waterway (Jones and Stokes, 2004). The inducement of artificial circulation through aeration of the impoundment may also provide the opportunity for a “two-story” fishery, reduce internal phosphorus loading, and eliminate problems with iron and manganese in drinking water (Thornton et al., 1990).

If the principal objective is to improve DO levels only in the reservoir releases and not throughout the entire impoundment, then aeration can be applied selectively to discrete layers of water immediately surrounding the intakes or as water passes through release structures such as hydroelectric turbines. Localized mixing is a practice to improve releases from thermally stratified reservoirs by destratifying the reservoir in the immediate vicinity of the outlet structure. This practice differs from the practice of artificial destratification, where mixing is designed to destratify all or most of the reservoir volume (Holland, 1984). Localized mixing is provided by forcing a jet of high-quality surface water downward into the hypolimnion. Pumps used to create the jet generally fall into two categories, axial flow propellers and direct drive mixers (Price, 1989). Axial flow pumps usually have a large-diameter propeller (6 to 15 feet) that produces a high-discharge, low-velocity jet. Direct drive mixers have small propellers (1 to 2 feet) that rotate at high speeds and produce a high-velocity jet. The axial flow pumps are suitable for shallow reservoirs because they can force large quantities of water down to shallow depths. The high-momentum jets produced by direct drive mixers are necessary to penetrate deeper reservoirs (Price, 1989).

Additional Resource

- Thornton, K.W., B.L. Kimmel, and F.E. Payne. 1990. *Reservoir Limnology: Ecological Perspectives*. John Wiley & Sons, Inc., New York.

Retaining Walls

Retaining walls are used in areas where soils are unstable, where slopes are steeper than the angle of repose, and where the horizontal distance is limited. They help stabilize slopes and can decrease the steepness of a slope. If the steepness of a slope is reduced, the runoff velocity is decreased and, therefore, the erosion potential is decreased.

According to the *Iowa Construction Site Erosion Control Manual*, a variety of materials can be used for construction of retaining walls, including concrete masonry, concrete cribbing, steel piling, gabions, precast stone, rock riprap, reinforced earth, stone drywall, and treated wood timbers. Costs vary by the material selected for construction. When designing a retaining wall, the following factors should be taken into account: drainage, bearing value of the soil, wall thickness, stress, foundation design, and wall height.

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Additional Resources

- ISU. 2006. *Iowa Construction Site Erosion Control Manual: Retaining Wall*. Iowa State University. http://www.ctre.iastate.edu/erosion/manuals/construction/3.13_retaining_wall.pdf.
- Leposky, R.E. 2004. *Retaining Walls: What You See and What You Don't*. http://www.forester.net/ecm_0401_retaining.html.

Return Walls

Whenever shorelines or streambanks are “hardened” through the installation of bulkheads, seawalls, or revetments, the design process must include consideration that waves and currents can continue to dislodge the substrate at both ends of the structure, resulting in very concentrated erosion and rapid loss of fastland. This process is called flanking. To prevent flanking, return walls should be provided at either end of a vertical protective structure and should extend landward for a horizontal distance consistent with the local erosion rate and the design life of the structure.

Additional Resource

- USACE. 1985. *Coastal Engineering Technical Note: Determining Lengths of Return Walls*. U.S. Army Engineer Waterways Experiment Station.
<http://chl.erdc.usace.army.mil/library/publications/chetn/pdf/cetn-iii-25.pdf>.

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Revegetate

Revegetation of construction sites during and after construction is the most effective way to permanently control erosion (Hynson et al., 1985). To select the right plants for your bioengineering project, note what native plant communities grow in the area. Avoid planting noxious or invasive grasses, such as reed canary grass or ryegrass. Remove invasive plants such as yellow starthistle, English ivy, deadly nightshade, field morning glory, scotch broom, cheatgrass, and purple loosestrife. Use more of the same native plants in the bioengineering design, as these plants are most likely adapted to conditions to the area.

Plants like willow, red osier dogwood, alder, ash, and cottonwood can be well suited for bioengineering. They establish easily, grow quickly, and have thick root systems. Cuttings are available from native plant nurseries. They may also be collected next to the project site, if the area is well vegetated (Oregon Association of Conservation Districts, 2004).

Ecological and vegetational areas vary throughout the country. Therefore, other plant materials may be more suitable for a project. Contact local cooperative extension services for more plant information.⁹

Additional Resources

- Barr Engineering Company. 2001. *Minnesota Urban Small Sites BMP Manual: Stormwater Best Management Practices for Cold Climates. Soil Erosion Control: Vegetative Methods*. Prepared for the Metropolitan Council by Barr Engineering Company, St. Paul, MN. http://www.metrocouncil.org/environment/Watershed/BMP/CH3_RPPSoilVeget.pdf.
- Ohio DNR. No date. *Ohio Stream Management Guide: Restoring Streambanks with Vegetation*. Ohio Department of Natural Resources. http://www.ohiodnr.com/water/pubs/fs_st/stfs07.htm.

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⁹ http://www.csrees.usda.gov/qlinks/partners/state_partners.html

Revetment

A revetment (Figure 7.24) is a type of vertical protective structure used for shoreline protection. One revetment design contains several layers of randomly shaped and randomly placed stones, protected with several layers of selected armor units or quarry stone. The armor units in the cover layer should be placed in an orderly manner to obtain good wedging and interlocking between individual stones. The cover layer may also be constructed of specially shaped concrete units (USACE, 1984).

Sometimes gabions (stone-filled wire baskets) or interlocking blocks of precast concrete are used in the construction of revetments. In addition to the surface layer of armor stone, gabions, or rigid blocks, successful revetment designs also include an underlying layer composed of either geotextile filter fabric and gravel or a crushed stone filter and bedding layer. This lower layer functions to redistribute hydrostatic uplift pressure caused by wave action in the foundation substrate. Precast cellular blocks, with openings to provide drainage and to allow vegetation to grow through the blocks, can be used in the construction of revetments to stabilize banks. Vegetation roots add additional strength to the bank. In situations where erosion can occur under the blocks, fabric filters can be used to prevent the erosion. Technical assistance should be obtained to properly match the filter and soil characteristics. Typically blocks are hand placed when mechanical access to the bank is limited or costs need to be minimized. Cellular block revetments have the additional benefit of being flexible to conform to minor changes in the bank shape (USACE, 1983).

Additional Resource

- Ohio DNR. No date. *Ohio Stream Management Guide: Riprap Revetments*. Ohio Department of Natural Resources. http://www.ohiodnr.com/water/pubs/fs_st/stfs16.pdf.

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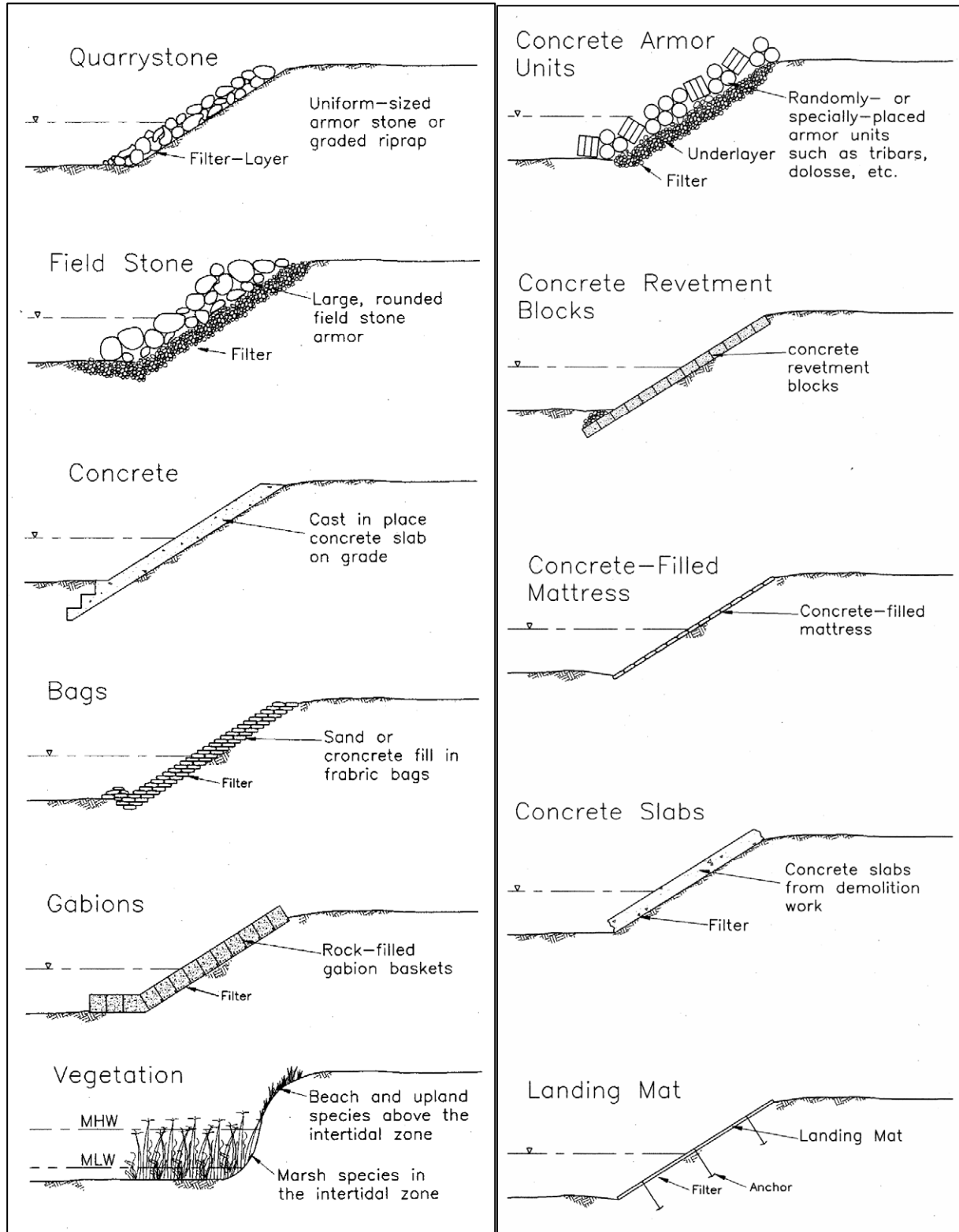


Figure 7.24 Revetment Alternatives (USACE, 2003)

Riparian Improvements

Riparian improvements are another strategy that can be used to restore or maintain aquatic and riparian habitat around reservoir impoundments or along the waterways downstream from dams. In fact, Johnson and LaBounty (1988) found that riparian improvements were more effective, in some cases, than flow augmentation for protection of instream habitat. In the Salmon River (Idaho), a variety of instream and riparian habitat improvements have been recommended to improve the indigenous stocks of Chinook salmon (*Oncorhynchus tshawytscha*). These improvements include reducing sediment loading in the watershed, improving riparian vegetation, eliminating barriers to fish migration (see sections discussing this practice below), and providing greater instream and riparian habitat diversity (Andrews, 1988).

Maintaining and improving riparian areas upstream of a dam may also be an important consideration for reducing flow-related impacts to dams. Riparian areas along brooks and smaller streams are sometimes altered in a manner that impairs their ability to detain and absorb floodwater and stormwater (e.g., removal of forest cover or increased imperviousness). The cumulative impact of the riparian changes results in the smaller streams discharging increased volumes and velocities of water, which then result in more severe downstream flooding and increased storm damage and/or maintenance to existing structures (such as dams). These downstream impacts may occur even though main stem floodplains and riparian areas are safeguarded and remain close to their natural condition (Cohen, 1997).

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Riprap

Riprap is a layer of appropriately sized stones designed to protect and stabilize areas subject to erosion, slopes subject to seepage, or areas with poor soil structure. Riprap extends from the toe of the slope to a height needed for long term durability (Figure 7.25).

Riprap can be used where vegetation cannot be established or in combination with vegetative approaches. This method is suitable where stream flow velocity is high or where there is a threat to life or property. This method can be expensive, particularly if materials are not locally available. This method should be combined with soil bioengineering techniques, particularly revegetation efforts, to achieve a comprehensive streambank restoration design (FISRWG, 1998).

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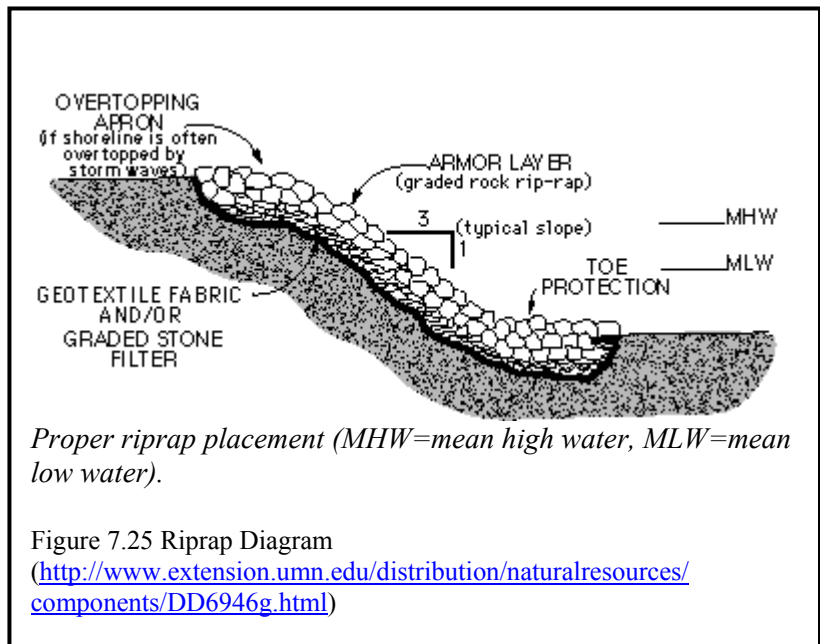
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Additional Resources

- FISRWG. 1998. *Stream Corridor Restoration: Principles, Processes, and Practices*. Federal Interagency Stream Restoration Working Group. http://www.nrcs.usda.gov/technical/stream_restoration/PDFFILES/APPENDIX.pdf.
- ISU. 2006. *Iowa Construction Site Erosion Control Manual: Riprap*. Iowa State University. http://www.ctre.iastate.edu/erosion/manuals/construction/3.15_riprap.pdf.
- Tennessee Department of Environment and Conservation. 2002. *Erosion and Sediment Control Handbook: Riprap*. Tennessee Department of Environment and Conservation, Nashville, TN. http://state.tn.us/environment/wpc/sed_ero_controlhandbook/rr.pdf.



Root Wad Revetments

Root wads armor a bank by keeping faster moving currents away from the bank (Figures 7.26 and 7.27). They are most useful for low energy streams that meander and have out-of-bank flow conditions. Root wads should be used in combination with other soil bioengineering techniques to stabilize a bank and ensure plant establishment on the upper portions of the streambank. Stabilizing the bank will reduce streambank erosion, trap sediment, and improve habitat diversity. There are a number of ways to install root wads. The trunk can be driven into the bank, laid in a deep trench, or installed as part of a log and boulder revetment. Use tree wads that have brushy top and durable wood, such as Douglas fir, oak, hard maple, juniper, spruce, cedar, red pine, white pine, larch, or beech. Ponderosa pine and aspen are too inflexible, and alder decomposes rapidly.

With the added support of a log and boulder revetment, root wads can stabilize banks of high-energy streams. Root wad span should be approximately 5 feet with numerous root protrusions. The trunk should be at least 8 to 12 feet long. Boulders should be as large as possible, but at least one and a half times the log's diameter. They should also have an irregular surface. Logs are to be used as footers or revetments and should be over 16 inches in diameter.

When logs and root wads are well anchored, this design will tolerate high boundary shear stress. However, local scour and erosion is possible. Varying with climate and tree species used, the decomposition of the logs and rootwads will limit the life span of this design. If colonization of streambank vegetation does not take place, replacement may be required. The project site must be accessible to heavy equipment. Locating materials may be difficult in some locations and this method can be expensive (FISRWG, 1998).

Channelization

- Physical & chemical
- Instream/riparian restoration

Dams

- Erosion control
- Runoff control
- Chemical/pollutant control
- Watershed protection
- Aerate reservoir water
- Improve tailwater oxygen
- Restore/maintain habitat
- Maintain fish passage

Erosion

- Streambanks
- Shorelines
- Vegetative
- Structural
- Integrated
- Planning & regulatory

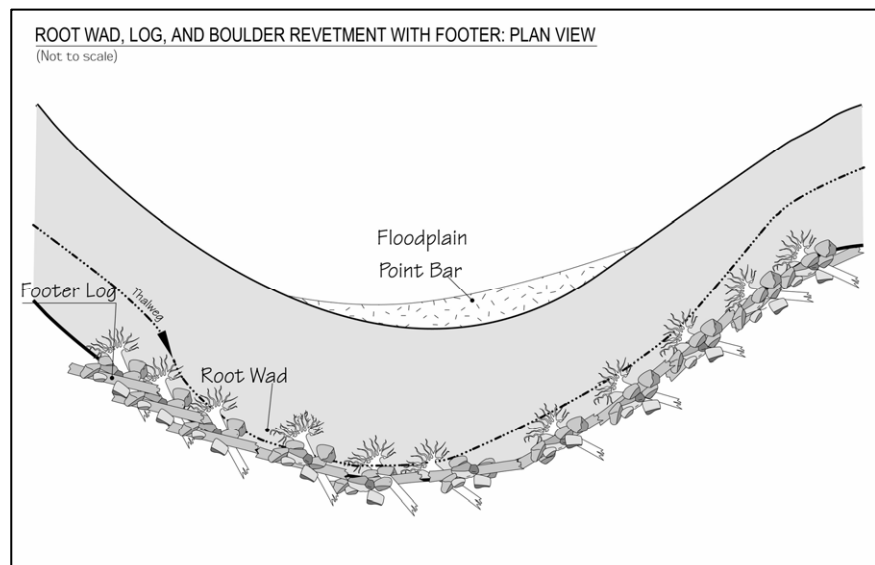


Figure 7.26 Root Wad, Log, and Boulder Revetment with Footer: Plan View (USDA-FS, 2002)

Installation guidelines are available from the USDA-FS Soil Bioengineering Guide (USDA-FS, 2002). Under EMRRP, the USACE has presented research on rootwad composites in a technical note (*Rootwad Composites for Streambank Erosion Control and Fish Habitat Enhancement*).¹⁰

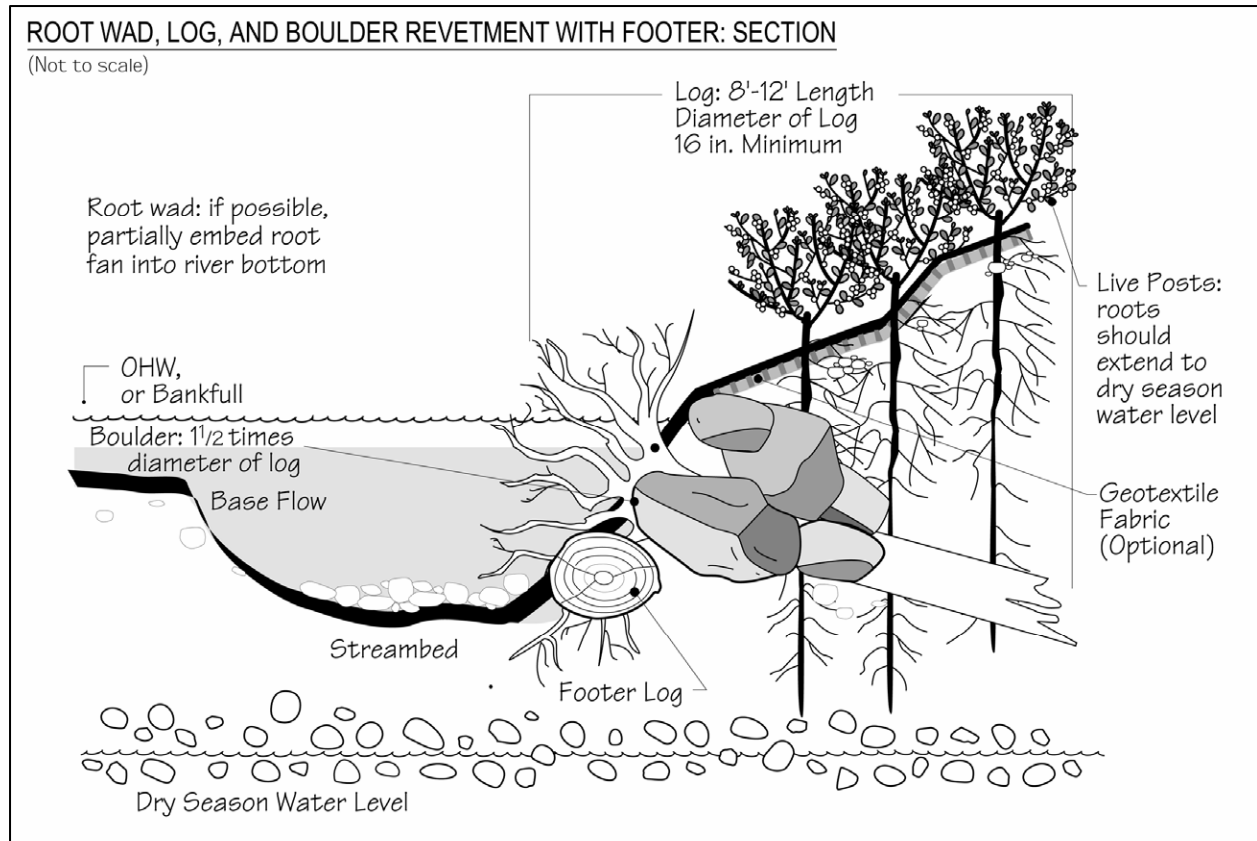


Figure 7.27 Rootwad, Log, and Boulder Revetment with Footer: Section (USDA-FS, 2002)

Additional Resources

- FISRWG. 1998. *Stream Corridor Restoration: Principles, Processes, and Practices*. Federal Interagency Stream Restoration Working Group.
http://www.nrcs.usda.gov/technical/stream_restoration/PDFFILES/APPENDIX.pdf.
- Harmon, W.A. and R. Smith. 2000. *Using Root Wads and Rock Vanes for Streambank Stabilization*. River Course Fact Sheet Number 4. North Carolina Cooperative Extension Service.
<http://www.bae.ncsu.edu/programs/extension/wqg/sri/rv-crs-4.pdf>.
- Walter, J., D. Hughes, and N.J. Moore. 2005. *Streambank Revegetation and Protection: A Guide for Alaska. Revegetation Techniques: Root Wads*. Revised Edition. Alaska Department of Fish and Game, Division of Sport Fish.
<http://www.sf.adfg.state.ak.us/SARR/restoration/techniques/rootwad.cfm>.

¹⁰ <http://el.erdc.usace.army.mil/elpubs/pdf/sr21.pdf>

Rosgen's Stream Classification Method

Rosgen's stream channel stability method provides a sequence of steps for the field practitioner to use in reaching final conclusions and making recommendations for management, stream design, or restoration. The field practitioner uses field-measured variables to assess:

- Stream state or channel condition variables
- Vertical stability (degradation/aggradation)
- Lateral stability
- Channel patterns
- Stream profile and bed features
- Channel dimension factor
- Channel scour/deposition (with competence calculations of field verified critical dimensionless shear stress and change in bed and bar material size distribution)
- Stability ratings adjusted by stream type
- Dimensionless ratio sediment rating curves by stream type and stability ratings
- Selection of position in stream type evolutionary scenario as quantified by morphological variables by stream type to determine state and potential of stream reach.

Channelization

- Physical & chemical
- Instream/riparian restoration

Dams

- Erosion control
- Runoff control
- Chemical/pollutant control
- Watershed protection
- Aerate reservoir water
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- Restore/maintain habitat
- Maintain fish passage

Erosion

- Streambanks Shorelines
- Vegetative
- Structural
- Integrated
- Planning & regulatory

The stability assessment is conducted on a reference reach and a departure analysis is performed when compared to an unstable reach of the same stream type. Changes in the variables controlling river channel form, primarily streamflow, sediment regime, riparian vegetation, and direct physical modifications can cause stream channel instability. Separating the differences between anthropogenic versus geologic processes in channel adjustment is a key to prevention, mitigation, and restoration of disturbed systems.

Rosgen (1996) has also created a river inventory hierarchy involving four levels that would allow a stream assessment to be conducted at various levels, ranging from broad qualitative descriptions to detailed quantitative descriptions. The idea is to provide documented measurements, coupled with consistent, quantitative indices of stability, to make the approach to stream assessments less subjective and more consistent and reproducible. Level I and Level II are used to do the initial stratification of a reach by valley and stream type. Level III is used to predict stability. Level IV is used for validation, and requires the greatest amount of detail over a longer time period. For example, vertical stability and bank erosion can be estimated at Level III. But, in a Level IV assessment, permanent cross-sections are revisited over time to verify shifts in bed elevation and measure actual erosion that occurred.

The four hierarchal levels, and the measurements and determinations they include, are shown below along with their objectives.

Level I—Geomorphic characterization: Used to describe generalized fluvial features using remote sensing and existing inventories of geology, landform evolution, valley morphology, depositional history and associated river slopes, relief and patterns utilized for generalized categories of major stream types, and associated interpretations.

Level II—Morphological description: To delineate homogeneous stream types that describe specific slopes, channel materials, dimensions and patterns from reference reach measurements and provide a more detailed level of interpretation than Level I. Includes measurements such as sinuosity, width/depth ration, slope, entrenchment ratio, and channel patterns and material.

Level III—Stream “state” or condition: The “state” of streams further describes existing conditions that influence the response of channels to imposed change and provide specific information for prediction methodologies (such as stream bank erosion calculations). Provides for very detailed descriptions and associated interpretation and predictions. Includes such measurements and/or characterizations of vegetation, deposition, debris, meander patterns, channel stability index, and flow regime.

Level IV—Reach specific studies (validation level): Provides reach-specific information on channel processes. Used to evaluate prediction methodologies; to provide sediment, hydraulic and biological information related to specific stream types; and to evaluate effectiveness of mitigation and impact assessments for activities by stream type. Involves direct measurements of sediment transport, bank erosion rates, aggradation/degradation, hydraulics, and biological data.

Rosgen’s stream classification methodologies can assist in stream restoration design by:

- Enabling more precise estimates of quantitative hydraulic relationships associated with specific stream and valley morphologies.
- Establishing guidelines for selecting stable stream types for a range of dimensions, patterns, and profiles that are in balance with the river’s valley slope, valley confinement, depositional materials, streamflow, and sediment regime of the watershed.
- Providing a method for extrapolating hydraulic parameters and developing empirical relationships for use in the resistance equations and hydraulic geometry equations needed for restoration design.
- Developing a series of meander geometry relationships that are uniquely related to stream types and their bankfull dimensions.
- Identifying the stable characteristics for a given stream type by comparing the stable form to its unstable or disequilibrium condition.

Refer to *Applied River Morphology* (Rosgen, 1996) for more information on this stream classification system and potential applications.

Scheduling Projects

Often clearing and grading for a project can be scheduled during the time of year that the erosion potential of the site is relatively low. In many parts of the country, there is a certain period of the year when erosion potential is relatively low and construction scheduling could be very effective. For example, in the Pacific region if construction can be completed during the 6-month dry season (e.g., May 1 to October 31), temporary erosion and sediment controls might not be needed. In some parts of the country erosion potential is very high during certain parts of the year, such as the spring thaw in northern and high-elevation areas. During that time of year, snowmelt generates a constant runoff that can erode soil. In addition, construction vehicles can easily turn the soft, wet ground into mud, which is more easily washed off-site. Therefore, in the north, limitations could be placed on clearing and grading during the spring thaw (Goldman et al., 1986).

Channelization

- Physical & chemical
- Instream/riparian restoration

Dams

- Erosion control
- Runoff control
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- Watershed protection
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- Improve tailwater oxygen
- Restore/maintain habitat
- Maintain fish passage

Erosion

- Streambanks Shorelines
 - Vegetative
 - Structural
 - Integrated
 - Planning & regulatory

Additional Resource

- CASQA. 2004. *California Stormwater BMP Construction Handbook: Scheduling*. California Stormwater Quality Association, Sacramento, CA.
<http://www.cabmphandbooks.com/Documents/Construction/EC-1.pdf>.

Sediment Basins/Rock Dams

An earthen or rock embankment that is located to capture sediment from runoff and retain it on the construction site.

Sediment basins, also known as silt basins, are engineered impoundment structures that allow sediment to settle out of the urban runoff. They are installed prior to full-scale grading and remain in place until the disturbed portions of the drainage area are fully stabilized. They are generally located at the low point of sites, away from construction traffic, where they will be able to trap sediment-laden runoff. Basin dewatering is achieved either through a single riser and drainage hole leading to a suitable outlet on the downstream side of the embankment or through the gravel of the rock dam. In both cases, water is released at a substantially slower rate than would be possible without the control structure.

The following are general specifications for sediment basin design criteria as presented in Schueler (1997):

- Provide 1,800 to 3,600 ft³ of storage per contributing acre (a number of states, including Maryland, Pennsylvania, Georgia, and Delaware, recently increased the storage requirement to 3,600 ft³ or more [CWP, 1997b]).
- Surface area equivalent to 1 percent of drainage area (optional, seldom required).
- Riser with spillway capacity of 0.2 ft³/s/ac of drainage area (peak discharge for 2-year storm with 1-foot freeboard).
- Length-to-width ratio of 2 or greater.
- Basin side slopes no steeper than 2:1 (h:v).
- Safety fencing, perforated riser, dewatering (optional, seldom required).

Sediment basins can be classified as either temporary or permanent structures, depending on the length of service of the structure. If they are designed to function for less than 36 months, they are classified as temporary; otherwise, they are considered permanent. Temporary sediment basins can also be converted into permanent runoff management ponds. When sediment basins are designed as permanent structures, they must meet all standards for wet ponds. It is important to note that even the best-designed sediment basin seldom exceeds 60 to 75 percent total suspended solids (TSS) removal, which should be considered when selecting a sediment control practice.

Basins are most commonly used at the outlets of diversions, channels, slope drains, or other runoff conveyances that discharge sediment-laden water.

Channelization

- Physical & chemical
- Instream/riparian restoration

Dams

- Erosion control
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- Improve tailwater oxygen
- Restore/maintain habitat
- Maintain fish passage

Erosion

- Streambanks
- Shorelines
- Vegetative
- Structural
- Integrated
- Planning & regulatory

Additional Resources

- CASQA. 2003. *California Stormwater BMP Construction Handbook: Sediment Basin*. California Stormwater Quality Association, Sacramento, CA.
<http://www.cabmphandbooks.com/Documents/Construction/SE-2.pdf>.
- ISU. 2006. *Iowa Construction Site Erosion Control Manual: Sediment Basin*. Iowa State University. http://www.ctre.iastate.edu/erosion/manuals/construction/3.17_sediment_basin.pdf.
- Michigan Department of Environmental Quality. 1992. *SESC Training Manual: Sedimentation Basin*. Michigan Department of Environmental Quality, Lansing, MI.
<http://www.deq.state.mi.us/documents/deq-swq-nps-sb.pdf>.
- Tennessee Department of Environment and Conservation. 2002. *Erosion and Sediment Control Handbook: Sediment Basin*. Tennessee Department of Environment and Conservation, Nashville, TN. http://state.tn.us/environment/wpc/sed_ero_controlhandbook/sb.pdf.

Sediment Fences

Silt fence, also known as filter fabric fence, is available in several mesh sizes from many manufacturers. Sediment is filtered out as runoff flows through the fabric. Such fences should be used only where there is sheet flow (no concentrated flow), and the maximum drainage area to the fence should be 0.5 acre or less per 100 feet of fence. To ensure sheet flow, a gravel collar or level spreader can be used upslope of the fence. Many types of fabrics are available commercially. The characteristics that determine a fence's effectiveness include filtration efficiency, permeability, tensile strength, tear strength, ultraviolet resistance, pH effects, and creep resistance. The longevity of silt fences depends heavily on proper installation and maintenance, however they typically last 6 to 12 months. CWP (1997d) identified several conditions that increase the effectiveness of silt fences:

- The length of the slope does not exceed 50 feet for slopes of 5 to 10 percent, 25 feet for slopes of 10 to 20 percent, or 15 feet for slopes greater than 20 percent.
- The silt fence is aligned parallel to the slope contours.
- Edges of the silt fence are curved uphill, which does not allow flow to bypass the fence.
- The contributing length to the fence is less than 100 feet.
- The fence has reinforcement if receiving concentrated flow.
- The fence was installed above an outlet pipe or weir.
- The fence is down slope of the exposed area and alignment considers construction traffic.
- Sediment is not allowed to accumulate behind the fence (increases capacity and decreases breach potential).
- Alignment of the silt fence mirrors the property line or limits of disturbance.

Additional Resources

- CASQA. 2003. *California Stormwater BMP Construction Handbook: Straw Bale Barrier*. California Stormwater Quality Association, Sacramento, CA. <http://www.cabmphandbooks.com/Documents/Construction/SE-9.pdf>.
- ISU. 2006. *Iowa Construction Site Erosion Control Manual: Sediment Barrier*. Iowa State University. http://www.ctre.iastate.edu/erosion/manuals/construction/3.16_sediment_barrier.pdf.
- Missouri Department of Natural Resources. 2006. *Protecting Water Quality, A Construction Site Water Quality Field Guide: Sediment Fence*. Missouri Department of Natural Resources. http://www.dnr.mo.gov/env/wpp/field-guide/fg05_06_sedimentcontrol.pdf.
- Tennessee Department of Environment and Conservation. 2002. *Erosion and Sediment Control Handbook: Silt Fence*. Tennessee Department of Environment and Conservation, Nashville, TN. http://state.tn.us/environment/wpc/sed_ero_controlhandbook/sf.pdf.

Channelization

- Physical & chemical
- Instream/riparian restoration

Dams

- Erosion control
- Runoff control
- Chemical/pollutant control
- Watershed protection
- Aerate reservoir water
- Improve tailwater oxygen
- Restore/maintain habitat
- Maintain fish passage

Erosion

- Streambanks
- Shorelines
- Vegetative
- Structural
- Integrated
- Planning & regulatory

Sediment Traps

Sediment traps are small impoundments that allow sediment to settle out of runoff water. They are typically installed in a drainage way or other point of discharge from a disturbed area. Temporary diversions can be used to direct runoff to the sediment trap. Sediment traps are ideal for sites 1 acre and smaller and should not be used for areas greater than 5 acres. They typically have a useful life of approximately 18 to 24 months. A sediment trap should be designed to maximize surface area for infiltration and sediment settling. This design increases the effectiveness of the trap and decreases the likelihood of backup during and after periods of high runoff intensity. The approximate storage capacity of each trap should be at least 1,800 ft³/acre of disturbed land draining into the trap (Smolen et al., 1988).

Channelization

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Dams

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- Improve tailwater oxygen
- Restore/maintain habitat
- Maintain fish passage

Erosion

- Streambanks Shorelines
 - Vegetative
 - Structural
 - Integrated
 - Planning & regulatory

Additional Resources

- British Columbia Ministry of Agriculture, Food and Fisheries. 2004. *Constructed Ditch Fact Sheet: Sediment Traps*. No. 9. <http://www.agf.gov.bc.ca/resmgmt/publist/600Series/641310-1.pdf>.
- CASQA. 2003. *California Stormwater BMP Construction Handbook: Sediment Traps*. California Stormwater Quality Association, Sacramento, CA. <http://www.cabmphandbooks.com/Documents/Construction/SE-3.pdf>.
- Tennessee Department of Environment and Conservation. 2002. *Erosion and Sediment Control Handbook: Sediment Trap*. Tennessee Department of Environment and Conservation, Nashville, TN. http://www.state.tn.us/environment/wpc/sed_ero_controlhandbook/st.pdf.

Seeding

Seeding establishes a vegetative cover on disturbed areas and is very effective in controlling soil erosion once a dense vegetative cover has been established. Seeding establishes permanent erosion control in a relatively short amount of time and has been shown to decrease solids load by 99 percent (CWP, 1997a). The three most common seeding methods are (1) broadcast seeding, in which seeds are scattered on the soil surface; (2) hydroseeding, in which seeds are sprayed on the surface of the soil with a slurry of water; and (3) drill seeding, in which a tractordrawn implement injects seeds into the soil surface. Broadcast seeding is most appropriate for small areas and for augmenting sparse and patchy grass covers. Hydroseeding is often used for large areas (in excess of 5,000 square feet) and is typically combined with tackifiers, fertilizers, and fiber mulch. Drill seeding is expensive and is cost-effective only on sites greater than 2 acres. For best results, bare soils should be seeded or otherwise stabilized within 15 calendar days after final grading. Denuded areas that are inactive and will be exposed to rain for 15 days or more can also be temporarily stabilized, usually by planting seeds and establishing vegetation during favorable seasons in areas where vegetation can be established. In very flat, nonsensitive areas with favorable soils, stabilization may involve simply seeding and fertilizing. The Soil Quality Institute (SQI, 2000) recommends that soils that have been compacted by grading should be broken up or tilled before vegetating.

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To establish a vegetative cover, it is important to use seeds from adapted plant species and varieties that have a high germination capacity. Supplying essential plant nutrients, testing the soil for toxic materials, and applying an adequate amount of lime and fertilizer can overcome many unfavorable soil conditions and establish adequate vegetative cover. Specific information about seeds, various species, establishment techniques, and maintenance can be obtained from *Erosion Control & Conservation Plantings on Noncropland* (Landschoot, 1997) or a local Cooperative State Research, Education, and Extension Service¹¹ or Natural Resources Conservation Service¹² office.

Additional Resources

- CASQA. 2003. *California Stormwater BMP Construction Handbook: Hydroseeding*. California Stormwater Quality Association, Sacramento, CA.
<http://www.cabmphandbooks.com/Documents/Construction/EC-4.pdf>.
- Wisconsin Department of Natural Resources. 2003. *Seeding for Construction Site Erosion Control*. Wisconsin Department of Natural Resources, Madison, WI.
http://dnr.wi.gov/org/water/wm/nps/pdf/stormwater/techstds/erosion/Seeding%20For%20Construction%20Site%20Erosion%20Control%20_1059.pdf.

¹¹ <http://www.csrees.usda.gov>

¹² <http://www.nrcs.usda.gov>

Selective Withdrawal

Temperature control in reservoir releases depends on the volume of water storage in the reservoir, the timing of the release relative to storage time, and the level from which the water is withdrawn. Dams capable of selectively releasing waters of different temperatures can provide cooler or warmer water temperatures downstream at times that are critical for other instream resources, such as during periods of fish spawning and development of fry (Fontane et al., 1981; Hansen and Crumrine, 1991). Stratified reservoirs are operated to meet downstream temperature objectives such as to enhance a cold-water or warm-water fishery or to maintain preproject stream temperature conditions. Release temperature may also be important for irrigation (Fontane et al., 1981).

Multilevel intake devices in storage reservoirs allow selective withdrawal of water based on temperature and DO levels. These devices minimize the withdrawal of surface water high in blue-green algae, or of deep water enriched in iron and manganese. Care should be taken in the design of these systems not to position the multilevel intakes too far apart because this will increase the difficulty with which withdrawals can be controlled, making the discharge of poor-quality hypolimnetic water more likely (Howington, 1990; Johnson and LaBounty, 1988; Smith et al., 1987).

Channelization

- Physical & chemical
- Instream/riparian restoration

Dams

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Erosion

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Setbacks

Where setbacks have been implemented to reduce the hazard of coastal land loss, they have also included requirements for the relocation of existing structures located within the designated setback area. Setbacks can also include restrictions on uses of waterfront areas that are not related to the construction of new buildings (Davis, 1987). Upland drainage from development should be directed away from bluffs and banks so as to avoid accelerating slope erosion.

In most cases, states have used the local unit of government to administer the program on either a mandatory or voluntary basis. This allows local government to retain control of its land use activities and to exceed the minimum state requirements if this is deemed desirable (NRC, 1990).

Technical standards for defining and delineating setbacks also vary from state to state. One approach is to establish setback requirements for any “high hazard area” eroding at greater than 1 foot per year. Another approach is to establish setback requirements along all erodible shores because even a small amount of erosion can threaten homes constructed too close to the streambank or shoreline. Several states have general setback requirements that, while not based on erosion hazards, have the effect of limiting construction near the streambank or shoreline.

The basis for variations in setback regulations between states seems to be based on several factors, including (NRC, 1990):

- The language of the law being enacted
- The geomorphology of the coast
- The result of discretionary decisions
- The years of protection afforded by the setback
- Other variables decided at the local level of government

From the perspective of controlling NPS pollution resulting from erosion of shorelines and streambanks, the use of setbacks has the immediate benefit of discouraging concentrated flows and other impacts of storm water runoff from new development in areas close to the streambank or shoreline. In particular, the concentration of storm water runoff can aggravate the erosion of shorelines and streambanks, leading to the formation of gullies, which are not easily repaired. Therefore, drainage of storm water from developed areas and development activities located along the shoreline should be directed inland to avoid accelerating slope erosion.

The most significant NPS benefits are provided by setbacks that not only include restrictions on new construction along the shore but also contain additional provisions aimed at preserving and protecting coastal features such as beaches, wetlands, and riparian forests. This approach

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promotes the natural infiltration of surface water runoff before it passes over the edge of the bank or bluff and flows directly into the coastal waterbody. Setbacks also help protect zones of naturally occurring vegetation growing along the shore. As discussed in the section on “bioengineering practices,” the presence of undisturbed shoreline vegetation itself can help to control erosion by removing excess water from the bank and by anchoring the individual soil particles of the substrate.

Almost all states and territories with setback regulations have modified their original programs to improve effectiveness or correct unforeseen problems (NRC, 1990). Experiences have shown that procedures for updating or modifying the setback width need to be included in the regulations. For instance, application of a typical 30-year setback standard in an area whose rate of erosion is 2 feet per year results in the designation of a setback width of 60 feet. This width may not be sufficient to protect the beaches, wetlands, or riparian forests whose presence improves the ability of the streambank or shoreline to respond to severe wave and flood conditions, or to high levels of surface water runoff during extreme precipitation events. A setback standard based on the landward edge of streambank or shoreline vegetation is one alternative that has been considered (NRC, 1990; Davis, 1987).

From the standpoint of NPS pollution control, an approach that designates streambanks, shorelines, wetlands, beaches, or riparian forests as a special protective feature, allows no development on the feature, and measures the setback from the landward side of the feature is recommended (NRC, 1990). In some cases, provisions for soil bioengineering, marsh creation, beach nourishment, or engineering structures may also be appropriate since the special protective features within the designated setbacks can continue to be threatened by uncontrolled erosion of the shoreline or streambank. Finally, setback regulations should recognize that some special features of the streambank or shoreline will change position. For instance, beaches and wetlands can be expected to migrate landward if water levels continue to rise. Alternatives for managing these situations include flexible criteria for designating setbacks, vigorous maintenance of beaches and other special features within the setback area, and frequent monitoring of the rate of streambank or shoreline erosion and corresponding adjustment of the setback area.

Shoreline Sensitivity Assessment

Currently there are no complete, universal assessment methodologies that apply to all shorelines and assess erosion vulnerabilities in various types of lakes, reservoirs, estuaries, and coasts. The methods presented by NOAA and the U.S. Geological Survey (USGS) were originally developed for other purposes and are being applied for other shoreline assessments:

- Environmental Sensitivity Mapping
- USGS Coastal Classification (Coastal & Marine Geology Program)
- Coastal Vulnerability Index (CVI) (focus is on SLR—the “erosion” factor may be the only relevant factor in CVI)

Channelization

- Physical & chemical
- Instream/riparian restoration

Dams

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 - Planning & regulatory

Environmental Sensitivity Mapping

The Environmental Sensitivity Index (ESI) was originally created for NOAA to prioritize areas for environmental cleanup (mainly oil-spills), to assist spill-response coordinators in evaluating the potential impact of oil along a shoreline, and to facilitate the allocation of resources during and after a spill.

ESI maps are comprised of three general types of information (NOAA, 1997):

- Shoreline Classification—ranked according to a scale relating to sensitivity, natural persistence of oil, and ease of cleanup.
- Biological Resources—including oil-sensitive animals and rare plants as well as habitats that are used by oil-sensitive species or are themselves sensitive to oil spills, such as submersed aquatic vegetation and coral reefs.
- Human-Use Resources—specific areas that have added sensitivity and value because of their use, such as beaches, parks and marine sanctuaries, water intakes, and archaeological sites.

The standardized ESI shoreline guideline rankings include estuarine, lacustrine, riverine, and palustrine habitats (NOAA, 1997). The classification scheme is based on an understanding of the physical and biological character of the shoreline environment, not just the substrate type and grain size. Relationships among physical processes, substrate type, and associated biota produce specific geomorphic/ecologic shoreline types, sediment transport patterns, and predictable patterns in oil behavior and biological impact. The concepts relating natural factors to the relative sensitivity of coastline, mostly developed in the estuarine setting, were slightly modified for lakes and rivers. The sensitivity ranking is controlled by the following factors:

- Relative exposure to wave and tidal energy
- Shoreline slope

- Substrate type (grain size, mobility, penetration and/or burial, and trafficability)
- Biological productivity and sensitivity

ESI maps have proven to have a long-term use, and they are excellent tools for studying shoreline change and its effects on the distribution and concentration of plants and animals living near the coast. Environmental sensitivity mapping is still evolving, and NOAA researchers are working with federal, state, and private industry partners to improve the ESI mapping system to extend beyond spill response.

USGS Coastal Classification (Coastal & Marine Geology Program)

The objective of the Coastal Classification Map is to determine the hazard vulnerability of an area. The coastal geomorphic classification scheme utilizes morphology and human modifications of the coast as the primary basis for hazard assessment. It emphasizes physical factors that influence erosion, overwash of sandy beaches and barrier islands, and landward sediment transport during storms along and across those features (USGS, 2004).

USGS National Assessment of Coastal Vulnerability to Sea-Level Rise

The USGS Coastal and Marine Geology Program's National Assessment, seeks to determine the relative risks due to future sea-level rise for the U.S. Atlantic, Pacific, and Gulf of Mexico coasts (USGS, 2002). Through the use of a CVI, the relative risk that physical changes will occur as sea-level rises is quantified based on the following criteria: tidal range, wave height, coastal slope, shoreline change, geomorphology, and historical rate of relative sea-level rise. This approach combines a coastal system's susceptibility to change with its natural ability to adapt to changing environmental conditions, and yields a relative measure of the system's natural vulnerability to the effects of sea-level rise.

In 2001, USGS in partnership with the National Park Service (NPS) Geologic Resources Division, began conducting hazard assessments and creating map products to assist the NPS in managing vulnerable coastal resources. One of the most important and practical issues in coastal geology is determining the physical response of coastal environments to water-level changes.

Additional Resources

- NOAA. 1997. *Environmental Sensitivity Index Guidelines (Version 3)* Chapter 2. Seattle, WA. http://response.restoration.noaa.gov/book_shelf/876_chapter2.pdf.
- USGS. 2002. *Vulnerability of US National Parks to Sea-Level Rise and Coastal Change*. U.S. Geological Survey. <http://pubs.usgs.gov/fs/fs095-02/fs095-02.html>.
- USGS. 2004. *Coastal Classification Mapping Project*. U.S. Geological Survey, Coastal & Marine Geology Program. <http://coastal.er.usgs.gov/coastal-classification/class.html>.

Site Fingerprinting

Often areas of a construction site are unnecessarily cleared. The total amount of disturbed area can be reduced with site fingerprinting, which involves placing development in the most environmentally sound locations on the site and minimizing the size of disturbed area. With site fingerprinting, only those areas essential for completing construction activities are cleared. The remaining area is left undisturbed.

Fingerprinting places development away from environmentally sensitive areas (wetlands, steep slopes, etc.), areas for future open space and restoration, areas where trees are to be saved, and temporary and permanent vegetative buffer zones.

The proposed limits of land disturbance can be physically marked off to ensure that only the land area required for buildings, roads, and other infrastructure is cleared. Existing vegetation, especially vegetation on steep slopes, can be avoided.

Channelization

- Physical & chemical
- Instream/riparian restoration

Dams

- Erosion control
- Runoff control
- Chemical/pollutant control
- Watershed protection
- Aerate reservoir water
- Improve tailwater oxygen
- Restore/maintain habitat
- Maintain fish passage

Erosion

- Streambanks Shorelines
- Vegetative
- Structural
- Integrated
- Planning & regulatory

Sodding

Sodding permanently stabilizes an area with a thick vegetative cover. Sodding provides immediate stabilization of an area and can be used in critical areas or where establishing permanent vegetation by seeding and mulching would be difficult. Sodding is also a preferred option when there is high erosion potential during the period of vegetative establishment from seeding. According to the Soil Quality Institute (SQI, 2000), soils that have been compacted by grading should be broken up or tilled before placing sod.

Additional Resources

- Barr Engineering Company. 2001. *Minnesota Urban Small Sites BMP Manual: Stormwater Best Management Practices for Cold Climates. Soil Erosion Control: Vegetative Methods*. Prepared for the Metropolitan Council by Barr Engineering Company, St. Paul, MN. http://www.metrocouncil.org/environment/Watershed/BMP/CH3_RPPSoilVeget.pdf.
- ISU. 2006. *Iowa Construction Site Erosion Control Manual: Sodding*. Iowa State University. http://www.ctre.iastate.edu/erosion/manuals/construction/2.6_sodding.pdf.

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Soil Protection

Unprotected stockpiles are very prone to erosion, and they must be protected. Small stockpiles can be covered with a tarp to prevent erosion. Large stockpiles can be stabilized by erosion blankets, seeding, or mulching.

Because of the high organic content of topsoil, it is not recommended for use as fill material or under pavement. After a site is cleared, the topsoil is typically removed. Since topsoil is essential to establish new vegetation, it should be stockpiled and then reapplied to the site for revegetation, if appropriate. Although topsoil salvaged from the existing site can often be used, it must meet certain standards, and topsoil might need to be imported onto the site if the existing topsoil is not adequate for establishing new vegetation.

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Spill and Water Budgets

Although often used together, spill and water budgets are independent methods of facilitating downstream fish migration. Spill budgets provide alternative methods for fish passage that are less dangerous than passage through turbines. Spillways are used to allow fish to leave the reservoir by passing over the dam rather than through the turbines. The spillways must be designed to ensure that hydraulic conditions do not induce injury to the passing fish from scraping and abrasion, turbulence, rapid pressure changes, or supersaturation of dissolved gases in water passing through plunge pools (Stone and Webster, 1986).

In the Columbia River basin (Pacific Northwest), the USACE provides spill on a limited basis to pass fish around specific dams to improve survival rates. At key dams, spill is used in special operations to protect hatchery releases or provide better passage conditions until bypass systems are fully developed or, in some cases, improved (van der Borg and Ferguson, 1989). The cost of this alternative depends on the volume of water lost for power production (Mattice, 1990). Analyses of this practice, using a USACE model called FISHPASS, historically has shown that application of spill budgets in the Columbia River basin is consistently the most costly and least efficient method of improving overall downstream migration efficiency (Dodge, 1989).

In 1995 the National Marine Fisheries Service (NMFS) released a draft biological opinion to save Columbia River Basin salmon. The opinion was issued after concluding that current operations of the hydropower system were jeopardizing Columbia Basin salmon. The opinion addresses safer passage for young fish through the dams and modification to a number of hydropower operations and facilities. It calls for using as much water as possible during fish-passage season to improve flow for fish moving through the system. Specifically the draft called for spilling water over dams to increase passage of juvenile salmon via non-turbine routes to at least 80 percent. The USACE now runs the Juvenile Fish Transportation Program in cooperation with NMFS (NOAA, 1995; USACE, 2002b).

Water budgets increase flows through dams during the out-migration of anadromous fish species. They are used to speed smolt migration through reservoirs and dams. Water normally released from the impoundment during the winter period to generate power is instead released in May or June, when it can be sold only as secondary energy. This concept has been used in some regions of the United States, although quantification of the overall benefits is lacking (Dodge, 1989).

The volume of a typical water budget is generally not adequate to sustain minimum desirable flows for fish passage during the entire migration period. The Columbia Basin Fish and Wildlife Authority has proposed replacement of the water budget on the Columbia River system with a minimum flow requirement to prevent problems of inadequate water volume in discharge during low-flow years (Muckleston, 1990).

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Spill Prevention and Control Program

Spill procedure information can be posted, and persons trained in spill handling should be onsite or on call at all times. Materials for cleaning up spills can be kept onsite and easily available. Spills should be cleaned up immediately and the contaminated material properly disposed.

In general, a spill prevention, control, and countermeasure (SPCC) plan can include guidance to site personnel on:

- Proper notification when a spill occurs
- Site responsibility with respect to addressing the cleanup of a spill
- Stopping the source of a spill
- Cleaning up a spill
- Proper disposal of materials contaminated by the spill
- Location of spill response equipment programs
- Training program for designated on-site personnel

A periodic spill “fire drill” can be conducted to help train personnel on proper responses to spill events and to keep response actions fresh in the minds of personnel. It is important to maintain an adequate spill and cleaning kit, which could include the following:

- Detergent or soap, hand cleaner, and water
- Activated charcoal, adsorptive clay, vermiculite, kitty litter, sawdust, or other adsorptive materials
- Lime or bleach to neutralize pesticides or other spills in emergency situations
- Tools such as a shovel, broom, and dustpan and containers for disposal
- Proper protective clothing

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Spillway Modifications

Spill at hydroelectric dams is routinely required during periods of high runoff when the river discharge exceeds what can be passed through the powerhouse turbines. In some cases, spill has been associated with gas supersaturation problems. The USACE has proposed several practices for solving the gas supersaturation problem. These include (1) passing more headwater storage through turbines, installing new fish bypass structures, and installing additional power units to reduce the need for spill; (2) incorporating “flip-lip” deflectors in spillway-stilling basins, transferring power generation to high-dissolved-gas-producing dams, and altering spill patterns at individual dams to minimize nitrogen mass entrainment; and (3) collecting and transporting juvenile salmonids around affected river reaches. Only a few of these practices have been implemented (Tanovan, 1987).

As more attention is being paid to maintaining minimum flows in rivers for fish passage and spawning, managers are balancing the need for spills with the potential impacts of gas supersaturation (Anderson, 2004; Anderson, 1995; DeHart, 2003; USFWS, 2001; Van Holmes and Anderson, 2004). For example, the U.S. Fish and Wildlife Service has routinely monitored gas supersaturation in reaches below Bonneville Dam (Columbia River, Oregon) to protect migrating salmon, many of which are endangered species (USFWS, 2001).

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- Planning & regulatory

Surface Roughening

Roughening is the scarifying of a bare sloped soil surface with horizontal grooves or benches running across the slope. Roughening aids the establishment of vegetative cover, improves water infiltration, and decreases runoff velocity.

Additional Resource

- Tennessee Department of Environment and Conservation. 2002. *Erosion and Sediment Control Handbook: Surface Roughening*. Tennessee Department of Environment and Conservation, Nashville, TN. http://www.state.tn.us/environment/wpc/sed_ero_controlhandbook/sr.pdf.

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Toe Protection

A number of qualitative advantages are to be gained by providing toe protection for vertical bulkheads. Toe protection usually takes the form of a stone apron installed at the base of the vertical structure to reduce wave reflection and scour of bottom sediments during storms. The installation of rubble toe protection should include filter cloth and perhaps a bedding of small stone to reduce the possibility of rupture of the filter cloth. Ideally, the rubble should extend to an elevation such that waves will break on the rubble during storms.

Additional Resources

- Massachusetts DEP. 2006. *Massachusetts Nonpoint Source Pollution Management Manual: Stone Toe Protection*. Massachusetts Department of Environmental Protection, Boston, MA.
<http://projects.geosyntec.com/NPSManual/Fact%20Sheets/Stone%20Toe%20Protection.pdf>.
- Wisconsin Department of Natural Resources. 2006. *Vegetated Armoring Erosion Control Methods*. <http://dnr.wi.gov/org/water/fhp/waterway/erosioncontrol-vegetated.html>.

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Training—ESC

Provide education and training opportunities for designers, developers, and contractors. One of the most important factors determining whether ESCs will be properly installed and maintained on a construction site is the knowledge and experience of the contractor and onsite personnel. Many communities require certification for key on-site employees who are responsible for implementing the ESC plan. Certification can be accomplished through municipally sponsored training courses; more informally, municipalities can hold mandatory preconstruction or prewintering meetings and conduct regular and final inspection visits to transfer information to contractors (Brown and Caraco, 1997). Information that can be covered in training courses and meetings includes the importance of ESC for water quality protection; developing and implementing ESC plans; the importance of proper installation, regular inspection, and diligent maintenance of ESC practices; and record keeping for inspections and maintenance activities.

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Transference of Fish Runs

Transference of fish runs involves inducing anadromous fish species to use different spawning grounds in the vicinity of an impoundment. To implement this practice, the nature and extent of the spawning grounds that were lost due to the blockage in the river need to be assessed, and suitable alternative spawning grounds need to be identified. The feasibility of successfully collecting the fish and transporting them to alternative tributaries also needs to be carefully determined.

One strategy for mitigating the impacts of diversions on fisheries is the use of ephemeral streams as conveyance channels for all or a portion of the diverted water. If flow releases are controlled and uninterrupted, a perennial stream is created, along with new instream and riparian habitat. However, the biota that had been adapted to preexisting conditions in the ephemeral stream will probably be eliminated.

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Tree Armoring, Fencing, and Retaining Walls or Tree Wells

Tree armoring protects tree trunks and natural vegetation from being damaged by construction equipment. Fencing can also protect tree trunks, but it should be placed at the tree's drip line so that construction equipment is kept away from the tree. A tree's drip line is the minimum area around the tree in which the tree's root system should not be disturbed by cut, fill, or soil compaction caused by heavy equipment. When cutting or filling must be done near a tree, a retaining wall or tree well can be used to minimize the cutting of the tree's roots or the quantity of fill placed over the tree's roots. It is recommended that cutting or filling be done only when absolutely necessary. Fill placement over the tree root flare or within the dripline will eventually kill the tree.

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Tree Revetments

Tree revetments consist of a row of interconnected trees anchored to the toe of the streambank or to the upper streambank (Figures 7.28 and 7.29). This serves to reduce flow velocities along eroding streambanks, trap sediment, and provide a substrate for plant establishment and erosion control. This design relies on the installation of an adequate anchoring system and is best suited for streambank heights under 12 feet and bankfull velocities under 6 feet per second. In addition, this structure should occupy no more than 15 percent of the channel at bankfull. Toe protection is needed to accompany this design if scour is anticipated and upper bank soil bioengineering techniques are recommended to ensure streamside regeneration. This design allows for the use of local materials if they are readily available. Decay resistant species are

recommended for the logs to extend the life of the structure and thus the ability of vegetation to become established. Due to decomposition, these structures have a limited life and might require periodic replacement. It is considered beneficial that decomposition of the logs over time allows the streambank to return to a natural state with protection provided by mature streambank

vegetation. There is a potential for the logs to dislodge, and these structures should not be located upstream of bridges or other structures sensitive to damage. Tree revetments are susceptible to damage by ice (FISRWG, 1998). Installation guidelines are available from the USDA-FS Soil Bioengineering Guide (USDA-FS, 2002).

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| <p>Channelization</p> <ul style="list-style-type: none"> <input checked="" type="checkbox"/> Physical & chemical <input checked="" type="checkbox"/> Instream/riparian restoration <p>Dams</p> <ul style="list-style-type: none"> <input checked="" type="checkbox"/> Erosion control <input type="checkbox"/> Runoff control <input type="checkbox"/> Chemical/pollutant control <input type="checkbox"/> Watershed protection <input type="checkbox"/> Aerate reservoir water <input type="checkbox"/> Improve tailwater oxygen <input type="checkbox"/> Restore/maintain habitat <input type="checkbox"/> Maintain fish passage <p>Erosion</p> <ul style="list-style-type: none"> <input checked="" type="checkbox"/> Streambanks <input checked="" type="checkbox"/> Shorelines <input checked="" type="checkbox"/> Vegetative <input type="checkbox"/> Structural <input type="checkbox"/> Integrated <input type="checkbox"/> Planning & regulatory |
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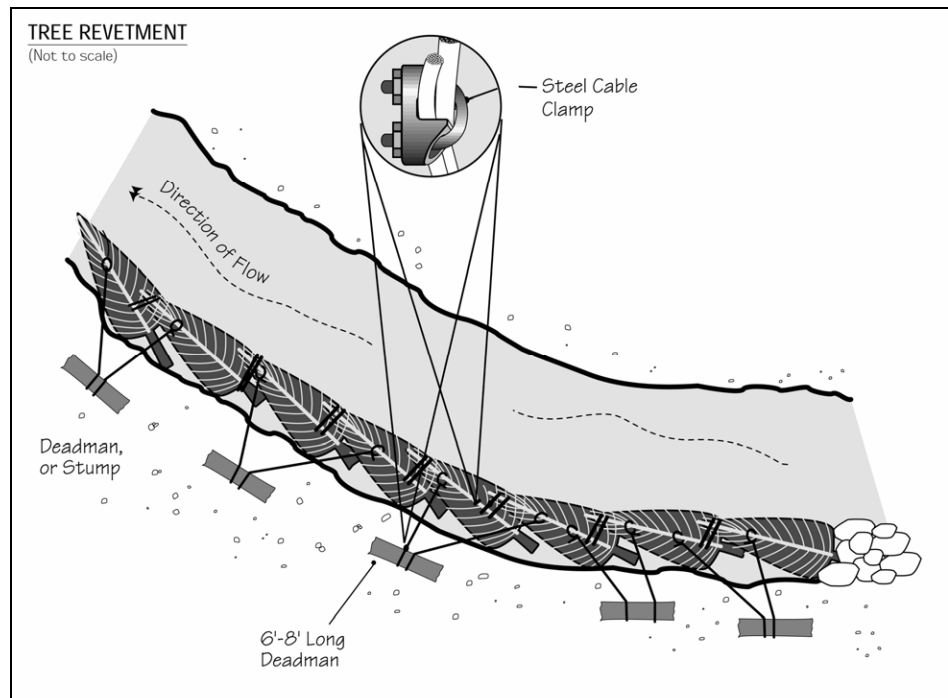


Figure 7.28 Tree Revetment (USDA-FS, 2002)

Additional Resources

- Alaska Department of Fish and Game. 2005. *Spruce Tree Revetment*. http://www.sf.adfg.state.ak.us/sarr/restoration/techniques/images/csbs_strevet.pdf.
- FISRWG. 1998. *Stream Corridor Restoration: Principles, Processes, and Practices*. Federal Interagency Stream Restoration Working Group. http://www.nrcs.usda.gov/technical/stream_restoration/PDFFILES/APPENDIX.pdf.
- Goard, D. 2006. *Riparian Forest Best Management Practices: Tree Revetments*. Kansas State University, Manhattan, KS. <http://www.oznet.ksu.edu/library/forst2/MF2750.pdf>.
- Gough, S. 2004. *Tree Revetments for Streambank Revitalization*. Missouri Department of Conservation, Fisheries Division, Jefferson City, MO. <http://mdc.mo.gov/fish/streams/revetmen/>.

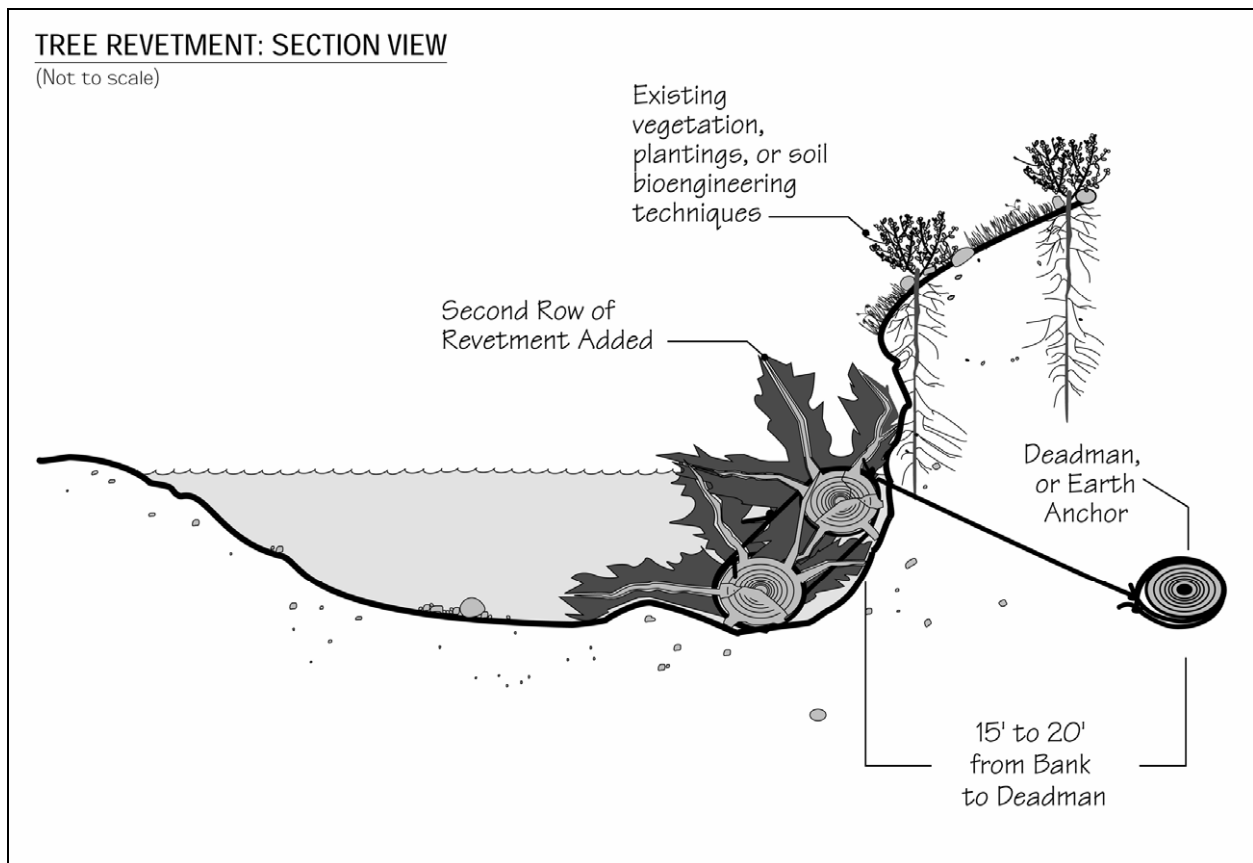


Figure 7.29 Tree Revetment: Section View (USDA-FS, 2002)

Turbine Operation

Implementation of changes in the turbine start-up procedures can also enlarge the zone of withdrawal to include more of the epilimnetic waters in the downstream releases. Monitoring of the releases at the Walter F. George lock and dam (Chattahoochee River, Georgia), showed levels of DO declined sharply at the start-up of hydropower production. The severity and duration of the DO drop were found to be reduced by starting up all the generator units within a minute of each other (Findley and Day, 1987).

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Turbine Venting

Turbine venting is the practice of injecting air into water as it passes through a turbine. If vents are provided inside the turbine chamber, the turbine will aspirate air from the atmosphere and mix it with water passing through the turbine as part of its normal operation. In early designs, the turbine was vented through existing openings, such as the draft tube opening or the vacuum breaker valve in the turbine assembly. Air forced by compressors into the draft tube opening enriched reservoir waters with little detectable DO to concentrations of 3 to 4 mg/L. Overriding the automatic closure of the vacuum breaker valve (at high turbine discharges) increased DO by only 2 mg/L (Harshbarger, 1987).

Turbine venting uses the low-pressure region just below the turbine wheel to aspirate air into the discharges (Wilhelms, 1984). Autoventing turbines are constructed with hub baffles, or deflector plates placed on the turbine hub upstream of the vent holes to enhance the low-pressure zone in the vicinity of the vent and thereby increase the amount of air aspirated through the venting system. Turbine efficiency relates to the amount of energy output from a turbine per unit of water passing through the turbine. Efficiency decreases as less power is produced for the same volume of water. In systems where the water is aerated before passing through the turbine, part of the water volume is displaced by the air, thus leading to decreased efficiency. Hub baffles have also been added to autoventing turbines at the Norris Dam (Clinch River, Tennessee) to further improve the DO levels in the turbine releases (Jones and March, 1991).

Developments in autoventing turbine technology show that it may be possible to aspirate air with no resulting decrease in turbine efficiency. In one test of an autoventing turbine at the Norris Dam, the turbine efficiency increased by 1.8 percent (March et al., 1991; Waldrop, 1992). Technologies like autoventing turbines are very site-specific and outcomes will vary considerably.

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Vegetated Buffers

Like filter strips, vegetated buffers provide a physical separation between a construction site and a waterbody. The difference between a filter strip and a vegetated buffer area is that a filter strip is an engineered device, whereas a buffer is a naturally occurring filter system. Vegetated buffers remove nutrients and other pollutants from runoff, trap sediments, and shade the waterbody to optimize light and temperature conditions for aquatic plants and animals (Welsch, n.d.). Preservation of vegetation for a buffer can be planned before any site-disturbing activities begin so as to minimize the impact of construction activities on existing vegetation. Trees can be clearly marked at the dripline to preserve them and to protect them from ground disturbances around the base of the tree.

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Proper maintenance of buffer vegetation is important. Maintenance requirements depend on the plant species chosen, soil types, and climatic conditions. Maintenance activities typically include fertilizing, liming, irrigating, pruning, controlling weeds and pests, and repairing protective markers (e.g., fluorescent fences and flags).

Additional Resources

- CASQA. 2003. *California Stormwater BMP Construction Handbook: Vegetated Buffer Strips*. California Stormwater Quality Association, Sacramento, CA. <http://www.cabmphandbooks.com/Documents/Development/TC-31.pdf>.
- Ohio DNR. No date. *Ohio Stream Management Guide: Forested Buffer Strips*. Ohio Department of Natural Resources. http://www.ohiodnr.com/water/pubs/fs_st/stfs13.htm.
- River Alliance of Wisconsin. No date. *Benefits of Vegetated Buffers*. River Alliance of Wisconsin, Madison, WI. <http://www.wisconsinrivers.org/documents/policy/Fact%20Sheet%20-%20Benefits%20of%20Vegetated%20Buffers.pdf>.
- Tennessee Department of Environment and Conservation. 2002. *Erosion and Sediment Control Handbook: Vegetative Practices*. Tennessee Department of Environment and Conservation, Nashville, TN. http://state.tn.us/environment/wpc/sed_ero_controlhandbook/2.%20Vegetative%20Practices.pdf.

Vegetated Filter Strips

Vegetated filter strips are low-gradient vegetated areas that filter overland sheet flow. Runoff must be evenly distributed across the filter strip. Channelized flows decrease the effectiveness of filter strips. Level spreading devices are often used to distribute the runoff evenly across the strip (Dillaha et al., 1989).

Vegetated filter strips should have relatively low slopes and adequate length to provide optimal sediment control and should be planted with erosion-resistant plant species. The main factors that influence the removal efficiency are the vegetation type, soil infiltration rate, and flow depth and travel time. These factors are dependent on the contributing drainage area, slope of strip, degree and type of vegetative cover, and strip length. Maintenance requirements for vegetated filter strips include sediment removal and inspections to ensure that dense, vigorous vegetation is established and concentrated flows do not occur. For more information on vegetated filter strips, refer to EPA's *National Management Measures to Protect and Restore Wetlands and Riparian Areas for the Abatement of Nonpoint Source Pollution* (USEPA, 2005b).

Additional Resources

- ISU. 2006. *Iowa Construction Site Erosion Control Manual: Vegetative Filter Strip*. Iowa State University. http://www.ctre.iastate.edu/erosion/manuals/construction/2.8_veg_filter_strip.pdf.
- Leeds, R., L.C. Brown, M.R. Sulc, and L. VanLieshout. No date. *Vegetative Filter Strips: Application, Installation and Maintenance*. The Ohio State University, Food, Agriculture and Biological Engineering, Columbus, OH. <http://ohioline.osu.edu/aex-fact/0467.html>.
- USDA. 2003. *Grass Filter Strips*. U.S. Department of Agriculture, Natural Resources Conservation Service. http://www.oh.nrcs.usda.gov/programs/Lake_Erie_Buffer/filter_strips.html.

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Vegetated Gabions

Vegetated gabions (Figure 7.30) start with wire-mesh, rectangular baskets filled with small to medium rock and soil. The baskets are then laced together to form a structural toe or sidewall. Live branches (0.5 to 1 inch in diameter) are then placed on each consecutive layer between the rock filled baskets to take root, join together the structure, and bind it to the slope. This method is effective for protecting steep slopes where scouring or undercutting is occurring. However, this method is not appropriate in streams with heavy bed load or where severe ice damage occurs. This method provides moderate structural support and should be placed at the base of a slope to stabilize the slope and reduce slope steepness. A stable foundation is required for the installation of these structures. When the rock size needed is not locally available, this design is effective because smaller rocks can be used. A limiting factor of this method is that it is expensive to install and to replace. These structures are relatively expensive to construct and frequently require costly repairs. This method should be combined with other soil bioengineering techniques, particularly revegetation efforts, to achieve a comprehensive streambank restoration design (FISRWG, 1998). There is often opposition to these structures based on their inability to blend in with natural settings and their general lack of aesthetically pleasing qualities (Gore, 1985).

Installation guidelines are available from the USDA NRCS *Engineering Field Handbook, Chapter 18* (USDA-NRCS, 1992). Under EMRRP, the USACE has presented research on vegetated gabions in a technical note (*Gabions for Streambank Erosion Control*).¹³

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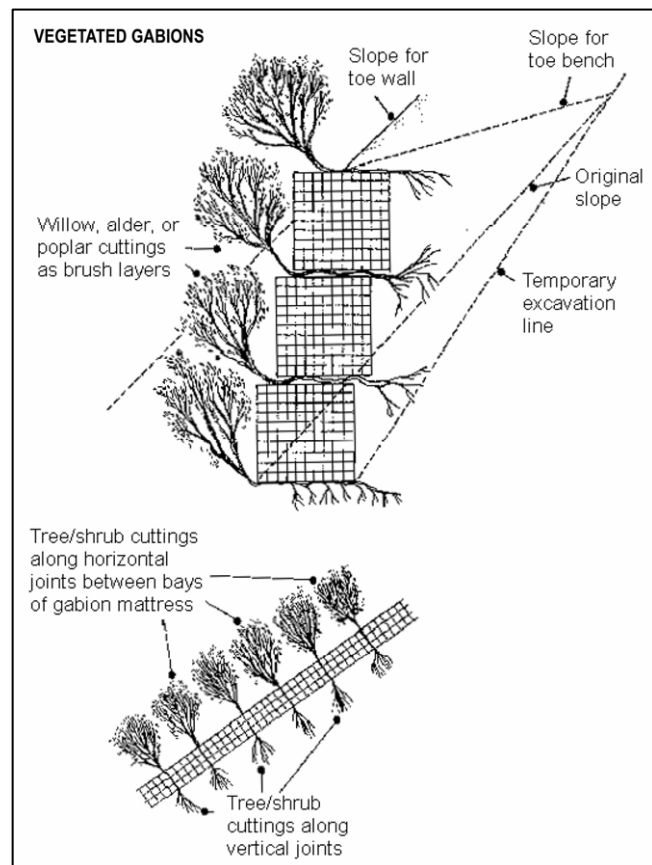


Figure 7.30 Vegetated Gabion (Allen and Leech, 1997)

¹³ <http://el.erdc.usace.army.mil/elpubs/pdf/sr22.pdf>

Additional Resources

- FISRWG. 1998. *Stream Corridor Restoration: Principles, Processes, and Practices*. Federal Interagency Stream Restoration Working Group.
http://www.nrcs.usda.gov/technical/stream_restoration/PDFFILES/APPENDIX.pdf.
- ISU. 2006. *Iowa Construction Site Erosion Control Manual: Gabion*. Iowa State University.
http://www.ctre.iastate.edu/erosion/manuals/construction/3.8_gabion.pdf.
- Mississippi State University, Center for Sustainable Design. 1999. *Water Related Best Management Practices in the Landscape: Vegetated Rock Gabions/Gabions*. Created for United States Department of Agriculture, Natural Resource Conservation Service, Watershed Science Institute. http://www.abe.msstate.edu/csd/NRCS-BMPs/pdf/streams/bank/veg_rockgabions.pdf.
- MMG Civil Engineering Systems, Ltd. 2001. *Vegetated Gabions*. MMG Civil Engineering Systems, Ltd., St. Germans, Kings Lynn, Norfolk, England.
<http://www.verdantsolutions.ltd.uk/acrobat/vegsod.pdf>.
- Ohio DNR. No date. *Ohio Stream Management Guide: Gabion Revetments*. Ohio Department of Natural Resources. http://www.ohiodnr.com/water/pubs/fs_st/stfs15.htm.
- Tennessee Department of Environment and Conservation. 2002. *Erosion and Sediment Control Handbook: Gabion*. Tennessee Department of Environment and Conservation, Nashville, TN.
http://state.tn.us/environment/wpc/sed_ero_controlhandbook/ga.pdf.

Vegetated Geogrids

Vegetated geogrids consist of layers of live branch cuttings and compacted soil with natural or synthetic geotextile materials wrapped around each soil layer (Figure 7.31). This serves to rebuild and vegetate eroded streambanks, particularly on outside bends where erosion can be a problem. This system is designed to capture sediment providing a substrate for plant establishment and if properly designed and installed, these systems help to quickly establish riparian vegetation. Its benefits are similar to those of brush layering (e.g., dries excessively wet sites, reinforces soil as roots develop, which adds significant resistance to sliding or shear displacement). Due to the strength of this design and the higher initial tolerance to flow velocity, these systems can be installed on a 1:1 or steeper streambank or lakeshore. Limitations of this design include the complexity involved with constructing this system and the fairly high expense (FISRWG, 1998). When constructing this type of system, use live branch cuttings that are brushy and root readily. Also use cuttings that are 0.5 to 2 inches in diameter and 4 to 6 feet long. This type of system requires biodegradable erosion control fabric. Installation guidelines are available from the USDA-FS Soil Bioengineering Guide (USDA-FS, 2002).

Channelization

- Physical & chemical
- Instream/riparian restoration

Dams

- Erosion control
- Runoff control
- Chemical/pollutant control
- Watershed protection
- Aerate reservoir water
- Improve tailwater oxygen
- Restore/maintain habitat
- Maintain fish passage

Erosion

- Streambanks Shorelines
- Vegetative
- Structural
- Integrated
- Planning & regulatory

Additional Resources

- FISRWG. 1998. *Stream Corridor Restoration: Principles, Processes, and Practices*. Federal Interagency Stream Restoration Working Group. http://www.nrcs.usda.gov/technical/stream_restoration/PDFFILES/APPENDIX.pdf.
- Massachusetts DEP. 2006. *Massachusetts Nonpoint Source Pollution Management Manual: Vegetated Geogrids*. Massachusetts Department of Environmental Protection, Boston, MA. <http://projects.geosyntec.com/NPSManual/Fact%20Sheets/Vegetated%20Geogrids.pdf>.
- ISU. 2006. *How to Control Streambank Erosion: Vegetated Geogrids*. Iowa State University. http://www.ctre.iastate.edu/erosion/manuals/streambank/vegetated_geogrids.pdf.
- Mississippi State University, Center for Sustainable Design. 1999. *Water Related Best Management Practices in the Landscape: Vegetated Geogrids*. Created for United States Department of Agriculture, Natural Resource Conservation Service, Watershed Science Institute. <http://www.abe.msstate.edu/csd/NRCS-BMPs/pdf/streams/bank/vegegeogrids.pdf>.

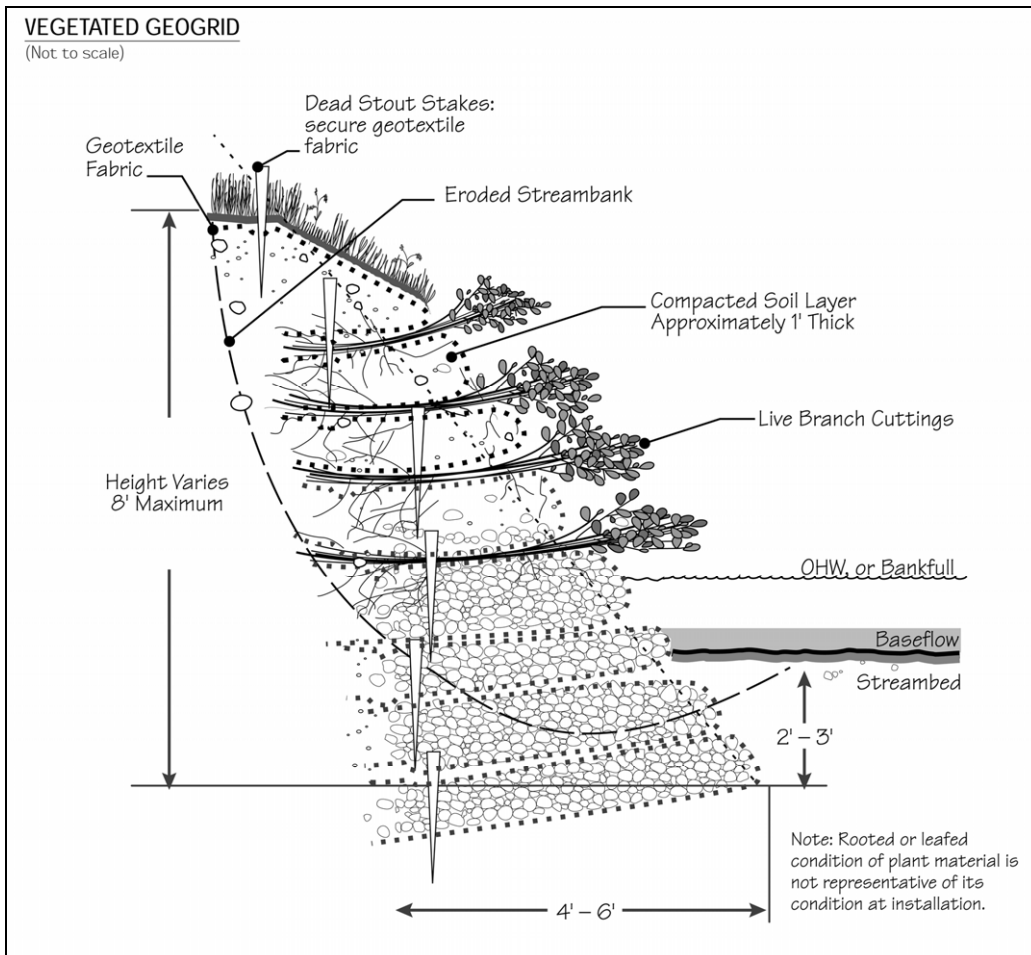


Figure 7.31 Vegetated Geogrid (USDA-FS, 2002)

Vegetated Reinforced Soil Slope (VRSS)

The vegetated reinforced soil slope (VRSS) soil system (Figures 7.32 and 7.33) is an earthen structure constructed from living, rootable, live-cut, woody plant material branches, bare root, tubling or container plant stock, along with rock, geosynthetics, geogrids, and/or geocomposites. The VRSS system is useful for immediately repairing or preventing deeper failures, providing a structurally sound system with soil reinforcement, drainage, and erosion control (typically on steepened slope sites with limited space). Living cut branches and plants grow and perform additional soil reinforcement via the roots and surface protection via the top growth (Sotir and Fischenich, 2003).

Live vegetation is typically installed from just above baseflow elevation and up the face of the reconstructed streambank, acting to protect the bank through immediate soil reinforcement and confinement, drainage, and, in the toe area, with rock. The system extends below the depth of scour, typically with rock, which improves infiltration and supports the riparian zone. Internal systems (e.g., rock, live cut branches) can be configured to act as drains that redirect or collect internal bank seepage and transport water to the stream via a rock toe (Sotir and Fischenich, 2003).

Plants may be selected to provide color, texture, and other attributes to add a natural landscape appearance. Examples of plants include dogwood, willow, hibiscus, and *Viburnum* spp. Check with your local NRCS office to make sure these are appropriate for the location. If a compound channel cross section is desirable near or just below the baseflow elevation, a step-back terrace may be incorporated to offer an enhanced riparian zone where emergent aquatic plants may invade over time. Although the total mass uptake may be small, they assimilate contaminants within the water column. Aquatic wetland plants that may be installed adjacent to the stream include blueflag, monkey flower, and pickerelweed. Again, check with your local NRCS office to ensure these are appropriate. VRSS systems can be constructed on slopes ranging from 1V on 2H (1:2) to 1:0.5. When constructed in step or terrace fashion, they improve pollutant control by intercepting sediment and attached pollutants during overbank flows (Sotir and Fischenich, 2003). Additional information about VRSS systems is available from USACE's *Vegetated Reinforced Soil Slope Streambank Erosion Control*.¹⁴

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Figure 7.32 VRSS Structure After Construction (Sotir and Fischenich, 2003)



Figure 7.33 Established VRSS Structure (Sotir and Fischenich, 2003)

¹⁴ <http://el.erdc.usace.army.mil/elpubs/pdf/sr30.pdf>

Water Conveyances

These are the open or closed channel, conduit, or drop structure used to convey water from a reservoir. The USACE has studied the performance of spillways and overflow weirs at its facilities to determine the importance of these structures in improving DO levels. For example, data have been analyzed for the test spill done in 1999 at Canyon Ferry Dam in Montana, which found that allowing a portion of the releases to go over the spillways resulted in a significant increase in DO in the river downstream of the dam. Initially the use of spillways appeared to be a viable solution to the problem of low dissolved oxygen in the river below the dam. However, there was a problem with nitrogen supersaturation.

The operation of some types of hydraulic structures has been linked to problems of the supersaturation. An unexpected fish kill occurred in spring 1978 due to supersaturation of nitrogen gas in the Lake of the Ozarks (Missouri) within 5 miles of Truman Dam, caused by water plunging over the spillway and entraining air. The vertical drop between the spillway crest and the tailwaters was only 5 feet. The maximum total gas saturation was 143 percent, which is well above desired saturation levels. In this case, the spillway was modified by cutting a notch to prevent water from plunging directly into the stilling basin (ASCE, 1986).

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Wildflower Cover

Because of the hardy, drought-resistant nature of wildflowers, they may be more beneficial as an erosion control practice than turf grass. Though not as dense as turfgrass, wildflower thatches and associated grasses are expected to be as effective in erosion control and contaminant absorption. An additional benefit of wildflower thatches is that they provide habitat for wildlife, including insects and small mammals. Because thatches of wildflowers do not need fertilizers, pesticides, or herbicides and watering is minimal, implementation of this practice may result in cost savings.

A wildflower stand requires several years to become established, but maintenance requirements are minimal once established. Prices vary greatly, from less than \$15 (Stock Seed Farms, n.d.) to \$40 (Albright Seed Company, 2002) a pound, for wildflower seed mixes. The amount of wildflower seeds applied depends on the desired coverage of wildflowers. However, Stock Seed Farms recommends that one pound of seed can cover 3,500 ft² (Stock Seed Farms, n.d.). Keep in mind that species selection should focus on those wildflowers and grasses native to the given area or appropriate to the site.

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Wind Erosion Controls

Wind erosion controls limit the movement of dust from disturbed soil surfaces and include many different practices. Wind barriers block air currents and are effective in controlling soil blowing. Many different materials can be used as wind barriers, including solid board fences, snow fences, and bales of hay. Sprinkling moistens the soil surface with water and must be repeated as needed to be effective for preventing wind erosion (Delaware DNREC, 2003); however, applications must be monitored to prevent excessive runoff and erosion.

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Wing Deflectors

Wing deflectors are structures that protrude from either streambank but do not extend entirely across a channel. The structures are designed to deflect flows away from the bank, and create scour pools by constricting the channel and accelerating flow. The structures can be installed in series on alternative streambanks to produce a meandering thalweg and stream diversity. The most common design is a rock and rock-filled log crib deflector structure. The design bases the size of the structure on anticipated scour. These structures need to be installed far enough downstream from riffle areas to avoid backwater effects that could drown out or damage the riffle. This design should be employed in streams with low physical habitat diversity, particularly channels that lack pool habitats. Construction on a sand bed stream may be susceptible to failure and should be constructed with the use a filter layer or geotextile fabric beneath the wing deflector structure (FISRWG, 1998).

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Additional Resources

- FISRWG. 1998. *Stream Corridor Restoration: Principles, Processes, and Practices*. Federal Interagency Stream Restoration Working Group. http://www.nrcs.usda.gov/technical/stream_restoration/PDFFILES/APPENDIX.pdf.
- Massachusetts DEP. 2006. *Massachusetts Nonpoint Source Pollution Management Manual: Wing Deflectors*. Massachusetts Department of Environmental Protection, Boston, MA. <http://projects.geosyntec.com/NPSManual/Fact%20Sheets/Wing%20Deflectors.pdf>.
- Mississippi State University, Center for Sustainable Design. 1999. *Water Related Best Management Practices in the Landscape: Single Wing Deflector*. Created for United States Department of Agriculture, Natural Resource Conservation Service, Watershed Science Institute. <http://www.abe.msstate.edu/csd/NRCS-BMPs/pdf/streams/bank/singlewing.pdf>.
- Mississippi State University, Center for Sustainable Design. 1999. *Water Related Best Management Practices in the Landscape: Double Wing Deflector*. Created for United States Department of Agriculture, Natural Resource Conservation Service, Watershed Science Institute. <http://abe.msstate.edu/csd/NRCS-BMPs/pdf/streams/bank/doublewing.pdf>.
- Ohio DNR. No date. *Ohio Stream Management Guide: Deflectors*. Ohio Department of Natural Resources. http://www.ohiodnr.com/water/pubs/fs_st/stfs19.pdf.
- SMRC. No date. *Stream Restoration: Flow Deflection/Concentration Practices*. The Stormwater Manager's Resource Center. http://www.stormwatercenter.net/Assorted%20Fact%20Sheets/Restoration/flow_deflection.htm.

Chapter 8: Modeling Information

Physical and chemical effects of hydraulic and hydrologic changes to streams, rivers, or other surface water systems can often be estimated with models and past experience (expert judgment). Several different models are available that can simulate many of the complex physical, chemical, and biological interactions that occur when hydraulic changes are imposed on surface water systems. Additionally, models can sometimes be used to determine a combination of practices to mitigate the unavoidable effects that occur even when a project is properly planned. Models, however, cannot be used independently of expert judgment gained through past experience. When properly applied models are used in conjunction with expert judgment, the effects of hydromodification activities (both potential and existing projects) can be evaluated and many undesirable effects prevented or eliminated. Models combined with expert judgment can also be used to evaluate existing hydromodification activities as part of operation and maintenance programs to identify possible opportunities to reduce or eliminate water quality impacts.

In the U.S. Army Corps of Engineers' (USACE's) report, *Review of Watershed Water Quality Models*¹ (Deliman et al., 1999), the authors compare and evaluate existing hydrologic and watershed water quality models, make recommendations for base model(s) for predicting nonpoint source (NPS) pollution, and identify areas for model improvement. The authors review commonly used and well validated models used in urban or nonurban settings. Users of the models can use the report to obtain basic model information and to review how well the models simulate NPS pollution and where the authors think improvements could be made. This information might be useful to readers who are trying to select the best model for analyzing how to reduce NPS pollution in their watersheds (Deliman et al., 1999).

Tables 8.1 and 8.2 below provided example of models and assessment approaches that could be used to determine the effects of hydromodification activities.

¹ <http://el.erdc.usace.army.mil/elpubs/pdf/trw99-1.pdf>

Available Models and Assessment Approaches

Table 8.1 lists some of the models available for studying the effects of channelization and channel modification activities, as well as models to analyze watershed runoff and to assess BMPs and low impact development to reduce impacts (of hydromodification activities.) The table also provides a quick description of each model and the dimension in which it models, as well as source and contact information.

Table 8.1 Models Applicable to Hydromodification Activities

Model	Dimension	Description	Model Resources
<i>Channelization and Channel Modification Models</i>			
BRANCH	1	The Branch-Network Dynamic Flow Model is used to simulate steady state flow in a single open channel reach or throughout a system of branches connected in a dendritic or looped pattern. The model is typically applied to assess flow and transport in upland rivers where flows are highly regulated or backwater effects are evident, or in coastal networks of open channels where flow and transport are governed by the interaction of freshwater inflows, tidal action, and meteorological conditions. (Last updated: 1997)	http://water.usgs.gov/cgi-bin/man_wrdapp?branch
CE-QUAL-RIV1	1	CE-QUAL-RIV1 is a one-dimensional (cross-sectionally averaged) hydrodynamic and water quality model, meaning that the model resolves longitudinal variations in hydraulic and quality characteristics and is applicable where lateral and vertical variations are small. CE-QUAL-RIV1 consists of two parts, a hydrodynamic code (RIV1H) and a water quality code (RIV1Q). The hydrodynamic code is applied first to predict water transport and its results are written to a file, which is then read by the quality model. It can be used to predict one-dimensional hydraulic and water quality variations in streams and rivers with highly unsteady flows, although it can also be used for prediction under steady flow conditions.	http://www.wes.army.mil/el/elmodels/riv1info.html

Model	Dimension	Description	Model Resources
CE-QUAL-W2	2	CE-QUAL-W2 is a two-dimensional, laterally averaged, finite difference hydrodynamic and water quality model for rivers, reservoirs, and estuaries. Because the model assumes lateral homogeneity, it is best suited for relatively long and narrow waterbodies exhibiting longitudinal and vertical water quality gradients. Branched networks can be modeled. The model accommodates variable grid spacing (segment lengths and layer thicknesses) so that greater resolution in the grid can be specified where needed.	http://smig.usgs.gov/cgi-bin/SMIC/model_home_pages/model_home?selection=cequalw2 http://www.ce.pdx.edu/w2
CH3D-SED	1, 2, or 3	The CH3D numerical modeling system can be used to investigate sedimentation on bendways, crossings, and distributaries. Applications address dredging, channel evolution, and channel training structure evaluations.	http://chl.erdc.usace.army.mil/chl.aspx?p=s&a=Software;22
EFDC	1, 2, or 3	The Environmental Fluid Dynamics Code is a single source, three-dimensional, finite-difference modeling system having hydrodynamic, water quality-eutrophication, sediment transport and toxic contaminant transport components linked together.	John Hamrick developed this at the Virginia Institute of Marine Science 1990-1991. Dr. John Hamrick, Tetra Tech, Inc. 10306 Eaton Place, Suite 340 Fairfax, VA 22030
EFM	1	Ecosystem Functions Model (EFM) is a planning tool that analyzes ecosystem response to changes in flow regime. EFM allows environmental planners, biologists, and engineers to determine whether proposed alternatives (e.g., reservoir operations, levee alignments) would maintain, enhance, or diminish ecosystem health. Project teams can use EFM software to visualize existing ecologic conditions, highlight promising restoration sites, and assess and rank alternatives according to the relative enhancement (or decline) of ecosystem aspects. The hydraulic modeling portion of the EFM process is performed by existing independent software, such as HEC-RAS.	http://el.erdc.usace.army.mil/elpubs/pdf/smartnote04-4.pdf

Model	Dimension	Description	Model Resources
FESWMS-2DH	2	FESWMS-2DH is a finite element surface water modeling system for two-dimensional flow in a horizontal plane. The model can simulate steady and unsteady surface water flow and is useful for simulating two-dimensional flow where complicated hydraulic conditions exist (e.g., highway crossings of streams and flood rivers). It can also be applied to many types of steady or unsteady flow problems. (Last updated: 1995)	http://water.usgs.gov/cgi-bin/man_wrdapp?feswms-2dh
HEC-6	1	HEC-6 is a one-dimensional, moveable boundary, open channel flow numeric model designed to simulate and predict changes in river profiles resulting from scour and deposition over moderate time periods, typically years. Latest revision occurred in 1993.	http://www.hec.usace.army.mil/software/legacysoftware/hec6/hec6.htm
HEC-HMS	1	The HEC-HMS model is designed to simulate the precipitation-runoff processes of dendritic watershed systems. It is applicable in a wide range of geographic areas for solving the widest possible range of problems, including large river basin water supply and flood hydrology, and small urban or natural watershed runoff. Hydrographs produced by the program are used directly or in conjunction with other software for studies of water availability, urban drainage, flow forecasting, future urbanization impact, reservoir spillway design, flood damage reduction, floodplain regulation, and systems operation.	http://www.hec.usace.army.mil/software/hec-hms/index.html http://el.erdc.usace.army.mil/elpubs/pdf/smartnote04-3.pdf

Model	Dimension	Description	Model Resources
HEC-RAS	1	<p>HEC-RAS is an integrated system of software, designed for interactive use in a multi-tasking, multi-user network environment. The system is comprised of a graphical interface (GUI), separate hydraulic analysis components, data storage and management capabilities, graphics and reporting facilities. The model performs one-dimensional steady flow, unsteady flow, and sediment transport calculations. The key element is that all three components will use a common geometric data representation and common geometric and hydraulic computation routines. In addition to the three hydraulic analysis components, the system contains several hydraulic design features that can be invoked once basic water surface profiles are computed. The HEC-RAS modeling system was developed as a part of the Hydrologic Engineering Center's "Next Generation" (NexGen) of hydrologic engineering software. The NexGen project encompasses several aspects of hydrologic engineering, including: rainfall-runoff analysis; river hydraulics; reservoir system simulation; flood damage analysis; and real-time river forecasting for reservoir operations.</p>	<p>http://www.hec.usace.army.mil/software/hec-ras</p>
HIVEL2D	1, 2	<p>HIVEL2D is a free-surface, depth averaged model designed specifically to simulate flow in typical high-velocity channels.</p>	<p>http://chl.erdc.usace.army.mil/CHL.aspx?p=s&a=Software;6</p>
RiverWare™	1	<p>RiverWare™ is a reservoir and river modeling software decision support tool. With RiverWare™, users can model the topology, physical processes and operating policies of river and reservoir systems, and make better decisions about how to operate these systems by understanding and evaluating the trade-offs among the various management objectives. Water management professionals can improve their management of river and reservoir systems by using the software. The Bureau of Reclamation, the Tennessee Valley Authority, and the USACE sponsor ongoing RiverWare™ research and development.</p>	<p>http://cadswes.colorado.edu/riverware</p>

Model	Dimension	Description	Model Resources
SAM	1	The model calculates the width, depth, slope and n-values for stable channels in alluvial material. SAM can be used to evaluate erosion, entrainment, transportation, and deposition in alluvial streams. Channel stability can be evaluated, and the evaluation used to determine the cost of maintaining a constructed project. The model is currently being improved and enhanced at WES.	http://chl.ercdc.usace.army.mil/CHL.aspx?p=s&a=Software;2
SIAM	N/A	SIAM is a model designed to simulate the movement of sediment through a drainage network from source to outlet. It allows for evaluation of numerous sediment management alternatives relatively quickly. The model provides an intermediate level of analysis more quantitative than a conventional geomorphic evaluation, but less specific than a numerical, mobile-boundary simulation. SIAM is to be incorporated into a future release of HEC-RAS.	http://www.usbr.gov/pmts/sediment/model/srhsiam/index.html http://www.wes.army.mil/rsm/pubs/pdfs/RSM-2-WS04.pdf
SMS (RMA2 and RMA4)	1, 2	The Surface-Water Modeling System is a generalized numerical modeling system for open-channel flows, sedimentation, and constituent transport.	http://chl.ercdc.usace.army.mil/CHL.aspx?p=s&a=Software;4
TABS-MD (RMA2, RMA4, RMA10, SED2D)	1, 2, or 3	The multi-dimensional numerical modeling system is a collection of generalized computer programs and utility codes, designed for studying multidimensional hydrodynamics in rivers, reservoirs, bays, and estuaries. The models can be applied to study project impacts of flows, sedimentation, constituent transport, and salinity.	http://chl.ercdc.usace.army.mil/CHL.aspx?p=s&a=Software;10
WASP	1, 2, or 3	Water Quality Analysis Simulation Program. Framework for modeling contaminant fate and transport in surface waters. The WASP framework can be used to model biochemical oxygen demand and dissolved oxygen dynamics, nutrients and eutrophication, bacterial contamination, and organic chemical and heavy metal contamination.	http://www.epa.gov/athens/wwqtsc/html/wasp.html

Model	Dimension	Description	Model Resources
Models to Analyze Watershed Runoff and Assess Practices to Reduce Impacts of Hydromodification			
BMP Decision Support System (BMP-DSS)	1	BMP-DSS is a decision-making tool for placement of BMPs/LID practices at strategic locations in urban watersheds based on integrated data collection and hydrologic/hydraulic/water quality modeling. The system uses GIS technology, integrates BMP processes simulation models, and applies system optimization techniques for BMP placement and selection. The system also provides interfaces for BMP placement, BMP attribute data input, and decision optimization management. The system includes a stand-alone BMP simulation and evaluation module, which complements both research and regulatory nonpoint source control assessment efforts and allows flexibility in examining various BMP design alternatives.	Developed by the EPA and Prince George's County Department of Environmental Resources. Contact Dr. Mow-Soung Cheng at 301-883-5836 for more information.
HSPF	1	Hydrological Simulation Program—FORTRAN (HSPF) is a comprehensive package for simulation of watershed hydrology and water quality for both conventional and toxic organic pollutants. HSPF incorporates watershed-scale ARM and NPS models into a basin-scale analysis framework that includes fate and transport in one dimensional stream channels. It is the only comprehensive model of watershed hydrology and water quality that allows the integrated simulation of land and soil contaminant runoff processes with In-stream hydraulic and sediment-chemical interactions. The result of this simulation is a time history of the runoff flow rate, sediment load, and nutrient and pesticide concentrations, along with a time history of water quantity and quality at any point in a watershed. HSPF simulates three sediment types (sand, silt, and clay) in addition to a single organic chemical and transformation products of that chemical.	http://www.epa.gov/ceampubl/swater/hspf/index.htm

Model	Dimension	Description	Model Resources
LSPC	1	LSPC is the Loading Simulation Program in C++, a watershed modeling system that includes streamlined Hydrologic Simulation Program Fortran (HSPF) algorithms for simulating hydrology, sediment, and general water quality on land as well as a simplified stream transport model. LSPC is derived from the Mining Data Analysis System (MDAS), which was developed by EPA Region 3 and has been widely used for mining applications and TMDLs. A key data management feature of this system is that it uses a Microsoft Access database to manage model data and weather text files for driving the simulation. The system also contains a module to assist in TMDL calculation and source allocations. For each model run, it automatically generates comprehensive text-file output by subwatershed for all land-layers, reaches, and simulated modules, which can be expressed on hourly or daily intervals. Output from LSPC has been linked to other model applications such as EFDC, WASP, and CE-QUAL-W2.	http://www.epa.gov/ATHENS/wwqtsc/html/lspc.html
Program for Predicting Polluting Particle Passage through Pits, Puddles, and Ponds—Urban Catchment Model (P8-UCM)	1	P8-UCM is a model for predicting the generation and transport of stormwater pollutants in urban watersheds. Continuous water balance and mass balance calculations are performed on a user-defined system consisting of watersheds, devices (runoff storage/treatment areas, BMPs), particle classes, and water quality components. Simulations are driven by continuous hourly rainfall and daily air temperature time series data. The model simulates pollutant transport and removal in a variety of treatment devices (BMPs).	http://www.walker.net/p8

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Model	Dimension	Description	Model Resources
Storm Water Management Model (SWMM)	1	SWMM is a dynamic rainfall-runoff simulation model used for single event or long-term (continuous) simulation of runoff quantity and quality from primarily urban areas. The runoff component of SWMM operates on a collection of subcatchment areas that receive precipitation and generate runoff and pollutant loads. The routing portion of SWMM transports this runoff through a system of pipes, channels, storage/treatment devices, pumps, and regulators. SWMM tracks the quantity and quality of runoff generated within each subcatchment, and the flow rate, flow depth, and quality of water in each pipe and channel during a simulation period comprised of multiple time steps.	http://www.epa.gov/ednrmrl/models/swmm/index.htm

Table 8.2 lists some of the available assessment models and approaches for assessing the biological impacts of channelization. The table also provides a quick description of the model or approach, as well as sources of additional information.

Table 8.2 Assessment Models and Approaches

Model or Assessment Approach	Description	Model Resources
Assessment Models		
AQUATOX	A freshwater ecosystem simulation model designed to predict the fate of various pollutants such as nutrients and organic toxicants and their effects on the ecosystem, including fish, invertebrates, and aquatic plants (including periphyton).	http://epa.gov/waterscience/models/aquatox
Cornell Mixing Zone Expert System (CORMIX)	A water quality modeling and decision support system designed for environmental impact assessment of mixing zones resulting from wastewater discharge from point sources. The system emphasizes the role of boundary interaction to predict plume geometry and dilution in relation to regulatory mixing zone requirements.	http://www.epa.gov/waterscience/models/cormix.html
HEC-HMS, Hydrologic Modeling System	A system designed to simulate the precipitation-runoff processes of dendritic watershed systems. In addition to unit hydrograph and hydrologic routing options, capabilities include a linear quasi-distributed runoff transform (ModClark) for use with gridded precipitation, continuous simulation with either a one-layer or more complex five-layer soil moisture method, and a versatile parameter estimation option.	http://www.hec.usace.army.mil/software/hec-hms/index.html
HEC-RAS, River Analysis System	The HEC-RAS system is used to calculate water surface profiles for both steady and unsteady gradually varied flow. The system can handle a full network of channels, a dendritic system, or a single river reach.	http://www.hec.usace.army.mil/software/hec-ras/hecras-hecras.html http://www.wsi.nrcs.usda.gov/products/W2Q/H&H/Tools/Models/Ras.html

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Model or Assessment Approach	Description	Model Resources
Physical Habitat Simulation Model (PHABSIM)	A set of computer programs designed to predict the microhabitat (depth, velocities, channel indices) conditions in rivers at different flow levels and the relative suitability of those conditions for different life stages of aquatic life. (Serves as the key microhabitat simulation component of IFIM.)	http://www.fort.usgs.gov/Products/Software/PHABSIM
Riverine Community Habitat Assessment and Restoration Concept (RCHARC)	A simulation approach using computer models to compare hydraulic conditions and microhabitats of a reference reach to alternative study reach(es).	Nestler, J., T. Schneider, and D. Latka. 1993. RCHARC: A new method for physical habitat analysis. <i>Engineering Hydrology</i> , 294-99.
RiverWare™	RiverWare™ is a reservoir and river modeling software decision support tool. With RiverWare™, users can model the topology, physical processes, and operating policies of river and reservoir systems, and make better decisions about how to operate these systems by understanding and evaluating the trade-offs among the various management objectives. Water management professionals can improve their management of river and reservoir systems by using the software. The Bureau of Reclamation, the Tennessee Valley Authority, and the Army Corps of Engineers sponsor ongoing RiverWare™ research and development.	http://cadswes.colorado.edu/riverware
Salmonid Population Model (SALMOD)	A computer model that simulates the dynamics (spawning, growth, movement, and mortality) of freshwater salmonid populations, both anadromous and resident, under various habitat quality and capacities.	http://www.fort.usgs.gov/Products/Software/SALMOD
Assessment Approaches		
A Procedure to Estimate the Response of Aquatic Systems to Changes in Phosphorus and Nitrogen Inputs	A simple tool to estimate the responsiveness of a waterbody to changes in the loading of phosphorus and nitrogen using a dichotomous key that classifies it according to key characteristics.	ftp://ftp.wcc.nrcs.usda.gov/downloads/wqam/aqusens.pdf

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Model or Assessment Approach	Description	Model Resources
EPA Volunteer Stream Monitoring Methods	A series of methods geared for volunteer monitoring programs offering simple to advanced techniques for monitoring macroinvertebrates, habitat, water quality, and physical conditions.	http://www.epa.gov/owow/monitoring/volunteer/stream
Habitat Evaluation Procedures/Habitat Suitability Index (HEP/HSI)	HEP is an evaluation method that determines the suitability of available habitat for select aquatic and terrestrial wildlife species and measures the impact of proposed land or water use changes on that habitat. HSI is a measure of habitat suitability.	http://policy.fws.gov/870fw1.html http://www.fort.usgs.gov/Products/Software/HEP http://www.fort.usgs.gov/Products/Software/HSI
Index of Biological Integrity (IBI)	An aquatic ecosystem health index using measures of total native fish species composition, indicator species composition, pollutant intolerant and tolerant species composition, and fish condition.	http://www.epa.gov/owow/wetlands/wqual/bio_fact/fact5.html
Indicators of Hydrologic Alteration (IHA)	A method for assessing the degree of hydrologic alteration attributable to human impacts within an ecosystem. The method takes daily stream flow values and calculates indices relating to the five components of flow regime critical for ecological processes: magnitude, frequency, duration, timing, and rate of change of hydrologic conditions.	http://www.nature.org/initiatives/freshwater/conservationtools/art17004.html
Instream Flow Incremental Methodology (IFIM)	A river network analysis that incorporates fish habitat, recreational opportunity, and woody vegetation responses to alternative water management schemes. Information is presented as a time series of flow and habitat at select points within the network.	http://www.fort.usgs.gov/Products/Software/IFIM
Invertebrate Community Index (ICI)	An invertebrate community health index using ten structural and compositional invertebrate community metrics including number of mayfly, caddisfly, and dipteran taxa.	http://www.epa.state.oh.us/dsw/bioassess/BioCriteriaProtAqLife.html

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Model or Assessment Approach	Description	Model Resources
(Modified) Index of Well-Being (IWB)	The IWB is a fish community health index using measures of fish species abundance and diversity estimates. The <i>modified</i> index of well being factors out 13 pollutant tolerant species of fish from certain calculations to prevent false high readings on polluted streams which have large populations of pollutant tolerant fish.	http://www.epa.state.oh.us/dsw/bioassess/BioCriteriaProtAgLife.html
Rapid Bioassessment Protocols (RBP)	A set of protocols that offer cost-effective techniques of varying complexity to characterize the biological integrity of streams and rivers using the collection and analysis of biological, physical, and chemical data. It focuses on periphyton, benthic macroinvertebrates, and fish assemblages, and on assessing the quality of the physical habitat.	http://www.epa.gov/owow/monitoring/rbp
Rapid Channel Assessment (RCA)	A reference stream/integrated ranking approach to evaluate the physical condition of a stream channel based on channel geometry, percent channel-bank scour, sediment size distribution and embeddedness, large wood debris, and thalweg profiles.	CWP. 1998. <i>Rapid Watershed Planning Handbook: A Comprehensive Guide for Managing Urbanizing Watersheds</i> . Center for Watershed Protection, Ellicott City, MD. For a copy contact: The Center for Watershed Protection, 8391 Main Street Ellicott City, MD 21043, email: center@cwpp.org .
Rapid Stream Assessment Technique (RSAT)	A reference stream/integrated ranking approach to evaluate steam health based on chemical stability, channel scouring/sediment deposition, physical instream habitat, water quality, riparian habitat, and biological indicators.	CWP. 1998. <i>Rapid Watershed Planning Handbook: A Comprehensive Guide for Managing Urbanizing Watersheds</i> . Center for Watershed Protection, Ellicott City, MD. For a copy contact: The Center for Watershed Protection, 8391 Main Street Ellicott City, MD 21043, email: center@cwpp.org . http://www.stormwatercenter.net
Rosgen's Stream Classification Method	A classification method that uses morphological stream characteristics to organize streams into relatively homogeneous stream types to predict stream behavior and to apply interpretive information.	Reference: Rosgen, D. 1996. <i>Applied River Morphology</i> . Wildland Hydrology, Pagosa Springs, CO. For a copy contact: Wildland Hydrology Books, 1481 Stevens Lake Road, Pagosa Springs, CO 81147.

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Model or Assessment Approach	Description	Model Resources
Stream Network/Stream Segment Temperature Models (SNTMP/SSTEMP)	Developed to help predict the consequences of stream manipulation on water temperatures, these computer models simulate mean daily water temperatures for streams and rivers from data describing the stream's geometry, meteorology, and hydrology. SNTMP is for a stream network with multiple tributaries for multiple time periods. SSTEMP is a scaled down version suitable for single (to a few) reaches and single (to a few) time periods.	http://www.fort.usgs.gov/Products/Software/SNTMP
Stream Visual Assessment Protocol (SVAP)	A simple procedure to evaluate the condition of a stream based on visual characteristics. It also identifies opportunities to enhance biological value and conveys information on how streams function.	ftp://ftp.wcc.nrcs.usda.gov/downloads/wqam/svapfnl.pdf
Systems Impact Assessment Model (SIAM)	An integrated set of models used to aid the evaluation of water management alternatives, it address significant interrelationships among selected physical (temperature, microhabitat), chemical (dissolved oxygen, water temperature), and biological variables (young-of-year Chinook salmon production), and stream flow. Developed for the Klamath River in northern California.	http://www.fort.usgs.gov/Products/Software/SIAM
Time-Series Library (TSLIB)	A set of DOS-based computer programs to create monthly or daily habitat time-series and habitat-duration curves using the habitat-discharge relationship produced by PHABSIM. (Can serve as the hydraulic component of IFIM).	http://www.fort.usgs.gov/Products/Software/TSLIB
TR-20, Computer Program for Project Formulation Hydrology	A physically based watershed scale runoff event model that computes direct runoff and develops hydrographs resulting from any synthetic or natural rainstorm. Developed hydrographs are routed through stream and valley reaches as well as through reservoirs.	http://www.wsi.nrcs.usda.gov/products/W2Q/H&H/Tools_Models/WinTR20.html
TR-55, Urban Hydrology for Small Watersheds	Simplified procedures to calculate storm runoff volume, peak rate of discharge, hydrographs, and storage volumes required for floodwater reservoirs.	http://www.info.usda.gov/CED/ftp/CED/tr55.pdf

Examples of Channel Modification Activities and Associated Models/Practices

Modeling for Impoundments

A low-complexity option for modeling impoundments is to use simple models like the Bathtub model to simulate the waterbody. Compared to more complex multi-dimensional models, which use multiple computational cells to estimate volumetric and contaminant fluxes between the cells, Bathtub-type models typically use a single cell. This single cell, while a simplification of the system, may be appropriate if the system is fully mixed in both the horizontal and vertical dimensions. This approach can also be economically developed using spreadsheets (such as Excel) to calculate the results. However, a Bathtub-type model has limited utility if the water body is stratified or if results are required at more than one location in the system.

Another example of a modeling tool that has the ability to simulate impoundments is CE-QUAL-W2, a two-dimensional hydrodynamic water quality model. CE-QUAL-W2 provides results for either a horizontal or cross-sectional, two-dimensional plane. Because the model assumes a vertically or horizontally-mixed environment, it is best suited for relatively long and narrow water bodies (rivers, lakes, reservoirs, and estuaries) that exhibit longitudinal or vertical water quality stratification. The water quality portion of CE-QUAL-W2 includes the major processes of eutrophication kinetics and a single algal compartment. The bottom sediment compartment stores settled particles, releases nutrients to the water column, and exerts sediment oxygen demand based on user-supplied fluxes; a full sediment diagenesis (i.e., the process of chemical and physical change in deposited sediment during its conversion to rock) model is under development.

The Environmental Fluid Dynamics Code (EFDC) is a general-purpose modeling package for simulating one- or multi-dimensional flow, transport, and bio-geochemical processes in surface water systems including rivers, lakes, estuaries, reservoirs, wetlands, and coastal regions. The EFDC model was originally developed by Hamrick in 1992 at the Virginia Institute of Marine Science for estuarine and coastal applications and is considered public domain software. This model is now EPA-supported as a component of EPA Region 2's PRVI BASINS software system and EPA's TMDL Toolbox,² and has been used extensively to support TMDL development throughout the country. In addition to hydrodynamic, salinity, and temperature transport simulation capabilities, EFDC is capable of simulating cohesive and non-cohesive sediment transport, near field and far field discharge dilution from multiple sources, eutrophication processes, the transport and fate of toxic contaminants in the water and sediment phases, and the transport and fate of various life stages of finfish and shellfish.

Modeling for Estuary Tidal Flow Restrictions

Artificial hydraulic structures have the ability to alter natural flow patterns (hydrodynamic) in an estuary, which may modify erosion patterns, salinity regimes, and the fate and transport of pollutants. Some examples of artificial hydraulic structures include culverts, bridges, tide gates,

² <http://www.epa.gov/athens/wwwqtsc/html/efdc.html>

and weir structures. Installation or removal of these structures may cause a significant change in local hydrodynamics, and tools may be used to estimate the impacts prior to the modification.

The EFDC model, as described above, allows modelers to evaluate the impacts of hydraulic structures, such as culverts, bridges, tide gates, and weirs. Due to the flexibility of EFDC, each of these structures can also be conceptually represented in a variety of ways. For example, the weir equation can be applied to locations in the modeling grid to estimate water surface-dependent flow through one or more grid cells. This enables a modeler to evaluate the effect of placement of structures that modify surface flow patterns (such as a weir). Structures such as piers and impermeable barriers (e.g. jetties, breakwaters) can also be simulated using this code.

Another modeling tool that can address estuary tidal flow restrictions is the Finite Element Surface Water Modeling System (FESWMS) model. This modeling code was developed by the Federal Highway Administration (FHA) and is distributed by the U.S Geological Survey (USGS). FESWMS is a hydrodynamic modeling code that simulates two-dimensional, depth-integrated, steady or unsteady surface-water flows. It supports both super and subcritical flow analysis, and area wetting and drying. FESWMS is also suited for modeling regions involving flow control structures, such as are encountered at the intersection of roadways and waterways. Specifically, the FESWMS model allows the user to include weirs, culverts, drop inlets, and bridge piers into a standard two-dimensional finite element model. FESWMS does not have three-dimensional capabilities.

Modeling for Estuary Flow Regime Alterations

A number of structures or processes can alter the flow regime of a system. Flow contributions to an estuary can be altered by upstream diversions or basin transfers, dams and dam releases, or other channel modifications. For example, when freshwater flows patterns are altered by the presence and operation of a dam, EFDC can be used to model the impact to downstream estuaries. EFDC can provide modelers with a time series representation of flow that is withdrawn from a simulated reservoir/dam system. Coupling the time series flow projections with hydrodynamic analysis of the receiving estuary enables modelers to determine potential impacts of altered flow patterns and to evaluate various spill options for the dam operation. Structures within the estuary that may alter the flow patterns include marinas, piers, jetties, and other similar type structures. Flow regime alterations due to these structures can be simulated using the same modeling tools described in the Flow Restrictions section above. Flow restrictions are the cause of most changes in the flow regime, so the simulation of the causes of restriction using a process-based modeling tool produces the desired flow alterations. Therefore, EFDC and FESWMS can be utilized in the same manner to obtain flow regime results.

Temperature Restoration Practices

Several computer models that predict instream water temperature are currently available. These models vary in the complexity of detail with which site characteristics, including meteorology, hydrology, stream geometry, and riparian vegetation, are described. The U.S. Fish and Wildlife Service developed an instream surface water temperature model (Theurer et al., 1984) to predict mean daily temperature and diurnal fluctuations in surface water temperatures throughout a stream system. The model, Stream Network Temperature Model (SNTEMP), can be applied to any size watershed or river system. This predictive model uses either historical or synthetic

hydrological, meteorological, and stream geometry characteristics to describe the ambient conditions. The purpose of the model is to predict the longitudinal temperature and its temporal variations. The instream surface water temperature model has been used satisfactorily to evaluate the impacts of riparian vegetation, reservoir releases, and stream withdrawal and returns on surface water temperature. In the Upper Colorado River Basin, the model was used to study the impact of temperature on endangered species (Theurer et al., 1982). It also has been used in smaller ungauged watersheds to study the impacts of riparian vegetation on salmonid habitat.³

The Stream Segment Temperature Model (SSTEMP) is a much-scaled down version of the SNTemp model developed by the USGS Biological Resource Division. Unlike the large network model (SNTemp), this program only handles single stream segments for a single time period (e.g., month, week, day) for any given “run.” Initially designed as a training tool, SSTEMP may be used satisfactorily for a variety of simple cases that one might face on a day-to-day basis. It is especially useful to perform sensitivity and uncertainty analysis. The model predicts minimum 24-hour temperatures, mean 24-hour temperatures, and maximum 24-hour stream temperatures for a given day, as well as a variety of intermediate values. The SSTEMP model identifies current stream and/or watershed characteristics that control stream temperatures. The model also quantifies the maximum loading capacity of the stream to meet water quality standards for temperature. This model is important for estimating the effect of changing controls or factors (such as riparian grazing, stream channel alteration, and reduced streamflow) on stream temperature. The model can also be used to help identify possible implementation activities to improve stream temperature by targeting those factors causing impairment to the stream. Good input data and an awareness of the model’s assumptions are critical to obtaining reliable predictions. SSTEMP may be used to evaluate alternative reservoir release proposals, analyze the effects of changing riparian shade or the physical features of a stream, and examine the effects of different withdrawals and returns on instream temperature.⁴

Selecting Appropriate Models

Although a wide range of adequate hydrodynamic and surface water quality models are available, the central issue in selecting appropriate models for evaluating hydromodification projects is the appropriate match of the financial and geographical scale of the proposed project with the cost required to perform a credible technical evaluation of the projected environmental impact. It is highly unlikely, for example, that a proposal for a relatively small stream channel modification project, such as installing culverts in a stream segment, would be expected or required to contain a state-of-the-art hydrodynamic and surface water quality analysis that requires one or more person-years of effort. In such projects, a simplified, desktop approach (e.g., HEC-RAS Model) requiring less time and money would most likely be sufficient (USACE, 2002a). In contrast, substantial technical assessment of the long-term environmental impacts would be expected for channelization proposed as part of construction of a major harbor facility or as part of a system of navigation and flood control locks and dams. The assessment should

³ For more information or to download SNTemp, see the U.S. Geological Survey Web site: <http://www.fort.usgs.gov/Products/Software/SNTemp>.

⁴ More information about the model is available on the U.S. Geological Survey Web site: <http://www.mesc.usgs.gov/products/software/default.asp> (navigate to Stream Network Temperature Model and Stream Segment Temperature Model).

incorporate the use of detailed 2D or 3D hydrodynamic models coupled with sediment transport and surface water quality models.

In general, six criteria can be used to review available models for potential application in a given hydromodification project:

1. Time and resources available for model application
2. Ease of application
3. Availability of documentation
4. Applicability of modeled processes and constituents to project objectives and concerns
5. Hydrodynamic modeling capabilities
6. Demonstrated applicability to size and type of project

The Center for Exposure Assessment Modeling (CEAM),⁵ EPA Environmental Research Laboratory, Athens, Georgia, provides continual support for several hydrodynamic and surface water quality models, such as HSCTM2D, HSPF, PRZM3, and SED3D. Another source of information and technical support is the Waterways Experiment Station, USACE, Vicksburg, Mississippi.⁶ Although a number of available models are in the public domain, costs associated with setting up and operating these models may exceed the project's available resources. For a simple to moderately difficult application, the approximate level of effort varies, but could range from 1 to 12 person-months.

Several factors need to be considered in the application of mathematical models to predict impacts from hydromodification projects including:

- Variations and uncertainties in the accuracy of these models when they are applied to the short- and long-term response of natural systems.
- Availability of relevant information (data collection) to derive the simulations and validate the modeling results.

The cost of a given modeling project depends on a number of factors. Questions need to be asked prior to the start of a modeling project to determine the purpose and future use of the model, and/or its results. For example, the modeler needs to know if the model results are to be used deterministically (the model assumes there is only one possible result that is known for each alternative course or action), or if the model is to be used for a heuristic (involving or serving as an aid to learning, discovery, or problem-solving by experimental and especially trial-and-error methods) scoping exercise to identify data gaps in a system. In a deterministic study, the results are traditionally compared to observed data in an effort regarded as calibration and validation. The model must therefore be rigorous enough to represent the system accurately. The complexity of the system under study is also a consideration that must be made prior to the project. The complexity of the system generally correlates well with the level of complexity of the model required to simulate it. Likewise, the more complex the model is, the more intensive it is to develop and run, and the more costly the modeling project is.

⁵ <http://www.epa.gov/ceampubl>

⁶ <http://www.erc.usace.army.mil>

A number of approaches are available to model a given system, and the discussion above only highlights a few of the modeling tools currently available. The cost to set up a model for a given system varies tremendously, based not only on the modeling code selected, but also on what the modeler decides to simulate. For example, a modeler may aim to obtain flow results for an estuary using a given model. In reality, surface winds in that estuary may or may not be influencing the flow regime. If observed wind data is available from a weather station nearby, the modeler may choose to incorporate these data into the model to better represent that influence. The modeler may also choose not to incorporate these data, or the data may not be available. Although the modeler is utilizing the same modeling code, the decision regarding whether or not to simulate the wind conditions is not only a question regarding the model's purpose, but also what the development of this model will cost.

Modeling tools can range from simple spreadsheet tools using "back of the envelope" type calculations, to complex processed based models that must be run on high performance computing systems. As discussed previously, the tool selected for a given modeling project needs to be chosen with a number of questions in mind. As a result, each system can be modeled in a number of different ways with a number of different modeling codes. Therefore, the range in cost for even a single estuary or impoundment may range tenfold depending on the model's purpose. Typically, the cost of developing a model may range from a few thousand dollars for a simple spreadsheet model, to in excess of one million dollars for a more robust modeling system.

Chapter 9: Dam Removal Requirements, Process, and Techniques

Chapter 2 provided a discussion of specific impacts from dams, water quality above and below the dam, suspended sediment and recharge issues, and biological and habitat impacts. Chapter 4 then provided a discussion of types of dams, Federal Energy Regulatory Commission (FERC) requirements, management measures and practices that can be used to mitigate for some of the effects of dams, and information to consider when contemplating removing a dam. Chapter 9 focuses on what occurs after the decision has been made to remove a dam. This chapter provides a more detailed discussion on some permitting requirements for removing dams, the dam removal process, and sediment removal techniques to consider when removing a dam.

Requirements for Removing Dams

Removing a dam may require evaluations and permits from state, federal, and local authorities. These requirements are typically to ensure that the removal is done in a manner that is safe and minimizes short and long term impacts to the river and floodplain. States and local governments have different requirements. The following federal requirements may apply to dam removal:

- Rivers and Harbors Act Permit
- FERC License Surrender or Non-power License Approval
- National Environmental Policy Act (NEPA) Review
- Federal Consultations (Endangered Species Act Section 7 Consultation, Magnuson-Stevenson Act Consultation, National Historic Preservation Act Compliance)
- State Certifications (Water Quality Certification, Coastal Zone Management Act Certification)

The following state requirements might apply to dam removal:

- Clean Water Act (CWA) Section 404 Dredge and Fill Permit
- Waterway Development Permits
- Dam Safety Permits
- State Environmental Policy Act Review
- Historic Preservation Review
- Resetting the Floodplain
- State Certifications

Demolition and building permits may also be required for dam removal. Individual state and local governments may have additional requirements as well.

Tips for a Successful Permitting Process (American Rivers, 2002b)

Dam removal is relatively new and the permitting process can be difficult. Most state and federal agencies are not yet practiced at moving dam removal through the permitting process. The relevant permitting requirements were designed for more destructive activities, and dam removal does not easily fit into the requirements. Tips to help make the process smoother include:

Schedule Time

- *Expect dam removal projects to take longer than construction efforts.*
- *Schedule more lead-time into the permitting process to avoid delays and frustrations.*

Establish a Relationship with the Permitting Agencies

- *Hold a pre-application meeting with key agency staff once your project is well thought out.*
- *Do not attempt to circumvent the process and stick with the permitting timeline.*
- *Do not provide inconsistent information.*
- *A single point of contact for the group applying for the permit will help avoid confusion and maintain communication.*

Providing Information about the Proposed Project

- *Create clear and simple descriptions and drawings (to scale) of the proposed project.*
- *Be sure to identify complicating conditions, schedules, seasonal constraints, etc.*
- *Provide and discuss alternatives, but make it clear why the chosen approach should be used.*
- *Assume the reviewers know nothing about your project.*

Dam Removal Process

The complexity of the removal process of a dam is specific to each particular case of removal. There are two major components of the removal process: the stakeholders involved in the decision-making process of removing the dam and the actual physical removal of the dam itself. The authorities that govern dams are numerous, yet overlapping. These entities include: USACE, Bureau of Reclamation, FERC, and other federal agencies; interest groups; and state and local governments. There are also various state programs that have been created to keep dams safe and environmentally friendly, as well as to help owners finance dam removal. A study by the Aspen Institute (2002) provides a list of priority issues to consider when dam removal may be a possibility. Among the considerations listed are dam and public safety, economics, environmental concerns, risk, social values and community interests, scientific information, and stakeholder participation. This report suggests that success of dam removal is dependent upon a thorough analysis of these competing factors and input from all interested parties (Aspen Institute, 2002). Often, the dam owner makes the decision to remove a dam, deciding that the costs of continuing operation and maintenance are greater than the cost of removing the dam. However, state dam safety offices can order for a dam to be removed if there are safety concerns; FERC can order removal of dams under their jurisdiction for environmental and safety reasons (American Rivers, n.d.a.).

State governments have authority over the dams in their jurisdiction. Other state and local government agencies dealing with issues such as water quality, water rights, and fish and wildlife protection can also play a role in overseeing dams within their jurisdiction if they so choose

(FOE et al., 1999). Certain states have implemented stringent rules for dams that are and are not regulated by FERC or USACE. For example, the state of Wisconsin has a Dam Safety Inspection Program that requires dams to be inspected every 10 years by the Wisconsin Department of Natural Resources (WDNR) (Doyle et al., 2000). Any dam that fails to meet safety requirements set by WDNR must be repaired or removed. The state of Pennsylvania has implemented a law that was written under the order of the Pennsylvania Fish and Boat Commission that states that any newly constructed or existing dam that requires a state permit for construction or modification must also include provisions for fish passage (Doyle et al., 2000).

Some states have programs that aid dam owners in the process of removing their structures. The Pennsylvania Department of Environmental Protection (DEP) has adopted procedures to make it easier and less expensive for dam owners to remove unsafe, unused, or unwanted dams. In this process, owners of dams on third order or larger streams are contacted and asked if they are interested in removing their dams. If they are, then all the landowners affected by the removal are contacted, and a public meeting is held if interest warrants one. After public comments, an engineering design is created, followed by an environmental assessment, then sediment and erosion control (ESC) plans are established, and finally approval is sought by the USACE. This program was used in the removal of seven dams on Conestoga River and also in the removal of the Williamsburg Station Dam on the Juniata River. This approval process takes between 12 and 18 weeks (FOE et al., 1999). However, the physical decommissioning and removing of a dam can still be a lengthy and diversified process.

Sediment Removal Techniques

Large dams can trap thousands to millions of cubic yards of sediment over time, eliminating the flood control or storage capacity of the dam. Removal or control of sediment behind a dam can represent a large portion of the cost and planning effort of a dam removal project. There are several methods available to project planners and dam owners that target different pollution concerns and budgetary limitations (International Rivers Network, 2003). The options in terms of sediment removal range from complete removal and relocation of all accumulated material from the inundated regions; removing sediment only from the anticipated channel of the river, or allowing the river to erode a new channel through the sediment (Wunderlich et al., 1994).

If the sediment is basically clean and the main concern is turbidity and clogging downstream streambed spawning areas, gradual incremental drawdowns of the reservoir behind the dam allow the sediment to be transported downstream in smaller portions and avoids the release one large, lethal volume of sediment. If contaminated sediment is the main concern, dredging is an option that can be used. While the use of silt curtains can minimize turbidity during dredging, silt curtains do not contain dissolved substances such as metals, which can pose a threat to downstream ecosystems (EMC2, 2001). Another option for contaminated sediments is to stabilize the sediment in place within the stream. This can be accomplished by leaving a portion of the dam in place to hold back an area of sediment that is of concern. The strategic placement of boulders can also contain the sediment from moving downstream.

For more information on issues associated with dam removal, see the Additional Resources section of this document.

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Additional Resources

The following are additional resources that may be used to obtain supplementary information for topics presented in this document.

Background on Streams, Restoration, and Hydrology

The following are basic references regarding stream ecology, restoration, and hydrology:

Allan, J.D. 1995. *Stream Ecology—Structure and Function of Running Waters*. Chapman and Hall, New York.

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Detailed Information for Practices to Achieve Management Measures

Additional information about practices, their effectiveness, limitations, and cost estimates are available from a number of sources, including:

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Knutson, P.L., and M.R. Inskeep. 1982. *Shore Erosion Control with Salt Marsh Vegetation*. Coastal Engineering Technical Aid No. 82-3. U.S. Army Corps of Engineers Coastal Engineering Research Center, Vicksburg, MS.

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Urban Drainage and Flood Control District. 1999. *Urban Storm Drainage Criteria Manual: Volume 3—Best Management Practices*. Urban Drainage and Flood Control District, Denver, CO. <http://www.udfcd.org>.

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U.S. Department of Agriculture, Forest Service (USDA-FS). 2002. *A Soil Bioengineering Guide for Streambank and Lakeshore Stabilization*. <http://www.fs.fed.us/publications/soil-bio-guide>.

U.S. Environmental Protection Agency (USEPA). 2002. *Development Document for Proposed Effluent Guidelines and Standards for the Construction and Development Category*. EPA-821-R-02-007. <http://www.epa.gov/waterscience/guide/construction/devdoc.htm>.

U.S. Environmental Protection Agency (USEPA). 2007. *National Menu of Stormwater Best Management Practices*. <http://cfpub.epa.gov/npdes/stormwater/menuofbmps/menu.cfm>.

Additional information about hydromodification, soil bioengineering, and restoration is available from the following:

- *Ann Riley, Urban Stream Restoration: A Video Tour of Ecological Restoration Techniques* (<http://www.noltemedia.com/nm/urbanstream>): This video, which can be ordered online, is a documentary tour of six urban stream restoration sites. It provides background information on funding, community involvement, and the history and principles of restoration. The demonstration includes examples of stream restoration in very urbanized areas, re-creating stream shapes and meanders, creek daylighting, soil bioengineering, and ecological flood control projects. Ann Riley, a nationally known hydrologist, stream restoration professional, and executive director of the Waterways Restoration Institute in Berkley, California, leads the tour.
- *California Forest Stewardship Program. Bioengineering to Control Streambank Erosion* (<http://ceres.ca.gov/foreststeward/html/bioengineering.html>): This fact sheet discusses various bioengineering techniques applicable to California streams.
- *Lower American River Corridor River Management Plan* (<http://www.safca.com>): The plan provides information on aquatic habitat management goals, including restoration to improve aquatic habitat impaired by low flows from channel modification of the Lower American River.
- *Natural Resources Conservation Service, Watershed Technology Electronic Catalog* (<http://www.wcc.nrcs.usda.gov/wtec/wtec.html>): This online catalog is a source of technical guidance on a variety of restoration techniques and management practices, to provide direction for watershed managers and restoration practitioners. The site is focused on providing images and conceptual diagrams.
- *North Delta Improvements Project* (<http://ndelta.water.ca.gov/index.html>): The North Delta Improvements Project (NDIP), which is under the California Department of Water Resources, presents unique opportunities for synergy in achieving flood control and ecosystem restoration goals.

- *Ohio Department of Natural Resources. Stream Management Guide Fact Sheets* (http://www.dnr.state.oh.us/water/pubs/fs_st/streamfs.htm): This is a compilation of fact sheets offering technical guidance for streambank and instream practices, general stream management, and stream processes.
- *Sacramento River Riparian Habitat Program* (<http://www.sacramentoriver.ca.gov>): The Sacramento River Riparian Habitat Program is working to ensure that riparian habitat management along the river addresses the dynamics of the riparian ecosystem and the reality of the local agricultural economy.
- Schueler, T. 1987. *Controlling Urban Runoff: A Practical Manual for Planning and Designing Urban BMPs*. Metropolitan Washington Council of Governments, Washington, DC.
- *South Delta Improvements Program* (http://baydeltaoffice.water.ca.gov/sdb/sdip/index_sdip.cfm): The purpose of the South Delta Improvements Program (SDIP) is to incrementally maximize diversion capability into Clifton Court Forebay, while providing an adequate water supply for diverters within the South Delta Water Agency and reducing the effects of State Water Project exports on both aquatic resources and direct losses of fish in the South Delta.
- *South Sacramento County Streams Project* (<http://www.spk.usace.army.mil>): South Sacramento County Streams Project provides flood damage reduction to the urban areas of the Morrison Creek and Beach Stone Lake drainage basins in the southern area of Sacramento, as well as around the Sacramento Regional Waste Water Treatment Plant. The project will fund stream restoration in southern Sacramento County.
- *USDA Natural Resources Conservation Service, Stream Visual Assessment Protocol* (<http://www.nrcs.usda.gov/technical/ECS/aquatic/svapfnl.pdf>): This document outlines methods for field conservationists and landowners to evaluate stream ecological conditions.
- *Washington State Department of Transportation, Soil Bioengineering Web site* (<http://www.wsdot.wa.gov/eesc/design/roadside/sb.htm>): This is a comprehensive Web site, with information on cost, specifications for project design, funding, and case studies.
- *WATERSHEDSS: Water, Soil and Hydro-Environmental Decision Support System* (<http://www.water.ncsu.edu/watershedss>): The “Educational Component” of this Web site contains fact sheets with information on a variety of techniques for management practices, including soil bioengineering and structural streambank stabilization.

Resources for Dams

Thornton, K.W., B.L. Kimmel, and F.E. Payne, eds. 1990. *Reservoir Limnology: Ecological Perspectives*. John Wiley and Sons, Inc., New York, NY.

U.S. Army Corps of Engineers. No date. *The WES Handbook on Water Quality Enhancement Techniques for Reservoirs and Tailwaters*. U.S. Army Engineer Research and Development Center Waterways Experiment Station, Vicksburg, MS.

Web sites for dam removal include the following:

- American Rivers' Rivers Unplugged Program:
http://www.americanrivers.org/site/PageServer?pagename=AMR_content_1270
- Association of State Dam Safety Officials: <http://www.damsafety.org>
- Friends of the Earth's River Restoration:
<http://www.foe.org/camps/reg/nw/river/index.html>
- International River Network's River Revival Program: <http://www.irm.org/revival/decom>
- Massachusetts Department of Fisheries, Wildlife, and Environmental Law Enforcement River Restore Program:
<http://www.mass.gov/dfwele/river/programs/riverrestore/riverrestore.htm>
- National Performance of Dams Program Stanford University:
<http://www.stanford.edu/group/strgeo/researchcenters.html>
- New Hampshire Department of Environmental Services:
<http://www.des.state.nh.us/dam.htm>
- Pennsylvania Department of Environmental Protection, Division of Dam Safety, Dam Safety Program:
<http://www.dep.state.pa.us/dep/deputate/watermgt/we/damprogram/Main.htm>
- Pennsylvania Fish & Boat Commission: <http://www.fish.state.pa.us>
- River Recovery—Restoring Rivers through Dam Decommissioning:
<http://www.recovery.bcit.ca/index.html>
- United States Society on Dams: <http://www.ussdams.org>
- Wisconsin Department of Natural Resources:
<http://www.dnr.state.wi.us/org/water/wm/dsfm/dams/removal.html>

Additional information about dam removal is available from the following resources:

- ASCE. 1997. *Guidelines for the Retirement of Hydroelectric Facilities*. American Society of Civil Engineers.
- Bednarek, A.T. 2001. Undamming rivers: A review of the ecological impacts of dam removal. *Environmental Management* 27(6):803-814.
- Bioscience. 2002. Dam removal and river restoration: Linking scientific, socioeconomic, and legal perspectives. Summer (special issue).
- Born, S.M., et al. 1998. Socioeconomic and institutional dimensions of dam removals: The Wisconsin experience. *Environmental Management* 22(3):359-370.

- Hart, D.D. and N.L. Poff. 2002. A special section on dam removal and river restoration. *BioScience* 52:653-655.
- Heinz Center. 2002. *Dam Removal: Science and Decision Making*. Available at: http://www.heinzctr.org/Programs/SOCW/dam_removal.htm.
- International Rivers Network: <http://www.irn.org/pubs/wrr>.
- Niemi, G.J., et al. 1990. Overview of case studies on recovery of aquatic systems from disturbance. *Environmental Management* 14(5):571-587.
- United States Society on Dams Publications: <http://www.ussdams.org/pubs.html>.
- University of Wisconsin-Madison/Extension. 1996. *The Removal of Small Dams: An Institutional Analysis of the Wisconsin Experience*. Extension Report 96-1, May. Department of Urban and Regional Planning.
- Wisconsin Department of Natural Resources Projects:
<http://www.dnr.state.wi.us/org/gmu/sidebar/iem/lowerwis/index.htm#baraboo> or
<http://www.dnr.state.wi.us/org/gmu/lowerwis/baraboo.htm>;
<http://www.dnr.state.wi.us/org/gmu/sidebar/iem/milw/index.htm>;
<http://www.dnr.state.wi.us/org/gmu/sidebar/iem/superior/index.htm>;
<http://www.dnr.state.wi.us/org/gmu/sidebar/iem/sheboygan/index.htm>

Noneroding Roadways

The following sources may be used to obtain additional information on noneroding roadways:

- *Controlling Nonpoint Source Runoff Pollution from Roads, Highways, and Bridges*
<http://www.epa.gov/owow/nps/roads.html>
- *Erosion, Sediment, and Runoff Control for Roads and Highways*
<http://www.epa.gov/owow/nps/education/runoff.html>
- *Gravel Roads: Maintenance and Design Manual*—the purpose of the manual is to provide clear and helpful information for doing a better job of maintaining gravel roads. The manual is designed for the benefit of elected officials, managers, and grader operators who are responsible for designing and maintaining gravel roads.
<http://www.epa.gov/owow/nps/gravelroads>
- *Low-Volume Roads Engineering Best Management Practices Field Guide*
<http://zietlow.com/manual/gk1/web.doc>
- *Massachusetts Unpaved Roads BMP Manual*
http://berkshireplanning.org/4/download/dirt_road.pdf
- *Planning Considerations for Roads, Highways, and Bridges*
<http://www.epa.gov/owow/nps/education/planroad.html>
- *Pollution Control Programs for Roads, Highways, and Bridges*
<http://www.epa.gov/owow/nps/education/control.html>
- *Recommended Practices Manual: A Guideline for Maintenance and Service of Unpaved Roads* <http://www.epa.gov/owow/nps/unpavedroads.html>
- The “Road Maintenance Video Set” is a five-part video series developed for USDA Forest Service equipment operators that focuses on environmentally sensitive ways of maintaining low volume roads. http://www.epa.gov/owow/nps/maint_videoset.html

Additional Information

Barbour, M.T., J. Gerritsen, B.D. Snyder, and J.B. Stribling. 1999. *Rapid Bioassessment Protocols for Use in Streams and Wadeable Rivers: Periphyton, Benthic Macroinvertebrates and Fish*, Second Edition. EPA 841-B-99-002. U.S. Environmental Protection Agency; Office of Water; Washington, D.C. <http://www.epa.gov/owow/monitoring/rbp/> Accessed July 2007.

International Commission on Large Dams
<http://www.icol-d-cigb.org>

International Rivers Network
<http://www.irn.org>

U.S. Army Corps of Engineers, Engineer Research and Development Center
<http://www.erd.c.usace.army.mil>

U.S. Department of Agriculture, Farm Service Agency
<http://www.fsa.usda.gov/pas>

U.S. Department of Agriculture, Natural Resources Conservation Service
<http://www.nrcs.usda.gov>

U.S. Department of the Interior, Bureau of Reclamation
<http://www.usbr.gov>

U.S. Department of the Interior, National Park Service
<http://www.nps.gov>

U.S. Department of the Interior, U.S. Fish and Wildlife Service
<http://www.fws.gov>

U.S. Department of the Interior, U.S. Geological Survey
<http://www.usgs.gov>

USEPA. 1994. *A State and Local Government Guide to Environmental Program Funding Alternatives*. EPA 841-K-94-001. <http://www.epa.gov/owow/nps/MMGI/funding.html>

USEPA. 1994. *A Tribal Guide to the Section 319(h) Nonpoint Source Grant Program*. EPA 841-S-94-003.

USEPA. 1994. *Section 319 Success Stories: Volume I*. EPA 841-S-94-004.
<http://www.epa.gov/owow/nps/Success319>

USEPA. *Catalog of Federal Funding Sources for Watershed Protection*
<http://cfpub.epa.gov/fedfund>

USEPA. 1997. *Section 319 Success Stories: Volume II—Highlights of State and Tribal Nonpoint Source Programs*. EPA 841-R-97-001.

<http://www.epa.gov/owow/nps/Section319II>

USEPA. 2002. *Section 319 Success Stories: Volume III*.

<http://www.epa.gov/owow/nps/Section319III>

USEPA Clean Lakes Program

<http://www.epa.gov/owow/lakes/cllkspgm.html>

USEPA Environmental Finance Information Network (EFIN)

<http://www.epa.gov/efinpage/efin.htm>

USEPA Nonpoint Source Pollution Control Program Homepage

<http://www.epa.gov/OWOW/NPS>

USEPA Surf Your Watershed

<http://www.epa.gov/surf>

USEPA Watershed Academy

<http://www.epa.gov/owow/watershed/wacademy>

Watershedss, (Water, Soil, and HydroEnvironmental Decision Support System)—North Carolina State University

<http://www.water.ncsu.edu/watershedss>

Appendix A

U.S. Environmental Protection Agency

Contacts

This appendix provides wetlands contacts, nonpoint source regional contacts, and Clean Water State Revolving Fund Contacts.



U.S. Environmental Protection Agency Contacts

EPA is grouped into 10 Regions. For questions about a particular state, contact the appropriate EPA Regional Coordinator listed below.

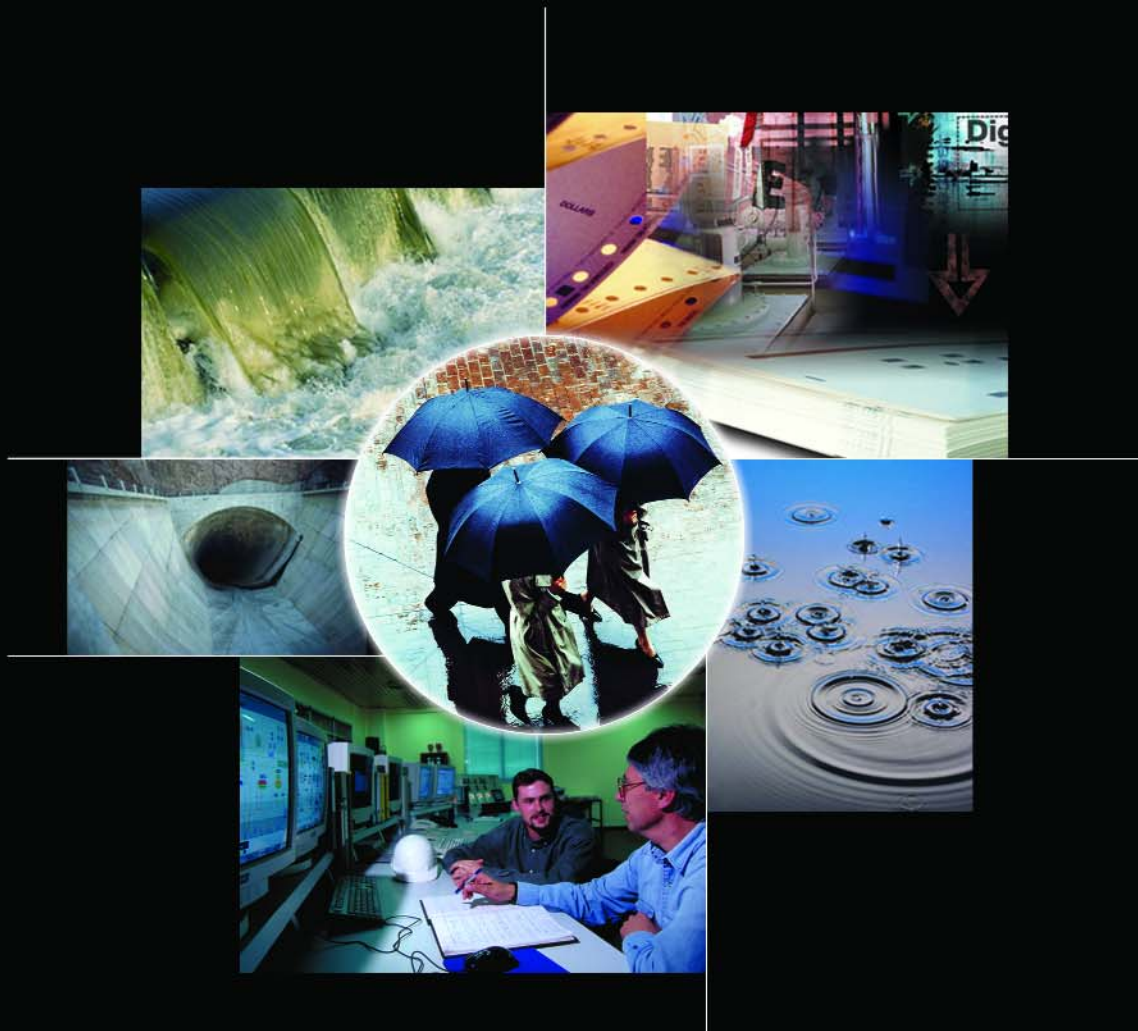
EPA Region	Wetland Contact	Nonpoint Source Regional Coordinators	Clean Water State Revolving Fund Regional Coordinators
Region 1: CT, MA, ME, NH, RI, VT http://www.epa.gov/region01/	U.S. EPA-Region 1 Wetlands Protection Unit One Congress Street Boston, MA 02114-2023 http://www.epa.gov/region01/topics/ecosystems/wetlands.html	U.S. EPA-Region 1 Nonpoint Source Coordinator One Congress Street, Boston, MA 02114-2023 http://www.epa.gov/region01/topics/water/npsources.html	U.S. EPA-Region 1 SRF Program Contact One Congress Street Boston, MA 02114-2023 http://www.epa.gov/ne/cwsrf/index.html
Region 2: NJ, NY, PR, VI http://www.epa.gov/Region2	U.S. EPA-Region 2 Water Programs Branch Wetlands Section 290 Broadway New York, NY 10007-1866 http://www.epa.gov/region02/water/wetlands/	U.S. EPA-Region 2 Water Programs Branch Nonpoint Source Coordinator 290 Broadway New York, NY 10007-1866 http://www.epa.gov/region02/water/npspage.htm	U.S. EPA-Region 2 Water Programs Branch SRF Program Contact 290 Broadway New York, NY 10007-1866 http://www.epa.gov/Region2/water/wpb/staterev.htm
Region 3: DC, DE, MD, PA, VA, WV http://www.epa.gov/region03	U.S. EPA-Region 3 Wetlands Protection Section 1650 Arch Street (3WP12) Philadelphia, PA 19103 http://www.epa.gov/reg3esd1/hydricsoils/index.htm	U.S. EPA-Region 3 Nonpoint Source Coordinator 1650 Arch Street (3WP12) Philadelphia, PA 19103 http://www.epa.gov/reg3wapd/nps/	U.S. EPA-Region 3 Construction Grants Branch SRF Program Contact 1650 Arch Street (3WP12) Philadelphia, PA 19103 http://www.epa.gov/reg3wapd/srf/index.htm
Region 4: AL, FL, GA, KY, MS, NC, SC, TN http://www.epa.gov/region4/	U.S. EPA-Region 4 Wetlands Section 61 Forsyth Street, SW Atlanta, GA 30303 http://www.epa.gov/region4/water/wetlands/	U.S. EPA-Region 4 Nonpoint Source Coordinator 61 Forsyth Street, SW Atlanta, GA 30303 http://www.epa.gov/region4/water/nps/	U.S. EPA-Region 4 Surface Water Permits & Facilities SRF Program Contact 61 Forsyth St. Atlanta GA, 30303 http://www.epa.gov/Region4/water/gtas/grantprograms.html
Region 5: IL, IN, MI, MN, OH, WI http://www.epa.gov/region5/	U.S. EPA-Region 5 Watersheds and Wetlands Water Division (W-15J) 77 West Jackson Blvd. Chicago, IL 60604 http://www.epa.gov/region5/water/wshednps/topic_wetlands.htm	U.S. EPA-Region 5 Nonpoint Source Coordinator Water Division (W-15J) 77 West Jackson Blvd. Chicago, IL 60604 http://www.epa.gov/region5/water/wshednps/topic_nps.htm	U.S. EPA-Region 5 SRF Program Contact Water Division (W-15J) 77 West Jackson Blvd. Chicago, IL 60604 http://www.epa.gov/region5/business/fs-cwsrf.htm

Appendix A

EPA Region	Wetland Contact	Nonpoint Source Regional Coordinators	Clean Water State Revolving Fund Regional Coordinators
<p>Region 6: AR, LA, NM, OK, TX</p> <p>http://www.epa.gov/region6</p>	<p>U.S. EPA-Region 6 Marine and Wetlands Section 1445 Ross Ave., Suite 1200 Dallas, TX 75202</p> <p>http://www.epa.gov/region6/water/ecopro/index.htm</p>	<p>U.S. EPA-Region 6 Nonpoint Source Coordinator 1445 Ross Ave., Suite 1200 Dallas, TX 75202</p> <p>http://www.epa.gov/region6/water/ecopro/watershd/nonpoint/</p>	<p>U.S. EPA-Region 6 SRF Program Contact 1445 Ross Ave., Suite 1200 Dallas, TX 75202</p> <p>http://www.epa.gov/Arkansas/6en/xp/enxp2c4.htm</p>
<p>Region 7: IA, KS, MO, NE</p> <p>http://www.epa.gov/region7</p>	<p>U.S. EPA-Region 7 Wetlands Protection Section (ENRV) 901 N. 5th St. Kansas City, KS 66101</p> <p>http://www.epa.gov/region7/wetlands/index.htm</p>	<p>U.S. EPA-Region 7 Nonpoint Source Coordinator 901 N. 5th St. Kansas City, KS 66101</p>	<p>U.S. EPA-Region 7 SRF Program Contact 901 N. 5th St. Kansas City, KS 66101</p> <p>http://www.epa.gov/Region7/water/srf.htm</p>
<p>Region 8: CO, MT, ND, SD, UT, WY</p> <p>http://www.epa.gov/region8</p>	<p>U.S. EPA-Region 8 Wetlands Program 999 18th Street, Suite 500 Denver, CO 80202-2405</p> <p>http://www.epa.gov/region8/water/wetlands/wetlands.html</p>	<p>U.S. EPA-Region 8 Nonpoint Source Coordinator 999 18th Street, Suite 300 Denver, CO 80202-2405</p> <p>http://www.epa.gov/region8/water/nps/contacts.html</p>	<p>U.S. EPA-Region 8 SRF Program Contact 999 18th Street, Suite 300 Denver, CO 80202-2405</p>
<p>Region 9: AZ, CA, HI, NV, Pacific Islands</p> <p>http://www.epa.gov/region9/</p>	<p>U.S. EPA-Region 9 Water Division, Wetlands 75 Hawthorne Street San Francisco, CA 94105</p> <p>http://www.epa.gov/region09/water/wetlands/index.html</p>	<p>U.S. EPA-Region 9 Nonpoint Source Coordinator 75 Hawthorne Street San Francisco, CA 94105</p> <p>http://www.epa.gov/region09/water/nonpoint/index.html</p>	<p>U.S. EPA-Region 9 Construction Grants Branch SRF Program Contact 75 Hawthorne Street San Francisco, CA 94105</p> <p>http://www.epa.gov/region9/funding/</p>
<p>Region 10: AK, ID, OR, WA</p> <p>http://www.epa.gov/region10/</p>	<p>U.S. EPA-Region 10 Wetlands Section 1200 Sixth Ave. Seattle, WA 98101</p> <p>http://yosemite.epa.gov/R10/ECOCOMM.NSF/webpage/Wetlands</p>	<p>U.S. EPA-Region 10 Nonpoint Source Coordinator 1200 Sixth Ave. Seattle, WA 98101</p>	<p>U.S. EPA-Region 10 Ecosystems & Communities SRF Program Contact 1200 Sixth Ave. Seattle, WA 98101</p> <p>http://yosemite.epa.gov/r10/ecocomm.nsf/webpage/Clean+Water+State+Revolving+Fund+in+Region+10</p>
<p>General Program Information</p>	<p>U.S. EPA Wetlands Division (4502F) Mail Code RC-4100T 1200 Pennsylvania Ave., NW Washington, DC 20460</p> <p>http://www.epa.gov/owow/wetlands/</p>	<p>U.S. EPA Nonpoint Source Control Branch (4503-T) Ariel Rios Bldg. 1200 Pennsylvania Ave., NW Washington, DC 20460</p> <p>http://www.epa.gov/owow/nps</p>	<p>U.S. EPA The Clean Water State Revolving Fund Branch (4204M) 1201 Constitution Ave., NW Washington, DC 20004</p> <p>http://www.epa.gov/owm/cwfinance/cwsrf/index.htm</p>

ATTACHMENT 59

2005 STORMWATER UTILITY SURVEY



BLACK & VEATCH
building a **world** of difference™

ENERGY WATER INFORMATION GOVERNMENT

Black & Veatch is pleased to provide the results of its sixth national Stormwater Utility Survey, to help those involved in the stormwater industry stay well-informed across a range of issues. The survey results offer insight into the following topics:

- Organization/Administration
- Planning
- Operations
- Finance/Accounting
- Stormwater User Fees and Billing
- Quality Issues – Best Management Practices
- Public Information/Education
- Major Challenges Recently Faced
- Significant Events Affecting Utilities

These results can be used for numerous purposes, from performance management to financial planning to organization strengthening. At Black & Veatch, we understand the value of knowing what others are doing in the industry. For 90 years, meeting the needs of the utility industry has been at the core of our business. We are happy to discuss any questions you might have regarding this survey.

Profile of Respondents

- Responses were received from 99 utilities in 21 states and one Canadian province. All of these utilities are funded in whole or in part through user fees.
- Approximately 86 percent of the respondents serve a city, rather than a county or region.
- The population served by the respondents ranges from 1,400 (Atlantic Beach, FL) to 3.9 million people (Los Angeles, CA) and the area served varies from 3 to 1,500 square miles. Eighty-one percent indicate they are responsible for stormwater facilities only, while the balance report they are responsible for combined sanitary/stormwater facilities. Approximately 88 percent indicate that they use their own staff to provide a majority of operation and maintenance services.
- For those utilities that base charges on gross property area, equivalent residential units ranged from 1,600 square feet total area to 11,000 square feet, with a mean of 6,964 square feet. For those utilities that base charges on impervious area, impervious areas per equivalent residential unit ranged from 1,500 square feet to 10,000 square feet, with a mean of 2,647 square feet.

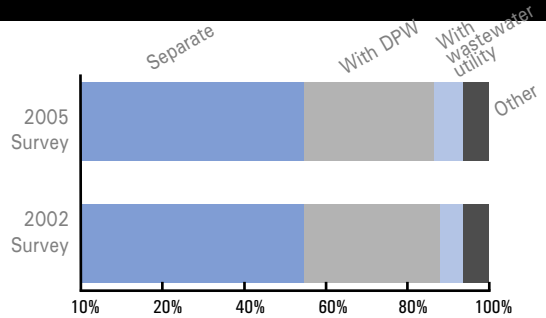
What's New

Feedback from participants prompted us to add a new question to the 2004-2005 version of the Stormwater Utility Survey. In recent years, a number of stormwater treatment systems have become commercially available. Fifty-six percent of respondents have installed at least one of these devices with the most popular being Stormceptor, StormFilter, and CDS Separator. Thirty-six percent have had a favorable experience with these devices in terms of treatment efficiency and ease of maintenance, while 41 percent are still in the evaluation process.

Organization / Administration

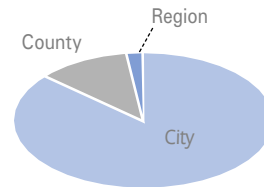
Q How is your operation organized?

- 55% Separate utility
- 32% Combined with Department of Public Works
- 7% Combined with wastewater utility
- 6% Other



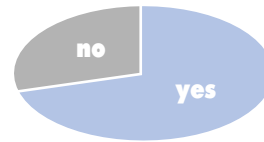
Q What area does your utility serve?

- 86% Within city limits
- 12% County
- 2% Region



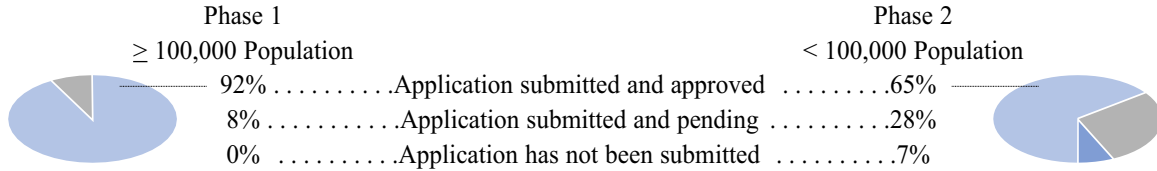
Q Does your state have specific statutes that govern the formation of stormwater utility and user fee financing?

- 71% Yes
- 29% No



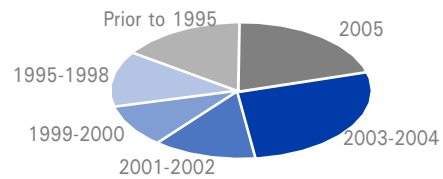
Planning

Q What is the status of your NPDES permit?



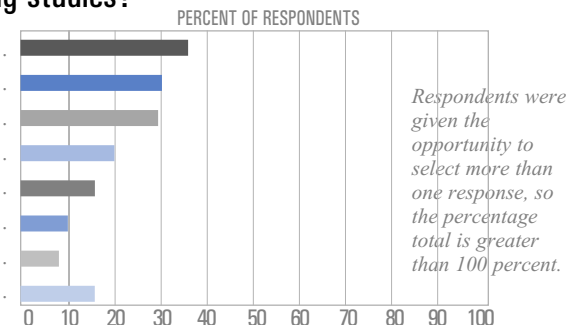
Q When was your most recent stormwater plan or stormwater facilities plan?

- 21% 2005
- 27% 2003–2004
- 13% 2001–2002
- 10% 1999–2000
- 13% 1995–1998
- 16% Prior to 1995



Q What stormwater computer models do you use for planning studies?

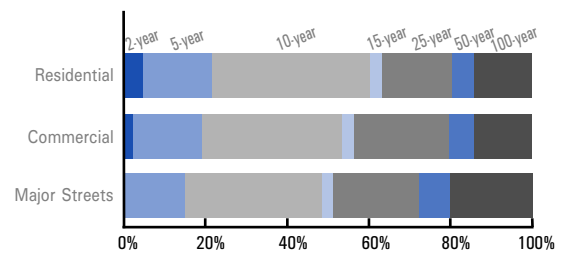
- 36% HEC-2
- 30% XP-SWMM
- 29% HEC-1
- 20% TR-55
- 16% EPA SWMM
- 10% HEC-RAS
- 7% HEC-HMS
- 15% Other



Planning (continued)

Q What return periods do you use to design your major stormwater structures?

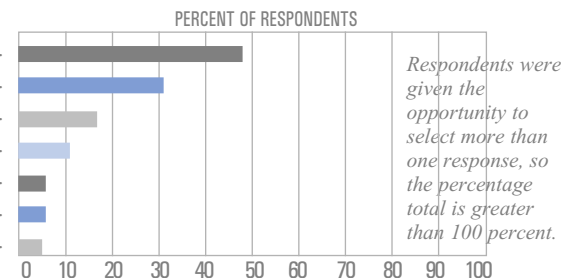
	Residential	Commercial	Major Streets
2-year	3%	1%	0%
5-year	18%	17%	14%
10-year	39%	35%	34%
15-year	3%	3%	3%
25-year	17%	23%	21%
50-year	6%	7%	8%
100-year	14%	14%	20%



Several respondents provided a range of return period.
The percentages above represent the smallest return period provided.

Q Which performance indicators do you consider most important in measuring improvement in stormwater management success?

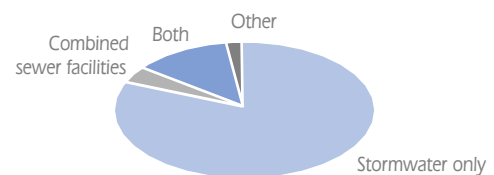
47%	Flood control
31%	Monitoring pollutants
17%	Customer complaints/satisfaction
11%	Cost control measures
6%	Erosion control
6%	Maintenance
5%	Habitat



Operations

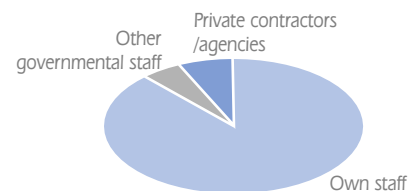
Q What is your utility responsible for?

81%	Stormwater facilities only
4%	Combined sewer (sanitary/stormwater) facilities
13%	Both
2%	Other



Q Who provides the majority of your O&M services?

88%	Own Staff
5%	Other Governmental Staff
7%	Private contractors/agencies

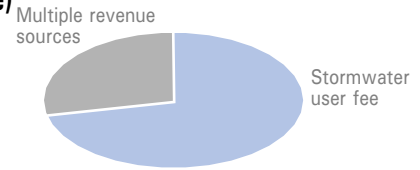


Finance/Accounting

Q What are your major (at least 90 percent of total income) revenue sources?

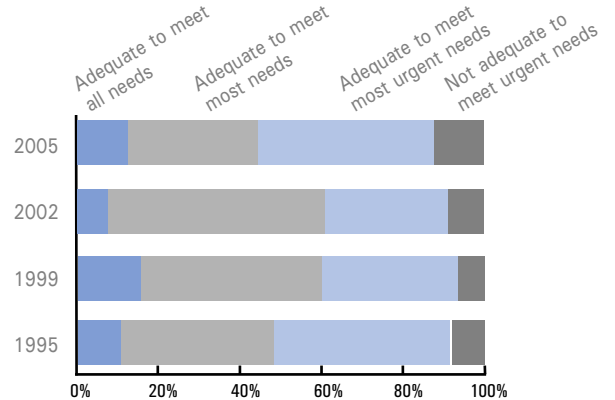
(Excludes 7 utilities that reported no single major source)

- 72% Stormwater user fee
- 28% Multiple revenue sources



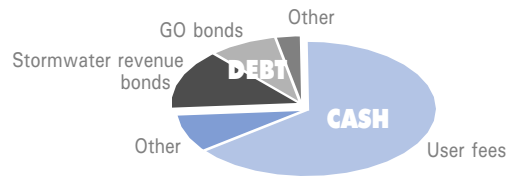
Q How adequate is available funding?

- 13% Adequate to meet all needs
2002 = 8% • 1999 = 16% • 1995 = 11%
- 32% Adequate to meet all needs
2002 = 53% • 1999 = 44% • 1995 = 38%
- 43% Adequate to meet most urgent needs
2002 = 30% • 1999 = 34% • 1995 = 44%
- 12% Not adequate to meet urgent needs
2002 = 9% • 1999 = 6% • 1995 = 7%



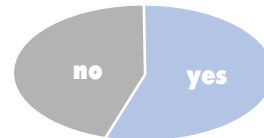
Q How is the majority of capital improvement needs financed?

- 74% Cash financed
 - 65% From user fees
 - 0% From ad valorem taxes
 - 9% Other
- 26% Debt financed
 - 14% Stormwater revenue bonds
 - 9% General obligation bonds
 - 0% Combined bonds
 - 3% Other



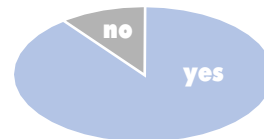
Q Does your accounting system permit cost tracking by operating activity (e.g., inlet cleaning)?

- 55% Yes
- 45% No



Q Does your accounting system identify user fee revenues by customer class (e.g., residential)?

- 89% Yes
- 11% No

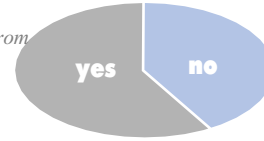


Stormwater User Fees and Billing

Q Were your rates revised in the last 12 months?

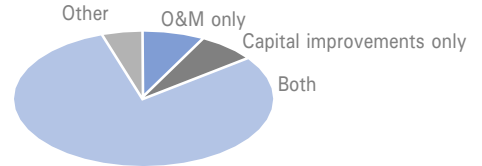
- 41% No
- 59% Yes

Increases ranged from 1% minimum to 117% maximum



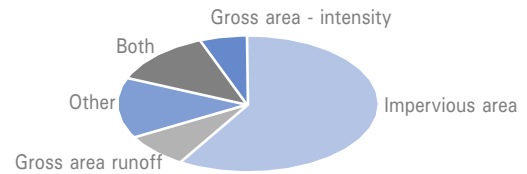
Q What are your user fees designed to pay for?

- 8% Operation and maintenance (O&M) expenses only
- 7% Capital improvements only
- 80% Both O&M expenses and capital improvements
- 5% Other



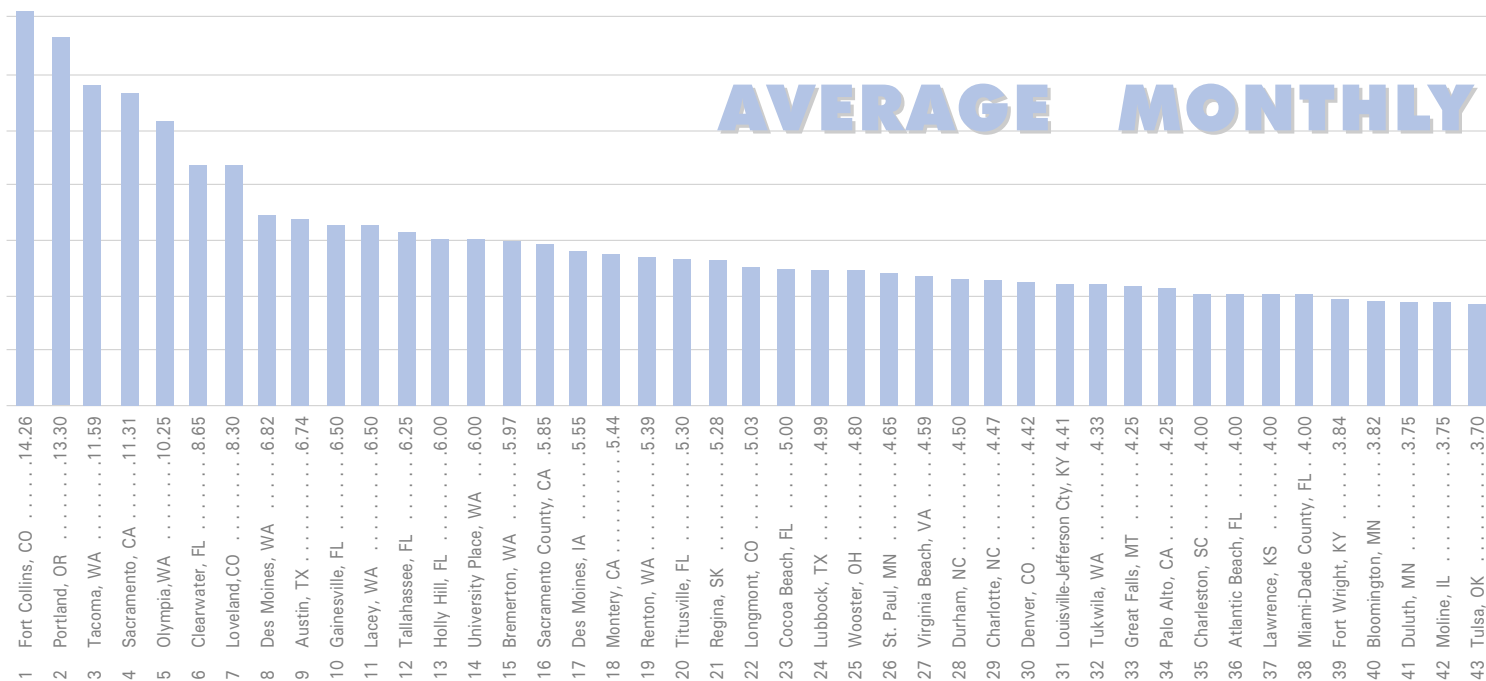
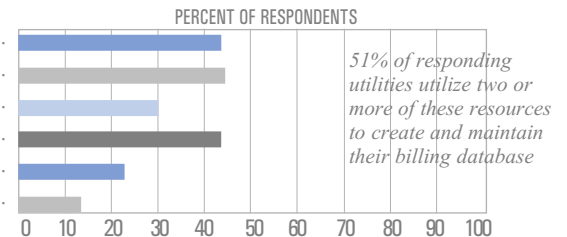
Q What is the basis for your user fees?

- 59% Impervious area
- 8% Gross area with intensity of development factor
- 14% Both impervious and gross areas
- 13% Other (e.g., number of rooms, water use, flat fee)
- 6% Gross area with runoff factor



Q If user fees are area-based, what principal resources were employed to create and maintain the customer database used to compute charges?

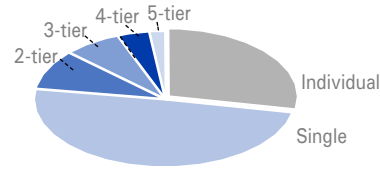
- 42% Property tax assessor records
- 43% Aerial photographs
- 29% On-site property measurement
- 42% Geographic Information System (GIS)
- 22% Planimetric map take-offs
- 13% Other (e.g., building permits, site plans)



Q Are your stormwater charges based on individual or class average characteristics?

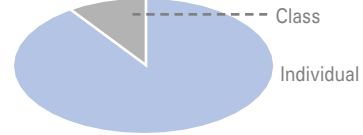
Residential

- 27% Individual parcel
- 73% Class average as:
 - 48% Single tier
 - 9% 2-Tier rate
 - 7% 3-Tier rate
 - 4% 4-Tier rate
 - 2% 5-Tier rate



Non-Residential

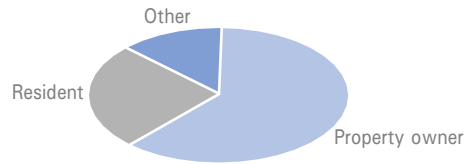
- 90% Individual parcel
- 10% Class average



3% of respondents who answered class average did not provide the number of rate tiers.

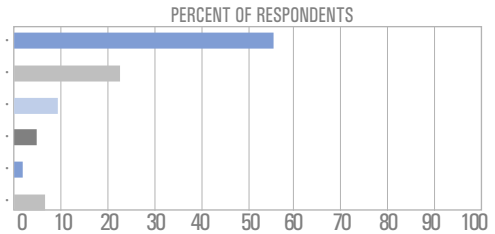
Q Who is responsible for the payment of user fees?

- 62% Property owner
- 25% Resident
- 13% Other (e.g., water or other utility bill recipient)

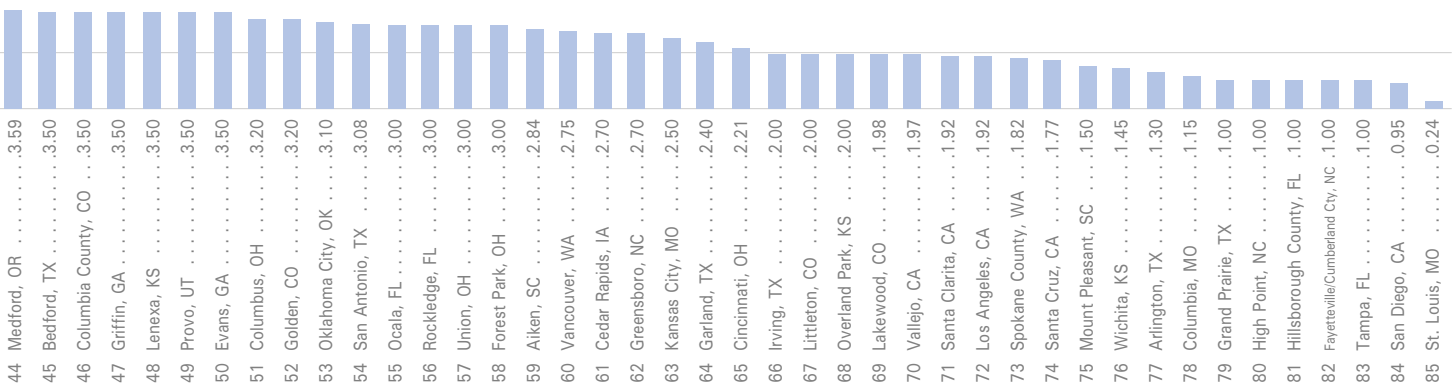


Q How frequently do you bill?

- 56% Monthly
- 22% Annually
- 9% Bi-monthly
- 5% Quarterly
- 2% Semi-annually
- 6% Other



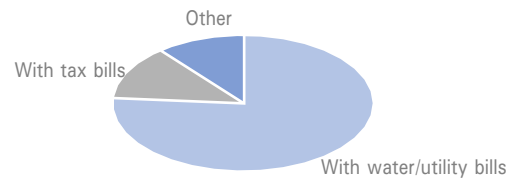
RESIDENTIAL CHARGE



Stormwater User Fees and Billing (continued)

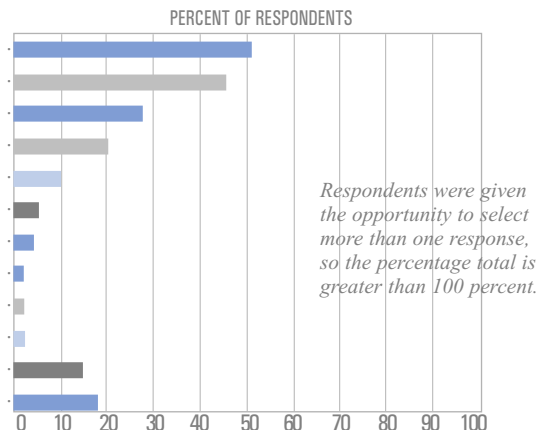
Q How are your user fees billed?

- 76% With water or other utility bills
- 13% With tax bills
- 11% Other



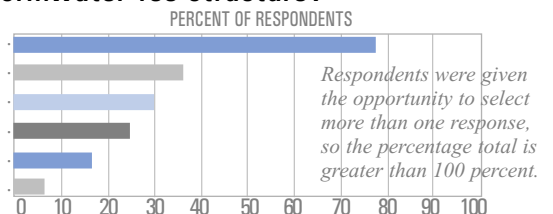
Q What types of properties are exempt from user fees?

- 51% Streets/highways
- 46% Undeveloped land
- 27% Rail rights-of-way
- 20% Public parks
- 10% Government
- 5% School districts
- 4% Churches
- 2% Airports
- 2% Colleges/universities
- 2% Water front
- 14% None
- 17% Other



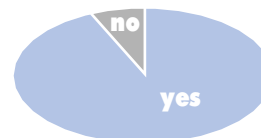
Q What customer classifications are recognized in your stormwater fee structure?

- 77% Residential
- 36% Commercial
- 30% Combined commercial/industrial
- 25% Other
- 17% Industrial
- 7% No designation



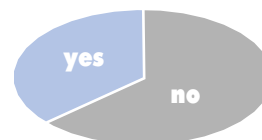
Q Are rates the same for all service areas or watersheds?

- 93% Yes
- 7% No



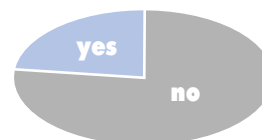
Q Are your user fees for single family dwellings the same as for individual multiple residential units, such as apartments and condominiums?

- 64% No
- 36% Yes



Q Are one-time impact/capital recovery fees applied to new stormwater utility customers or new development?

- 77% No
- 23% Yes

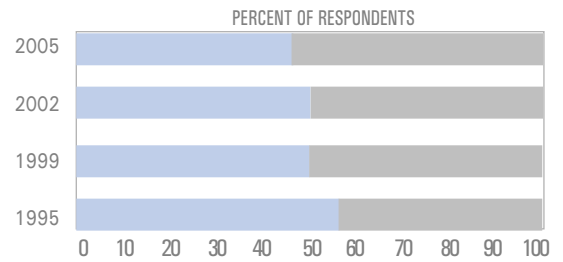


2004–2005 Stormwater Utility Survey

Q Are credits provided for private detention/retention facilities?

46% Yes
 2002 = 53% • 1999 = 50% • 1995 = 57%

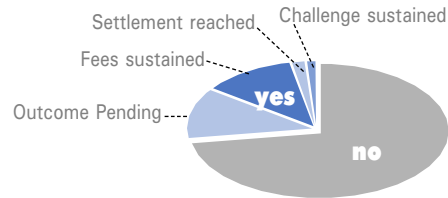
54% No



Q Have your user fees faced a legal challenge?

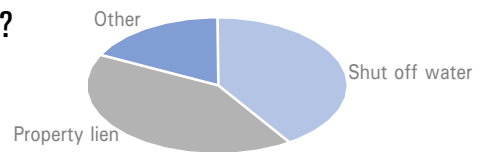
72% No
 28% Yes

12% Outcome pending
 12% Fees sustained
 2% Settlement reached
 1% Challenge sustained (2 later remedied by legislation)



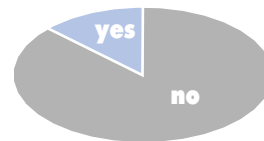
Q On what basis is payment of your user fees enforced?

41% Lien on property
 42% Shut off water
 18% Other



Q Is a significant share of your utility costs attributable to stormwater from outside your service area?

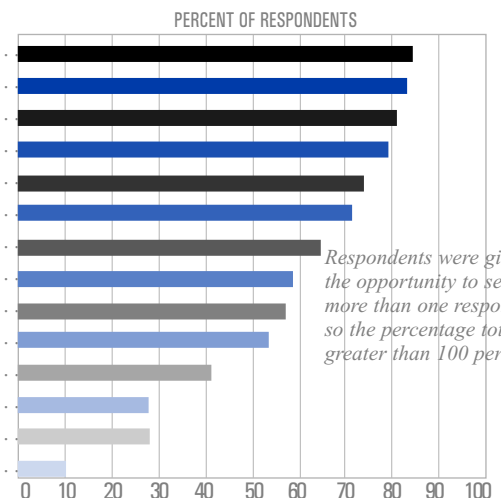
87% No
 13% Yes



Quality Issues – Best Management Practices

Q Which programs and practices are being used to protect or improve water quality?

84% Public education
 83% Erosion/sediment controls
 81% Street sweeping
 79% Detention/retention basins
 73% Inlet stenciling
 71% Illegal discharge detection
 64% Stormwater quality monitoring
 59% Public volunteer involvement
 58% Residential toxins collection
 53% Commercial/industrial regulation
 41% Constructed wetlands
 28% Lawn herbicide/pesticide control
 28% Treatment
 10% Other

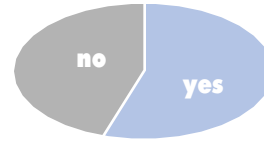


Respondents were given the opportunity to select more than one response, so the percentage total is greater than 100 percent.

Quality Issues Best Management Practice (continued)

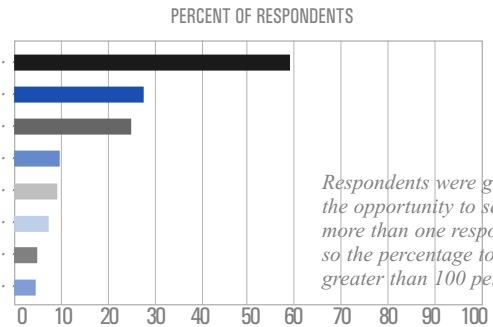
Q Have you installed any stormwater treatment systems in your stormwater conveyance system?

55% Yes
45% No



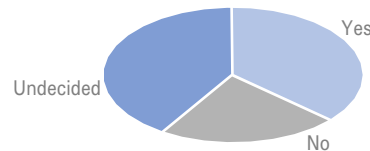
Devices installed:

59% Stormceptor
28% CDS Separator
24% StormFilter
9% Downstream Defend
9% Vortechincs
7% Bay Saver
4% Abtech
4% SunTree Technologies



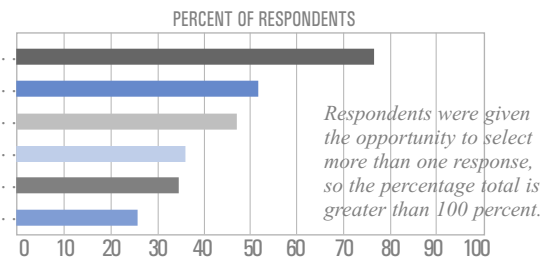
Have these devices met your expectations?

36% Yes
23% No
41% Undecided



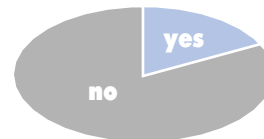
Q What contaminants are your greatest concern?

76% Sediments
51% Nutrients
47% Oil and grease
35% Heavy metals
34% Pesticides
25% Other



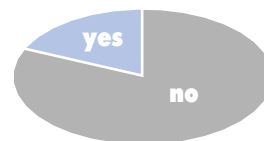
Q Are quality-based user fee credits or other incentives provided to encourage customers to control or reduce stormwater pollution?

18% Yes
82% No



Q Are your user fees specifically designed to provide for the separate recognition and equitable recovery of costs associated with stormwater quality management and quantity(runoff) management, respectively?

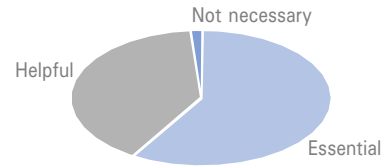
81% No
19% Yes



Public Information/Education

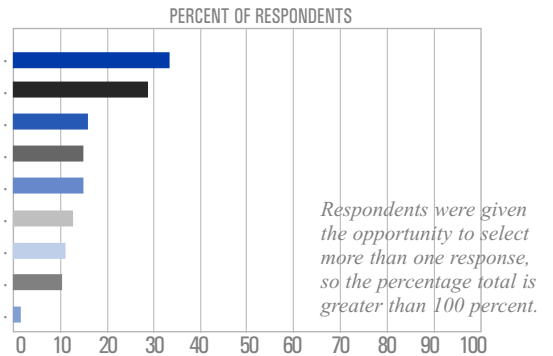
Q How important is an organized public information/education effort to the continuing success of a user fee funded stormwater utility?

- 59% Essential
- 40% Helpful
- 1% Not necessary



Q What means have you found to be the most effective in educating the public about utility services, program needs and financing, and citizen responsibilities?

- 33% Bill inserts
- 29% Public hearings/presentations
- 16% Internet
- 15% Brochures/flyers/newsletters
- 15% Newspaper
- 12% Television
- 11% Public schools
- 10% Speakers bureau
- 1% Direct mail



Major Challenges Recently Faced

Financial, rate, and billing related issues (e.g., financing growth, capital replacements, NPDES and other environmental mandates; rate increases, rate equitability, rate challenges; and billing database updating or conversion to GIS)	19 utilities
Weather and flooding issues (e.g., high amounts of rainfall, standing water, West Nile concerns, localized flooding)	10 utilities
Erosion control (e.g., run-off, erosion problems)	8 utilities
Regulatory and quality control compliance (e.g., illicit discharges, quality monitoring, and difficulties of complying with more stringent state and federal quality mandates related to Endangered Species Act, TMDLs, et al.)	8 utilities
Infrastructure planning issues (e.g., need for integrated flood, quality and environmental planning; remedy of specific infiltration/inflow or local flooding problems; and system-wide flood control master planning)	7 utilities
Jurisdictional issues (e.g., incorporation of added cities into service area and co-permittee coordination)	3 utilities
Public education (e.g., need for increased education regarding new programs or rate increases)	2 utilities

Significant Events Affecting Utilities in Past Two Years

NPDES compliance	21 utilities
CIP related (funding, projects started/completed)	14 utilities
User fee related (increases, lack of increases)	14 utilities
Weather related (heavy rains, storms, drought)	8 utilities
Organization/administration/staffing changes	7 utilities
Public education/awareness	4 utilities
Urban growth/decline in service area	4 utilities
Legal challenges	2 utilities

Some respondents listed the same events as positive, negative, or both (e.g., heavy rains or flooding brought both damage and increased public awareness of needs).

Stormwater Management

From run-off to potential revenue stream, stormwater management is uniquely challenging. It is often not source-specific, not metered or monitored closely within the community, and not tied to customers' daily decisions.

Black & Veatch's Enterprise Management Solutions team assists utilities nationwide in stormwater management issues to help provide stable funding for operations as well as capital projects.

ABOUT ENTERPRISE MANAGEMENT SOLUTIONS

Black & Veatch is pleased to provide this survey as an industry service. For 90 years, meeting the needs of utilities nationwide has been at the core of our business. We understand the value of knowing how others are addressing the industry's complex issues. From organization effectiveness to financial structuring to risk management, it helps to know the industry's trusted business partner. Black & Veatch brings it all together.



BLACK & VEATCH
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ENERGY WATER INFORMATION GOVERNMENT

For custom strategies, proven processes and high-value results, contact:
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Tel: 913-458-4322
Stormwater@bv.com

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ATTACHMENT 60

**Managing Runoff to Protect
Natural Streams:
The Latest Developments on
Investigation and Management
of Hydromodification in
California**



Technical Report 475
December 2005



SMC



**Eric D. Stein
Susan Zaleski**

Southern California Coastal Water Research Project

Managing Runoff to Protect Natural Streams: The Latest Developments on Investigation and Management of Hydromodification in California

Proceedings of a Special Technical Workshop
Co-sponsored by:

- *California Stormwater Quality Association (CASQA)*
- *Stormwater Monitoring Coalition (SMC)*
- *University of Southern California Sea Grant (USC Sea Grant)*

Eric D. Stein
Southern California Coastal Water Research Project (SCCWRP)

Susan Zaleski
University of Southern California Sea Grant (USC Sea Grant)

December 30, 2005

Technical Report #475

SMC



EXECUTIVE SUMMARY

Stream channel downcutting, widening, and erosion due to increased surface runoff present the most profound and difficult to manage problems resulting from conversion of natural land surfaces to developed areas. Land use changes that reduce the capacity for infiltration and evapotranspiration of rainfall may result in an increase in the magnitude and frequency of erosive flows and changes in the proportion and timing of sediment delivery downstream. These effects, termed *hydromodification*, can adversely impact the physical structure, biologic condition, and water quality of streams.

This document summarizes the presentations and discussions from a workshop convened to provide an overview of key technical and managerial issues associated with hydromodification, with specific focus on California's climatic setting. The goal of this workshop was to identify key conclusions regarding the mechanisms and causes of hydromodification and to provide managers and decision makers with a list of recommended priorities for future work in terms of both technical and managerial products.

Recent studies indicate that California's intermittent and ephemeral streams are more susceptible to the effects of hydromodification than streams from other parts of the United States (US). Physical degradation of stream channels in the central and eastern US can initially be detected when watershed impervious cover approaches 10%, although biological effects (which may be more difficult to detect) may occur at lower levels. In contrast, initial response of streams in the semi-arid portions of California appears to occur between 3% and 5% impervious cover.

Managing the effects of hydromodification requires attention to changes in runoff volume, magnitude of flows, frequency of erosive events, duration of flows, timing of high flows, magnitude and duration of base flows, and patterns of flow variability. Slope, composition of bed and bank materials, underlying geology, watershed position, and connections between streams and adjacent floodplains are also key considerations in the management of hydromodification effects.

A contemporary toolbox for assessing the effects of hydromodification consists of three technical approaches: continuous simulation modeling, physical process modeling using geomorphic metrics, and risk-based modeling. Independently and in a range of combinations, these approaches are instrumental to understanding and predicting channel responses. In conjunction with these approaches, the following research areas are recommended for enhanced understanding and assessment of hydromodification:

- Establishment of appropriate reference conditions for various stream types
- Establishment of linkage between geomorphic changes and biologic effects
- Development and calibration of linked models that provide long-term simulation of hydrologic, and resultant physical changes in channel morphology

Furthermore, ongoing monitoring programs should be established for reference streams, streams subject to effects of hydromodification, and streams where various hydromodification management strategies have been employed.

Hydromodification is best addressed with a suite of strategies including site design, on-site controls, regional controls, in-stream controls, and restoration of degraded stream systems. To improve the effectiveness of hydromodification management, it is important to identify the most appropriate set of strategies based on the type of channel, setting, stage of channel adjustment, and amount of existing and expected impervious cover in drainage catchments. Management of hydromodification could be improved by integrating it into a multi-objective strategy that addresses hydrology, water quality, flood control, and stream ecology. In addition, streams should be surveyed and classified in order to identify areas with the greatest risk of impact from hydromodification. Output from dynamic modeling can be used to develop easy to use management guides, and standard monitoring protocols and performance criteria need to be developed. These management tools should be geared toward application by land-use planners and regulators at the municipal and state levels. Finally, a hydromodification workgroup should be formed to facilitate communication and exchange of ideas and information on technical and management strategies relevant to hydromodification.

ACKNOWLEDGEMENTS

This document summarizes two days of collaborative, prescient, and enlightening discussion on one of the most daunting challenges facing aquatic resource managers. We would like to thank all workshop presenters and panelist for sharing their insight and expertise to help develop the conclusions and recommendations contained in this document. We would like to especially thank the workshop organizing committee who made this event possible. Finally, we thank the California Association of Stormwater Quality Agencies, the southern California Stormwater Monitoring Coalition, and University of Southern California (USC) Sea Grant for their generous funding and support.

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WORKSHOP OVERVIEW

The process of urbanization has the potential to affect stream courses by altering watershed hydrology. Development and redevelopment can increase impervious surfaces on formerly undeveloped (or less developed) landscapes and reduce the capacity of remaining pervious surfaces to capture and infiltrate rainfall. In addition, in semi-arid regions, development is usually accompanied by significant supplemental landscape irrigation that maintains high soil moisture conditions. Development practices also tend to reduce or eliminate native vegetation, thus reducing evapotranspiration of rainfall. Consequently, as watersheds develop, a larger percentage of rainfall becomes runoff during any given storm; runoff reaches stream channels much more rapidly, resulting in peak discharge rates that are higher than those for an equivalent rainfall prior to development. These changes to the runoff hydrograph have been termed *hydromodification*.

Hydromodification can result in adverse effects to stream habitat and water supply, and stream erosion associated with hydromodification often threatens infrastructure, homes, and businesses. In response to these effects, state and local agencies have developed, or are developing, standards and management approaches to control and/or mitigate the effects of hydromodification on natural and semi-natural stream courses.

On October 2 and 3, 2005, 26 speakers and 175 participants gathered in Ontario, California to discuss the results of recent research inside and outside of California. This technical workshop was convened to provide an overview of the key technical and managerial issues associated with hydromodification, with specific focus on California's climatic setting. The specific objectives of the workshop were:

- Exchange of information on technical and managerial approaches to hydromodification
- Identification of common conclusions regarding a general understanding of hydromodification
- Recommendation of priority needs for future work relevant to technical and managerial products in response to hydromodification issues

The workshop consisted of two evening and one all-day session. The first night, a small group of scientists and managers gathered to discuss key knowledge gaps and technical information needs. The day session was open to all attendees, who interacted with a slate of speakers summarizing technical, regulatory, and management approaches to responding to the effects of hydromodification. The workshop concluded with an evening session in which a small group discussed priority needs for future research and management tool development. The agenda for the workshop is provided in Appendix A.

This document summarizes key conclusions resulting from the presentations and discussions that occurred during the workshop. The document also provides managers and decision makers with a list of recommend priorities for future work in terms of both technical and managerial products related to hydromodification response.

INTRODUCTION TO HYDROMODIFICATION

Hydromodification is defined by the Environmental Protection Agency (EPA) as the “alteration of flow characteristics through a landscape which has the capacity to result in degradation of water resources” (<http://www.epa.gov/owm/mtb/cwns/1996rtc/glossary.htm>). Most often, hydromodification results from changes in land use practices or direct management of surface runoff. Consequences of hydromodification can include stream channel incision, aggradation, desiccation, and/or inundation.

Land use practices over the past several hundred years have resulted in hydromodification of western landscapes (Haltiner et al. 1996, Leopold 1968). Historically, many small streams were not connected to main river channels, but rather existed as shallow swales and wetland systems connected to larger rivers via subsurface flow. Surface hydrologic connections occurred intermittently following periodic large storm events. Increased surface runoff and channel disturbance, beginning during the cattle-grazing era circa 1700 – 1900, resulted in many of these systems becoming permanently channelized (Cooke and Reeves 1976). Channel modification through either direct alteration, or as a consequence of changes in patterns of surface runoff, e.g. through increases in impervious cover, continues today.

Hydromodification has typically resulted in channel incision and bank erosion in the upper and middle portions of the watershed, and in deposition, aggradation, and increased channel meandering in the downstream, flatter portions of the watershed. Often, as the main channel has incised, the lowered base level results in the formation of “knickpoints” (abrupt drops in the channel floor) that migrate upstream into the headwater areas. Often, these migrating “knickpoints” result in severe gully formation in lower order streams, i.e. first- through third-order streams, based on the Strahler stream ordering system. These smaller headwater streams are important from a watershed perspective because much of the sediment generation, carbon export, and initial nutrient processing occur in the upper watershed (Rheinhardt et al. 1999). The vast majority of stream miles in any given watershed exist as small headwater streams (Beschta and Platts 1986); consequently, impacts to these streams can result in profound cumulative effects to sediment and water movement patterns throughout the watershed. In many areas, the majority of remaining semi-intact streams is in the upper portions of watersheds. Notably, these areas are the most susceptible to land use change and associated effects of hydromodification. When development occurs in headwater areas rather than lower in the watershed, it tends to result in larger increases in peak discharge due to cumulative decreases in the time of concentration of rainfall to runoff (Beighley and Moglen, 2002).

Small, frequent runoff events, i.e. two-year frequency storms and smaller, demonstrate the most dramatic effects due to increased imperviousness, effects of supplemental irrigation, or other changes in land use practices (Beighley et al. 2003, Donigian and Love 2005, Hollis 1975). These small events account for the majority of long-term movement of sediment and consequently are the most deterministic of the geomorphic stability of the stream channels (Wolman and Miller 1960). However, small increases in basin impervious cover can also result in dramatic increases in runoff during 0.5-5 year flow events. For example, an increase of a few percent in impervious cover can increase the magnitude of a 1- or 2-year flood event by 20-fold (Hollis 1975, Urbonas and Roesner 1992).

Studies from parts of the country with climates more humid than California’s indicate that physical degradation of stream channels can initially be detected when watershed impervious cover approaches 10%, although biological effects, which may be more difficult to detect, may

occur at lower levels (CWP 2003). Recent studies from both northern and southern California indicate that intermittent and ephemeral streams in California are more susceptible to the effects of hydromodification than streams from other regions of the US, with stream degradation being recognized when catchment's impervious cover is as little as 3-5%¹ (Coleman et al. 2005). Furthermore, supplemental landscape irrigation in semi-arid regions, like California, can substantially increase the frequency of erosive flows (AQUA TERRA Consultants 2004). However, because all streams are constantly undergoing change and adjustment, effects of impervious cover should be investigated in terms of changes in the rate of channel response in addition to the absolute magnitude of response.

Managing the effects of hydromodification requires attention to more than just the peak runoff. The work (or energy) that affects physical and biological channel structure results from movement of water and sediment controlled by runoff volume, flow magnitude and duration, frequency of erosive events, timing of high flows, and magnitude and duration of base flows (Konrad and Booth 2005, Montgomery and MacDonald 2002, Paul and Meyer 2001, Roesner and Bledsoe 2003). Changes in patterns of flow variability and increases in the frequency of high flows have been shown to have measurable effects on the community composition of stream biota (Konrad and Booth 2005). Because streams are coupled hydrologic, geomorphic, biologic systems, it is important to understand the various effects of all changes in surface runoff patterns and to develop appropriate management strategies for each potential effect.

As channels incise, they often go through a series of adjustment stages from initial downcutting, to widening, to establishing new floodplains at lower elevations (Figure 1). This process can occur over years or decades depending on the type of channel and flow regime. Sand-dominated channels may pass through the full sequence of stages in a few decades, whereas channels in more resistant materials, such as clay, may take much longer, in some cases 50–100 years (Roesner and Bledsoe 2003). Therefore, it is important to understand a channel's stage of adjustment, and target management strategies to account for current and expected future evolution of the channel form.

¹ Most studies evaluate the response of stream channels to “total impervious cover”. However, a more appropriate assessment would be based on “effective impervious cover”, i.e., the amount of impervious cover that is hydrologically connected to the stream channel. Assessment based on effective impervious cover is more likely to result in observed channel response at lower levels of imperviousness.

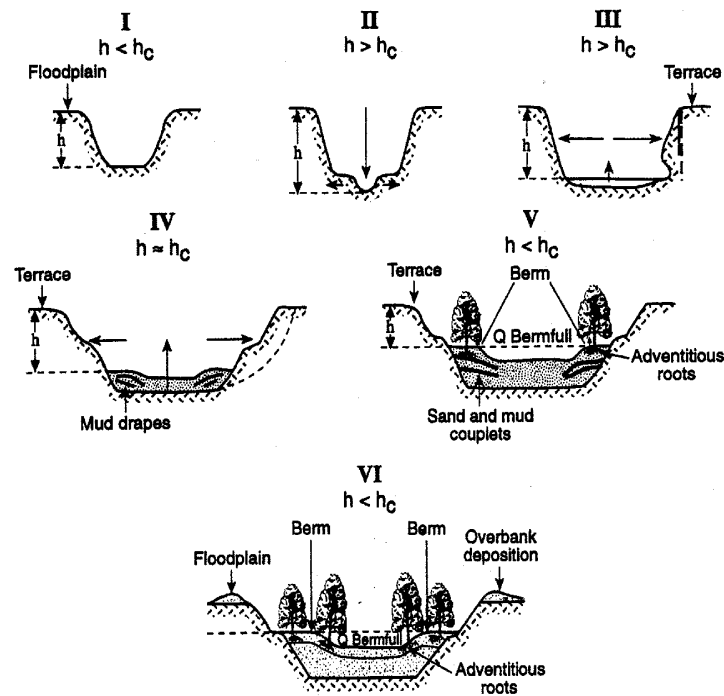


Figure 1: Stages of sand-bed channel adjustment (Schumm et al. 1984).

The pattern and rate of channel response to hydromodification will vary based on channel type and recent disturbance history (Montgomery and MacDonald 2002). Underlying geology, composition of bed and bank materials, slope, watershed position, and floodplain connectivity all affect channel response. Several stream classification systems have been developed over the years, including Shumm (1963), Montgomery and Buffington (1993), Rosgen (1994), and Church (2002). Most of these systems classify streams based on their sensitivity to change and therefore can be used to help assess, prioritize, and customize hydromodification management approaches. For example, Montgomery and Buffington (1993) define the following five channel types, listed from most to least resilient:

- Cascade
- Step pool
- Plane bed
- Pool riffle
- Dune ripple

Classification systems provide a useful starting point for evaluation of channel response to hydromodification; however, the classification systems above were developed in regions more humid and/or mountainous than those typical to California. Given differences in substrate and the extreme range of flows typically observed in arid regions, it is important to develop and regionally calibrate a classification system for dryland channels. Furthermore, the assessment of channel condition and the development of management strategies must be interpreted in terms of both spatial context (i.e. valley slope and position within the watershed) and temporal context (i.e. disturbance history) of the stream (Montgomery and MacDonald 2002). For example,

channel incision may be most dramatic in the middle portions of the watershed; however, these reaches may have stabilized, while the most active erosion and sediment production is occurring in smaller headwater channels. For these reasons, simplistic classification and assessment schemes based on channel appearance must be supported by in-depth geomorphic assessment, historical studies, and thorough understanding of physical and hydrologic processes.

Ultimately, some management strategies may vary based on the channel type, as well as the degree of current and anticipated hydromodification, while others may be more uniformly applied. For example, controlling the magnitude and duration of runoff may be an effective strategy for all stream types, while bioengineered streambank stabilization may only be effective for specific stream types under specific circumstances.

TECHNICAL APPROACHES TO ASSESSING HYDROMODIFICATION

The contemporary toolbox for assessing the effects of hydromodification consists of several technical approaches that may be combined in various ways. Continuous simulation hydrologic models can be used to assess elements in rainfall-runoff cycles and to describe conditions of flow in stream channels. These approaches can be used to assess the way changes in land cover may affect stream flow and to develop management strategies aimed at preventing or reducing such effects. A second, more involved approach, physical process modeling uses hydrologic models to predict changes in stream flow and to predict how these changes may affect the physical structure of the channel itself. This approach may couple hydraulic and sediment transport models, and/or incorporate geomorphic metrics to predict whether or not a channel will remain stable when subjected to the effects of hydromodification. Finally, risk-based assessments are used to account for the uncertainty associated with long-term cumulative effects of altered hydrology on stream channel flow, sediment transport, and stream geomorphology.

Continuous Simulation Modeling

Continuous simulation modeling provides a powerful tool for investigating the way rainfall-runoff patterns change over time with respect to normal climatic cycles and changes in land use practices. Hydrologic models integrate land use, precipitation, soils, topography, and other physical factors to simulate resultant runoff patterns. These models can be used to evaluate the way changes in the extent and distribution of impervious cover may affect flow magnitude, timing, frequency, and duration. In addition, continuous simulation models can be used to assess changes in the shear stress of channel beds and banks over time. Predicted shear stress (τ_{actual}) values can be compared to critical shear stress (τ_{critical}) values associated with the onset of erosion in order to predict conditions that may result in initiation of scour. Recent studies in Ventura County have successfully used $\tau_{\text{actual}}/\tau_{\text{critical}}$ values between 1.2 - 1.5 as a threshold for initiation of channel scour along with an assessment of the frequency of occurrence of these erosive flow events (AQUA TERRA Consultants 2004). When using hydrologic models it is important to simulate runoff and erosion patterns over periods of at least 20-30 years. Short-term or single-event modeling is not sufficient to capture the continuous erosion and aggradation processes that occur during large and small storm events over extended periods of time.

Physical Process Modeling/Geomorphic Metrics

Physical process modeling aims to establish relationships between impervious cover, runoff patterns, and channel response based on field observations of changes in channel form over time. These field observations are used to derive mathematical relationships that can be used to predict channel response to changes in land use practices. Erosion Potential (E_p) is a geomorphic metric that has been used in several recent studies relevant to the effects of increased runoff associated with increases in impervious cover. The E_p represents the ratio of pre- and post-development erosive forces for a given stream type, expressed as:

$$E_p = \frac{W_{\text{post}}}{W_{\text{pre}}}$$

Where: W_{post} = Cumulative erosive energy or work after development
 W_{pre} = Cumulative erosive energy or work before development

Where: Erosive energy is defined as the energy that is above the threshold of erosion for the stream boundary materials, also referred to as excess specific stream power

Values for E_p are derived for both the channel bed and bank, and the boundary that is more susceptible to erosion is used as the basis of setting response thresholds. The E_p of a stream channel should be evaluated based on long-term simulations (e.g. 50 yrs) or based on empirical data collected over extended periods of time. Geomorphic metrics can be used to project changes in channel cross-section area over time in response to increases in impervious cover, as shown in Figure 2, which describes the expected effect of increases in total impervious cover (TIMP) on channel cross-sectional area. Channel response thresholds can be inferred according to inflection points on the curve. In this plot, the upper curve is derived from southern California data; the lower curve is derived from data observed in other parts of the US. Expected threshold of response for southern California streams is approximately 4% (Coleman et al. 2005).

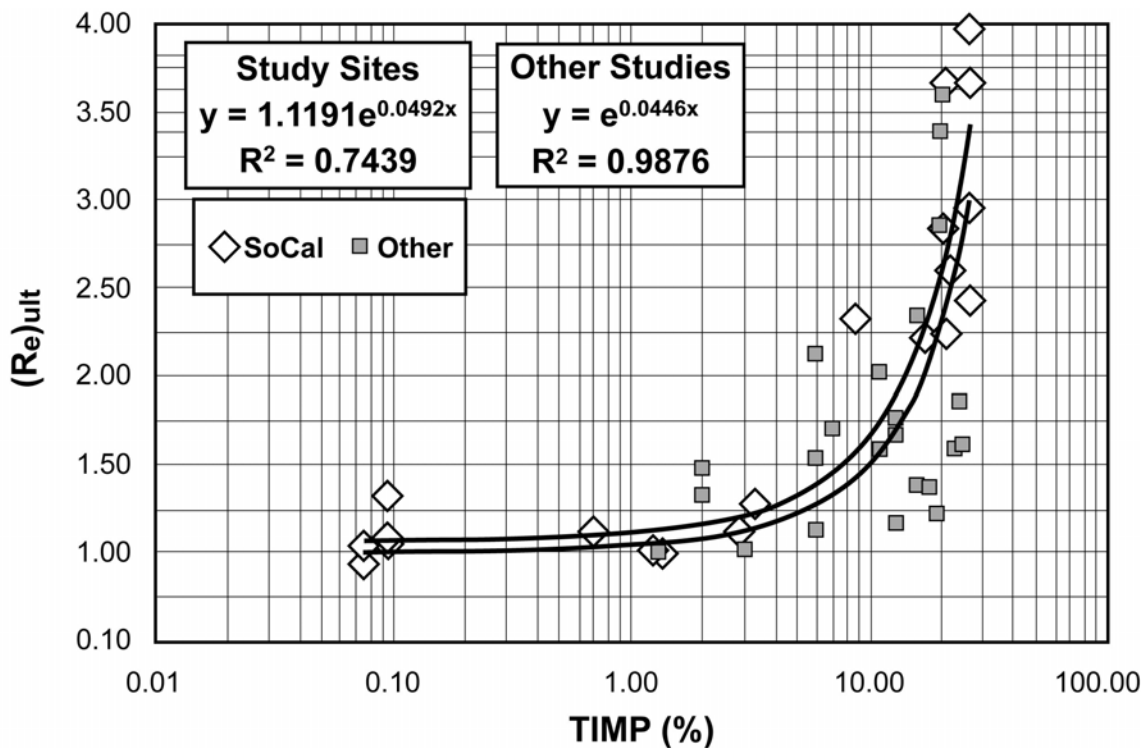


Figure 2: Enlargement curve showing expected effect of increases in total impervious cover (TIMP) on channel cross-sectional area. (Re) is the ratio of ultimate channel cross-sectional area to current cross sectional area. Upper curve is derived from data from southern California, lower curve is derived from data from other parts of the US. Expected threshold of response for southern California streams is approximately 4% (from Coleman et al. 2005 and C. MacRae).

It is important to note that curves such as those shown in Figure 2 assume a consistent hydrologic response to increased impervious cover. Long-term hydrologic simulations should be coupled with physical process models to fully explore these relationships and help validate the curves. Furthermore, different channel types respond differently to changes in runoff. Therefore, an enlargement curve, such as the one shown in Figure 2 for a single channel type, should be developed for each major channel type in a region in order to help focus the timing and location of strategic runoff management measures.

Risk-based Modeling

Unlike physical process modeling, which aims to establish response thresholds, risk-based modeling estimates the probability of channel response to increases in erosion potential associated with anticipated changes in runoff as a result of increases in impervious cover. Managers can then determine acceptable risk levels. Typically, risk-based modeling uses the output of continuous simulation or physical process models to generate time-series data relevant to flow and sediment transport. Often this type of modeling includes linear and logistic regressions, in addition to probability networks. These data are then used to estimate the risk of channel response with respect to anticipated changes in runoff volume and sediment. Figure 3 provides an example of the way logistic regression analysis can be used to estimate the likelihood of channel instability based on progressive degrees of erosion potential.

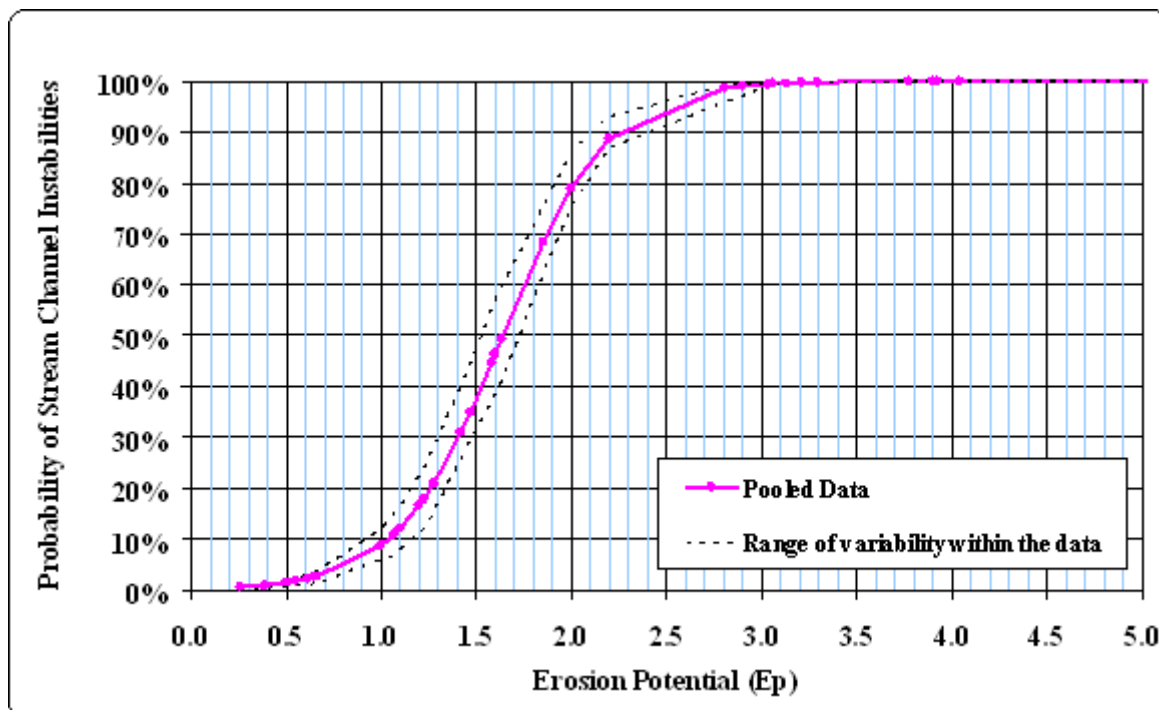


Figure 3: Logistic regression analysis showing the probability of various channel erosion potentials (from B. Bledsoe).

For studies conducted in the San Francisco Bay Area, an E_p value of 1.2 was proposed as an acceptable threshold based on a 15% probability of channel instability². This was typically associated with approximately 3 - 6% impervious cover for channels in sand substrates and 10-12% for channels in clay substrates.

² The negotiated E_p value of 1.0 was adopted for the final Hydromodification Management Plan for Santa Clara Valley and included in a permit amendment for agencies in that area.

PRIORITY TECHNICAL NEEDS AND INFORMATION GAPS

Workshop participants identified five priority areas for additional research and data collection:

- Regional reference conditions for various stream channel types
- Links between geomorphic change and biologic effects
- Dynamic simulation models calibrated for local conditions
- Potential consequences of increased storm water infiltration from urbanized areas
- Ongoing monitoring programs to assess hydromodification impacts and to develop effective management strategies

Regional reference conditions for various stream channel types need to be established

Because most areas in the western US have been subjected to historic grazing or logging, many channels in this region have undergone some degree of change over time. Furthermore, the dynamic nature of this region's fluvial systems means that these streams are constantly undergoing some degree of change. Understanding the historic conditions of stream channels can provide valuable insight; however, historic conditions may not be the most appropriate "reference" in light of current constraints. Rather, reference should be considered a condition where stream channels are in a state of dynamic equilibrium under contemporary natural watershed processes. Once a regional reference condition is defined, data on flow, sediment movement, and geomorphology should be collected on an ongoing basis from representative reference stream reaches. These data will facilitate modeling that more effectively differentiates natural cycles from human-induced changes, especially during long wet or dry cycles where changes may be dramatic but infrequent.

Links between geomorphic change and biologic effects need to be more clearly defined

Hydromodification can cause a variety of physical changes to streams. However, hydrologic changes that are most relevant to biologic communities have not been well defined. For example, it is unclear how changes in base flow duration; peak flow magnitude, duration, and timing; or flow variability affect the structure and function of stream communities. Ultimately, there is a need to develop biologic indices to assess the effects of hydromodification and more effectively direct management strategies.

Dynamic simulation models need to be developed and calibrated for local conditions

Although continuous hydrologic simulation and physical process models have been developed for California streams, these models have not been routinely linked to the assessment of stream channel response to various forms of hydromodification. Hydrologic, physical process, and risk-based models are much more effective when used in combination and appropriately calibrated and validated for California streams. The resultant tool(s) can greatly improve assessments that predict the likelihood of stream channel response to anticipated changes in hydrology associated with changes in land use patterns. Model output may also be useful in the development of objective criteria for establishing land use practices that minimize

hydromodification effects, designing tools for best management practices (BMP) design, and evaluating the performance of management measures.

Potential consequences of increased storm water infiltration from urbanized areas need to be investigated

Infiltration of substantial volumes of storm water runoff from developed land surfaces may introduce unacceptable levels of contaminants into groundwater and/or shallow aquifers. The risk of groundwater contamination and the fate of pollutants introduced into subsurface waters need to be investigated by increased monitoring, development of coupled surface water-groundwater models, and implementation of demonstration projects.

Ongoing monitoring programs to assess hydromodification impacts and develop effective management strategies need to be designed and implemented

First, more extensive flow monitoring needs to be instituted to compensate for the difficulty of calibrating hydrologic models for un-gauged headwater streams. Second, regular geomorphic data needs to be collected from reference streams as well as streams subject to the effects of hydromodification. Routine measurement of channel cross-sections and substrate will greatly improve understanding of channel adjustment processes and allow better discrimination between natural and anthropogenic changes. Third, streams subject to various hydromodification management strategies need to be monitored and documented to support adaptive management and education on emerging techniques and strategies.

REGULATORY AND MANAGEMENT STRATEGIES

Regulatory Approaches to Address Potential Effects of Hydromodification

A variety of regulatory programs and tools exist to help in the regulation of hydromodification effects, including:

- Clean Water Act Section 401 certifications
- Total Maximum Daily Loads (TMDLs)
- Municipal storm water (MS4) permits under Section 402 of the Clean Water Act, and the associated Standard Urban Storm Water Mitigation Program (SUSMP) requirements
- Watershed Urban Runoff Management Plans (WURMPs) and the Watershed Management Initiative (WMI) which encourage municipalities to work cooperatively to manage issues such as hydromodification

In addition, California Environmental Quality Act/National Environmental Policy Act (CEQA/NEPA) processes can be used to better address hydromodification issues, especially with regard to cumulative effects.

Looking to the future, Regional Water Boards in California are considering development of numeric criteria and objectives for new development and redevelopment projects to offset and/or mitigate hydromodification effects. These objectives may involve requirements for managing flow and/or reducing effective impervious cover as well as strategies to maximize infiltration and reuse of storm water. Some Regional Boards are also considering ways to better coordinate with other regulatory agencies that have authority over hydromodification and stream alteration. Similarly, some State and Regional Water Boards are evaluating their existing regulatory authority over hydromodification and considering ways to strengthen their authority, particularly under section 401 of the Clean Water Act, or as part of Basin Plans.

Management Approaches to Address the Effects of Hydromodification

Hydromodification is best addressed by using a suite of strategies, including site-design, restoration of degraded stream systems, as well as in-stream, on-site control, and regional controls. Managers need to identify the most appropriate set of strategies based on channel type and setting, channel adjustment stage, and amount of existing and anticipated impervious cover in the drainage catchment. However, attempting to have the post-development condition match pre-development runoff magnitude and duration should be an initial consideration for all circumstances.

Management strategies should address not only changes in peak flows but also changes in flow duration and sediment yield. Research to support development of several recent Hydromodification Management Plans indicates that post-project BMPs should ensure no change in runoff volume and cumulative duration of all flows greater than the critical flow for bed or bank mobility. Case studies of three Hydromodification Management Plans/Strategies are provided in Appendix B.

Over the long term, land-use planning, runoff management, as well as channel and floodplain restoration, should be the cornerstones of any hydromodification management strategy. The planning cycle for new development or re-development projects should begin with

hydromodification management assessment as part of the preparation of General and Specific Plans, master drainage plans, and zoning designations. Hydromodification effects must be managed with respect to long-term cycles; therefore, strategies should be adaptive. As conditions change and stream channels evolve, the management approaches must be adjusted. However, it is important to recognize that because changes to watershed hydrology are continual; it is unlikely that any management strategy will be able to achieve full hydrologic mitigation. Over the long term, some lasting physical and biological effects should be expected. Management goals should realistically reflect these anticipated changes.

The Center for Watershed Protection, the National Association of Homebuilders, the Water Environment Research Foundation, the Bay Area Stormwater Management Agencies Association, and others have developed resources that land managers can use to guide improved site design. A list of some of these resources is provided in Appendix C.

PRIORITY MANAGEMENT NEEDS

In response to rapidly developing technical tools, regulations, and management goals, workshop participants identified the following management and information priorities:

1. Establish mapping and classification of streams based on their susceptibility to hydromodification effects. Susceptibility should be evaluated with respect to both stream properties, potential for future increases in impervious cover, and concomitant changes in land use practices, such as supplemental irrigation. Such a system would help managers prioritize streams requiring protection and hydromodification management.
2. Model stream systems in ways that are useful for regulators to make decisions. Once models are validated with local data, output should be:
 - Readily understandable and usable by planners and managers
 - Easily interpreted by regulators for development of consistent requirements and evaluation criteria for the specific region
 - Readily used to develop standardized flow control sizing and design tools for BMPs, where applicable
3. Develop a series of management tools that can be easily used to make recommendations or set requirements relative to hydromodification for new development and re-development projects. These tools would utilize the results of monitoring, modeling, and assessment completed under previous projects to develop a series of plots, nomographs, checklists, or similar managerial tools. It is envisioned that ideally, tools should be developed for three different levels of analysis:
 - Screening tools – Checklists or similar tools that allow planners and managers to evaluate whether or not a project is likely to involve substantial hydromodification issues.
 - Effects tools – For projects that are considered likely to have hydromodification effects based on the results of the screening tool, this tool would serve as a nomograph or series of plots used to evaluate the expected magnitude or intensity of effects associated with a particular project. This tool could also be used to identify projects that should be subjected to subsequent in-depth analysis.
 - Mitigation tools – Once the expected magnitude of effects are determined, this tool would be used to guide recommended mitigation and management measures. This tool could be a series of fact sheets, design criteria, and sizing standards to be used to aid in the development of standards or mitigation requirements.
4. Construct metrics and monitoring protocols to measure the effects of hydromodification on biological communities including riparian habitat.
5. Determine standard monitoring protocols for hydromodification effects and facilitate regional information sharing on project performance.
6. Evaluate the relative costs and benefits of hydromodification management at the site level (e.g. low impact development), and at the regional level (e.g. large retention and infiltration facilities). The economic costs of hydromodification have not been well documented, nor have the economic benefits of managing the physical and biological

effects of hydromodification. Information is also needed on the cost to maintain and manage hydromodification BMPs.

7. Establish recommended short-term measures for use while longer-term solutions, such as low-impact development and alternative site design are evolving.

In addition to management and information priorities, several institutional barriers were identified that may hinder effective management of hydromodification effects. Steps to overcome such barriers include:

- A. Hydromodification management needs to be part of an integrated multi-objective management strategy. Stream planning and management should integrate hydromodification, water quality, flood control, and habitat management strategies as a whole rather than addressing each issue in isolation. Increased coordination between agencies, departments, and stakeholders should be strongly supported. Specifically, agencies that have authority over hydromodification and stream alteration should work toward coordinating regulatory approaches to achieve greater consistency.
- B. Local ordinances need to be revised to facilitate integrating water quality and water quantity management into project design. These ordinances should be flexible enough to allow for variances from standard design requirements, such as curb and gutter and street width parameters, to help reduce impervious cover and increase infiltration.
- C. Hydromodification needs to be addressed in both General and Specific Plans in terms of the location and design of new development. Site-by-site or project-specific approaches tend to be less effective and more costly to implement.
- D. Better linkage between theory and practice need to be established through case studies, academic research, demonstration projects, and long-term BMPs monitoring.
- E. Management of hydromodification needs to be incorporated into regional resource planning efforts, such as the Corps of Engineers Special Area Management Plans (SAMPs) or US Fish and Wildlife Service's Multi-species Habitat Conservation Plans. These regional planning efforts may be effective tools to address cumulative effects of hydromodification at the watershed scale.
- F. A more effective public communication and education strategy needs to be developed. Property owners, local businesses, and community groups need to be better educated about the causes and effects of hydromodification in the context of the watersheds where they live and work. Simple definitions of streams and watersheds should be provided as part of the education strategy. Hydromodification effects need to be linked to health, aesthetic, recreational, and economic endpoints. Citizens should be made aware of simple actions, such as redirecting downspouts, using xeriscaping, and installing planter boxes, that help reduce hydromodification effects.
- G. An ongoing working group should be established to coordinate research, monitoring, technology transfer, education, and management approach evaluation that includes all stakeholder groups.

CONCLUSIONS AND RECOMMENDATIONS

Presentations and discussions during the two-day hydromodification workshop resulted in the following key conclusions and recommendations:

Conclusions

- Physical degradation of stream channels in semi-arid climates of California may be detectable when basin impervious cover is between 3% and 5%. However, biological effects are probably occurring at lower levels.
- Frequent, 0.5-5 years, small runoff events, are most affected by hydromodification.
- Not all streams will respond in the same manner. Certain management strategies need to account for differences in stream type, stage of channel adjustment, current and expected amount of basin impervious cover, and existing or planned BMPs.
- Management strategies should address effects on flow magnitude, duration, and volume.
- Assessment of potential effects and suitability of possible management approaches must account for decadal scale climatic cycles and associated stream channel response.
- Improved site design is likely to be the most effective hydromodification management strategy and should be incorporated at the planning stage of a project.
- It is unlikely that all the effects of hydromodification can be fully mitigated. Changes in impervious cover will result in some changes to the flow patterns and ecology of the affected stream. Realistic management goals should be established to acknowledge long-term effects of increased impervious cover.

Recommendations

- Integrate management of hydromodification into a multi-objective strategy that addresses hydrology, water quality, flood control, stream ecology, and overall watershed and land use planning.
- Institute interim management measures until runoff management becomes a more standard and accepted element of site design, for example, low impact development principles become commonly accepted and implemented in all site designs.
- Establish and implement a stream channel classification system based on expected vulnerability of different streams to hydromodification-induced change.
- Establish appropriate regional reference conditions should for each stream type based on the established classification system.
- Develop and calibrate dynamic simulation models for local streams. Models that combine continuous hydrologic simulations, physical process models, and risk-based modeling will be the most effective.
- Establish ongoing regional hydromodification monitoring programs. These programs should collect flow and geomorphic data from reference streams, unmitigated streams impacted by hydromodification, and streams subject to hydromodification management measures. Helping to separate natural variability from urban-induced changes in stream condition should be a primary goal of such ongoing monitoring programs.
- Develop indices to assess the biological effects of hydromodification.

- Develop protocols for measuring the economic costs and benefits of hydromodification management. Assemble case studies that document these economic costs and benefits.
- Initiate a hydromodification workgroup to facilitate exchange of ideas and information on technical and managerial approaches.
- Increase public education about what can be done at homes, businesses, and in the community to address hydromodification effects.

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APPENDIX A – WORKSHOP AGENDA

HYDROMODIFICATION WORKSHOP AGENDA – October 2-3, 2005

SUNDAY EVENING, INVITED SESSION

- 5:00- 5:15 **Welcome and Introductions** – Eric Stein (Chair), *Southern California Coastal Water Research Project*
- 5:15 – 5:30 **Regulatory Perspective** – John Robertus, *San Diego Regional Water Quality Control Board*
- 5:30 – 6:30 **Status of Science on Evaluating/Studying Hydromodification** (panel discussion)
- Jeff Haltiner, *Philip Williams and Associates*
 - Gary Palhegyi, *Geosytec Consultants*
 - Craig MacCrae, *Aquafor Beech*
 - Brian Bledsoe, *Colorado State University*
 - Derek Booth, *University of Washington*
- 7:30 – 8:30 **Dinner and Open Discussion of Data Gaps and Areas for Future Research**

MONDAY, OPEN SESSION

- 8:30 – 8:40 **Welcome and Opening Remarks** – Chris Crompton (Chair), *SMC*
- 8:40 – 9:15 **Introduction to Hydromodification** – Jeff Haltiner, *Philip Williams and Associates*
- 9:15 – 10:15 **Why is Hydromodification Such a Big Deal?** (mini-panel discussion)
- Policy Perspective – Susan Cloke, *Los Angeles Regional Water Quality Control Board*
 - Regulatory Perspective – John Robertus, *San Diego Regional Water Quality Control Board*
 - Homebuilders Perspective – Marolyn Parson, *National Association of Home Builders*
 - Natural Resource Perspective – Shelley Luce, *Santa Monica Bay Restoration Commission*
- 10:15 – 10:30 **Break** ~
- 10:30 – 12:30 **Hydromodification Research and Studies**
- Risk-Based Channel Stability Analysis for Urbanizing Watersheds – Brian Bledsoe, *Colorado State University*
 - Changes in Streamflow Patterns from Urbanization: A Humid-Region Perspective – Derek Booth, *University of Washington*
 - Modeling Urbanization Impacts and Channel Stability in Ventura County – Tony Donigian, *AQUA TERRA Consultants*
 - Southern California Peak Flow study results and conclusions – Craig MacRae, *Aquafor Beech*
 - Santa Clara Valley HMP Studies- Gary Palhegyi, *GeoSyntec Consultants*

12:30 – 1:30 **Lunch** ~

1:30 – 2:15 **Regulatory Response to Hydromodification**

- Northern California Perspectives – Larry Kolb, *San Francisco Bay Regional Water Quality Control Board*
- Southern California Perspectives – Xavier Swamikannu, *Los Angeles Regional Water Quality Control Board*

2:15 – 3:30 **Implementation of Hydromodification Management Practices**

- Contra Costa County – Dan Cloak, *Dan Cloak Consulting (for Contra Costa County)*
- Santa Clara Valley – Jill Bicknell, *Santa Clara Valley Urban Runoff Program*
- Newhall Land and Farming– Mark Subbotin, *Newhall Land and Farming Company*
- Control of Hydromodification Through Land Planning – Laura Coley-Eisenberg, *Rancho Mission Viejo*

3:30 – 4:30 **Panel Discussion on Implementation Issues** – Facilitated by Matt Yeager, *San Bernardino County Flood Control District*

- Rene DeShazo, *Los Angeles Regional Water Quality Control Board*
- Mark Abramson, *Heal the Bay*
- Marolyn Parson, *National Association of Home Builders*
- Jeff Haltiner, *Philip Williams and Associates*
- Jill Bicknell, *Santa Clara Valley Urban Runoff Program*

MONDAY EVENING, INVITED SESSION

5:30 – 6:00 **Welcome & Summary of Open Session** – Matt Yeager, *San Bernardino County Flood Control District*

6:00 – 7:00 **Dinner** ~

7:00 – 8:00 **Key Needs of Managers for Addressing Hydromodification** (panel discussion)

- Jeff Pratt, *Ventura County Watershed Protection District*
- Bill DePoto, *Los Angeles County Dept. of Public Works*
- Aaron Allen, *US Army Corps of Engineers - Regulatory Branch*
- Laura Coley-Eisenberg, *Rancho Mission Viejo*
- Jon Bishop, *Los Angeles Regional Water Quality Control Board*
- Rebecca Drayse, *TreePeople*

8:00 – 8:30 **General Conclusions and Outline for Workshop Report**

APPENDIX B – CASE STUDIES

Case Study 1 – Contra Costa County

Contra Costa County's Hydromodification Management Plan was developed in response to the National Pollutant Discharge Elimination System (NPDES) permit requirements from the San Francisco Bay Regional Water Quality Control Board. The goal of this Hydro-modification Management Plan (HMP) is to protect urban watersheds from ongoing hydro-modification by applying these requirements to development projects that are greater than or equal to 1 acre. They assist applicants to comply by providing designs and sizing factors. Permit conditions require municipalities to propose a plan to manage increases in flow and volume where increases could:

- Increase erosion
- Generate silt pollution
- Impact beneficial uses

The goal of these plans is to ensure that post-project runoff does not exceed pre-project rates and durations. Contra Costa's plan encourages Low Impact Development Integrated Management Practices (LID IMPs) and allows proposals for stream restoration in lieu of flow control where benefits clearly outweigh potential impacts. The plan includes four options for compliance:

1. Demonstrate project will not increase directly connected impervious area
2. Implement pre-designed hydrograph modification IMPs
3. Use a continuous simulation model to compare post- to pre-project flows
4. Demonstrate increased flows will not accelerate stream erosion

Management approaches are selected according to risk:

- Low risk = channelized systems
- Medium risk = channels in substrates with high bed and bank resistance
- High risk = all other channels

Project proponents need to develop a comprehensive analysis of management options for all high risk channels.

Case Study 2 – Santa Clara Valley

The Santa Clara Valley Urban Runoff Pollution Prevention Program's (SCVURPPP's) NPDES permit requires that increases in runoff peak flow, volume, and duration shall be managed for all projects involving one or more acres of impervious cover, where increased flow and/or volume can cause increased erosion of creek beds and banks. SCVURPPP's overall approach to creating a HMP was to conduct geomorphic and hydrologic assessments of three representative watersheds in the valley, conduct channel stability analyses to establish thresholds

for hydromodification control, develop design criteria for flow control measures, and provide guidance for best management practice implementation³.

The performance criteria in the HMP state that post-project runoff shall not exceed estimated pre-project rates and/or durations, where the increased storm water discharge rates and/or durations will result in increased potential for erosion. Projects shall not cause an increase in E_p of the receiving stream over the pre-project (existing) condition. Furthermore, the E_p value should not be increased at any point downstream of the project. These requirements can be met with a combination of on-site and off-site control measures.

On-site controls should be designed to match flow-duration curves of post-development conditions to pre-development conditions for all flows between 10% of the 2-year peak flow and the 10-year peak flow. Example sizing of flow-duration basins are shown in Table B-1. Management measures are considered “practicable” if construction cost of treatment plus flow controls is less than or equal to 2% of project cost, excluding land value.

Table B-1: Basin Sizing Case Studies from the Santa Clara Valley Urban Runoff Program Hydromodification Management Plan (SCVURPPP Final HMP Report, 2005).

	Thompson	San Jose	Alameda
Basin Depth	4 feet	2.25 feet	2 feet
Basin Area	30 acres	0.06 acre	0.8 acre
Basin Size % DCIA	5.7% (4% catchment)	3.7% (1.7% catchment)	10% (7% catchment)
Drain Time	3 days (90% of the time)	< 1 day	1 day
Q_{cp} (low flow)	2.4 cfs	0.1 cfs	0.25 cfs
Infiltration Rate (rainfall)	0.2 inch/hour	0.2 inch/hour	0.5 inch/hour
Infiltration Rate (flow)	5.5 cfs	0.012 cfs	--

*cfs = cubic feet per second

This hydromodification management plan lays out on-site and in-stream options. Projects in highly urbanized areas with more than 90 % build out and a large percentage of impervious cover are exempt. Additional information on this program is available at www.SCVURPPP.org.

Case Study 3 – Newhall Land

Newhall Ranch is a specific plan approved for 26,000 homes in the Santa Clara watershed. Runoff from the proposed new development will be addressed by a Natural River Management Plan and a Newhall Ranch Stormwater Plan developed by the land owner.

³ The Final HMP Report (April 2005) is available at http://www.eoainc.com/hmp_final_draft

The Natural River Management Plan is a long-term (20-year) master plan that provides for the construction of various infrastructure improvements to the Santa Clara River and tributaries. The plan maintains 15 miles of the Santa Clara River and its tributaries in a natural state with 75- to 200-foot setbacks from the river that sustains habitat quality and meets requirements for flood control. The plan calls for buried bank stabilization, instead of hardened systems, to meet county flood protection requirements and maintain habitat functions in riparian areas. Trenches have been dug far up from the streambed, filled with a compound called “sand cement” – similar to sandstone, then topped with soil, and replanted with native plant species.

The Newhall Ranch Stormwater Plan is a regional approach to storm water management that incorporates both water quality treatment and hydromodification control. The goals of this plan include:

- Reduction in percentage of impervious cover in the upper watershed using cluster design of development and maximizing open space
- Utilization of BMPs for both water quality and hydromodification source control
- Design of in-stream solutions that protect or enhance habitat.
- Incorporation of the “avoidance, minimization, mitigation” hierarchy in plan development

Case Study 4 – Rancho Mission Viejo

Rancho Mission Viejo, a private landowner, has voluntarily developed a set of land planning principles as part of a comprehensive land-use planning and resource management program for 25,000 acres in Orange County California. These planning principles will serve as self-imposed requirements, intended to minimize the effects of future development on natural streams in planning areas. Using these principles, the landowners are proposing to focus development on ridges, which are underlain by less pervious material, thereby preserving valleys which contain pervious areas that support infiltration important to creek functions.

Planning Principles:

Geomorphology/Terrains

- Recognize and account for the hydrologic response of different terrains at the sub-basin and watershed scale

Hydrology

- Emulate, to the extent feasible, the existing runoff and infiltration patterns in consideration of specific terrains, soil types, and ground cover
- Address potential effects of future land use changes on hydrology
- Minimize alterations of the timing of peak flows of each sub-basin relative to the mainstem creeks
- Maintain and/or restore the inherent geomorphic structure of major tributaries and their floodplains

Sediment Sources, Storage, and Transport

- Maintain coarse sediment yields, storage and transport processes

Groundwater Hydrology

- Utilize infiltration properties of sandy terrains for groundwater recharge and to offset potential increases in surface runoff and adverse effects to water quality
- Protect existing groundwater recharge areas supporting slope wetlands and riparian zones and maximize alluvial groundwater recharge to the extent consistent with aquifer capacity and habitat management goals

Water Quality

- Protect water quality using a variety of strategies, with particular emphasis on natural treatment systems, water quality wetlands, swales, and infiltration areas

APPENDIX C – ADDITIONAL RESOURCES

BASMAA's Start at the Source: Design Guidance Manual for Stormwater Quality Protection, 1999. Prepared by Tom Richman & Associates and CDM. Available from www.basmaa.org.

BASMAA's Using Site Design Techniques to Meet Development Standards for Stormwater Quality: A Companion Document to Start at the Source, 2003. Prepared by CDM. Available from www.basmaa.org

Better Site Design: A Handbook for Changing Development Rules in Your Community Available for \$35.00 from the Center for Watershed Protection at www.cwp.org, under the "Publications" tab.

Redevelopment Roundtable, Consensus Agreement, Smart Practices for Redevelopment and Infill Projects.

Available for free download from the Center for Watershed Protection at www.cwp.org, under the "Publications" tab; it is listed with the "Better Site Design" publications.

Builders for the Bay Program

Information about this program, which is joint project of the Alliance for the Chesapeake Bay, the Center for Watershed Protection and the National Association of Home Builders, can be found at http://www.cwp.org/builders_for_bay.htm.

The Practice of Low Impact Development

Available for \$5.00 from the U.S. Department of Housing and Urban Development, at <http://www.huduser.org/publications/alpha/alpha.html>. It is also available for \$50.00 from the NAHB Research Center's bookstore at www.nahbrc.org.

National Association of Homebuilders Research Center

"Builder's Guide to Low Impact Development" and "Municipal Guide to Low Impact Development". Available for free download from <http://www.toolbase.org/tertiaryT.asp?TrackID=&CategoryID=36&DocumentID=3834>

"Growing Greener: Putting Conservation into Local Codes". Available for free download from <http://www.dcnr.state.pa.us/growinggreener/growinggreener.htm>.

Low-Impact Development Design Strategies: An Integrated Approach; Low-Impact Development Hydrologic Analysis

Both are available for free download from US Environmental Protection Agency's website at <http://www.epa.gov/owow/nps/lid/>.

Truckee Meadows Structural Control Design Manual: Guidance on Source and Treatment Controls for Storm Water Quality Management - Kennedy/Jenks Consultants

http://ci.reno.nv.us/gov/pub_works/stormwater/management/controls/pdfs/TOC.pdf

National NEMO (Non Point Education for Municipal Officials) Network - Educational Materials on the link between land use and water quality

<http://nemonet.uconn.edu/>

Physical Effects of Wet Weather Flows on Aquatic Habitats: Present Knowledge and Research Needs , by L.A. Roesner and B.P. Bledsoe – Water Environment Research Foundation, 2003.

<http://www.werf.org>

Impacts of Impervious Cover on Aquatic Systems – Center for Watershed Protection, 2003.

<http://www.cwp.org/>

ATTACHMENT 61

ATTACHMENT 62

ATTACHMENT 63

ATTACHMENT 64

ATTACHMENT 65

DECLARATION OF SERVICE BY EMAIL

I, the undersigned, declare as follows:

I am a resident of the County of Sacramento and I am over the age of 18 years, and not a party to the within action. My place of employment is 980 Ninth Street, Suite 300, Sacramento, California 95814.

On October 24, 2016, I served the:

SWRCB Comments on the Test Claim

San Diego Region Water Permit – County of Orange, 10-TC-11

California Regional Water Quality Control Board, San Diego Region,

Order No. R9-2009-0002, effective December 16, 2009

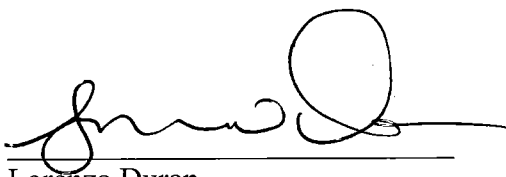
County of Orange, Orange County Flood Control District, Cities of Dana Point,

Laguna Hills, Laguna Niguel, Lake Forest, Mission Viejo, and San Juan Capistrano,

Co-Claimants

By making it available on the Commission's website and providing notice of how to locate it to the email addresses provided on the attached mailing list.

I declare under penalty of perjury under the laws of the State of California that the foregoing is true and correct, and that this declaration was executed on October 24, 2016 at Sacramento, California.



Lorenzo Duran

Commission on State Mandates

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COMMISSION ON STATE MANDATES

Mailing List

Last Updated: 10/24/16

Claim Number: 10-TC-11

Matter: San Diego Region Water Permit - Orange County

Claimants: City of Dana Point
City of Laguna Hills
City of Laguna Niguel
City of Lake Forest
City of Mission Viejo
City of San Juan Capistrano
County of Orange
Orange County Flood Control District

TO ALL PARTIES, INTERESTED PARTIES, AND INTERESTED PERSONS:

Each commission mailing list is continuously updated as requests are received to include or remove any party or person on the mailing list. A current mailing list is provided with commission correspondence, and a copy of the current mailing list is available upon request at any time. Except as provided otherwise by commission rule, when a party or interested party files any written material with the commission concerning a claim, it shall simultaneously serve a copy of the written material on the parties and interested parties to the claim identified on the mailing list provided by the commission. (Cal. Code Regs., tit. 2, § 1181.3.)

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